

C:\ONEDRIVE\ENGINEERING - ROARING FORK ENGINEERING\PROJECT\2024\9 - CITY OF RIFLE LIFT STATION\04-DWG\04-SHEETS\5 - RIFLE LIFT STATION COVER.DWG Plotted: 3/25/2026 3:14 PM By: Jorqui Gossard

CITY OF RIFLE

LIFT STATION PROJECT

RIFLE, CO



BID SET

MARCH 2026

PROJECT DESCRIPTION:

THE PROJECT SCOPE INCLUDES THE FOLLOWING ITEMS:

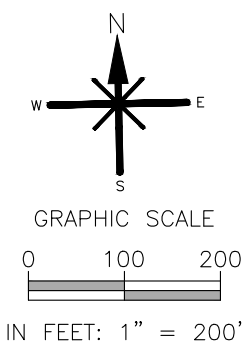
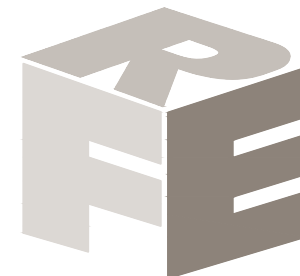
- DEMOLITION AND ABANDONMENT OF EXISTING LIFT STATION
- INSTALLATION OF 75 LF OF GRAVITY SANITARY SEWER PIPE
- INSTALLATION OF 145 LF OF SANITARY FORCE MAIN
- INSTALLATION OF NEW LIFT STATION, INCLUDING WET WELL AND PUMPING FACILITIES
- INSTALLATION OF NEW ELECTRICAL PANEL AND CONTROLS
- MODIFICATION OF EXISTING WETWELL

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PROJECT CONTACTS

MANUFACTURER'S REPRESENTATIVE	SCOTT KONKE CANYON SYSTEMS, INC (303) 987-3838
UTILITIES DIRECTOR	JARED EMMERT
OPERATOR OF RESPONSIBLE CHARGE (ORC)	ADAM MACKLEY
CIVIL ENGINEER	MAGGIE MCHUGH, PE ROARING FORK ENGINEERING (970) 340-4130
HOLY CROSS ENERGY	LIBBY COWLING (970) 947-5428
STRUCTURAL ENGINEER	THERESA WEIDMANN, PE WESTERN WATER SOLUTIONS, LLC
ELECTRICAL ENGINEER	TED WILLE, PE BROWNS HILL ENGINEERING & CONTROLS



ROARING FORK ENGINEERING

592 HIGHWAY 133
CARBONDALE, CO 81623
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JLG JLG JLG JLG

DATE:
12.18.2024
07.23.2025
11.14.2025
12.16.2025
03.25.2026

DESCRIPTION
SITE LOCATION APPLICATION
60% SET
90% SET
100% SET
BID SET

1 2 3 4 5

JOB #: 2024-59

NOT FOR
CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

COVER

C0
OF C10

C:\CONDRIVE\ENGINEER - ROARING FORK ENGINEERING\PROJECT\2024\9 - CITY OF RIFLE LIFT STATION\04-DWG\04-SHEETSET\5 - RIFLE LIFT STATION COVER.DWG Plotter: 3/7/2026 3:14 PM By: Joseph Gossard

1. GENERAL NOTES:

- ALL WORK SHALL COMPLY WITH THE MOST RECENT CITY, COUNTY, AND CDPHE RULES AND REGULATIONS.
- THE CONTRACTOR SHALL OBTAIN, AT THEIR OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A BUILDING PERMIT, ELECTRICAL PERMIT, LOCAL AND STATE GROUNDWATER DISCHARGE, AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY (OWNER, ENGINEER AND/OR UTILITY OWNER) AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
- LIMITS OF CONSTRUCTION SHALL BE AS DEPICTED ON THE PLANS. PROJECT LIMITS ADDITIONALLY INCLUDE ALL EQUIPMENT STAGING AND STORAGE AREAS. RESPECT ALL TREE AND VEGETATION PRESERVATION ZONES, AND WETLANDS (PER SPECS).
- THROUGHOUT ALL PHASES OF CONSTRUCTION, UNTIL THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR MUST KEEP THE WORK SITE CLEAN AND FREE FROM RUBBISH AND DEBRIS. THE CONTRACTOR SHALL ALSO ABATE DUST NUISANCE AS NECESSARY. THE CONTRACTOR HAS TWENTY-FOUR (24) HOURS AFTER THE DEPOSIT OF ANY EARTH, GRAVEL OR OTHER EXCAVATED MATERIAL TO REMOVE SUCH DEPOSIT. IN THE EVENT THAT THE EARTH, GRAVEL OR OTHER EXCAVATED MATERIAL IS NOT REMOVED, THE ENGINEER OR OWNER WILL DIRECT SUCH REMOVAL AND THE COST INCURRED SHALL BE DEDUCTED FROM THE BOND. DUST CONTROL WILL ONLY BE REQUIRED IF ADJACENT PROPERTY OWNERS ARE ADVERSELY AFFECTED OR IF DUST ADVERSELY AFFECTS NORMAL OPERATION OF THE WASTEWATER TREATMENT FACILITY SUCH THAT, IN THE OPINION OF THE ENGINEER, ADJUSTMENT OF THE CONTROL PROGRAM IS APPROPRIATE. IT IS ANTICIPATED DUST CONTROL WILL BE REQUIRED ON THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY SURFACES, EMERGENCY SERVICES, AND MAINTAINING ACCESS FOR DELIVERIES THROUGHOUT THE PROJECT TO MAINTAIN ACCESS FOR WWTF STAFF. THE COST SHALL BE INCIDENTAL TO WORK.
- CONTRACTOR SHALL PROVIDE ALL TEMPORARY PROCESS, POWER, AND UTILITY SERVICE BYPASSES AND CONNECTIONS AS REQUIRED BY THE WORK AND AS REQUIRED TO SUSTAIN CONTINUOUS OPERATIONS OF THE FACILITY.
- CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINTS AND PIPE SUPPORTS FOR ALL EXISTING FACILITIES AND/OR UTILITIES AS REQUIRED TO PERFORM THE WORK. ANY EXISTING RESTRAINT, PIPE SUPPORT, OR SUPPORT SYSTEM THAT IS DAMAGED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED AT THE CONTRACTOR'S SOLE EXPENSE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH APPLICABLE STANDARDS AND REGULATIONS AS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.).
- NO FIELD CHANGES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
- SUBMITTALS SHALL BE PREPARED FOR ALL MATERIALS TO BE INCORPORATED INTO THE PROJECT AND SENT TO THE ENGINEER FOR REVIEW AND APPROVAL.
- THE PHYSICAL FEATURES WITHIN THE LIMITS OF THE PROJECT HAVE BEEN SHOWN BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FEATURES SHOWN. THE CONTRACTOR SHALL REVIEW AND VERIFY EXISTING PHYSICAL FEATURES AND ELEVATIONS OF THE CONDITIONS TO BE ENCOUNTERED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL LIMIT ALL WORK AND STORAGE AREAS TO THE PROJECT SITE. ANY WORK INSIDE PUBLIC RIGHT-OF-WAYS WILL REQUIRE APPROVAL FROM THE JURISDICTION OF AUTHORITY PRIOR TO CONSTRUCTION. USE OF ANY PRIVATE AREAS FOR THIS PROJECT BY THE CONTRACTOR MUST BE APPROVED IN WRITING BY THE PROPERTY OWNER WITH A COPY OF THIS APPROVAL PROVIDED TO THE ENGINEER PRIOR TO USAGE.
- ALL WORK SHALL BE DONE TO THE LINES, GRADES, SECTIONS, AND ELEVATIONS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- THE CONTRACTOR SHALL NOT REMOVE AND SHALL PROTECT FROM DAMAGE ALL TREES, BUSHES, AND EXISTING IMPROVEMENTS INSIDE AND OUTSIDE THE LIMITS OF WORK NOT CALLED OUT FOR REMOVAL OR REPLACEMENT.
- NO TREES SHALL BE REMOVED OR TRIMMED WITHOUT PRIOR ACKNOWLEDGEMENT OF THE PROPERTY OWNER AND/OR PROJECT ENGINEER. ALL APPLICABLE PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROTECT THE EXISTING DRAINAGE STRUCTURES AND REROUTE ANY RUNOFF AS NECESSARY DURING CONSTRUCTION ACTIVITIES TO PREVENT EROSION AND DAMAGE.
- THE CONTRACTOR SHALL COORDINATE WITH WWTF STAFF AND EMERGENCY SERVICES TO MAINTAIN ACCESS TO EXISTING FACILITIES THROUGHOUT CONSTRUCTION.
- THE PHYSICAL FEATURES REQUIRING REMOVAL OR OBLITERATION WITHIN THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF OFF-SITE UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL HAVE A COPY OF ALL APPLICABLE STANDARDS AND APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS ON SITE AT ALL TIMES.
- ANY DISCREPANCY WITHIN THESE PLANS SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
- ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC., TO BE PROTECTED AND TO REMAIN IN SERVICE. IF SUCH FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIVE KINK AND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL SECTION ELEVATIONS FOR CLARIFIER, FINAL DIMENSIONS OF EQUIPMENT INSTALL, LOCATIONS OF YARD VALVES, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL MOTORS AND EQUIPMENT ARE PROPERLY DE-RATED FOR ALTITUDE OF PROJECT.

2. LIFT STATION INSTALLATION NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION AND CORRESPONDENCE WITH CHOSEN MANUFACTURER INCLUDING BUT NOT LIMITED TO TRANSMITTING SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL, EQUIPMENT COMPATIBILITY, DELIVERY SCHEDULING AND METHODS, INSTALLATION, AND PROPER STORAGE AND STAGING OF PROPOSED EQUIPMENT.
- THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION, ELEVATION, AND SIZE OF EX. BURIED UTILITIES.
- THE CONTRACTOR SHALL CONFIRM AVAILABLE ELECTRICAL POWER, INCLUDING CONDUIT LOCATIONS AND SIZES, WIRE SIZE, AMPERAGE CAPACITY, AND COMPATIBILITY WITH PROPOSED EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION AND CORRESPONDENCE WITH CHOSEN MANUFACTURER INCLUDING BUT NOT LIMITED TO PUMP DIMENSION VERIFICATION, EQUIPMENT COMPATIBILITY WITHIN EXISTING ROOM, DELIVERY SCHEDULING AND METHODS, INSTALLATION, AND PROPER STORAGE AND STAGING OF PROPOSED EQUIPMENT.
- SHOULD THE CONTRACTOR NEED ADDITIONAL POWER OUTSIDE OF AVAILABLE EXISTING POWER, THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATION AND INSTALLATION OF REQUIRED EQUIPMENT WITH PROPER UTILITY. OTHERWISE, THE CONTRACTOR SHALL USE EXISTING AND AVAILABLE OUTLETS, AND MCCS ONCE THEY HAVE VERIFIED THERE IS ADEQUATE CAPACITY FOR ANTICIPATED LOADS.
- DURING DEMOLITION, ALL EXISTING EQUIPMENT AND EQUIPMENT TO BE REUSED SHOULD BE CLEANED AND PROTECTED DURING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A PLAN TO INSTALL ALL NEW EQUIPMENT AND REMOVE EXISTING EQUIPMENT WHILE KEEPING THE EXISTING LIFT STATION IN OPERATION UNTIL THE PROPOSED LIFT STATION IS READY FOR USE. DOWNTIME IS TO BE MINIMIZED.
- ANY REQUIRED MODIFICATIONS TO THE SITE TO COMPLETE THE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE PROJECT COST. THIS INCLUDES SITE ACCESS, TEMPORARY UTILITIES, AND STAGING ACCESS.

3. UTILITY GENERAL NOTES

- THE CONTRACTOR SHALL WORK WITH A PRIVATE SHOWMAN IF NECESSARY TO DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT, BEFORE COMMENCING WORK. THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. PRIOR CONSTRUCTION DRAWINGS CAN BE PROVIDED UPON REQUEST TO THE CHOSEN CONTRACTOR. IF NEEDED, POTHOLING SHALL BE COMPLETED AT THE SITE TO CONFIRM LOCATION OF EXISTING FORCE MAIN, EXISTING VALVES, CLEAN-OUTS (IF PRESENT), AND JUNCTION LOCATION AND SHALL BE COMPLETED PRIOR TO PROCUREMENT OF ANY MATERIALS.
- ANY CONTRACTOR-CAUSED DAMAGE TO UTILITY AND/OR SERVICE LINES SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT NO COST TO THE CITY AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR, SUBCONTRACTOR OR AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 A MINIMUM OF TWO BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION OR GRADING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK IN THE PROJECT AREA. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK AND THAT OF THE INVOLVED UTILITIES IN THE PROJECT AREA.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL UTILITIES AND STRUCTURES AFFECTED BY THE WORK. ANY DAMAGE SHALL BE REPAIRED AND RESTORED TO THE SATISFACTION OF THE CITY AND UTILITY PROVIDER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM THE CITY OR ITS DESIGNATED REPRESENTATIVE BEFORE RELOCATING ANY ENCOUNTERED UTILITIES.

4. LANDSCAPE NOTES:

- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE FINE GRADED AND RAKED TO REMOVE ALL ROCKS OVER THREE INCHES IN DIAMETER. PLACE TOPSOIL TO A DEPTH OF SIX INCHES ON ALL DISTURBED LANDSCAPE AREAS.
 - PRIOR TO TOPSOIL PLACEMENT, ALL CUT OR FILL SLOPES WILL BE CONTOURED TO BLEND WITH ADJACENT TERRAIN. CONTRACTOR WILL USE VARIOUS SLOPE MOLDING TECHNIQUES TO ENHANCE THE AESTHETIC QUALITY OF THE SLOPE, WHILE MAXIMIZING THE REVEGETATION POTENTIAL. ALL CUT AND FILL SLOPES SHALL BE ROUNDED AT THE TOE TO BLEND WITH THE EXISTING TERRAIN. ADDITIONALLY, WHERE SOILS AND STEEPNESS OF SLOPES PERMIT, TERRACES WILL BE CONSTRUCTED TO AID THE REVEGETATION PROCESS.
 - THE CONTRACTOR SHALL NOT REMOVE, AND SHALL PROTECT FROM DAMAGE ALL TREES, BUSHES, AND EXISTING IMPROVEMENTS INSIDE AND OUTSIDE THE LIMITS OF WORK. SPECIFIC PROVISIONS ARE SHOWN ON THE PLANS.
 - PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIP LINE OF TREES.
 - THE CONTRACTOR SHALL RESTORE ALL DISTURBED LANDSCAPE AND HARDSCAPE AREAS IN-KIND. CONTRACTOR TO USE CITY APPROVED SEED MIX AND MEET PW MANUAL REVEGETATION.
 - SPECIFIC HIGHLY VEGETATED AREAS AND AREAS WITH TREES IN CLOSE PROXIMITY TO THE WORK ARE CALLED OUT ON THE PLANS, BUT MAY NOT INCLUDE ALL SUCH AREAS. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION CONSIDERATIONS IN HIGHLY VEGETATED AREAS. ALL DAMAGED OR REMOVED VEGETATION SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
5. EROSION CONTROL NOTES:
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN COMPLIANCE WITH CITY OF RIFLE REQUIREMENTS.
 - THE ULTIMATE RECEIVING WATERS ARE THE COLORADO RIVER.
 - TOPSOIL WILL BE STRIPPED AND STOCKPILED WITH REINFORCED FILTER LOGS SURROUNDING STOCKPILE AND THEN SEEDED AND STRAWED FOR STABILIZATION. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF DIRT FROM VEHICLES LEAVING THE SITE PER RIFLE REQUIREMENTS.
 - EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED EVERY FOURTEEN CALENDAR DAYS OR AFTER EVERY STORM EVENT THAT EQUALS OR EXCEEDS ONE HALF INCH OF PRECIPITATION.
 - CONTRACTOR IS RESPONSIBLE FOR CHECKING THAT ALL EROSION CONTROL BMPs ARE FREE OF MUD, DIRT, AND DEBRIS. ALL STRUCTURES ARE TO BE CLEANED ONCE DEPOSITED SEDIMENT REACHES ONE THIRD THE HEIGHT OF THE STRUCTURE.
 - ACTUAL LOCATIONS OF ALL EROSION AND SEDIMENT CONTROL MEASURES CAN BE FIELD MODIFIED IF NECESSARY BY ENGINEER OF RECORD AND APPROVED BY THE CITY PROJECT MANAGER.
 - EROSION CONTROL FENCING AND OTHER EROSION CONTROL MEASURES SHALL BE REMOVED AFTER ALL VEGETATION SEEDING IS AT LEAST 80 PERCENT GERMINATED.
 - CONSTRUCTION ROAD, STABILIZED ENTRANCE, STAGING AREA, AND PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE GRADING OR EXCAVATION ACTIVITIES.
 - STOCKPILED MATERIALS SHALL BE SURROUNDED WITH FILTER LOGS AND WEIGHED DOWN WITH SAND BAGS. LOGS MAY NOT CONTAIN STRAW. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF DIRT FROM VEHICLES LEAVING THE SITE.
 - ALL DRAINAGE STRUCTURES ARE TO BE PROTECTED BY EROSION CONTROL MEASURES.
 - IF ANY TEMPORARY FLOW LINE IS TO OCCUR DUE TO INTERMITTENT GRADE CHANGE, CHECK DAMS, SURFACE ROUGHENING AND ADDITIONAL BMPs SHOULD BE IMPLEMENTED.
 - RESURFACING OR REVEGETATION PRACTICES SHALL FOLLOW ALL LAND DISTURBING ACTIVITIES IMMEDIATELY UPON COMPLETION OF SAID ACTIVITIES. IF REVEGETATION PRACTICES ARE DELAYED, FINISHED TOPSOIL GRADE SHALL BE PROTECTED AGAINST WIND AND WATER EROSION WITH TEMPORARY EROSION CONTROL BMP'S IMMEDIATELY UPON COMPLETION.
 - WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED. THE COST OF WATER SHALL BE INCIDENTAL TO OTHER BID ITEMS. SWEEPING AND CLEANING ADJACENT STREETS AND SIDEWALKS DURING CONSTRUCTION WILL BE PERFORMED AS NECESSARY AND AS DIRECTED BY THE ENGINEER. SWEEPING, AND DUST MITIGATION IS CONSIDERED TO BE INCIDENTAL TO THE WORK.

6. BENCHMARK AND SURVEY CONTROL

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION STAKING OF BOTH HORIZONTAL AND VERTICAL LAYOUT ON THIS PROJECT. ELEVATIONS SHOWN IN THESE DRAWINGS ARE FROM A 2025 SURVEY BY RFE. CAD FILES ARE AVAILABLE UPON REQUEST. THE HORIZONTAL DATUM IS COLORADO STATE PLANE CENTRAL AND THE VERTICAL DATUM IS NAVD88.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ANY MONUMENTS, RANGE POINTS, TIES, BENCHMARKS, AND/OR SURVEY CONTROL POINTS WHICH MAY BE DISTRIBUTED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENT BY A REGISTERED PROFESSIONAL LAND SURVEYOR AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF COLORADO. PROPERTY CORNERS WHICH FALL WITHIN NEW CONCRETE FLATWORK SHALL BE DURABLE AND SET FLUSH. THIS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

7. PROCESS NOTES

- ALL BOLTS, SUPPORTS, ANCHORS, AND MOUNTING EQUIPMENT SHALL BE STAINLESS STEEL AND PROVIDED BY THE CONTRACTOR. LOCK WASHERS SHALL BE PROVIDED FOR ALL BOLTS. SEE MANUFACTURER RECOMMENDATIONS FOR MATERIALS.
- ALL EQUIPMENT SHALL BE COATED AND PAINTED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND SPECIFICATIONS.
- ALL BOLTS FOR ABOVE GRADE FITTINGS SHALL BE STAINLESS STEEL. CONTRACTOR SHALL SUPPLY BOLTS AND USE ANTI-SIZE COMPOUND FOR ALL STAINLESS STEEL BOLTS WITHIN THE PROCESS TANKS SUCH AS BOSTIK HIGH TEMPERATURE STAINLESS LUBRICATING COMPOUND OR ENGINEER APPROVED EQUAL.
- ALL ELECTRICAL, NATURAL GAS, AND WATER SERVICE LINE PENETRATIONS SHALL BE SEALED WITH POLYURETHANE CAULKING ON BOTH THE INTERIOR AND EXTERIOR SIDE OF THE PENETRATION.
- ALL GRATING SHALL BE CUT IN PANELS FOR REMOVAL BY ONE PERSON. PANELS SHALL NOT EXCEED MAXIMUM WIDTH AS SPECIFIED IN PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL FIELD CUT GRATING AROUND ALL CONTROL GATE FRAMES, PIPING, EQUIPMENT, ETC. AS NEEDED TO PROVIDE MINIMUM OPERATIONAL CLEARANCE.
- MEGAFLANGES/UNIFLANGES MAY BE USED TO ALLOW FOR FIELD ADJUSTMENTS, HOWEVER, A MAXIMUM OF (1) MAY BE USED IN THE TOTAL RUN IN GIVEN DIRECTION (I.E. (1) IN THE VERTICAL PLANE AND (1) IN THE HORIZONTAL PLANE). SOME LOCATIONS ARE ALREADY DEFINED IN THESE PLANS.
- ALL PIPING AND PLUMBING SHALL BE SUPPORTED AND BRACED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- PRIOR TO STARTUP OF THE NEW LIFT STATION CONTRACTOR SHALL COORDINATE WITH ENGINEER AND OWNER TO VERIFY ALL EXISTING LINES, HAVE BEEN PROPERLY TIED INTO NEW FACILITIES AND ALL NECESSARY VALVES ARE OPENED FOR PROPER OPERATIONS.

	LEGEND		SYMBOL LEGEND	
	EXISTING	PROPOSED	EXISTING	PROPOSED
EASEMENT LINE	----	----	CABLE BOX	
EDGE OF PAVEMENT	----	----	CABLE RISER	
EDGE OF GRAVEL	----	----	CURB STOP	
EDGE OF WATER	----	----	CURB INLET	
FENCE LINE	----	----	DECIDUOUS TREE	
FIBER OPTIC LINE	----	----	ELECTRIC MANHOLE/ METER	
FLOW LINE	----	----	ELECTRIC TRANSFORMER	
GAS LINE	----	----	ELECTRIC SWITCH GEAR	
MAJOR CONTOUR	-----9105-----	-----9105-----	ELECTRIC VAULT	
MINOR CONTOUR	-----9104-----	-----9104-----	EVERGREEN TREE	
OVERHEAD ELECTRIC	-----OH-----	-----OH-----	FIBER OPTIC RISER	
OVERHEAD TELEPHONE	-----OH-----	-----OH-----	FIRE HYDRANT	
PROPERTY LINE	----	----	GAS METER	
RIGHT-OF-WAY	----	----	GATE VALVE	
SANITARY SEWER & SIZE	-----8"S-----8"S-----	-----8"S-----8"S-----	GUY ANCHOR	
SANITARY SEWER SERVICE	-----SS-----SS-----	-----SS-----SS-----	MAILBOX	
STORM DRAIN PIPE	----	----	MONUMENT MARKER	
TBC/SIDEWALK/CONCRETE	-----XEL-----XEL-----	-----E-----E-----	POWER POLE	
UNDERGROUND ELECTRIC	-----T-----T-----	-----T-----T-----	SANITARY SEWER MANHOLE	
UNDERGROUND TELEPHONE	-----TV-----TV-----	-----TV-----TV-----	SOIL BORING LOCATION	
UNDERGROUND CABLE TV	-----8"W-----8"W-----	-----8"W-----8"W-----	SIGN	
WATER SERVICE LINE	-----WS-----WS-----	-----WS-----WS-----	SPOT ELEVATION	
IRRIGATION LINE	-----IRR-----IRR-----	-----IRR-----IRR-----	STORM DRAIN MANHOLE	
RAW WATER LINE	-----RAW-----RAW-----	-----RAW-----RAW-----	STREETLIGHT	
CENTER LINE	----	----	TELEPHONE MANHOLE	
LIMITS OF DISTURBED AREA	-----LDA-----LDA-----	-----LDA-----LDA-----		



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CHECKED BY: MKM
DRAWN BY: JLG

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DATE
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1
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JOB #: 2024-59

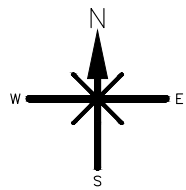
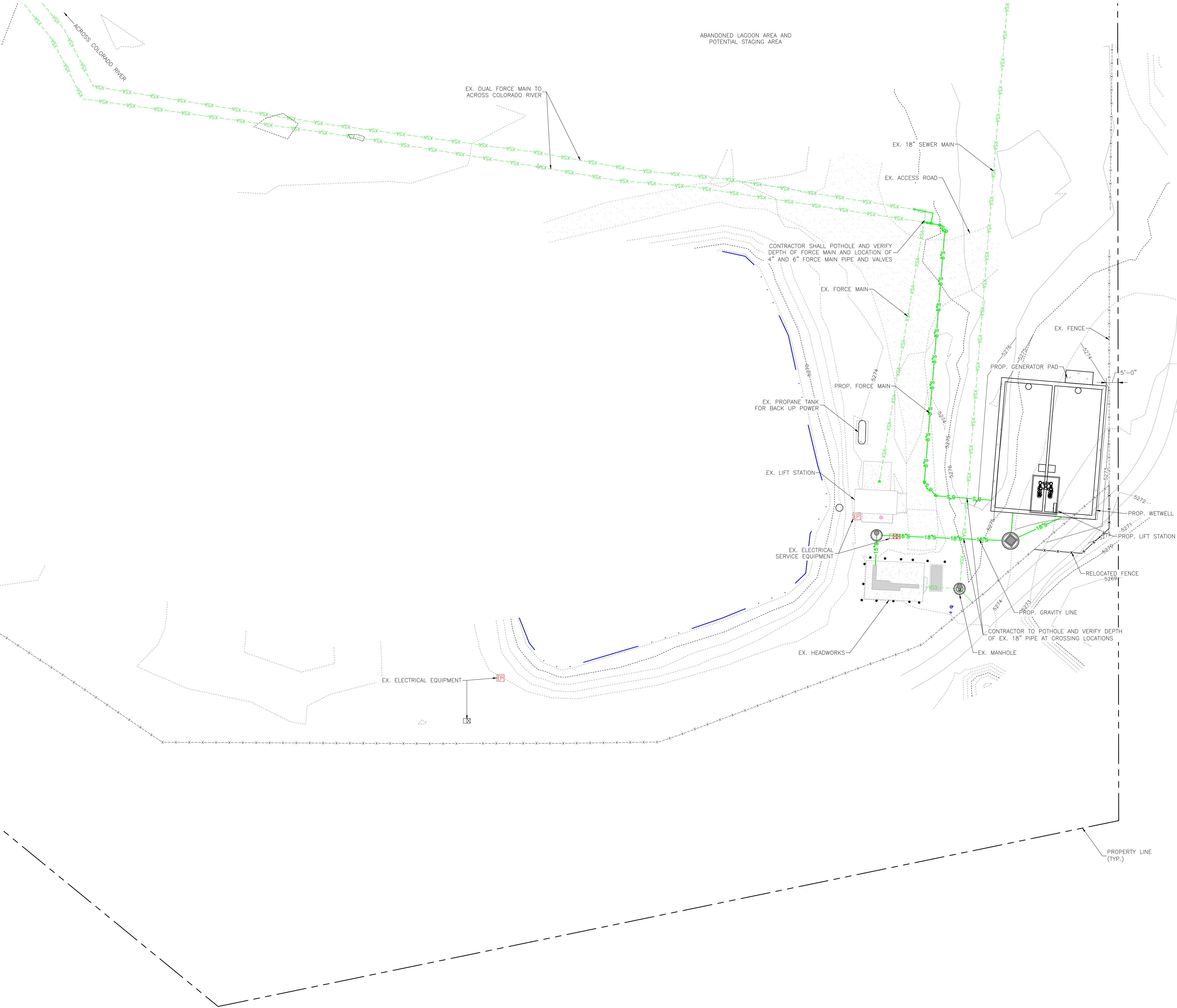
NOT FOR
CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

NOTES & LEGEND

C1
OF C10

- NOTES:
- EXISTING FACILITIES SHALL BE REMOVED OR ABANDONED IN PLACE AS DESCRIBED ON SHEET C3.
 - STAGING AREA MAY BE LOCATED NORTH OF EXISTING INFRASTRUCTURE NEAR OLD LAGOON SITES.
 - ACCESS TO THE SITE CROSSES PRIVATE PROPERTY. CONTRACTOR SHALL REMAIN ONLY ON THE ROAD WHILE CROSSING PRIVATE PROPERTY, AND IF THE ROAD IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REHABILITATING THE ROAD BACK TO ORIGINAL STATE. CONTRACTOR SHALL DOCUMENT ROAD PRIOR TO START OF CONSTRUCTION IN DETAIL.
 - CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN AND OPERATIONS PLAN FOR THE PROJECT, WHICH LEAVES THE EXISTING LIFT STATION IN PLACE AND OPERATIONAL AT ALL TIMES. SHOULD ANY INTERRUPTION IN SERVICE NEED TO OCCUR, OUTAGES AND DOWN TIME SHALL BE COORDINATED WITH CITY STAFF DIRECTLY.



GRAPHIC SCALE

0 10 20

IN FEET: 1" = 20'

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SITE LOCATION APPLICATION
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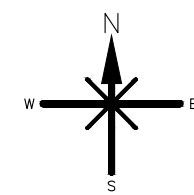
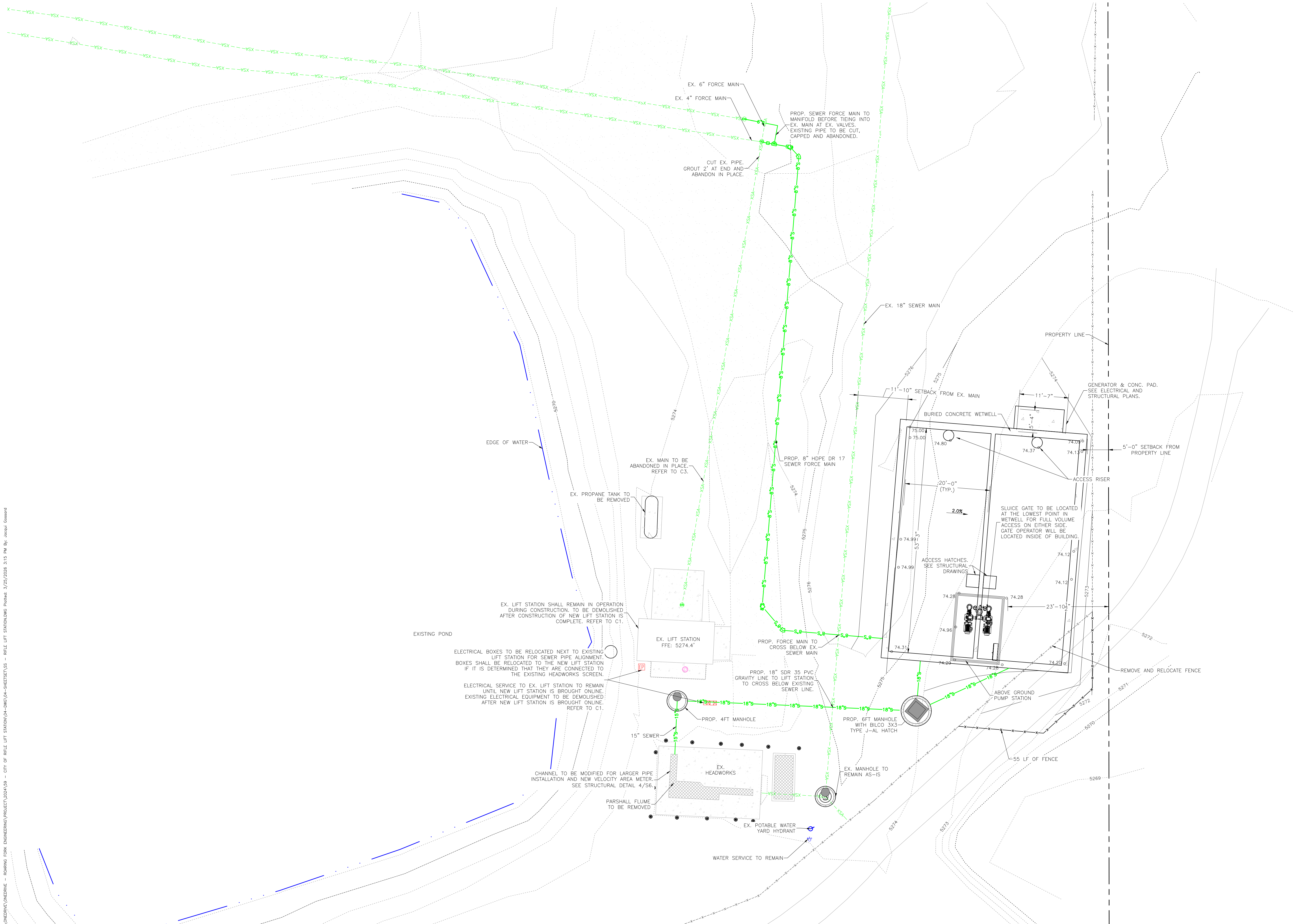
JOB #: 2024-59
NOT FOR
CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

PROPOSED SITE PLAN

2
OF C10

C:\ONDRIVE\ENGINEERIE - ROARING FORK ENGINEERING\PROJECT\2024\19 - CITY OF RIFLE LIFT STATION\DWG\04-SHEETSET\19 - RIFLE LIFT STATION.DWG Plotted: 3/25/2026 3:15 PM By: Jacob Gassard



GRAPHIC SCALE

0 5 10

IN FEET: 1" = 10'

ROARING FORK ENGINEERING
592 HIGHWAY 133
CARBONDALE, CO 81623
RFEENG.BIZ | (970) 340-4130



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DRAWN BY:
JLG
JLG
JLG
JLG

DATE:
12.18.2024
07.23.2025
11.14.2025
12.16.2025
03.25.2026

#	DESCRIPTION	SITE LOCATION APPLICATION
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JOB #: 2024-59

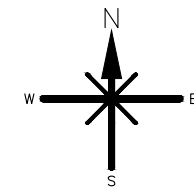
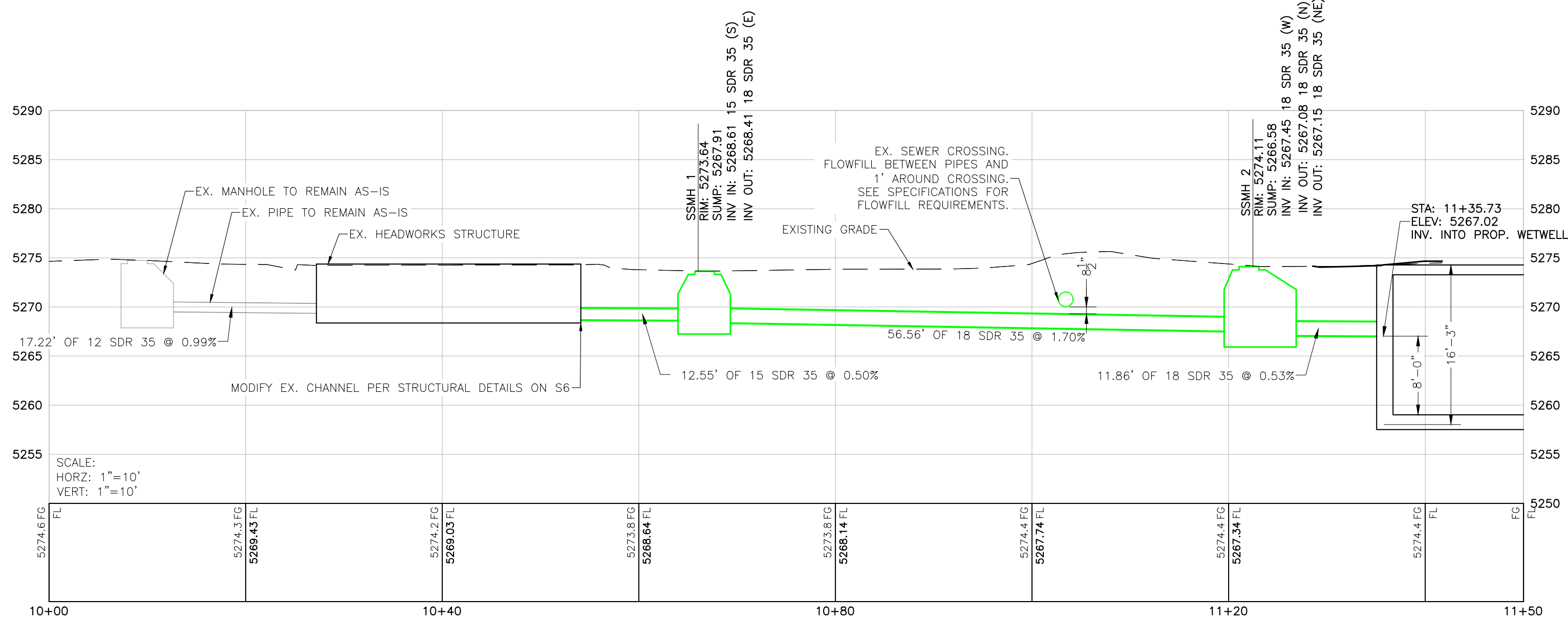
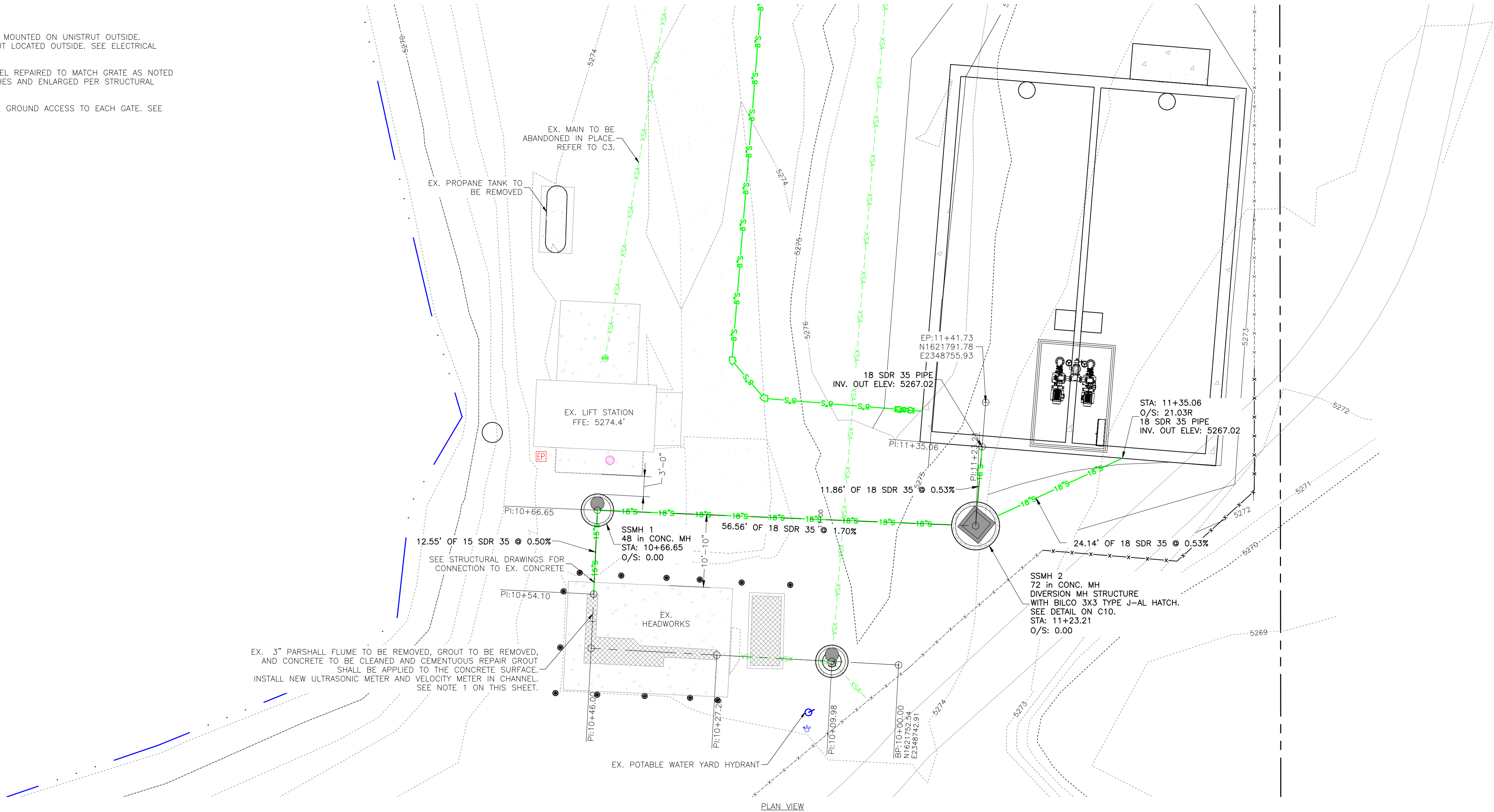
NOT FOR CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

SITE AND DEMOLITION PLAN

C3
OF C10

- NOTES:
1. NEW VELOCITY AREA METER AND ULTRASONIC METER SHALL BE MOUNTED ON UNISTRUT OUTSIDE. METERS SHALL BE MOUNTED NEXT TO CHANNEL WITH READ-OUT LOCATED OUTSIDE. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR DETAILS.
 2. PARSHALL FLUME SHALL BE REMOVED AND HEADWORKS CHANNEL REPAIRED TO MATCH GRATE AS NOTED BELOW. EFFLUENT PIPE SIZE SHALL BE INCREASED TO 15 INCHES AND ENLARGED PER STRUCTURAL DETAILS.
 3. 6-FOOT MANHOLE SHALL HAVE TWO MANHOLE LIDS FOR ABOVE GROUND ACCESS TO EACH GATE. SEE DETAIL ON C10 FOR MORE INFORMATION.



GRAPHIC SCALE

0 5 10

IN FEET: 1" = 10'

ROARING FORK ENGINEERING

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CARBONDALE, CO 81623
RFE@G.BIZ | (970) 340-4130



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SITE LOCATION APPLICATION

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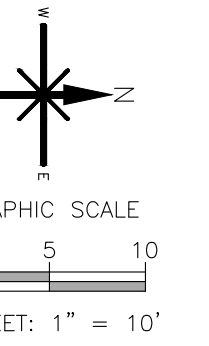
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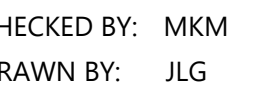
CITY OF RIFLE LIFT STATION
RIFLE, CO

SEWER P&P

C4
OF C10



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07.23.2025
11.14.2025
12.16.2025
03.25.2026

OB #: 2024-59
NOT FOR
CONSTRUCTION

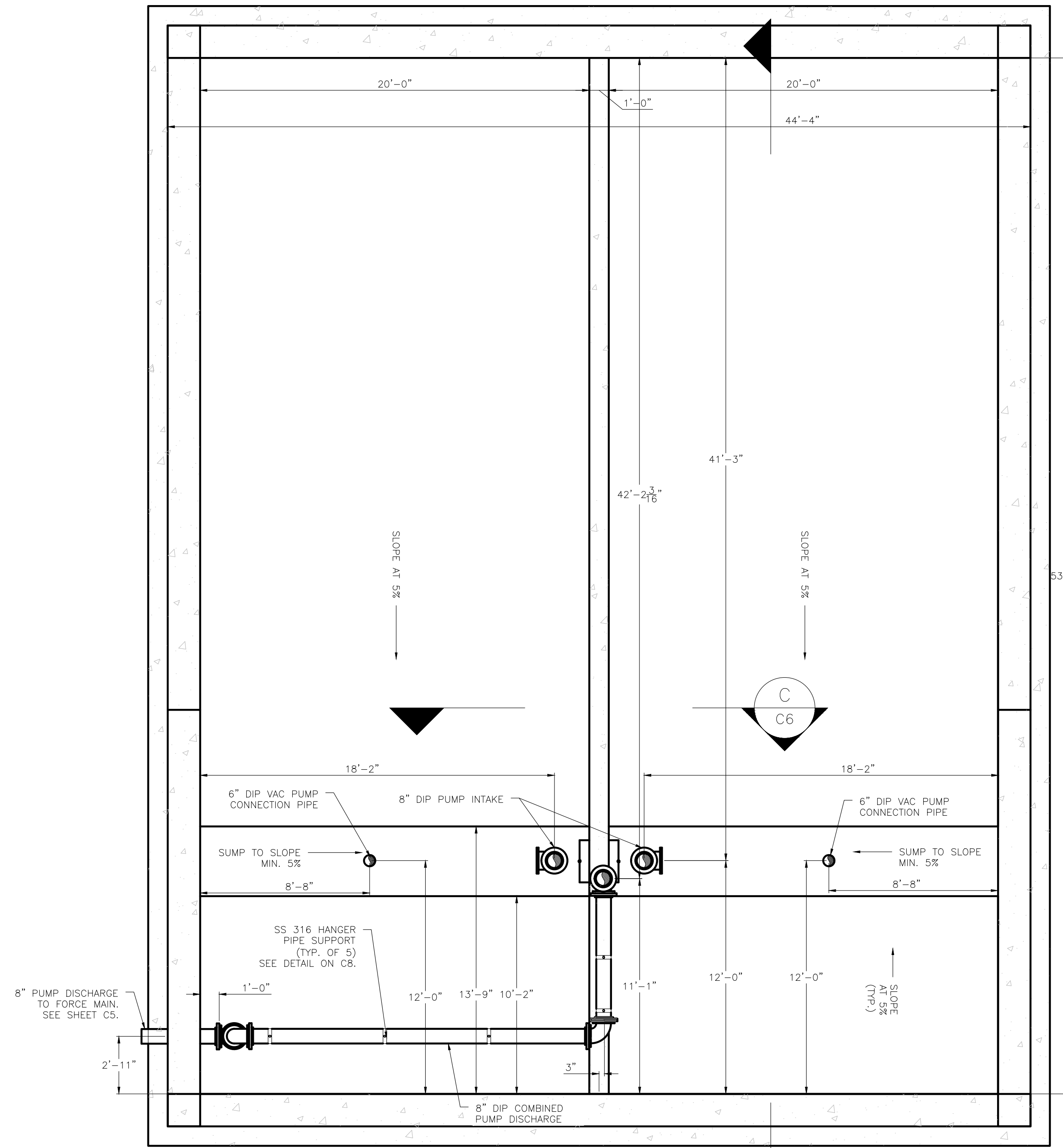
ORCE MAIN P&P

C5
C10

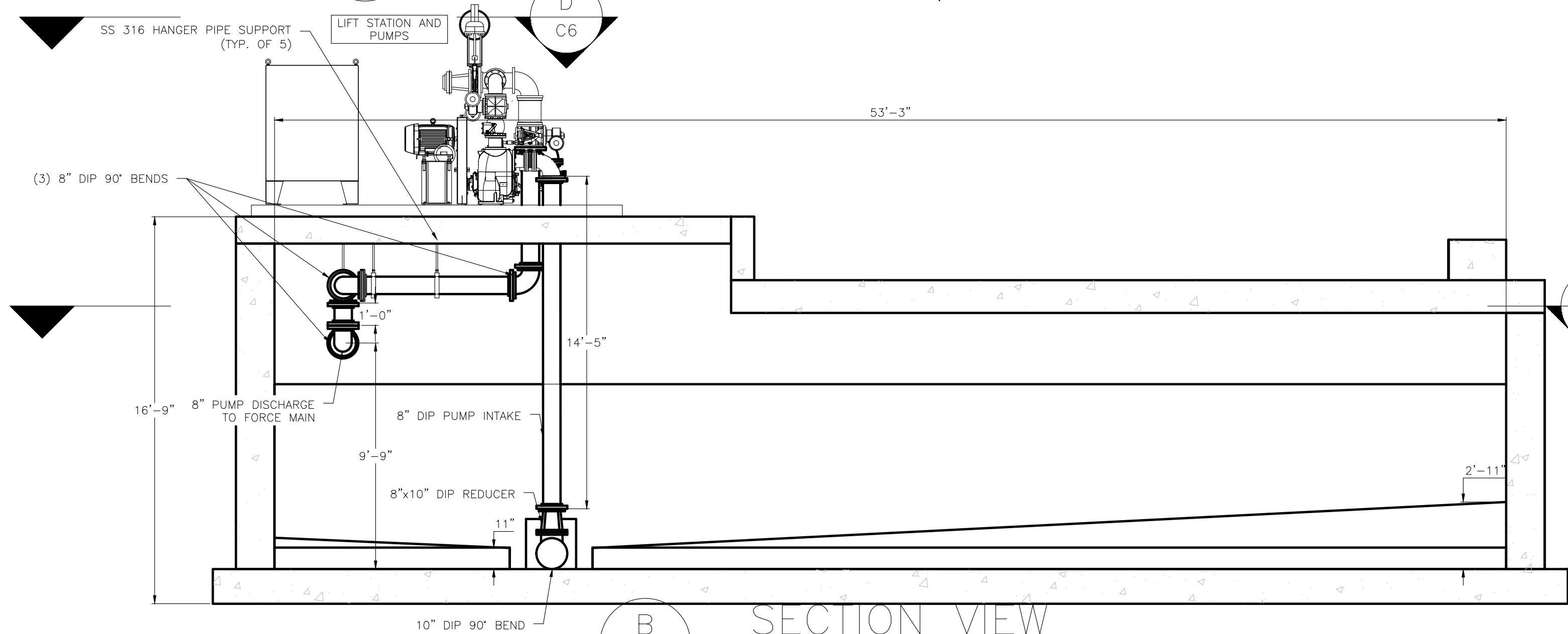
1. PIPE TRANSITIONS FROM DIP TO HDPE TO C900 (PENDING VERIFICATION BY CONTRACTOR) IN THE YARD. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL SPECIFIED FITTINGS BETWEEN ALL PIPE MATERIALS. DETAIL ON CB SHOWS ALL REQUIRED FITTINGS, ADAPTORS, AND SIZES ASSUMED. SIZE, MATERIAL, AND LOCATION OF EXISTING FORCE MAIN TO BE VERIFIED BY CONTRACTOR AND INFORMATION REPORTED TO ENGINEER.

STA: 1+59.08
ELEV: 5268.35
CONNECT TO EXISTING MAIN
DEPTH VARIES BETWEEN 5.5-6.5'.
5.5' DEPTH ASSUMED PER
POTHOLING DURING PREVIOUS TIE-IN.
CONTRACTOR TO FIELD VERIFY.
SEE DETAIL FOR CONNECTION TO EX. MAIN.

PROPOSED FORCE MAIN PROFILE

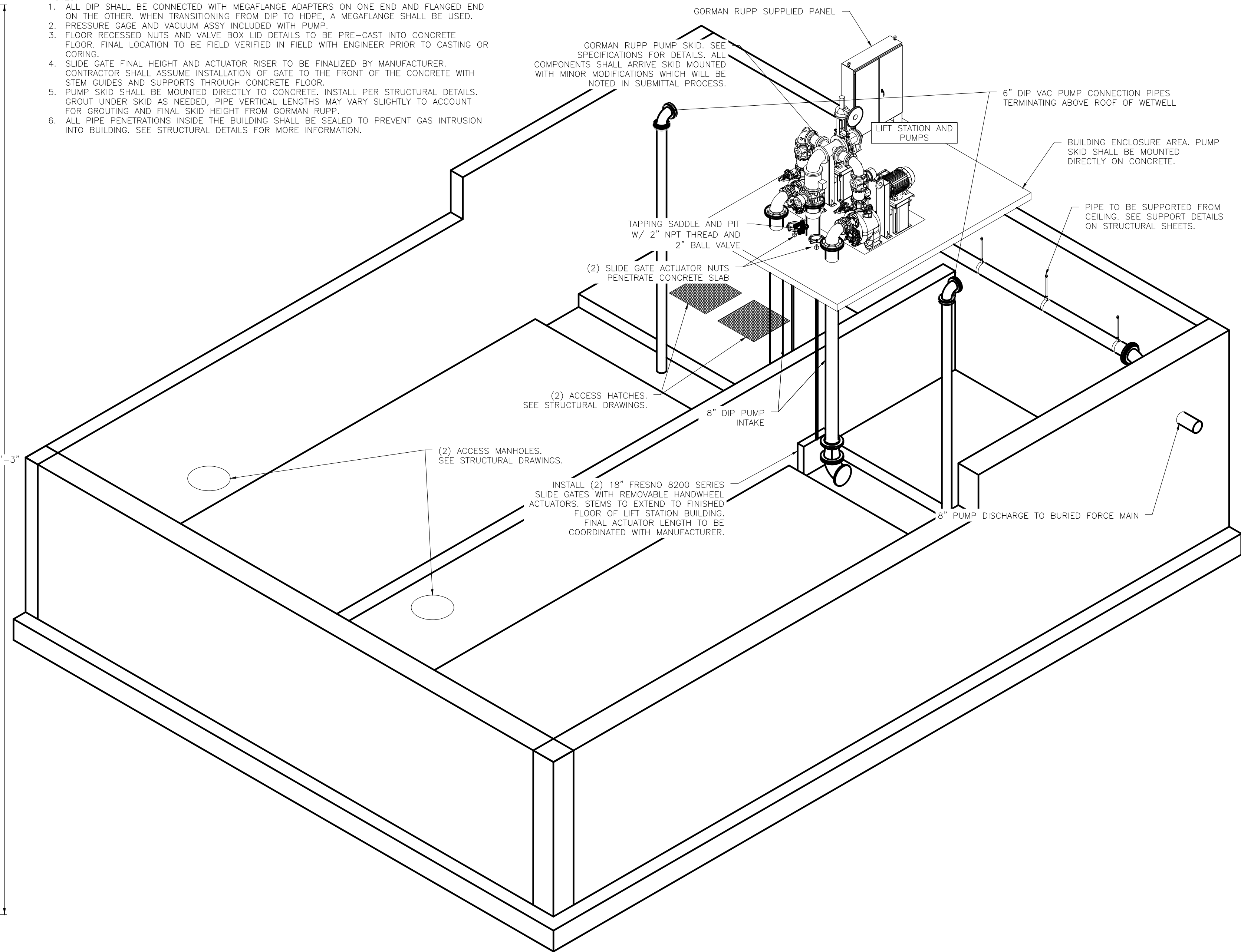


A
C6
PLAN VIEW

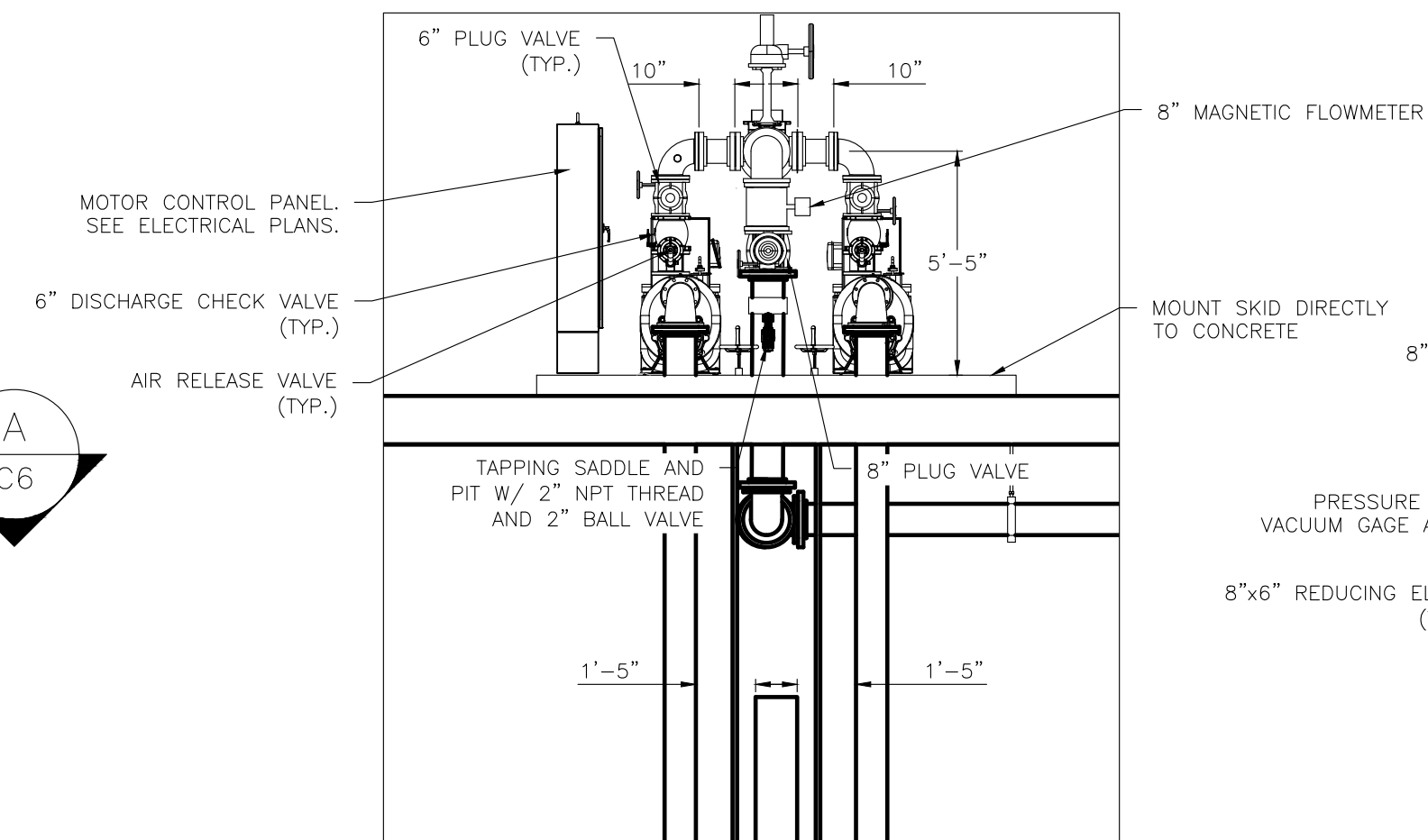


B
C4
SECTION VIEW

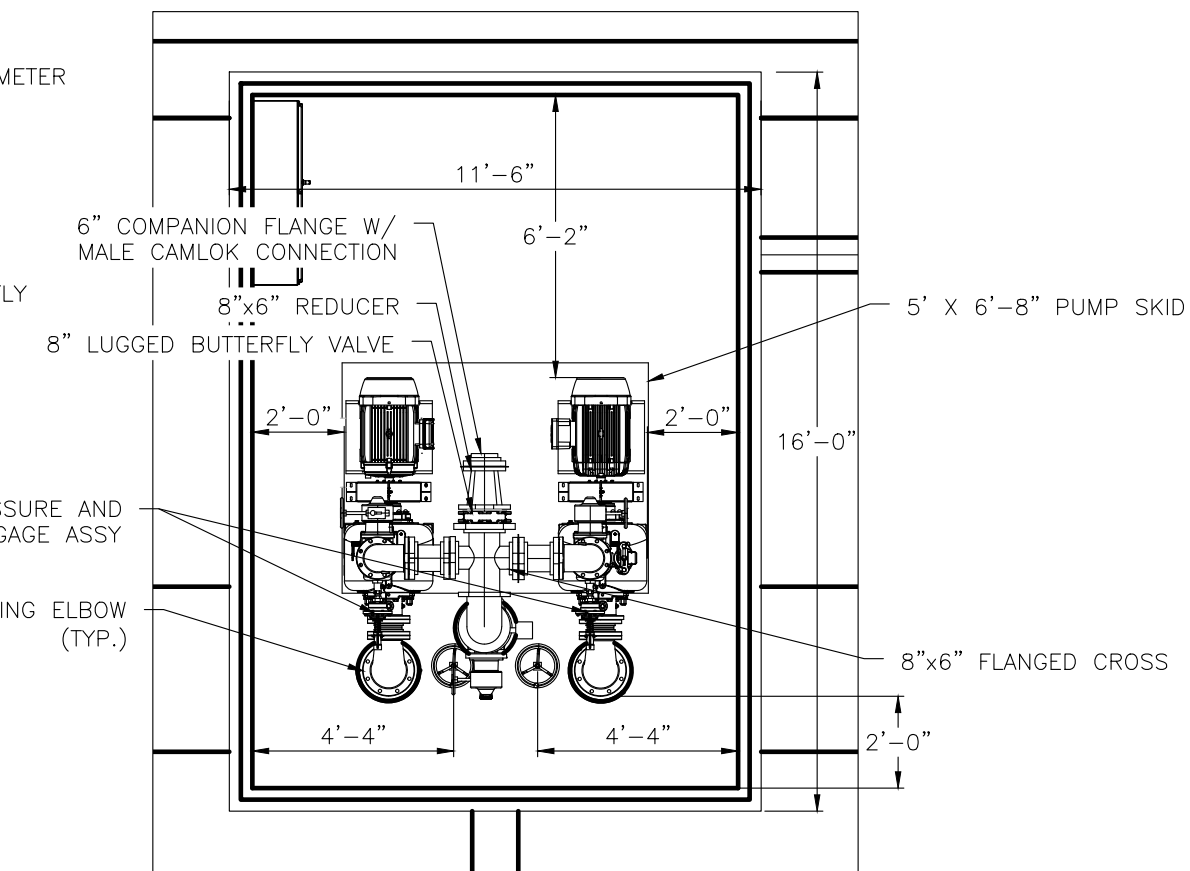
- NOTES:
1. ALL DIP SHALL BE CONNECTED WITH MEGAFLANGE ADAPTERS ON ONE END AND FLANGED END ON THE OTHER. WHEN TRANSITIONING FROM DIP TO HDPE, A MEGAFLANGE SHALL BE USED.
 2. PRESSURE GAGE AND VACUUM ASSY INCLUDED WITH PUMP.
 3. FLOOR RECESSED NUTS AND VALVE BOX LID DETAILS TO BE PRE-CAST INTO CONCRETE FLOOR. FINAL LOCATION TO BE FIELD VERIFIED IN FIELD WITH ENGINEER PRIOR TO CASTING OR CORING.
 4. SLIDE GATE FINAL HEIGHT AND ACTUATOR RISER TO BE FINALIZED BY MANUFACTURER. CONTRACTOR SHALL ASSUME INSTALLATION OF GATE TO THE FRONT OF THE CONCRETE WITH STEM GUIDES AND SUPPORTS THROUGH CONCRETE FLOOR.
 5. PUMP SKID SHALL BE MOUNTED DIRECTLY TO CONCRETE. INSTALL PER STRUCTURAL DETAILS. GROUT UNDER SKID AS NEEDED. PIPE VERTICAL LENGTHS MAY VARY SLIGHTLY TO ACCOUNT FOR GROUTING AND FINAL SKID HEIGHT FROM GORMAN RUPP.
 6. ALL PIPE PENETRATIONS INSIDE THE BUILDING SHALL BE SEALED TO PREVENT GAS INTRUSION INTO BUILDING. SEE STRUCTURAL DETAILS FOR MORE INFORMATION.



ISOMETRIC VIEW



C
C6
PUMP DETAIL SECTION VIEW



D
C6
PUMP DETAIL PLAN VIEW



GRAPHIC SCALE
0 4.17 8.33
IN FEET: 1" = 4.167'

ROARING FORK ENGINEERING
592 HIGHWAY 133
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12/18/2024
07/23/2025
11/14/2025
12/16/2025
03/25/2026

DESCRIPTION	SITE LOCATION APPLICATION
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# 2	90% SET
# 3	100% SET
# 4	100% SET
# 5	BID SET

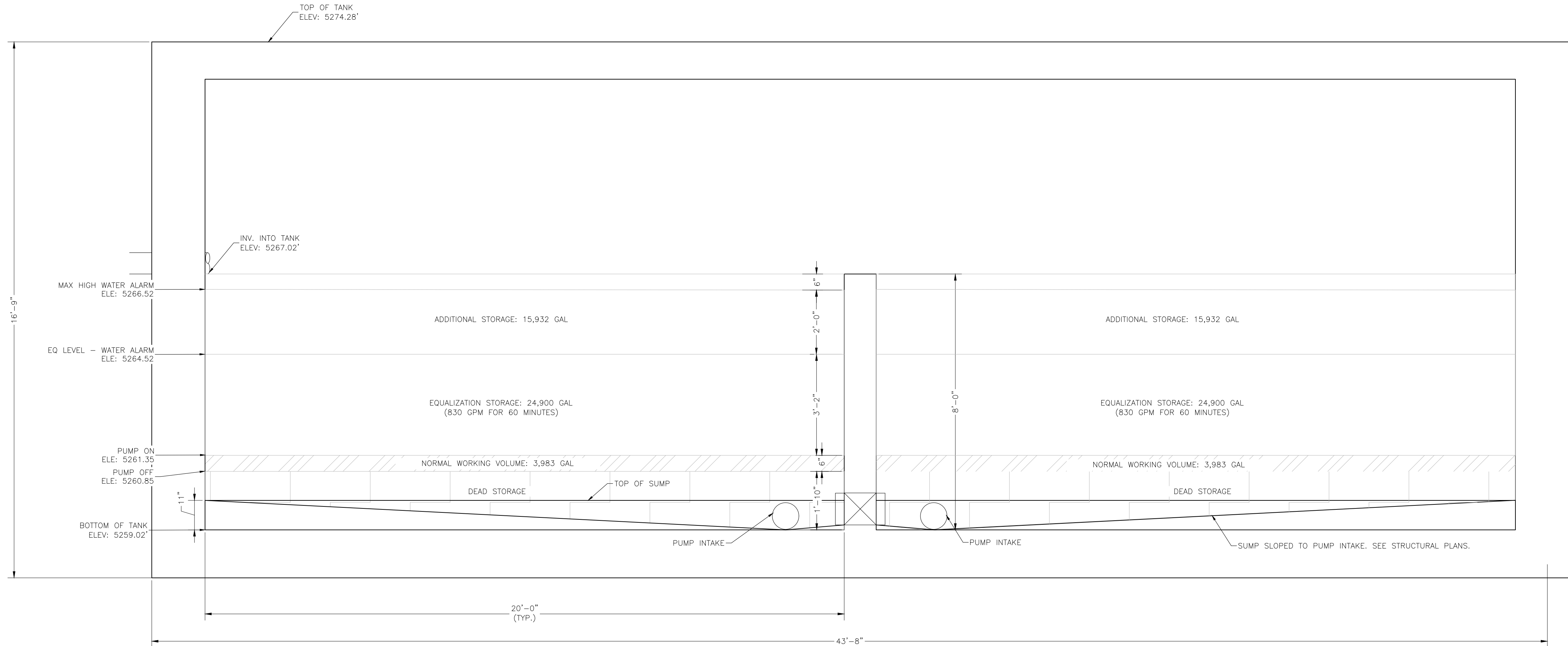
JOB #: 2024-59
NOT FOR CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

BASIN PIPING

C6
OF C10

NOTES:
1. DIAGRAM SHOWN FOR OPERATIONAL CLARITY. ALL DIMENSIONS SHOULD BE REFERENCED FROM SHEET C6 AND STRUCTURAL SHEETS. DO NOT USE DIMENSIONS SHOWN BELOW FOR PIPE LOCATIONS OR BASIN SLOPING DETAILS.



EQUALIZATION STORAGE SCENARIO

TANK VOLUME DIAGRAM



IN FEET: 1" = 2'-0"

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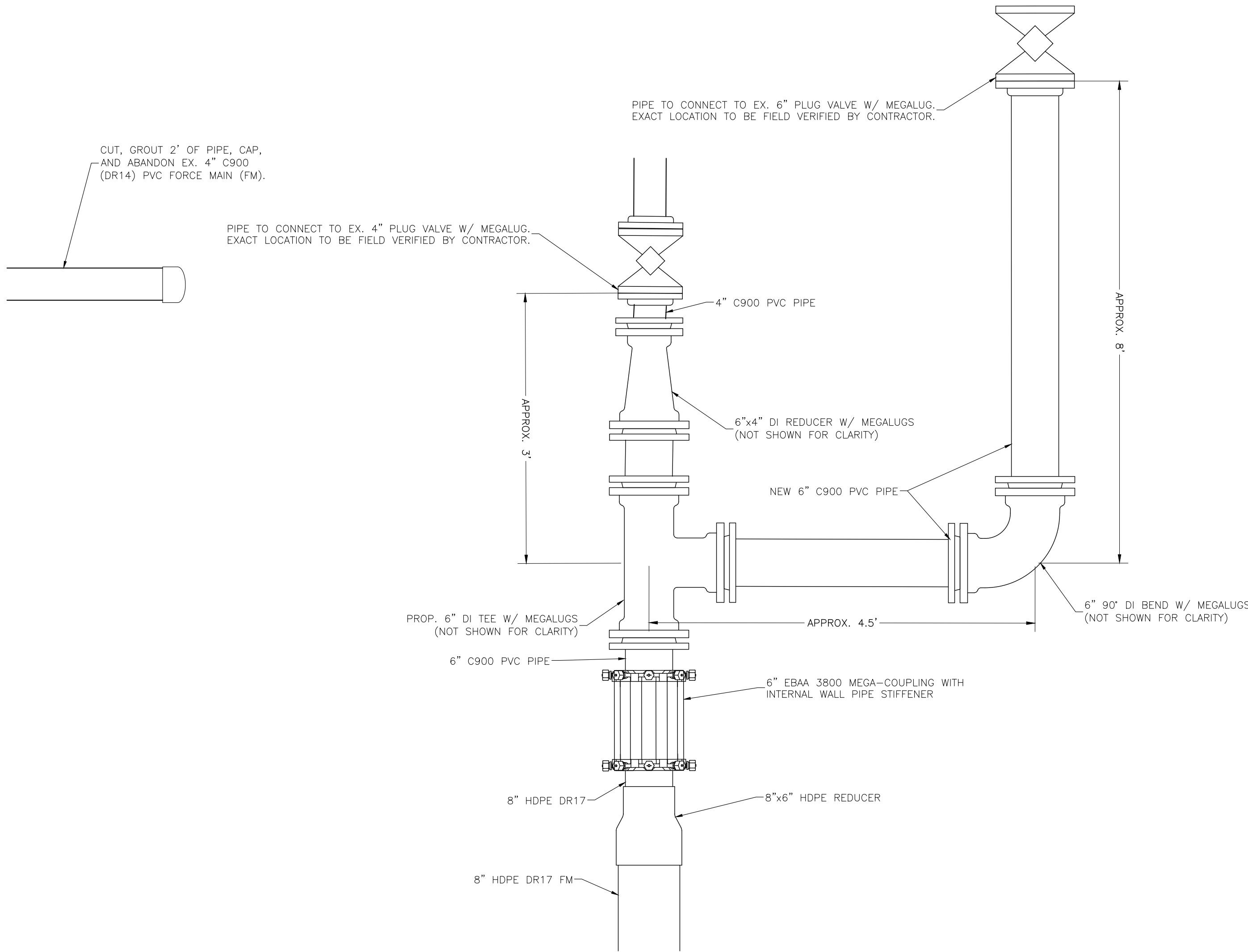
JOB #: 2024-59
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RIFLE, CO

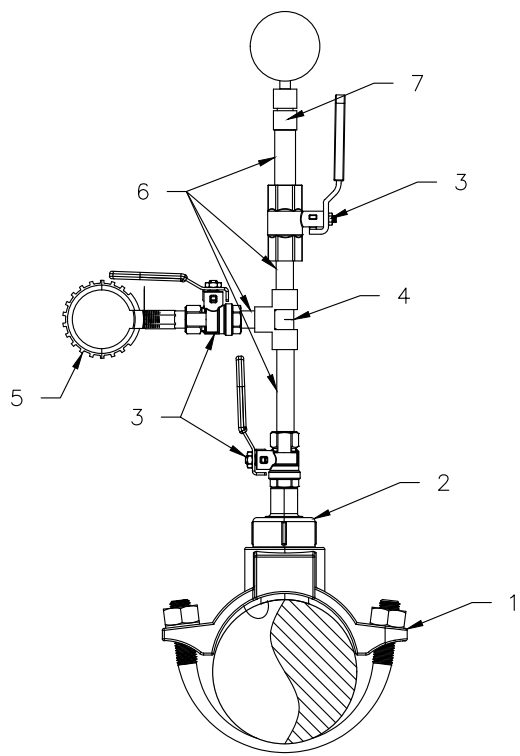
TANK VOLUME DIAGRAM

C7
OF C10

C:\CONDRIVE\ENGINEERING\ROARING FORK ENGINEERING\PROJECT\2024\19 - CITY OF RIFLE LIFT STATION\04-DWG\04-SHEETS\19 - RIFLE LIFT STATION DETAILS.DWG Plotted: 3/25/2026 3:15 PM By: Jacob Gosard



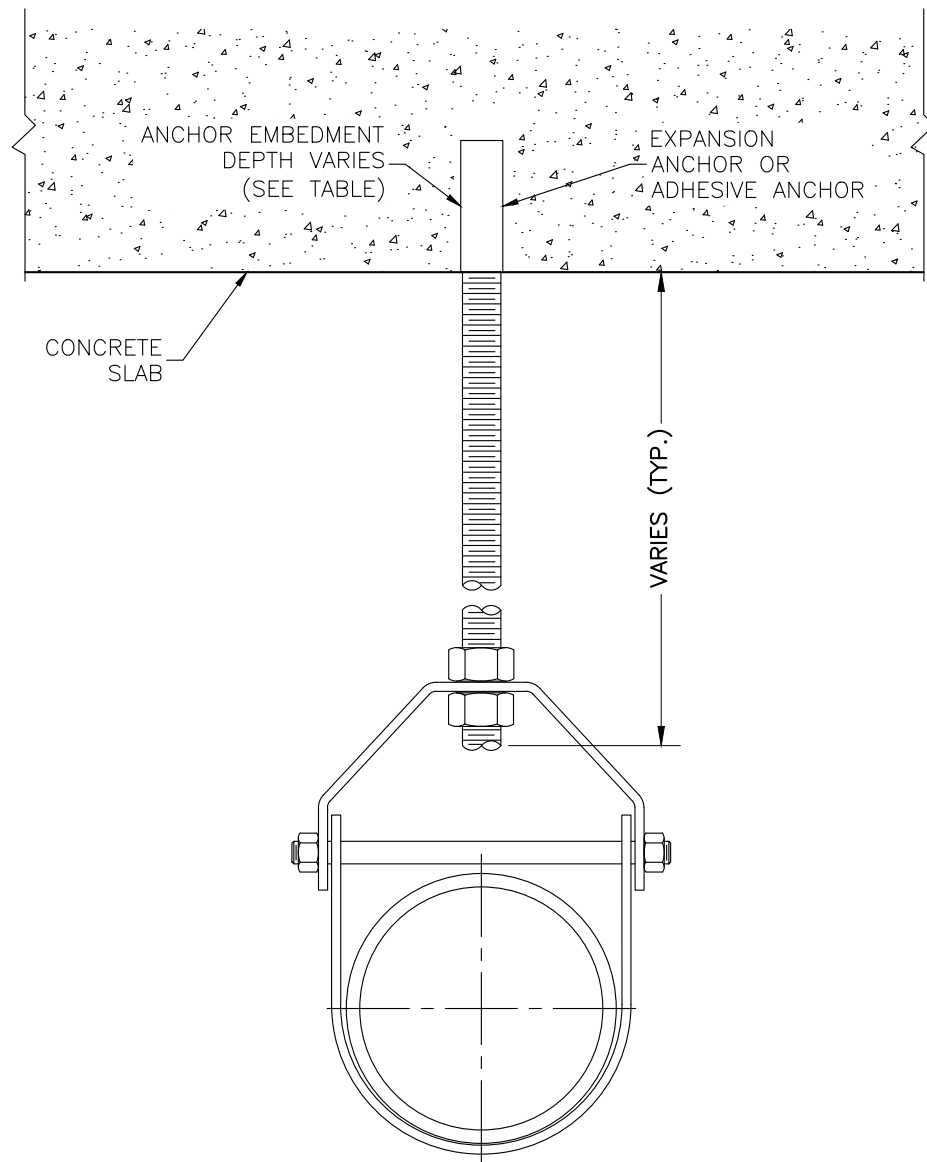
- NOTES:
- CONTRACTOR TO WELD ON NEW HDPE PIPE AND NEW PVC PIPE TO REDUCER.
 - CONTRACTOR SHALL INSTALL A MINIMUM OF 6" OF PIPE BETWEEN FITTINGS.



SAMPLE TAP AND PRESSURE
INDICATOR ASSEMBLY
NOT TO SCALE

BILL OF MATERIALS		
1	1	8in X 1/2in TAPPING SADDLE WITH STAINLESS STEEL STRAP - 350psi MAX PRESSURE
2	1	1/2in X 1/4in UNION SS Sch.40 - MALE NPT THREADED
3	2	1/4in BALL VALVE - FEMALE NPT THREADED - LEVER ACTUATED
4	1	1/4in EQUAL TEE SS Sch.40 - FEMALE NPT THREADED
5	1	PRESSURE GAUGE - 0 TO 200 psi - 1/4in MALE NPT THREADED
6	12in	1/4in PIPE SS Sch.40 - MALE NPT THREADED
7	1	PRESSURE GAUGE - 0 TO 100 psi - 1/4in MALE NPT THREADED

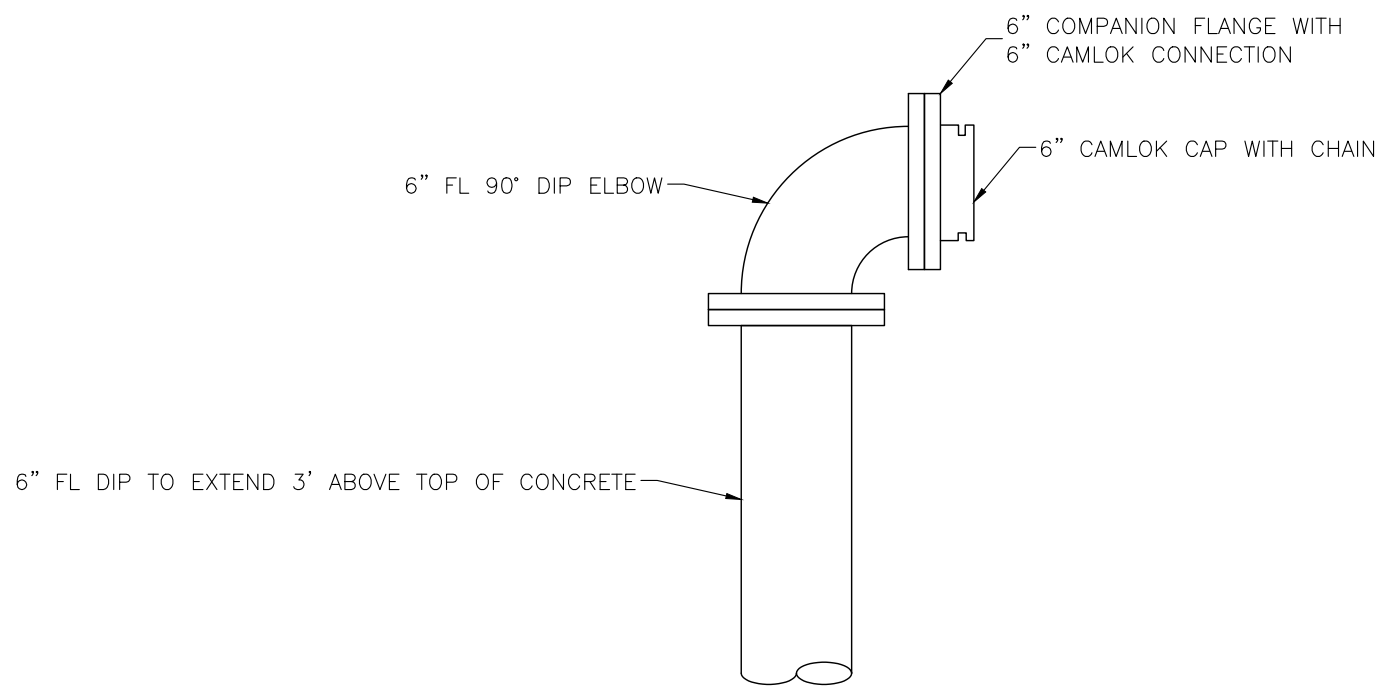
- NOTES:
- REFER TO ELECTRICAL SPECIFICATIONS FOR TRANSMITTER SPECIFICATIONS.



CLEVIS HANGER SUPPORT
NOT TO SCALE

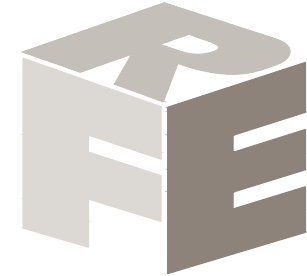
PIPE SIZE (INCH)	HANGER ROD SIZE (INCH)	YOKE ROD SIZE (INCH)	MINIMUM ANCHOR EMBEDMENT DEPTH (INCH)
1	3/8	1/4	3-3/4
2	3/8	1/4	3-3/4
3	1/2	3/8	4
4	5/8	3/8	5-1/2
6	3/4	1/2	6-1/2
8	7/8	5/8	8
10	7/8	3/4	8
12	7/8	3/4	8
14	1	7/8	9-1/2
16	1	1	9-1/2
18	1	1-1/8	9-1/2
20	1-1/4	1-1/4	12-1/2
24	1-1/4	1-1/4	12-1/2

- NOTES:
- CONTRACTOR TO VERIFY HANGER ROD TOTAL LENGTH FOR PROPER FIELD FIT INSTALLATION.
 - HANGER ROD TYPE PER PIPE SUPPORT MANUFACTURER.
 - FOR PIPELINE SIZES ABOVE 24-INCH, CONTRACTOR TO VERIFY CLEVIS HANGER SUPPORT DESIGN WITH MANUFACTURE.
 - BEAM ATTACHMENT TYPES VARY DEPENDING UPON THE PIPELINE SIZE TO BE SUPPORTED. CONTRACTOR TO DETERMINE PROPER BEAM ATTACHMENT WITH MANUFACTURE.
 - BOLT EDGE DISTANCE SHALL BE A MINIMUM OF [1.5 x MINIMUM ANCHOR EMBEDMENT DEPTH], UNO. SMALLER EDGE DISTANCES SHALL BE APPROVED BY THE ENGINEER.
 - MINIMUM CENTER TO CENTER SPACING OF BOLTS SHALL BE [3 x MINIMUM ANCHOR EMBEDMENT DEPTH], UNO. SMALLER BOLT SPACING SHALL BE APPROVED BY THE ENGINEER.
 - HOLES SHALL BE DRILLED USING A HAMMER DRILL AND CARBIDE BIT, OR EQUAL.
 - ALL ANCHORS TO BE STAINLESS STEEL. FOR DRY INSTALLATION ENVIRONMENTS, USE EXPANSION ANCHORS. FOR WET INSTALLATION ENVIRONMENTS, USE EPOXY ADHESIVE ANCHORS. ANCHOR ADHESIVE SHALL BE HILTI HIT-RE 500 V3.



EXTERIOR VAC PUMP CONNECTION DETAIL
NOT TO SCALE

- NOTES:
- REFER TO STRUCTURAL DRAWINGS FOR CONCRETE PENETRATION DETAIL.



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RFENG.BIZ | (970) 340-4130



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JLG
JLG
JLG
JLG

DATE:
12.18.2024
07.23.2025
11.14.2025
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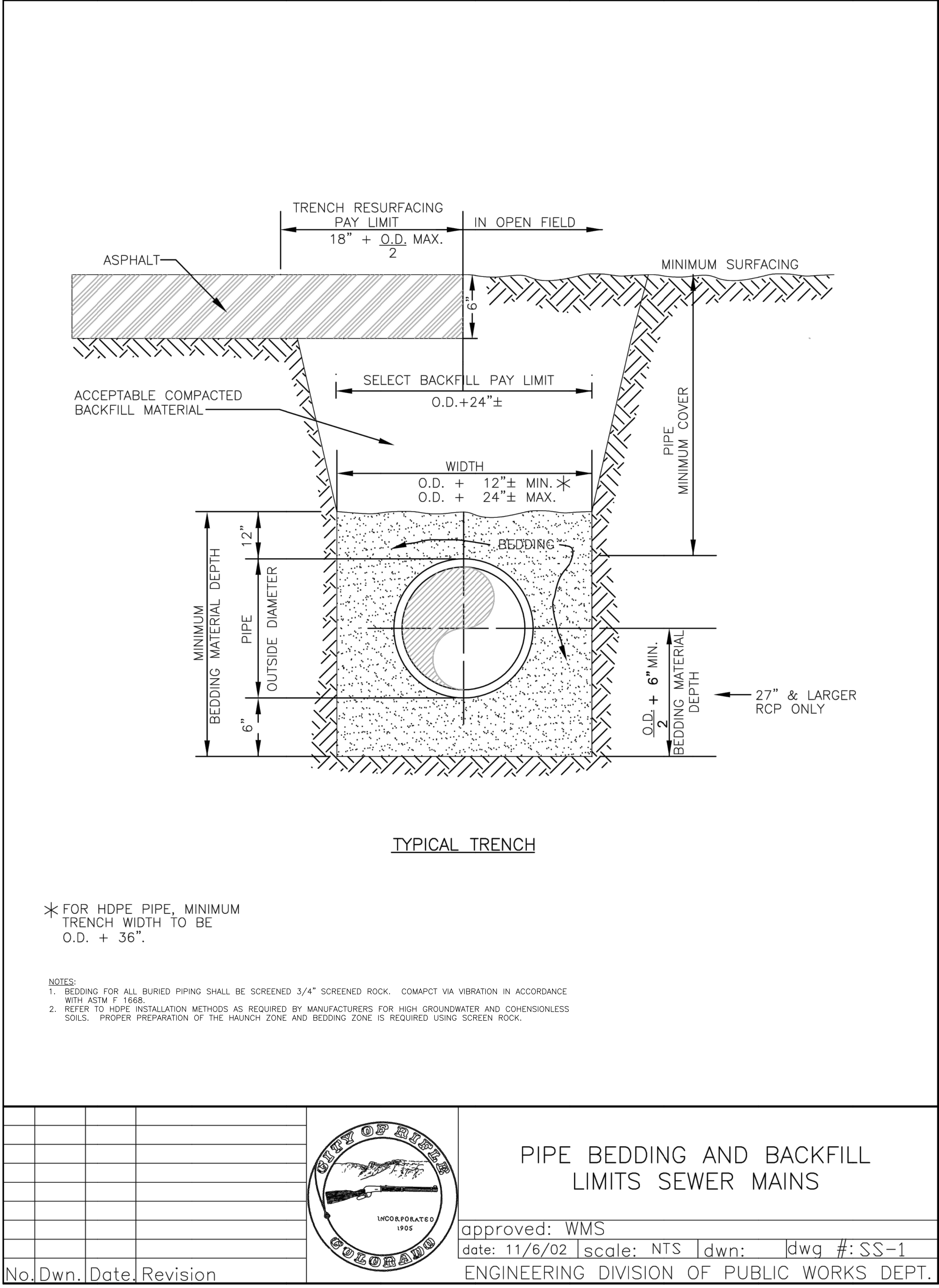
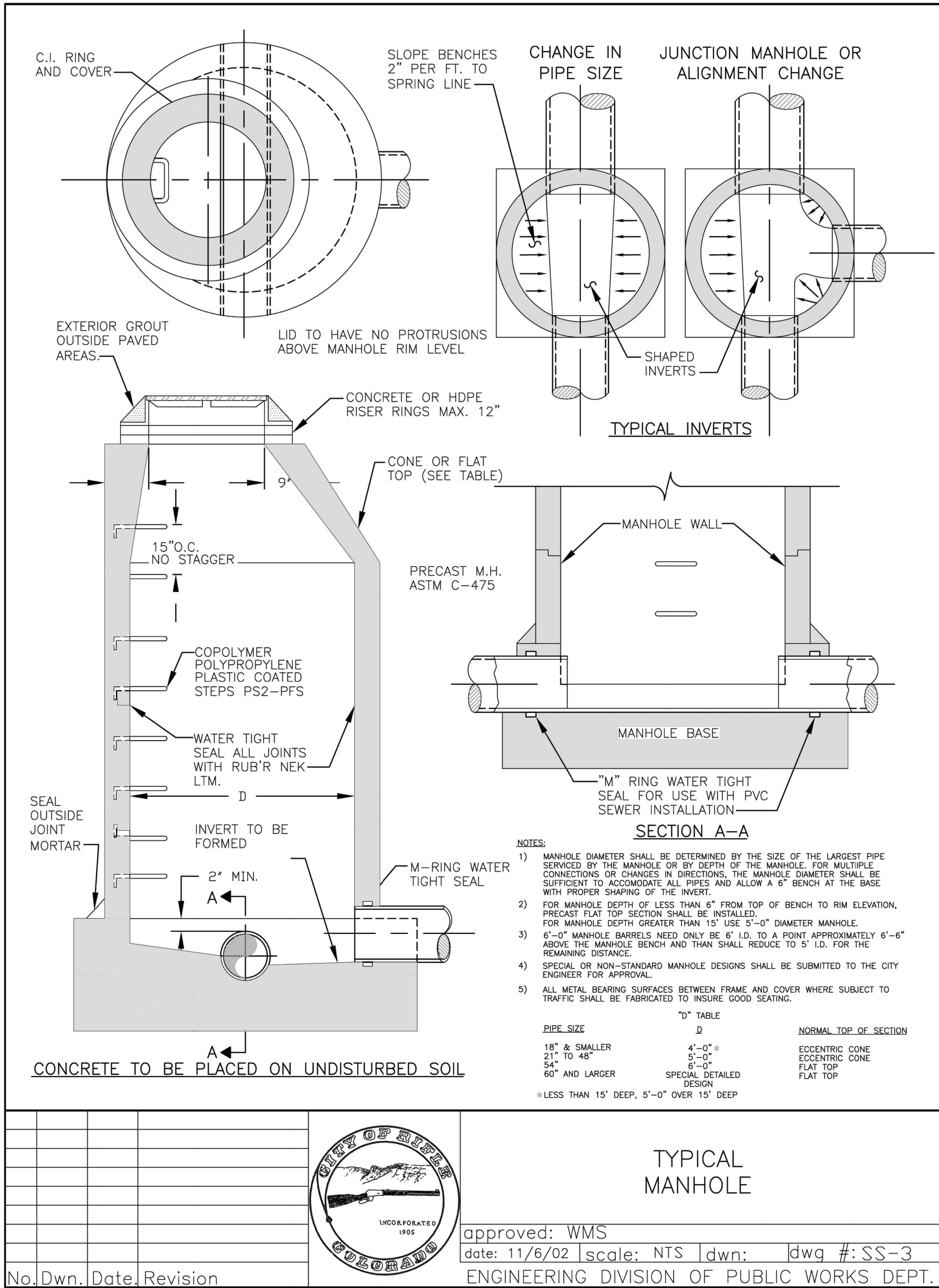
JOB #: 2024-59
NOT FOR
CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

DETAILS

C8
OF C10

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RFENG.BIZ | (970) 340-4130



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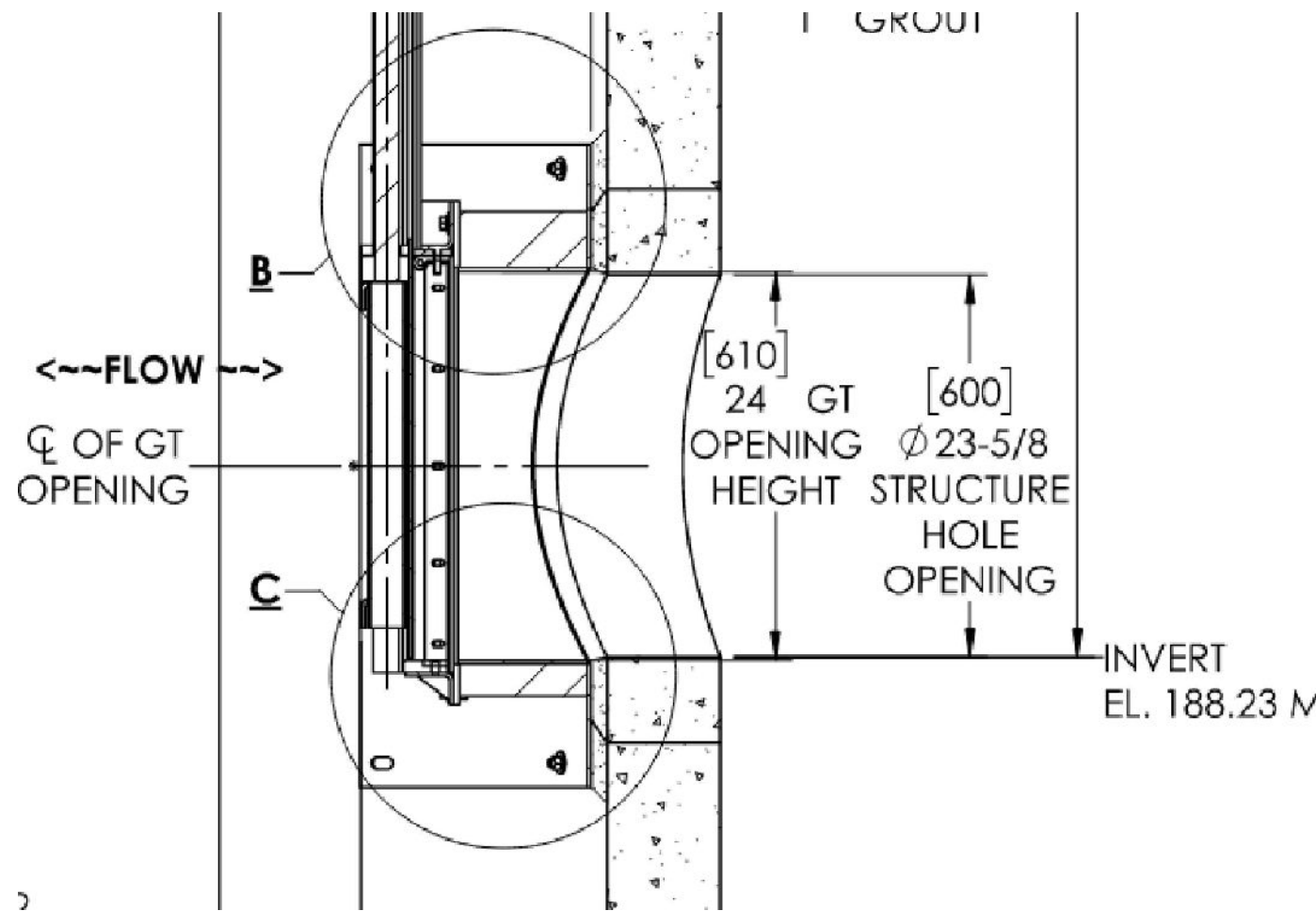
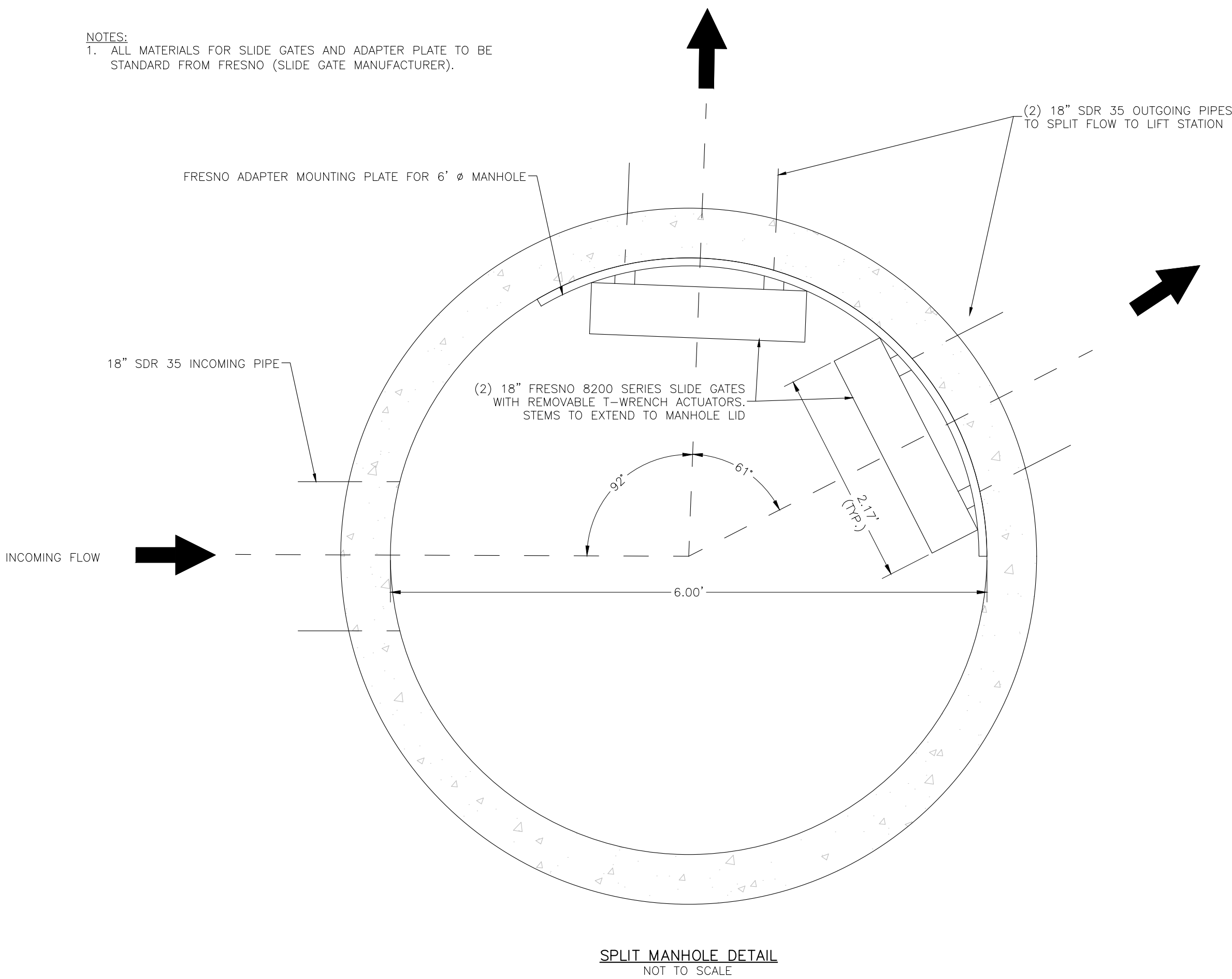
JOB #: 2024-59
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CITY OF RIFLE LIFT STATION
RIFLE, CO

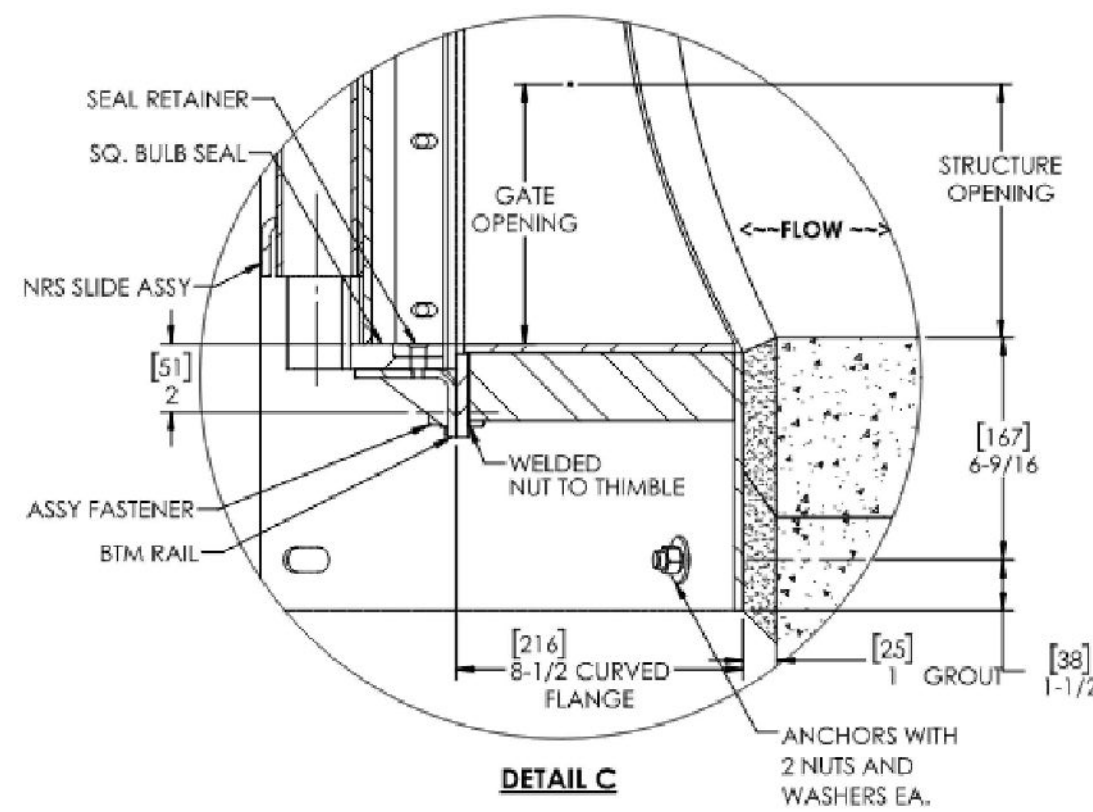
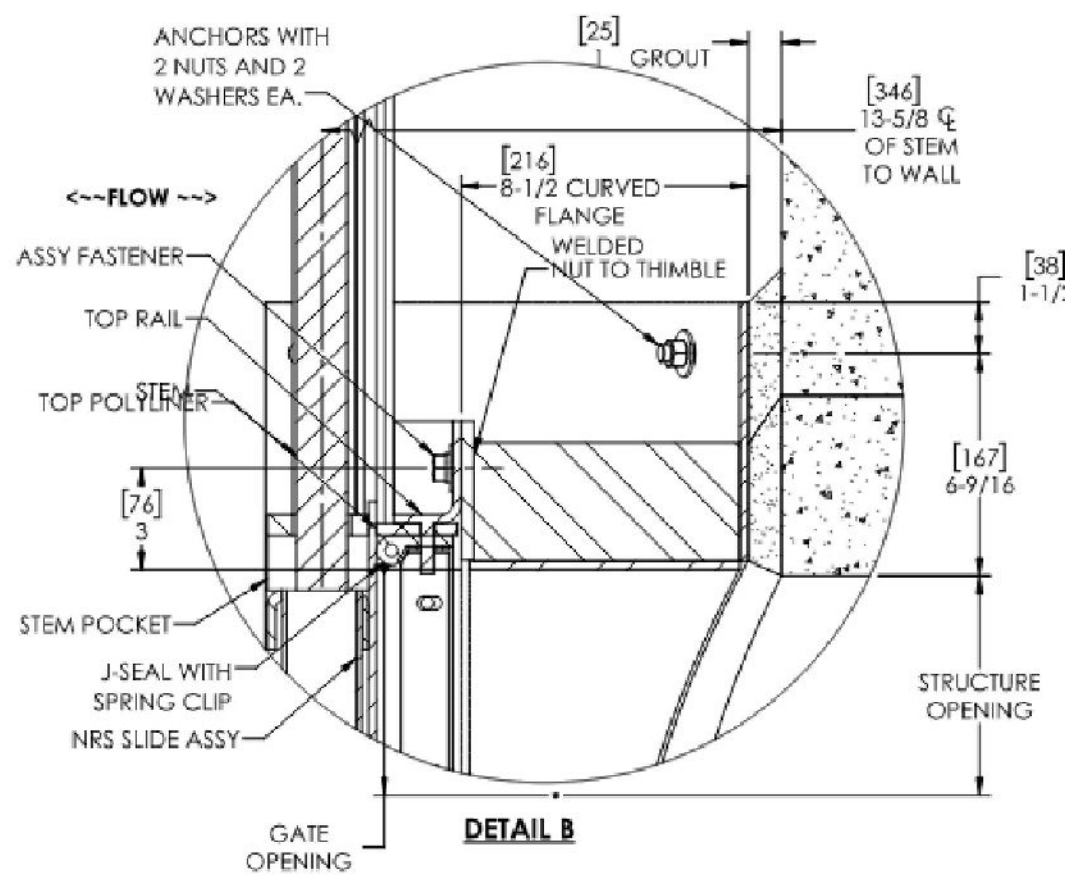
DETAILS

C9
OF C10

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- NOTES:
- DETAILS SUBJECT TO CHANGE IF CONTRACTOR USES ALTERNATIVE SUPPLIER FOR GATES.



MOUNTING DETAILS FOR FRESNO SPECIFIED GATE
NOT TO SCALE

- NOTES:
- DETAILS SUBJECT TO CHANGE IF CONTRACTOR USES ALTERNATIVE SUPPLIER FOR GATES.



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RFENG.BIZ | (970) 340-4130



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4	BID SET
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JOB #: 2024-59
NOT FOR CONSTRUCTION

CITY OF RIFLE LIFT STATION
RIFLE, CO

DETAILS

C10
OF C10

ABBREVIATIONS:		ABBREVIATIONS CONTINUED:	
ABC	AGGREGATE BASE COURSE	"	INCH
ACI	AMERICAN CONCRETE INSTITUTE	'	FOOT
ADD'L	ADDITIONAL	℄	CENTERLINE
ADH	ADHESIVE	Ø	DIAMETER
AL	ALUMINUM	&	AND
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	%	PERCENT
APPROX	APPROXIMATELY	°	DEGREE
ARCH	ARCHITECTURAL	#	NUMBER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	±	PLUS/MINUS
AST	ALWAYS SAFE TANK	@	AT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS		
AWS	AMERICAN WELDING SOCIETY		
AWWA	AMERICAN WATER WORKS ASSOCIATION		
B.O.	BOTTOM OF		
BTM	BOTTOM		
BTWN	BETWEEN		
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION		
CJ	CONSTRUCTION JOINT		
CLR	CLEAR		
CONC	CONCRETE		
CONT	CONTINUOUS		
DIAM.	DIAMETER		
DIP	DUCTILE IRON PIPE		
DL	DEAD LOAD		
DWGS	DRAWINGS		
DWLS	DOWELS		
E	EASTING		
EA	EACH		
E.F.	EACH FACE		
EL/ELEV	ELEVATION		
EQ	EQUAL		
EQUIV.	EQUIVALENT		
EW	EACH WAY		
EXT	EXTERIOR		
F.F.	FINISH FLOOR		
FG	FINISHED GRADE		
FT	FOOT		
FTNG	FOOTING		
FRP	FIBER REINFORCED POLYMER		
FY	YIELD STRENGTH		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HWL	HIGH WATER LEVEL		
IBC	INTERNATIONAL BUILDING CODE		
I.D.	INSIDE DIAMETER		
I.F.	INSIDE FACE		
IN	INCH		
INC.	INCORPORATED		
INT	INTERIOR		
INV	INVERT		
K	THOUSAND		
KSF	KIPS PER SQUARE FOOT		
KSI	KIPS PER SQUARE INCH		
LBS	POUNDS		
Ld	DEVELOPMENT LENGTH		
LL	LIVE LOAD		
LP	LOW POINT		
MAX	MAXIMUM		
MIN	MINIMUM		
MNFR	MANUFACTURER		
MPH	MILE PER HOUR		
N	NORTHING		
NO.	NUMBER		
NSF	NATIONAL SANITARY FOUNDATION		
NTS	NOT TO SCALE		
O.C.	ON-CENTER		
O.D.	OUTSIDE DIAMETER		
O.F.	OUTSIDE FACE		
OPNG	OPENING		
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION		
OZ.	OUNCE		
PCA	PORTLAND CEMENT ASSOCIATION		
PSF	POUNDS PER SQUARE FOOT		
PSI	POUNDS PER SQUARE INCH		
PVC	POLYVINYL CHLORIDE		
QTY	QUANTITY		
RE:	REFERENCE		
REINF	REINFORCEMENT		
REQ'D	REQUIRED		
SEAC	STRUCTURAL ENGINEERS ASSOCIATION OF COLORADO		
SEC	SECOND		
SCH	SCHEDULE		
SCJ	STRUCTURAL CONTROL JOINT		
SDR	STANDARD DIMENSION RATIO		
SIM	SIMILAR		
SL	SNOW LOAD		
SOG	SLAB ON GRADE		
SP	SPACING		
SPEC	SPECIFICATION		
SQ	SQUARE		
SS	STAINLESS STEEL		
STND	STANDARD		
T.O.	TOP OF		
TYP	TYPICAL		
USGS	U.S. GEOLOGICAL SURVEY		
VERT	VERTICAL		
W/	WITH		



WESTERN WATER SOLUTIONS, LLC
PO BOX 3741
BASALT, COLORADO 81621

Prepared For

ROARING FORK ENGINEERING
592 CO-133
CARBONDALE, COLORADO 81623

Client

CITY OF RIFLE
202 RAILROAD AVE
RIFLE, COLORADO 81650

Project

CITY OF RIFLE LIFT
STATION
RIFLE, CO

4	DFB	03.25.26
3	100% DD	12.15.25
2	90% SET	11.14.25
1	60% SET	7.23.25
No.	Revision/Issue	Date

Project No.:

2025-RFE-COR

Drawn By:

TAW

Checked By:

WWS

Drawing Date:

07.23.2025

Sheet Title

STRUCTURAL
ABBREVIATIONS

Sheet No

S1

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND BE SUBJECT TO CONSTRUCTION OBSERVATION BY THIRD PARTY INSPECTORS, ENGINEER OF RECORD, ROARING FORK ENGINEERING, AND CITY OF RIFLE REPRESENTATIVES OR PERSONNEL.
2. PROJECT SHALL BE CONSTRUCTED TO MEET THE REQUIREMENTS OF THE STATE OF COLORADO DESIGN CRITERIA FOR WASTEWATER SYSTEMS PUBLISHED BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENTS WATER QUALITY CONTROL DIVISION, LATEST EDITION.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK.
4. ANY DISCREPANCIES BETWEEN THE DRAWINGS, SPECIFICATIONS, OR FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
5. COORDINATE WORK WITH ALL DISCIPLINES.
6. REFER TO CIVIL DRAWINGS FOR ALL PIPE INVERT ELEVATIONS, PIPE SLOPES, AND ELEVATIONS OF STRUCTURAL MEMBERS AND ASSOCIATED PIPING. STRUCTURAL DRAWINGS INDICATE GEOMETRY AND STRUCTURAL REQUIREMENTS ONLY. CONTRACTOR SHALL COORDINATE ALL WORK WITH CIVIL DRAWINGS PRIOR TO CONSTRUCTION.
7. REFER TO THE GEOTECHNICAL REPORT PREPARED BY CMT TECHNICAL SERVICES, DATED DECEMBER 10, 2024, FOR ALL REQUIREMENTS RELATED TO SUBGRADE PREPARATION, EXCAVATION, FOUNDATION BEARING, BEDDING, BACKFILL MATERIALS, AND COMPACTION. ALL EARTHWORK SHALL CONFORM TO THE RECOMMENDATIONS AND REQUIREMENTS OF THE GEOTECHNICAL REPORT.
8. CONTRACTOR TO COORDINATE WITH GEOTECHNICAL ENGINEER THROUGHOUT THE PROJECT TO OBSERVE EXCAVATION OPERATIONS, CONFIRM SUBGRADE, APPROVE USE OF ONSITE SOILS OR IMPORT MATERIALS, CONCRETE PROTECTION, AND BACKFILL OPERATIONS.
9. ENGINEER TO PERFORM REINFORCEMENT INSPECTIONS PRIOR TO CONCRETE PLACEMENT. THIRD PARTY TESTING COMPANY SHALL PERFORM CONCRETE TESTING PER THE PROJECT SPECIFICATIONS.
10. AFTER CONCRETE HAS BEEN CURED (28 DAYS), JOINTS SEALED AND PRIOR TO BACKFILLING, THE TANK AND PIPING SHALL BE DISINFECTED PER AWWA C652 - LATEST EDITION, AND THE PROJECT SPECIFICATIONS.
11. FOLLOWING DISINFECTION THE TANK SHALL BE FILLED AND LEAK TESTED IN ACCORDANCE WITH ACI 350.1-10, TIGHTNESS TESTING OF ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AND THE PROJECT SPECIFICATIONS. OWNER AND ENGINEER SHALL WITNESS LEAK TESTING.
12. FOLLOWING ACCEPTANCE OF THE LEAK TEST, THE TANK MAY BE BACKFILLED. BACKFILL SHALL BE PLACED AND COMPACTED IN UNIFORM LIFTS AROUND THE TANK. REFER TO THE GEOTECH REPORT FOR BACKFILL AND COMPACTION REQUIREMENTS.

STRUCTURE DESIGN LOADS:

1. THE FOLLOWING DESIGN CODES AND STANDARDS WERE USED TO COMPLETE THE STRUCTURAL DESIGN OF THE BURIED CONCRETE WET WELL.
2. DESIGN CODES:

A. INTERNATIONAL BUILDING CODE (IBC), 2015.

B. ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

C. PCA RECTANGULAR CONCRETE TANKS WITHOUT PRESTRESSING.

D. ACI 318-14 BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE.

E. ACI 350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES.

F. ACI 350.3-06 SEISMIC DESIGN OF LIQUID CONTAINING STRUCTURES.

G. US ARMY CORPS OF ENGINEERS EM 1110-2-2100 STABILITY ANALYSIS FOR CONCRETE STRUCTURES.

H. ACI HANDBOOK OF CONCRETE ENGINEERING.

3. DESIGN LOADS:

A. DEAD LOAD	MEMBER SELF WEIGHT
B. PUMP SKID DEAD LOAD	6000 LBS
C. BUILDING DEAD LOAD	3000 LBS
D. ROOF LIVE LOAD	100 PSF
E. ROOF SOIL LOAD	375 PSF
F. MINIMUM ROOF SNOW LOAD	50 PSF
	SURFACE ROUGHNESS C
	EXPOSURE FACTOR 1.1
	THERMAL FACTOR 1.0
	IMPORTANCE FACTOR 1.2
G. WIND	
	ULTIMATE WIND SPEED 120 MPH (3-SECOND GUST)
	EXPOSURE C
	SURFACE ROUGHNESS C
	TOPOGRAPHIC FACTOR 1.0
H. SEISMIC	
	OCCUPANCY IV
	IMPORTANCE FACTOR, Ie 1.5
	SOIL SITE CLASS D
	Ss 0.297g
	S ₁ 0.078g
	S _{D5} 0.310g
	S _{D1} 0.126g
	SEISMIC DESIGN CATEGORY C
- ROOF SLAB LOADING RESTRICTIONS:
1. THE ROOF SLAB OF THE BELOW-GRADE WET WELL STRUCTURE HAS NOT BEEN DESIGNED FOR SUSTAINED VEHICULAR LOADING, INCLUDING PARKING OR STAGING OF EQUIPMENT, MAINTENANCE VEHICLES, OR VACUUM TRUCKS. SUCH LOADING IS PROHIBITED.

2. THE DESIGN INCLUDES CONSIDERATION OF LIMITED, SHORT-DURATION OPERATIONAL LOADING ASSOCIATED WITH MAINTENANCE ACTIVITIES ONLY, INCLUDING VAC TRUCKS. THESE LOADS ARE NOT INTENDED TO REPRESENT REPEATED, SUSTAINED, OR IMPACT LOADING CONDITIONS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING LOADING CONDITIONS THAT EXCEED THOSE ASSUMED IN DESIGN.
- MATERIAL NOTES:
1. REFER TO PROJECT TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONCRETE:
1. CONCRETE SHALL BE MIXED, PLACED, CURED, AND TESTED IN ACCORDANCE WITH THE CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, ACI 350-06 AND THE PROJECT SPECIFICATIONS. CONCRETE MIX FOR THE WET WELL SHALL CONFORM TO THE FOLLOWING:

MINIMUM 28 DAY COMPRESSIVE STRENGTH = 4,500 PSI

MAXIMUM WATER / CEMENT RATIO = 0.42

ENTRAINED AIR = 5% TO 7% ± 1.5%

MAXIMUM AGGREGATE SIZE = 3/4" (#67)

CEMENT = TYPE IL

MAXIMUM FLYASH CONTENT = 20%

MINIMUM CEMENTITIOUS MATERIALS = 560 LBS/CUBIC YARD

MAXIMUM WATER SOLUBLE CHLORIDE CONTENT = 0.10

2. CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE ION SHALL NOT BE USED.

3. AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C 260.

4. WATER REDUCING ADMIXTURES SHALL CONFORM TO ASTM C 494.

5. WATERPROOFING ADMIXTURES SHALL CONFORM TO ASTM C494, TYPE S.

6. CONTRACTOR TO PROVIDE A CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS, AND CONCRETE PLACEMENT SEQUENCE FOR APPROVAL PRIOR TO CONSTRUCTION.

7. ALL CONCRETE SURFACES IN CONTACT WITH SOIL SHALL RECEIVE DAMPPROOFING OR WATERPROOFING AS SPECIFIED.
- REINFORCING STEEL:
1. ALL REINFORCEMENT DETAILING, FABRICATION AND PLACEMENT SHALL CONFORM TO ACI STANDARDS AND THE CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE.

2. ALL REINFORCING SHALL BE DEFORMED BARS CONFORMING TO AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) A615, GRADE 60 UNLESS OTHERWISE NOTED.

3. ALL REINFORCING STEEL IN STRUCTURES INTENDED TO CONTAIN OR ARE IN CONTACT WITH WASTEWATER, INCLUDING SLABS, WALLS, AND ROOFS SHALL BE EPOXY-COATED UNLESS SPECIFICALLY NOTED OTHERWISE.

4. EPOXY-COATED REINFORCEMENT SHALL COMPLY WITH ASTM A775/A775M AND SHALL BE APPLIED AT THE FABRICATION PLANT.

5. CONCRETE COVER, UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:

CONCRETE CAST AGAINST AND EXPOSED TO EARTH: 3-INCHES

CONCRETE EXPOSED TO LIQUID: 2-INCHES

ALL OTHER: 2-INCHES

6. REFER TO OTHER DISCIPLINE DRAWINGS FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS AND AS REQUIRED TO ACCOMMODATE THE FULL FUNCTIONALITY OF THE COMPLETE PROJECT.

7. REINFORCE AROUND OPENINGS AS SHOWN ON THE STRUCTURAL DETAILS.

8. PROVIDE 3/4-INCH CHAMFER ON ALL EXPOSED EDGES. NOT ALL CHAMFERS MAY BE SHOWN ON THE DRAWINGS.

9. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS.
- WATERSTOPS:
1. WALL TO FLOOR SLAB JOINTS SHALL INCLUDE A 6-INCH PVC RIBBED WATERSTOP WITH CENTER BULB. PROVIDE WATERSTOP AT BOTTOM OF WALL, ALL CONSTRUCTION JOINTS, AND AS LOCATED ON THE DRAWINGS. CONTINUOUS PVC WATERSTOP SHALL BE INSTALLED IN JOINTS SUBJECT TO STATIC WATER PRESSURE. PRODUCT: GREENSTREAK PVC WATERSTOP MANUFACTURED BY SIKA CORPORATION.
- MATERIAL NOTES CONTINUED:
- WATERSTOP MATERIALS CONTINUED:
2. PROVIDE A HYDROPHILIC WATERSTOP AT THE TOP OF THE WALL TO ROOF SLAB JOINT. PROTECT WATERSTOPS FROM RAIN AND WATER TO AVOID EXPANSION PRIOR TO PLACING CONCRETE. PRODUCT: SIKA HYDROTITE CJ-1020-AK-ADH MANUFACTURED BY SIKA CORPORATION.

3. INSTALL ADEKA ULTRASEAL P-201 HYDROPHILIC WATERSTOP AROUND PIPES PENETRATING THE ROOF SLAB AND WALLS.
- STRUCTURAL STEEL MATERIALS:
1. NEW STRUCTURAL STEEL ITEMS SHALL CONFORM TO THE FOLLOWING STANDARDS AND REQUIREMENTS.

CARBON STEEL WIDE FLANGES: ASTM A992, FY = 50 KSI

CARBON STEEL CHANNELS, ANGLES, PLATES: ASTM A36, FY = 36 KSI

PIPES: ASTM A53, GRADE B, FY = 35 KSI

PIPES: ASTM A500, GRADE B, FY 46 KSI

WELDING ELECTRODES: E7018, AWS A5.1

2. NEW 316 STAINLESS STEEL ITEMS SHALL CONFORM TO THE FOLLOWING STANDARDS AND REQUIREMENTS.

STAINLESS STEEL BOLT ASSEMBLIES: BOLTS: ASTM F593

STAINLESS STEEL FLAT PLATE: ASTM A240

STAINLESS STEEL SOLID ROUND BAR: ASTM A276

WELDING PROCEDURE SPECIFICATION: AWS D1.6.

WELDING ELECTRODES: E316L-16 (SMAW, AWS A5.4), ER316L (GTAW TIG FILLER ROD, AWS A5.9) AND ER316L (GMAW MID WIRE, AWS A5.9)

3. FIELD WELDING WILL BE INSPECTED VISUALLY BY THIRD-PARTY OWNER HIRED AWS CERTIFIED WELDING INSPECTOR.
- SURFACE PREPARATION AND COATINGS:
1. REFER TO SPECIFICATIONS FOR SURFACE PREPARATION AND COATING REQUIREMENTS.

2. FIELD APPLIED COATINGS SHALL BE INSPECTED BY OWNER HIRED NACE CERTIFIED INSPECTOR.
- THREADED ANCHOR STUDS, WEDGE ANCHORS, AND EPOXY ADHESIVE:
1. DRILL AND EPOXY ANCHORS: HILTI HEADED ANCHOR STUDS 316 STAINLESS STEEL.

2. WEDGE ANCHORS: HILTI KWIK BOLT TZ2 WEDGE ANCHOR 316 STAINLESS STEEL.

3. EPOXY ADHESIVE SHALL BE HILTI HIT-RE 500 V3.
- FRP GRATING:
1. ALL FIBERGLASS REINFORCED PLASTIC (FRP) GRATING SHALL BE MANUFACTURED BY BEDFORD REINFORCED PLASTICS (PROSERIES) OR APPROVED EQUAL.

2. FRP GRATING SHALL BE PULTRUDED I-BAR TYPE, BEDFORD PROGRATE® I-15-60 (1-1/2" DEEP, 60% OPEN AREA) OR APPROVED EQUAL. GRATING SHALL BE DESIGNED FOR A MINIMUM UNIFORM LIVE LOAD OF 100 PSF AND A MINIMUM CONCENTRATED LOAD OF 300 LBS WITH A MAXIMUM CLEAR SPAN OF 3'-0". DEFLECTION SHALL NOT EXCEED L/200 UNDER DESIGN LOADS.

3. FRP MATERIALS SHALL UTILIZE VINYL ESTER RESIN SYSTEM SUITABLE FOR WASTEWATER AND CORROSIVE ENVIRONMENTS. ALL PRODUCTS SHALL BE UV RESISTANT AND CORROSION RESISTANT.

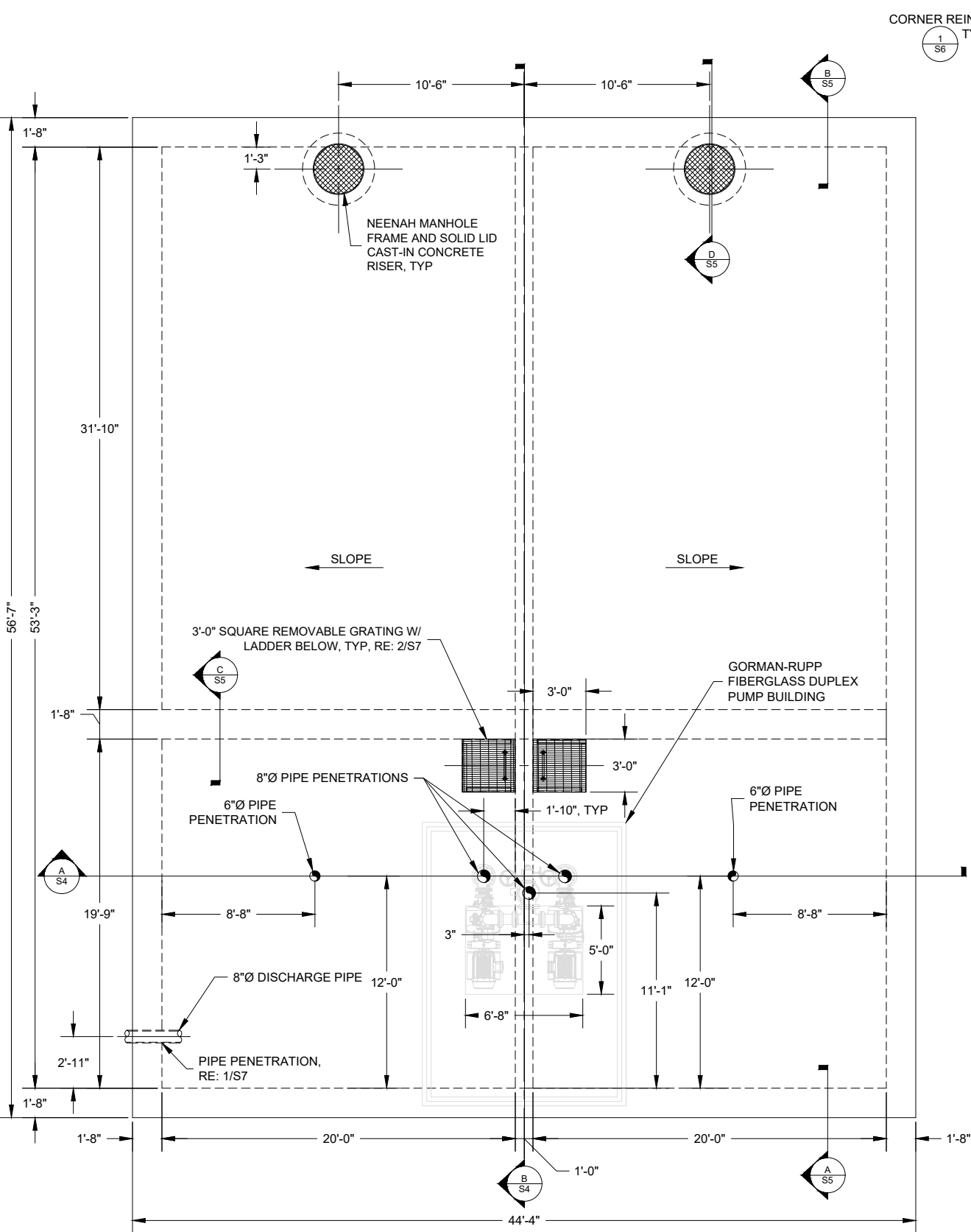
4. FRP GRATING SHALL BE REMOVABLE AND SHALL BE PROVIDED WITH STAINLESS STEEL HOLD-DOWN CLIPS AND FASTENERS. FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.

5. ALL CUT EDGES OF FRP GRATING COMPONENTS SHALL BE SEALED WITH MANUFACTURER'S RECOMMENDED RESIN SYSTEM. ALL PANEL EDGES SHALL BE FACTORY BANDED. PROVIDE NON-SLIP GRIT SURFACE ON ALL WALKING SURFACES.

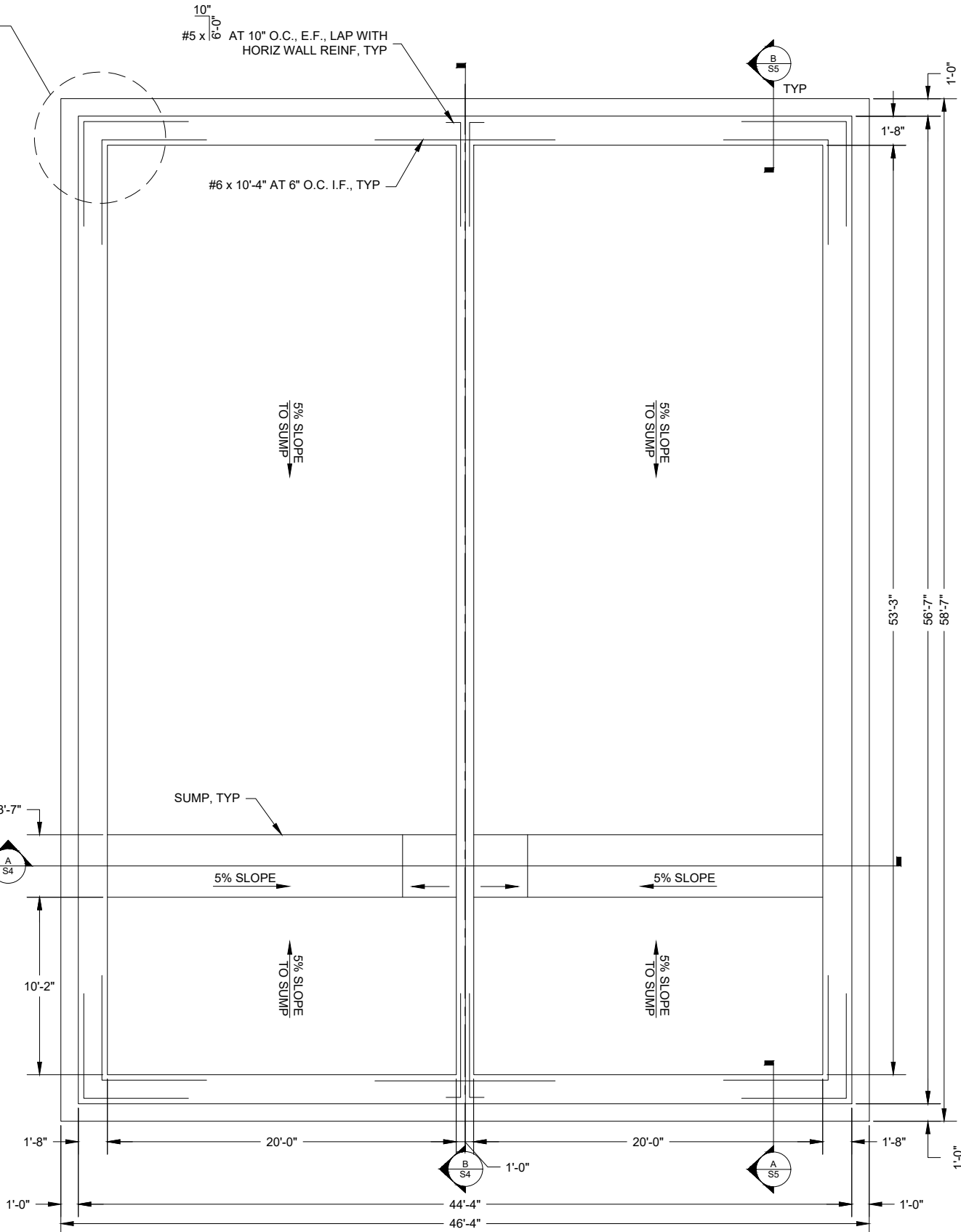
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND MANUFACTURER'S LOAD TABLES FOR REVIEW PRIOR TO FABRICATION.
-
- WESTERN WATER SOLUTIONS, LLC
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BASALT, COLORADO 81621
- Prepared For
ROARING FORK ENGINEERING
592 CO-133
CARBONDALE, COLORADO 81623
- Client
CITY OF RIFLE
202 RAILROAD AVE
RIFLE, COLORADO 81650
- Project
**CITY OF RIFLE LIFT
STATION
RIFLE, CO**
- | | | |
|-----|----------------|----------|
| 4 | DFB | 03.25.26 |
| 3 | 100% DD | 12.15.25 |
| 2 | 90% SET | 11.14.25 |
| 1 | 60% SET | 7.23.25 |
| No. | Revision/Issue | Date |
- | | |
|---------------|--------------|
| Project No.: | 2025-RFE-COR |
| Drawn By: | TAW |
| Checked By: | WWS |
| Drawing Date: | 07.23.2025 |
- Sheet Title
**STRUCTURAL
GENERAL AND
MATERIAL NOTES**
- Sheet No
S2

NOTES:

1. REFER TO GORMAN-RUPP CO. 11.5-FOOT BY 16-FOOT ABOVE-GRADE SEWAGE LIFT STATION ASSEMBLY DRAWINGS FOR BUILDING BOLTED CONNECTIONS AND LOCATIONS.
2. PIPES SHALL BE CAST INTEGRALLY WITH THE ROOF SLAB AND WALL. BLOCKOUTS ARE NOT PERMITTED. REFER TO PIPE PENETRATION DETAIL 1 ON SHEET S7.
3. PROVIDE ADDITIONAL REINFORCING AROUND ALL PENETRATIONS IN ACCORDANCE WITH DETAIL 2 ON SHEET S6.
4. ROOF SLAB TO SLOPE A MINIMUM OF 1 PERCENT FROM CENTERLINE OF ROOF TO EDGE OF SLAB.
5. ROOF SLAB AND BASE SLAB SHALL BE CAST MONOLITHICALLY.
6. LENGTH OF CONCRETE WALL PLACEMENTS SHALL NOT EXCEED 40'-0" UNLESS OTHERWISE APPROVED BY THE ENGINEER. REFER TO CONSTRUCTION JOINT DETAIL 4 ON SHEET S6.
7. PROVIDE CONCRETE PROTECTION AT ALL BELOW-GRADE BURIED CONCRETE SURFACES, INCLUDING WATERPROOFING AND PROTECTION BOARD, IN ACCORDANCE WITH NOTES ON SHEET S4 AND SPECIFICATION SECTION 07 14 16.



ROOF SLAB PLAN
SCALE: 1/4" = 1'-0"



BASE SLAB PLAN
SCALE: 1/4" = 1'-0"



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0 2' 4' 8'
SCALE BASED ON FULL SIZE
22x34 DRAWING
1/4" = 1'-0"

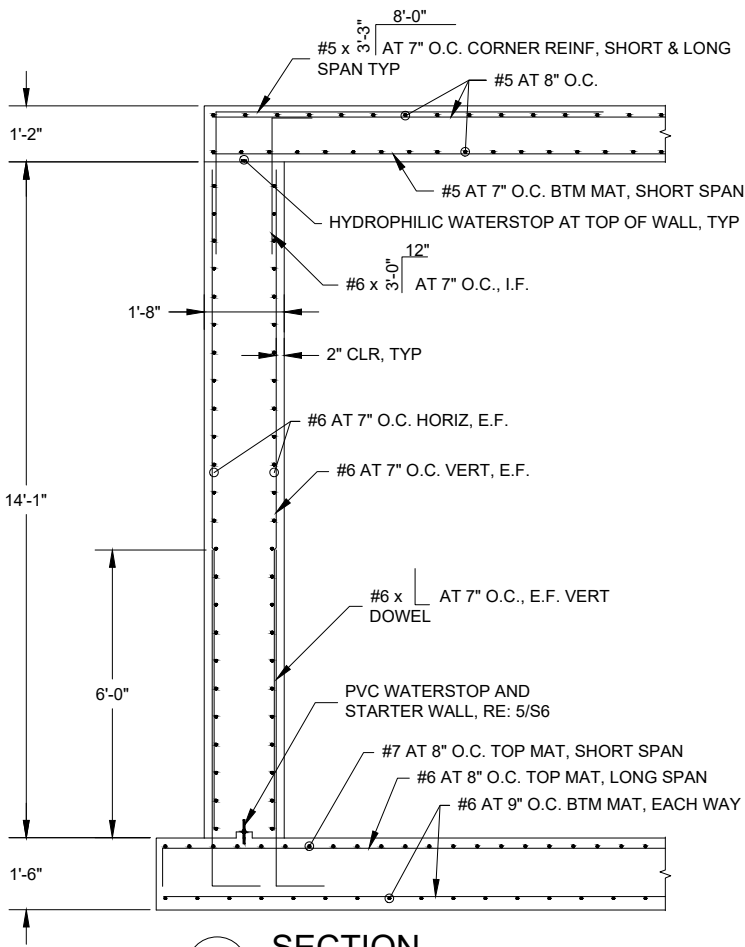


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3	100% DD	12.15.25
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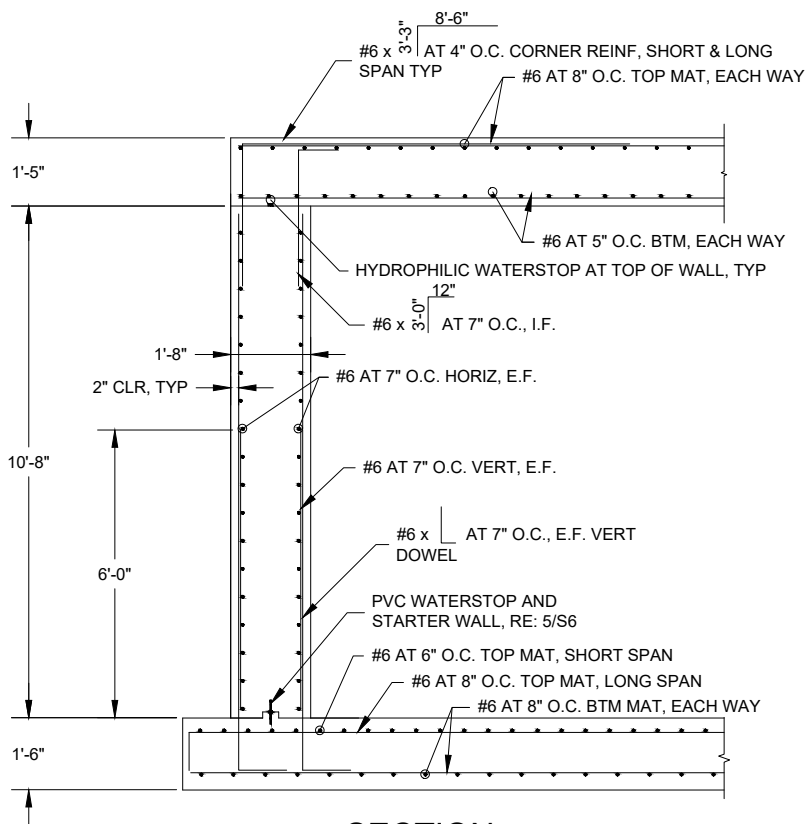
Project No.:	2025-RFE-COR
Drawn By:	TAW
Checked By:	WWS
Drawing Date:	07.23.2025

Sheet Title
WET WELL ROOF
AND BASE SLAB
PLANS

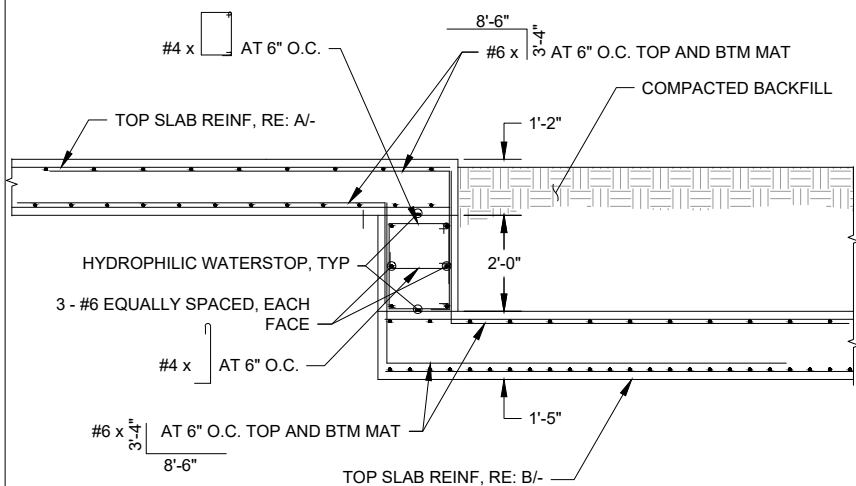
Sheet No
S3



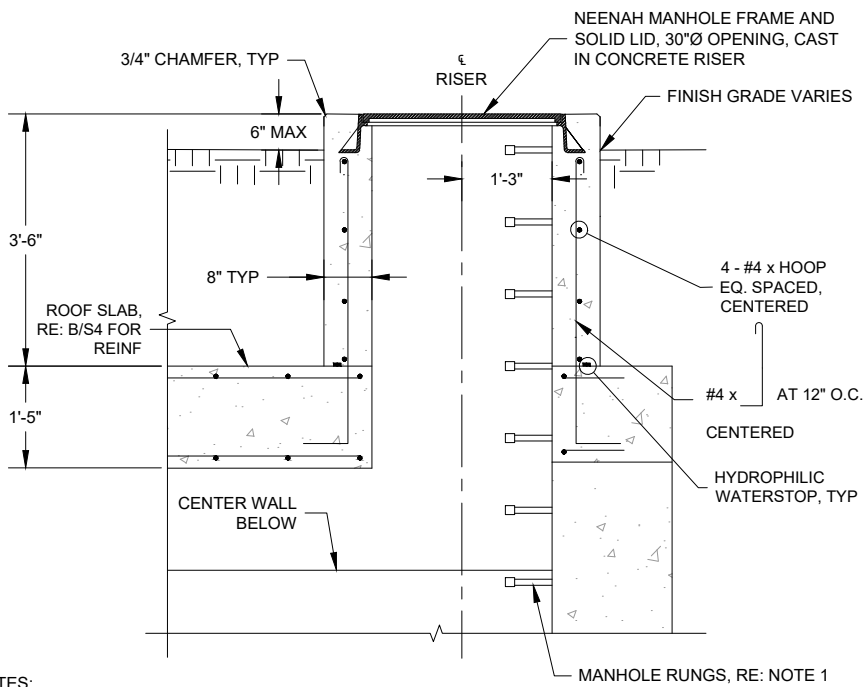
A SECTION
SCALE: 1/2" = 1'-0"



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



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



NOTES:

1. COPOLYMER POLYPROPYLENE MANHOLE STEPS MEETING THE REQUIREMENTS OF ASTM C478. MAX SPACING 12". DRILL AND EPOXY WITH HILTI HIT RE 500 V3 EPOXY.
2. PROVIDE ADDITIONAL REINFORCING AROUND OPENING PER DETAIL 2 ON SHEET S6.
3. REFER TO SPECIFICATION 33 05 16 FOR MANHOLE FRAME AND COVER.

D SECTION
SCALE: 3/4" = 1'-0"



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Project
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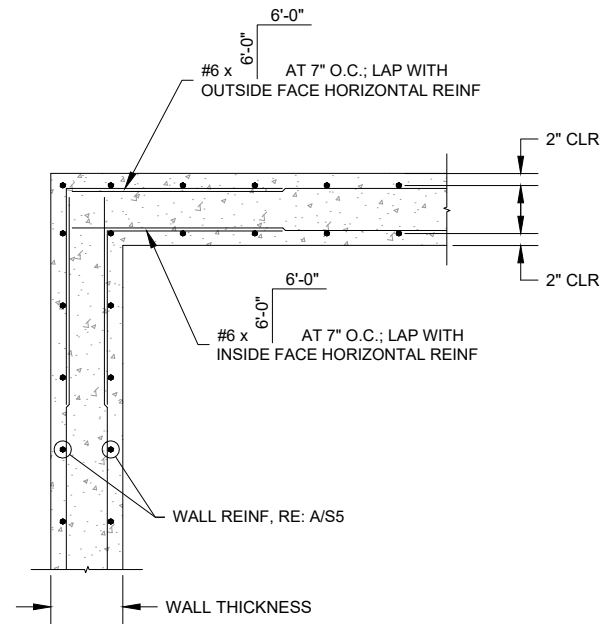
0 1' 2' 4' 1/2" = 1'-0"
0 1' 2' 3' 3/4" = 1'-0"
SCALE BASED ON FULL SIZE
22x34 DRAWING

4	DFB	03.25.26
3	100% DD	12.15.25
2	90% SET	11.14.25
1	60% SET	7.23.25
No.	Revision/Issue	Date

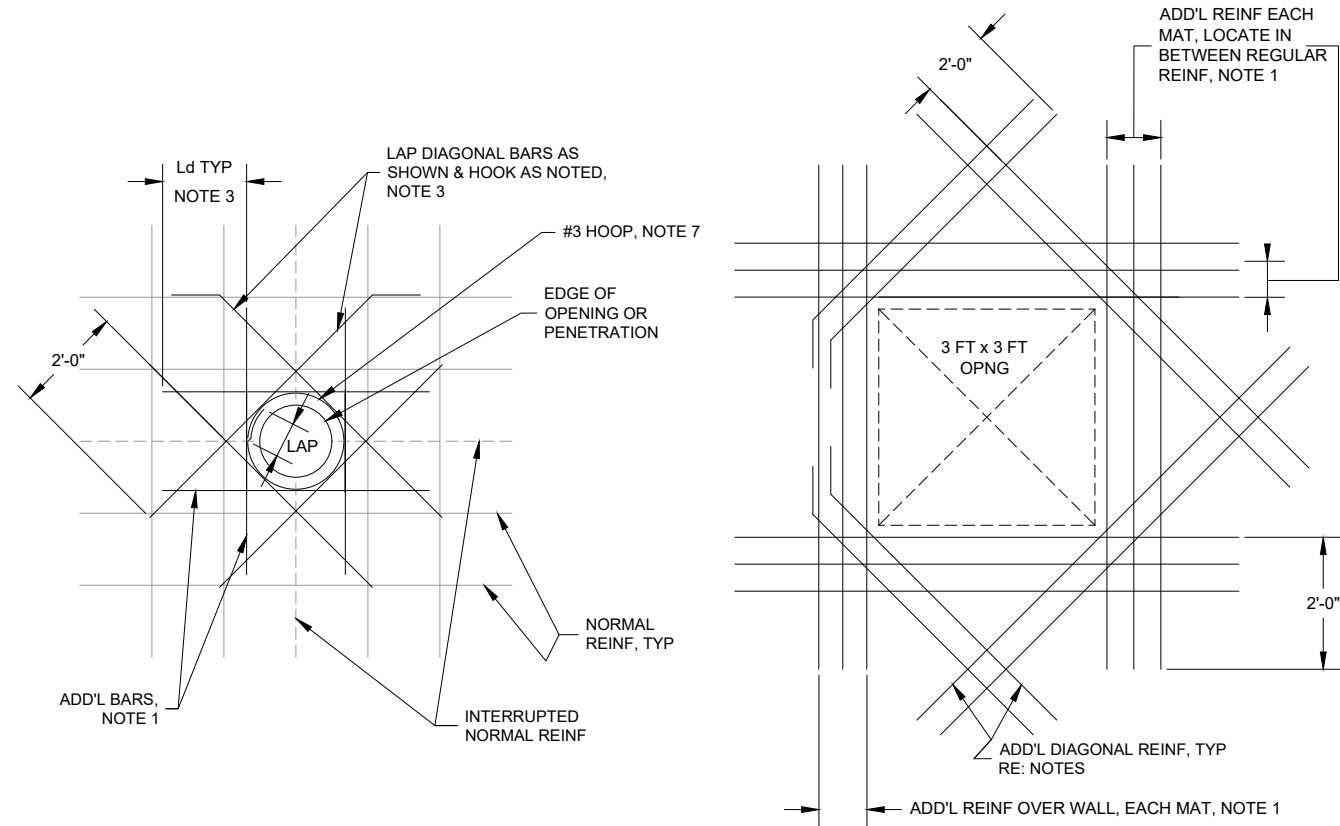
Project No.:	2025-RFE-COR
Drawn By:	TAW
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Drawing Date:	07.23.2025

Sheet Title
**WET WELL
SECTIONS**

Sheet No
S5



1 CORNER REINFORCING
SCALE: NTS



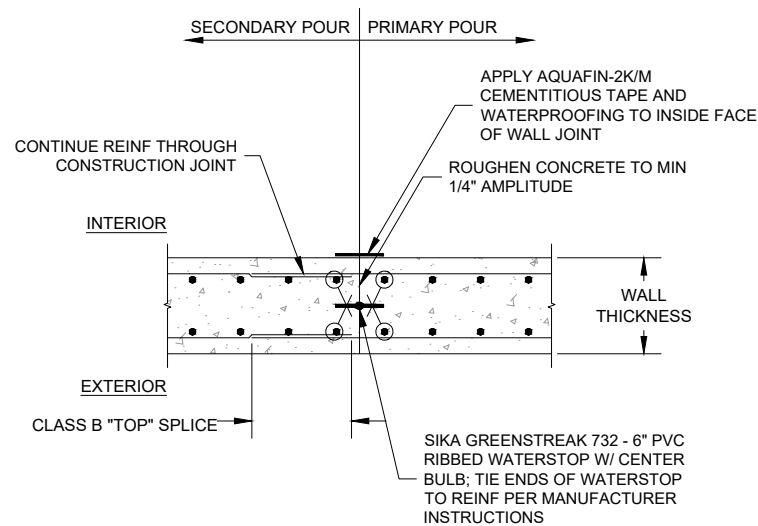
- NOTES:
1. NUMBER OF ADD'L REINF BARS AT EA SIDE OF OPNG SHALL EQUAL HALF THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINF. PLACE BARS IN SAME PLANE AS INTERRUPTED REINF.
 2. SIZE OF ADD'L REINF BARS TO EQUAL SIZE OF INTERRUPTED REINF BARS.
 3. PROVIDE STND HOOKS FOR BARS IF LAP LENGTH EXTENSION CANNOT BE OBTAINED AT JOINTS OR OTHER OBSTRUCTIONS.
 4. SIZE OF DIAGONAL BARS SHALL BE SAME SIZE AS THE LARGEST NORMAL REINF CUT. LOCATE DIAGONALS IN EACH LAYER OF REINF.
 5. PLACE DIAGONAL BARS INSIDE NORMAL REINF.
 6. ALL REINF TO CLEAR OPNG OR FLANGE COLLARS BY 2 INCHES.
 7. PROVIDE ADD'L HOOP REINF AT EACH LAYER OF REINF.

2 ADDITIONAL REINF BAR DETAILS AROUND OPENINGS
SCALE: NTS

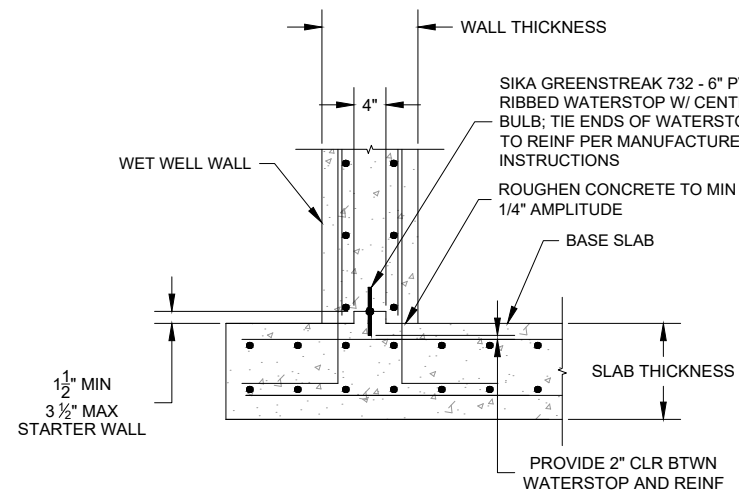
- NOTES:
1. "TOP" BARS SHALL BE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR LAP SPLICE.
 2. ALL LAP SPLICES SHALL BE CLASS B UNLESS OTHERWISE NOTED.
 3. SPLICES ARE TO MADE SO THAT THE GIVEN CLEAR DISTANCES TO FACE OF CONCRETE WILL BE MAINTAINED.
 4. WHEN SPLICING BAR OF DIFFERENT SIZE, THE LENGTH OF THE LAP SHALL BE GOVERNED BY THE LARGER DIAMETER BAR.
 5. SPLICES SHALL BE STAGGERED TO GIVE 12 INCHES CLEAR BETWEEN ENDS OF ADJACENT SPLICES, IF BARS ARE SPACED CLOSER THAN 6 INCHES OR 6 BAR DIAMETERS.

EPOXY COATED REINFORCING								
f'c = 4500 PSI			fy = 60000 PSI			bar spacing = 6" min		
BAR SIZE	DIAM. (IN)	DEVELOPMENT LENGTH Ld (MIN)		CLASS B LAP SPLICE (IN)		90° HOOK (IN)		180° STD HOOK
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	HOOK	Ldh	
#3	0.375	13	12	17	16	6	8	3
#4	0.500	17	13	23	17	8	10	4
#5	0.625	21	17	28	23	10	12	5
#6	0.750	26	20	34	26	12	15	6

3 STND HOOK AND REINF LAP SPLICE
SCALE: NOT TO SCALE



4 WALL CONSTRUCTION JOINT
SCALE: NTS



5 WALL TO SLAB CONSTRUCTION JOINT
SCALE: NTS



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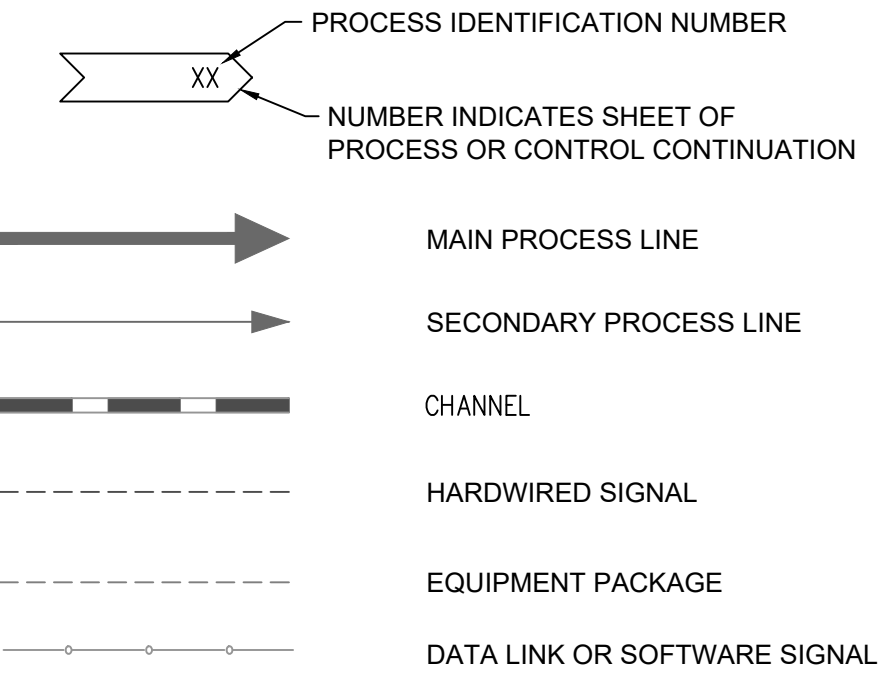
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3	100% DD	12.15.25
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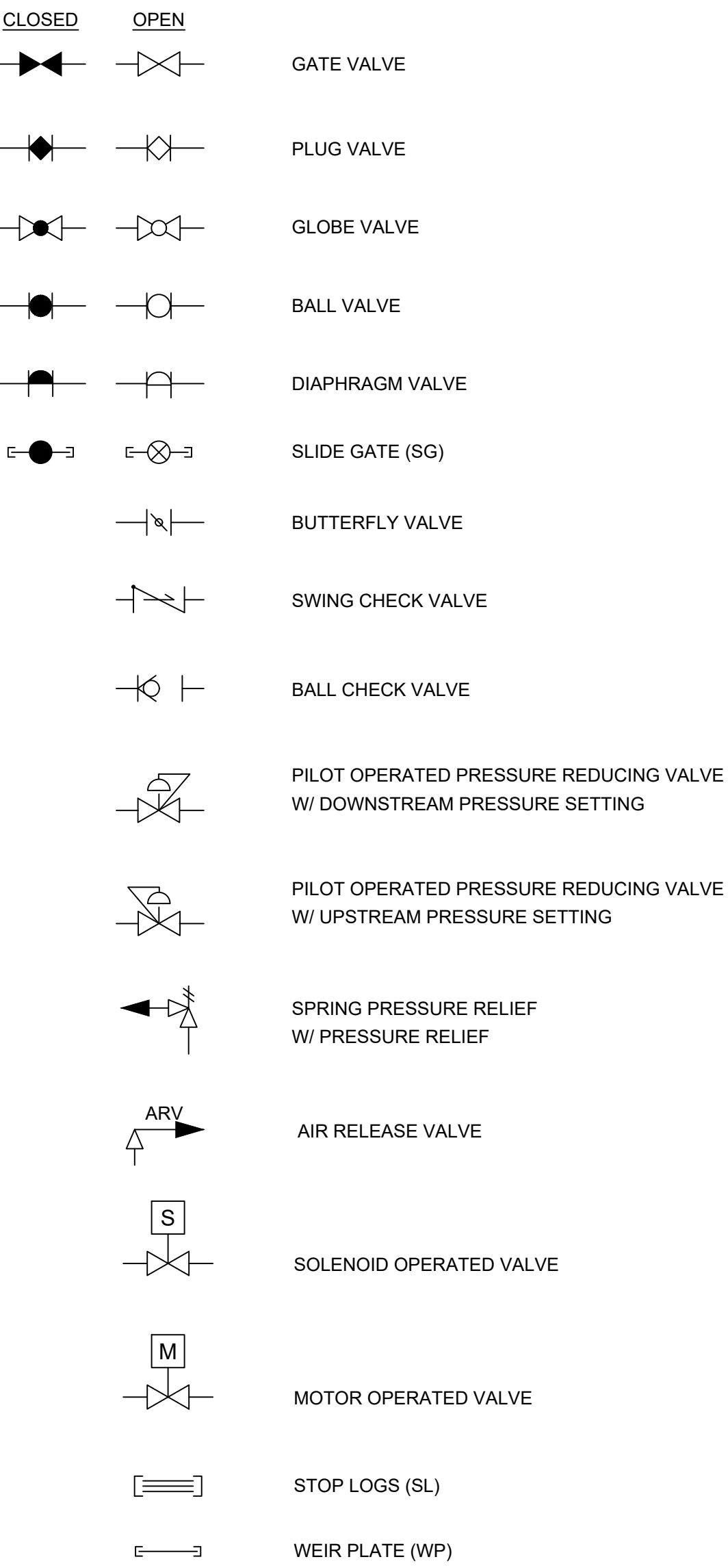
Sheet Title
**STRUCTURAL
STANDARD DETAILS**

Sheet No
S6

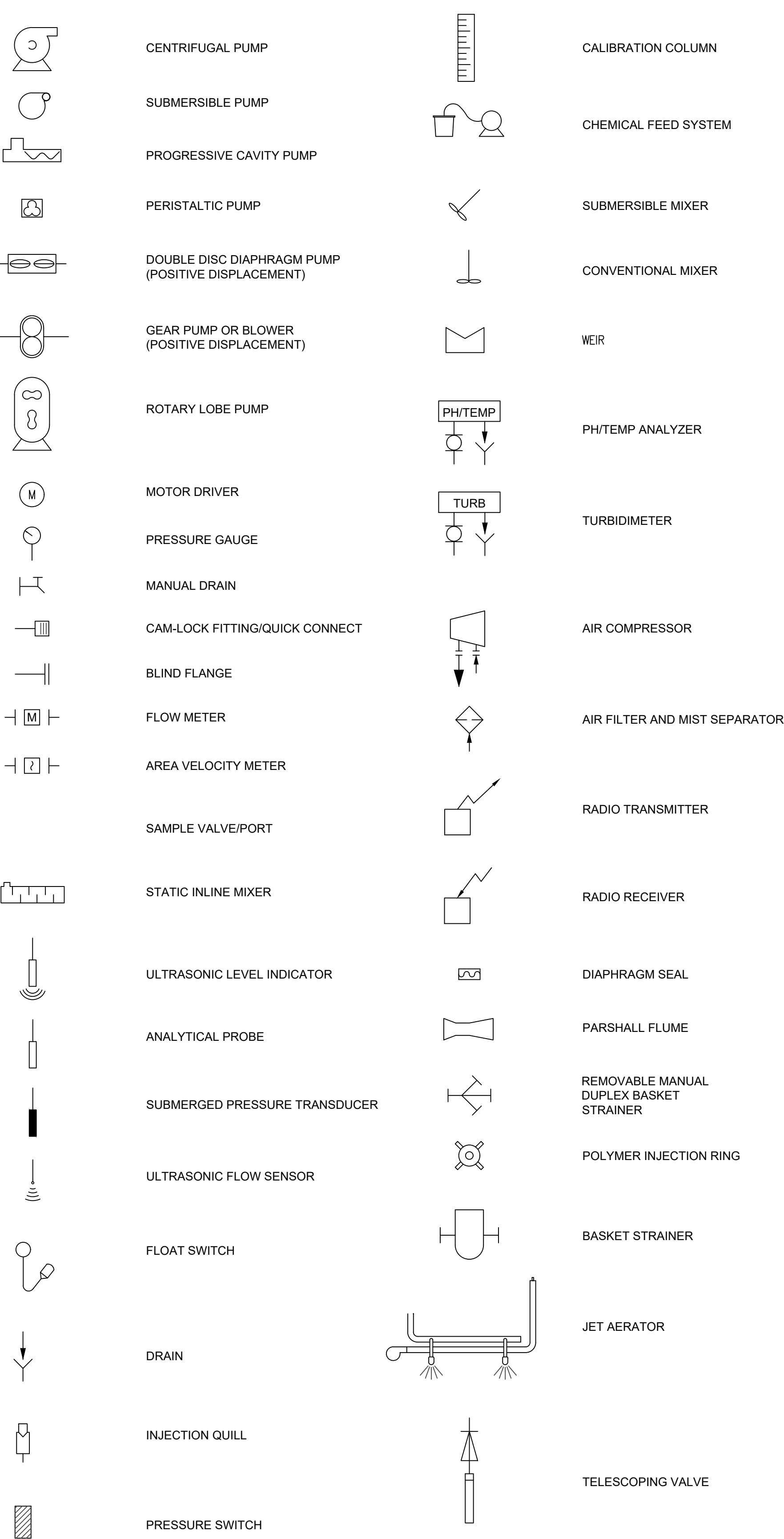
PROCESS LEGEND



VALVE SYMBOLS



P&ID EQUIPMENT SYMBOLS

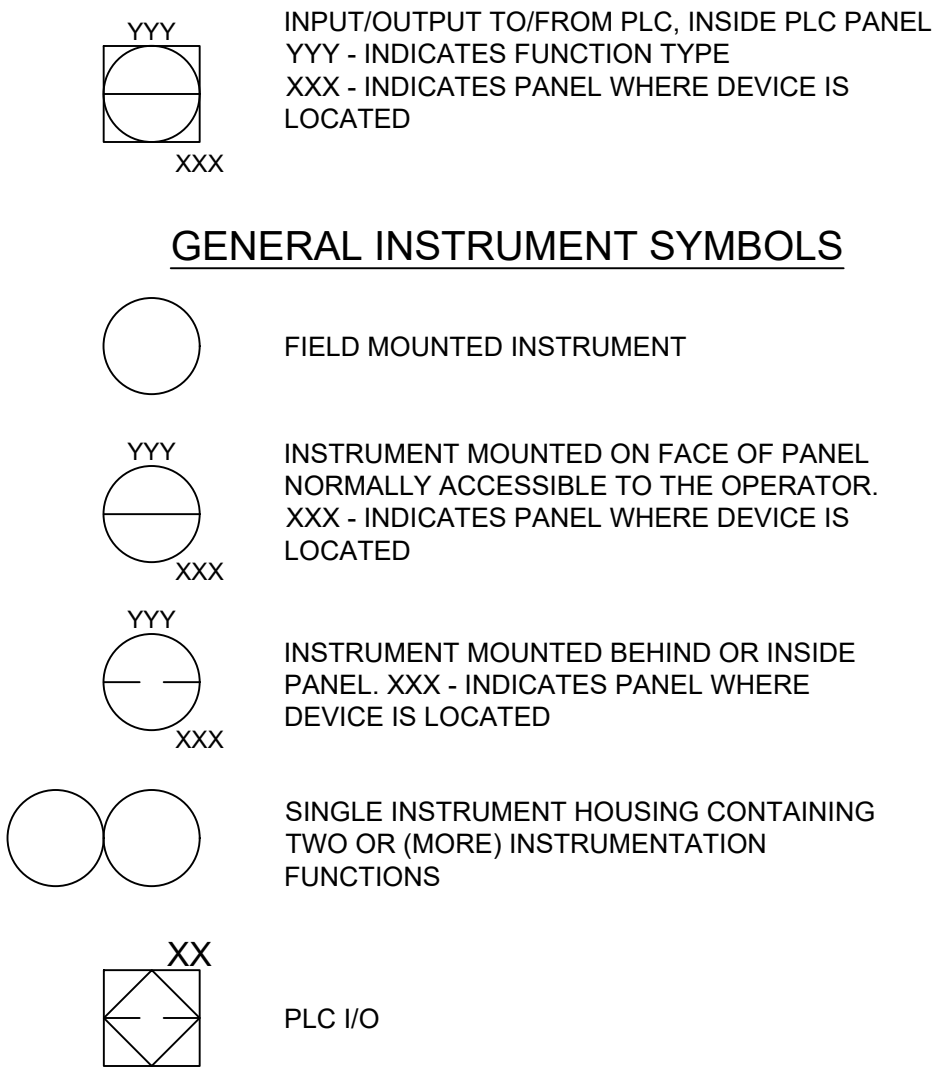


INSTRUMENT IDENTIFICATION LETTERS
(INSTRUMENT SOCIETY OF AMERICA)

FIRST - LETTER			SUCCEEDING - LETTERS		
	MEASURED OR INITIATING VARIABLE		READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONTROL			CONTROL SWITCH	CLOSED
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE MOTOR	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	FAILURE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	COMMAND
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

P&ID INSTRUMENT SYMBOLS

PROCESS CONTROL SYSTEM INTERFACE SYMBOLS



PANEL NOMENCLATURE

- CP-XXX: CONTROL PANEL (AREA CONTROL)
- LCP-XXXA: LOCAL CONTROL PANEL (SPECIFICATION PROCESS CONTROL) LETTERS A, B, C DENOTES VENDER SUPPLIED EQUIPMENT
- LP-X LIGHTING PANEL

GENERAL NOTES:

1. THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
2. P&ID INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION.
3. P&ID DOES NOT REPRESENT CONTROL STRATEGIES OR INTERACTIONS. REFERENCE SECTION 40 95 01, CONTROL NARRATIVES, FOR THIS INFORMATION.
4. P&ID DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY, REFER TO SECTION 40 95 01 FOR COMPLETE DESCRIPTION.

COMMON INSTRUMENT DESIGNATIONS

TAG	DESIGNATION
M	EQUIPMENT RUNNING STATUS
HS	EQUIPMENT IN AUTO /REMOTE STATUS
MC	EQUIPMENT RUN COMMAND
MA	EQUIPMENT FAULT STATUS
HC	HAND CONTROL
HS	HAND SWITCH
SI	SPEED INDICATION
SC	SPEED COMMAND
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
FE	FLOW ELEMENT
FIT	FLOW INDICATOR/TRANSMITTER
ZSO	VALVE POSITION FULL OPEN
ZSC	VALVE POSITION FULL CLOSE
ZSI	VALVE POSITION INDICATOR
SP	SET POINT
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
HOA	HAND-OFF-AUTO
OCA	OPEN-CLOSE-AUTO
LCP	LOCAL CONTROL PANEL

DESIGN BY: BAC

DRAWN BY: BAC

APP. BY: TFW

JOB ID: 24-489 E03

DATE: MARCH 2026

CITY OF RIFLE

WASTEWATER COLLECTIONS

SOUTH LIFT STATION
LEGEND
INSTRUMENTATION

101

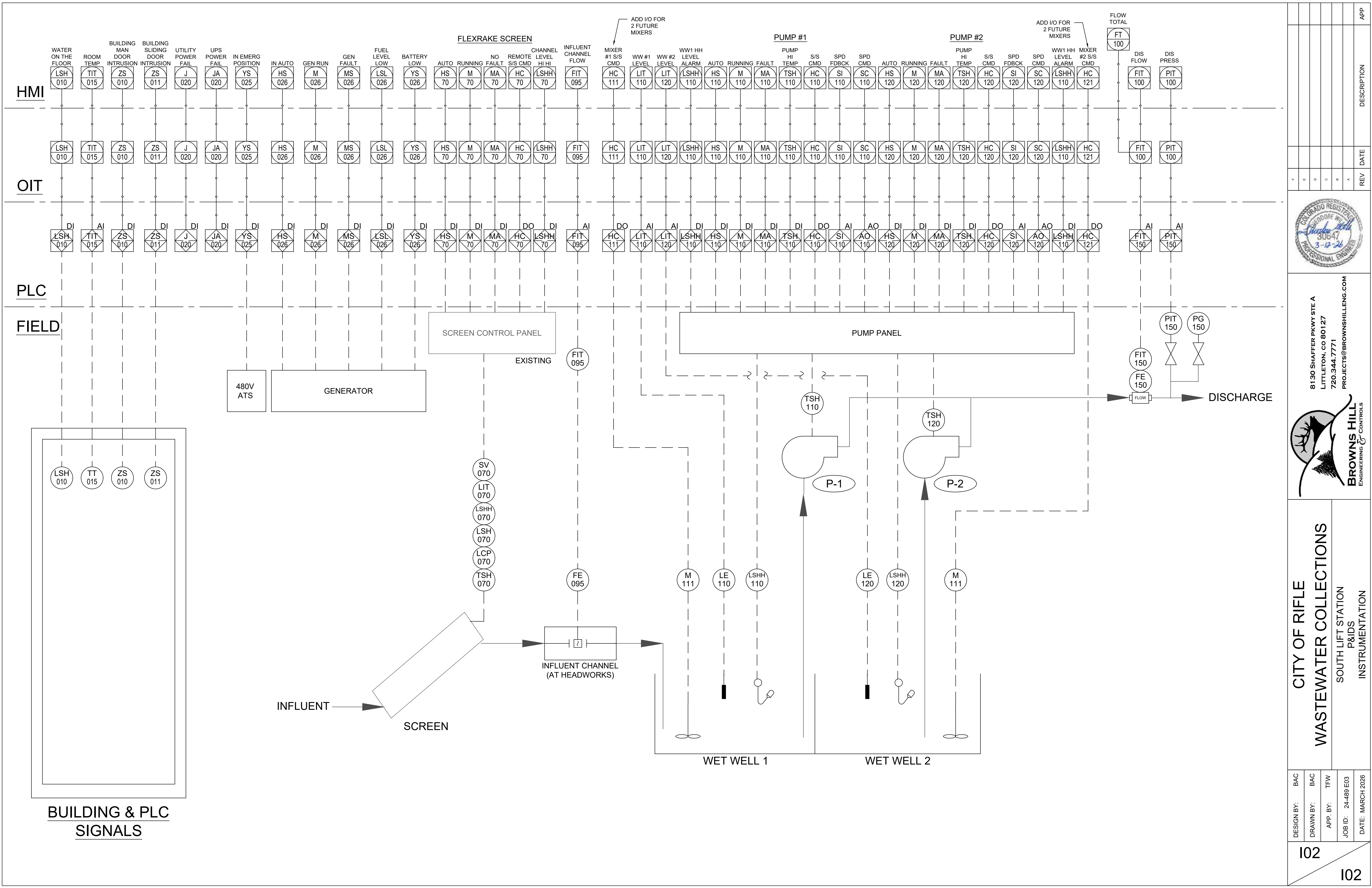
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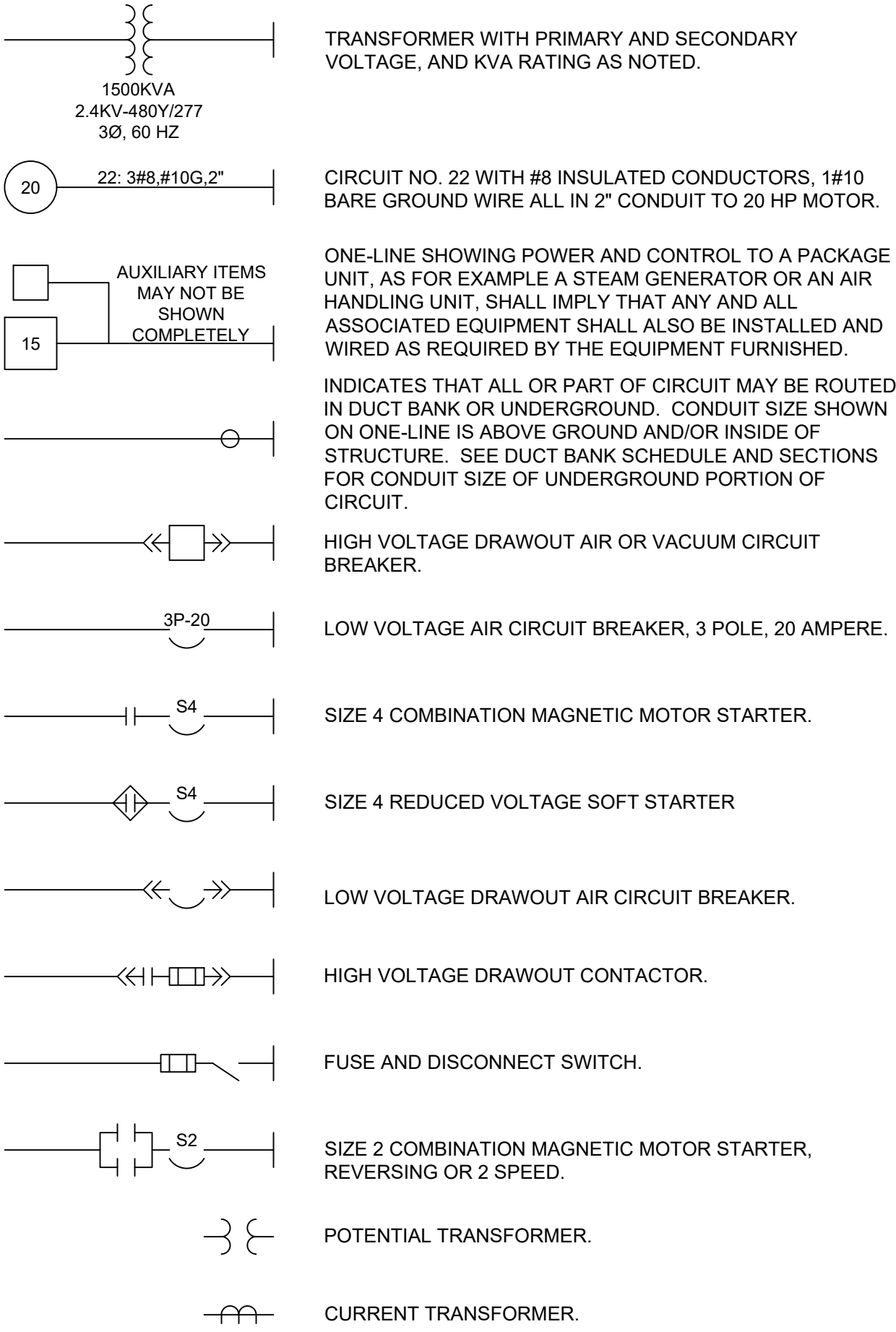
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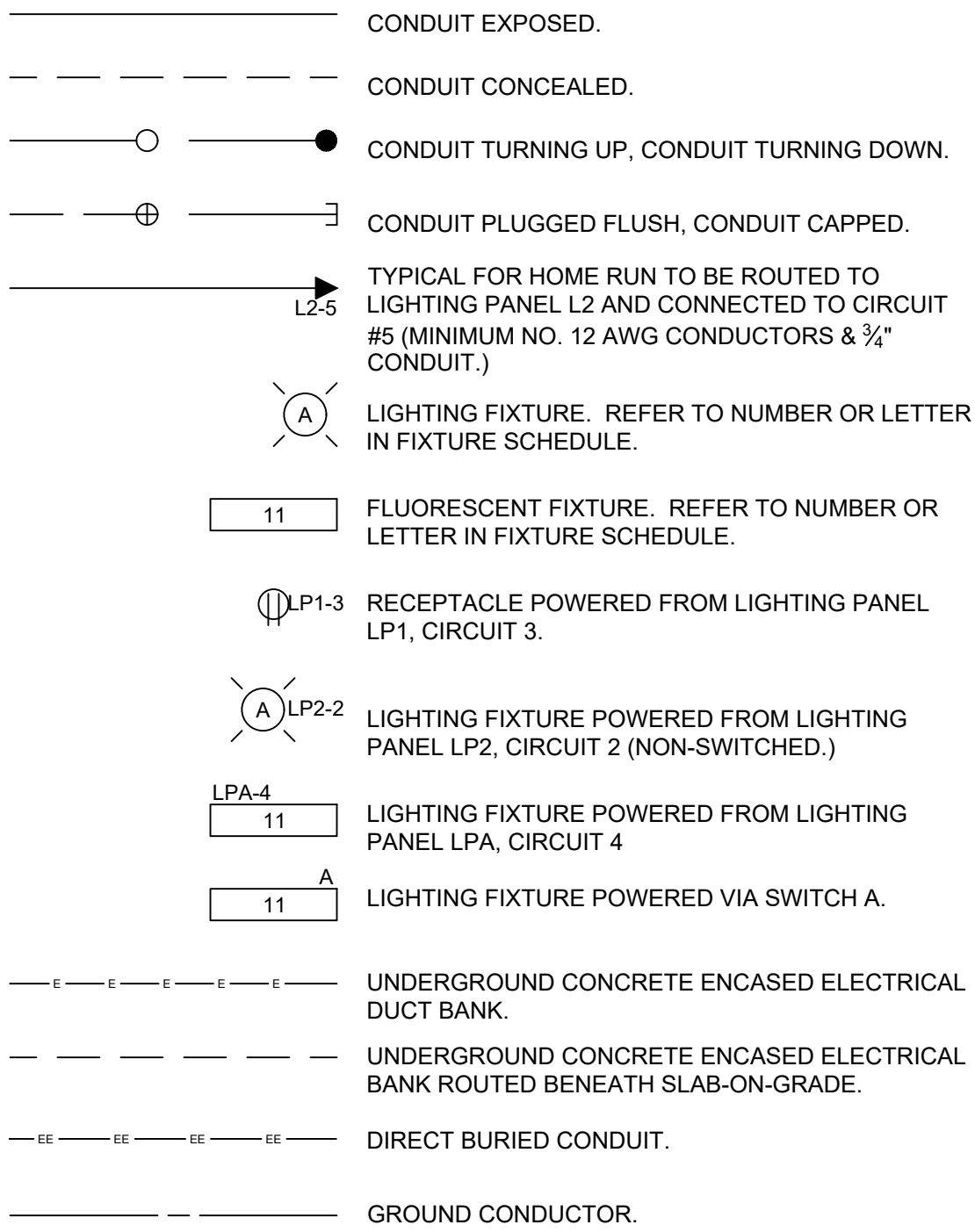
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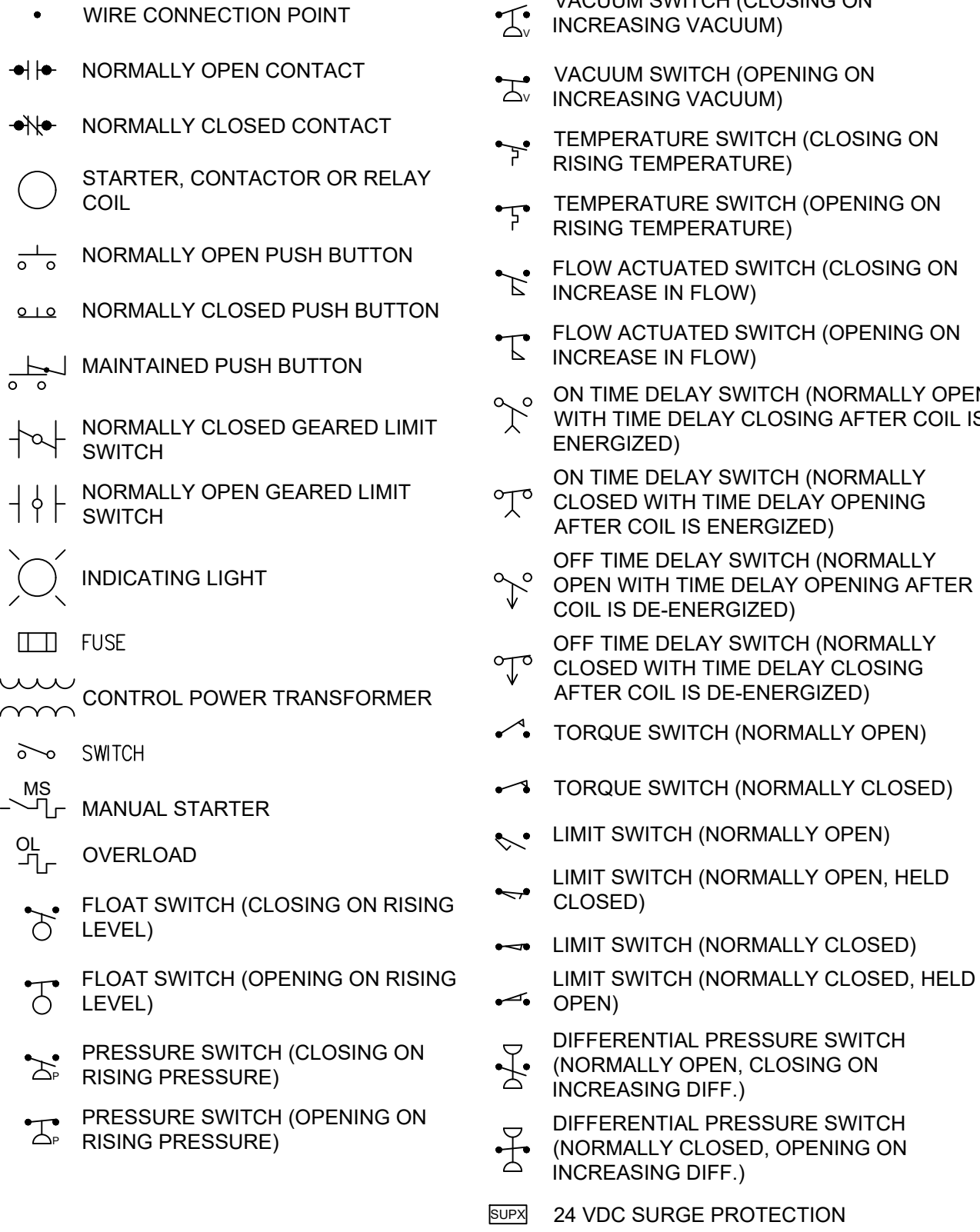
ONE LINE DIAGRAM LEGEND



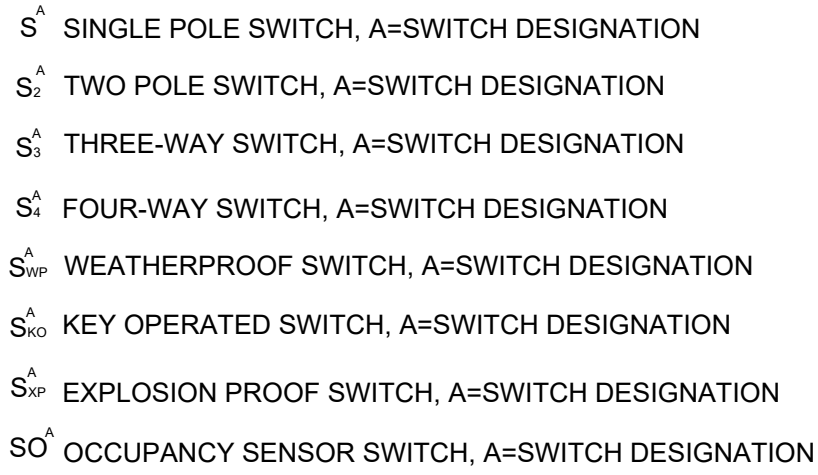
CONDUIT & WIRING INSTALLATION LEGEND



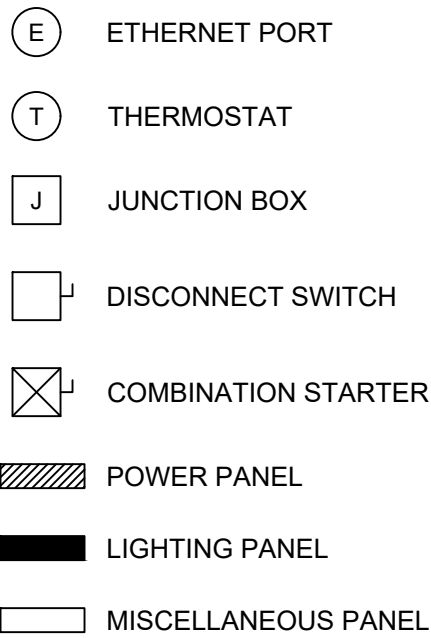
SCHEMATIC SYMBOLS



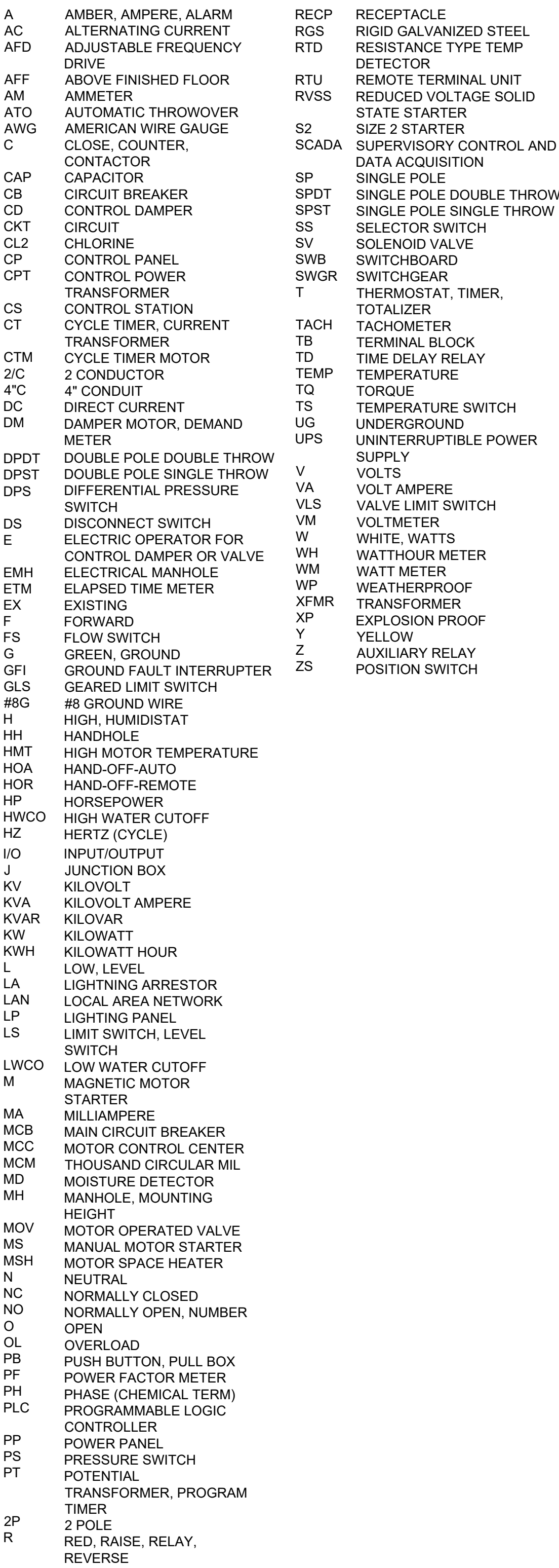
SWITCH & OUTLET SYMBOLS



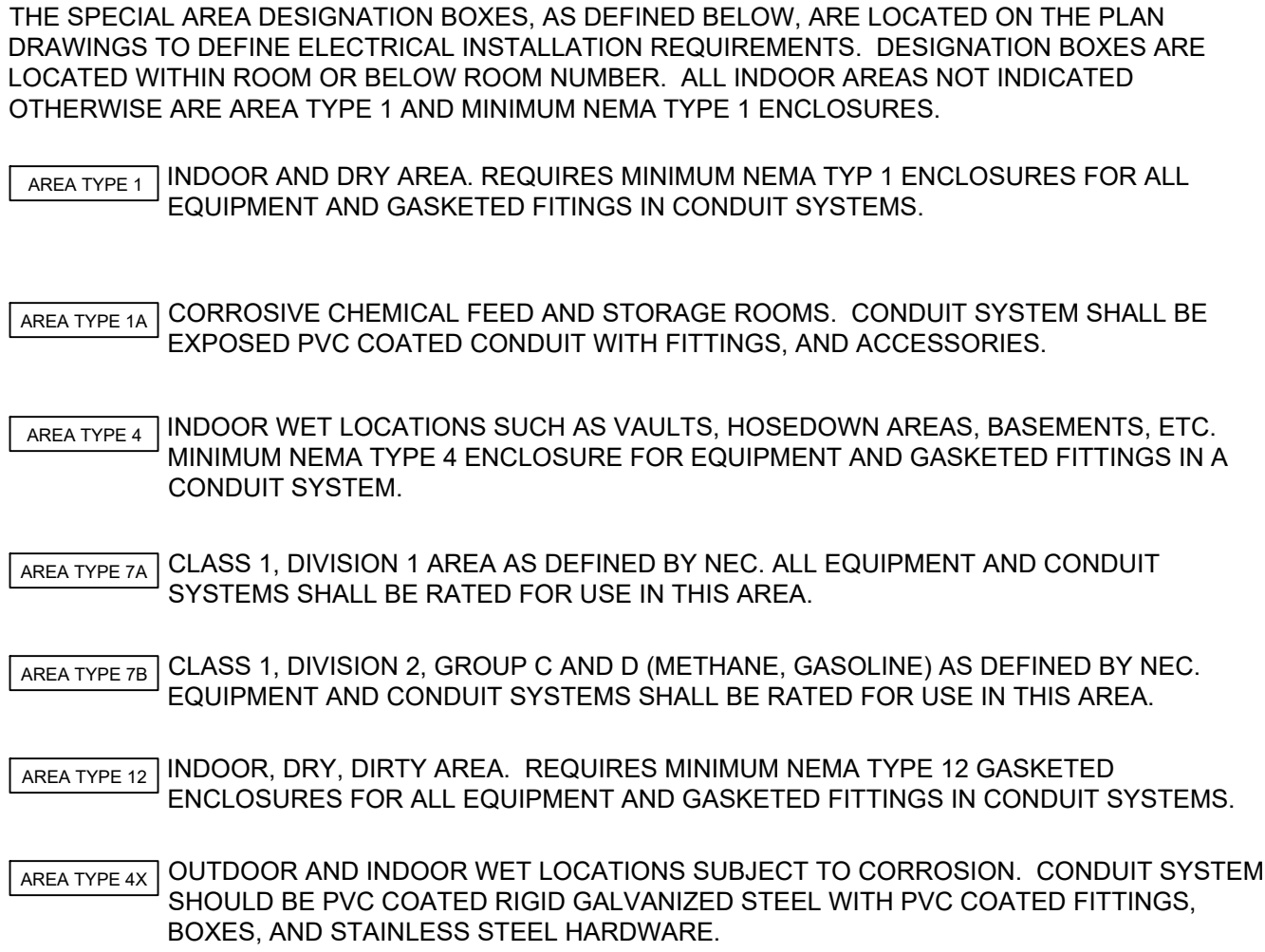
MISCELLANEOUS SYMBOLS



ABBREVIATIONS



AREA DESIGNATIONS



GENERAL REQUIREMENTS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
- SPARE WIRES SHALL BE TAPED AND COILED.
- IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMODATE THE HIGHER VALUE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
- LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM ¾".
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

GENERAL NOTES

- SOLID LINES INDICATE NEW WORK OR EQUIPMENT.
- DOTTED LINES INDICATE EXISTING WORK OR EQUIPMENT.
- DASHED LINES INDICATE FUTURE WORK OR EQUIPMENT.
- THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
 - ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
 - FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
 - SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
 - DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
- CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.

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DRAWN BY: BAC

APP. BY: TFW

JOB ID: 24-489 E03

DATE: MARCH 2026

CITY OF RIFLE

WASTEWATER COLLECTIONS

SOUTH LIFT STATION

LEGEND

ELECTRICAL

E1

E5

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BROWNS HILL
ENGINEERING & CONTROLS

DESCRIPTION

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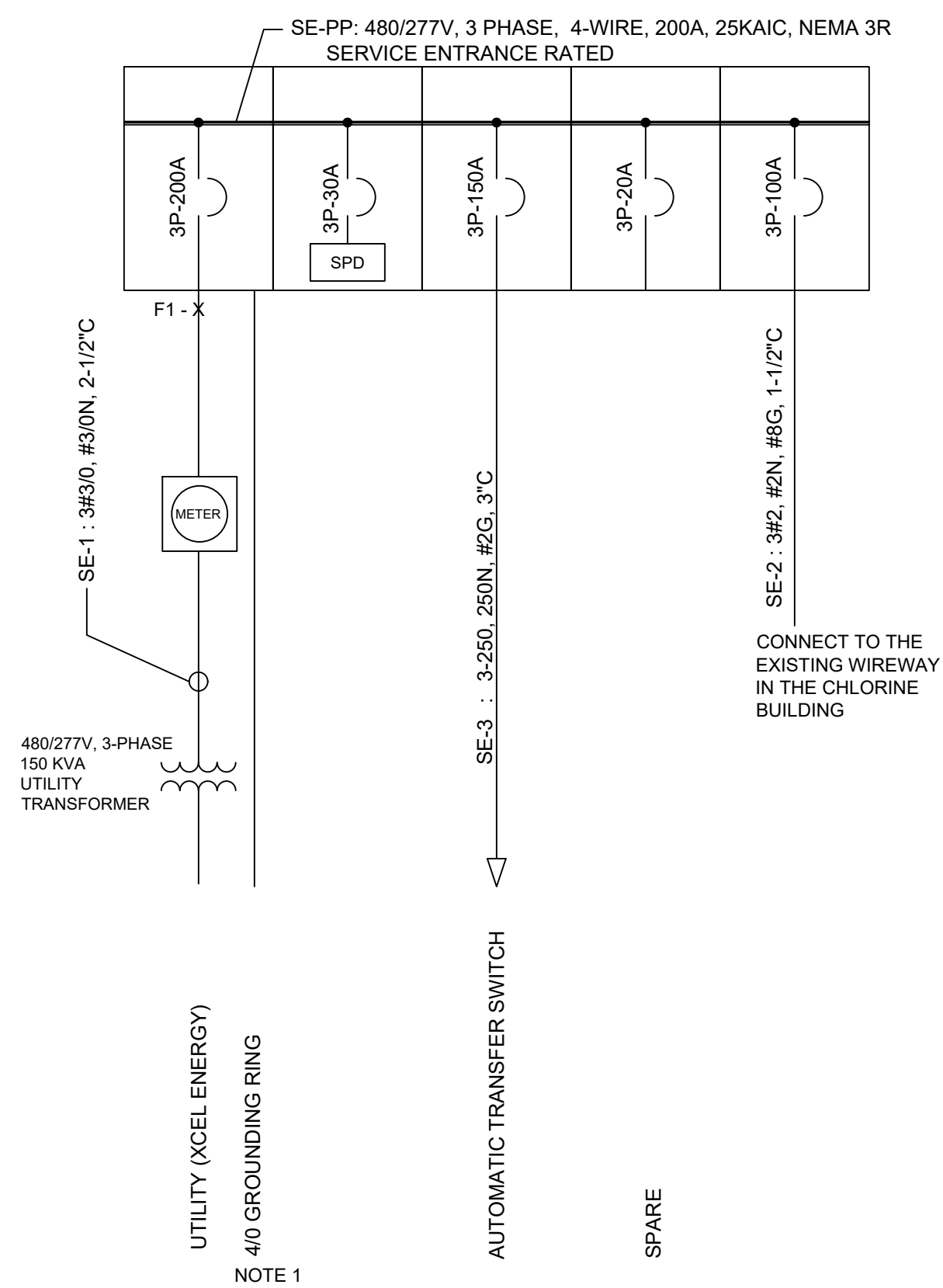
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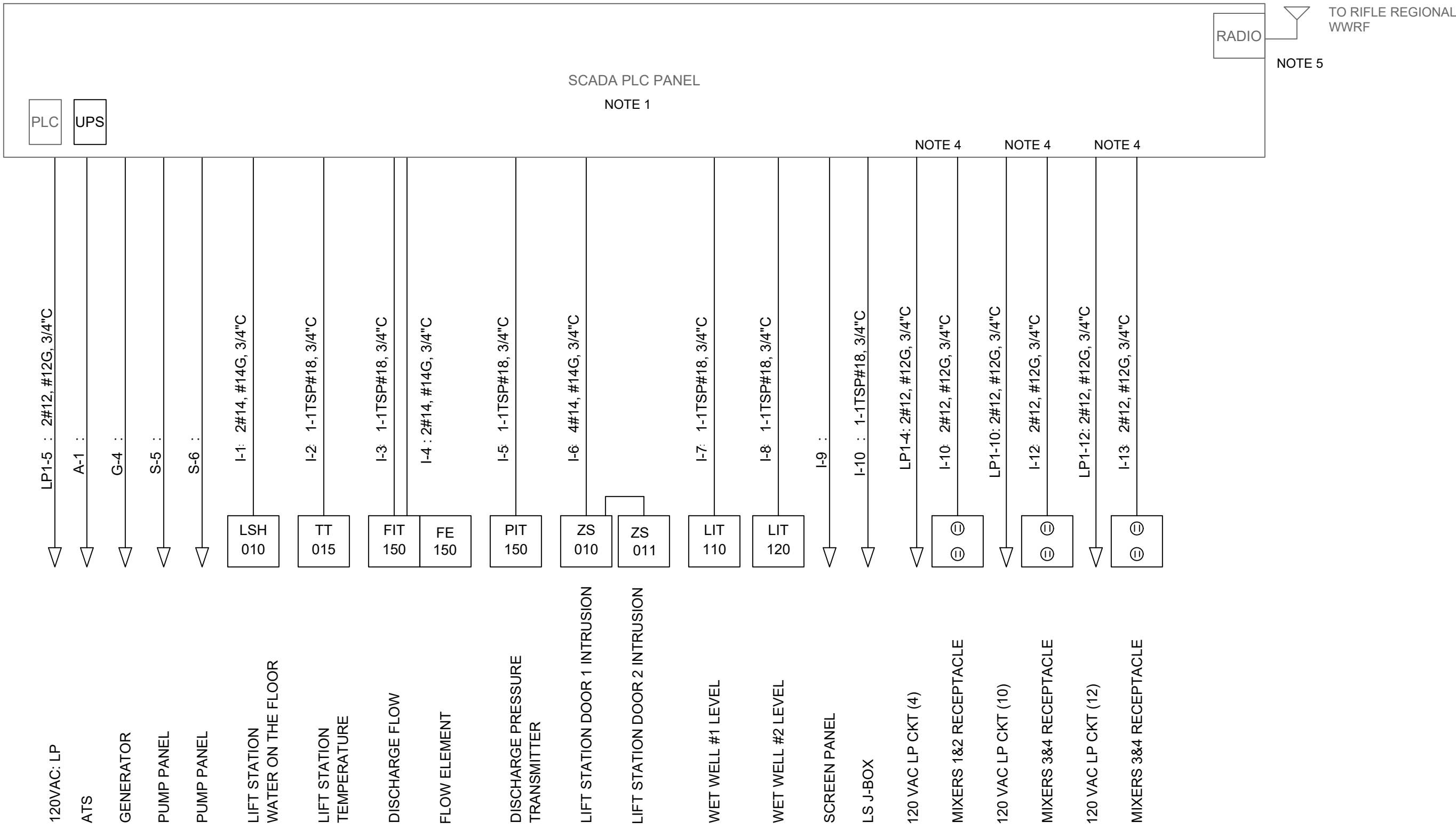
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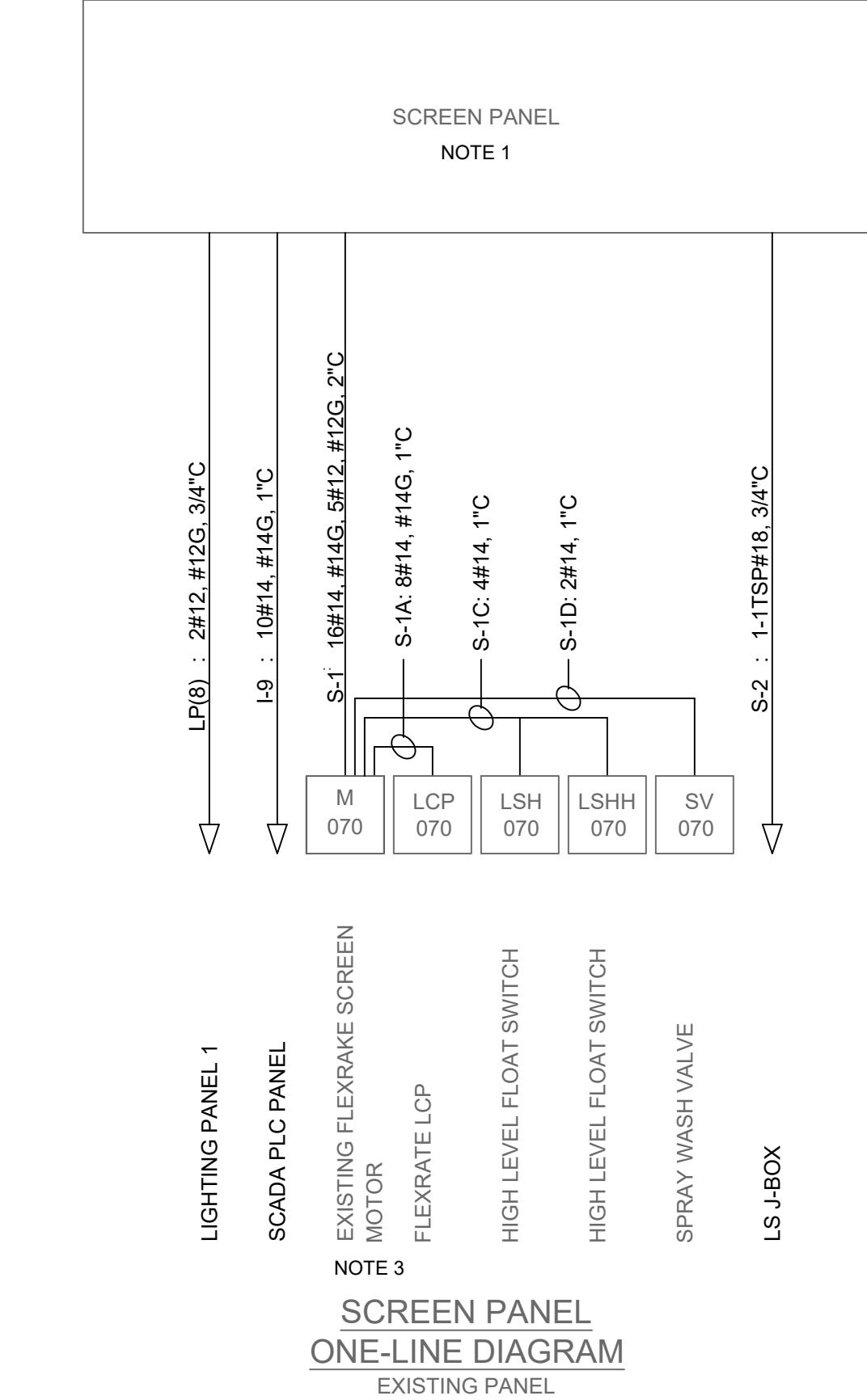
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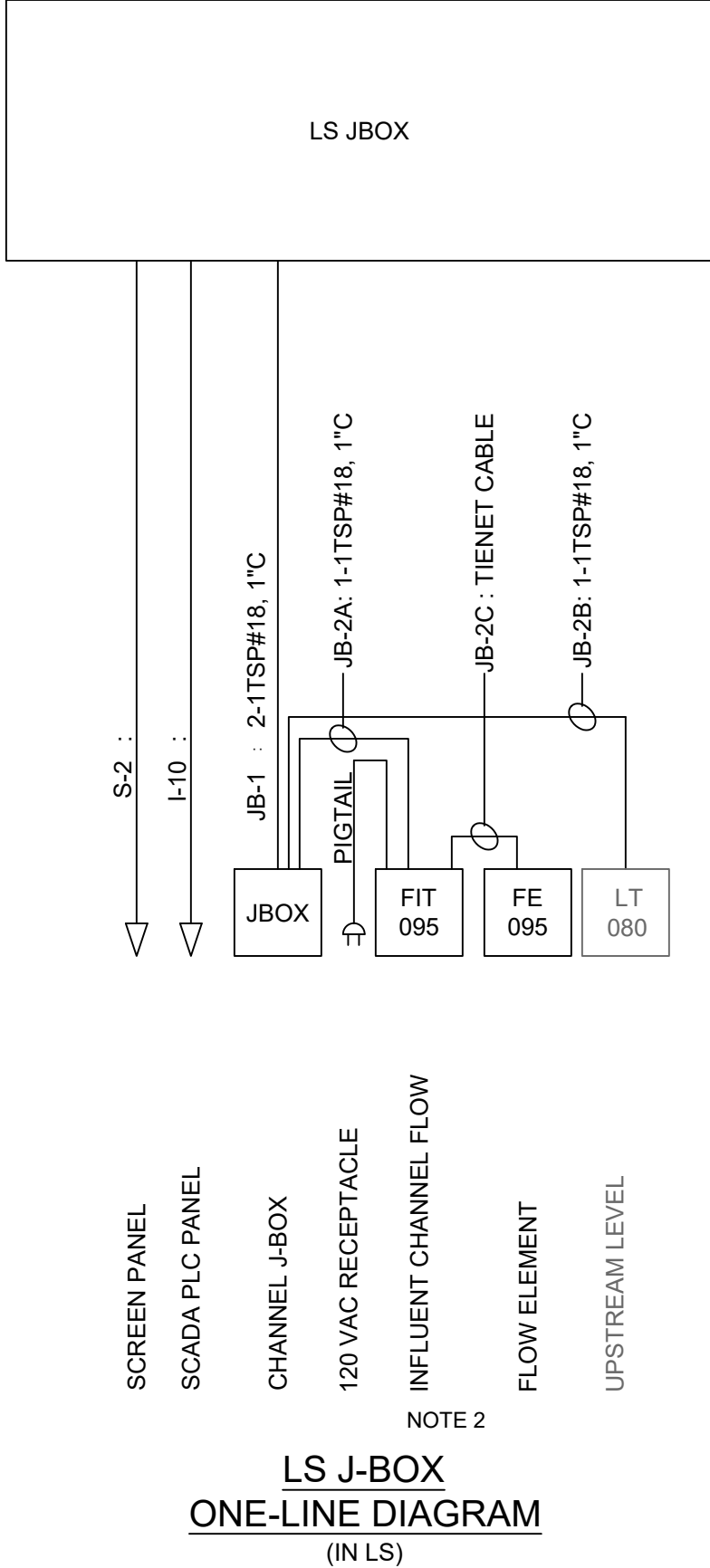




SCADA PLC PANEL
ONE-LINE DIAGRAM
EXISTING PANEL AND PLC



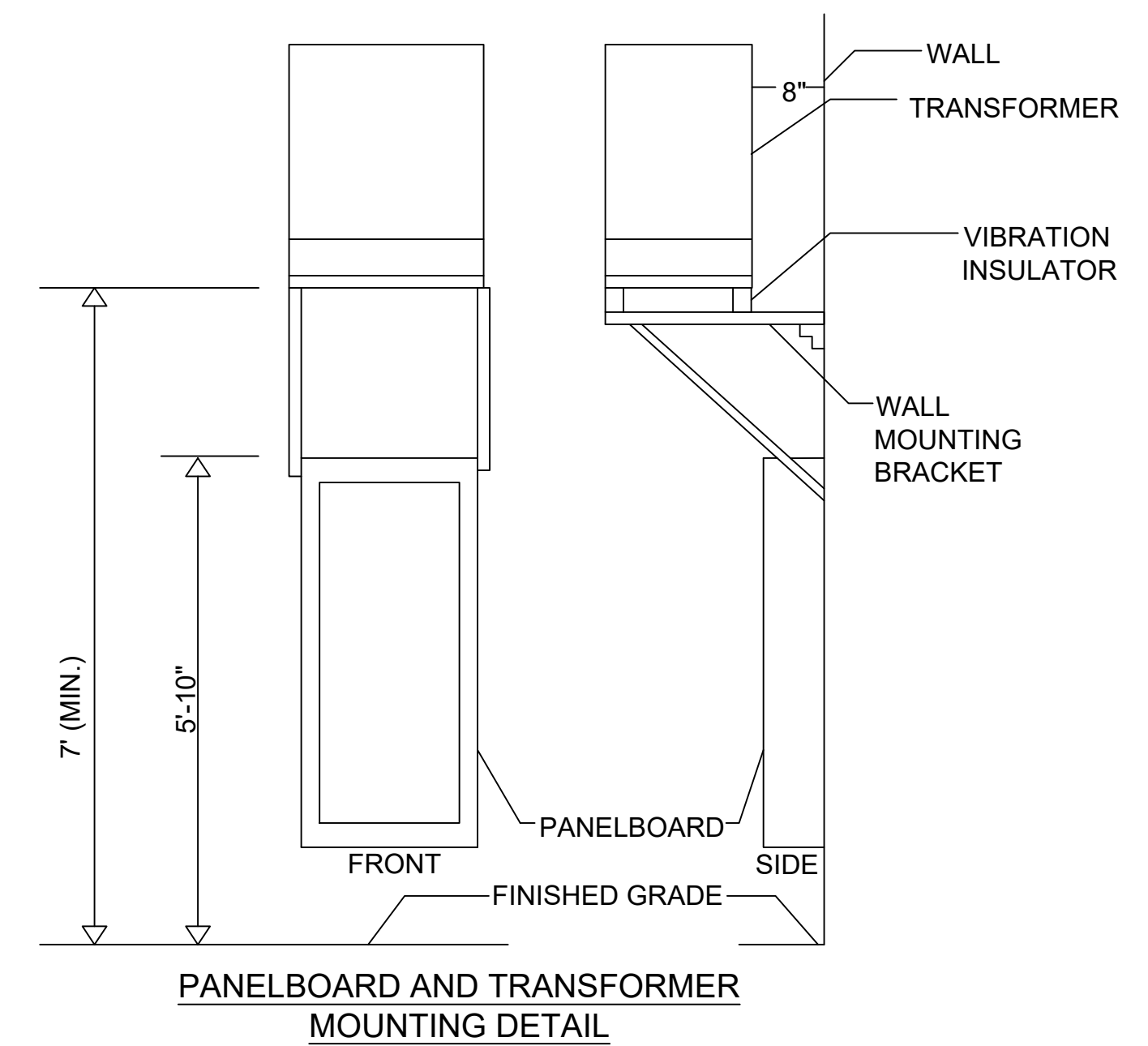
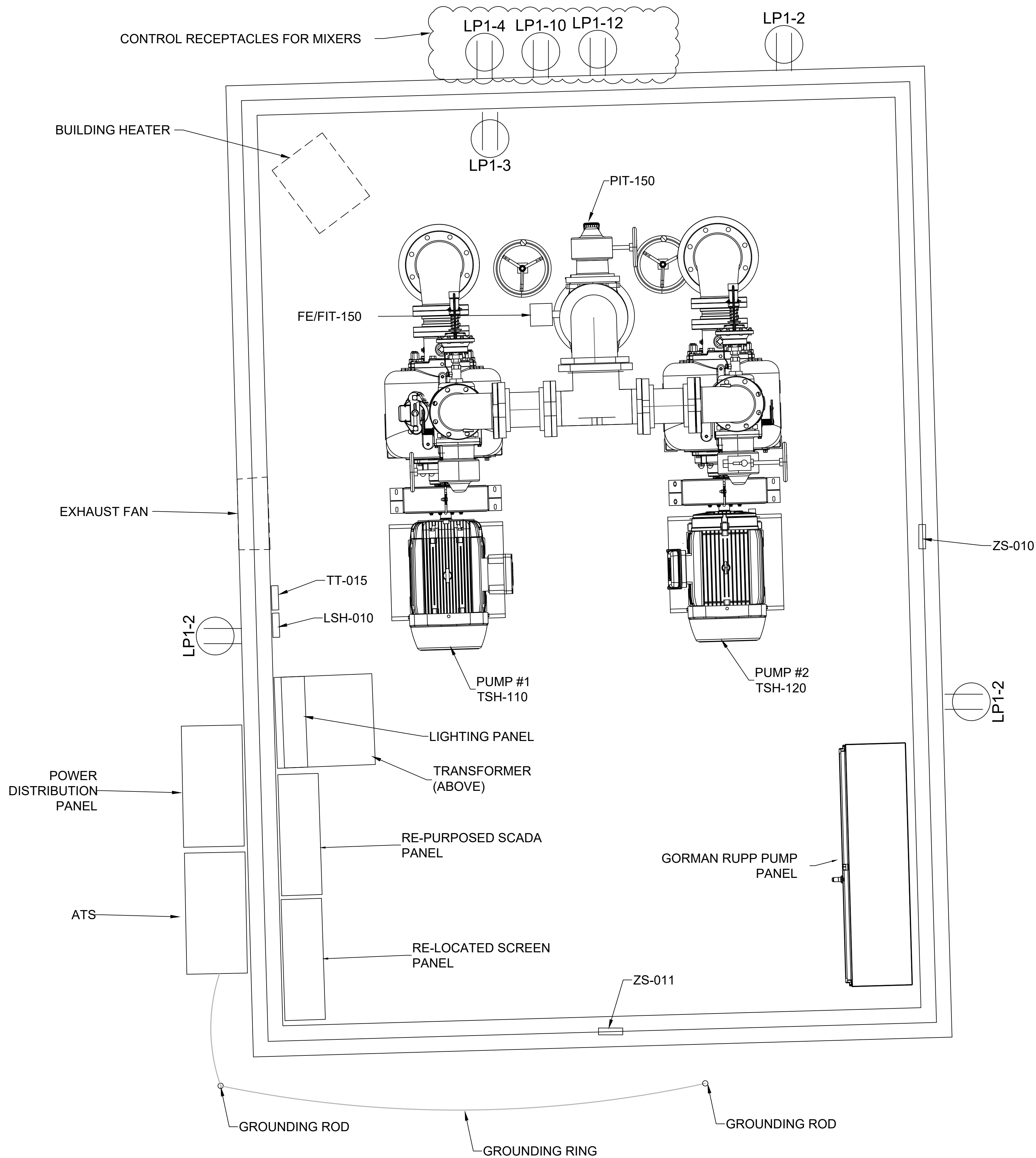
SCREEN PANEL
ONE-LINE DIAGRAM
EXISTING PANEL



LS J-BOX
ONE-LINE DIAGRAM
(IN LS)

- NOTES:
- SCREEN PANEL ARE EXISTING AND TO BE RELOCATED FROM OLD LS TO NEW LS.
 - 1.1. ALL CONDUIT AND WIRE FROM SCREEN PANEL WILL BE NEW.
 - INCLUDE SIGNAL ISOLATOR AND SURGE PROTECTOR FOR INFLUENT CHANNEL FLOW SIGNAL. SEE SPEC 16900.
 - CONTRACTOR SHOULD BUDGET TO RUN ALL NEW WIRE AND CONDUIT FROM THE FLEXRAKE SCREEN TO THE ASSOCIATED INSTRUMENTS AND LCPs. IF DURING CONSTRUCTION THEY FIND THE WIRE AND CONDUIT IN PROPER CONDITION, IT CAN BE REUSED.
 - POWER FOR MIXER RECEPTACLES WILL CONTROLLED FROM THE PLC. POWER WILL BE PROVIDED FROM THE LOCAL LIGHTING PANEL.
 - REUSE THE EXISTING 900 MHZ RADIO AND YAGI ANTENNA.
 - GRAYSCALED ITEMS INDICATE THEY ARE EXISTING

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	APP. BY:	TFW							
	JOB ID:	24-489 E03							
	DATE:	MARCH 2026							
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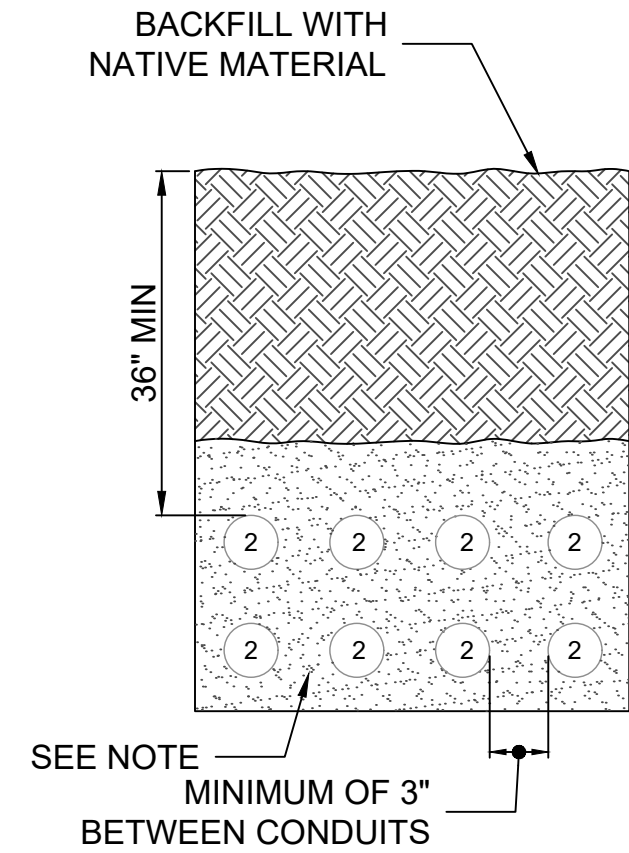
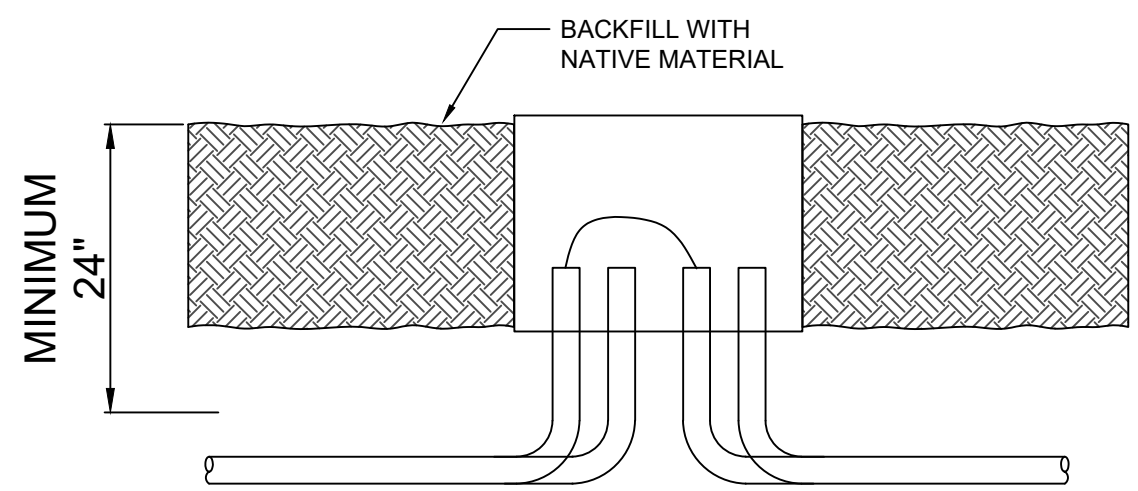
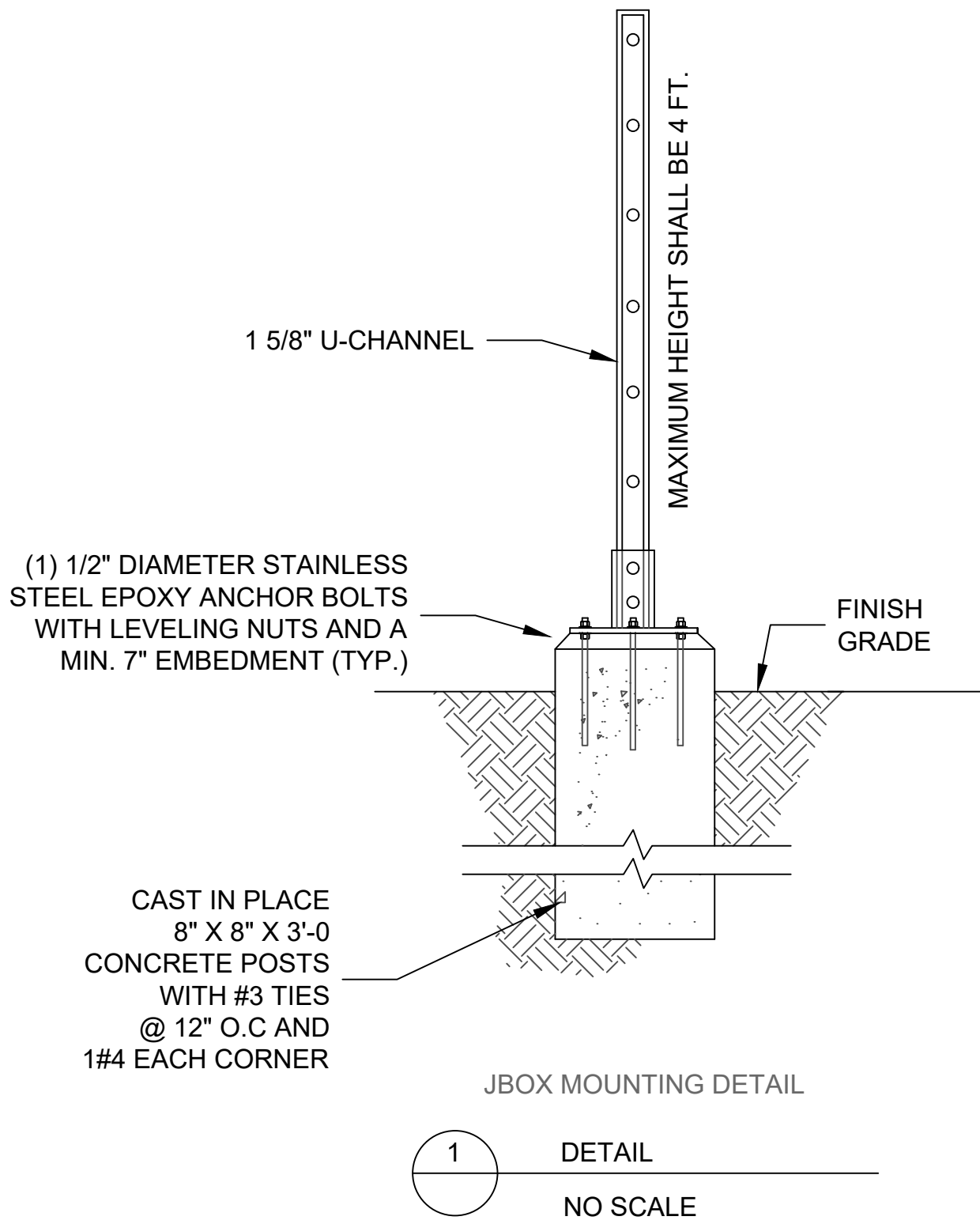
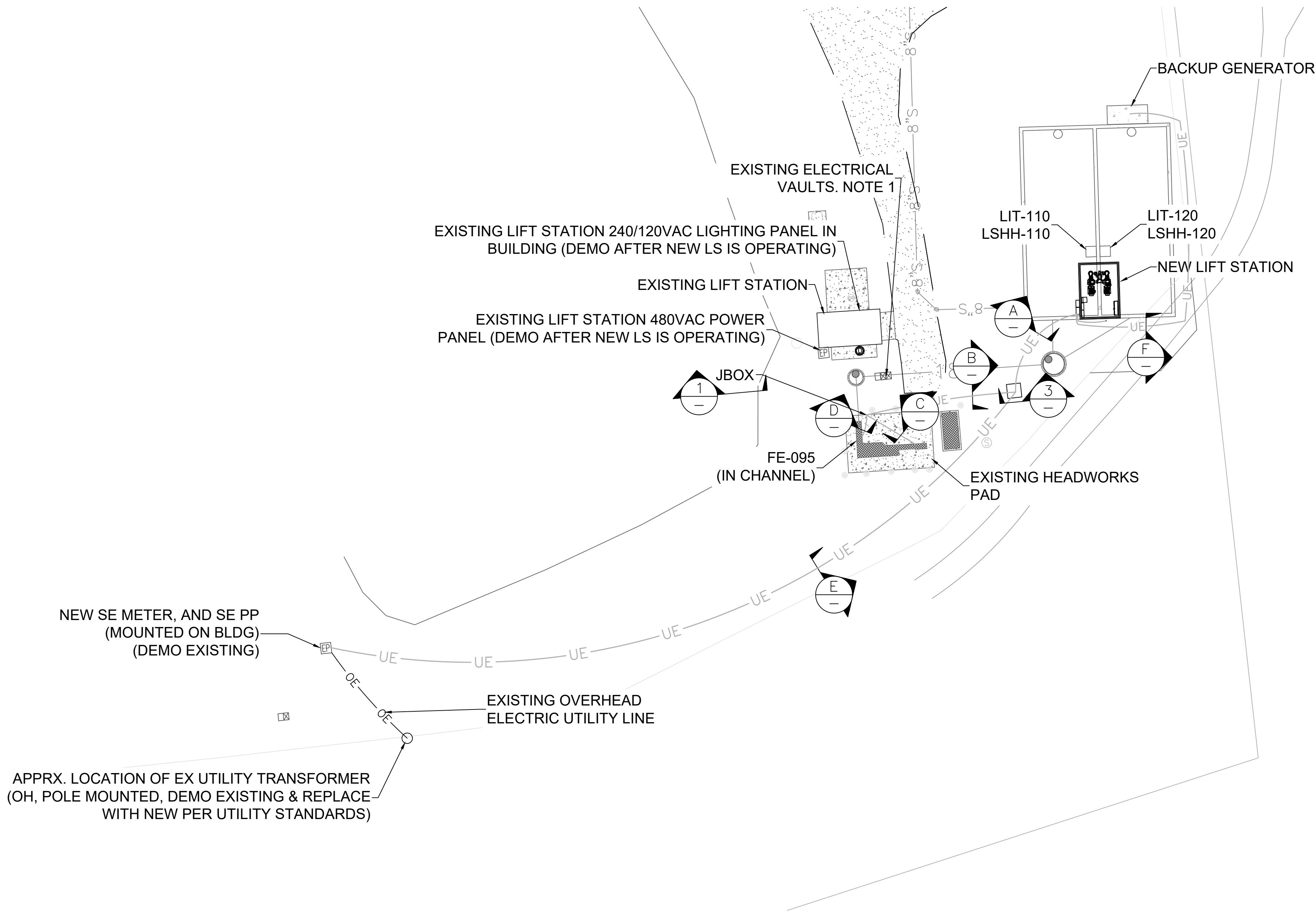
NOTES:

1. BUILDING, PUMPS, HVAC EQUIPMENT, PUMP PANEL, LIGHTS AND RECEPTACLES ARE TO BE PROVIDED BY GORMAN RUPP. LOCATIONS ARE APPRX.
2. DOORS ARE TO BE LOCATED WHERE INTRUSION SWITCHES ARE LOCATED. LOCATIONS ARE APPRX.

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APP. BY:	TFW	ELECTRICAL		DATE
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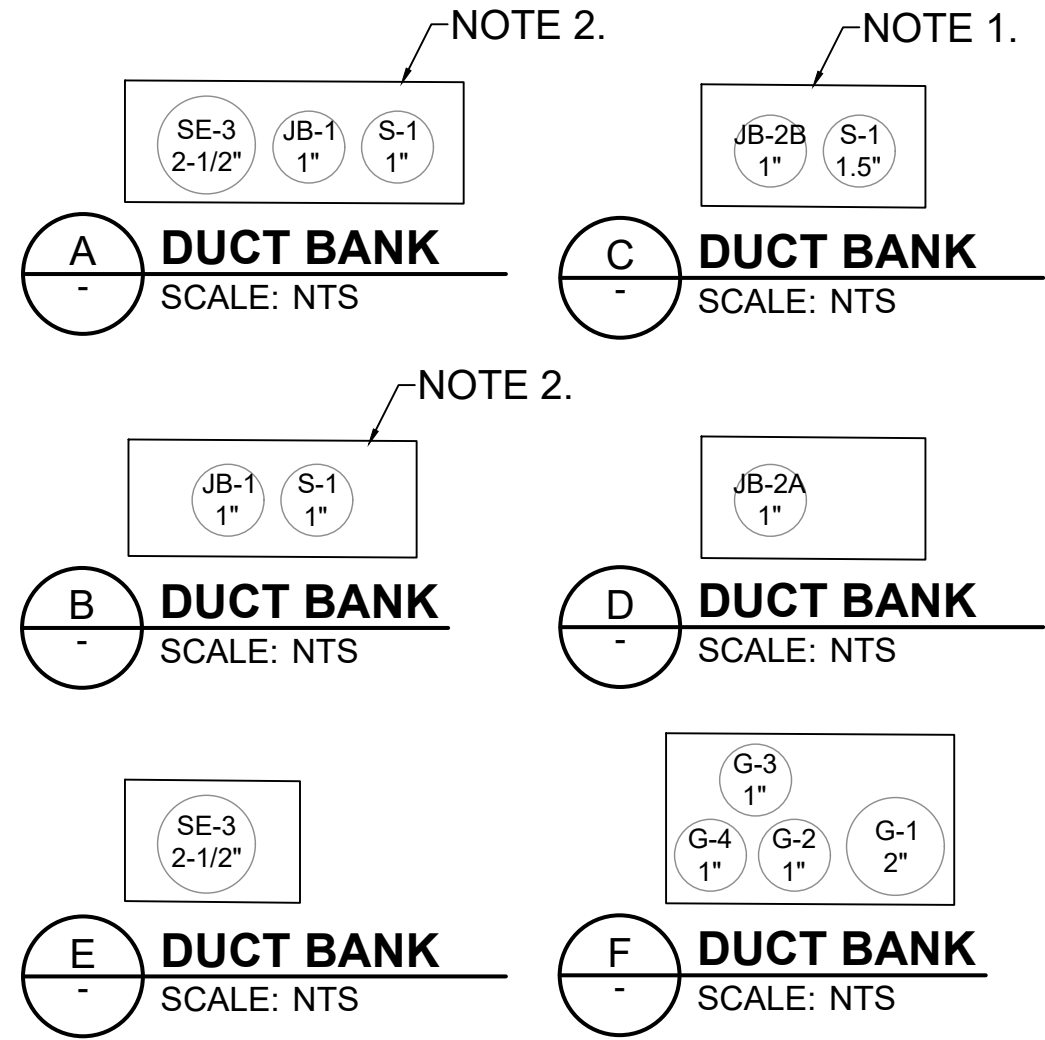
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NOTE:
CONDUITS SHALL BE EMBEDDED IN SAND. THE SAND SHALL COVER ALL CONDUITS BY AT LEAST 3 INCHES. ALTERNATIVE BACKFILL MATERIAL IS CLASS 6, WITH ENGINEER APPROVAL

2 ELECTRICAL DUCT BANK DETAIL
SCALE: NTS



- NOTES:
- CONTRACTOR SHOULD BUDGET TO RUN ALL NEW WIRE AND CONDUIT FROM THE FLEXRAKE SCREEN TO THE ASSOCIATED INSTRUMENTS AND LCPs. IF DURING CONSTRUCTION THEY FIND THE WIRE AND CONDUIT IN PROPER CONDITION, IT CAN BE REUSED.
 - CONTRACTOR SHALL COORDINATE BURIED ELECTRICAL CONDUIT WITH PROPOSED AND EXISTING SEWER MAINS. FINAL LOCATION TO BE DETERMINED IN THE FIELD

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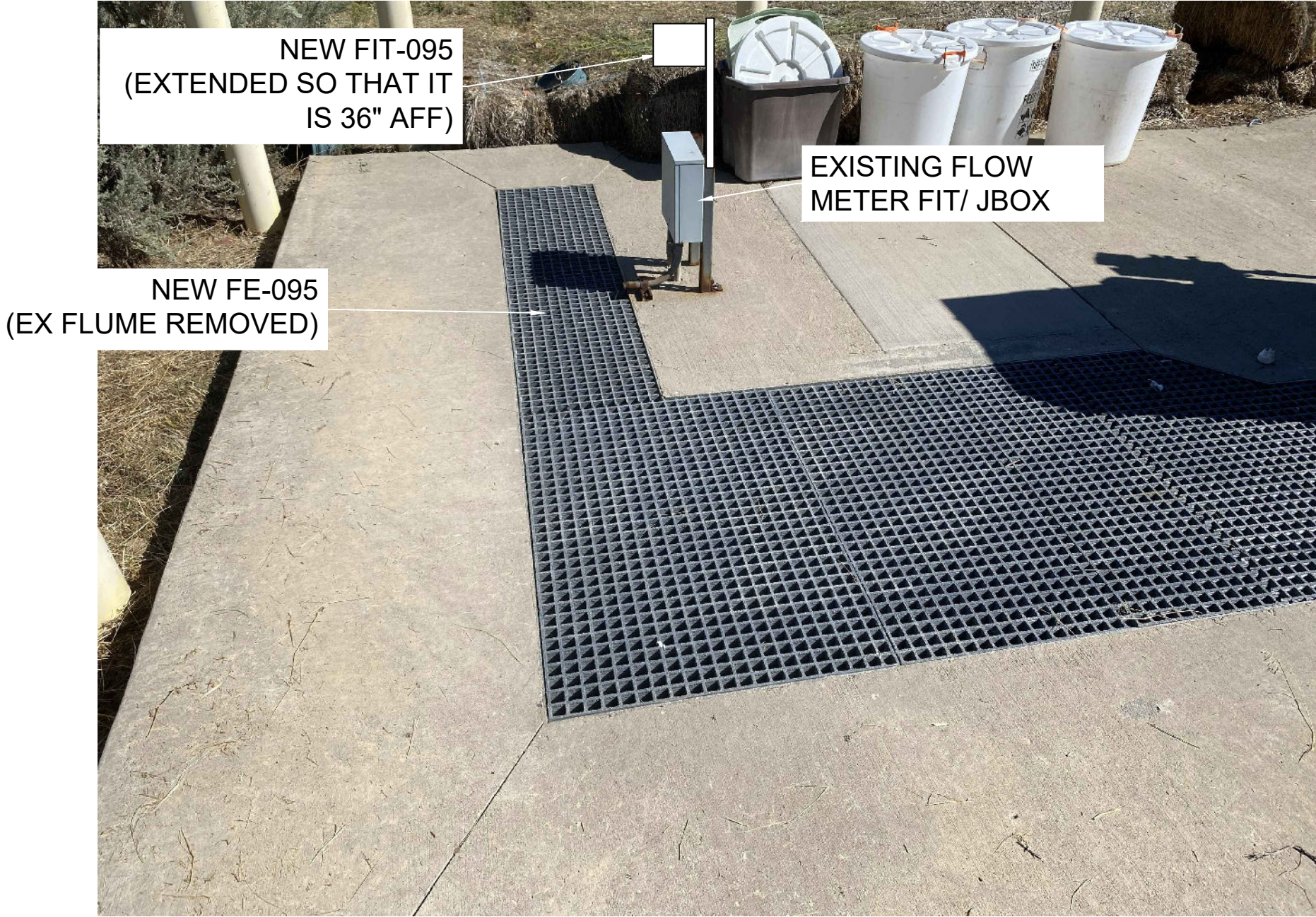
WASTEWATER COLLECTIONS

SOUTH LIFT STATION
SITE PLAN
ELECTRICAL

DESIGN BY:	BAC
DRAWN BY:	BAC
APP. BY:	TFW
JOB ID:	24-489 E03
DATE:	MARCH 2026

E5

E6



NOTE 2.



NOTE 1.



NOTE 3.

- NOTES:
- EXISTING ELECTRICAL VAULTS WILL NEED TO BE REMOVED FOR NEW SEWER LINE TO BE PLACED. WIRES AND CONDUITS PURPOSE IN VAULT ARE FOR THE COMMUNICATIONS BETWEEN THE SCREEN PANEL AND BAR SCREEN. PULL NEW WIRE AND CONDUIT FOR SIGNALS.
 - THERE MAY BE OTHER COMMUNICATION WIRES IN THE CONDUITS. SOME FIELD INVESTIGATION WILL BE REQUIRED.
 - PICTURE SHOWS THE EXISTING INFLUENT CHANNEL & FLOW METER. IN BOX THERE IS A RECEPTACLE FOR NEW VELOCITY FLOW METER. UNISTRUT SHOULD BE EXTENDED TO 4' HIGH AND FLOW METER DISPLAY MOUNTED ON IT.
 - PARSHALL FLUME AND EXISTING METER ARE TO BE DEMO-ED.
 - PICTURE SHOWS THE EXISTING BAR SCREEN, INFLUENT CHANNEL AND THE LCP.
 - CONTRACTOR SHOULD BUDGET TO RUN ALL NEW WIRE AND CONDUIT FROM THE FLEXRAKE SCREEN TO THE ASSOCIATED INSTRUMENTS AND LCPs. IF DURING CONSTRUCTION THEY FIND THE WIRE AND CONDUIT IN PROPER CONDITION, IT CAN BE REUSED.

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JOB ID: 24-489 E03		SOUTH LIFT STATION SITE PLAN NOTES									
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