CITY OF LUCAS

CONSTRUCTION PLANS FOR

WASTEWATER SYSTEM IMPROVEMENTS

OSAGE LANE SEWER LIFT STATION

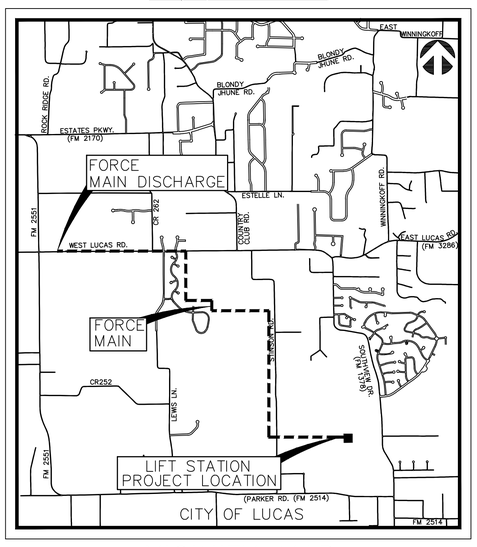
MAYOR
DUSTY KUYKENDALL

MAYOR PRO TEM
DEBBIE FISHER

CITY COUNCIL

BRIAN STUBBLEFIELD
PHIL LAWRENCE
CHRIS BIERMAN
NEIL PETERSON
TIM JOHNSON

CITY MANAGER
JOHN WHITSELL



VICINITY MAP

JOB NO. R317158.01

AUGUST 2025

SHEET INDEX

WARNING:

THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATION IN THIS AREA.

CITY OF LUCAS	972.912.1210
TEXAS ONE - CALL SYSTEM	800.245.4545
TEXAS EXCAVATION SAFETY SYSTEMS	800.344.8377
	800.DIG.TESS

ISSUE DRAWING LOG:

MARK	DATE	DESCRIPTION
A	06/14/2024	1ST CITY REVIEW SUBMITTAL
B	08/05/2024	2ND CITY REVIEW SUBMITTAL
C	08/14/2025	ISSUE FOR BID

STATE OF TEXAS
KEVIN N. CARLSON
89232
LICENSED
PROFESSIONAL ENGINEER
08/14/2025
Huitt-Zollars, Inc.
Firm Registration No. F-761

CITY OF LUCAS, TX

665 COUNTRY CLUB RD
LUCAS, TX 75002
972.727.8999

HUITT ZOLLARS

5430 LBJ Freeway, Suite 1500
Dallas, Texas 75240
214.871.3311
www.huitt-zollars.com

OSAGE LANE SEWER LIFT STATION

ADJOINING OSAGE LANE, WEST OF SOUTHVIEW DR
LUCAS, TEXAS 75002

COVER SHEET

BID # 041-25

HZ PROJECT NO.:	R31-7158.01
DRAWN BY:	P. ROBERTS
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

C-0

GENERAL NOTES:

1. It is the CONTRACTOR's responsibility to maintain neat and accurate plans of record.
2. The CONTRACTOR is responsible for maintaining adequate site drainage throughout the duration of this project.
3. The CONTRACTOR is responsible for obtaining all necessary permits and approvals before construction begins.
4. The CONTRACTOR shall replace all fence removed during construction in as good or better condition than before construction.
5. The CONTRACTOR shall take all necessary precautions to ensure that electric power and telephone poles are either moved to a safe location by the affected utility company or not disturbed during construction. All costs incurred for moving electric power and telephone poles shall be included in the price bid for the construction of the project.
6. The CONTRACTOR shall restore all property including driveways, public streets, sidewalks, public utilities, franchise utilities, private utilities, and all other improvements removed or damaged inside and outside the project limits during construction to as good or better condition than before construction. Restoration shall be made immediately after the property no longer interferes with construction.
7. The information shown on these drawings concerning type and location of underground and other utilities is not guaranteed to be accurate or all–inclusive. The CONTRACTOR is responsible for making his own determinations as to the type and location of underground utilities and other utilities as may be necessary to avoid damage thereto.
8. The CONTRACTOR shall not place fill or waste material on any private property without prior written permission from the property owner and written concurrence from the City. No excess excavated material shall be deposited in low areas or along natural drainage ways that will restrict the natural flow of water. If the CONTRACTOR places excavated material in low areas that will cause flood damage, CONTRACTOR will be responsible for all damage resulting from such fill, and he shall remove the fill at CONTRACTOR's expense.
9. All streets within the scope of the Contract shall be kept accessible to fire trucks, ambulances, and other emergency vehicles.
10. The CONTRACTOR shall be responsible for public safety during the duration of construction. All barricades, warning signs, lights, devices, etc., for the guidance and protection of traffic and pedestrians must conform to the installation shown in 2015 Texas Manual of Uniform Traffic Control Devices, as currently amended by the Texas Department of Transportation. CONTRACTOR shall at all times provide barricades, warning signs and lighting adequate to safeguard the public from any hazards resulting from open trenches during non–work hours.
11. Filter fabric fence for erosion control shall be provided in accordance with specifications and as shown on the plans and in accordance with the EPA regulations.
12. The CONTRACTOR shall use the public right–of–ways and existing utility easements for access to the job site.
13. The CONTRACTOR shall keep excavated trenches free of groundwater during construction. If necessary, the CONTRACTOR shall utilize dewatering procedures in order to control groundwater during construction such that it does not affect his construction work.
14. The CONTRACTOR shall provide means for adequately controlling and avoiding soil erosion during construction. The CONTRACTOR shall not store spoil in drainage ways during construction.
15. All disturbed earth areas are to be finish graded to original or proposed contours, fertilized and either hydromulched with bermuda seed or covered with block sod according to NCTCOG specifications immediately after construction. Backfill to be select material free of rock and other debris. CONTRACTOR shall thoroughly water the hydromulch or block sod immediately after placement. Block sod shall match the existing type of grass on a case by case basis, as determined by the City. There shall be no separate pay for matching each type of grass. The CONTRACTOR shall also be responsible for continued maintenance and watering of the newly hydromulched or sodded areas until the entire project is completed and accepted by the City of Lucas. Watering of the bermuda hydromulch or block sod shall be done in a manner and quantity as directed by City of Lucas field representative.
16. The CONTRACTOR shall maintain adequate sanitary facilities for use by workers throughout construction.
17. The CONTRACTOR shall conform to the Occupational Safety and Health Administration's (OSHA) standards for trench safety that are in effect during the period of construction.
18. All materials and workmanship shall conform to the City of Lucas Standards and Specifications and the North Central Texas Council of Government (NCTCOG) Standards and Specifications, except as noted. In the event of a conflict, the City of Lucas Standards and Specifications shall govern.
19. CONTRACTOR shall provide all necessary construction staking.
20. CONTRACTOR's working hours shall be in accordance with the provisions of the current City Ordinance governing hours of construction work in the City.
21. The CONTRACTOR is responsible for keeping streets, parking areas, sidewalks, etc., adjacent to the project free of mud and debris from construction.
22. The City of Lucas Public Works Department is to be notified 48 hours (2 working days) prior to any construction of paving and utilities in rights–of–way, easements and alleys.
23. All locations of underground utility lines are approximate. CONTRACTOR shall contact the proper utility companies at least 48 hours prior to construction, shall inform them of beginning of construction and shall make arrangements to have utilities located by flagging. Flagging of utilities shall be completed prior to beginning construction.
24. Construction sites shall be secure at all times. Safety precautions shall be taken to protect the public from any injury which might result from construction activities.
25. There is no separate pay resulting from any of the work required as a result of the requirements included in these General Notes. All work required shall be included in the price bid for the project.
26. CONTRACTOR shall be responsible for coordinating construction work at the lift station site and with property owners in order to minimize the impact on property owners.
27. CONTRACTOR shall expose each existing NTMWD pipeline and shall verify the horizontal and vertical location of the existing pipeline prior to the installation of the proposed force main.
28. The fittings for the proposed ductile iron pipe at the lift station site shall be AWWA C153 compact fittings.
29. All materials furnished and installed on this project shall be domestic materials and shall be in compliance with the appropriate ASTM and AWWA Standards for such items.
30. Hydromulch or block sodding shall be installed to match surrounding areas where the ground is disturbed in the construction area. City reserves the right to provide direction with regard to areas to be hydrolmulched or sodded.

SHEET INDEX

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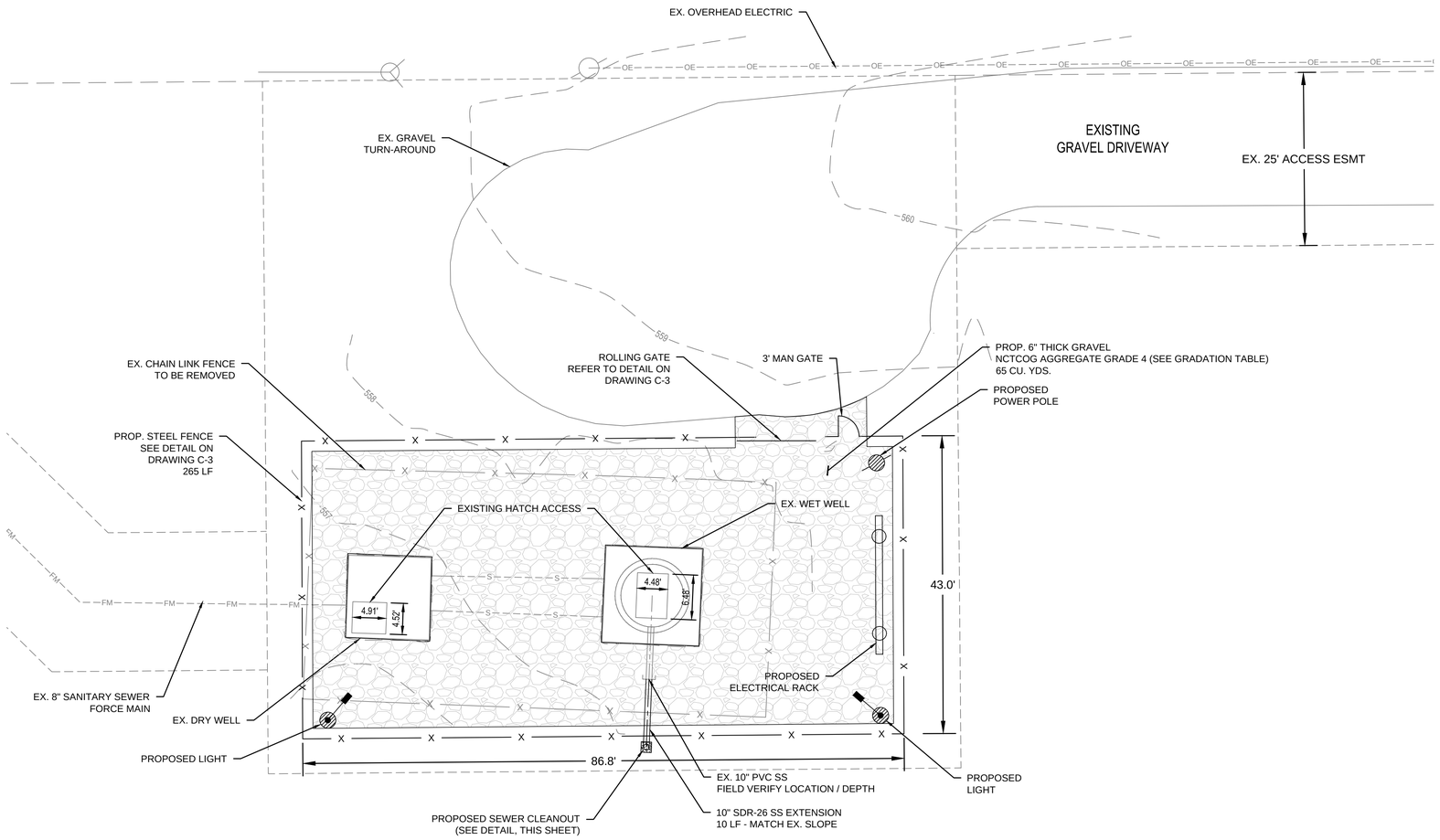
ADJOINING OSAGE LANE, WEST OF SOUTHVIEW DR
LUCAS, TEXAS 75002

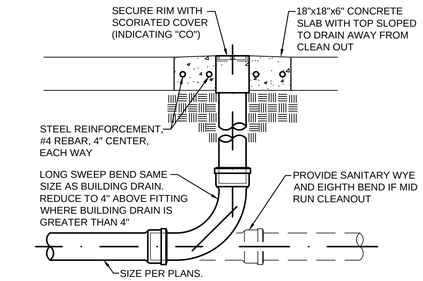
GENERAL NOTES

BID # 041-25

HZ PROJECT NO.:	R31-7158.01
DRAWN BY:	P. ROBERTS
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

C-1





1 / C-2 SANITARY CLEANOUT DETAIL
NO SCALE

N

0 5 10 20
SCALE: 1" = 10'

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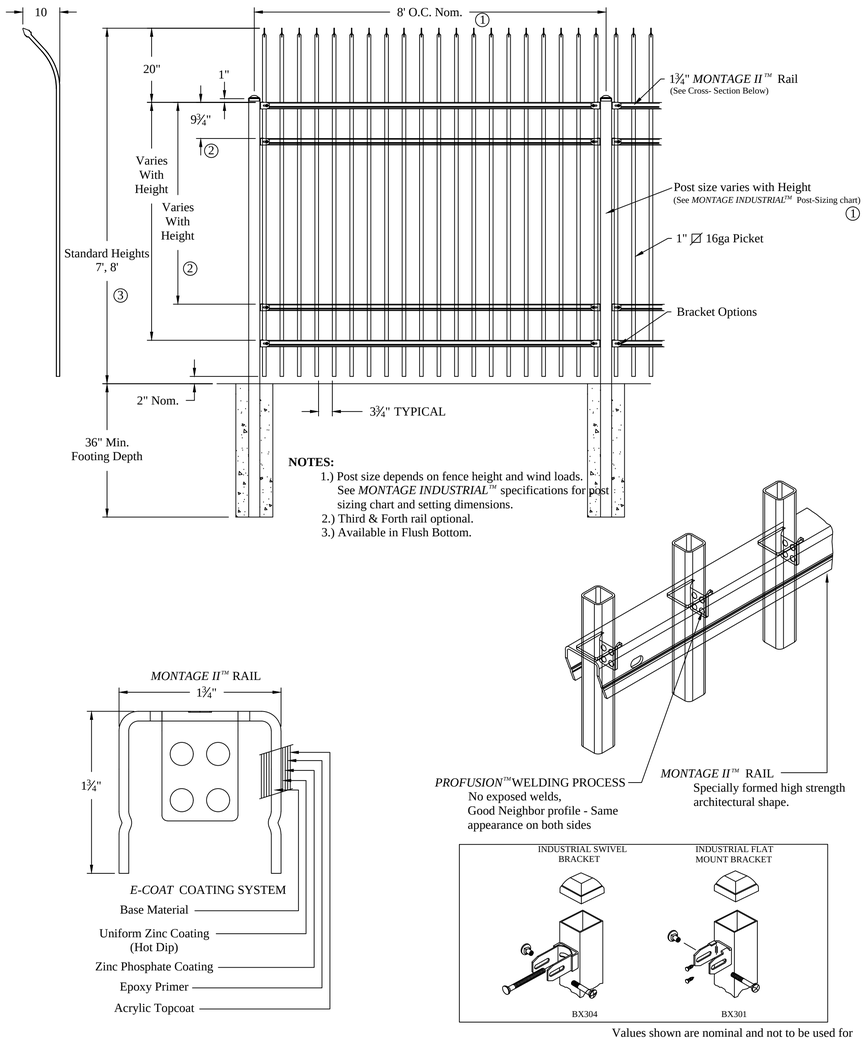
CIVIL SITE PLAN

BID # 041-25

HZ PROJECT NO.:	R31-7158.01
DRAWN BY:	Y. MONDRIGUEZ
REVIEWED BY:	J.MARLIA
APPROVED BY:	A.SCHULTZ

C-2



NOTES:

1.) Post size depends on fence height and wind loads. See *MONTAGE INDUSTRIAL™* specifications for post sizing chart and setting dimensions.
2.) Third & Forth rail optional.
3.) Available in Flush Bottom.

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

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GENERAL DETAILS

BID # 041-25

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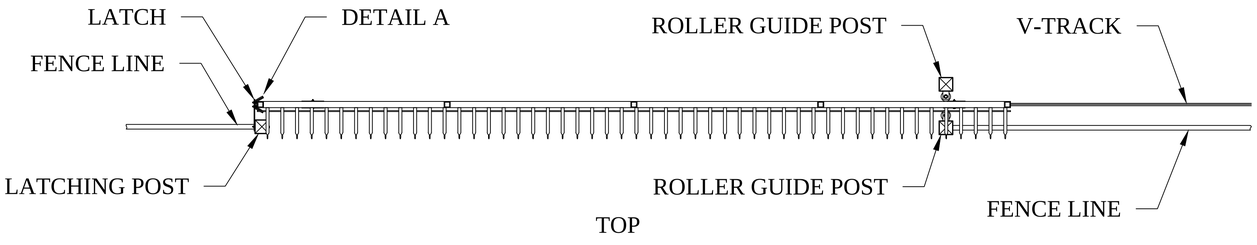
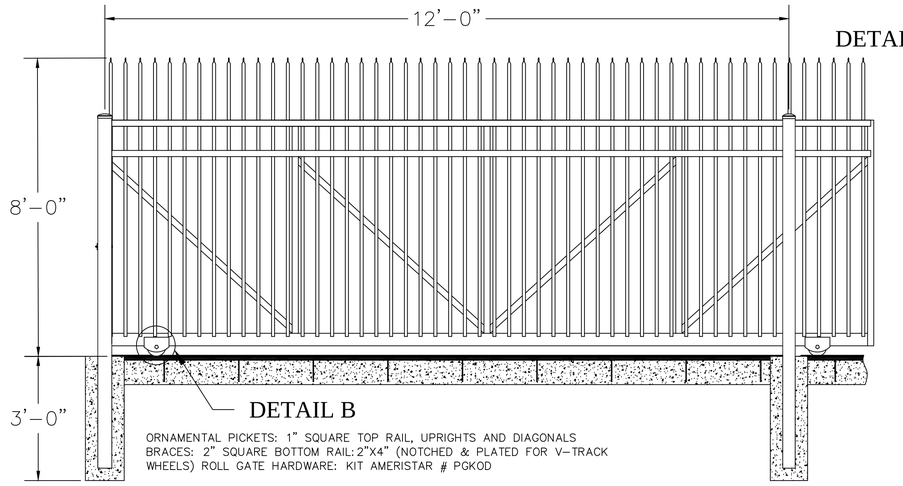
DRAWN BY:	P. ROBERTS
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

C-3

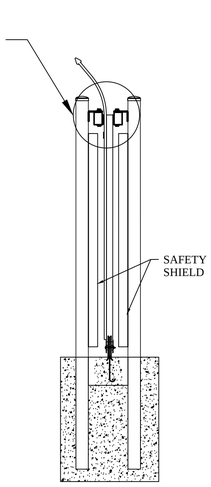


TOP



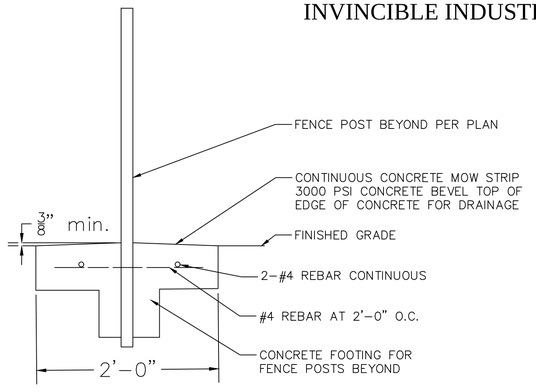
ORNAMENTAL PICKETS: 1" SQUARE TOP RAIL, UPRIGHTS AND DIAGONALS
BRACES: 2" SQUARE BOTTOM RAIL: 2"X4" (NOTCHED & PLATED FOR V-TRACK WHEELS) ROLL GATE HARDWARE: KIT AMERISTAR # PGKOD

ELEVATION



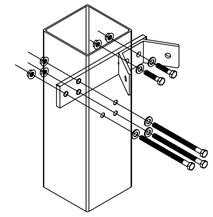
SECTION

INVINCIBLE INDUSTRIAL ROLL GATE DETAIL



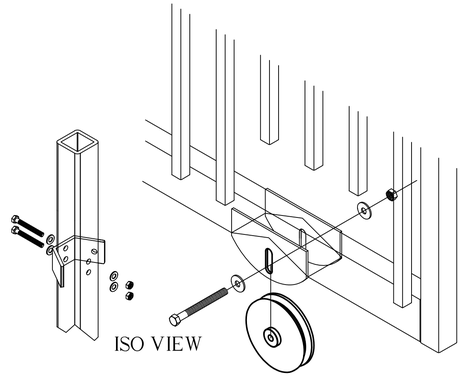
MOW STRIP DETAIL

GENERAL NOTE:
1. ALL CONCRETE USED IN FOOTING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI @ 28 DAYS.
2. ALL TUBULAR STEEL POSTS SHALL BE INSTALLED PLUMB, SQUARE AND LEVEL
3. 1" DEPTH CONTROL JOINTS SHALL BE INSTALLED PERPENDICULARLY AT BETWEEN POSTS UNLESS NOTED OTHERWISE ALONG ENTIRE LENGTH OF MOW STRIP

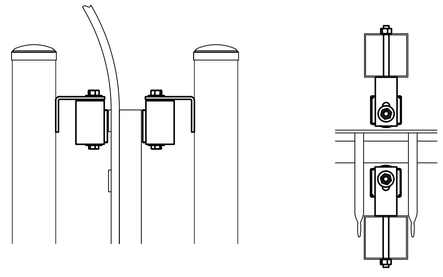


ISO VIEW

DETAIL A



DETAIL B



DETAIL C

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GENERAL DETAILS

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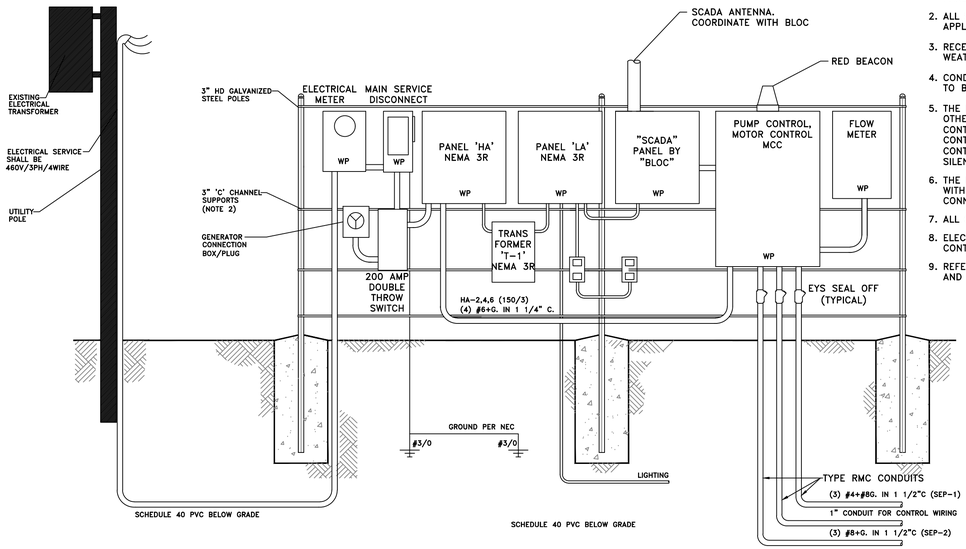
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

C-4



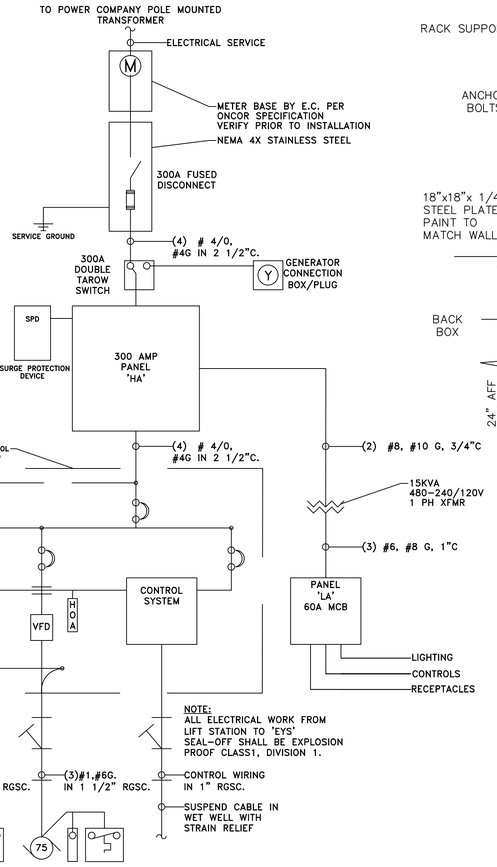
EQUIPMENT RACK ELEVATION
N.T.S.

NOTES:

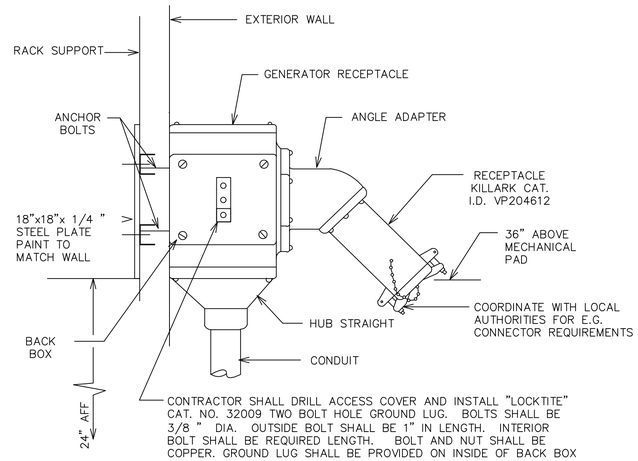
1. FURNISH AND INSTALL INTRUSION DETECTION LIMIT SWITCHES ON PUMP CONTROL PANEL AND RTU DOORS.
2. ALL STEEL SUPPORTS SHALL BE HOT DIPPED GALVANIZED WITH COLD GALVANIZED APPLIED TO HOLES AND CUTS. ATTACHMENT HARDWARE SHALL BE 316 SS.
3. RECEPTACLES SHALL BE HOSPITAL GRADE, 20 AMP GFI RECEPTACLES WITH WEATHER PROOF DEEP IN-USE COVERS.
4. CONDUIT SEALS ON THE POWER AND CONTROL CONDUITS TO THE LIFT STATION TO BE SIZED PER THE CONDUIT DIAMETER WITH CROUSE HINDS SERIES EYS HUBS. (TYP.)
5. THE PUMP CONTROL PANEL 'MCC' AND IT'S REQUIRED ACCESSORIES IS SUPPLIED BY OTHERS. THE E.C. SHALL COORDINATE WITH THE PROVIDER AND MANUFACTURER OF THE CONTROL PANEL TO ENSURE THAT ALL REQUIRED ELECTRICAL COMPONENTS ARE PROVIDED. CONTRACTOR SHALL VERIFY ALL REQUIREMENTS PRIOR TO BIDDING AND INSTALLATION. CONTROL PANEL SHALL PROVIDE AUDIBLE AND VISUAL INDICATING ALARM CONDITION WITH SILENCE CAPABILITY.
6. THE PUMP CONTROLS AND SEQUENCING IS PROVIDED BY OTHERS. E.C. SHALL COORDINATE WITH THE DESIGNER AND INSTALLER OF THE PUMP CONTROLS AND MAKE FINAL ELECTRICAL CONNECTIONS AS REQUIRED.
7. ALL CONDUITS ABOVE GRADE SHALL BE NEC TYPE RMC.
8. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH BLOC FOR SCADA PANEL INSTALLATION. CONTACT: CHASE FRAZIER - 903.247.9444 (cfrzier@blocdesign.com)
9. REFER TO CIVIL DRAWING C-1 FOR EXACT LOCATION OF EQUIPMENT RACK AND LIGHT POLE LOCATIONS

PANEL 'HA'

DESCIPTION	POLES	TRIP	CIRCUIT	LIGHTING	POWER	POWER	LIGHTING	CIRCUIT	TRIP	POLES	DESCIPTION
XFMR	2P	40	1					2	225	3P	CONTROL
			3					4			PANEL
SPARE	1P	20	5					6			MCC
SPARE	1P	20	7					8	20	1P	SPARE
SPARE	1P	20	9					10	20	1P	SPARE
SPARE	1P	20	11					12	20	1P	SPARE

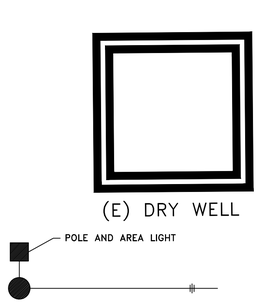


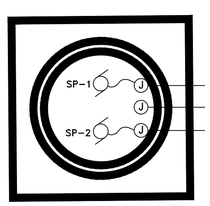
ELECTRICAL ONE LINE DIAGRAM
N.T.S.



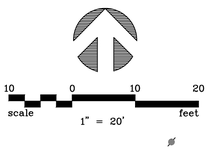
CONTRACTOR SHALL DRILL ACCESS COVER AND INSTALL "LOCKTITE" CAT. NO. 32009 TWO BOLT HOLE GROUND LUG. BOLTS SHALL BE 3/8 " DIA. OUTSIDE BOLT SHALL BE 1" IN LENGTH. INTERIOR BOLT SHALL BE REQUIRED LENGTH. BOLT AND NUT SHALL BE COPPER. GROUND LUG SHALL BE PROVIDED ON INSIDE OF BACK BOX AND GROUNDING CONDUCTOR SHALL BE EXTENDED FROM THIS LOCATION TO GROUND BAR IN TRANSFER SWITCH.

GENERATOR RECEPTACLE INSTALLATION
N.T.S.





SITE ELECTRICAL PLAN
N.T.S.



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SCOTT P. PARMA
STATE OF TEXAS
75690
LICENSED PROFESSIONAL ENGINEER
8/14/2025
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ELECTRICAL PLAN

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DRAWN BY:	P. ROBERTS
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

E-1

1.0 NOT USED.

2.0 CONTRACT DRAWINGS

2.1 INTENT: ELECTRICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHOW APPROXIMATE LOCATION AND EXTENT OF WORK. INSTALL THE WORK COMPLETE, INCLUDING MINOR DETAILS NECESSARY TO PERFORM THE FUNCTION INDICATED. IN CASE OF DOUBT AS TO WORK INTENDED, OR IF AMPLIFICATION OR CLARIFICATION IS NEEDED, REQUEST INSTRUCTIONS FROM THE OWNERS REPRESENTATIVE.

2.2 EXISTING CONDITIONS: VISIT THE SITE AND ASCERTAIN THE CONDITIONS TO BE MET AND THE WORK TO BE ACCOMPLISHED IN REMOVING AND MODIFYING THE EXISTING WORK, AND INSTALLING THE NEW WORK. FAILURE TO COMPLY WITH THIS PROVISION SHALL NOT CONSTITUTE GROUNDS FOR ADDITIONAL PAYMENT IN CONNECTION WITH REMOVING OR MODIFYING PART OF THE EXISTING INSTALLATIONS AND INSTALLING NEW OR TEMPORARY WORK.

2.3 EQUIPMENT LOCATIONS: COORDINATE THE ACTUAL LOCATION OF EQUIPMENT WITH BUILDING FEATURES AND EQUIPMENT AS INDICATED ON THE DRAWINGS. REVIEW WITH THE OWNERS REPRESENTATIVE ANY PROPOSED CHANGES IN EQUIPMENT LOCATIONS. ALTERNATE LOCATION OF EQUIPMENT BEFORE INSTALLATION, OF UP TO 5 FEET FROM THE POSITION INDICATED, MAY BE DIRECTED BY THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COST.

3.0 CONTRACTOR QUALIFICATIONS

3.1 AN ACCEPTABLE CONTRACTOR FOR THE WORK UNDER THESE DOCUMENTS MUST HAVE PERSONNEL WITH EXPERIENCE, TRAINING AND SKILL TO PROVIDE A PROPERLY WORKING SYSTEM. THE CONTRACTOR SHALL EMPLOY AND UTILIZE LICENSED AND CERTIFIED PROFESSIONALS AND TRADESMEN AS REQUIRED BY LOCAL JURISDICTION.

4.0 PROTECTION OF EQUIPMENT

4.1 KEEP EQUIPMENT CLEAN AND DRY BY ELEVATING ABOVE GROUND AND BY COVERING WITH A SUITABLE COVER.

4.2 TAKE PRECAUTIONS AS ARE NECESSARY TO PROTECT APPARATUS AND MATERIALS FROM DAMAGE ONCE RECEIVED FROM SUPPLIERS. ONCE RECEIVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING DAMAGED EQUIPMENT AND/OR MATERIALS.

4.3 PROTECT FACTORY FINISHES FROM DAMAGE DURING INSTALLATION AND UNTIL OWNER ACCEPTANCE OF THE PROJECT. SATISFACTORILY RESTORE ANY FINISH THAT BECOMES STAINED OR DAMAGED.

5.0 INSTALLATION

5.1 COOPERATION WITH OTHER TRADES: COOPERATION WITH TRADES OF ADJACENT, RELATED OR AFFECTED MATERIALS OR OPERATIONS IS CONSIDERED A PART OF THIS WORK IN ORDER TO EFFECT TIMELY AND ACCURATE PLACING OF WORK AND TO BRING TOGETHER, IN PROPER AND CORRECT SEQUENCE, THE WORK OF SUCH TRADES.

5.2 WORKMANSHIP: WORK MUST BE PERFORMED BY WORKMEN SKILLED IN THEIR TRADE. THE INSTALLATION MUST BE COMPLETE.

6.0 CUTTING AND PATCHING

6.1 EXAMINE SURFACES TO BE CUT AND PATCHED AND CONDITIONS UNDER WHICH CUTTING AND PATCHING ARE TO BE PERFORMED. BEFORE PATCHING, VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY WITH IN-PLACE FINISHES OR PRIMERS. PROCEED WITH INSTALLATION ONLY AFTER UNSAFE OR UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

6.2 PROVIDE TEMPORARY SUPPORT OF WORK TO BE CUT. PROTECT IN-PLACE CONSTRUCTION DURING CUTTING AND PATCHING TO PREVENT DAMAGE. PROVIDE PROTECTION FROM ADVERSE WEATHER CONDITIONS FOR PORTIONS OF PROJECT THAT MIGHT BE EXPOSED DURING CUTTING AND PATCHING OPERATIONS. AVOID INTERFERENCE WITH USE OF ADJOINING AREAS OR INTERRUPTION OF FREE PASSAGE TO ADJOINING AREAS.

7.0 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
B. SHOP DRAWINGS: LIST OF LEGENDS AND DESCRIPTION OF MATERIALS AND PROCESS USED FOR PREMARKING WALL PLATES.

7.1 WARRANTY: MANUFACTURER AND INSTALLER AGREE TO REPAIR OR REPLACE LIGHTING CONTROL DEVICES THAT FAIL(S) IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

BASIC ELECTRICAL MATERIALS AND METHODS

1.0 CONDUIT FOR ELECTRICAL SYSTEMS

1.1 CONDUIT MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
A. AFC CABLE SYSTEMS, INC.
B. ALLIED TUBE & CONDUIT.
C. THOMAS & BETTS CORPORATION.
D. WESTERN TUBE AND CONDUIT CORPORATION.
E. WHEATLAND TUBE COMPANY.

1.2 RIGID METAL CONDUITS, TUBING, AND ALL FITTINGS SHALL BE STEEL AND SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION

1.3 GRC: COMPLY WITH ANSI C80.1 AND UL 6
IMC: COMPLY WITH ANSI C80.6 AND UL 1242.
EMT: NOT PERMITTED.
LFMC: COMPLY WITH UL 1; ZINC-COATED STEEL.
FITTINGS FOR METAL CONDUIT: COMPLY WITH NEMA FB 1 AND UL 514B.

1.4 EXPANSION FITTINGS: PVC OR STEEL TO MATCH CONDUIT TYPE COMPLYING WITH UL 651, RATED FOR ENVIRONMENTAL CONDITIONS WHERE INSTALLED, AND INCLUDING FLEXIBLE EXTERNAL BONDING JUMPER.

1.5 NONMETALLIC CONDUITS, TUBING, AND FITTINGS SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

1.6 RNC: TYPE EPC-40-PVC, COMPLYING WITH NEMA TC 2 AND UL 651

1.7 FITTINGS: COMPLY WITH NEMA TC 3; MATCH TO CONDUIT OR TUBING TYPE AND MATERIAL.

1.8 OUTDOORS: APPLY RACEWAY PRODUCTS AS SPECIFIED BELOW UNLESS OTHERWISE INDICATED:
1. EXPOSED CONDUIT: GRC OR IMC.
2. CONCEALED CONDUIT, ABOVEGROUND: GRC, IMC.
3. UNDERGROUND CONDUIT: RNC, TYPE EPC-40-PVC.
4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT LIQUIDTIGHT: LFMC.

1.10 INDOORS: NOT USED.

1.11 MINIMUM RACEWAY SIZE: 3/4-INCH TRADE SIZE- EXPOSED. MINIMUM SIZE IN DUCT BANK- 2-INCH. EXTERIOR LIGHTING BELOW GRADE – 1 INCH .

1.12 CONDUITS SHALL CONTINUOUS BETWEEN ENCLOSURES SUCH AS OUTLET, JUNCTION AND PULLBOXES, PANELS, CABINETS, MOTOR CONTROL CENTERS, ETC. THE CONDUIT MUST ENTER AND BE SECURED TO ENCLOSURES SO THAT EACH SYSTEM IS ELECTRICALLY CONTINUOUS THROUGHOUT. PROVIDE NON-METALLIC INSULATED BUSHINGS FOR CONDUCTOR PROTECTION. WHERE CONDUITS 1 1/-INCH AND LARGER TERMINATE IN EQUIPMENT HAVING A GROUND BUS, SUCH AS IN SWITCHGEAR, MOTOR CONTROL CENTERS, AND PANELBOARDS, PROVIDE CONDUIT WITH AN INSULATED GROUNDING BUSHING AND EXTEND A SUITABLE GROUNDING WIRE TO THE GROUND BUS.

1.13 RUN CONDUITS PARALLEL OR AT RIGHT ANGLES TO BUILDING OR OTHER CONSTRUCTION LINES IN A NEAT AND ORDERLY MANNER.

1.14 PROVIDE SUITABLE PULL BOXES IN EACH CONDUIT RUN WHICH TOTALS MORE THAN 360 DEGREES IN TOTAL BENDS BETWEEN ANY TWO WIRING ACCESS POINTS. ALL PULL BOXES SHALL PROVIDE ADEQUATE INTERIOR VOLUME AND BE PROPERLY SUPPORTED IN ACCORDANCE WITH ARTICLE 314 OF THE NATIONAL ELECTRICAL CODE.

1.15 INSTALL EACH ENTIRE CONDUIT SYSTEM COMPLETE BEFORE PULLING IN ANY CONDUCTORS.

1.16 CUT ALL JOINTS SQUARE, THEN THREAD AND REAM SMOOTH. COAT CUTS, THREADS OR SCRATCHES ON STEEL CONDUIT WITH AN APPROVED ZINC CHROMATE OR WITH A 90 PERCENT ZINC PAINT.

1.17 MAKE BENDS WITH STANDARD ELLS OR CONDUIT BENT IN ACCORDANCE WITH THE NEC. MAKE FIELD BENDS USING EQUIPMENT DESIGNED FOR THE TYPE AND SIZE OF CONDUIT INVOLVED. BENDS MUST BE FREE FROM DENTS OR FLATTENING. USE NO MORE THAN THE EQUIVALENT OF FOUR 90-DEGREE BENDS IN ANY RUN BETWEEN TERMINALS AND CABINETS, OR BETWEEN OUTLETS AND JUNCTION OR PULL BOXES.

1.18 CONDUIT RUNS WHICH EXTEND INTO THE WET WELL MUST HAVE SEALING FITTINGS.

1.19 SECURELY FASTEN AND SUPPORT CONDUIT TO STRUCTURE OR METAL FRAMING USING HOT-DIPPED GALVANIZED, MALLEABLE IRON PIPE STRAPS OR OTHER APPROVED MEANS, WIRES OF ANY TYPE MAY NOT BE USED FOR SECURING CONDUITS. SUPPORT EACH CONDUIT AT A MAXIMUM OF 8 FOOT CENTERS AND WITHIN 12-INCHES OF EVERY CHANGE OF DIRECTION OR POINT OF TERMINATION.

1.20 SUITABLY CAP CONDUIT DURING CONSTRUCTION TO AVOID WATER, DIRT AND DEBRIS ENTRANCE.

1.21 INSTALL INSULATED THROAT HUBS ON CONDUITS ENTERING ENCLOSURES WITHOUT THREADED HUBS.

2.0 BOXES FOR ELECTRICAL SYSTEMS

2.1 MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
1. COOPER TECHNOLOGIES COMPANY; COOPER CROUSE-HINDS.
2. HOFFMAN.
3. HUBBELL INCORPORATED.
4. MONO-SYSTEMS, INC.
5. THOMAS & BETTS CORPORATION.

2.2 WIRING DEVICE BOX DIMENSIONS: 4 INCHES SQUARE BY 2-1/8 INCHES DEEP.

2.3 GANGABLE BOXES ARE PROHIBITED.

2.2 OUTDOORS, ABOVE GROUND: NEMA 250, TYPE 4X, USING MYERS HUBS. TOP ENTRY IS STRICTLY PROHIBITED. TYPE 4X ENCLOSURES ENTERED FROM THE TOP WILL BE REJECTED AND SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. CONDUITS SHALL BE RE-ROUTED, CONDUCTORS REPLACED IF TOO SHORT, AND NO SPLICES ARE PERMITTED.

3.0 600V CONDUCTORS

3.1 CONDUCTORS SHALL BE 98 PERCENT CONDUCTIVITY, SOFT-DRAWN, ANNEALED COPPER. UNLESS OTHERWISE NOTED ON THE DRAWINGS, CONDUCTOR INSULATION SHALL BE THHN/THWN FOR GENERAL WIRING, EXCEPT SUBMERSIBLE PUMP CABLES AS FURNISHED BY THE PUMP SUPPLIER. CONDUCTORS SHALL BE LISTED BY UL 83.

3.2 AMPACITY FOR CONDUCTORS SIZES SHOWN ON THE DRAWINGS ARE BASED ON 75 DEGREE C RATINGS.

3.3 MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG.

3.4 CONDUITS SHALL CONTAIN A MAXIMUM OF THREE CURRENT-CARRYING CONDUCTORS.

3.5 NOT USED.

3.6 MECHANICALLY PROTECT CONDUCTORS FOR SYSTEMS BY INSTALLING IN RACEWAYS. DO NOT INSTALL THE CONDUCTORS UNTIL RACEWAY SYSTEM IS COMPLETE AND PROPERLY CLEANED. USE POLYWATER J CABLE LUBRICANT (OR APPROVED EQUAL) WHEN PULLING CONDUCTORS. DO NOT BEND ANY CONDUCTOR EITHER PERMANENTLY OR TEMPORARILY DURING INSTALLATION TO RADII LESS THAN FOUR TIMES THE OUTER DIAMETER OF 600-VOLT INSULATED CONDUCTORS.

3.7 CONDUCTOR SPLICES ARE NOT PERMITTED. CONDUCTORS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION.

3.8 USE PRESSURE-TYPE LUGS OR CONNECTORS FOR TERMINATIONS ALL STRANDED CONDUCTORS. USE RING-TONGUE TYPE TERMINATORS ON ALL CONTROL WIRING.

3.9 NEATLY AND SECURELY BUNDLE OR CABLE ALL CONDUCTORS IN AN ENCLOSURE USING NYLON STRAPS WITH A LOCKING HUB OR HEAD ON ONE END AND A TAPER ON THE OTHER.

3.10 COLOR CODE: USE OWNER STANDARD COLOR CODES PHASE CONDUCTOR WIRING. NEUTRAL CONDUCTORS SHALL BE WHITE OR GRAY. GROUNDING CONDUCTORS SHALL BE GREEN.

4.0 GROUNDING AND BONDING

4.1 PROVIDE BARE CONDUCTORS FOR BONDING JUMPERS. PROVIDE 600-VOLT INSULATED CONDUCTORS HAVING A GREEN-COLORED INSULATION FOR EQUIPMENT GROUNDING CONDUCTORS. CONDUCTORS SHALL BE LISTED FOR THEIR INTENDED USE UNDER UL 83.

4.2 GROUND THE SYSTEM NEUTRAL AS REQUIRED BY NEC ARTICLE 250.

4.3 GROUND CABINETS, JUNCTION BOXES, OUTLET BOXES, MOTORS, CONTROLLERS, RACEWAYS, FITTINGS, DEVICES AND METALLIC ENCLOSURES. GROUND EQUIPMENT ENCLOSURES TO THE GROUNDED METALLIC RACEWAY SYSTEM IN ADDITION TO ANY OTHER SPECIFIC GROUNDING SHOWN AND AS REQUIRED BY NEC ARTICLE 250.

4.4 PROVIDE BONDING JUMPERS AND GROUND WIRE THROUGHOUT TO ENSURE ELECTRICAL CONTINUITY OF THE GROUNDING SYSTEM.

4.5 PROVIDE GROUNDING-TYPE INSULATED BUSHINGS FOR METAL CONDUITS 1-1/2 INCHES AND LARGER TERMINATING IN EQUIPMENT ENCLOSURES CONTAINING A GROUND BUS AND CONNECT THE BUSHING TO THE GROUND BUS.

4.6 GROUND RODS: COPPER-CLAD STEEL; 3/4 INCH BY 10 FEET.

4.7 GROUNDING AT THE SERVICE
A. EQUIPMENT GROUNDING CONDUCTORS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE CONNECTED TO THE GROUND BUS. INSTALL A MAIN BONDING JUMPER BETWEEN THE NEUTRAL AND GROUND BUSES.

5.0 PANELBOARDS

5.1 MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. EATON.
2. GENERAL ELECTRIC COMPANY; GE ENERGY MANAGEMENT - ELECTRICAL
3. SIEMENS ENERGY.
4. SQUARE D; BY SCHNEIDER ELECTRIC.

5.2 PANELBOARDS: NEMA PB 1, SERVICE RATED, DISTRIBUTION TYPE FULLY RATED FOR AVALIABLE FAULT CURENT.

5.3 DOORS: SECURED WITH VAULT-TYPE LATCH WITH TUMBLER LOCK; KEYED ALIKE.

5.4 MAINS: CIRCUIT BREAKER.

5.5. BRANCH OVERCURRENT PROTECTIVE DEVICES FOR CIRCUIT-BREAKER: BOLT-ON CIRCUIT BREAKERS.

5.6 OUTDOOR LOCATIONS SHALL BE NEMA 250, TYPE 3R.

5.7 EQUIPMENT MOUNTING:
1. ATTACH PANELBOARD TO THE VERTICAL FINISHED OR STRUCTURAL SURFACE BEHIND THE PANELBOARD.

6.0 WIRING DEVICES

6.1 MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
A. EATON (ARROW HART).
B. HUBBELL INCORPORATED; WIRING DEVICE-KELLEMS.
C. LEVITON MANUFACTURING CO., INC.
D. PASS & SEYMOUR/LEGRAND (PASS & SEYMOUR).

6.2 DUPLEX RECEPTACLES, 125 V, 20 A: TWO POLE, THREE WIRE, AND SELF-GROUNDING. NEMA WD 6, CONFIGURATION 5-20R. COMPLY WITH UL 498 AND FS W-C-596. PROVIDE WEATHERPROOF BOX AND WHILE-IN-USE COVER.

6.3 TOGGLE SWITCHES, 120/277 V, 20 A, COMPLY WITH UL 20 AND FS W-S-896.

7.0 LIGHTING

7.1 MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
A. COLUMBIA
B. COOPER LIGHTING, AN EATON BUSINESS.
C. JUNO LIGHTING GROUP; ACUITY BRANDS LIGHTING INC.
D. LITHONIA LIGHTING; ACUITY BRANDS LIGHTING, INC.
E. OR AS LISTED IN FIXTURE SCHEDULE

7.2 ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

7.3 NRTL COMPLIANCE: LUMINAIRES SHALL BE LISTED AND LABELED FOR INDICATED CLASS AND DIVISION OF HAZARD BY AN NRTL.

7.4 UL COMPLIANCE: COMPLY WITH UL AND LISTED FOR INTENDED LOCATION.

7.5 CRI OF MINIMUM 80. CCT OF 3500 K. L70 LAMP LIFE OF 50,000 HOURS WITH INTERNAL DRIVER.

7.6 FIXTURES SHALL BE LITHONIA MODEL ESX1 LED P2 40K R3 MVOLT UPA BLS DDBXD M2.

7.7 LAMPS DIMMABLE FROM 100 PERCENT TO 10 PERCENT OF MAXIMUM LIGHT OUTPUT.

7.8. SUBSTITUTION: ALTERNATE FIXTURES SHALL HAVE LUMEN OUTPUT EQUIVALENT TO FIXTURE SPECIFIED ABOVE.

7.9 SOURCE LIMITATIONS: FOR LUMINAIRES, OBTAIN EACH COLOR, GRADE, FINISH, TYPE, AND VARIETY OF LUMINAIRE FROM SINGLE SOURCE WITH RESOURCES TO PROVIDE PRODUCTS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.

7.10 POLES: COMPLY WITH ASTM A 500/A 500M, GRADE B CARBON STEEL; ONE-PIECE CONSTRUCTION, 20 FEET (12 M) IN HEIGHT WITH ACCESS HANDHOLE IN POLE WALL.
A. SHAPE: ROUND, TAPERED
B. MOUNTING PROVISIONS: BUTT FLANGE FOR BOLTED MOUNTING ON FOUNDATION OR BREAKAWAY SUPPORT.

7.11 WIND LOAD: PRESSURE OF WIND ON POLE AND LUMINAIRE SHALL BE NO LESS THAN 136 MPH.

7.12 POLE FOUNDATION SHALL BE 3000 PSI CONCRETE, 18" DIAMETER, 96" DEEP, REINFORCING SHALL BE SIX #4 VERTICAL BARS, EQUALLY SPACED AND #3 HOOPS, 12" DIAMETER SPACED 12" VERTICALLY. PROVIDE ANCHOR BOLTS AS RECOMMENDED BY MANUFACTURER.

WARNING:

THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 48 HOURS PRIOR TO EXCAVATION IN THIS AREA.

CITY OF LUCAS	972.912.1210
TEXAS ONE - CALL SYSTEM	800.245.4545
TEXAS EXCAVATION SAFETY SYSTEMS	800.344.8377
	800.DIG.TESS

ISSUE DRAWING LOG:

MARK	DATE	DESCRIPTION
A	06/14/2024	1ST CITY REVIEW SUBMITTAL
B	08/05/2024	2ND CITY REVIEW SUBMITTAL
C	08/14/2025	ISSUE FOR BID

STATE OF TEXAS
SCOTT P. PARMA
75690
LICENSED PROFESSIONAL ENGINEER
8/14/2025
Huitt-Zollars, Inc
Firm Registration No. F-761

CITY OF LUCAS, TX
665 COUNTRY CLUB RD
LUCAS, TX 75002
972.727.8999

HZ HUITT ZOLLARS
5430 LBJ Freeway, Suite 1500
Dallas, Texas 75240
214.871.3311
www.huitt-zollars.com

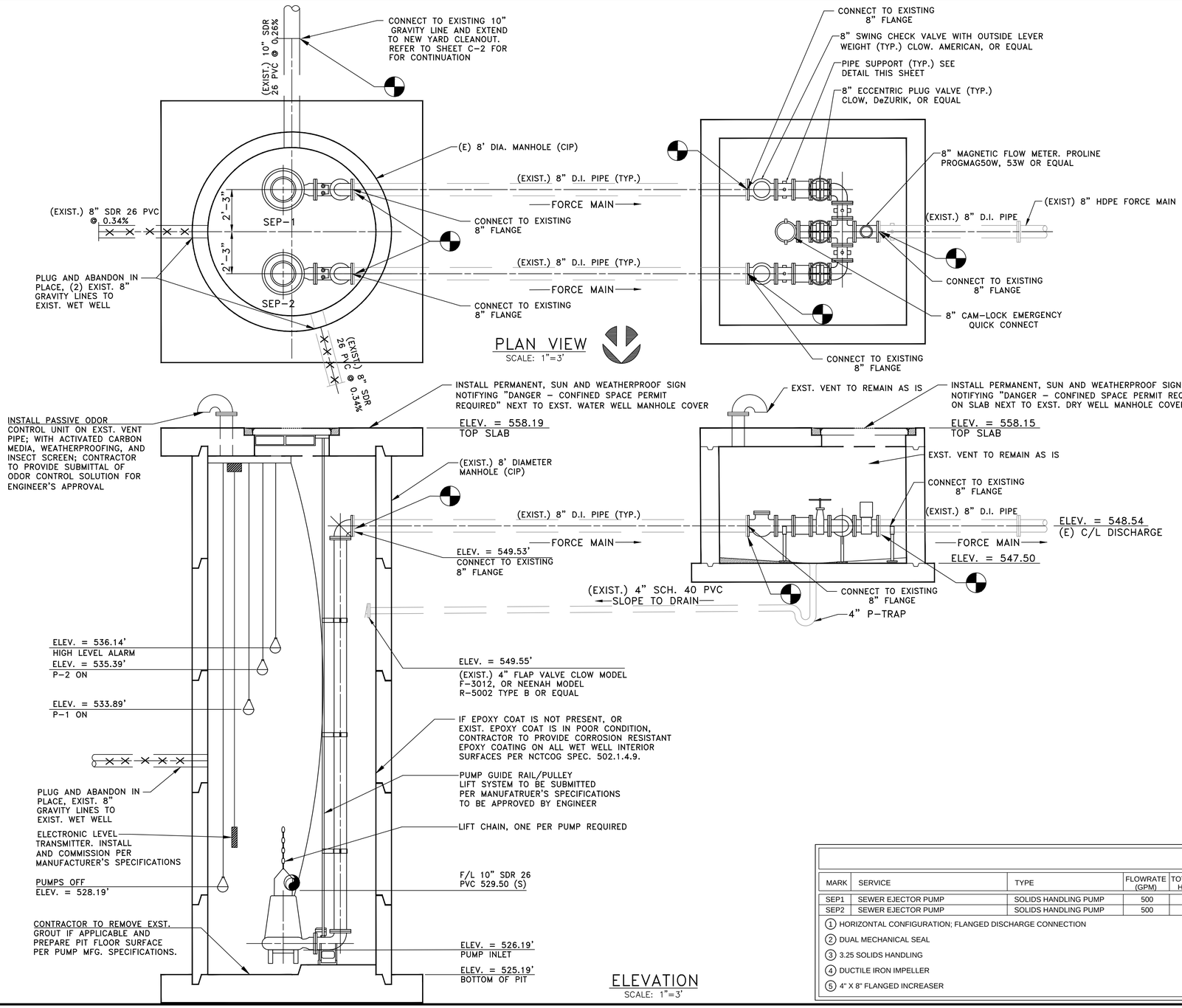
OSAGE LANE SEWER LIFT STATION
ADJOINING OSAGE LANE, WEST OF SOUTHVIEW DR
LUCAS, TEXAS 75002

ELECTRICAL SPECIFICATIONS

BID # 041-25

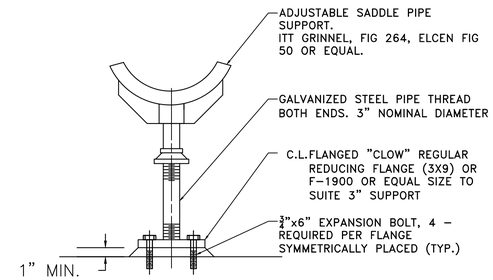
HZ PROJECT NO.:	R31-7158.01
DRAWN BY:	P. ROBERTS
REVIEWED BY:	K. CARLSON
APPROVED BY:	A.SCHULTZ

E-2



NOTES:

1. ANY DUCTILE IRON PIPE INSTALLED ON THE PROJECT SHALL BE PROTECTO 401 LINED OR EQUAL. THE OUTSIDE OF THE DIP PIPE SHALL BE COATED WITH TNEMEC 66 OR EQUAL. CONTRACTOR TO FOLLOW DIVISION 500 NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS NORTH CENTRAL CENTRAL TEXAS, AMENDED 2023.
2. ALL PIPING AT THE LIFT STATION SITE SHALL BE 150 PSI MINIMUM EXCEPT FOR THE GRAVITY SEWER PIPE."
3. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS IN BOTH THE EXISTING WET WELL AND DRY WELL BEFORE CONNECTING NEW PUMPS, PIPING AND CONTROLS TO TO EXISTING PIPING ROUGH-IN.



ADJUSTABLE PIPE SUPPORT
N.T.S.

PUMP SCHEDULE

MARK	SERVICE	TYPE	FLOWRATE (GPM)	TOTAL DYNAMIC HEAD (FEET)	SPEED (RPM)	EFFIC. (%)	ELECTRICAL CHARACTERISTICS HP	VOLTS	PHASE	HZ	MANUFACTURER	REMARKS
SEP1	SEWER EJECTOR PUMP	SOLIDS HANDLING PUMP	500	254	3500	55.9	72	460	3	53	FLYGT PUMP NP 3202 SH 3 273 OR APPROVED EQUAL	ALL NOTES
SEP2	SEWER EJECTOR PUMP	SOLIDS HANDLING PUMP	500	254	3500	55.9	72	460	3	53	FLYGT PUMP NP 3202 SH 3 273 OR APPROVED EQUAL	ALL NOTES

1. HORIZONTAL CONFIGURATION; FLANGED DISCHARGE CONNECTION
2. DUAL MECHANICAL SEAL
3. 3.25 SOLIDS HANDLING
4. DUCTILE IRON IMPELLER
5. 4" X 8" FLANGED INCREASER
6. 8" FLANGED DISCHARGE ELBOW & MTM RAIL SYSTEM
7. 2" GUIDE RAIL PIPES WITH INTERMEDIATE GUIDE BRACKETS AND LIFT CHAINS
8. FLOAT SWITCHES WITH 316 SS FLOAT BRACKETS - MODEL ENM-10
9. DUPLEX VFD CONTROL PANEL
9. ELECTRONIC LEVEL TRANSMITTER - MODEL LTU 801

WARNING:

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STATE OF TEXAS — PAUL E. DIGIOVANNI — 91758 — LICENSED PROFESSIONAL ENGINEER — 8/14/2025

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ADJOINING OSAGE LANE, WEST OF SOUTHVIEW DR
LUCAS, TEXAS 75002

PLUMBING PLAN

BID # 041-25

HZ PROJECT NO.:	R31-7158.01
DRAWN BY:	P. ROBERTS
REVIEWED BY:	K.CARLSON
APPROVED BY:	A.SCHULTZ

P-1