U.S. Department of Veterans Affairs

OVERTON BROOKS VA MEDICAL CENTER
(OBVAMC)
510 E. STONER AVE, SHREVEPORT, LA

REPLACE UNDERGROUND WATER STORAGE TANKS

VA PROJECT 667-22-118
100% CONSTRUCTION DOCUMENTS - IFC

PROJECT TEAM:

program & project management:

Design Build Consortium
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San Antonio, TX 78232
(210) 410-0348

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	COVER SHEET
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	GI 001

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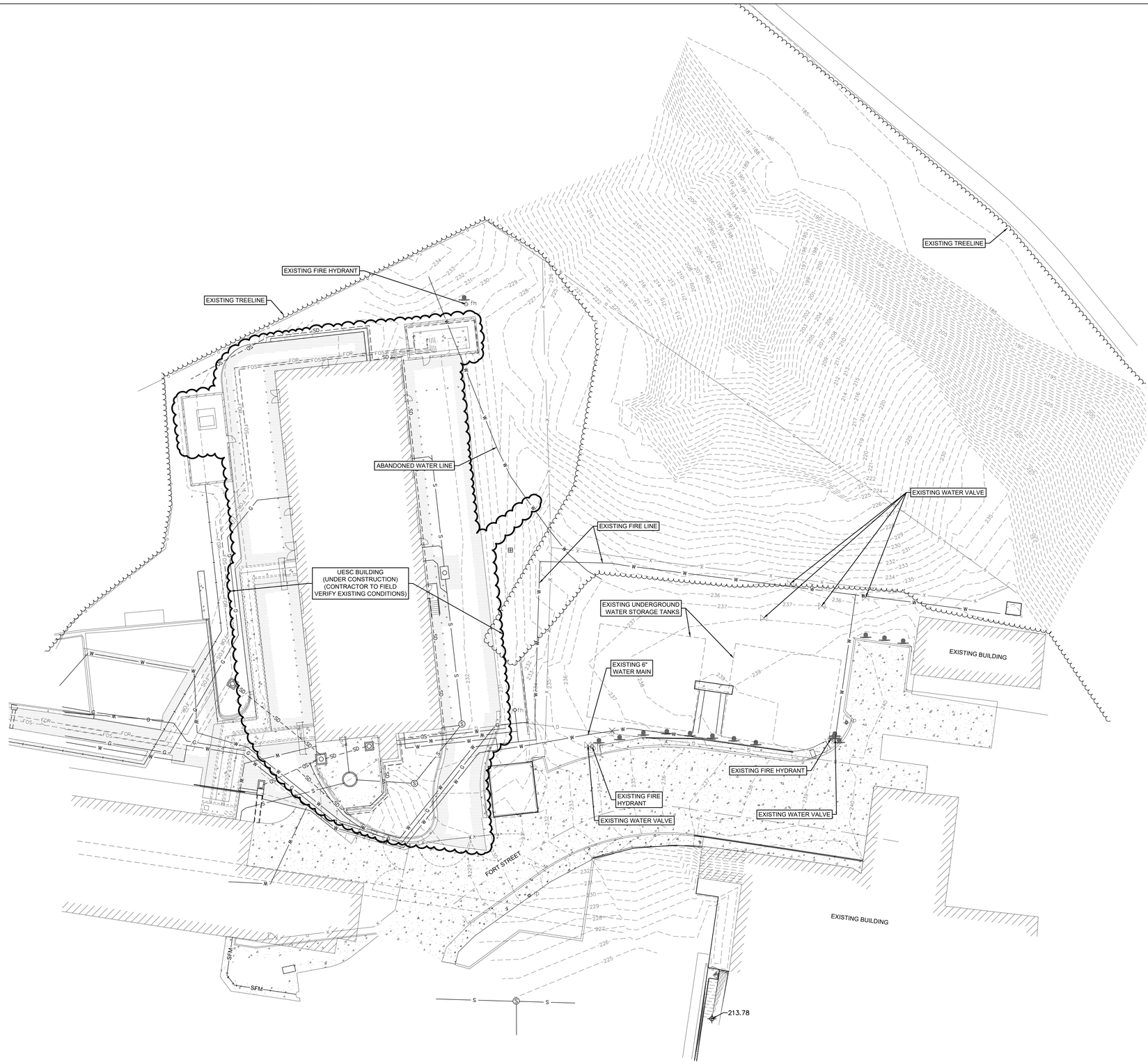

20' 0 20' 40'
GRAPHIC SCALE IN FEET

LEGEND

	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
—X—	EXISTING FENCE
—o—	EXIST. FENCE/PROPERTY LINE
	EXISTING SIGN
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
—W—	EXISTING WATER MAIN
—G—	EXISTING GAS
—S—	EXISTING SEWER MAIN
--SD--	EXISTING STORM PIPE
--230--	EXISTING CONTOURS
	EXISTING TREELINE

ABBREVIATIONS

ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CLR	CLEAR
DIA	DIAMETER
D.I.C.L.	DUCTILE IRON CONCRETE LINED
DIMJ	DUCTILE IRON MECHANICAL JOINT
ELEV	ELEVATION
FF	FINISHED FLOOR
FRP	FIBER REINFORCED PLASTIC
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PE	PLAIN END
PCF	POUNDS PER CUBIC FEET
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SCH	SCHEDULE
SQ	SQUARE
SST	STAINLESS STEEL
STL	STEEL
SY	SQUARE YARD
TYP	TYPICAL
W.W.F.	WELDED WIRE FABRIC

NOTES:

1. UESC BUILDING AND ALL ADJACENT TOPOGRAPHIC FEATURES DEPICTED IN THIS PLAN SET ARE BASED ON PRE-BUILD DESIGN DRAWINGS. THIS BUILDING AND ADJACENT SITE IMPROVEMENTS WERE UNDER CONSTRUCTION AT THE TIME OF THE DEVELOPMENT OF THIS PLAN SET.
2. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS PRIOR TO CONSTRUCTION ACTIVITIES.
3. EXISTING TOPOGRAPHIC INFORMATION SHOWN PROVIDED BY KSA UNDER THE LICENSED SUPERVISION OF MICHAEL C. BARRY, PLS.
4. THE EXACT LOCATIONS AND DEPTHS OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
5. CONTRACTOR SHALL CALL 811 FOR FIELD LOCATION OF EXISTING UTILITIES 48 HOURS PRIOR TO STARTING EXCAVATIONS AND COORDINATE OPERATIONS WITH VA STAFF.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED BY FEDERAL, STATE OR LOCAL CODES AND/OR UTILITY SERVICE COMPANIES PRIOR TO START OF CONSTRUCTION.

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PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: EXISTING SITE CONDITIONS

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date	Checked	Drawn
11/17/2023	RCM	RCM

Project Number: 667-22-118

Building Number: N/A

Drawing Number: CS 001

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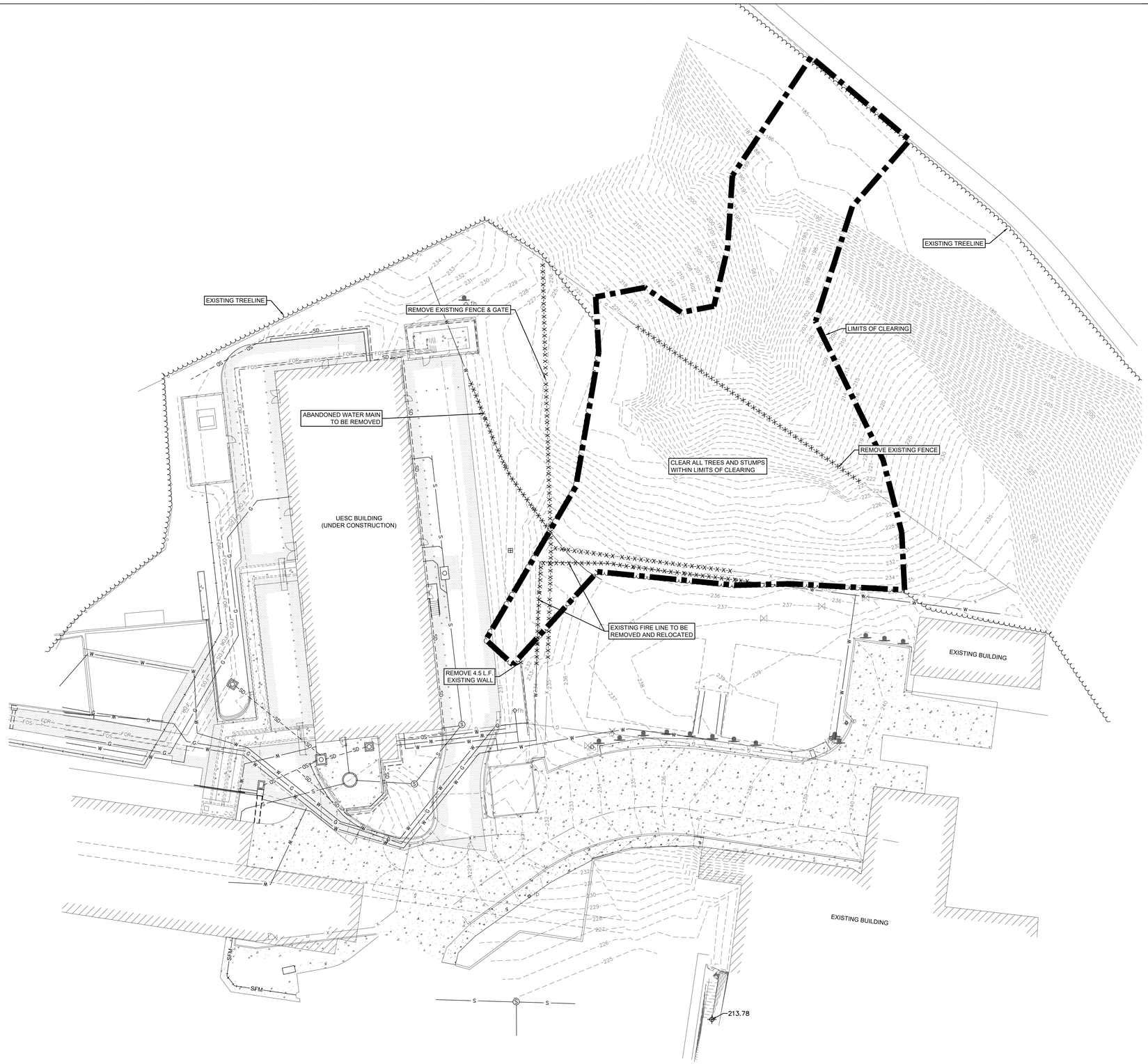

20' 0 20' 40'

GRAPHIC SCALE IN FEET

LEGEND

	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
—— X ——	EXISTING FENCE
—— o ——	EXIST. FENCE/PROPERTY LINE
	EXISTING SIGN
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
—— W ——	EXISTING WATER MAIN
—— G ——	EXISTING GAS
—— S ——	EXISTING SEWER MAIN
--- SD ---	EXISTING STORM PIPE
--- 230 ---	EXISTING CONTOURS
	EXISTING TREELINE
· X · X · X ·	TO BE REMOVED
	LIMITS OF CLEARING

ABBREVIATIONS

ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CLR	CLEAR
DIA	DIAMETER
D.I.C.L.	DUCTILE IRON CONCRETE LINED
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PE	PLAIN END
PCF	POUNDS PER CUBIC FEET
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PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SCH	SCHEDULE
SQ	SQUARE
SST	STAINLESS STEEL
STL	STEEL
SY	SQUARE YARD
TYP	TYPICAL
W.W.F.	WELDED WIRE FABRIC

DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH VA STAFF PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
2. THE EXACT LOCATIONS AND DEPTHS OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF EXISTING UTILITIES PRIOR TO COMMENCING DEMOLITION.
3. CONTRACTOR SHALL CALL 811 FOR FIELD LOCATION OF EXISTING UTILITIES 48 HOURS PRIOR TO STARTING EXCAVATIONS AND COORDINATE OPERATIONS WITH VA STAFF.
4. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED BY FEDERAL, STATE OR LOCAL CODES AND/OR UTILITY SERVICE COMPANIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR IS REQUIRED TO REMOVE OR RELOCATE, IN A PROPER MANNER, EXISTING IMPROVEMENTS/NATURAL FEATURES TO ALLOW FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS INDICATED ON THE PLAN SET. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES.
6. REMOVED AND ABANDONED EQUIPMENT AND MATERIALS ARE THE PROPERTY OF THE OWNER AND SHALL BE DISPOSED OF OFF SITE OR TRANSPORTED TO A STORAGE LOCATION ON SITE AS DESIGNATED BY THE OWNER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING ALL EXISTING DAMAGE AND NOTIFYING OWNER PRIOR TO STARTING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING EXISTING ITEMS DAMAGED DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. DAMAGES SHALL BE REPORTED TO VA STAFF PRIOR TO REPAIR. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.

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IN
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11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	DEMOLITION PLAN
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 002

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LEGEND

	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
X	EXISTING FENCE
O	EXIST. FENCE/PROPERTY LINE
	EXISTING SIGN
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	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
W	EXISTING WATER MAIN
G	EXISTING GAS
S	EXISTING SEWER MAIN
SD	EXISTING STORM PIPE
230	EXISTING CONTOURS
	EXISTING TREELINE
	REQUIRED BUILDING
	REQUIRED PAVEMENT
W	REQUIRED WATER
	REQUIRED GATE VALVE
X	REQUIRED CHAINLINK FENCE
	REQUIRED CATCH BASIN
	REQUIRED STORM PIPE
	MC SETBACK (50')
B1	GEOTECHNICAL BORE
	GROUTED RIP-RAP - 4' DEPTH
	GROUTED RIP-RAP - 1.5' DEPTH
	PROPOSED TREELINE

NOTES:

1. CONTRACTOR SHALL COORDINATE UTILITY TIE-INS WITH VA STAFF.
2. ALL BENDS, TEES AND CROSSES FOR PROPOSED FIRE LINE WATER MAINS TO BE INSTALLED WITH CONCRETE THRUST BLOCKING (REFER TO PLUMBING PLAN).
3. TANK INTAKE AND DISCHARGE PIPING LOCATION SHOWN ARE APPROXIMATE. REFER TO PLUMBING PLAN FOR DETAILS.

COORDINATE TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
CP 1	730857.3950	2904112.7680	X IN CONCRETE
CP 2	730869.6260	2904100.3010	X IN CONCRETE
CP 3	730882.1760	2904111.4470	X IN CONCRETE
4	731026.9894	2904022.0197	RETAINING WALL
5	731042.6922	2904041.0071	RETAINING WALL
6	731069.0899	2904074.2195	RETAINING WALL
7	731066.6973	2904120.9265	RETAINING WALL
8	731059.9266	2904016.4752	BUILDING CORNER
9	731062.9538	2904043.6400	BUILDING CORNER
10	731084.8185	2904041.2034	BUILDING CORNER
11	731081.7912	2904014.0386	BUILDING CORNER
12	731135.3802	2904025.8331	CENTER TANK 1
13	731102.6506	2904072.4997	CENTER TANK 2
14	731113.7028	2904174.9794	RETANING WALL
15	731181.2424	2904078.2212	RETANING WALL
16	731123.0760	2904138.8388	STORM INLET

ABBREVIATIONS

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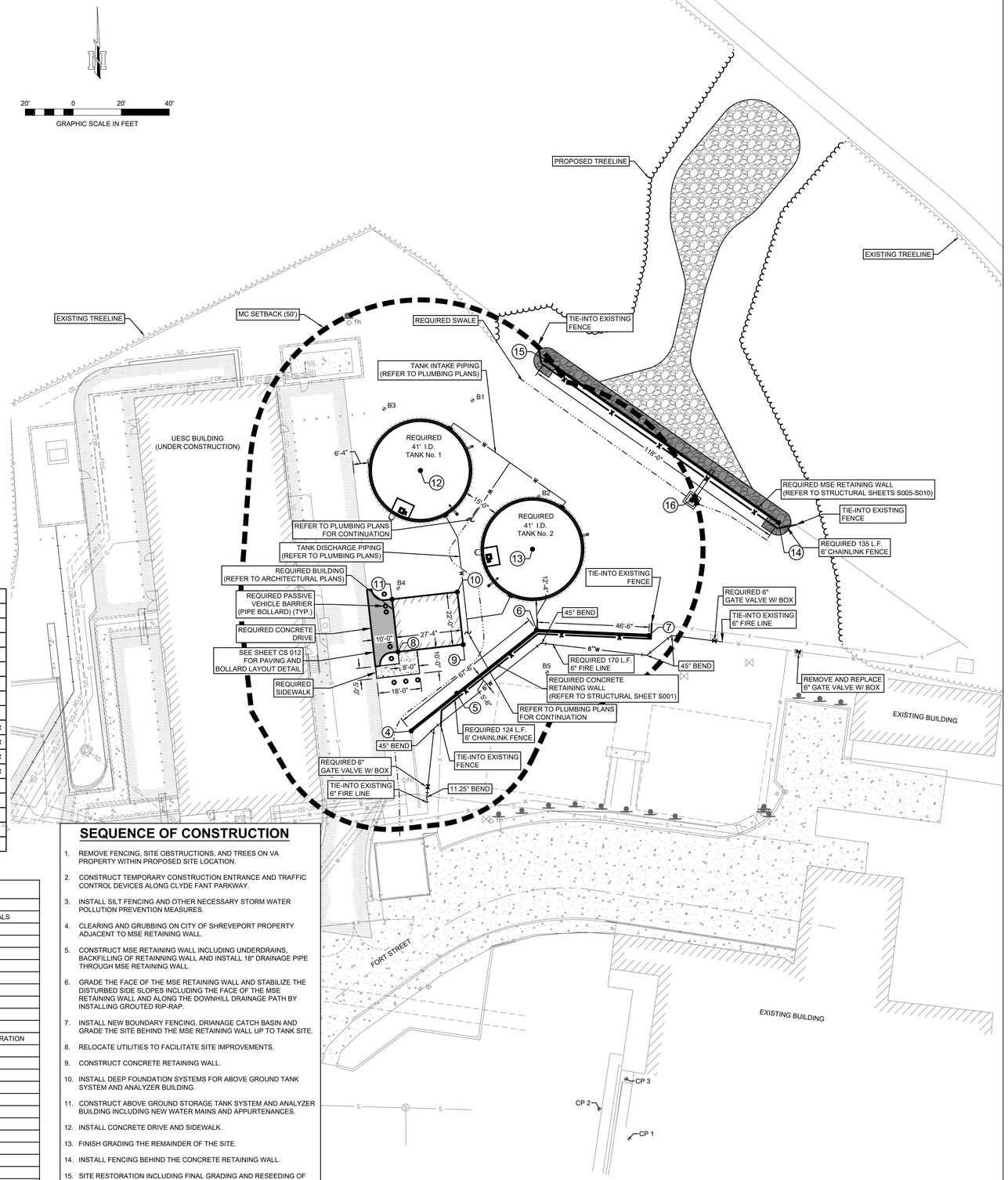
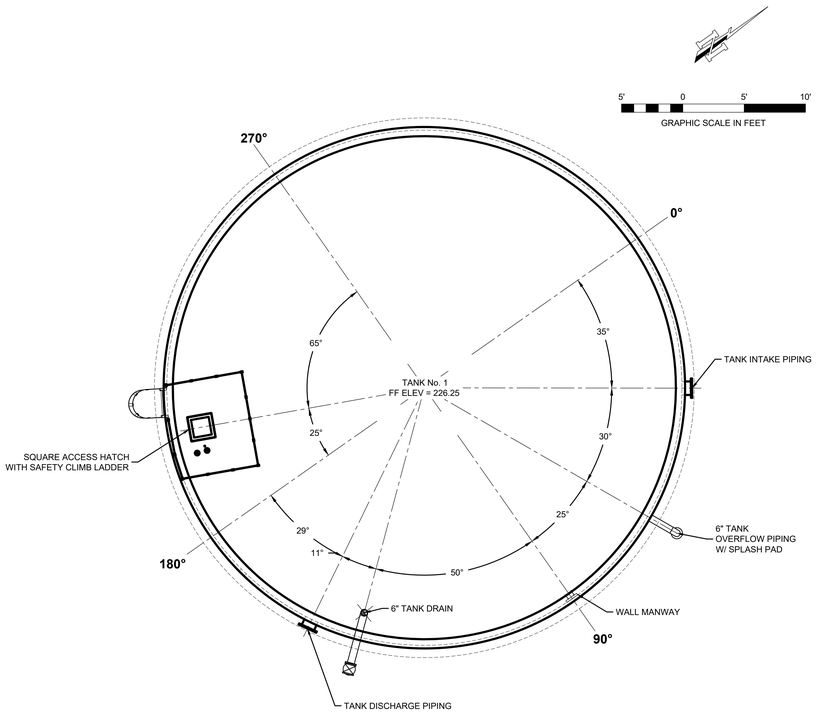
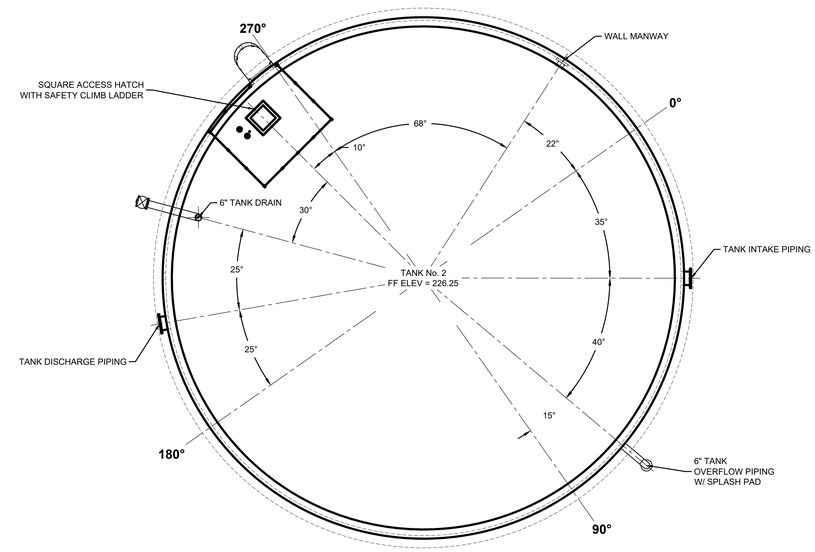
W.W.F.	WELDED WIRE FABRIC



SEQUENCE OF CONSTRUCTION

1. REMOVE FENCING, SITE OBSTRUCTIONS, AND TREES ON VA PROPERTY WITHIN PROPOSED SITE LOCATION.
2. CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE AND TRAFFIC CONTROL DEVICES ALONG CLYDE FANT PARKWAY.
3. INSTALL SILT FENCING AND OTHER NECESSARY STORM WATER POLLUTION PREVENTION MEASURES.
4. CLEARING AND GRUBBING ON CITY OF SHREVEPORT PROPERTY ADJACENT TO MSE RETAINING WALL.
5. CONSTRUCT MSE RETAINING WALL INCLUDING UNDERDRAINS, BACKFILLING OF RETAINING WALL AND INSTALL 18" DRAINAGE PIPE THROUGH MSE RETAINING WALL.
6. GRADE THE FACE OF THE MSE RETAINING WALL AND STABILIZE THE DISTURBED SIDE SLOPES INCLUDING THE FACE OF THE MSE RETAINING WALL AND ALONG THE DOWNHILL DRAINAGE PATH BY INSTALLING GROUTED RIP-RAP.
7. INSTALL NEW BOUNDARY FENCING, DRIANAGE CATCH BASIN AND GRADE THE SITE BEHIND THE MSE RETAINING WALL UP TO TANK SITE.
8. RELOCATE UTILITIES TO FACILITATE SITE IMPROVEMENTS.
9. CONSTRUCT CONCRETE RETAINING WALL.
10. INSTALL DEEP FOUNDATION SYSTEMS FOR ABOVE GROUND TANK SYSTEM AND ANALYZER BUILDING.
11. CONSTRUCT ABOVE GROUND STORAGE TANK SYSTEM AND ANALYZER BUILDING INCLUDING NEW WATER MAINS AND APPURTENANCES.
12. INSTALL CONCRETE DRIVE AND SIDEWALK.
13. FINISH GRADING THE REMAINDER OF THE SITE.
14. INSTALL FENCING BEHIND THE CONCRETE RETAINING WALL.
15. SITE RESTORATION INCLUDING FINAL GRADING AND RESEEDING OF SITE.





TANK LAYOUT

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IN
CIVIL ENGINEERING
11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: PROPOSED SITE PLAN	Project Title: Replace Underground Water Storage Tanks		Project Number: 667-22-118
Approved: Project Director	Location: Overton Brooks VAMC		Building Number: N/A
	Issue Date: 11/17/2023	Checked: RCM	Drawing Number: CS 003
		Drawn: RCM	

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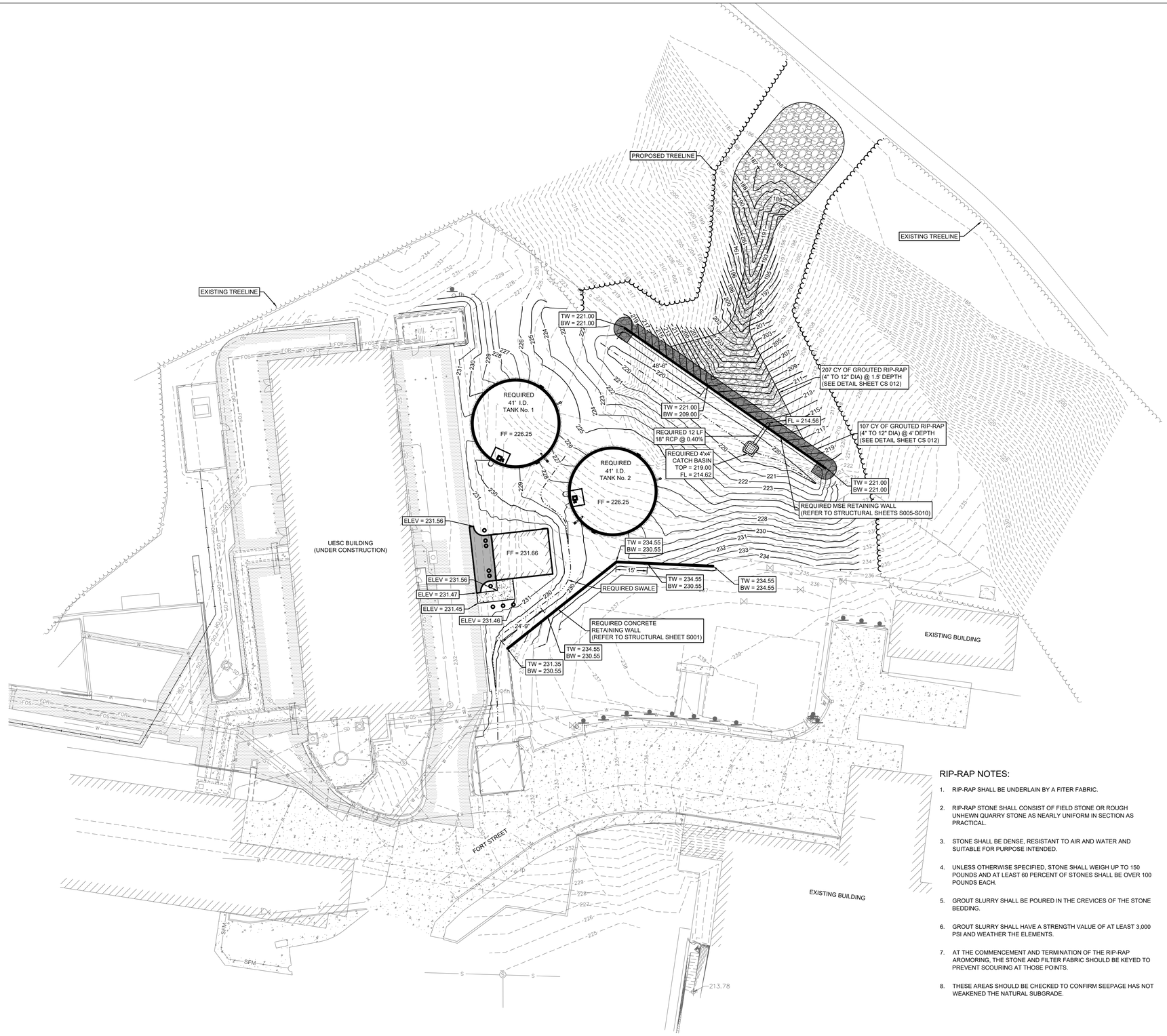

GRAPHIC SCALE IN FEET
20' 0 20' 40'

LEGEND

	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
X	EXISTING FENCE
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	EXISTING WATER METER
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W	EXISTING WATER MAIN
G	EXISTING GAS
S	EXISTING SEWER MAIN
SD	EXISTING STORM PIPE
230	EXISTING CONTOURS
	EXISTING TREELINE
	REQUIRED BUILDING
	REQUIRED PAVEMENT
	REQUIRED SIDEWALK
	REQUIRED FENCE
	REQUIRED CATCH BASIN
	REQUIRED STORM PIPE
	GROUTED RIP-RAP - 4' DEPTH
	GROUTED RIP-RAP - 1.5' DEPTH
222	PROPOSED CONTOURS
	PROPOSED TREELINE
TW	TOP OF WALL ELEVATION
BW	FINISHED GRADE AT BASE OF WALL

ABBREVIATIONS

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ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
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RIP-RAP NOTES:

1. RIP-RAP SHALL BE UNDERLAIN BY A FITER FABRIC.
2. RIP-RAP STONE SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE AS NEARLY UNIFORM IN SECTION AS PRACTICAL.
3. STONE SHALL BE DENSE, RESISTANT TO AIR AND WATER AND SUITABLE FOR PURPOSE INTENDED.
4. UNLESS OTHERWISE SPECIFIED, STONE SHALL WEIGH UP TO 150 POUNDS AND AT LEAST 60 PERCENT OF STONES SHALL BE OVER 100 POUNDS EACH.
5. GROUT SLURRY SHALL BE POURED IN THE CREVICES OF THE STONE BEDDING.
6. GROUT SLURRY SHALL HAVE A STRENGTH VALUE OF AT LEAST 3,000 PSI AND WEATHER THE ELEMENTS.
7. AT THE COMMENCEMENT AND TERMINATION OF THE RIP-RAP AROMORING, THE STONE AND FILTER FABRIC SHOULD BE KEYED TO PREVENT SCOURING AT THOSE POINTS.
8. THESE AREAS SHOULD BE CHECKED TO CONFIRM SEEPAGE HAS NOT WEAKENED THE NATURAL SUBGRADE.

GRADING NOTES:

1. ALL EARTHWORK SHALL CONFORM TO EVALUATIONS AND RECOMMENDATIONS OF THE SUBSURFACE INVESTIGATION PREPARED BY DRGEOES, LLC.
2. SITE GRADING ACTIVITIES SHALL NOT COMMENCE UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
3. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1 OR STEEPER.
4. REFER TO SECTION 6.10 OF THE GEOTECHNICAL REPORT FOR FILL CRITERIA IN VICINITY OF RETAINING WALL.

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PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	PROPOSED GRADING PLAN
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 004

File Path: \\KSA.NET\GATEWAY\PROJECTS\10065\10065 CAD\30 SHEETS\02 CIVIL\10065-C-LO-GRADE-A001.DWG | PROPOSED GRADE | 11/16/2023 - 3:07 PM | LAST SAVED BY: BPOWELL 6/14/2009 12:39:03 PM

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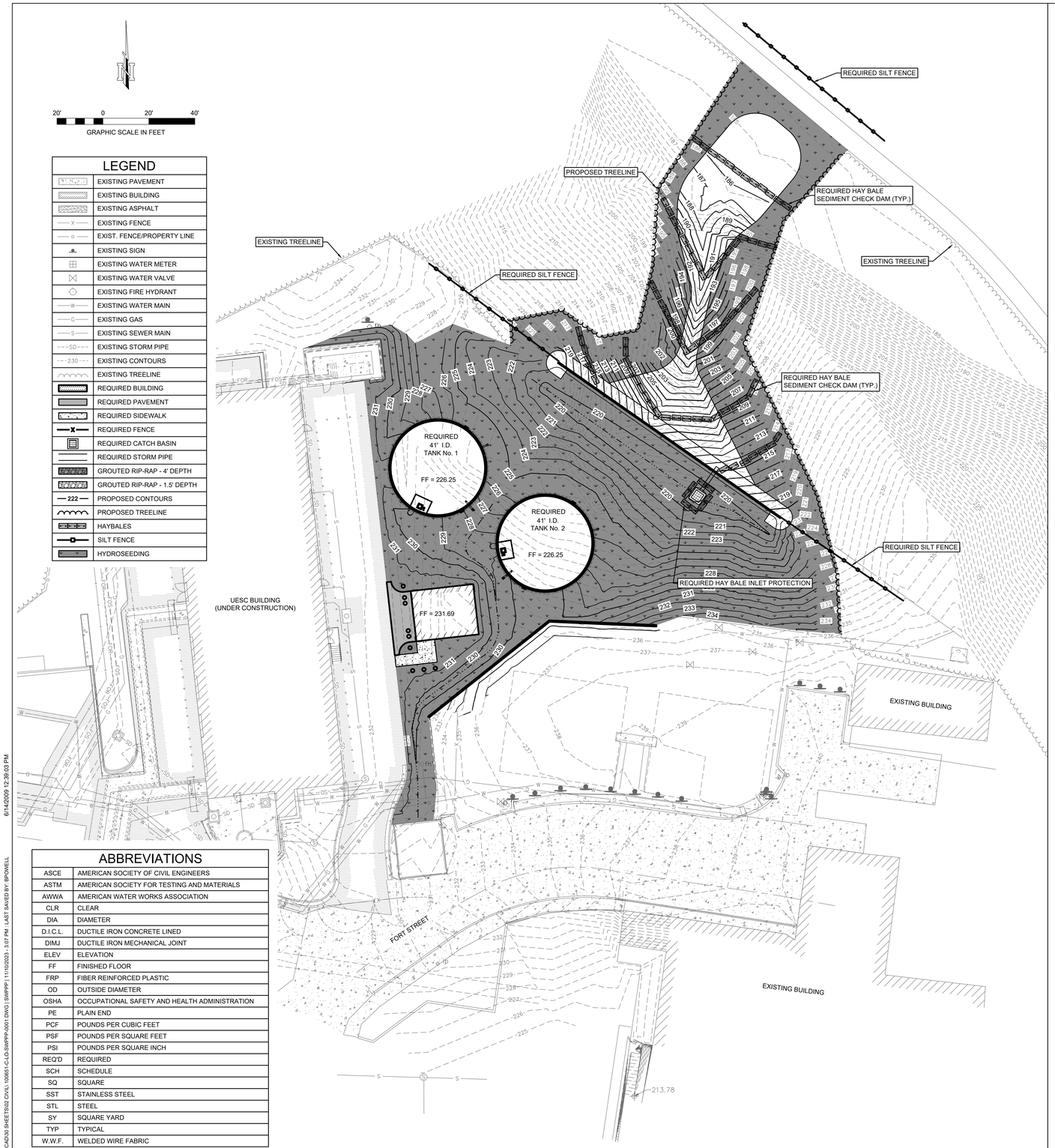


LEGEND

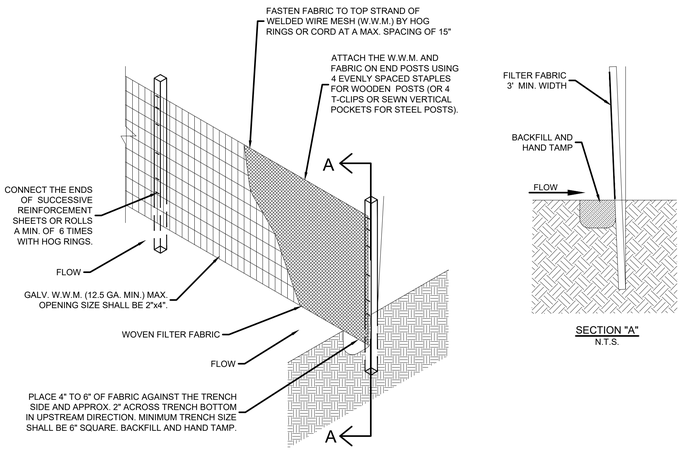
	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
X	EXISTING FENCE
O	EXIST. FENCE/PROPERTY LINE
	EXISTING SIGN
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
W	EXISTING WATER MAIN
G	EXISTING GAS
S	EXISTING SEWER MAIN
SD	EXISTING STORM PIPE
230	EXISTING CONTOURS
	EXISTING TREELINE
	REQUIRED BUILDING
	REQUIRED PAVEMENT
	REQUIRED SIDEWALK
	REQUIRED FENCE
	REQUIRED CATCH BASIN
	REQUIRED STORM PIPE
	GROUTED RIP-RAP - 4' DEPTH
	GROUTED RIP-RAP - 1.5' DEPTH
222	PROPOSED CONTOURS
	PROPOSED TREELINE
	HAYBALES
	SILT FENCE
	HYDROSEEDING

ABBREVIATIONS

ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CLR	CLEAR
DIA	DIAMETER
D.I.C.L.	DUCTILE IRON CONCRETE LINED
DIMJ	DUCTILE IRON MECHANICAL JOINT
ELEV	ELEVATION
FF	FINISHED FLOOR
FRP	FIBER REINFORCED PLASTIC
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PE	PLAIN END
PCF	POUNDS PER CUBIC FEET
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SCH	SCHEDULE
SQ	SQUARE
SST	STAINLESS STEEL
STL	STEEL
SY	SQUARE YARD
TYP	TYPICAL
W.W.F.	WELDED WIRE FABRIC

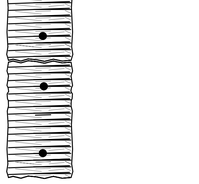
NOTES:

1. CONTRACTOR SHALL ADHERE TO STORMWATER POLLUTION PREVENTION AND KEEP A COPY OF THE PLAN ON SITE AT ALL TIMES.
2. CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL AND FEDERAL ORDINANCES THAT APPLY.
3. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE.
4. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES EVERY 14 DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
5. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
6. DUST CONTROL SHALL BE MAINTAINED BY WATERING DRY EXPOSED AREAS ON A REGULAR BASIS. SPRAYING OF PETROLEUM BASED SUBSTANCES FOR THIS PURPOSE IS PROHIBITED.
7. ALL VEHICLES SHALL BE CLEANED AT THE CONSTRUCTION EXIT POINTS. CONTRACTOR SHALL IMMEDIATELY CLEAR ANY DIRT OR DEBRIS FROM EXISTING ROADWAYS AND HIGHWAYS.
8. CONCRETE WASHOUT SHALL BE INSTALLED AS REQUIRED TO CLEAN TRUCKS PRIOR TO LEAVING CONSTRUCTION SITE. WASHOUTS SHALL BE REMOVED PRIOR TO COMPLETION OF CONSTRUCTION.
9. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
10. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM THE LEAVING THE SITE.
11. CONTRACTOR SHALL PREVENT ANY SILTATION FROM ENTERING THE STORM SEWER SYSTEM. ALL INLETS & OPENINGS SHALL BE FULLY ENCIRCLED WITH HAY BALES DURING AND AFTER CONSTRUCTION OF THE INLET.
12. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1 OR STEEPER.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
14. DISTURBED AREAS ON SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR AT LEAST 14 DAYS SHALL BE TEMPORARY SEEDED AND WATERED.
15. UPON COMPLETION OF GRADING ACTIVITIES ALL EXPOSED AREAS SHALL BE HYDROSEEDED AS SPECIFIED WITHIN SEVEN DAYS.



TEMPORARY SILT FENCE

N.T.S.



PLAN VIEW

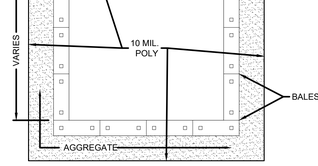
PROFILE VIEW

NOTES:

1. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2"x2" WOODEN STAKES DRIVEN THROUGH THE BALES. STAKES IN EACH BALE SHALL BE ANGLED TOWARDS THE PREVIOUS BALE TO FORCE THE BALES TOGETHER
2. BALES SHALL BE BOUND BY EITHER WIRE OR ROPE TIED ACROSS THE HAY BALES.
3. BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED.

HAY BALE SEDIMENT CHECK DAM DETAIL

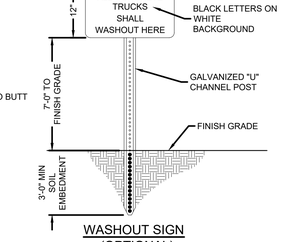
N.T.S.



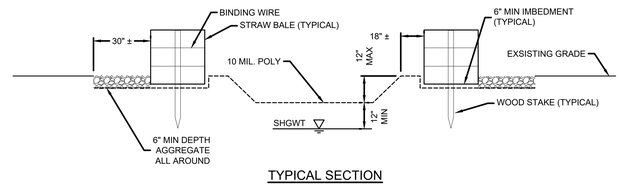
PLAN

NOTES:

1. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
2. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
3. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.



WASHOUT SIGN (OPTIONAL)



TYPICAL SECTION

CONCRETE WASHOUT DETAIL

N.T.S.

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11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	EROSION CONTROL PLAN
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 005

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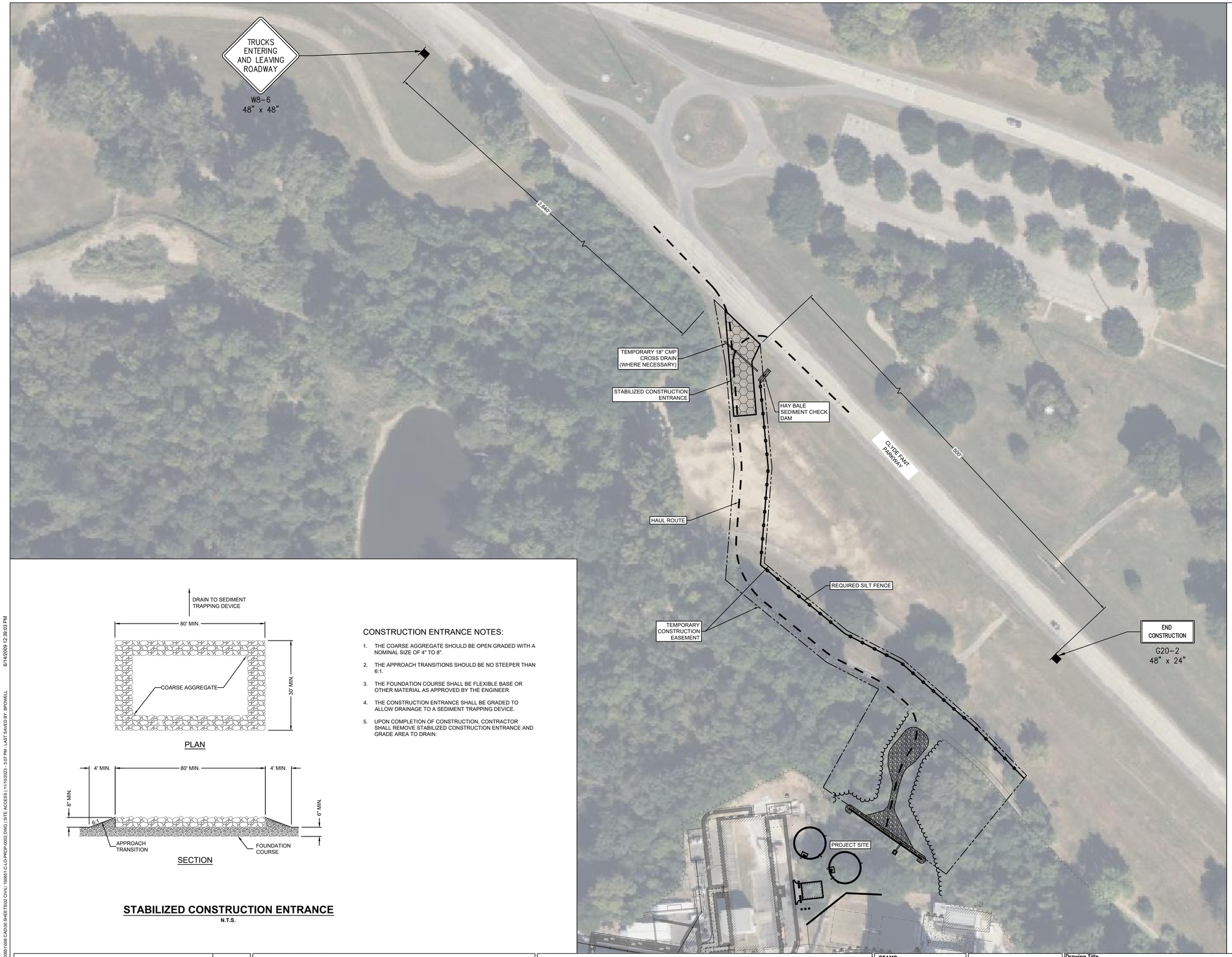

LEGEND

	EXISTING PAVEMENT
	EXISTING BUILDING
	EXISTING ASPHALT
	EXISTING TREELINE
	REQUIRED BUILDING
	REQUIRED PAVEMENT
	GROUTED RIP-RAP - 4' DEPTH
	GROUTED RIP-RAP - 1.5' DEPTH
	PROPOSED TREELINE
	HAYBALES
	SILT FENCE
	HAUL ROUTE
	CONSTRUCTION ENTRANCE
	TEMPORARY CROSS DRAIN
	TEMPORARY CONSTRUCTION EASEMENT

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

CONSTRUCTION ENTRANCE NOTES:

1. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A NOMINAL SIZE OF 4" TO 8".
2. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1.
3. THE FOUNDATION COURSE SHALL BE FLEXIBLE BASE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
4. THE CONSTRUCTION ENTRANCE SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
5. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL REMOVE STABILIZED CONSTRUCTION ENTRANCE AND GRADE AREA TO DRAIN.

NOTES:

1. CONTRACTOR SHALL COORDINATE ACCESS FROM CLYDE FANT PARKWAY WITH THE CITY OF SHREVEPORT.
2. TRAFFIC CONTROL DEVICES SHALL BE FURNISHED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY THROUGHOUT THIS PROJECT IN ACCORDANCE WITH THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED PRIOR TO ACCESSING HAUL ROUTE FOR CONSTRUCTION ACTIVITIES.
4. TEMPORARY DRAINAGE CULVERTS SHALL BE INSTALLED IF STABILIZED CONSTRUCTION ENTRANCE IMPEDES STORMWATER FLOW.
5. HAY BALES SHALL BE INSTALLED IN THE DITCH AS REQUIRED TO PREVENT SEDIMENTATION FROM LEAVING SITE. SEE SHEET CS 005 FOR DETAILS.
6. SILT FENCING SHALL BE INSTALLED AS REQUIRED TO PREVENT SEDIMENTATION FROM LEAVING STIE. SEE SHEET CS 005 FOR DETAILS
7. ALL CITY OF SHREVEPORT PROPERTY AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED OR RESTORED TO A CONDITION EQUAL OR BETTER THAN THE ORIGINAL CONDITION.
8. UPON COMPLETION OF CONSTRUCTION ACTIVITIES ALL AFFECTED AREAS SHALL BE HYDROSEEDED AS SPECIFIED WITHIN SEVEN DAYS.
9. UPON COMPLETION OF CONSTRUCTION ACTIVITIES THE STABILIZED CONSTRUCTION ENTRANCE AND EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA RESTORED TO A CONDITION EQUAL OR BETTER THAN THE ORIGINAL CONDITION.

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: SITE ACCESS AND TRAFFIC CONTROL PLAN	Project Title: Replace Underground Water Storage Tanks		Project Number: 667-22-118
			Building Number: N/A
Approved: Project Director	Location: Overton Brooks VAMC		Drawing Number: CS 006
	Issue Date: 11/17/2023	Checked: RCM	Drawn: RCM

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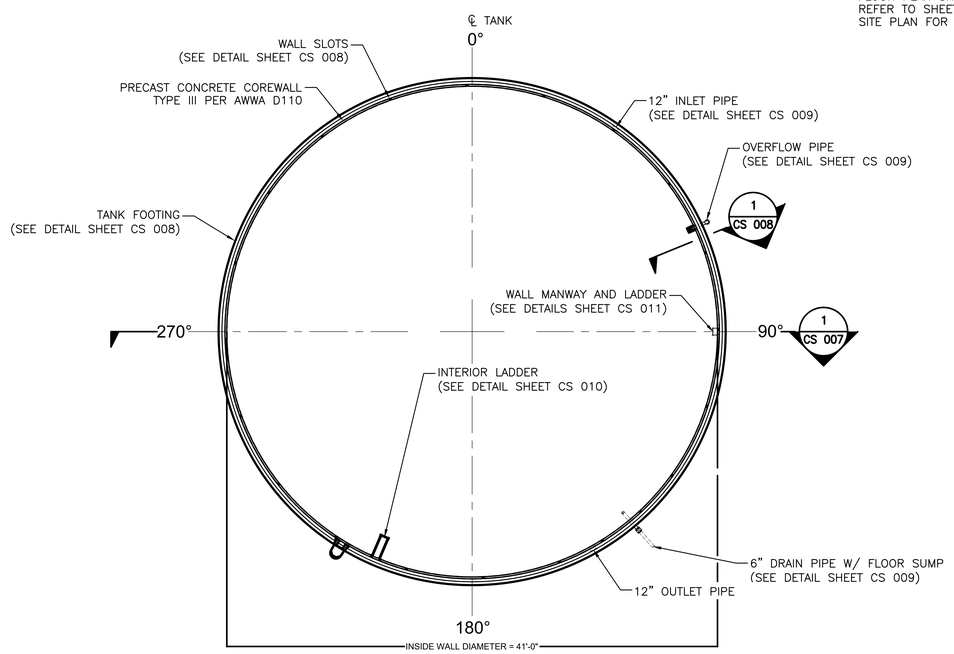
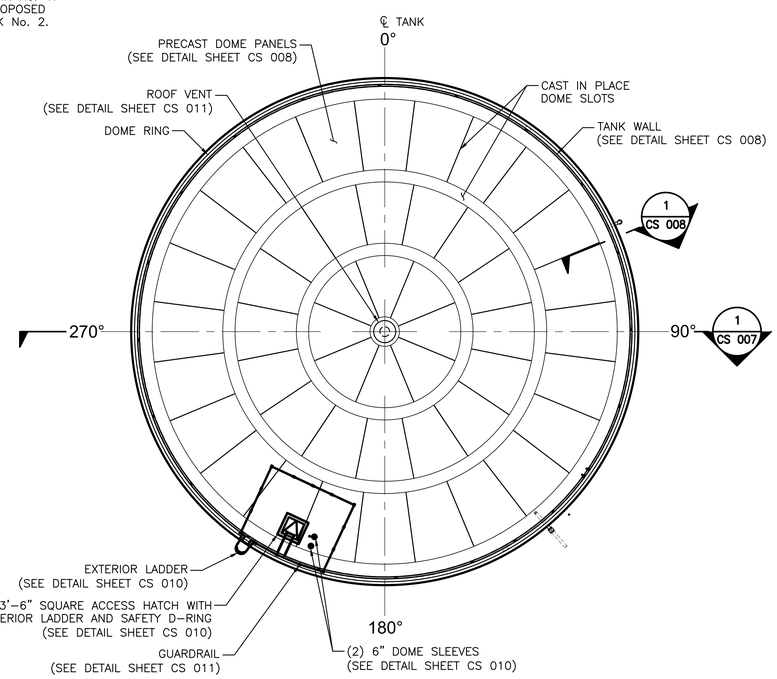
*REFER TO SITE PLAN FOR LOCATIONS AND ORIENTATION OF PIPING.

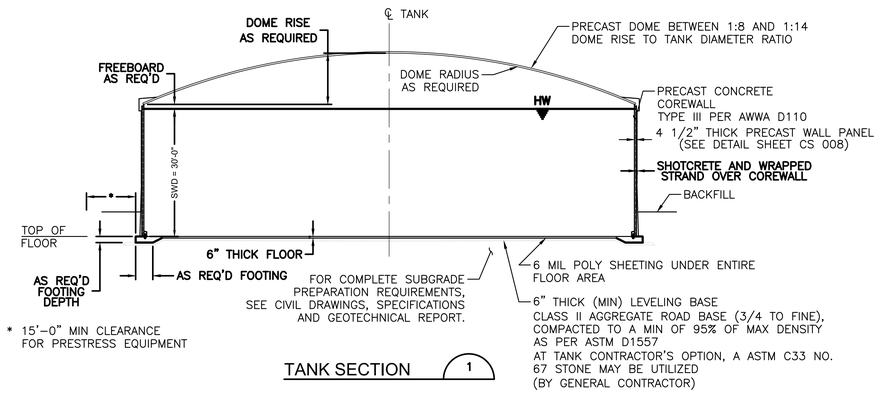
NOTES:
FLOOR PLAN SHOWN IS FOR TANK No. 1.
REFER TO SHEET CS 003 – PROPOSED SITE PLAN FOR LAYOUT OF TANK No. 2.



FLOOR PLAN



ROOF PLAN



TANK SECTION 1

GENERAL NOTES:
*ALL DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS. TANK CONTRACTOR, AS DEFINED IN THE SPECIFICATIONS, TO VERIFY DIMENSIONS WITH STRUCTURAL CALCULATIONS.

A. DESIGN LOADS
1. ROOF LOAD : 20.0 PSF LIVE; 5.0 PSF SNOW
2. LIQUID (WATER) : 62.4PCF
3. Ri, IMPULSIVE STRUCTURAL RESPONSE COEFFICIENT : 3.25 (ASCE 7 WITH CABLES) 1.50 (ASCE 7 W/O CABLES) 3.50 (AWWA WITH CABLES) 1.50 (AWWA W/O CABLES)
4. Rc, CONVECTIVE STRUCTURAL RESPONSE COEFFICIENT : 1.0
5. ANALYSIS PROCEDURE USED : EQUIVALENT LATERAL FORCE ANALYSIS BASED ON AWWA D110 AND ACI 350.3

B. CONCRETE AND SHOTCRETE
1. FLOOR, AND FOOTINGS : 4000 PSI
2. DOME, DOME RING AND DOME SLOTS : 4000 PSI
3. PRECAST WALL : 4000 PSI
4. SHOTCRETE FOR WIRE COVER (1C:3S) AND COVER COAT (1C:4S) : 4500 PSI
5. SEE TECHNICAL SPECIFICATION FOR COMPLETE MIX DESIGN INFORMATION INCLUDING MINIMUM CEMENT CONTENT, MAXIMUM WATER-CEMENT RATIO, AGGREGATE SIZE AND ACCEPTABLE ADMIXTURES.
6. SEE TECHNICAL SPECIFICATION FOR CONCRETE PLACING AND FORMING PROCEDURES.

C. METALS
1. ALL STAINLESS STEEL (SST) TO BE 304L UNLESS OTHERWISE NOTED.

D. REINFORCING STEEL
1. ALL REINFORCING IN TANK SHALL CONFORM TO ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
2. REINFORCING STEEL CALLED OUT AS GALVANIZED SHALL HAVE A CLASS 1 COATING IN ACCORDANCE WITH ASTM A767, WITHOUT CHROMATE.

E. EARTHWORK REQUIREMENTS
1. MINIMUM COMPACTION OF CRUSHED ROCK AND SUBGRADE UNDER AND AROUND PIPE BLOCKS AND UNDER FLOOR AND FOOTINGS SHALL EQUAL 95% RELATIVE COMPACTION AS DETERMINED IN ACCORDANCE WITH ASTM D1557.
2. COMPACTION OF BACKFILL AROUND TANK SHALL EQUAL 90% RELATIVE COMPACTION AS DETERMINED IN ACCORDANCE WITH ASTM D1557. USE ONLY HAND HELD COMPACTION EQUIPMENT WITHIN 5' OF TANK WALL AND LIGHTWEIGHT EQUIPMENT (15,600 LBS MAX) BEYOND THE 5' AND WITHIN 15' OF THE TANK SO AS NOT TO DAMAGE THE WALL. BRING UP THE BACKFILL AROUND THE TANK IN UNIFORM LIFTS WHEN POSSIBLE. DIFFERENCE IN BACKFILL HEIGHTS DURING INSTALLATION SHALL NEVER EXCEED THE FINAL DIFFERENCE IN BACKFILL HEIGHTS.

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11/17/23

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	TANK PLANS AND SECTION
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 007

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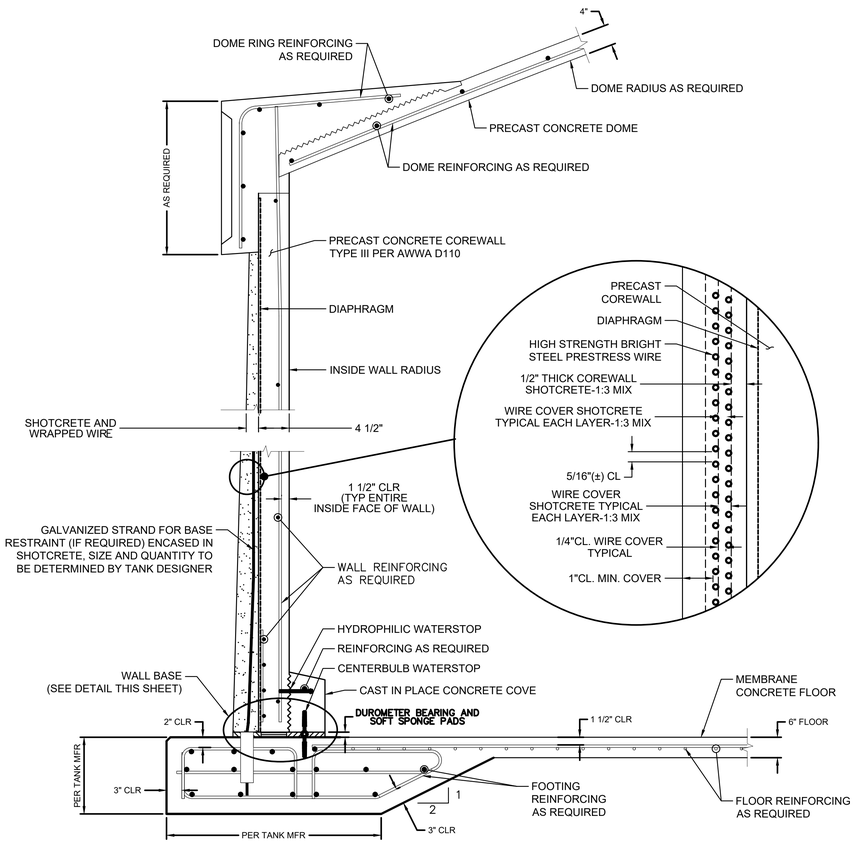
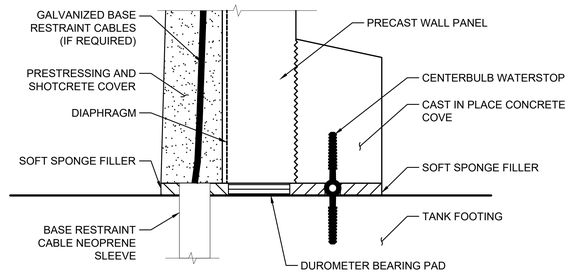
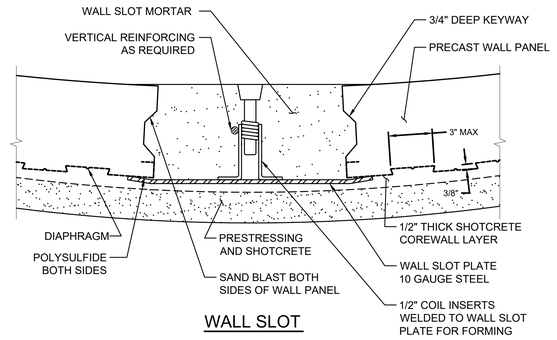
NOTES:
1) FOOTING AND FLOOR TO BE FINISHED PER SPECIFICATIONS.
2) MAINTAIN CLEARANCE BETWEEN THE INDIVIDUAL STRANDS IN THE BASE RESTRAINT CABLE SETS (DO NOT BUNDLE). CABLES MAY TOUCH WITHIN 2' OF THE BOOT.
3) THE COMBINED FLOOR AND WALL FOOTING SHALL BE POURED MONOLITHICALLY UNLESS APPROVED BY THE ENGINEER.
4) BASE RESTRAINT CABLES MAY BE BENT PRIOR TO INSTALLATION.
5) BASE RESTRAINT CABLE DESIGN REQUIREMENTS TO BE DETERMINED BY TANK CONTRACTOR.



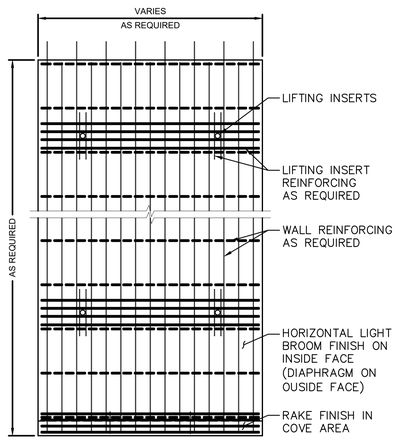
FOOTING, WALL AND ROOF SECTION 1
CS 007



WALL BASE



WALL SLOT



PRECAST WALL PANEL
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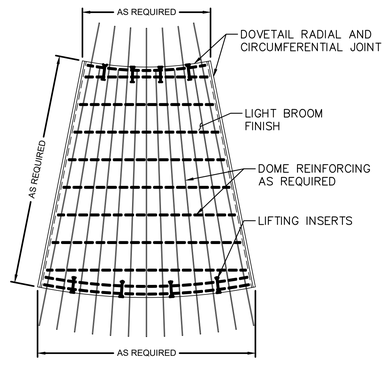

PRECAST DOME PANEL
QTY. AS REQ'D

TANK FOUNDATION NOTES:

1. TANK FOUNDATION SHALL BE AN AUGER PRESSURE GROUTED PILE FOUNDATION.
2. PILE FOUNDATION SYSTEM SHALL CONFORM, AT A MINIMUM, TO THE DESIGN STANDARDS SET FORTH IN THE GEOTECHICAL ENGINEERING REPORT PREPARED BY DRGEOES, LLC.
3. PILE FOUNDATION SYSTEM SHALL BE SIGNED BY A LICENSED ENGINEER AND SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.
4. PILES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 30' BELOW TANK FOUNDATION GRADE BEAMS.
5. PILES SHALL BE PLACED A MINMIMUM OF THREE PILE DIAMETERS APART.
6. PILES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE SPECIFICATION ACI 372R-22.

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11/17/23

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VA U.S. Department of Veterans Affairs

Drawing Title: ROOF, WALL AND FOOTING
Approved: Project Director

Project Title: Replace Underground Water Storage Tanks
Location: Overton Brooks VAMC
Issue Date: 11/17/2023
Checked: RCM
Drawn: RCM

Project Number: 667-22-118
Building Number: N/A
Drawing Number: CS 008

File Path: \\KSA-NET\GATEWAY\PROJECTS\100681\008 CAD\SI SHEETS\02 CIVIL\100681-FCDT-PROJECT-0001.DWG | CS 006 | 11/15/2023 - 3:07 PM | LAST SAVED BY: BPOWELL
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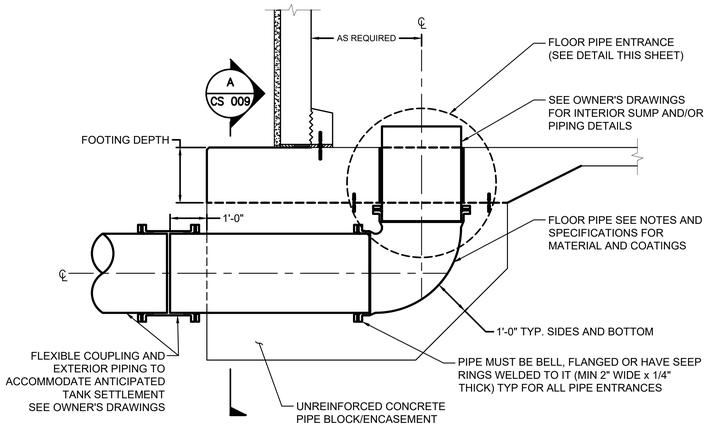
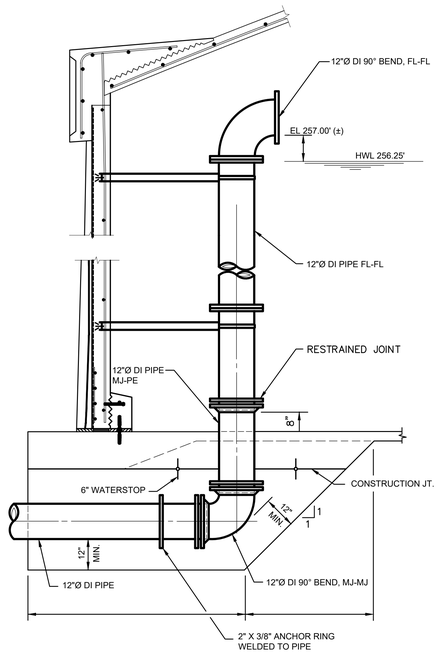
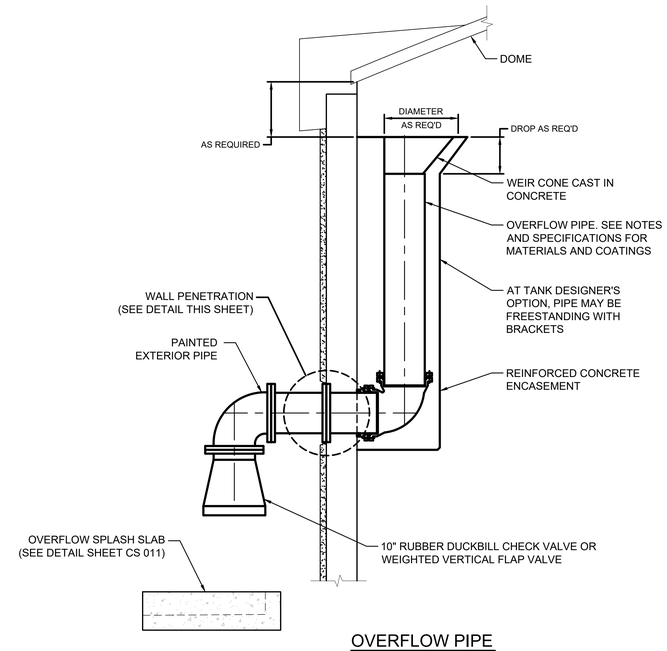


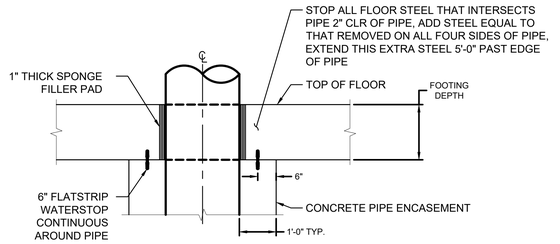
TYPICAL FLOOR PIPE



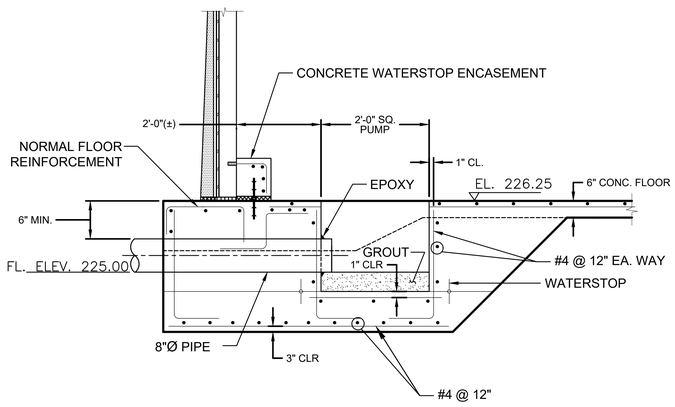
INLET PIPE DETAIL



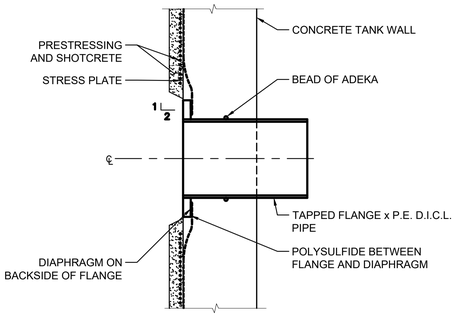
OVERFLOW PIPE



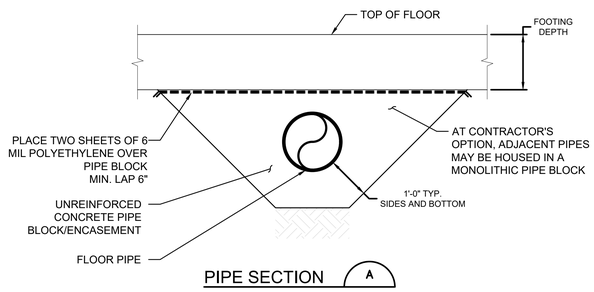
TYPICAL FLOOR PIPE ENTRANCE



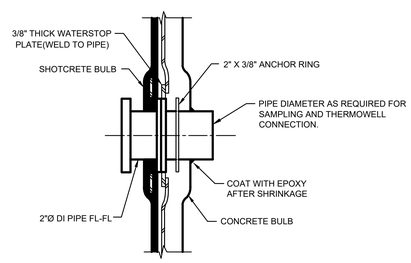
DRAINPIPE DETAIL (WITH FLOOR SUMP)



WALL PENETRATION



PIPE SECTION A



FLANGE WALL PENETRATION
ABOVE GRADE

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Revisions:	Date:

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STATE OF TEXAS
BLAKE T. POWELL
133210
LICENSED
PROFESSIONAL ENGINEER
11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	TANK PIPING
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 009

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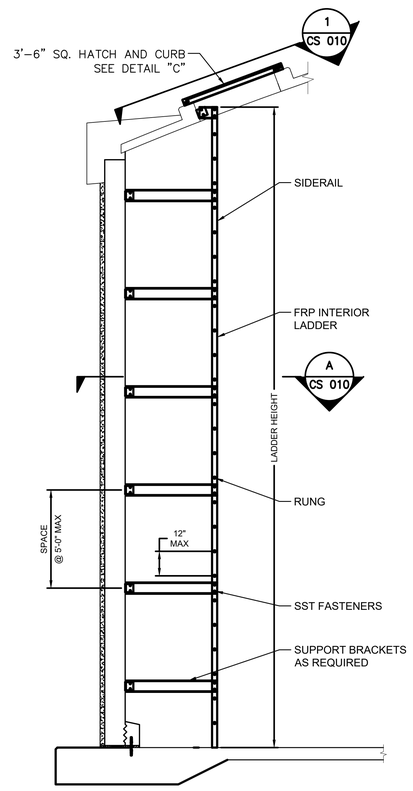
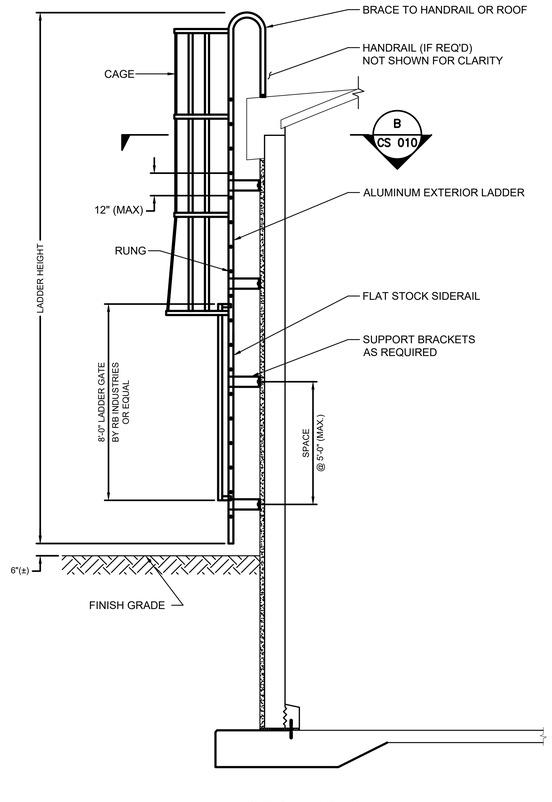
VA FORM 08 - 6231



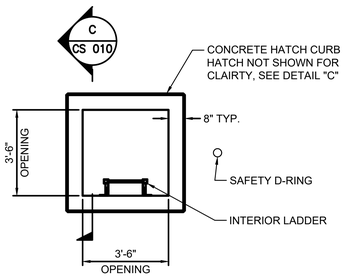
INTERIOR LADDER
1 REQ'D

INTERIOR LADDER NOTES:
1) LADDER MATERIAL SHALL BE FRP.
2) OSHA COMPLIANT FALL PREVENTION DEVICE SHALL BE INSTALLED (SST).
3) LADDER RUNGS TO BE SOLID BARS AND FLUTED.
4) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.

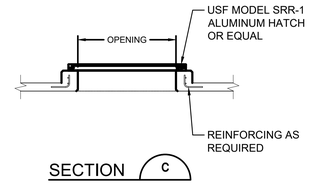


EXTERIOR LADDER
1 REQ'D

EXTERIOR LADDER NOTES:
1) ALL MATERIAL FOR EXTERIOR LADDER, SIDERAILS, RUNGS AND BRACKETS TO BE 6061-T6 ALUMINUM.
2) OSHA COMPLIANT FALL PREVENTION DEVICE SHALL BE INSTALLED (SST).
2) LADDER RUNGS TO BE SOLID BARS AND KNURLED.
3) ALL WELDS TO BE 3/16" MINIMUM.
4) ALL ALUMINUM IN CONTACT WITH CONCRETE MUST BE COATED WITH A HEAVY BITUMASTIC COATING, EPOXY PAINT OR SHIMMED USING PVC.
5) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.
6) WHERE SST BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.
7) WHERE SST BOLTS ARE PLACED IN THE WALL EXTERIOR, DRILL AND PLACE AFTER WRAPPING AND BEFORE FINAL SHOTCRETING.

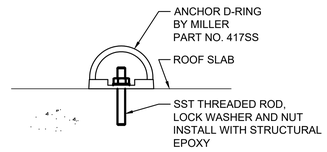


3'-6" SQ. ACCESS HATCH 1
1 REQ'D

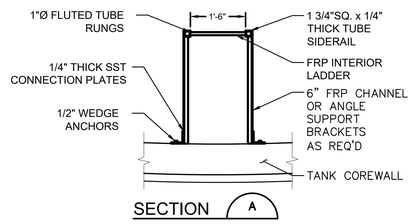


SECTION C

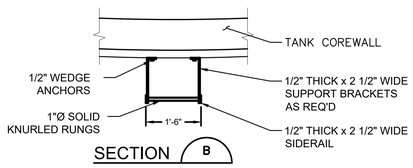
ROOF HATCHES NOTES:
1) HATCHES TO BE SINGLE LEAF USF MODEL SRR-1 ALUMINUM HATCHES OR EQUAL.
2) ALL ALUMINUM IN CONTACT WITH CONCRETE MUST BE COATED WITH A HEAVY BITUMASTIC COATING, EPOXY PAINT OR SHIMMED USING PVC.
3) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.
4) WHERE SST BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.



SAFETY D-RING
1 REQ'D @ EACH HATCH

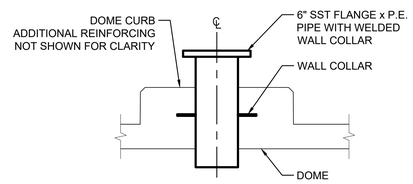


SECTION A



SECTION B

PIPING NOTES:
1. ALL PIPE MATERIAL TO BE D.I.C.L. UNLESS NOTED OTHERWISE.
2. EPOXY COAT EXTERIOR OF PIPING INSIDE TANK. NO COATING ON PIPE IN CONTACT WITH CONCRETE.
3. EXTERIOR PIPING CONNECTION TO BE DESIGNED TO TOLERATE EXPECTED TANK SETTLEMENT.



DOME SLEEVE
2 REQ'D

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PROFESSIONAL ENGINEER
11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	TANK LADDERS AND HATCHES
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 010

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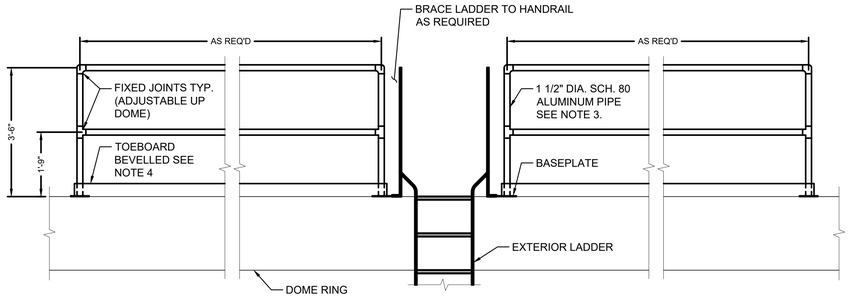
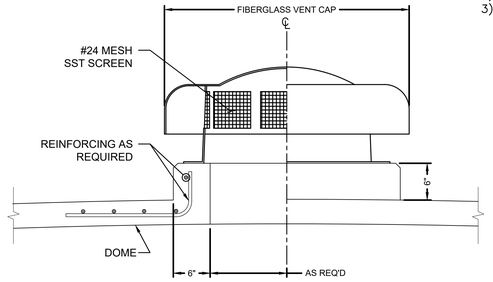
VA FORM 08 - 6231



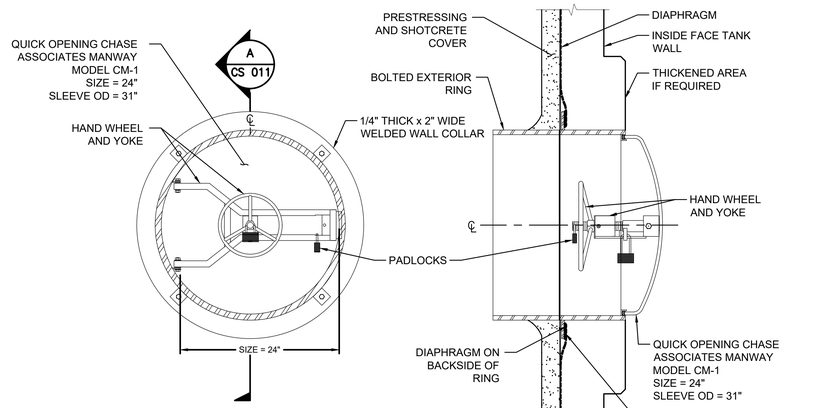
GUARDRAIL ELEVATION
1 REQ'D

GUARDRAIL NOTES:
1) ALL MATERIAL FOR RAILS AND POSTS TO BE 6061–T6 ALUMINUM.
2) HANDRAIL FITTINGS SHALL BE SPEEDRAIL BY HOLLAENDER, INC OR EQUAL.
3) HORIZONTAL RAILS AND POSTS TO BE 1 1/2" SCH 80 PIPE.
4) HOLLAENDER BEVELED TOE BOARD SHALL BE ATTACHED TO FRONT RAIL.
5) USE SST FOR ALL BOLTS UNLESS NOTED OTHERWISE.
6) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.



ROOF VENT
AS REQ'D

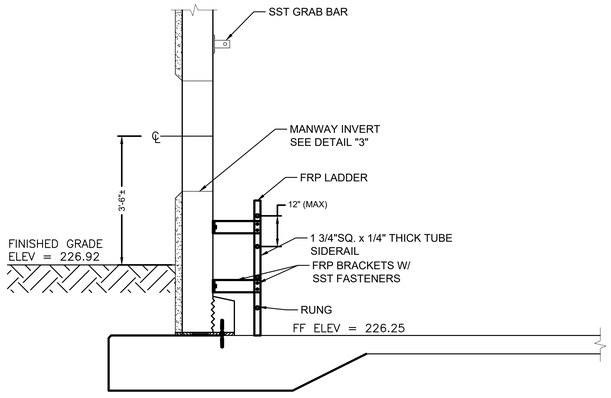
ROOF VENT NOTES:
1) VENT TO BE FIBERGLASS REINFORCED POLYMER.
2) SIZE PER PROJECT VENTING RATES.
3) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.



WALL MANWAY
1 REQ'D

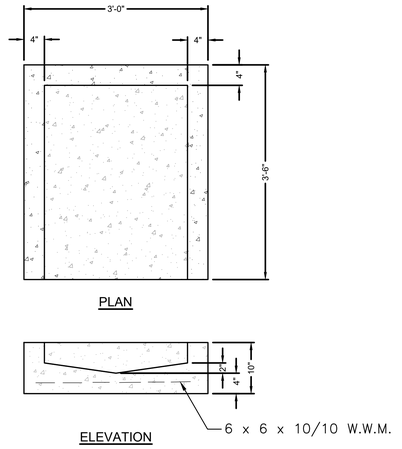
SECTION A

WALL MANWAY NOTES:
1) MANWAY MATERIAL TO BE SST.
2) THE MANWAY WILL BE CAST INTO THE WALL AND THE EXTERIOR MANWAY RING WILL BE BOLTED ON AFTER TANK PRESTRESSING IS COMPLETE, PRIOR TO FINAL COVERCOAT PLACEMENT.



MANWAY LADDER
1 REQ'D

MANWAY LADDER NOTES:
1) ALL MATERIAL FOR LADDER AND RUNGS TO BE FIBER REINFORCED POLYMER.
2) MANWAY GRAB BAR TO BE SST.
3) LADDER RUNGS TO BE SOLID BARS AND FLUTED.
4) USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.



OVERFLOW SPLASH SLAB DETAIL
N.T.S.

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LICENSED PROFESSIONAL ENGINEER
11/17/23

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	MISCELLANEOUS APPURTENANCES
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	RCM
Drawn	RCM
Project Number	667-22-118
Building Number	N/A
Drawing Number	CS 011

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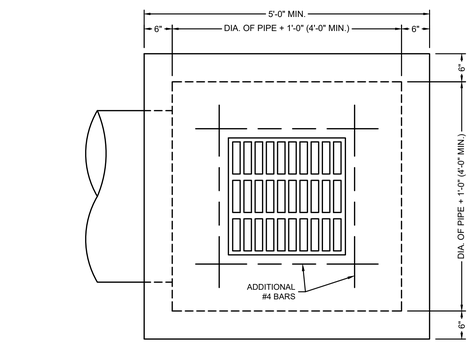
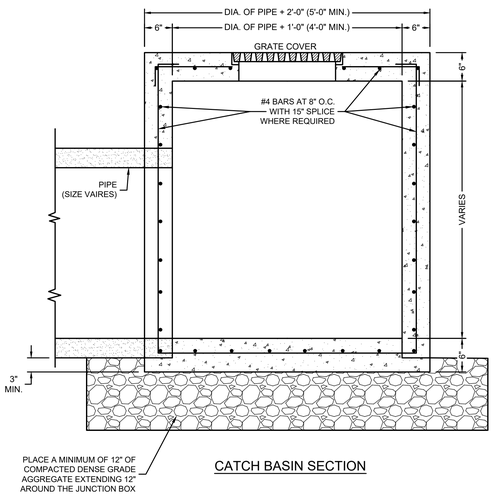


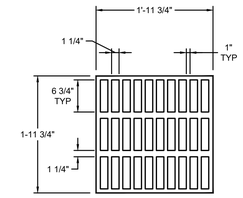
CATCH BASIN PLAN



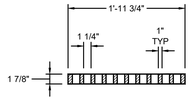
CATCH BASIN SECTION

1 CATCH BASIN DETAIL

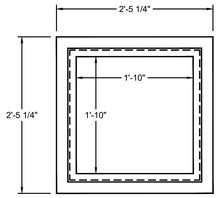
N.T.S.



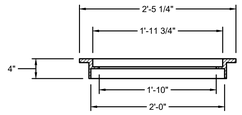
COVER PLAN



COVER SECTION



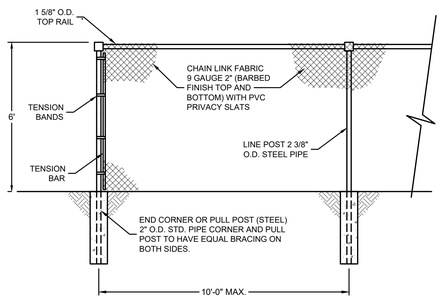
FRAME PLAN



FRAME SECTION

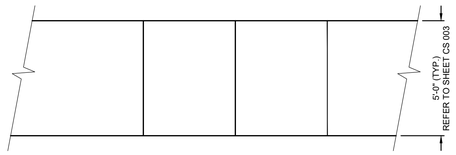
2 GRATE COVER DETAIL

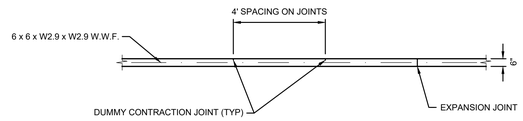
N.T.S.



7 6' CHAINLINK FENCE DETAIL

N.T.S.



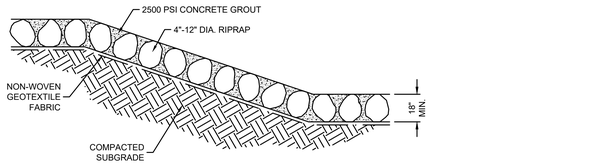


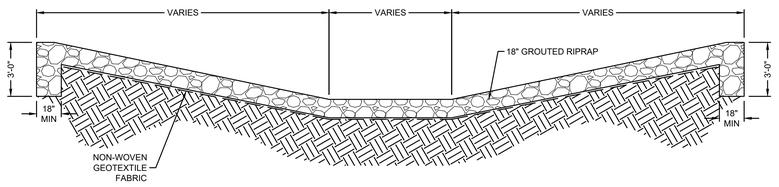
NOTES:

1. 6" THICK PORTLAND CEMENT CONCRETE PAVEMENT FOR SIDEWALK + INCIDENTAL PAVING OVER 6". SUBGRADE COMPACTED TO 95% STANDARD PROCTOR.
2. EXPANSION JOINT REQUIRED EVERY 16'.
3. TRANSVERSE SLOPE AT 1/4" PER FOOT.

8 SIDEWALK DETAIL

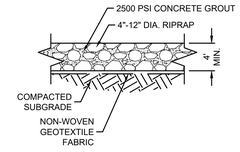
N.T.S.





3 GROUTED RIPRAP DETAIL (1.5' DEPTH)

N.T.S.

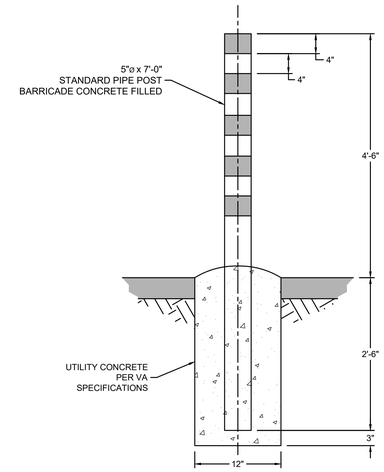


NOTES:

1. REFER TO SHEET CS 004 FOR LAYOUT

4 GROUTED RIPRAP SECTION (4' DEPTH)

N.T.S.

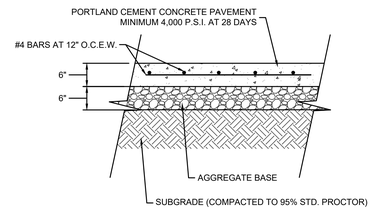


NOTES:

1. POST BARRICADES WILL BE PAINTED WITH ONE PRIME COAT OF RED OXIDE (PAINT NO. 1). ONE FINISH COAT OF DULL BLACK ENAMEL PER VA SPECIFICATIONS, AND STRIPES CONSISTING OF 4" BANDS OF YELLOW REFLECTORIZED TAPE WILL BE USED UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. FINISH COLOR COMBINATIONS, OTHER THAN THAT SPECIFIED ABOVE, WILL BE SUBMITTED TO THE AGENCY FOR APPROVAL.
3. BOLLARDS SHALL BE SPACED. 5' ON CENTER UNLESS OTHERWISE SPECIFIED ON THE PLANS.

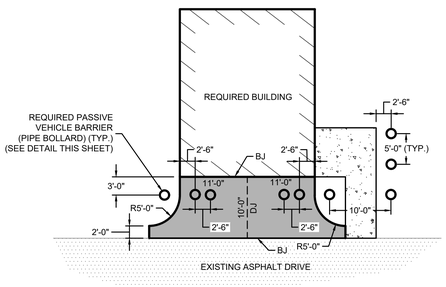
6 BOLLARD DETAIL

N.T.S.



5 CONCRETE DRIVE SECTION

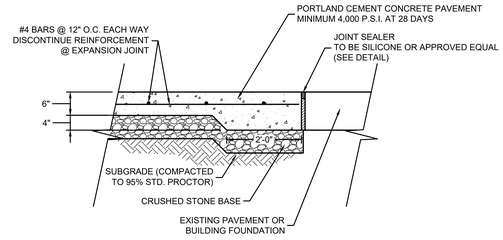
N.T.S.



BJ = BUTT JOINT (SEE DETAIL THIS SHEET)
DJ = DUMMY JOINT (SEE DETAIL THIS SHEET)

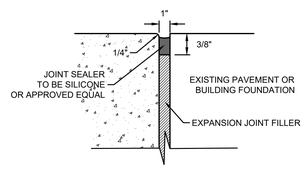
9 PAVEMENT AND BOLLARD LAYOUT DETAIL

1" = 10'



10 BUTT JOINT

N.T.S.



11 JOINT SEALER

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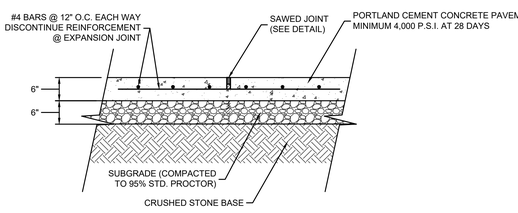

12 DUMMY JOINT

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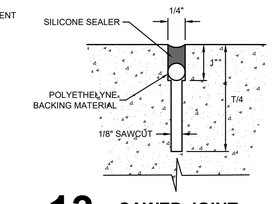

13 SAWED JOINT

N.T.S.

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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STATE OF TEXAS
BLAKE T. POWELL
133210
LICENSED
PROFESSIONAL ENGINEER
11/17/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: CIVIL DETAILS

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | Checked: RCM | Drawn: RCM

Project Number: 667-22-118

Building Number: N/A

Drawing Number: CS 012

File Path: \KSA-NET\DATEWAY\PROJECTS\100851\008 CAD\38 SHEETS\02 CIVIL\100851-C-D1-PROJECT-0002.DWG | EX SITE | 11/16/2023 - 3:08 PM | LAST SAVED BY: BPOWELL

6/14/2009 12:39:03 PM

VA FORM 08 - 6231

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE.
2. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REP BEFORE PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE JOB SITE.
4. OBSERVATION VISITS TO THE JOB SITE BY THE PROJECT ENGINEERS SHALL NOT BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
5. EXCAVATION SHALL BE PERFORMED WITH EXTREME CAUTION SO AS NOT TO DISTURB EXISTING UNDERGROUND PIPING, CONDUITS, UTILITIES, ETC.
6. CONTRACTOR SHALL USE EXTREME CAUTION DURING EXCAVATION AS OTHER UNDERGROUND OBSTRUCTIONS MAY EXIST IN ADDITION TO THOSE SHOWN. SHOULD DISCREPANCIES OR OBSTRUCTIONS BE ENCOUNTERED, CONTRACTOR SHALL CONTACT OWNER'S REP FOR FURTHER INSTRUCTION.
7. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE ONCE COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SCHEDULING TO ENSURE SAFETY OF THE BUILDING DURING ERECTION. CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL COMPONENTS NEEDED FOR THIS.
8. IBC CODE 2021 WAS USED IN THIS DESIGN:

   DEAD LOAD
   FLOOR: 100 PSF

   ROOF: 20 PSF

   LIVE LOAD: 20 PSF

   SNOW ON GROUND: Pg=5 LB/FT^2

   SEISMIC PARAMETERS:
   S_S = 0.109
   S = 0.068
   S_{PS} = 0.116
   S_{P1} = 0.109

   WIND SPEED: 117 MPH

EXCAVATION:

1. CONTRACTOR SHALL MUCK, BACKFILL AND GRADE FIELD DITCHES AND DEPRESSIONS TO DRAIN WITHIN THE CONSTRUCTION AND DRAINAGE EASEMENTS.
2. GRADING OF SWALE AREAS MAY BE ADJUSTED AS REQUIRED TO ACHIEVE PROPER DRAINAGE DURING CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE LOCATION AND ADJUSTMENT OF ALL UTILITY LINES AND SERVICES PRIOR TO CONSTRUCTION.
4. TREES AND PLANT MATERIAL WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED.

DRILLED SHAFT NOTES:

1. DRILLED SHAFT CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ACI 336.1, LATEST EDITION "STANDARD SPECIFICATION FOR CONSTRUCTION OF DRILLED PIERS", EXCEPT AS MODIFIED IN THE CONCRETE NOTES OR AS INDICATED IN THE DRILLED SHAFT NOTES BELOW.
2. CAST IN PLACE CONCRETE (NORMAL WEIGHT) SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH, F'c, EQUAL TO 4,000 PSI MINIMUM. THE CONCRETE WATER/CEMENT RATIO, W/C, SHALL BE 0.45 MAXIMUM. USE A NOMINAL MAXIMUM 3/4" AGGREGATE, CONTINUOUS TREMIE PIPE, MINIMUM PIPE EMBEDMENT IN CONCRETE AT ALL TIMES, CONTINUOUS CONCRETE PLACEMENT AND STATIC WATER LEVEL IN HOLE PRIOR TO CONCRETE PLACEMENT. SLUMP SHALL BE 6" TO 8". MAXIMUM FREEFALL OF CONCRETE IN DRILLED SHAFTS SHALL BE 6 FEET. OTHER CONCRETE DETAILS SHALL BE PER DRAWINGS, PER CONCRETE NOTES AND APPLICABLE REFERENCES.
3. THE REINFORCING STEEL CAGE SHALL BE SUFFICIENTLY STIFF TO MAINTAIN ITS PROPORTIONS AND BAR POSITIONS DURING HANDLING AND PLACING.
4. CAGES SHALL HAVE SPACERS LOCATED 2 FEET FROM THE BOTTOM, 2 FEET FROM THE TOP AND AT 15 FEET MAXIMUM CENTERS IN-BETWEEN. SPACERS SHALL BE BAR SPAN WHEELS, CODE W13MN BY FOSROC, INC. OR APPROVED EQUAL.
5. EACH DRILLED SHAFT SHALL BE INSPECTED AND APPROVED PRIOR TO EXCAVATING BELLS OR PLACING CONCRETE.
6. REMOVE DEBRIS FROM THE BOTTOM OF EACH DRILLED SHAFT PRIOR TO POURING CONCRETE.
7. IF FREE FALL METHOD IS USED TO POUR CONCRETE, DIRECT CONCRETE FLOW VERTICALLY DOWN THE CENTER OF THE SHAFT. DO NOT LET CONCRETE HIT THE SIDES OF THE SHAFT OR THE REINFORCING CAGE.
8. FOR DRY DRILLED SHAFT INSTALLATION, LIMIT WATER IN THE BOTTOM OF THE DRILLED SHAFT TO 2" PRIOR TO POURING CONCRETE. IF WATER SEEPS INTO THE SHAFT HOLE AT A RATE GREATER THAN 1/4" RISE PER MINUTE, EITHER CASING OR SLURRY MUST BE USED TO RETAIN THE SIDES OF THE EXCAVATION DURING THE CONCRETING PROCESS.
9. WHEN CASINGS ARE USED, PROCEED WITH THE PLACEMENT OF CONCRETE UNTIL THE CONCRETE LEVEL IS ABOVE THE LEVEL OF THE COLLAPSIBLE SOIL BEFORE THE CASING IS COMPLETELY LIFTED. WHERE A CASING IS REQUIRED FOR SOIL CONDITIONS OR WATER INTRUSION, A MINIMUM 8 FOOT LONG CASING SHALL BE USED.
10. CONCRETE SHALL BE PLACED AS SOON AS POSSIBLE (ONE HOUR MAXIMUM) AFTER EXCAVATION HAS BEEN COMPLETED, INSPECTION AND REINFORCEMENT PLACED. IN NO EVENT SHALL AN EXCAVATION REMAIN OPEN OVERNIGHT.
11. CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION. IF A CONSTRUCTION JOINT IS UNAVOIDABLE THE EXISTING CONCRETE SURFACE SHALL BE ROUGHENED, CLEANED THOROUGHLY (REMOVING LOOSE UNSOUND MATERIAL) AND COATED WITH EPOXY ADHESIVE.
12. DRILLED SHAFTS SHALL BE INSTALLED SO THAT THE CENTERLINES OF THE TOP OF THE DRILLED SHAFT IS WITHIN 3" OF THE PLAN LOCATION.
13. MAXIMUM ALLOWABLE OUT OF PLUMB DEVIATION SHALL BE 1%.
14. THE TOP ELEVATION OF EACH DRILLED SHAFT SHALL BE WITHIN 1/2" OF THE ELEVATION SPECIFIED ON THE DRAWINGS AND DIAMETERS SHALL BE WITHIN ±1/2" OF THE NOMINAL DIAMETER SPECIFIED ON THE DRAWINGS.
15. EXPOSED REINFORCEMENT SHALL BE PROTECTED AS REQUIRED UNTIL THE FOUNDATION CONSTRUCTION IS COMPLETE.
16. DURING THE COURSE OF EXCAVATION/DRILLING ACTIVITIES, UNUSUAL CIRCUMSTANCES SHALL BE REPORTED TO ENGINEER OF RECORD.

CONCRETE NOTES:

1. APPLICABLE CODES OR STANDARDS – ALL DESIGN, TESTING, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS:
   1.1. ASTM STANDARDS SHALL APPLY FOR ALL MATERIALS.
   1.2. OSHA STANDARDS
   1.3. ACI 318-19, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
2. MATERIALS AND CONCRETE STRENGTH
   2.1. NORMAL STRENGTH CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
   2.2. FINE AND COARSE AGGREGATES SHALL CONFORM TO ASTM C33. MAXIMUM AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH ACI 318-19.
   2.3. PORTLAND CEMENT FOR CONCRETE CONSTRUCTION SHALL CONFORM TO ASTM C150 TYPE I OR TYPE II.
   2.4. CONCRETE SHALL BE AIR-ENTRAINED WITH 4% TO 8% TOTAL AIR CONTENT BY VOLUME.
   2.5. ALL REINFORCING STEEL TO MEET ASTM A615 GRADE 60 SPECIFICATIONS.
   2.6. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36 (UNO), WITH UNC-2A THREADS. NUTS SHALL CONFORM TO ASTM A563, GRADE A HEAVY HEX NUTS. WASHERS SHALL CONFORM TO ASTM F436. ALL NUTS, BOLTS & WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C.
3. CONSTRUCTION METHODS
   3.1. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE A ¾ INCH, 45 DEGREE CHAMFER.
   3.2. FORM-RELEASE AGENTS SHALL NOT BE APPLIED IF CONCRETE SURFACES SHALL RECEIVE SPECIAL FINISHES OR WHERE THE AGENT MAY AFFECT APPLIED COVERINGS. ALTERNATELY, INSIDE SURFACES OF UNTREATED FORMWORK SHALL BE SOAKED WITH CLEAN WATER AND KEPT MOIST BEFORE PLACING CONCRETE.
   3.3. CONCRETE SHALL BE CURED AND PROTECTED IN ACCORDANCE WITH ACI 301.
   3.4. DEVELOPMENT LENGTH, SPLICE LENGTH, AND MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE PER ACI 318, UNLESS NOTED OTHERWISE. NO WELDING ON REBAR SHALL BE ALLOWED.
   3.5. EXPANSION JOINTS AND JOINT SEALERS ACCORDING TO THE DESIGN DRAWINGS.
      3.5.1. EXPANSION JOINT MATERIAL SHALL BE PREFORMED BITUMINOUS PER ASTM D994.
      3.5.2. THE SURFACE OF THE CONCRETE SHALL BE ROUGHENED, THOROUGHLY CLEANED, AND ALL LAITANCE REMOVED.
4. GROUTING
   4.1. NONSHRINK CEMENTITIOUS GROUT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
   4.2. FOR NON-SHRINK GROUT THE FOLLOWING MANUFACTURERS ARE ACCEPTABLE:
      – "CRYSTEX" AS MANUFACTURED BY L&M CONSTRUCTION CHEMICALS.
      – "MASTERFLOW 928" AS MANUFACTURED BY MASTER BUILDERS.
      – "FIVE STAR FLUID GROUT 100" AS MANUFACTURED BY FIVE STAR PRODUCTS.

CMU NOTES:

1. ALL REINFORCED CELLS OF CMU WALL SHALL BE FULLY GROUTED AND SHALL HAVE #4 VERTICAL REINFORCING BARS AS SHOWN. VERTICAL BARS ARE TO EXTEND UP TO WITHIN 2" OF THE TOP OF THE CMU WALL.
2. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90, CLASS N MORTAR. JOINT REINFORCING SHOULD MEET THE REQUIREMENTS OF ASTM A82 WITH A MINIMUM YIELD STRESS OF 70 KSI AND A MINIMUM ULTIMATE STRENGTH OF 80 KSI. GRADE 60 BARS SHOULD BE USED FOR PRIMARY REINFORCING. GROUT MUST COMPLY WITH ASTM C476.
3. CONCRETE MASONRY UNITS (CMU) SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

STEEL NOTES:

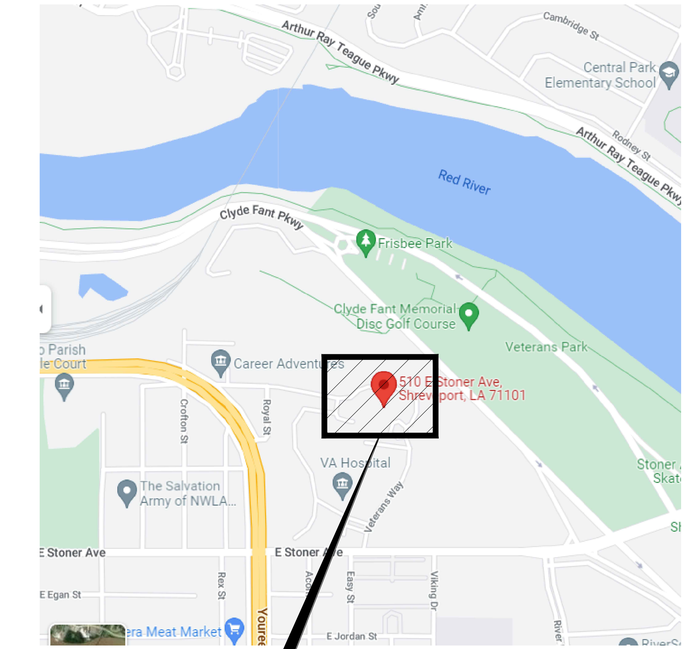
1. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SPECIFICATIONS, UNLESS NOTED OTHERWISE:
   A. STRUCTURAL STEEL WIDE FLANGE SHAPES – ASTM A992
   B. ALL OTHER STEEL SHAPES AND PLATES – ASTM A36
   C. RECTANGULAR HSS SHAPES – ASTM A500 GR B
   D. HIGH STRENGTH BOLTS – ASTM F3125 GR A325
   E. WELDING ELECTRODES – AWS A5.1, E70 SERIES
3. SPLICING OF PRIMARY STRUCTURAL STEEL NOT DETAILED IS PROHIBITED UNLESS PRIOR APPROVAL IS OBTAINED FROM ENGINEER OF RECORD.
4. DETAILS AND WORKMANSHIP SHALL CONFORM TO THE BEST MODERN SHOP PRACTICE AND SHALL BE IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL LATEST EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE, THE MINIMUM STRENGTH WELD SHALL BE IN ACCORDANCE WITH AISC CHAPTER J2.
6. ALL WELDING SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY D1.1 AND SHALL BE 3/16" MIN. SEAL WELD.
7. PLATE MAY BE FLAME CUT, BUT EDGES SHALL BE NEATLY FINISHED AND GROUND SMOOTH. ALL SQUARE CUT CORNERS SHALL HAVE ⅛" RADIUS BY GRINDER.
8. BOLT HOLES SHALL BE DRILLED OR PUNCHED.
9. FABRICATOR SHALL REMOVE ALL BURRS AND SHARP EDGES AFTER FABRICATION.
10. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
    10.1. WHEN GALVANIZED SURFACES HAVE BEEN BURNED OR OTHERWISE DAMAGED, THE SURFACE SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP-11 (POWERTOOL CLEANING TO BARE METAL). TOUCH UP WITH ZRC COLD GALVANIZING COMPOUND TO 8.0 MILS MINIMUM DFT.

DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE	REVISION	ISSUED HEREWITH
S000	DRAWING INDEX & GENERAL NOTES	0	✓
S001	ANALYZER BUILDING FOUNDATION PLAN, SECTIONS & DETAILS	0	✓
S002	ANALYZER BUILDING FOUNDATION DETAILS	0	✓
S003	ANALYZER BUILDING ROOF PLAN & SECTIONS	0	✓
S004	ANALYZER BUILDING SECTIONS & DETAIL	0	✓

LEGEND:

TYP.	TYPICAL
T.O.C.	TOP OF CONCRETE
T/O	TOP OF
U.N.O.	UNLESS NOTED OTHERWISE
CONN.	CONNECTION
W.P.	WORK POINT
F/F	FINISHED FLOOR
REINF.	REINFORCEMENT



PROJECT LOCATION

100% Construction Documents - IFC

Revisions:	Date:
0 100% CONSTRUCTION DOCUMENTS - IFC	11/17/2023

CONSULTANT

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IN
ENGINEERING
REV 0 11/17/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	DRAWING INDEX & GENERAL NOTES
Approved: Project Director	
Project Title	Replace Underground Water Storage Tanks
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	MCA
Drawn	CPB
Project Number	667-22-118
Building Number	N/A
Drawing Number	S000

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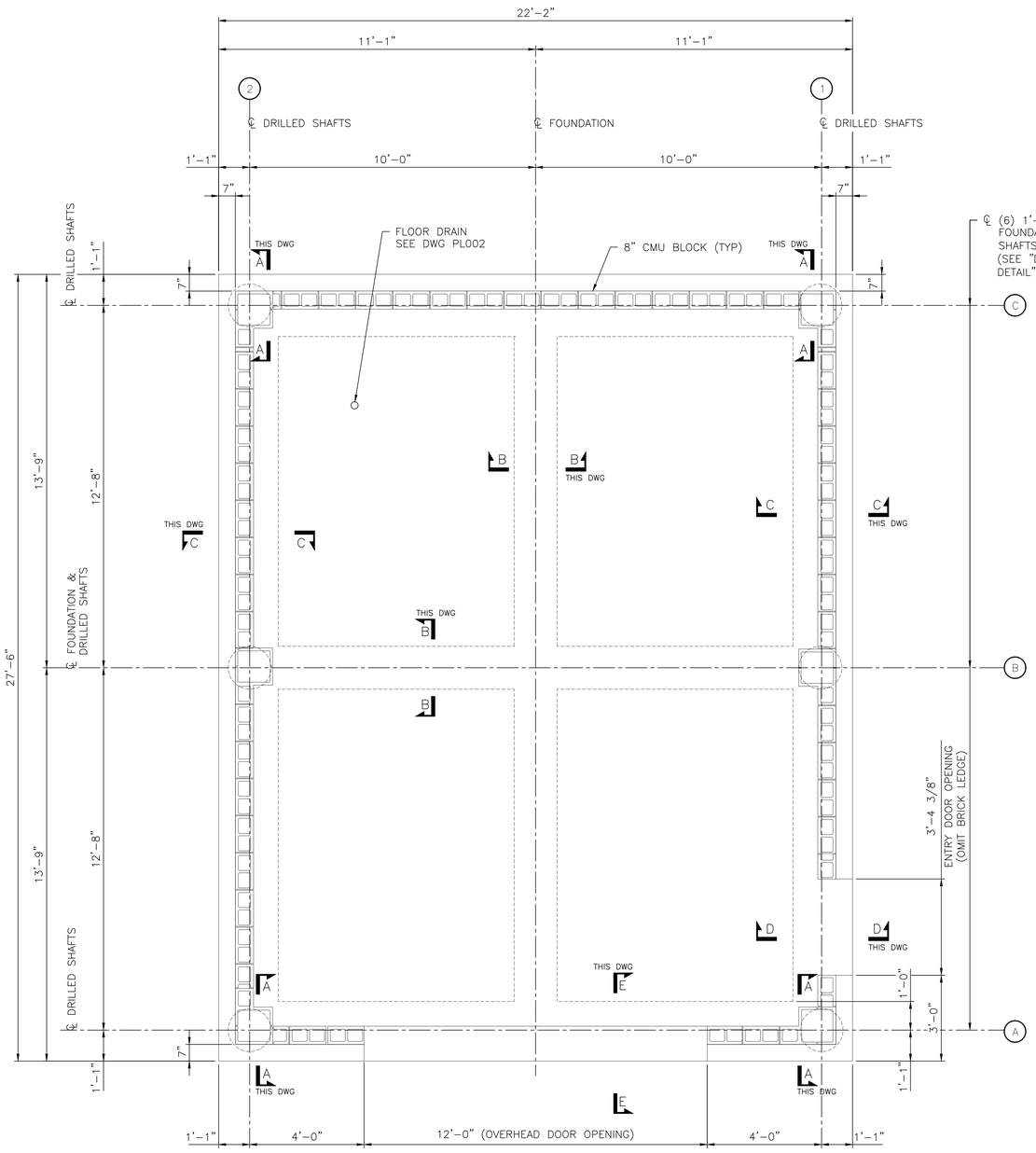
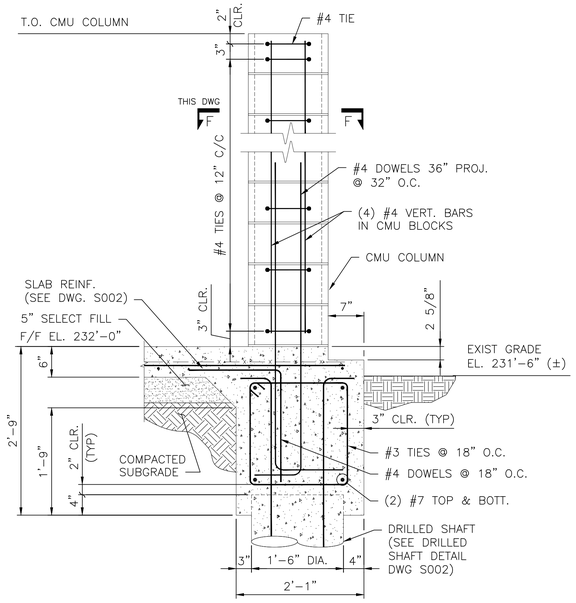


ANALYZER BUILDING FOUNDATION - PLAN @ F/F EL. 232'-0"

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

NOTE:
SEE DRAWING CS003
FOR BUILDING LOCATION



SECTION A-A

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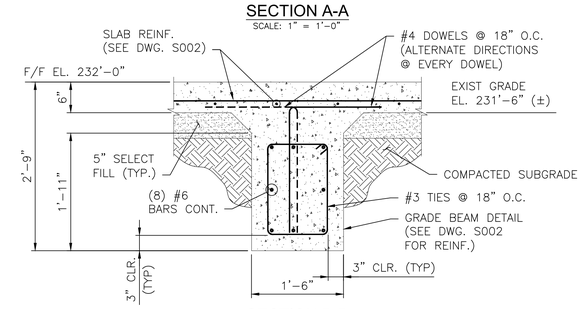

SECTION B-B

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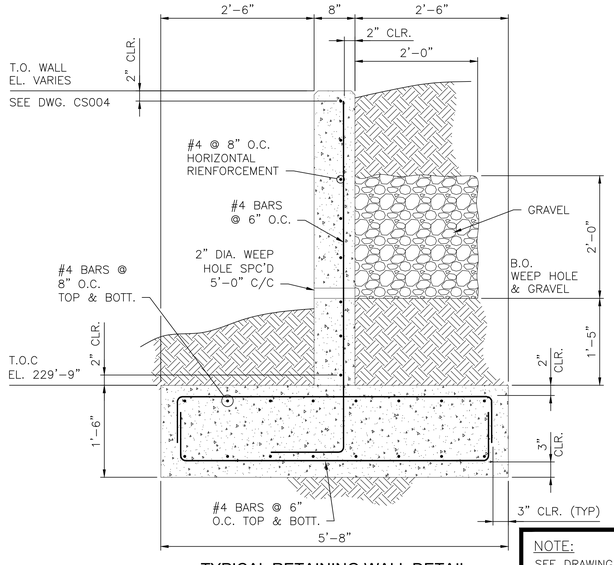


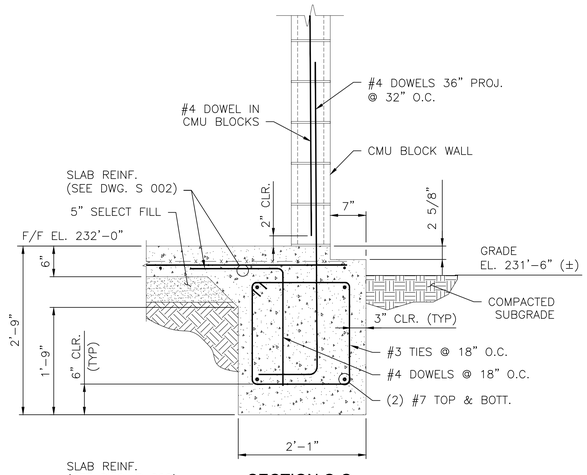
TYPICAL RETAINING WALL DETAIL

SCALE: 1" = 1'-0"

NOTE:
SEE DRAWING CS003 FOR RETAINING WALL LOCATION AND ELEVATIONS

NOTES:

1. FOR GENERAL NOTES AND DRAWING INDEX SEE DRAWING S000.



SECTION C-C

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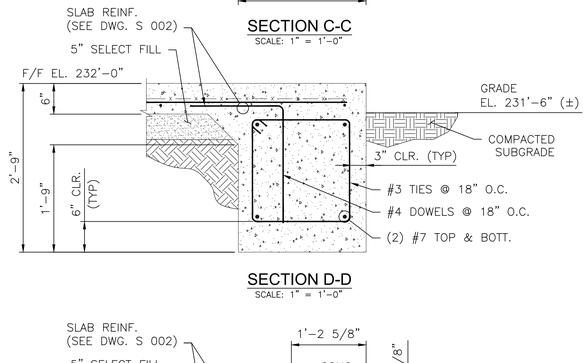

SECTION D-D

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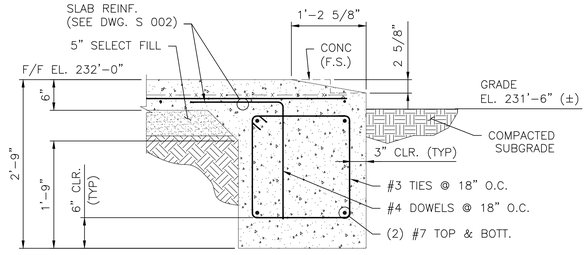
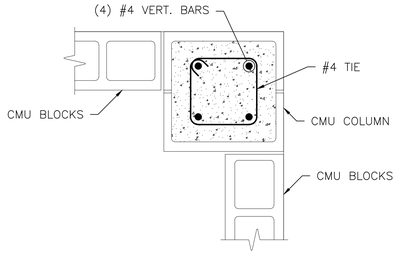


AT OVERHEAD DOOR LOCATION ONLY

SECTION E-E

SCALE: 1" = 1'-0"



SECTION F-F

SCALE: 1" = 1'-0"

100% Construction Documents - IFC

0 100% CONSTRUCTION DOCUMENTS - IFC	11/17/2023
Revisions:	Date:

CONSULTANT

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PROFESSIONAL ENGINEER
REV 0 11/17/2023

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ANALYZER BUILDING FOUNDATION PLAN, SECTIONS & DETAILS	Project Title: Replace Underground Water Storage Tanks
Approved: Project Director	Location: Overton Brooks VAMC
	Issue Date: 11/17/2023
	Checked: MCA
	Drawn: CPB
	Project Number: 667-22-118
	Building Number: N/A
	Drawing Number: S001

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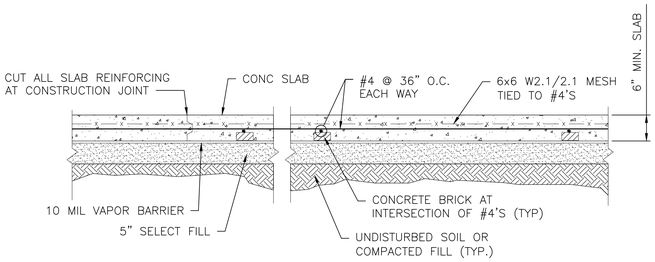
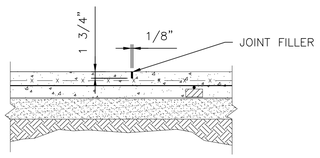
File Path

VA FORM 08 - 6231

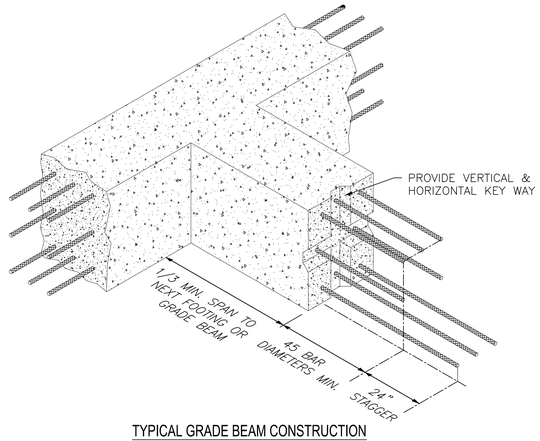


AT CONSTRUCTION JOINT



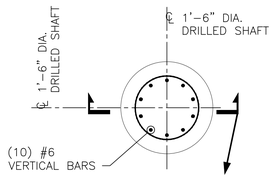
AT CONTROL JOINT

TYPICAL SLAB ON GRADE DETAIL



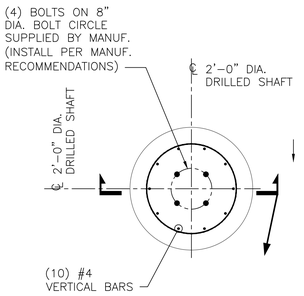
TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL

1" = 1'-0"



PLAN

SCALE: 1" = 1'-0"

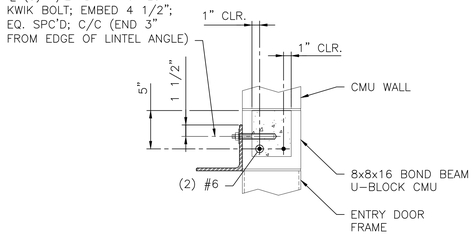


PLAN

SCALE: 1" = 1'-0"

NOTES:

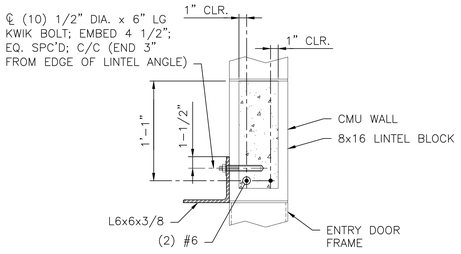
1. FOR GENERAL NOTES AND DRAWING INDEX SEE DRAWING S000.
2. CONTRACTOR TO COORDINATE WITH ELECTRICAL PRIOR TO POURING LIGHT POLE FOUNDATION. REFERENCE DRAWINGS E001 & E002 FOR DETAILS.



SECTION AT ENTRY DOOR

LINTEL DETAIL 1

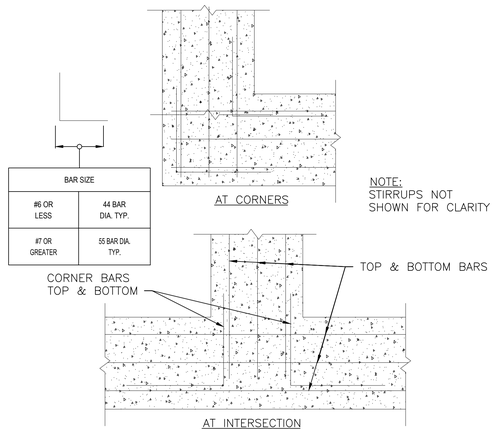
SCALE: 1 1/2" = 1'-0"



SECTION AT OVERHEAD DOOR

LINTEL DETAIL 2

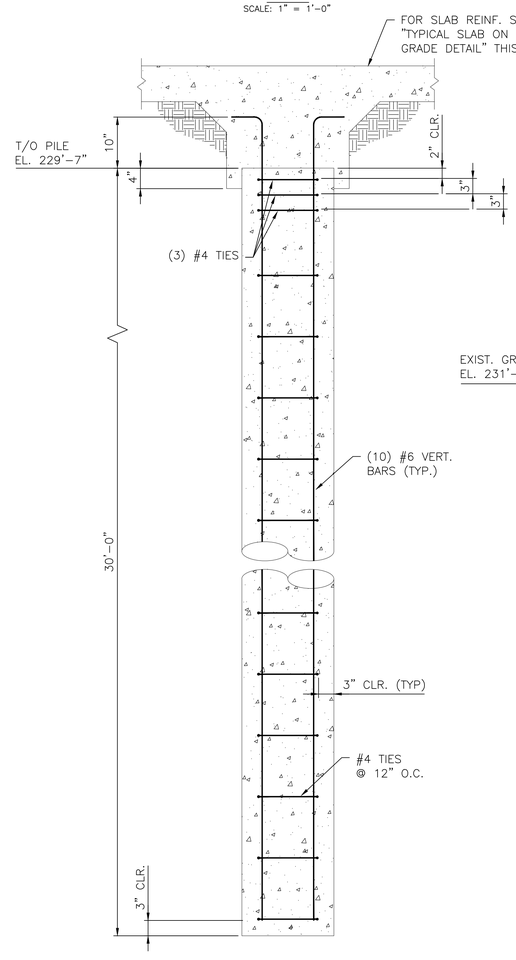
SCALE: 1 1/2" = 1'-0"



NOTE: CORNER BAR SIZE TO MATCH SMALLER BAR SIZE OF BEAM REINFORCING

TYPICAL BEAM REINFORCING DETAIL

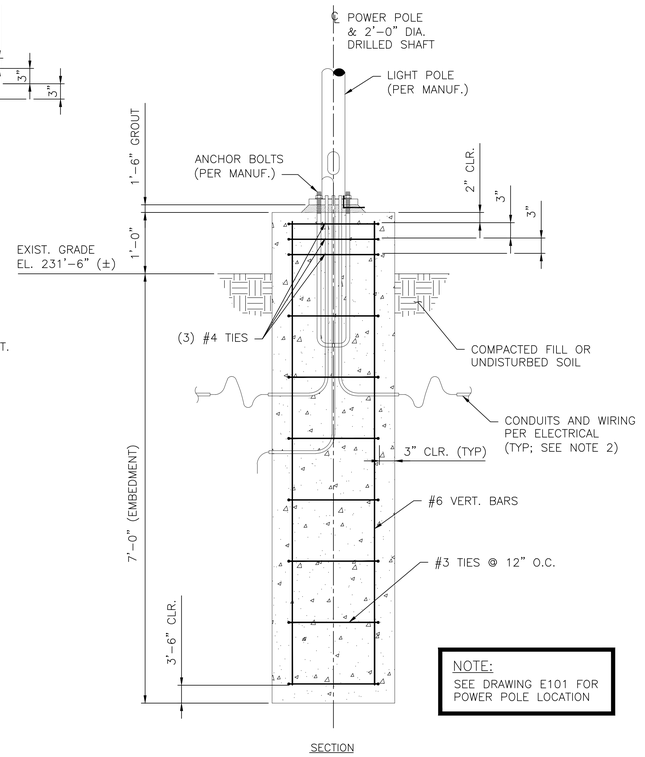
SCALE: 1" = 1'-0"



SECTION

FOUNDATION DRILLED SHAFT DETAIL

SCALE: 1" = 1'-0"



SECTION

LIGHT POLE DRILLED SHAFT DETAIL

SCALE: 1" = 1'-0"

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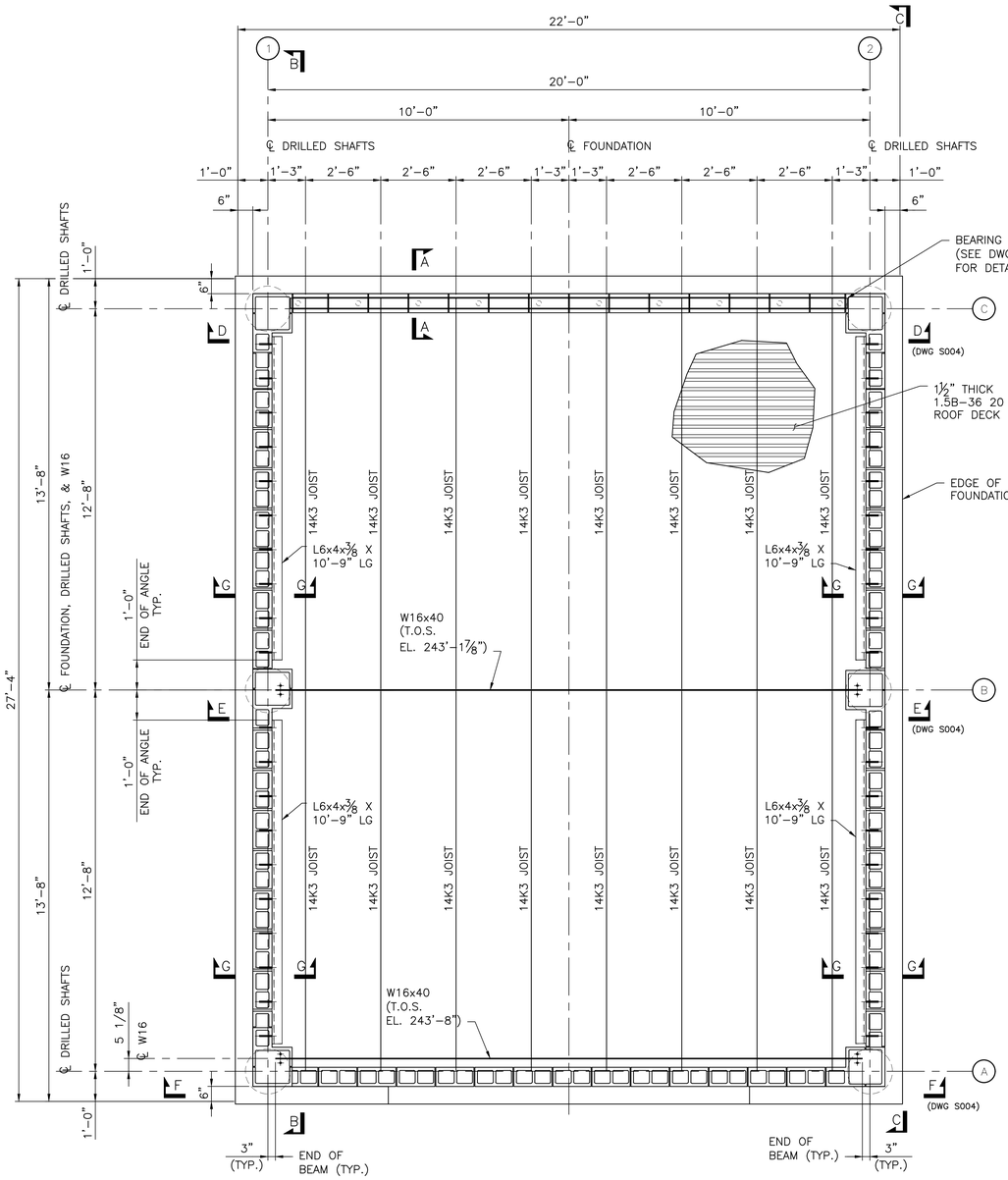
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

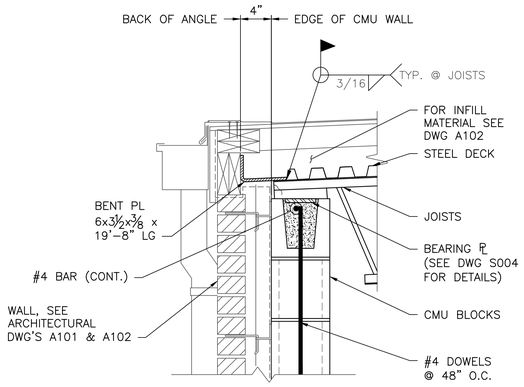
Drawing Title: ANALYZER BUILDING FOUNDATION DETAILS	Project Title: Replace Underground Water Storage Tanks		Project Number: 667-22-118
			Building Number: N/A
Approved: Project Director	Location: Overton Brooks VAMC		Drawing Number: S002
	Issue Date: 11/17/2023	Checked: MCA	Drawn: CPB

File Path: 8/14/2009 12:28:03 PM

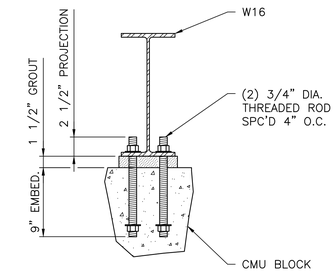
VA FORM 08 - 6231



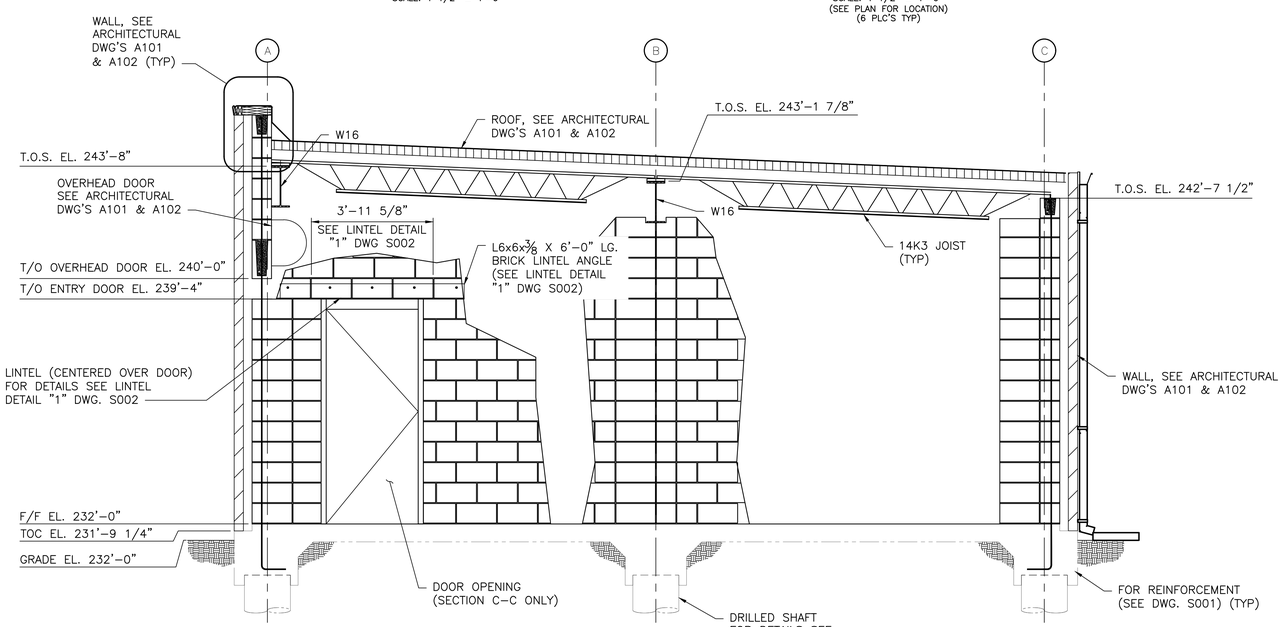
ANALYZER BUILDING ROOF FRAMING PLAN
SCALE: 1/2" = 1'-0"



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

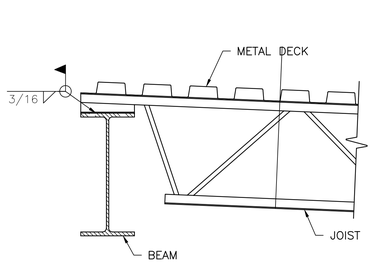


BEAM TO CMU CONNECTION DETAIL
SCALE: 1 1/2" = 1'-0"
(SEE PLAN FOR LOCATION)
(6 PLC'S TYP)

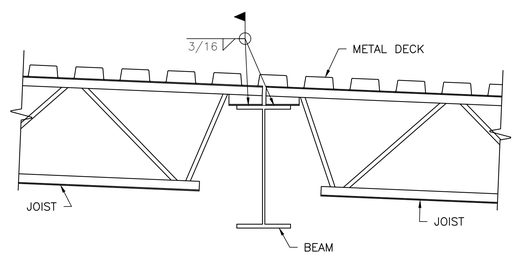


SECTION B-B

SECTION C-C (AS NOTED)
SCALE: 1/2" = 1'-0"



TYPICAL JOIST DETAIL 01
1 1/2 = 1'-0"



TYPICAL JOIST DETAIL 02
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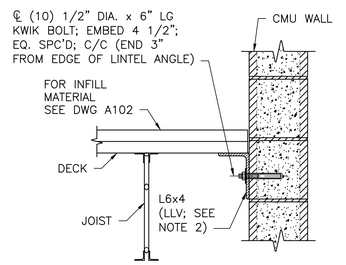

SECTION G-G
SCALE: 1 1/2" = 1'-0"
(SEE PLAN FOR LOCATION)
(6 PLC'S TYP)

NOTES:

1. FOR GENERAL NOTES AND DRAWING INDEX SEE DRAWING S000.

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ANALYZER BUILDING ROOF PLAN & SECTIONS	Project Title: Replace Underground Water Storage Tanks		Project Number: 667-22-118
			Building Number: N/A
Approved: Project Director	Location: Overton Brooks VAMC		Drawing Number: S003
	Issue Date: 11/17/2023	Checked: MCA	Drawn: CPB

File Path: 6/14/2099 12:59:03 PM

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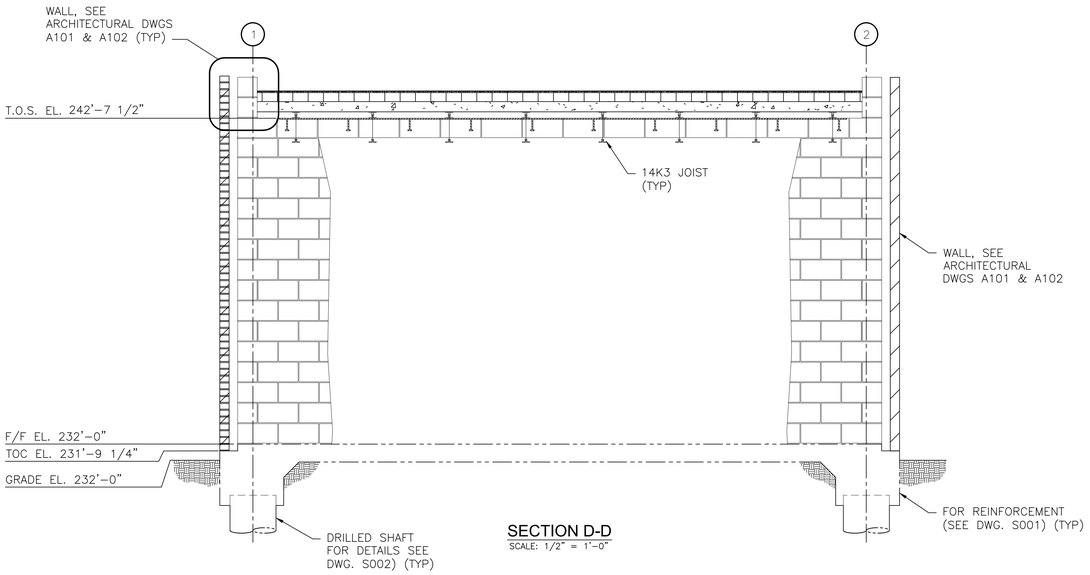
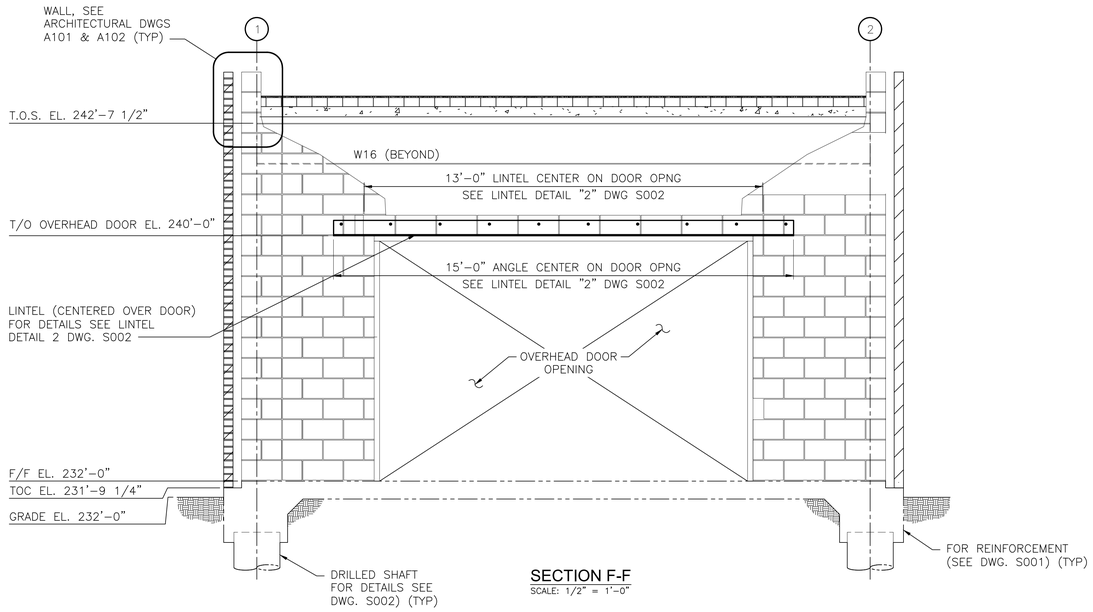
NOTES:

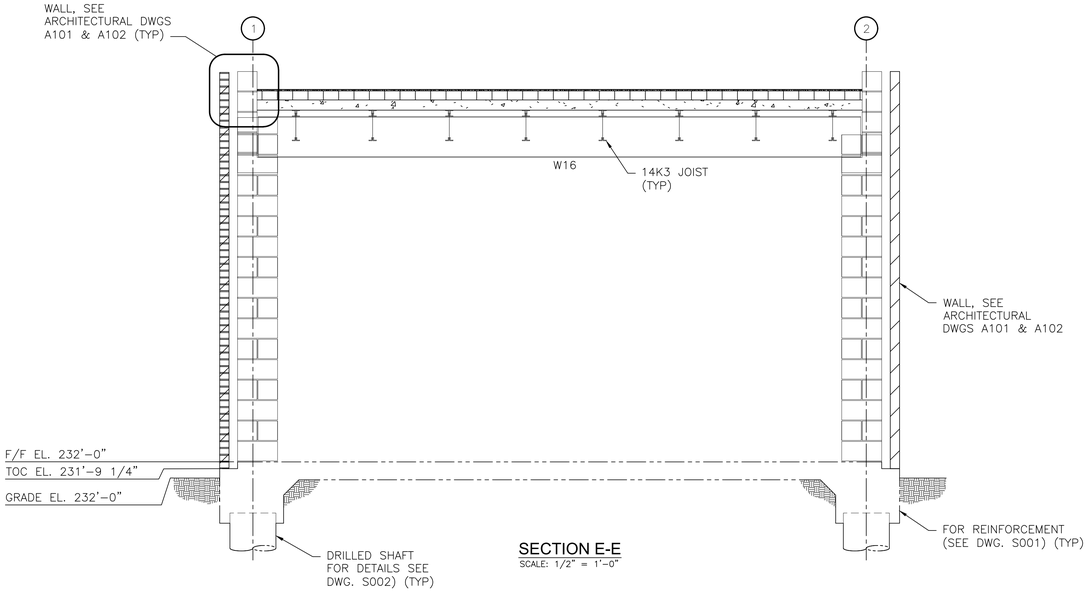
1. FOR GENERAL NOTES AND DRAWING INDEX SEE DRAWING S000.



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



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



SECTION E-E
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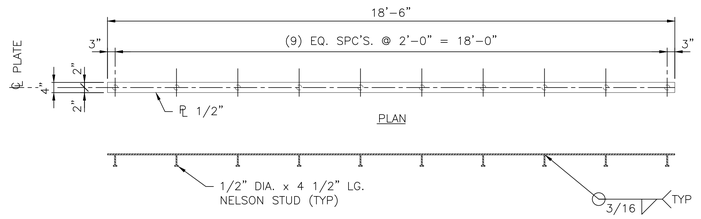

ELEVATION

BEARING PLATE DETAIL
SCALE: 1/2" = 1'-0"

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: **ANALYZER BUILDING SECTIONS & DETAIL**

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Project Number: 667-22-118

Building Number: N/A

Drawing Number: S004

Issue Date: 11/17/2023 | Checked: MCA | Drawn: CPB

File Path: 5/14/2009 1:28:03 PM

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RETAINING WALL (RW) PLANS
PREPARED FOR:

VA MEDICAL FACILITY STORAGE TANKS

510 E STONER AVE
SHREVEPORT, CADDO PARISH, LOUISIANNA

INDEX OF SHEETS

SHEET	DESCRIPTION
S005	TITLE SHEET
S006	CONSTRUCTION NOTES
S007	WALL LOCATION PLAN VIEW(S)
S008	ELEVATION VIEW(S)
S009	CROSS SECTION(S)
S010	CONSTRUCTION DETAILS

THE FOLLOWING IS REQUIRED WHERE THE OWNER OR LOCAL MUNICIPALITY REQUIRES EARTH RETENTION TO CERTIFY THE WALL CONSTRUCTION IS IN COMPLIANCE WITH THE WALL PLANS:

1.) REINFORCED FILL SHALL BE TESTED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO AND THROUGHOUT CONSTRUCTION. SEE SHEET RW-2.0 FOR GRADATION, ATTERBERG LIMIT, LIFT THICKNESS, SHEAR STRENGTH, AND OTHER REQUIREMENTS.

2.) THE FOUNDATION SHALL BE INSPECTED AND FOUNDATION BEARING CAPACITY SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER OR GEOTECHNICAL ENGINEER APPROVED BY THE LOCAL MUNICIPALITY.

3.) COMPACTION TEST PER CURRENT INDUSTRY STANDARDS SHALL BE PERFORMED ON A MINIMUM FREQUENCY OF 1 TEST FOR EVERY 200 SQUARE FEET OF WALL AREA CONSTRUCTED, NOT TO EXCEED 2-FT VERTICAL IN FILL PLACEMENT. COMPACTION LIFT THICKNESS AND MINIMUM COMPACTION DENSITY SHALL CONFORM TO THE REQUIREMENTS OUTLINED ON SHEET RW-2.0.

4.) REINFORCED FILL AND RETAINED FILL PLACED IN CONJUNCTION WITH THE WALL CONSTRUCTION SHALL BE PLACED AND COMPACTED WITHIN +/- 2% OF OPTIMUM MOISTURE CONTENT. SEE SHEET RW-2.0.

5.) THE PROJECT GEOTECHNICAL ENGINEER OR THIRD-PARTY, QUALITY ASSURANCE ENGINEER, SHALL PROVIDE WRITTEN CERTIFICATION THAT THE WALLS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH EARTH RETENTION'S PLANS, INCLUDING BUT NOT LIMITED TO WALL GEOMETRY, FILL MATERIAL TYPE, SOIL STRENGTHS, SOIL COMPACTION, AND GEOGRID TYPE(S) AND LENGTH(S).

RETAINING WALL (RW) CONSTRUCTION ADDRESSED BY THESE DRAWINGS ARE PART OF A SIGNIFICANTLY LARGER PROJECT BEING BUILT BY THE GENERAL CONTRACTOR, WHO HAS SEPARATELY RETAINED AN EARTHWORK GRADING CONTRACTOR TO ASSIST IN DEVELOPING THE SITE FOR THE OWNER. THE OWNER HAS RETAINED A PROJECT GEOTECHNICAL ENGINEER TO ADVISE IT ON MATTERS RELATIVE TO CONSTRUCTION AND WHO WILL BE PROVIDING QUALITY ASSURANCE TESTING AND OBSERVATION OF THE RW CONSTRUCTION WORK FOR THE OWNER. OUTLINED BELOW IS A BRIEF SUMMARY OF THE RESPONSIBILITIES OF EACH OF THE PARTIES REQUIRED BY THE RW CONSTRUCTION, AS OUTLINED IN THESE DRAWINGS, TO ENSURE A QUALITY CONSTRUCTION PROJECT:

A. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR OVERALL SITE GRADING AND STORM WATER CONTROL, BEFORE, DURING, AND AFTER RW CONSTRUCTION, UNTIL THE PERMANENT PAVING AND STORM WATER DRAINAGE CONTROLS ARE ALL IN PLACE AND OPERATIONAL. DAMAGE TO EXISTING RW CONSTRUCTION BY POORLY CONTROLLED STORM WATER DRAINAGE SHALL NOT BE THE RESPONSIBILITIES THE RW CONTRACTOR OR RW DESIGNER.
B. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL, BEFORE, DURING, AND AFTER RW CONSTRUCTION.
C. OWNER AND/OR GENERAL CONTRACTOR SHALL PROVIDE SURVEYING SERVICES SUFFICIENT TO LOCATE THE WALL, HORIZONTALLY AND VERTICALLY ON THE SITE FOR CONSTRUCTION PURPOSES.
D. GENERAL/EARTHWORK CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A BEARING SURFACE AT THE BOTTOM RETAINING WALL ELEVATION THAT MEETS THE BEARING REQUIREMENTS SHOWN ON THESE DRAWINGS. THE BEARING SURFACE AND ALL AREAS INTO WHICH THE RW CONTRACTOR WILL PLACE AND COMPACT FILL MUST BE CLEARED, GRUBBED AND ALL DELETERIOUS SOILS AND/OR ORGANIC MATTER REMOVED TO PROJECT GEOTECHNICAL ENGINEER'S SATISFACTION, AS PROVIDED IN THEIR DAILY PROJECT REPORTING.
E. THE OWNER'S PROJECT GEOTECHNICAL ENGINEER SHALL OBSERVE AND PROVIDE WRITTEN APPROVAL THAT THE "ALLOWABLE" BEARING CAPACITY AT THE BOTTOM RETAINING WALL ELEVATION AND WITHIN THE ENTIRE REINFORCED (GEOGRID) ZONE IN EACH LOCATION MEETS OR EXCEEDS THE MINIMUM REQUIREMENTS SHOWN ON THESE DRAWINGS. THE RW CONTRACTOR WILL NOT BEGIN CONSTRUCTION WITHOUT THE APPROVAL.
F. THE OWNER AND/OR GENERAL CONTRACTOR SHALL PROVIDE THE FILL SOILS TO THE RW CONTRACTOR TO UTILIZE FOR RW CONSTRUCTION. THOSE FILL SOILS SHOULD BE TESTED PRIOR TO STARTING RW CONSTRUCTION, AND PERIODICALLY THROUGHOUT THE PROJECT, TO ENSURE THEY MEET THE SPECIFICATION OUTLINED HEREIN. RW CONTRACTOR WILL NOTIFY THE OWNER'S GEOTECHNICAL ENGINEER AND/OR THE GENERAL/EARTHWORK CONTRACTOR WHEN A CHANGE IN FILL SOIL APPEARANCE, CONSISTENCY, OR GRADATION LOOKS TO BE DETRIMENTAL, OR HAS REASON TO BELIEVE THE SOIL BEING PROVIDED DOES NOT MEET THE PROJECT SPECIFICATIONS. HOWEVER, THE OWNER'S GEOTECHNICAL ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING WHETHER THE FILL MATERIALS MEET AND ARE PLACED ACCORDING TO THE SPECIFICATIONS IN THESE DRAWINGS.
G. THE OWNER AND/OR PROJECT GEOTECHNICAL ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING SUFFICIENT DATA THROUGHOUT THE RW CONSTRUCTION TO SATISFY THE REQUIREMENTS OF THE LOCAL GOVERNING AUTHORITY TO SECURE APPROVAL OF THE RETAINING WALL CONSTRUCTION AND ULTIMATELY THE "CERTIFICATE OF OCCUPANCY" FOR THE BUILDING ITSELF.

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title:

Project Title: Replace Underground Water Storage Tanks

Project Number: 667-22-118

Building Number: N/A

Approved: Project Director

Location: Overton Brooks VAMC

Issue Date: 07/17/2023

Checked:

Drawn:

Drawing Number: S005

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VA FORM 08 - 6231

1.0 MATERIALS

1.1 BACKFILL SOILS

1.1.1 REINFORCED FILL MATERIALS SHALL BE APPROVED IN WRITING BY THE PROJECT GEOTECHNICAL ENGINEER AND SHALL MEET THE STRENGTH REQUIREMENTS AS DEFINED IN SECTION 6.0. THE REINFORCED BACKFILL MATERIAL SHALL MEET THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
3"	100%
1.5"	75-100%
No. 4	20-100%
No. 40	0-60%
No. 200	0-35%

THE PORTION OF THE REINFORCED BACKFILL MATERIAL PASSING THE No. 40 SIEVE SHALL HAVE A LIQUID LIMIT LESS THAN 30 AND A PLASTICITY INDEX LESS THAN 6. REINFORCED BACKFILL MATERIAL SHALL BE CLASSIFIED PER THE UNIFIED SOIL CLASSIFICATION SYSTEM AS NON-PLASTIC SOILS.

THE PH SHALL BE BETWEEN 3 AND 9.

1.1.2 FURTHERMORE, REINFORCED BACKFILL AND RETAINED SOIL/FILL MATERIALS SHALL BE FREE OF EXCESS MOISTURE, ROOTS, MUCK, SOD, SNOW, FROZEN LUMPS, ORGANIC MATTER OR OTHER DELETERIOUS MATERIALS. ALL ROCK PARTICLES AND HARD EARTH CLODS SHALL BE LESS THAN FOUR INCHES IN THE LONGEST DIMENSION. REINFORCED BACKFILL MATERIALS WHICH DO NOT MEET THIS CRITERIA SHALL BE CONSIDERED UNSUITABLE AND SHALL BE REMOVED.

1.1.3 DRAINAGE FILL SHALL CONSIST OF CLEAN CRUSHED STONE OR CRUSHED GRAVEL MEETING THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM C-136:

SIEVE SIZE	PERCENT PASSING
1.5"	100%
1.0"	95-100%
1/2"	25-60%
No. 4	0-10%
No. 8	0-5%

LOSS BY WASHING 2.0 MAX

1.2 GEOGRID REINFORCING SHALL BE ERS GEOGRIDS. THE GEOGRID MANUFACTURER SHALL PROVIDE A MATERIAL CERTIFICATION THAT THE PRODUCT SHIPPED TO THE PROJECT MEETS OR EXCEEDS THE STRENGTHS USED IN THE DESIGN.

1.3 FILTER FABRIC SHALL BE 6.0 oz/sy (MIN.) NON-WOVEN, NEEDLE PUNCHED, POLYPROPYLENE GEOTEXTILE - ERS 600N, SKAPS GT160, OR APPROVED EQUAL.

1.4 DRAIN PIPE SHALL BE 4" DIAMETER PERFORATED COLLECTOR PIPE AND 4" DIAMETER SOLID OUTLET PIPE. PIPE SHALL BE PVC PIPE MEETING ASTM D3034 OR POLYETHYLENE PIPE MEETING AASHTO M252.

1.5 ROCK-FACE WIRE FORM WALL FACING SHALL BE HOT-DIP GALVANIZED WELDED WIRE FORM UNITS, 4"x4"-w4.0xw4.0, 1.5'x1.5'x10': AND w4.0 GALVANIZED STRUTS. WIRE SHALL MEET ASTM A82, AND FORM FABRICATION SHALL MEET ASTM A185. FORMS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. STRUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 OR ASTM A641.

1.6 ROCK-FACE WIRE FORM WALL FACE WRAP SHALL BE STF-P11 BIAXIAL GEOGRID.

1.7 ROCK-FACE WIRE FORM WALL FACING STONE SHALL BE 1.5" MIN. TO 4" MAX. CLEAN, CRUSHED STONE.

2.0 TECHNICAL REQUIREMENTS

2.1 THE OWNER'S REPRESENTATIVE OR GRADING CONTRACTOR SHALL SUBMIT TO THE PROJECT GEOTECHNICAL ENGINEER THE GRADATION AND STRENGTH PARAMETERS OF THE REINFORCED BACKFILL MATERIAL, RETAINED SOIL/FILL AND FOUNDATION SOIL, FOR APPROVAL, PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK SHALL NOT PROCEED UNTIL THIS SUBMITTAL IS APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.

2.2 PRIOR TO CONSTRUCTION OF THE WALLS, THE GRADING CONTRACTOR SHALL CLEAR AND GRUB THE REINFORCED BACKFILL ZONE AREA, REMOVING TOP SOILS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS. ANY UNSUITABLE SOILS SHALL BE OVER-EXCAVATED, REPLACED AND COMPACTED WITH REINFORCED BACKFILL MATERIAL TO PROJECT SPECIFICATIONS OR OTHERWISE DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER.

2.3 THE PROJECT GEOTECHNICAL ENGINEER SHALL CONFIRM THAT THE SITE HAS BEEN PROPERLY PREPARED AND THE DESIGN PARAMETERS IN SECTION 6.0 ARE APPROPRIATE PRIOR TO FILL PLACEMENT. A WRITTEN CONFIRMATION SHALL BE PROVIDED TO EARTH RETENTION PRIOR TO FILL PLACEMENT.

2.4 FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 10 INCHES IN UNCOMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT. FOR ZONES WHERE COMPACTION IS ACCOMPLISHED WITH HAND OPERATED EQUIPMENT, FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 6 INCHES IN UNCOMPACTED THICKNESS. ONLY HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF THE BACK FACE OF WALL FACING.

2.5 FILL MATERIALS SHALL BE PLACED FROM THE BACK OF THE FACING UNITS TOWARDS THE ENDS OF THE GEOGRID TO ENSURE FURTHER TENSIONING.

2.6 TESTING METHODS AND VERIFICATION OF MATERIAL SPECIFICATIONS AND COMPACTION TESTING IS THE RESPONSIBILITY OF THE OWNER'S REPRESENTATIVE. THE MINIMUM REQUIRED COMPACTION TESTING FREQUENCY REQUIRED BY THE PROJECT GEOTECHNICAL ENGINEER IS ONE TEST FOR EVERY 200 SF OF WALL FACE AT VERTICAL INTERVALS NOT EXCEEDING 2 FEET IN VERTICAL WALL HEIGHT.

2.7 AN APPROVED SET OF CONSTRUCTION DRAWINGS AND CONTRACT SPECIFICATIONS SHALL BE ON-SITE AT ALL TIMES, DURING CONSTRUCTION OF THE RETAINING WALLS.

3.0 GEOGRID PLACEMENT

3.1 GEOGRID SHALL BE PLACED AT THE LOCATIONS AND ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS.

3.2 GEOGRID LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS. GEOGRID LENGTH IS MEASURED FROM THE FRONT FACE OF WALL UNITS TO THE TAIL OF GEOGRID.

3.2.1 GEOGRID REINFORCEMENT SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTH(S).

3.2.2 WHERE GEOGRID FACE WRAP IS REQUIRED, CONTRACTOR SHALL ENSURE TOTAL GEOGRID LENGTH INCLUDES ADDITIONAL LENGTH REQUIRED FOR GEOGRID FACE WRAP. SEE TYPICAL CROSS SECTION(S) FOR LENGTH OF GEOGRID RETURN EMBEDMENT.

3.3 PRIOR TO PLACING FILL, THE GEOGRID MATERIALS SHALL ABUT TO THE WIRE FORM FACE OR WRAP AT WIRE FORM FACE IN ACCORDANCE WITH FACING DETAILS. REMOVE GEOGRID SLACK AND ANCHOR GEOGRID PRIOR TO FILL PLACEMENT AND COMPACTION.

3.4 CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOGRID. A MINIMUM FILL THICKNESS OF SIX INCHES IS REQUIRED FOR OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TURNING OF VEHICLES SHOULD BE KEPT TO A MINIMUM TO PREVENT DISPLACING THE FILL AND/OR THE GEOGRID.

3.5 GEOGRID SHALL BE ROLLED OUT WITH THE LONG AXIS OF THE APERTURES (MACHINE DIRECTION) PERPENDICULAR TO THE WALL FACE.

3.6 A MINIMUM OF 3 INCHES OF FILL MATERIAL SHALL BE REQUIRED BETWEEN OVERLAPPING LAYERS OF GEOGRID AND FILTER FABRIC, UNLESS OTHERWISE SHOWN.

4.0 CHANGES

4.1 NO CHANGES TO THE GEOGRID LAYOUT, INCLUDING, BUT NOT LIMITED TO, LENGTH, GEOGRID TYPE, OR ELEVATION, SHALL BE MADE WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF EARTH RETENTION.

4.2 NO CHANGES TO THE WALL FACING TYPE SHALL BE MADE WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF EARTH RETENTION.

5.0 DRAINAGE

5.1 AT THE END OF EACH WORK DAY, BACKFILL SURFACE SHALL BE COMPACTED WITH A SMOOTH PLATE COMPACTOR TO MINIMIZE PONDING OF WATER AND SATURATION OF THE BACKFILL.

5.2 PERMANENT AND TEMPORARY SURFACE WATER DIVERSION SHALL BE AS REQUIRED AND PROVIDED BY THE OWNER OR OWNER'S REPRESENTATIVE. SURFACE WATER SHALL BE DIVERTED AWAY FROM THE REINFORCED FILL ZONE AND WALL FACE DURING WALL CONSTRUCTION OR AT THE END OF EACH WORK DAY.

6.0 DESIGN PARAMETERS

6.1 DESIGN OF THE REINFORCED SOIL STRUCTURE IS BASED ON THE FOLLOWING PARAMETERS:

	EFFECTIVE FRICTION ANGLE	EFFECTIVE COHESION	MOIST UNIT WT
REINFORCED FILL	30°	0 psf	125 pcf
RETAINED FILL	30°	0 psf	125 pcf
RETAINED SOILS	25°	0 psf	125 pcf
FOUNDATION SOILS	25°	0 psf	120 pcf

6.1.1 DESIGN METHODOLOGY: AASHTO 2020 (LRFD)

6.1.2 LOAD FACTOR FOR VERTICAL EARTH PRESSURE

6.1.3 INTERNAL STABILITY
1. LOAD FACTOR FOR VERTICAL EARTH, EV = 1.35
2. LOAD FACTOR FOR LIVE LOAD SURCHARGE, LS = 1.75
3. LOAD FACTOR FOR DEAD LOAD SURCHARGE, ES = 1.50
4. REINFORCEMENT TENSION RESISTANCE FACTOR = 0.80
5. REINFORCEMENT PULLOUT RESISTANCE FACTOR = 0.70

6.1.4 EXTERNAL STABILITY
1. LOAD FACTOR FOR VERTICAL EARTH PRESSURE
   1.1. SLIDING AND ECCENTRICITY = 1.00
   1.2. BEARING CAPACITY = 1.35
2. LOAD FACTOR OF ACTIVE LATERAL EARTH PRESSURE, EH = 1.50
3. RESISTANCE FACTOR FOR SHEAR AT REINFORCED AND FOUNDATION SOILS = 1.0
4. RESISTANCE FACTOR FOR SHEAR AT REINFORCED SOIL AND GEOGRID = 1.0
5. RESISTANCE FACTOR FOR BEARING CAPACITY = 0.65

SOIL-GEOGRID INTERACTION COEFFICIENT = 0.8

PERCENT COVERAGE OF GEOGRID = 100%

6.2 SURCHARGE LOADING

LIVE LOAD (PEDESTRIAN / LANDSCAPE AREAS) = 100 PSF
DEAD LOAD (STORAGE TANK) = 250 PSF (MAX.) [TANK SHALL BE SUPPORTED ON DEEP FOUNDATION (BY OTHERS)]

6.3 MAXIMUM APPLIED BEARING PRESSURE = (SEE ELEVATION VIEWS)

6.4 SEISMIC LOADING

DESIGN SEISMIC HORIZONTAL ACCELERATION COEFFICIENT (As) = 0.126g
SITE CLASS "E"
PEAK GROUND ACCELERATION (PGA) = 0.052g
SITE COEFFICIENT (Fpga) = 2.4

6.5 FENCE LOADING

(6' HIGH POST MAX. x 6' POST SPACING MAX.)

DESIGN IS SUFFICIENT FOR 200 LB SINGLE CONCENTRATED LOAD.

6.6 PHREATIC WATER SURFACE OR HYDROSTATIC WATER PRESSURE

DESIGN DOES NOT CONSIDER PHREATIC WATER SURFACE OR HYDROSTATIC WATER PRESSURE. DESIGN ASSUMES WATER IS SUFFICIENTLY BELOW BOTTOM OF STRUCTURE SO AS NOT TO INFLUENCE STRUCTURE STABILITY.

6.7 WIND LOADING (ASD)

WIND LOAD HAS NOT BEEN EVALUATED IN THE DESIGN OF THE PROPOSED REINFORCED SOIL (MECHANICALLY STABILIZED EARTH) STRUCTURE.

7.0 SPECIAL PROVISIONS

7.1 THE DESIGN PRESENTED HEREIN IS BASED ON ASSUMED SOIL PARAMETERS, FOUNDATION CONDITIONS, GROUNDWATER CONDITIONS, AND LOADINGS STATED IN SECTION 6.0, THE DESIGN SHALL BE REVIEWED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.

7.2 WALL ELEVATION VIEWS, LOCATIONS AND GEOMETRY OF EXISTING STRUCTURES, AND GRADE ABOVE AND BELOW THE WALLS MUST BE VERIFIED BY THE CONTRACTOR. TO MATCH ELEVATIONS SHOWN IN THE CONTRACT DOCUMENTS. PRIOR TO CONSTRUCTION.

7.3 EARTH RETENTION ASSUMES NO LIABILITY FOR INFORMATION SUPPLIED BY OTHERS SUCH AS GEOTECHNICAL REPORT, SITE PLAN, AND WATER ELEVATIONS.

7.4 THE PROJECT GEOTECHNICAL ENGINEER MUST VERIFY IN WRITING THAT THE FOUNDATION CONDITIONS WITHIN THE WALL AND REINFORCED FILL ZONE OF INFLUENCE ARE SUITABLE FOR THE APPLIED BEARING PRESSURE LISTED IN SECTION 6.0.

7.5 THE SOIL DESIGN PARAMETERS STATED IN SECTION 6.0 SHALL BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER. WRITTEN VERIFICATION OF DESIGN PARAMETERS SHALL BE SUBMITTED TO EARTH RETENTION AND PRIOR TO COMMENCING WITH CONSTRUCTION.

7.6 IF ANY ROCK FORMATIONS AND/OR GROUNDWATER ARE ENCOUNTERED DURING THE CONSTRUCTION OF THIS WALL, IMMEDIATELY CONTACT EARTH RETENTION AT 678-903-3614, THE OWNER'S REPRESENTATIVE, AND THE PROJECT GEOTECHNICAL ENGINEER.

7.7 ANY REVISIONS TO DESIGN PARAMETERS STATED IN SECTION 6.0 OR STRUCTURE GEOMETRY SHALL REQUIRE DESIGN MODIFICATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

7.8 ALL PIPES AND UTILITIES WITHIN 100 FEET OF THE RETAINING WALL MUST BE CONSTRUCTED WITH WATER TIGHT JOINTS.

7.9 THE PROJECT GEOTECHNICAL ENGINEER OR OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR EVALUATING TOTAL AND DIFFERENTIAL SETTLEMENTS.

7.10 THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE SELECTION OF PERMANENT EROSION PROTECTION AND PERMANENT VEGETATION FOR SLOPES LOCATED ABOVE OR BELOW THE PROPOSED RETAINING WALL.

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Revisions:	Date:

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STATE OF LOUISIANA
DAVE RAMBARAN
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CIVIL ENGINEERING

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Project Title: Replace Underground Water Storage Tanks	Project Number: 667-22-118
Approved: Project Director	Location: Overton Brooks VAMC	Building Number: N/A
	Issue Date: 07/17/2023 / Checked / Drawn	Drawing Number: S006

6/14/2009 12:39:03 PM

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File Path

VA FORM 08 - 6231

END WALL 1
STA. 1 + 18.00

BEGIN WALL 1
STA. 0 + 00.00

STA. 0 + 20.00
STA. 0 + 40.00
STA. 0 + 60.00
STA. 0 + 80.00
STA. 1 + 00.00

REQUIRED
REQUIRED

NOTE:
NORTH ARROW DIRECTION IS APPROXIMATE, AND ORIENTATION IS IN ACCORDANCE WITH PLANS PREPARED BY KSA.

NOTE: SITE PLAN VIEW IS FOR ILLUSTRATIVE PURPOSES ONLY AND IS TAKEN FROM:
SHEET: 2
DRAWN BY: KSA
DATED: 09/09/2022 REVISION: --

TOP OF WALL
WALL BATTER
APPROXIMATE GEOGRID COVERAGE

SCALE UNIT
10 5 0 10 20

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title:
Approved: Project Director:

Project Title: Replace Underground Water Storage Tanks
Location: Overton Brooks VAMC
Issue Date: 07/17/2023
Checked:
Drawn:

Project Number: 667-22-118
Building Number: N/A
Drawing Number: S007

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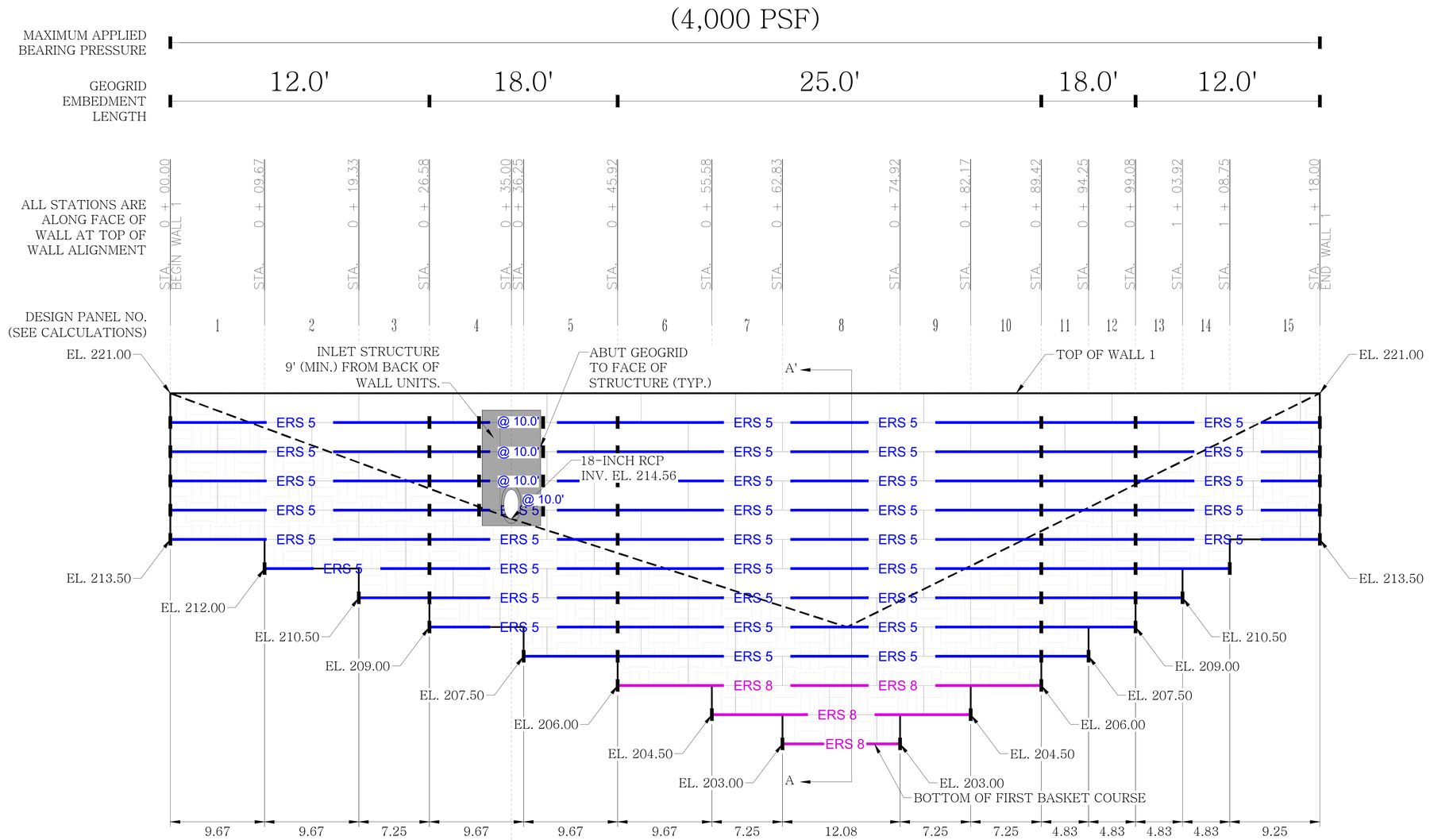

ELEVATION VIEW - WALL 1

LEGEND

- HOT-DIPPED GALVANIZED WELDED WIRE FORMS 1.5' X 1.5' X 10' BASKETS
- ERS 5 — GEOGRID TERMINATION OR CHANGE IN TYPE OR LENGTH
- FINISHED GRADE
- EL. 0000.00 — ELEVATION
- STA 0 + 00.00 — WALL STATION
- ERS 5 — ERS 5 GEOGRID
- ERS 8 — ERS 8 GEOGRID

VERTICAL SCALE FEET: 5.0, 2.5, 0, 2.5, 1.25

HORIZONTAL SCALE FEET: 5, 2.5, 0, 5, 10

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Approved: Project Director

Drawing Title

Project Title: Replace Underground Water Storage Tanks

Project Number: 667-22-118

Building Number: N/A

Location: Overton Brooks VAMC

Issue Date: 07/17/2023

Checked

Drawn

Drawing Number: S008

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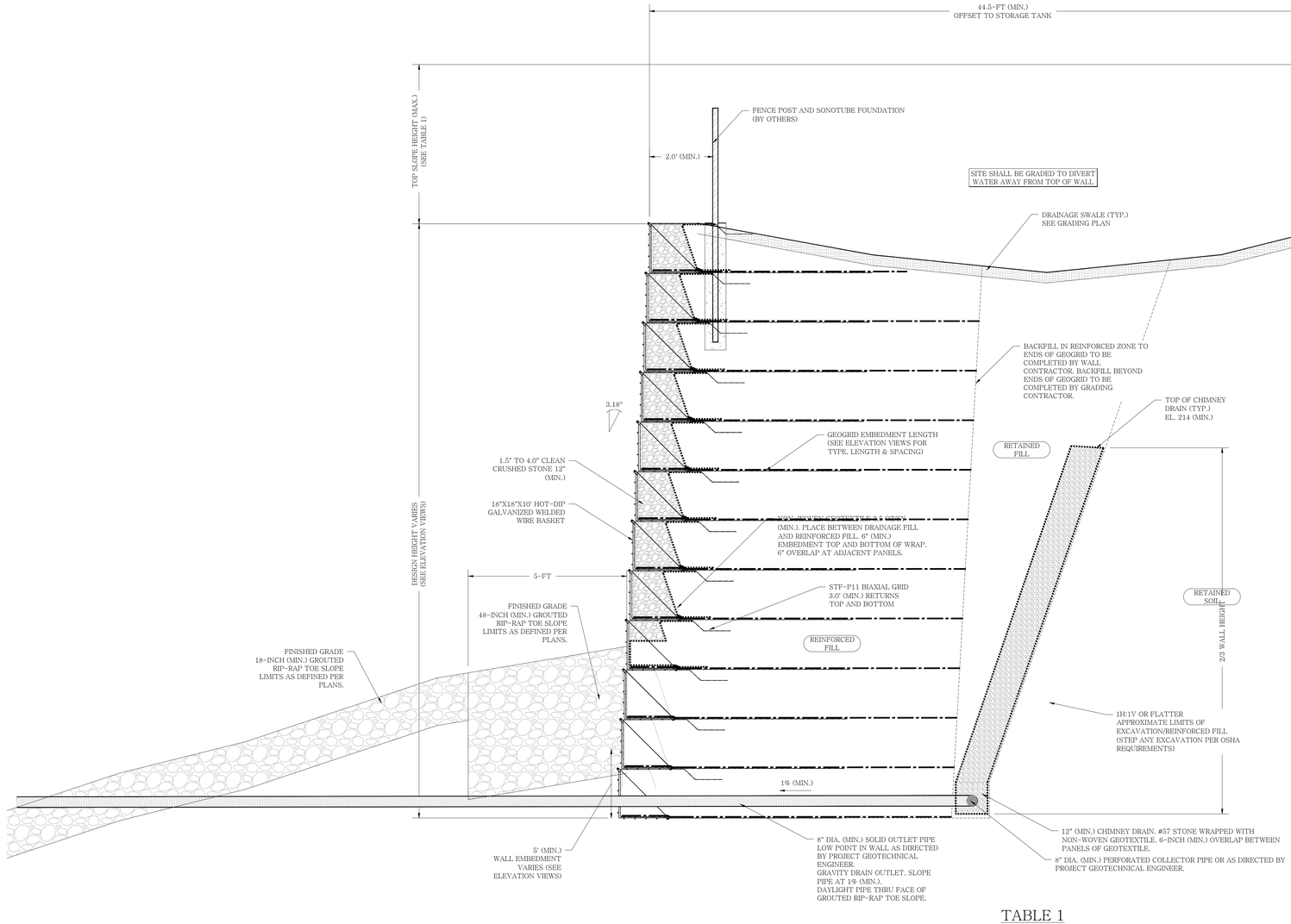

TYPICAL CROSS SECTION A-A'

SCALE: NONE

TABLE 1

WALL	SPAN	TOP SLOPE (MAX.)	TOP SLOPE HEIGHT (MAX.)
1	0+ 00.00-1+ 18.00	2.75H:1V	11.0'

NOTE:
1. TOP SLOPE SHALL BE CONSTRUCTED TO SLOPE EQUAL TO OR FLATTER THAN GEOMETRY STATED IN TABLE 1.
2. TOP SLOPE VERTICAL HEIGHT ABOVE TOP OF WALL SHALL NOT EXCEED VALUE STATED IN TABLE 1.

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VA U.S. Department of Veterans Affairs

Drawing Title

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 07/17/2023

Checked

Drawn

Project Number: 667-22-118

Building Number: N/A

Drawing Number: S009

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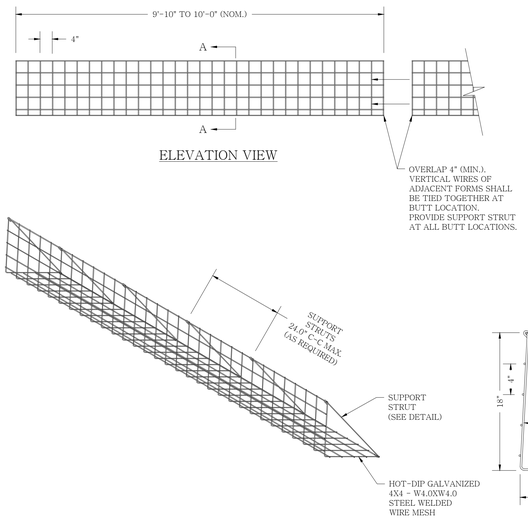
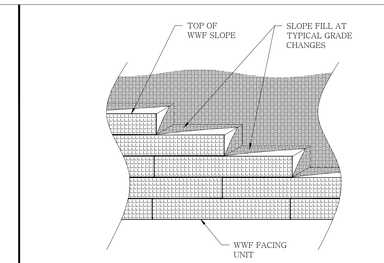




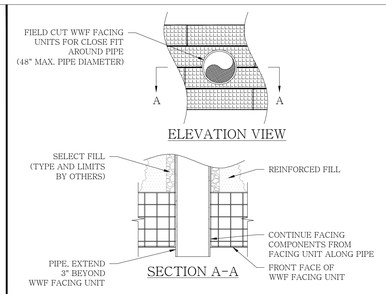
SUPPORT STRUT DETAIL

NOTES:
1. ROCK-FACED WELDED-WIRE FORM WALL FACING TO CONSIST OF HOT-DIP GALVANIZED PREFABRICATED STEEL WWF, 4x4-W4.0xW4.0 FORMS.
2. STEEL WIRE AND STRUT SHALL COMPLY WITH ASTM A82. FORM FABRICATION SHALL MEET ASTM A185.
3. ROCK FACED WALL WIRE FORMS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123/A123M.
4. ROCK FACED WALL STEEL STRUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123/A123M OR ASTMA641/A641M.
5. OVERALL LENGTH OF WIRE FORMS IS 9'10" TO 10'-0" (NOM.). EFFECTIVE CONSTRUCTED LENGTH IS 9'6" WITH 4" OVERLAP AT ENDS.
6. ROCK-FACED WALL STRUCTURE FACING SHALL CONSIST OF HOT-DIP GALVANIZED STEEL WIRE FORMS AND GALVANIZED STRUTS.

1 WELDED WIRE FORM TYPICAL DETAIL - ROCK-FACED WALL
RW-6.0 SCALE: NONE

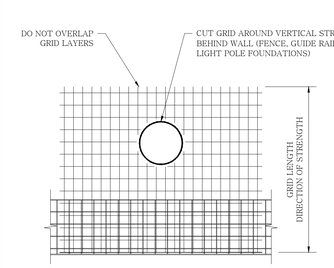
NOTES:
1. SEE WELDED WIRE FORM (WWF) FACING DETAIL AND WWF OUTSIDE CORNER UNIT FOR FACING MATERIALS AND DIMENSIONS.
2. INSTALL ADJACENT WWF FACING UNITS TO PROVIDE 2' OVERLAP OF HORIZONTAL WIRES.

4 TOP OF SLOPE STEPS DETAIL
RW-6.0 SCALE: NONE

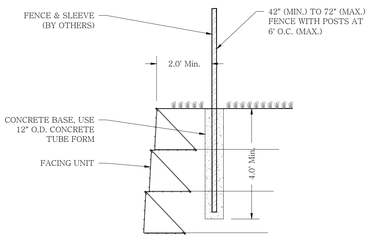


NOTES:
1. TERMINATE GEOGRIDS NO MORE THAN 3" FROM PIPE.
2. CONTRACTOR RESPONSIBLE TO INSTALL PIPE WITH LEAK-PROOF JOINTS.

7 PIPE OUTLET DETAIL
RW-6.0 SCALE: NONE

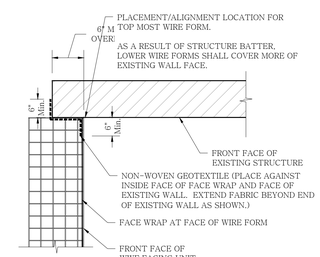


10 GEOGRID AT STRUCTURES BEHIND WALL
RW-6.0 SCALE: NONE



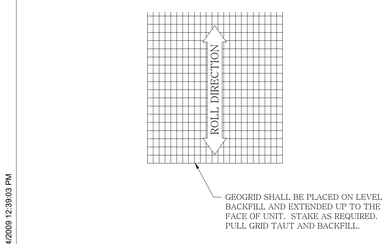
NOTES:
1. GEOGRID NOT SHOWN FOR CLARITY.
2. WIND SCREEN, BOARD-ON-BOARD FENCE, OR PRIVACY FENCE NOT PERMITTED.
3. GROUT POST IN PLACE
4. CHAIN LINK FENCE MUST BE INSTALLED AS PART OF THIS PERMIT

5 TYPICAL FENCE POST DETAIL
RW-6.0 SCALE: NONE

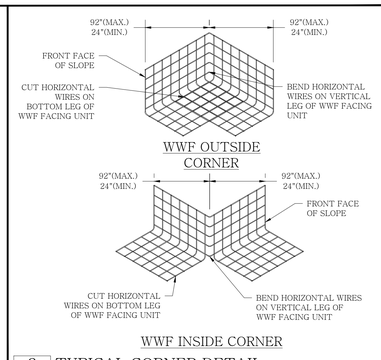


NOTE:
PRIMARY GEOGRID, FACE WRAP EMBEDMENT, AND WIRE STRUTS ARE NOT SHOWN FOR CLARITY.

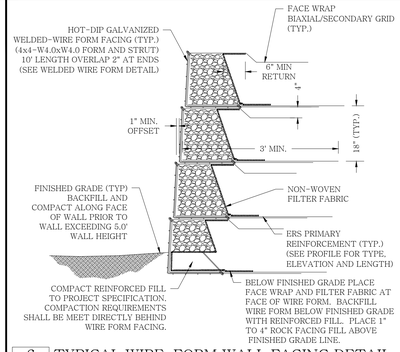
8 ABUT STRUCTURE DETAIL-INSIDE CORNER
RW-6.0 SCALE: NONE



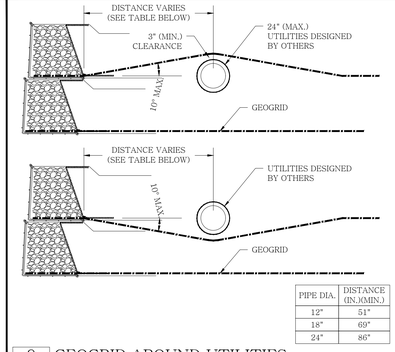
2 TYPICAL GEOGRID DETAIL
RW-6.0 SCALE: NONE



3 TYPICAL CORNER DETAIL
RW-6.0 SCALE: NONE



6 TYPICAL WIRE-FORM WALL FACING DETAIL
RW-6.0 SCALE: NONE



PIPE DIA.	DISTANCE (IN.)(MIN.)
12"	51"
18"	69"
24"	86"

9 GEOGRID AROUND UTILITIES
RW-6.0 SCALE: NONE

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Drawing Title	Project Title: Replace Underground Water Storage Tanks	Project Number: 667-22-118
		Building Number: N/A
Approved: Project Director	Location: Overton Brooks VAMC	Drawing Number: S010
	Issue Date: 07/17/2023 / Checked / Drawn	

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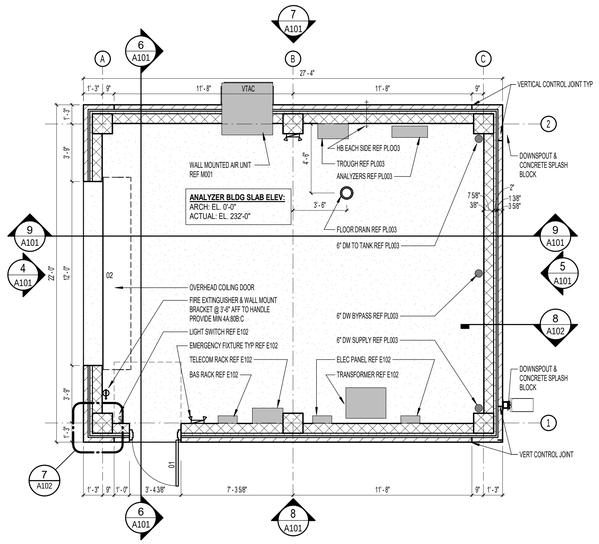
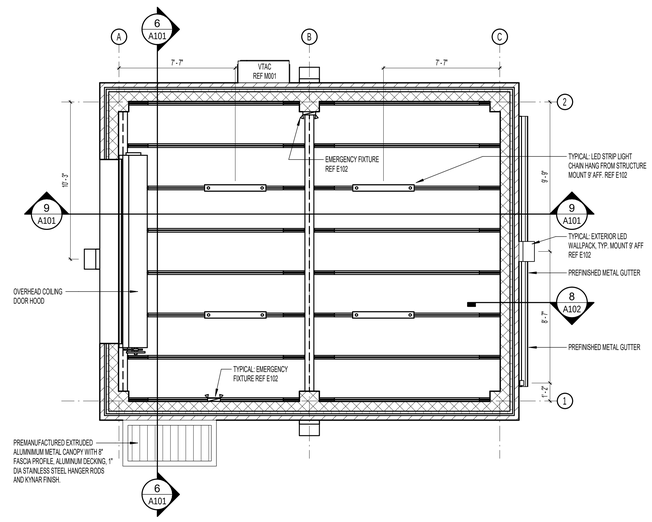


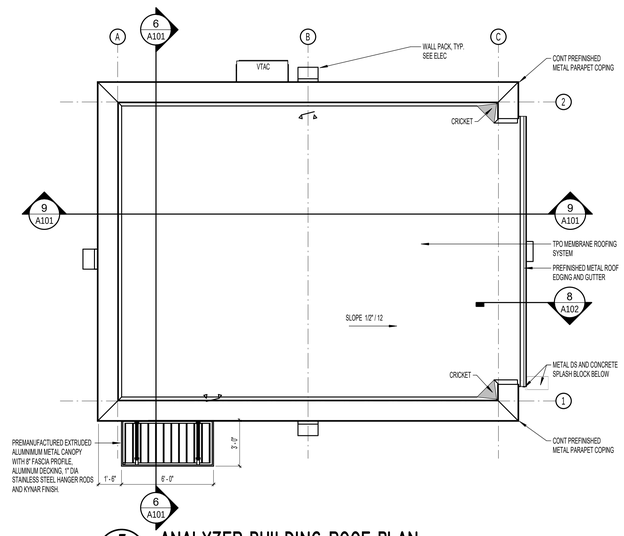
1 A101 Analyzer Building Floor Plan

1/4" = 1'-0"



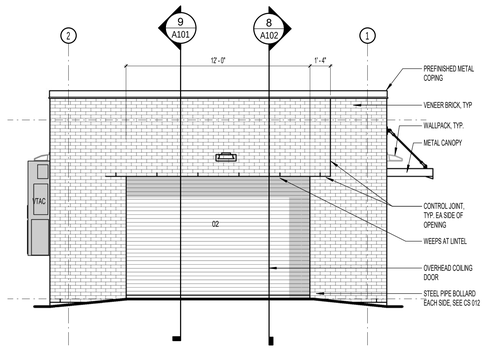
2 A101 Analyzer Building Reflected Ceiling Plan

1/4" = 1'-0"



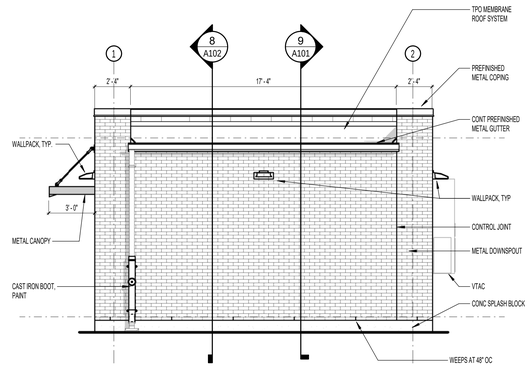
3 A101 Analyzer Building Roof Plan

1/4" = 1'-0"



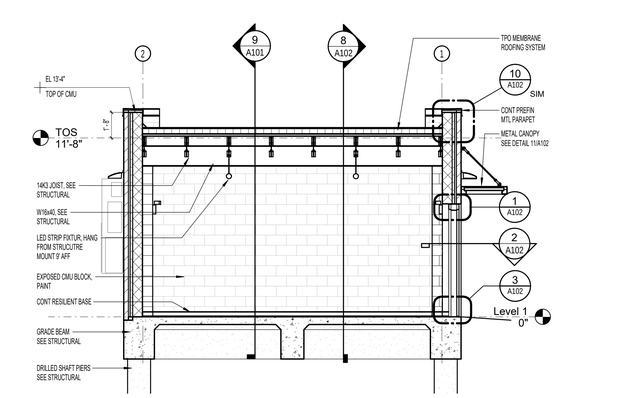
4 A101 West

1/4" = 1'-0"



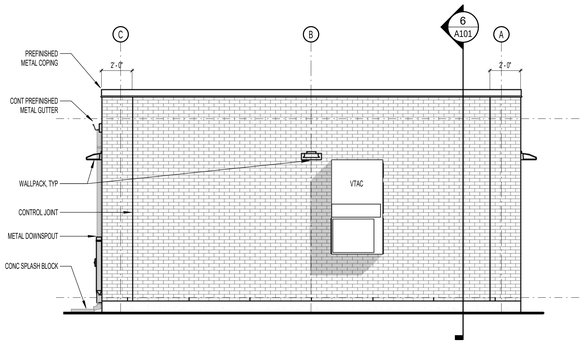
5 A101 East

1/4" = 1'-0"



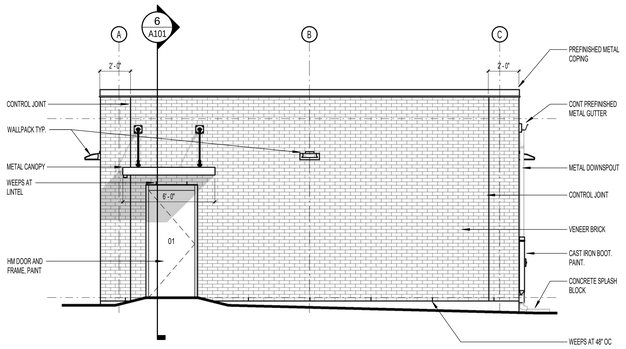
6 A101 Building Section

1/4" = 1'-0"



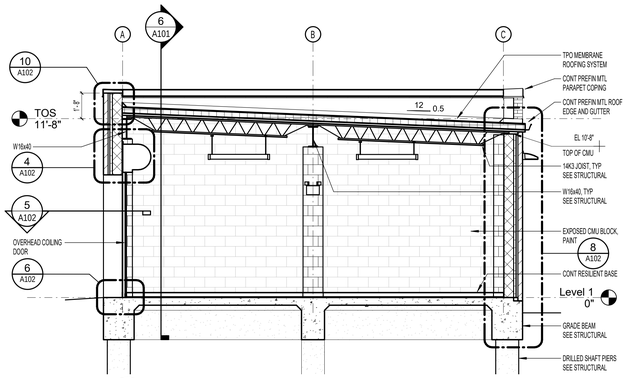
7 A101 North

1/4" = 1'-0"



8 A101 South

1/4" = 1'-0"



9 A101 Building Section

1/4" = 1'-0"

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Revisions:	Date:

CONSULTANT

A/E:

LACHIN Architects, apc

Architecture . Planning . Project Management

5190 Canal Boulevard, Suite 201
New Orleans, LA 70124
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David Lachin, Jr.

ARCHITECT/ENGINEER OF RECORD

DESIGN BUILDING CONSORTIUM, LLC
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(210) 410.0348

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RACHEL C. LACHIN No. 34170 STATE OF LOUISIANA REGISTERED ARCHITECT

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: Plans, Elevs, and Bldg Sections

Approved: PROJECT DIRECTOR

Project Title: Replace Underground Water Storage Tanks

Project Number: 667-22-118

Building Number: NA

Location: Overton Brooks VAMC

Issue Date: 08/17/2023

Checked: ML

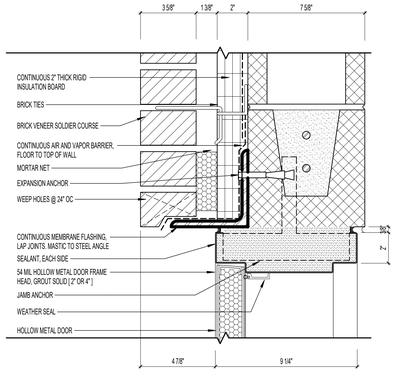
Drawn: TC

Drawing Number: A101

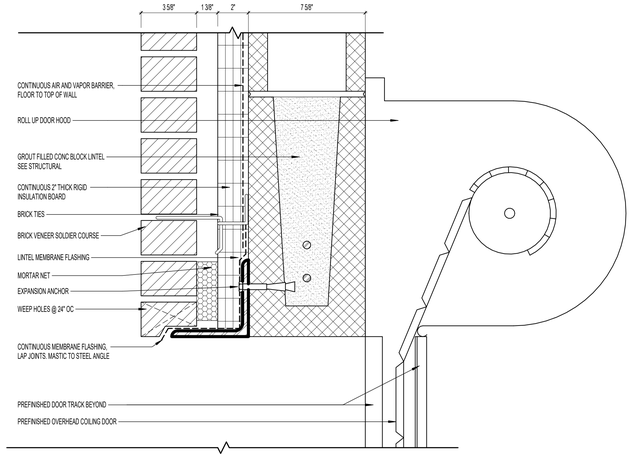
C:\Revit 2022 Local\OBV\AMC Water Storage Tank_thomas@adlmarch.com.rvt

11/10/2023 9:17:51 AM

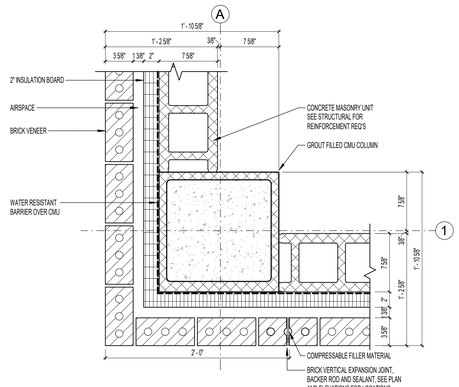
VA FORM 08 - 6231



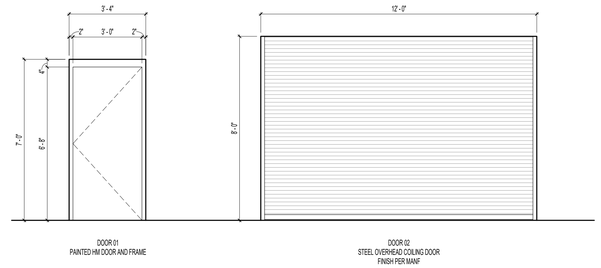
1 A102 **EXT HM DOOR HEAD**
3" = 1'-0"



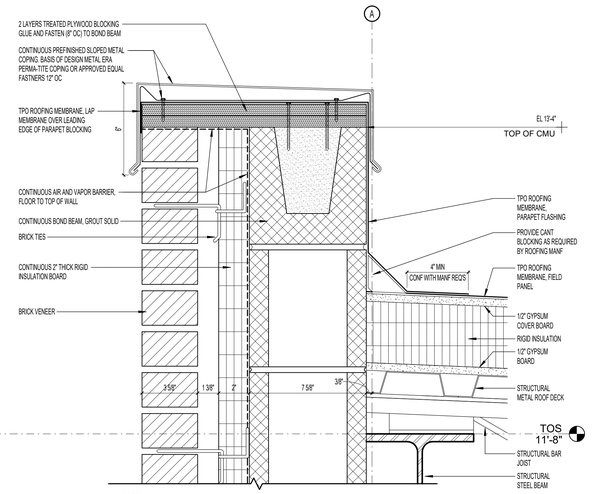
4 A102 **EXT OH DOOR HEAD**
3" = 1'-0"



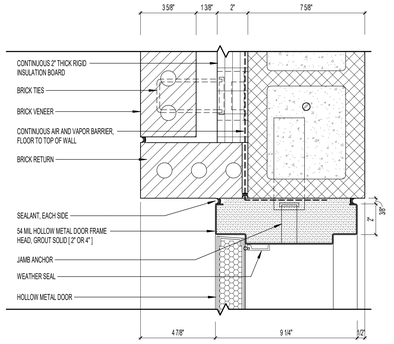
7 A102 **COLUMN DETAIL A1**
1 1/2" = 1'-0"



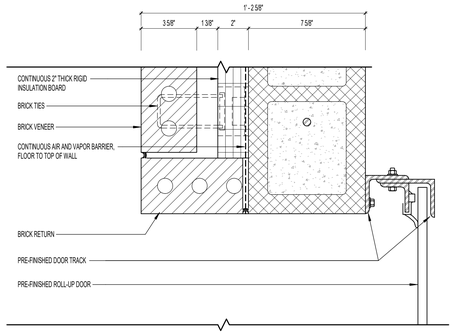
9 A102 **DOOR ELEVATIONS**
3/8" = 1'-0"



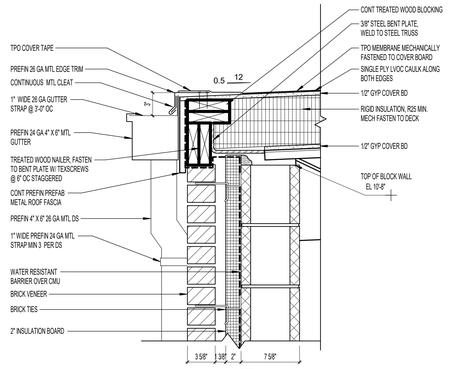
10 A102 **SECTION DETAIL - ROOF PARAPET**
3" = 1'-0"

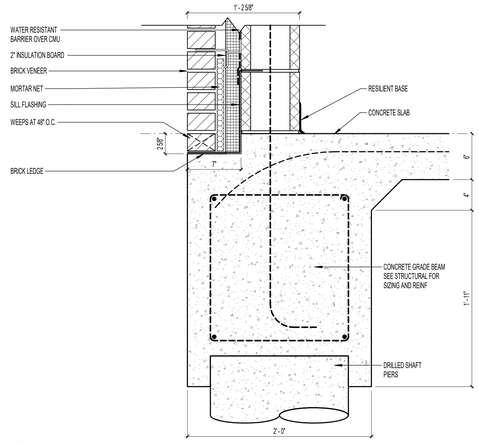


2 A102 **EXT HM DOOR JAMB**
3" = 1'-0"

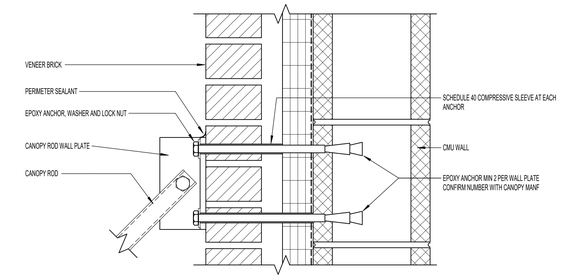


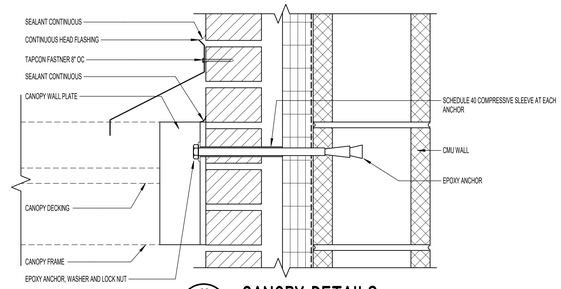
5 A102 **EXT OH DOOR JAMB**
3" = 1'-0"



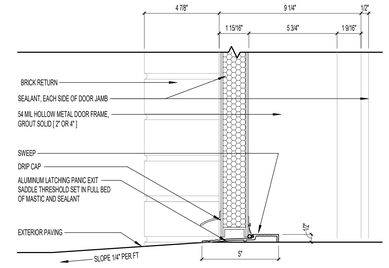


8 A102 **WALL SECTION**
1 1/2" = 1'-0"

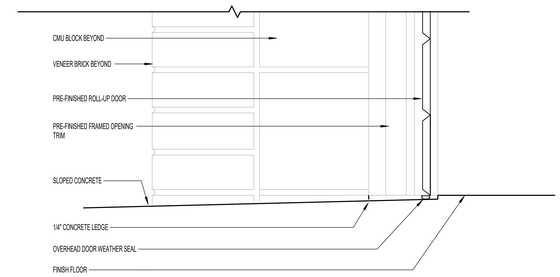




11 A102 **CANOPY DETAILS**
3" = 1'-0"



3 A102 **EXT HM DOOR SILL**
3" = 1'-0"



6 A102 **EXT OH DOOR SILL**
3" = 1'-0"

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CONSULTANT

A/E:

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: Details, Opening Elevations

Approved: PROJECT DIRECTOR

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 08/17/2023 | Checked: ML | Drawn: TC

Project Number: 667-22-118

Building Number: NA

Drawing Number: A102

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11/10/2023 9:17:54 AM

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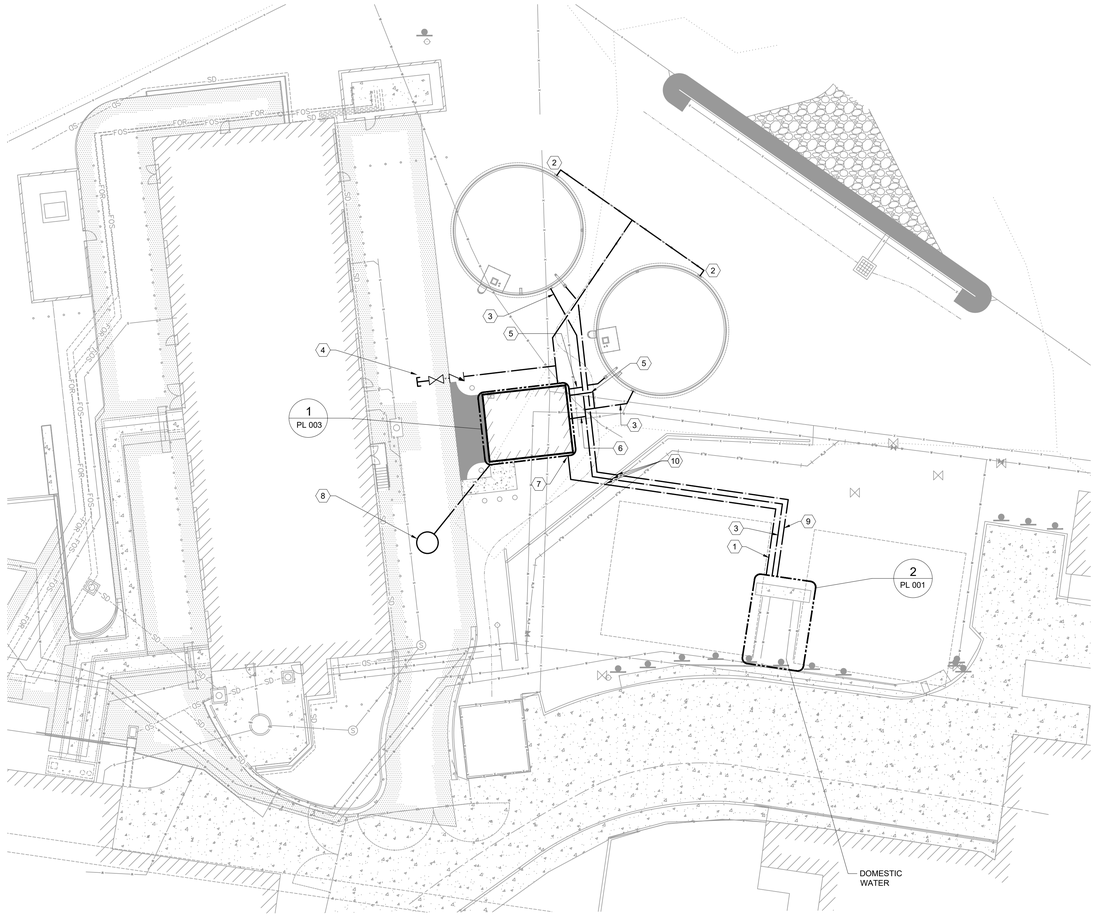
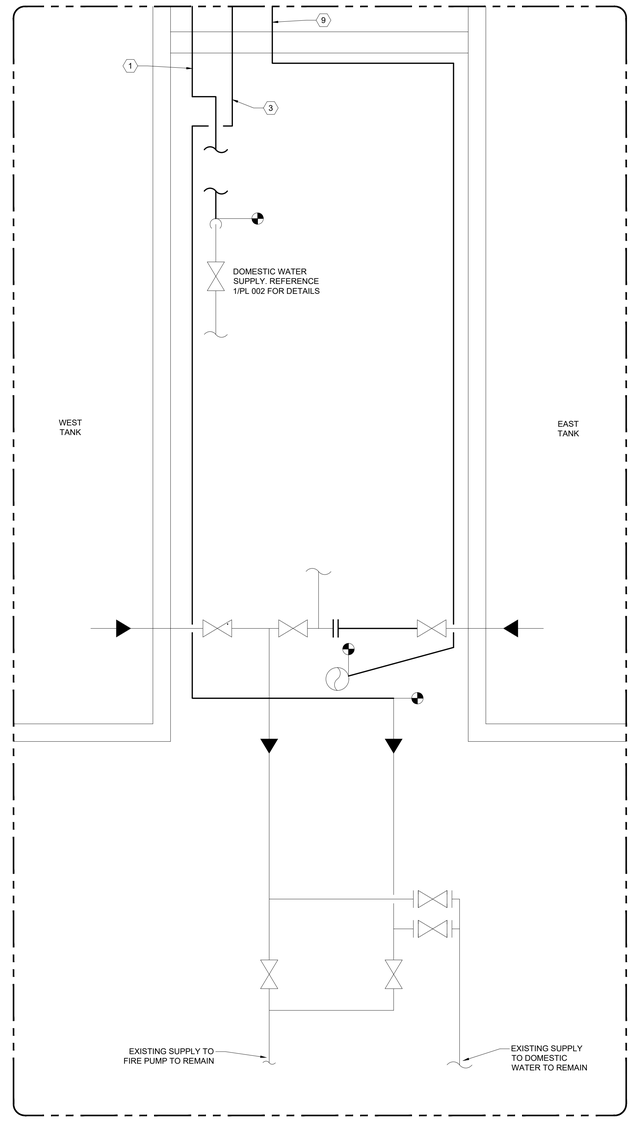
KEY NOTES:

1. 6" DOMESTIC WATER SUPPLY.
2. 6" DOMESTIC WATER TO WATER TANK.
3. 10" DOMESTIC WATER FROM TANK TO HOSPITAL.
4. CONNECTION FOR TRUCKS TO FILL WATER TANK.
5. 1/2" SAMPLE LINE TO ANALYZER.
6. 6" DOMESTIC WATER BYPASS.
7. INSTALL FLOWMETER WHERE WATER ENTERS BUILDING.
8. SANITARY SEWER TIE INTO NEW MH THIS AREA BEING INSTALLED AS PART OF THE ENERGY CENTER PROJECT.
9. 6" DRAIN TO STORM DRAIN.
10. INSTALL PIPE SLEEVE UNDER RETAINING WALL



1 PL 001 SITE PLAN
SCALE: 1" = 20'-0"
0' 5' 10' 20' 40'



2 PL 001 DOMESTIC WATER TIE-IN DETAIL
SCALE: N.T.S.

JOB NO:	VAA22015
BG:	801
PROJECT MANAGER:	BRIAN MILLER
DATE:	11/17/2023

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CONSULTANT

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11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: SITE PLAN	Project Title: Replace Underground Water Storage Tanks		Project Number: 667-22-118
			Building Number: N/A
Approved: Project Director	Location: Overton Brooks VAMC		Drawing Number: PL 001
	Issue Date: 11/17/2023	Checked: BTM	Drawn: KPW

File Path: 6/14/2009 12:39:03 PM

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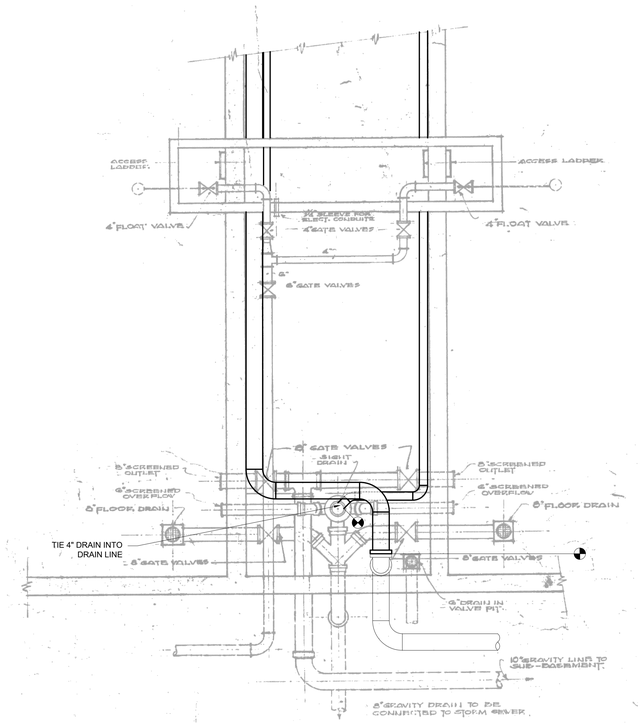
1 PL 002 WATER LINE TIE-IN
SCALE: NONE

3 PL 002 WATER LINE TIE-IN
SCALE: NONE

2 PL 002 SEWER LINE TIE-IN
SCALE: NONE



4 PL 002 4" DRAIN LINE TIE-IN DETAIL
SCALE: N.T.S.

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JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

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CONSULTANT
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PROFESSIONAL ENGINEER
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11-17-23

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: LINE TIE-IN DETAILS
Approved: Project Director
Project Title: Replace Underground Water Storage Tanks
Location: Overton Brooks VAMC
Issue Date: 11/17/2023
Checked: BTM
Drawn: KPW
Project Number: 667-22-118
Building Number: N/A
Drawing Number: PL 002

File Path: 6/14/2009 12:39:03 PM
VA FORM 08 - 6231

PLUMBING FIXTURE SCHEDULE

FIXTURE TAG	WASTE	VENT	CW	HW OR TEMPERED	DESCRIPTION
FD-1	3"	2"	-	-	CAST IRON, STANDARD GRATE
HB-1	-	-	3/4"	-	EXPOSED HOSE BIBB
TR-1	0'-2"	0'-2"	-	-	ELKAY EFRVFF3417R

PRESSURE REDUCING VALVES

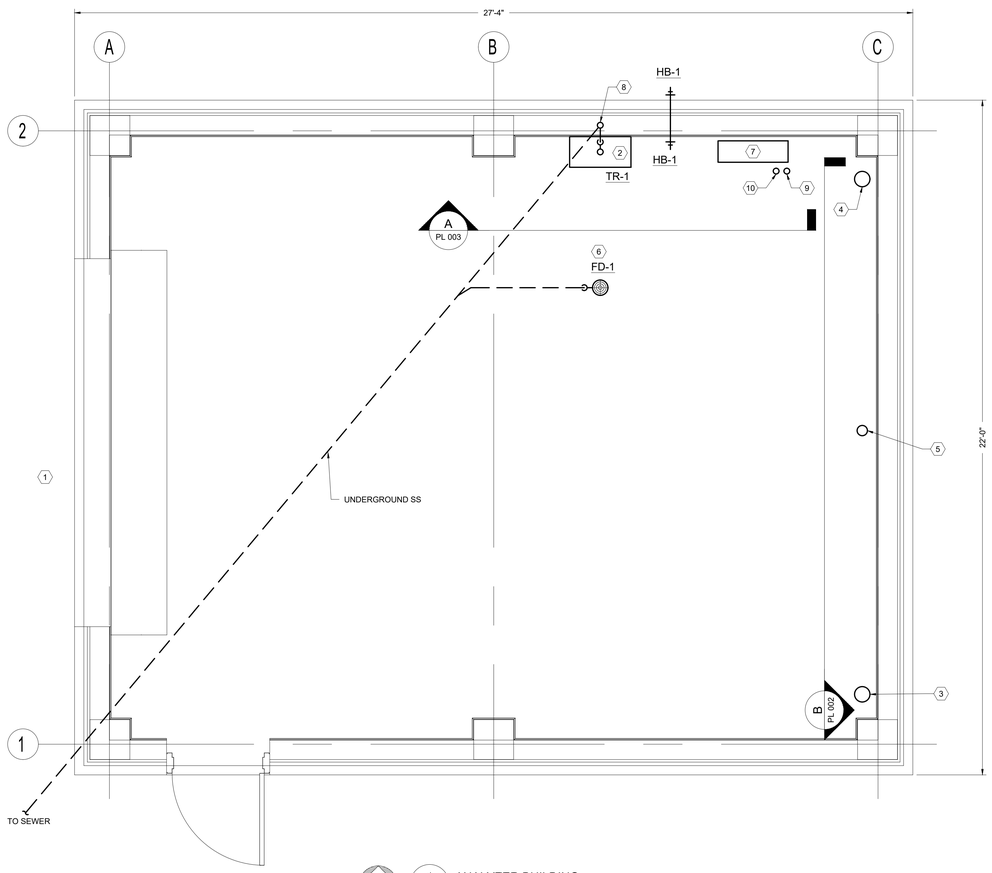
MARK	BODY MATERIAL	COATING	TRIM	ELASTOMERS	SIZE (IN)	CONNECTION	RATING (LBS)	DESIGN FLOW (GPM)	SET PRESSURE (PSI)	EQUAL TO:
PRV-1	DUCTILE IRON	NSF LISTED FUSION BONDED EPOXY LINED COATED	316 SS	BUNA-N	1-1/2	FLANGED	150	120	11	WATTS LFM115
PRV-2	DUCTILE IRON	NSF LISTED FUSION BONDED EPOXY LINED COATED	316 SS	BUNA-N	2-1/2	FLANGED	150	240	11	WATTS LFM115

GENERAL NOTES:

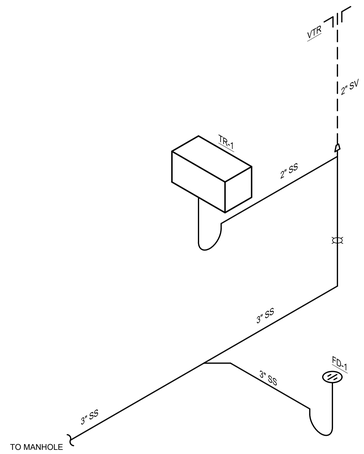
A. BUILDING DIMENSIONS SHOWN ON THIS DRAWING ARE INSIDE DIMENSIONS.

KEY NOTES:

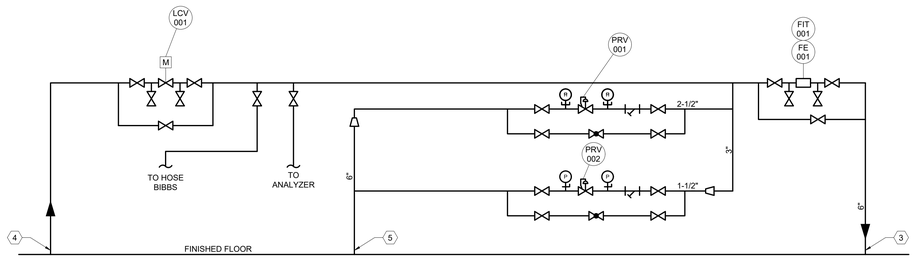
1. ROLL UP DOOR
2. TROUGH
3. 6" DOMESTIC WATER FROM DW SUPPLY
4. 6" DOMESTIC WATER TO WATER TANK
5. 6" DW BYPASS
6. FLOOR DRAIN
7. ANALYZERS
8. 3" SS DOWN AND 2" VTR.
9. 1/2" FROM TK-1 TO ANALYZER
10. 1/2" FROM TK-2 TO ANALYZER



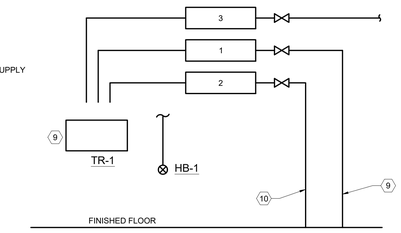
1 PL 003 ANALYZER BUILDING
SCALE: 1/2" = 1'-0"
0' 6" 1' 2'



2 PL 003 SS / SV RISER DIAGRAM
N.T.C.



B PL 003 SECTION
N.T.S.



3 ANALYZER - DW SUPPLY
1 ANALYZER - TK-1
2 ANALYZER - TK-2

A PL 003 SECTION
N.T.C.

MCA Engineering & Construction
BATON ROUGE · NEW ORLEANS

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

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CONSULTANT

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PROFESSIONAL MECHANICAL ENGINEER
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
ANALYZER BUILDING PIPING AND PLUMBING PLAN

Approved: Project Director

Project Title
Replace Underground Water Storage Tanks

Location
Overton Brooks VAMC

Issue Date 11/17/2023 | **Checked** BTM | **Drawn** KPW

Project Number 667-22-118
Building Number N/A
Drawing Number PL 003

File Path: 6/14/2009 12:39:03 PM

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GENERAL NOTES:

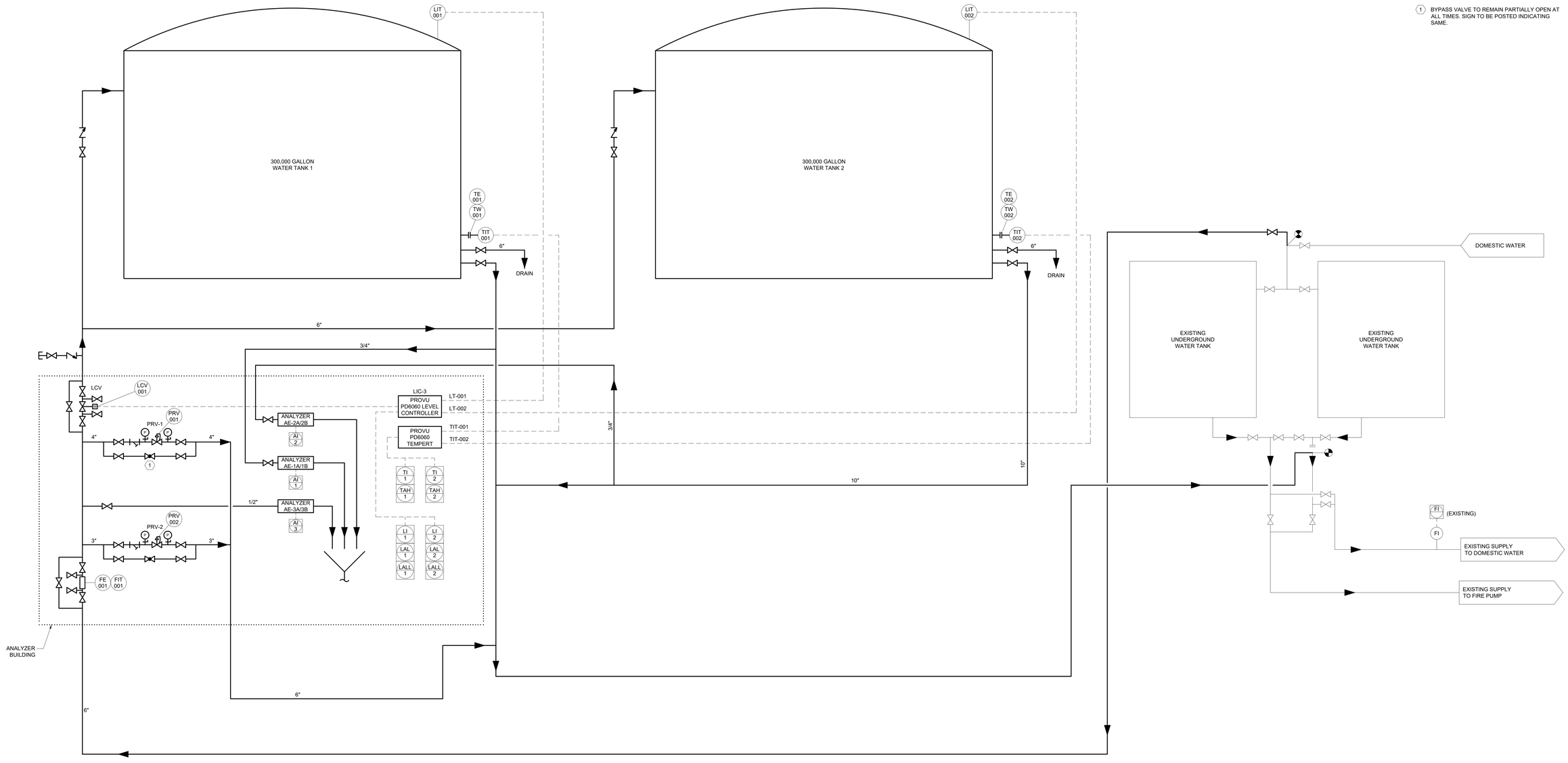
A. ALL ABOVE GROUND PIPING TO BE DUCTILE IRON.

B. ALL UNDERGROUND PIPING TO BE HDPE.

C. FOR INSTRUMENT SCHEDULE REFER TO DWG E201.

KEY NOTES:

(1) BYPASS VALVE TO REMAIN PARTIALLY OPEN AT ALL TIMES. SIGN TO BE POSTED INDICATING SAME.



1 PL 003 WATER FLOW DIAGRAM
SCALE: N.T.S.

MCA Engineering & Construction BATON ROUGE · NEW ORLEANS
JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

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Revisions:	Date:

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License No. 28080
PROFESSIONAL ENGINEER
IN
MECHANICAL ENGINEERING
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: WATER FLOW DIAGRAM

Approved: Project Director:

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | **Checked:** BTM | **Drawn:** KPW

Project Number: 667-22-118

Building Number: N/A

Drawing Number: PL 004

File Path: 6/14/2009 12:39:03 PM

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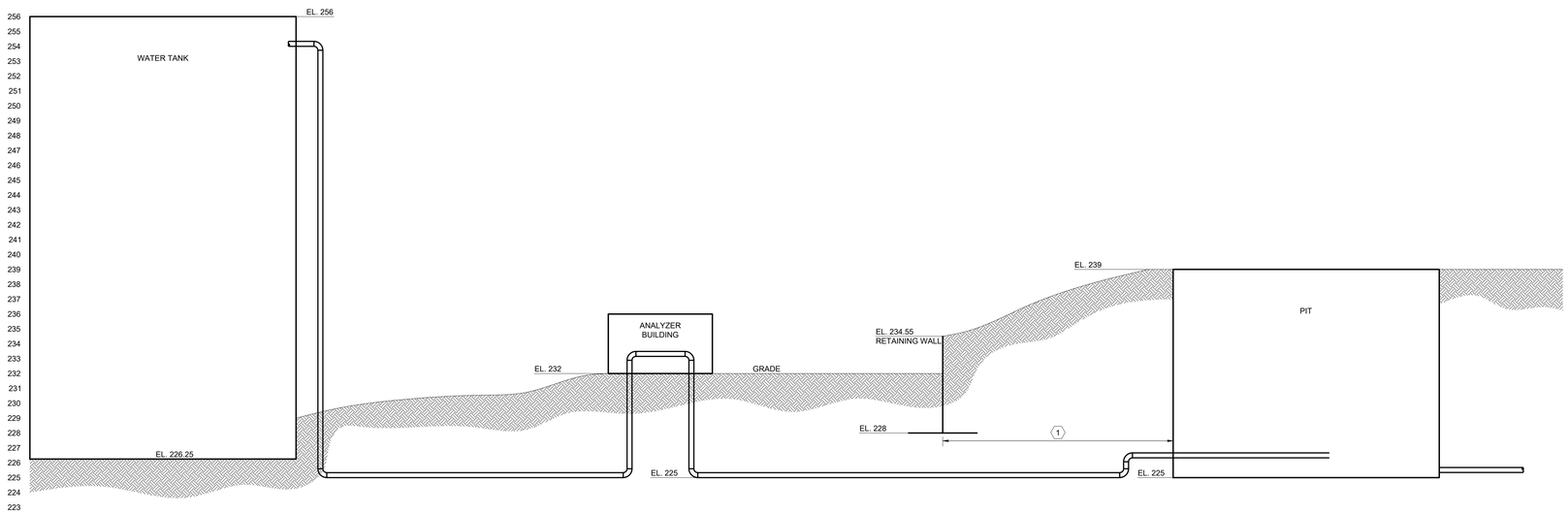
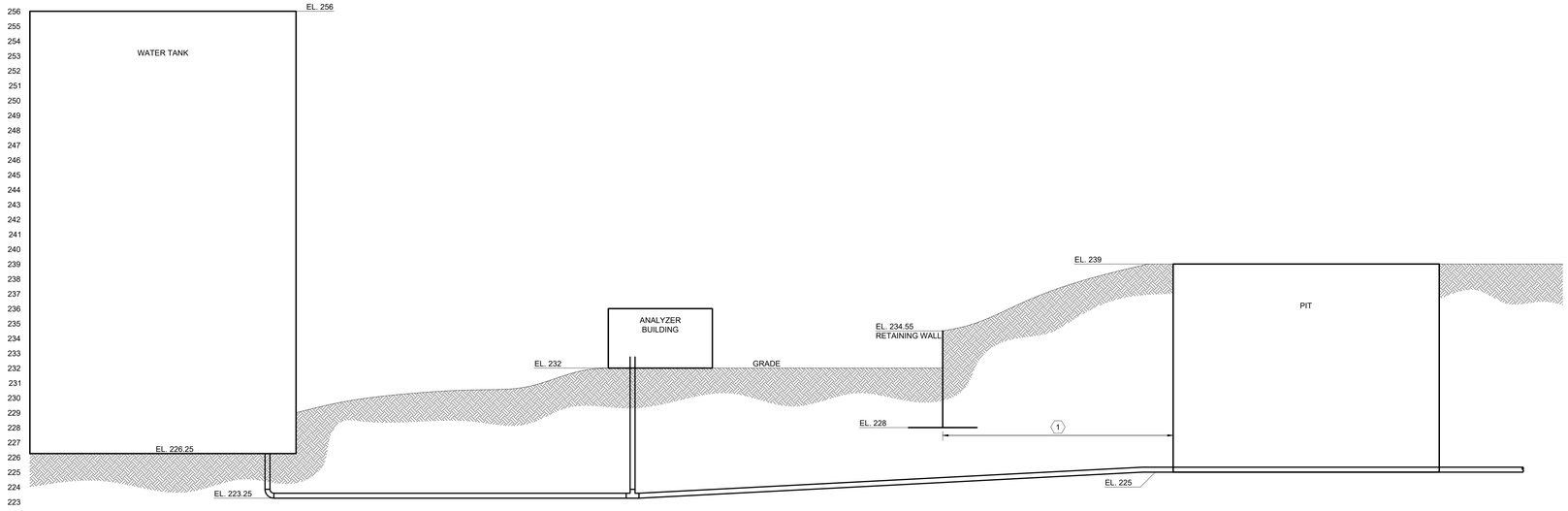
KEY NOTES:

(1) PIPING AT APPROXIMATELY SAME ELEVATION IN THIS AREA.



1 PL 005 SUPPLY PIPING FROM UTILITY WATER TO TANKS
SCALE: N.T.S.



2 PL 005 DISCHARGE PIPING FROM TANK TO TIE POINT IN THE PIT
SCALE: N.T.S.

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

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MECHANICAL ENGINEERING
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: PIPING ELEVATIONS

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | **Checked:** BTM | **Drawn:** KPW

Project Number: 667-22-118

Building Number: N/A

Drawing Number: PL 005

File Path: 6/14/2009 12:28:03 PM

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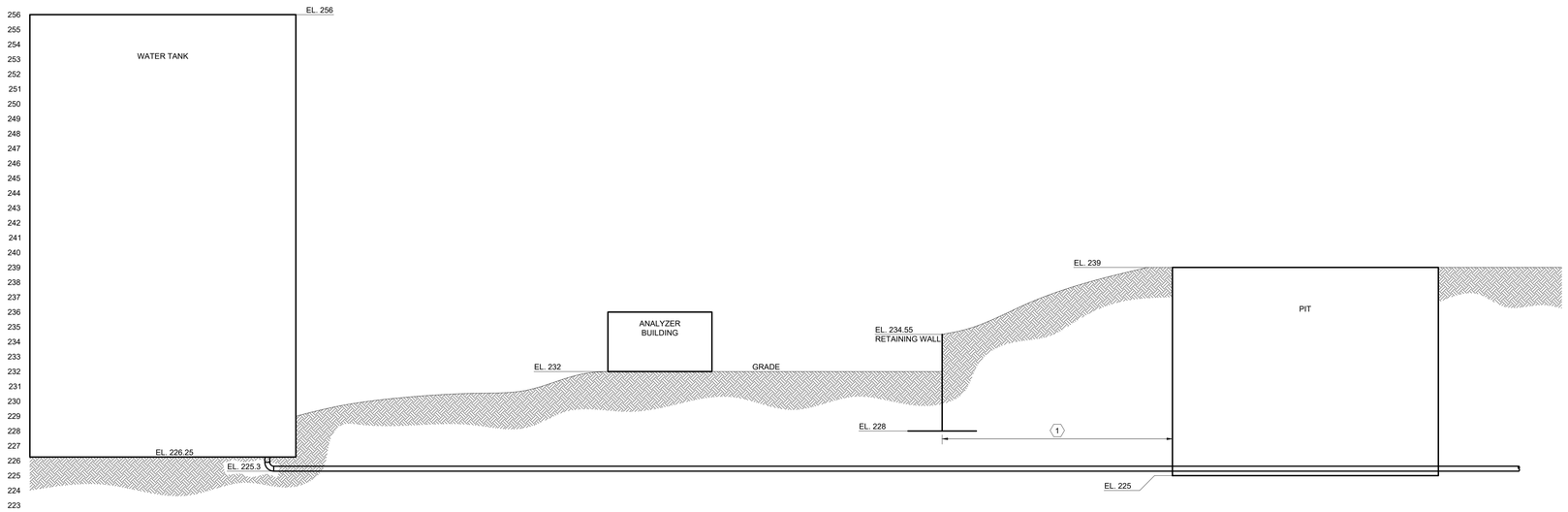

KEY NOTES:

1. PIPING AT APPROXIMATELY SAME ELEVATION IN THIS AREA.

1 PL 006 — DRAIN PIPING FROM TANKS TO STORMWATER
SCALE: N.T.S.

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

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Revisions:	Date:

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IN
MECHANICAL ENGINEERING
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: PIPING ELEVATIONS

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023

Checked: BTM

Drawn: KPW

Project Number: 667-22-118

Building Number: N/A

Drawing Number: PL 006

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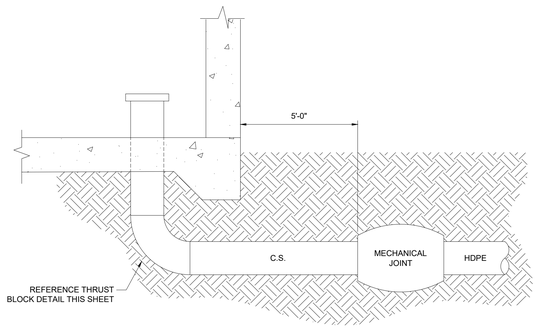
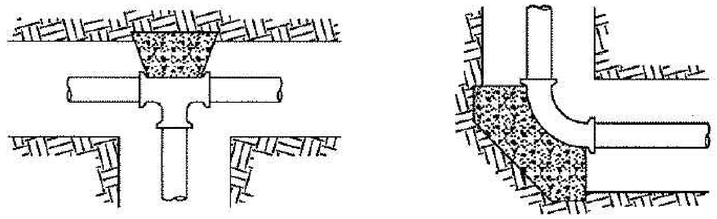
VA FORM 08 - 6231



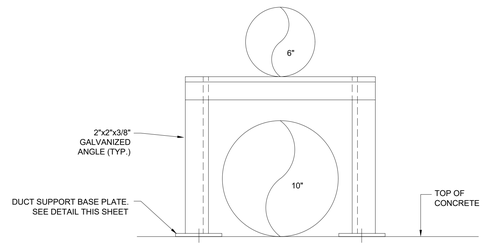
1 PL 007 PIPE PENETRATION THRU FOUNDATION
SCALE: N.T.S.



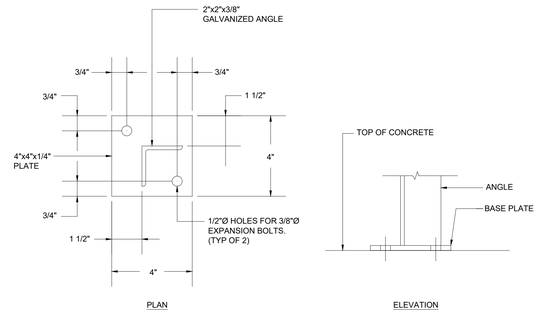
REQUIRED BEARING AREA OF THRUST BLOCK				
PIPE SIZE	TEE & DEAD END	90° BEND	45° BEND	22-1/" BEND
6"	8 SQ. FT.	12 SQ. FT.	6 SQ. FT.	3 SQ. FT.
8"	23 SQ. FT.	32 SQ. FT.	17 SQ. FT.	9 SQ. FT.

NOTES:
1. ALL CONCRETE TO BE CLASS A, 3,000 PSI COMPRESSIVE STRENGTH.
2. CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT ALL TEES, CROSSES, BENDS (HORIZONTAL OR VERTICAL), AT SIZE CHANGES, AND AT ALL FIRE HYDRANTS AND PLUGS. BEARING SURFACE OF BLOCKS TO EXTEND TO UNDISTURBED GROUND.
3. ANCHOR BLOCKS WITH TIE-DOWN ROD FOR VERTICAL BENDS SHALL BE INSTALLED WHERE REQUIRED BY THE ENGINEER. BLOCK MASS BE DESIGNED TO RESIST THRUST AND SHALL BE APPROVED BY THE CITY ENGINEER.
4. AREAS SHOWN ARE FOR EACH THRUST BLOCK.
5. THRUST BLOCKS TO BE INSTALLED ON 6" SUPPLY PIPING ONLY.

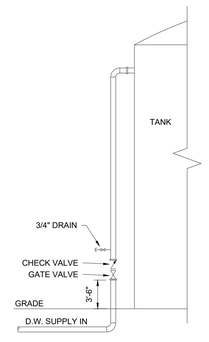
2 PL 007 THRUST BLOCK DETAIL
SCALE: N.T.S.



3 PL 007 DUCT SUPPORT DETAIL
SCALE: N.T.S.



4 PL 007 BASE PLATE DETAIL
SCALE: N.T.S.



5 PL 007 ELEVATION AT TANK
SCALE: N.T.S.

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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License No. 26080
PROFESSIONAL ENGINEER
IN
MECHANICAL ENGINEERING
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Project Title	Project Number
DETAILS	Replace Underground Water Storage Tanks	667-22-118
Approved: Project Director	**Location** Overton Brooks VAMC	**Building Number** N/A
	Issue Date 11/17/2023 / **Checked** BTM / **Drawn** KPW	**Drawing Number** PL 007

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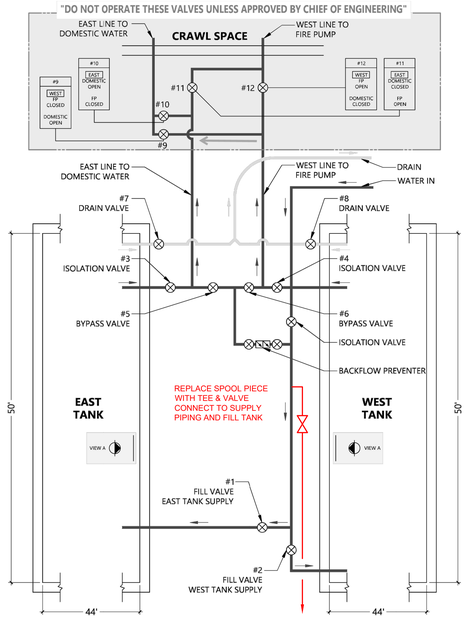
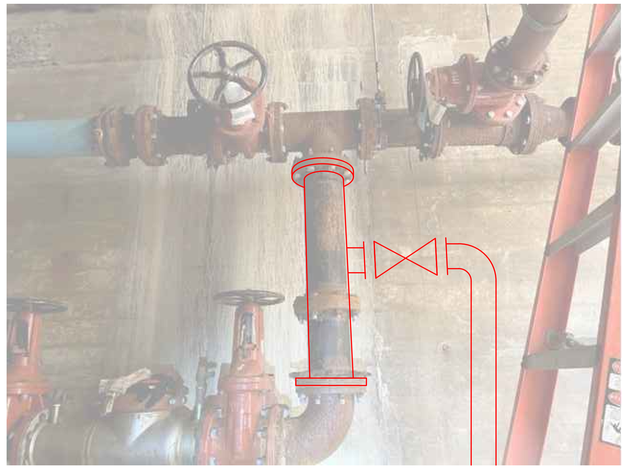


1 PL 008 WATER TIE IN PROCEDURE STEP 1
SCALE: N.T.S.



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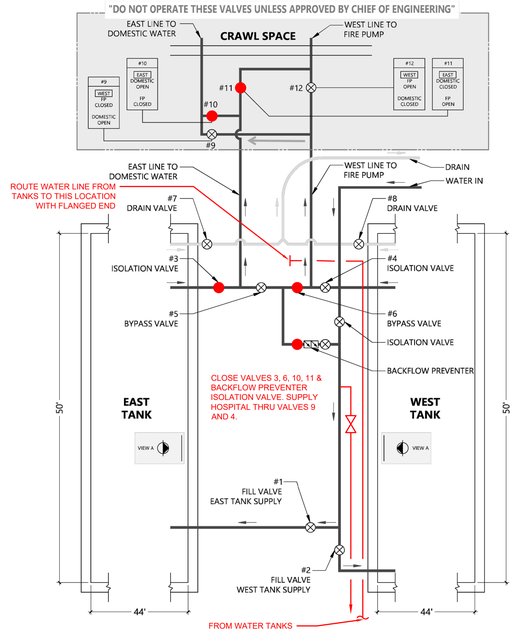

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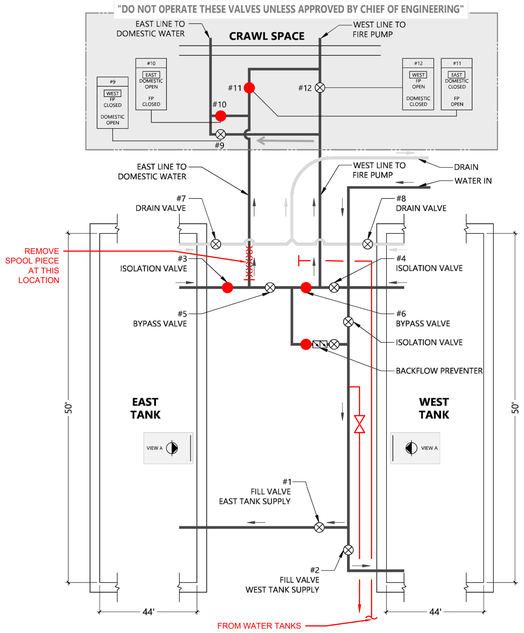
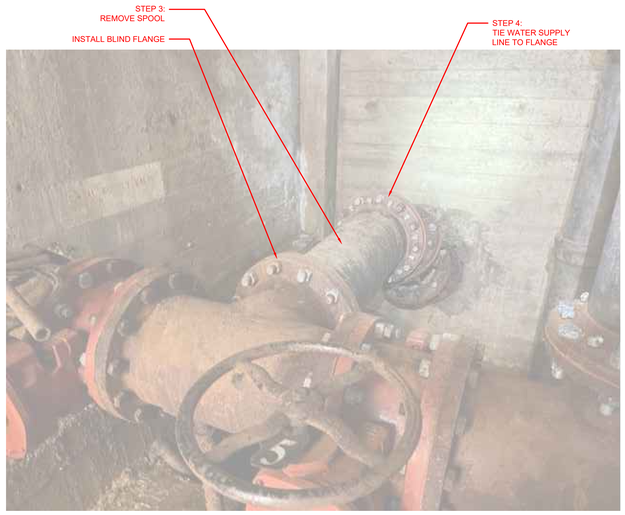
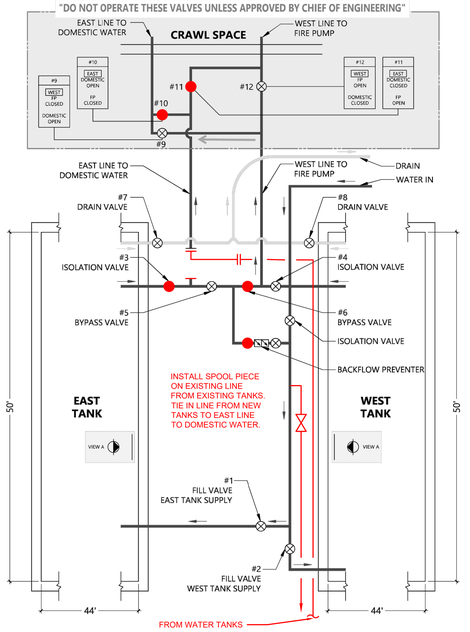


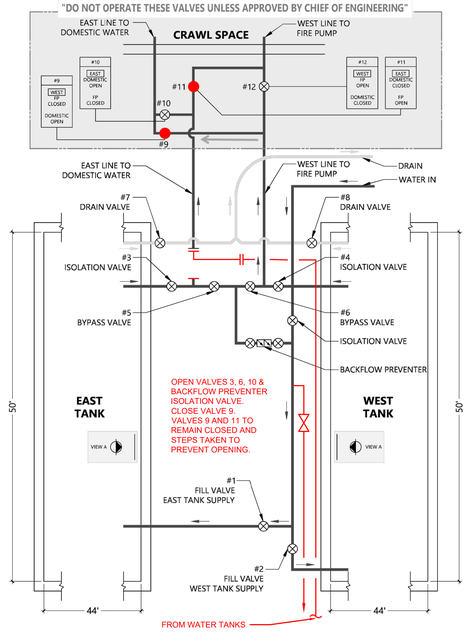
4 PL 008 WATER TIE IN PROCEDURE STEP 3
SCALE: N.T.S.



5 PL 008 WATER TIE IN PROCEDURE STEP 3
SCALE: N.T.S.



6 PL 008 WATER TIE IN PROCEDURE STEP 4
SCALE: N.T.S.



7 PL 008 WATER TIE IN PROCEDURE STEP 5
SCALE: N.T.S.

● - INDICATES VALVE CLOSED

MCA Engineering & Construction — BATON ROUGE · NEW ORLEANS
JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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ARCHITECT/ENGINEER OF RECORD

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STATE OF LOUISIANA — BRIAN T. MILLER — License No. 26080 — PROFESSIONAL ENGINEER — MECHANICAL ENGINEERING — 11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: WATER TIE-IN PROCEDURE

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | Checked: BTM | Drawn: KPW

Project Number: 667-22-118

Building Number: N/A

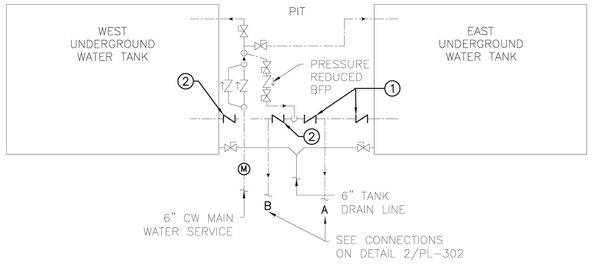
Drawing Number: PL 008

File Path: 6/14/2009 12:39:03 PM

VA FORM 08 - 6231

	DEMOLITION HATCH

PLUMBING LINE TYPES	
	COLD WATER
	HOT WATER
	HOT WATER RETURN
	WATER FOUNTAIN

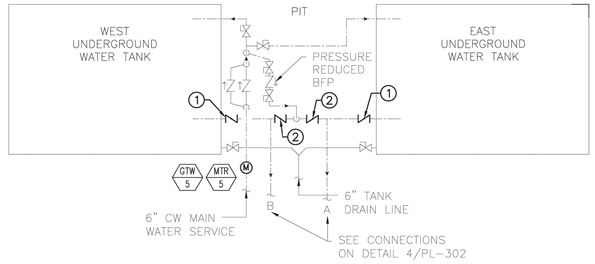


PROJECT NORTH

1 PL-302

BUILDING 1 ISOLATION VALVES NEW WORK PLAN (PHASE 2)

SCALE: N.T.S.



PROJECT NORTH

3 PL-302

BUILDING 1 ISOLATION VALVES NEW WORK PLAN (PHASE 3)

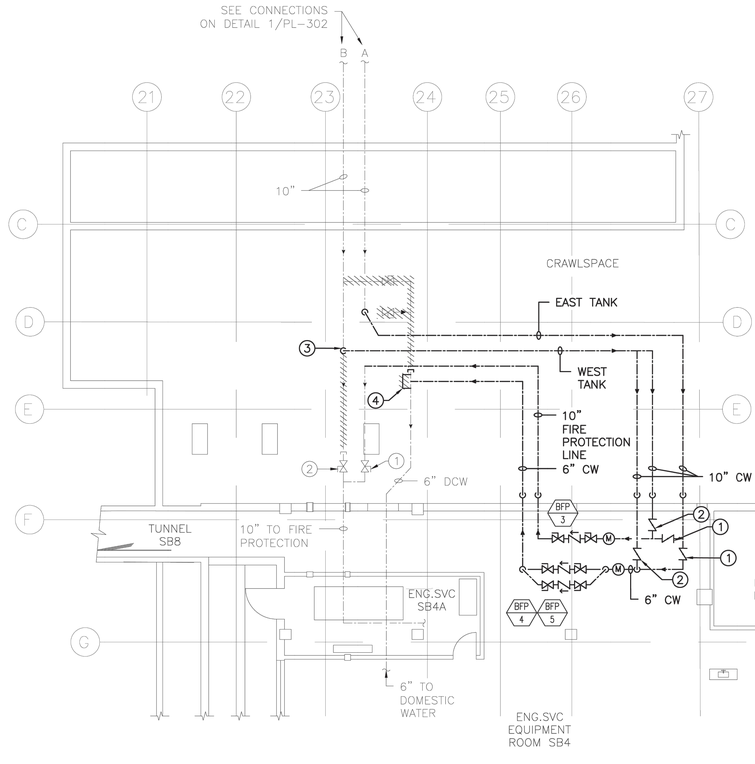
SCALE: N.T.S.

GENERAL NOTES:

1. COMPLETE ALL PIPING AND VALVES PRIOR TO FINAL TAP IN TO EXISTING LINES
2. SHUTDOWN TIME SHALL BE KEPT TO A MINIMUM AND COORDINATED 14 DAYS IN ADVANCE WITH COR
3. CONTRACTOR SHALL PROVIDE A PHASING PLAN WITH ESTIMATED TIME FOR APPROVAL TO COR

KEYED NOTES:

1. VALVE NORMALLY OPEN
2. VALVE NORMALLY CLOSED
3. PROVIDE NEW CONNECTION
4. CUT AND CAP EXISTING PIPING AND THEN REMOVE BYPASS
5. SEE DRAWING 1/PL-305 FOR ISOMETRIC OF COMPLETED NEW SYSTEM WITHIN NOTED AREA.
6. PROVIDE THRUST BLOCK AT NOTED LOCATION. SEE TYPICAL THRUST BLOCK DETAIL 9/PL-505 AND SPECIFICATIONS FOR PROPER INSTALLATION PROCEDURES AND REQUIREMENTS.

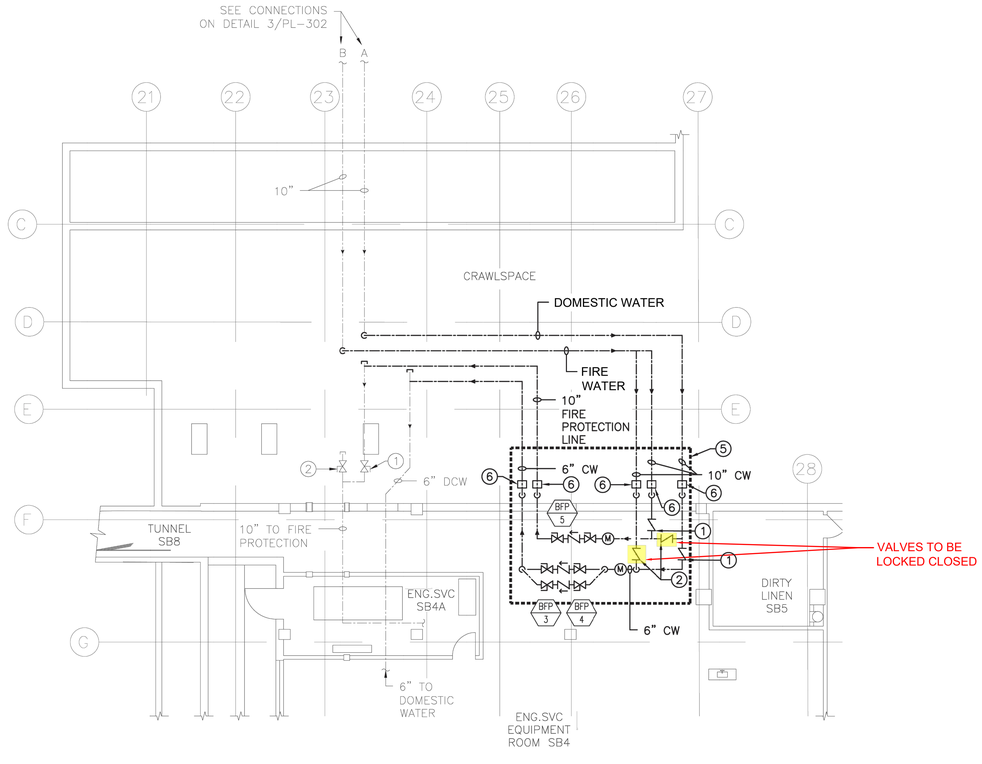


PROJECT NORTH

2 PL-302

BUILDING 1 ISOLATION VALVES NEW WORK PLAN (PHASE 2)

SCALE: 1/8" = 1'-0"

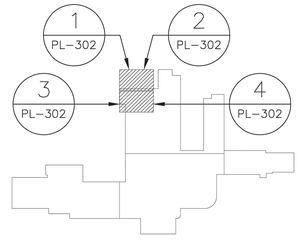


PROJECT NORTH

4 PL-302

BUILDING 1 ISOLATION VALVES NEW WORK PLAN (PHASE 3)

SCALE: 1/8" = 1'-0"



PROJECT NORTH

BUILDING 1 SUB BASEMENT KEY PLAN

SCALE: N.T.S.

ISSUED FOR REFERENCE

Revisions:	Date:

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STATE OF LOUISIANA — Matthew D. Lessiau — License No. 34997 — PROFESSIONAL ENGINEER
08/06/2021

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	TANK ISOLATION VALVE REPLACEMENT PHASING PLAN 2
Phase	CONSTRUCTION DOCUMENTS
Project Title	UPGRADE DOMESTIC WATER DISTRIBUTION SYSTEM TO IMPROVE LEGIONELLA PREVENTION, COOLING TOWERS AND STORAGE TANKS
Project Number	667-18-119
Building Number	1
Approved:	OVERTON BROOKS VA MEDICAL CENTER
Location	510 E STONER AVE, SHREVEPORT, LA 71101
Issue Date	08/06/2021
Checked	D.L.E.
Drawn	D.J.S.
Drawing Number	PL-302

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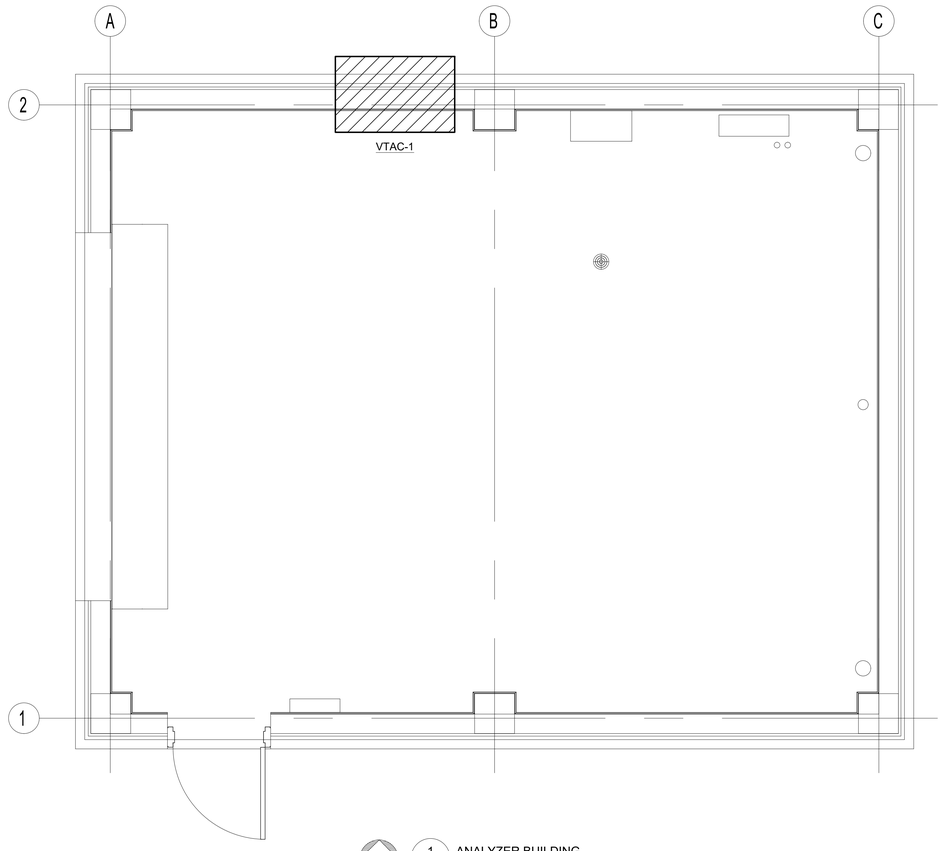
File Path

VA FORM 08-6231

PACKAGED WALL MOUNTED AIR CONDITIONER SCHEDULE (HEAT PUMP)

MARK	SERVICE	LOCATION	FAN DATA			FAN MOTOR DATA					DX COOLING COIL DATA										HEATING DATA				COMPRESSOR DATA					ELECTRICAL								EQUAL TO
											AIR																	MOTOR										
			TOT. CFM	EXT. S.P. (IN.)	BHP	HP	V	PH	HZ	RPM	TOT. CFM	O.A. CFM	ENT DB	ENT WB	LVG DB	LVG WB	SENS (MBH)	TOTAL (MBH)	TYPE	REFRIG.	TOTAL (MBH)	HEATING OUTDOOR TEMP (°F)	EAT (°F)	LAT (°F)	QTY	RLA	LRA	QTY	FLA	V	PH	HZ	MCA	MOCP	EER	IEER	SEER	
VTAC-1	ANALYZER BUILDING	EXTERIOR WALL	809	0.03	-	0.5	460	3	60	-	809	340	86.7	70.6	60.9	57.3	22.5	35.9	-	R410A	22.5	22.0	70.0	95.8	1	4.9	38	-	-	460	3	60	11	15	11.1	-	-	BARD W36HY-C0ZXPXXXE

NOTES:
1. UNIT MUST BE WIRED WITH PROGRAMMABLE TWO STAGE THERMOSTAT TO RUN IN BALANCED CLIMATE MODE CONTINUOUSLY.
2. INSTALL UNIT PER MANUFACTURER'S RECOMMENDATION.
3. CONTRACTOR TO SUPPLY OPTIONAL ALUMINUM NON-DUCTED SUPPLY AND RETURN GRILLES.



1 M 001 ANALYZER BUILDING
SCALE: 1/2" = 1'-0"

0' 6" 1' 2'

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

CONSULTANT

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License No. 26080
PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING
11-17-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ANALYZER BUILDING MECHANICAL PLAN

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | Checked: BTM | Drawn: KPW

Project Number: 667-22-118

Building Number: N/A

Drawing Number: M 001

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ELECTRICAL ABBREVIATIONS, SYMBOLS, AND NOTES

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
GFI WP	DUPLEX RECEPTACLE, 20A, 125V, 3W, WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER, VERTICAL MOUNT 18" AFF TO BOTTOM OF RECEPTACLE. WP INDICATES WATHERPROOF COVER.
	DUPLEX RECEPTACLE, 20A, 125V, 3W, GROUNDING TYPE. VERTICAL MOUNT 18" AFF TO BOTTOM OF RECEPTACLE
M	DUPLEX RECEPTACLE PROVIDED WITH INTEGRATED INTERIOR ASSEMBLIES. REFERENCE NOTES ON DRAWING FOR FURTHER INFORMATION
EDF	DUPLEX RECEPTACLE, 20A, 125V, 3W, GROUNDING TYPE FOR ELECTRIC DRINKING FOUNTAIN. COORDINATE MOUNTING HEIGHT AND EXACT CONNECTION TYPE WITH FOUNTAIN MANUFACTURER.
GFI	DUPLEX RECEPTACLE, 20A, 125V, 3W, WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER. HORIZONTAL MOUNT ABOVE COUNTER, REFERENCE CASEWORK DRAWINGS.
	DUPLEX RECEPTACLE, 20A, 125V, 3W, GROUNDING TYPE. HORIZONTAL MOUNT ABOVE COUNTER, REFERENCE CASEWORK DRAWINGS.
	4-PLEX RECEPTACLE 20A, 125V, 3W, GROUNDING
J	DISCONNECT OR SAFETY SWITCH
J	COMBINATION STARTER AND DISCONNECT
	MOTOR
J	JUNCTION BOX
J HD	CONNECTION POINT FOR HAND DRYER. COORDINATE EXACT INSTALLATION REQUIREMENTS AND MOUNTING HEIGHT WITH MANUFACTURER
	GROUNDING PER 2005 NEC N.E.C. ARTICLE 250
	CONDUIT UP
	NEW PANELBOARD SURFACE MOUNTED
	NEW PANELBOARD RECESSED MOUNTED
	EXISTING PANELBOARD SURFACE MOUNTED
	EXISTING PANELBOARD RECESSED MOUNTED
M	METER
	DATA RECEPTACLE, 4X4 BACKBOX WITH SINGLE GANG RING, 1" CONDUIT TO ACCESSIBLE CEILING. SUBSCRIPT INDICATES NUMBER OF PORTS WHEN OTHER THAN 2. RJ45 JACKS AND CAT6 WIRE TO PATCH PANEL. SUBSCRIPT "F" INDICATES DEVICE INSTALLED IN FURNITURE SYSTEM. SUBSCRIPT 'M' INDICATES DEVICE INSTALLED IN INTEGRATED INTERIOR ASSEMBLIES REFERENCE NOTES ON DRAWING FOR FURTHER INFORMATION
DPS	FIRE RATED POKE-THRU FLOOR BOX WITH DUPLEX RECEPTACLE AND 2 DATA PORTS. SUBSCRIPT INDICATES NUMBER OF PORTS WHEN OTHER THAN 2.
DPS	DOOR HARDWARE POWER SUPPLY/CONTROLLER, 120V INPUT. COORDINATE WITH HARDWARE CONTRACTOR AND ACCESS CONTROL CONTRACTOR FOR SPECIFIC REQUIREMENTS FOR POWERING AND CONTROLLING ACCESS THROUGH DOOR.
E	ENTERGY LOCK BOX
DC	DOOR CONTACT - CONCEALED EXCEPT ON EXISTING STAIRWELL DOORS
FP	MODULAR FURNITURE POWER FEED. 4X4 BACK BOX WITH FACEPLATE TO ACCEPT CONNECTION FROM FLEXIBLE WHIP PROVIDED WITH FURNITURE. COORDINATE EXACT MOUNTING LOCATION WITH FURNITURE SHOP DRAWINGS. WHERE INSTALLED IN INTEGRATED INTERIOR ASSEMBLY (SUBSCRIPT M) MANUFACTURER WILL PROVIDE BACKBOX ONLY.
FD	MODULAR FURNITURE DATA FEED. 4X4 BACK BOX WITH 1.25" C. TO ACCESSIBLE CEILING. SUBSCRIPT DENOTES QUANTITY OF CAT6 CABLES. ALL OTHER CONDUIT AND WIRE BY ELECTRICAL CONTRACTOR.

*NOTE: NOT ALL SYMBOLS ARE USED.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LIGHT FIXTURE - SUSPENDED (XX -FIXTURE TYPE)
XX	LIGHT FIXTURE - STRIP WITH LENS (XX -FIXTURE TYPE)
XX	FLOOD LIGHT (XX - FIXTURE TYPE)
XX	LIGHT FIXTURE - WALL MOUNTED (XX - FIXTURE TYPE)
S_a	TOGGLE SWITCH, 20A, VOLTAGE AS REQUIRED. SUBSCRIPT INDICATES DEVICE CONTROLLED. ADDITIONAL SUBSCRIPT 'M' INDICATES SWITCH INSTALLED IN PRE-MANUFACTURED WALL PARTITION.
S_T	DIGITAL TIMER SWITCH, 277V, ADJUSTABLE UP TO 30 MINUTES. ADDITIONAL SUBSCRIPT 'M' INDICATES SWITCH INSTALLED IN PRE-MANUFACTURED WALL PARTITION.
S_O	DUAL TECHNOLOGY OCCUPANCY SENSOR WALL SWITCH WITH MANUAL ON/OFF SWITCH, 277V. ADDITIONAL SUBSCRIPT 'M' INDICATES SWITCH INSTALLED IN PRE-MANUFACTURED WALL PARTITION.
S_{OD}	DUAL TECHNOLOGY OCCUPANCY SENSOR WALL SWITCH WITH MANUAL ON/OFF SWITCH, 277V, AND SLIDE DIMMER, 0-10V CONTROL. ADDITIONAL SUBSCRIPT 'M' INDICATES SWITCH INSTALLED IN PRE-MANUFACTURED WALL PARTITION. PROVIDE 0-10V CONTROL WIRES TO FIXTURES/DRIVERS.
S_{LV}	DIGITAL LOW-VOLTAGE WALL SWITCH, PUSH BUTTONS AS REQUIRED FOR INDIVIDUAL CHANNEL CONTROLS AND DIMMING. COMPATIBLE WITH ROOM CONTROLLER. CAT5E CABLING CONNECTION.
S_M	MOTOR-RATED TOGGLE SWITCH, AMPS AND POLES AS REQUIRED
MCS	MASTER CONTROL STATION FOR RELAY PANELS, TOUCH SCREEN INTERFACE, FULL PROGRAMMING AND PRESET OCCUPANCY SELECTIONS. LOW-VOLTAGE CABLING TO RELAY PANEL.
LC1	ROOM LIGHTING CONTROLLER, 277V, MOUNTED ABOVE ACCESSIBLE CEILING, SINGLE CHANNEL, 0-10V DIMMING FOR EACH CHANNEL, WITH CAT5E DAISY CHAIN CONNECTIONS TO LOW-VOLTAGE WALL SWITCHES, CEILING-MOUNTED OCCUPANCY AND DAYLIGHT SENSORS.
LC2	ROOM LIGHTING CONTROLLER, 277V, MOUNTED ABOVE ACCESSIBLE CEILING, TWO CHANNEL, 0-10V DIMMING FOR EACH CHANNEL, WITH CAT5E DAISY CHAIN CONNECTIONS TO LOW-VOLTAGE WALL SWITCHES, CEILING-MOUNTED OCCUPANCY AND DAYLIGHT SENSORS.
LC3	ROOM LIGHTING CONTROLLER, 277V, MOUNTED ABOVE ACCESSIBLE CEILING, THREE CHANNEL, 0-10V DIMMING FOR EACH CHANNEL, WITH CAT5E DAISY CHAIN CONNECTIONS TO LOW-VOLTAGE WALL SWITCHES, CEILING-MOUNTED OCCUPANCY AND DAYLIGHT SENSORS.
ML	MAGNETIC LOCK PROVIDED BY INTEGRATED INTERIOR ASSEMBLY SUPPLIER. CONTRACTOR SHALL PROVIDE COMPATIBLE POWER SUPPLY AND ALL WIRING.
CR	ACCESS CONTROL CARD READER
EX	ACCESS CONTROL PUSH-TO-EXIT WALL STATION. DEFEAT MAG-LOCK FOR EXITING.
DB	DOOR BELL
K	KEY PAD

*NOTE: NOT ALL SYMBOLS ARE USED.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
OS	OCCUPANCY SENSOR, CEILING MOUNT, LOW-VOLTAGE, COMPATIBLE WITH ROOM CONTROLLER.
DL	DAYLIGHT SENSOR, CEILING MOUNT, LOW-VOLTAGE, COMPATIBLE WITH ROOM CONTROLLER. ADJUST TO MAINTAIN MAXIMUM 50 FOOTCANDLE AVERAGE.
	EXIT LIGHT WALL MTD. SHADING DENOTES SIDE WITH FACE.
	EXIT LIGHT CEILING MTD. ARROWS AS NOTED. SHADING DENOTES SIDE WITH FACE.
	EMERGENCY LIGHT - BATTERY UNIT
	CABLE TV RECEPTACLE, 4X4 BACKBOX WITH SINGLE GANG RING, 1" CONDUIT TO ACCESSIBLE CEILING. TYPE F CONNECTOR WITH RG6 QUAD SHIELD CABLE BACK TO IT ROOM.
F1	8" DIAMETER, FIRE-RATED POKE-THRU FLOORBOX. REFERENCE AUDIO-VISUAL DRAWINGS FOR DETAILS.
PT	FIRE-RATED POKE-THRU FLOORBOX FOR MODULAR FURNITURE POWER AND DATA FEED. PROVIDE FITTINGS FOR FLEXIBLE WHIP CONNECTIONS. VERIFY LOCATION WITH ARCHITECT PRIOR TO CORE-DRILLING.
AP	TELECOMMUNICATIONS WIRELESS ACCESS POINT CISCO 9120 AXI, NO EQUAL PROVIDE PROPER CEILING MOUNT BRACKET, (1) CAT6 CABLE TO PATCH PANEL, PROVIDE COMPATIBLE 30W POE INJECTOR AS REQUIRED
P/C	PHOTOCELL

GENERAL SYMBOLS

SYMBOL	DESCRIPTION
	SECTION LETTER
	INDICATES DRAWING SHEET ON WHICH SECTION IS SHOWN
1	DRAWING NOTE
C22	COLUMN REFERENCE
	POINT OF CONNECTION
1	DRAWING REVISION NUMBER
	DRAWING REVISION CLOUD
	DRAWING NUMBER, DRAWING TITLE, DRAWING SCALE, SHEET ON WHICH DRAWING IS LOCATED (1 / E1 — OVERALL PLAN THIRD LEVEL — SCALE: 1"=20'-0")
	CONDUIT AND WIRE, MINIMUM 2#12 AWG AND 1#12 GND UNLESS NOTED OTHERWISE WITH KEYNOTE OR SCHEDULE. ARROW DENOTES HOMERUN TO PANEL. QUANTITY INDICATES NUMBER OF POLES.
	PORTION OF FEEDER CONDUIT TO BE REMOVED.

*NOTE: NOT ALL SYMBOLS ARE USED.

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
A	AMPERE
ABC	ABOVE COUNTER
AC	ALTERNATING CURRENT
AF	AMPERE FUSE
AFC	4" ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
KAIC	AMPS INTERRUPTING CAPACITY x1000
AT	AMPERE TRIP
ANN	ANNUNCIATOR
APPROX	APPROXIMATE
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BSMT	BASEMENT
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CL	CENTER LINE
CT	CURRENT TRANSFORMER
CU	COPPER
DISC	DISCONNECT
DN	DOWN
DWG	DRAWING
EA	EACH
EC	EMPTY CONDUIT WITH PULL WIRE
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
ELEV	ELEVATOR
EMT	ELECTRICAL METAL TUBING
EP	EXPLOSION-PROOF
EQPT	EQUIPMENT
EXTG	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLR	FLOOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL CONDUIT
HT	HEIGHT
HTR	HEATER
HP	HORSE POWER
HW	HOT WATER
HWC	HOT WATER CIRCULATING
INCAND	INCANDESCENT
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	CIRCULAR MILS, THOUSANDS
MECH	MECHANICAL
MFR	MANUFACTURER
MGAP	MEDICAL GAS ALARM PANEL
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PNL	PANEL
PH	PHASE
P	POLE
PFB	PROVISIONS FOR BREAKER
PA	PUBLIC ADDRESS
RECP	RECEPTACLE
REFRIG	REFRIGERATOR
REQD	REQUIRED
SN	SOLID NEUTRAL
SPKR	SPEAKER
SPEC	SPECIFICATION
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEL	TELEPHONE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLT. SURGE SUPPRESSOR
TYP	TYPICAL
UC	UNDER COUNTER
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLTAMPERE
W	WATT
WH	WATER HEATER
WP	WEATHER-PROOF
W/	WITH
W/O	WITHOUT
XFMR	TRANSFORMER
XFR	TRANSFER

*NOTE: NOT ALL SYMBOLS ARE USED.

GENERAL NOTES

GENERAL CONDITIONS

A. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE AND ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING ELECTRICAL SYSTEM IN SAFE WORKING ORDER.

B. SYMBOLS FOR VARIOUS ELEMENTS AND SYSTEMS ARE SHOWN ON THE DRAWINGS. SHOULD THERE BE ANY DOUBT REGARDING THE MEANING OR INTENT OF THE SYMBOLS USED, AN INTERPRETATION SHALL BE OBTAINED FROM THE ARCHITECT IN WRITING. THE DECISION OF THE ARCHITECT SHALL BE FINAL.

C. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO EXAMINE THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING HIS BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND ADJUSTED IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK; OTHERWISE, HE SHALL, AT HIS OWN EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN HIS WORK OR THE RESULTS OBTAINED THEREFROM, CAUSED BY SUCH DISCREPANCY.

D. WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, THE BETTER QUALITY, OR LARGER SIZE SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING.

E. THE SCALE OF EACH DRAWING IS RELATIVELY ACCURATE; ANY DIMENSIONS SHOWN ARE APPROXIMATE TO CENTERLINE FROM ASSUMED BUILDING PERIMETER. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DIMENSIONS FOR ANY EXACT TAKEOFFS FROM THE FIELD MEASUREMENT. NO ADDITIONAL COST TO THE OWNER WILL BE CONSIDERED FOR FAILURE TO OBTAIN EXACT DIMENSIONS WHERE NOT CLEAR OR IN ERROR ON THE DRAWINGS. ANY DEVICE OR FIXTURE ROUGHED IN IMPROPERLY AND NOT POSITIONED ON IMPLIED CENTER-LINES OR AS REQUIRED BY GOOD PRACTICE MUST BE REPOSITIONED AT NO COST TO THE OWNER.

F. ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.

G. THE GENERAL CONTRACTOR SHALL REQUIRE ALL RELATED INFORMATION FROM THEIR SUB-CONTRACTORS AND SUPPLIERS THAT WILL ALLOW THE GENERAL CONTRACTOR TO INCORPORATE ALL ELEMENTS AND WORK OF ALL TRADES INTO A FULLY COORDINATED AUTO-CAD DRAWING SECTION THROUGH AREAS OF DENSE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS PRIOR TO THE FABRICATION OR INSTALLATION OF ANY WORK SO AS TO CONFIRM PROPER ACCESS TO ALL ELEMENTS FOR PROPER OPERATION AND MAINTENANCE SERVICE SPACE.

H. ONLY EXPERIENCED CRAFTSMEN KNOWLEDGEABLE IN THEIR RESPECTIVE TRADE SHALL PERFORM THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS.

I. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA STANDARD 70 (NATIONAL ELECTRICAL CODE). CONTRACTOR SHALL ALSO CONFORM TO ALL APPLICABLE LOCAL CODES AND AMENDMENTS.

J. ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO SWITCHGEAR, CONDUIT, WIRE, BOXES AND FITTINGS SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS AND SHALL BEAR THE UL LABEL.

K. DURING RENOVATIONS PROJECTS, WHEN A CEILING IS OPENED UP, REMOVE ALL OBVIOUSLY ABANDONED WIRE, CABLE, AND CONDUIT AND CLOSE/PROVIDE COVER PLATES FOR ALL JUNCTION BOXES.

L. IP VIDEO SURVEILLANCE CAMERA, OWNER PROVIDED AND INSTALLED UNDER SEPERATE CONTRACT. PROVIDE ALL RECEWAYS, PULLSTRINGS, BACKBOXES, AND ACCESSORIES AS REQUIRED TO ACCOMODATE INSTALLATION BY OTHERS.

CONDUIT & RACEWAY

A. ALL WORK SHALL BE COORDINATED SO THAT INTERFERENCES ARE AVOIDED. PROVIDE ALL NECESSARY OFFSETS IN CONDUITS, RACEWAYS, ETC., REQUIRED TO PROPERLY INSTALL THE WORK. EXPOSED WORK MUST BE KEPT AS CLOSE AS POSSIBLE TO WALLS, CEILINGS, COLUMNS, ETC., SO AS TO TAKE UP MINIMUM AMOUNT OF SPACE; ALL OFFSETS, FITTINGS, ETC., REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WORK SHALL BE COORDINATED WITH OTHER TRADES.

B. CONDUIT RUNS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR SIZING AND LOCATING PULL BOXES PER N.E.C. AND FOR COORDINATION WITH OTHER DISCIPLINES.

C. CONTRACTOR SHALL INSTALL (1) 3/4" CONDUIT FOR EACH SET OF (3) SPARES AND/OR SPACES OR FRACTION THEREOF FROM EACH NEW FLUSH MOUNTED PANELBOARD. THE SPARE CONDUITS SHALL STUB-UP INTO THE NEAREST ACCESSIBLE CEILING CAVITY.

D. CONTRACTOR SHALL PROVIDE AND INSTALL ADEQUATE SUPPORTS NECESSARY FOR THE RACEWAY SYSTEM. THIS INCLUDES BUT IS NOT LIMITED TO BLOCKING FOR SURFACE AND FLUSH MOUNTED PANELS. CONTRACTOR SHALL REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SIZES AND QUANTITIES OF ALL SUPPORTING MEANS.

E. PENETRATIONS OF WALLS, FLOORS, ROOFS, AND STRUCTURAL BEAMS FOR THE PASSAGE OF ELECTRICAL RACEWAYS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF WORK. ALL SUCH PENETRATIONS SHALL BE PROPERLY SEALED OFF AFTER INSTALLATION OF RACEWAY SO AS TO MAINTAIN THE STRUCTURAL, WATER PROOF, AND FIRE PROOF INTEGRITY OF THE SYSTEM PENETRATED.

F. THE CONTRACTOR SHALL SEAL ALL CONDUITS THAT PENETRATE ANY FLOOR SLABS TO MAKE THEM WATER TIGHT. THE CONDUITS SHALL BE DRIED PRIOR TO INSTALLATION OF WIRE/CABLE AND SHALL BE SEALED AT TERMINATIONS.

G. ALL BOXES AND CONDUIT IN WALLS AND CEILING SHALL BE FLUSH MOUNTED OR CONCEALED UNLESS NOTES OTHERWISE.

H. CONTRACTOR SHALL PROVIDE FIRE STOPPING SYSTEMS FOR ALL CONDUIT AND RACEWAY SYSTEMS AT ALL PENETRATIONS, SLEEVES, AND SLOTS OF FIRE RATED CONSTRUCTION FOR ALL HORIZONTAL PATHWAYS AND SPACES.

BRANCH CIRCUITS AND FEEDERS

A. UNLESS OTHERWISE NOTED, ALL CIRCUITS 100' OR LESS SHALL BE MINIMUM #12 AWG WIRE SIZE. CIRCUITS OVER 100' BUT LESS THAN 200' SHALL BE MINIMUM #10 AWG WIRE SIZE. CIRCUITS OVER 200' SHALL BE MINIMUM #8 AWG WIRE SIZE.

B. ALL CONDUCTORS SHALL BE SOFT DRAWN ANNEALED COPPER, 98% CONDUCTIVITY CONTINUOUS FROM OUTLET TO OUTLET. CONDUCTOR SIZES #12 AWG AND #10 AWG SHALL BE SOLID. CONDUCTOR SIZES #8 AWG AND LARGER MAY BE STRANDED.

C. A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PULLED WITH ALL CIRCUIT CONDUCTORS.

D. CONTRACTOR SHALL GROUND ALL EQUIPMENT AND ELECTRICAL SYSTEM PER N.E.C.

E. IN INSTANCES WHERE DEMOLITION IS REQUIRED, THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL UNUSED CONDUIT AND WIRING BACK TO THE ELECTRICAL PANEL WHERE CONDUIT IS LOCATED IN INACCESSIBLE SPACES, IT MAY REMAIN.

F. SHARED NEUTRALS ARE NOT ALLOWED IN ANY BRANCH CIRCUITS.

OUTLETS AND POWER DEVICES

A. UNLESS NOTED OTHERWISE ALL RECEPTACLES SHALL BE INSTALLED 18"AFF, ALL LIGHT SWITCHES 48"AFF.

B. CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION DETAIL OF OUTLETS IN MILLWORK WITH ARCHITECTURAL DRAWINGS (WALL ELEVATIONS, MILLWORK DETAILS, ETC.) AND WITH MILLWORK MANUFACTURER PRIOR TO ELECTRICAL ROUGH-IN.

C. WALL AND FLOOR MOUNTED POWER RECEPTACLES SHOWN NEAR DATA OUTLETS SHALL BE LOCATED WITHIN SIX (6") INCHES OF THE DATA OUTLET. LOCATE AT SAME MOUNTING HEIGHT UNLESS NOTED OTHERWISE.

D. CONTRACTOR SHALL VERIFY THE EXACT POWER CONNECTION TYPE AND NEMA CONFIGURATION OF RECEPTACLES FOR EQUIPMENT FURNISHED BY THE OWNER, OTHER TRADES, OR UNDER A SEPARATE SECTION OF THIS CONTRACT PRIOR TO ELECTRICAL ROUGH-IN.

E. ALL RECEPTACLES WITHIN SIX FEET (6'-0") OF ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.

F. ALL RECEPTACLES LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE HOUSED IN ENCLOSURES THAT ARE RATED 'WEATHER-PROOF-WHILE-IN-USE' AND SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION. ALL MATERIAL SHALL BE CAST METAL.

G. ALL GFCI RECEPTACLES SHALL BE CONNECTED SO THAT ALL DEVICES ON THE SAME CIRCUIT AS THE GFCI RECEPTACLE DO NOT DE-ENERGIZE UPON TRIPPING. ALL GFCI RECEPTACLES SHALL INCLUDE A LOCK-OUT FUNCTION TO PROTECT AGAINST THE USE OF MISWIRED DEVICES OR DEVICES THAT HAVE BEEN DAMAGED DUE TO DISABLING SURGES.

H. FINISH COLORS OF DEVICES AND CORRESPONDING COVER PLATES SHALL BE SELECTED AND APPROVED BY THE ARCHITECT. SPECIALTY RECEPTACLES AND COVERPLATES (I.E. ISOLATED GROUND, EMERGENCY, CRITICAL BRANCH, SURGE SUPPRESSION, ETC.) SHALL BE THE COLOR NOTED IN ELECTRICAL CONSTRUCTION DOCUMENTS.

MECHANICAL & PLUMBING COORDINATION

A. CONTRACTOR SHALL REFERENCE THE MECHANICAL AND PLUMBING DRAWINGS FOR ALL EQUIPMENT NEEDING ELECTRICAL CONNECTIONS. MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVERCURRENT PROTECTION FOR ALL EQUIPMENT.

B. ALL FUSED SWITCHED OR CIRCUIT BREAKERS SERVING EQUIPMENT SHALL HAVE HANDLE LOCKS.

MCA Engineering & Construction — BATON ROUGE · NEW ORLEANS

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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11/10/23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SYMBOLS AND ABBREVIATIONS

Approved: Project Director

Project Title: Replace Underground Water Storage Tanks

Location: Overton Brooks VAMC

Issue Date: 11/17/2023 | Checked: MKS | Drawn: GEM/SAN

Project Number: 667-22-118

Building Number: N/A

Drawing Number: E 001

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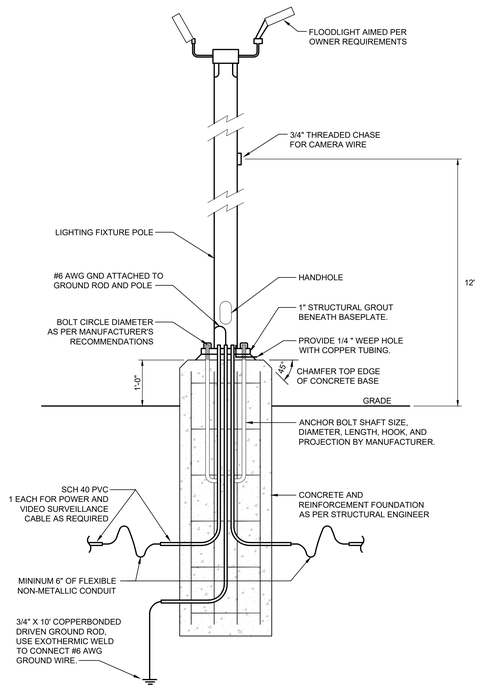


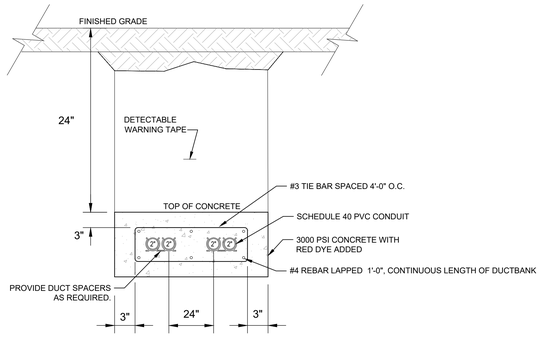
1 LIGHT POLE P1 FOUNDATION DETAIL
SCALE: N.T.S.

LIGHTING FIXTURE SCHEDULE					
FIXTURE TYPE	DESCRIPTION	LAMP	VOLTAGE	MOUNTING	WATTS
F1	STRIP LIGHT, LED, LENSED, SURFACE MOUNT METALUX #4SWLED-80HL-LW-UNV-L835-CD1-U	LED 8000L 3500K	UNV	MOUNTED TO TRUSS	82.4W
P1	POLE LIGHT; 25-FOOT, SQUARE, NON-TAPERED POLE; POLE-TOP-MOUNTED ARM BRACKET AND TWO FIXTURES WITH ADJUSTABLE SLIPFITTER MOUNT LUMARK #NFFLD-C40-E-UNV-66-S-BZ FLOODLIGHT, IP66 RATED; KW #SSP25-4-7-BRZ-3.5 POLE; KW #FA2180- 36-2-BRZ-3.5 TWIN ARM.	LED 64,000L 4000K (TOTAL)	UNV	CONCRETE BASE	736W (TOT.)
W1	WALLPACK, LED, BRONZE FINISH, IP66 RATED LUMARK #WPSQLED-75-UNV	LED 8000L 4000K	UNV	WALL 9' AFF	75W
EM1	EMERGENCY LIGHT, WITH BATTERY, WALL MOUNTED, REMOTE CAPABLE SURE-LITES #SEL50R14SD	LED 218L	UNV	WALL 9' AFF	5.1W
EMR WP	EMERGENCY REMOTE LIGHT, SINGLE HEAD, ALUMINUM HOUSING, WET LOCATION, CONNECT TO EM1, MOUNT ON FLUSH-MOUNT, GASKETED BACKBOX SURE-LITES #SRM13WH	LED 109L	UNV	WALL 8' AFF	1.25W

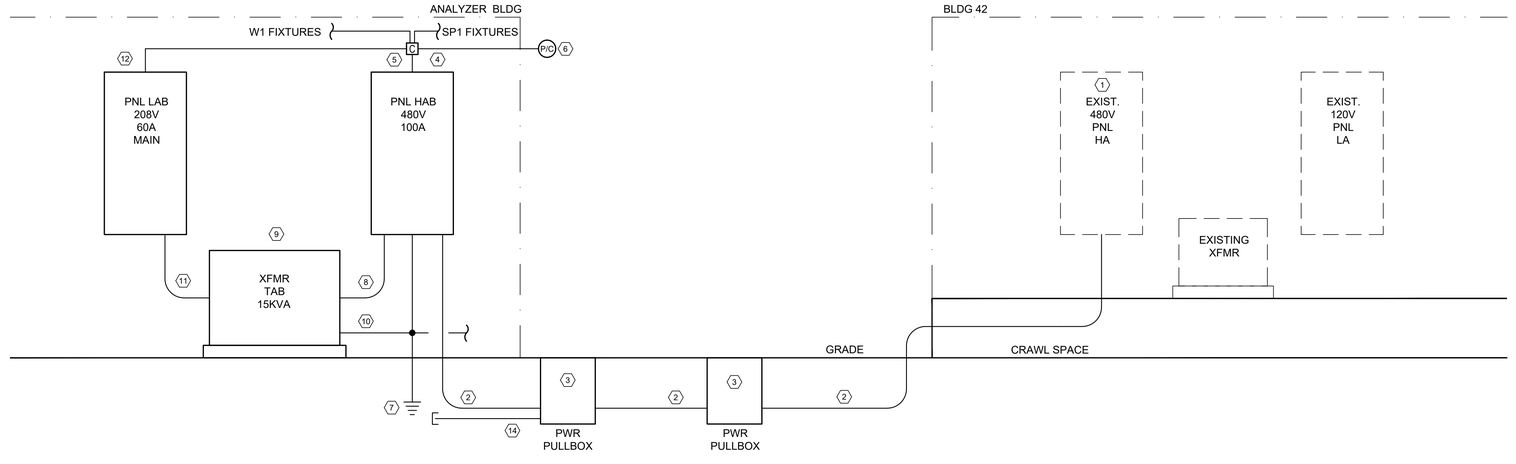
2 LIGHTING FIXTURE SCHEDULE
SCALE: N.T.S.

KEY NOTES:

1. EXISTING 480V, PANELBOARD TO REMAIN. PROVIDE (1) 100A/3P CIRCUIT BREAKER TO FEED NEW PANEL HAB.
2. 2"C: 3-1/0 AWG & 1#6 GND AND 2" SPARE CONDUIT WITH PULLSTRING.
3. POLYMER CONCRETE PULLBOX, 17"X30"X30" DEEP, SOLID BOTTOM, TIER 15 COVER LABELED POWER, WITH 2 BOLTS. PROVIDE OPENINGS AS REQUIRED FOR SIDE ENTRY OF CONDUITS.
4. 277/480V, 3P, 4W, PANELBOARD HAB IN ANALYZER BUILDING. SEE SCHEDULE ON SHEET E201.
5. 480V, 3-POLE, 30A PER POLE, ELECTRICALLY HELD LIGHTING CONTACTOR IN NEMA-1 ENCLOSURE. PROVIDE 120V COIL CONTROLLED BY PHOTOCELL.
6. 120V PHOTOCELL, WALL-MOUNTED ON EXTERIOR MINIMUM 8' HIGH, WITH ADJUSTABLE KNUCKLE AND SHIELD.
7. 3/4" PVC; 1#6 AWG BARE COPPER GROUND. ROUTE TO EXTERIOR OF BUILDING UNDERGROUND AND TERMINATE ONTO 3/4" X 10' COPPER BONDED DRIVER GROUND ROD. PROVIDE CAST IRON TEST WELL AND MECHANICAL LUG CONNECTION.
8. 1"C: 3#8 AWG & 1#10 GND
9. 480Δ-208Y/120V, 3ϕ, 15KVA, DRY-TYPE TRANSFORMER "TAB" ON HOUSEKEEPING PAD.
10. #6 BARE COPPER GROUND BONDED TO GROUNDING ELECTRODE CONDUCTOR.
11. 1.25"C: 4#6 AWG & 1#6 GND
12. 120/208V, 3P, 4W PANELBOARD LAB IN ANALYZER BUILDING. SEE SCHEDULE ON SHEET E201.
13. NEW PHOTOCELL FOR EXTERIOR, BUILDING-MOUNTED LIGHTING FIXTURES.
14. 2-2" SPARE CONDUITS FOR FUTURE CONNECTIONS FROM CENTRAL PLANT BUILDING; EXTEND 24" BEYOND PULLBOX AND CAP.



3 FOUR CONDUIT DUCT BANK DETAIL
SCALE: N.T.S.



4 POWER FEEDER DIAGRAM
SCALE: N.T.S.

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL FEEDER DIAGRAM AND SCHEDULES
Approved: Project Director
Project Title: Replace Underground Water Storage Tanks
Location: Overton Brooks VAMC
Issue Date: 11/17/2023
Checked: MKS
Drawn: GEM/SAN
Project Number: 667-22-118
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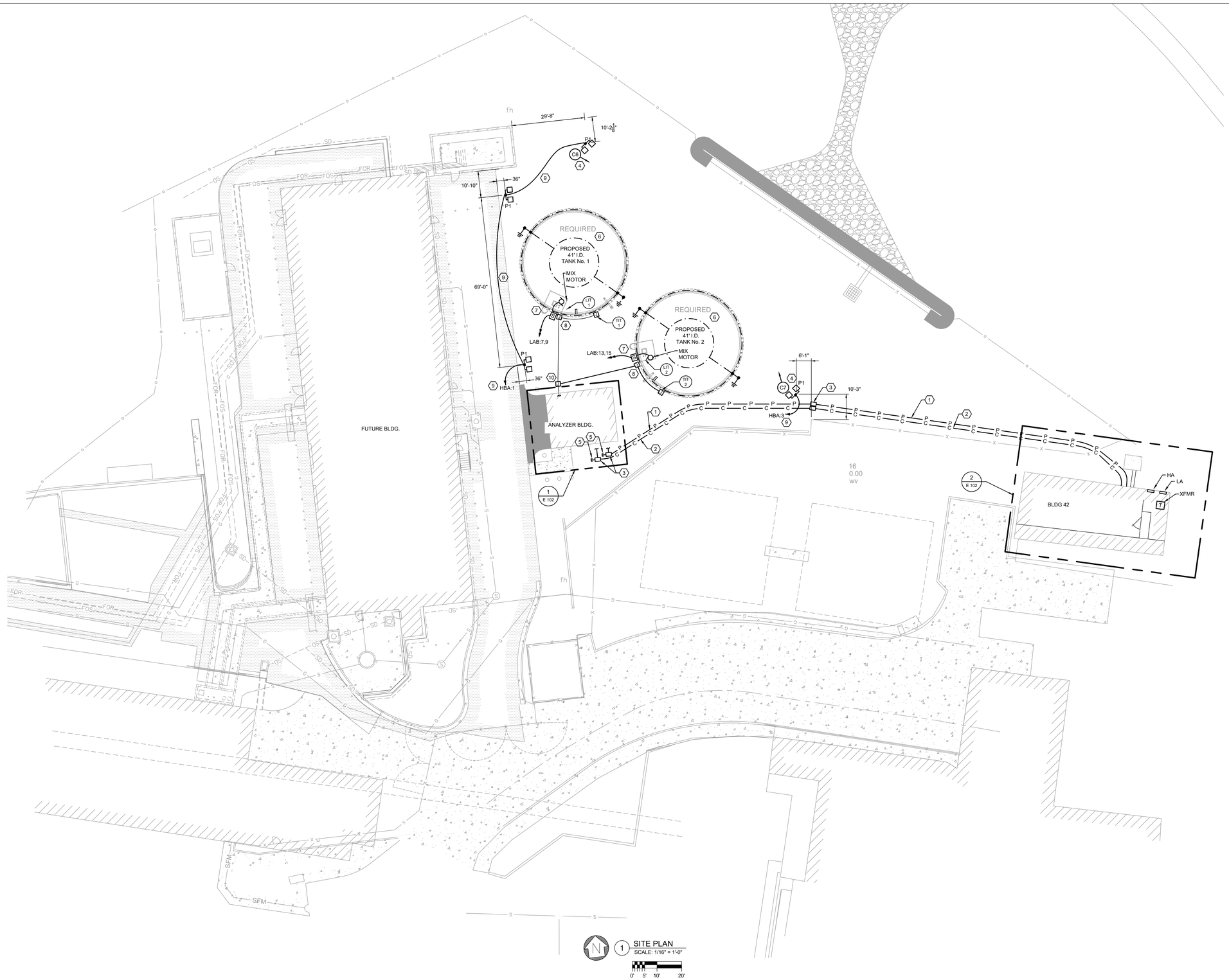

KEY NOTES:

1. NEW UNDERGROUND POWER FROM BLDG 49 TO NEW EQUIPMENT BUILDING.
2. NEW 2-2" UNDERGROUND COMMUNICATIONS CONDUIT FOR BAS FROM BUILDING 42 TO NEW EQUIPMENT BUILDING.
3. NEW POLYMER CONCRETE PULLBOXES FOR POWER AND COMMUNICATIONS, TIER 15, SIZED AS REQUIRED.
4. NEW 30-POLE LIGHT, WITH SURVEILLANCE CAMERA ROUGH IN AT 12 FEET ABOVE GRADE.
5. 2-2" SPARE CONDUITS FOR FUTURE CONNECTIONS FROM CENTRAL PLANT BUILDING; EXTEND 24" BEYOND PULLBOX AND CAP.
6. PROVIDE UL MASTER LABELED LIGHTNING PROTECTION SYSTEM. SYSTEM SHALL BE ADHERED TO THE TANK STRUCTURE WITHOUT THE USE OF ANY ANCHOR BOLTS OR PENETRATIONS INTO CONCRETE WALL. REFERENCE CIVIL DRAWINGS FOR LOCATIONS OF ALL METAL COMPONENTS TO BE BONDED AS REQUIRED.
7. 208V, 2P, NEMA-3R DISCONNECTING MEANS, LOCKABLE. MOUNT ON UNISTRUT FRAME AT BASE OF WATER TANK. HOMERUN 1" C; 2 #10 AWG AND #10G TO PANEL THROUGH MIX MOTOR CONTROLLER PROVIDED WITH MIXER. PROVIDE GRS CONDUIT UP SIDE OF TANK USING ADHERED SUPPORTS WITHOUT THE USE OF ANCHOR BOLTS OR PENETRATIONS INTO CONCRETE WALL OF TANK. PROVIDE FINAL CONNECTION TO SUBMERSIBLE MIXING MOTOR THROUGH FLANGE IN TOP OF TANK WITH FLEXIBLE CONDUIT.
8. PROVIDE WEATHERPROOF JUNCTION BOX AT BASE OF TANK, MOUNTED ON UNISTRUT FRAME. HOMERUN 2-1.25"C WITH SIGNAL CABLING AS REQUIRED IN ONE CONDUIT, AND PULLSTRING IN OTHER CONDUIT FOR FUTURE, TO ANALYZER BUILDING THROUGH PULLBOX AS SHOWN. ROUTE 1"C FROM JUNCTION BOX UNDERGROUND TO LOCATION OF TEMPERATURE INDICATING TRANSMITTER, WITH JUNCTION BOX AND FINAL FLEXIBLE CONNECTIONS TO TRANSMITTER MOUNTED ON THERMOWELD OR UNISTRUT FRAMING. PROVIDE GRS CONDUIT UP SIDE OF TANK USING ADHERED SUPPORTS WITHOUT THE USE OF ANCHOR BOLTS OR PENETRATIONS INTO CONCRETE WALL OF TANK. PROVIDE JUNCTION BOX AND FINAL FLEXIBLE CONNECTION TO LEVEL INDICATION TRANSMITTER INSTALLED IN FLANGED OPENING IN ROOF OF TANK.
9. 1"C; 2 #10 AWG AND #10G. 1"C; PULLSTRING FOR FUTURE VIDEO SURVEILLANCE.
10. NEW POLYMER CONCRETE PULLBOX, NOMINAL 13" X 24" X 18" DEEP, SOLID BOTTOM, TIER 15. PROVIDE 4-1.25"C FROM BOX INTO ANALYZER BUILDING AND STUBBED UP 24" AFF BELOW INSTRUMENTATION EQUIPMENT.

1 SITE PLAN
SCALE: 1/16" = 1'-0"
0' 5' 10' 20'

MCA Engineering & Construction — BATON ROUGE · NEW ORLEANS
JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

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11-10-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

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Project Title: Replace Underground Water Storage Tanks
Location: Overton Brooks VAMC
Issue Date: 11/17/2023
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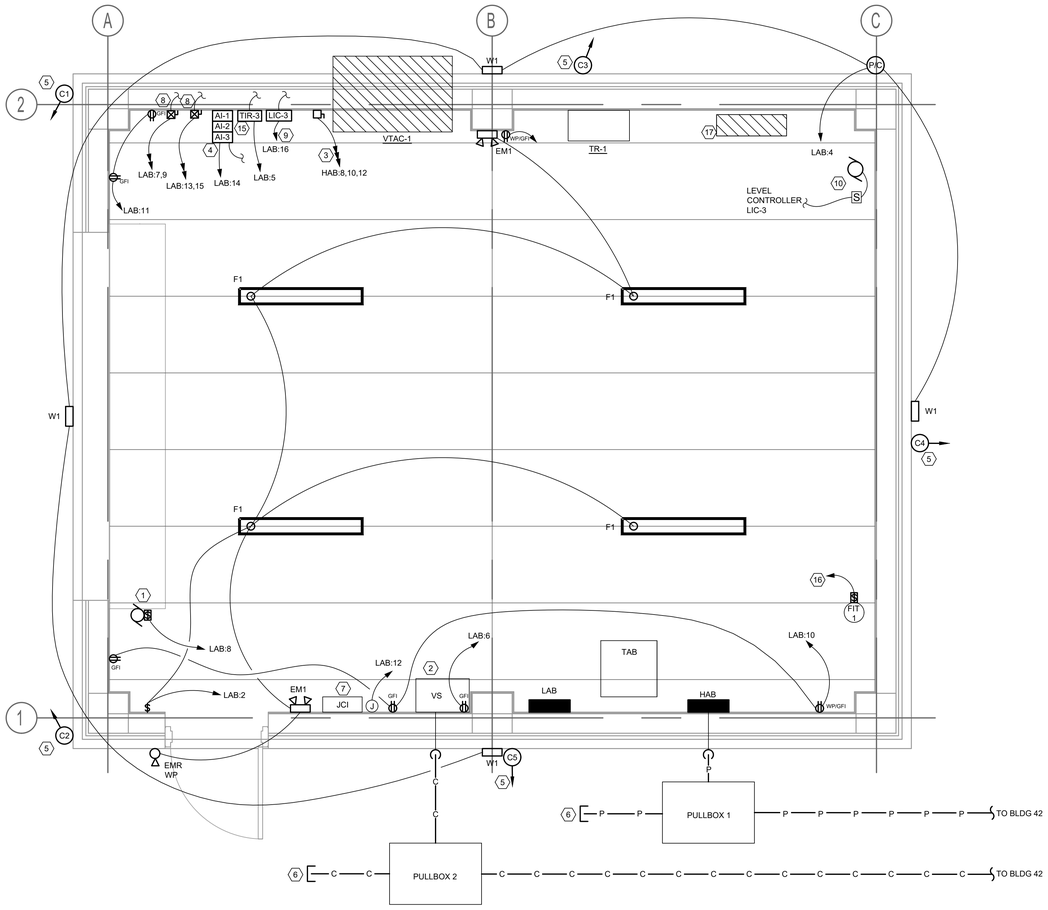
Project Number: 667-22-118
Building Number: N/A
Drawing Number: E 101

File Path: 6/14/2009 12:39:03 PM

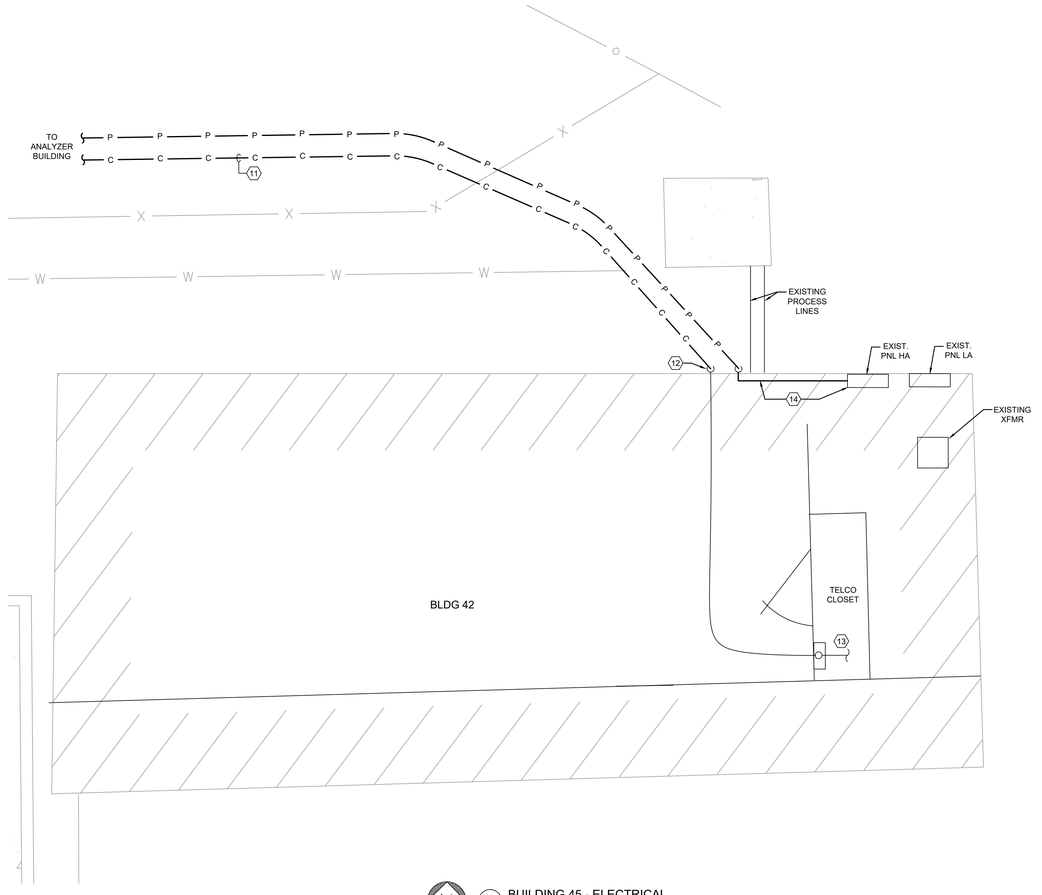
VA FORM 08 - 6231

KEY NOTES:

1. PROVIDE 120V, 1P DISCONNECTING MEANS AND FINAL CONNECTION TO OVERHEAD DOOR MOTOR. PROVIDE CONDUIT, WIRE AND FINAL CONNECTION FOR CONTROL STATION PROVIDED WITH OVERLOAD DOOR.
2. NEW WALL-MOUNT TELECOMMUNICATIONS RACK FOR VIDEO SURVEILLANCE EQUIPMENT AND NETWORK SWITCH PROVIDED BY OTHERS. PROVIDE 1.25"C CONNECTION FROM BACK PANEL TO JCI SUPERVISORY NODE.
3. PROVIDE 1/2"C; 3#12 & #12 GND TO A NEW 480V, 30A FDS WITH 15A FUSES FOR NEW VTAC-1. PROVIDE FINAL CONNECTIONS.
4. NEW WATER ANALYZER INDICATOR/CONTROLLER. PROVIDE QUAD RECEPTACLE AND CORD AND PLUG CONNECTION FOR EACH OF 3 UNITS. PROVIDE 1"C ROUTED OVERHEAD TO JCI PANEL WITH SIGNAL CABLES FOR MONITORING. PROVIDE CEILING MOUNTED CABLE TRAY OR J-HOOKS WITH SENSOR WIRING TO PH AND CHLORINE SENSORS. SEE SHEET E201 FOR FURTHER DETAILS.
5. MOUNT FLUSH MOUNTED BACK BOX FOR SURVEILLANCE CAMERA 10' AFF. PROVIDE CAT6 CABLE IN CONDUIT BACK TO VIDEO SURVEILLANCE RACK. LEAVE SLACK FOR TERMINATION BY OTHERS.
6. 2-2" SPARE CONDUITS FOR FUTURE CONNECTIONS FROM CENTRAL PLANT BUILDING; EXTEND 24" BEYOND PULLBOX AND CAP.
7. PROVIDE FINAL CONNECTIONS TO JCI PANEL (PROVIDED BY JCI) FOR POWER SUPPLY. PROVIDE RACEWAYS AND SIGNAL CONNECTIONS AS REQUIRED FOR P&ID EQUIPMENT SHOWN ON E201, AND SITE NETWORK THROUGH PULLBOX #2. OBTAIN ALL PRICING AND INSTALLATION COST FROM JOHNSON CONTROL AND INCLUDE IN SCOPE OF WORK.
8. NEW MIXING MOTOR CONTROLLER PROVIDED WITH TANK MIXING MOTOR, 1/2 HP, 208V, SINGLE PHASE. MOUNT ON CMU WALL HOMERUN 1/2"C; 2 #10 AWG AND #10G TO PANEL. PROVIDE 1"C; 2 #10AWG AND #10G ROUTED UNDERGROUND TO WATER TANK. SEE SHEET E101 FOR CONTINUATION. PROVIDE 3/4"C FROM CONTROLLER TO BAS PANEL FOR MONITORING OF PUMP STATUS.
9. NEW TANK LEVEL CONTROLLER IN NEMA-1 ENCLOSURE. EXTEND UNDERGROUND CONDUITS FROM RADAR SENSORS AT EACH TANK TO CONTROLLER AND TERMINATE 4-20mA SIGNALS. PROVIDE 120V POWER CONNECTION FOR CONTROLLER AND UTILIZE SAME CIRCUIT TO POWER MOTOR ACTUATED WATER VALVE. ROUTE 120V CIRCUIT THROUGH CONTROL RELAY TO VALVE.
10. APPROXIMATE LOCATION OF MOTORIZED WATER VALVE. COORDINATE EXACT LOCATION IN FIELD. PROVIDE TOGGLE SWITCH DISCONNECTING MEANS AND FINAL CONNECTIONS TO ACTUATOR USING FLEXIBLE NON-METALLIC CONDUIT. CONNECT TO LAB:16 THROUGH RELAY IN LIC-3.
11. 2-2" SCH 40 PVC UNDERGROUND CONDUITS, MAINTAIN MINIMUM 18" SEPARATION FROM POWER CONDUITS.
12. TURN UP CONDUITS ON EXTERIOR FACE OF BLDG 42. PROVIDE CONDULETS TO PENETRATE INTO CRAWL SPACE. CONTINUE CONDUITS IN CRAWL SPACE.
13. CORE THROUGH FLOOR AND ROUTE 2-2" CONDUITS UP WALL OF CLOSET, TERMINATE IN 24" SQUARE JUNCTION BOX. CONTINUE RS455 BAS CABLE TO EXISTING METASYS NODE.
14. TURN UP POWER CONDUITS ON EXTERIOR WALL, CAP SPARE FOR FUTURE USE. PROVIDE CONDULET TO PENETRATE INTO CRAWL SPACE. CONTINUE POWER CONDUIT IN CRAWL SPACE, CORE THROUGH FLOOR, AND PROVIDE CONDULET TO TERMINATE INTO EXISTING PANEL HA. PROVIDE NEW MATCHING BREAKER IN SPACE AVAILABLE IN PANEL.
15. NEW TEMPERATURE INDICATOR ENCLOSURE FOR TIR-1 AND TIR-2 INDICATORS FOR WATER TANKS. PROVIDE HARDWARE OR CORD+PLUG CONNECTIONS AS REQUIRED BY MANUFACTURER. SEE P&ID DRAWING SHEET E201 FOR DETAILS ON CONNECTIONS TO THERMOWELD SENSORS. PROVIDE 1"C TO JCI PANEL FOR MONITORING.
16. PROVIDE 120V, 1P DISCONNECTING MEANS AND FINAL CONNECTION TO FLOW TRANSMITTER. PROVIDE 1"C TO JCI PANEL FOR MONITORING OF FLOW RATE. SEE P&ID DRAWING SHEET E201 FOR FUT=RTHER DETAILS.
17. LOCATION OF CHLORINE AND PH SENSORS. COORDINATE WITH PIPING INSTALLERS AND PROVIDE CABLE TRAY OR J-HOOKS ON CEILING BACK TO CONTROLLERS. SEE P&ID DRAWING SHEET E201 AND NOTE 4 ON THIS SHEET FOR FURTHER DETAILS.



1 ANALYZER BUIDLING - ELECTRICAL
SCALE: 1/2" = 1'-0"
0' 6" 1' 2'



2 BUILDING 45 - ELECTRICAL
SCALE: 1/4" = 1'-0"
0' 1' 2' 3' 4' 5'

JOB NO:	VAA22015
BG:	801
PROJECT MANAGER:	BRIAN MILLER
DATE:	11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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PROFESSIONAL ENGINEER
11-10-23

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	ANALYZER BUILDING - ELECTRICAL
Project Title	Replace Underground Water Storage Tanks
Project Number	667-22-118
Building Number	N/A
Approved: Project Director	
Location	Overton Brooks VAMC
Issue Date	11/17/2023
Checked	MKS
Drawn	GEM/SAN
Drawing Number	E 102

File Path: 6/14/2009 12:39:03 PM

VA FORM 08 - 6231

NAME: HAB

LOCATION: ANALYZER BLDG

VOLTAGE (L-L): 480
VOLTAGE (L-N): 277
NUMBER OF PHASES: 3
NEUTRAL BUS: YES
FEED-THRU LUGS: NO

BUS: 100A
MAIN: 100A
KAIC: 14
NEMA 1 SURFACE

CKT #	ITEM	AMP RATE	# POLE	LEFT LOADING (VA) A	B	C	RIGHT LOADING (VA) A	B	C	# POLE	AMP RATE	ITEM	CKT #
1	NORTH-WEST SITE POLE LIGHTING	20	1	2208			4070						2
3	SOUTH SITE POLE LIGHTING	20	1		736			3154		3	40	15KVA XFMR TBA & PNL LBA	4
5	SPARE	20	1						2180				6
7	SPARE	20	1				2600			3	15	VTAC-1 POWER	8
9	SPACE	-	1					2600					10
11	SPACE	-	1						2600				12
13	SPACE	-	1							1	-	SPACE	14
15	SPACE	-	1							1	-	SPACE	16
17	SPACE	-	1							1	-	SPACE	18
				2208	736	0	6670	5754	4780				

	(VA)	(A)
TOTAL CONNECT LOAD:	20148	
PHASE A:	8878	32
PHASE B:	6490	23
PHASE C:	4780	17
PEAK DEMAND LOAD:	20148	
PHASE A:	8878	32
PHASE B:	6490	23
PHASE C:	4780	17

	LOAD	DVRSTY	DMND
1 LIGHTS	0	1.00	0
2 RECEPT <10KVA	2944	1.00	2944
RECEPT >10KVA	0	0.50	0
3 AHU BLOWER	0	1.00	0
4 CONDENSER	0	0.00	0
5 HEAT	7800	1.00	7800
6 HPU	0	1.00	0
7 WATER HEAT	0	0.50	0
8 EQUIPMENT	0	1.00	0
9 KITCHEN	0	0.50	0
10 ELEVATOR	0	1.00	0
11 MISC	0	0.50	0
12 SUBFEED DEM	9404	1.00	9404

NOTES:
* PROVIDE FINAL TYPEWRITTEN DIRECTORY INSIDE PANEL.
* PROVIDE ENGRAVED PLASTIC LABEL WITH PANEL DESIGNATION ON PANEL COVER.
* PROVIDE INTEGRAL TVSS - 40 KA

NAME: LAB

LOCATION: ANALYZER BLDG

VOLTAGE (L-L): 208
VOLTAGE (L-N): 120
NUMBER OF PHASES: 3
NEUTRAL BUS: YES
FEED-THRU LUGS: NO

BUS: 100A
MAIN: 60A
KAIC: 10
NEMA 1 SURFACE

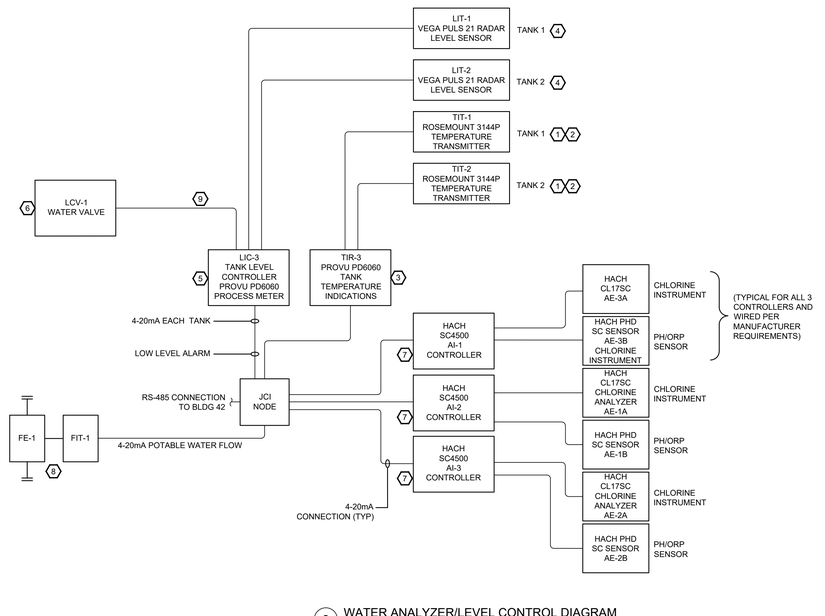
CKT #	ITEM	AMP RATE	# POLE	LEFT LOADING (VA) A	B	C	RIGHT LOADING (VA) A	B	C	# POLE	AMP RATE	ITEM	CKT #
1	TANK RECEPTACLE	20	1	200			341			1	20	INTERIOR LIGHTS	2
3	TANK RECEPTACLE	20	1		200			264		1	20	EXTERIOR WALL PACKS	4
5	TIR-3	20	1			100			1000	1	20	IT EQUIPMENT	6
7	MIXING PUMP	15	2	835			1500			1	20	ROLL-UP DOOR	8
9					835			720		1	20	RECEPTACLES	10
11	RECEPTACLES	20	1			720			360	1	20	JCI POWER SUPPLY	12
13	MIXING PUMP	15	2	835			360			1	20	ANALYZER CONTROLLERS	14
15					835			300		1	20	LIC-3 / VALVE ACTUATOR	16
17	SPARE	20	1							1	20	SPARE	18
19	SPACE	-	-							1	-	SPACE	20
21	SPACE	-	-							1	-	SPACE	22
23	SPACE	-	-							1	-	SPACE	24
25	SPACE	-	-							1	-	SPACE	26
27	SPACE	-	-							1	-	SPACE	28
29	SPACE	-	-							1	-	SPACE	30
				1870	1870	820	2201	1284	1360				

	(VA)	(A)
TOTAL CONNECT LOAD:	9404	
PHASE A:	4070	34
PHASE B:	3154	26
PHASE C:	2180	18
PEAK DEMAND LOAD:	9404	
PHASE A:	4070	34
PHASE B:	3154	26
PHASE C:	2180	18

	LOAD	DVRSTY	DMND
1 LIGHTS	605	1.00	605
2 RECEPT <10KVA	1840	1.00	1840
RECEPT >10KVA	0	0.50	0
3 AHU BLOWER	0	1.00	0
4 CONDENSER	0	0.00	0
5 HEAT	0	1.00	0
6 HPU	0	1.00	0
7 WATER HEAT	0	0.50	0
8 EQUIPMENT	5839	1.00	5839
9 KITCHEN	0	0.50	0
10 ELEVATOR	0	1.00	0
11 MISC	1120	1.00	1120
12 SUBFEED DEM	0	1.00	0

NOTES:
* PROVIDE FINAL TYPEWRITTEN DIRECTORY INSIDE PANEL.
* PROVIDE ENGRAVED PLASTIC LABEL WITH PANEL DESIGNATION ON PANEL COVER.
* PROVIDE INTEGRAL TVSS - 40 KA

1 ELECTRICAL SCHEDULES
SCALE: N.T.S.



2 WATER ANALYZER/LEVEL CONTROL DIAGRAM
SCALE: N.T.S.

KEY NOTES:

1. THE TANK TEMPERATURE TRANSMITTERS ARE DUAL ELEMENT ROSEMOUNT # 3144PD1A2NAB5M5G1 OR EQUAL PROVIDE TWO RUNS OF ¾" SCH 80 PVC CONDUIT UNDERGROUND BETWEEN THE ANALYZER BUILDING TO A CONVENIENT LOCATION IN CLOSE PROXIMITY TO THE TEMPERATURE TRANSMITTER LOCATION AT TANK 1 AND TANK 2 .AT THIS POINT INSTALL A JUNCTION BOX 18 INCHES ABOVE GROUND. FROM THIS JUNCTION BOX INSTALL THE NECESSARY CONDUIT AND LIQUID TIGHT FLEXIBLE CONDUIT TO MAKE CONNECTION TO THE TANK TEMPERATURE TRANSMITTER. A SECOND ¾" RGS CONDUIT WILL BE INSTALLED FROM THIS JUNCTION BOX UP TO THE VEGA RADAR LEVEL TRANSMITTER LOCATED ON TOP OF EACH TANK. (SEE KEY NOTE 4). INSTALL TWO SINGLE PR. 18GA SHIELDED TWISTED PR. INSTRUMENT CABLE FROM EACH JUNCTION BOX TO THE ANALYZER BUILDING. ONE CABLE WILL BE ASSIGNED TO THE TEMPERATURE TRANSMITTER AND ONE TO THE LEVEL TRANSMITTER. ONE OF THE TWO ¾" PVC CONDUITS WILL BE IDENTIFIED AS SPARE.
2. THERMOWELL INSERTION LENGTH TO BE 36". CUSTOM LENGTHS THERMOWELLS WILL BE PROVIDED BY DAILY THERMETRICS CORPORATION HOUSTON TX. (713) 780-8600 SALES@DAILYINST.COM OR APPROVED EQUAL.
3. THE TEMPERATURE INDICATOR TIR-003 IS A PRECISION DIGITAL LARGE DISPLAY PD2-6060, WITH DUAL 4-20 MA INPUTS. INSTALL AND TERMINATE THE TWO ANALOG INSTRUMENT CABLES INSTALLED VIA THE SCH 80 PVC CONDUIT INTO TIR-003. TWO 4-20 MA TEMPERATURE OUTPUTS ALONG WITH LOW TEMPERATURE RELAY ALARMS FOR EACH TANK, WILL BE PROVIDED FROM TI-003 TO THE JOHNSON CONTROL JIC NODE. PROVIDE AND INSTALL THE NECESSARY EMT CONDUIT AND CABLES FROM TIR-003 TO THE JOHNSON CONTROLS JIC NODE FOR THESE ALARMS AND TEMPERATURE INDICATIONS. IN ADDITION TO RELAY AND ANALOG OUTPUTS THE PD2-6060 HAS RS485 CAPABILITIES.
4. TANK LEVELS FOR TANK 1 AND TANK 2 ARE MONITORED BY VEGA PLUS 21 RADAR LEVELS LIT-001 AND LIT-002 PROVIDE ½" RGS CONDUIT FROM EACH RADAR LEVEL TRANSMITTER TO A JUNCTION BOX LOCATED AT GROUND LEVEL. SEE KEY NOTE 1. INSTALL ONE 18GA SHIELDED TWISTED SINGLE PR. INSTRUMENT CABLE FROM EACH LEVEL DEVICE TO THE PRECISION DIGITAL PD-6060 LEVEL CONTROLLER (LIC-003). LOCATED IN THE ANALYZER BUILDING. PROVIDE AND INSTALL THE NECESSARY EMT CONDUIT AND CABLES FROM LIC-003 TO THE JOHNSON CONTROLS JIC NODE. TERMINATE AS REQUIRED.
5. TANK LEVEL CONTROLLER LIC-3, LOCATED IN THE ANALYZER BUILDING, IS A DUAL INPUT PRECISION DIGITAL PD-6060 PID CONTROLLER WHICH UTILIZES THE TWO TANK LEVELS TO CONTROL THE ON-OFF VALVE LCV-001. THE CONTROLLER WILL OPEN THE VALVE BASED ON A CONTROLLER PROGRAMED LOW LEVEL AND CLOSE THE VALVE UPON REACHING THE PROGRAMMED HI LEVEL, THEREBY MAINTAINING THE TWO TANK LEVELS. WITH BOTH TANKS 1 AND 2 IN SERVICE THE CONTROLLER WILL BE PROGRAMED TO AVERAGE THE TWO TANKS FOR LEVEL CONTROL. IF AT ANY TIME ONLY ONE TANK IS IN SERVICE, THE CONTROLLER WILL BE PROGRAMED TO PROVIDE LEVEL CONTROL FROM THE RADAR LEVEL ON THE TANK THAT'S IN SERVICE. THE LEVEL CONTROLLER, LIC-003 WILL BE PROVIDED WITH A RELAY EXPANSION MODULE # PDA-1004. THIS MODULE WILL PROVIDE THE ADDITIONAL ALARM RELAY OUTPUTS REQUIRED FOR TANK 1 AND TANK 2 LOW LEVEL (SET AT 45%) AND LOW LOW-LEVEL (SET AT 40%). IN ADDITION TO THE TANK LEVEL ALARMS THE CONTROLLER ALSO SUPPLIES TWO 4-20 MA OUTPUTS WHICH PROVIDES TANK LEVEL MONITORING VIA THE JOHNSON CONTROL JIC NODE. PROVIDE AND INSTALL THE NECESSARY EMT CONDUIT AND CABLES FROM LIC-003 TO THE JOHNSON CONTROLS JIC NODE FOR THESE ALARMS AND TEMPERATURE INDICATIONS IN ADDITION TO RELAY AND ANALOG OUTPUTS THE PD-6060 CONTROLLER HAS RS485 CAPABILITIES.
6. LCV-1 IS AN ON-OFF VALVE LOCATED ON THE METER RUN AT THE NORTHEAST CORNER INSIDE THE ANALYZER BUILDING AND IS CONTROLLED FROM LIC-003 VIA A 120VAC SOURCED RELAY. INSTALL THE NECESSARY EMT CONDUIT FROM LIC-3 TO VALVE LCV-1 PROVIDE 4 # 16 THHN STRANDED COPPER CONDUCTORS BLACK, RED, WHITE AND GREEN TERMINATE AS REQUIRED.
7. THERE WILL BE THREE HACH CL17SC4500 CONTROLLERS AI-1,2 AND 3 INSTALLED IN THE ANALYZER BUILDING. A 120VAC CIRCUIT WILL BE REQUIRED FROM THE LOCAL POWER DISTRIBUTION PANEL FOR EACH CONTROLLER. THESE CIRCUITS WILL BE ASSIGNED IN THE LOCAL POWER PANEL LOCATED IN THE ANALYZER BUILDING, SEE ELECTRICAL DRAWING E-201. PROVIDE AND INSTALL THE NECESSARY EMT CONDUIT AND ELECTRICAL CONDUCTORS TO PROVIDE THIS POWER. EACH OF THE THREE HACH CONTROLLERS WILL RECEIVE TWO ANALYZER SIGNALS, ONE WILL BE FROM A HACH CL17SC CHLORINE ANALYZER AND THE SECOND ONE WILL BE FROM A HACH DIFFERENTIAL PH SENSOR. ALL OF THE ANALYZERS RESIDE IN THE ANALYZER BUILDING. THE CHLORINE ANALYZER REQUIRES A 12VDC POWER WHICH IS SUPPLIED BY THE CONTROLLER VIA A VENDOR SUPPLIED CABLE. SAMPLE CYCLE TIME FOR THIS ANALYZER IS 2.5 MINUTES. INSTALL THE NECESSARY EMT CONDUIT AND CABLE. TERMINATE AS REQUIRED. THE PH SENSOR PROVIDES AN ONLINE REAL TIME PROCESS MEASUREMENT. THIS SENSOR REQUIRES A VENDOR PROVIDED 4 CONDUCTOR SHIELDED CABLE BETWEEN THE SENSOR AND THE HACH CONTROLLER. INSTALL THE REQUIRED EMT CONDUIT AND CABLE. TERMINATE AS REQUIRED. CONTROLLER AI-3 WILL RECEIVE INPUTS FROM CHLORINE ANALYZER AE-1 AND PH ANALYZER AE-2. THESE TWO ANALYZERS MONITOR A SLIP STREAM TAKEN FROM THE 6 INCH INCOMING DOMESTIC WATER LINE. CONTROLLER AI-1 WILL RECEIVE INPUTS FROM CHLORINE ANALYZER AE-1A AND PH ANALYZER AE-1B. THESE TWO ANALYZERS MONITOR A SLIP STREAM TAKEN FROM TANK # 1'S 10-INCH OUTLET LINE. CONTROLLER AI-2 WILL RECEIVE INPUTS FROM CHLORINE ANALYZER AE-2A AND PH ANALYZER AE-2B. THESE TWO ANALYZERS MONITOR A SLIP STREAM TAKEN FROM TANK # 2'S 10-INCH OUTLET LINE.
8. FE-1 AND FIT-1 WILL BE INSTALLED ON THE INCOMING 6-INCH DOMESTIC WATER LINE. THIS METER RUN IS INSTALLED ALONG THE EAST WALL INSIDE THE ANALYZER BUILDING. FIT-1 WILL BE REMOTELY MOUNTED AND WILL REQUIRE A FACTORY CABLE BETWEEN THE FLOW METER FE-1 AND THE TRANSMITTER FIT-1. FIT-1 WILL REQUIRE 120VAC POWER FROM THE ANALYZER BUILDING POWER DISTRIBUTION PANEL. A 4-20 MA FLOW SIGNAL WILL ALSO BE REQUIRED FROM THE TRANSMITTER TO THE JOHNSON CONTROL NODE. PROVIDE AND INSTALL TWO SEPARATE EMT CONDUIT RUNS ONE FOR POWER AND ONE SIGNAL PROVIDE #12 THHN STRANDED COPPER CONDUCTORS FOR POWER AND ONE 18GA SINGLE PR. TWISTED SHIELDED INSTRUMENT CABLE FOR THE 4-20 MA FLOW SIGNAL TO THE JOHNSON CONTROL NODE TERMINATE AS REQUIRED.
9. 1/2"C; 3#12 AWG & #12G OPEN/CLOSE CONTROL FOR WATER VALVE. CONNECT TO RELAY OUTPUTS IN LEVEL CONTROLLER.

INSTRUMENT SCHEDULE

CONTROLS	SYMBOL	DESCRIPTION	MANUFACTURE MODEL NUMBER	LOCATION	MEASURES	SIGNAL TO
LEVEL						
	LIT-1	LEVEL TRANSMITTER	VEGAPULS 21	TANK 1, ROOF	WATER LEVEL TANK 1	LIC-3
	LIT-2	LEVEL TRANSMITTER	VEGAPULS 21	TANK 2, ROOF	WATER LEVEL TANK 2	LIC-3
	LAL-1	LEVEL ALARM LOW		LIC-3 (ANALYZER ROOM)	WATER LEVEL TANK 1	BAS
	LALL-1	LEVEL ALARM LOW LOW		LIC-3 (ANALYZER ROOM)	WATER LEVEL TANK 1	BAS
	LAL-2	LEVEL ALARM LOW		LIC-3 (ANALYZER ROOM)	WATER LEVEL TANK 2	BAS
	LALL-2	LEVEL ALARM LOW LOW		LIC-3 (ANALYZER ROOM)	WATER LEVEL TANK 2	BAS
	LIC-3	PID CONTROLER	PRECISION DIGITAL PROVU PD 6060	ANALYZER ROOM	WATER LEVEL OF TANK SELECTED	LCV-1
	LI-1	TANK LEVEL INDICATION		LIC-3	WATER LEVEL TANK 1	BAS
	LI-2	TANK LEVEL INDICATION		LIC-3	WATER LEVEL TANK 2	BAS
	LCV-1	6" ON/OFF VALVE	ASSURED AUTOMATION K4 ELECTRIC ACTUATOR	ANALYZER ROOM	WATER LEVEL	SIGNAL FROM LIC-3
FLOW						
	FE-1	6" FLOW ELEMENT	ROSEMOUNT 8705 MAGNETIC FLOW METER	ANALYZER ROOM	DOMESTIC WATER FLOW TO TANKS	FIT-1
	FIT-1	FLOW INDICATING TRANSMITTER	ROSEMOUNT 8712 FLOW TRANSMITTER	ANALYZER ROOM	DOMESTIC WATER FLOW TO TANKS	BAS
ANALYZER						
	AE-1A	CHLORINE ANALYZER	HACH CL17SC COLORIMETRIC	ANALYZER ROOM	WATER QUALITY FROM TANK 1	HACH AI-1
	AE-1B	PH ANALYZER	HACH DIFFERENTIAL PH SENSOR PDD2P1	ANALYZER ROOM	WATER QUALITY FROM TANK 1	HACH AI-1
	AE-2A	CHLORINE ANALYZER	HACH CL17SC COLORIMETRIC	ANALYZER ROOM	WATER QUALITY FROM TANK 2	HACH AI-2
	AE-2B	PH ANALYZER	HACH DIFFERENTIAL PH SENSOR PDD2P1	ANALYZER ROOM	WATER QUALITY FROM TANK 2	HACH AI-2
	AE-3A	CHLORINE ANALYZER	HACH CL17SC COLORIMETRIC	ANALYZER ROOM	WATER QUALITY FROM UTILITY	HACH AI-3
	AE-3B	PH ANALYZER	HACH DIFFERENTIAL PH SENSOR PDD2P1	ANALYZER ROOM	WATER QUALITY FROM UTILITY	HACH AI-3
	AI-1	ANALYZER INDICATION	HACH DIGITAL CONTROLER SC4500	ANALYZER ROOM	CHLORINE AND PH LEVEL TANK 1	BAS
	AI-2	ANALYZER INDICATION	HACH DIGITAL CONTROLER SC4500	ANALYZER ROOM	CHLORINE AND PH LEVEL TANK 2	BAS
	AI-3	ANALYZER INDICATION	HACH DIGITAL CONTROLER SC4500	ANALYZER ROOM	CHLORINE AND PH LEVEL UTILITY	BAS
TEMPERATURE						
	TW-1	THERMOWELL	TBD	TANK 1		
	TW-2	THERMOWELL	TBD	TANK 2		
	TE-1	TEMPERATURE ELEMENT	TBD	DISCHARGE PIPING TANK 1	TANK DISCHARGE TEMPERATURE	TIT-1
	TE-2	TEMPERATURE ELEMENT	TBD	DISCHARGE PIPING TANK 2	TANK DISCHARGE TEMPERATURE	TIT- 2
	TIT-1	TEMPERATURE TRANSMITTER	ROSEMOUNT MODEL YTA610J2A2DDD	DISCHARGE PIPING TANK 1	DISCHARGE WATER TEMP TANK 1	TIR-3
	TIT-2	TEMPERATURE TRANSMITTER	ROSEMOUNT MODEL YTA610J2A2DDD	DISCHARGE PIPING TANK 2	DISCHARGE WATER TEMP TANK 2	TIR-3
	TIR-1	TEMPERATURE INDICATOR/RECORDER	PRECISION DIGITAL PROVU PD 6060	ANALYZER ROOM	DISCHARGE WATER TEMPERATURE	BAS
	TIR-2	TEMPERATURE INDICATOR/RECORDER	PRECISION DIGITAL PROVU PD 6060	ANALYZER ROOM	DISCHARGE WATER TEMPERATURE	BAS
	TAH-1	TEMPERATURE HIGH ALARM		TANK 1	TANK DISCHARGE TEMP TR-1	BAS
	TAH-2	TEMPERATURE HIGH ALARM		TANK2	TANK DISCHARGE TEMP TR-2	BAS

3 INSTRUMENT SCHEDULE
SCALE: N.T.S.

JOB NO: VAA22015
BG: 801
PROJECT MANAGER: BRIAN MILLER
DATE: 11/17/2023

100% CONSTRUCTION DOCUMENTS - IFC

Revisions:	Date:

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M. KIMBALL SCHLAFLY
REG. No. 27699
REGISTERED
PROFESSIONAL ENGINEER
11/17/23

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SCHEDULES
Project Title: Replace Underground Water Storage Tanks
Project Number: 667-22-118
Building Number: N/A
Approved: Project Director
Location: Overton Brooks VAMC
Issue Date: 11/17/2023
Checked: MKS
Drawn: GEM/SAN
Drawing Number: E 201

File Path: 6/14/2009 12:39:03 PM
VA FORM 08 - 6231