

UINTAH CITY

BYBEE TANK REPLACEMENT PROJECT

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CIVIL

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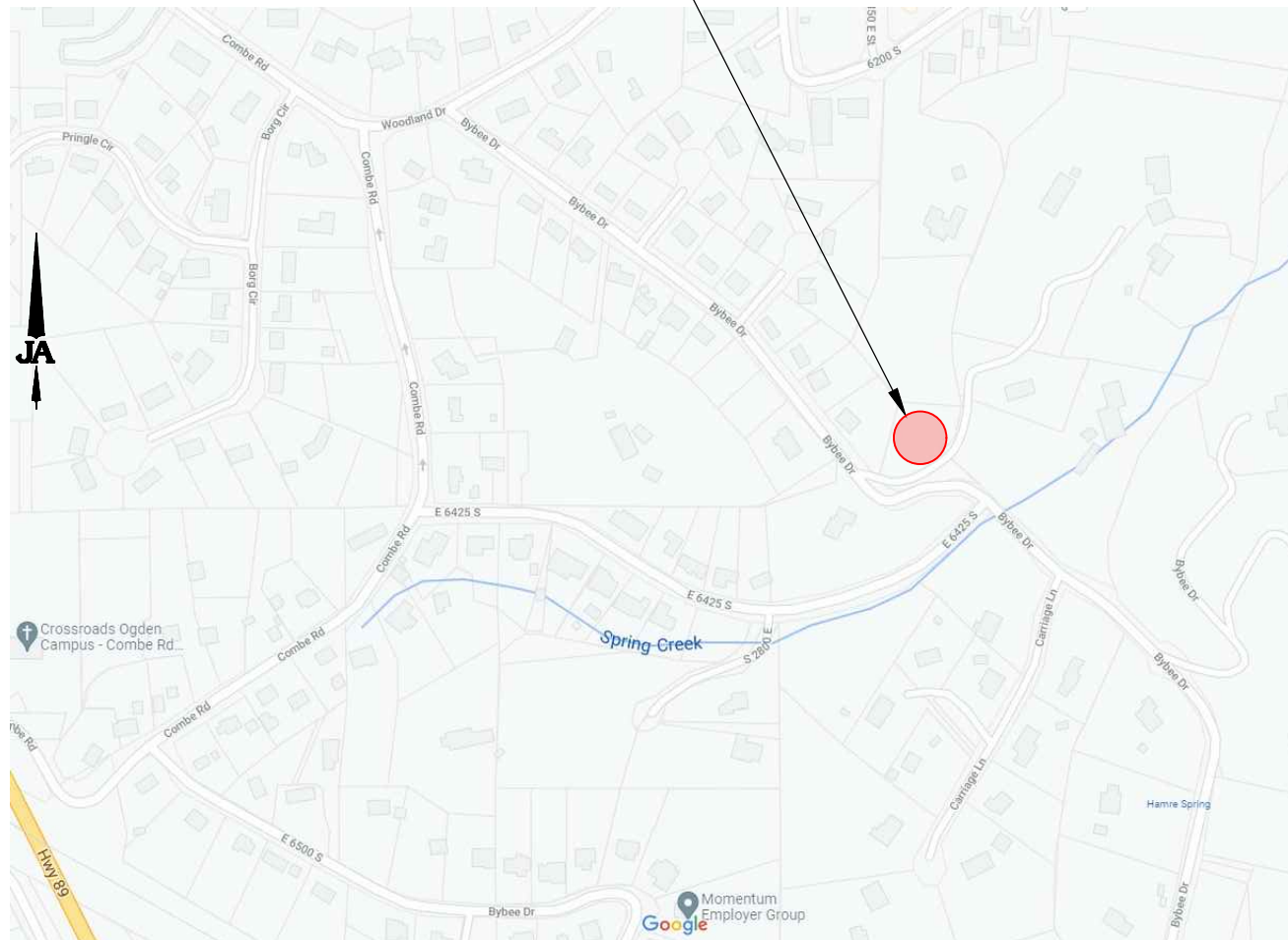
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PROJECT LOCATION

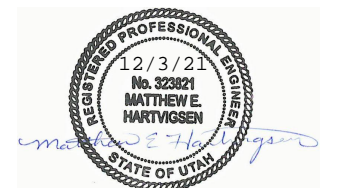


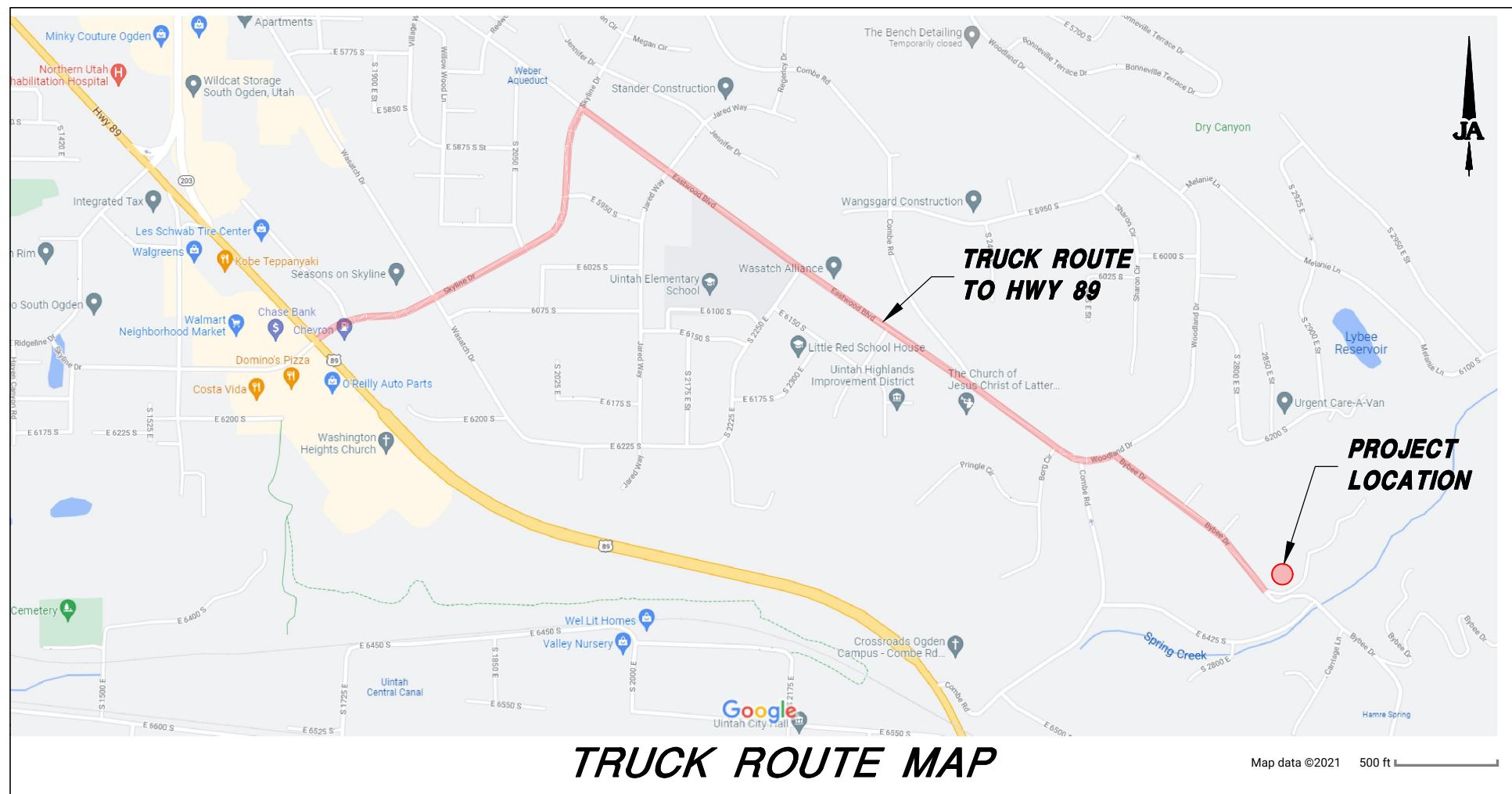
LOCATION MAP



6080 FASHION POINT DRIVE
South Ogden, Utah 84403
(801) 476-9767
www.jonescivil.com

DECEMBER 2021 - BID SET





TRUCK ROUTE MAP

GENERAL NOTES:

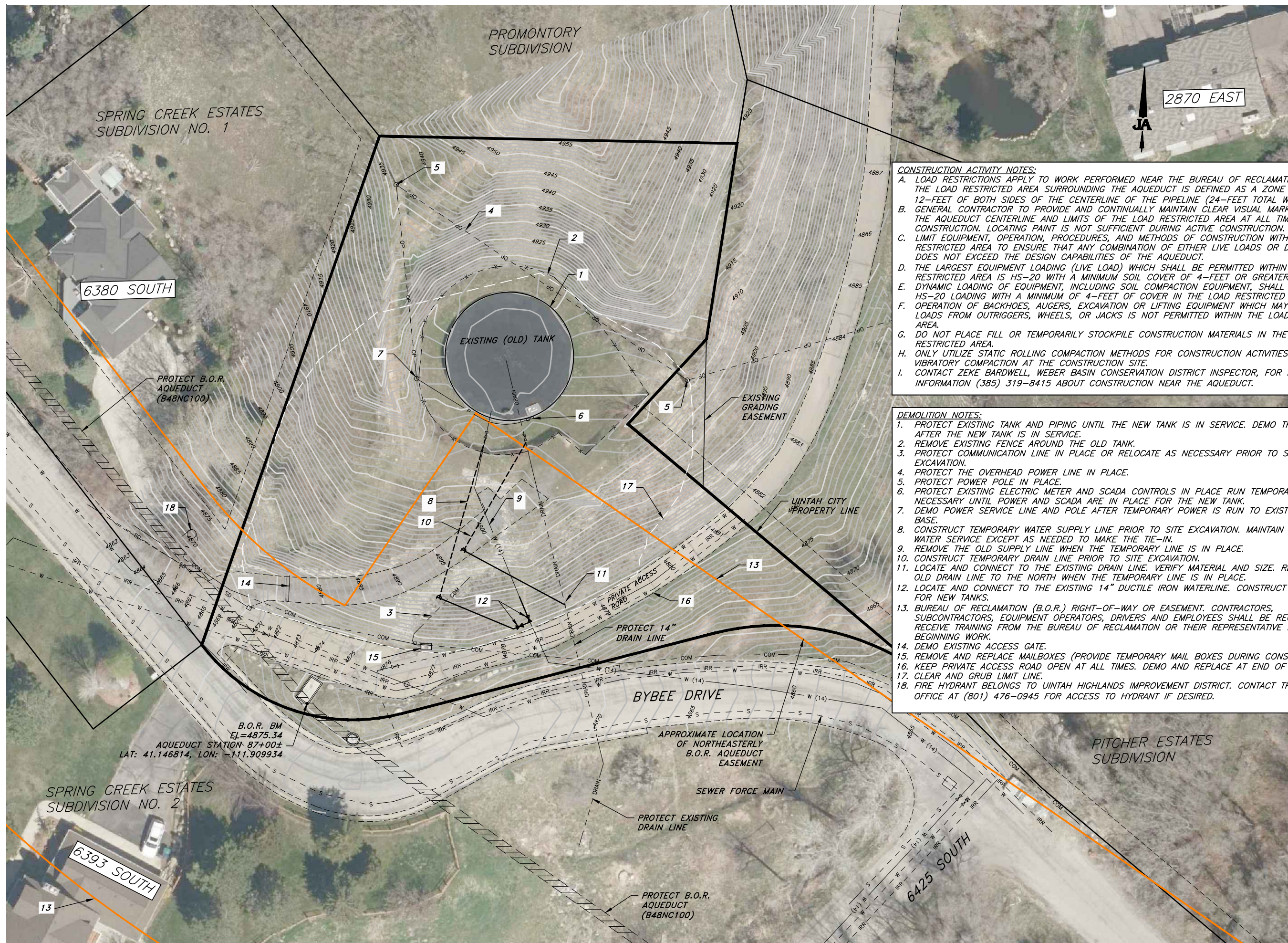
- WEBER COUNTY HAS COORDINATED A TRUCK ROUTE FOR THIS PROJECT. MATERIAL TAKEN TO AND FROM THE SITE WILL NEED TO FOLLOW THIS ROUTE.
- THE SITE SHOULD BE EXCAVATED AND CLEARED TO CREATE A STAGING AREA NEXT TO THE FOOTPRINT OF THE NEW TANK THAT WILL ACCOMMODATE MATERIAL STORAGE, CRANE, AND PUMP TRUCK AS NEEDED.
- THE CONTRACTOR IS DISCOURAGED FROM UTILIZING THE PUBLIC RIGHT-OF-WAY FOR PARKING.
- HS20 LOADING CANNOT BE EXCEEDED FOR THE ROADS AND THE WEBER AQUEDUCT. SEE THE "CONSTRUCTION ACTIVITY NOTES" FOR MORE INFORMATION.
- THE GENERAL CONTRACTOR SHALL OBTAIN A STORM WATER CONSTRUCTION ACTIVITY PERMIT FROM WEBER COUNTY. YOU MAY CONTACT BRAD CRAGUN WITH WEBER COUNTY AT (801) 399-8054 WITH ANY QUESTIONS.
- THIS PROJECT INCLUDES THE CONSTRUCTION OF TWO NEW TANKS AND THE DEMOLITION OF THE EXISTING TANK. TANKS ARE CAST-IN-PLACE REINFORCED CONCRETE STRUCTURES.
- PIPE SHALL BE DUCTILE IRON CL-51 MECHANICAL JOINT UNLESS SPECIFIED OTHERWISE. ALL PIPE JOINTS SHALL INCLUDE MEGA-LUGS INCLUDING THE TANK DRAIN LINES.
- DISTURBED SOIL SHALL BE STABILIZED AND RE-VEGETATED.
- DURING CONSTRUCTION PROVIDE STORM WATER POLLUTION PREVENTION BMP'S TO PREVENT THE DISCHARGE OF POLLUTANTS INTO OFFSITE STORM WATER FACILITIES.
- THE EXISTING RESERVOIR CANNOT BE REMOVED UNTIL ONE OF THE NEW RESERVOIRS HAS BEEN COMPLETED AND PLACED ONLINE.
- THE PRIVATE ACCESS ROAD MUST BE MAINTAINED AND LEFT OPEN DURING ALL PHASES OF CONSTRUCTION.
- PROPERTY CORNERS HAVE BEEN SET BY REEVE AND ASSOCIATES, INC (SEE RECORD OF SURVEY JULY 2020). PROTECT PROPERTY MARKERS (EXCEPTION-PROPERTY CORNER NEAR TANK 2).
- SEE GEOTECHNICAL REPORT FOR SOIL CONDITIONS (CHRISTENSEN GEOTECHNICAL REPORT NO. 226-001, MAY 16, 2020).
- SEE SURFACE FAULT RUPTURE HAZARD EVALUATION FOR GEOLOGIC CONDITIONS (WESTERN GEOLOGIC & ENVIRONMENTAL, LLC REPORT NO. 5379, APRIL 29, 2020).
- BUREAU OF RECLAMATION (B.O.R.) RIGHT-OF-WAY OR EASEMENTS ARE PRESENT ON THE SITE. CONTRACTORS, SUBCONTRACTORS, EQUIPMENT OPERATORS, DRIVERS AND EMPLOYEES SHALL BE REQUIRED TO RECEIVE TRAINING FROM THE BUREAU OF RECLAMATION OR THEIR REPRESENTATIVE PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE SITE AND SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
- THE UTAH CITY PUBLIC WORKS STANDARDS SHALL APPLY UNLESS SPECIFICALLY NOTED OTHERWISE. ALL WORK SHALL CONFORM TO AT LEAST THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE (LATEST EDITION) AND OTHER REGULATORY AGENCIES EXERCISING AUTHORITY OVER ANY PORTION OF THE WORK WHERE APPLICABLE.

- SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES, TYPICAL DETAILS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REFER TO THE TECHNICAL SPECIFICATIONS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE TEMPORARY ERECTION OF BRACING AND SHORING AS REQUIRED FOR STABILITY OF STRUCTURES AND EXCAVATIONS DURING ALL PHASES OF CONSTRUCTION.
- LOCAL PRIMARY HORIZONTAL AND VERTICAL CONTROL AND CONSTRUCTION STAKING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL OBTAIN COUNTY PERMITS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL TEMPORARY WATER, POWER, OR OTHER UTILITIES AS REQUIRED TO COMPLETE CONSTRUCTION OF THE PROJECT AS DETAILED.
- THE WATER SUPPLIER IN THE AREA IS UTAH HIGHLANDS IMPROVEMENT DISTRICT.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ALL FLAGGING, BARRICADES AND TRAFFIC CONTROL AS MAY BE NECESSARY TO ENSURE SAFETY TO THE GENERAL PUBLIC DURING CONSTRUCTION. A TRAFFIC CONTROL PLAN SHALL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE COUNTY.
- THE CONTRACTOR SHALL HOLD A VALID UTAH CONTRACTOR'S LICENSE THROUGHOUT THE CONTRACT PERIOD.
- THE CONTRACTOR SHALL MAINTAIN CLEAN CONSTRUCTION AREAS. ALL DEBRIS, RUBBISH AND TRASH MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE PURPOSE OF RECORDING ALL ACTUAL MEASUREMENTS AND DETAILS TO BE USED IN THE PREPARATION OF "AS-BUILTS" OR "RECORD" DRAWINGS. FINAL PAYMENT WILL NOT BE RELEASED UNTIL "AS-BUILTS" OR "RECORD" DRAWINGS HAVE BEEN SUBMITTED TO AND ACCEPTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT BLUE STAKES AT 1-800-662-4111 TO HAVE UNDERGROUND UTILITIES MARKED IN THE FIELD PRIOR TO ALL EARTHWORK OPERATIONS.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR REUSE ON FILL SLOPES, AND DISTURBED NON-TRAFFIC AREAS.
- SEE THE PROJECT SPECIFICATIONS FOR GRADATION AND COMPACTION REQUIREMENTS FOR BEDDING, BACKFILL, BASE AND CRUSHED ROCK SURFACE COURSES.
- ALL TRENCHES AND EXCAVATIONS SHALL BE CUT, PROTECTED AND SUPPORTED AS PRESCRIBED BY OSHA.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN ANY EQUIPMENT NECESSARY TO DEWATER EXCAVATIONS.
- TOPSOIL SHALL BE REPLACED AND GRADED PRIOR TO REVEGETATION.
- THE OPEN ENDS OF ALL PIPELINE UNDER CONSTRUCTION SHALL BE COVERED AND EFFECTIVELY SEALED AT THE END OF THE DAYS WORK.
- CONTRACTOR IS PROHIBITED TO DROP PIPE INTO TRENCH.
- MATERIALS TESTING SHALL BE ORDERED BY THE CONTRACTOR AND PAID BY THE CITY.
- THE CONTRACTOR MUST MAINTAIN ACCESS FOR LOCAL TRAFFIC.
- ALL BACKFILL MATERIAL IN CITY STREETS SHALL BE COMPACTED TO A MINIMUM OF 95% DRY DENSITY. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND PLACED IN NON-STRUCTURAL BACKFILL AREAS OR HAULED AWAY. IMPORT GRANULAR BACKFILL MATERIAL SHALL BE

- REQUIRED IN TRENCH AND ROADWAY AREAS IF PROPER COMPACTION CANNOT BE ACHIEVED WITH NATIVE MATERIAL. ENGINEER OR CITY INSPECTOR MAY REQUIRE IMPORTED GRANULAR BACKFILL AT THEIR DISCRETION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING / BYPASSING OF ALL BASE AND STORM FLOWS THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE TO ADHERE TO UPDES STORM WATER QUALITY REGULATIONS AND TO DEVELOP AND IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). A SWPPP TEMPLATE CAN BE FOUND AT THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY. THE CONTRACTOR WILL BE RESPONSIBLE FOR FILING THE NOTICE OF INTENT (NOI) AND UPDATING THE SWPPP AS NEEDED THROUGHOUT THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE TO PUT IN PLACE AND MAINTAIN ALL BEST MANAGEMENT PRACTICES (BMP'S) AS DEEMED NECESSARY TO KEEP A CLEAN WORK SITE AND PREVENT ANY STORM WATER POLLUTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO IMMEDIATELY RESOLVE ANY ISSUE/CONCERN MADE KNOWN BY THE ENGINEER, CITY, OR COUNTY INSPECTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO SWEEP ALL PUBLIC STREETS ADJACENT TO THE PROJECT AS NECESSARY AND AS OFTEN AS IS NEEDED IN ORDER TO KEEP THE PAVEMENT FREE FROM MUD AND DIRT AND KEEP TRACKING OF MATERIAL TO A MINIMUM.
- THE CONTRACTOR SHALL MEET ALL UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS WITH RESPECT TO THEIR MINIMUM RULES AND REGULATIONS.
- ALL QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES AT LEAST ONE COPY OF THE SIGNED APPROVED PLANS & SPECIFICATIONS, AS WELL AS ALL PERMITS AS REQUIRED TO PERFORM THE WORK.
- CONTRACTOR IS RESPONSIBLE TO MAINTAIN ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION INCLUDING ANY MATERIAL NECESSARY TO MAINTAIN ACCESS. CONTRACTOR IS RESPONSIBLE TO COORDINATE CONSTRUCTION SCHEDULE AND ANY RELATED IMPACTS WITH RESIDENTS / PROPERTY OWNERS.
- ALL MATERIALS TO BE REMOVED SHALL BE HAULED AWAY & DISPOSED OF IN A SAFE AND LEGAL MANNER BY THE CONTRACTOR.
- THE CONTRACTOR SHALL POT-HOLE UTILITIES THAT MAY HAVE A POTENTIAL CONFLICT, SUFFICIENTLY IN ADVANCE OF LAYING PIPE AND STRUCTURES TO ALLOW FOR ADJUSTMENTS IN THE PROPOSED DESIGN TO AVOID CONFLICTS.

REV.	DATE	APPR.
1	12/3/21	MEH

DESIGNED	DRAWN	CHECKED
SCALE:	1.1" x 1.7"	
22' x 34'	H:1"=20'	H:1"=40'
SHEET: 2		
OF 17 SHEETS		



CONSTRUCTION ACTIVITY NOTES:

- A. LOAD RESTRICTIONS APPLY TO WORK PERFORMED NEAR THE BUREAU OF RECLAMATION AQUEDUCT. THE LOAD RESTRICTED AREA SURROUNDING THE AQUEDUCT IS DEFINED AS A ZONE WITHIN 12- FEET OF BOTH SIDES OF THE CENTERLINE OF THE PIPELINE (24- FEET TOTAL WIDTH).
- B. GENERAL CONTRACTOR TO PROVIDE AND CONTINUALLY MAINTAIN CLEAR VISUAL MARKINGS ALONG THE AQUEDUCT CENTERLINE AND LIMITS OF THE LOAD RESTRICTED AREA AT ALL TIMES DURING CONSTRUCTION. LOCATING PAINT IS NOT SUFFICIENT DURING ACTIVE CONSTRUCTION.
- C. LIMIT EQUIPMENT, OPERATION, PROCEDURES, AND METHODS OF CONSTRUCTION WITHIN THE LOAD RESTRICTED AREA TO ENSURE THAT ANY COMBINATION OF EITHER LIVE LOADS OR DEAD LOADS DOES NOT EXCEED THE DESIGN CAPABILITIES OF THE AQUEDUCT.
- D. THE LARGEST EQUIPMENT LOADING (LIVE LOAD) WHICH SHALL BE PERMITTED WITHIN THE LOAD RESTRICTED AREA IS HS-20 WITH A MINIMUM SOIL COVER OF 4- FEET OR GREATER.
- E. DYNAMIC LOADING OF EQUIPMENT, INCLUDING SOIL COMPACTION EQUIPMENT, SHALL NOT EXCEED HS-20 LOADING WITH A MINIMUM OF 4- FEET OF COVER IN THE LOAD RESTRICTED AREA.
- F. OPERATION OF BACKHOES, AUGERS, EXCAVATION OR LIFTING EQUIPMENT WHICH MAY IMPOSE POINT LOADS FROM OUTRIGGERS, WHEELS, OR JACKS IS NOT PERMITTED WITHIN THE LOAD RESTRICTED AREA.
- G. DO NOT PLACE FILL OR TEMPORARILY STOCKPILE CONSTRUCTION MATERIALS IN THE LOAD RESTRICTED AREA.
- H. ONLY UTILIZE STATIC ROLLING COMPACTION METHODS FOR CONSTRUCTION ACTIVITIES. DO NOT USE VIBRATORY COMPACTION AT THE CONSTRUCTION SITE.
- I. CONTACT ZEKE BARDWELL, WEBER BASIN CONSERVATION DISTRICT INSPECTOR, FOR MORE INFORMATION (385) 319-8415 ABOUT CONSTRUCTION NEAR THE AQUEDUCT.

DEMOLITION NOTES:

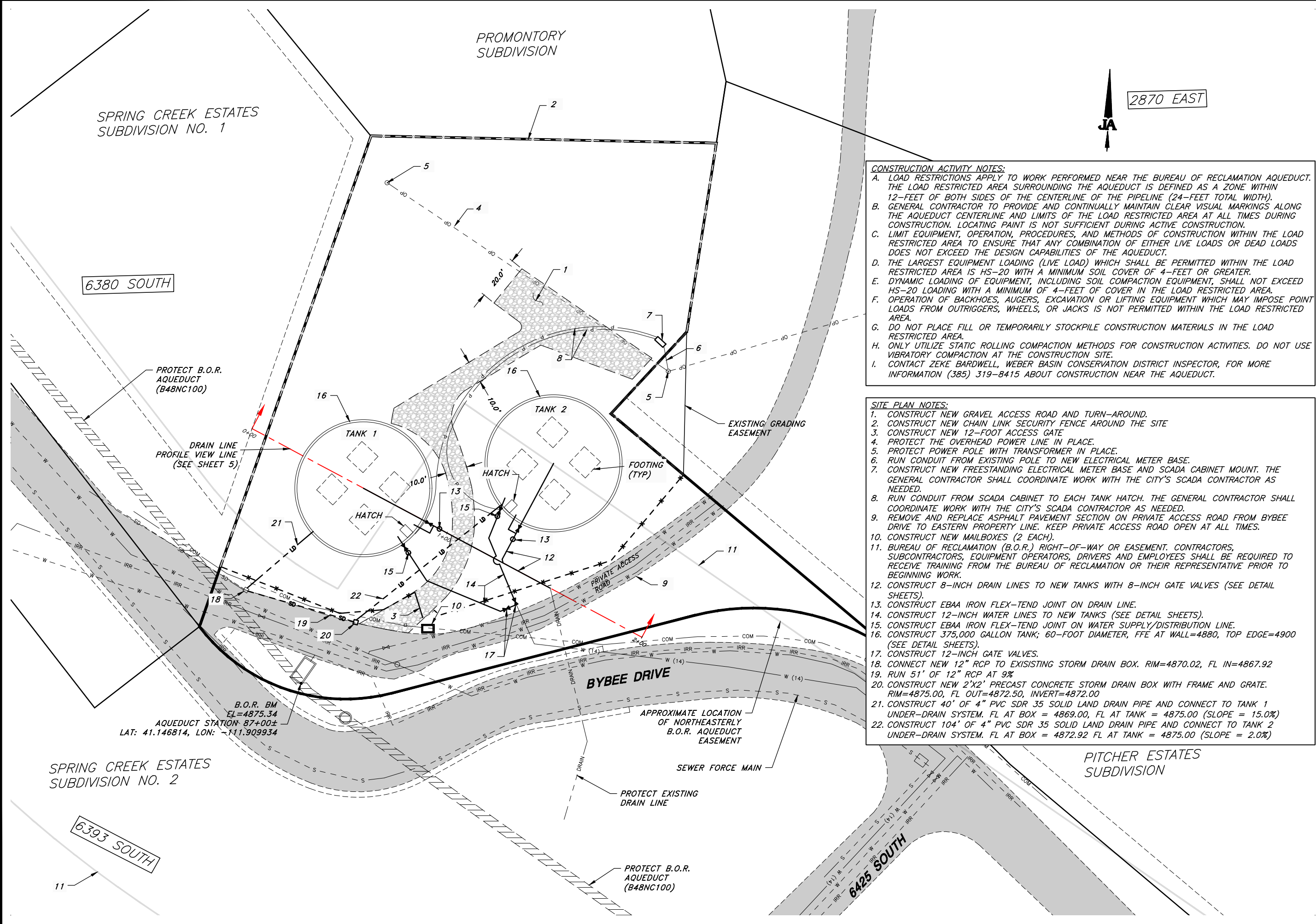
1. PROTECT EXISTING TANK AND PIPING UNTIL THE NEW TANK IS IN SERVICE. DEMO THE OLD TANK AFTER THE NEW TANK IS IN SERVICE.
2. REMOVE EXISTING FENCE AROUND THE OLD TANK.
3. PROTECT COMMUNICATION LINE IN PLACE OR RELOCATE AS NECESSARY PRIOR TO SITE EXCAVATION.
4. PROTECT THE OVERHEAD POWER LINE IN PLACE.
5. PROTECT POWER POLE IN PLACE.
6. PROTECT EXISTING ELECTRIC METER AND SCADA CONTROLS IN PLACE RUN TEMPORARY POWER AS NECESSARY UNTIL POWER AND SCADA ARE IN PLACE FOR THE NEW TANK.
7. DEMO POWER SERVICE LINE AND POLE AFTER TEMPORARY POWER IS RUN TO EXISTING METER BASE.
8. CONSTRUCT TEMPORARY WATER SUPPLY LINE PRIOR TO SITE EXCAVATION. MAINTAIN CONTINUOUS WATER SERVICE EXCEPT AS NEEDED TO MAKE THE TIE-IN.
9. REMOVE THE OLD SUPPLY LINE WHEN THE TEMPORARY LINE IS IN PLACE.
10. CONSTRUCT TEMPORARY DRAIN LINE PRIOR TO SITE EXCAVATION.
11. LOCATE AND CONNECT TO THE EXISTING DRAIN LINE. VERIFY MATERIAL AND SIZE. REMOVE THE OLD DRAIN LINE TO THE NORTH WHEN THE TEMPORARY LINE IS IN PLACE.
12. LOCATE AND CONNECT TO THE EXISTING 14" DUCTILE IRON WATERLINE. CONSTRUCT 12" VALVES FOR NEW TANKS.
13. BUREAU OF RECLAMATION (B.O.R.) RIGHT-OF-WAY OR EASEMENT. CONTRACTORS, SUBCONTRACTORS, EQUIPMENT OPERATORS, DRIVERS AND EMPLOYEES SHALL BE REQUIRED TO RECEIVE TRAINING FROM THE BUREAU OF RECLAMATION OR THEIR REPRESENTATIVE PRIOR TO BEGINNING WORK.
14. DEMO EXISTING ACCESS GATE.
15. REMOVE AND REPLACE MAILBOXES (PROVIDE TEMPORARY MAIL BOXES DURING CONSTRUCTION).
16. KEEP PRIVATE ACCESS ROAD OPEN AT ALL TIMES. DEMO AND REPLACE AT END OF PROJECT.
17. CLEAR AND GRUB LIMIT LINE.
18. FIRE HYDRANT BELONGS TO UTAH HIGHLANDS IMPROVEMENT DISTRICT. CONTACT THE UHID OFFICE AT (801) 476-0945 FOR ACCESS TO HYDRANT IF DESIRED.

REV.	DATE	APPR.
1	12/3/21	MEH BID SET

DESIGNED	DRAWN	CHECKED

NO.	DATE	REV.	DATE	APPR.
1	12/3/21	MEH	BID SET	

DESIGNED	DRAWN	CHECKED
SCALE: 22' x 34'	H: 1" = 20'	11' x 17'
		H: 1" = 40'
SHEET: 4		
OF 17 SHEETS		



CONSTRUCTION ACTIVITY NOTES:

- LOAD RESTRICTIONS APPLY TO WORK PERFORMED NEAR THE BUREAU OF RECLAMATION AQUEDUCT. THE LOAD RESTRICTED AREA SURROUNDING THE AQUEDUCT IS DEFINED AS A ZONE WITHIN 12- FEET OF BOTH SIDES OF THE CENTERLINE OF THE PIPELINE (24- FEET TOTAL WIDTH).
- GENERAL CONTRACTOR TO PROVIDE AND CONTINUALLY MAINTAIN CLEAR VISUAL MARKINGS ALONG THE AQUEDUCT CENTERLINE AND LIMITS OF THE LOAD RESTRICTED AREA AT ALL TIMES DURING CONSTRUCTION. LOCATING PAINT IS NOT SUFFICIENT DURING ACTIVE CONSTRUCTION.
- LIMIT EQUIPMENT, OPERATION, PROCEDURES, AND METHODS OF CONSTRUCTION WITHIN THE LOAD RESTRICTED AREA TO ENSURE THAT ANY COMBINATION OF EITHER LIVE LOADS OR DEAD LOADS DOES NOT EXCEED THE DESIGN CAPABILITIES OF THE AQUEDUCT.
- THE LARGEST EQUIPMENT LOADING (LIVE LOAD) WHICH SHALL BE PERMITTED WITHIN THE LOAD RESTRICTED AREA IS HS-20 WITH A MINIMUM SOIL COVER OF 4- FEET OR GREATER.
- DYNAMIC LOADING OF EQUIPMENT, INCLUDING SOIL COMPACTION EQUIPMENT, SHALL NOT EXCEED HS-20 LOADING WITH A MINIMUM OF 4- FEET OF COVER IN THE LOAD RESTRICTED AREA.
- OPERATION OF BACKHOES, AUGERS, EXCAVATION OR LIFTING EQUIPMENT WHICH MAY IMPOSE POINT LOADS FROM OUTRIGGERS, WHEELS, OR JACKS IS NOT PERMITTED WITHIN THE LOAD RESTRICTED AREA.
- DO NOT PLACE FILL OR TEMPORARILY STOCKPILE CONSTRUCTION MATERIALS IN THE LOAD RESTRICTED AREA.
- ONLY UTILIZE STATIC ROLLING COMPACTION METHODS FOR CONSTRUCTION ACTIVITIES. DO NOT USE VIBRATORY COMPACTION AT THE CONSTRUCTION SITE.
- CONTACT ZEKE BARDWELL, WEBER BASIN CONSERVATION DISTRICT INSPECTOR, FOR MORE INFORMATION (385) 319-8415 ABOUT CONSTRUCTION NEAR THE AQUEDUCT.

SITE PLAN NOTES:

- CONSTRUCT NEW GRAVEL ACCESS ROAD AND TURN-AROUND.
- CONSTRUCT NEW CHAIN LINK SECURITY FENCE AROUND THE SITE
- CONSTRUCT NEW 12- FOOT ACCESS GATE
- PROTECT THE OVERHEAD POWER LINE IN PLACE.
- PROTECT POWER POLE WITH TRANSFORMER IN PLACE.
- RUN CONDUIT FROM EXISTING POLE TO NEW ELECTRICAL METER BASE.
- CONSTRUCT NEW FREESTANDING ELECTRICAL METER BASE AND SCADA CABINET MOUNT. THE GENERAL CONTRACTOR SHALL COORDINATE WORK WITH THE CITY'S SCADA CONTRACTOR AS NEEDED.
- RUN CONDUIT FROM SCADA CABINET TO EACH TANK HATCH. THE GENERAL CONTRACTOR SHALL COORDINATE WORK WITH THE CITY'S SCADA CONTRACTOR AS NEEDED.
- REMOVE AND REPLACE ASPHALT PAVEMENT SECTION ON PRIVATE ACCESS ROAD FROM BYBEE DRIVE TO EASTERN PROPERTY LINE. KEEP PRIVATE ACCESS ROAD OPEN AT ALL TIMES.
- CONSTRUCT NEW MAILBOXES (2 EACH).
- BUREAU OF RECLAMATION (B.O.R.) RIGHT-OF-WAY OR EASEMENT. CONTRACTORS, SUBCONTRACTORS, EQUIPMENT OPERATORS, DRIVERS AND EMPLOYEES SHALL BE REQUIRED TO RECEIVE TRAINING FROM THE BUREAU OF RECLAMATION OR THEIR REPRESENTATIVE PRIOR TO BEGINNING WORK.
- CONSTRUCT 8- INCH DRAIN LINES TO NEW TANKS WITH 8- INCH GATE VALVES (SEE DETAIL SHEETS).
- CONSTRUCT EBAA IRON FLEX- TEND JOINT ON DRAIN LINE.
- CONSTRUCT 12- INCH WATER LINES TO NEW TANKS (SEE DETAIL SHEETS).
- CONSTRUCT EBAA IRON FLEX- TEND JOINT ON WATER SUPPLY/ DISTRIBUTION LINE.
- CONSTRUCT 375,000 GALLON TANK; 60- FOOT DIAMETER, FFE AT WALL=4880, TOP EDGE=4900 (SEE DETAIL SHEETS).
- CONSTRUCT 12- INCH GATE VALVES.
- CONNECT NEW 12" RCP TO EXISTING STORM DRAIN BOX. RIM=4870.02, FL IN=4867.92
- RUN 51' OF 12" RCP AT 9%
- CONSTRUCT NEW 2'X2' PRECAST CONCRETE STORM DRAIN BOX WITH FRAME AND GRATE. RIM=4875.00, FL OUT=4872.50, INVERT=4872.00
- CONSTRUCT 40' OF 4" PVC SDR 35 SOLID LAND DRAIN PIPE AND CONNECT TO TANK 1 UNDER- DRAIN SYSTEM. FL AT BOX = 4869.00, FL AT TANK = 4875.00 (SLOPE = 15.0%)
- CONSTRUCT 104' OF 4" PVC SDR 35 SOLID LAND DRAIN PIPE AND CONNECT TO TANK 2 UNDER- DRAIN SYSTEM. FL AT BOX = 4872.92 FL AT TANK = 4875.00 (SLOPE = 2.0%)

2870 EAST



B.O.R. BM
 EL=4875.34
 AQUEDUCT STATION 87+00±
 LAT: 41.146814, LON: -111.909934

APPROXIMATE LOCATION
 OF NORTHEASTERLY
 B.O.R. AQUEDUCT
 EASEMENT

PITCHER ESTATES
 SUBDIVISION

BYBEE DRIVE

SEWER FORCE MAIN

PROTECT EXISTING
 DRAIN LINE

PROTECT B.O.R.
 AQUEDUCT
 (B48NC100)

SPRING CREEK ESTATES
 SUBDIVISION NO. 1

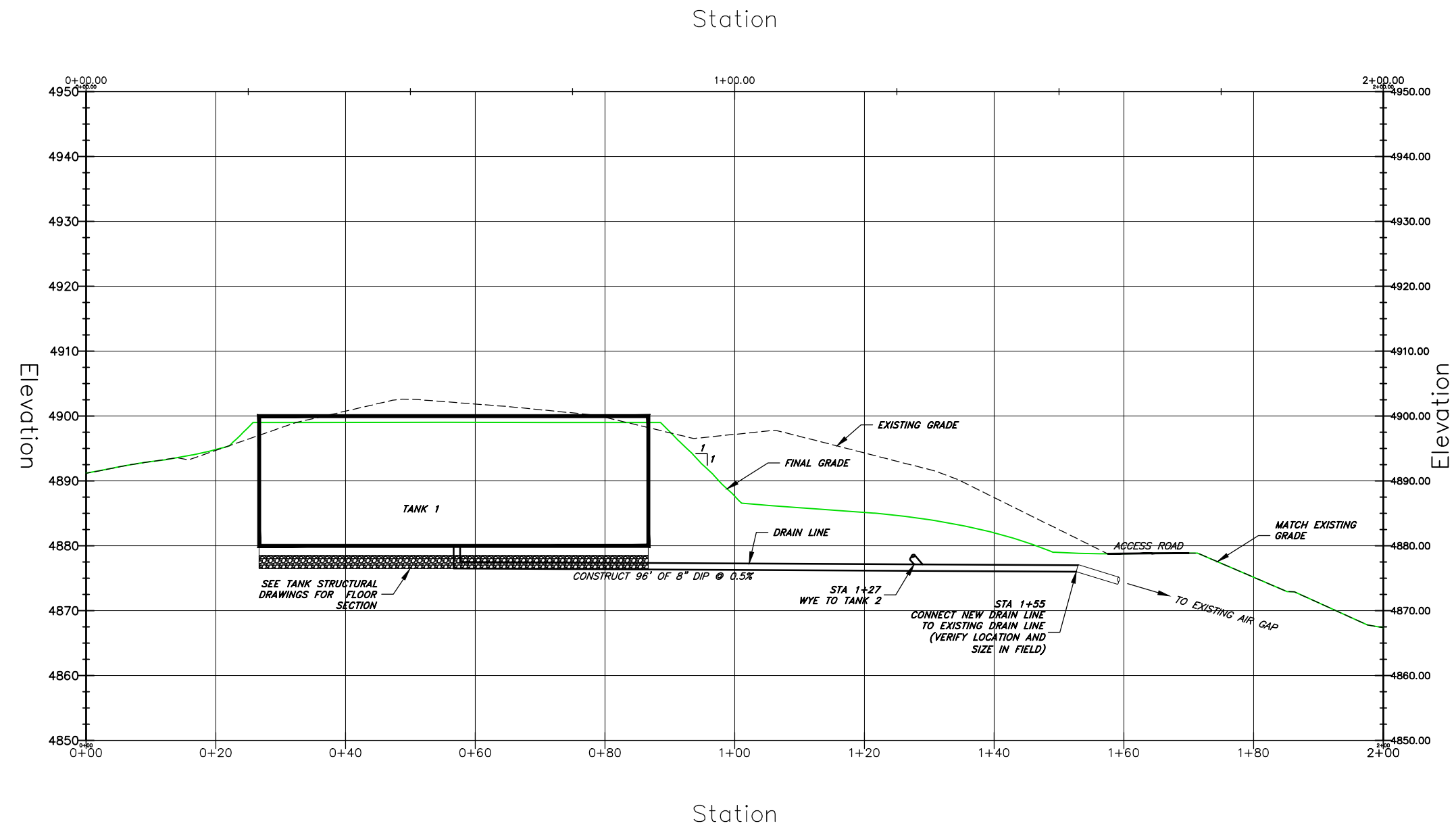
PROMONTORY
 SUBDIVISION

SPRING CREEK ESTATES
 SUBDIVISION NO. 2

6380 SOUTH

6393 SOUTH

6425 SOUTH



REV.	DATE	APPR.
1	12/3/21	MEH

DESIGNED	
DRAWN	
CHECKED	

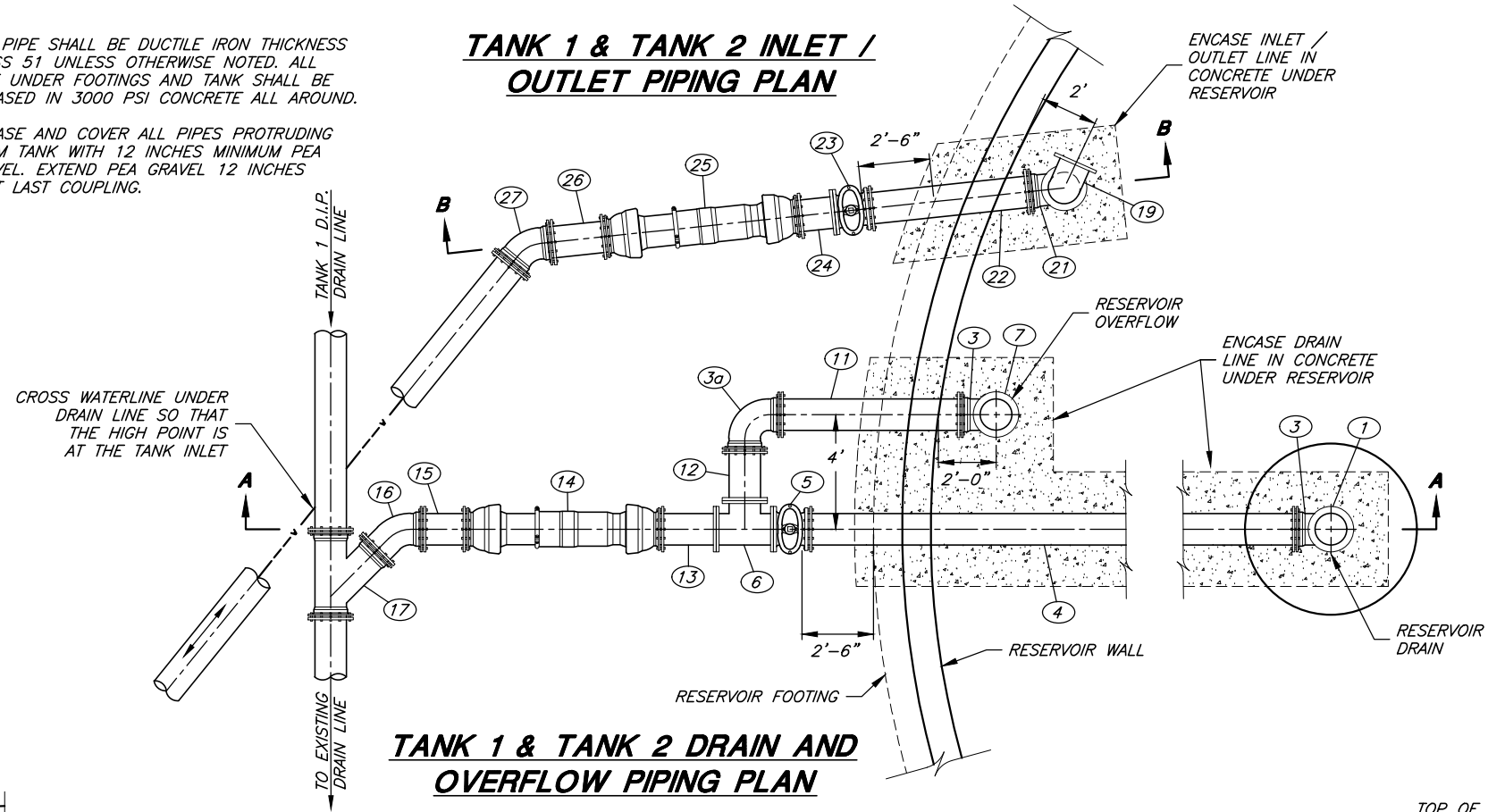
SCALE:
 22' x 34' H:1"=10'
 11' x 17' H:1"=20'

PIPE FITTING AND EQUIPMENT SCHEDULE

NO.	DESCRIPTION	SIZE	JOINT	TANK #
1	FLARED END WITH SEEPAGE RING (DRAIN)	8"Ø	FL.	TANK 1 & 2
2	DUCTILE IRON NIPPLE PIECE	8"Ø	FL.xP.E.	TANK 1 & 2
3	90° ELBOW	8"Ø	M.J.	TANK 1 & 2
3a	90° ELBOW W/ THRUST RESTRAINTS (MEGA-LUGS)	8"Ø	M.J.	TANK 1 & 2
4	DUCTILE IRON EXTENSION PIECE (CL-51)	8"Ø	P.E.xP.E.	TANK 1 & 2
5	"MUELLER" A-2361 GATE VALVE W/ THRUST RESTRAINTS (MEGA-LUGS)	8"Ø	FL.xM.J.	TANK 1 & 2
6	TEE	8"x8"x8"	FL.	TANK 1 & 2
7	FLARED END (OVERFLOW)	8"Ø	FL.	TANK 1 & 2
8	FLANGED COUPLING ADAPTOR	8"Ø	FL.xP.E.	TANK 1 & 2
9	DUCTILE IRON NIPPLE PIECE	8"Ø	FL.xP.E.	TANK 1 & 2
10	DUCTILE IRON NIPPLE PIECE W/ SEEPAGE RING	8"Ø	FL.xP.E.	TANK 1 & 2
11	DUCTILE IRON EXTENSION PIECE (CL-51)	8"Ø	P.E.xP.E.	TANK 1 & 2
12	DUCTILE IRON NIPPLE PIECE	8"Ø	FL.xP.E.	TANK 1 & 2
13	DUCTILE IRON NIPPLE PIECE	8"Ø	FL.xP.E.	TANK 1 & 2
14	"EBAA IRON INC" FLEX-TEND DOUBLE BALL EXPANSION JOINT MODEL# 408M22 W/ THRUST RESTRAINTS (MEGA-LUGS)	8"Ø	M.J.xM.J.	TANK 1 & 2
15	DUCTILE IRON EXTENSION PIECE (CL-51)	8"Ø	P.E.xP.E.	TANK 1 & 2
16	45° ELBOW W/ THRUST RESTRAINTS (MEGA-LUGS)	8"Ø	M.J.xP.E.	TANK 2
17	WYE W/ THRUST RESTRAINT JOINTS (MEGA-LUGS)	8"Ø	M.J.	TANK 2
18	SUPPORT BRACKET (TYPICAL) SEE DETAIL ON SHEET 6	--	--	TANK 1 & 2

- NOTES:
 1. ALL PIPE SHALL BE DUCTILE IRON THICKNESS CLASS 51 UNLESS OTHERWISE NOTED. ALL PIPE UNDER FOOTINGS AND TANK SHALL BE ENCASED IN 3000 PSI CONCRETE ALL AROUND.
 2. ENCASE AND COVER ALL PIPES PROTRUDING FROM TANK WITH 12 INCHES MINIMUM PEA GRAVEL. EXTEND PEA GRAVEL 12 INCHES PAST LAST COUPLING.

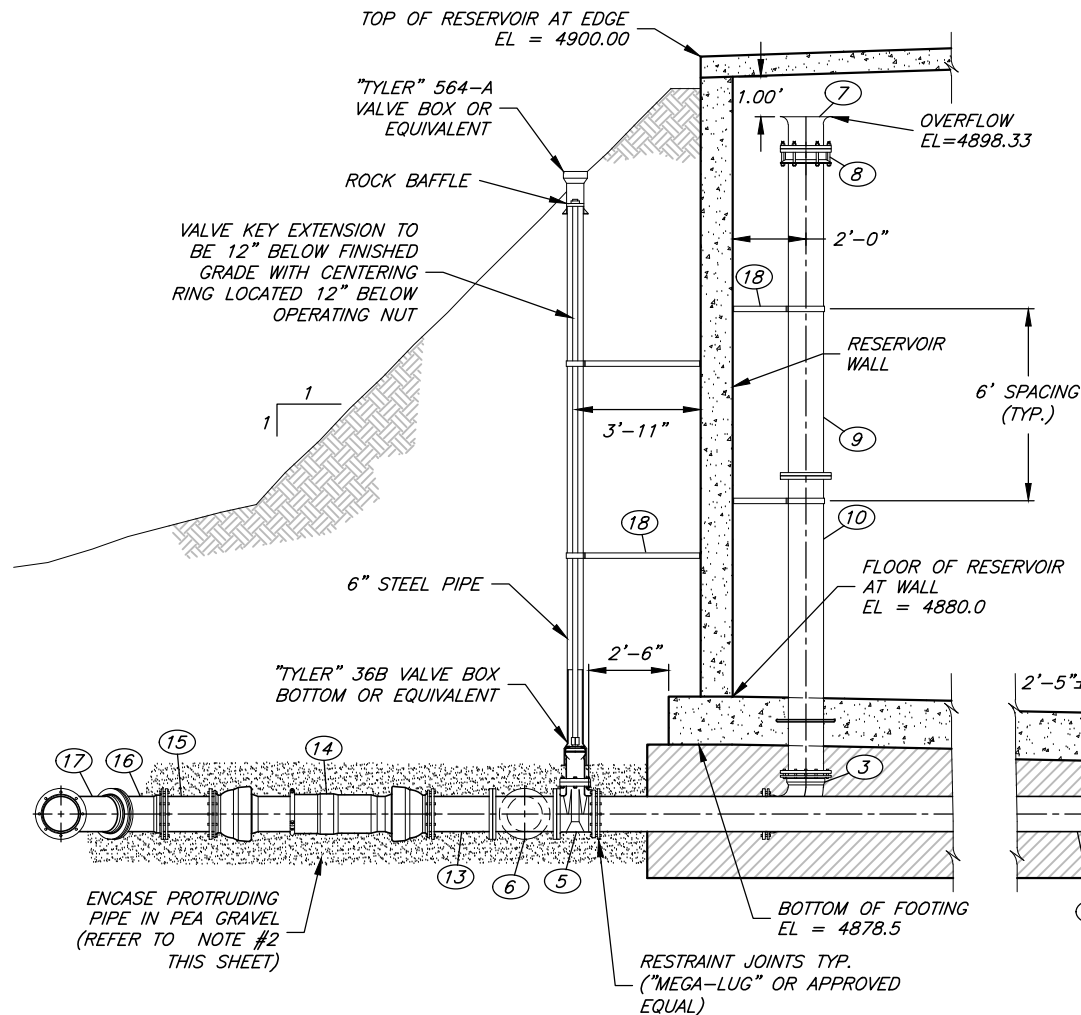
TANK 1 & TANK 2 INLET / OUTLET PIPING PLAN



TANK 1 & TANK 2 DRAIN AND OVERFLOW PIPING PLAN

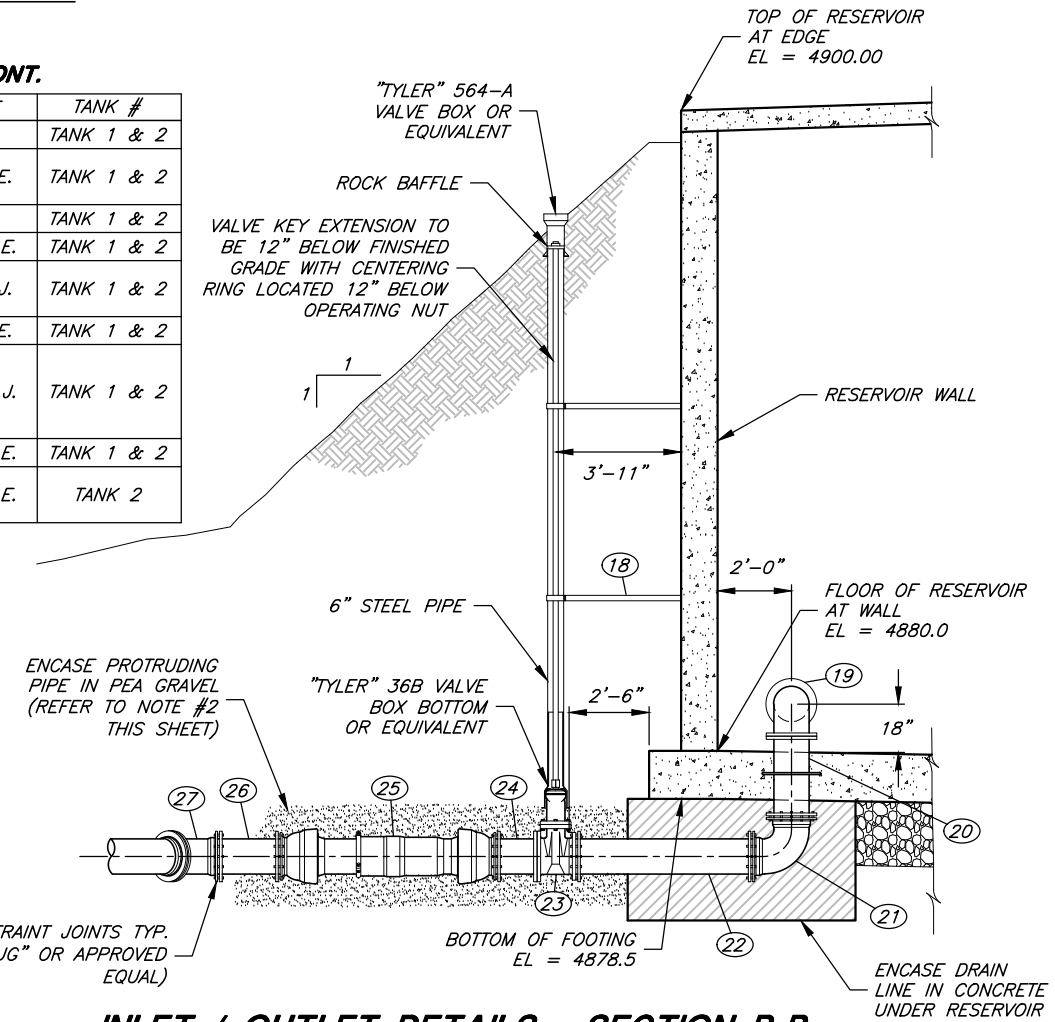
PIPE FITTING AND EQUIPMENT SCHEDULE CONT.

NO.	DESCRIPTION	SIZE	JOINT	TANK #
19	90° ELBOW	12"Ø	FL.	TANK 1 & 2
20	DUCTILE IRON NIPPLE PIECE W/ SEEPAGE RING	12"Ø	FL.xP.E.	TANK 1 & 2
21	90° ELBOW	12"Ø	M.J.	TANK 1 & 2
22	DUCTILE IRON EXTENSION PIECE (CL-51)	12"Ø	P.E.xP.E.	TANK 1 & 2
23	"MUELLER" A-2361 GATE VALVE W/ THRUST RESTRAINTS (MEGA-LUGS)	12"Ø	FL.xM.J.	TANK 1 & 2
24	DUCTILE IRON NIPPLE PIECE (18" MIN.)	12"Ø	FL.xP.E.	TANK 1 & 2
25	"EBAA IRON INC" FLEX-TEND DOUBLE BALL EXPANSION JOINT MODEL# 412M22 W/ THRUST RESTRAINTS (MEGA-LUGS)	12"Ø	M.J.xM.J.	TANK 1 & 2
26	DUCTILE IRON EXTENSION PIECE (CL-51)	12"Ø	P.E.xP.E.	TANK 1 & 2
27	45° ELBOW W/ THRUST RESTRAINTS (MEGA-LUGS)	12"Ø	M.J.xP.E.	TANK 2



DRAIN AND OVERFLOW DETAILS - SECTION A-A

N.T.S.



INLET / OUTLET DETAILS - SECTION B-B

N.T.S.

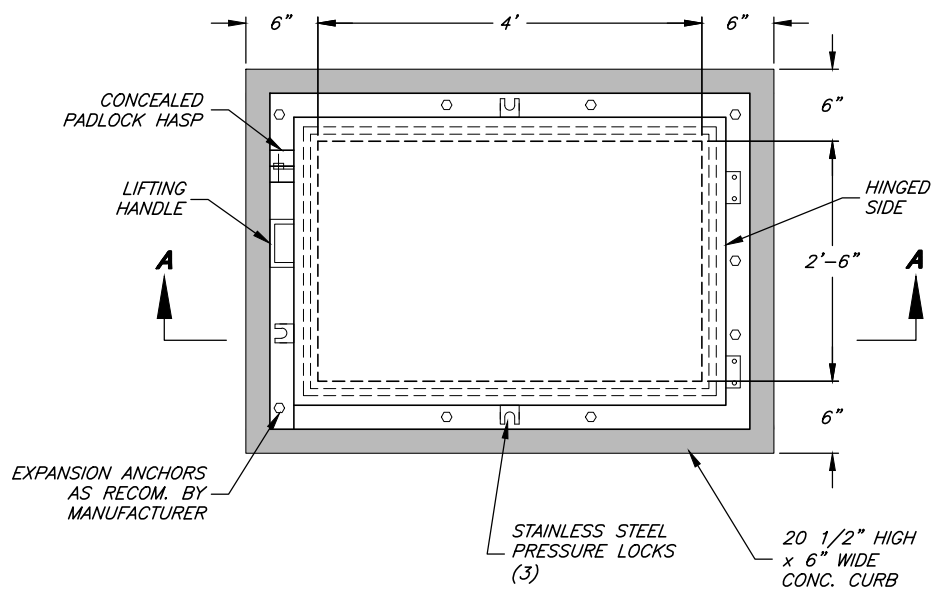
REV.	DATE	APPR.
1	12/3/21	MEH

MEH	DESIGNED	BEB	DRAWN	MEH	CHECKED
SCALE:	24" x 36" N.T.S.	11" x 17" N.T.S.			

SHEET:

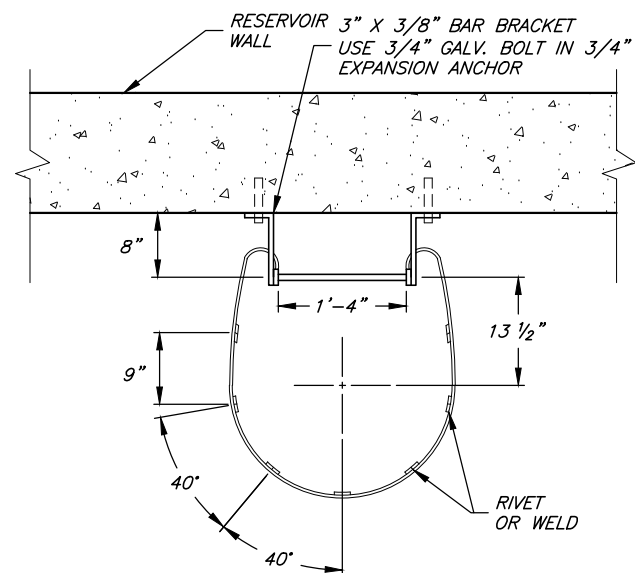
6

OF 17 SHEETS

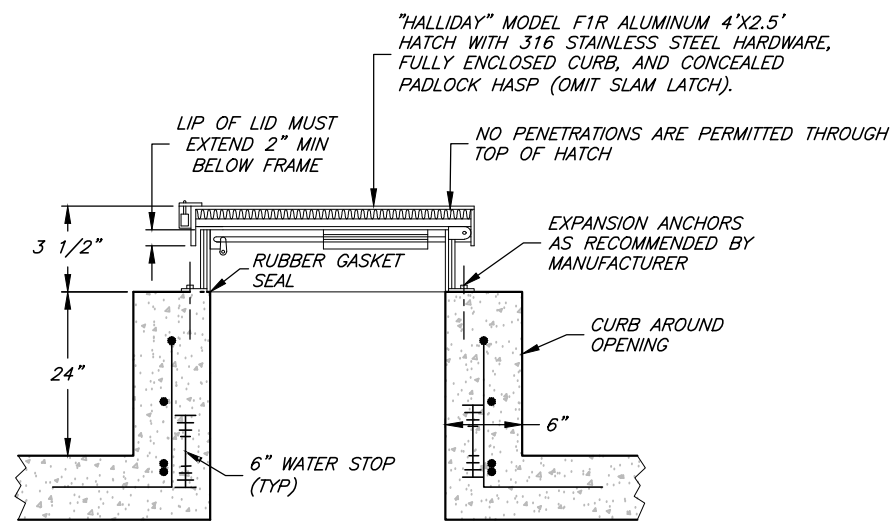


ENTRY HATCH - PLAN
N.T.S.

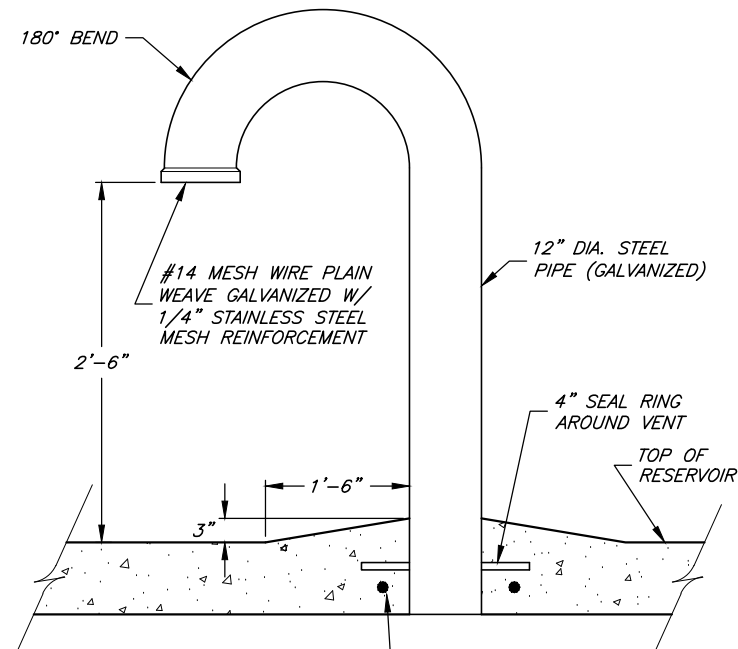
NOTE:
NO PENETRATIONS SHALL BE ALLOWED THROUGH THE HORIZONTAL FACE OF THE ACCESS HATCH PER THE STATE OF UTAH ADMINISTRATIVE RULES FOR PUBLIC DRINKING WATER SYSTEMS R309-545-14(2)



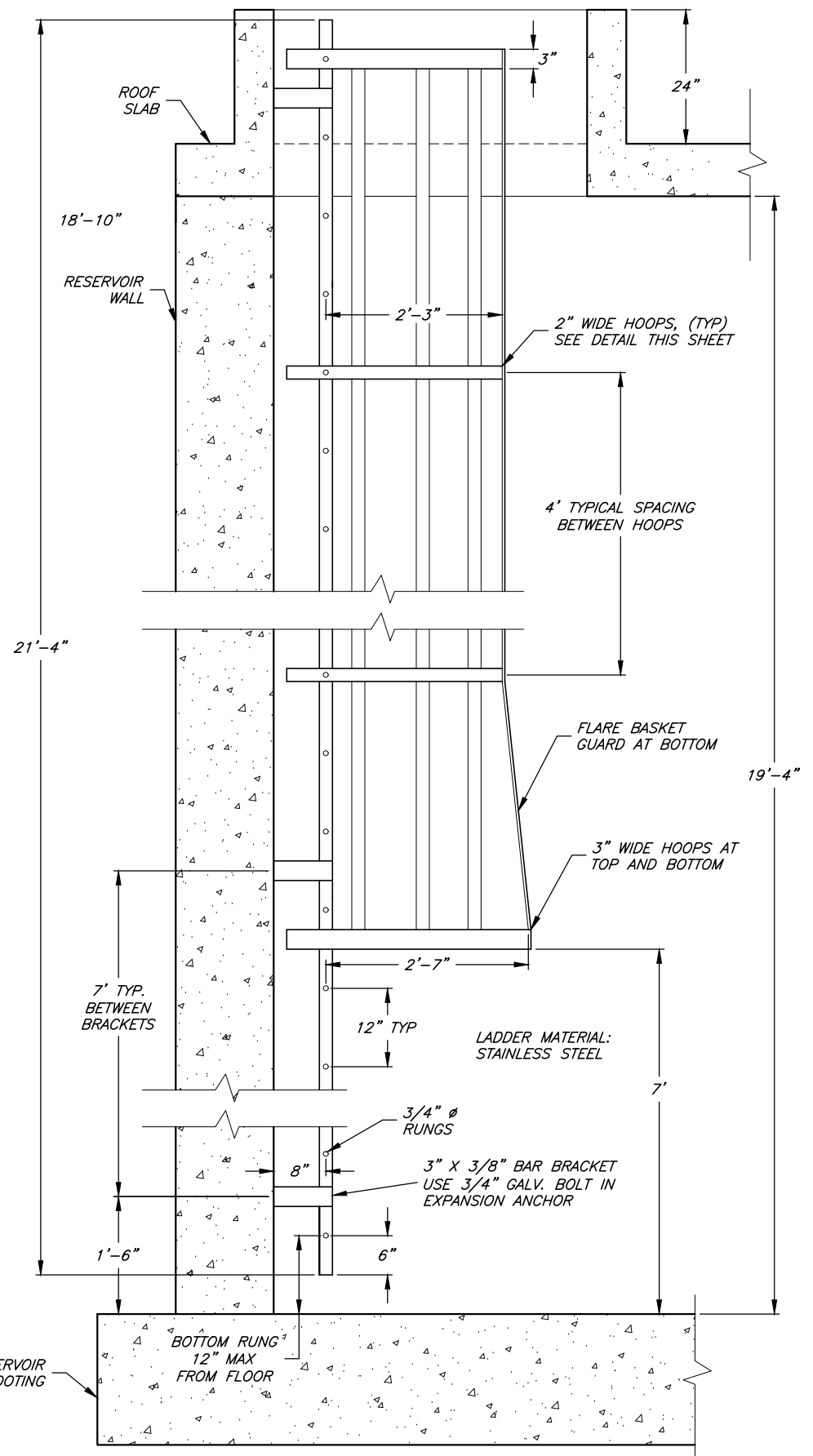
HOOP DETAILS
N.T.S.



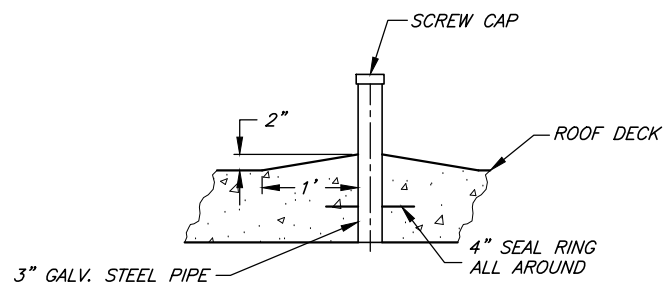
ENTRY HATCH - SECTION A-A
SEE CURB WALL SECTION (DETAIL 6) ON SHEET S3



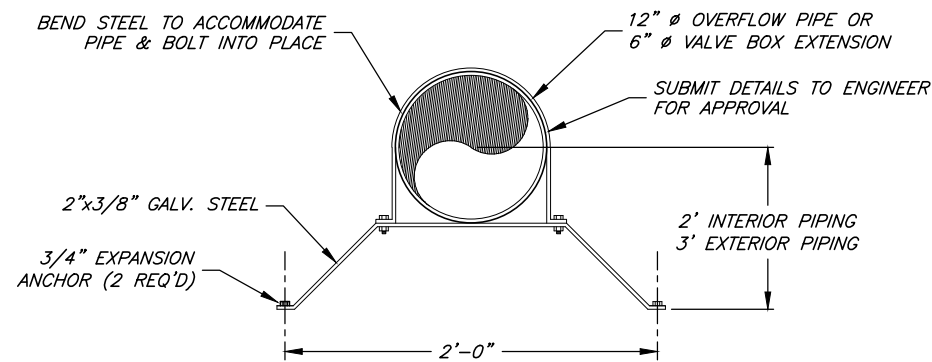
VENT PIPE DETAIL
N.T.S.
SEE REINFORCEMENT NOTES ON RESERVOIR STRUCTURAL DRAWINGS FOR ADDITIONAL REINFORCEMENT AROUND OPENING



ACCESS LADDER - DETAILS
N.T.S.



LEVEL TRANSDUCER TUBE DETAIL
N.T.S.

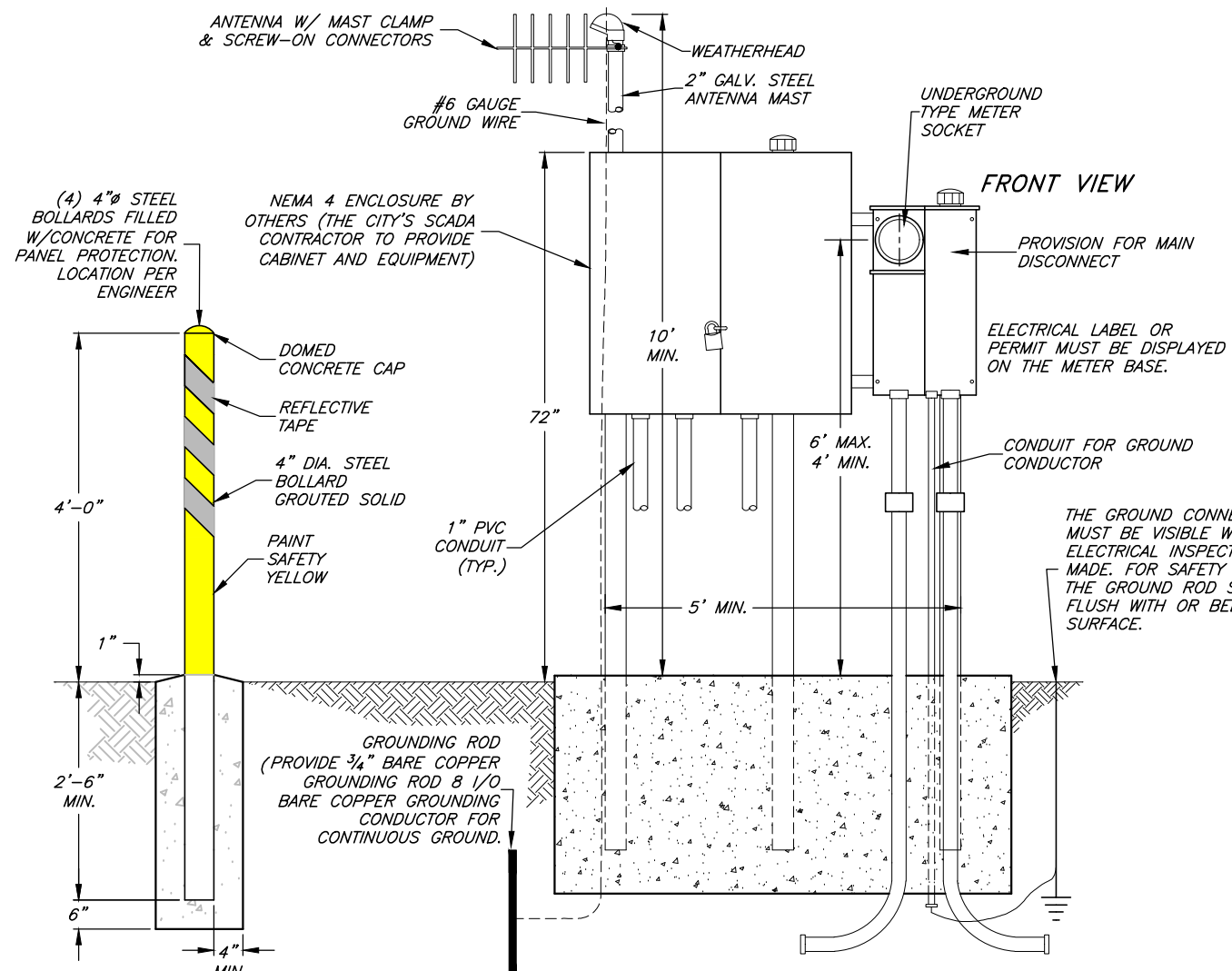


PIPE SUPPORT BRACKET
N.T.S.

REV.	DATE	APPR.
1	12/3/21	MEH
		MEH
		BEB
		MEH
		MEH

SCALE:	24" X 36" N.T.S.	11" X 17" N.T.S.
DESIGNED:	MEH	MEH
DRAWN:	BEB	MEH
CHECKED:	MEH	MEH

UNTAH CITY CORPORATION
 BYBEE TANK REPLACEMENT PROJECT
ELECTRICAL METER BASE & LAND DRAIN DETAILS



BOLLARD DETAIL
 PROVIDE 4 STEEL BOLLARDS TO PROTECT CONTROL PANEL. PLACE IN FRONT OF PEDESTAL.

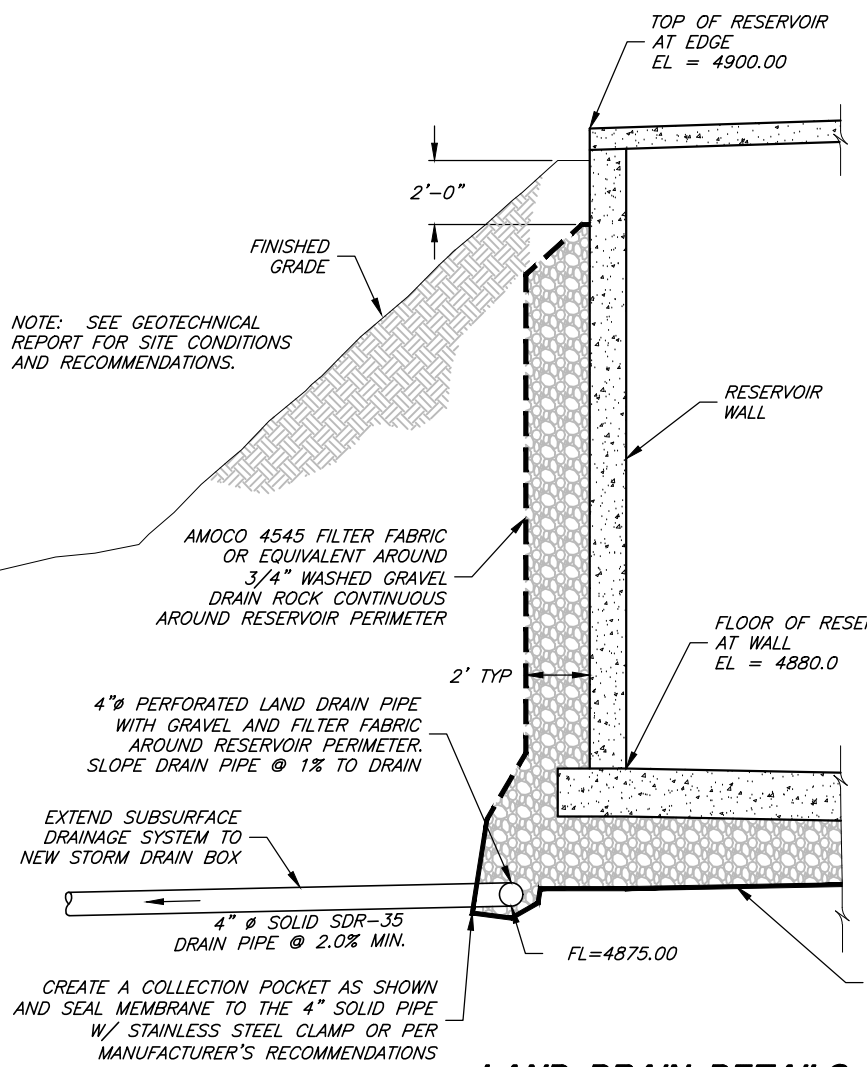
UNDERGROUND SERVICE TO A FREE-STANDING METER BASE
 (STEEL POLE)

INSTALLATION PER ROCKY MOUNTAIN POWER ELECTRIC SERVICE REQUIREMENTS MANUAL

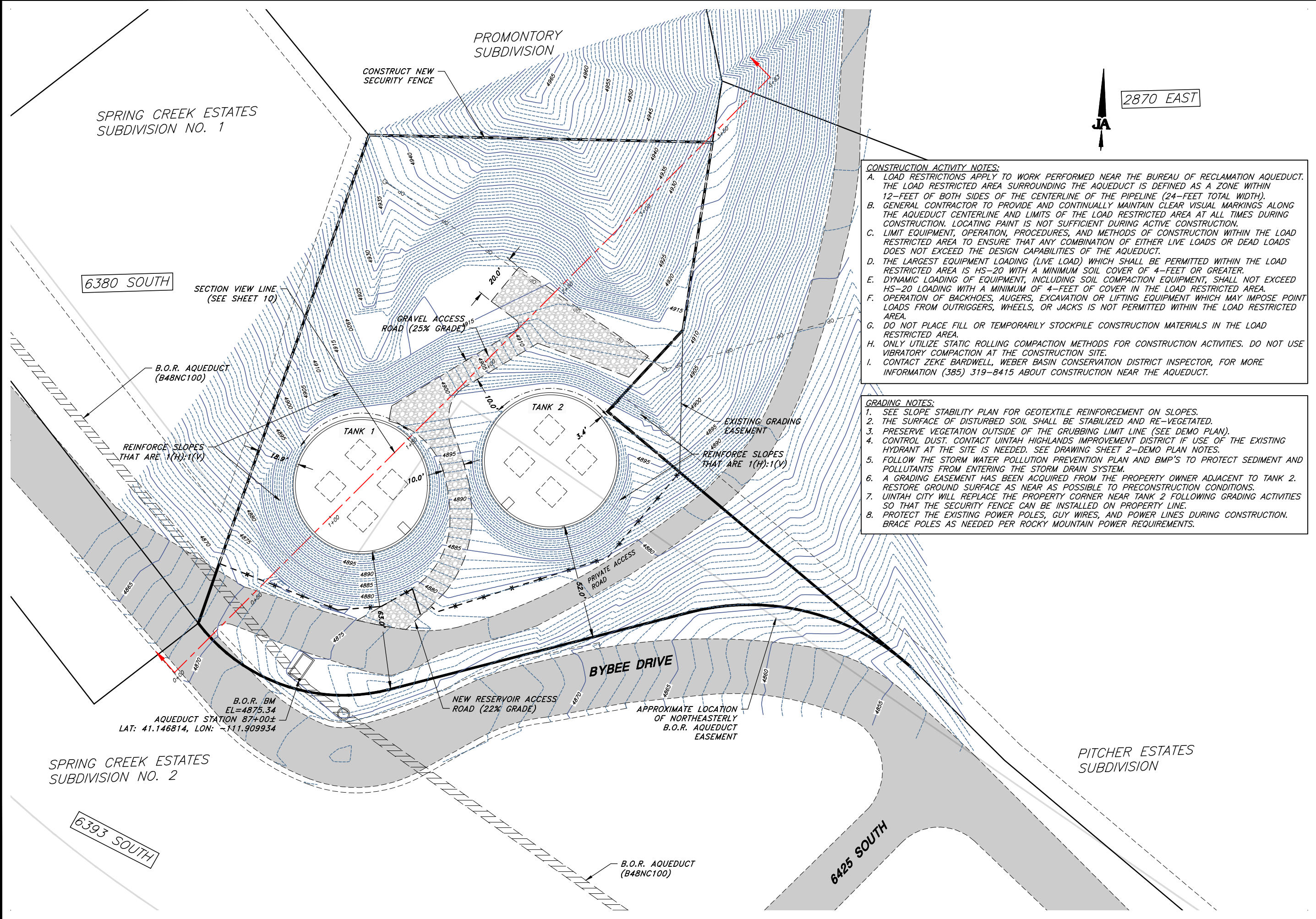
- THE GENERAL CONTRACTOR WILL FURNISH AND INSTALL:
- METER SOCKET ENCLOSURE (UNDERGROUND TYPE WITH MANUAL-LINK BYPASS)
 - PEDESTAL & HARDWARE
 - CONDUIT
 - TRENCH EXCAVATION AND BACKFILL
 - GROUNDING PER NEC
 - CONCRETE PAD
 - LONG RADIUS SWEEPS

FREE-STANDING METER BASE REQUIREMENTS:

- THE CONTRACTOR SHALL MEET WITH THE POWER COMPANY TO DETERMINE THE LOCATION OF THE FREE-STANDING METER BASE.
- THE FREE-STANDING METER BASE SHALL MEET ALL LOCAL ORDINANCE REQUIREMENTS.
- THE METER SOCKET SHALL BE PROTECTED FROM DAMAGE BY USE OF BARRIER POSTS OR OTHER SUITABLE PROTECTION APPROVED BY THE POWER COMPANY.
- THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN AN APPROVED PEDESTAL OR POLE POST.
- THE ACCESS DOOR TO POWER COMPANY CONNECTIONS SHALL BE KEPT FREE OF OBSTRUCTIONS A MINIMUM OF 6" ABOVE THE FINAL GRADE, WITH A SEALABLE PROVISION FOR THE POWER COMPANY.
- THE UNMETERED SERVICE CONDUCTOR AND THE METERED SERVICE CONDUCTOR SHALL NO BE RUN IN THE SAME CONDUIT, RACEWAY, OR GUTTER.
- THE METER SOCKET AND SERVICE EQUIPMENT SHALL BE NEMA TYPE 3R (RAINPROOF), IN GOOD CONDITION WITH NO HOLES, DENTS OR DAMAGE, AND PLUMB IN ALL DIRECTIONS. THE INSTALLATION SHALL BE MADE WITH SUFFICIENT MATERIALS AND INSTALLED SUCH THAT IT REMAINS PLUMB FOR THE DURATION OF THE SERVICE.
- CONDUIT AND CONDUCTOR TRENCHERS SHALL BE LOCATED AWAY FROM (AND NEVER UNDERNEATH) THE PAD AND FOUNDATION. FOR MOBILE HOMES, TRENCHES SHALL BE LOCATED CLEAR OF THE AREA PROVIDED FOR THE DWELLING.
- WHERE TWO OR MORE METERS ARE LOCATED SIDE-BY-SIDE (SUCH AS WITH DUPLEXES OR IN MOBILE HOME PARKS), THE METER SOCKET ENCLOSURE SHALL BE PERMANENTLY LABELED WITH THE SPACE OR BERTH NUMBERS.



1	12/3/21	MEH	BID SET						
		MEH	DESIGNED	BEB	DRAWN	MEH	CHECKED		APPR.
		SCALE:	24"x36"	N.T.S.	11"x17"	N.T.S.			
SHEET: 8									
OF 18 SHEETS									



2870 EAST

CONSTRUCTION ACTIVITY NOTES:

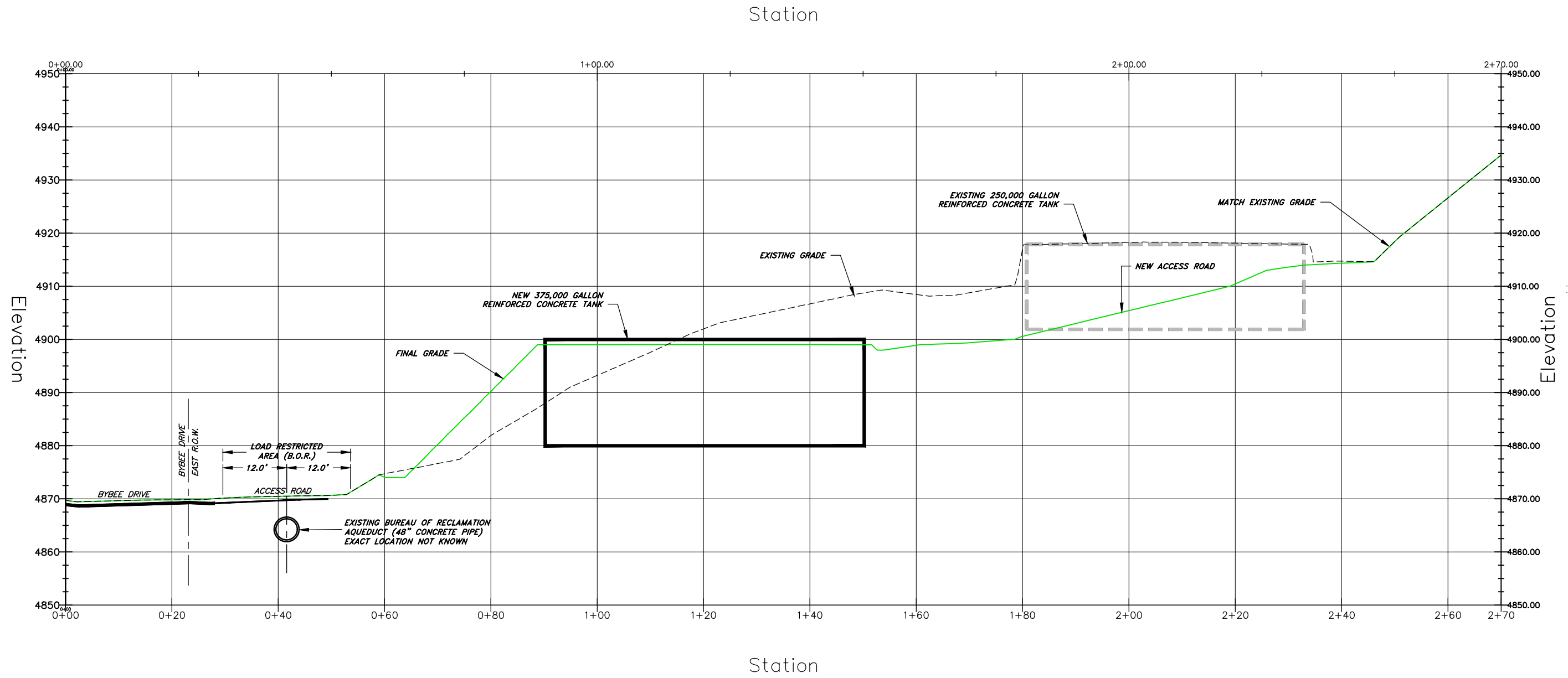
- LOAD RESTRICTIONS APPLY TO WORK PERFORMED NEAR THE BUREAU OF RECLAMATION AQUEDUCT. THE LOAD RESTRICTED AREA SURROUNDING THE AQUEDUCT IS DEFINED AS A ZONE WITHIN 12- FEET OF BOTH SIDES OF THE CENTERLINE OF THE PIPELINE (24- FEET TOTAL WIDTH).
- GENERAL CONTRACTOR TO PROVIDE AND CONTINUALLY MAINTAIN CLEAR VISUAL MARKINGS ALONG THE AQUEDUCT CENTERLINE AND LIMITS OF THE LOAD RESTRICTED AREA AT ALL TIMES DURING CONSTRUCTION. LOCATING PAINT IS NOT SUFFICIENT DURING ACTIVE CONSTRUCTION.
- LIMIT EQUIPMENT, OPERATION, PROCEDURES, AND METHODS OF CONSTRUCTION WITHIN THE LOAD RESTRICTED AREA TO ENSURE THAT ANY COMBINATION OF EITHER LIVE LOADS OR DEAD LOADS DOES NOT EXCEED THE DESIGN CAPABILITIES OF THE AQUEDUCT.
- THE LARGEST EQUIPMENT LOADING (LIVE LOAD) WHICH SHALL BE PERMITTED WITHIN THE LOAD RESTRICTED AREA IS HS-20 WITH A MINIMUM SOIL COVER OF 4- FEET OR GREATER.
- DYNAMIC LOADING OF EQUIPMENT, INCLUDING SOIL COMPACTION EQUIPMENT, SHALL NOT EXCEED HS-20 LOADING WITH A MINIMUM OF 4- FEET OF COVER IN THE LOAD RESTRICTED AREA.
- OPERATION OF BACKHOES, AUGERS, EXCAVATION OR LIFTING EQUIPMENT WHICH MAY IMPOSE POINT LOADS FROM OUTRIGGERS, WHEELS, OR JACKS IS NOT PERMITTED WITHIN THE LOAD RESTRICTED AREA.
- DO NOT PLACE FILL OR TEMPORARILY STOCKPILE CONSTRUCTION MATERIALS IN THE LOAD RESTRICTED AREA.
- ONLY UTILIZE STATIC ROLLING COMPACTION METHODS FOR CONSTRUCTION ACTIVITIES. DO NOT USE VIBRATORY COMPACTION AT THE CONSTRUCTION SITE.
- CONTACT ZEKE BARDWELL, WEBER BASIN CONSERVATION DISTRICT INSPECTOR, FOR MORE INFORMATION (385) 319-8415 ABOUT CONSTRUCTION NEAR THE AQUEDUCT.

GRADING NOTES:

- SEE SLOPE STABILITY PLAN FOR GEOTEXTILE REINFORCEMENT ON SLOPES.
- THE SURFACE OF DISTURBED SOIL SHALL BE STABILIZED AND RE-VEGETATED.
- PRESERVE VEGETATION OUTSIDE OF THE GRUBBING LIMIT LINE (SEE DEMO PLAN).
- CONTROL DUST. CONTACT UTAH HIGHLANDS IMPROVEMENT DISTRICT IF USE OF THE EXISTING HYDRANT AT THE SITE IS NEEDED. SEE DRAWING SHEET 2-DEMO PLAN NOTES.
- FOLLOW THE STORM WATER POLLUTION PREVENTION PLAN AND BMP'S TO PROTECT SEDIMENT AND POLLUTANTS FROM ENTERING THE STORM DRAIN SYSTEM.
- A GRADING EASEMENT HAS BEEN ACQUIRED FROM THE PROPERTY OWNER ADJACENT TO TANK 2. RESTORE GROUND SURFACE AS NEAR AS POSSIBLE TO PRECONSTRUCTION CONDITIONS.
- UTAH CITY WILL REPLACE THE PROPERTY CORNER NEAR TANK 2 FOLLOWING GRADING ACTIVITIES SO THAT THE SECURITY FENCE CAN BE INSTALLED ON PROPERTY LINE.
- PROTECT THE EXISTING POWER POLES, GUY WIRES, AND POWER LINES DURING CONSTRUCTION. BRACE POLES AS NEEDED PER ROCKY MOUNTAIN POWER REQUIREMENTS.

REV.	DATE	APPR.
1	12/3/21	MEH BID SET

DESIGNED	DRAWN	CHECKED



REV.	DATE	APPR.
1	12/3/21	MEH
		BD SET

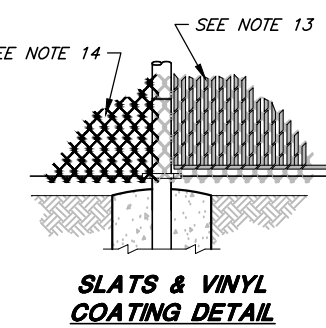
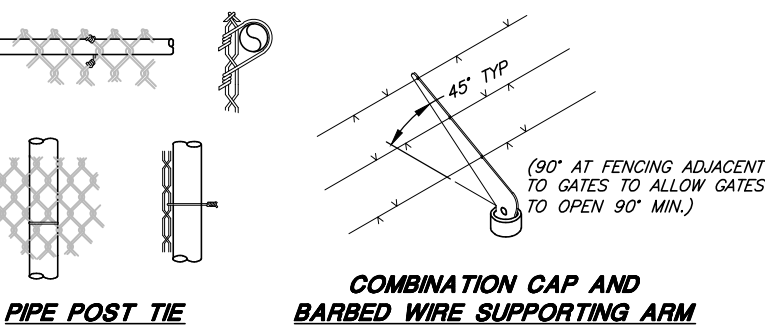
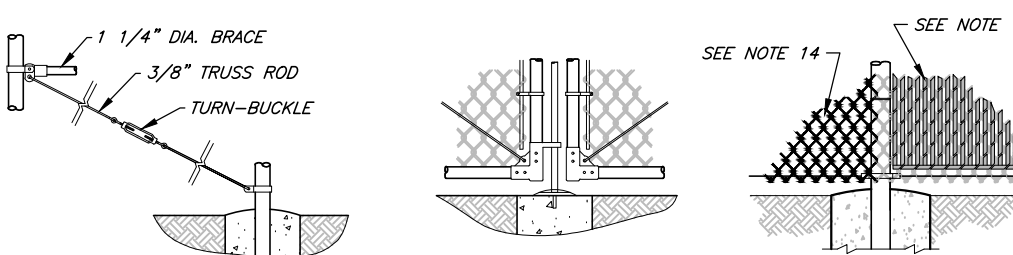
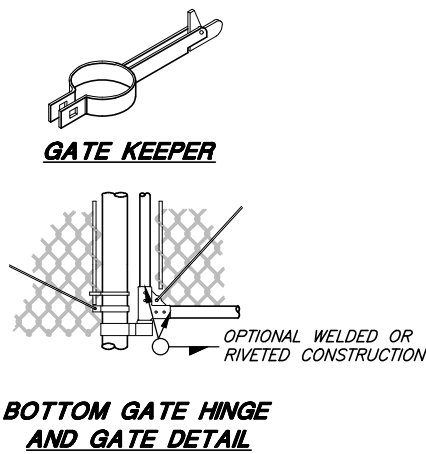
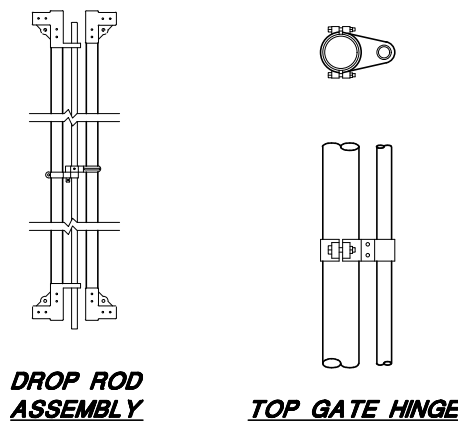
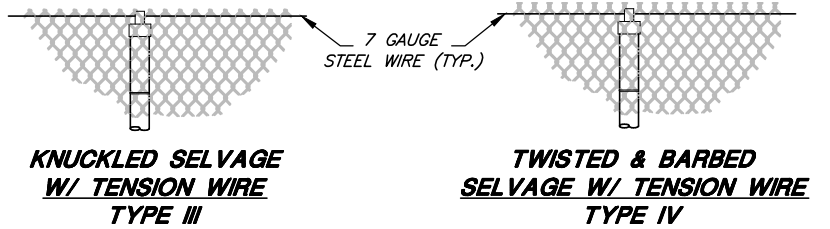
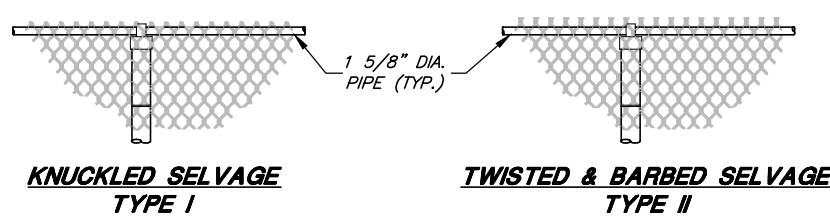
DESIGNED	DRAWN	CHECKED

SCALE:
 22' x 34' H:1"=10'
 11' x 17' H:1"=20'



UNTAH CITY CORPORATION
BYBEE TANK REPLACEMENT PROJECT

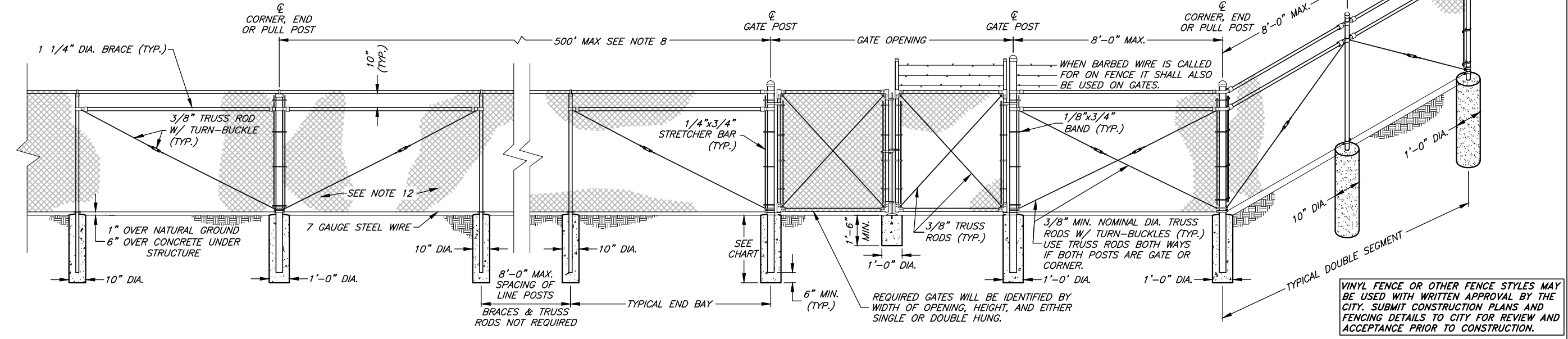
FENCING
DETAILS



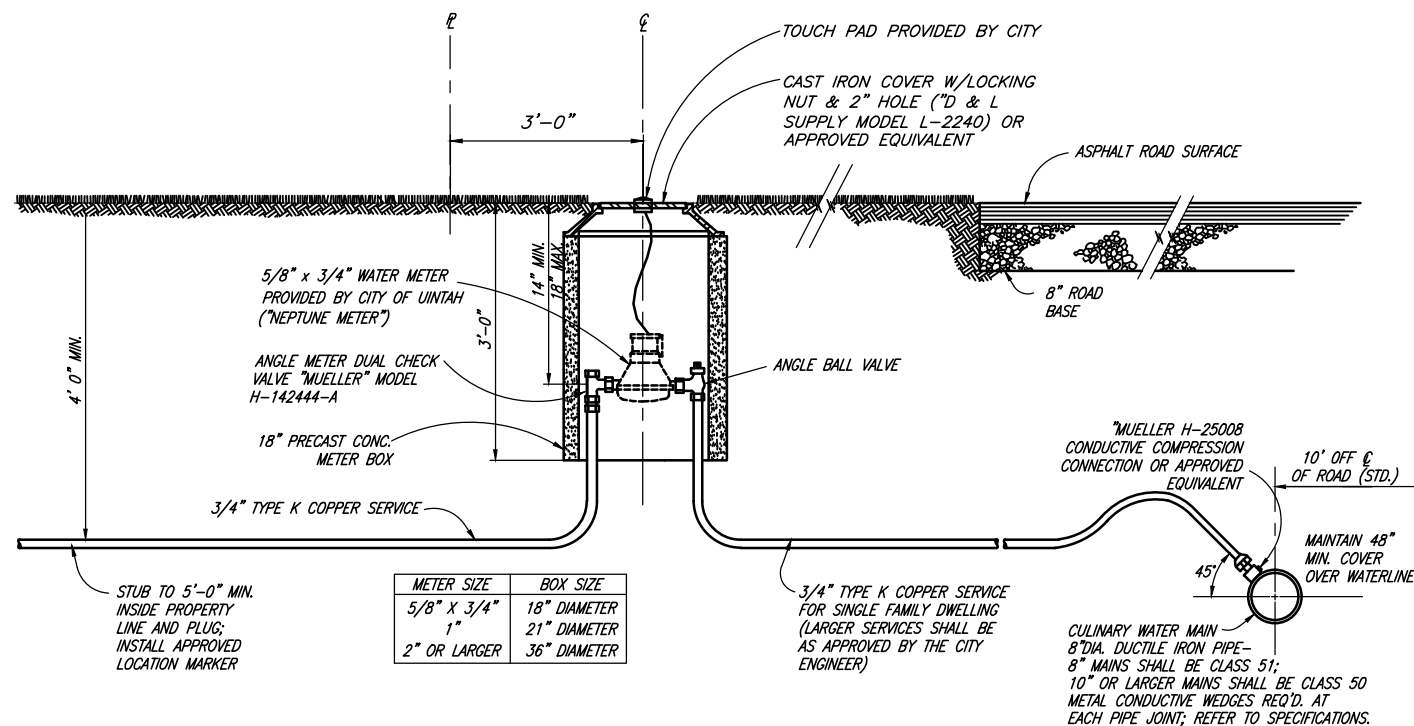
HEIGHT	GATE OPENING	GATE POST	GATE FRAME
UNDER 6 FEET	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 8' OR DOUBLE OVER 12' TO 16'	2 1/2"	1 1/2"
	SINGLE OVER 8' TO 12' OR DOUBLE 16' TO 24'	4"	1 1/2"
6 FEET AND OVER	SINGLE TO 6' OR DOUBLE TO 12'	3 1/2"	1 1/2"
	SINGLE OVER 6' TO 12' OR DOUBLE OVER 12' TO 24'	4"	1 1/2"
	SINGLE OVER 12' TO 18' OR DOUBLE OVER 24' TO 36'	6"	1 1/2"
	SINGLE OVER 18' OR DOUBLE OVER 36'	8"	1 1/2"

HEIGHT OF FABRIC	DEPTH OF POSTS	LENGTH OF END, CORNER OR PULL POST	LENGTH OF LINE POST	SIZE OF POSTS	
				END, CORNER, & PULL POSTS	LINE POST
				NOM. SIZE	NOM. SIZE
7'	3'	10'	9'-8"	2 1/2"	2"
6'	3'	9'	8'-8"	2 1/2"	2"
5'	3'	8'	7'-8"	2"	1 1/2"
4'	3'	6'	5'-8"	2"	1 1/2"
3'	3'	5'	4'-8"	2"	1 1/2"

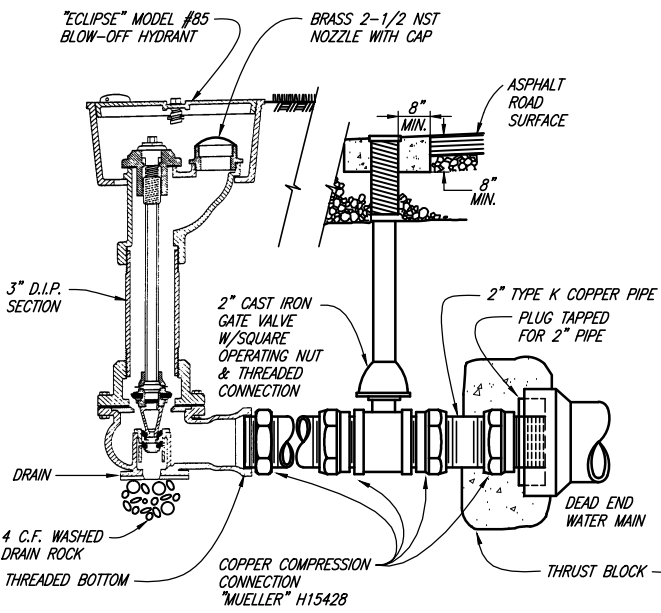
- GENERAL NOTES:**
- MATERIALS, CONSTRUCTION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH PROJECT STANDARD SPECIFICATIONS.
 - THE TYPE OF TOP SUPPORT IS SPECIFIED IN THE BIDDING SCHEDULE, TYPES I AND II TUBULAR RAIL, TYPES III AND IV TENSION WIRE.
 - BARB WIRE SHALL BE USED ONLY WHEN DESIGNATED ON THE PLANS OR IN THE SPECIFICATIONS.
 - TWISTED AND BARBED SELVAGE TOP AND BOTTOM SHALL BE USED ON FENCES 5-FEET HIGH OR GREATER.
 - KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED ON BOTTOM SHALL BE USED ON FENCES LESS THAN 5-FEET.
 - ALL STEEL PIPE MEMBERS SHALL CONFORM TO ASTM A53 HOT DIPPED ZINC COATED HIGH TENSILE STEEL PIPE.
 - POSTS SHALL BE SCHEDULE 40 PIPE.
 - LINE POSTS SHALL BE LOCATED AT EQUAL SPACING FOR EACH SEGMENT WITH A MAXIMUM SPACING AS FOLLOWS:
 - TANGENT SECTIONS TO 500-FOOT RADIUS NOT MORE THAN 8-FEET.
 - UNDER 500-FOOT RADIUS TO 200-FOOT RADIUS NOT MORE THAN 8-FEET.
 - UNDER 200-FOOT RADIUS TO 100-FOOT RADIUS NOT MORE THAN 6-FEET.
 - UNDER 100-FOOT RADIUS NOT MORE THAN 5-FEET.
 - TRUSS RODS AND BRACES SHALL NOT BE REQUIRED FOR FABRIC HEIGHT LESS THAN 5-FEET.
 - TENSION WIRE SHALL BE 7 GAUGE ZINC- OR ALUMINUM-COATED COIL SPRING STEEL TENSION WIRE.
 - ALL POSTS SHALL BE SET IN 3000 PSI CONCRETE AND SHALL BE TOPPED WITH BALL TYPE OR OTHER APPROVED ORNAMENT.
 - ALL FABRIC SHALL BE 2" GALVANIZED 9 GAUGE MESH.
 - VERTICAL SEMI-PRIVACY VINYL SLATS WITH BOTTOM-LOCKING SLAT, WHEN REQUIRED BY THE CITY. COLOR AS APPROVED BY THE CITY.
 - VINYL COATED CHAINLINK FENCING WHEN REQUIRED BY THE CITY. COLOR AS APPROVED BY THE CITY.
 - ALL FENCING SHALL CONFORM TO LOCATION AND HEIGHT LIMITATIONS AS STATED IN WEBER COUNTY FENCING ORDINANCE.



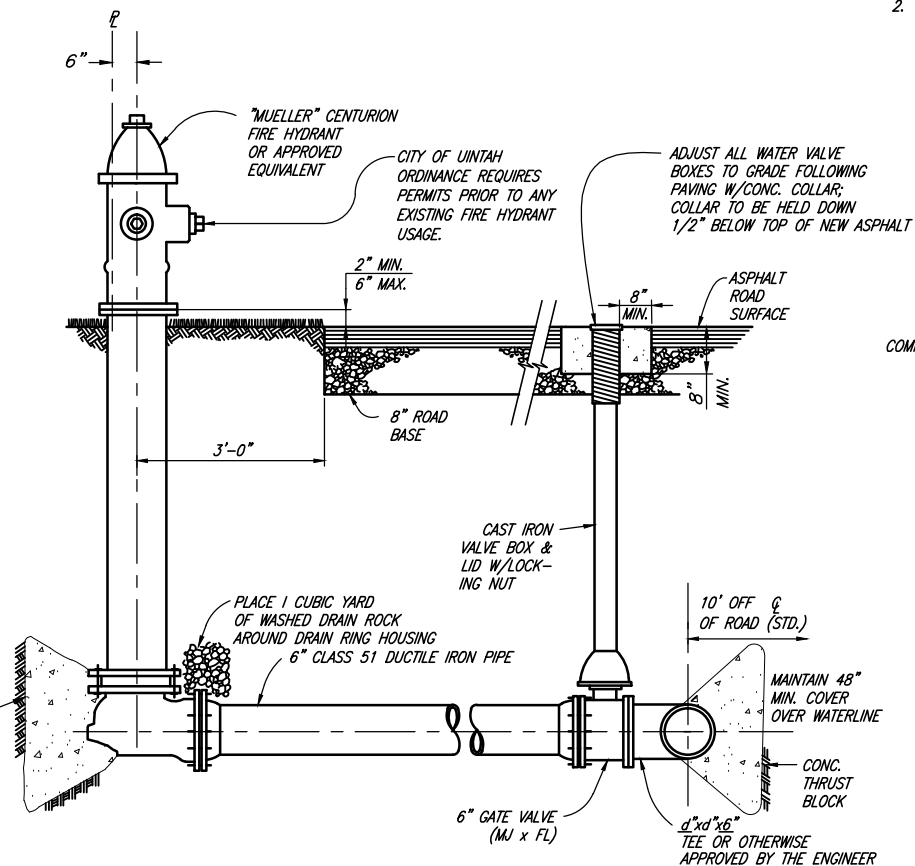
DATE	REV.	DATE	APPR.
12/3/21	MEH		



TYPICAL CULINARY WATER SERVICE CONNECTION



TYPICAL FLUSH VALVE CONNECTION



TYPICAL URBAN FIRE HYDRANT CONNECTION

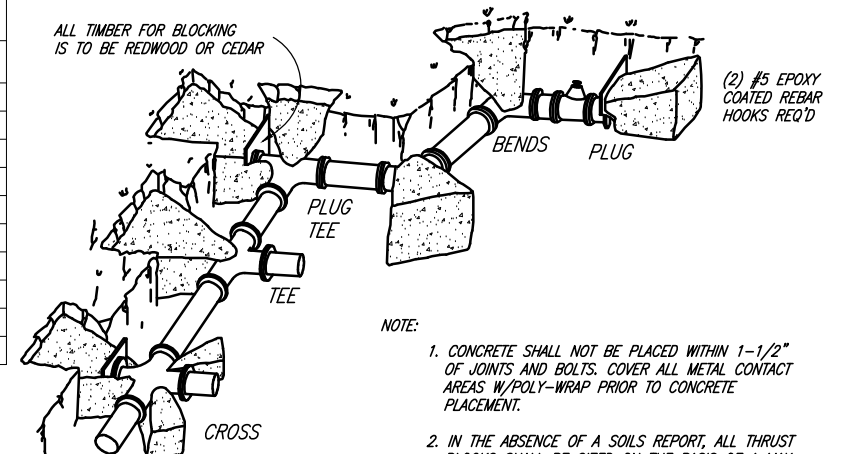
THRUST PER P.S.I. OF WATER PRESSURE AT VARIOUS FITTINGS				
PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	19	27	15	7
6	39	55	30	15
8	67	94	51	26
10	109	154	84	43
12	155	218	119	61
14	210	296	161	82
16	272	383	209	106
18	351	494	269	137
20	434	611	333	169
24	623	878	478	244

EXAMPLE:

8-INCH 90° ELBOW, PRESSURE 200 LB./SQ. IN.
 FROM TABLE : THRUST = 94 x 200 = 18,800 LB.
 ASSUME BEARING STRENGTH OF SOIL = 2000 LB./SQ. FT.
 $\frac{18,800}{2,000} = 9.4$ SQ. FT. AREA OF BEARING REQUIRED FOR THRUST BLOCK

NOTES:

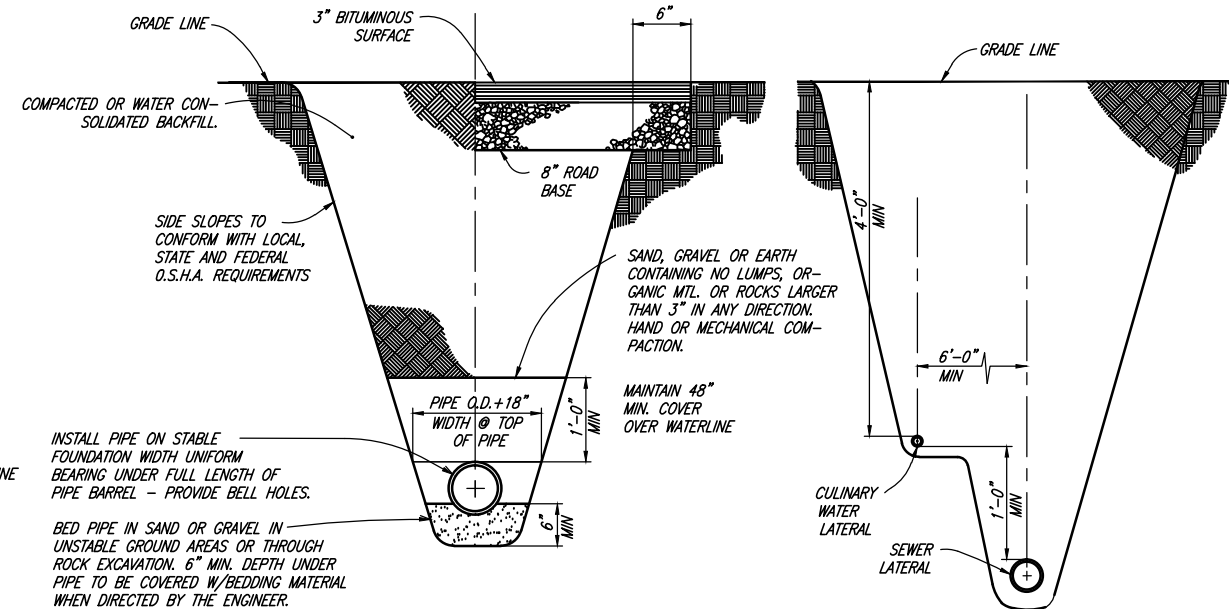
- IN USING THE ABOVE TABLES, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (I.E. HYDROSTATIC TEST PRESSURE, POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT OFF, ETC.).
- SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN THE ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 P.S.F.



NOTE:

- CONCRETE SHALL NOT BE PLACED WITHIN 1-1/2" OF JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS W/POLY-WRAP PRIOR TO CONCRETE PLACEMENT.
- IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAX. LATERAL BEARING VALUE OF 2000 P.S.F. AND A THRUST RESULTING FROM 200% OF THE WATERLINE STATIC TEST PRESSURE.
- THRUST BLOCKS ARE REQ'D. AT ALL BENDS OF 22-1/2° OR MORE.

THRUST BLOCKING



TYPICAL TRENCH SECTION

WATER & SEWER LATERAL SECTION

PROJECT ENGINEER	REV.	DATE	APPR.
DATE			

SCALE:

N. T.S.

DESIGNED SLS
 DRAWN SLS
 CHECKED SLS



CONSULTING ENGINEERS

1716 East 5600 South
 South Ogden, Utah 84403 (801) 476-9767

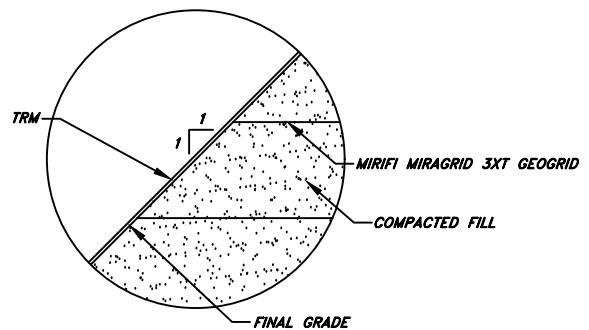
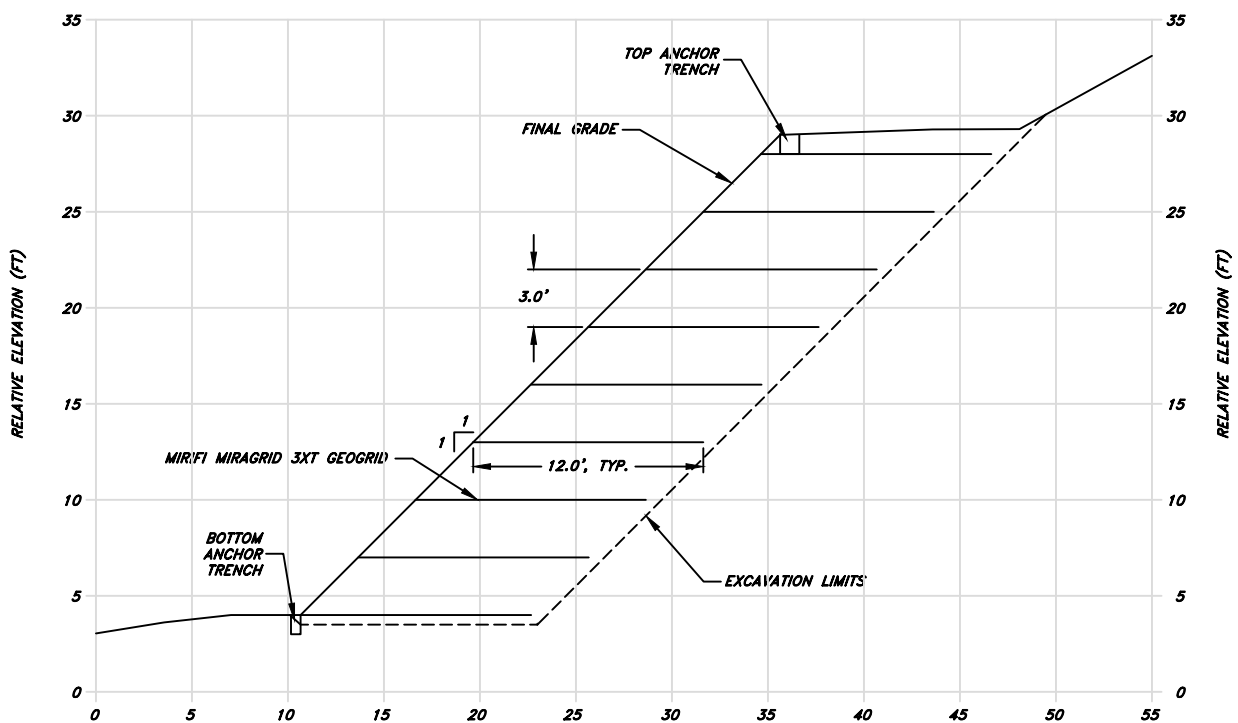
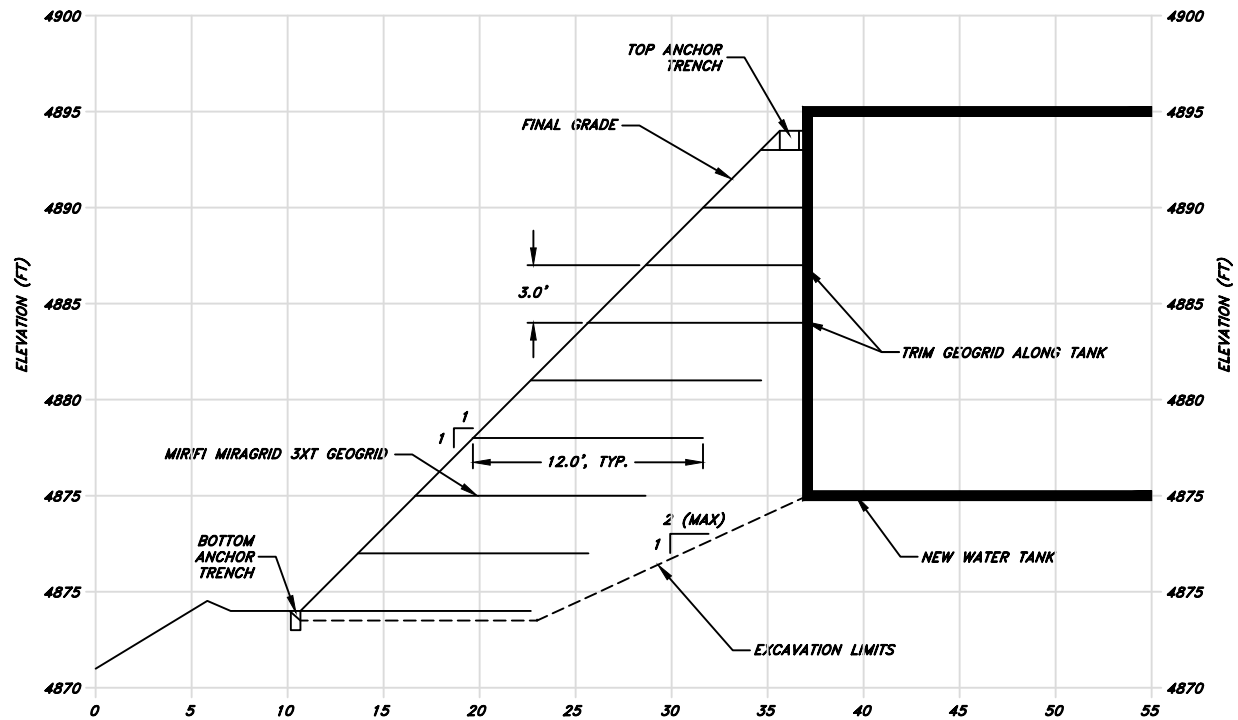
UINTAH CITY CORPORATION
 PUBLIC WORKS STANDARDS

FIRE HYDRANT & WATER SERVICE CONNECTIONS

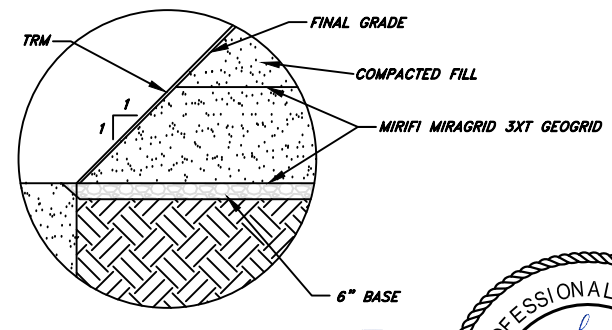
SHEET:

CS4

OF 13 SHEETS



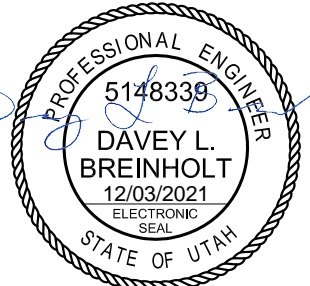
MIDDLE SLOPE DETAIL
N.T.S.



BOTTOM OF SLOPE DETAIL
N.T.S.

STABILIZED SLOPE SPECIFICATIONS & NOTES:

1. INTRODUCTION
 - 1.1. COMPLY WITH ALL ASPECTS OF OSHA 1926 SUBPART P APP B, SLOPING AND BENCHING FOR ALL EXCAVATED SLOPES.
2. FABRIC WRAPPED WALL MATERIALS
 - 2.1. GEOGRID SOIL REINFORCEMENT
 - 2.1.1. MIRAFI MIRAGRID 3XT
 - 2.2. REINFORCED BACKFILL SOILS
 - 2.2.1. APPROVED, IMPORTED, GRANULAR BACKFILL BORROW OR APPROVED GRANULAR NATIVE SOILS THAT HAVE BEEN SCREENED AND PROCESSED COMPLYING WITH THE FOLLOWING CRITERIA:
 - 2.2.1.1. GRANULAR MATERIALS CONTAINING LESS THAN 35% FINES
 - 2.2.1.2. MAXIMUM NOMINAL PARTICLE SIZE OF 4 INCHES
 - 2.2.1.3. PI OF 6 OR LESS
 - 2.2.1.4. pH GREATER THAN 3 BUT LESS THAN 9
 - 2.2.1.5. REASONABLY FREE FROM FROZEN, ORGANIC, OR OTHER DELETERIOUS MATERIALS (<5%)
 - 2.2.2. MINIMUM EFFECTIVE FRICTION ANGLE OF 35 DEGREES.
3. CONSTRUCTION
 - 3.1. FIELD-VERIFY PROPOSED FINISHED GRADE AT BOTTOM OF SLOPE TO PROVIDE A MINIMUM WALL EMBEDMENT OF SHOWN ON THE TYPICAL SECTION DRAWING.
 - 3.6. GRADE AND COMPACT FOUNDATION SUBGRADE SOILS FOR THE FULL LENGTH OF THE SLOPE AND THE REINFORCED SECTION PRIOR TO PLACEMENT OF ANY BACKFILL.
 - 3.6.1. REMOVE ANY FOUNDATION SOILS FOUND TO BE SOFT, LOOSE, UNSUITABLE OR UNSTABLE AND REPLACE WITH APPROVED GRANULAR FILL COMPLYING WITH THE CRITERIA OUTLINED IN THE SECTIONS ABOVE.
 - 3.7. INSTALL GEOGRID AT ELEVATIONS SHOWN ON THE TYPICAL SECTION DRAWING.
 - 3.8. PLACE BACKFILL IN 12-INCH MAXIMUM LIFTS. COMPACT TO 95% MODIFIED PROCTOR VALUE (ASTM D1557).
4. CONSTRUCTION OBSERVATION
 - 4.1. TO FULFILL ANY APPLICABLE CITY, COUNTY AND/OR STATE AGENCY REQUIREMENTS, AND TO PROTECT THE CONTRACTOR AND DESIGN ENGINEER, WE RECOMMEND THAT A LOCAL GEOTECHNICAL ENGINEER SHOULD BE RETAINED TO PERFORM PERIODIC CONSTRUCTION OBSERVATIONS AND VERIFY THAT THE DESIGN CONTAINED HEREIN WAS FOLLOWED.
 - 4.2. FABRIC WRAPPED RETAINING WALL OBSERVATIONS SCHEDULE:
 - 4.2.1. OBSERVE THAT THE EXCAVATED RETAINED AND FOUNDATION SOILS ARE AS SHOWN IN THE DESIGN, AS FOLLOWS:
 - 4.2.1.1. SOIL TYPE - SILTY SAND WITH GRAVEL
 - 4.2.1.2. SOIL FRICTION ANGLE - 34°, MIN.
 - 4.2.1.3. SOIL COHEISION - 100 PSF, MIN.
 - 4.2.2. ASSESS THE SUITABILITY OF THE FOUNDATIONS SOILS. IGES SHOULD BE CONTACTED IF ANY SIGNS OF SPRINGS, STANDING WATER, OR EXISTING FILL IS OBSERVED.
 - 4.2.3. OBSERVE THE INSTALLATION OF THE GEOGRID REINFORCEMENT SECTIONS.
 - 4.2.3.1. ASSESS GEOGRID PLACEMENT, FREQUENCY, AND DIRECTION.
 - 4.2.3.2. ASSESS DRAINAGE MATERIAL PLACEMENT AND LAP SPLICING.
 - 4.2.3.3. ASSESS DEPTH OF GRAVEL DRAINAGE ZONE AND GEOTEXTILE PLACEMENT.
 - 4.2.3.4. ASSESS FACE THE SLOPE AND TRM PLACEMENT WITH SLOPE CONNECTORS.
 - 4.2.3. OBSERVE THE INSTALLATION OF THE REINFORCED AND RETAINED BACKFILL.
 - 4.2.3.1. VERIFY THAT THE SELECT BACKFILL MATERIALS MEET THE REQUIREMENTS SET FORTH IN PROJECT SPECIAL PROVISIONS.
 - 4.2.3.2. OBSERVE FILL PLACEMENT AND COMPACTION.
 - 4.2.3.2.1. ASSESS LOOSE LIFT THICKNESS.
 - 4.2.3.2.2. OBSERVE OPERATION OF COMPACTION EQUIPMENT.
 - 4.2.3.2.2.1. NOTE OUT-OF-TOLERANCE BEHAVIOR REGARDING MINIMUM ALLOWABLE OPERATING DISTANCE BEHIND BACK OF RETAINING WALL BLOCKS.
 - 4.2.3.3. ASSESS COMPACTED BACKFILL MATERIAL FOR COMPLIANCE WITH REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE.
 - 4.2.4. OBSERVE THE COMPLETED SLOPE STABILIZATION SYSTEM.
 - 4.2.4.1. ASSESS THE FINISHED RETAINING WALL HEIGHT AND BATTER.
 - 4.2.4.2. VERIFY THAT BACKSLOPE AND TOESLOPE GRADING CONDITIONS DO NOT EXCEED DESIGN GEOMETRY TOLERANCES.
 - 4.2.4.3. ASSESS SUITABILITY OF EROSION CONTROL MEASURES INSTALLED ABOVE THE RETAINING WALL.



IGES ENGINEERS
CONSULTING ENGINEERS

12429 South 300 East
Drapers, Utah 84020
(801) 748-4044

UNTAH CITY CORPORATION
BYBEE TANK REPLACEMENT PROJECT

**SLOPE REINFORCEMENT
DETAILS**

REV.	DATE	APPR.

SCALE: 22' x 34' DESIGNED: DRAWN: CHECKED: APPR.

H: N.T.S. W: N.T.S. H: 11' x 17' W: N.T.S.

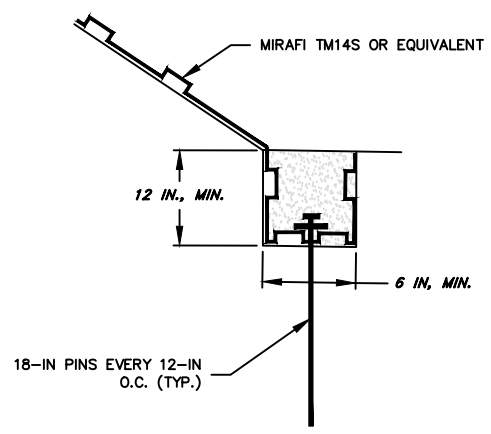
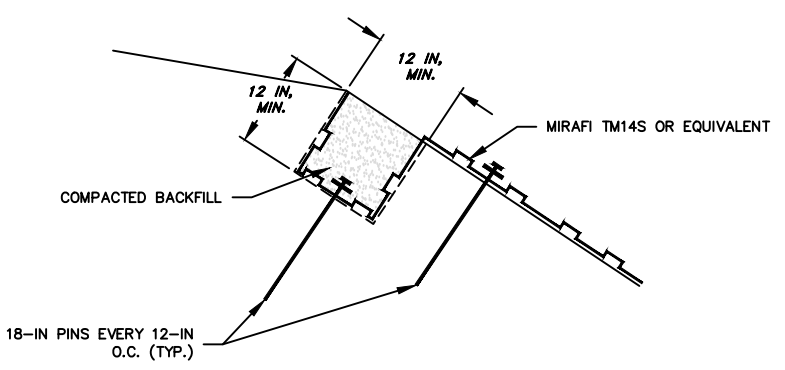
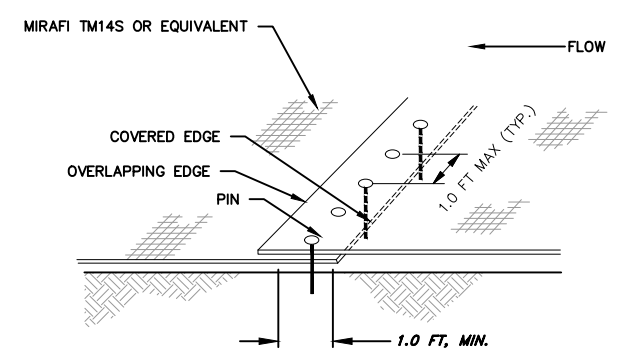
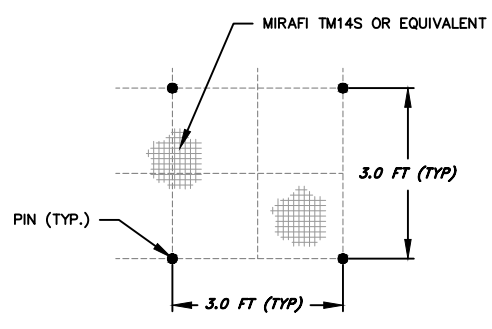
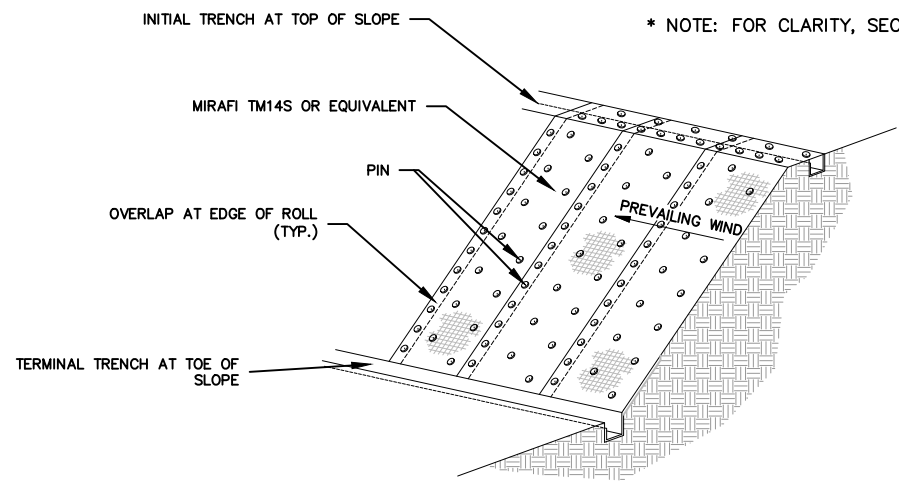
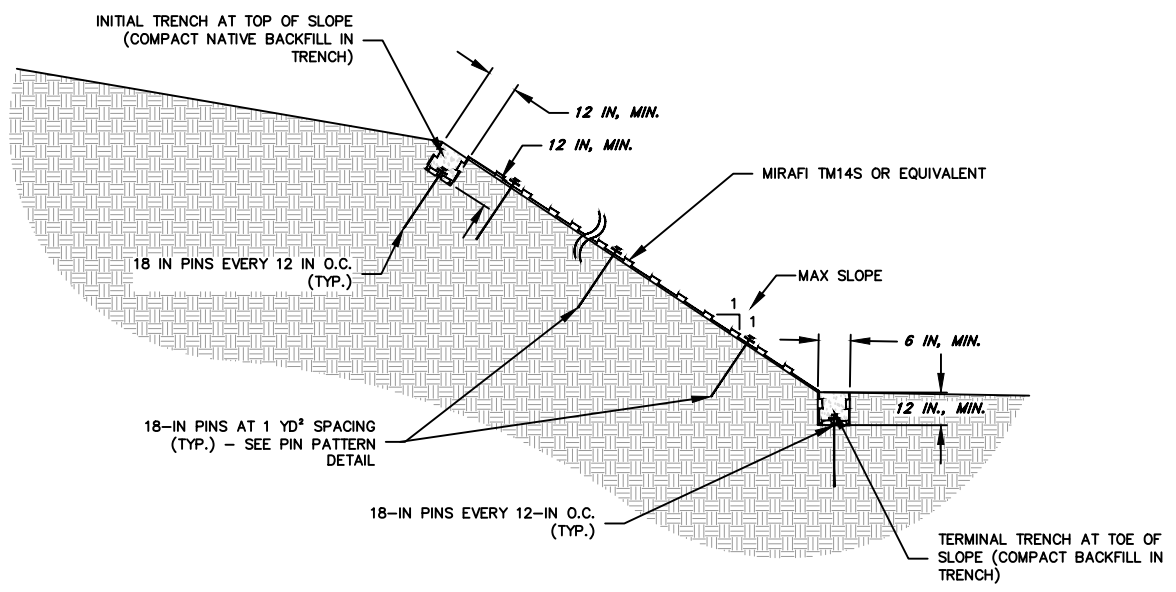
RS1

OF 17 SHEETS

REV.	DATE	APPR.

SCALE:	DESIGNED	DRAWN	CHECKED
22" x 34"			
H: N.T.S.			
W: N.T.S.			
11" x 17"			
H: N.T.S.			
W: N.T.S.			

- HIGH PERFORMANCE TURF REINFORCEMENT (HP-TRM) INSTALLATION SPECIFICATIONS:**
- SITE PREPARATION**
 - GRADE AND COMPACT THE AREA THAT WILL RECEIVE THE HIGH PERFORMANCE TURF REINFORCEMENT (HP-TRM). REMOVE DEBRIS, ROCKS, CLOUDS, VEGETATION OR OTHER OBJECTS SO THAT THE SLOPE WILL BE SMOOTH SUCH THAT THE INSTALLED MAT WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
 - PREPARE SEEDBED AS NEEDED BY LOOSENING THE TOP 2-3 INCHES OF SOIL. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER AND/OR WET THE SOIL, IF NEEDED. DO NOT MULCH AREAS WHERE MAT IS TO BE PLACED.
 - SEEDING**
 - APPLY SEED TO SOIL SURFACE BEFORE INSTALLATION OF HP-TRM. DISTURBED AREAS SHALL BE RE-SEED. CONSULT PROJECT PLANS AND/OR LOCAL OR STATE SEEDING REQUIREMENTS FOR SEED TYPES AND APPLICATION RATES.
 - ANCHOR TRENCH**
 - SEE SECTION VIEW, TOP AND BOTTOM TRENCH DETAILS, AND PERSPECTIVE VIEW FOR ANCHOR TRENCH DETAILS.
 - EXCAVATE THE INITIAL TRENCH AND TERMINAL TRENCH AS SHOWN IN THE DETAILS ACROSS THE TOP AND BOTTOM OF THE SLOPE.
 - MATERIALS**
 - HP-TRM
 - HP-TRM SHALL CONSIST OF MIRAFI TM14S OR ENGINEER-APPROVED EQUIVALENT.
 - COLOR SHALL BE TAN.
 - PINS
 - SOIL ANCHORS SHALL BE 18 INCH, MIN. LONG MIRAFI ANCHORS.
 - INSTALLATION OF HP-TRM**
 - SECURE HP-TRM IN INITIAL TRENCH AT THE TOP OF THE SLOPE. INSTALL 12-INCH PIN WITHIN INITIAL TRENCH AND A SECONDARY PIN LOCATED JUST BELOW THE TRENCH EVERY 12 INCHES ON CENTER (SEE PIN AND TRENCH DETAILS). BACKFILL AND COMPACT SOIL INTO INITIAL ANCHOR TRENCH.
 - ROLL HP-TRM DOWN THE SLOPE FROM THE ANCHOR TRENCH. SECURE HP-TRM TO SLOPE WITH 18 INCH PINS AT 1 SQUARE YARD PATTERN (SEE PIN PATTERN DETAIL). MORE PINS MAY BE REQUIRED TO ENSURE HP-TRM IS SUFFICIENTLY SECURED TO THE SLOPE. FURTHER, CRITICAL POINTS AS DETERMINED BY THE PROJECT ENGINEER, MAY REQUIRE ADDITIONAL PINS.
 - CONTINUE INSTALLATION OF HP-TRM, OVERLAPPING ADJACENT ROLLS AS FOLLOWS:
 - ROLL EDGE OVERLAP: 6 INCH MINIMUM OVERLAP WITH UPSLOPE HP-TRM MAT ON TOP. SECURE WITH ONE ROW OF PINS LOCATED EVERY 12 INCHES ON CENTER.
 - ROLL END OVERLAP: 18 INCH MINIMUM OVERLAP WITH UPSLOPE MAT ON TOP. SECOND WITH TWO ROWS OF PINS STAGGERED APART ON 24 INCHES CENTERS (SEE HP-TRM OVERLAP DETAIL AT END OF ROLL).
 - SECURE HP-TRM IN THE TERMINAL TRENCH AT THE TOE OF THE SLOPE. INSTALL 18-INCH PIN WITHIN TERMINAL TRENCH EVERY 12 INCHES ON CENTER. BACKFILL AND COMPACT SOIL INTO THE TERMINAL ANCHOR TRENCH.
 - PIN PLACEMENT NOTE: PINS SHOULD BE A MINIMUM OF 18 INCHES IN LENGTH. THE LENGTH MUST BE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. LONGER PINS MAY BE REQUIRED FOR LOOSER SOILS AND HEAVIER METAL STAKES MAY BE REQUIRED FOR ROCKY SOILS.
 - SOIL FILLING**
 - INSTALLED HP-TRM SHALL BE RE-SEED AND SOIL-FILLED.
 - AFTER SEEDING, SPREAD AND LIGHTLY RAKE 1/2-INCH TO 3/4-INCH OF FINE SITE SOIL OR TOPSOIL INTO THE MAT AND COMPLETELY FILL THE VOIDS USING BACKSIDE OF RAKE OR OTHER FLAT TOOL.
 - IF EQUIPMENT MUST OPERATE ON THE MAT, MAKE SURE IT IS RUBBER-TIRED. NO TRACKED EQUIPMENT OR SHARP TURNS ARE ALLOWED ON THE MAT.
 - AVOID ANY TRAFFIC OVER THE MAT IF LOOSE OR WET SOIL CONDITIONS EXIST.
 - SMOOTH SOIL-FILL IN ORDER TO JUST EXPOSE THE TOP OF THE HP-TRM. DO NOT PLACE EXCESSIVE SOIL ABOVE THE MAT.
 - BROADCAST ADDITIONAL SEED AS NEEDED ABOVE THE SOIL-FILLED MAT.
 - IRRIGATE AS NECESSARY TO ESTABLISH/MAINTAIN VEGETATION. DO NOT OVER IRRIGATE.



PROFESSIONAL ENGINEER
 5148339
 DAVEY L. BREINHOLT
 12/03/2021
 ELECTRONIC SEAL
 STATE OF UTAH

STRUCTURAL NOTES :

A. GENERAL

- THE STRUCTURAL NOTES ARE INTENDED TO COMPLEMENT THE PROJECT SPECIFICATIONS WHICH ARE PART OF THE CONSTRUCTION DOCUMENTS. SPECIFIC NOTES AND DETAILS ON THE DRAWINGS SHALL GOVERN OVER THE STRUCTURAL NOTES AND TYPICAL DETAILS.
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE. IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON CONTRACT DOCUMENTS, CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION OF ANY AFFECTED ELEMENTS.
- ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- OBSERVATION VISITS TO THE SITE BY ARW ENGINEERS FIELD REPRESENTATIVES SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
- SEE SPECIFICATIONS FOR REQUIRED SUBMITTALS. SUBMITTALS SHALL BE MADE IN A TIMELY MANNER AS INDICATED IN SPECIFICATIONS. REVIEW OF SUBMITTALS BY ARW ENGINEERS IS FOR GENERAL COMPLIANCE ONLY AND IS NOT INTENDED AS APPROVAL. SUBMITTALS WHICH ARE UNCLEAR OR DIFFICULT TO READ SHALL BE REJECTED.
- DURING AND AFTER CONSTRUCTION, BUILDER AND/OR OWNER SHALL KEEP LOADS ON STRUCTURE WITHIN THE LIMITS OF DESIGN LOADS.
- TYPICAL DETAILS AND SECTIONS SHALL APPLY WHERE SPECIFIC DETAILS ARE NOT SHOWN.
- THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH ANY CHANGES, MODIFICATIONS OR SUBSTITUTIONS.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY SHORING AND BRACING FOR ALL STRUCTURAL ELEMENTS UNTIL THE ENTIRE STRUCTURAL SYSTEM IS COMPLETED. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF ALL SHORING.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT OR OTHER EQUIPMENT BEFORE FABRICATING AND ERECTING STRUCTURAL ELEMENTS.
- THIS SET OF DRAWINGS MAY BE USED FOR THE CONSTRUCTION OF BOTH REPLACEMENT TANKS ON SITE. SEE JONES AND ASSOCIATES' SITE PLAN FOR THE LOCATION AND ORIENTATION OF ALL TANK APPURTENANCES (ie. PIPING, VENTS, ACCESS HATCH, etc.) FOR EACH TANK.

B. SPECIAL INSPECTIONS

- THE FOLLOWING SPECIAL INSPECTIONS SHALL BE PERFORMED AS REQUIRED BY IBC 2018 SECTION 110 AND CHAPTER 17:
 - CONCRETE CONSTRUCTION (IBC 1705.3)
 - REINFORCING STEEL PLACEMENT
 - PERIODIC INSPECTION REQUIRED.
 - VERIFYING REQUIRED DESIGN MIX.
 - PERIODIC INSPECTION REQUIRED.
 - CONCRETE PLACEMENT/SAMPLING
 - CONTINUOUS INSPECTION REQUIRED.
 - OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CU. YD. BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF.
 - WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIXTURE, TESTING SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED.
 - PERFORM AIR TESTS WHEN CONCRETE SAMPLES ARE CAST ACCORDING TO THE ASTM C 231. PRESURE METHOD. FOR NORMAL-WEIGHT CONCRETE, ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.
 - CURING TEMPERATURE/TECHNIQUES.
 - PERIODIC INSPECTION REQUIRED.
 - THE ITEMS THAT REQUIRED SPECIAL INSPECTIONS ABOVE SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY.
 - THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER AND CONTRACTOR. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
 - ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.
 - CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. (IBC SECTION 202)

C. BASIS OF DESIGN

- GOVERNING BUILDING CODE : ACI 318 / ACI 350 / ACI 350.3
 - SNOW LOAD = 48 PSF, LIVE LOAD = 100 PSF (SNOW LOAD AND LIVE LOAD TO NOT OCCUR SIMULTANEOUSLY).
 - MAXIMUM SOIL OVER COVER = NO SOIL ON ROOF

D. FOUNDATION

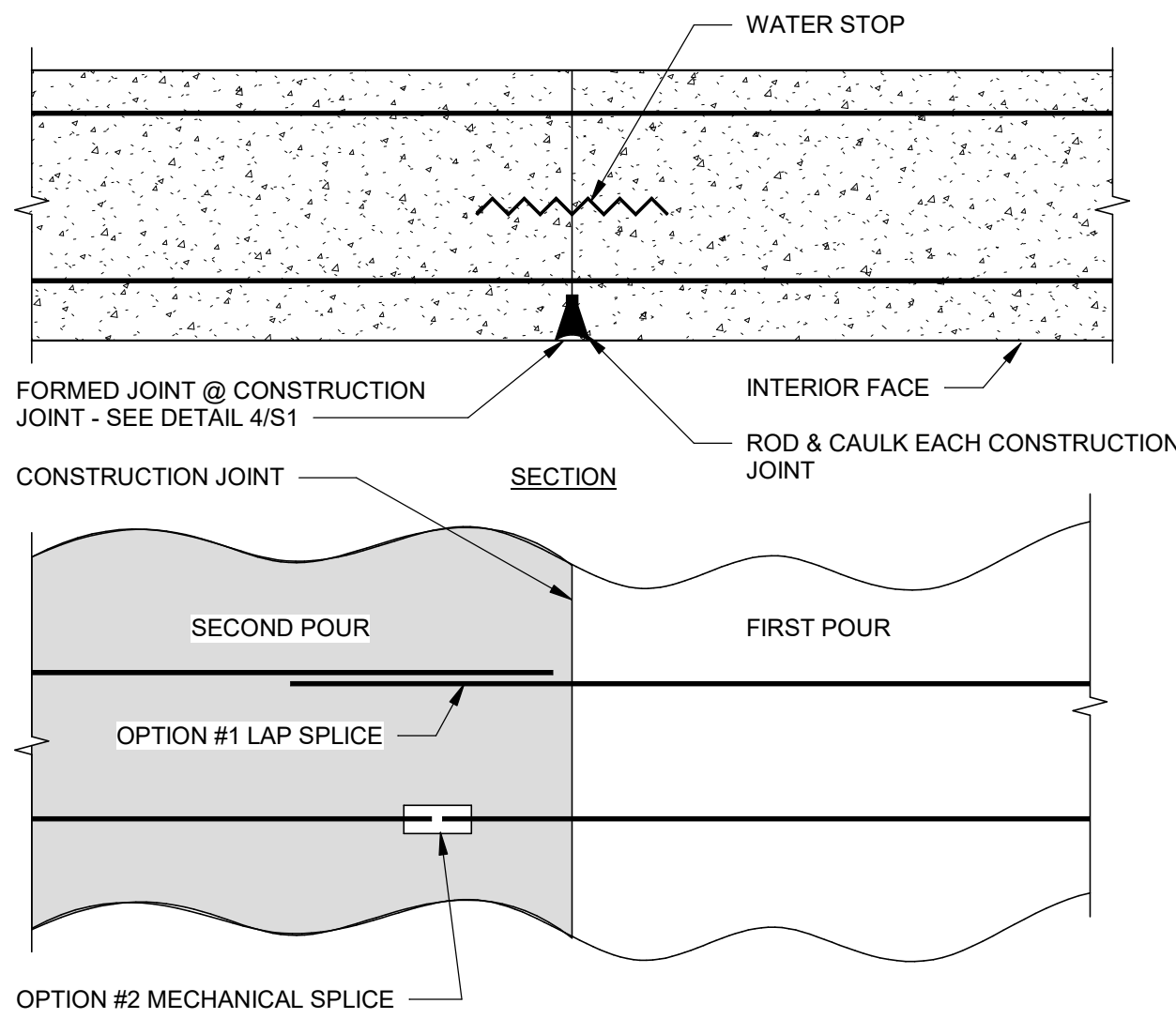
- DESIGN SOIL PRESSURE : 3,000 PSF
- SOILS REPORT BY : CHRISTENSEN GEOTECHNICAL REPORT # : 226-001 DATED : MAY 16, 2020
- SOIL PREPARATION UNDER FOOTINGS AND SLABS-ON-GRADE SHALL BE 24" OF PEA GRAVEL OVER SOIL PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
- UNLESS NOTED OTHERWISE, ALL FOOTINGS AT COLUMNS TO BE CENTERED BELOW COLUMNS.
- USE SAND AND GRAVEL TO BACKFILL TANK WALLS.

E. CONCRETE

- ALL CONCRETE SHALL HAVE A DESIGN 28-DAY COMPRESSIVE STRENGTH AS FOLLOWS :
 - FOOTINGS, SLAB ON GRADE, COLUMNS, WALLS, AND ROOF SLAB : 4500psi
 - ALL CONCRETE SHALL HAVE AN AIR CONTENT OF 5% AND MAXIMUM WATER / CEMENT RATIO OF 0.40
- NO PIPES, DUCTS, SLEEVES, ETC. SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED OR APPROVED BY STRUCTURAL ENGINEER. NO ALUMINUM PRODUCTS SHALL BE EMBEDDED IN CONCRETE. PENETRATIONS THRU WALLS WHEN APPROVED SHALL BE BUILT INTO THE WALL PRIOR TO PLACEMENT OF CONCRETE
- REFER TO OTHER (CIVIL, ETC.) DRAWINGS FOR EXTENT AND LOCATION OF DEPRESSIONS, CURBS, RAMPS, ETC.
- AROUND OPENINGS IN SUSPENDED CONCRETE SLABS, ADD REINFORCING BARS EQUIVALENT TO BARS CUT BY OPENING WITH HALF ON EACH SIDE OF OPENING. BARS SHALL RUN FULL LENGTH OF SPAN. SEE DETAIL 3/S1.
- CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE MADE AND LOCATED SO AS TO NOT IMPAIR THE STRENGTH OF THE STRUCTURE AND AS APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE WATERSTOP IN ALL VERTICAL AND HORIZONTAL JOINTS. ALL STEEL REINFORCING SHALL BE CONTINUOUS THROUGH COLD JOINTS, WITH LAP SPLICES AS INDICATED, UNLESS NOTED OTHERWISE.
- SEE PROJECT SPECIFICATION FOR WATERPROOFING ADMIXTURE.

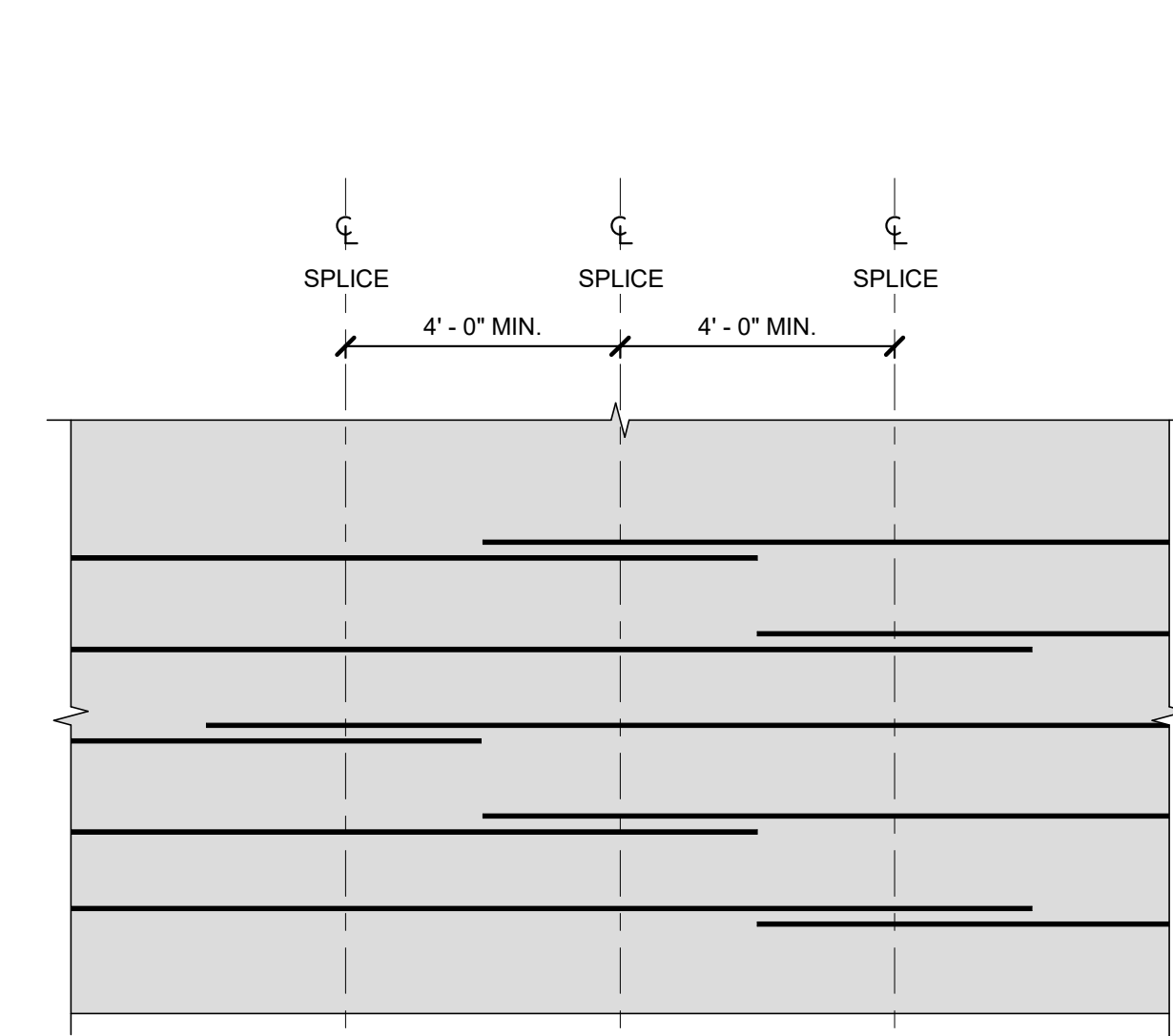
F. REINFORCING STEEL

- ALL REINFORCING BARS SHALL CONFORM TO ASTM STANDARD A-615 GRADE 60 ADEQUATELY TIE AND SUPPORT ALL REINFORCING STEEL AS SPECIFIED BY ACI 315, TO MAINTAIN EXACT REQUIRED POSITION. ALL FIELD BENT DOWELS SHALL BE GRADE 40 WITH SPACINGS INDICATED REDUCED BY 1/3.
- REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE COVERAGE:
 - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH : 3"
 - EXPOSED TO EARTH, WATER OR WEATHER:
 - #6 & LARGER : 2"
 - #5 & SMALLER : 2" (1 3/4" FOR #3 COLUMN TIES)
- SLAB ON GRADE
 - PLACE REINFORCING AT CENTER OF SLAB UNLESS INDICATED OTHERWISE.
- EXCEPT WHERE NOTED, CONTINUOUS REINFORCEMENT SHALL BE SPLICED WITH LAP SPLICES AT POINTS OF MINIMUM STRESS AS FOLLOWS:
 - IN RESERVOIR WALLS, SEE DETAILS 1/S1, 2/S1 AND 1/S3.
 - IN COLUMNS, USE 35 INCH LAP
 - IN SUSPENDED SLAB, USE 48 BAR DIAMETER LAP AND STAGGER ADJACENT BAR SPLICES 24" MIN
 - IN SLAB-ON-GRADE, USE 30 BAR DIAMETER LAP.
- ALL VERTICAL REINFORCING SHALL BE DOWELED TO FOOTINGS OR STRUCTURE BELOW WITH DOWELS TO MATCH. SPLICE LENGTHS SHALL COMPLY WITH NOTE F.3. DOWELS INTO FOOTINGS SHALL TERMINATE WITH A STANDARD HOOK, AND SHALL EXTEND TO WITHIN 4" OF THE BOTTOM OF THE FOOTING, BUT NOT MORE THAN 20" INTO FOOTING. SEE DETAILS FOR REQ'D. EMBEDMENT OR DOWELS.
- DO NOT WELD REINFORCING.



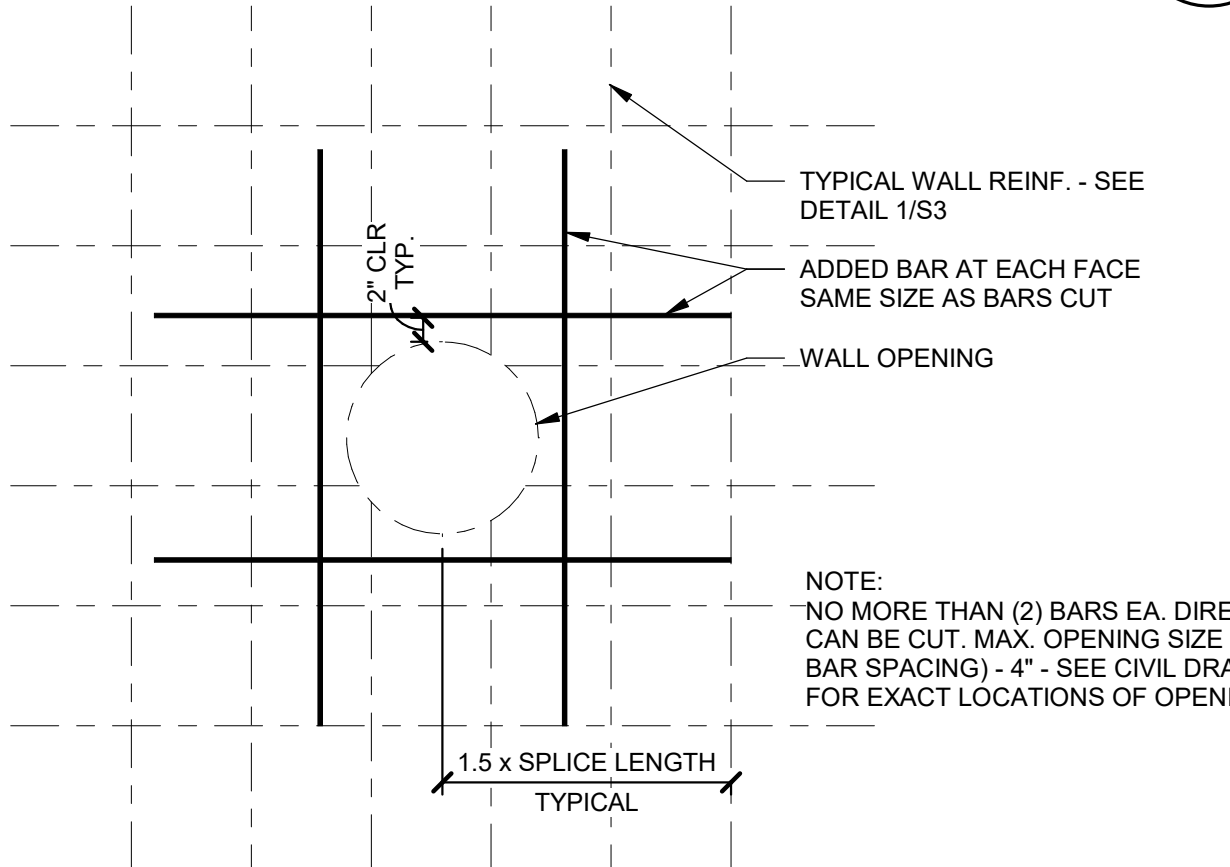
- NOTES:**
- FOR OPTION #1 - SPLICE LENGTHS ARE
 - #5 BARS - 39"
 - #6 BARS - 46"
 - #7 BARS - 66"
 - #8 BARS - 77"
 - FOR OPTION #2 - USE MECHANICAL CONNECTORS WHICH ACHIEVE 125% OF THE STRENGTH OF THE BARS BEING SPLICED. SUBMIT A CURRENT ICC RESEARCH REPORT FOR APPROVAL PRIOR TO CONSTRUCTION.

TYPICAL CONST. JOINT IN WALL DETAIL 1 S1
SCALE : NONE

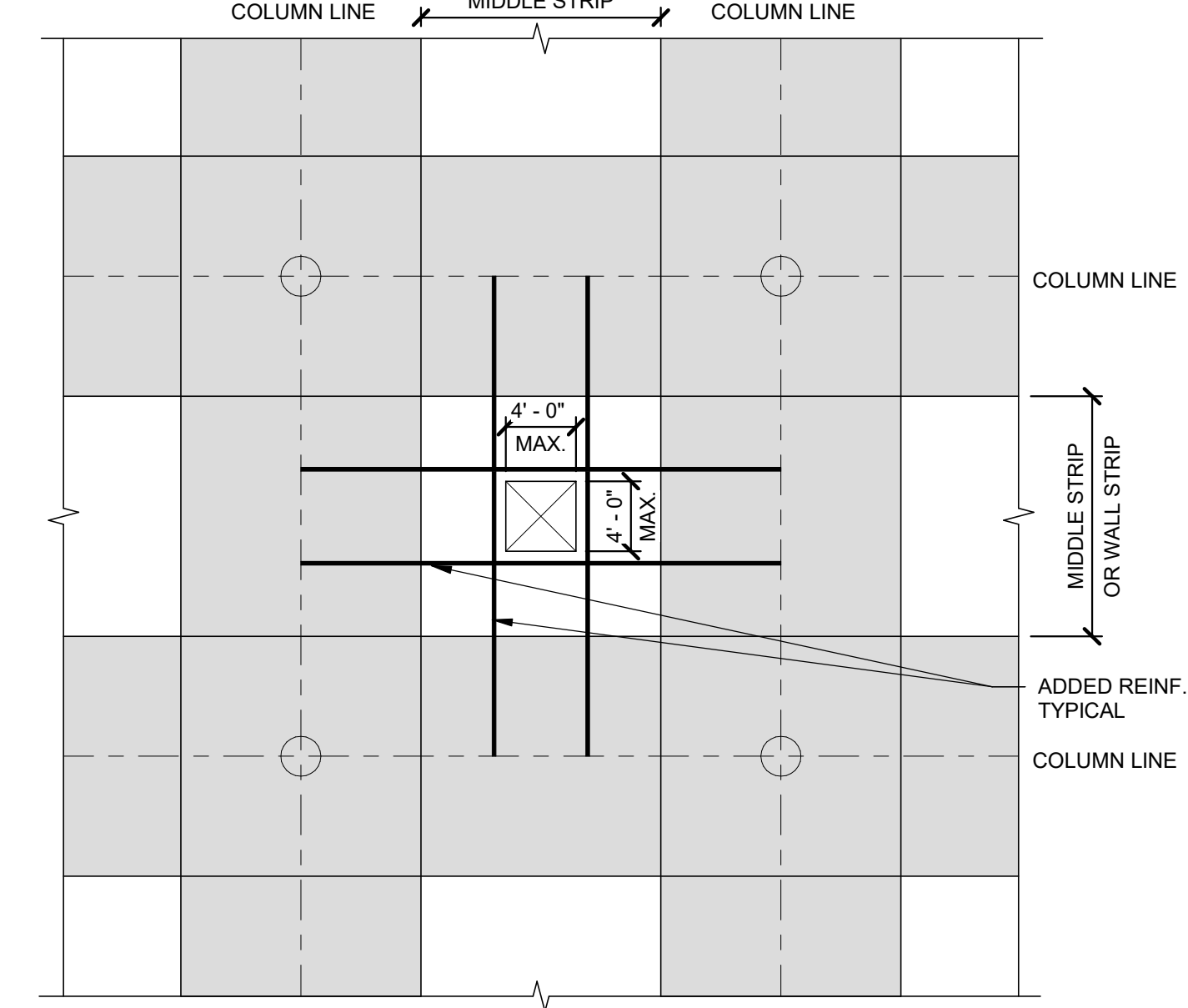


- NOTES:**
- SPLICES MAY NOT COINCIDE VERTICALLY MORE FREQUENTLY THAN EVERY THIRD BAR.
- SPLICE LENGTHS**
- #5 BARS - 39"
 - #6 BARS - 46"
 - #7 BARS - 66"
 - #8 BARS - 77"

TYPICAL REINF. BAR SPLICE DETAIL 2 S1
SCALE : NONE



TYPICAL WALL OPENING DETAIL 5 S1
SCALE : NONE



- NOTES:**
- ADD REINFORCING ON ALL SIDES OF OPENING EQUAL TO 1/2 THE AMOUNT CUT IN THAT DIRECTION. ADDED BARS TO EXTEND TO COLUMN LINES AS SHOWN.
 - OPENINGS MAY ONLY OCCUR @ INTERSECTIONS OF MIDDLE STRIPS (OR INTERSECTION OF MIDDLE STRIP WITH WALL STRIP) AS SHOWN.

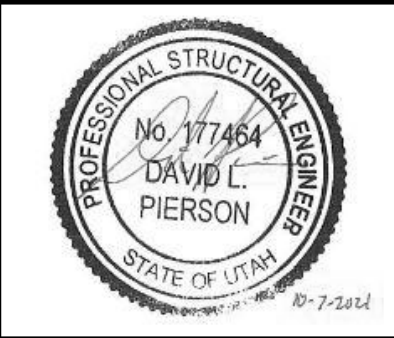
TYPICAL ROOF OPENING DETAIL 3 S1
SCALE : NONE

Structural Sheet Index	
SHEET NUMBER	SHEET NAME
S1	STRUCTURAL NOTES
S2	FOOTING & FOUNDATION PLAN
S3	DETAILS

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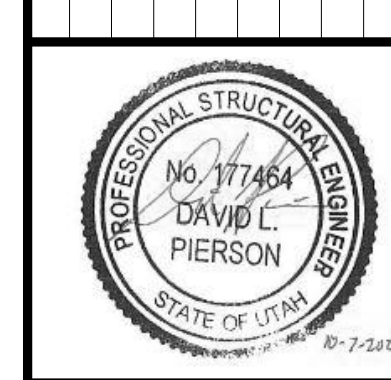
X:\DRAWINGS 2020\2021-18 - Uintah City Bybee Water TankS - 2021-18 - Uintah City Bybee Water Tank Replacement - v.21.rvt

DATE:	10/07/21
DESIGNED:	DLP
DRAWN:	JER
CHECKED:	DLP

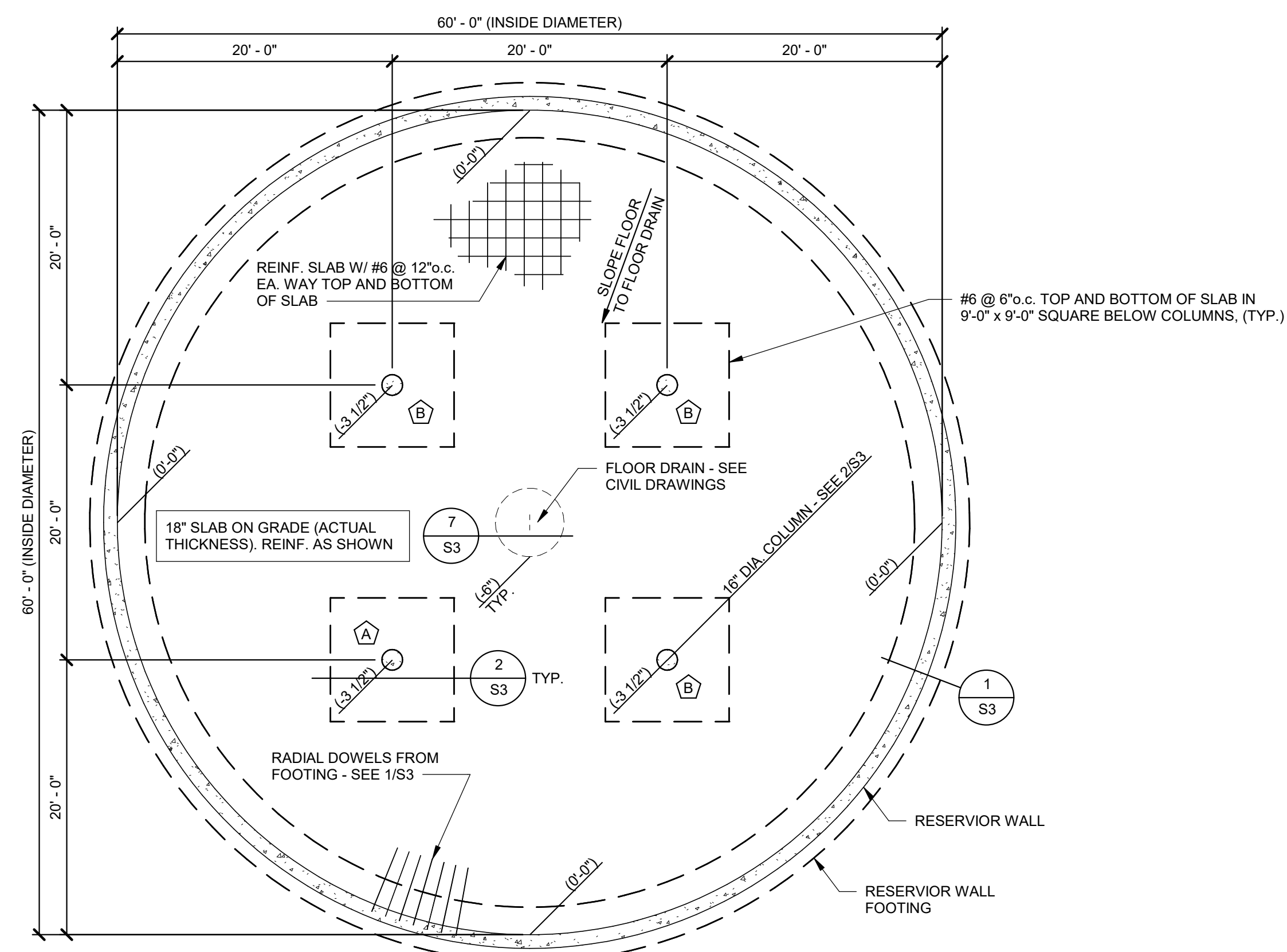


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SCALE:
 SHEET:
S2
 OF 3 SHEETS

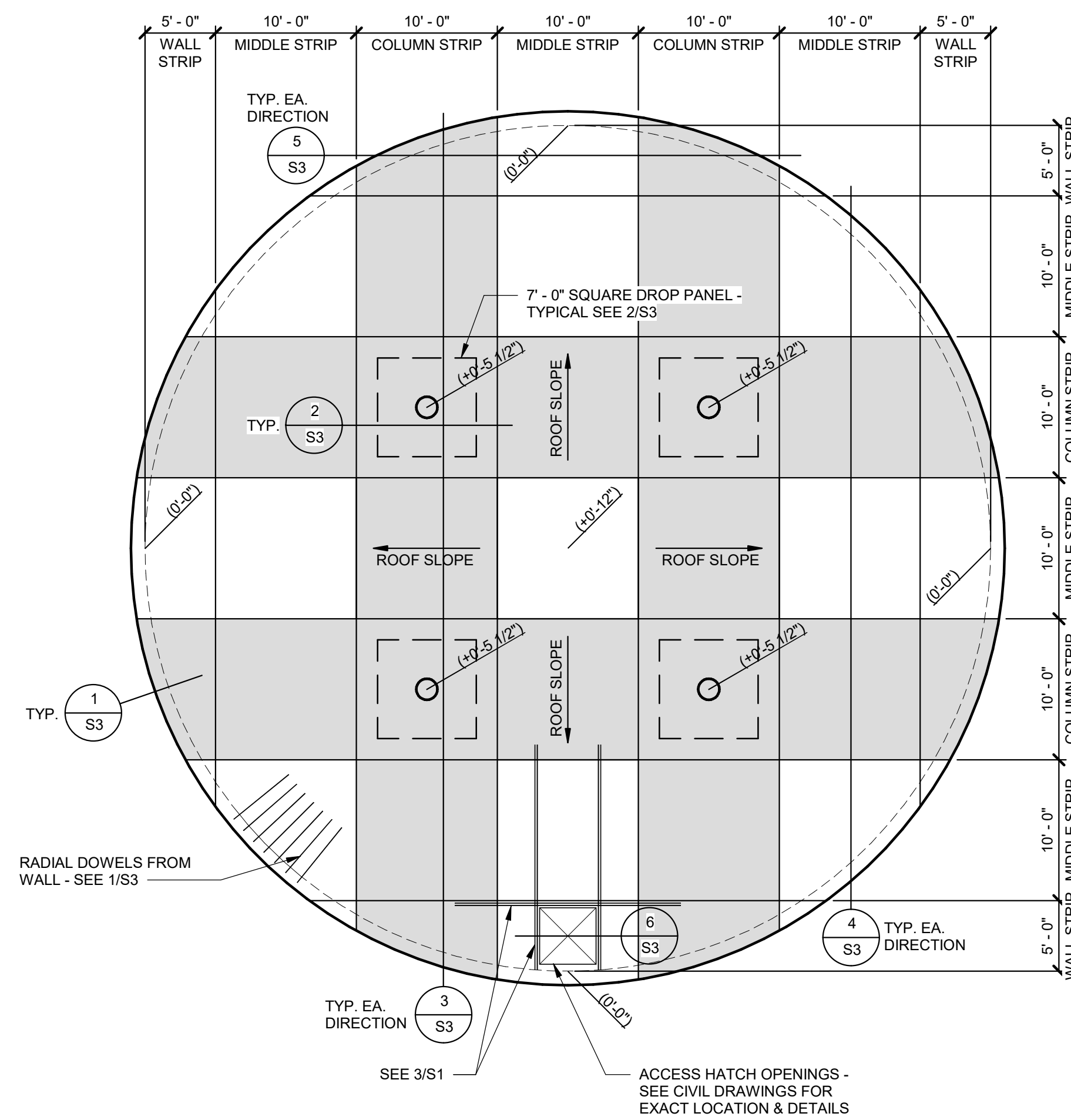


NOTE:
 1. FLOOR SLOPES 8" FROM OUTSIDE TO DRAIN AT CENTER. NUMBERS SHOWN IN () ARE RELATIVE TOP OF SLAB ELEVATIONS AT COLUMNS

NOTE:
 THIS SET OF DRAWINGS MAY BE USED FOR THE CONSTRUCTION OF BOTH REPLACEMENT TANKS ON SITE. SEE JONES AND ASSOCIATES' SITE PLAN FOR THE LOCATION AND ORIENTATION OF ALL TANK APPURTENANCES (ie. PIPING, VENTS, ACCESS HATCH, etc.) FOR EACH TANK.

FOOTING & FOUNDATION PLAN
 SCALE: 1/8" = 1'-0"

A
 S2



NOTE:
 1. ROOF SLOPES 12" FROM CENTER TO EDGE. NUMBERS SHOWN IN () ARE RELATIVE TOP OF SLAB ELEVATIONS AT COLUMNS.

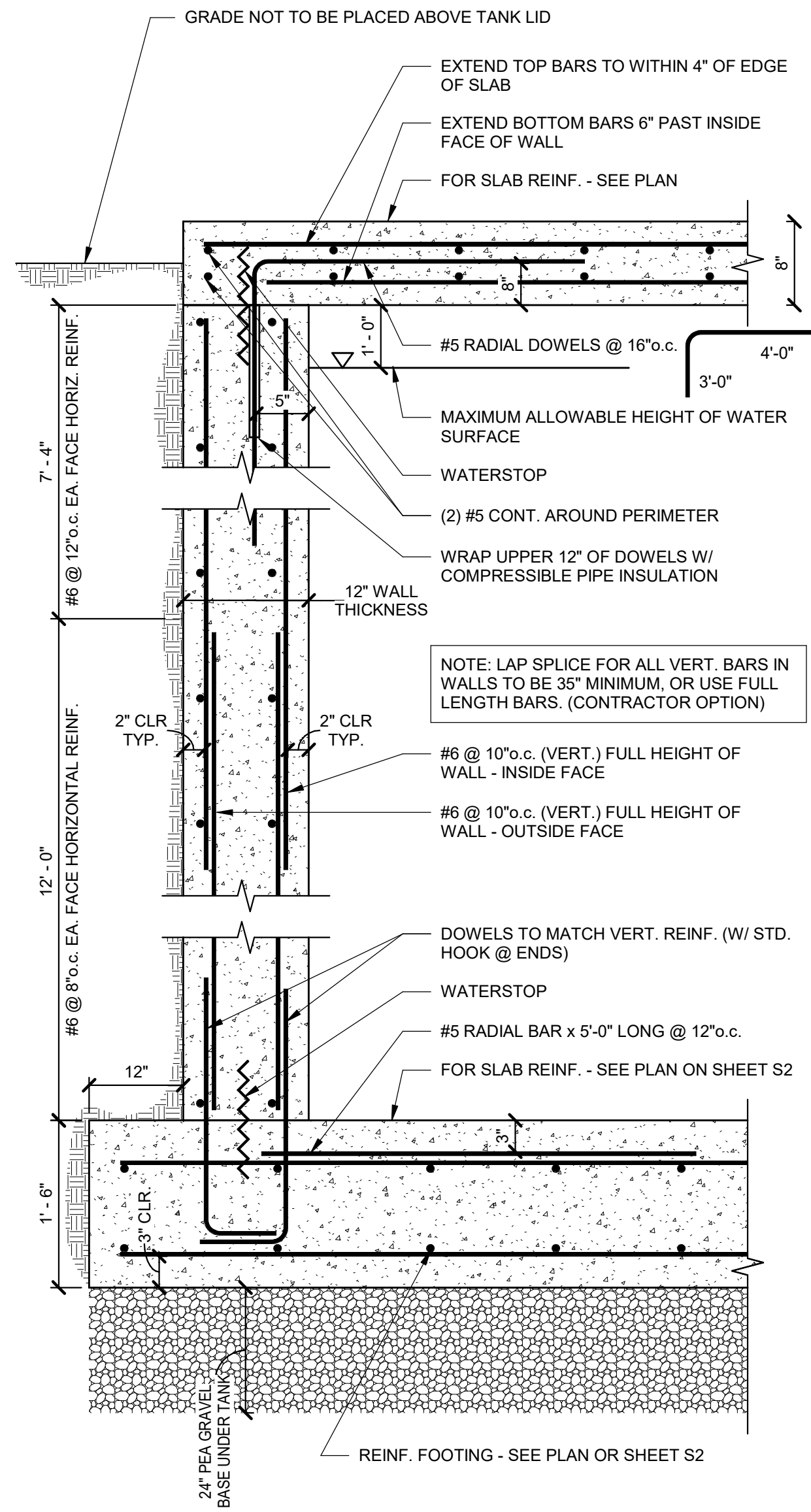
NOTE:
 THIS SET OF DRAWINGS MAY BE USED FOR THE CONSTRUCTION OF BOTH REPLACEMENT TANKS ON SITE. SEE JONES AND ASSOCIATES' SITE PLAN FOR THE LOCATION AND ORIENTATION OF ALL TANK APPURTENANCES (ie. PIPING, VENTS, ACCESS HATCH, etc.) FOR EACH TANK.

ROOF SLAB PLAN
 SCALE: 1/8" = 1'-0"

B
 S2

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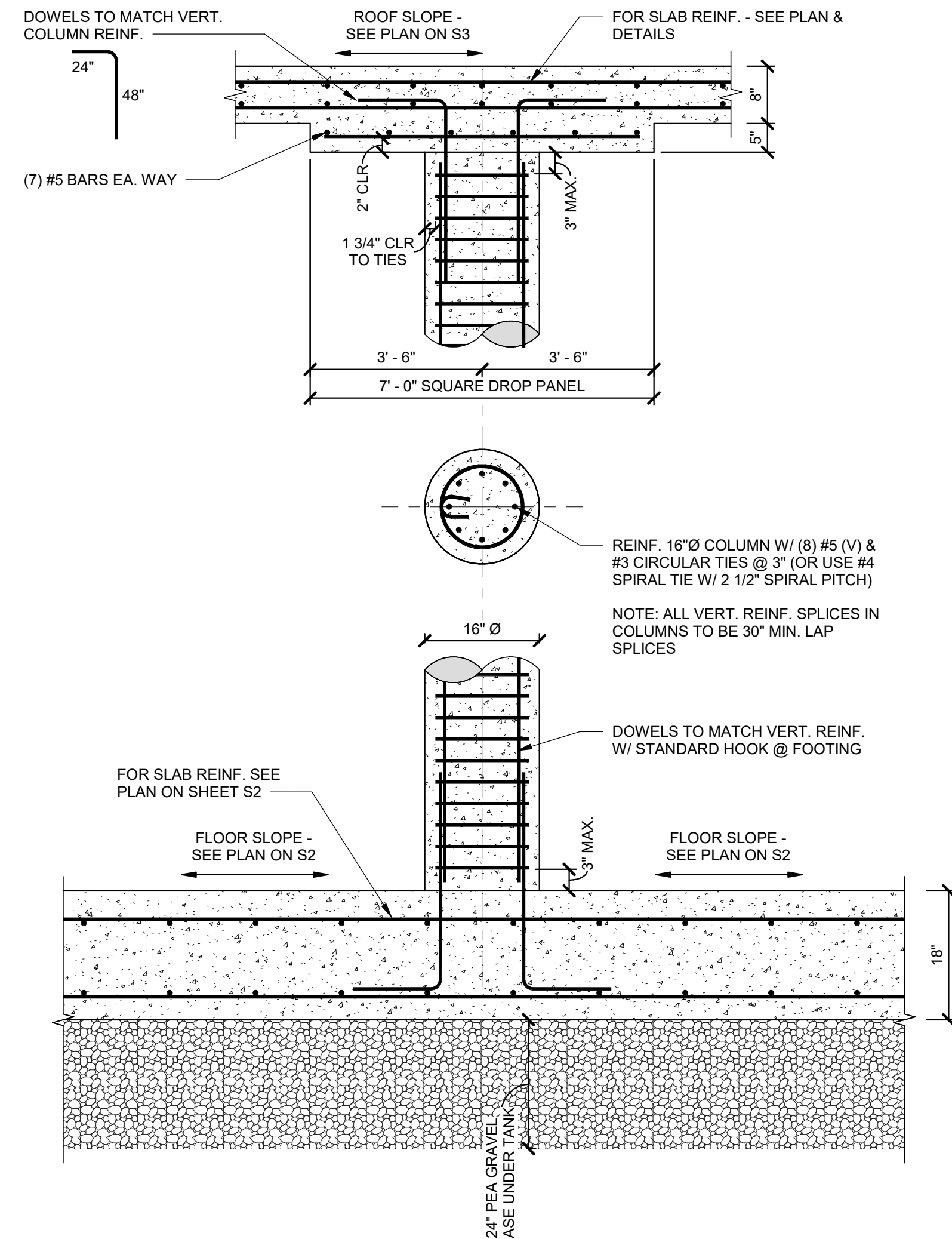


TYPICAL RESERVOIR WALL SECTION

SCALE: NONE

1

S3

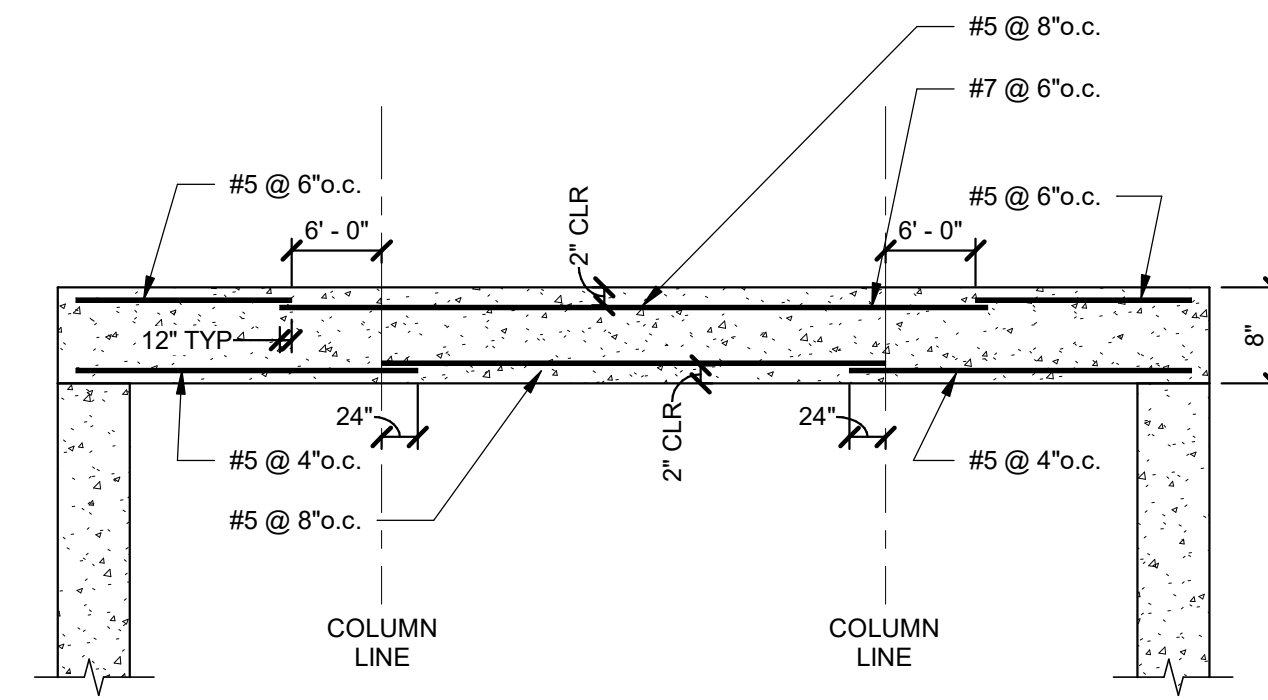


TYPICAL INTERIOR COLUMN

SCALE: NONE

2

S3

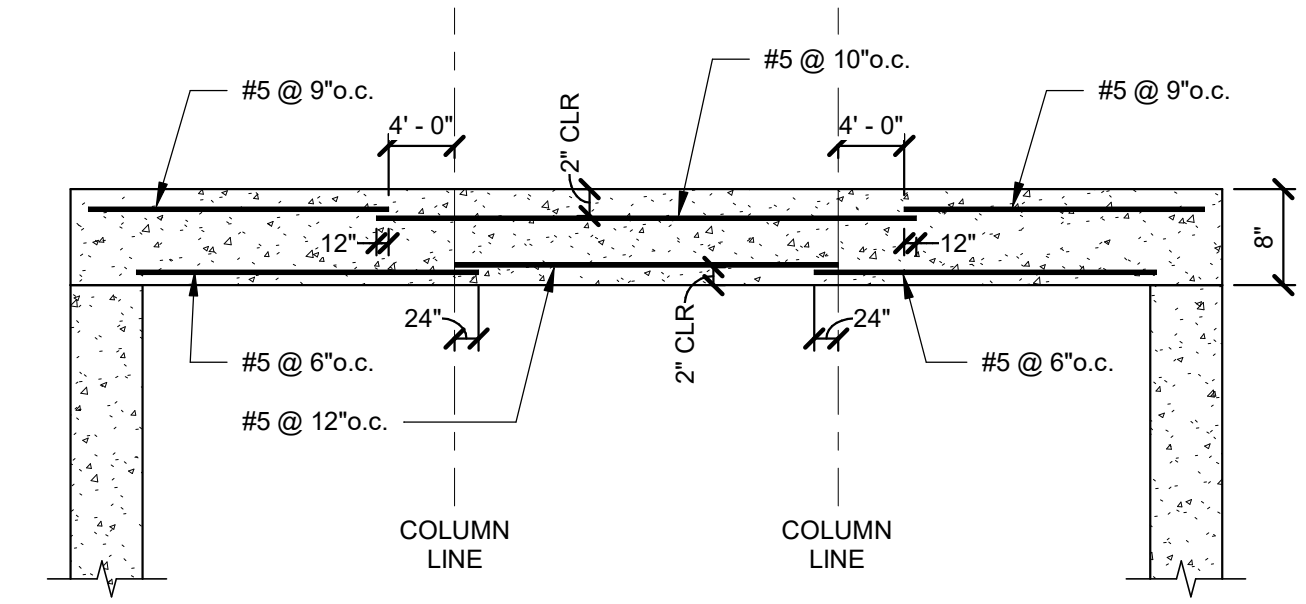


COLUMN STRIP (EACH DIRECTION)

SCALE: NONE

3

S3

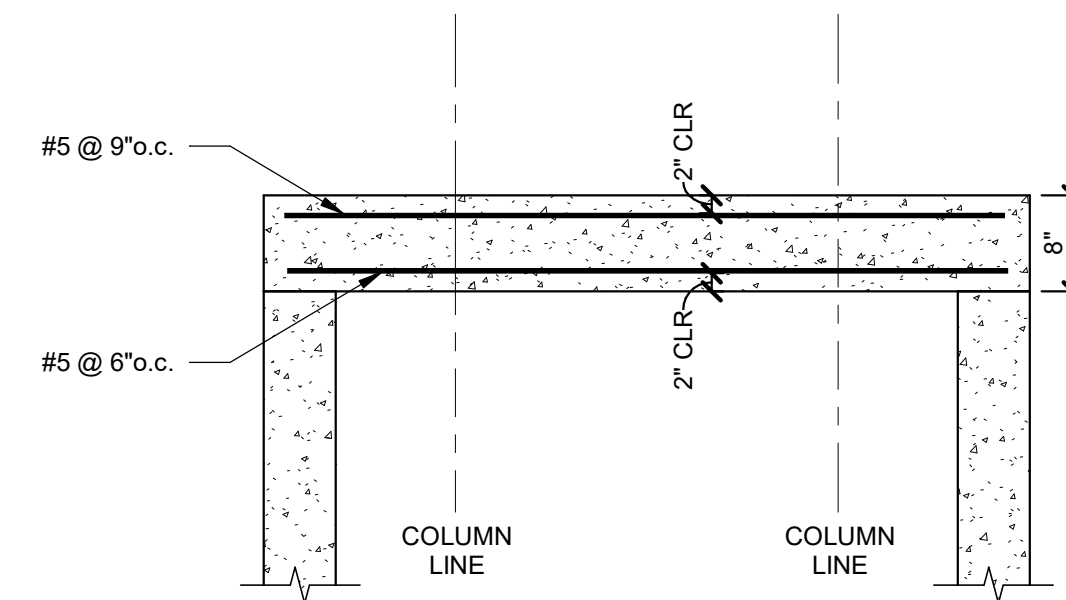


MIDDLE STRIP (EACH DIRECTION)

SCALE: NONE

4

S3

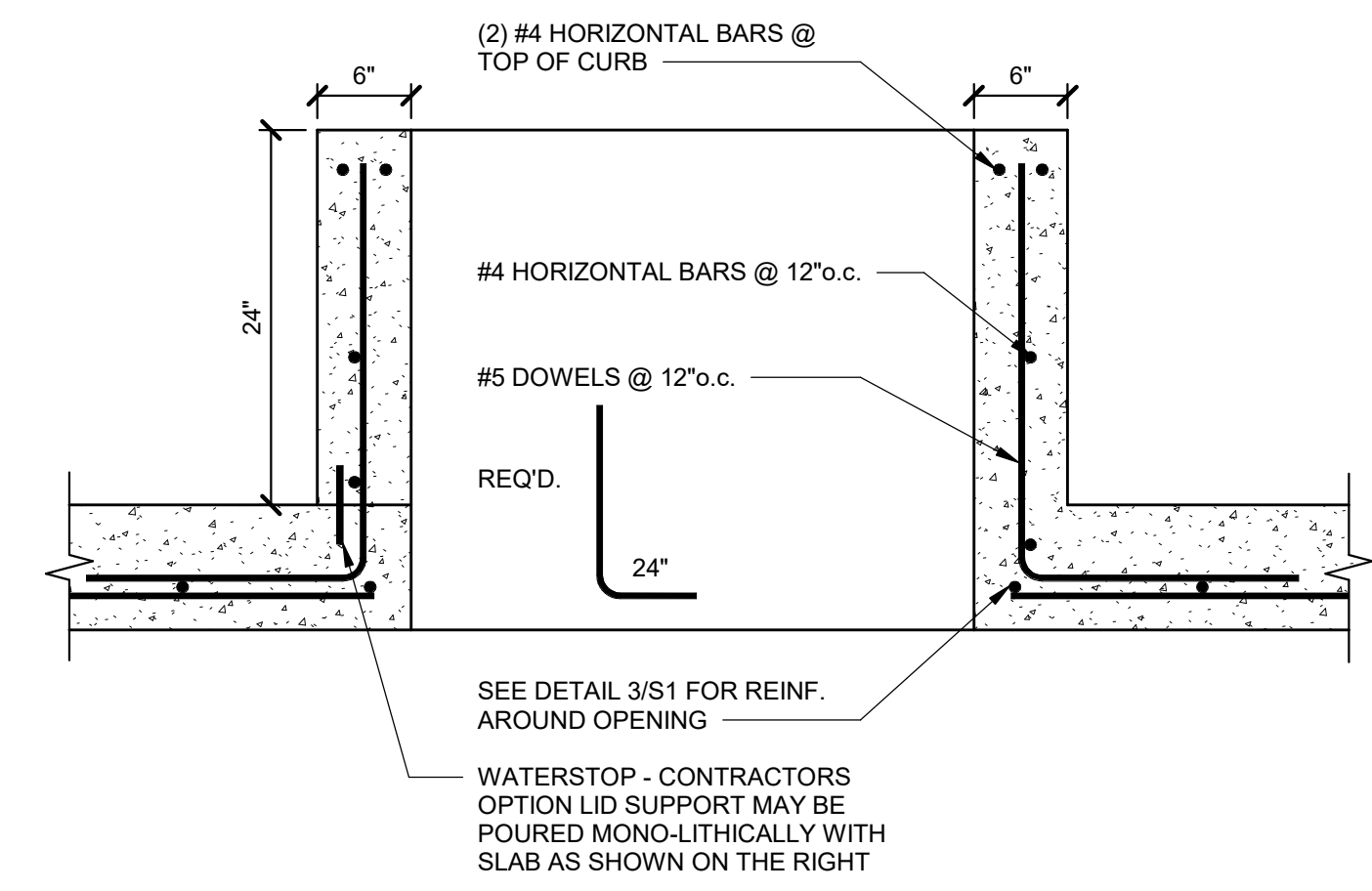


WALL STRIP (EACH DIRECTION)

SCALE: NONE

5

S3

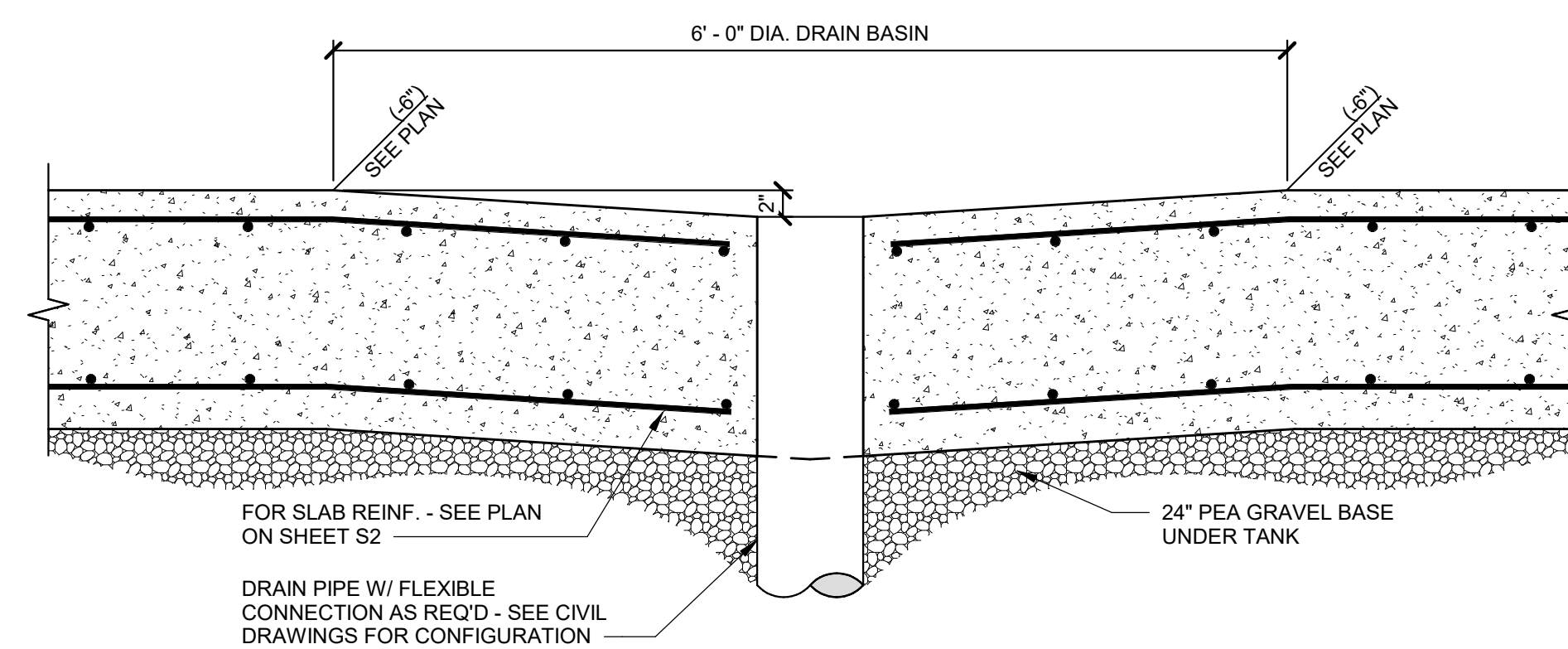


CURB WALL SECTION

SCALE: NONE

6

S3



DRAIN BASIN

SCALE: NONE

7

S3