CONSTRUCTION PLANS FOR:

UNION CITY DRINKING WATER IMPROVEMENTS DIVISION II (SOUTH WTP)

UNION CITY, INDIANA 47390

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REVISIONS		
REVISION NUMBER	REVISION DESCRIPTION	DATE

FLOOD NOTE:
THE ACCURACY OF ANY FLOOD HAZARD DATA SHOWN ON THESE PLANS IS SUBJECT TO MAP SCALE UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE REFERENCED FLOOD INSURANCE RATE MAP. THE WITHIN DESCRIBED TRACT OF LAND LIES WITHIN FLOOD HAZARD ZONE X AS SAID TRACT PLOTS BY SCALE ON COMMUNITY PANEL NUMBER 18135C0185C DATED 03/04/2013 FOR THE FLOOD INSURANCE RATE MAPS FOR UNION CITY, INDIANA (AREA 180219).

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

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IC8-1-26.
IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

PLANS PREPARED FOR:

UNION CITY BOARD OF PUBLIC WORKS
115 N COLUMBIA STREET
UNION CITY, IN 47390
TELEPHONE: (765) 964-3700 X 2
CONTACT PERSON: STEVE SHOEMAKER, CITY MANAGER
EMAIL: citymanager@unioncity-in.gov

PLANS PREPARED BY:

RQAW CORPORATION
8770 NORTH STREET, SUITE 110
FISHERS, INDIANA 46038
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CONTACT PERSON: WHITNEY WEIDENBENNER
EMAIL: wweidenbenner@dccm.com

OPERATING AUTHORITES:

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ROB MYERS

ELECTRIC
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115 N COLUMBIA STREET
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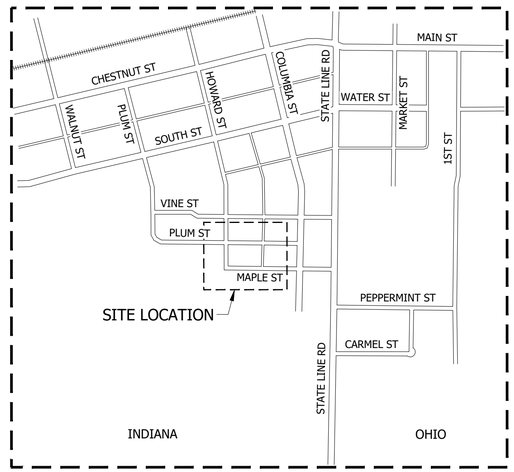
CENTURY
TELEPHONE: (800) 244-1111

CABLE/INTERNET
SPECTRUM
TELEPHONE: (800) 425-2225

SITE VICINITY MAP
NOT TO SCALE



SITE LOCATION MAP
NOT TO SCALE

RQAW
DCCM

CONSTRUCTION SET
UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)
UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1
Designed By: WMW
Drawn By: RLH
Checked By: WMW
Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

TITLE SHEET

G001

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/13/25 - 1:17 PM EDITED BY: WWEIDENBENNER DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\23400215 1 - TITLE SHEET.DWG

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS FOR THIS PROJECT. ADDITIONS, DELETIONS, AND/OR REVISIONS SHALL NOT BE MADE WITHOUT PRIOR APPROVAL BY THE ENGINEER. KEEP AND MAINTAIN IN GOOD CONDITION A COMPLETE SET OF THE CONTRACT DOCUMENTS ON THE JOB SITE AT ALL TIMES.
2. ALL WORK SHALL COMPLY WITH LOCAL, STATE, AND FEDERAL CODES, ORDINANCES, RULES, REGULATIONS, ORDERS, AND OTHER LEGAL REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
3. IN THE EVENT THAT THE CONTRACTOR DISCOVERS A DISCREPANCY IN THE CONTRACT DOCUMENTS OR POTENTIAL UTILITY CONFLICT, NOTIFY THE ENGINEER IMMEDIATELY FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE CONSTRUCTION OF THE PORTION OF THE WORK IN QUESTION. FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. VERTICAL AND HORIZONTAL LOCATIONS TO BE CONFIRMED. ANY NECESSARY PIPE MODIFICATIONS SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL LOCAL NECESSARY PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, OR VERIFYING, THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION.
5. ALL RIGHT-OF-WAY AND PROPERTY LINES AND EASEMENTS ARE APPARENT AND WERE DETERMINED BASED UPON AVAILABLE INFORMATION. VERIFY ALL RIGHT-OF-WAY AND PROPERTY LINES. STAKE ALL RIGHT-OF-WAY, PROPERTY, AND EASEMENT LINES THROUGHOUT THE DURATION OF CONSTRUCTION.
6. CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROPERTY LINES AND RIGHT-OF-WAY SHALL BE STAKED FOR THE DURATION OF CONSTRUCTION ACTIVITIES.
7. PROTECT ALL EXISTING UTILITIES FROM DAMAGE, IN A MANNER APPROVED BY THE UTILITY COMPANIES AND THE ENGINEER. COORDINATE WITH UTILITY COMPANIES AS NECESSARY TO COMPLETE THE WORK. PROTECT BENCH MARKS, SURVEY CONTROL POINTS, AND EXISTING STRUCTURES FROM UNNECESSARY DAMAGE OR DISPLACEMENT.
8. PROVIDE ALL AUTOMOBILE AND PEDESTRIAN TRAFFIC CONTROL DEVICES REQUIRED BY FEDERAL, STATE, OR LOCAL AGENCIES. THE AMOUNT, LOCATION, AND SIZE SHALL BE AS REQUIRED IN ACCORDANCE WITH MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. DURING CONSTRUCTION IT MAY BE NECESSARY TO TRIM OR REMOVE A TREE WITHIN THE RIGHT-OF-WAY OR AN EASEMENT. NOTIFY THE ENGINEER, OWNER, AND ANY AFFECTED PROPERTY OWNER PRIOR TO ANY REQUIRED TREE REMOVAL. TREE TRIMMING AS REQUIRED WITHIN THE RIGHT-OF-WAY OR EASEMENT SHALL BE MINIMIZED. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR TREE REMOVAL OR TRIMMING.
10. ALL DISTURBED AREAS, INCLUDING, BUT NOT LIMITED TO, STREETS, DRIVES, WALKS, LAWNS, FENCES, RETAINING WALLS, ETC. SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL MUD, DIRT, GRAVEL, AND ANY OTHER MATERIALS TRACKED ONTO ANY PUBLIC OR PRIVATE STREETS, PARKING LOTS, OR WALKS. THIS MATERIAL REMOVAL OR SWEEPING OF THE STREETS SHALL BE DONE AS FREQUENTLY AS NECESSARY TO MAINTAIN AREAS REASONABLY CLEAN. AIRBORNE DUST SHALL BE KEPT TO A MINIMUM BY USING WATER OR OTHER METHODS AS NECESSARY.
12. PROVIDE TEMPORARY GRASS SEED WITHIN 7-DAYS OF ALL EARTH DISTURBING ACTIVITIES.
13. PROVIDE AND MAINTAIN ALL NECESSARY STRAW BALES, FILTER FENCE, INLET PROTECTION ETC. IN EXISTING AND PROPOSED DITCHES, CULVERTS, STORM PIPES, AND DRAINAGE STRUCTURES TO PREVENT DAMAGE. BIO-DEGRADABLE EROSION CONTROL DEVICES SHOULD BE PLACED IN ALL DISTURBED DRAINAGE DITCHES WITH DEPTHS GREATER THAN 12".
14. REGRADE AREAS AS NECESSARY WITHIN THE CONSTRUCTION LIMITS TO ALLOW PROPER DRAINAGE TO EXISTING STORM SEWER STRUCTURES.
15. MAINTAIN 10'-0" HORIZONTAL AND 1'-6" VERTICAL SEPARATION FROM STORM AND SEWER MAIN, UNLESS SPECIFICALLY NOTED IN THE PLANS.
16. PROVIDE FILL AROUND PROPOSED AND EXISTING PIPING AT ALL OPEN-CUT UTILITY CROSSINGS TO ADEQUATELY SUPPORT AND PROTECT EACH CONDUIT.
17. PRESERVE EXISTING RIGHT-OF-WAY MARKERS. IF RIGHT-OF-WAY MARKERS ARE DISTURBED, RESET MARKERS AT NO ADDITIONAL COST TO THE OWNER.
18. CALL LOCAL UTILITY LINE INFORMATION SERVICE NOT LESS THAN THREE WORKING DAYS BEFORE PERFORMING WORK. REQUEST UNDERGROUND UTILITIES TO BE LOCATED AND MARKED WITHIN AND SURROUNDING CONSTRUCTION AREAS. IDENTIFY REQUIRED LINES, LEVELS, CONTOURS, AND DATUM LOCATIONS.
19. ESTABLISH TEMPORARY TRAFFIC CONTROL LAND DETOURS WHEN TRENCHING IS PERFORMED IN PUBLIC RIGHT-OF-WAY. RELOCATE CONTROLS AND REROUTE TRAFFIC AS REQUIRED DURING PROGRESS OF WORK.
20. DO NOT LEAVE MORE THAN 50 FEET OF TRENCH OPEN AT END OF WORKING DAY. PROTECT OPEN TRENCH TO PREVENT DANGER TO THE PUBLIC.
21. STOCKPILE EXCAVATED AND FILL MATERIALS ON SITE AT LOCATIONS APPROVED BY OWNER. STOCKPILE IN SUFFICIENT QUANTITIES TO MEET PROJECT SCHEDULE AND REQUIREMENTS. SEPARATE DIFFERENT AGGREGATE MATERIALS WITH DIVIDERS OR STOCKPILE QUANTITIES TO MEET PROJECT SCHEDULE AND REQUIREMENTS, SEPARATE DIFFERENT AGGREGATE MATERIALS WITH DIVIDERS OR STOCKPILE INDIVIDUALLY TO PREVENT MIXING. DIRECT SURFACE WATER AWAY FROM STOCKPILE SITE TO PREVENT EROSION OR DETERIORATION OF MATERIALS. STOCKPILE CLEANUP: REMOVE STOCKPILE, AND LEAVE AREA IN CLEAN AND NEAT CONDITION. GRADE SITE SURFACE TO PREVENT FREE STANDING SURFACE WATER.
22. ALL ELEVATIONS AT CONSTRUCTION LIMITS SHALL MATCH EXISTING GRADE. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT STACKED GRADES MATCH DESIGN ELEVATIONS AND POSITIVE DRAINAGE TO STORMWATER MANAGEMENT SYSTEM IS ACHIEVED. CONTACT ENGINEER IF DESIGN ELEVATIONS DO NOT PROVIDE POSITIVE DRAINAGE.

CIVIL LINETYPES

LINETYPE	CIVIL TYPE
PL	GIS APPARENT PROPERTY LINE
	EXISTING TOP OF BANK
	EXISTING CULTIVATED FIELD EDGE
< <	EXISTING FLOW LINE
	EXISTING GRAVEL EDGE
	EXISTING TREE LINE
X X	EXISTING FENCE LINE
	EXISTING HANDRAIL
[OH-E]	EXISTING OVERHEAD ELECTRIC
SD	EXISTING STORM SEWER
W	EXISTING WATER LINE
[W] [W]	NON-SURVEY: DRAWN IN APPROX. LOCATION OF EXISTING WATER
SS	EXISTING SANITARY SEWER
G	EXISTING GAS LINE
F O	EXISTING FIBER OPTIC LINE
W	PROPOSED WATER MAIN
	EXISTING PROCESS LINE WORK
	PROPOSED PROCESS LINE WORK

SYMBOLS

ST	STREET LIGHTING PULL BOX		GATE VALVE
	TRAFFIC SIGNAL POST		BUTTERFLY VALVE
	BOLLARD		CHECK VALVE
PM	PHONE MANHOLE		AIR RELEASE VALVE
RD	ROOF DRAIN		BALL VALVE
	SIGN	PR	PRESSURE RELIEF VALVE
12"	TREE	BP	BACK PRESSURE VALVE
CO	SANITARY CLEANOUT		SOLENOID VALVE
	STORM CATCH BASIN	PD	PULSATIPON DAMPER
	RESIDUALS MANHOLE		PUMP
SS	SANITARY MANHOLE		ISOLATOR
ST	STORM MANHOLE		QUICK CONNECT ADAPTER
	POWER POLE		INJECTOR
E	ELECTRIC MANHOLE		STATIC MIXER
EM	ELECTRIC METER		PRESSURE GAUGE
WV	WATER VALVE	PS	PRESSURE SWITCH
	FIRE HYDRANT	PT	PRESSURE TRANSDUCER
GV	GAS VALVE		LEVEL PROBE
GM	GAS METER		STRAINER
	SET 5/8" IRON ROD CAPPED	M	FLOW METER
	FOUND 1" IRON PIPE SET		SLUICE GATE
	'MAG' NAIL	M	NON-MODULATING ACTUATOR
	CUT CROSS	M MOD	MODULATING ACTUATOR
(R)	RECORD		FLAP GATE
(M)	MEASURE	F	FLEX COUPLING
(C)	CALCULATED		FLEX TUBING
MB	MAILBOX		REDUCER/ INCREASER
	YARD HYDRANT	BP	BOOSTER PUMP
CW	CONCRETE WASHOUT		TIDEFLEX VALVE

ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	FCO	FLOOR CLEANOUT
ATR	ALL THREAD ROD	GV	GATE VALVE
AS	AQUASTAT	GLV	GLOBE VALVE
AAV	AIR ADMITTANCE VALVE	HSP	HIGH SERVICE PUMP
AC	AIR COMPRESSOR	HB	HOSE BIBB
ARV	AIR RELEASE VALVE	HWRP	HOT WATER RETURN PUMP
AP	ACCESS PANEL	MV	MANUAL AIR VENT
AD	AREA DRAIN	M	MOTOR - OPERATED VALVE
AV	ANGLE VALVE	ORD	OVERFLOW ROOF DRAIN
AUV	AUTOMATIC AIR VALVE	PTU	PACKAGED TREATMENT UNIT
BV	BALL VALVE	PV	PLUG VALVE
BFV	BUTTERFLY VALVE	PA	PIPE ANCHOR
BFPA	BACKFLOW PREVENTER ASSEMBLY	PG	PIPE GUIDE
BS	BASKET STRAINER	PS	PIPE SLEEVE
CTLV	CONTROL VALVE, 2-WAY	PRV	PRESSURE RELIEF VALVE
CV	CHECK VALVE	PIV	POST INDICATOR VALVE
CR	CONCENTRIC REDUCER/ INCREASER	PRG	PRESSURE GAUGE WITH GAUGE COOK
DU	DIELECTRIC UNION	PRS	PRESSURE SWITCH
DBL	DOUBLE	ROW	RIGHT-OF-WAY
ECO	EXTERIOR CLEANOUT	RD	ROOF DRAIN
EL	EXPANSION LOOP	SV	SOLENOID VALVE
EC	ECCENTRIC REDUCER/ INCREASER	TPV	TEMPERATURE PRESSURE RELIEF VALVE
EJ	EXPANSION JOINT	T	THERMOMETER
FFE	FINISHED FLOOR ELEVATION	U	UNION
F	FLANGE	WCO	WALL CLEANOUT
FS	FLOW SWITCH	WHA	WATER HAMMER ARRESTOR
FM	FLOW METER	WS	WYE STRANNER
FC	FLEXIBLE CONNECTOR	WH	WALL HYDRANT
FD	FLOOR DRAIN	YB	YARD BOX

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: WMW

Drawn By: RLH

Checked By: WMW

Date: 01/30/2025

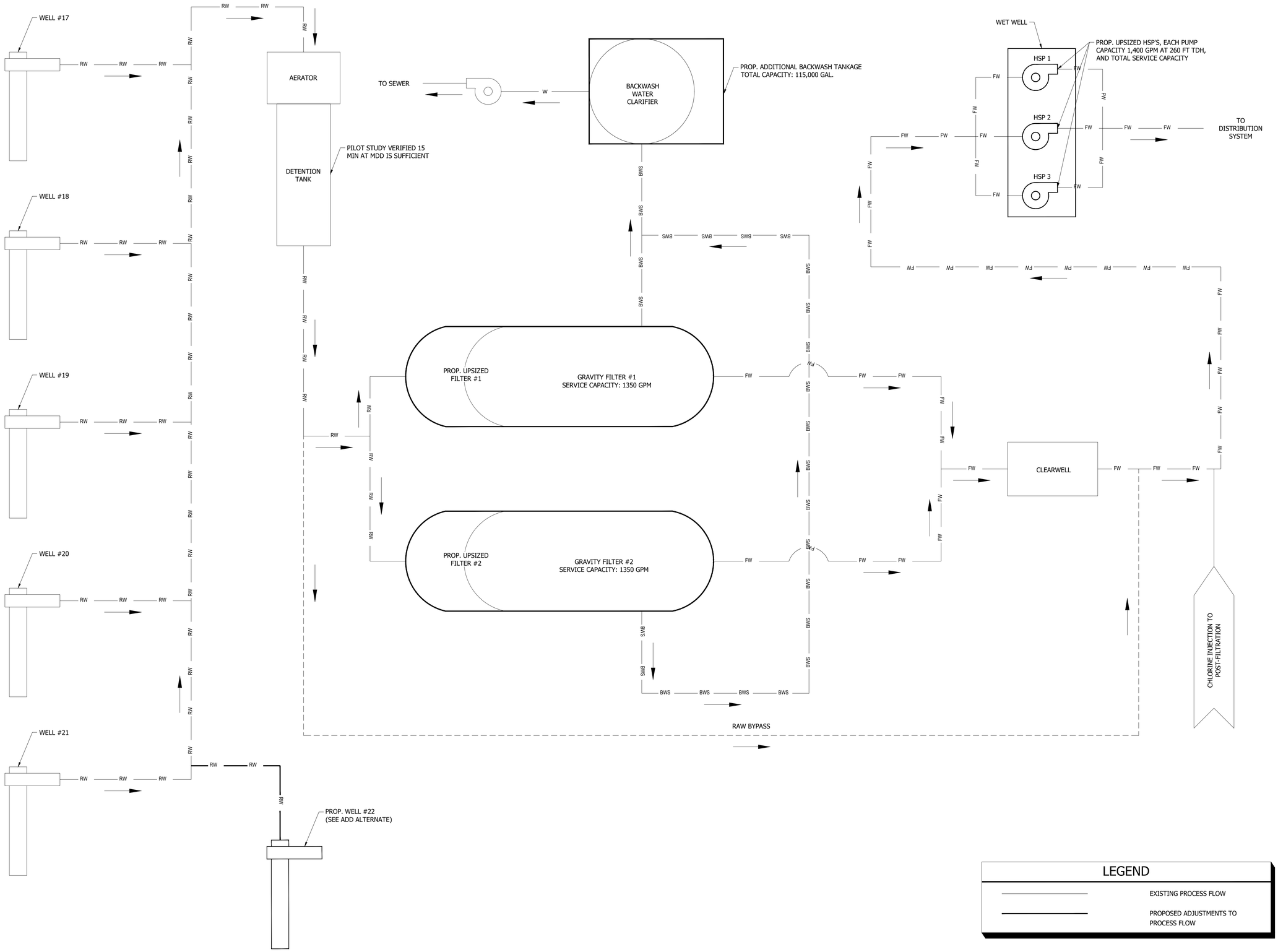
AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

Aaron Crow

GENERAL NOTES

G002

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 12/16/24 - 10:18 AM EDITED BY: RHUNT DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\S ACAD\DIV II PLAN SHEETS\234002151 - GENERAL NOTES.DWG



LEGEND

- EXISTING PROCESS FLOW
- PROPOSED ADJUSTMENTS TO PROCESS FLOW

RQAW

DCCM

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AARON L. CROW
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STATE OF
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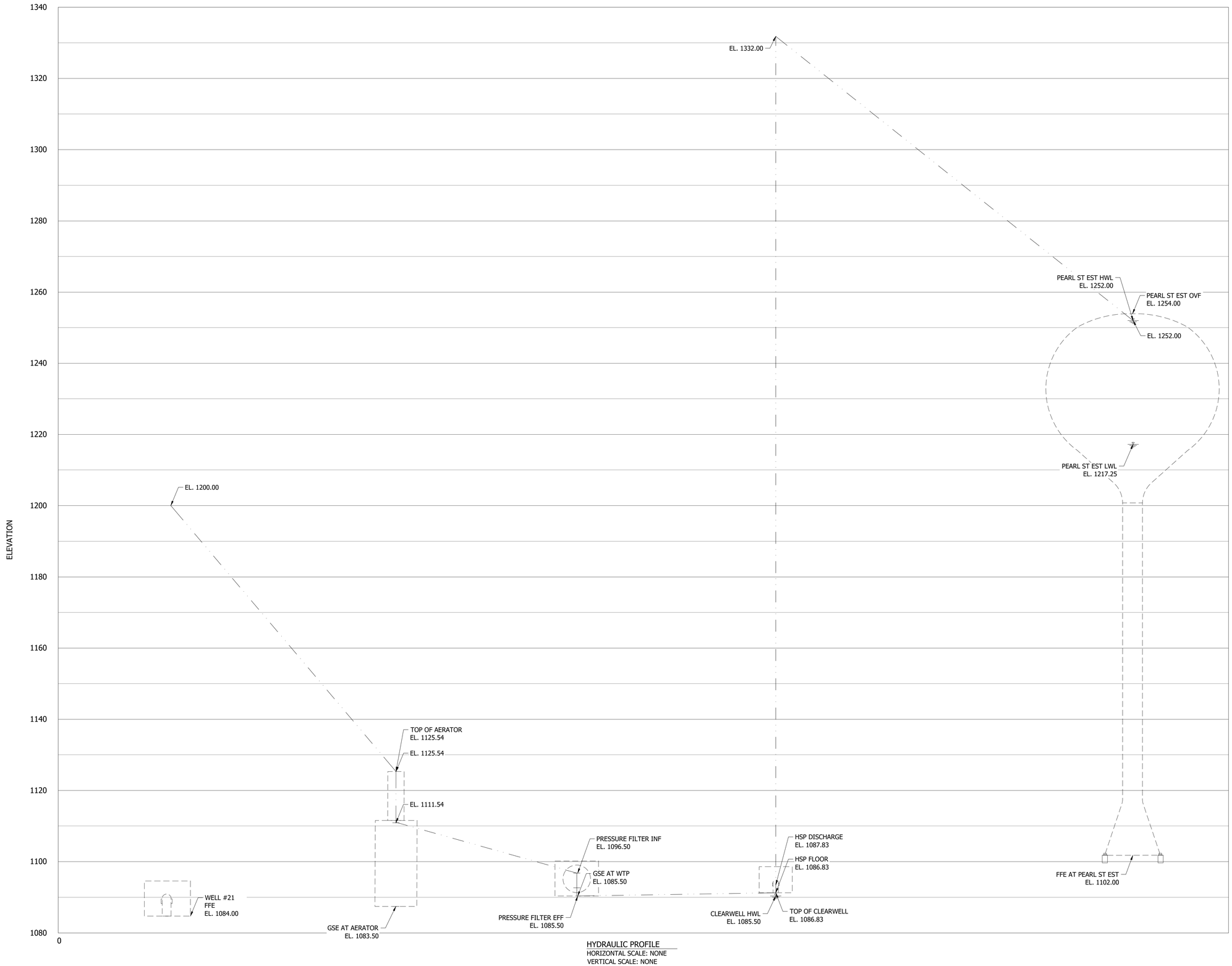
PROFESSIONAL ENGINEER

PROCESS FLOW DIAGRAM - SOUTH PLANT

C100

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 1/22/25 - 12:52 PM EDITED BY: RHUNT DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\23400215 - PROCESS FLOW AND HYDRAULIC PROFILE.DWG

HYDRAULIC PROFILE - SOUTH WTP - 1,350 GPM



HYDRAULIC PROFILE
HORIZONTAL SCALE: NONE
VERTICAL SCALE: NONE

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 1/22/25 - 12:52 PM EDITED BY: RHUNT DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\234002151 - PROCESS FLOW AND HYDRAULIC PROFILE.DWG

RQAW

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AARON L. CROW
REGISTERED
No. PE11800762
STATE OF INDIANA
PROFESSIONAL ENGINEER

Aaron Crow

HYDRAULIC PROFILE - SOUTH PLANT

C101

KEY NOTES

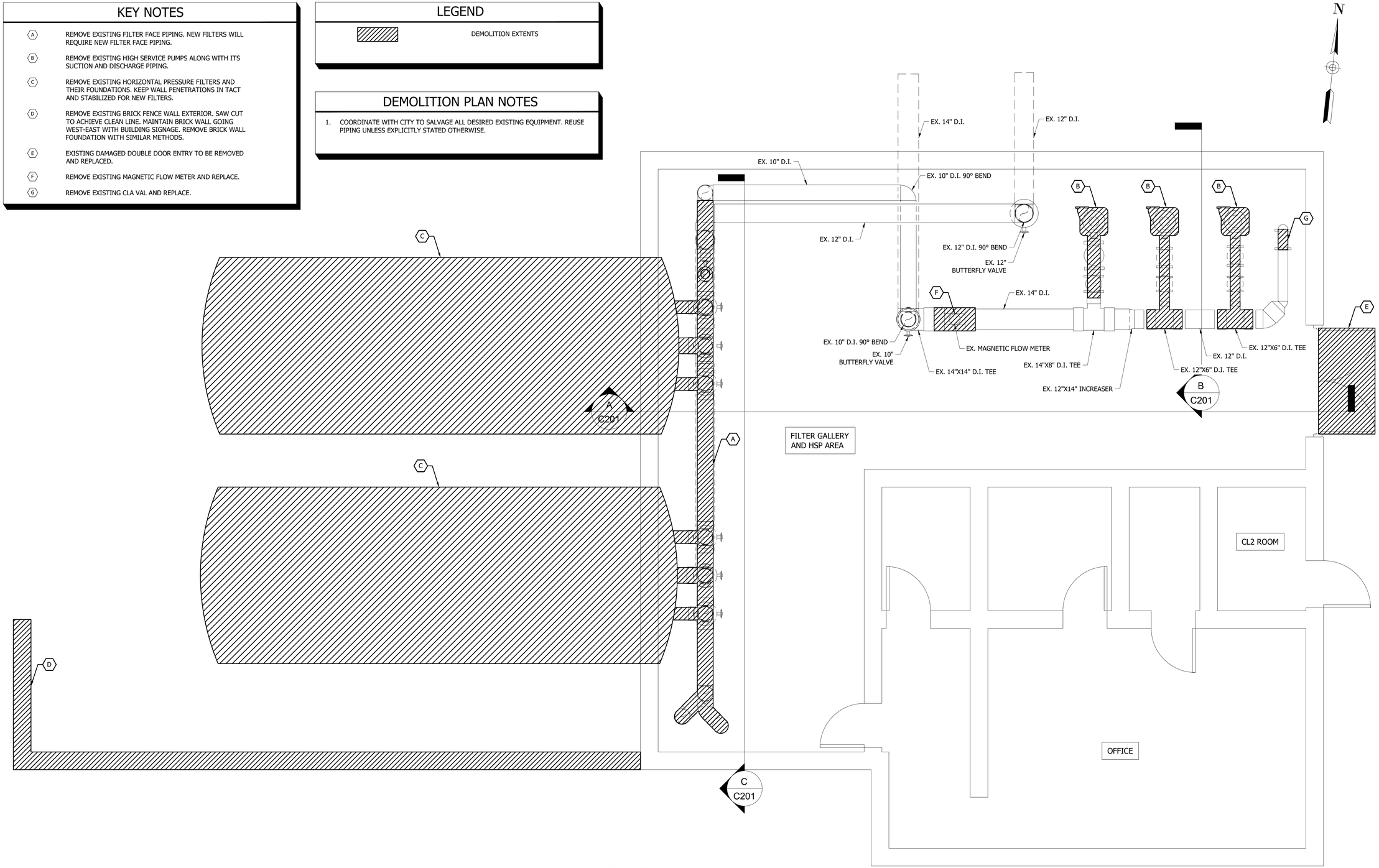
- (A) REMOVE EXISTING FILTER FACE PIPING. NEW FILTERS WILL REQUIRE NEW FILTER FACE PIPING.
- (B) REMOVE EXISTING HIGH SERVICE PUMPS ALONG WITH ITS SUCTION AND DISCHARGE PIPING.
- (C) REMOVE EXISTING HORIZONTAL PRESSURE FILTERS AND THEIR FOUNDATIONS. KEEP WALL PENETRATIONS IN TACT AND STABILIZED FOR NEW FILTERS.
- (D) REMOVE EXISTING BRICK FENCE WALL EXTERIOR. SAW CUT TO ACHIEVE CLEAN LINE. MAINTAIN BRICK WALL GOING WEST-EAST WITH BUILDING SIGNAGE. REMOVE BRICK WALL FOUNDATION WITH SIMILAR METHODS.
- (E) EXISTING DAMAGED DOUBLE DOOR ENTRY TO BE REMOVED AND REPLACED.
- (F) REMOVE EXISTING MAGNETIC FLOW METER AND REPLACE.
- (G) REMOVE EXISTING CLA VAL AND REPLACE.

LEGEND

DEMOLITION EXTENTS

DEMOLITION PLAN NOTES

1. COORDINATE WITH CITY TO SALVAGE ALL DESIRED EXISTING EQUIPMENT. REUSE PIPING UNLESS EXPLICITLY STATED OTHERWISE.



EXISTING FLOOR PLAN
SCALE: 3/8" = 1'-0"

RQAW

DCCM

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DEMOLITION PLAN - SOUTH PLANT

C200

PRINT DATE: 2/27/25
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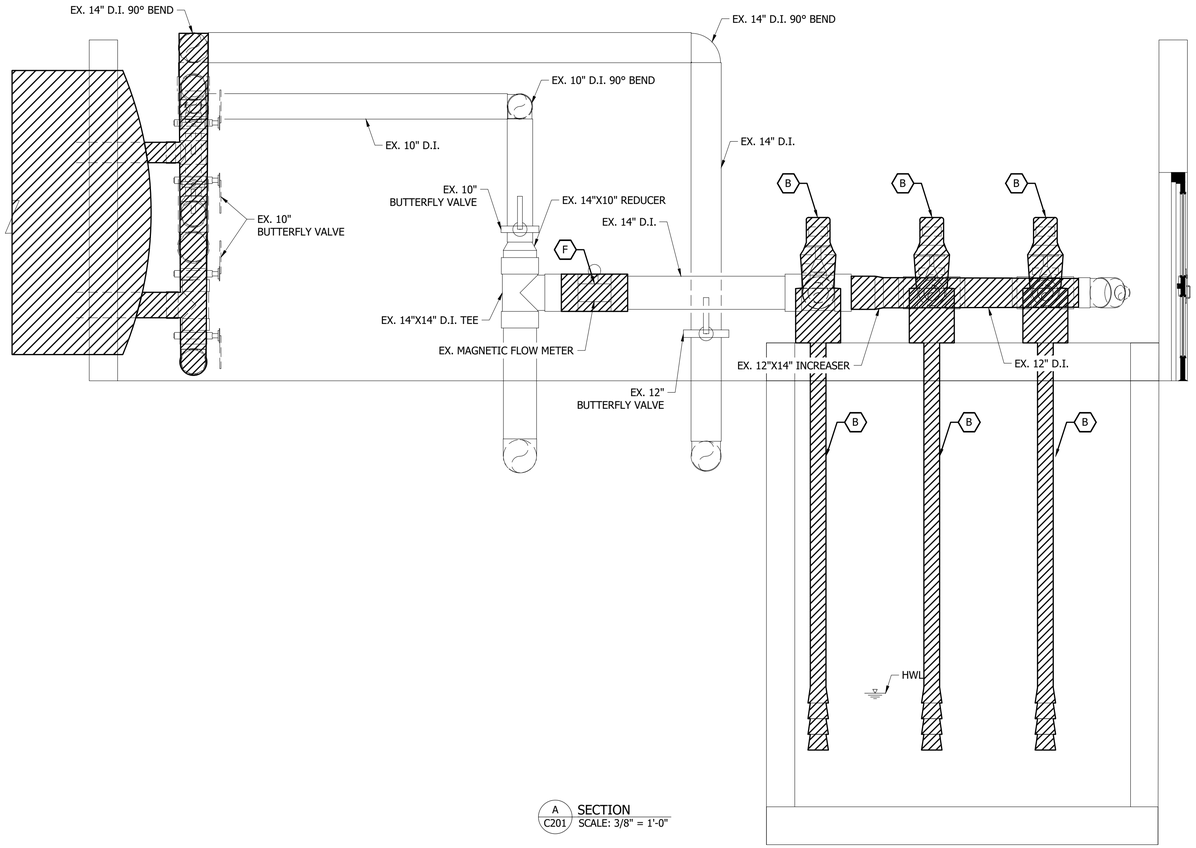
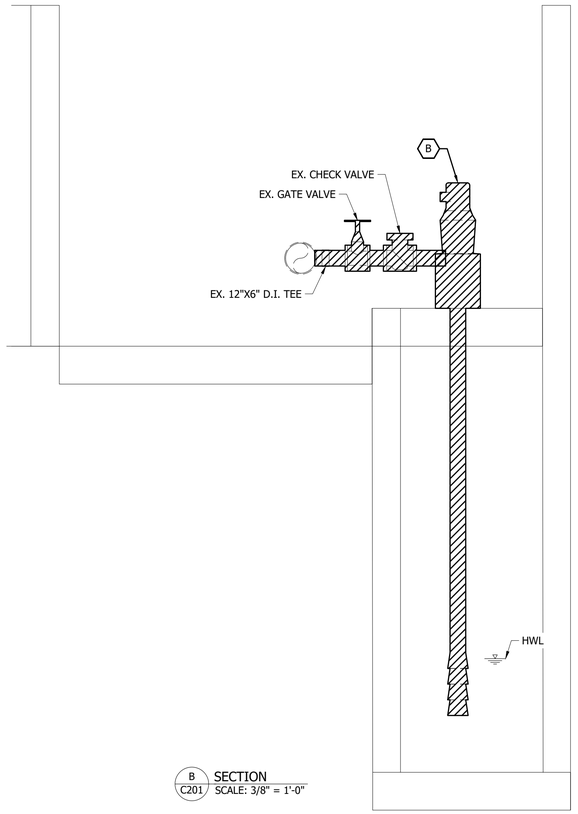
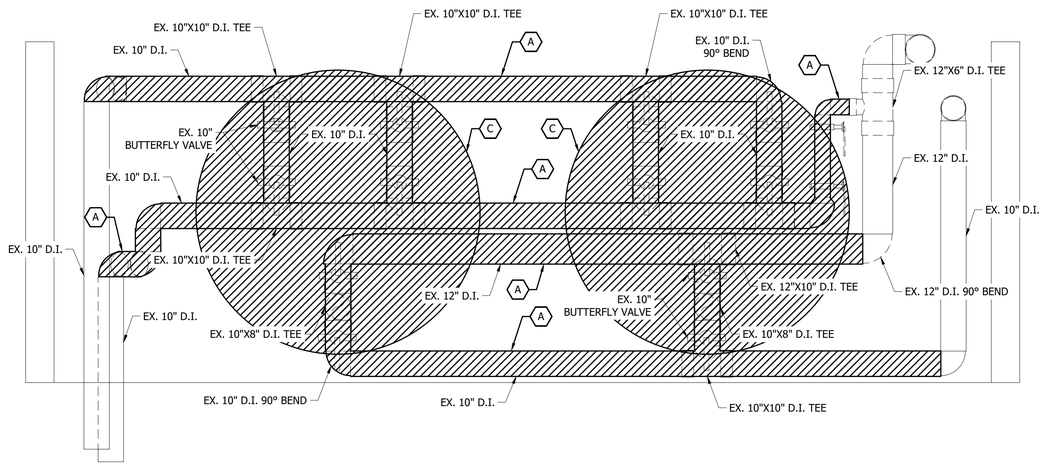


A SECTION
C201 SCALE: 3/8" = 1'-0"



B SECTION
C201 SCALE: 3/8" = 1'-0"



C SECTION
C201 SCALE: 3/8" = 1'-0"

KEY NOTES

- (A) REMOVE EXISTING FILTER FACE PIPING. NEW FILTERS WILL REQUIRE NEW FILTER FACE PIPING.
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- (C) REMOVE EXISTING HORIZONTAL PRESSURE FILTERS. KEEP WALL PENETRATIONS IN TACT AND STABILIZED FOR NEW FILTERS.
- (D) REMOVE EXISTING BRICK FENCE WALL EXTERIOR. SAW CUT TO ACHIEVE CLEAN LINE. MAINTAIN BRICK WALL GOING WEST-EAST WITH BUILDING SIGNAGE.
- (E) EXISTING DAMAGED DOUBLE DOOR ENTRY TO BE REMOVED AND REPLACED.
- (F) REMOVE EXISTING MAGNETIC FLOW METER AND REPLACE.

LEGEND

DEMOLITION EXTENTS

DEMOLITION PLAN NOTES

1. COORDINATE WITH CITY TO SALVAGE ALL DESIRED EXISTING EQUIPMENT. REUSE PIPING UNLESS EXPLICITLY STATED OTHERWISE.

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Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

DEMOLITION PLAN SECTION VIEWS - SOUTH PLANT

C201

PRINT DATE: 2/27/25
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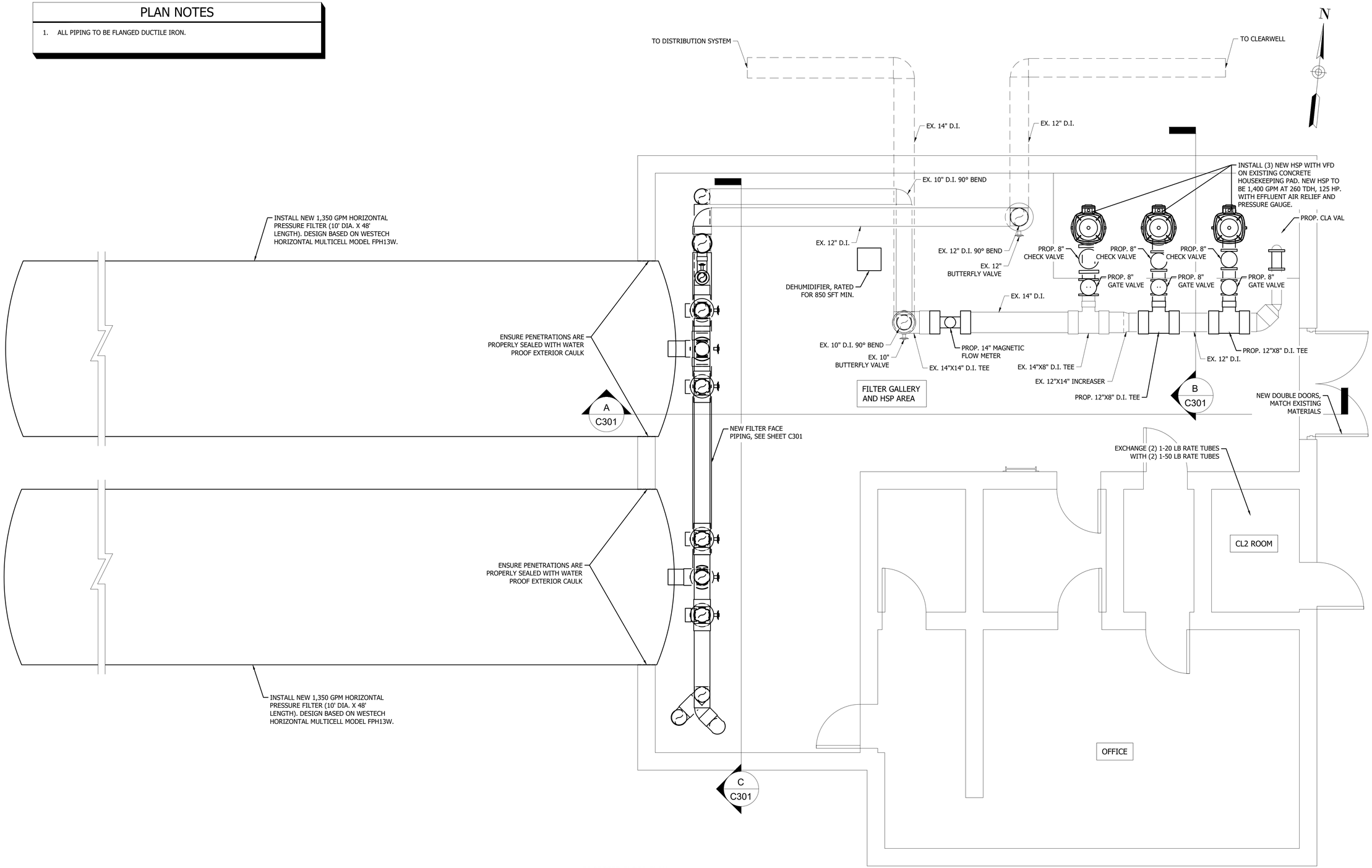
PLAN NOTES

1. ALL PIPING TO BE FLANGED DUCTILE IRON.



PROPOSED FLOOR PLAN
SCALE: 3/8" = 1'-0"

RQAW

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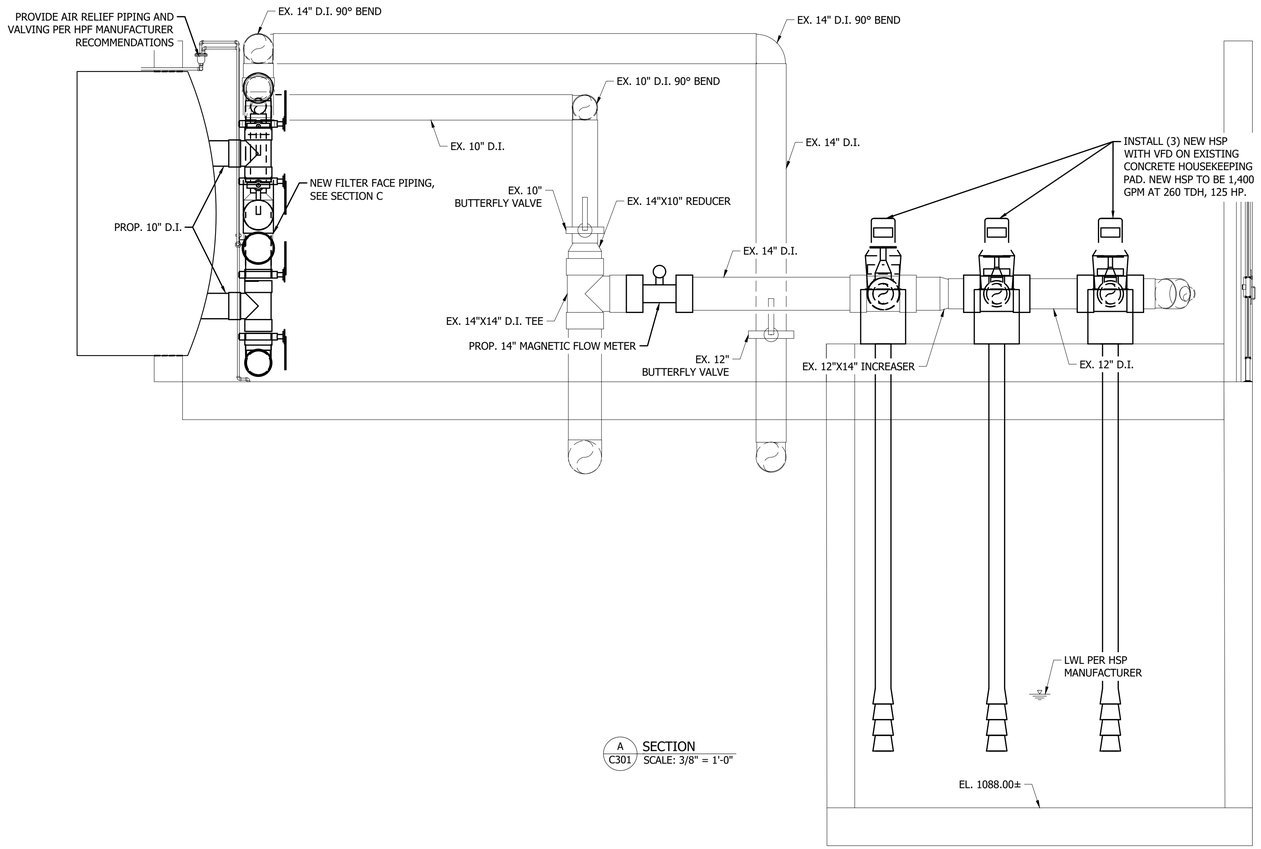
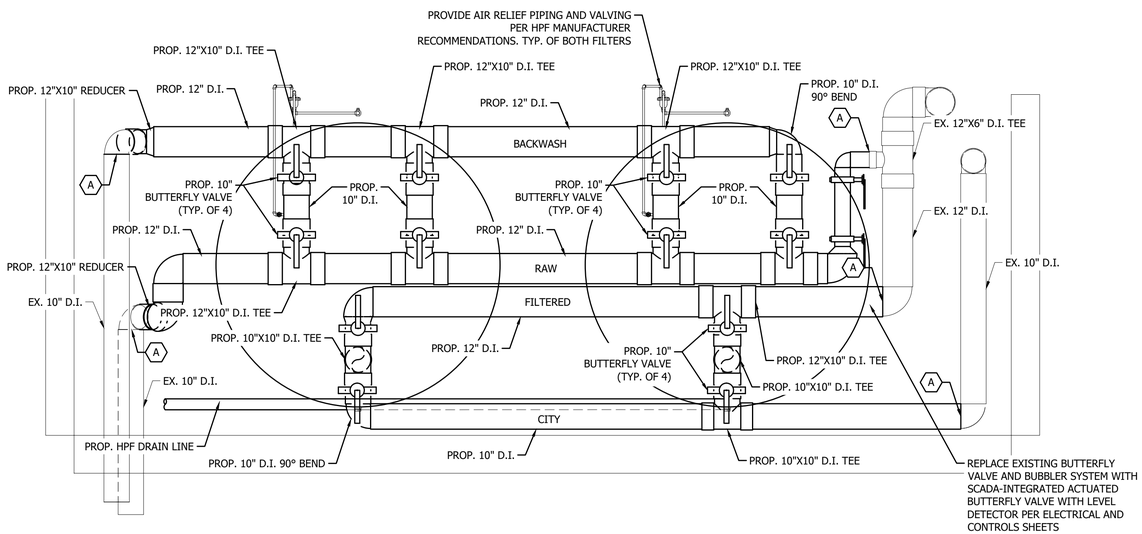
PROCESS PLAN & PIPING - SOUTH PLANT

C300

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/10/25 - 10:45 AM EDITED BY: WWEIDENBENNER DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\234002151 - FOUNDATION AND FF PROCESS PLAN AND PIPING.DWG



A C301 SECTION
SCALE: 3/8" = 1'-0"



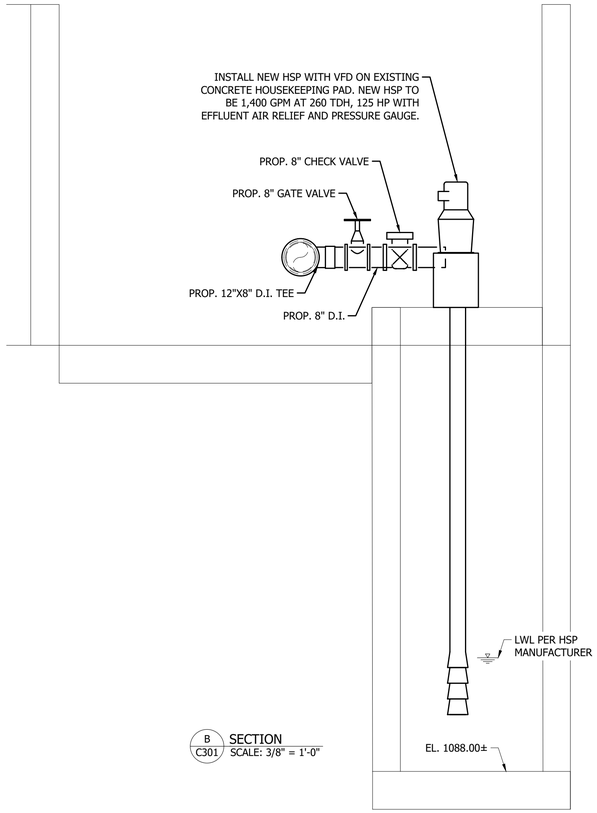
C C301 SECTION
SCALE: 3/8" = 1'-0"

KEY NOTES

A	CONNECT TO EXISTING

PLAN NOTES

1. ALL PIPING TO BE FLANGED DUCTILE IRON.
2. ALL VALVING WILL HAVE HAND WHEEL OPERATION (WITH CHAINS WHERE NECESSARY) SIMILAR TO CURRENT EQUIPMENT SETUP.



B C301 SECTION
SCALE: 3/8" = 1'-0"

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

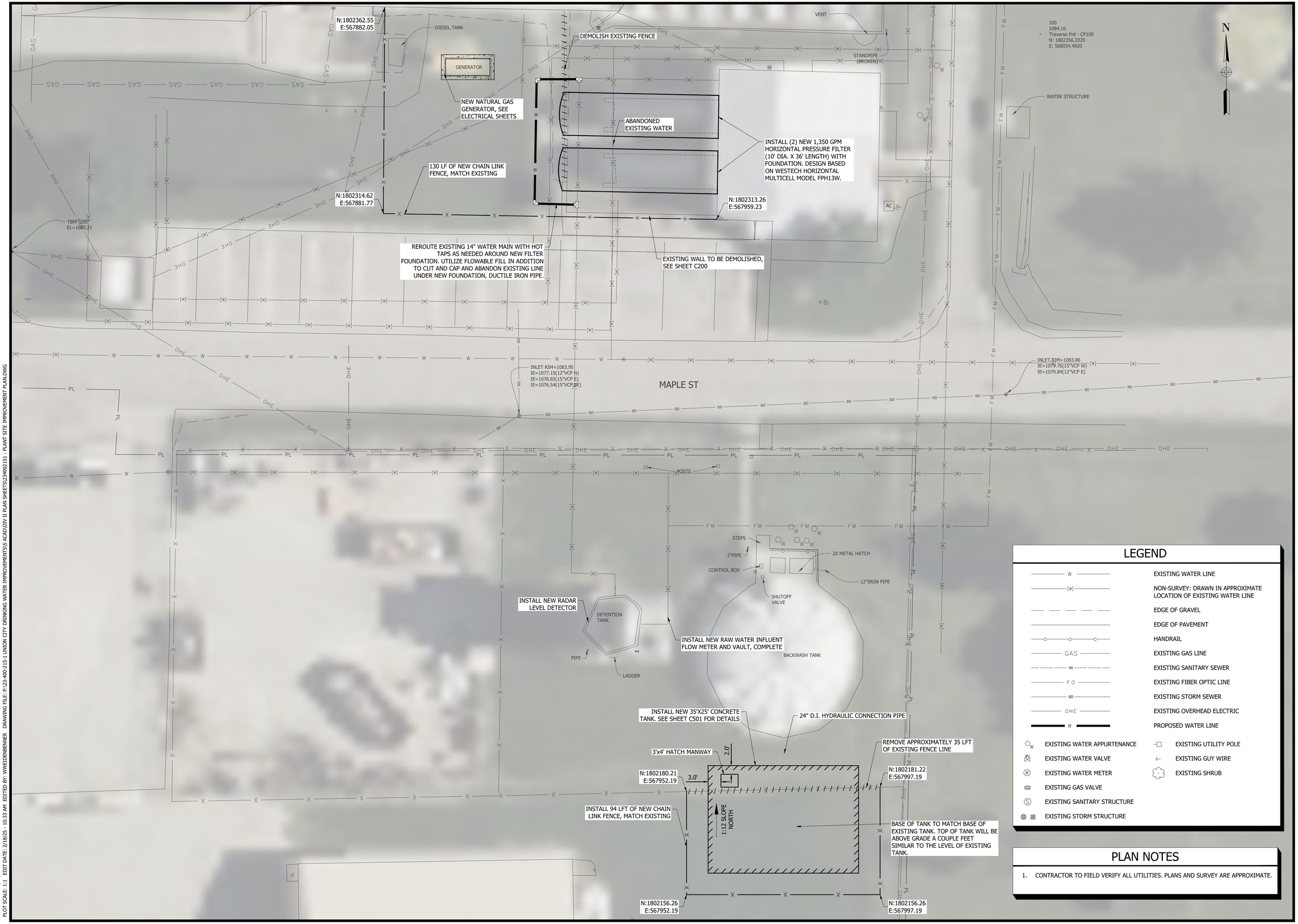
Project #: 23-400-215-1
Designed By: WMW
Drawn By: RLH
Checked By: WMW
Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

PROCESS PLAN & PIPING SECTION VIEWS - SOUTH PLANT

C301

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/10/25 - 10:45 AM EDITED BY: WWEIDENBENER DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\234002151 - FOUNDATION AND FF PROCESS PLAN AND PIPING.DWG



LEGEND

W	EXISTING WATER LINE
[W]	NON-SURVEY: DRAWN IN APPROXIMATE LOCATION OF EXISTING WATER LINE
	EDGE OF GRAVEL
	EDGE OF PAVEMENT
	HANDRAIL
GAS	EXISTING GAS LINE
SS	EXISTING SANITARY SEWER
FO	EXISTING FIBER OPTIC LINE
SD	EXISTING STORM SEWER
OHE	EXISTING OVERHEAD ELECTRIC
W	PROPOSED WATER LINE
W	EXISTING WATER APPURTENANCE
	EXISTING WATER VALVE
W	EXISTING WATER METER
	EXISTING GAS VALVE
S	EXISTING SANITARY STRUCTURE
	EXISTING STORM STRUCTURE
	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING SHRUB

PLAN NOTES

1. CONTRACTOR TO FIELD VERIFY ALL UTILITIES. PLANS AND SURVEY ARE APPROXIMATE.

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

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Designed By: WMW

Drawn By: RLH

Checked By: WMW

Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

10' 0 10' 20'
GRAPHIC SCALE

PLANT SITE IMPROVEMENT PLAN - SOUTH PLANT

C400

PRINT DATE: 2/27/25
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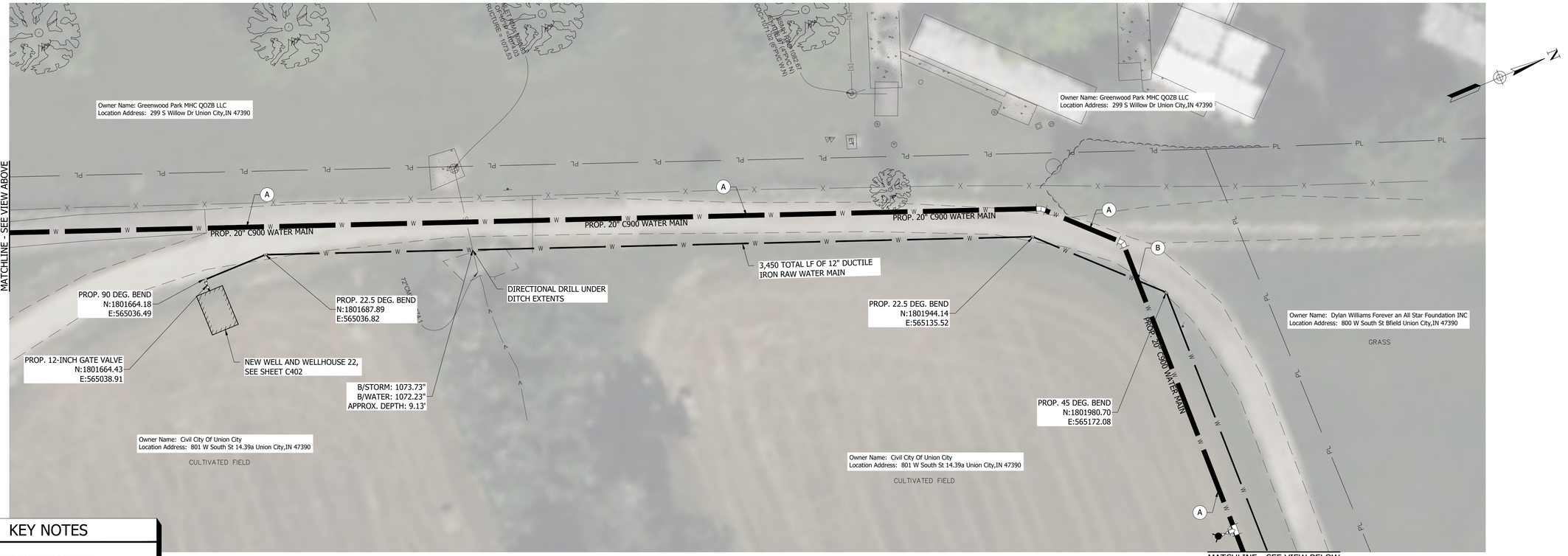


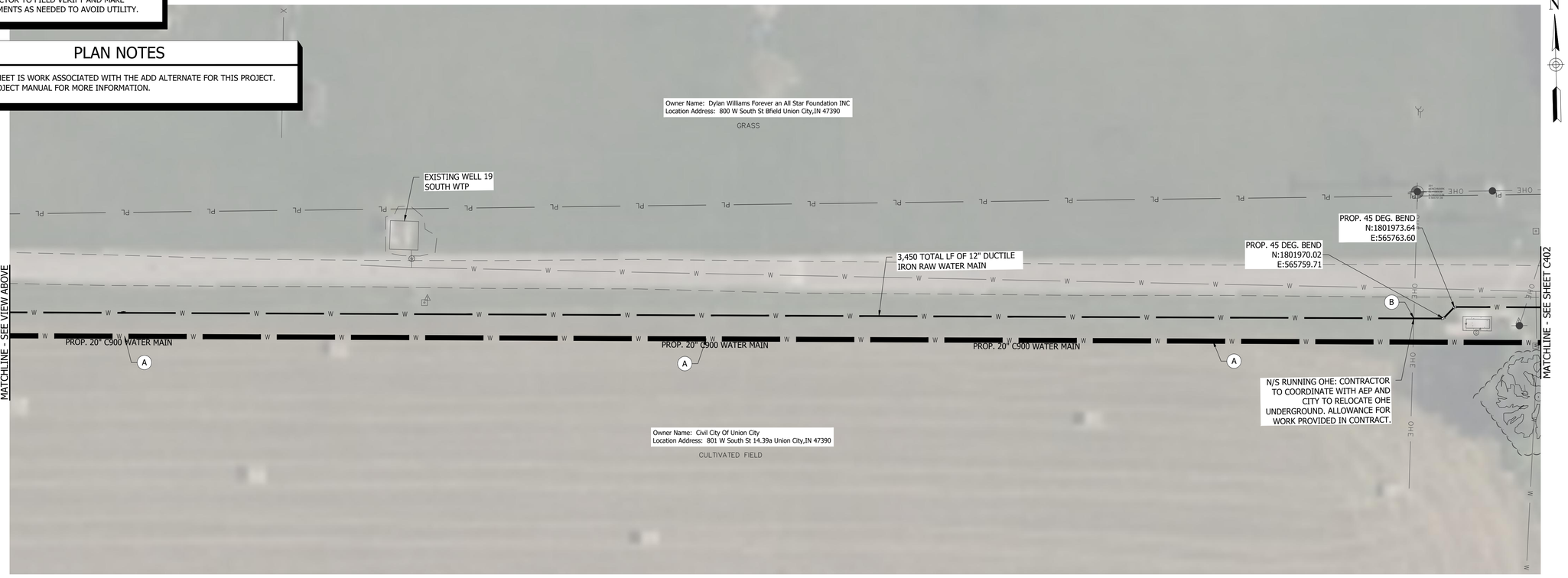
KEY NOTES

(A) WORK TO BE DONE BY DIVISION III CONTRACTOR.

(B) POTENTIAL UTILITY CONFLICT LOCATION. CONTRACTOR TO FIELD VERIFY AND MAKE ADJUSTMENTS AS NEEDED TO AVOID UTILITY.

PLAN NOTES

1. THIS SHEET IS WORK ASSOCIATED WITH THE ADD ALTERNATE FOR THIS PROJECT. SEE PROJECT MANUAL FOR MORE INFORMATION.



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CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: WMW

Drawn By: RLH

Checked By: WMW

Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

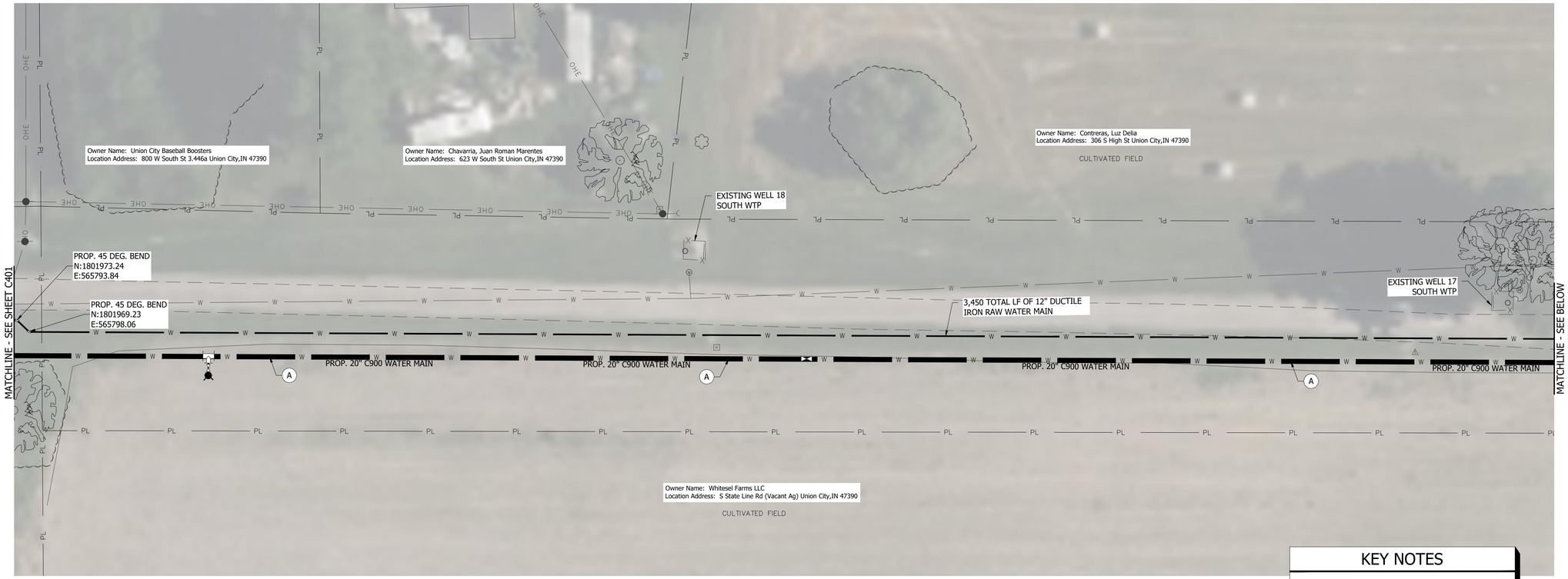
20' 0 20' 40'

GRAPHIC SCALE

EXTENDED SITE IMPROVEMENT PLAN

C401

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/18/25 - 10:33 AM EDITED BY: WWEIDENBENNER DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\23400215I - PLANT SITE IMPROVEMENT PLAN.DWG



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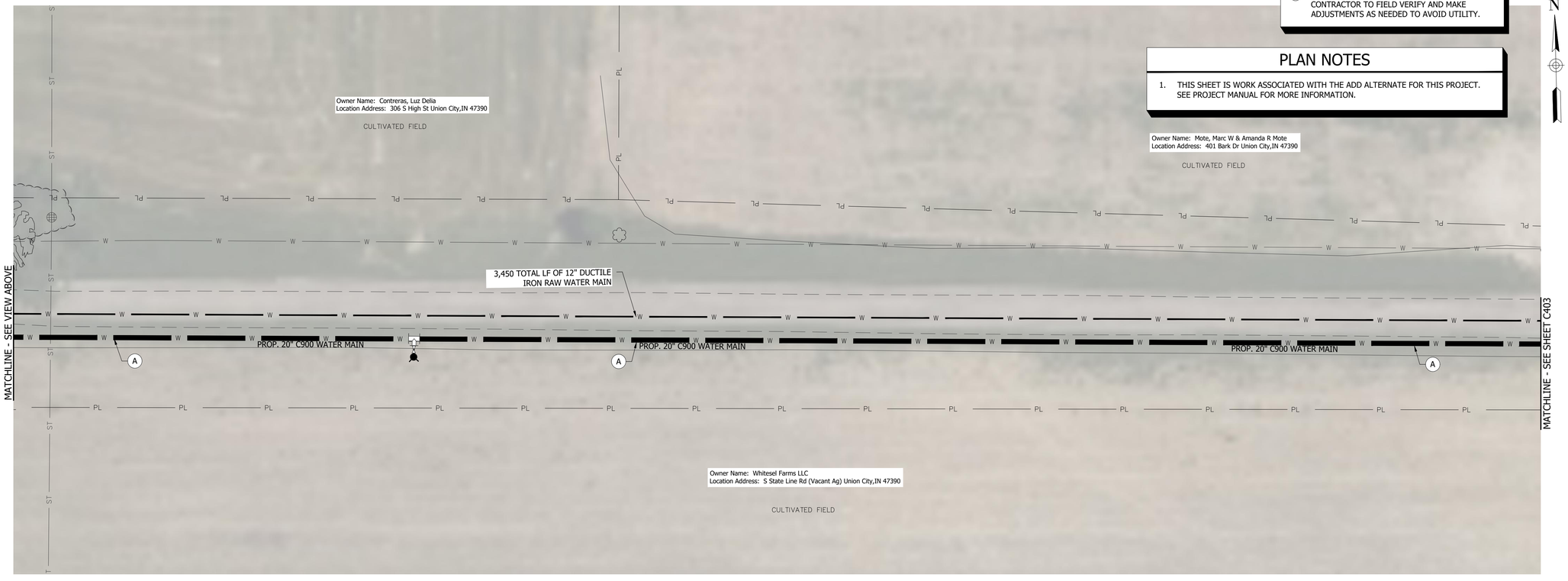

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RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: WMW

Drawn By: RLH

Checked By: WMW

Date: 01/30/2025

AARON L. CROW
REGISTERED
No. PE11800762
STATE OF INDIANA
PROFESSIONAL ENGINEER

20' 0 20' 40'
GRAPHIC SCALE

EXTENDED SITE IMPROVEMENT PLAN

C402

PRINT DATE: 2/27/25
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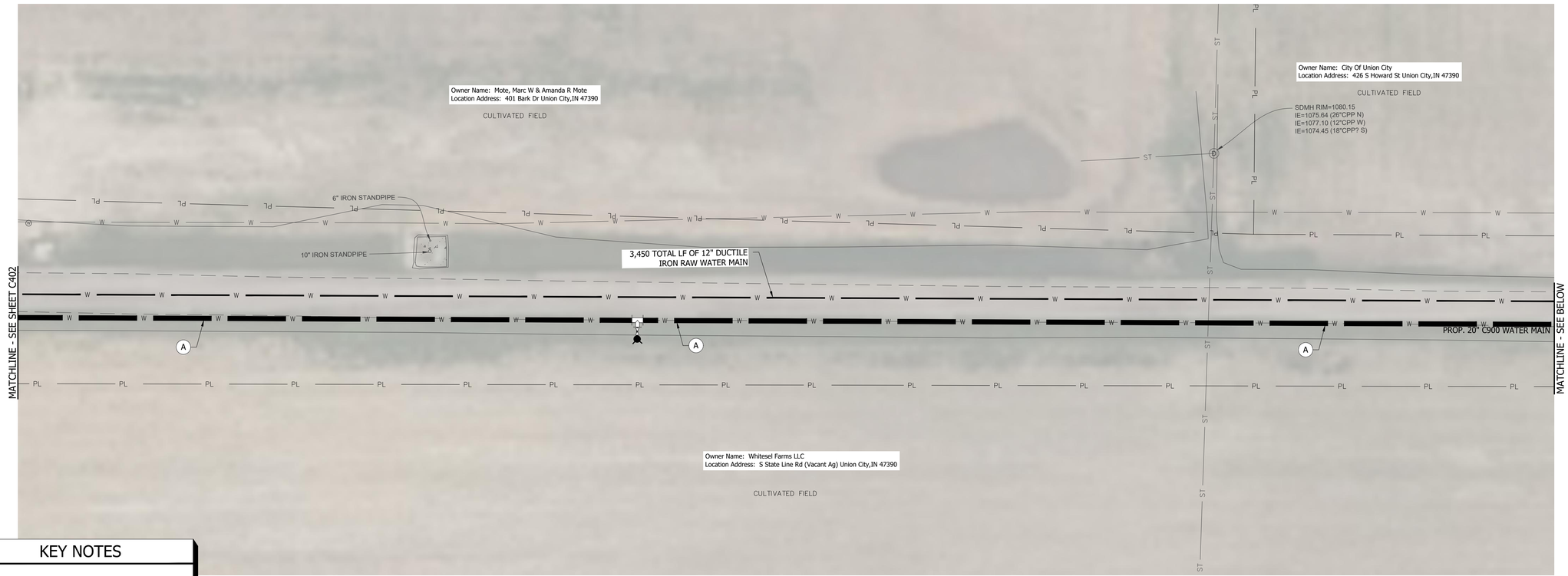

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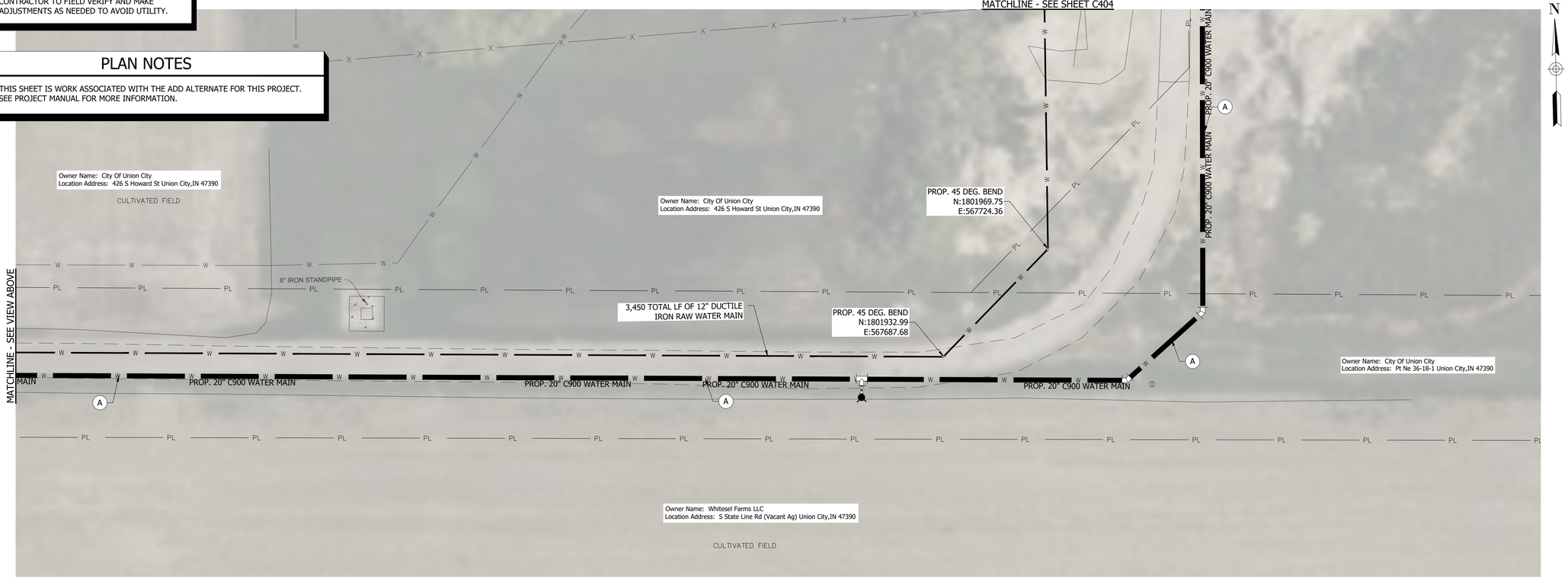

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CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

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AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

20' 0 20' 40'

GRAPHIC SCALE

EXTENDED SITE IMPROVEMENT PLAN

C403

PRINT DATE: 2/27/25
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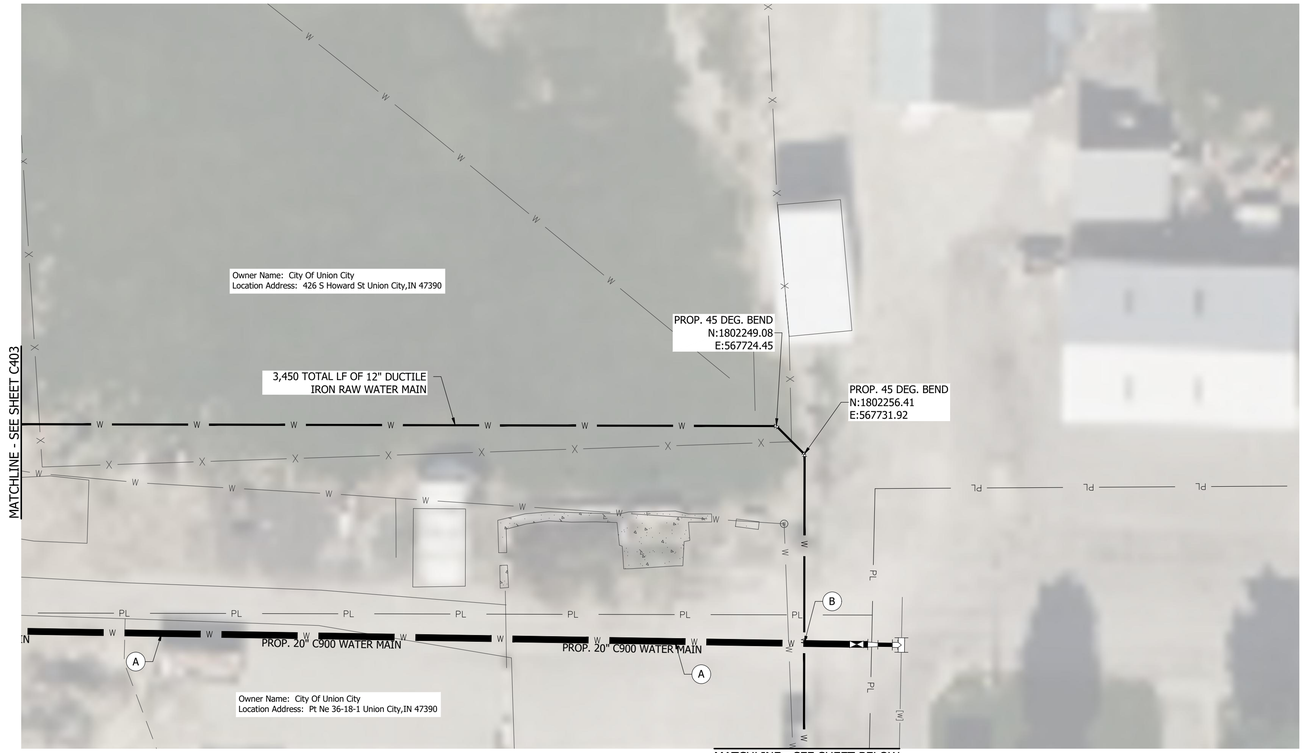

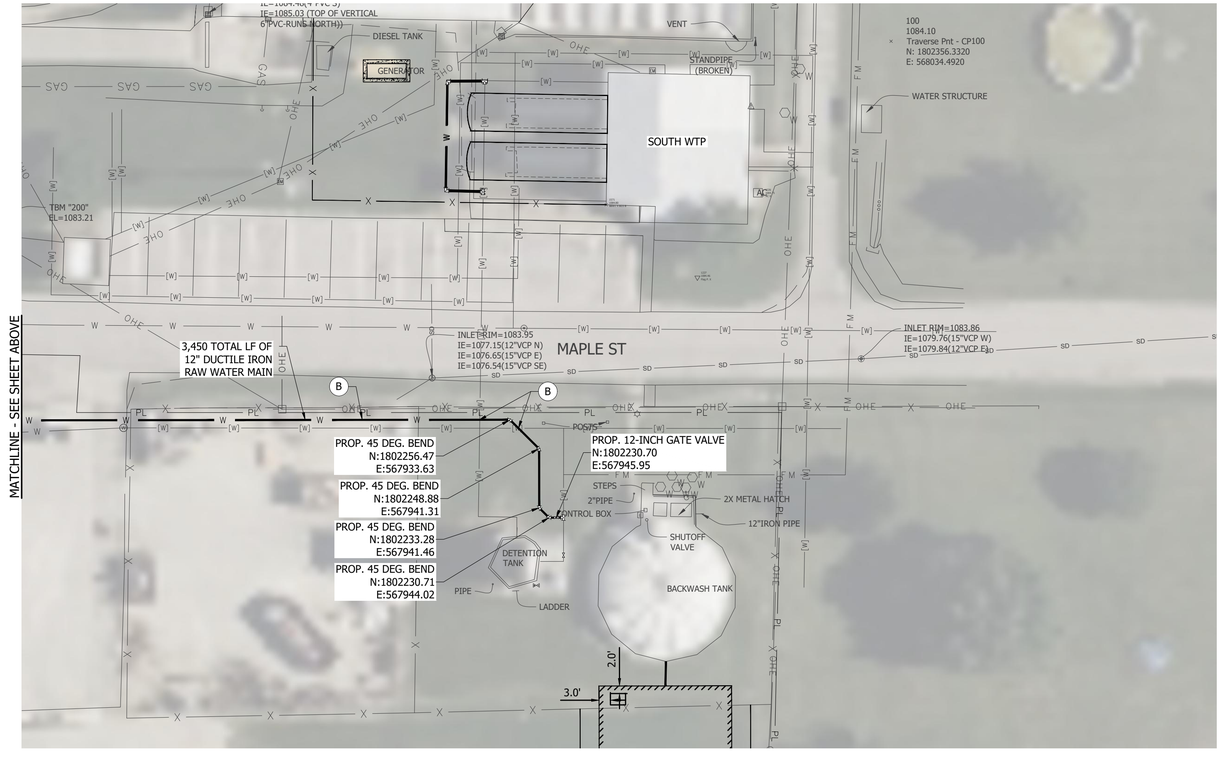

KEY NOTES

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(B) POTENTIAL UTILITY CONFLICT LOCATION. CONTRACTOR TO FIELD VERIFY AND MAKE ADJUSTMENTS AS NEEDED TO AVOID UTILITY.

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DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: WMW

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Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

20' 0 20' 40'

GRAPHIC SCALE

EXTENDED SITE IMPROVEMENT PLAN

C404

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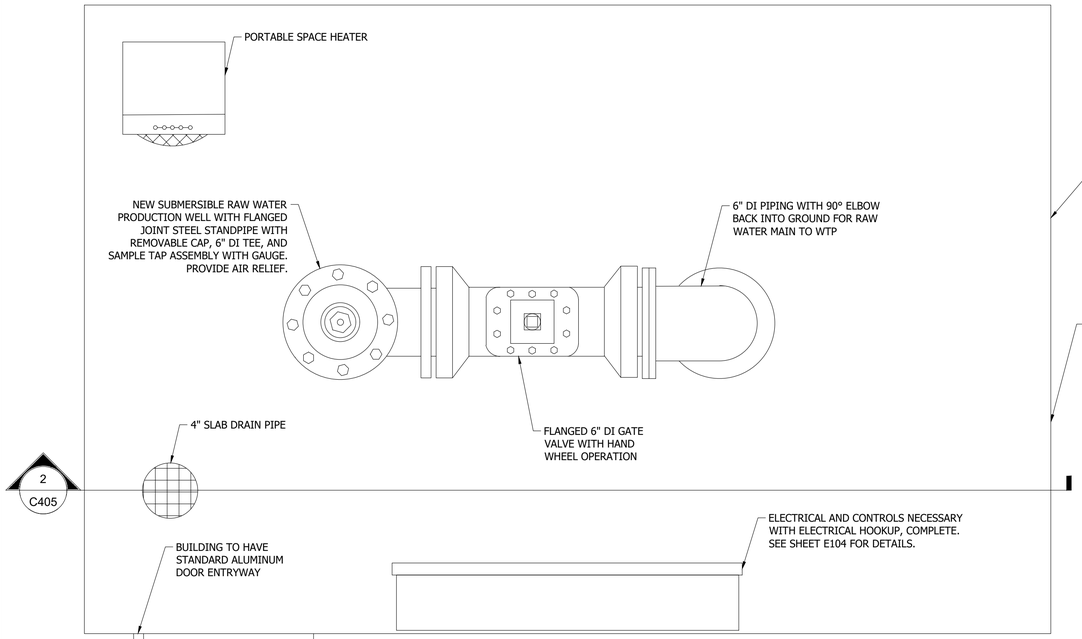


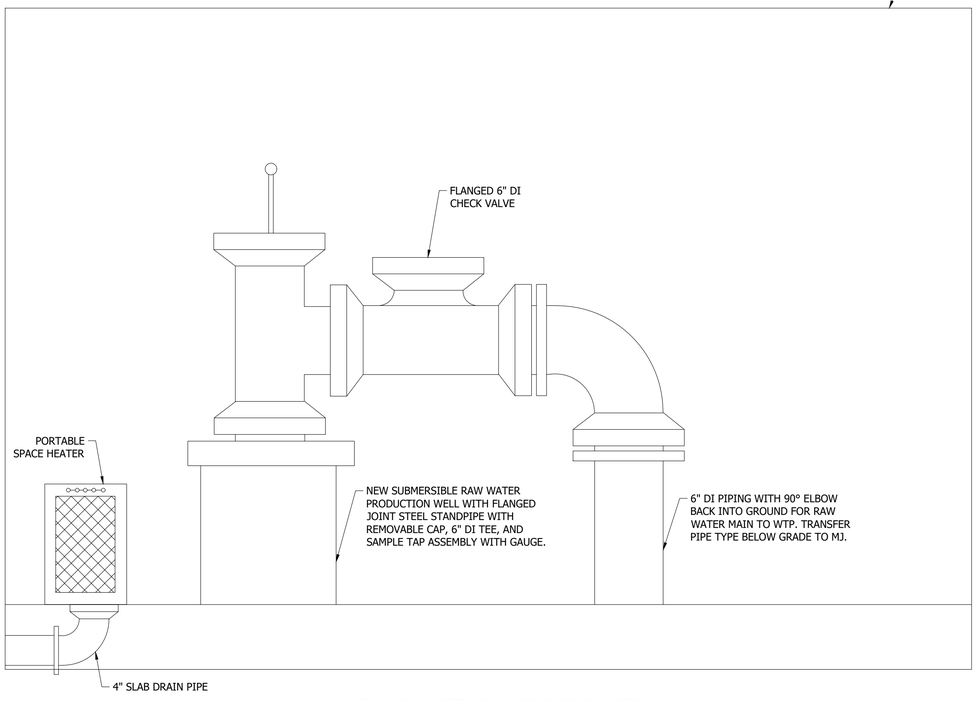
1 WELL 22 DETAIL - PLAN VIEW
NOT TO SCALE

PLAN NOTES

1. THIS SHEET IS WORK ASSOCIATED WITH THE ADD ALTERNATE FOR THIS PROJECT. SEE PROJECT MANUAL FOR MORE INFORMATION.

3 WELL EXTERIOR DETAIL - REFERENCE PHOTO
NOT TO SCALE

REFERENCE PHOTOGRAPH FROM EXISTING WELL #20. NEW WELLS ARE TO MATCH EXISTING SETUP UNLESS OTHERWISE NOTED



2 WELL 22 DETAIL - PROFILE VIEW
NOT TO SCALE

4 WELL INTERIOR DETAIL - REFERENCE PHOTO
NOT TO SCALE

REFERENCE PHOTOGRAPH FROM EXISTING WELL #21. NEW WELLS ARE TO MATCH EXISTING SETUP UNLESS OTHERWISE NOTED

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

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Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

100' 0 100' 200'
GRAPHIC SCALE

WELL DETAILS - SOUTH PLANT

C405

PRINT DATE: 2/27/25
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GENERAL NOTES:

GENERAL INFORMATION

1. THE CONTRACTOR SHALL RESOLVE ANY CONFLICT ON THE DRAWINGS OR IN THE SPECIFICATIONS WITH THE ARCHITECT / EOR BEFORE PROCEEDING WITH THE WORK. IN GENERAL, WHERE THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT RESTRICTIONS AND REQUIREMENTS SHALL GOVERN. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED AS SHOWN FOR SIMILAR WORK.

2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBERS, AND ERECTION IN THE FIELD.

3. PLAN NOTES, DETAILS AND SECTIONS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES. "TYPICAL DETAILS" ARE APPLICABLE THROUGHOUT CONSTRUCTION DOCUMENTS AND MAY NOT BE SPECIFICALLY REFERENCED THEREIN. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE TYPICAL DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.

4. CONTRACT DOCUMENTS INDICATE INFORMATION SUFFICIENT TO CONVEY DESIGN INTENT. REVIEW CONTRACT DOCUMENTS AND VERIFY FIELD AND EXISTING CONDITIONS. PROMPTLY NOTIFY ARCHITECT / EOR, PRIOR TO PROCEEDING WITH WORK, IF FURTHER CLARIFICATION OF DESIGN INTENT IS NEEDED.

5. REFER TO ARCHITECTURAL AND/OR MEP DRAWINGS FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS. DO NOT SCALE DRAWINGS.

6. CONTRACTORS ARE REQUIRED TO COORDINATE THEIR RESPECTIVE WORK WITH ALL OTHER DISCIPLINES TO AVOID ANY CONFLICTS DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONSTRUCTION DOCUMENTS.

7. THE DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. THE CONTRACTOR SHALL VERIFY ALL OPENING SIZES AND LOCATIONS WITH OTHER DISCIPLINES. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR THE CRITERIA INDICATED ON THE DRAWINGS.

8. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING, SHORING, UNDERPINNING, ETC. THE ARCHITECT / EOR IS NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES OR SAFETY PROCEDURES DURING CONSTRUCTION.

9. SUBMIT SHOP DRAWINGS FOR REVIEW BEFORE FABRICATION. CONTRACTOR SHALL REVIEW FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION TO ARCHITECT / EOR. ARCHITECT / EOR REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN INTENT AND WHEN INDICATED, THE SUBMITTAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT LOCATION.

10. MODIFICATIONS AND SUBSTITUTIONS MUST BE ACCEPTED IN WRITING BY ARCHITECT / EOR. NO MODIFICATION OR SUBSTITUTION WILL BE ACCEPTED VIA SHOP DRAWING REVIEW.

11. NON-STRUCTURAL ITEMS, INCLUDING BUT NOT LIMITED TO, STAIR FRAMING, ARCHITECTURAL CLADDING, ETC., WHEN NOT DETAILED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, SHALL BE THE DESIGN RESPONSIBILITY OF THE CONTRACTOR. THESE NON-STRUCTURAL ITEMS MAY BE SUPPORTED BY THE PRIMARY STRUCTURE BUT SHALL NOT IMPOSE TORSIONAL LOADS ONTO THE PRIMARY SUPPORT MEMBERS. PROVIDE BRACES, KICKERS, STIFFENERS, ETC., AS NECESSARY TO ELIMINATE TORSIONAL LOADS AT NO ADDITIONAL COSTS TO THE OWNER.

EXISTING CONDITIONS

1. EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM EXISTING CONSTRUCTION DOCUMENTS AND SITE INVESTIGATION AND CAN BE USED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW ALL DRAWINGS AND VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.

2. THE CONTRACTOR SHALL FIELD VERIFY ALL PERTINENT INFORMATION.

3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TAKE CARE TO PROTECT EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE.

4. THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND SMALL TOOLS IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL FEATURES NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF MEMBERS.

5. PRIOR TO CORING OR SAWING EXISTING CONCRETE WALLS AND SLABS FOR NEW PENETRATIONS, CONTRACTOR SHALL LOCATE EXISTING REINFORCING IN CONCRETE USING A NON-DESTRUCTIVE METHOD. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF NEW PENETRATION LOCATIONS IN CONFLICT WITH EXISTING REINFORCING. DO NOT CUT EXISTING REINFORCING WITHOUT PRIOR APPROVAL BY THE ARCHITECT/EOR.

6. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW THE INSTALLATION OF THE NEW WORK. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE SPECIFIED BY A LICENSED PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THIS PROJECT IS LOCATED, TO BE RETAINED BY THE CONTRACTOR.

7. THE CONTRACTOR SHALL REPAIR ALL DAMAGE CAUSED DURING CONSTRUCTION WITH SIMILAR MATERIALS AND WORKMANSHIP TO RESTORE CONDITIONS TO LEVELS ACCEPTABLE TO THE ARCHITECT.

CONSTRUCTION LOADS

1. CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION.

2. PROVIDE ALL NECESSARY MEASURES TO PROTECT THE STRUCTURE DURING CONSTRUCTION.

3. CONSTRUCTION MATERIALS, IF PLACED ON FRAMED FLOORS AND ROOFS, SHALL BE SPREAD OUT SUCH THAT THE DESIGN LIVE LOAD PER SQUARE FOOT IS NOT EXCEEDED. THIS INCLUDES BUT IS NOT LIMITED TO WEIGHTS OF MATERIALS, WEIGHTS OF EQUIPMENT AND LOADS APPLIED BY TEMPORARY LIFTS, HOISTS, CRANES, ETC.

4. PROVIDE ADEQUATE SHORING IF OVERLOAD IS ANTICIPATED OR WHERE STRUCTURAL ELEMENTS HAVE NOT ATTAINED DESIGN STRENGTH. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED VERIFYING THE ADEQUACY OF THE STRUCTURE FOR ANY PROPOSED CONSTRUCTION LOADS THAT ARE IN EXCESS OF THE STATED DESIGN LOADS.

5. THE EOR IS NOT RESPONSIBLE TO DESIGN OR CHECK THE STRUCTURE FOR LOADS APPLIED TO THE STRUCTURE FOR ANY CONSTRUCTION ACTIVITY.

6. OBSERVATION VISITS TO THE SITE BY THE EOR SHALL NOT CONSTITUTE ACCEPTANCE OF CONSTRUCTION MEANS AND METHODS.

EARTHWORK/FOUNDATION NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REVIEW THE PROJECT GEOTECHNICAL REPORT PRIOR TO BIDDING. CONTACT THE EOR WITH ANY DISCREPANCIES OR CONCERNS SO THAT A RESOLUTION MAY BE REACHED.

2. BUILDING FOUNDATION DESIGN IS BASED ON NET ALLOWABLE SOIL BEARING PRESSURE OF:
   - 2500 PSF FOR COLUMN SPREAD FOOTINGS
   - 2500 PSF FOR CONTINUOUS WALL FOOTINGS

   REFER TO GEOTECHNICAL REPORT ATLAS, DATED NOV. 17. 2024. SOIL BEARING PRESSURE TO BE FIELD VERIFIED BY A QUALIFIED SOILS ENGINEER PRIOR TO CONSTRUCTION.

3. DESIGN VALUES FOR BELOW GRADE WALLS ARE BASED ON THE FOLLOWING PARAMETERS:
   - TOTAL SOIL UNIT WEIGHT .....: 125 PCF
   - COEFF. OF AT REST LATERAL EARTH PRESSURE .....: 0.45
   - COEFFICIENT OF FRICTION AT BASE .....: 0.2

   REFER TO GEOTECHNICAL REPORT BY ATLAS, DATED NOV.17.2024 DESIGN SOIL VALUES FOR BELOW GRADE WALLS ARE BASED ON WELL GRADED GRANULAR BACKFILL MATERIAL BEHIND THE WALLS AS SET FORTH IN THE GEOTECHNICAL REPORT.

4. BUILDING FOUNDATION SHALL BE PLACED ON FIRM, UNDISTURBED NATURAL SOILS OR ON ENGINEERED FILL MATERIAL. FOR AREAS REQUIRING ENGINEERED FILL, THIS MATERIAL SHALL CONSIST OF CLEAN GRANULAR FILL COMPACTED AS NOTED IN THE EARTHWORK SPECIFICATIONS AND PLACED IN LIFTS AS RECOMMENDED BY THE SOILS ENGINEER ON SITE OR AS SHOWN IN THE GEOTECHNICAL REPORT. SOIL BEARING PRESSURE OF ENGINEERED FILL TO BE FIELD VERIFIED BY A SOILS ENGINEER ON SITE PRIOR TO CONSTRUCTION.

5. BACKFILL MATERIAL FOR BASEMENT WALLS AND THE BACK SIDE (EARTH SIDE) OF RETAINING WALLS TO BE CLEAN, WASHED DRAINAGE FILL TO PERMIT DRAINAGE TO PERIMETER DRAIN SYSTEM. DRAINAGE FILL TO BE COMPACTED AS NOTED IN THE EARTHWORK SPECIFICATIONS AND PLACED IN LIFTS AS RECOMMENDED BY THE SOILS ENGINEER ON SITE OR AS SHOWN IN THE GEOTECHNICAL REPORT.

6. SUBBASE MATERIAL UNDER SLABS-ON-GRADE TO BE CLEAN GRANULAR FILL COMPACTED AS NOTED IN THE EARTHWORK SPECIFICATIONS AND/OR THE GEOTECHNICAL REPORT.

7. BACKFILL AGAINST GRADE BEAMS AND FROST WALLS SHALL BE PLACED EVENLY ON BOTH SIDES.

8. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL BOTH THE BASEMENT AND GROUND FLOOR SLABS HAVE BEEN COMPLETELY INSTALLED AND ATTAINED THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH AS INDICATED BY TEST CYLINDERS AND ALL SLAB CONNECTIONS TO THE BASEMENT WALLS HAVE BEEN COMPLETELY INSTALLED.

9. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL THE CONCRETE HAS ATTAINED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH AS INDICATED BY TEST CYLINDERS.

10. ANY FOUNDATION INSULATION, WATERPROOFING, VAPOR BARRIER, ETC. SHOWN ON THE STRUCTURAL DRAWINGS IS FOR INFORMATION ONLY UNLESS SPECIFICALLY NOTED OTHERWISE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REVIEW THE ARCHITECTURAL DOCUMENTS FOR EXACT LOCATIONS, PLACEMENT AND MATERIAL REQUIREMENTS.

11. NO RECYCLED MATERIAL MAY BE USED AS BACKFILL BELOW THE BUILDING FOUNDATIONS OR SLABS. ALL BACKFILL MATERIAL SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO USE.

12. UNDERCUTTING OF THE SOIL FOR FOUNDATION PLACEMENT MAY BE REQUIRED. THE STRUCTURAL DRAWINGS MAY NOT INDICATE THE ENTIRE SCOPE OF UNDERCUTTING, FILL, BAD SOIL OR ROCK REMOVAL THAT MAY BE REQUIRED TO ATTAIN THE DESIGN SOIL BEARING PRESSURES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE GEOTECHNICAL REPORT, BEFORE BIDDING, TO ASSESS THE EXTENT OF EXCAVATION AND COMPACTION THAT MAY BE REQUIRED TO MEET THE DESIGN CRITERIA.

13. A REPORT CERTIFIED BY THE SOILS ENGINEER ON SITE SHALL BE FURNISHED TO THE A/E VERIFYING THAT ALL FOUNDATIONS WERE PLACED ON A MATERIAL CAPABLE OF SUSTAINING THE DESIGN BEARING PRESSURES.

14. IF DEWATERING IS REQUIRED, SUMPS SHALL NOT BE PLACED WITHIN THE FOUNDATION EXCAVATION.

15. ALL FOUNDATIONS AND TANK SLABS SHALL BE CONSTRUCTED OVER A 6 INCH THICK LAYER OF COMPACTED CLEAN GRANULAR MATERIAL SUCH AS CRUSHED STONE.

16. REFER TO GEOTECHNICAL REPORT FOR INFORMATION CONSTRUCTION CONSIDERATIONS AS IT RELATES TO GROUND WATER AND EXCAVATIONS.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE, ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", WITH MODIFICATIONS AS NOTED IN THE CONTRACT DOCUMENTS.

2. ALL CONCRETE, UNLESS OTHERWISE NOTED IN SCHEDULES OR DETAILS, SHALL HAVE A MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF).

3. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR-ENTRAINED. FOR SURFACE FINISHES AND OTHER REQUIREMENTS, REFER TO THE CONCRETE SPECIFICATIONS. CONCRETE MIX PROPORTIONING SHALL BE SUBMITTED TO THE ARCHITECT / EOR FOR REVIEW AND APPROVAL.

4. THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED. THE USE OF RECYCLED CONCRETE IS PROHIBITED. PLACEMENT WITHIN AND CONTACT BETWEEN ALUMINUM ITEMS, INCLUDING ALUMINUM CONDUIT, AND CONCRETE IS PROHIBITED.

5. DETAILS OF FABRICATION OF REINFORCEMENT, HANDLING AND PLACEMENT OF THE CONCRETE, CONSTRUCTION OF FORMS AND PLACEMENT OF REINFORCEMENT, NOT OTHERWISE COVERED BY THE PLANS AND SPECIFICATIONS, SHALL COMPLY WITH THE LATEST ADDITION OF THE ACI CODE AND CRSI REQUIREMENTS.

6. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED EDGES OF CONCRETE AND THE EXPOSED CORNERS OF BEAMS, GIRDERS AND COLUMNS UNLESS OTHERWISE SHOWN OR NOTED. COORDINATE WITH ARCHITECTURAL DRAWINGS.

7. CORED HOLES IN CONCRETE WALLS, SLABS ETC., SHALL NOT BE PERMITTED WITHOUT PRIOR REVIEW AND APPROVAL FROM THE ARCHITECT/EOR.

8. ALL MISCELLANEOUS ITEMS TO BE INSTALLED IN ANY CONCRETE WORK, SUCH AS PIPES, ELECTRICAL CONDUITS, DOVETAIL ANCHOR SLOTS, REGLETS, ETC., SHALL BE PROPERLY LOCATED, INSTALLED AND CHECKED BY THE G.C. PRIOR TO PLACEMENT OF CONCRETE. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR THE EXACT EXTENT AND LOCATION OF THESE ITEMS THAT ARE NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS.

9. PROVIDE SLEEVES FOR ALL PIPE AND CONDUIT PENETRATIONS IN FOUNDATION WALLS, GRADE BEAMS, WALL FOOTINGS AND TRENCH FOOTINGS TO TOTALLY SEPARATE THE PIPES FROM THE CONCRETE. REFER TO TYPICAL DETAILS.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE PLACING SEQUENCES, SIZE, AND CONSTRUCTION PROCEDURES AND ACCOUNT FOR TEMPERATURE DIFFERENTIALS AND SHRINKAGE OCCURING DURING THE CONSTRUCTION PHASE UNTIL THE BUILDING IS PERMANENTLY IN A MECHANICALLY CONTROLLED ENVIRONMENT.

11. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER BEFORE STARTING CONCRETE WORK TO ESTABLISH A SATISFACTORY PLACING SCHEDULE AND TO DETERMINE THE LOCATION OF CONSTRUCTION JOINTS SO AS TO MINIMIZE THE EFFECTS OF SHRINKAGE.

12. NO HORIZONTAL CONSTRUCTION JOINTS SHALL BE MADE IN CONCRETE WALLS, FOOTINGS, BEAMS OR SLABS UNLESS SHOWN OR NOTED IN THE CONTRACT DRAWINGS. VERTICAL JOINTS ARE PERMITTED IN CONCRETE SLABS, WALLS, WALL FOOTINGS, TRENCH FOOTINGS AND GRADE BEAMS. REFER TO TYPICAL DETAILS.

13. FORMS AND FALSEWORK SUPPORTING ANY VERTICAL LOADS SHALL REMAIN IN PLACE UNTIL THE CONCRETE HAS ATTAINED ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH AS INDICATED BY TEST CYLINDERS UNLESS RESHORES ARE INSTALLED IN SUFFICIENT QUANTITIES TO TRANSMIT THE LOADS TO ADEQUATE FOUNDATIONS OR SUBSTRATE WITHOUT OVERSTRESSING THE PARTIALLY CURED STRUCTURE. IN NO CASE SHALL SUPERIMPOSED LOAD ON RELATIVELY NEW CONCRETE EXCEED 50 POUNDS PER SQUARE FOOT UNLESS PROPER SHORING TO SUITABLE FOUNDATIONS OR SUBSTRATE IS INSTALLED AS REQUIRED BY THE EOR.

14. ALL CONSTRUCTION JOINTS IN CONCRETE WALLS, FOOTINGS, BEAMS OR SLABS SHALL BE PROVIDED WITH A KEYWAY. THE SURFACE OF THE CONCRETE SHALL BE THOROUGHLY CLEANED AND ALL LATIANCE REMOVED. IN ADDITION, THE JOINT SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF CEMENT GROUT OR A BONDING AGENT IMMEDIATELY BEFORE PLACING CONCRETE.

15. CONCRETE SHALL BE PLACED AND CURED AS REQUIRED TO ACCOMMODATE ARCHITECTURAL FLOOR FINISHES AND MATERIALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REVIEW ALL ARCHITECTURAL DOCUMENTS AND DETERMINE APPROPRIATE CONCRETE MIX, PLACEMENT, FLATNESS REQUIREMENTS AND CURING TECHNIQUES TO COMPLY WITH FLOORING MANUFACTURERS' REQUIREMENTS.

16. MAINTAIN A MAXIMUM SLOPE OF 1 VERTICAL TO 2 HORIZONTALS BETWEEN BEARING ELEVATIONS OF ADJACENT FOOTINGS TO AVOID UNDERMINING FOUNDATIONS UNLESS NOTED OTHERWISE IN PLANS.

17. PROVIDE XYPEX BIO-SAN WATERPROOFING ADMIXTURE IN THE TANK WALLS, BASE, AND LID. COORDINATE THE QUANTITY OF ADMIXTURE WITH THE ADDITIVE PROVIDER.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ADDITION OF ACI 315, ACI 318, AND CRSI.

2. REINFORCEMENT SHALL HAVE DEFORMED SURFACES IN ACCORDANCE WITH ASTM A615 WITH MINIMUM YIELD STRENGTH OF 60,000 PSI.

3. WELDED WIRE FABRIC SHALL BE SMOOTH CONFORMING TO ASTM A185.

4. THE SHOP DRAWINGS FOR REINFORCING STEEL SHALL INCLUDE SCALE ELEVATIONS OF ALL CONCRETE WALLS AS APPLICABLE.

5. PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF ALL WALLS AND GRADE BEAMS. REFER TO TYPICAL DETAILS.

6. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE PROTECTION (CLEAR COVER) UNLESS OTHERWISE NOTED:
   - SURFACES NOT FORMED AND IN CONTACT WITH SOIL .....: 3"
   - FORMED SURFACES IN CONTACT WITH SOIL OR WEATHER .....: 2"
   - BEAMS, GIRDERS AND COLUMNS .....: 1 1/2"
   - SLABS, WALLS AND JOISTS .....: 3/4"

7. PROVIDE ADDITIONAL REINFORCING BARS AROUND ALL OPENINGS IN CONCRETE SLABS AND WALLS EQUAL TO THE AMOUNT INTERRUPTED BY THE OPENINGS (1/2 EA. SIDE TYPICAL). WHERE OPENINGS ARE SUCH THAT THE REINFORCING STEEL IS NOT INTERRUPTED, NO ADDITIONAL REINFORCING IS REQUIRED. REFER TO TYPICAL CONCRETE OPENING DETAIL.

8. ALL 90 DEGREE AND 180 DEGREE BENDS SHOWN OR CALLED OUT ON THE DRAWINGS SHALL BE STANDARD HOOKS IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE.

9. OPENINGS THROUGH CONCRETE WALLS, SLABS OR OTHER STRUCTURAL ELEMENTS NOT DETAILED ON THE STRUCTURAL DRAWINGS MUST BE LOCATED AND SHOWN ON THE APPLICABLE REINFORCING STEEL SHOP DRAWINGS. THE FINAL LOCATION OF ALL OPENINGS MUST BE REVIEWED BY THE A/E BEFORE THE CONCRETE IS POURED.

10. THE WELDED WIRE FABRIC IN THE CONCRETE SLAB-ON-GRADE SHALL BE SUPPORTED BY CONTINUOUS #4 SUPPORT BARS AT 2'-6" O.C. MAXIMUM. THE #4 BARS SHALL BE TIED AND SUPPORTED BY CONTINUOUS CHAIRS AT 2'-6" O.C. MAXIMUM.

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: CES

Drawn By: GVR

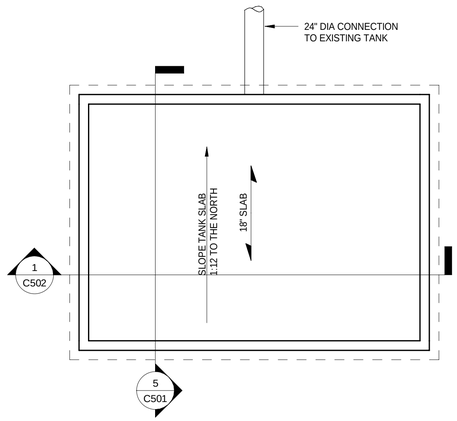
Checked By: CES

Date: 01.29.2025

CLAYTON E. SPRINGER REGISTERED No. 10302023 STATE OF INDIANA PROFESSIONAL ENGINEER

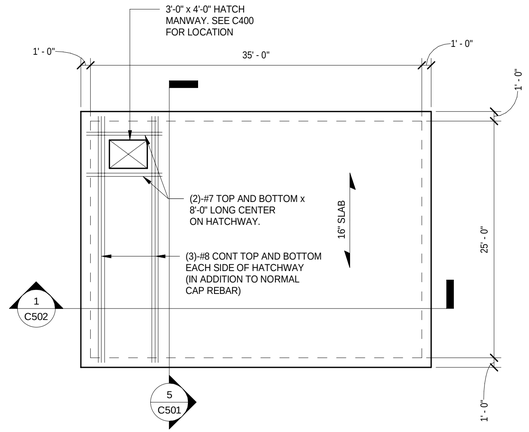
STRUCTURAL SHEETS - GENERAL NOTES

C500



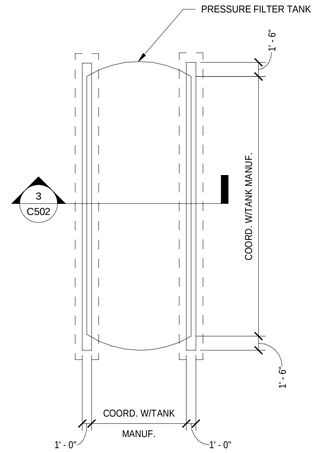
1 C501 BACKWASH TANK FOUNDATION PLAN

1/8" = 1'-0"



2 C501 BACKWASH TANK CAP PLAN

1/8" = 1'-0"

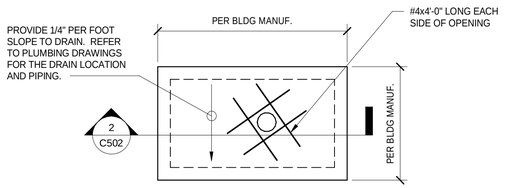


3 C501 TYPICAL PRESSURE FILTER TANK FOUNDATION

1/8" = 1'-0"

PLAN NOTES:

1. REFER TO SHEETS C500 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. G.C. SHALL COORDINATE FOUNDATION DIMENSIONS AND LOCATIONS WITH THE VARIOUS TRADES.

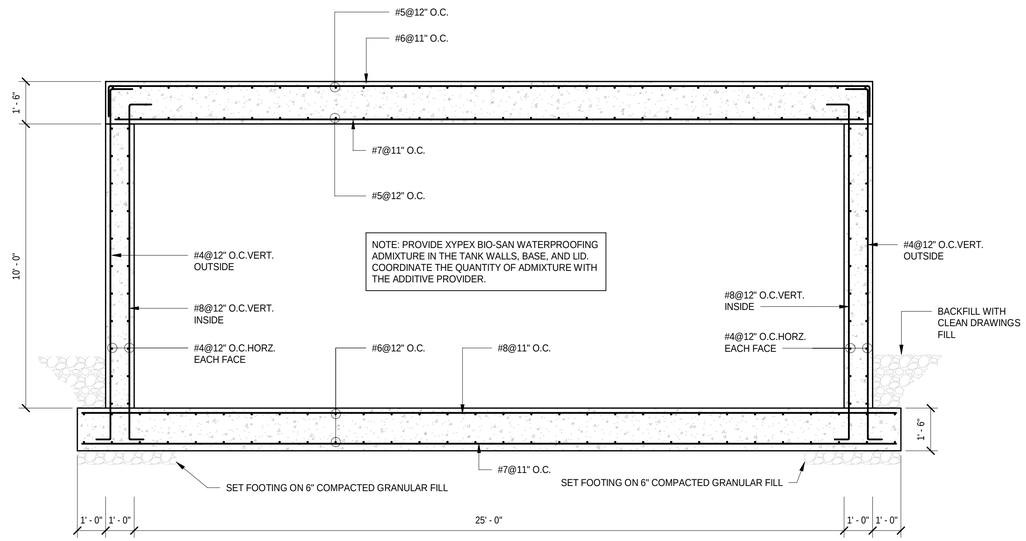


PLAN NOTES:

1. REFER TO SHEETS C500 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. THE SLAB ON GRADE SHALL BE A 4" NORMAL WEIGHT SLAB OVER 6" COMPACTED GRANULAR FILL OVER PROOF ROLLED SUBGRADE. REINFORCE THE SLAB WITH 6x6 W2.1xW2.1 W.W.F.
3. COORDINATE THE DIMENSIONS OF THE SLAB WITH THE PREMANUFACTURED BUILDING SUPPLIER.
4. COORDINATE SLAB PENETRATION SIZES AND LOCATIONS WITH THE VARIOUS TRADES.

4 C501 TYPICAL WELL HOUSE SLAB PLAN

1/4" = 1'-0"



5 C501 SECTION

3/8" = 1'-0"

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: CES

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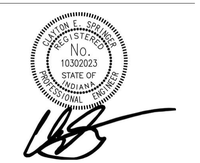
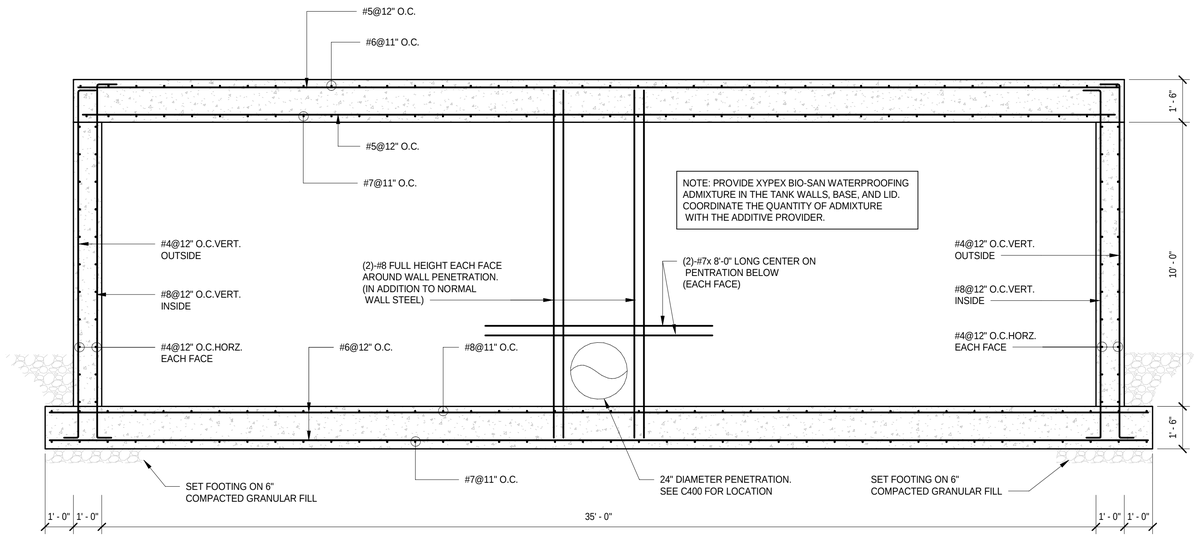
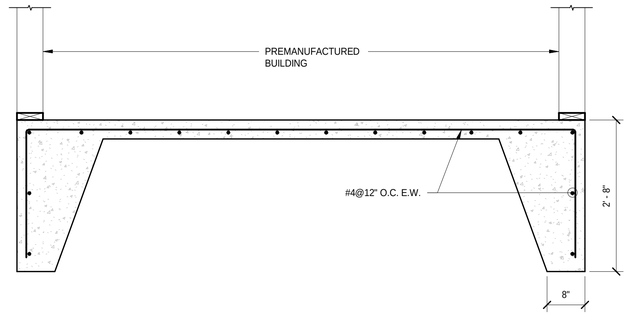


STRUCTURAL SHEETS - PLANS AND DETAILS

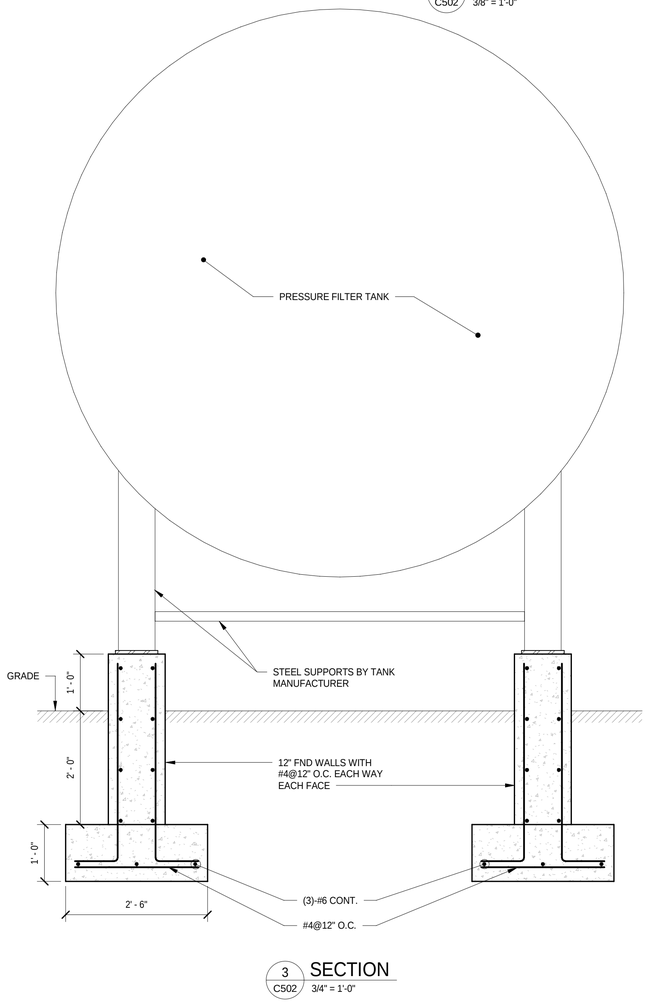
C501



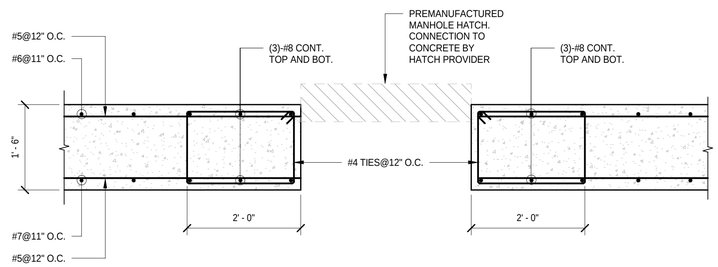
1 C502 SECTION
3/8" = 1'-0"



2 C502 SECTION
3/4" = 1'-0"



3 C502 SECTION
3/4" = 1'-0"



4 C502 SECTION
3/4" = 1'-0"

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

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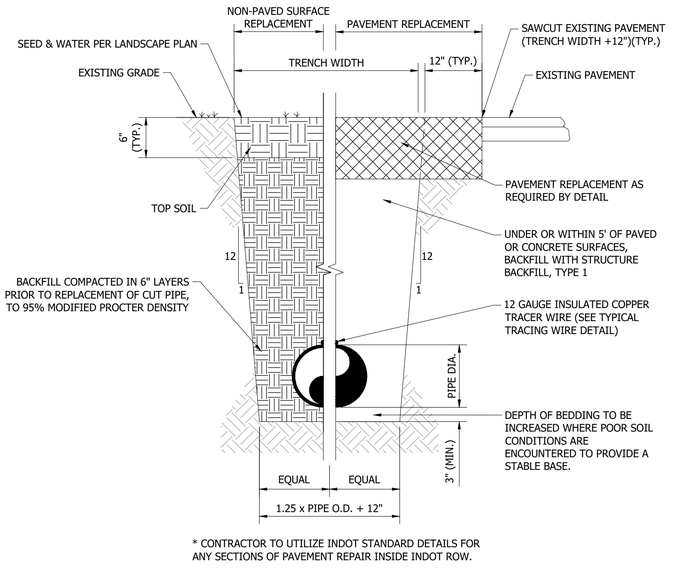
Date: 01.29.2025

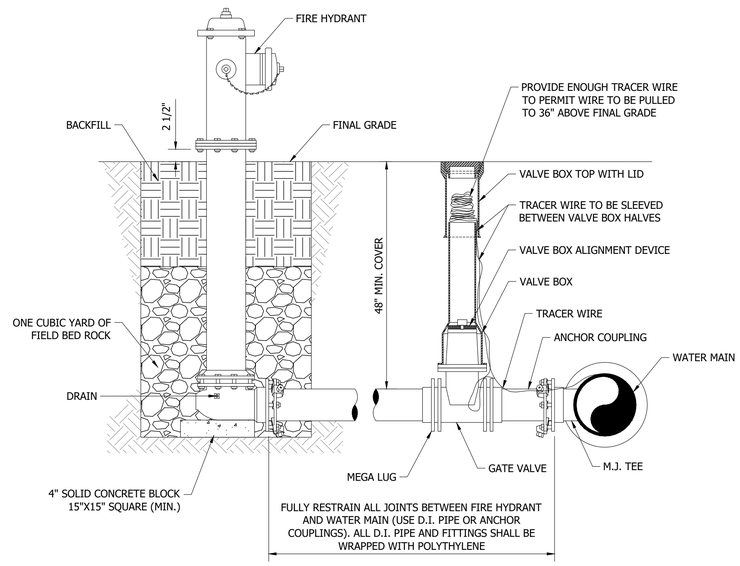
CLINTON E. SPRUNGER REGISTERED No. 10302023 STATE OF INDIANA PROFESSIONAL ENGINEER

STRUCTURAL SHEETS - SECTIONS AND DETAILS

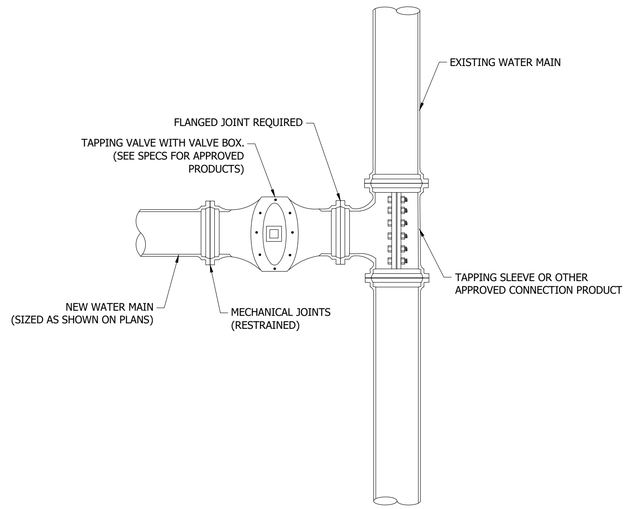
C502



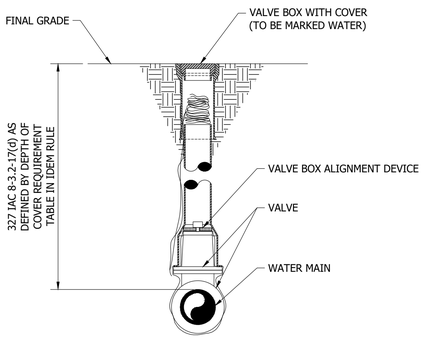
1 WATER MAIN TRENCH DETAIL (OUTSIDE INDOT ROW)
NOT TO SCALE



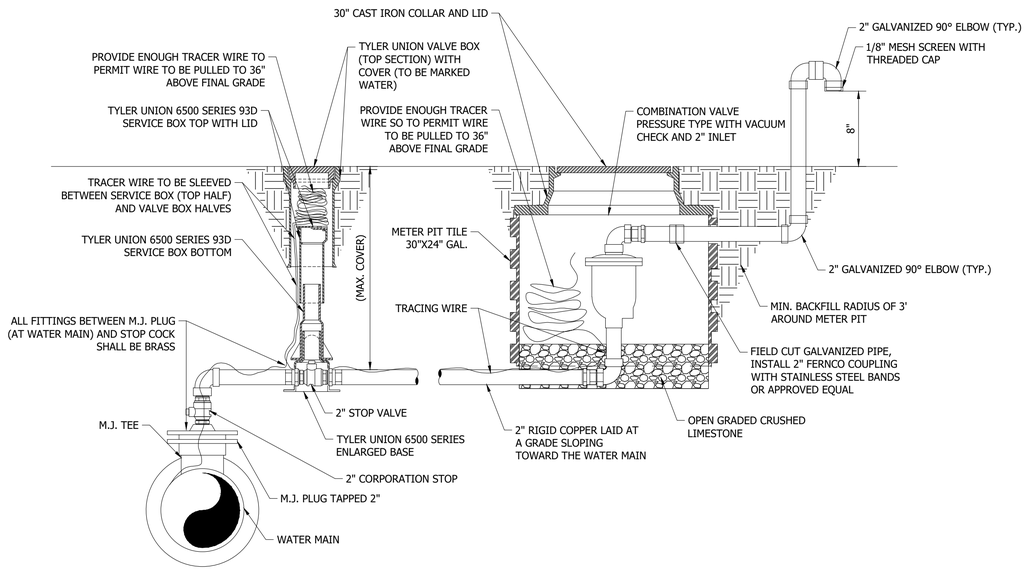
2 FIRE HYDRANT ASSEMBLY DETAIL
NOT TO SCALE



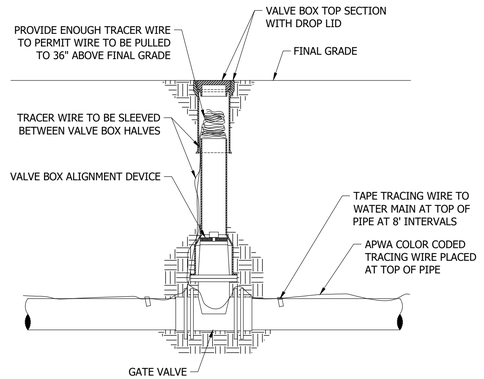
3 WATER MAIN TAPPING DETAIL
NOT TO SCALE



4 GATE VALVE DETAIL
NOT TO SCALE



5 AIR RELIEF ASSEMBLY DETAIL
NOT TO SCALE



6 TRACING WIRE DETAIL
NOT TO SCALE

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: WMW

Drawn By: RLH

Checked By: WMW

Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS

C600

PRINT DATE: 2/27/25
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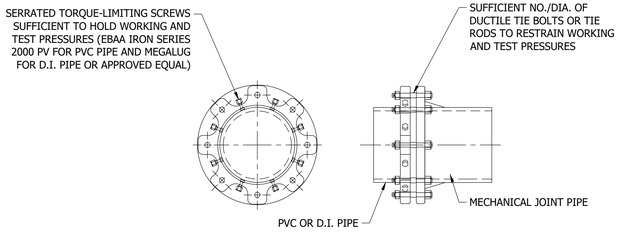
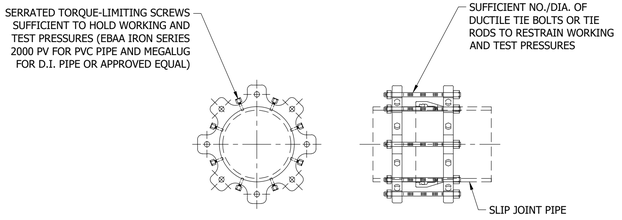


RESTRAINED JOINTS ON MECHANICAL JOINT PIPE AND FITTINGS



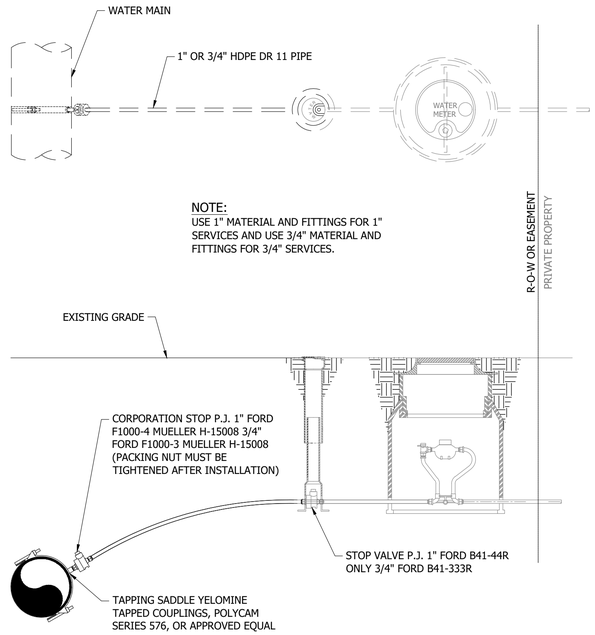
RESTRAINED JOINTS ON SLIP JOINT PIPE
(USING GRIPPING TYPE RETAINERS)

RESTRAINED LENGTHS FOR 6" DIA. PIPE								
DEPTH OF PIPE	5'	5'	5'	5'	10'	10'	10'	10'
BEND ANGLE	11.25°	22.5°	45°	90°	11.25°	22.5°	45°	90°
RESTRAINED LENGTH	2'	4'	7'	17'	2'	3'	5'	11'

RESTRAINED LENGTHS FOR 20" DIA. PIPE								
DEPTH OF PIPE	5'	5'	5'	5'	10'	10'	10'	10'
BEND ANGLE	11.25°	22.5°	45°	90°	11.25°	22.5°	45°	90°
RESTRAINED LENGTH	6'	11'	23'	55'	4'	7'	15'	36'

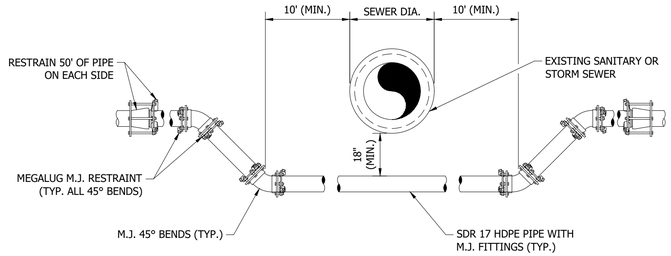
REDUCERS AND DEAD ENDS			
SIZE OF PIPE	6"	6"x20"	12"x20"
FITTING TYPE	DEAD END	REDUCER	REDUCER
RESTRAINED LENGTH	43'	102'	64'

7 WATER MAIN PIPE JOINT RESTRAINT DETAIL
NOT TO SCALE

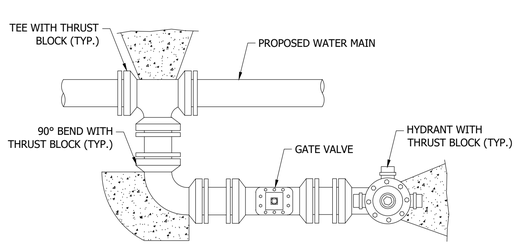


NOTE:
USE 1" MATERIAL AND FITTINGS FOR 1" SERVICES AND USE 3/4" MATERIAL AND FITTINGS FOR 3/4" SERVICES.

8 WATER METER SERVICE CONNECTION - 3/4"OR 1"
NOT TO SCALE

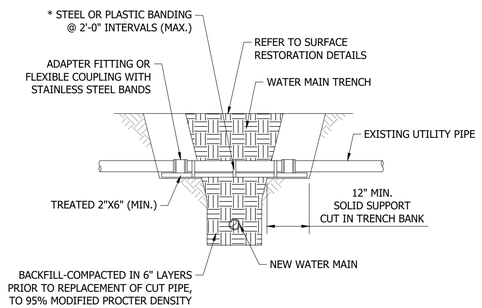


9 WATER AND SEWER CROSSING DETAIL
NOT TO SCALE



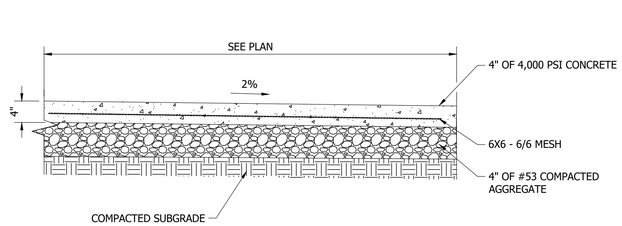
NOTE:
"MEGALUG" (OR EQUAL) RETAINER GLAND REQUIRED AT ALL FITTINGS.

10 ALTERNATE HYDRANT ASSEMBLY FOR LIMITED DISTANCE TO R/W
NOT TO SCALE

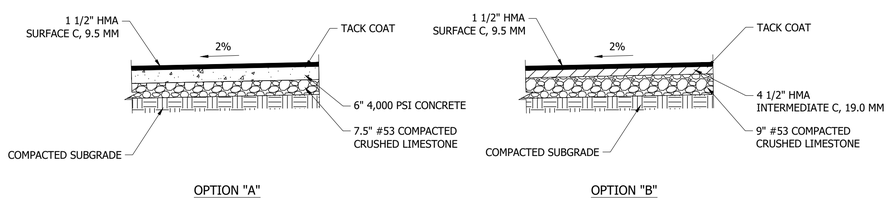


NOTE:
* BANDED TO BE 1" MIN. WIDTH MATERIAL AND TO BE INSTALLED WITH STANDARD BANDING TOOLS.

11 REPAIR AND SUPPORT DETAILS OF EXPOSED UTILITIES
NOT TO SCALE



12 NON-STATE ROAD REPLACEMENT SIDEWALK/DRIVE WAY SECTION
NOT TO SCALE



13 NON-STATE ROAD REPLACEMENT PAVING DETAIL
NOT TO SCALE

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1
Designed By: WMW
Drawn By: RLH
Checked By: WMW
Date: 01/30/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS

C601

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ELECTRICAL SYMBOLS - PLANS

CLG.	WALL	FLOOR	SYMBOLS DESCRIPTION
			INCANDESCENT OR HID FIXTURE
			FLUORESCENT FIXTURE - CIRCLE INDICATES J-BOX ABOVE
			AREA LIGHT AND POLE
			LIGHTING FIXTURE WITH EMERGENCY BATTERY BACKUP
			EXIT FIXTURE, ARROWS AS INDICATED, SHADE AREA INDICATES EXIT FACE
			EMERGENCY LIGHTING UNIT (BATTERY POWERED)
			FIXTURE CONNECTED TO CKT #1, SWITCH "B"
			FIXTURE TYPE "A", 2-40 WATT LAMPS TYPICAL FOR ROOM NOTED, UON
CLG			DUPLEX RECEPTACLE
	G		DUPLEX RECEPTACLE GFCI TYPE
CLG			DOUBLE DUPLEX RECEPTACLE
			RECEPTACLE, TYPE AS NOTED ON PLANS
	$		SINGLE POLE SWITCH
	$2		DOUBLE POLE SWITCH
	$3		THREE WAY SWITCH
	$4		FOUR WAY SWITCH
	$b		"b" DENOTES OUTLET CONTROLLED
	$K		KEY OPERATED SWITCH
	$M		MANUAL MOTOR STARTER
			OCCUPANCY SENSOR
			TELEPHONE OUTLET
			DATA OUTLET
			TELEPHONE/DATA OUTLET COMBO
			THERMOSTAT OUTLET + 66" UON
			JUNCTION BOX FOR WALL MOUNT
	+18"		INDICATES HEIGHT FROM FINISHED FLOOR GRADE TO CENTERLINE OF DEVICE
	*		+ 18" UON
	**		+ 48" UON
			CONTROLLER/STARTER FURNISHED WITH EQUIPMENT
			DETAIL CALL-OUT: X, DETAIL IDENTIFIER; Y, SHEET WHERE DETAIL IS DRAWN
			POWER DISTRIBUTION SWITCHBOARD
			SURFACE MOUNTED PANELBOARD
			FLUSH MOUNTED PANELBOARD
			SHEET NOTE, SEE NOTE INDICATED
			DEVICE CONNECTION POINT
			INTERCEPTION POINT FROM EXISTING TO NEW

	HAND HOLE, 11"H X 17"L X 12" D, UON
PB	PULLBOX, 36"H X 60"L X 36"D, UON
	PAD MOUNTED TRANSFORMER/ DRY TYPE TRANSFORMER
	NON-FUSIBLE DISCONNECT SWITCH, SIZE AS NOTED ON ONE-LINE DIAGRAM
	FUSIBLE DISCONNECT SWITCH, 3P UON SIZE AS NOTED ON ONE-LINE DIAGRAM
	DISCONNECT WITH EMERGENCY STOP
	FIELD CONTROL STATION SEE SCHEMATIC DIAGRAM
	FEEDER DESIGNATION SEE SCHEDULE FOR SIZE
	EQUIPMENT TAG
	CONDUIT CONCEALED IN WALLS OR CEILING 3/4"C, 2 - #12, 1 - #12G, UON
	CONDUIT UNDER GROUND 3/4" C., 2 - #12; 1 - #12G, UON
	CONDUIT EXPOSED 3/4" C., 2 - #12, 1 - #12G, UON
	QUANTITY #12 WIRE CURVE LINE INDICATES GROUND WIRE
#10	WIRE SIZE OTHER THAN #12 CURVE LINE INDICATES GROUND WIRE
	CONDUIT STUBBED UP INTO EQUIPMENT AND PLUGGED
1-TSP	NUMBER OF 18 AWG TWISTED SHIELDED PAIR CABLE
G	CONNECTION TO GROUND BUS
G	GROUNDING CONDUCTOR 30" BELOW GRADE, #4/0 UON
	GROUND ROD, 3/4" X 10' - 0" GW NEXT TO SYMBOL INDICATES GROUND ROD IN HANDHOLE
G	EXOTHERMIC WELD CONNECTION
	DUCT BANK
E E E	EXISTING UNDERGROUND ELECTRICAL
A-1,3	HOMERUN TO PANEL A, CIRCUIT 1 AND 3
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT STUB-OUT AND CAPPED
J	FLEXIBLE CONDUIT CONNECTION
	MOTOR CONNECTION
	MOTOR CONNECTION. DISCONNECT FURNISHED WITH MOTOR
SV	SOLENOID VALVE
	DISCONNECTS OR COMBINATION STARTERS SERVING EQUIPMETN SHOWN. PROVIDE CONNECTING FEEDERS BETWEEN DEVICES, SIZE TO MATCH SERVING FEEDER.

ELECTRICAL SYMBOLS - ONE-LINE DIAGRAM

DM	DIGITAL MULTI-FUNCTION METER
3	CURRENT TRANSFORMER, QUANTITY INDICATED
3	POTENTIAL TRANSFORMER, QUANTITY INDICATED
	POWER TRANSFORMER
	FEEDER DESIGNATION - SEE SCHEDULE OR ONE-LINE DIAGRAM FOR SIZE
30A MCP	CIRCUIT BREAKER, 3 POLE UNLESS NOTED MCP INDICATES MOTOR CIRCUIT PROTECTOR
4 RV	MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED FULL-VOLTAGE NON-REVERSING UNLESS NOTED RV=REDUCED VOLTAGE STARTING 2S, 2W = 2 SPEED, 2 WINDING
	FUSE
	DISCONNECT SWITCH, NON-FUSIBLE, SEE PLANS FOR RATING
F	DISCONNECT SWITCH, FUSIBLE, SEE PLANS FOR RATING
X	MOTOR, X = HORSEPOWER
G	GENERATOR
	SURGE ARRESTER
	GROUND
	DELTA CONNECTION
A	WYE CONNECTION
PFR	POWER FAILURE RELAY
VFD	VARIABLE FREQUENCY DRIVE
	SOLID STATE STARTER
	CONTROLLER/STARTER FURNISHED WITH EQUIPMENT
GFP	GROUND FAULT PROTECTION
	INCOMING ELECTRIC SERVICE
	UNDERGROUND CONDUIT ENTRY TO BOTTOM OF PANEL
	INCOMING CONDUIT ENTRY TO TOP OF PANEL

POWER WIRE COLOR CODE

SYSTEM	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
208Y/120V	BLACK	RED	BLUE	WHITE	GREEN
480Y/277V	BROWN	ORANGE	YELLOW	GREY	GREEN

ELECTRICAL SYMBOLS - SCHEMATIC DIAGRAMS

NORMALLY OPEN	NORMALLY CLOSED	DEVICE
		CONTACT
		TIMED CONTACT CONTACT ACTION RETARDED ON ENERGIZATION
		TIMED CONTACT CONTACT ACTION RETARDED ON DE-ENERGIZATION
		PUSH BUTTON SINLGE CIRCUIT MOMENTARY CONTACT
		PUSH BUTTON SINGLE CIRCUIT LOCK-OUT
		LIMIT SWITCH
		LIQUID LEVEL SWITCH
		PRESSURE OR VACUUM SWITCH
		FLOW SWITCH
		TEMPERATURE SWITCH
		SELECTOR SWITCH - CAN BE 2-WAY OR 3-WAY
		MANUAL MOTOR STARTER
	D/I	DOOR INTERLOCK SWITCH
	OL	MOTOR OVERLOAD RELAY CONTACT
		MOTOR OVERLOAD HEATER
A		PILOT LIGHT R=RED, W=WHITE, G=GREEN, A=AMBER, C=CLEAR
R		PILOT LIGHT-PUSH TO TEST
R		RELAY
TD		TIME DELAY RELAY
M		STARTER COIL
S		SOLENOID OPERATED VALVE
		MOTOR
		BELL OR BUZZER
ETM		ELAPSED TIME METER
		FUSE
		CONTROL POWER TRANSFORMER
		GROUND
		WIRING IN MOTOR STARTER OR CONTROL PANEL
		FIELD WIRING
		TERMINAL BLOCK IN FCS
		TERMINAL BLOCK IN MOTOR STARTER OR PANEL
		TERMINAL BLOCK IN PLC
PFR		POWER FAIL RELAY
		SPACE HEATER
		RESISTOR
		CIRCUIT BREAKER
PR		PLC OUTPUT ISOLATION RELAY

GENERAL NOTES

1. FIELD VERIFY EXACT LOCATIONSOF UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISITNG PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MINIMUM DEPTH OF 18" BELOW THE FINISHED FLOOR/GRADE OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. REFER TO CONDUIT AND WIRING SCHEDULE FOR CONDUIT AND WIRE REQUIREMENTS. ALL C, L & P DESIGNATED CONDUITS SHALL BE ROUTED THROUGH PPB PULL BOXES AND A & D DESIGNATED CONDUITS SHALL BE ROUTED THROUGH SPB PULL BOXES.
5. PROVIDE ELECTRICAL SYSTEM TESTING PER CONTRACT SPECIFICATION SECTION PRIOR TO ENERGIZING ANY ELECTRICAL EQUIPMENT OR SERVICES.

FREQUENTLY USED ABBREVIATIONS

A	AMPERE	MLO	MAIN LUG ONLY
AFF	ABOVE FINISHED FLOOR	MTD	MOUNTED
AFG	ABOVE FINISHED GRADE	MTS	MANUAL TRANSFER SWITCH
AIC	AMPS INTERRUPTING CAPACITY	NA	NOT APPLICABLE
ALT	ALTERNATE	NC	NORMALLY CLOSED
ARCH	ARCHITECT/ARCHITECTURAL	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NF	NON-FUSED
BFG	BELOW FINISHED GRADE	NIC	NOT IN CONTRACT
BPS	BOLTED PRESSURE SWITCH	NL	NIGHT LIGHT
C	CONDUIT	NO	NORMALLY OPEN
CB	CIRCUIT BREAKER	NTS	NOT TO SCALE
CCTV	CLOSED CIRCUIT TELEVISION	OL	OVERLAY RELAY OR OVERLAY CONTACT
CLG	CEILING	P	POLE OR PHASE
CP	CONTROL PANEL	PC	PLUMBING CONTRACTOR
CPT	CONTROL POWER TRANSFORMER	PF	POWER FACTOR
CT	CURRENT TRANSFORMER	PH	PHASE
CU	COPPER	PT	POTENTIAL TRANSFORMER
DISC	DISCONNECT	PRI	PRIMARY
DP	DOUBLE POLE	PVC	POLYVINLY CHLORIDE
DT	DOUBLE THROW	SN	SOLID NEUTRAL
EC	ELECTRICAL CONTRACTOR	SP	SINGLE POLE
EF	EXHAUST FAN	SPKR	SPEAKER
EM	EMERGENCY	ST	SINGLE THROW SWITCH
EMS	ENERGY MANAGEMENT SYSTEM	SW	SWITCHBOARD
EMT	ELECTRICAL METALLIC TUBING	SWBD	SQUARE
ENG	ENGINEER	SQ	TIME CLOCK
EWC	ELECTRIC WATER COOLER	TC	TIME DELAY
F	FUSED	TD	TAMPER PROOF
FACP	FIRE ALARM CONTROL PANEL	TP	TIMING RELAY
FARA	FIRE ALARM REMOTE ANNUNCIATOR	TR	TD CLOSE TO DENERGIZATION
FDR	FEEDER	TDCD	TD CLOSE ON ENERGIZATION
FDS	FUSED DISCONNECT SWITCH	TDCE	TD OPEN ON DENERIZATION
FLR	FLOOR	TDOD	TD OPEN ON ENERGIZATION
FVNR	FULL VOLTAGE NON REVERSING	TDOE	TELEPHONE
G/GND	GROUND	TEL	TELEPHONE TERMINAL BOARD
GC	GENERAL CONTRACTOR	TTB	TELEPHONE TERMINAL CABINET
GFI	GROUND FAULT INTERRUPTER	TTC	TRANSIENT VOLTAGE SURGE SUPPRESSION
GFP	GROUND FAULT PROTECTOR	TVSS	TYPICAL
GRS	GALVANIZED RIGID STEEL CONDUIT	TYP	VOLT-AMPERE
HH	HANDHOLE	VA	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	VFD	WIRE OR WATTS
HZ	HERTZ	W	WIREMOLD (SURFACE MTD)
IG	ISOLATED GROUND	WM	WEATHERPROOF
JB	JUNCTION BOX	WP	EXPLOSION PROOF
MCM	THOUSAND CIRCULAR MILS	XP	
KVA	KILO-VOLT AMPERE		
KVAR	KILO-VOLT AMPERE REACTIVE		
KW	KILOWATT		
MC	MECHANICAL CONTRACTOR		
MCC	MOTOR CONTROL CENTER		
MCB	MAIN CIRCUIT BREAKER		
MCP	MOTOR CIRCUIT PROTECTOR		
MH	MANHOLE		
MIC	MICROPHONE		
ϕ	PHASE OR DIAMETER		

RQAW

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CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: JAR

Drawn By: JAR

Checked By: DB

Date: 02/28/2025

DUSTIN E. BARTH
REGISTERED
No. 12200401
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Dustin Barth

ELECTRICAL SYMBOLS AND ABBREVIATIONS - SOUTH PLANT

E100

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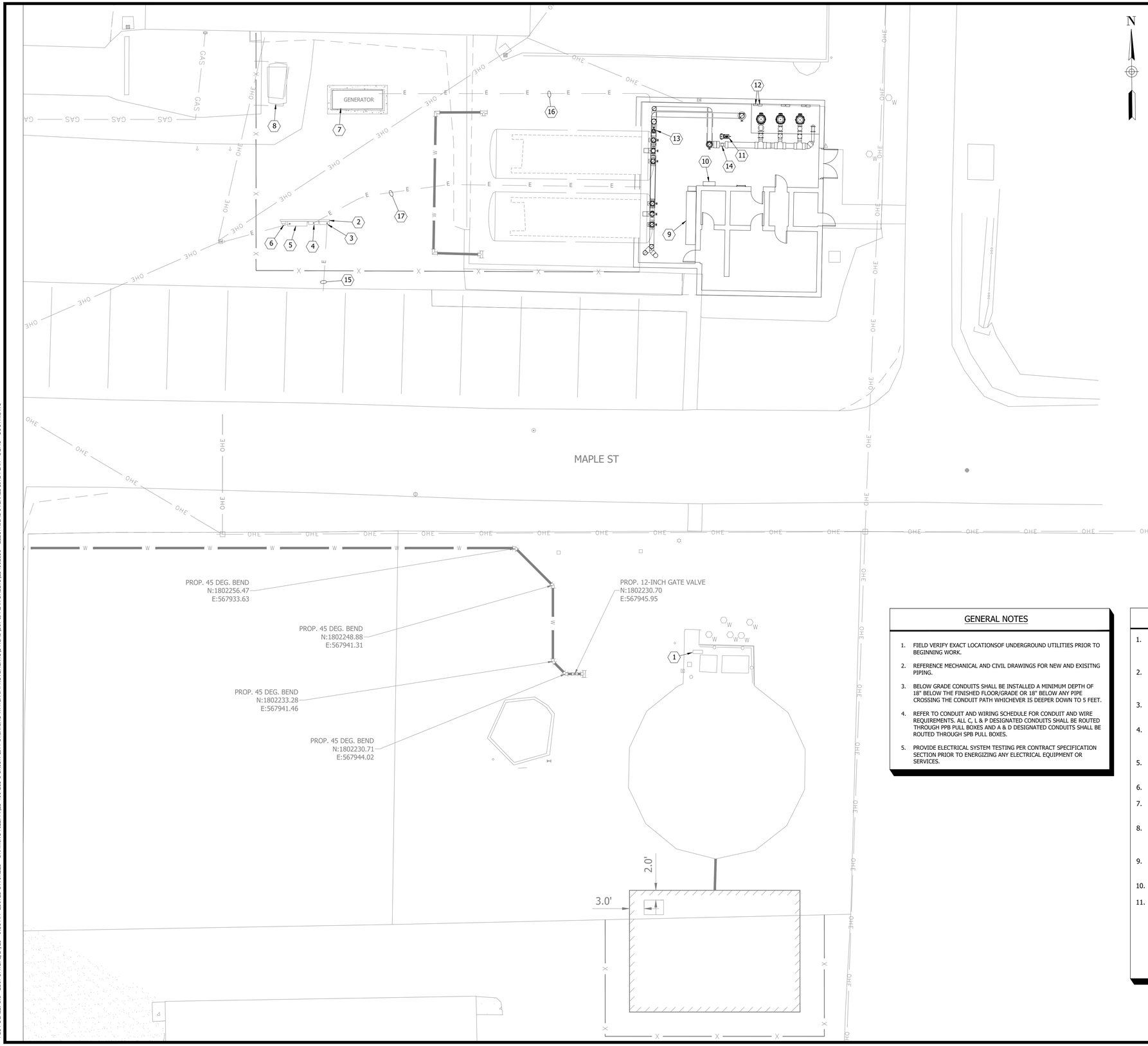

ELECTRICAL KEYED NOTES

1. EXISTING LIFT PUMP CONTROL PANEL. SEE SHEET I104.
2. EXISTING ELECTRICAL SERVICE EQUIPMENT RACK. TO REMAIN.
3. EXISTING SOLAR FIELD 400A MAINS DISCONNECT. TO REMAIN.
4. EXISTING PLANT 400A MAINS DISCONNECT. TO REMAIN.
5. EXISTING UTILITY POWER CT CABINET, TO REMAIN.
6. EXISTING UTILITY METER - TO BE UPGRADED.
7. EXISTING DIESEL GENERATOR - TO BE UPGRADED TO 250KW NATURAL GAS GENERATOR.
8. EXISTING DIESEL TANK - TO BE REMOVED ONCE NEW GENERATOR IS READY.
9. EXISTING MOTOR CONTROL CENTER (MCC).
10. EXISTING PLC CONTROL PANEL - TO BE MODIFIED. SEE SHEET I101.
11. EXISTING AIR COMPRESSOR AND ASSOCIATED PIPING, CONDUIT AND POWER DISCONNECTED AND REMOVED ONCE NEW ACTUATOR FOR DETENTION TANK CONTROL VALVE IS INSTALLED AND READY FOR USE. RETURN TO OWNER.
12. EXISTING MOTOR DISCONNECT AND SOFTSTARTER - TO BE REPLACED. TYPICAL FOR EACH PUMP.
13. EXISTING AIR BUBBLER SYSTEM CONTROLLER/VALVE. TO BE REPLACED WITH ELECTRIC ACTUATOR.
14. EXISTING FINISHED WATER FLOW METER - TO BE REPLACED.
15. EXISTING UNDERGROUND ELECTRICAL TO SOLAR FIELD. DO NOT DISTURB.
16. EXISTING UNDERGROUND FOR GENERATOR.
17. EXISTING UNDERGROUND SERVICE TO PLANT. TO REMAIN.

GENERAL NOTES

1. FIELD VERIFY EXACT LOCATIONSOF UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
2. REFERENCE MECHANICAL AND CIVIL DRAWINGS FOR NEW AND EXISITNG PIPING.
3. BELOW GRADE CONDUITS SHALL BE INSTALLED A MINIMUM DEPTH OF 18" BELOW THE FINISHED FLOOR/GRADE OR 18" BELOW ANY PIPE CROSSING THE CONDUIT PATH WHICHEVER IS DEEPER DOWN TO 5 FEET.
4. REFER TO CONDUIT AND WIRING SCHEDULE FOR CONDUIT AND WIRE REQUIREMENTS. ALL C, L & P DESIGNATED CONDUITS SHALL BE ROUTED THROUGH PPB PULL BOXES AND A & D DESIGNATED CONDUITS SHALL BE ROUTED THROUGH SPB PULL BOXES.
5. PROVIDE ELECTRICAL SYSTEM TESTING PER CONTRACT SPECIFICATION SECTION PRIOR TO ENERGIZING ANY ELECTRICAL EQUIPMENT OR SERVICES.

GENERAL ELECTRICAL DEMOLITION PLAN NOTES

1. THE CONTRACTOR SHALL REMOVE ALL MUD, DIRT, GRAVEL AND ANY OTHER MATERIALS TRACKED ONTO ANY PUBLIC OR PRIVATE STREETS OR SIDEWALKS. THE CONTRACTOR SHALL UTILIZE MEASURES TO CONTROL DUST AT ALL TIMES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION.
3. ALL UTILITIES TO BE REMOVED SHALL BE DISCONNECTED AND CAPPED AT THE NEAREST CONNECTION POINT, UNLESS SPECIFIED OTHERWISE.
4. UTILITIES ARE SHOWN TO BE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY(S) COMPANY FOR THE REMOVAL, RELOCATION, AND/OR DEMOLITION OF ALL EXISTING UTILITIES.
5. ALL DEMOLISHED MATERIALS SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE UNLESS NOTED OTHERWISE.
6. THE USE OF ANY TYPE OF EXPLOSIVES WILL NOT BE PERMITTED.
7. PROMPTLY REPAIR ANY DAMAGE TO ADJACENT FACILITIES CAUSED BY DEMOLITION AND CONSTRUCTION OPERATIONS AT NO EXTRA COST TO THE OWNER.
8. DEMOLITION ITEMS INCLUDE BUT ARE NOT LIMITED TO DEMOLITION ITEMS INDICATED ON THIS PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE OR RELOCATE ITEMS WHICH INTERFERE WITH NEW CONSTRUCTION.
9. THE OWNER/DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING QUALITY CONTROL AT ALL TIMES DURING THE CONSTRUCTION PROCESS.
10. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL OF ALL EQUIPMENT BEING REMOVED.
11. CONTRACTOR RESPONSIBLE TO COORDINATE WITH OTHERS FOR COMMENCEMENT OF DEMOLITION EFFORTS UPON COMPLETION OF WORK AND LIMITING DISRUPTION OF WATER TREATMENT PRODUCTION.

RQAW

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CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: JAR

Drawn By: JAR

Checked By: DB

Date: 02/28/2025

DUSTIN E. BARTH
REGISTERED
No. 12200401
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Dustin Barth

10' 0 10' 20'
GRAPHIC SCALE

ELECTRICAL OVERALL SITE PLAN DEMO - SOUTH PLANT

E101

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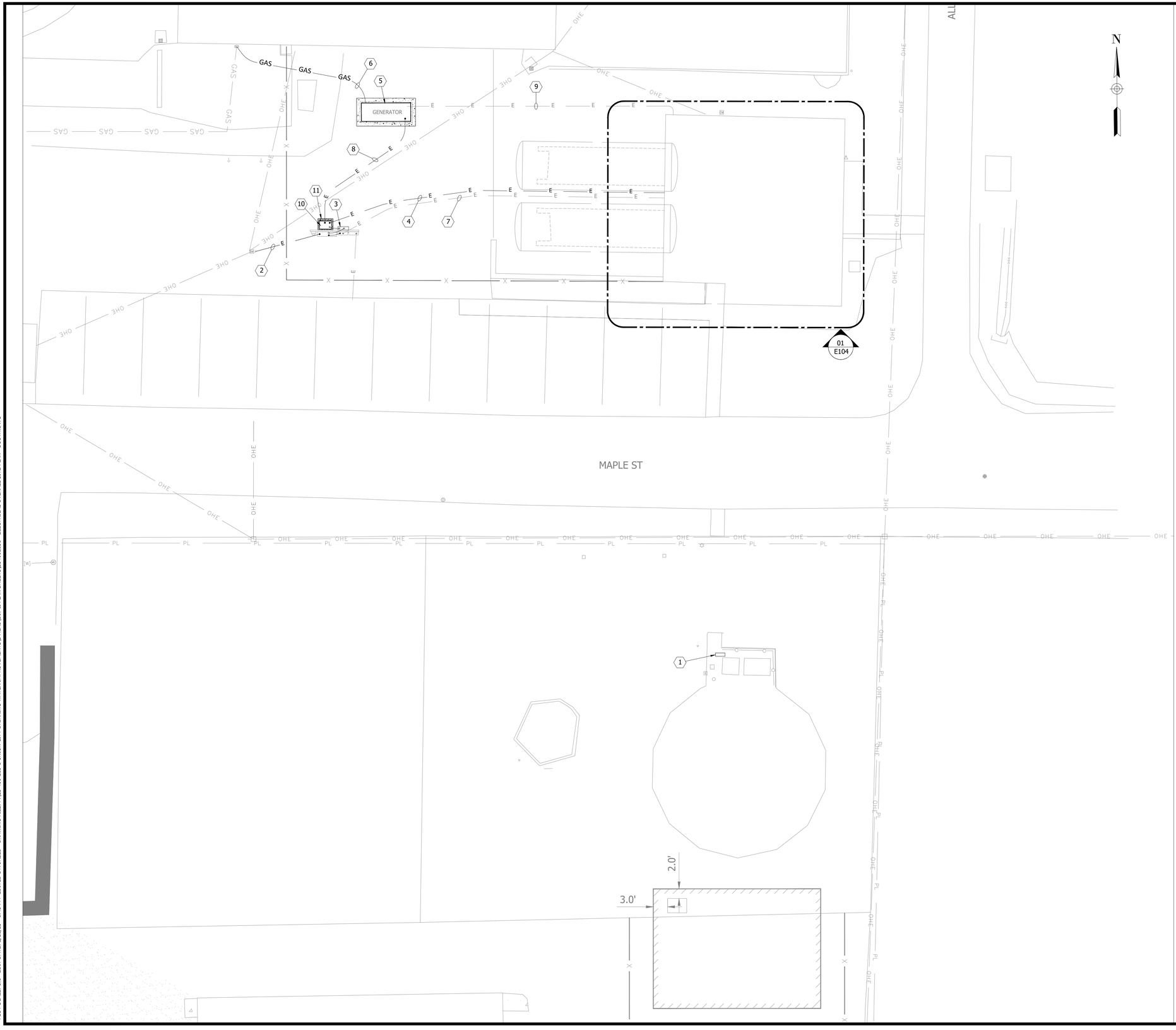

ELECTRICAL KEYED NOTES

1. PROVIDE NEW LIFT PUMP CONTROL PANEL. SEE SHEET I104.
2. NEW UPGRADED SERVICE. SEE ONE-LINE.
3. NEW 600A DISCONNECT. SEE ONE-LINE.
4. NEW UNDERGROUND TO EXISTING MCC. SEE ONE-LINE.
5. NEW 250KW NATURAL GAS GENERATOR TO REPLACE EXISTING. SEE ONE-LINE. EXISTING GENERATOR PAD SHALL BE REWORKED TO SUPPORT NEW GENERATOR PER MANUFACTURER INSTALLATION GUIDELINES.
6. NEW NATURAL GAS CONNECTION. SEE DETAILS.
7. EXISTING CONDUIT/CABLE FOR 400A SERVICE, TO REMAIN AND BE SPLICED AND SERVICED TO NEW 400A DISTRIBUTION PANEL. SEE ONE-LINE.
8. NEW UNDERGROUND CONDUIT/CABLE FOR GENERATOR TO ATS. SEE ONE-LINE.
9. EXISTING POWER CONDUIT TO BE REUSED FOR ETHERNET AND SIGNALS TO PLC CONTROL PANEL.
10. NEW 600A GENERAC RTS SERIES NEMA3R AUTOMATIC TRANSFER SWITCH OR APPROVED EQUAL.
11. ATS KEEPING PAD.

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DUSTIN E. BARTH
REGISTERED
No. 12200401
STATE OF
INDIANA
PROFESSIONAL ENGINEER

10' 0 10' 20'
GRAPHIC SCALE

ELECTRICAL OVERALL SITE PLAN - SOUTH PLANT

E102

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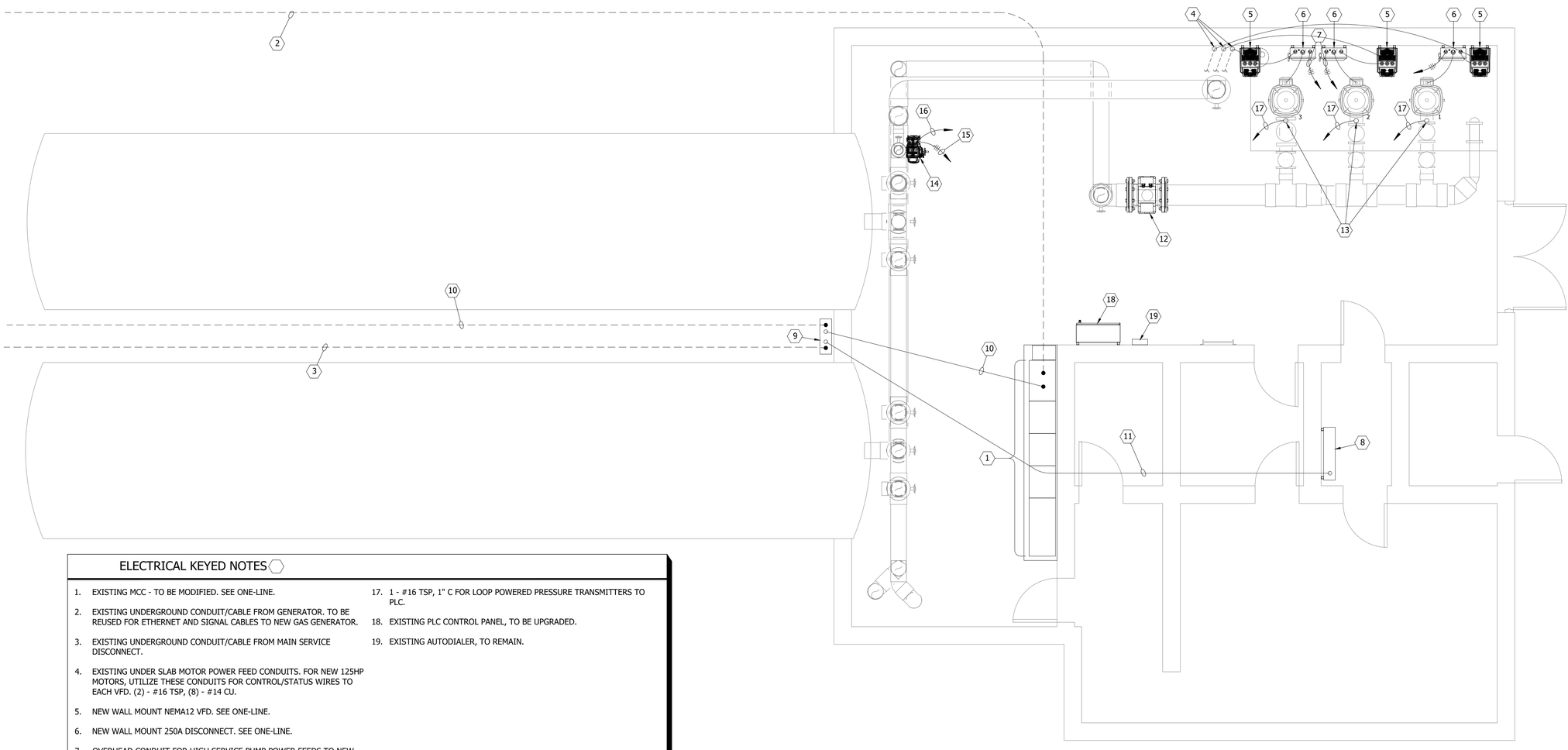

ELECTRICAL KEYED NOTES

1. EXISTING MCC - TO BE MODIFIED. SEE ONE-LINE.
2. EXISTING UNDERGROUND CONDUIT/CABLE FROM GENERATOR. TO BE REUSED FOR ETHERNET AND SIGNAL CABLES TO NEW GAS GENERATOR.
3. EXISTING UNDERGROUND CONDUIT/CABLE FROM MAIN SERVICE DISCONNECT.
4. EXISTING UNDER SLAB MOTOR POWER FEED CONDUITS. FOR NEW 125HP MOTORS, UTILIZE THESE CONDUITS FOR CONTROL/STATUS WIRES TO EACH VFD. (2) - #16 TSP, (8) - #14 CU.
5. NEW WALL MOUNT NEMA12 VFD. SEE ONE-LINE.
6. NEW WALL MOUNT 250A DISCONNECT. SEE ONE-LINE.
7. OVERHEAD CONDUIT FOR HIGH SERVICE PUMP POWER FEEDS TO NEW MDP-1. SEE ONE-LINE.
8. NEW PUMP DISTRIBUTION PANEL (PDP-1). NEMA1 ENCLOSURE, SURFACE MOUNT WITH 400A MAIN BREAKER. SEE ONE-LINE.
9. NEW 24"X24" WALL MOUNT PULL BOX, NEMA12 STAINLESS STEEL. SEE ONE-LINE.
10. UNDERGROUND CONDUIT/CABLE NEW SERVICE FEED FROM NEW AUTOMATIC TRANSFER SWITCH. SEE ONE-LINE.
11. NEW CONDUIT/CABLE TO NEW PDP-1 DISTRIBUTION PANEL. SEE ONE-LINE.
12. NEW MAGNETIC FLOW METER - 14" TO MATCH EXISTING WATER LINE. EXISTING CONDUIT/WIRE MAY BE REUSED FROM EXISTING FLOW METER.
13. NEW PUMP DISCHARGE PRESSURE TRANSMITTERS. 0-150 PSI.
14. NEW ROTORK ELECTRIC ACTUATOR TO CONTROL DETENTION TANK CONTROL VALVE.
15. 480V, 3PH POWER CONDUIT/WIRE FOR ROTORK ACTUATOR. SEE ONE-LINE.
16. 2 - #16 TSP FOR POSITION CONTROL AND FEEDBACK; 8 - #14 CU FOR VALVE IN AUTO STATUS, OPENED STATUS, CLOSED STATUS AND FAIL STATUS.
17. 1 - #16 TSP, 1" C FOR LOOP POWERED PRESSURE TRANSMITTERS TO PLC.
18. EXISTING PLC CONTROL PANEL, TO BE UPGRADED.
19. EXISTING AUTODIALER, TO REMAIN.

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DUSTIN E. BARTH
REGISTERED
No. 12200401
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Dustin Barth

ELECTICAL ENLARGED SITE PLAN - SOUTH PLANT

E103

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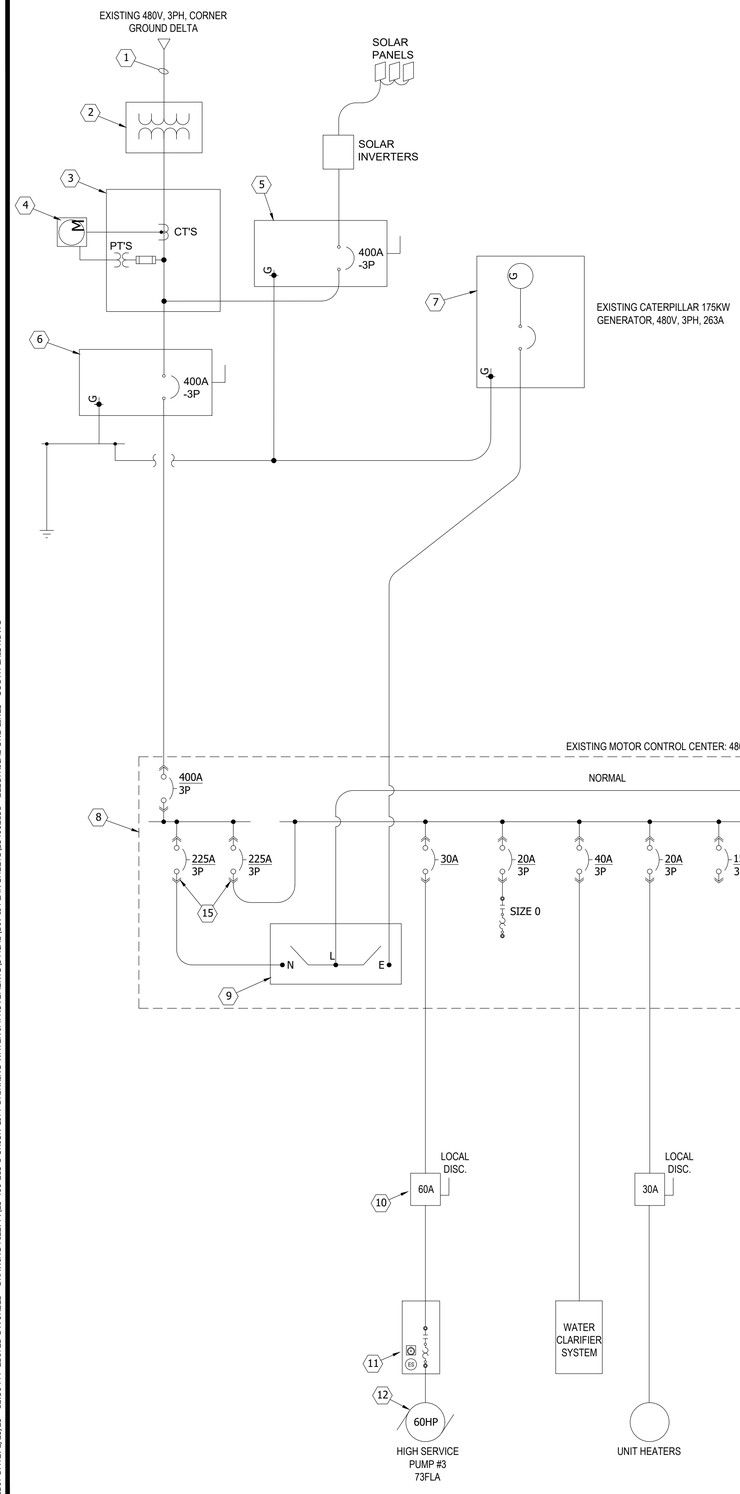
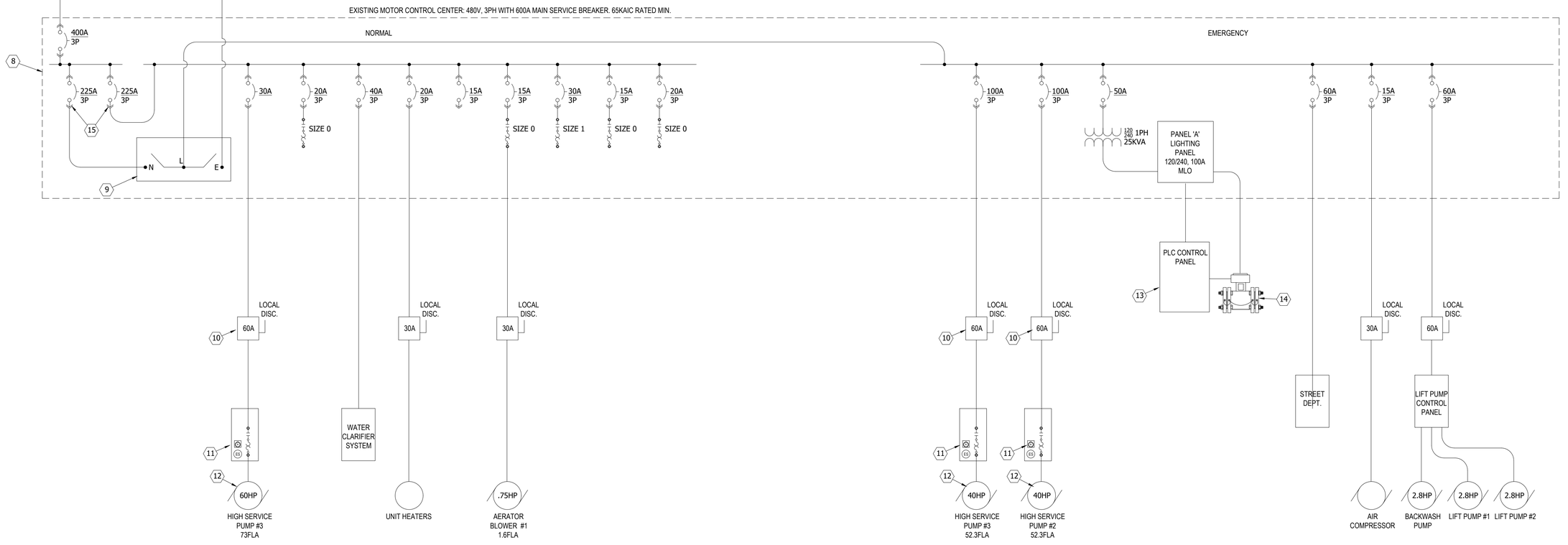


ELECTRICAL KEYED NOTES:

1. EXISTING OVERHEAD UTILITY.
2. EXISTING POLE MOUNTED TRANSFORMER. 480V, 3PH. TO REMAIN.
3. EXISTING CT CABINET. TO REMAIN.
4. EXISTING UTILITY METER, TO REMAIN.
5. EXISTING 400A SERVICE DISCONNECT FROM SOLAR FIELD. TO REMAIN.
6. EXISTING 400A SERVICE DISCONNECT TO PLANT MCC. TO REMAIN.
7. EXISTING CATERPILLAR 175KW GENERATOR. TO REMAIN.
8. EXISTING MOTOR CONTROL CENTER. SEE ELEVATION VIEW SHEET E107.
9. EXISTING 400A AUTOMATIC TRANSFER SWITCH (ATS). TO REMAIN IN MCC BUT DISCONNECTED FROM BUS.
10. EXISTING HIGH SERVICE PUMP DISCONNECT. TO BE REPLACED. SEE SHEET E106.
11. EXISTING HIGH SERVICE PUMP SOFT STARTERS. TO BE REPLACED. SEE SHEET E106.
12. EXISTING HIGH SERVICE PUMPS. TO BE REPLACED. SEE SHEET E106.
13. EXISTING SCADA PLC CONTROL PANEL - TO BE UPGRADED. SEE SHEETS I101 TO I106.
14. EXISTING FINISHED WATER FLOW METER. TO BE REPLACED.
15. REMOVE EXISTING 225A CIRCUIT BREAKERS ONCE NEW 600A MAINS BREAKER IS READY TO INSTALL.



SOUTH PLANT ELECTRICAL ONE-LINE DIAGRAM - EXISTING

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

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DUSTIN E. BARTH REGISTERED No. 12200401 STATE OF INDIANA PROFESSIONAL ENGINEER

Dustin Barth

ELECTRICAL ONE-LINES - EXISTING

E104

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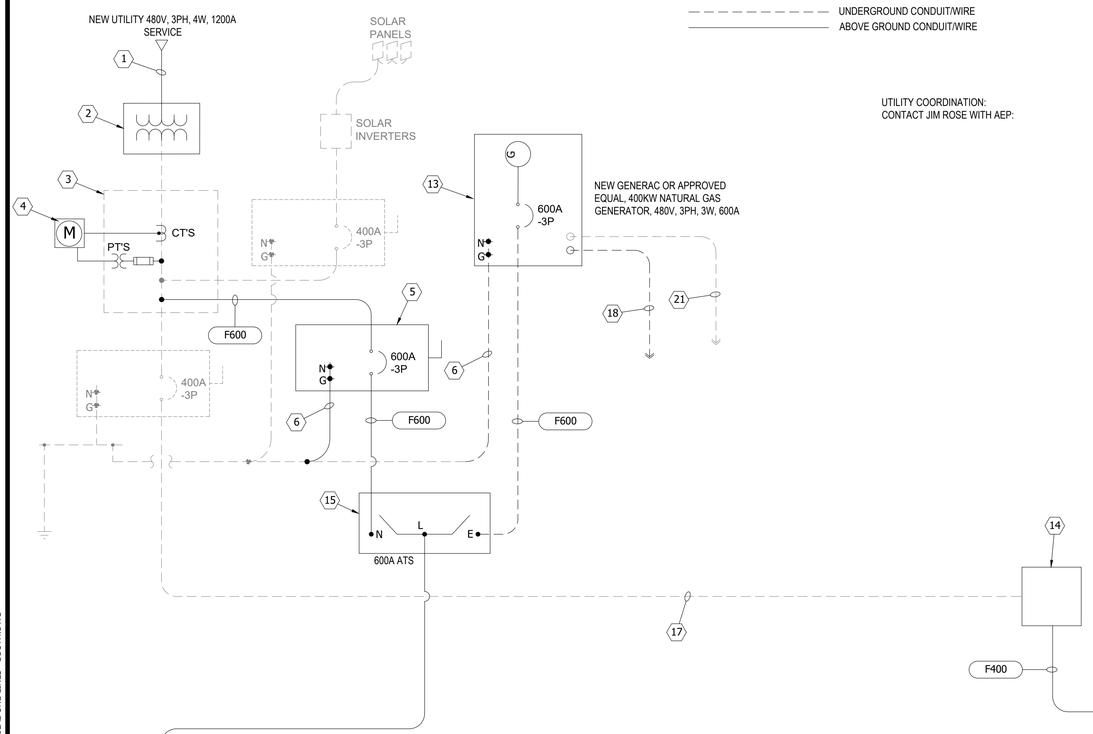
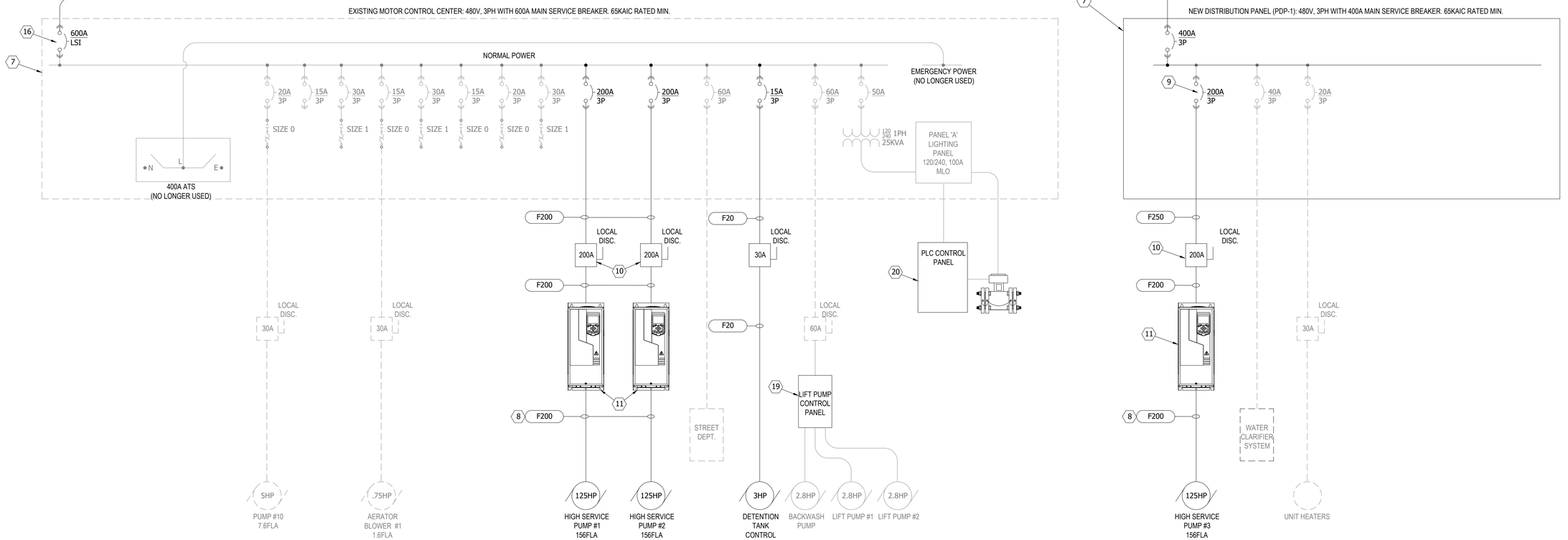


ELECTRICAL KEYED NOTES:

1. EXISTING OVERHEAD UTILITY LINES.
2. COORDINATE UTILITY UPGRADE OF EXISTING POLE MOUNTED TRANSFORMERS TO ACCOMMODATE ADDITIONAL SERVICE LOAD (1200A).
3. EXISTING CT CABINET, MAKE NEW SERVICE TIES AT THIS LOCATION.
4. UPGRADE METER BASE TO 1000A. COORDINATE WITH UTILITY FOR METER UPGRADE.
5. PROVIDE NEW 600A, NON-FUSED SERVICE ENTRANCE RATED DISCONNECT WITH CIRCUIT BREAKER.
6. 2 - #1 BARE COPPER IN CONDUIT. BOND TO EXISTING GROUND.
7. NEW 480V, 3PH, 3W, SURFACE MOUNT DISTRIBUTION PANEL WITH 600A MAIN CIRCUIT BREAKER.
8. CABLE SHALL BE RATED FOR USE WITH VFD UNITS: SIMILAR TO AMPHENOL TPC SUPER-TREX MULTI-CONDUCTOR CABLE RATED AT 600V, 90° C; OR EQUAL.
9. REPLACE EXISTING MOTOR PROTECTION CIRCUIT BREAKER WITH 250A RATED MP CIRCUIT BREAKER.
10. NEW NEMA12 200A DISCONNECT LOCATED NEAR NEW 125HP MOTOR.
11. NEW 125HP VFD UNIT SIMILAR TO ABB ACQ580-31 SERIES WALL MOUNT.
12. NEW 30A WALL MOUNT DISCONNECT.
13. NEW GENERAC, OR APPROVED EQUAL, 400KW NATURAL GAS GENERATOR, 480V, 3PH, 600A. WITH SOUND ATTENUATION ENCLOSURE. PROVIDE WITH CONTROLLER AND ETHERNET CONNECTION TO COMMUNICATE WITH PLC.
14. NEW 24"X24" WALL MOUNT PULL BOX, NEMA12 STAINLESS STEEL. LOCATION IS ONLY SHOWN FOR REFERENCE.
15. NEW 600A AUTOMATIC TRANSFER SWITCH (ATS). SIMILAR TO GENERAC NON-SERVICE RATED RTS SERIES.
16. PROVIDE AND INSTALL A NEW 600A LSI MAINS CIRCUIT BREAKER.
17. EXISTING UNDERGROUND SERVICE FEED TO REMAIN AND BE REUSED TO CONNECT NEW 400A DISTRIBUTION PANEL. PULL EXISTING CONNECTION FROM MCC AND TERMINATE/SPLICE INSIDE.
18. 1" CONDUIT - SIGNAL CABLES FOR GENERATOR TO PLC COMMUNICATIONS. PROVIDE: (1) CAT5E ETHERNET CABLE, (8) #14 CU SIGNAL WIRES FOR: GENERAL ALARM, RUN STATUS, CALL TO RUN AND SPARE.
19. NEW LIFT PUMP CONTROL PANEL. SEE SHEETS I103 TO I106.
20. NEW PLC CONTROL PANEL MODIFICATIONS. SEE SHEETS I101 AND I102.
21. USE EXISTING CONDUIT TO PROVIDE 2 - #10 CU, 1 - #10 CU GND FOR BATTERY CHARGER.

FEEDER SIZING TABLE

DESIGNATION	CONDUCTOR SIZE PER CONDUIT			CONDUIT SIZE AND QUANTITY				
FXXX	PHASE & NEUTRAL	ISOLATED GROUND	BUILDING GROUND	OR 1P, 1N, 1G 2P, 1G	OR 2P, 1N, 1G 3P, 1G	3P, 1N, 1G	3P, 3N, 1G	3P, 1N, 2G
F20	12	12	12	3/4"	3/4"	3/4"	3/4"	3/4"
F30	10	10	10	3/4"	3/4"	3/4"	3/4"	3/4"
F40-F50	8	10	10	3/4"	3/4"	3/4"	1"	3/4"
F60	6	10	10	3/4"	3/4"	1"	1"	1"
F70-F80	4	8	8	3/4"	1"	1-1/4"	1-1/4"	1-1/4"
F90-F100	3	8	8	1"	1"	1-1/4"	1-1/2"	1-1/4"
F110	2	6	6	1"	1-1/4"	1-1/4"	1-1/2"	1-1/4"
F125	1	6	6	1-1/4"	1-1/4"	1-1/2"	2"	1-1/2"
F150	1/0	6	6	1-1/4"	1-1/2"	1-1/2"	2"	2"
F175	2/0	6	6	1-1/4"	1-1/2"	2"	2-1/2"	2"
F200	3/0	6	6	1-1/4"	2"	2"	2-1/2"	2"
F225	4/0	4	4	1-1/2"	2"	2-1/2"	2-1/2"	2-1/2"
F250	250	4	4	2"	2"	2-1/2"	3"	2-1/2"
F300	350	4	4	2"	2-1/2"	3"	3-1/2"	3"
F301	350	2	2	2-1/2"	3"	3"	4"	3"
F350	500	3	3	2-1/2"	3"	3"	4"	3"
F400	3/0	3	3		(2) 2"	(2) 2-1/2"	(2) 3"	(2) 2-1/2"
F401	3/0	1/0	1/0		(2) 2-1/2"	(2) 3"	(2) 3-1/2"	(2) 3"
F450	4/0	2	2		(2) 2"	(2) 2-1/2"	(2) 3"	(2) 2-1/2"
F500	250	2	2		(2) 2"	(2) 2-1/2"	(2) 3"	(2) 2-1/2"
F600	350	1	1		(2) 2-1/2"	(2) 3"	(2) 3-1/2"	(2) 3"
F700	500	1/0	1/0		(2) 3"	(2) 3"	(2) 4"	(2) 3-1/2"
F800	350	1/0	1/0		(3) 2-1/2"	(3) 3"	(3) 3-1/2"	(3) 3"
F900	350	2/0	2/0		(3) 2-1/2"	(3) 3"	(3) 3-1/2"	(3) 3"
F1000	500	2/0	2/0		(3) 3"	(3) 3"	(3) 4"	(3) 3-1/2"
F1200	350	3/0	3/0		(4) 2-1/2"	(4) 3"	(4) 3-1/2"	(4) 3"
F1600	500	4/0	4/0		(5) 3"	(5) 3"	(5) 4"	(5) 3-1/2"
F2000	500	250	250		(6) 3"	(6) 3-1/2"	(6) 4"	(6) 3-1/2"
F2500	500	350	350		(7) 4"	(7) 4"	(7) 4"	(7) 4"
F3000	500	500	500		(8) 4"	(8) 4"	(8) 4"	(8) 4"



SOUTH PLANT ELECTRICAL ONE-LINE MODIFICATION DIAGRAM

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: JAR

Drawn By: JAR

Checked By: DB

Date: 02/28/2025

DUSTIN E. BARTH REGISTERED No. 12200401 STATE OF INDIANA PROFESSIONAL ENGINEER

Dustin Barth

ELECTRICAL ONE-LINES - SOUTH PLANT

E105

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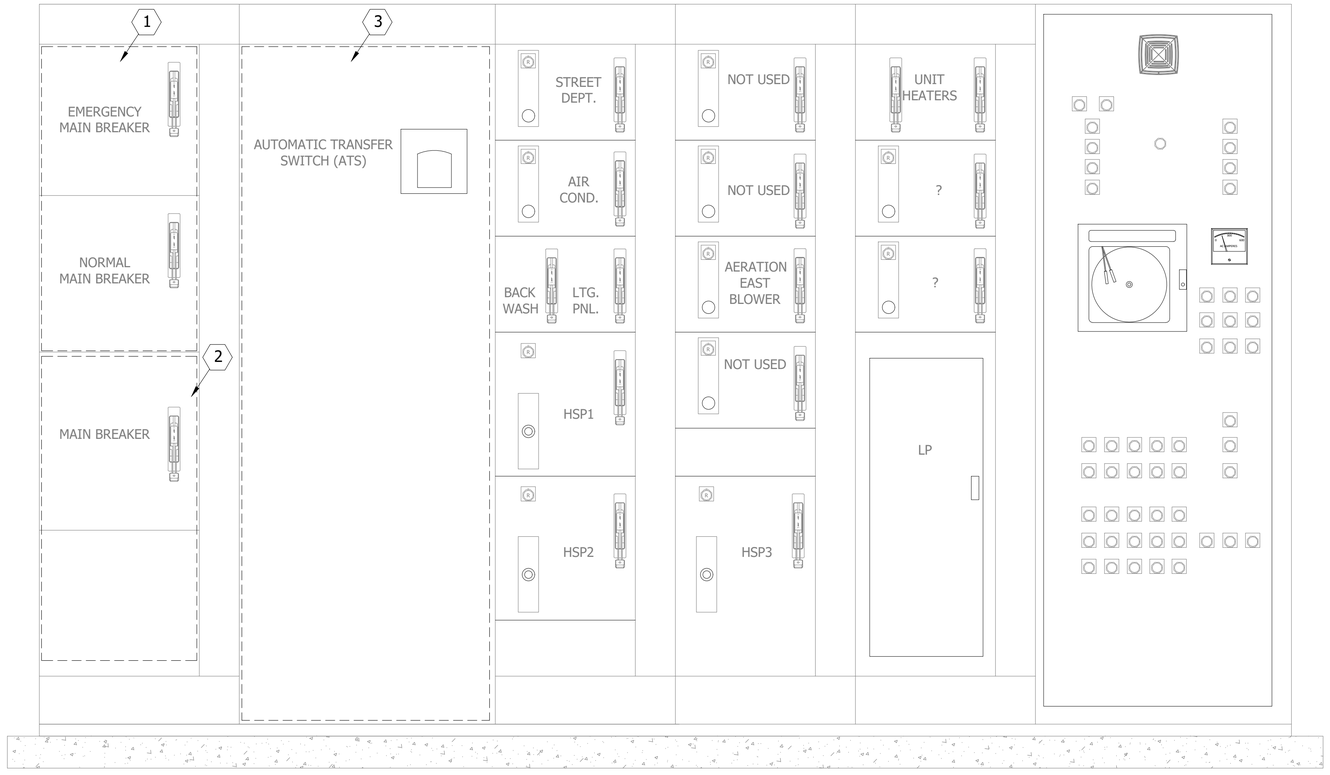
SOUTH PLANT MOTOR CONTROL CENTER NAMEPLATE



EXISTING MCC ELEVATION

ELECTRICAL KEYED NOTES:

1. 225A BREAKERS ARE TO BE DISCONNECTED. SEE ONE-LINE.
2. MAIN 400A CIRCUIT BREAKER TO BE REPLACED WITH NEW 600A CIRCUIT BREAKER. SEE ONE-LINE.
3. EXISTING AUTOMATIC TRANSFER SWITCH - TO BE ABANDONED IN PLACE. SEE ONE-LINE AND SITE PLAN.

SOUTH PLANT MOTOR CONTROL CENTER ELEVATION

RQAW

DCCM

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UNION CITY, IN 47390

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Dustin Barth

ELECTRICAL MCC AND UPDATES - SOUTH PLANT

E106

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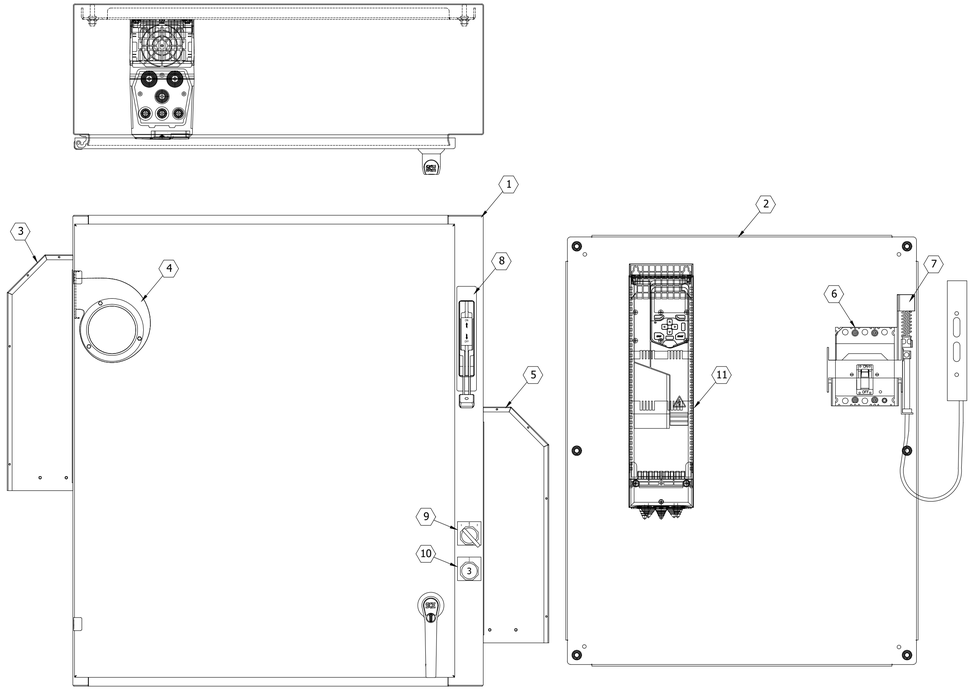
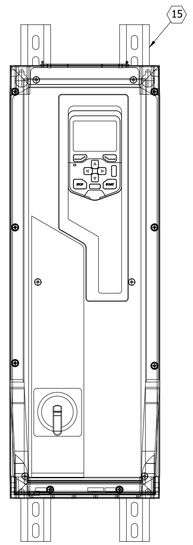


WELL #17 AND #18 (OUTDOOR INSTALLATION)
NOT TO SCALE

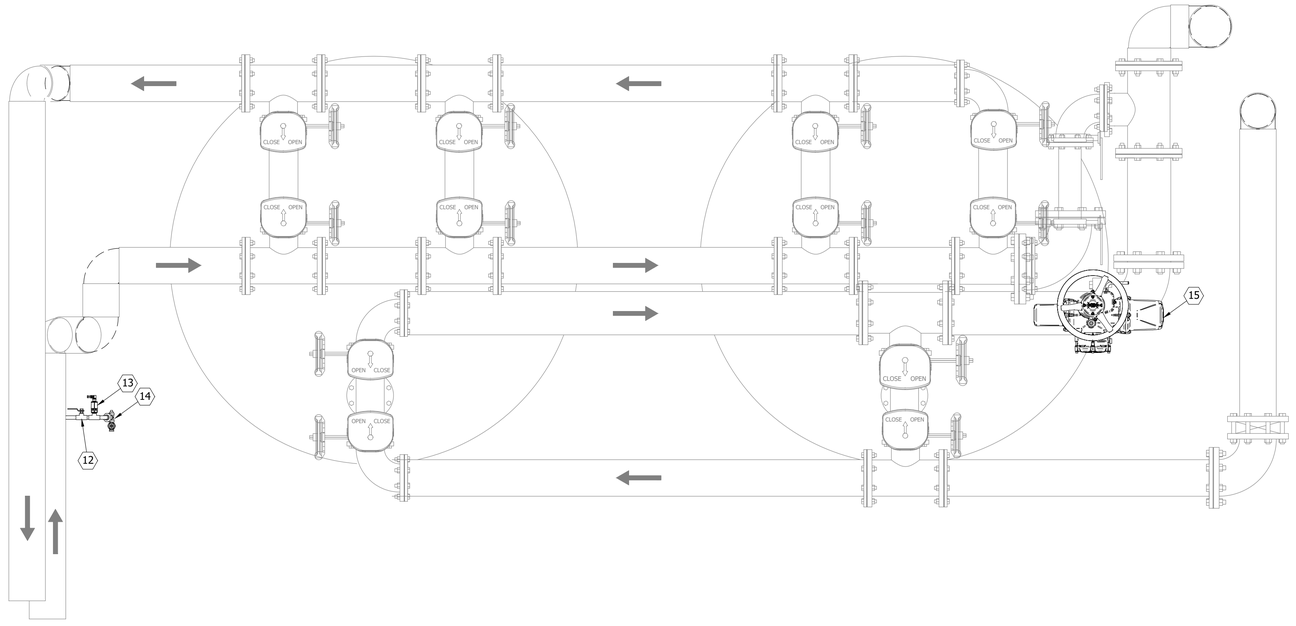


WELL #19, #20 AND #21 (WELL SHACK INSTALLATION)
NOT TO SCALE

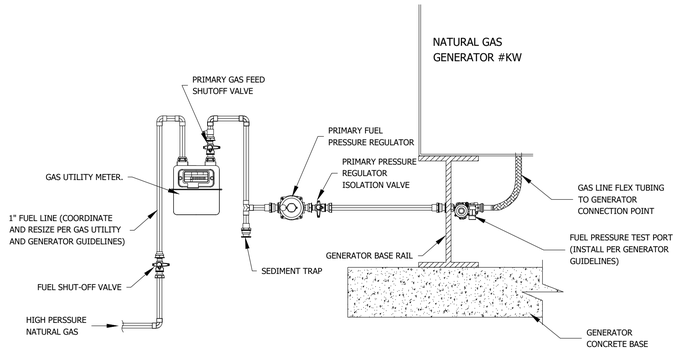
NOTES:
- WELL #17: 480V, 3PH, 10HP AT 14.2FLA. IS ON EXISTING EATON VFD.
- WELL #18, #19 AND #20: 480V, 3PH, 15HP AT 20.8FLA
- WELL #21: 480V, 3PH, 20HP AT 22FLA
- EACH WELL VFD SHALL BE HARDWIRE CONTROLLED AND MONITORED BY LOCAL PLC: (1) TSP - SPEED CONTROL; (1) TSP - SPEED FEEDBACK; 8 - #14 CU FOR RUN STATUS, FAIL STATUS, CALL TO RUN, SPARE.
- EACH VFD UNIT SHALL COME WITH ETHERNET I/P PROTOCOL COMMUNICATIONS MODULE TO COMMUNICATE VIA ETHERNET CABLE TO NEW LOCAL PLC TO RELAY SIGNALS SUCH AS:
  - SPEED FEEDBACK
  - ALARM FAULT CODE
  - TORQUE
  - PHASE TO PHASE VOLTAGE
  - PHASE CURRENT
  - RUN STATUS
  - ALARM STATUS
- WELL #17, #18 AND #19 ARE MONITORED AND CONTROLLED VIA SAME PLC LOCATED AT WELL #18.

ELECTRICAL KEYED NOTES:

1. 36" X 31" X 10" STAINLESS STEEL NEMA4X DISCONNECT ENCLOSURE.
2. 36" X 30" EQUIPMENT PANEL.
3. NEMA4X STAINLESS STEEL EXHAUST SHIELD.
4. COOLING FAN - MINIMUM 300CFM.
5. NEMA4X STAINLESS STEEL INTAKE SHIELD WITH FILTER.
6. 100A FRAME, MOLDED CASE, 40A CIRCUIT BREAKER.
7. CABLE DISCONNECT MECHANISM WITH 36" FLEX CABLE.
8. STAINLESS STEEL, LOCKABLE DISCONNECT HANDLE.
9. NEMA4X, 30.5MM 3-POSITION HAND-OFF-AUTO SWITCH. WIRED AND CONNECTED WITH PLC RUN COMMAND CIRCUIT.
10. NEMA4X, 30.5MM GREEN PILOT LIGHT FOR RUN STATUS.
11. PROVIDE NEW ABB ACQ580-01 SERIES VFD UNIT. ALL VFD UNITS FOR THIS PROJECT SHALL BE BY SAME MANUFACTURER AND BE APPROVED BY OWNER AND ENGINEER. EACH SHALL HAVE ETHERNET I/P COMMUNICATIONS. NOTE: WELL #17 HAS AN EXISTING VFD UNIT BY EATON. REPLACE THIS DRIVE AND RETURN EATON DRIVE TO OWNER FOR SPARE USE.
12. PROVIDE A NEW STAINLESS STEEL BALL VALVE AND 'T' FOR NEW PRESSURE TRANSMITTER.
13. PROVIDE (2) TWO NEW 0-30 PSI TRANSMITTER FOR MONITORING AERATION TANK LEVEL. CALCULATE OFFSET FOR SENSOR ELEVATION TO ELEVATION OF BOTTOM OF TANK. ONE SHALL BE SPARE KEPT IN PLC CONTROL PANEL OR AS DIRECTED BY OWNER.
14. PROVIDE ROTORK OR APPROVED EQUAL, ELECTRICALLY ACTUATED VALVE FOR DETENTION CONTROL VALVE. ONCE NEW ACTUATOR IS INSTALLED AND OPERATIONAL, REMOVE EXISTING AIR LINES AND COMPRESSOR.
15. PROVIDE NEW VFD UNIT FOR LISTED WELLS AS SHOWN IN NOTE 11. UNITS WITHIN WELL SHACK SHALL BE WALL MOUNT, NEMA4X ENCLOSURE MOUNTED TO STAINLESS STEEL UNI-STRUT.



DETENTION TANK CONTROL VALVE UPGRADES DETAIL
NOT TO SCALE



GENERATOR NATURAL GAS HOOKUP DETAIL

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: JAR

Drawn By: JAR

Checked By: DB

Date: 02/28/2025

DUSTIN E. BARTH
REGISTERED
No. 12200401
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Dustin Barth

ELECTRICAL DETAILS - SOUTH PLANT

E107

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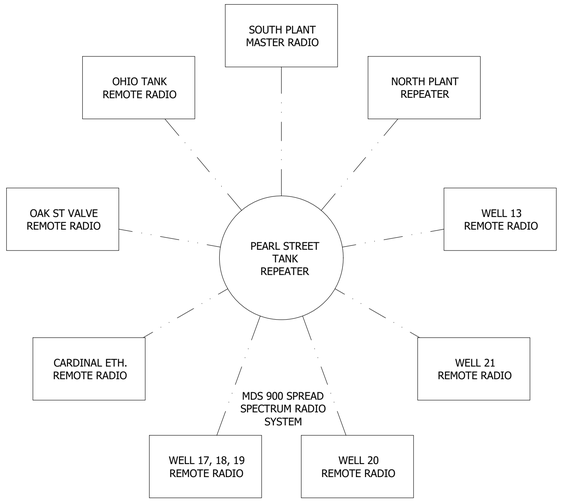
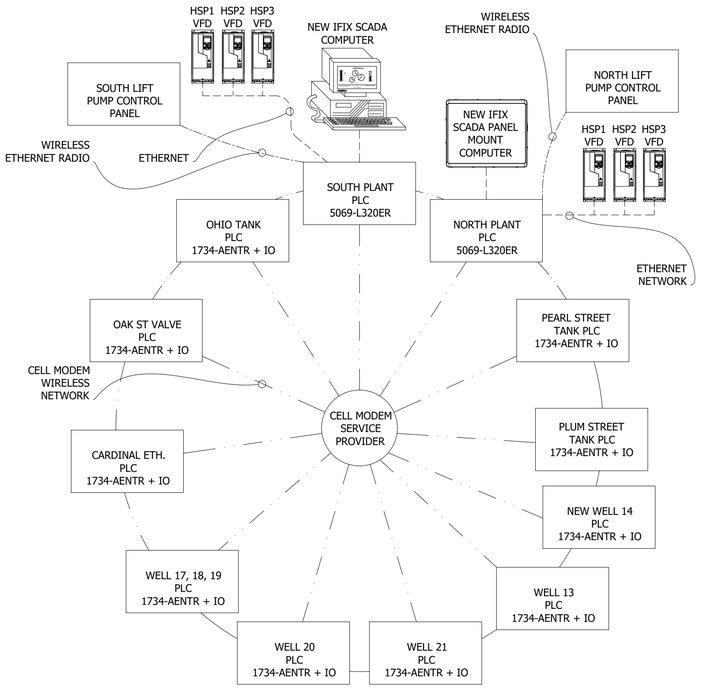


CURRENT RADIO NETWORK

EXISTING PLC EQUIPMENT IS EMERSON CONTROLWAVE

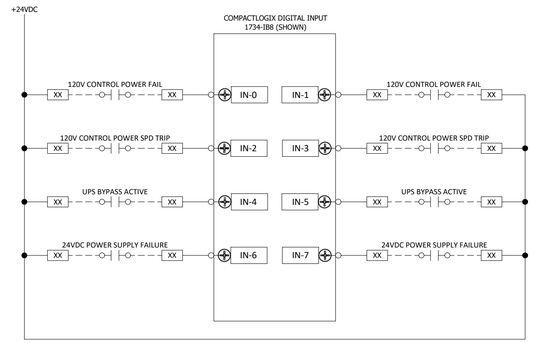


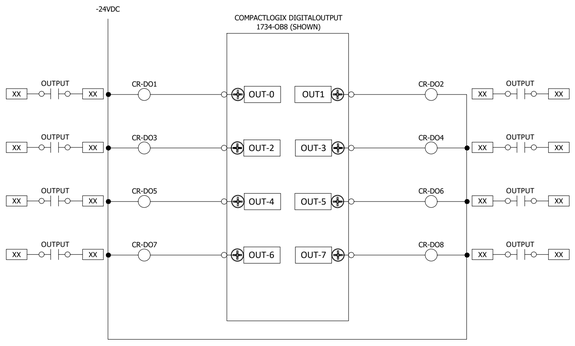
NEW CELL MODEM NETWORK

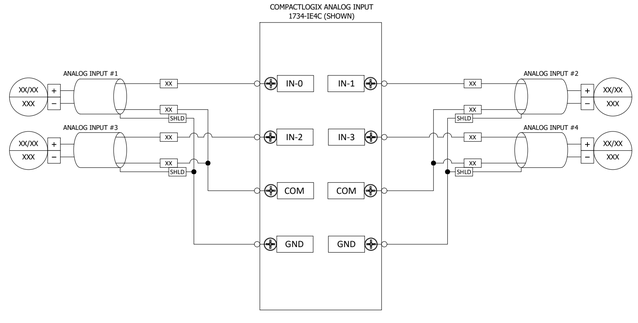
GENERAL NOTES:

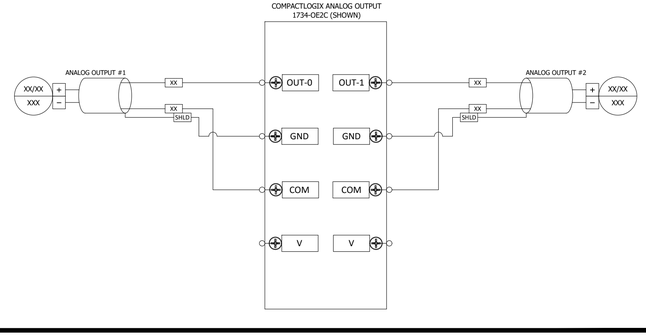
- DRAWING SHOWN IS ONLY TO SHOW REFERENCE OF WHAT CONTRACTOR RESPONSIBILITY IS TO REPLACE. FINAL PANEL SIZING AT EACH LOCATION MAY VARY AND NEEDS TO BE CONFIRMED BY THE CONTRACTOR.
- ALL HARDWARE IS TO BE RETURNED TO OWNER. OWNER MAY CHOOSE TO RELINQUISH OWNERSHIP.
- NOTE: WELL #12 IS HARDWIRED TO NORTH PLANT PLC.

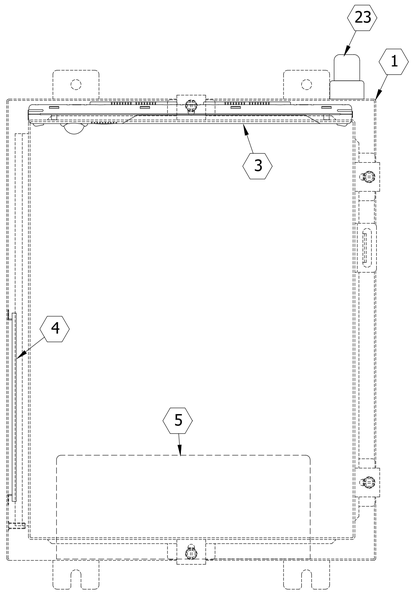
REMOTE SITE IO WIRING

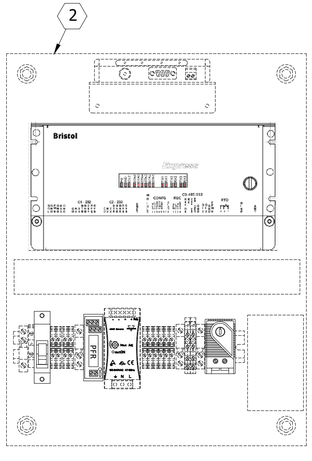


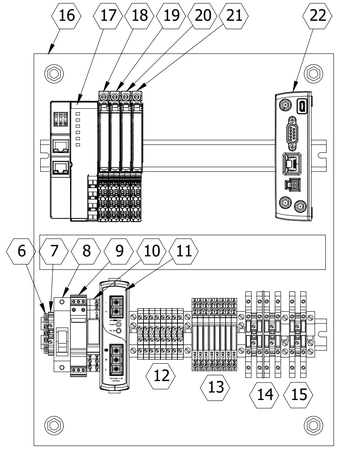












TYPICAL WELLS AND TANKS REMOTE SITE PLC LAYOUT

CONTROL PANEL KEYED NOTES:

1. EXISTING ENCLOSURE TO REMAIN (SIZE WILL VARY ON LOCATION).
2. EXISTING INTERIOR EQUIPMENT PANEL; THIS SHALL BE REMOVED WITH ALL CONNECTED COMPONENTS AND TURNED OVER TO OWNER.
3. PROVIDE NEW INTERIOR LED LIGHT AT LOCATIONS WHERE AREA IS DARK OR MOUNTED OUTSIDE.
4. PROVIDE SIDE MOUNTED FLAT PANEL HEATER - MINIMUM 60W. ANY SCREWS PENETRATING THE PANEL SHALL HAVE A GASKETED WASHER. ALL HARDWARE SHALL BE STAINLESS STEEL.
5. PROVIDE NEW UPS. MINIMUM 500VA AT REMOTE SITES.
6. FIELD POWER GROUND TERMINAL BLOCK.
7. FIELD POWER NEUTRAL TERMINAL BLOCK.
8. FIELD POWER 120V 15A CIRCUIT BREAKER.
9. 120V MAIN POWER SURGE PROTECTION DEVICE.
10. 120V CONTROL POWER LOSS RELAY.
11. 24 VDC POWER SUPPLY - MINIMUM 3A.
12. DIGITAL INPUT FIELD DOUBLE LEVEL TERMINAL BLOCKS.
13. DIGITAL OUTPUT FIELD ISOLATION SLIM-LINE RELAYS.
14. ANALOG INPUT TERMINAL BLOCKS.
15. ANALOG OUTPUT TERMINAL BLOCKS.
16. NEW INTERIOR EQUIPMENT PANEL. EACH LOCATION SIZE MAY VARY.
17. ALLEN BRADLEY 1734-AENTR MODULE.
18. ALLEN BRADLEY 1734-IE8 DIGITAL INPUT MODULE.
19. ALLEN BRADLEY 1734-OE8 DIGITAL OUTPUT MODULE.
20. ALLEN BRADLEY 1734-IE4C ANALOG INPUT MODULE.
21. ALLEN BRADLEY 1734-OE2C ANALOG OUTPUT MODULE.
22. SIERRA WIRELESS RV50X CELL MODEM OR APPROVED EQUAL.
23. CELL MODEM ANTENNA.

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

Project #: 23-400-215-1

Designed By: JAR

Drawn By: JAR

Checked By: ALC

Date: 02/28/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

Aaron Crow

SCADA SYSTEM NETWORK - SOUTH PLANT

I100

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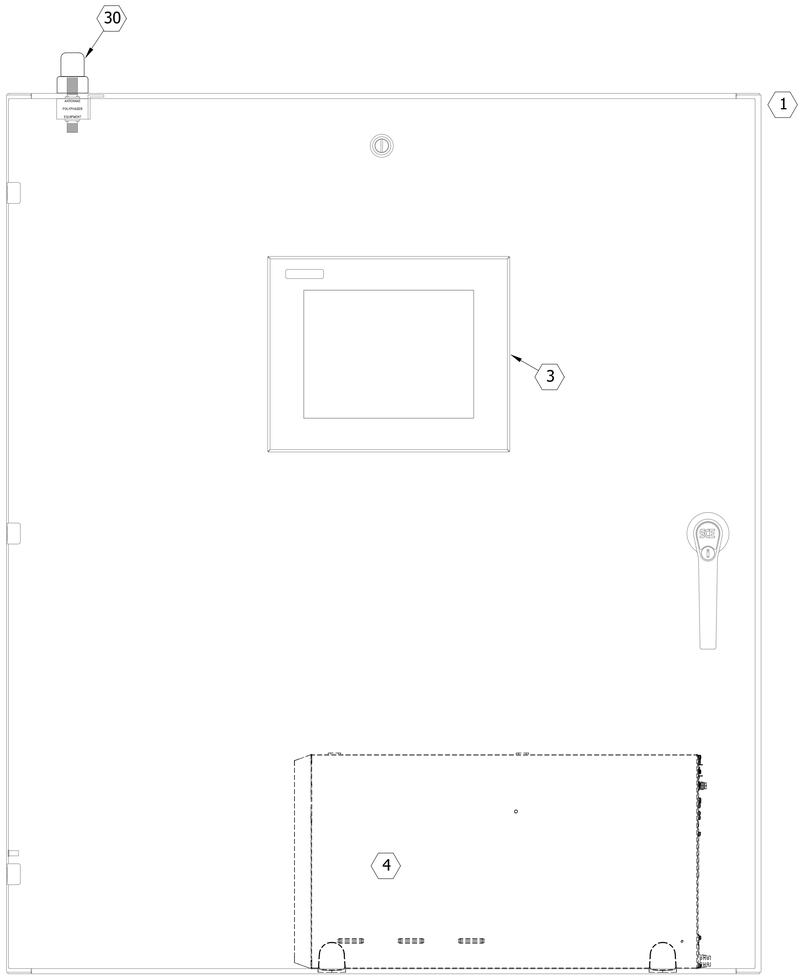
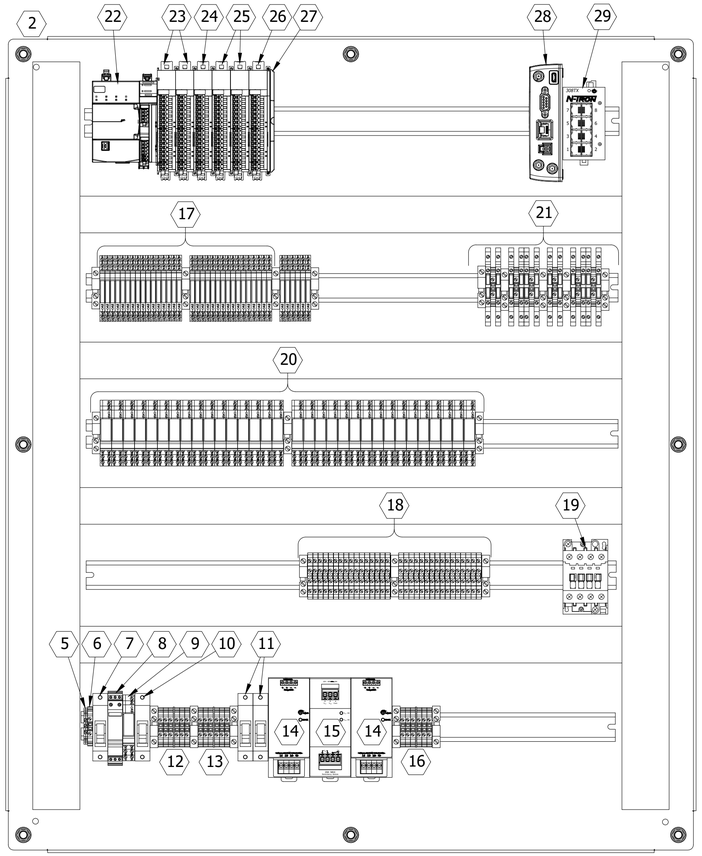


EXISTING WEIGMANN ENCLOSURE



NEW EQUIPMENT PANEL AND PLC COMPONENTS LAYOUT

PHOTO OF EXISTING NORTH PLANT PLC PANEL

ALL PANEL LAYOUTS AND WIRING DIAGRAMS ARE SHOWN AS A REPRESENTATION FOR MINIMUM REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE SYSTEMS INTEGRATOR OR CONTRACTORS RESPONSIBILITY FOR FINAL DESIGN AND FULLY FUNCTIONAL SYSTEM.

CONTROL PANEL KEYED NOTES:

1. EXISTING NEMA12 PAINTED STEEL ENCLOSURE - 30"X36"X10". RITTAL 8017567.
2. NEW INTERIOR EQUIPMENT PANEL 42"X36". MATCH FOR EXISTING WEIGMANN NP4224. NEW PANEL SHALL BE PAINTED STEEL AND NOT GALVANIZED.
3. EXISTING MAPLE SYSTEMS 10" TOUCH SCREEN. TO REMAIN AND BE REUSED.
4. REPLACE EXISTING UPS WITH TRIPP LITE SMART, DUAL CONVERSION UPS SU1500XL OR APPROVED EQUAL.
5. FIELD POWER GROUND TERMINAL BLOCK.
6. FIELD POWER NEUTRAL TERMINAL BLOCK.
7. FIELD POWER 120V 20A CIRCUIT BREAKER.
8. 120V MAIN POWER SURGE PROTECTION DEVICE.
9. 120V CONTROL POWER LOSS RELAY.
10. UPS FEED POWER 120V 15A CIRCUIT BREAKER.
11. 24 VDC POWER SUPPLY #1 PROTECTION CIRCUIT BREAKERS (120V SIDE).
12. 120VAC POWER DISTRIBUTION TERMINAL BLOCKS.
13. UPS FED 120V DISTRIBUTION TERMINAL BLOCKS.
14. 24 VDC POWER SUPPLIES - MINIMUM 5A.
15. 24VDC POWER 5A SUPPLY REDUNDANCY MODULE.
16. 24VDC POWER DISTRIBUTION BLOCKS.
17. 120V SLIM-LINE RELAYS FOR FIELD SIGNAL CONVERSION TO DRY CONTACT FOR DIGITAL INPUT SIGNALS.
18. DIGITAL OUTPUT FIELD TERMINATION BLOCKS.
19. UPS FAIL-OVER CONTACTOR/RELAY. 20A CONTACT RATING MINIMUM.
20. DIGITAL OUTPUT ISOLATION RELAYS.
21. ANALOG INPUT (8)/OUTPUT (4) ISOLATOR/TERMINAL BLOCKS.
22. ALLEN BRADLEY COMPACTLOGIX 5069 SERIES PLC L320ER PROCESSOR.
23. ALLEN BRADLEY COMPACTLOGIX 5069 16 POINT DIGITAL INPUT MODULE.
24. ALLEN BRADLEY COMPACTLOGIX 5069 16 POINT DIGITAL OUTPUT MODULE.
25. ALLEN BRADLEY COMPACTLOGIX 5069 8 POINT ANALOG INPUT MODULE.
26. ALLEN BRADLEY COMPACTLOGIX 5069 4 POINT ANALOG OUTPUT MODULE.
27. ALLEN BRADLEY COMPACTLOGIX 5069 ENDCAP.
28. SIERRA WIRELESS RV50X CELL MODEM OR APPROVED EQUAL.
29. INDUSTRIAL RATED UNMANAGED ETHERNET SWITCH - 8 PORT MINIMUM. REDLION OR EQUAL.
30. PROVIDE CELL MODEM ANTENNA. GOOD SIGNAL QUALITY IS ESSENTIAL. REMOVE EXISTING POLYPHASER AND PLACE ANTENNA IN IT'S PLACE.

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

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Designed By: JAR

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Checked By: ALC

Date: 02/28/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

Aaron Crow

MAIN SCADA CONTROL PANEL LAYOUT DETAILS - SOUTH PLANT

I101

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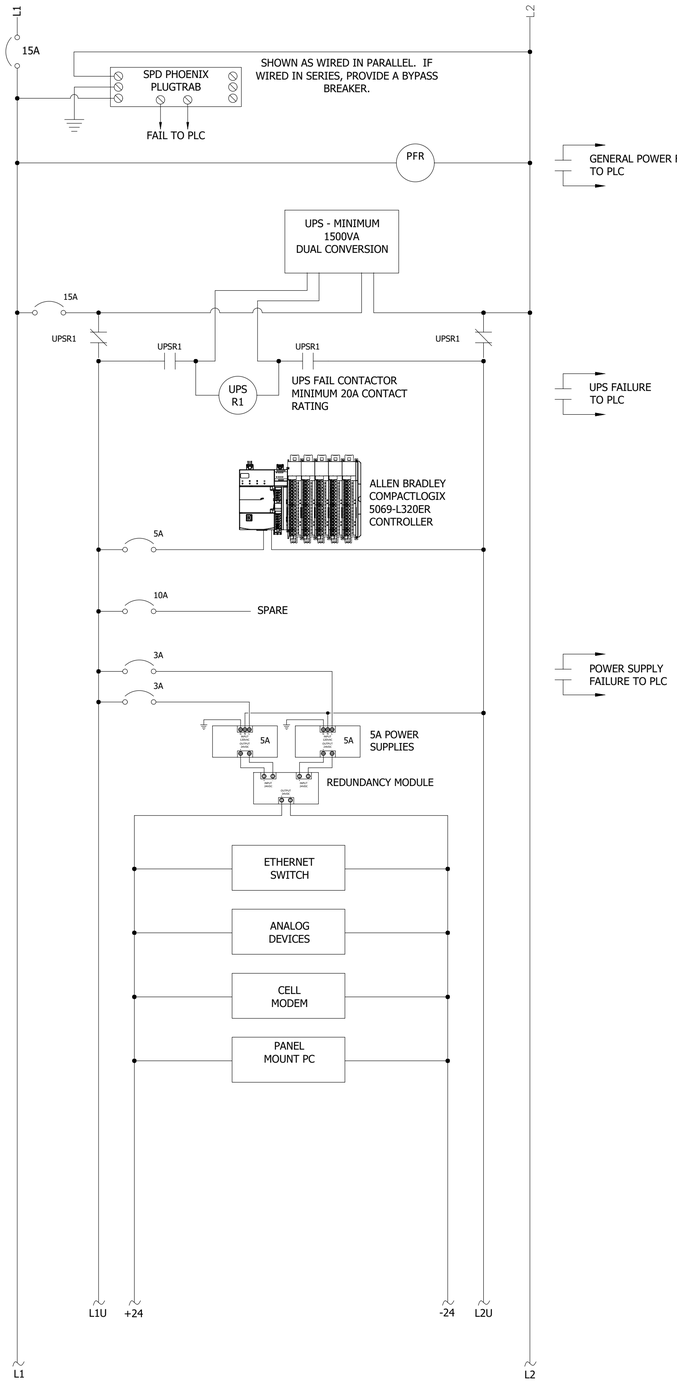

POWER DISTRIBUTION WIRING DIAGRAM

SOUTH PLANT PLC INPUT/OUTPUT LIST:

DIGITAL INPUTS:
1. 120V POWER LOSS
2. UPS FAILURE
3. 24VDC POWER SUPPLY FAILED
4. SPD FAIL
5. HIGH SERVICE PUMP #1 RUN STATUS
6. HIGH SERVICE PUMP #1 AUTO STATUS
7. HIGH SERVICE PUMP #1 VFD FAULT
8. HIGH SERVICE PUMP #2 RUN STATUS
9. HIGH SERVICE PUMP #2 AUTO STATUS
10. HIGH SERVICE PUMP #2 VFD FAULT
11. HIGH SERVICE PUMP #3 RUN STATUS
12. HIGH SERVICE PUMP #3 AUTO STATUS
13. HIGH SERVICE PUMP #3 VFD FAULT
14. CLEARWELL LOW FLOAT
15. CLEARWELL MID FLOAT
16. CLEARWELL HIGH FLOAT
17. CLEARWELL LOW ALARM
18. CLEARWELL HIGH ALARM
19. CHLORINE LEAK ALARM
20. ELEVATED TANK LEVEL HIGH
21. ELEVATED TANK LEVEL LOW
22. DETENTION TANK VALVE FULL OPENED
23. DETENTION TANK VALVE FULL CLOSED
24. SPARE
25. SPARE
26. SPARE
27. SPARE
28. SPARE
29. SPARE
30. SPARE
31. SPARE
32. SPARE

DIGITAL OUTPUTS:
1. HIGH SERVICE PUMP #1 RUN COMMAND
2. HIGH SERVICE PUMP #2 RUN COMMAND
3. HIGH SERVICE PUMP #3 RUN COMMAND
4. PLUM STREET HIGH TANK ALARM - DIALER
5. PLUM STREET LOW TANK ALARM - DIALER
6. CLEARWELL HIGH ALARM - DIALER
7. CLEARWELL LOW ALARM - DIALER
8. DETENTION TANK FLOOD - DIALER
9. CHLORINE LEAK ALARM - DIALER
10. BLOWER RUN COMMAND - DIALER
11. LIFT PUMP FAIL ALARM - DIALER
12. DETENTION TANK VALVE ALARM - DIALER
13. SPARE
14. SPARE
15. SPARE
16. SPARE

ANALOG INPUTS:
1. INFLUENT FLOW RATE
2. CLEARWELL LEVEL
3. CHLORINE RESIDUAL
4. DETENTION TANK LEVEL
5. PLANT DISCHARGE PRESSURE
6. HIGH SERVICE PUMP #1 DISCHARGE PSI
7. HIGH SERVICE PUMP #2 DISCHARGE PSI
8. HIGH SERVICE PUMP #3 DISCHARGE PSI
9. DETENTION TANK VALVE POSITION
10. SPARE
11. SPARE
12. SPARE
13. SPARE
14. SPARE
15. SPARE
16. SPARE

**INPUT/OUTPUT BASED ON EXISTING DOCUMENTATION. CONTRACTOR TO MAINTAIN EXISTING AND PROVIDE FOR ALL NEW.

ANALOG OUTPUTS:
1. HIGH SERVICE PUMP #1 SPEED REFERENCE
2. HIGH SERVICE PUMP #2 SPEED REFERENCE
3. HIGH SERVICE PUMP #3 SPEED REFERENCE
4. DETENTION TANK VALVE POSITION
5. SPARE
6. SPARE
7. SPARE
8. SPARE

RQAW

DCCM

CONSTRUCTION SET

UNION CITY DRINKING WATER IMPROVEMENTS DIV. II (SOUTH WTP)

UNION CITY, IN 47390

#	Revision	Date

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Designed By: JAR

Drawn By: JAR

Checked By: ALC

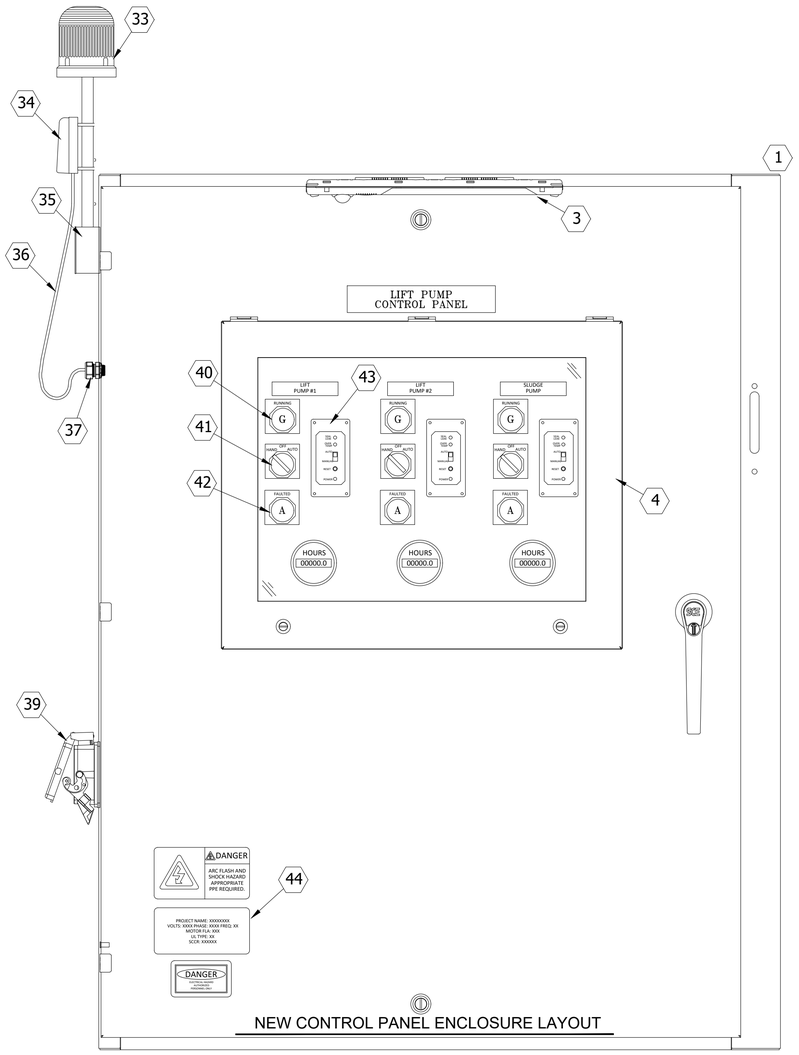
Date: 02/28/2025

AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

Aaron Crow

MAIN SCADA CONTROL PANEL WIRING DIAGRAM - SOUTH PLANT

I102

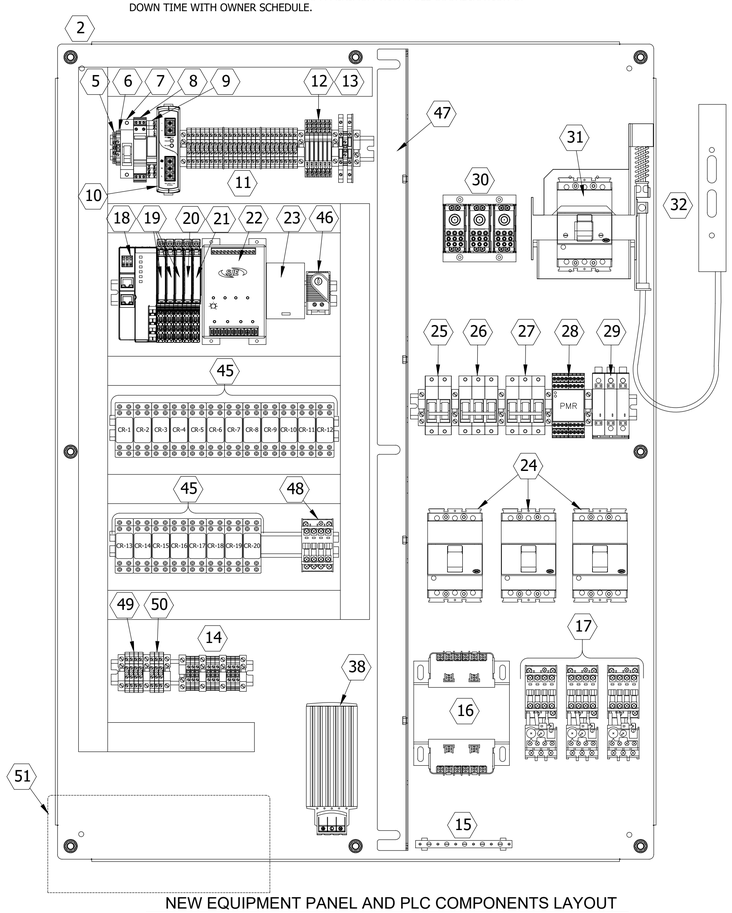


NEW CONTROL PANEL ENCLOSURE LAYOUT

TYPICAL OF TWO PANELS: NORTH AND SOUTH PLANT

ALL PANEL LAYOUTS AND WIRING DIAGRAMS ARE SHOWN AS A REPRESENTATION FOR MINIMUM REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE SYSTEMS INTEGRATOR OR CONTRACTORS RESPONSIBILITY FOR FINAL DESIGN AND FULLY FUNCTIONAL SYSTEM.

*IT IS THE INTENT TO MOUNT THE NEW PANEL IN THE SAME LOCATION AS THE OLD. CONTRACTOR TO KEEP DOWN TIME TO A MINIMUM WITH FULL COORDINATION OF DOWN TIME WITH OWNER SCHEDULE.



NEW EQUIPMENT PANEL AND PLC COMPONENTS LAYOUT

PHOTO OF EXISTING LIFT PUMP CONTROL PANEL

CONTROL PANEL KEYED NOTES:

1. NEW NEMA4X STAINLESS STEEL ENCLOSURE - 48"X36"X10". MINIMUM.
2. INTERIOR EQUIPMENT PANEL 48"X36".
3. STAINLESS STEEL DISCONNECT HANDLE.
4. STAINLESS STEEL, HINGED WINDOW KIT (SEALED AND ACCESS TO SWITCHES).
5. FIELD POWER GROUND TERMINAL BLOCK.
6. FIELD POWER NEUTRAL TERMINAL BLOCK.
7. FIELD POWER 120V 20A CIRCUIT BREAKER.
8. 120V MAIN POWER SURGE PROTECTION DEVICE.
9. 120V CONTROL POWER LOSS RELAY.
10. 24VDC POWER SUPPLY - MINIMUM 3A.
11. DIGITAL INPUT FIELD TERMINAL BLOCKS.
12. SLIM-LINE DIGITAL OUTPUT ISOLATION RELAYS.
13. ANALOG INPUT TERMINAL BLOCKS.
14. LIFT PUMP AND SLUDGE PUMP SEAL FAIL/OVERTEMP FIELD TERMINAL BLOCKS.
15. GROUND TERMINATION BLOCK.
16. 1KVA CONTROL POWER TRANSFORMER.
17. SIZE 1 STARTERS WITH SOLID STATE OVERLOADS. MINIMUM SIZE 1.
18. ALLEN BRADLEY 1734-AENTR MODULE.
19. ALLEN BRADLEY 1734 8-POINT DIGITAL INPUT MODULE.
20. ALLEN BRADLEY 1734 8-POINT DIGITAL OUTPUT MODULE.
21. ALLEN BRADLEY 1734 2-POINT ANALOG INPUT MODULE.
22. SJE-DP4F BACKUP CONTROLLER FOR FLOATS.
23. POE MODULE FOR UBIQUITI ETHERNET RADIO.
24. MOTOR PROTECTION CIRCUIT BREAKERS.
25. 2P CIRCUIT BREAKER FOR CONTROL POWER TRANSFORMER.
26. 3P CIRCUIT BREAKER FOR PHASE MONITOR.
27. 3P CIRCUIT BREAKER FOR SURGE PROTECTION DEVICE.
28. 3 PHASE POWER MONITOR.
29. 3 PHASE SURGE PROTECTION DEVICE.
30. 3 PHASE MAIN POWER DISTRIBUTION BLOCK.
31. MAIN POWER CIRCUIT BREAKER.
32. CABLE DISCONNECT KIT.
33. NEMA4X AMBER ALARM BEACON. TO BE ACTIVATED ON PUMP FAIL OR HIGH ALARM.
34. UBIQUITI POINT-TO-POINT ETHERNET RADIO.
35. WEATHERPROOF JUNCTION BOX WITH GASKET SEAL TO ENCLOSURE.
36. WEATHERPROOF, HEAVY DUTY ETHERNET CABLE.
37. CORD GRIP FOR WEATHERPROOF ETHERNET CABLE.
38. INTERNAL MOUNT HEATER. 400W OR AS REQUIRED PER ENCLOSURE AREA.
39. WEATHERPROOF 15A RECEPTACLE WITH ETHERNET PORT.
40. 30.5MM PUMP RUN STATUS GREEN PILOT LIGHT.
41. 30.5MM 3-POSITION HOA SWITCH.
42. 30.5MM PUMP FAIL AMBER PILOT LIGHT.
43. SEAL FAIL/OVERTEMP FLUSH MOUNT MODULE.
44. HIGH VOLTAGE WARNING LABEL.
45. 120V CONTROL RELAYS.
46. HEATER THERMOSTAT.
47. PANEL BARRIER TO PROVIDE SEPARATION OF MEDIUM VOLTAGE THREE PHASE AND 120V SINGLE PHASE.
48. UPS BYPASS CONTACTOR BLOCK.
49. FIELD TERMINAL BLOCKS FOR LIFT PUMP WET WELL FLOAT SWITCHES.
50. FIELD TERMINAL BLOCKS FOR BACKWASH SLUDGE HOLDING TANK FLOAT SWITCHES.
51. 500VA UPS.

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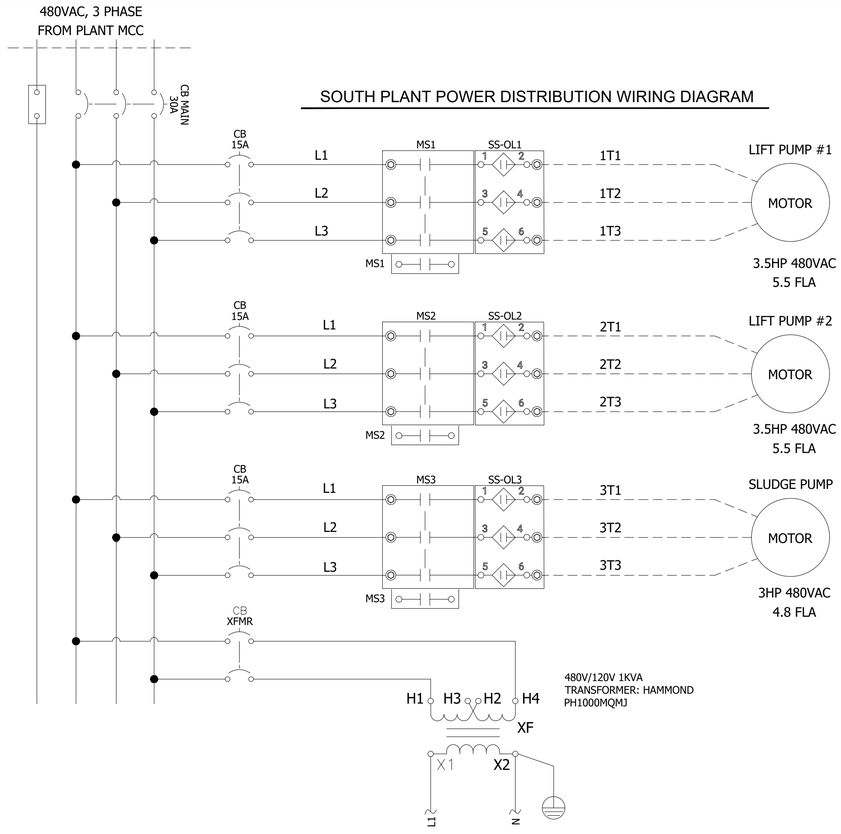
AARON L. CROW REGISTERED No. PE11800762 STATE OF INDIANA PROFESSIONAL ENGINEER

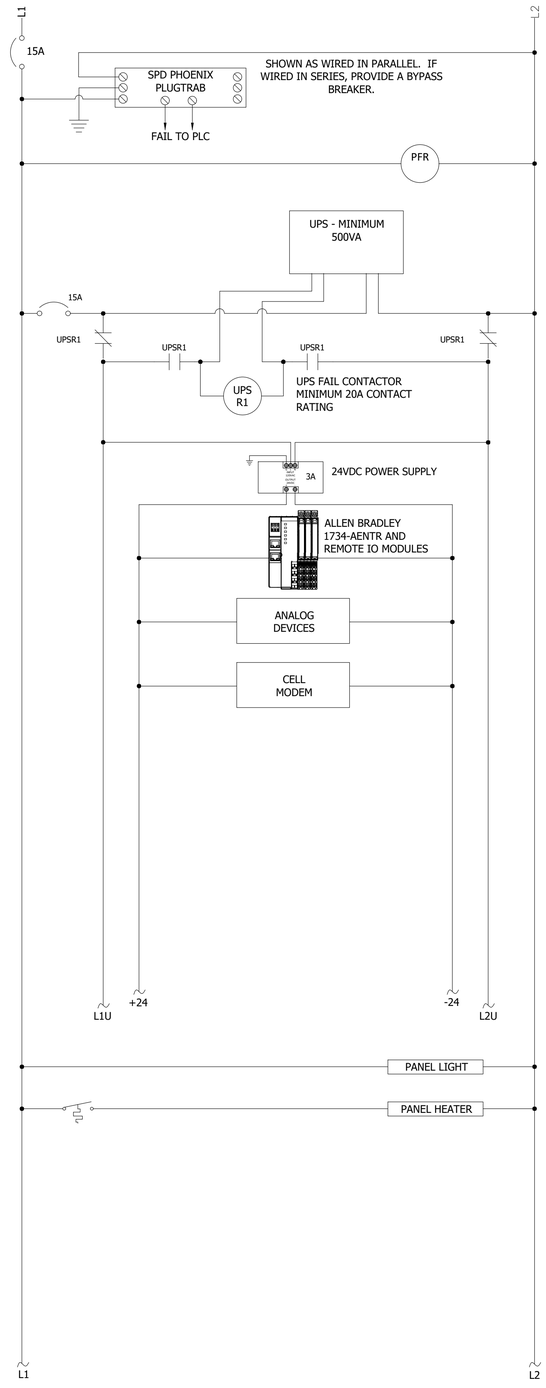
Aaron Crow

SOUTH PLANT LIFT PUMP CONTROL PANEL LAYOUT DETAILS

I103

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/26/25 - 8:09 AM EDITED BY: JREED DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\234002151 - NORTH AND SOUTH LIFT PUMP CONTROL PANEL UPGRADE LAYOUT DETAILS.DWG





TYPICAL POWER DISTRIBUTION WIRING DIAGRAM

NORTH AND SOUTH MINIMUM INPUTS/OUTPUTS:

DIGITAL INPUTS:
1. 120V POWER LOSS
2. SPD FAIL
3. LIFT PUMP #1 RUN STATUS
4. LIFT PUMP #1 AUTO STATUS
5. LIFT PUMP #1 FAILED
6. LIFT PUMP #1 SEAL FAIL
7. LIFT PUMP #1 OVER TEMP
8. LIFT PUMP #2 RUN STATUS
9. LIFT PUMP #2 AUTO STATUS
10. LIFT PUMP #2 FAILED
11. LIFT PUMP #2 SEAL FAIL
12. LIFT PUMP #2 OVER TEMP
13. SLUDGE PUMP RUN STATUS
14. SLUDGE PUMP AUTO STATUS
15. SLUDGE PUMP FAILED
16. SLUDGE PUMP SEAL FAIL
17. SLUDGE PUMP OVER TEMP
18. WET WELL HIGH LEVEL
19. PHASE FAIL
20. SLUDGE HOLDING TANK HIGH LEVEL
21. WET WELL LOW LEVEL FLOAT
22. WET WELL LEAD FLOAT
23. WET WELL LAG FLOAT
24. SLUDGE HOLDING TANK LOW LEVEL FLOAT
25. SLUDGE HOLDING TANK PUMP CALL
26. SPARE
27. SPARE
28. SPARE
29. SPARE
30. SPARE
31. SPARE
32. SPARE

DIGITAL OUTPUTS:
1. LIFT PUMP #1 CALL TO RUN
2. LIFT PUMP #2 CALL TO RUN
3. SLUDGE PUMP CALL TO RUN
4. ALARM BEACON
5. SPARE
6. SPARE
7. SPARE
8. SPARE

ANALOG INPUTS:
1. WET WELL LEVEL
2. SPARE

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Aaron Crow

SOUTH PLANT LIFT PUMP CONTROL PANEL WIRING DETAILS

I104

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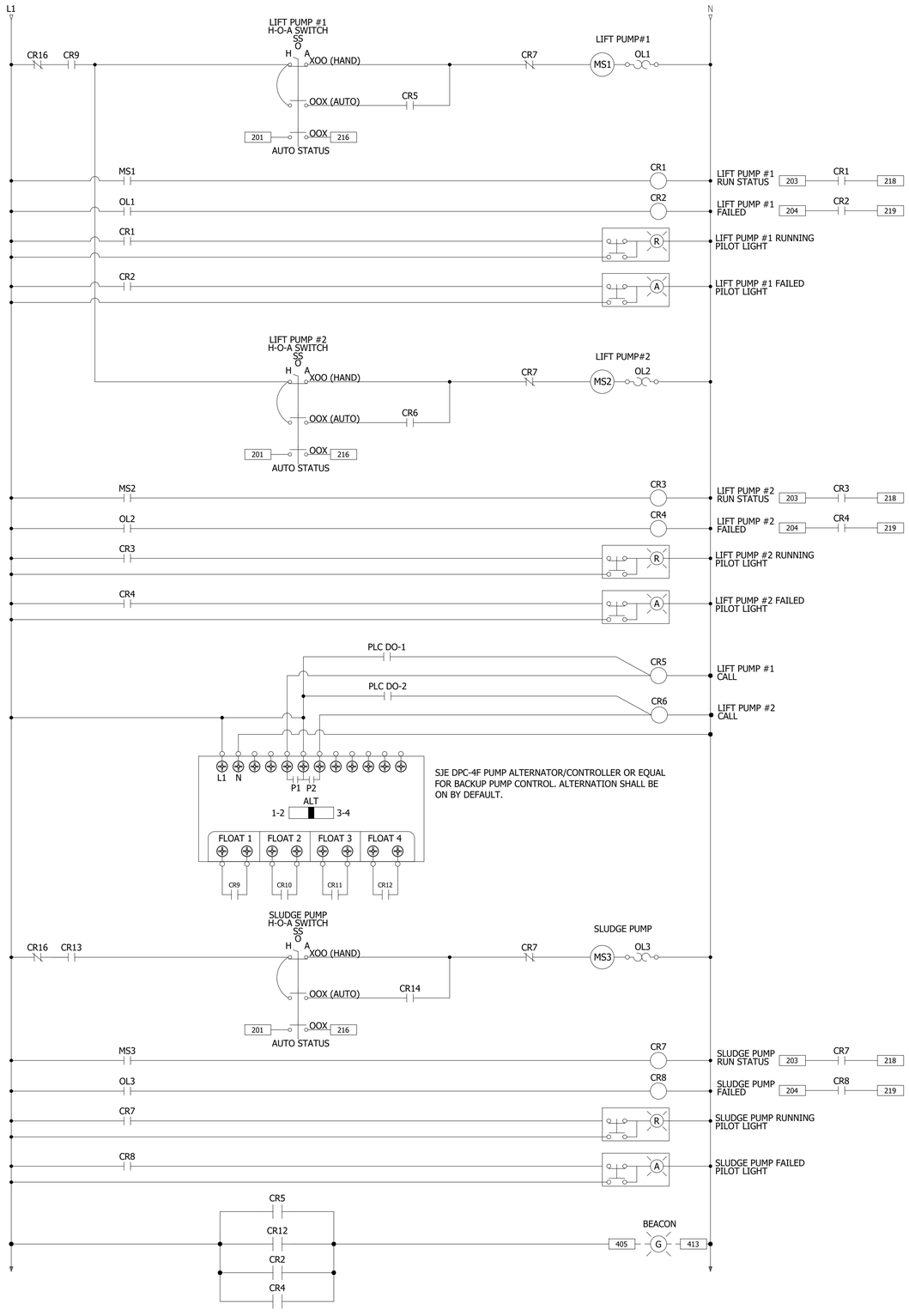

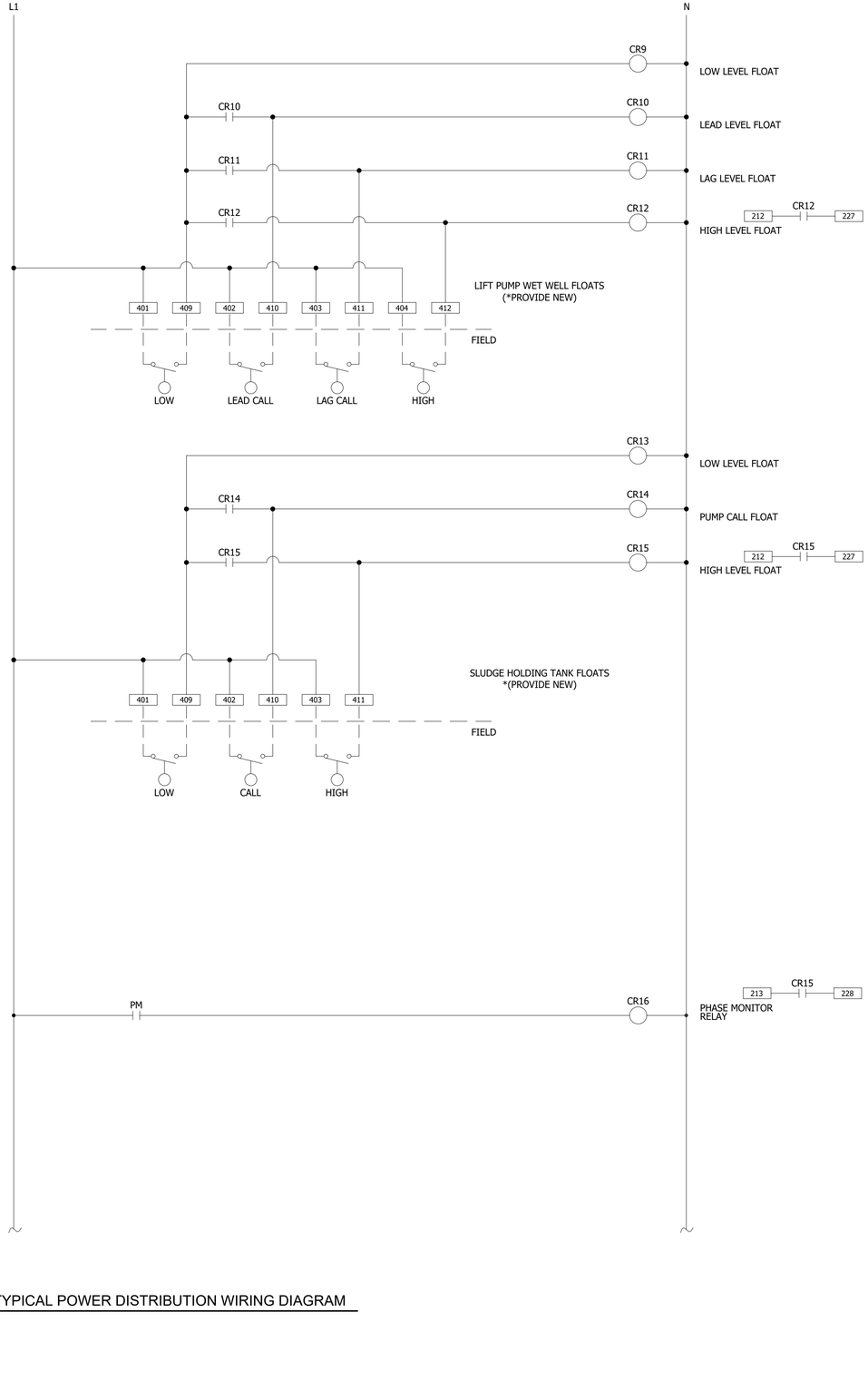

TYPICAL POWER DISTRIBUTION WIRING DIAGRAM

RQAW

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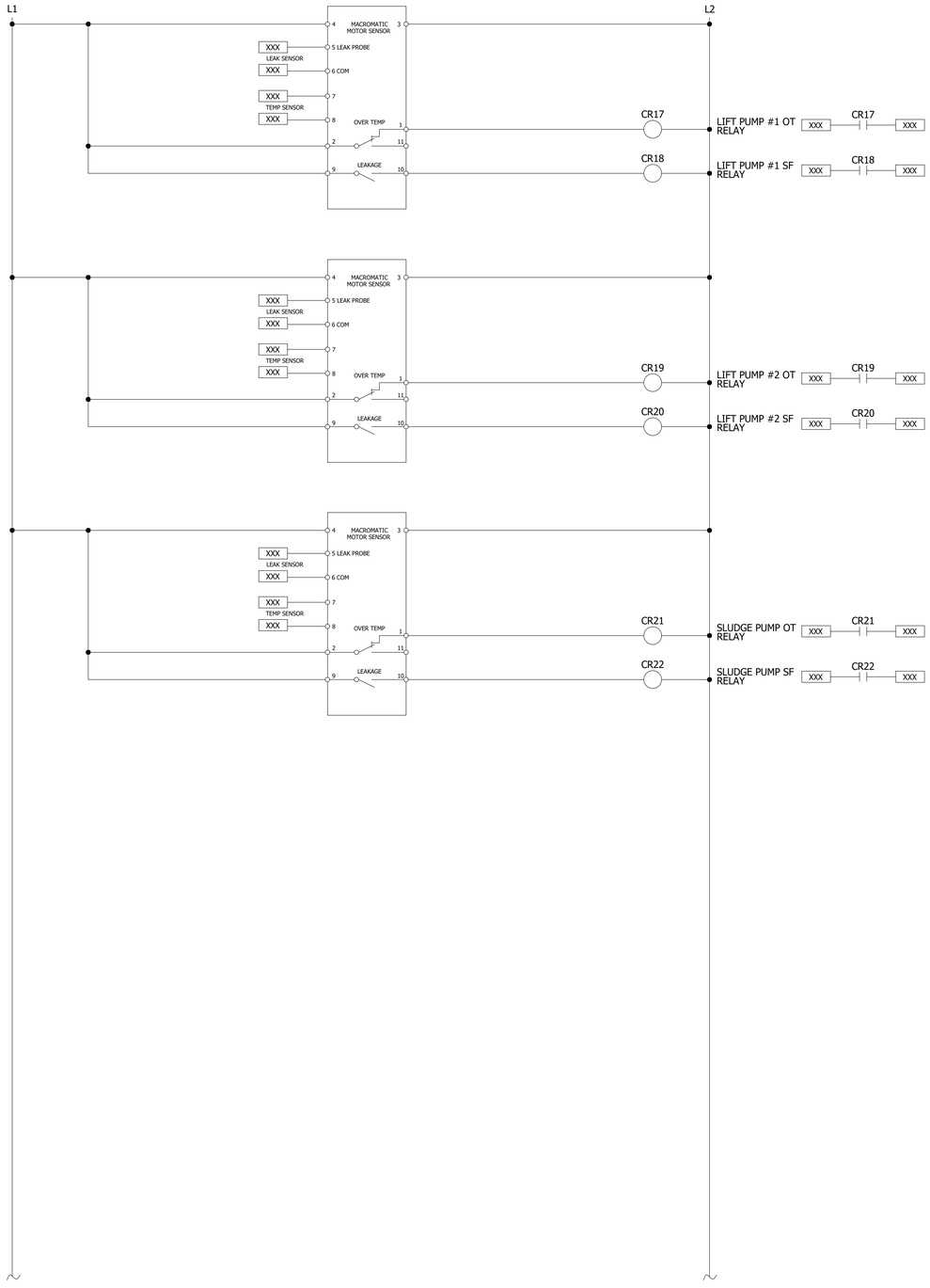
SOUTH PLANT LIFT PUMP CONTROL PANEL WIRING DETAILS 2

I105

PRINT DATE: 2/27/25
PLOT SCALE: 1:1 EDIT DATE: 2/25/25 - 11:25 AM EDITED BY: JREED DRAWING FILE: P:\23-400-215-1 UNION CITY DRINKING WATER IMPROVEMENTS\5 ACAD\DIV II PLAN SHEETS\234002151 - NORTH AND SOUTH LIFT PUMP CONTROL PANEL UPGRADE WIRING DETAILS2.DWG

NOTE: PUMP MANUFACTURERS MAY DIFFER AS THESE PUMPS ARE EXISTING. CONFIRM WITH OWNER PRIOR TO PANEL CONSTRUCTION.



TYPICAL POWER DISTRIBUTION WIRING DIAGRAM

RQAW

DCCM

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Aaron Crow

SOUTH PLANT LIFT PUMP CONTROL PANEL WIRING DETAILS 3

I106

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