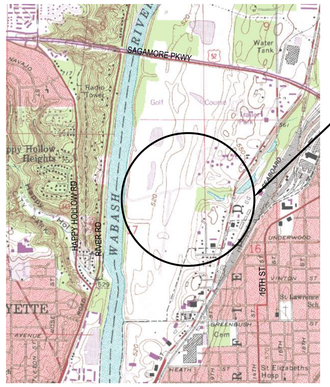
GLICK WELLFIELD IMPROVEMENTS

FOR THE

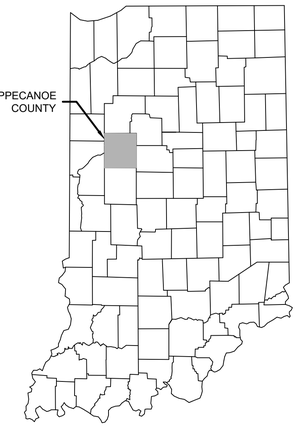
CITY OF LAFAYETTE, INDIANA



LAFAYETTE, INDIANA

VICINITY MAP

SCALE: NONE



STATE LOCATION MAP

SCALE: NONE

CITY OF LAFAYETTE

DRAWINGS PREPARED FOR:

BOARD OF PUBLIC WORKS AND SAFETY

HONORABLE TONY ROSWARSKI, MAYOR

GARY HENRIOTT, PRESIDENT

CINDY MURRAY, MEMBER

NORM CHILDRESS, MEMBER

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AMY MOULTON, MEMBER

JEROMY GRENARD, CITY ENGINEER

STEVE MOORE, WATER SUPERINTENDENT

AUGUST 2023

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PROJECT NO. 246521-04-001

ANDREW D. GORDON
REGISTERED ENGINEER STATE OF INDIANA NO. 10809017

WAYNE C. MOORE
REGISTERED ENGINEER STATE OF INDIANA NO. 10707476
COVERING ELECTRICAL DESIGN

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-GS.dwg | Layout: 1G1 | Plotted: 08/31/23 @ 09:25:42 | LastSavedBy: CurtisG

2020 IMAGERY FROM INDIANA STATE MAP

LOCATION AND SCOPE OF WORK PLAN

0 100 200 400 FT
1"=200'

HORIZONTAL AND VERTICAL CONTROL INFORMATION

NOTES:
1. A FIELD SURVEY WAS PERFORMED IN SEPTEMBER 2021.
2. COORDINATES (INDIANA STATE PLANE, WEST ZONE, NAD 83) AND ELEVATIONS (NAVD 88) ARE BASED ON INCORS.
3. UNITS ARE U.S. SURVEY FEET.
4. CONTROL POINTS WERE SET USING GPS.

BENCHMARK DESCRIPTION:
1. TBM NO. 14 - RAILROAD SPIKE SET IN SOUTH WEST SIDE OF JOINT POLE APPROXIMATELY 766' NORTH OF BURROUGHS STREET AND 5' WEST OF 9TH STREET.
   EL 542.40

CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 1	1890672.86	3007285.58	541.2	MAGNAIL
CP 2	1890704.31	3007129.08	530.2	5/8" REBAR
CP 3	1890543.73	3007285.38	544.1	5/8" REBAR
CP 4	1892131.02	3006133.22	519.2	5/8" REBAR
CP 5	1892048.25	3006124.01	519.8	5/8" REBAR
CP 6	1891541.37	3005908.09	521.1	MAGNAIL
CP 7	1891568.62	3005984.90	520.3	MAGNAIL
CP 8	1890878.51	3006347.11	518.8	5/8" REBAR
CP 9	1890836.01	3006279.32	519.5	5/8" REBAR
CP 10	1890737.03	3005846.96	519.6	5/8" REBAR
CP 11	1890740.65	3005928.72	519.5	5/8" REBAR
CP 12	1890285.79	3005684.82	519.9	5/8" REBAR
CP 13	1890344.17	3005778.10	518.4	5/8" REBAR

DRAWING INDEX

SHEET NO.	DESCRIPTION
GENERAL	
01	TITLE SHEET
02	LOCATION AND INDEX
03	GENERAL SHEET
PLAN SHEETS	
04	SITE DEMOLITION PLAN
05	TREATMENT PLANT SITE IMPROVEMENTS PLAN
06	WATER TREATMENT PLANT FLOOR PLANS
MISCELLANEOUS DETAILS	
07	CHEMICAL INJECTION VAULT #1
08	CHLORINE INJECTION VAULT #2 AND DETAILS
09	MISCELLANEOUS DETAILS
EROSION CONTROL DETAILS	
10 - 11	EROSION CONTROL DETAIL
ELECTRICAL SHEETS	
12	TYPICAL EXISTING WELL PLATFORM ELECTRICAL
13	MISCELLANEOUS ELECTRICAL DETAILS
14	MISCELLANEOUS ELECTRICAL DETAILS
15	ELECTRICAL GROUNDING DETAILS
16	MISCELLANEOUS CONTROLS DETAILS
17	ELECTRICAL LEGEND
18	TREATMENT PLANT DEMOLITION ONE-LINE DIAGRAM
19	TREATMENT PLANT IMPROVEMENTS ONE-LINE DIAGRAM
20	TREATMENT PLANT ELECTRICAL DISTRIBUTION DIAGRAM
21	PANEL SCHEDULES
22	WELLFIELD CONTROLS ONE-LINE DIAGRAMS
23	TREATMENT PLANT CONTROLS ONE-LINE DIAGRAM
24	PROCESS AND INSTRUMENTATION LEGEND
25	WELLFIELD PROCESS AND INSTRUMENTATION DIAGRAM
26	TREATMENT PLANT NETWORK DIAGRAM

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG				
	APPROVED BY	ADG				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

ANDREW D. GORDON REGISTERED No. 10809017 STATE OF INDIANA PROFESSIONAL ENGINEER 08/31/2023

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GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

LOCATION AND INDEX

SHEET NO. 02

TOTAL SHEETS 26

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
BM	BENCH MARK	CB	CISTERN		EASEMENT - CONSTRUCTION/PERMANENT
TBM	TEMPORARY BENCH MARK	E/M	ELECTRIC METER		LOT BOUNDARY
SB-01	SOIL BORING LOCATION	AC	AIR CONDITIONING UNIT	R	PROPERTY BOUNDARY
	SECTION CORNER	XXX	UTILITY RISER (DEFINED BY UTILITY)		RIGHT-OF-WAY - TEMPORARY/PERMANENT
	DRILL HOLE IN CONCRETE/HARRISON MONUMENT	XXX	UTILITY PEDESTAL (DEFINED BY UTILITY)		SECTION BOUNDARY
CP	CONTROL POINT (SET/FOUND)	X	UTILITY MARKER (DEFINED BY UTILITY)		WETLANDS
MS	MAGNETIC NAIL (SET/FOUND)	J	JOINT POWER/TELEPHONE POLE	849	CONTOUR - INTERMEDIATE ELEVATION
BS	BOAT SPIKE (SET/FOUND)	L	LIGHT POLE	850	CONTOUR - INDEX ELEVATION
PK	PK NAIL (SET/FOUND)	LP	LIGHT ON POWER POLE	OHE OHE	OVERHEAD ELECTRIC
RS	RAILROAD SPIKE (SET/FOUND)	LJ	LIGHT ON JOINT POLE	OHC OHC	OVERHEAD CABLE TV
R/M	R/W MARKER - CONCRETE/GRANITE/STONE	P	POWER POLE	OHT OHT	OVERHEAD TELEPHONE
	IRON PIPE/IRON PIN/REBAR (WITH DIAMETER)	T	TELEPHONE POLE	UGC UGC	UNDERGROUND CABLE TV
BP	BRASS PLUG		LAMP POST	UGE UGE	UNDERGROUND ELECTRIC
C	CABLE TV MANHOLE		GUY ANCHOR	UGF UGF	UNDERGROUND FIBER OPTIC
E	ELECTRIC MANHOLE		GUY POLE OR STUB	G G G	GAS MAIN
G	GAS MANHOLE		CONTROLLER CABINET	DG DG	DIGESTER GAS
O	OTHER MANHOLE	FP	FLAG POLE	P P P	PETROLEUM MAIN
T	TELEPHONE MANHOLE		POST	UGT UGT	UNDERGROUND TELEPHONE
TEL	TELEPHONE VAULT		GROUND LIGHT	W W W	WATER MAIN
I	TRAFFIC MANHOLE	M	MAILBOX	W W W	WATER SERVICE
H	TRAFFIC HANDHOLE	M M	DOUBLE/MULTIPLE MAILBOX	FM FM	FORCEMAIN
W	WATER MANHOLE		MAST ARM POLE		GRAVITY SEWER PIPE
A	AIR RELEASE VALVE		TRAFFIC SIGNAL STRAIN POLE		PLANT CHLORINE PIPE
S	SANITARY SEWER MANHOLE		SIGNAL LOOP DETECTOR BOX		TOP OF BANK/TOE OF SLOPE
D	DRAINAGE/STORM SEWER MANHOLE		SIGNAL LOOP DETECTOR LOOP		CENTERLINE OF DITCH/SWALE/STREAM
CO	SANITARY SEWER CLEANOUT		SIGN - SINGLE POST	x x x x x x x x x	FENCE - FIELD
ST	SEPTIC TANK		SIGN - DOUBLE POST	o o o o o o o o o	FENCE - METAL
V	VALVE VAULT		SIGN - RAILROAD SIGNAL		FENCE - WOOD
	BEEHIVE INLET		SIGN - RAILROAD CROSSING		GUARDRAIL
	CURB INLET		BUSH		STREAM
	DROP INLET		STUMP		TREE/BRUSH LINE
	CATCH BASIN		TREE - CONIFEROUS		
DS	DOWNSPOUT		TREE - DECIDUOUS		
GM	GAS METER		ROCK OUTCROP		
GV	GAS VALVE	A	SATELLITE		
GS	GAS SERVICE VALVE	SPH	SPRINKLER CONTROL VALVE		
PV	PETROLEUM VALVE		WATER METER		
PS	PETROLEUM SHUTOFF VALVE	WV	WATER VALVE		
GW	GAS STATION MONITORING WELL	S	WATER SERVICE VALVE		
GFC	GAS STATION FILL CAP	W	WATER WELL		
GW	NATURAL GAS WELL/STORAGE WELL	WW	WET WELL		
SP	SPRINKLER HEAD		FIRE HYDRANT		
	YARD HYDRANT		PROCESS VALVE		

*NOTE: THIS TABLE IS A LISTING OF TYPICAL EXISTING SYMBOLS AND MAY NOT INCLUDE ALL EXISTING SYMBOLS FOUND WITHIN THIS PLAN SET. IF ANY PROPOSED ITEMS WILL BE CALLED OUT ON THEIR PLAN SHEETS. IF A QUESTION ARISES ON THE MEANING OF ANY SYMBOL NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION. THE SYMBOLS ARE NOT TO SCALE.

Indiana 811
Know what's below.
Call before you dig.

TABLE OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	IPS	IRON PIPE SIZE
ALUM	ALUMINUM	ISPC	INDIANA STATE PLANE COORDINATE
APP	APPARENT	LB	POUND(S)
APPROX	APPROXIMATE(LY)	LF	LINEAR FEET
ASPH	ASPHALT	LN	LANE
ASSOC	ASSOCIATES	LS	LIFT STATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MA EX	MATCH EXISTING
AVE	AVENUE	MJ	MECHANICAL JOINT
AVG	AVERAGE	MATL	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BLVD	BOULEVARD	MH	MANHOLE
BM	BENCHMARK	MIN	MINIMUM
CO	CLEANOUT	MISC	MISCELLANEOUS
CI	CAST IRON	MNFR	MANUFACTURER
CL	CENTER LINE	N	NORTHING, NORTH
CMA	COLD MIX ASPHALT	NGS	NATIONAL GEODETIC SURVEY
CMP	CORRUGATED METAL PIPE	NO.	NUMBER
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONT	CONTINUOUS	PC	POINT OF CURVE (BEGIN CURVE)
CNR	CORNER	POLY	POLYETHYLENE
CP	CONTROL POINT	PI	POINT OF INTERSECTION
CPP	CORRUGATED PLASTIC PIPE	POT	POINT ON TANGENT
CR STN	CRUSHED STONE	PT	POINT OF TANGENT (END CURVE)
CYD	CUBIC YARD	PSI	POUNDS PER SQUARE INCH
D	DEPTH	PT	POINT
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DI MJ	DUCTILE IRON MECHANICAL JOINT	R	RADIUS
DBL	DOUBLE	ROW	RIGHT-OF-WAY
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	RD	ROAD
DIPS	DUCTILE IRON PIPE SIZE	S	SOUTH
DR	DRIVE	SR	STATE ROUTE
E	EASTING, EAST	SST	STAINLESS STEEL
EF	EACH FACE	SVA	SERVICE VALVE ASSEMBLY
EW	EACH WAY	SB	SOIL BORING
EA	EACH	SCHED	SCHEDULE
EJ	EAST JORDAN IRON WORKS	SDR	STANDARD DIMENSION RATIO
EL	ELEVATION	SECT	SECTION
EX	EXISTING	SF	SQUARE FEET
EXP	EXPANSION	SHT	SHEET
FM	FORCE MAIN	SQ	SQUARE
FND	FOUND	SRF	STATE REVOLVING FUND
FT	FEET	ST	STREET
FTG	FOOTING	STA	STATION
GALV	GALVANIZED	SYD	SQUARE YARD
GPS	GLOBAL POSITIONING SYSTEM	TBM	TEMPORARY BENCHMARK
HMA	HOT MIX ASPHALT	TC	TOP OF CASTING
HDPE	HIGH DENSITY POLYETHYLENE	TYP	TYPICAL
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
ID	INSIDE DIAMETER	USGS	US GEOLOGICAL SURVEY
IE	INVERT ELEVATION	VERT	VERTICAL
INC	INCORPORATED	VLV	VALVE
INDOT	INDIANA DEPARTMENT OF TRANSPORTATION	W	WIDTH, WEST
INSTR	INSTRUMENT	WSE	WATER SURFACE ELEVATION
INV	INVERT	YR	YEAR

*NOTE: THIS TABLE IS A LISTING OF TYPICAL ABBREVIATIONS AND MAY NOT INCLUDE ALL ABBREVIATIONS FOUND WITHIN THIS PLAN SET. IF A QUESTION ARISES ON THE MEANING OF AN ABBREVIATION NOT LISTED IN THIS TABLE, PLEASE CONTACT THE ENGINEER FOR CLARIFICATION.

GENERAL NOTES:

1. NOTIFY THE ENGINEER IF ANY CONFLICTING INFORMATION BECOMES APPARENT IN THE CONTRACT DOCUMENTS AS SOON AS POSSIBLE AND PRIOR TO THE COMMENCEMENT OF ANY WORK IN THE VICINITY OF OR RELATIVE TO THE APPARENT CONFLICT SO THAT CLARIFICATION MAY OCCUR PRIOR TO CONSTRUCTION.
2. ANY ALTERATIONS TO THESE DRAWINGS NOT AUTHORIZED BY WESSLER ENGINEERING AND NOT IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS AND RECORDS ON FILE AT WESSLER ENGINEERING SHALL RELIEVE WESSLER ENGINEERING OF ANY RESPONSIBILITY FOR THE ACCURACY OF THE DRAWINGS.
3. USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO STATE, COUNTY, MUNICIPAL, AND PRIVATE PROPERTY. REPAIR ALL DAMAGES AS A RESULT OF OPERATIONS, INCLUDING DAMAGE TO DRAINAGE STRUCTURES, FIELD TILES, PUBLIC/PRIVATE ROADS, AND LANDSCAPING (INCLUDING FENCING). REPAIR AND REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO THE OWNER. PERFORM ALL REPAIR AND REPLACEMENT WORK TO THE SATISFACTION OF THE PERMITTING AGENCY, THE OWNER AND THE ENGINEER.
4. TAKE CARE TO AVOID DAMAGE TO PAVED AREAS WHICH ARE NOT SPECIFICALLY CALLED OUT FOR REPAIR OR REPLACEMENT. REPAIR, OR REPLACE ALL SUCH PAVEMENTS WHICH ARE DAMAGED BY CONSTRUCTION ACTIVITIES AND CONSTRUCTION TRAFFIC AT NO ADDITIONAL COST TO THE OWNER.
5. OBTAIN ALL TEMPORARY EASEMENTS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
6. COMPLY WITH ALL APPLICABLE PERMITS AND REGULATIONS. APPLICABLE PERMITS ISSUED TO THE OWNER WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT ALL APPLICABLE PERMITTING AGENCIES WITHIN THE TIME PERIOD SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.
7. ALL EXISTING AND NEW UTILITY INFORMATION, INCLUDING BUT NOT LIMITED TO LOCATION, SIZE AND INVERT ELEVATION, IS SHOWN BASED UPON AVAILABLE INFORMATION. THE ENGINEER DOES NOT GUARANTEE OR ASSUME SUCH INFORMATION TO BE TRUE, ACCURATE, EXHAUSTIVE OR EVEN APPROXIMATE. CONTACT THE INDIANA UNDERGROUND PLANT PROTECTION SERVICE (IUPPS) AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY AND NON-MEMBER UTILITIES DIRECTLY.
8. DETERMINE WHICH UTILITIES MAY CONFLICT WITH WORK AND VERIFY THEIR LOCATION, SIZE AND ELEVATION PRIOR TO CONSTRUCTION AND DETERMINE IF THERE ARE ANY DISCREPANCIES OR CONFLICTS. IF ANY DISCREPANCIES OR CONFLICTS ARE DISCOVERED, NOTIFY THE ENGINEER AS SOON AS POSSIBLE.
9. EXISTING UTILITY SERVICES TO INDIVIDUAL CUSTOMERS MAY NOT BE SHOWN ON THE DRAWINGS. ASSUME THAT UNDERGROUND SERVICE LINES FOR ALL UTILITIES EXIST TO EACH PROPERTY ALONG THE ROUTE OF THE PLANNED IMPROVEMENTS.
10. COORDINATE WORK WITH THE RESPECTIVE UTILITIES. SCHEDULE WORK ACCORDINGLY, AND NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY.
11. COORDINATE PLANNED UTILITY SERVICE INTERRUPTIONS WITH THE RESPECTIVE UTILITIES AND THE UTILITIES' AFFECTED CUSTOMERS. SERVICE INTERRUPTIONS SHOULD NOT LAST MORE THAN FOUR (4) HOURS. GIVE WRITTEN NOTICE TO ALL AFFECTED UTILITY CUSTOMERS AND PROPERTY OWNERS AT LEAST TWENTY-FOUR (24) HOURS BUT NOT MORE THAN SEVENTY-TWO (72) HOURS PRIOR TO ANY PLANNED INTERRUPTION OF UTILITY SERVICE.
12. USE CAUTION DURING THE EXECUTION OF WORK TO PREVENT DAMAGE TO EXISTING UTILITIES. REPAIR OR REPLACE ALL PUBLIC AND PRIVATE FACILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.
13. BRACE AND PROTECT ALL UTILITY POLES AND EXISTING STRUCTURES ADJACENT TO NEW EXCAVATIONS. UTILITY POLE BRACING SHALL BE AS DIRECTED BY THE GOVERNING UTILITY.
14. MAINTAIN EXISTING STORMWATER DRAINAGE FOR THE ENTIRE DURATION OF THE PROJECT.
15. DO NOT DISTURB EXISTING MANHOLES OR INLETS, UNLESS NOTED OTHERWISE.
16. ALL EQUIPMENT, APPURTENANCES AND PIPING REMOVED AS PART OF THE DEMOLITION SHALL FIRST BE OFFERED TO THE OWNER FOR SALVAGE. DELIVER SALVAGED ITEMS SELECTED BY OWNER TO A LOCATION DESIGNATED BY THE OWNER OR ENGINEER. IN THE EVENT THE OWNER DOES NOT ELECT TO KEEP THE REMOVED ITEMS, REMOVE SUCH ITEMS FROM THE SITE AND DISPOSE OF AT A LOCATION APPROVED FOR SUCH DISPOSAL AT THE CONTRACTOR'S EXPENSE.
17. COORDINATE STAGING AREA LOCATIONS WITH THE OWNER.
18. TO CONTROL DUST, REMOVE SOIL FROM STREETS USED BY CONSTRUCTION TRAFFIC DAILY, VACUUM AND WATER AS NECESSARY AND/OR AS DIRECTED BY THE OWNER.
19. THE WORK SHOWN ON THESE DRAWINGS IS OCCURRING ON A SITE IN WHICH BURIED ELECTRICAL CONDUIT AND SMALL PIPING MAY EXIST THROUGHOUT AND IN THE VICINITY OF THE PROJECT AND MAY NOT BE SHOWN ON THESE DRAWINGS. EXPECT TO ENCOUNTER BURIED ELECTRICAL AND COMMUNICATIONS WIRING, WITH OR WITHOUT CONDUIT, SMALL PIPING, AND FIELD TILE WHILE DIGGING ON THIS SITE.
20. INSPECT THE SITE PRIOR TO BIDDING TO UNDERSTAND THE EXTENT OF THE DEMOLITION WORK INVOLVED AND ADJUST BID ACCORDINGLY.
21. COMPLETELY REMOVE UNDERGROUND PIPING THAT HAS PREVIOUSLY BEEN OR WILL BE TAKEN OUT OF SERVICE, IN CONFLICT WITH THE NEW WORK. UNLESS OTHERWISE NOTED, ABANDON IN PLACE ALL UNDERGROUND PIPING NOT IN CONFLICT WITH THE NEW WORK. DO NOT LEAVE ABANDONED PIPING LIVE.
22. ALL EQUIPMENT TO BE REMOVED THAT HAS ELECTRICAL COMPONENTS, CONDUIT AND WIRING, OR SMALL PIPING CONNECTED SHALL HAVE THE ELECTRICAL COMPONENTS AND SMALL PIPING REMOVED BACK TO THE SOURCE.
23. PLACE NO. 8 CRUSHED AGGREGATE BETWEEN PIPES AT ALL PIPE CROSSINGS TO PREVENT PIPE SETTLEMENT UNLESS SHOWN OTHERWISE.

UTILITY CONTACTS

NATURAL GAS
VECTREN CORPORATION
ATTN: HOLLY COLUMBIA
HCOLUMBIA@VECTREN.COM
2345 E MAIN ST
DANVILLE, IN 46123
1-317-718-3639

TELEPHONE
FRONTIER COMMUNICATIONS
ATTN: JOE SARLL
UTILITYCORDREQ@FTR.COM
8001 W JEFFERSON BLVD
FORT WAYNE, IN 46804
1-260-461-3324

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COMCAST CABLE COMMUNICATIONS
ATTN: RHONDA DALTON
RHONDA_DALTON@COMCAST.COM
9750 E 150TH ST
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FIBER
ZAYO GROUP
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1-765-807-1801

SCALE VERIFICATION	DRAWN BY	CLG
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG
	APPROVED BY	ADG
	ISSUE DATE	AUGUST 2023
	PROJECT NUMBER	246521-04-001

NO.	DATE	INITIALS	REVISION DESCRIPTIONS

ANDREW D. GORDON
REGISTERED
No. 10809017
STATE OF INDIANA
PROFESSIONAL ENGINEER
08/31/2023
Andrew D. Gordon

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GLICK WELLFIELD IMPROVEMENTS
CITY OF LAFAYETTE, INDIANA
GENERAL SHEET

SHEET NO. 03
TOTAL SHEETS 26

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SITE DEMOLITION PLAN
SCALE: 1" = 10'

0 5 10 20 FT
1"=10'

PLAN NOTES:
1. EXISTING SAMPLE AND CHEMICAL INJECTION LINES SHOWN ARE FROM OWNER'S RECORDS AND WERE NOT LOCATED BY SURVEY. FIELD VERIFY EXACT DEPTHS AND LOCATIONS PRIOR TO CONSTRUCTION.

KEYED NOTES (DEMOLITION)

01 REMOVE EXISTING CHEMICAL TANK, PIPING AND CONTROLS.

02 REMOVE EXISTING CONCRETE FOUNDATION.

03 REMOVE EXISTING FENCING AND ACCESS GATE.

04 ABANDON EXISTING INJECTION LINES AND CASING PIPE IN PLACE, SEE SPECIFICATIONS.

05 REMOVE EXISTING CHEMICAL INJECTION CASING PIPE FROM BUILDING WALL AND SIDEWALK. REPAIR INTERIOR AND EXTERIOR WALL. CAP AND ABANDON CASING PIPE BELOW GRADE. SEE SPECIFICATIONS.

06 ABANDON EXISTING SODIUM HYPOCHLORITE INJECTION MANHOLE IN PLACE AND SEAL PIPE PENETRATIONS IN PRECAST WALLS.

07 REMOVE APPROX. 50 LF OF EXIST. 30" DI PIPE.

08 MODIFICATIONS TO EXISTING SERVICE BY DUKE ENERGY.

09 REMOVE EXISTING UTILITY POLES, COIL WIRE FOR CONNECTION TO NEW FEED.

10 (ADD TREE REMOVAL, SEE NEXT SHEET)

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG				
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Andrew D. Gordon

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GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

EXISTING TREATMENT PLANT SITE DEMOLITION PLAN

SHEET NO. **04**

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-PN.dwg | Layout: 04 TREAT. PLANT SITE | Plotted: 08/31/23 @ 09:17:44 | LastSavedBy: MichaelW

SITE IMPROVEMENTS PLAN
SCALE: 1" = 10'

0 5 10 20 FT
1"=10'

KEYED NOTES (IMPROVEMENTS)

01 NEW CHEMICAL INJECTION/ METER VAULT #1, SEE DETAIL SHEET 07.

02 NEW CHEMICAL INJECTION VAULT #2, SEE DETAIL SHEET 08.

03 NEW BACK UP POWER GENERATOR AND EXTERIOR EQUIPMENT (T-M-GLICK AND SWGR-GLICK) FOUNDATION, SEE DETAIL SHEET 09.

04 NEW 6' HIGH CHAIN LINK FENCE AND 12' DOUBLE ACCESS GATE, SEE DETAIL SHEET 09.

05 RE-ROUTE EXISTING FINISHED WATER SAMPLE LINE TO ACCOMMODATE INSTALLATION OF NEW CHEMICAL INJECTION VAULT. USE COMPRESSION FITTINGS AND DR-9 POLYETHYLENE TUBING MATCHING THE SIZE OF THE EXISTING LINE.

06 CONCRETE SIDEWALK REPAIR, SEE DETAIL SHEET 09.

07 NEW LANDSCAPING STONE (NO. 9) WITH NONWOVEN, UV RESISTANT POLYPROPYLENE WEED BARRIER (3 OUNCES PER SYD MIN.).

08 NEW ½" POLYPHOSPHATE CHEMICAL INJECTION LINE IN 4" NEW CASING PIPE.

09 NEW 6" CASING PIPE WITH NEW ½" POLYPHOSPHATE, ORA-CLE, AMMONIUM SULFATE, SODIUM FLUORIDE, AND SODIUM HYPOCHLORITE CHEMICAL INJECTION LINES.

10 NEW 4" CASING PIPE WITH NEW ½" ORA-CLE, AMMONIUM SULFATE , AND SODIUM FLUORIDE CHEMICAL INJECTION LINES.

11 NEW 4" CASING PIPE WITH NEW ½" SODIUM HYPOCHLORITE CHEMICAL INJECTION LINE.

12 INSTALL APPROX. 50 LF OF 30" DI WATER MAIN AND (2) 30" SLEEVES.

13 1 ½" SCH 80 PVC SUMP PUMP DISCHARGE LINE. CONNECT BOTH SUMP PUMP LINES TOGETHER. INSTALL LINE TO DRAIN BY GRAVITY TO GRINDER PUMP STATION.

14 ELECTRICAL MANHOLE TO HOUSE METHOD FOR JOINING FEEDS FROM SWGR-GLICK TO EACH SIDE OF THE EXISTING WELL FIELD MV LOOP.

15 NEW 3' X 3' FIBERGLASS REINFORCED PLASTIC PULL BOX.

16 UNDERGROUND ELECTRICAL CONDUIT. SEE ELECTRICAL AND CONTROLS SHEETS FOR FURTHER INFORMATION.

17 GENERATOR SET, FUEL TANK AND WALKWAY ALL BY MANUFACTURER AND PROCURED BY OWNER. UNITS TO BE SHIPPED TO SITE BY MANUFACTURER SEPARATELY. CONTRACTOR TO UNLOAD, INSTALL AND TEST ALL COMPONENTS AS DESCRIBED IN THE SPECIFICATIONS.

18 GENERATOR LOAD CENTER DISCONNECT ON RACK. SEE ELECTRICAL SHEETS FOR FURTHER INFORMATION.

NOTE:
1. DISCHARGE SUMP PUMP LINE TO EXISTING GRINDER PUMP STATION BY CORE DRILLING EXISTING CONCRETE STRUCTURE. CONTRACTOR TO DETERMINE EXACT LOCATION AND INVERT OF DISCHARGE LINE INTO GRINDER PUMP STATION.
2. THE CHEMICAL LINE CASINGS ARE INTENDED TO ALLOW FOR FUTURE REPLACEMENT OF THE CHEMICAL LINES WITHOUT EXCAVATION. PROVIDE SWEEPS AND OTHER TRANSITIONS TO ALLOW FOR CHEMICAL TUBING INSTALLATION AND REMOVAL WITHOUT FUTURE EXCAVATION.
3. SEE DETAILS ON SHEETS 08 AND 14 FOR INSTALLATION METHOD TO ROUTE CASINGS FOR THE CHEMICAL INJECTION LINES AND ELECTRICAL CONDUITS FROM INTERIOR OF TREATMENT PLANT TO EXTERIOR.

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BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG				
	APPROVED BY	ADG				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

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Andrew D. Gordon

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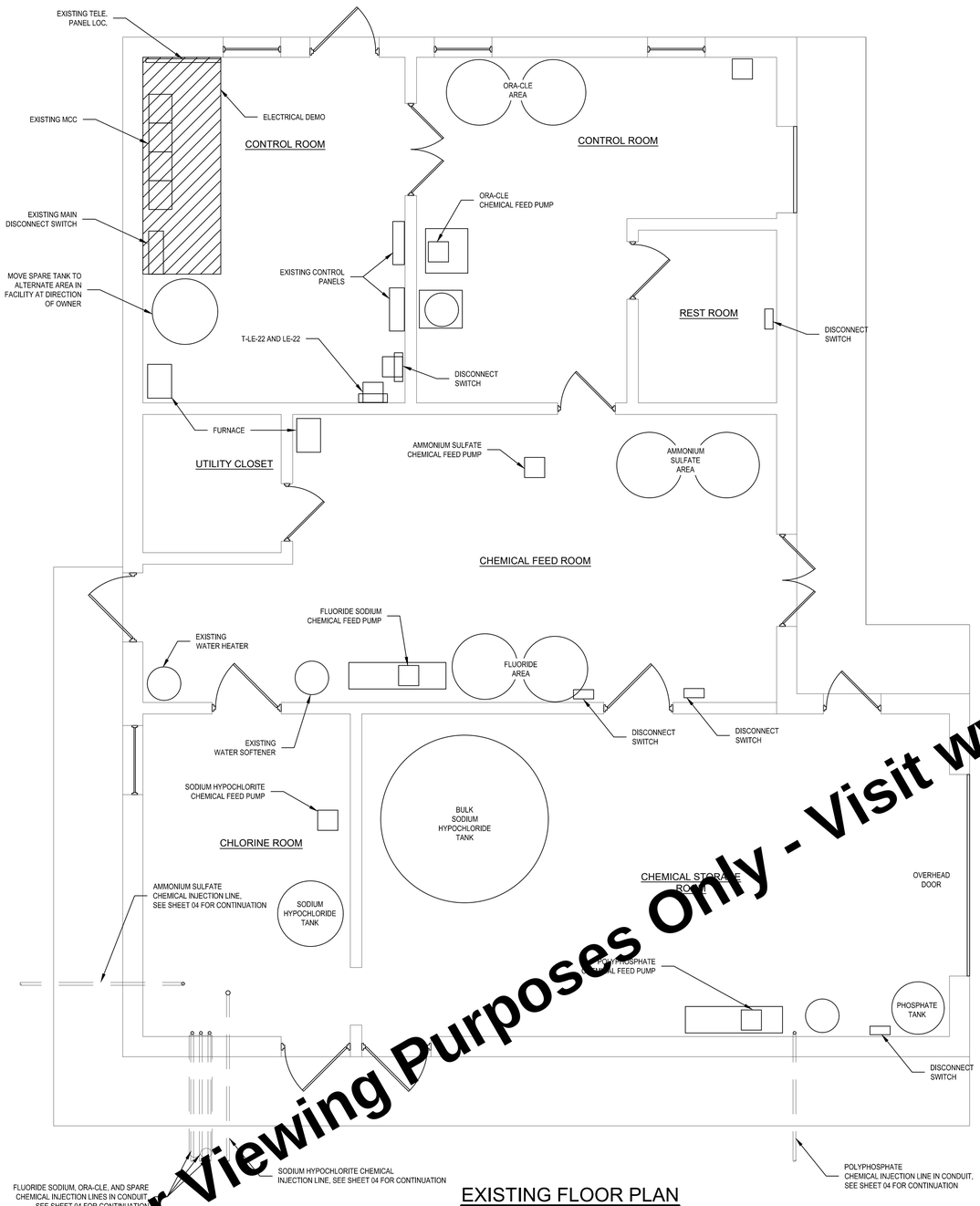
GLICK WELLFIELD IMPROVEMENTS
CITY OF LAFAYETTE, INDIANA
TREATMENT PLANT SITE IMPROVEMENTS PLAN

SHEET NO. **05**
TOTAL SHEETS 26

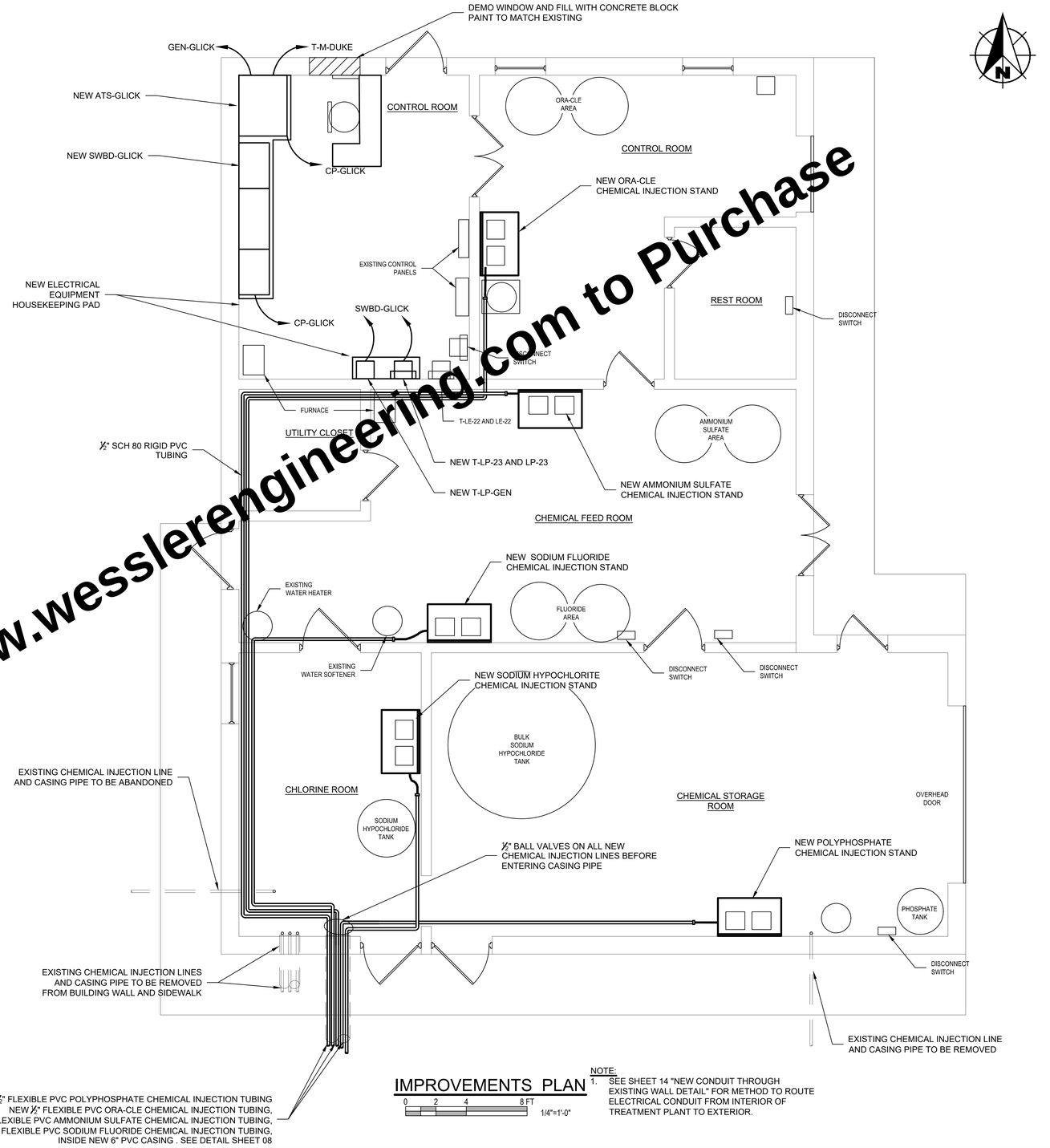
Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-PN.dwg | Layout: 05 TREAT. PLANT SITE IMPROVEMENTS | Plotted: 08/31/23 @ 09:17:48 | LastSavedBy: MichaelW



EXISTING FLOOR PLAN

0 2 4 8 FT

1/4"=1'-0"



IMPROVEMENTS PLAN

0 2 4 8 FT

1/4"=1'-0"

NOTE:

1. SEE SHEET 14 "NEW CONDUIT THROUGH EXISTING WALL DETAIL" FOR METHOD TO ROUTE ELECTRICAL CONDUIT FROM INTERIOR OF TREATMENT PLANT TO EXTERIOR.

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BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG	01			
	APPROVED BY	ADG	02			
	ISSUE DATE	AUGUST 2023	03			
	PROJECT NUMBER	246521-04-001	04			
			05			
			06			

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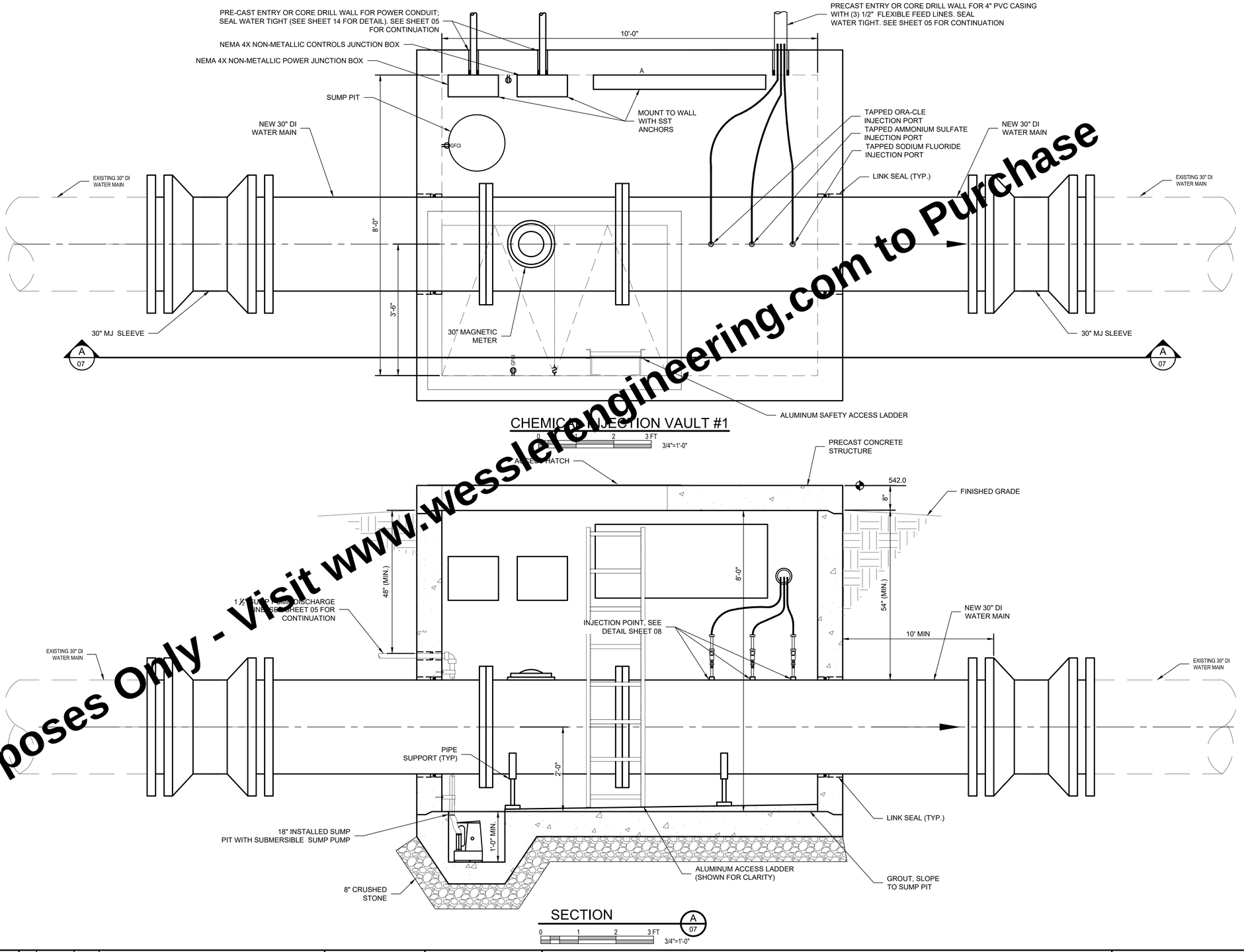
WATER TREATMENT PLANT FLOOR PLANS

SHEET NO. 06

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-EX-BLDG.dwg | Layout: 06 WTP - EXIST. FLOOR PLAN | Plotted: 08/31/23 @ 09:21:39 | LastSavedBy: MichaelW



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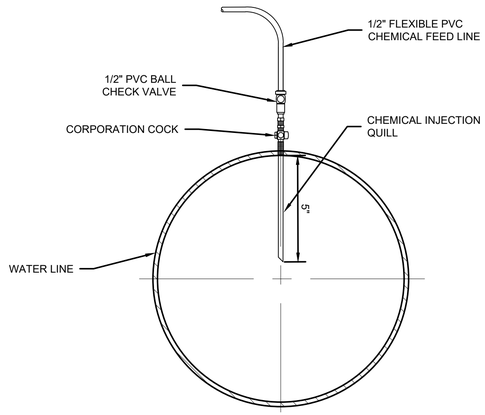
CITY OF LAFAYETTE, INDIANA

CHEMICAL INJECTION VAULT #1

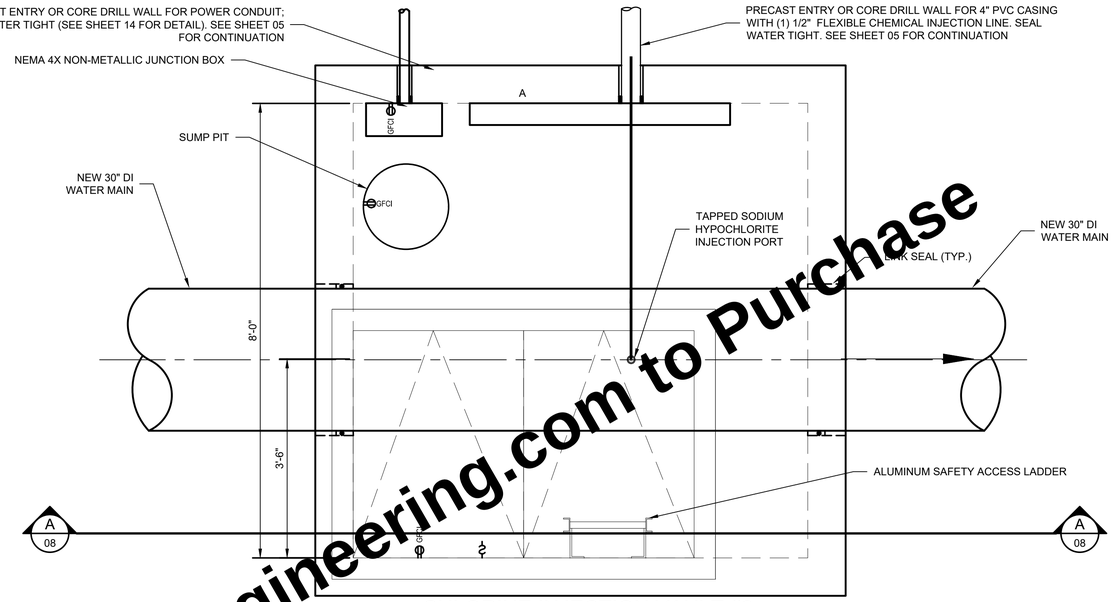
SHEET NO. **07**

TOTAL SHEETS 26



CHEMICAL INJECTION CONNECTION DETAIL

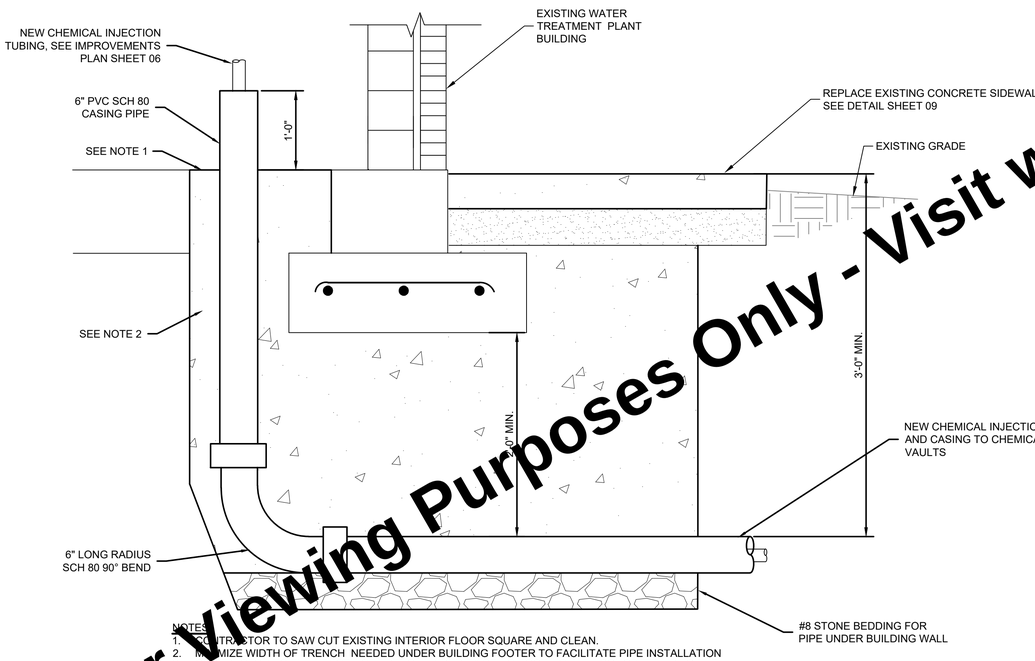
SCALE: NONE



CHLORINE INJECTION VAULT #2

0 1 2 3 FT

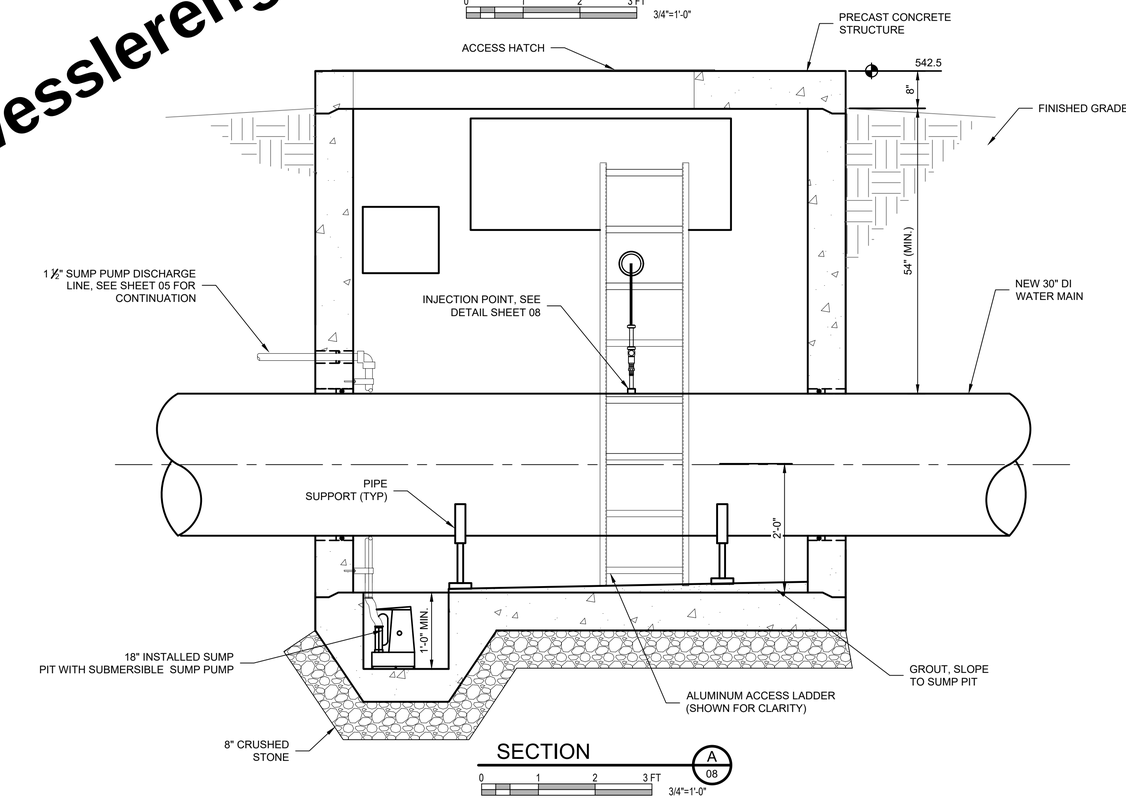
3/4"=1'-0"



NOTES:
1. CONTRACTOR TO SAW CUT EXISTING INTERIOR FLOOR SQUARE AND CLEAN.
2. MINIMIZE WIDTH OF TRENCH NEEDED UNDER BUILDING FOOTER TO FACILITATE PIPE INSTALLATION
3. CONTRACTOR TO FILL LENGTH OF TRENCH UNDER EXISTING FOOTING WITH CONCRETE UP TO THE TOP OF FOOTER.
4. SOLVENT WELD ALL CASING JOINTS.

CHEMICAL INJECTION CASING UNDER EXISTING WALL

SCALE: NONE



SECTION A 08

0 1 2 3 FT

3/4"=1'-0"

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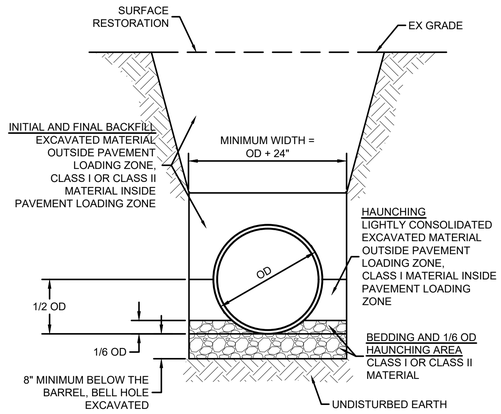
CITY OF LAFAYETTE, INDIANA

CHLORINE INJECTION VAULT #2 AND DETAILS

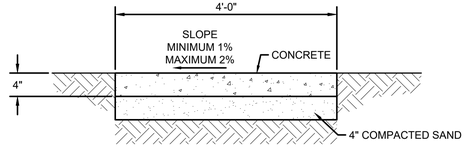
SHEET NO. 08

TOTAL SHEETS 26

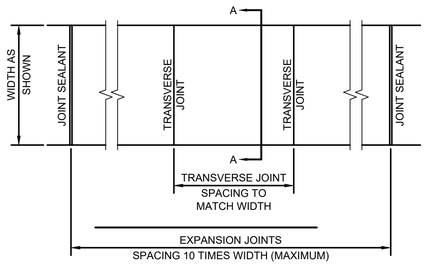


DUCTILE IRON (DI) PIPE TRENCH

SCALE: NONE



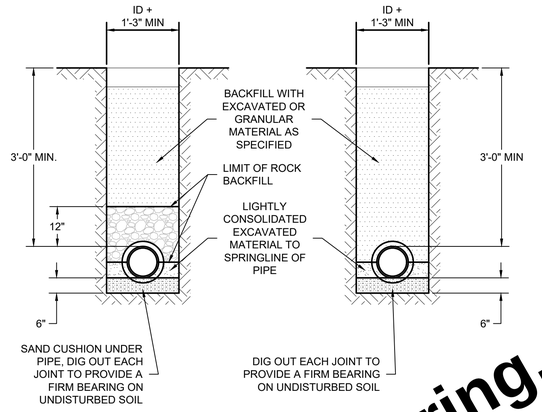
TYPICAL SIDEWALK SECTION A



PLAN VIEW

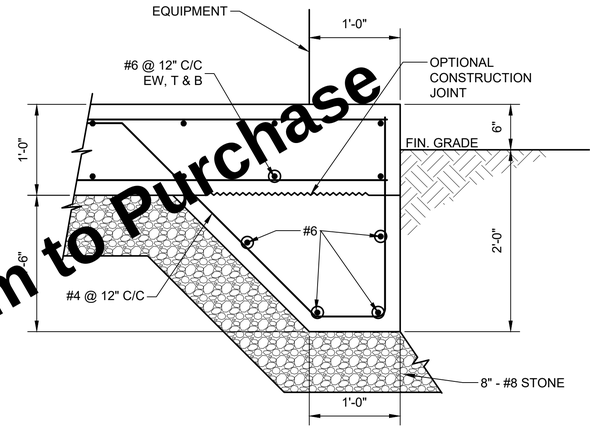
CONCRETE SIDEWALK

SCALE: NONE



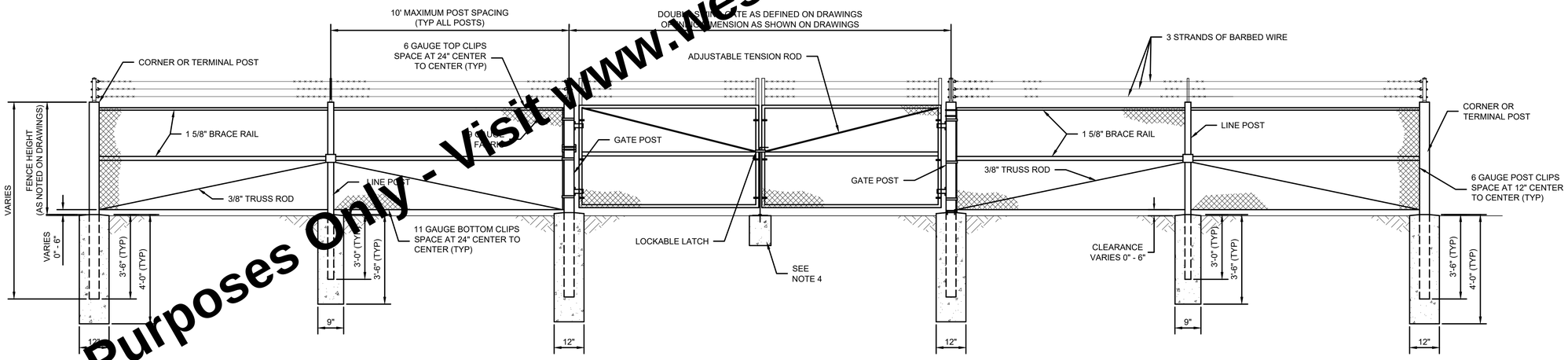
CHEMICAL INJECTION CASING PIPE INSTALLATION

SCALE: NONE



EXTERIOR EQUIPMENT FOUNDATION DETAIL

SCALE: NONE



DOUBLE GATE

CHAIN LINK FENCE INSTALLATION

SCALE: NONE

NOTES:
1. TERMINAL POSTS SHALL BE USED AT EACH FENCE CORNER OR END. GATE POSTS SHALL BE USED AT EACH GATE OPENING. LINE POSTS SHALL BE USED AT MAXIMUM 10' SPACING WHERE TERMINAL, GATE OR PULL POSTS ARE NOT REQUIRED.
2. PULL POSTS SHALL BE SPACED AT EVERY HORIZONTAL BEND GREATER THAN 10° WHERE TERMINAL POSTS ARE NOT REQUIRED AND AT EVERY MAJOR CHANGE OF GRADE. PULL POSTS SHALL NOT BE USED AS GATE OR TERMINAL POSTS.
3. ALL CONCRETE IN POST ANCHORS SHALL CONFORM TO THE SPECIFICATIONS.
4. PROVIDE 8" X 8" X 12" DEEP CONCRETE BLOCKING FOR GATE LATCH.

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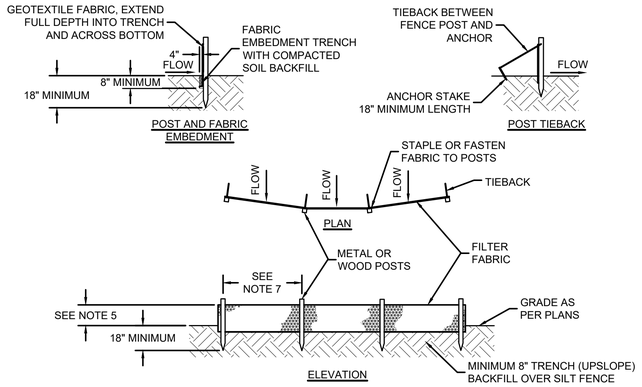
MISCELLANEOUS DETAILS

SHEET NO. 09

TOTAL SHEETS 26



NOTES:

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN OR NON-WOVEN GEOTEXTILE FABRIC AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:
   a. TEXTILE STRENGTH AT 20% (MAXIMUM) ELONGATION, PER ASTM D4632.
   b. WOVEN EXTRA STRENGTH - 50 LB/LINEAR INCH (MINIMUM), NON-WOVEN EXTRA STRENGTH - 70 LB/INCH (MINIMUM).
   c. WOVEN STANDARD STRENGTH - 30 LB/LINEAR INCH (MINIMUM), NON-WOVEN STANDARD STRENGTH - 50 LB/INCH (MINIMUM).
   d. APPARENT OPENING SIZE (AOS) (U.S. SIEVE) - NO. 30 PARTICLE SIZE OF 0.6 mm (MAXIMUM), ASTM D4751.
   e. PERMITTIVITY - 0.05 S^{-1} (MAXIMUM), ASTM D4491.
2. POSTS FOR SILT FENCES SHALL BE EITHER 2"X2" SQUARE WOOD OR EQUIVALENT METAL POSTS WITH A MINIMUM LENGTH OF 5'. METAL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
3. ANCHOR STAKES FOR SILT FENCES SHALL BE 1"x2" WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 18".
4. WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD STRENGTH FILTER CLOTH SHALL BE A MINIMUM OF 42" IN HEIGHT, A MINIMUM OF 14 GAUGE, AND SHALL HAVE A MAXIMUM MESH SPACING OF 6".
5. THE HEIGHT OF THE BARRIER SHALL BE A MINIMUM OF 18" AND A MAXIMUM OF 30".
6. THE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6" OVERLAP, AND SECURELY SEALED.
7. POSTS SHALL BE SPACED A MAXIMUM OF 6' APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 18"). WHEN STANDARD STRENGTH FABRIC IS USED WITH THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 8'.
8. THE SPACING OF TIEBACKS SHALL EQUAL THE SPACING OF THE POSTS. ADDITIONAL POST DEPTH OR TIEBACKS MAY BE REQUIRED IN UNSTABLE SOILS.
9. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4" WIDE AND A MINIMUM OF 8" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
10. WHEN STANDARD STRENGTH FILTER FABRIC IS USED WITH A WIRE MESH SUPPORT FENCE IT SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY 1" WIRE STAPLES, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2" AND SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
11. THE STANDARD STRENGTH FILTER FABRIC, WITHOUT A WIRE MESH SUPPORT FENCE, SHALL BE STAPLED OR WIRED TO THE FENCE, AND A MINIMUM 8" OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE. DO NOT STAPLE FILTER FABRIC TO EXISTING TREES.
12. WHEN EXTRA STRENGTH FILTER FABRIC OR BURLAP AND POST SPACING IS LESS THAN THE MAXIMUM SPECIFIED SPACING OF 6', THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED.
13. BACKFILL THE TRENCH AND COMPACT THE SOIL OVER THE FILTER FABRIC.
14. REMOVE SILT FENCES WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
15. SILT FENCE SHALL NOT BE USED AS A DIVERSION AND SHALL NOT BE INSTALLED ACROSS A STREAM, CHANNEL, DITCH, SWALE, ETC.

MAINTENANCE:

1. INSPECT AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. INSPECT AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. REPLACE OR REPAIR FABRIC IMMEDIATELY IF IT DECOMPOSES OR IS INEFFECTIVE.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY HALF THE HEIGHT OF THE BARRIER.
4. SPREAD ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED AND DRESS TO CONFORM WITH THE FINISHED GRADING.

SILT FENCE

SCALE: NONE

EROSION CONTROL SCHEDULE

CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION
PRECONSTRUCTION ACTIVITIES: POST THE FOLLOWING INFORMATION NEAR THE MAIN ENTRANCE OF THE PROJECT SITE OR AT A PUBLICLY ACCESSIBLE LOCATION: NOTICE OF INTENT (NOI) DOCUMENT, COPY OF THE PUBLIC NOTICE, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NUMBER, NAME, ADDRESS, AND PHONE NUMBER OF THE LOCAL CONTACT PERSON, AND LOCATION OF A COPY OF THE CONSTRUCTION DRAWINGS AND STORMWATER POLLUTION PREVENTION PLAN (SWP3). MAINTAIN DOCUMENTATION ON-SITE PER SPECIFICATION 02101 FOR THE PROJECT MANAGEMENT LOG. THE SWPPP SHOULD BE ONSITE AND SELF-MONITORING INSPECTION REPORTS MUST BE AVAILABLE WITHIN 48 HOURS OF REQUEST. INFORM OR TRAIN PERSONNEL ASSOCIATED WITH THE PROJECT OF THE TERMS AND CONDITIONS OF THE CSGP AND THE SWPPP REQUIREMENTS.	AUTHORIZATION UNDER THE CSGP IS EFFECTIVE 48-HOURS AFTER SUBMITTAL OF THE NOTICE OF INTENT TO IDEM AND LOCAL AUTHORITY BY THE OWNER.
REVIEW THE EROSION CONTROL SCHEDULE ON THE DRAWINGS AND REVISE AS NEEDED TO PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE FOOTPRINT OF DISTURBED UNSTABLE AREAS. SUBMIT A REVISED EROSION CONTROL SCHEDULE AS NEEDED FOR TEMPORARY AND PERMANENT EROSION CONTROL WORK AS APPLICABLE.	COMPLETE BEFORE CONSTRUCTION BEGINS.
CONSTRUCTION ACCESS - ENTRANCE TO SITE, CONSTRUCTION ROUTES, AREAS DESIGNATED FOR EQUIPMENT PARKING OR MATERIAL STAGING AND WASTE HANDLING.	THIS IS THE FIRST LAND-DISTURBING ACTIVITY. AS SOON AS CONSTRUCTION BEGINS, STABILIZE ANY BARE AREAS WITH AGGREGATE AND TEMPORARY VEGETATION.
SEDIMENT TRAPS AND BARRIERS - BASIN TRAPS, SILT FENCE AND PERIMETER PROTECTION.	AFTER CONSTRUCTION ACCESS IS ESTABLISHED, THIS SHALL BE INSTALLED, WITH THE ADDITION OF MORE TRAPS AND BARRIERS AS NEEDED DURING GRADING. SET UP PROTECTION FOR CRITICAL FEATURES, TREES AND BUFFERS.
RUNOFF CONTROL - DIVERSIONS, PERIMETER PROTECTION, CHECK DAMS, OUTLET PROTECTION.	RUNOFF CONTROL PRACTICES SHALL BE INSTALLED AFTER THE INSTALLATION OF SEDIMENT TRAPS AND PERIMETER LAND GRADING. ADDITIONAL RUNOFF CONTROL MEASURES MAY BE INSTALLED DURING GRADING.
RUNOFF CONVEYANCE SYSTEM - STABILIZE STREAM BANKS, STORM DRAINS, CHANNELS, INLET AND OUTLET PROTECTION, SLOPE DRAINS.	AS NECESSARY, STABILIZE STREAM BANKS AND SIDE SLOPES OF RUNOFF SYSTEMS AS SOON AS POSSIBLE. USE EROSION CONTROL BLANKETS OR SLOPE DRAINS TO PREVENT EROSION. INSTALL INLET PROTECTION TO PREVENT SEDIMENTS FROM ENTERING STORM DRAINAGE SYSTEMS. PROTECT STORM OUTLETS TO PREVENT EROSION.
LAND CLEARING AND GRADING - SITE PREPARATION (CUTTING, CLEARING, GRADING, SEDIMENT TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING).	IMPLEMENT CLEARING AND GRADING AFTER INSTALLATION OF SEDIMENT TRAPS AND RUNOFF CONTROL MEASURES, AND INSTALL ADDITIONAL CONTROL MEASURES AS GRADING CONTINUES. CLEAR BORROW AND DISPOSAL AREAS AS NEEDED.
SURFACE STABILIZATION - TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIPRAP, EROSION CONTROL BLANKET.	APPLY TEMPORARY OR PERMANENT STABILIZING MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS BEEN EITHER COMPLETED OR DELAYED.
CONSTRUCTION - STRUCTURES, UTILITIES, PAVING, CONCRETE WASHOUT, AND CONSTRUCTION ENTRANCES.	DURING CONSTRUCTION, INSTALL ANY EROSION AND SEDIMENTATION CONTROL MEASURES THAT ARE NEEDED.
LANDSCAPING AND FINAL STABILIZATION - TOPSOILING, TREES AND SHRUBS, PERMANENT SEEDING, MULCHING, SODDING, RIPRAP.	THIS IS THE LAST CONSTRUCTION PHASE. STABILIZE ALL DISTURBED AREAS, INCLUDING BORROW AND SPOIL AREAS, AND REMOVE ALL TEMPORARY CONTROL MEASURES. FINAL STABILIZATION IS WHEN A UNIFORM DENSITY OF 70% VEGETATION COVER IS MET. PROVIDE NOTIFICATION TO THE OWNER WHEN THE ENTIRE SITE HAS BEEN STABILIZED AND ALL CONSTRUCTION MATERIALS, WASTES, AND EQUIPMENT HAVE BEEN REMOVED.

EROSION CONTROL SCHEDULE

SCALE: NONE

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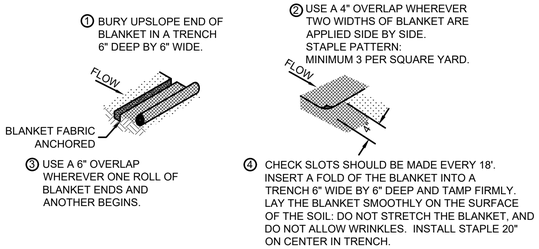
EROSION CONTROL DETAIL

SHEET NO. **10**

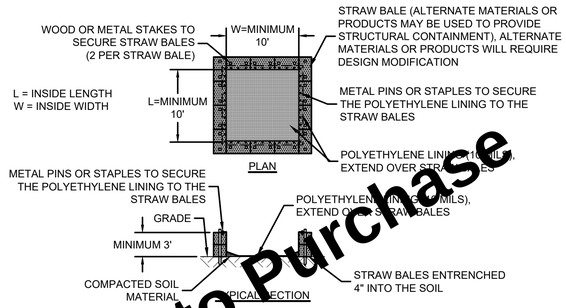
TOTAL SHEETS 26



PRODUCT:
1. NORTH AMERICAN GREEN SC150, OR EQUAL.

NOTES:
1. PROTECT THE SLOPES WITH AN EROSION CONTROL BLANKET WHERE CONSTRUCTION DISTURBS SLOPES EQUAL OR STEEPER THAN
MAINTENANCE:
1. INSPECT FOR EROSION AFTER EACH STORM EVENT DURING VEGETATION ESTABLISHMENT, AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. IF ANY AREAS SHOW EROSION, PATCH THAT PORTION OF THE BLANKET, ADD SOIL, RESEED, RELAY AND STAPLE THE BLANKET.
3. CHECK AREAS PERIODICALLY AFTER VEGETATION ESTABLISHMENT.

EROSION CONTROL BLANKET
SCALE: NONE



NOTES:
1. LOCATE WASHOUTS AT LEAST 50' FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAIN/CONVEYANCE.

WASHOUT PROCEDURES:
1. DO NOT WASH EXCESS MUD IN THE CHUTES OR HOPPER AFTER POURING CONCRETE. MAKE EVERY EFFORT TO EMPTY THE CHUTE AND HOPPER AT THE POUR. THE LESS MATERIAL LEFT IN THE CHUTES AND HOPPER, THE QUICKER AND EASIER THE CLEANOUT. SMALL AMOUNTS OF EXCESS CONCRETE (NOT WASH OUT WATER) MAY BE DISPOSED OF IN AREAS THAT WILL NOT FLOW TO AN AREA THAT IS TO BE PROTECTED.
2. SCRAPE AS MUCH MATERIAL FROM THE CHUTES AS POSSIBLE BEFORE WASHING THEM. USE NON-WATER CLEANING METHODS TO MINIMIZE THE CHANCE FOR WASTE TO FLOW OFF SITE.
3. STOP WASHING OUT IN AN AREA IF YOU OBSERVE WATER RUNNING OFF THE DESIGNATED AREA OR IF THE WATER IS NOT BEING CONTAINED WITHIN THE WASHOUT AREA.
4. DO NOT BACK FLUSH EQUIPMENT AT THE PROJECT SITE.
5. DO NOT USE ADDITIVES WITH WASH WATER.
6. DO NOT WASH OUT OR DRAIN WASTE WATERS TO STORM DRAINS, WETLANDS, STREAMS, RIVERS, CREEKS, DITCHES OR STREETS.

MAINTENANCE:
1. MAINTENANCE REQUIREMENTS PROVIDED IN SPECIFICATIONS.

CONCRETE WASHOUT
SCALE: NONE

SEASONAL SOIL PROTECTION CHART

STABILIZATION PRACTICE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDING			A				A					
DORMANT SEEDING	B										B	
TEMPORARY SEEDING	C, E							E	D			
SODDING			F				F					
MULCHING	G						G					

A. = KENTUCKY BLUEGRASS 40 LB/ACRE
B. = KENTUCKY BLUEGRASS 210 LB/ACRE
C. = SPRING OATS 100 LB/ACRE (1" PLANTING DEPTH)
D. = WHEAT OR RYE 150 LB/ACRE (1" - 1.5" PLANTING DEPTH)
E. = ANNUAL RYEGRASS 40 LB/ACRE (1/4" PLANTING DEPTH)
F. = SOD
G. = ANCHORED STRAW/HAY (2 TONS/ACRE) OR WOOD FIBER/CELLULOSE (1 TON/ACRE)

NOTES:
1. IRRIGATION NEEDED DURING MAY THROUGH SEPTEMBER.
2. IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.
3. ANCHORED MULCH IS REQUIRED FOR PERMANENT, DORMANT AND TEMPORARY SEEDING.
4. OPTIMUM SEEDING DATES PROVIDED. DATES MAY BE EXTENDED OR SHORTENED BASED ON PROJECT LOCATION.
5. SEED MIXTURES PROVIDED FOR LAWNS AND HIGH MAINTENANCE AREAS.

MAINTENANCE:
1. INSPECT WITHIN 24 HOURS OF EACH RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
2. CHECK FOR EROSION AND MOVEMENT OF MULCH AND REPAIR IMMEDIATELY.
3. MONITOR FOR EROSION DAMAGE AND ADEQUATE COVER (70% DENSITY).
4. RESEED, FERTILIZE OR APPLY MULCH WHERE NECESSARY.

SCALE VERIFICATION	DRAWN BY	CLG	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	ADG					
	APPROVED BY	ADG					
	ISSUE DATE	AUGUST 2023					
	PROJECT NUMBER	246521-04-001					

ANDREW D. GORDON REGISTERED No. 10809017 STATE OF INDIANA PROFESSIONAL ENGINEER 08/31/2023
Andrew D. Gordon

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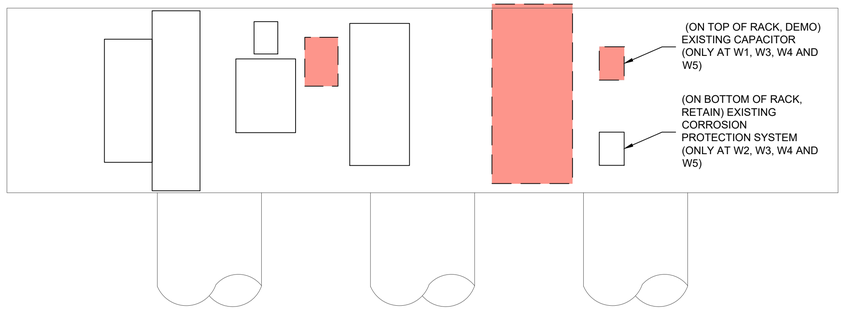
GLICK WELLFIELD IMPROVEMENTS
CITY OF LAFAYETTE, INDIANA
EROSION CONTROL DETAILS

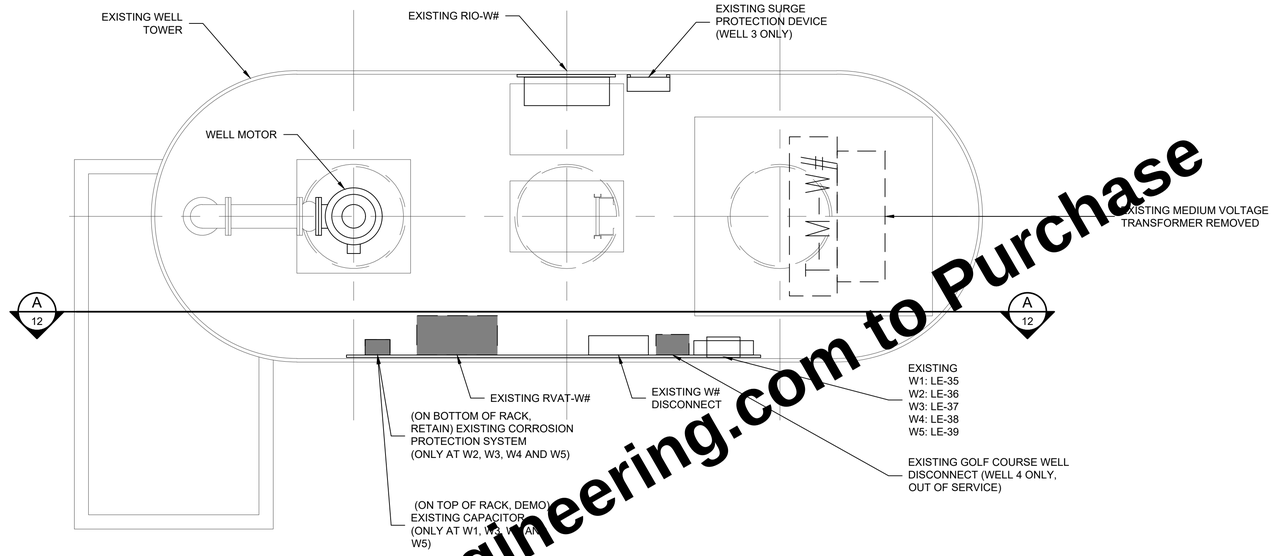
SHEET NO. 11
TOTAL SHEETS 26



SECTION A 12

0 2 4 6 FT

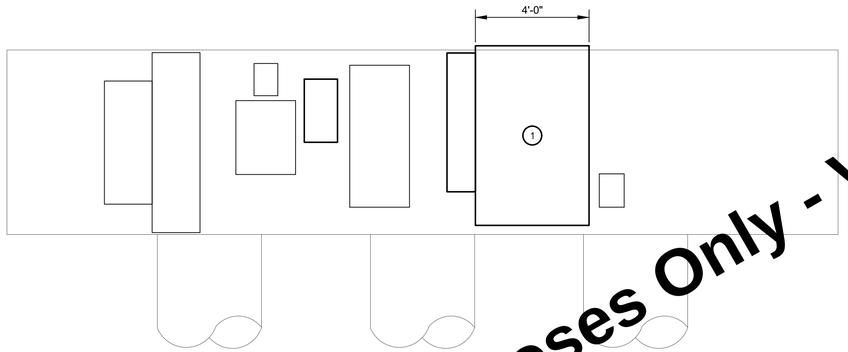
3/8"=1'-0"



TYPICAL ALL EXISTING WELL PLATFORMS

0 2 4 6 FT

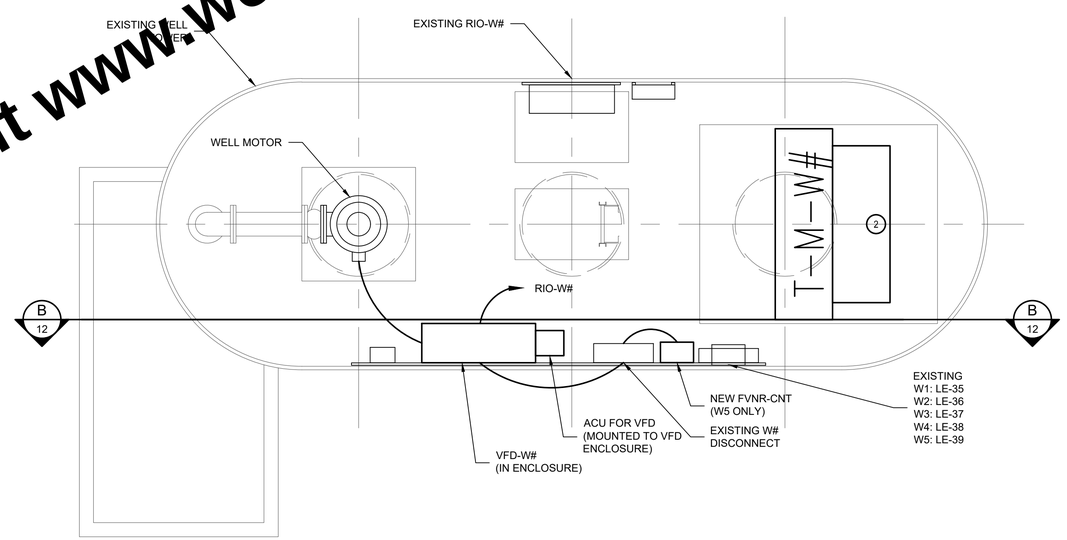
3/8"=1'-0"



SECTION B 12

0 2 4 6 FT

3/8"=1'-0"



TYPICAL ALL EXISTING WELL PLATFORMS

0 2 4 6 FT

3/8"=1'-0"

LEGEND

- EXISTING FEATURES TO REMAIN
- DEMO EQUIPMENT
- NEW EQUIPMENT

GENERAL NOTES:

1. LOCATIONS ARE APPROXIMATE FOR ALL EQUIPMENT. ACTUAL LOCATIONS MAY VARY BY UP TO 2 FEET IN ANY DIRECTION DEPENDING ON THE WELL.

KEYED NOTES:

1. APPROXIMATE DIMENSIONS SHOWN. CONTRACTOR TO ENSURE SPACING MEETS CODE AND EQUIPMENT WILL FIT IN SPACE VACATED BY THE RVAT.
2. REPLACE EXISTING UTILITY TRANSFORMER WITH NEW OWNER FURNISHED 250KVA 12.47/7.2KV:480/277V LIQUID FILLED TRANSFORMER.

NOTICE!
PRINT SHEET IN COLOR
THIS SHEET WAS CREATED WITH COLOR LINEWORK, SHADING AND/OR PHOTOS, AND MUST BE PRINTED IN COLOR FOR IMPROVEMENTS TO BE CLEARLY VISIBLE.

SCALE VERIFICATION

BAR IS ONE INCH LONG ON ORIGINAL DRAWING

DRAWN BY	CLG
CHECKED BY	MLW
APPROVED BY	WCM
ISSUE DATE	AUGUST 2023
PROJECT NUMBER	246521-04-001

NO.	DATE	INITIALS	REVISION DESCRIPTIONS

WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/01/2023

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GLICK WELLFIELD IMPROVEMENTS

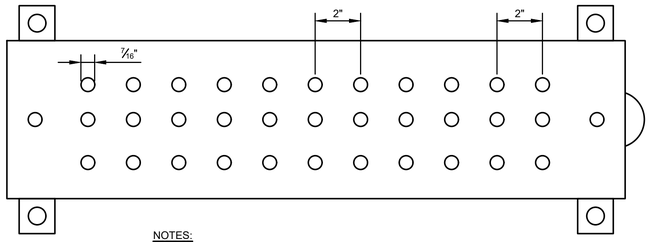
CITY OF LAFAYETTE, INDIANA

TYPICAL EXISTING WELL PLATFORM ELECTRICAL

SHEET NO. 12

TOTAL SHEETS 26

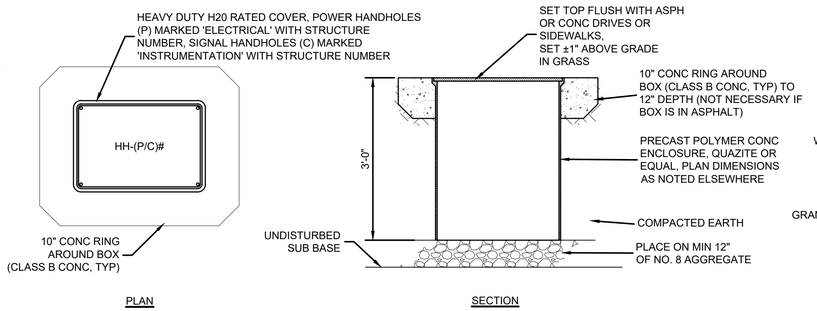
Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-EX-WP.dwg | Layout: 05 TYPICAL EXISTING WELL PLATFORM ELECTRICAL | Plotted: 08/31/23 @ 09:19:10 | LastSavedBy: CurtisG



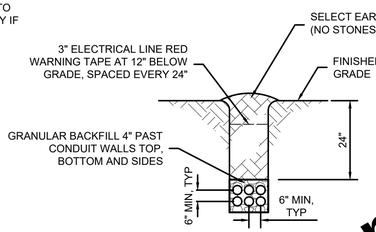
NOTES:

1. PROVIDE 1/4"DEEP X 4" HIGH X 2'-0" LONG COPPER GROUND BUS BAR WITH INSULATED WALL BRACKET ASSEMBLY. ERICO EGB-A-14-4-24-CC OR APPROVED EQUAL AS SPECIFIED. PRE DRILLED NEMA BOLT CONFIGURATION AS INDICATED. PROVIDE BRASS METAL NAME TAGS ON EACH GROUNDING CABLE INDICATING IDENTIFYING TAG OF EQUIPMENT BEING GROUNDED. TERMINATE GROUNDING CABLE WITH NEMA TWO-HOLE BOLTED LUG.
2. REFER TO EQUIPMENT PLANS FOR GROUNDING CABLE SIZES, QUANTITIES AND EQUIPMENT DESCRIPTIONS.

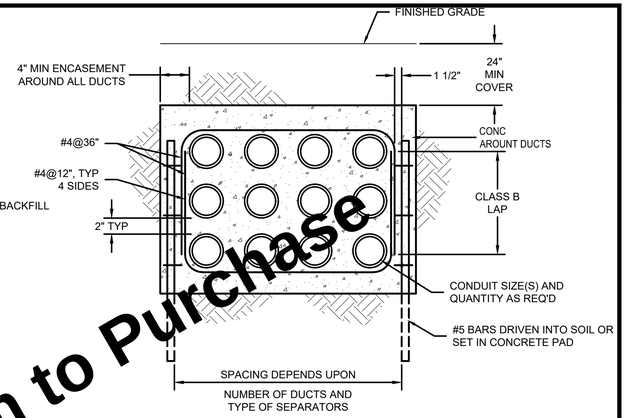
GROUND BUS BAR DETAIL
SCALE: NONE



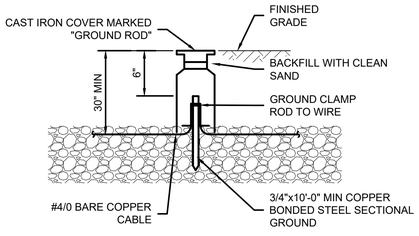
PULL BOX AND HANDHOLE (HH) INSTALLATION
SCALE: NONE



CONDUIT TRENCH
SCALE: NONE



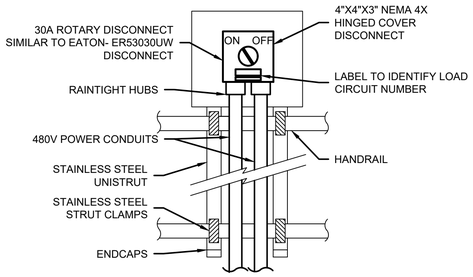
REINFORCED CONCRETE ENCASED DUCT BANKS
SCALE: NONE



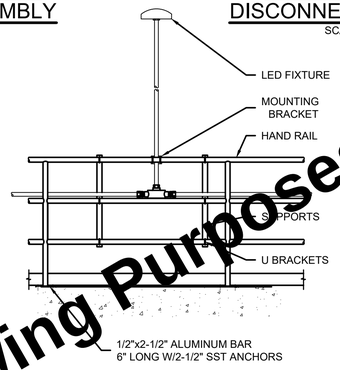
NOTES:

1. REFER TO JOB SPECIFICATION FOR MINIMUM SYSTEM RESISTANCE TO GROUND. IF THE RESISTANCE CANNOT BE MET WITH SINGLE 10'-0" RODS, ADD ADDITIONAL SECTIONS TO RODS OR ADD NEW RODS AS REQUIRED, SPACED 6'-0" TO 10'-0" FROM EXISTING RODS.

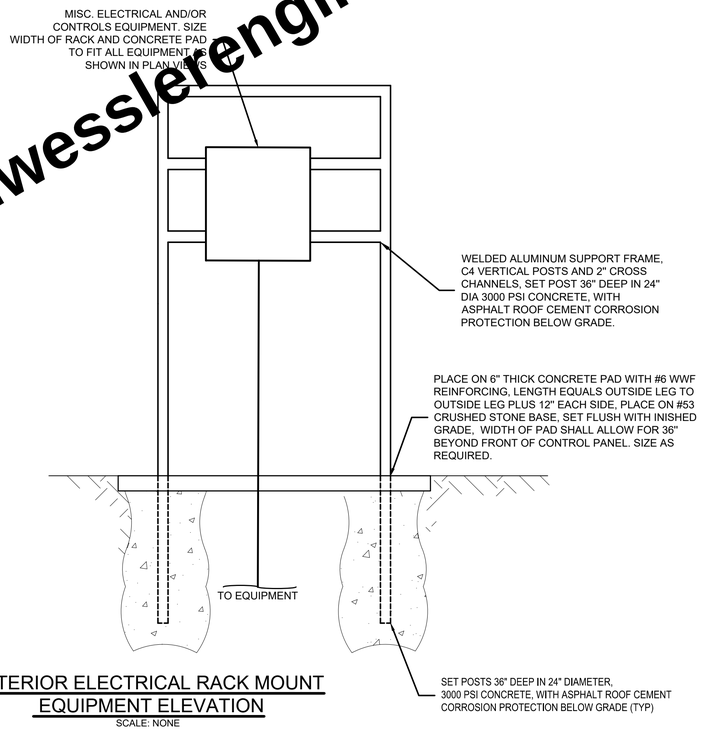
ELECTRICAL INSTALLATION AND GROUND ROD ASSEMBLY
SCALE: NONE



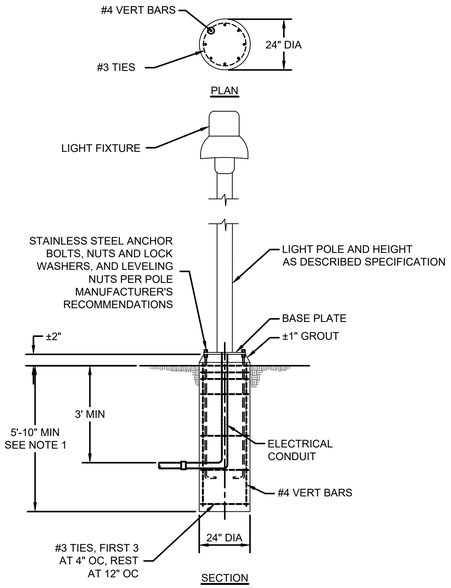
480V PUMP/MIXER DISCONNECT MOUNTING
SCALE: NONE



HANDRAIL MOUNTED LED FIXTURE DETAIL
SCALE: NONE



EXTERIOR ELECTRICAL RACK MOUNT EQUIPMENT ELEVATION
SCALE: NONE



NOTES:

1. IF NOT SPECIFIED OR SHOWN ELSEWHERE, THE DEPTH AND REINFORCEMENT OF THE CONCRETE BASE SHALL BE AS DETERMINED BY THE POLE MANUFACTURER. STRUCTURAL LOADING SHALL BE DESIGNED FOR THE DEAD LOAD PLUS A 100 MPH WIND LOAD, STANDARD EXPOSURE PER STANDARD BUILDING CODE

NEW LIGHT AND POLE MOUNTING
SCALE: NONE

SCALE VERIFICATION BAR IS ONE INCH LONG ON ORIGINAL DRAWING	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
	CHECKED BY	MLW				
	APPROVED BY	WCM				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/01/2023

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GLICK WELLFIELD IMPROVEMENTS

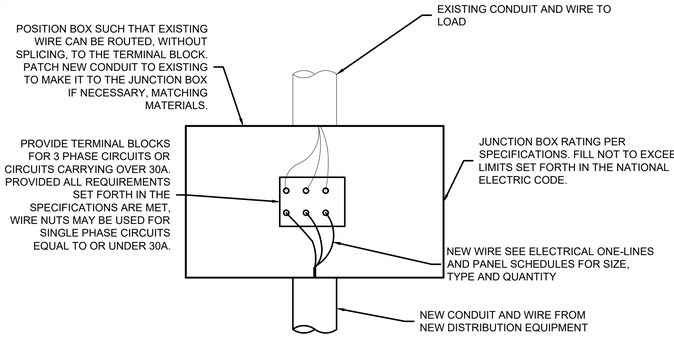
CITY OF LAFAYETTE, INDIANA

MISCELLANEOUS ELECTRICAL DETAILS

SHEET NO. **13**

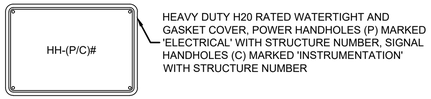
TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-EL-DTL.dwg | Layout: 13 MISCELLANEOUS ELECTRICAL DETAILS | Plotted: 08/31/23 @ 09:19:23 | LastSavedBy: MichaelW



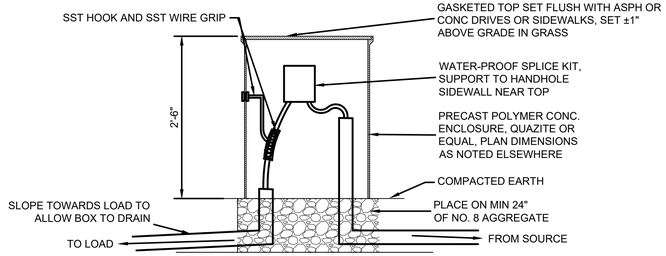
LOW VOLTAGE JUNCTION BOX

SCALE: NONE



PLAN

NOTES:
1. HANDHOLE FOR POWER SHALL BE MINIMUM 24X24X30", HANDHOLE FOR SIGNAL SHALL BE MINIMUM 18X18X30".

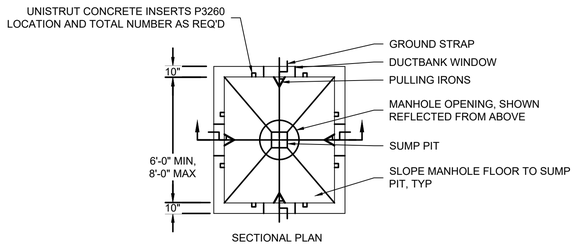


SECTION

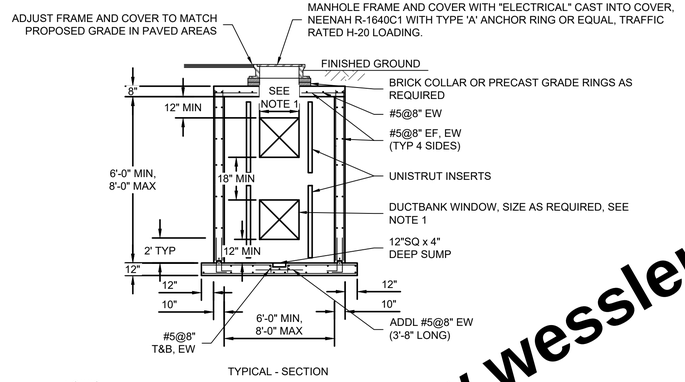
NOTES:
1. METHOD FOR SPLICING AS SHOWN IS TO BE USED IN NEW MANHOLE TO SPLICE CONNECT THE TWO SETS OF NEW WIRE FROM SWGR-GLICK TO THE EXISTING WIRE WHICH FEEDS THE TWO SIDES OF THE WELL MEDIUM VOLTAGE LOOP EXCEPT WIRE WILL ENTER THROUGH THE SIDE AND NOT THE BOTTOM.

HANDHOLE (HH) WIRE SPLICE INSTALLATION

SCALE: NONE



SECTIONAL PLAN

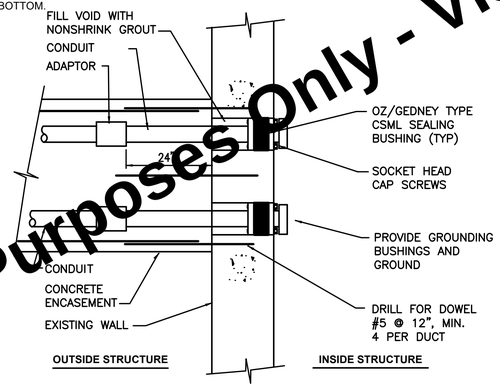


TYPICAL - SECTION

NOTES:
1. DUCTBANK WINDOW WIDTH SHALL BE LIMITED TO ONE-THIRD (1/3) OF THE WALL WIDTH, I.E. 2'-0" FOR A 6'-0" WALL.
2. PRECAST MANHOLES MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE MANHOLE SHOWN AT THE CONTRACTOR'S OPTION. PRECAST MANHOLES SHALL BE RATED FOR H-20 TRAFFIC LOADS. SEE SPECIFICATIONS FOR GENERAL REQUIREMENTS FOR PRECAST UTILITY STRUCTURES.

TYPICAL ELECTRICAL MANHOLE

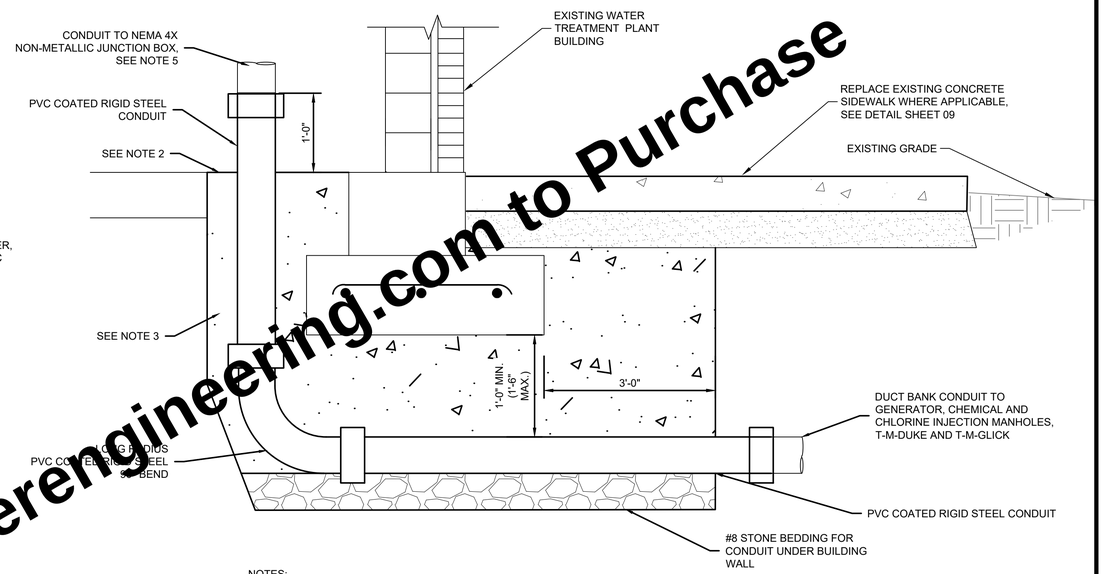
SCALE: NONE



NOTE: CORE DRILL THE EXISTING WALL TO INSTALL THIS SEALING.

EXISTING ELECTRICAL STRUCTURE CONDUIT ENTRY MODIFICATIONS

SCALE: NONE



NOTES:
1. APPLICABLE TO ALL NEW ELECTRICAL AND CONTROLS CONDUITS EXITING THE TREATMENT PLANT.
2. CONTRACTOR TO SAW CUT EXISTING FLOOR PENETRATIONS SQUARE AND CLEAN.
3. CONTRACTOR TO FILL EXISTING FOOTING PENETRATIONS AND UNDER FLOOR AREAS WITH CONCRETE, SUPPORTING AS SHOWN ON SHEET 13 "REINFORCED CONCRETE ENCASED DUCT BANKS" DETAIL.
4. CONNECT ALL JOINTS AS SPECIFIED IN THE PROJECT DOCUMENTS.
5. INSTALL NEMA 4X NON-METALLIC PULL BOX AT CEILING OR ROUTING LEVEL WHERE CONDUIT TURNS DOWN TO GO VERTICAL TOWARDS GROUND.
6. MINIMIZE WIDTH OF TRENCH NEEDED BY GROUPING THE CONDUIT ALONG THE WALL IN SECTIONS OF NO GREATER THAN 18" AND LEAVING NO LESS THAN 36" BETWEEN GROUPINGS. DUCT SHALL BE ONLY 1 CONDUIT DEEP WITH GROUPINGS PLACED SIDE BY SIDE UNTIL 3' CLEAR OF FOOTER.

ELECTRICAL CONDUIT UNDER EXISTING WALL

SCALE: NONE

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	MLW					
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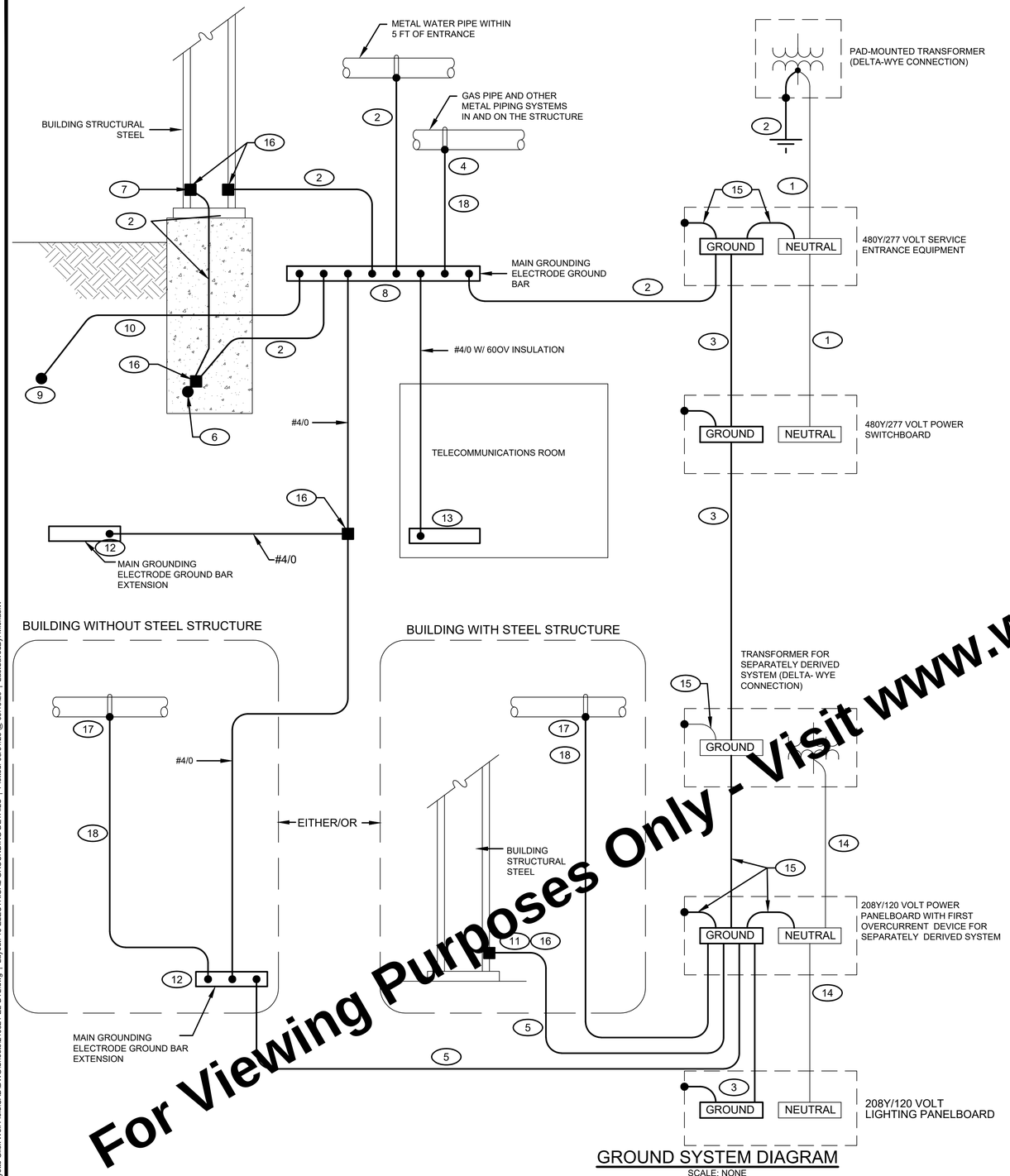
GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

MISCELLANEOUS ELECTRICAL DETAILS

SHEET NO. **14**

TOTAL SHEETS 26



GROUND SYSTEM DIAGRAM

SCALE: NONE

KEYED NOTES (CONTINUED)

11. USE THE "MAIN GROUNDING ELECTRODE GROUND BAR" INSTEAD OF BUILDING STRUCTURAL STEEL IF THE FIRST OVERCURRENT DEVICE FOR THE SEPARATELY DERIVED SYSTEM IS WITHIN 50 FEET OF THE "MAIN GROUNDING ELECTRODE GROUND BAR".
12. IF THE BUILDING STRUCTURE IS NOT STRUCTURAL STEEL, INSTALL "MAIN GROUNDING ELECTRODE GROUND BAR EXTENSIONS" AT AN ACCESSIBLE AND VISIBLE LOCATION ADJACENT TO SEPARATELY DERIVED SYSTEMS THAT ARE MORE THAN 50 FEET FROM THE MAIN GROUNDING ELECTRODE GROUND BAR".
13. INSTALL A COPPER GROUNDING BAR IN EACH TELECOMMUNICATIONS ROOM. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED 4/0 AWG COPPER CABLE AND COMPRESSION SPADE LUGS.
14. INSTALL GROUNDED (NEUTRAL) CONDUCTOR THAT IS NOT LESS THAN THE PHASE CONDUCTOR AMPACITY. IF HIGH-HARMONICS ARE PRESENT MAKE NEUTRAL AMPACITY 200% OF THE PHASE CONDUCTOR.
15. INSTALL BONDING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE CONDUCTOR SIZE.
16. INSTALL IRREVERSIBLE COMPRESSION CONNECTOR WITH TAMPER-PROOF HARDWARE OR INSTALL EXOTHERMIC WELD.
17. BOND TO METAL PIPING SYSTEMS IN THE AREA SERVED BY THE SEPARATELY DERIVED SYSTEM.
18. INSTALL BONDING JUMBER THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE LARGEST SERVICE OR SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR.

GENERAL NOTES

1. SEE EL-16170-ISOLATED GROUNDING FOR ISOLATED GROUNDING SYSTEM.
2. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
3. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.
5. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.
6. BOND HOT AND COLD WATER PIPING SYSTEMS.

KEYED NOTES

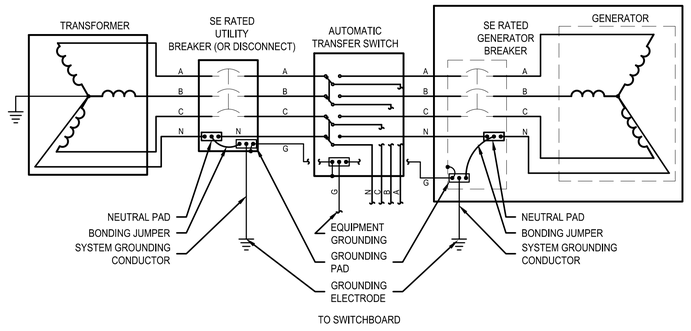
1. INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.
2. INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN 4 AWG.
3. INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER OVERCURRENT DEVICE SIZE.
4. BOND TO GAS PIPE ON THE BUILDING SIDE OF THE GAS METER.
5. INSTALL GROUNDING ELECTRODE CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR SIZE.
6. INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION AROUND THE ENTIRE PERIMETER OF THE BUILDING. LOCATE ELECTRODE IN THE BOTTOM ONE-THIRD OF THE FOUNDATION WITH AT LEAST 3 INCHES OF CONCRETE COVER. USE EITHER OF THE FOLLOWING MATERIALS FOR THE ELECTRODE:

   BARE COPPER CABLE NOT SMALLER THAN THE GROUNDING ELECTRODE CONDUCTOR REQUIRED BY THE NEC AND NOT SMALLER THAN 4 AWG.

   BARE OR GALVANIZED REBARS THAT ARE MADE ELECTRICALLY CONTINUOUS USING COPPER JUMPERS NOT SMALLER THAN THE NEC REQUIRED GROUNDING ELECTRODE CONDUCTOR AND NOT SMALLER THAN 4 AWG. USE REINFORCING BARS NOT SMALLER THAN THE FOLLOWING BASED ON THE TOTAL LENGTH OF THE INTERCONNECTED AND PARALLELED REBARS:

TOTAL LENGTH	MINIMUM REBAR SIZE
112 FT	1 3/8" (#11 BAR)
150 FT	1" (#8 BAR)
192 FT	3/4" (#6 BAR)
223 FT	5/8" (#5 BAR)
268 FT	1/2" (#4 BAR)

7. BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.
8. INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE AND VISIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR.
9. LIGHTNING PROTECTION GROUNDING COUNTERPOISE - 4/0 AWG COPPER.
10. BOND THE LIGHTNING PROTECTION SYSTEM GROUNDING COUNTERPOISE TO THE MAIN GROUND ELECTRODE GROUND BAR. USE 4/0 AWG COPPER CABLE WITH 600 VOLT INSULATION. AT THE UNDERGROUND CONNECTION USE A COMPRESSION CONNECTOR THAT MEETS IEEE 837 REQUIREMENTS OR USE AN EXOTHERMIC WELD.



BACKUP POWER SYSTEM GROUNDING

SCALE: NONE

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	MLW				
	APPROVED BY	WCM				
	ISSUE DATE	AUGUST 2023				
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WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/31/2023

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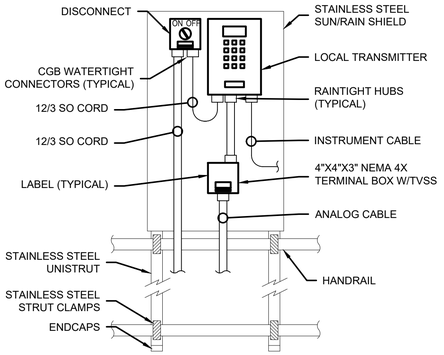
GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

ELECTRICAL GROUNDING DETAILS

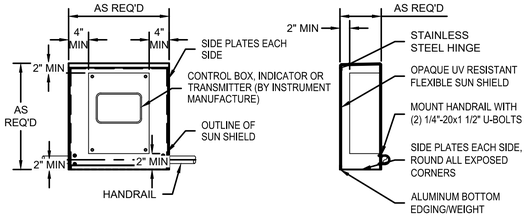
SHEET NO. **15**

TOTAL SHEETS 26



LOCAL TRANSMITTER MOUNTING

SCALE: NONE



FRONT VIEW

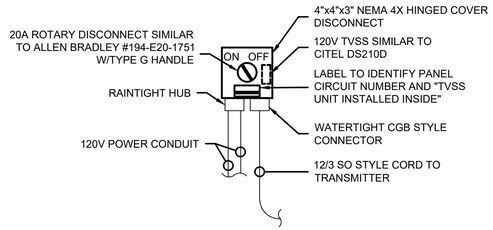
SIDE VIEW

NOTES:

1. ALL DIMENSIONS ARE IN INCHES. MATERIAL IS 1/4" ALUMINUM PLATE.
2. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. ADD ADDITIONAL SUPPORT AND BRACING AS NEEDED TO SECURE AND STABILIZE THE MOUNTING PLATE TO THE HANDRAIL.
3. THE SUN SHIELD SHALL BE BY CERLIC ENVIRONMENTAL OR APPROVED EQUAL.
4. PROVIDE A SUN SHIELD ON ALL INSTRUMENT TRANSMITTERS, INDICATORS AND CONTROL BOXES.

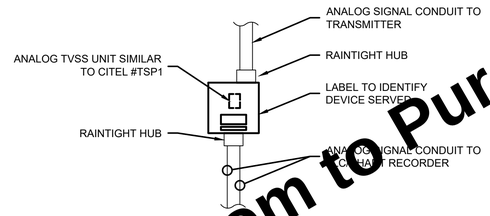
OUTDOOR INSTRUMENT PLATE WITH SUNSHIELD

SCALE: NONE



120V INSTRUMENTATION DISCONNECT AND LOCAL TVSS

SCALE: NONE



ANALOG INSTRUMENT TVSS

SCALE: NONE

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	MLW					
	APPROVED BY	WCM					
	ISSUE DATE	AUGUST 2023					
	PROJECT NUMBER	246521-04-001					

WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/31/2023

WESSLER ENGINEERING
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GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

MISCELLANEOUS CONTROLS DETAILS

SHEET NO. **16**

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-EL-DTL.dwg | Layout: 18 MISCELLANEOUS CONTROLS DETAILS | Plotted: 08/31/23 @ 09:19:31 | LastSavedBy: MichaelW

LIGHTING

- SURFACE/PENDANT MOUNTED LIGHT FIXTURE LETTER DENOTES TYPE, # DENOTED CIRCUIT, SHADING DENOTES EMERGENCY AND/OR NIGHT LIGHT
- SURFACE/PENDANT MOUNTED LIGHT FIXTURE LETTER DENOTES TYPE, # DENOTES CIRCUIT, SHADING DENOTES EMERGENCY AND/OR NIGHT LIGHT
- RECESS MOUNTED LIGHT FIXTURE LETTER DENOTES TYPE, # DENOTED CIRCUIT, SHADING DENOTES EMERGENCY AND/OR NIGHT LIGHT
- RECESS MOUNTED LIGHT FIXTURE LETTER DENOTES TYPE, # DENOTES CIRCUIT, SHADING DENOTES EMERGENCY AND/OR NIGHT LIGHT
- H.I.D. OR INCANDESCENT FIXTURE CEILING MOUNTED LETTER DENOTES TYPE, # DENOTES CIRCUIT
- WALL MOUNTED FIXTURE LETTER DENOTES TYPE, # DENOTES CIRCUIT
- WALL MOUNTED PHOTOCELL
- CEILING MOUNTED EXIT SIGN
- WALL MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE # DENOTES CIRCUIT
- POLE MOUNTED FIXTURE

RECEPTACLE

- DUPLEX RECEPTACLE SUBSCRIPT DENOTES TYPE: UPS DENOTES UNINTERRUPTIBLE POWER SUPPLY # DENOTES CIRCUIT
- SINGLE OUTLET RECEPTACLE
- SPECIAL PURPOSE OUTLET
- MULTI-OUTLET RECEPTACLE SINGLE
- MULTI-OUTLET RECEPTACLE DUPLEX
- 240 VOLT RECEPTACLE

PANELS AND BOXES

- JUNCTION BOX
- PULL BOX
- PANEL

HVAC AND FIRE ALARM

- FIRE ALARM PULL STATION
- FIRE ALARM CONTROL PANEL
- ANNUNCIATOR
- HORN/LIGHT DEVICE
- DUCT DETECTOR
- SMOKE DETECTOR SUBSCRIPT DENOTES TYPE:
  - Z DENOTES IONIZATION
  - P DENOTES PHOTOELECTRIC
  - T DENOTES THERMAL
- THERMOSTAT
- AMBIENT TEMPERATURE TRANSMITTER
- UNIT HEATER
- WALL MOUNTED GAS DETECTION FIXTURE

SWITCHES

- WALL SWITCH
  SUBSCRIPT DENOTES TYPE:
  NO SUBSCRIPT DENOTES SINGLE POLE
  3 DENOTES 3 WAY
  4 DENOTES 4 WAY
  M DENOTES MANUAL MOTOR STARTER
- MOTOR STARTER
- COMBINATION MOTOR STARTER
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- DOOR LIMIT SWITCH
- LOCAL CONTROL STATION

WIRING

- CONDUIT HOME RUN
- CONDUIT EXPOSED
- CONDUIT CONCEALED
- FLEXIBLE CONDUIT

SCHEMATICS

- 3-POSITION SELECTOR SWITCH HAND - OFF - AUTO
- PUSHBUTTON SWITCH N.O. TEXT DENOTES LEGEND PLATE
- PUSHBUTTON SWITCH N.C. TEXT DENOTES LEGEND PLATE
- MUSHROOM HEAD EMERGENCY STOP PUSHBUTTON SWITCH N.C. MAINTAINED TEXT DENOTES LEGEND PLATE
- PUSHBUTTON SWITCH N.C. WITH LOCK-OUT TEXT DENOTES LEGEND PLATE
- DISCONNECT SWITCH N.O.
- DISCONNECT SWITCH N.C.
- TEMPERATURE SWITCH OR THERMOSTAT N.O. TEXT DENOTES TAG NUMBER
- TEMPERATURE SWITCH OR THERMOSTAT N.C. TEXT DENOTES TAG NUMBER
- PRESSURE SWITCH N.O. TEXT DENOTES TAG NUMBER
- PRESSURE SWITCH N.C. TEXT DENOTES TAG NUMBER
- LEVEL SWITCH N.O. TEXT DENOTES TAG NUMBER
- LEVEL SWITCH N.C. TEXT DENOTES TAG NUMBER
- ON DELAY TIMED SWITCH N.O.T.C. TEXT DENOTES TAG NUMBER
- ON DELAY TIMED SWITCH N.C.T.O. TEXT DENOTES TAG NUMBER
- OFF DELAY TIMED SWITCH N.O.T.O. TEXT DENOTES TAG NUMBER
- OFF DELAY TIMED SWITCH N.C.T.C. TEXT DENOTES TAG NUMBER
- TORQUE SWITCH TEXT DENOTES TAG NUMBER
- LIMIT SWITCH TEXT DENOTES TAG NUMBER
- CONTACT (NORMALLY OPEN) # DENOTES COIL NUMBER
- CONTACT (NORMALLY CLOSED) # DENOTES COIL NUMBER
- INDICATOR LIGHT - LETTER DENOTES COLOR
- PUSH-TO-TEST INDICATOR LIGHT LETTER DENOTES COLOR
- ELAPSED TIME METER
- SOLENOID VALVE
- MECHANICAL INTERLOCK CONNECTION
- COIL
  - M DENOTES MOTOR STARTER
  - CR DENOTES CONTROL RELAY
  - TR DENOTES TIME DELAY RELAY
  - LC DENOTES LIGHTING CONTACTOR
  - PR DENOTES INTERPOSING PILOT RELAY
  - XXX DENOTES REFERENCE LINE NUMBER

SINGLE LINE

- EXISTING TO REMAIN
- EXISTING TO BE DEMOLISHED
- NEW
- FUTURE
- TRANSFORMER (TX-STRUCTURE DESIGNATION, XXX kVA, 480-120/208V; 3P/4W TYPE OF TRANSFORMER)
- PROTECTIVE RELAY, NUMBER DENOTES IEEE DEVICE FUNCTION
- MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER (1200A 52)
- FUSE (100 A)
- DRAWOUT POWER CIRCUIT BREAKER (XXA)
- MOLDED CASE CIRCUIT BREAKER
- THERMAL OVERLOAD RELAY
- GROUND
- CURRENT TRANSFORMER NUMBER DENOTES QUANTITY (600:5A (3))
- POTENTIAL TRANSFORMER NUMBER DENOTES QUANTITY (480-120V (3))
- DRAW-OUT ELEMENT
- AUTOMATIC OR MANUAL TRANSFER SWITCH (800 A 3Ø 3W ATS)
- MOTOR NUMBER DENOTES HORSEPOWER
- GENERATOR XX NUMBER DENOTES REQUIRED kW RATING AND VOLTAGE (XXkW 480V,3Ø,4W)

EQUIPMENT/DEVICE LOCATION SYMBOLS

- LOCATED AT MCC, COMBINATION STARTER, OR BYPASS STARTER
- LOCATED IN FIELD
- LOCATED AT DCU 1A REMOTE I/O RACK
- LOCATED AT VFD

MISC PLAN VIEW SYMBOLS

- EQUIPMENT CONNECTION
- GROUND ROD
- INSTRUMENT TRANSMITTER

COMMUNICATIONS

- TELEPHONE OR NETWORK DROP
- ETHERNET JACK

SINGLE LINE, CONT'D.

- LINE REACTOR X% NUMBER DENOTES PERCENT IMPEDANCE
- CAPACITOR
- VOLTMETER AND SWITCH
- SHUNT TRIP
- TRANSIENT VOLTAGE SURGE SUPPRESSOR
- LIGHTNING ARRESTOR
- KIRK-KEY INTERLOCK
- COMBINATION POWER UNIT (LP-#)
- VARIABLE FREQUENCY DRIVE

SITE DUCTBANKS

- UGCC — UNDERGROUND CONTROL
- UGE — UNDERGROUND ELECTRICAL
- UGF — UNDERGROUND FIBER

ABBREVIATIONS

A	AMPERE(S)	MAN	MANUFACTURER SUPPLIED (EX. MAN-CP)
ACU	AIR CONDITIONING UNIT	MAU	MAKEUP AIR UNIT
AE	ANALYTICAL SENSOR	MCC	MOTOR CONTROL CENTER
AF	AMP FRAME	MH	MANHOLE
AFF	ABOVE FINISHED FLOOR	MOL	MOTOR OPERATED LOUVER
AHU	AIR HANDLING UNIT	MPU	MINI POWER UNIT
AIT	ANALYTICAL INDICATOR TRANSMITTER	MV	MEDIUM VOLTAGE
AM	AMMETER	N	NEUTRAL
AMP	AMPERE(S)	N/A	NOT APPLICABLE
AT	AMP TRIP	NC	NORMALLY CLOSED
ATL	ACROSS THE LINE (STARTER)	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NET	NETWORK (PANEL)
AUX	AUXILIARY	NF	NON-FUSED
AWG	AMERICAN WIRE GAUGE	NFSS	NON-FUSED SAFETY SWITCH
BKR	BREAKER	N.O.	NORMALLY OPEN
BLDG	BUILDING	NTS	NOT TO SCALE
C	CONDUIT	OL	OVERLOAD
CB	CIRCUIT BREAKER	PB	PUSHBUTTON
CKT	CIRCUIT	PLC	PROGRAMMABLE LOGIC CONTROLLER
CP	CONTROL PANEL	PM	POWER METER/MONITOR
CR	CORROSION RESISTANT	PNL	PANEL
CU	COPPER	PP	POWER PANEL
DF	DUCT FAN	RCPT	RECEPTACLE
DH	DUCT HEATER	RGS	RIGID GALVANIZED STEEL
DISC	DISCONNECT	RIO	REMOTE INPUT/OUTPUT
EF	EXHAUST FAN	R/S	RING SWITCH
ELEV	ELEVATION	RVSS	REDUCED VOLTAGE SOFT STARTER
EMH	ELECTRICAL MANHOLE	RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
EMT	ELECTRICAL METALLIC TUBING	SF	SUPPLY FAN
EQUIP	EQUIPMENT	SHLD	SHIELDED
EWC	ELECTRICAL WATER COOLER	SOL	SOLENOID
EXP	EXPLOSION PROOF	SP	SINGLE POLE
F	FUSED OR FUSE	SPD	SURGE PROTECTIVE DEVICE
FE	FLOW SENSOR	SST	STAINLESS STEEL
FIT	FLOW INDICATOR TRANSMITTER	STR	STARTER
FLA	FULL LOAD AMPS	SW	SWITCH
FOPP	FIBER OPTIC PATCH PANEL	SWBD	SWITCHBOARD
FV(N)R	FULL VOLTAGE (NON) REVERSING	SWGR	SWITCHGEAR
G	GROUND	TB	TERMINAL BOX
GEN	GENERATOR	TPS	TWISTED PAIR SHIELDED
GF	GROUND FAULT	TYP	TYPICAL
GF(C)I	GROUND FAULT (CIRCUIT) INTERRUPTER	UGE	UNDERGROUND ELECTRICAL
HH	HANDHOLE	UGT	UNDERGROUND TELEPHONE
HOA	HAND-OFF-AUTOMATIC	UGCC	UNDERGROUND CONTROLS CABLE
HOR	HAND-OFF-REMOTE	UGF	UNDERGROUND FIBER
HP	HORSEPOWER	UH	UNIT HEATER
HPS	HIGH PRESSURE SODIUM	UL	UNDERWRITERS LABORATORIES
JB	JUNCTION BOX	UNO	UNLESS NOTED OTHERWISE
KV	KILOVOLTS	V	VOLTS
KVA	KILOVOLTS AMPS	VFD	VARIABLE FREQUENCY DRIVE
KVAR	KILOVAR	VM	VOLTMETER
KW	KILOWATTS	VS	VOLTMETER SWITCH
LCP	LOCAL CONTROL PANEL	W	WIRE/WATT
LCS	LOCAL CONTROL STATION	WH	WATER HEATER
LE	LEVEL SENSOR	WP	WEATHERPROOF
LIT	LEVEL INDICATING TRANSMITTER	XFMR	TRANSFORMER
LOR	LOCAL-OFF-REMOTE		
LP	LIGHTING PANEL		
LTG	LIGHTING		
LV	LOW VOLTAGE		

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	APPROVED BY	WCM				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

WAYNE C. MOORE — REGISTERED — No. 10707476 — STATE OF INDIANA — PROFESSIONAL ENGINEER — 08/17/2023

WESSLER ENGINEERING — More than a Project™

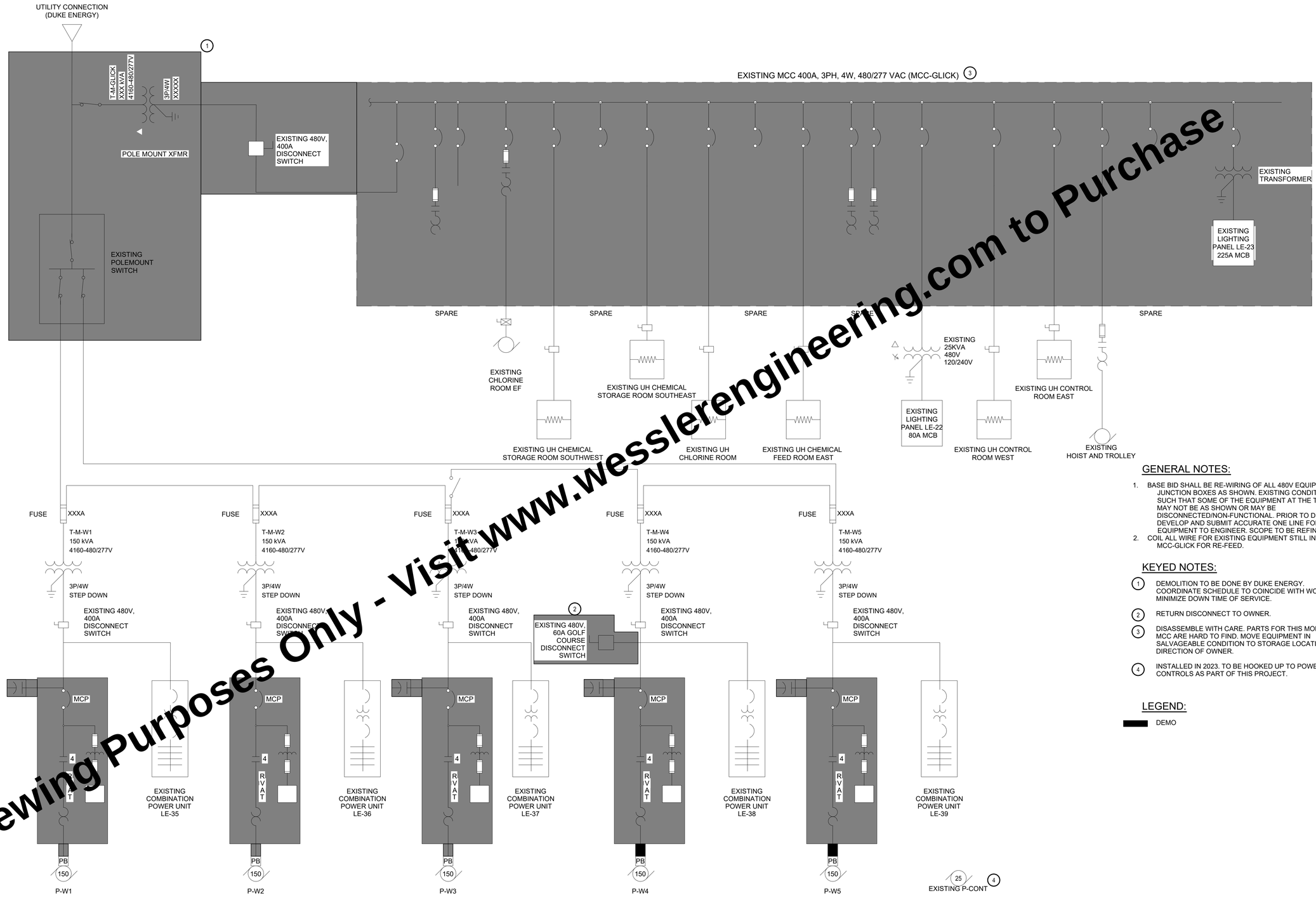
GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

ELECTRICAL LEGEND

SHEET NO. 17

TOTAL SHEETS 26



GENERAL NOTES:

1. BASE BID SHALL BE RE-WIRING OF ALL 480V EQUIPMENT TO JUNCTION BOXES AS SHOWN. EXISTING CONDITIONS MAY BE SUCH THAT SOME OF THE EQUIPMENT AT THE TREATMENT PLANT MAY NOT BE AS SHOWN OR MAY BE DISCONNECTED/NON-FUNCTIONAL. PRIOR TO DEMOLITION, DEVELOP AND SUBMIT ACCURATE ONE LINE FOR 480V EQUIPMENT TO ENGINEER. SCOPE TO BE REFINED THEREAFTER.
2. COIL ALL WIRE FOR EXISTING EQUIPMENT STILL IN USE AT MCC-GLICK FOR RE-FEED.

KEYED NOTES:

1. DEMOLITION TO BE DONE BY DUKE ENERGY. COORDINATE SCHEDULE TO COINCIDE WITH WORK TO MINIMIZE DOWN TIME OF SERVICE.
2. RETURN DISCONNECT TO OWNER.
3. DISASSEMBLE WITH CARE. PARTS FOR THIS MODEL OF MCC ARE HARD TO FIND. MOVE EQUIPMENT IN SALVAGEABLE CONDITION TO STORAGE LOCATION AT DIRECTION OF OWNER.
4. INSTALLED IN 2023. TO BE HOOKED UP TO POWER AND CONTROLS AS PART OF THIS PROJECT.

LEGEND:

DEMO

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	ISSUE DATE	AUGUST 2023					
	PROJECT NUMBER	246521-04-001					

WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/01/2023

WESSLER ENGINEERING
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GLICK WELLFIELD IMPROVEMENTS

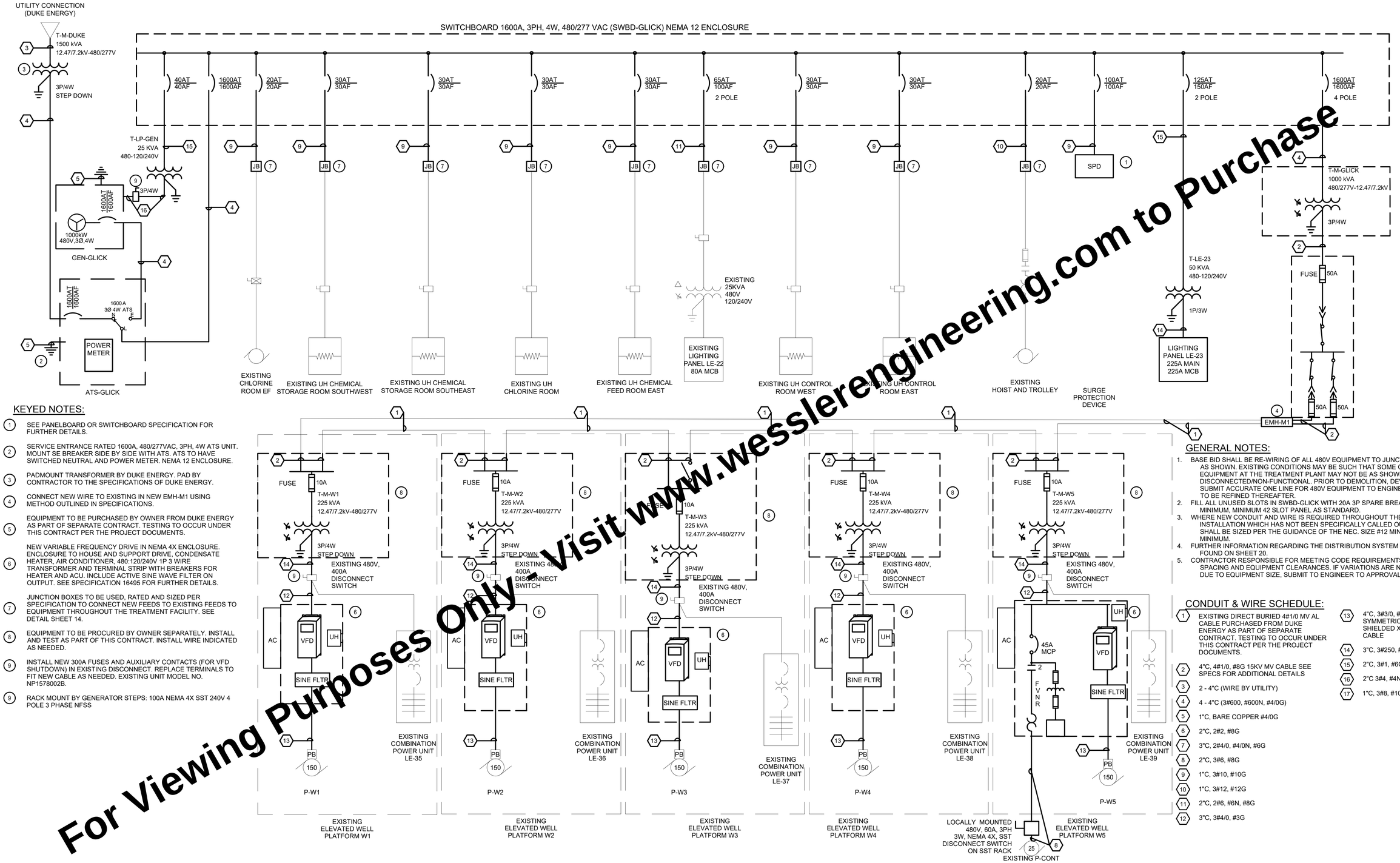
CITY OF LAFAYETTE, INDIANA

TREATMENT PLANT DEMOLITION ONE-LINE DIAGRAM

SHEET NO. 18

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-EL-OD.dwg | Layout: 19 GLICK TREATMENT PLANT DEMOLITION ONE-LINE DIAGRAM | Plotted: 08/31/23 @ 09:19:53 | LastSavedBy: MichaelW



KEYED NOTES:

1. SEE PANELBOARD OR SWITCHBOARD SPECIFICATION FOR FURTHER DETAILS.
2. SERVICE ENTRANCE RATED 1600A, 480/277VAC, 3PH, 4W ATS UNIT. MOUNT SE BREAKER SIDE BY SIDE WITH ATS. ATS TO HAVE SWITCHED NEUTRAL AND POWER METER. NEMA 12 ENCLOSURE.
3. PADMOUNT TRANSFORMER BY DUKE ENERGY. PAD BY CONTRACTOR TO THE SPECIFICATIONS OF DUKE ENERGY.
4. CONNECT NEW WIRE TO EXISTING IN NEW EMH-M1 USING METHOD OUTLINED IN SPECIFICATIONS.
5. EQUIPMENT TO BE PURCHASED BY OWNER FROM DUKE ENERGY AS PART OF SEPARATE CONTRACT. TESTING TO OCCUR UNDER THIS CONTRACT PER THE PROJECT DOCUMENTS.
6. NEW VARIABLE FREQUENCY DRIVE IN NEMA 4X ENCLOSURE. ENCLOSURE TO HOUSE AND SUPPORT DRIVE, CONDENSATE HEATER, AIR CONDITIONER, 480:120/240V 1P 3 WIRE TRANSFORMER AND TERMINAL STRIP WITH BREAKERS FOR HEATER AND ACU. INCLUDE ACTIVE SINE WAVE FILTER ON OUTPUT. SEE SPECIFICATION 16495 FOR FURTHER DETAILS.
7. JUNCTION BOXES TO BE USED, RATED AND SIZED PER SPECIFICATION TO CONNECT NEW FEEDS TO EXISTING FEEDS TO EQUIPMENT THROUGHOUT THE TREATMENT FACILITY. SEE DETAIL SHEET 14.
8. EQUIPMENT TO BE PROCURED BY OWNER SEPARATELY. INSTALL AND TEST AS PART OF THIS CONTRACT. INSTALL WIRE INDICATED AS NEEDED.
9. INSTALL NEW 300A FUSES AND AUXILIARY CONTACTS (FOR VFD SHUTDOWN) IN EXISTING DISCONNECT. REPLACE TERMINALS TO FIT NEW CABLE AS NEEDED. EXISTING UNIT MODEL NO. NP1578002B.
9. RACK MOUNT BY GENERATOR STEPS: 100A NEMA 4X SST 240V 4 POLE 3 PHASE NFSS

GENERAL NOTES:

1. BASE BID SHALL BE RE-WIRING OF ALL 480V EQUIPMENT TO JUNCTION BOXES AS SHOWN. EXISTING CONDITIONS MAY BE SUCH THAT SOME OF THE EQUIPMENT AT THE TREATMENT PLANT MAY NOT BE AS SHOWN OR MAY BE DISCONNECTED/NON-FUNCTIONAL. PRIOR TO DEMOLITION, DEVELOP AND SUBMIT ACCURATE ONE LINE FOR 480V EQUIPMENT TO ENGINEER. SCOPE TO BE REFINED THEREAFTER.
2. FILL ALL UNUSED SLOTS IN SWBD-GLICK WITH 20A 3P SPARE BREAKERS. 4 MINIMUM, MINIMUM 42 SLOT PANEL AS STANDARD.
3. WHERE NEW CONDUIT AND WIRE IS REQUIRED THROUGHOUT THE INSTALLATION WHICH HAS NOT BEEN SPECIFICALLY CALLED OUT, THEY SHALL BE SIZED PER THE GUIDANCE OF THE NEC. SIZE #12 MINIMUM IN 1"C MINIMUM.
4. FURTHER INFORMATION REGARDING THE DISTRIBUTION SYSTEM CAN BE FOUND ON SHEET 20.
5. CONTRACTOR RESPONSIBLE FOR MEETING CODE REQUIREMENTS FOR SPACING AND EQUIPMENT CLEARANCES. IF VARIATIONS ARE NECESSARY DUE TO EQUIPMENT SIZE, SUBMIT TO ENGINEER TO APPROVAL.

CONDUIT & WIRE SCHEDULE:

1. EXISTING DIRECT BURIED 4#1/0 MV AL CABLE PURCHASED FROM DUKE ENERGY AS PART OF SEPARATE CONTRACT. TESTING TO OCCUR UNDER THIS CONTRACT PER THE PROJECT DOCUMENTS.
2. 4"C, 4#1/0, #8G 15KV MV CABLE SEE SPECS FOR ADDITIONAL DETAILS
3. 2 - 4"C (WIRE BY UTILITY)
4. 4 - 4"C (3#600, #600N, #4/0G)
5. 1"C, BARE COPPER #4/0G
6. 2"C, 2#2, #8G
7. 3"C, 2#4/0, #4/0N, #6G
8. 2"C, 3#6, #8G
9. 1"C, 3#10, #10G
10. 1"C, 3#12, #12G
11. 2"C, 2#6, #6N, #8G
12. 3"C, 3#4/0, #3G
13. 4"C, 3#3/0, #3/0G FULLY RATED, SYMMETRICALLY GROUNDED, SHIELDED XHHW OR VFD TYPE CABLE
14. 3"C, 3#250, #3G
15. 2"C, 3#1, #6G
16. 2"C 3#4, #4N, #8G
17. 1"C, 3#8, #10G

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	PROJECT NUMBER	246521-04-001				

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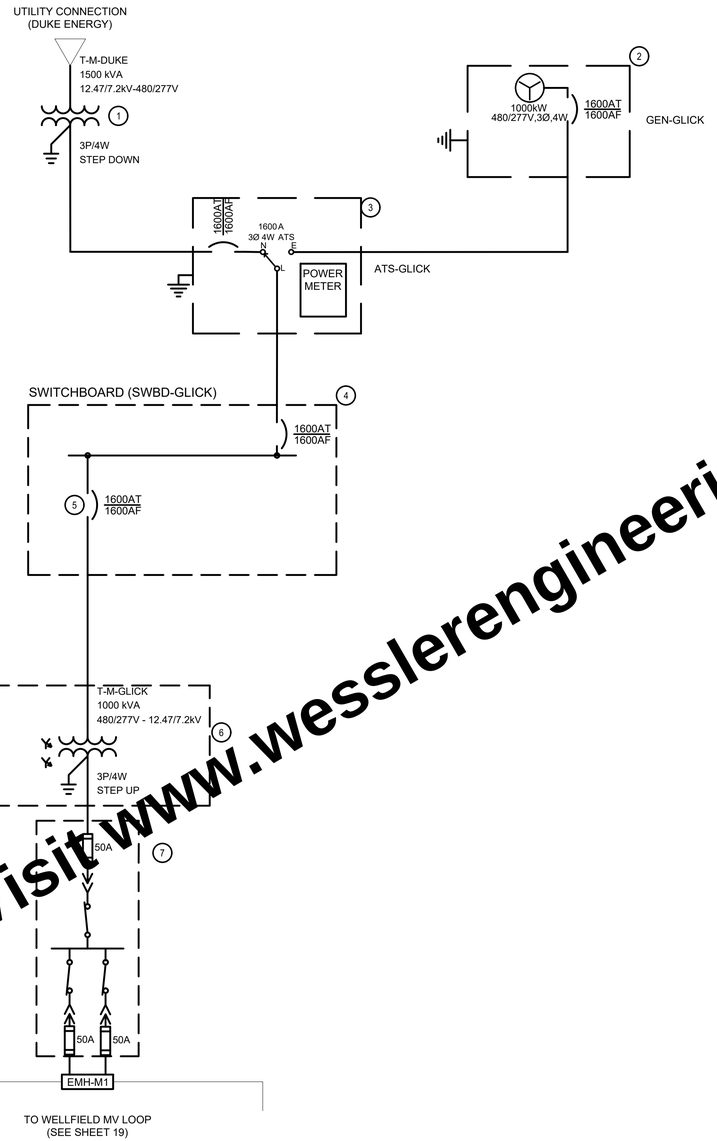
GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

TREATMENT PLANT IMPROVEMENTS ONE-LINE DIAGRAM

SHEET NO. 19

TOTAL SHEETS 26



EQUIPMENT SUMMARIES:

1. T-M-DUKE:

   12.4/7.2KV:480/277V STEP-DOWN TRANSFORMER BY DUKE ENERGY, PAD BY CONTRACTOR INSTALLED TO SPECIFICATIONS OF DUKE ENERGY. ESTIMATED TO BE 1500KVA, ATTRIBUTES TO BE CONFIRMED AND COORDINATED BY CONTRACTOR

2. GEN-GLICK (PROCURED SEPARATELY BY OWNER, INSTALLED AND TESTED BY CONTRACTOR):

   480/277V 3 PHASE 4 WIRE 1000KW DIESEL GENERATOR WITH ENGINE BY CATERPILLAR, WEATHER PROOF WALK AROUND ENCLOSURE AND FULLY RATED 1600A MAIN BREAKER

3. ATS-GLICK (PROCURED SEPARATELY BY OWNER, INSTALLED AND TESTED BY CONTRACTOR):

   480/277V 1600A 3PH 4W AUTOMATIC TRANSFER SWITCH WITH SE RATED 100% BREAKER WITH FULLY RATED SWITCHED NEUTRAL AND POWER METER, NEMA 12 ENCLOSURE

4. SWBD-GLICK:

   480/277V 3 PHASE 4 WIRE 1600A MAIN BREAKER AND COPPER BUS, FULLY RATED NEUTRAL BUS, NEMA 12 ENCLOSURE

5. GLICK WELL FIELD FEEDER:

   480V 3 PHASE 4 POLE 4W 1600A LOCKABLE CIRCUIT BREAKER.

6. T-M-GLICK (PROCURED SEPARATELY BY OWNER, INSTALLED AND TESTED BY CONTRACTOR):

   480V:12.4/7.2KV 3 PHASE GROUNDED WYE TO GROUNDED WYE 60HZ 1000KVA STEP-UP TRANSFORMER ON CONCRETE PAD (SEE DETAIL ON SHEET 13) WITH SWGR-GLICK

7. SWGR-GLICK (S&C VISTA PADMOUNT SWITCHGEAR OR EQUAL) (PROCURED SEPARATELY BY OWNER, INSTALLED AND TESTED BY CONTRACTOR):

   200A, 15KV RATED, TYPE 321, 1 FAULT INTERRUPTER AND 2 LOAD SWITCHES, 12500 FAULT CLOSING, 12500 FAULT INTERRUPTING, MAIN BUS CONTINUOUS CURRENT 600A, WEATHERPROOF ENCLOSURE (PROVIDE FIBERGLASS OR CONCRETE PAD PER MANUFACTURER'S REQUIREMENTS)

GENERAL NOTES:

1. THIS ONE LINE SERVES TO SHOW A GENERAL VIEW OF THE ELECTRICAL DISTRIBUTION PORTION OF THIS PROJECT, MORE SPECIFIC INFORMATION ON ALL OTHER EQUIPMENT CAN BE FOUND ON THE OTHER ONE-LINES IN THE PROJECT DRAWINGS.
2. FOR ALL WELL SITES, COORDINATE WITH THE CONTROL SYSTEM PROVIDER TO DISCONNECT AND RECONNECT THE WELL PUMP CONTROLS TO THE NEW DRIVES AND STARTERS WHERE NEW STARTERS OR DRIVES ARE PROVIDED.
3. WHERE NEW CONDUIT AND WIRE IS REQUIRED THROUGHOUT THE INSTALLATION WHICH HAS NOT BEEN SPECIFICALLY CALLED OUT, IT SHALL BE SIZED PER THE GUIDANCE OF THE NEC.
4. NOT ALL DEVICES ARE SHOWN FOR CLARITY.

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GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

TREATMENT PLANT ELECTRICAL DISTRIBUTION DIAGRAM

SHEET NO. **20**

TOTAL SHEETS 26

PANEL SCHEDULE

DESIGNATION: PANEL LE 23 | MAINS: 225 AMP MAIN BREAKER
LOCATION: GLICK TREATMENT BLDG. | BUS SIZE 225 AMP
VOLTAGE: 120/240V | PANEL MOUNTING: SURFACE
PHASE: 1 PHASE, 3 WIRE | ALL BREAKERS: 10000 A.I.C. (MINIMUM)

CKT. NO.	LOAD DESCRIPTION	#	KVA	CKT. BKR. AMPS	CKT. BKR. POLE	KVA A	KVA B	CKT. BKR. AMPS	CKT. BKR. POLE	KVA	#	LOAD DESCRIPTION	CKT. NO.
1	MOP RM. RECEPTS.	1	1.80	15	1	3.60		20	1	1.80	1	RECEPTS. ON LOAD CENTER	2
3	SOUTH RECEP. & OUT-SIDE LIGHTS	1	1.80	15	1		3.60	20	1	1.80	1	RECEPTS. ON LOAD CENTER	4
5	FE/ FIT-600 (CHEM. INJ. VAULT)	1	1.00	15	1	2.80		20	1	1.80	1	RECEPTS. ON LOAD CENTER	6
7	RECEPT. (CHEM. INJ. VAULT)	1	1.00	15	1		2.00	15	1	1.00	1	RECEPT. (CL2 INJ. VAULT)	8
9	LTG. (CHEM. INJ. VAULT)	1	0.05	15	1	0.10		15	1	0.05	1	LTG. (CL2 INJ. VAULT)	10
11	R.R. FAN AND HEAT	1	0.00	20	2		0.00	20	2	0.00	1	CHEM. FEED RM. EX. FAN	12
13			0.00			0.00				0.00			14
15	LIFT STATION	2	0.00	20	2		2.25	20	2	2.25	1	WATER HEATER	16
17			0.00			2.25				2.25			18
19	AIR HANDLER 1	1	1.00	15	2		1.00	20	2	0.00		SPARE	20
21			1.00			1.00				0.00			22
23	EJ. RM. LIGHTS & FAN	1	0.50	20	1		1.00	20	1	0.50	1	LIGHTS IN CONTROL RM.	24
25	TANK RM. LIGHTS & ALARM SYS.	1	0.80	20	1	1.60		20	1	0.80	1	LIGHTS IN CHEM. FEED RM.	26
27	OVER-HEAD DOOR	1	0.00	20	2		3.75	50	2	3.75	6	A/C	28
29			0.00			3.75				3.75			30
31	UNKNOWN	1	1.00	20	1		2.50	20	2	1.50	1	AC 1	32
33	DEDICATED SUMP RECEPT. (CHEM. INJ. VAULT)	1	0.18	20	1	1.68				1.50			34
35	DEDICATED SUMP RECEPT. (CL2 INJ. VAULT)	1	0.18	20	1		1.98	20	1	1.80	1	N. WALL RECEP.	36
37	SPARE		0.00	20	1	0.00		30	2	0.00	7	SPD	38
39	SPARE		0.00	20	1		0.00			0.00			40
	TOTAL CONNECTED LOAD:					16.78	18.08	TOTAL =		34.86	KVA		

ONE (1) OR TWO (2) DIGIT NUMBERS REFER TO CONDUIT & WIRE SCHEDULE ON THIS SHEET.

NEMA 12 (THIS UNIT IS REPLACING, IN KIND, LE-23 WITH THE ADDITION OF LOADS FOR THE CEHMICAL INJECTION VAULT AND MANHOLE)

PANEL SCHEDULE

DESIGNATION: PANEL LE - 22 | MAINS: 80 AMP MAIN BREAKER
LOCATION: GLICK TREATMENT BLDG. | BUS SIZE 125 AMP
VOLTAGE: 120/240V | PANEL MOUNTING: SURFACE
PHASE: 1 PHASE, 3 WIRE | ALL BREAKERS: 10000 A.I.C. (MINIMUM)

CKT. NO.	LOAD DESCRIPTION	#	KVA	CKT. BKR. AMPS	CKT. BKR. POLE	KVA A	KVA B	CKT. BKR. AMPS	CKT. BKR. POLE	KVA	#	LOAD DESCRIPTION	CKT. NO.
1	FLOW METER		0.20	20	1	1.20		20	1	0.20		RECEPT. CHLORINE STORAGE RM.	2
3	ORA-CLE		0.50	20	1		1.50	20	1	1.00		RECEPT. CHLORINE STORAGE RM.	4
5	SODIUM FLUORIDE FEED 1 & 2		1.00	20	1	1.25		20	1	0.25		CHLORINE GAS DETECTOR	6
7	SPARE		0.00	20	1		2.25	20	1	0.25		CHLORINE CONTROLLER	8
9	SPARE		0.00	20	1	0.25		20	1	0.25		EMERGENCY LIGHTING CONTROLLER	10
11	TELEMETRY PANEL		0.75	20			0.75	60	2	3.00		AIR HANDLER 3	12
13	AMMONIA OUTLET		1.00	20		1.00				3.00			14
15	AMMONIA OUTLET		1.00				3.00	40	2	2.00		ELECTRIC HEAT 3	16
17	AIR HANDLER 2		0.05	15	2	2.75				2.00			18
19			2.25				2.25	30	2	1.50		AC UNIT 3	20
21	AC UNIT 2		2.00	30	2	3.50				1.50			22
23			2.00				3.00	20	1	1.00		RE CK PUMP OUTLET	24
	TOTAL CONNECTED LOAD:					12.95	13.75	TOTAL =		26.70	KVA		

EXISTING, SHOWN FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY. KVA NUMBERS ARE ESTIMATES.

PANELBOARD BRANCH CIRCUIT CONDUIT & CABLE SCHEDULE

#	DESCRIPTION
1	1" CONDUIT WITH 2 #12 CONDUCTORS AND 1 #12 GROUND CONDUCTOR.
2	1" CONDUIT WITH 3 #12 CONDUCTORS AND 1 #12 GROUND CONDUCTOR.
3	1" CONDUIT WITH 2 #10 CONDUCTORS AND 1 #10 GROUND CONDUCTOR.
4	1" CONDUIT WITH 3#10 CONDUCTORS AND 1 #10 GROUND CONDUCTOR.
5	1" CONDUIT WITH 2#8 CONDUCTORS AND 1 #10 GROUND CONDUCTOR.
6	1" CONDUIT WITH 2#6 CONDUCTORS AND 1 #10 GROUND CONDUCTOR.
7	1" CONDUIT WITH MANUFACTURER PROVIDED TEMPERATURE CABLE

LIGHTING FIXTURE SCHEDULE

TYPE	WATTS	LAMP	TYPE LUMINAIRE	MANUFACTURER	COMMENTS
A	40	LED	4' X 8" INJECTION MOLDED, ENCLOSED AND GASKETED LED FIXTURE, INJECTION MOLDED FROSTED ACRYLIC DIFFUSOR WITH STAINLESS STEEL LATCHES AND PROTECTIVE GRATING, SURFACE MOUNT, SUITABLE FOR WET LOCATIONS, 6,000 LUMEN, WIDE DISTRIBUTION, MULTI/VOLT DRIVER, 4000K, 90 CRI, WITH A 5 YEAR WARRANTY.	HOLOPHANE EVT4 OR EQUAL	EVT4-6000LM-FST-WD-MVOLT-40K-90CRI-DL-STSL, MOUNTING HARDWARE AS REQUIRED.

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	MLW					
	APPROVED BY	WCM					
	ISSUE DATE	AUGUST 2023					
	PROJECT NUMBER	246521-04-001					

WAYNE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/01/2023

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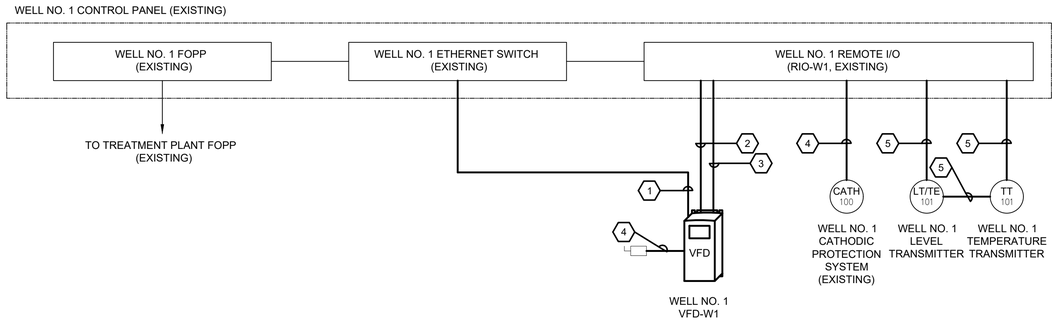
GLICK WELLFIELD IMPROVEMENTS

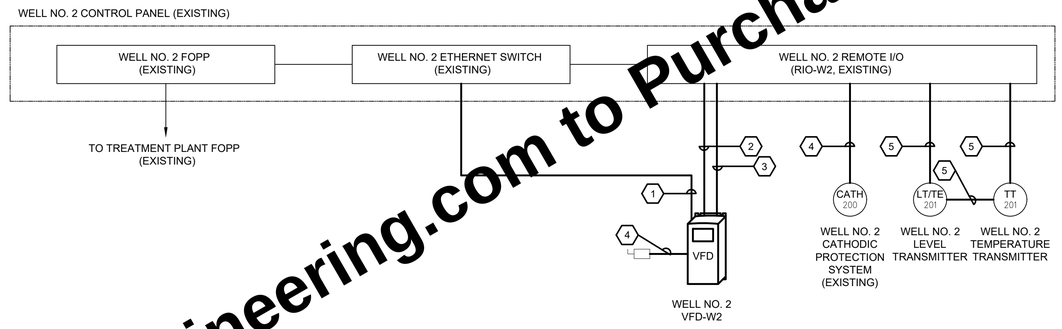
CITY OF LAFAYETTE, INDIANA

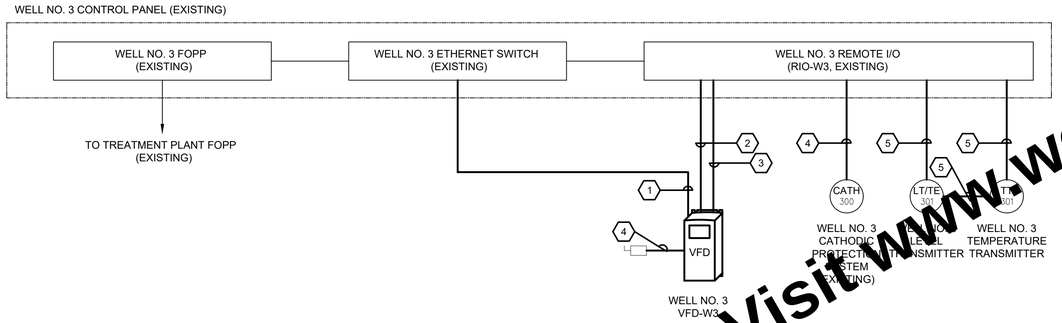
PANEL SCHEDULES

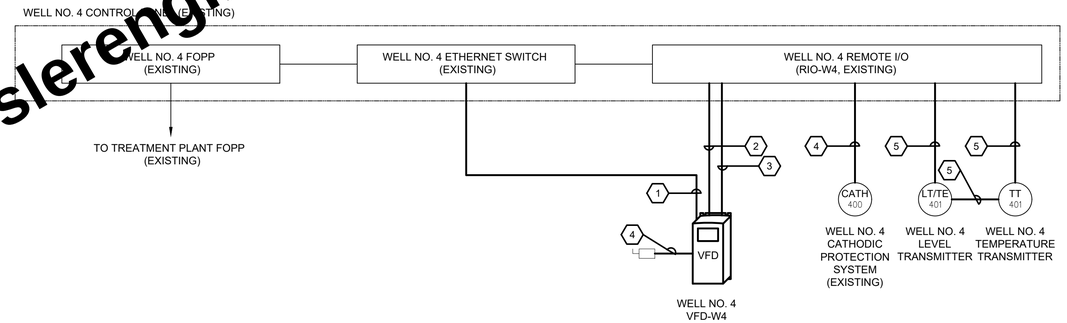
SHEET NO. **21**

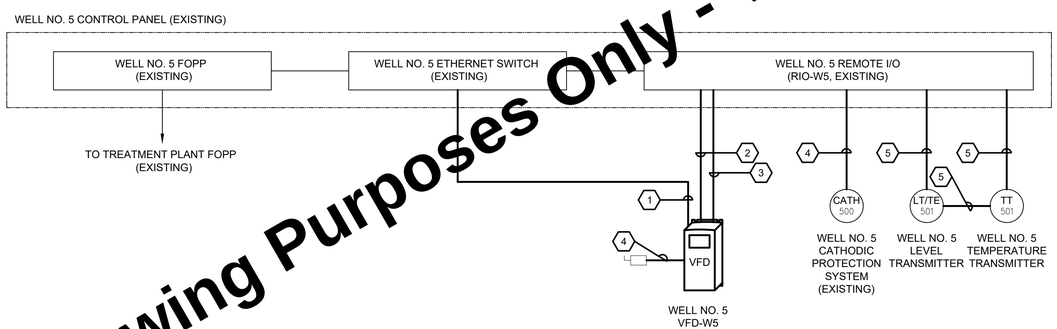
TOTAL SHEETS 26











CONDUIT & WIRE SCHEDULE:

1. 3/4"C, CAT6 ETHERNET
2. 3/4"C, 8#14
3. 3/4"C, 2 - 2/C#16TPS
4. 3/4"C, 3#14
5. 3/4"C, 2/C#16TPS

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	BDP				
	APPROVED BY	WCM				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

MAINE C. MOORE REGISTERED No. 10707476 STATE OF INDIANA PROFESSIONAL ENGINEER 08/01/2023

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GLICK WELLFIELD IMPROVEMENTS

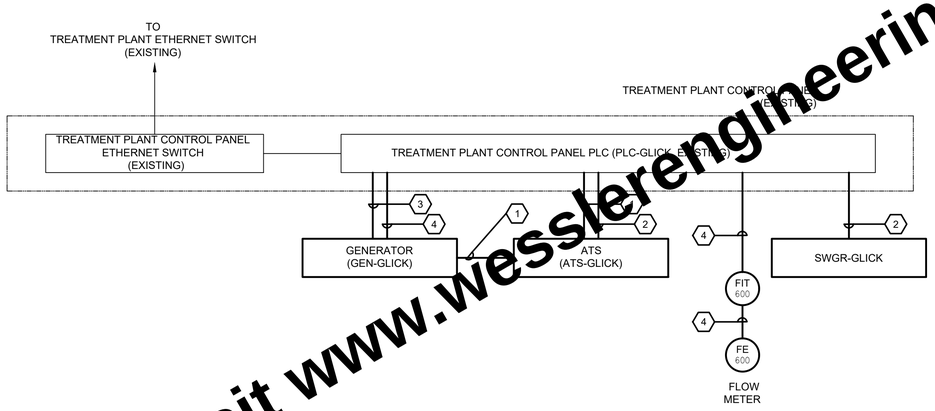
CITY OF LAFAYETTE, INDIANA

WELLFIELD CONTROLS ONE-LINE DIAGRAMS

SHEET NO. **22**

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-CNTRL-OD.dwg | Layout: 24 GLICK WELL FIELD CONTROLS ONE-LINE DIAGRAMS | Plotted: 08/31/23 @ 09:20:14 | LastSavedBy: MichaelW



CONDUIT & WIRE SCHEDULE:

1. 3/4"C, CAT6 ETHERNET
2. 3/4"C, 10#14
3. 3/4"C, 6#14
4. 3/4"C, 2/C#16TPS

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	GLICK WELLFIELD IMPROVEMENTS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	BDP					CITY OF LAFAYETTE, INDIANA
	APPROVED BY	WCM					TREATMENT PLANT CONTROLS ONE-LINE DIAGRAM
	ISSUE DATE	AUGUST 2023					SHEET NO. 23
	PROJECT NUMBER	246521-04-001					TOTAL SHEETS 26

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VALVE SYMBOLS

SEAT PORT

ECCENTRIC PLUG

THREE - WAY

BUTTERFLY

BALL

GLOBE

PRESSURE RELIEF

AIR RELEASE AND VACUUM RELIEF

GATE

KNIFE GATE

CONSTANT VOLUME FLOW REGULATOR

MUD

BALL CHECK

SWING CHECK

SPLIT DISC CHECK

REGULATED SIDE PRESSURE CONTROL

PINCH

DIAPHRAGM

NEEDLE

CALIBRATED BALANCE

SOLENOID

GATE SYMBOLS

SLUICE GATE

SLIDE GATE

FLAP GATE

WEIR GATE

STOP GATE

WEIR AND STOP GATE

VALVE AND GATE POWER ACTUATOR SYMBOLS

ELECTRIC MOTOR

HYDRAULIC WITH SOLENOID

ELECTRIC MOTOR WITH POSITIONER

PNEUMATIC WITH POSITIONER

HYDRAULIC WITH POSITIONER

PNEUMATIC WITH SOLENOID

XX: FC = FAIL CLOSED
FIP = FAIL INTERMEDIATE POSITION
FIP = FAIL TO LAST POSITION
FO = FAIL OPEN

NOTE: XX = FAIL POSITION ON LOSS OF PRIMARY POWER (PNEUMATIC OR ELECTRICAL)

FLOW ELEMENTS SYMBOLS

WEIR PLATE

PARSHALL FLUME

ROTAMETER

PROPELLER OR TURBINE METER

ORIFICE METER

EXISTING STRUCTURE

CLAMP ON ULTRASONIC FLOWMETER

MAGNETIC FLOWMETER

VENTURI OR FLOW TUBE

INSERTION MAGNETIC FLOWMETER

STRUCTURES AND EQUIPMENT

NEW OR RELOCATED ITEM

EXISTING ITEM

EXISTING OR RELOCATED STRUCTURE

MISCELLANEOUS SYMBOLS

HARDWIRED INTERLOCK SEE SPECIFICATION

OR

MICROPROCESSOR BASED INTERLOCK SEE SPECIFICATION

BLIND FLANGE OR CLEAN OUT

AIR GAP

STRAINER

FLUSHING WATER CONNECTION

SEAL WATER CONNECTION

AUTOMATIC SAMPLER

DIFFUSER

BUBBLER LEVEL ELEMENT

VENT

RUPTURE DISK

STATIC MIXER

ORTHO PHOSPHATE ELEMENT

PROBE

ELECTRIC MOTOR

MANUAL SAMPLE PORT

AUTOMATIC DRIP TRAP

MANUAL DRIP TRAP

DIAPHRAGM SEAL

ANNULAR SEAL

FLOW STRAIGHTENING VANE

CALIBRATION CHAMBER

DENSITY METER
X: N - NUCLEAR
O - OPTICAL
U - ULTRASONIC

SELF CONTAINED AIR SUPPLY

PURGE SET
X: W = WATER
A = AIR

INTERFACE SYMBOLS

PROCESS

INTER - UNIT PROCESS
W = SOURCE UNIT PROCESS NO.
A = INTERFACE NO.

NNN = SOURCE SHEET NO.
MMM = DESTINATION SHEET NO.

INTRA - UNIT PROCESS
Q = INTERFACE LETTER

TO INTERFACE
NOT IN CONTACT

SIGNAL LINE CONTINUATION
N = 1, 2, 3 ETC.

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND. NOT ALL THE INFORMATION SHOWN ON THIS LEGEND IS USED IN THESE CONTRACT DRAWINGS.
2. ALL I/O MAY NOT BE REFERENCED WITHIN THE N-SERIES DRAWINGS. REFER TO E-SERIES DRAWINGS, INCLUDING CONTROL ONE-LINES, ELECTRICAL WIRING SCHEMATICS, AND THE I/O LISTING IN SECTION 13482 FOR ADDITIONAL I/O REQUIREMENTS.

PUMP AND COMPRESSOR SYMBOLS

SUBMERSIBLE PUMP

CENTRIFUGAL BLOWER

CENTRIFUGAL PUMP (DRY PIT)

VERTICAL TURBINE PUMP

PROGRESSING CAVITY PUMP

LOBE PUMP, BLOWER OR COMPRESSOR (POSITIVE DISPLACEMENT)

COMPRESSOR (PISTON)

CHEMICAL FEED PUMP

PLUNGER PUMP

DIAPHRAGM PUMP

LEVEL ELEMENTS SYMBOLS

SUBMERSIBLE LEVEL TRANSMITTER

ULTRASONIC

FLOAT

INPUTS AND OUTPUTS TO PLC OR DISTRIBUTED CONTROL

ANALOG INPUT

ANALOG OUTPUT

PULSE INPUT

PULSE OUTPUT

DIGITAL INPUT

DIGITAL OUTPUT

NOTE:
X = TOTAL NUMBER OF SIGNALS WHERE MORE THAN ONE SIGNAL IS REQUIRED. IF QUANTITY IS NOT SHOWN THEN ONE SIGNAL IS REQUIRED.

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
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	APPROVED BY	WCM				
	ISSUE DATE	AUGUST 2023				
	PROJECT NUMBER	246521-04-001				

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GLICK WELLFIELD IMPROVEMENTS

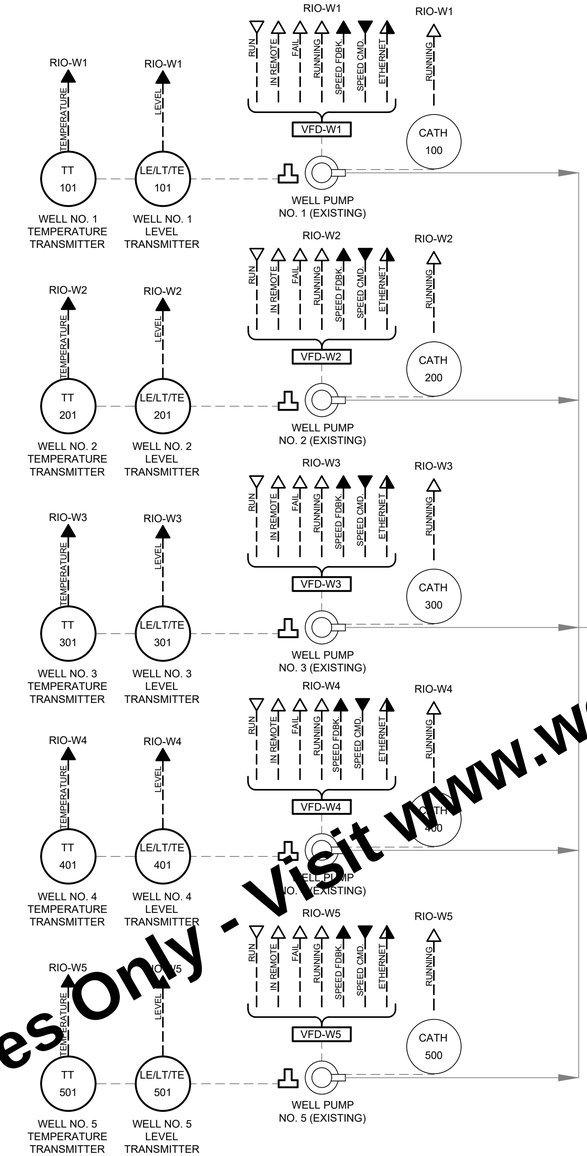
CITY OF LAFAYETTE, INDIANA

PROCESS AND INSTRUMENTATION LEGEND

SHEET NO. **24**

TOTAL SHEETS 26

Drawing: J:\Lafayette\Projects\246521 Lafayette Glick Well Field\CAD\DWG\Sheets\246521-P&ID.dwg | Layout: 26 PROCESS AND INSTRUMENTATION LEGEND | Plotted: 08/31/23 @ 09:20:25 | LastSavedBy: CurtisG



SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS	
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	BDP					
	APPROVED BY	WCM					
	ISSUE DATE	AUGUST 2023					
	PROJECT NUMBER	246521-04-001					

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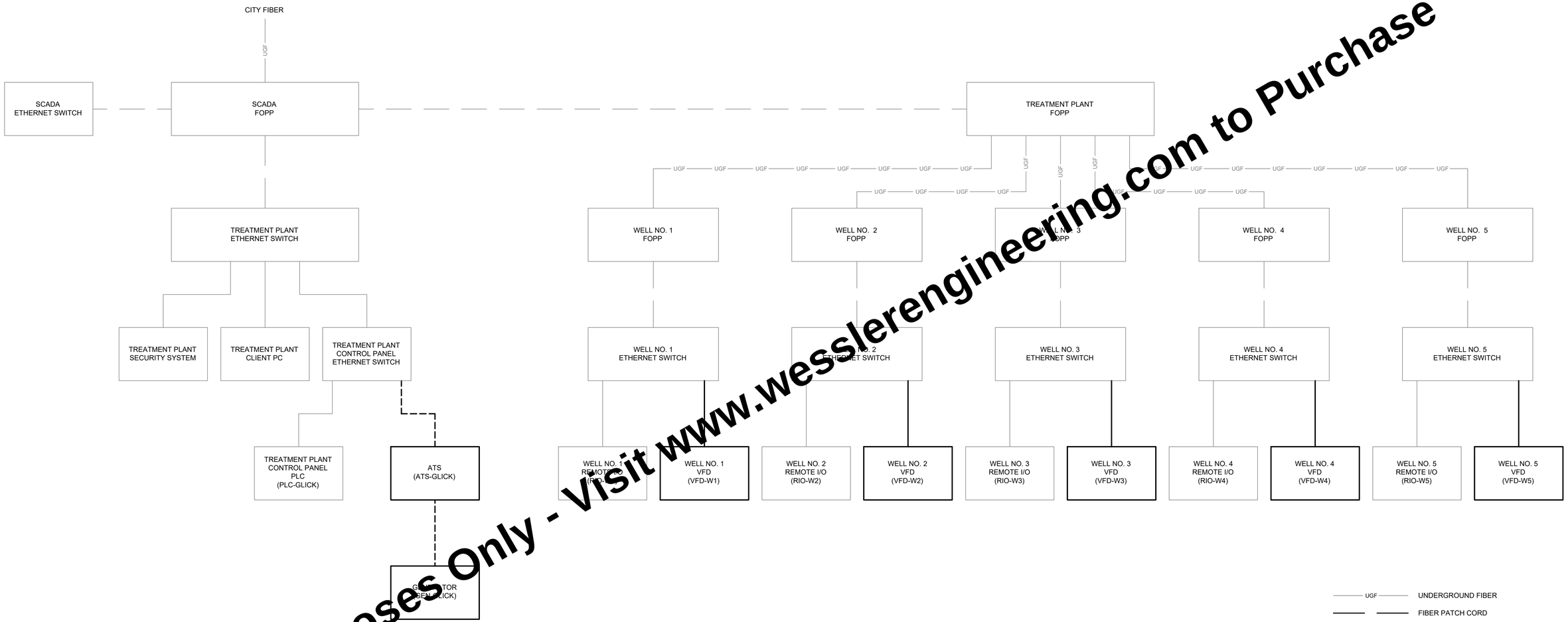
GLICK WELLFIELD IMPROVEMENTS

CITY OF LAFAYETTE, INDIANA

WELLFIELD PROCESS AND INSTRUMENTATION DIAGRAM

SHEET NO. **25**

TOTAL SHEETS 26



GENERAL NOTE:

1. EQUIPMENT IN BOLD LINE TYPE IS NEW CONSTRUCTION. LIGHTER LINE TYPE IS EXISTING EQUIPMENT.

SCALE VERIFICATION	DRAWN BY	MLW	NO.	DATE	INITIALS	REVISION DESCRIPTIONS
BAR IS ONE INCH LONG ON ORIGINAL DRAWING	CHECKED BY	BDP				
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8/30/2023

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CITY OF LAFAYETTE, INDIANA

TREATMENT PLANT NETWORK DIAGRAM

SHEET NO. 26

TOTAL SHEETS 26