

CITY OF
FOLSOM
DISTINCTIVE BY NATURE

Contract Drawings For

City of Folsom Water Treatment Plant BACKWASH AND RECYCLED WATER CAPACITY PROJECT



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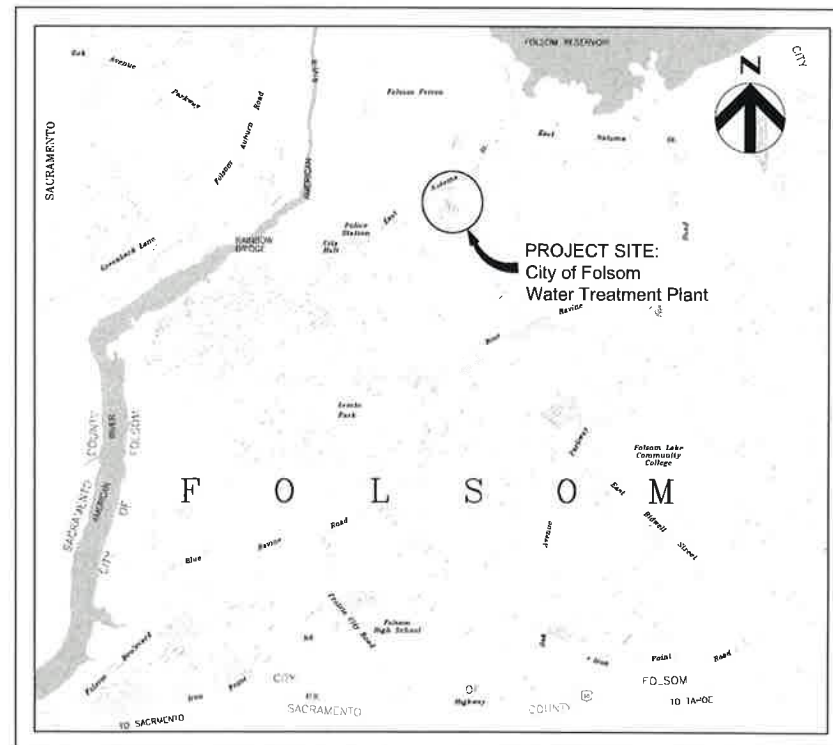
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ISSUED FOR BIDS
FEBRUARY 2022
City Of Folsom
Project No. WA2103



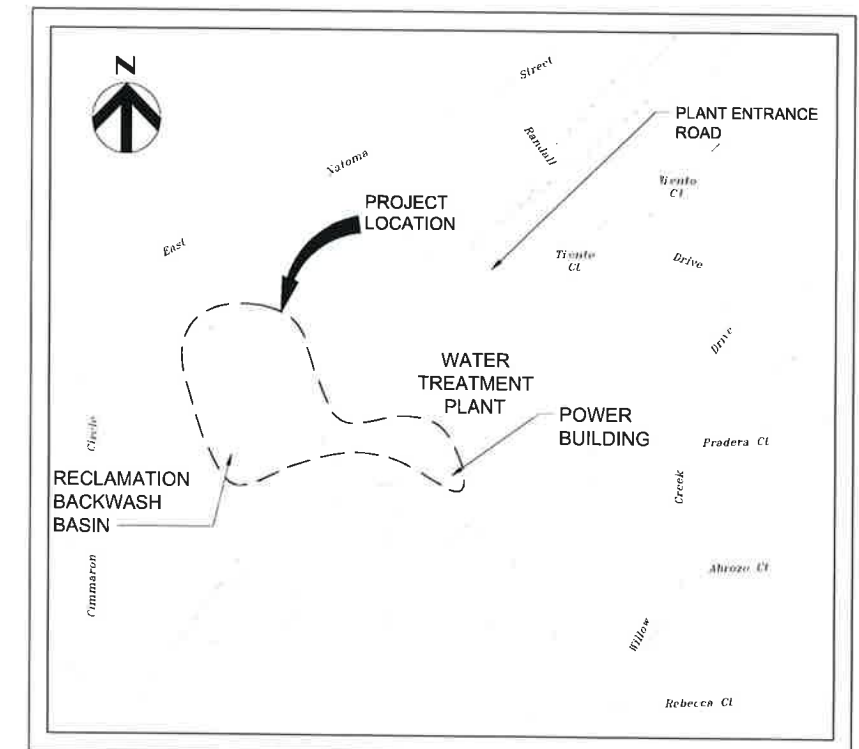
LOCATION MAP

APPROVED BY:

	2/10/2022
MARCUS YASUTAKE, P.E. ENVIRONMENTAL AND WATER RESOURCES DIRECTOR	DATE
	2/10/2022
STEVEN KRAHN, P.E. CITY ENGINEER	DATE
	02/10/22
ARASHDEEP SINGH, P.E. HDR, PROJECT MANAGER	DATE



02/10/22

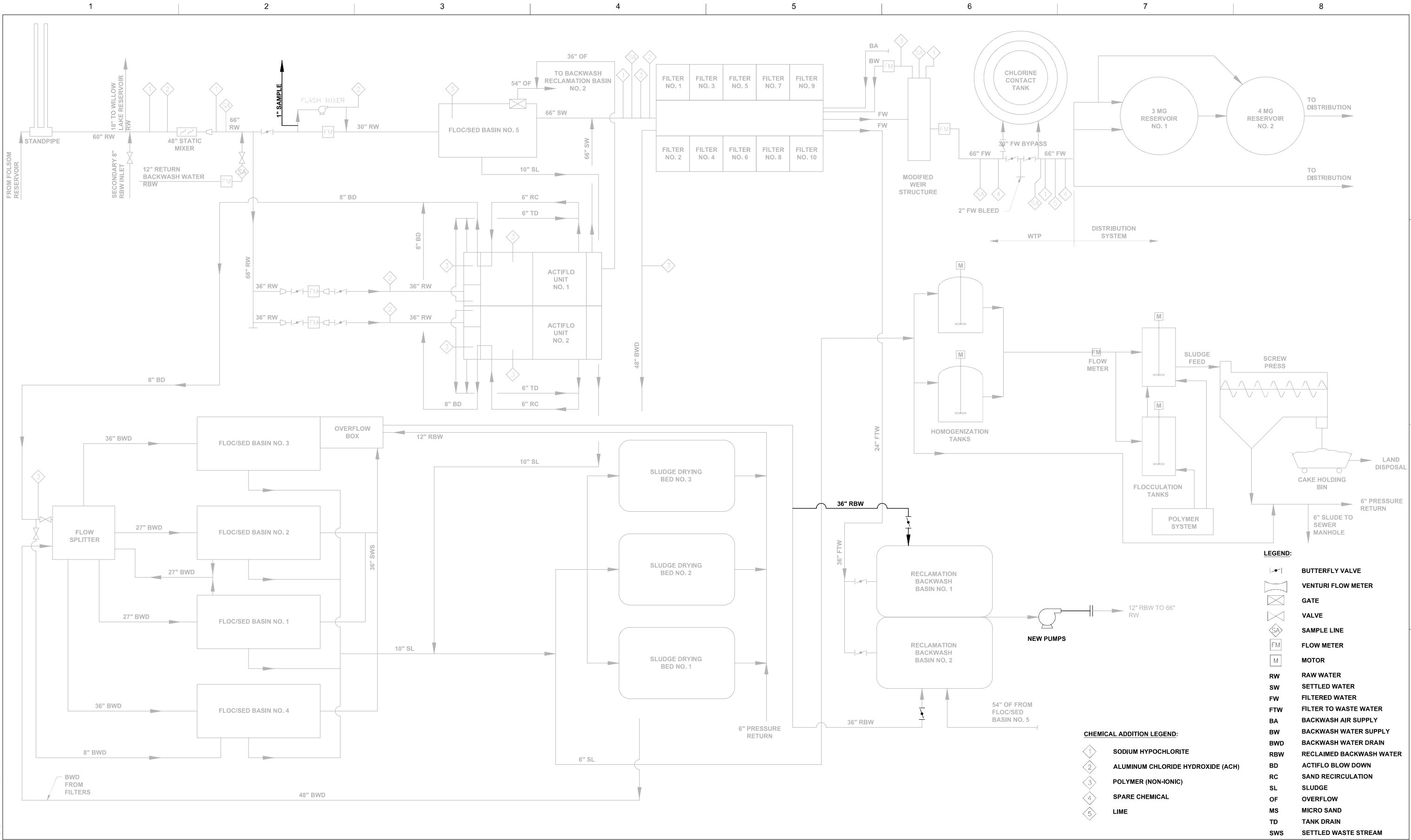


GENERAL VICINITY MAP

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1		2		3		4		5		6		7		8															
ABBREVIATION						PIPING SYMBOLOGY						GENERAL SYMBOLOGY				IDENTIFICATION SYMBOLOGY													
A/E ABAN ABC AGGR ALIGN APRX APVD AVE AVG AWG		ARCHITECT/ENGINEER ABANDON AGGREGATE BASE COURSE AGGREGATE ALIGNMENT APPROXIMATE APPROVED AVENUE AVERAGE AMERICAN WIRE GAGE		ID IE IN INV JT L LATL LP LOTO		INSIDE DIAMETER, INTERIOR DIMENSION INVERT ELEVATION INCH INVERT		SYMBOLY SHOWN IS FOR SINGLE LINE PIPING. DOUBLE LINE PIPING SYMBOLS ARE SIMILAR.		MISCELLANEOUS (CONTINUED)		PLAN 1/4" = 1'-0"				PIPING: FIGURE LINE SIZE SERVICE													
BF BFV BLDG BM BPS		BLIND FLANGE BUTTERFLY VALVE BUILDING BENCHMARK BOOSTER PUMP STATION		MAX MECH MFR MH MIN MJ		MAXIMUM MECHANICAL MANUFACTURER MANHOLE MINIMUM MECHANICAL JOINT		VALVES		PRESSURE GAGE (W/COCK) TRAP QUICK DISCONNECT CAM & GROOVE COUPLING CAP or PLUG INTERIOR CLEANOUT HOSE VALVE, HOSE BIBB OR FLUSHING CONNECTION HOSE RACK FLOOR DRAIN		SECTION CUT MARKER				EQUIPMENT TAG NUMBERS:													
CB CF CIP CL CMU CMLC CO COMB CONC CONST CP CPLG		CATCH BASIN CUBIC FEET (FOOT) CAST-IN-PLACE CENTERLINE CONCRETE MANSONRY UNIT CEMENT MORTAR LINED AND COATED CLEANOUT, CONCRETE OPENING COMBINATION CONCRETE CONSTRUCTION CONTROL POINT COUPLING		N NTS		NOT TO SCALE		OR		X = TYPE DESIGNATED IN SPECIFICATIONS		SECTION 3/8" = 1'-0"				FIGURE SERVICE ABBREVIATION EQUIPMENT ABBREVIATION EQUIPMENT NUMBER													
DG DEG DEMO DET DI DIA DIM DIP DIST DWG		DEGENERATED GRANITE DEGREE DEMOLITION DETAIL DROP INLET, DUCTILE IRON DIAMETER DIMENSION DUCTILE IRON PIPE DISTANCE, DISTRIBUTION DRAWING		OC OD OF OH		ON CENTER OUTSIDE DIAMETER OVERFLOW OVERHEAD		PRESSURE RELIEF VALVE		PIPE IN SECTION BELL UP (PLAN) BELL UP (SECTION OR SCHEMATIC) DRAIN (SECTION OR SCHEMATIC)		DETAIL MARKER				PIPING SYSTEM ABBREVIATIONS													
E EL EMH ENGR EOP ESEW EX EXT		EAST ELBOW, ELEVATION ELECTRICAL MANHOLE ENGINEER EDGE OF PAVEMENT EMERGENCY SHOWER AND EYE WASH EXISTING EXTERIOR, EXTERNAL, EXTENSION		PB PE PL PP PROP PVC PVMT PS		PULL BOX PLANE END PROPERTY LINE POWER POLE PROPERTY, PROPOSED POLYVINYL CHLORIDE PAVEMENT PUMP STATION		PRESSURE REGULATING VALVE		ATA AVS PRS		DETAIL 1" = 1'-0"				RW RAW WATER SW SETTLED WATER FW FILTERED WATER FTW FILTER TO WASTE WATER BA BACKWASH AIR SUPPLY BW BACKWASH WATER SUPPLY BWD BACKWASH WATER DRAIN RBW RECLAIMED BACKWASH WATER BD ACTIFLO BLOW DOWN RC SAND RECIRCULATION SL SLUDGE OF OVERFLOW MS MICRO SAND TD TANK DRAIN SWS SETTLED WASTE STREAM													
FBO FCA FDC FE FG FH FL FLG FN FRP FT FTG FUT		FURNISHED BY OWNER FLANGED COUPLING ADAPTER FIRE DEPARTMENT CONNECTION FLANGED END FINISHED GRADE FIRE HYDRANT FLOW, FLOW LINE FLANGE FENCE FIBER-REINFORCED PLASTIC FEET, FOOT FITTING FUTURE		QTY R RED REM REQD RFCA ROW		QUANTITY RIGHT REDUCER REMOVE REQUIRED RESTRAINED FLANGE COUPLING ADAPTOR RIGHT-OF-WAY		THREE WAY BALL VALVE		AIR RELEASE / VACUUM VALVE A = AIR RELEASE V = VACUUM C = COMBINATION		SINGLE ELEVATION OR PHOTO MARKER																	
G GR GV GVL		GAS GRADE GATE VALVE GRAVEL		S SAM SCH SECT SHT SL SLV SPEC ST STA STD SYM		SOUTH SAMPLE LINE SCHEDULE SECTION SHEET SLOPE SLEEVE SPECIFICATION STREET STATION STANDARD SYMBOL		THREE WAY PLUG VALVE		ATA AVS PRS		MULTIPLE ELEVATION OR PHOTO MARKER																	
H HP		HEIGHT HIGH POINT		TYP UG UNO VT VTR W/ W/O W WS WSP XSECT		TYPICAL UNDERGROUND UNLESS NOTED OTHERWISE VENT VENT THROUGH ROOF WITH WITHOUT WEST, WATER MAIN WATERSTOP, WATER SURFACE WELDED STEEL PIPE		THREE WAY BALL VALVE		MATERIALS IN PLAN/SECTION		ELEVATION 1/4" = 1'-0"																	
SITE PLAN SYMBOLOGY						MISCELLANEOUS						MATERIALS IN PLAN/SECTION						IDENTIFICATION SYMBOLOGY											
50.5 VEGETATION CO CLEAN OUT MH MANHOLE CB STORM DRAIN CATCH BASIN UV UTILITY VAULT PP POWER POLE TP TELEPHONE POLE FH FIRE HYDRANT YH-X YARD HYDRANT 75.5 EXISTING SPOT ELEVATION 75.8 FINISHED SPOT ELEVATION DOWNGUY CP-X HORIZONTAL CONTROL POINT BENCHMARK						NOTES: T TELEPHONE LINE E ELECTRIC LINE F FIBER OPTIC C COMMUNICATION HANDRAIL PIPELINE LARGE PIPELINE (> 10") PIPELINE BENEATH CONCRETE OR STRUCTURE X CHAIN LINK FENCE PROPERTY LINE CENTERLINE EASEMENT LIMITS OF CONSTRUCTION ROW						VARIABLE AREA METER UNION Y-STRAINER FLEXIBLE HOSE OR TUBING FLEXIBLE PIPING CONNECTION LINE SIZE CHANGE (CONCENTRIC REDUCER) LINE SIZE CHANGE (ECCENTRIC REDUCER) LINE TURNING DOWN LINE TURNING UP BLIND FLANGE COMPRESSION SLEEVE COUPLING FLANGED COUPLING ADAPTER (FCA) FLEXIBLE CONNECTION OR EXPANSION JOINT HARNESSED MECHANICAL COUPLING WELDED CONNECTION WELDING NECK CONNECTION GROOVED COUPLING FLANGED JOINT MECHANICAL OR PUSH ON JOINT PVC JOINT						DEMOLITION CONCRETE MASONRY (CMU) ASPHALT LANDSCAPE MATERIAL/DRAIN ROCK (PLAN) GRANULAR FILL (SECTION) SAND (SECTION), CRUSHED ROCK (PLAN), EARTH METAL (SECTION) GRATING (PLAN) CHECKERED PLATE WOOD - CONTINUOUS WOOD - NON CONTINUOUS GYPSUM BOARD						ARCHITECTURAL: XX-XX DOOR NUMBER ### ROOM NUMBER X COLUMN GRID LINE X WALL TYPE X WINDOW AND LOUVER TYPE DIMENSION TO FACE OF FINISH GENERAL NOTES: 1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT. 2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE. 3. SEE PROJECT EQUIPMENT AND PIPING SYSTEMS SHEET FOR SYMBOLS AND ABBREVIATIONS SPECIFIC TO THE PROJECT.					

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01	02/10/22	ISSUED FOR BIDS
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	A. SINGH
DESIGNED BY	A. SINGH
DESIGNED BY	R. STRATTON
CHECKED BY	S.LARI
DRAWN BY	NOV 2021
DATE	
HDR PROJECT NO.	10292477



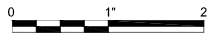
02/10/22



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Water Treatment Plant
BACKWASH AND RECYCLED
WATER CAPACITY PROJECT

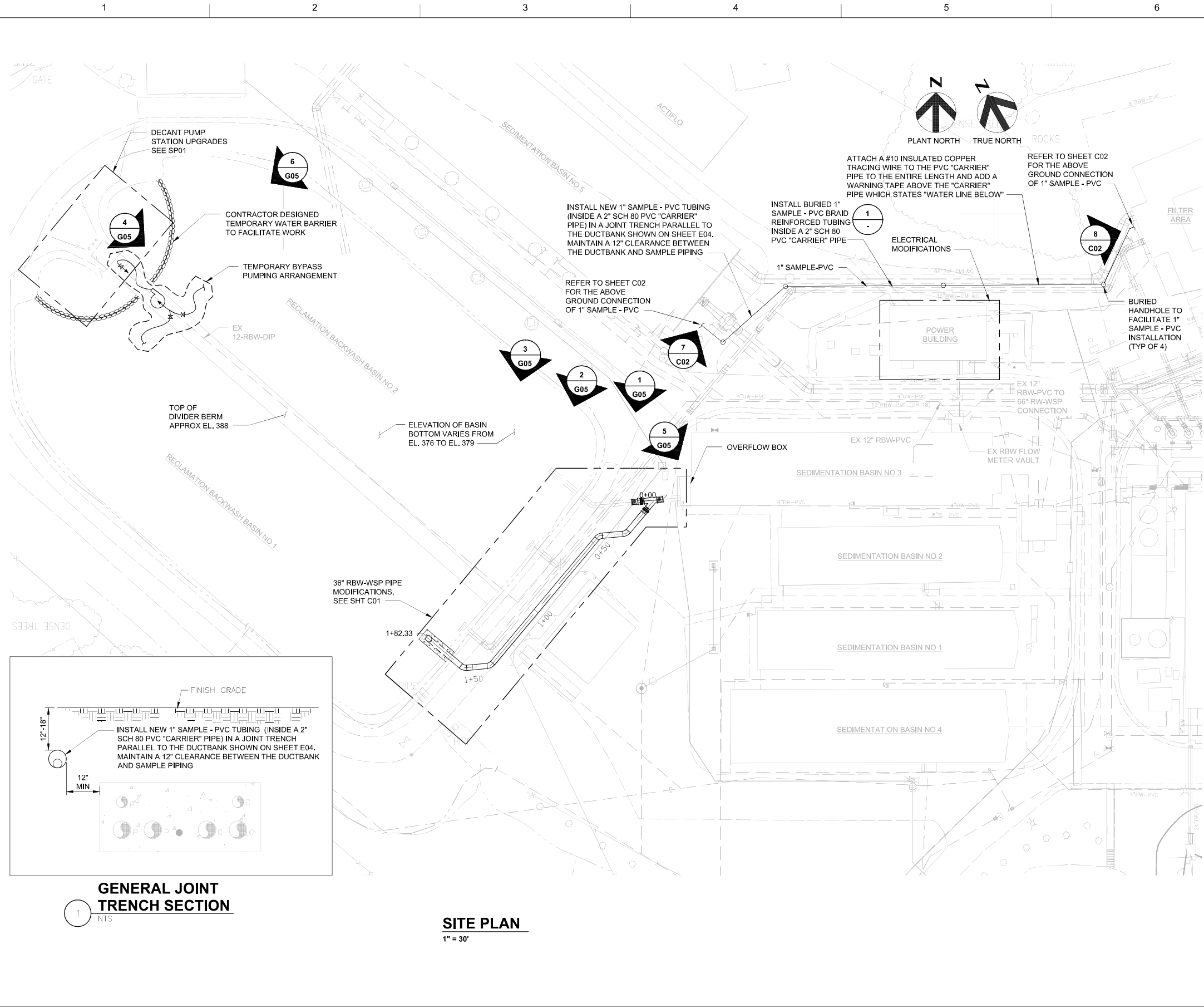
GENERAL
PROCESS FLOW DIAGRAM



FILENAME	
SCALE	NONE

SHEET
G03

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SEQUENCING NOTES:

PHASE I

- I. COMPLETE PHASE I ACTIVITIES PRIOR TO START OF PHASE II ACTIVITIES. ALL PHASE I ACTIVITIES SHALL OCCUR DURING AND SHALL BE FULLY EXECUTED WITHIN THE WINTER/LOW-FLOW SEASON.
- II. EXISTING DECANT PUMPS SHALL BE CONTINUOUSLY OPERATIONAL THROUGHOUT PHASE I WITH THE EXCEPTION OF A, PLANT STAFF APPROVED, 24 HOUR TEMPORARY SHUTDOWN.
- III. INSTALL ALL NEW ELECTRICAL REQUIRED FOR NEW DECANT PUMPS.
- IV. POT HOLE TO IDENTIFY UTILITY CROSSINGS IMPACTING THE NEW 36 IN RBW-WSP PIPE AND TO VERIFY ELEVATION OF EXISTING PIPING. PROCURE AND PRE-ASSEMBLE PIPING AND VALVE IN PREPARATION FOR A TIE-IN DURING PHASE II.
- V. COMPLETELY DRAIN THE RECLAMATION BACKWASH BASIN (RBB) NO. 1 AND 2 AND SETUP TEMPORARY WATER BARRIER.
 - A. THE BOTTOM OF THE RBB CONTAINS SLUDGE WHICH SHALL BE PUMPED OUT BY THE CONTRACTOR, USING A PORTABLE PUMP, TO A, PLANT STAFF APPROVED, ONSITE SLUDGE DRYING BED IN ORDER TO COMPLETELY CLEAN THE AREA SURROUNDING THE DECANT PS TO FACILITATE WORK.
 - B. COORDINATE WITH PLANT STAFF TO DRAIN THE RBB USING THE EXISTING DECANT PUMPS. THE DECANT PUMPS ARE ONLY CAPABLE OF DRAINING THE BASIN DOWN TO THE TOP OF SETTLED SLUDGE.
 - C. COORDINATE WITH PLANT STAFF TO TEMPORARILY SHUTDOWN THE RBW SYSTEM. SHUTDOWN PERIOD DURING THIS PHASE SHALL BE LIMITED TO 24 CONSECUTIVE HOURS.
 - D. SETUP TEMPORARY PIPING TO CONVEY PROCESS FLOW FROM DOWNSTREAM OF THE WATER BARRIER TO THE DECANT PUMP STATION TO MAKE THE DECANT PUMP STATION OPERATIONAL AGAIN AFTER THE WATER BARRIER IS SATISFACTORILY INSTALLED.
 - E. PREVENT PROCESS FLOW FROM ENTERING RBB NO.1 TO FACILITATE INSTALLATION OF 36" RBW-WSP PIPE PENETRATION INTO RBB NO. 1.
- VII. SETUP TEMPORARY BYPASS PUMPING SYSTEM TO BYPASS THE DECANT PS. CONTRACTOR MAY UTILIZE EXISTING POWER FEED TO THE EXISTING DECANT PUMPS, HOWEVER, CONTRACTOR MUST PROVIDE A BACK-UP, REDUNDANT, POWER SOURCE AND PUMPING SYSTEM TO MAINTAIN CONTINUOUS PUMPING THROUGHOUT THE BYPASS PERIOD.
 - A. BE AWARE OF NOISE ORDINANCES IN THE NEIGHBORHOOD SURROUNDING THE WATER TREATMENT PLANT. COMPLIANCE WITH NOISE RESTRICTIONS IS REQUIRED. SATURDAY, SUNDAY, AND NIGHT WORK ARE NOT PERMITTED. CONSTRUCTION EQUIPMENT SHALL BE MUFFLED AND SHROUDED TO SATISFY NOISE LEVELS REQUIREMENTS.
- VII. PRE-ASSEMBLE NEW RBW/DECANT PS DISCHARGE PIPING IN PREPARATION FOR AN EXPEDITED REPLACEMENT DURING PHASE II.

PHASE II

- I. COMPLETE PHASE I ACTIVITIES PRIOR TO START OF PHASE II. ALL PHASE II ACTIVITIES SHALL OCCUR DURING AND SHALL BE FULLY EXECUTED WITHIN THE WINTER/LOW-FLOW SEASON.
- II. COORDINATE WITH PLANT STAFF FOR A TEMPORARY SHUTDOWN OF DECANT PS TO FACILITATE REPLACEMENT OF 12" RBW-DIP DISCHARGE PIPING AND IMPLEMENTATION OF TEMPORARY BYPASS PUMPING SYSTEM. SHUTDOWN PERIOD DURING THIS PHASE SHALL BE LIMITED TO 24 CONSECUTIVE HOURS, UNLESS OTHERWISE APPROVED BY PLANT STAFF.
- III. REPLACE 12" RBW-DIP DISCHARGE PIPING AND MAKE TEMPORARY BYPASS PUMPING SYSTEM OPERATIONAL. TEMPORARY BYPASS PUMPING SHALL REMAIN IN CONTINUOUS OPERATION THROUGHOUT PHASE II.
- IV. EXECUTE WORK ASSOCIATED WITH DECANT PS WHICH INCLUDES BUT IS NOT LIMITED TO:
 - A. PUMP REPLACEMENT.
 - B. GATE REPLACEMENT.
 - C. DISCHARGE PIPING REPLACEMENT AND ASSOCIATED COATING.
 - D. ELECTRICAL WORK.
 - E. SITEWORK AND STRUCTURAL WORK.
 - F. START-UP AND FUNCTIONAL TESTING.
- V. TIE-IN 36" RBW-WSP PIPING AND ASSOCIATED VALVING DURING THE SAME SHUTDOWN MENTIONED IN LINE 2 OF PHASE II SEQUENCING.
- VI. INSTALL 36" RBW-WSP PIPE PENETRATION AND ALLOW THE NEW CONCRETE TO ADEQUATELY CURE AND REACH MINIMUM SPECIFIED COMPRESSIVE STRENGTH PRIOR TO ALLOWING PROCESS FLOW BACK INTO RBB NO. 1.

PHASE III

- I. COMPLETE PHASE II ACTIVITIES PRIOR TO START OF PHASE III.
- II. TRANSITION FROM TEMPORARY BYPASS PUMPING TO NEW DECANT PS. REMOVE TEMPORARY BYPASS PUMPING SYSTEM.
- III. COMPLETELY DRAIN THE RBB TO FACILITATE REMOVAL OF TEMPORARY WATER BARRIER. THIS WORK SHALL BE ACCOMPLISHED DURING A 24 HOUR PLANT SHUTDOWN COORDINATE WITH PLANT STAFF.
- IV. INSTALL AC PAVING AND OTHER WORK.

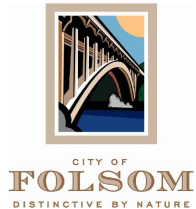
GENERAL NOTES:

- I. WINTER/LOW-FLOW PERIOD: NOVEMBER TO APRIL
- II. TEMPORARY BYPASS PUMPING REQUIREMENTS
 - A. CAPACITY: 300 - 1,200 GPM
 - B. CAPABLE OF MEETING SPECIFIED FLOW RANGE WITH A THROTTLING VALVE.
 - C. FLOW CHARACTERISTIC: GRITTY BACKWASH WATER.
 - D. NSF-61 CERTIFIED.
 - E. PROVIDE REDUNDANT PUMP AND POWER SOURCE.
 - F. UTILIZE EXISTING POWER FEED TO DECANT PUMP STATION AS PRIMARY POWER SOURCE.



01	02/10/22	ISSUED FOR BIDS
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	A. SINGH
DESIGNED BY	A. SINGH
CHECKED BY	R.STRATTON
DRAWN BY	S.LARI
DATE	NOV 2021
HDR PROJECT NO.	10292477



City of Folsom Water Treatment Plant BACKWASH AND RECYCLED WATER CAPACITY PROJECT

GENERAL SITE PLAN AND SEQUENCING NOTES

0	1"	2"
SCALE	1" = 30'	

FILENAME
SCALE

SHEET
G04

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PHOTOGRAPH
NTS

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G04



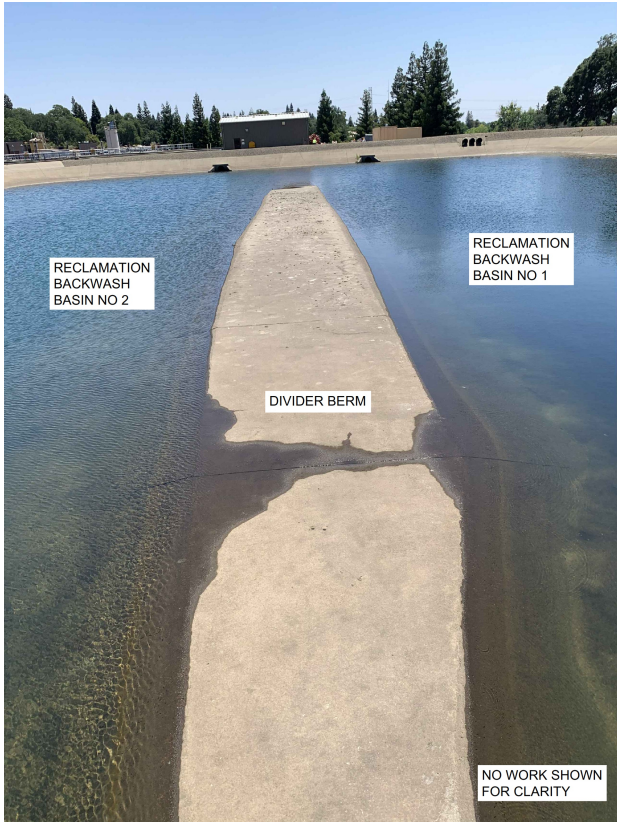
PHOTOGRAPH
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2
G04



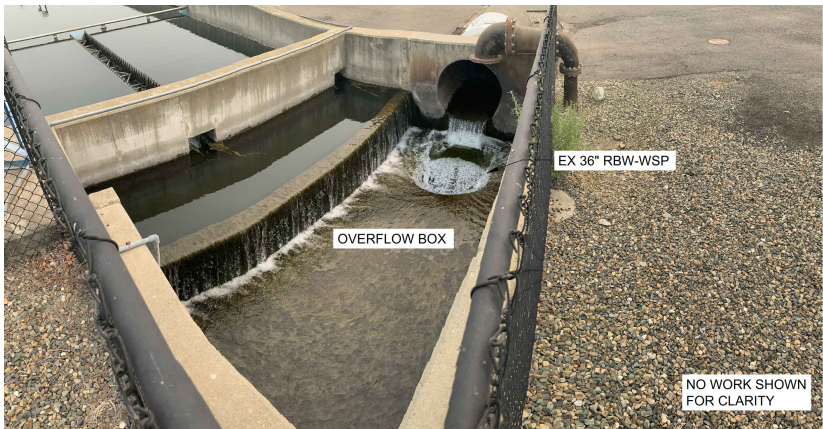
PHOTOGRAPH
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G04



PHOTOGRAPH
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G04



PHOTOGRAPH
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5
G04



PHOTOGRAPH
NTS

6
G04



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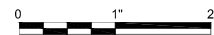
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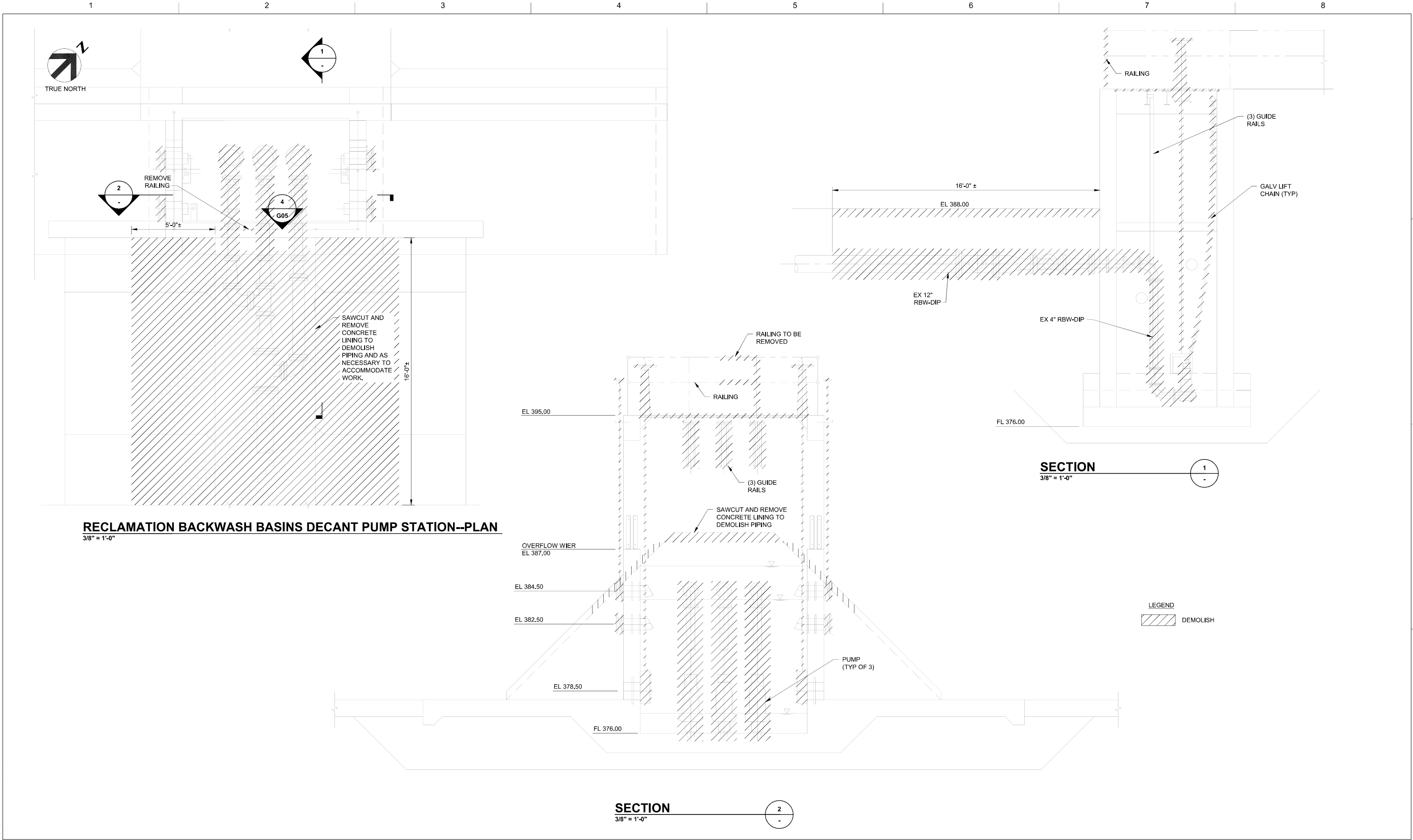
GENERAL
SITE PHOTOS



FILENAME	
SCALE	NONE

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G05

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**DEMOLITION
DEMOLITION PLAN AND SECTION**



FILENAME
SCALE 3/8" = 1'

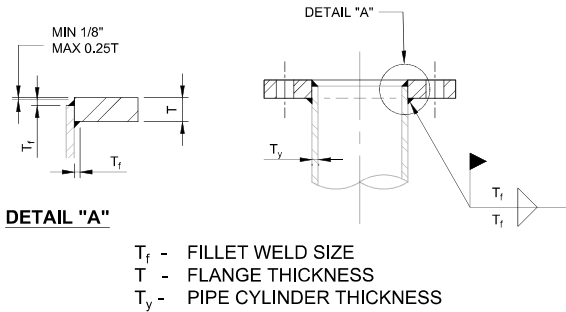
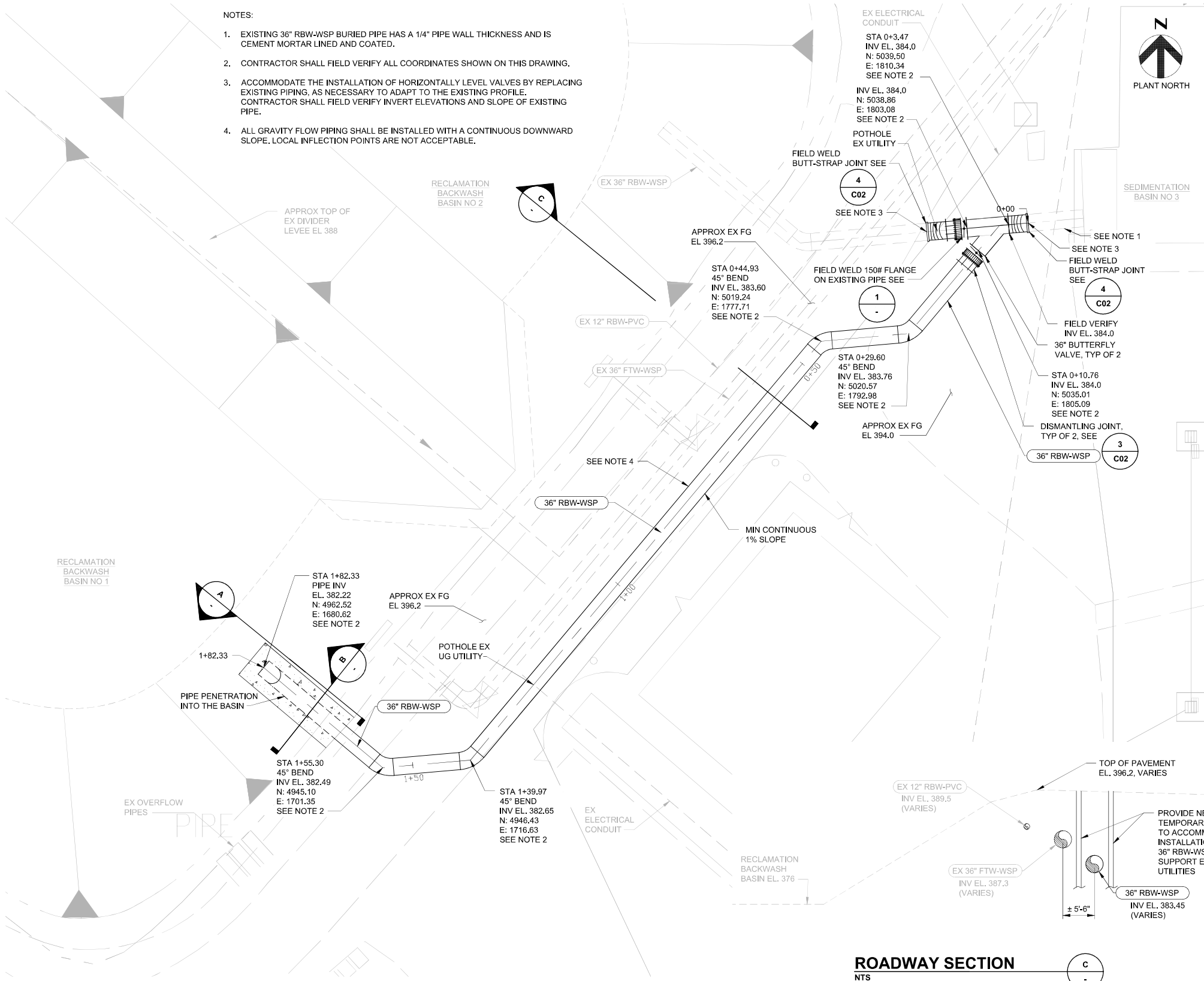
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D01

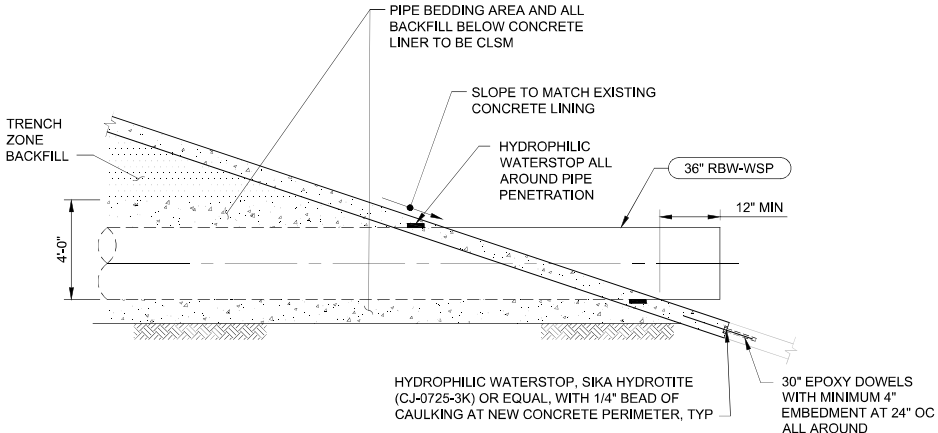
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NOTES:

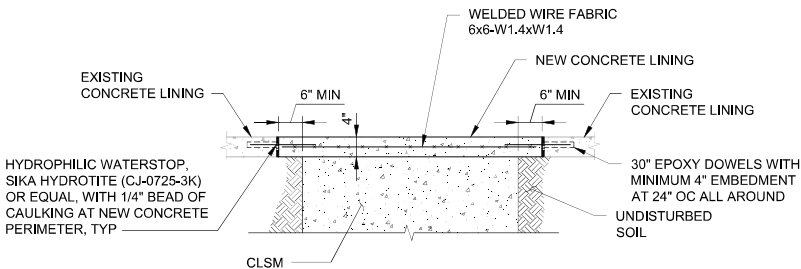
- EXISTING 36" RBW-WSP BURIED PIPE HAS A 1/4" PIPE WALL THICKNESS AND IS CEMENT MORTAR LINED AND COATED.
- CONTRACTOR SHALL FIELD VERIFY ALL COORDINATES SHOWN ON THIS DRAWING.
- ACCOMMODATE THE INSTALLATION OF HORIZONTALLY LEVEL VALVES BY REPLACING EXISTING PIPING, AS NECESSARY TO ADAPT TO THE EXISTING PROFILE. CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATIONS AND SLOPE OF EXISTING PIPE.
- ALL GRAVITY FLOW PIPING SHALL BE INSTALLED WITH A CONTINUOUS DOWNWARD SLOPE. LOCAL INFLECTION POINTS ARE NOT ACCEPTABLE.



FIELD WELDED FLANGE DETAIL
NTS



SECTION
NTS



CONCRETE LINER
REPLACEMENT SECTION DETAIL
NTS

ROADWAY SECTION
NTS

ENLARGED PLAN OF 36" RBW-WSP PIPELINE
1" = 10'

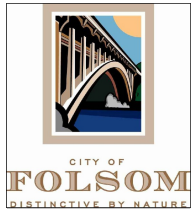


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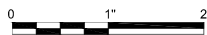


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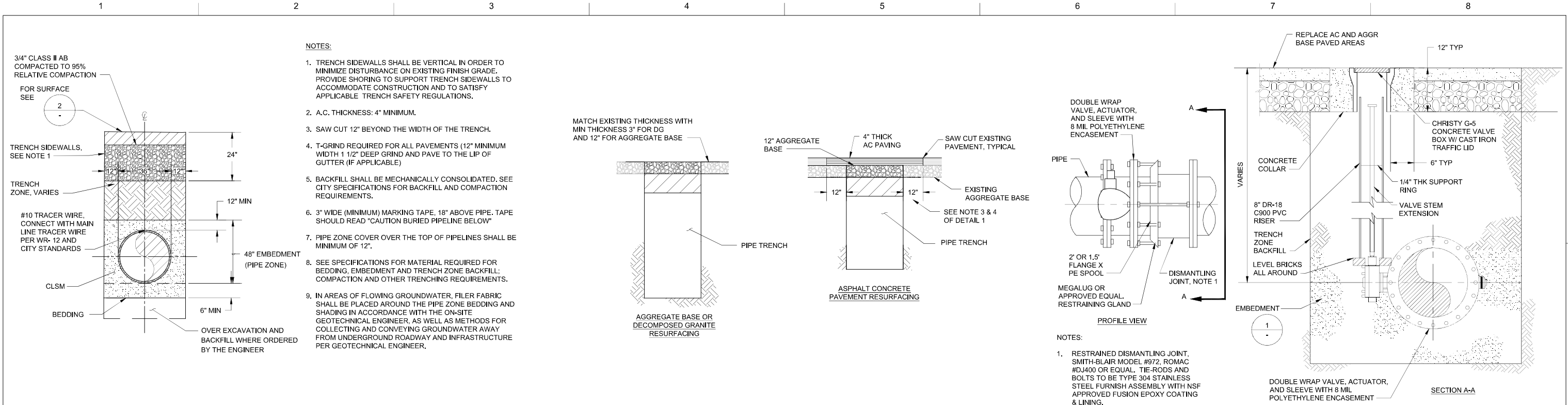
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CIVIL
ENLARGED 36" RBW-WSP PIPING PLAN



FILENAME
SCALE AS NOTED

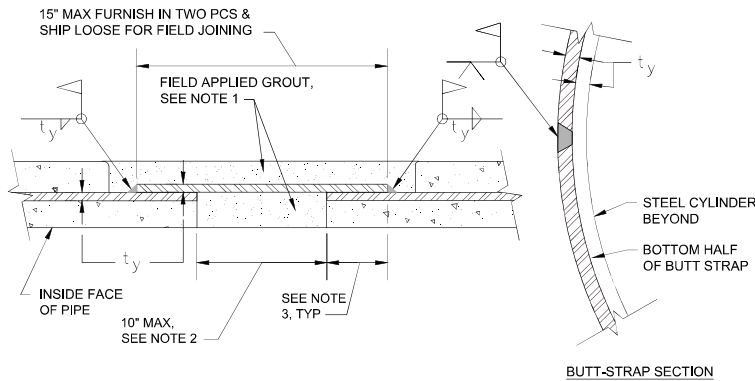
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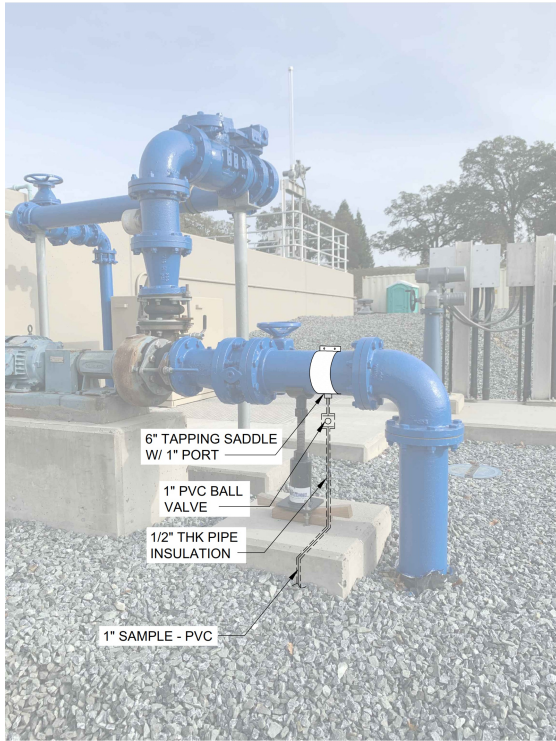
TRENCH SECTION FOR PIPE INSTALLATION
NTS

TYPICAL PIPE TRENCH RESURFACING
NTS

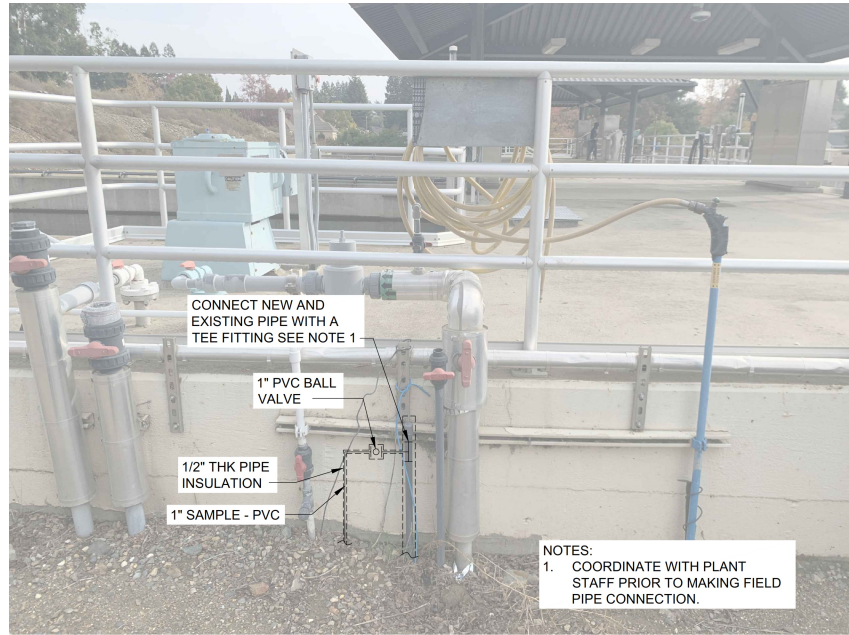
TYPICAL BURIED VALVE ASSEMBLY
NTS



BUTT STRAP FOR STEEL PIPE DETAIL
NTS



1" SAMPLE - PVC CONNECTION PHOTO 1
NTS



1" SAMPLE - PVC CONNECTION PHOTO 2
NTS

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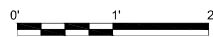
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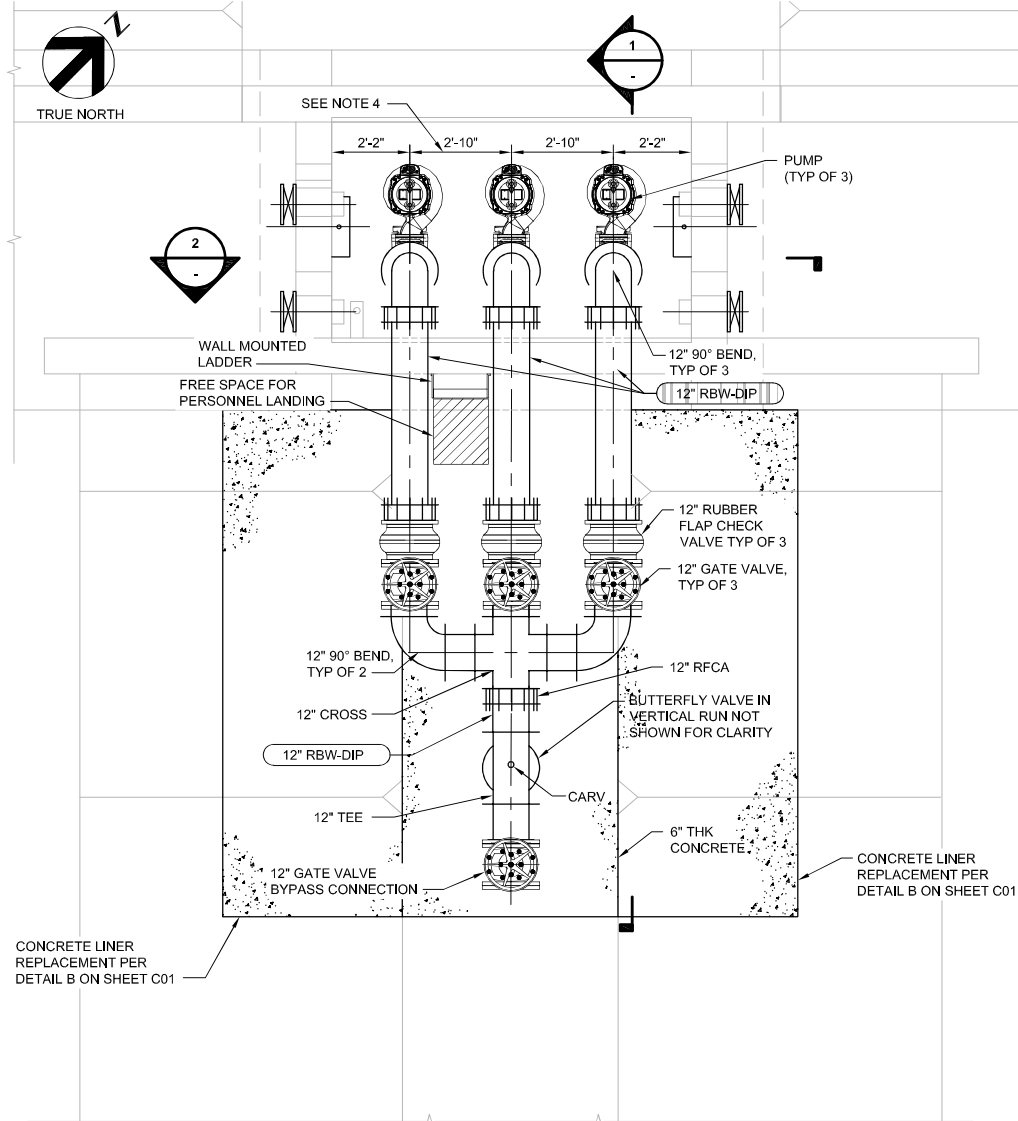
CIVIL
STANDARD DETAILS



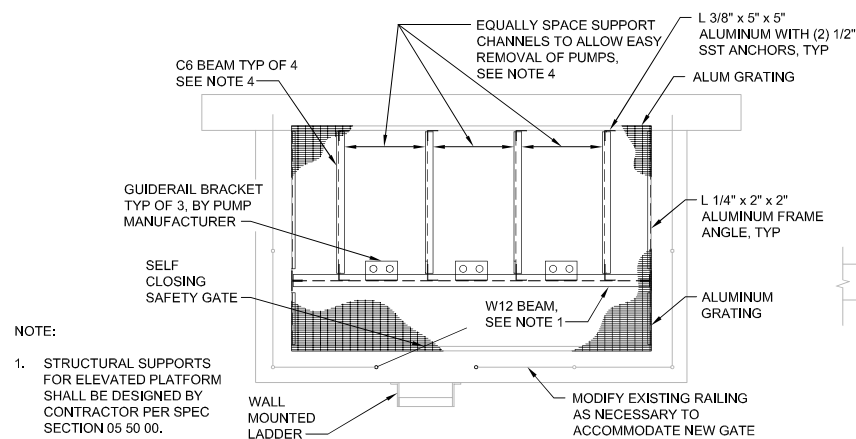
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C02

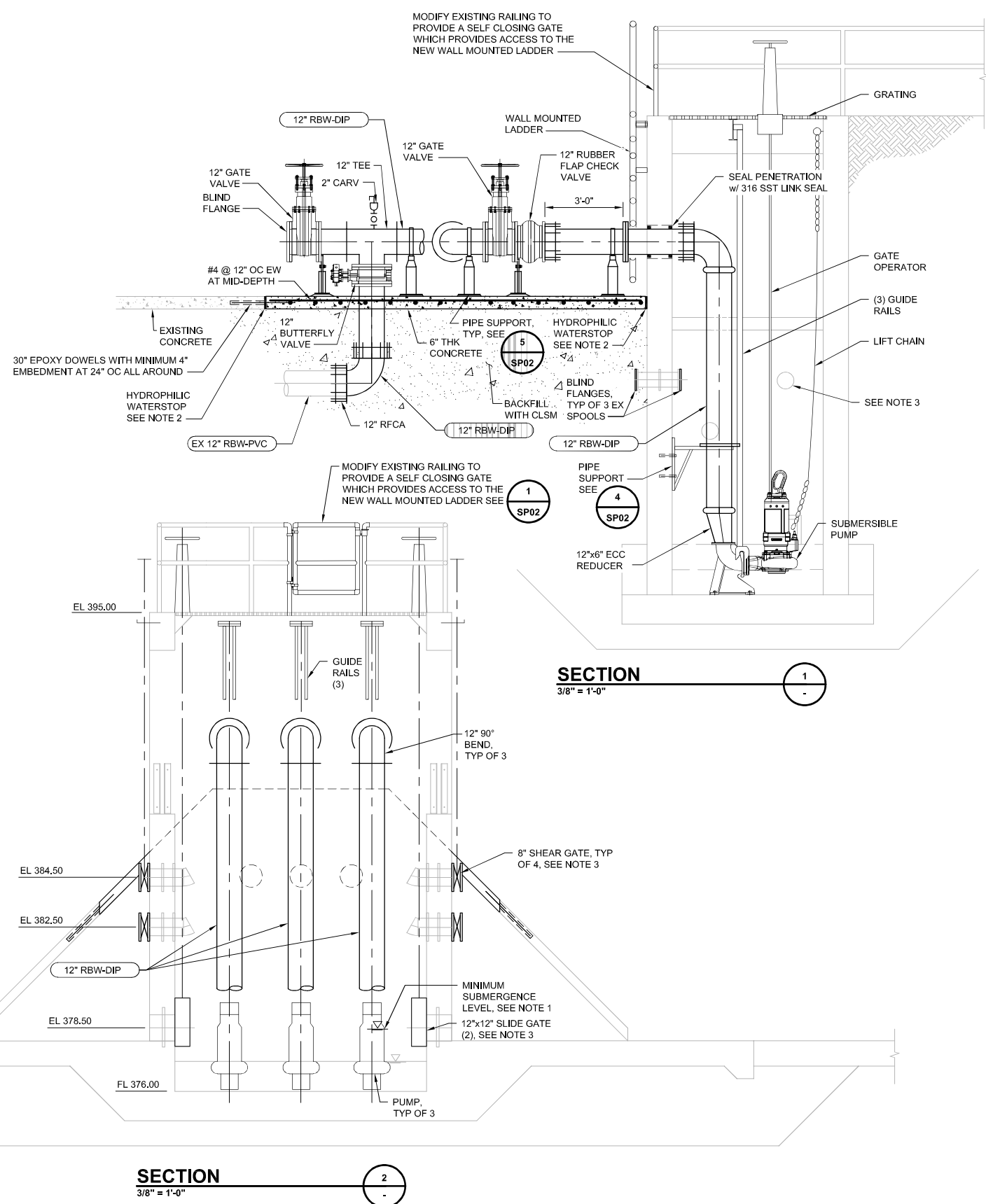
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1/15/2022 3:35 PM, VANMEURS, PETER



DECANT PUMP STATION BOTTOM PROCESS PLAN
3/8" = 1'-0"



DECANT PUMP STATION STRUCTURAL PLAN
3/8" = 1'-0"



- NOTES:
1. VERIFY WITH PUMP MANUFACTURER.
 2. HYDROPHILIC WATERSTOP, SIKKA HYDROTITE (CJ-0725-3K) OR EQUAL, WITH 1/4" BEAD OF CAULKING AT NEW CONCRETE PERIMETER, TYP.
 3. ALL THE EXISTING GATES IN THE DECANT PUMP STATION WET WELL SHALL BE REPLACED, AFTER REPLACEMENT, ALL GATES SHALL UNDERGO FIELD LEAKAGE TESTING PER AWWA STANDARDS. UNDER THE OPERATING HEAD, SEATING OR UNSEATING, THE ALLOWABLE LEAKAGE SHALL NOT EXCEED 0.10 GPM/FT OF SEATING PERIMETER. CONTRACTOR SHALL ASSUME THAT ALL OF THE EXISTING CONCRETE PENETRATIONS RELATED TO THE GATES LEAK, THEREFORE, NEED TO BE REPAIRED. REPAIR LEAKS IN CONCRETE PENETRATIONS USING XYPEX PATCH'N PLUG, A HYDRAULIC CEMENT COMPOUND.
 4. PUMP SPACING MAY REQUIRE ADJUSTMENT BASED ON DIMENSIONS OF SELECTED PUMP.

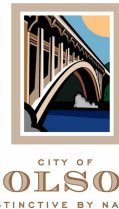


01	02/10/22	ISSUED FOR BIDS
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	A. SINGH
DESIGNED BY	A. SINGH
CHECKED BY	R. STRATTON
DRAWN BY	S.LARI
DATE	NOV 2021
HDR PROJECT NO.	10292477



02/10/22



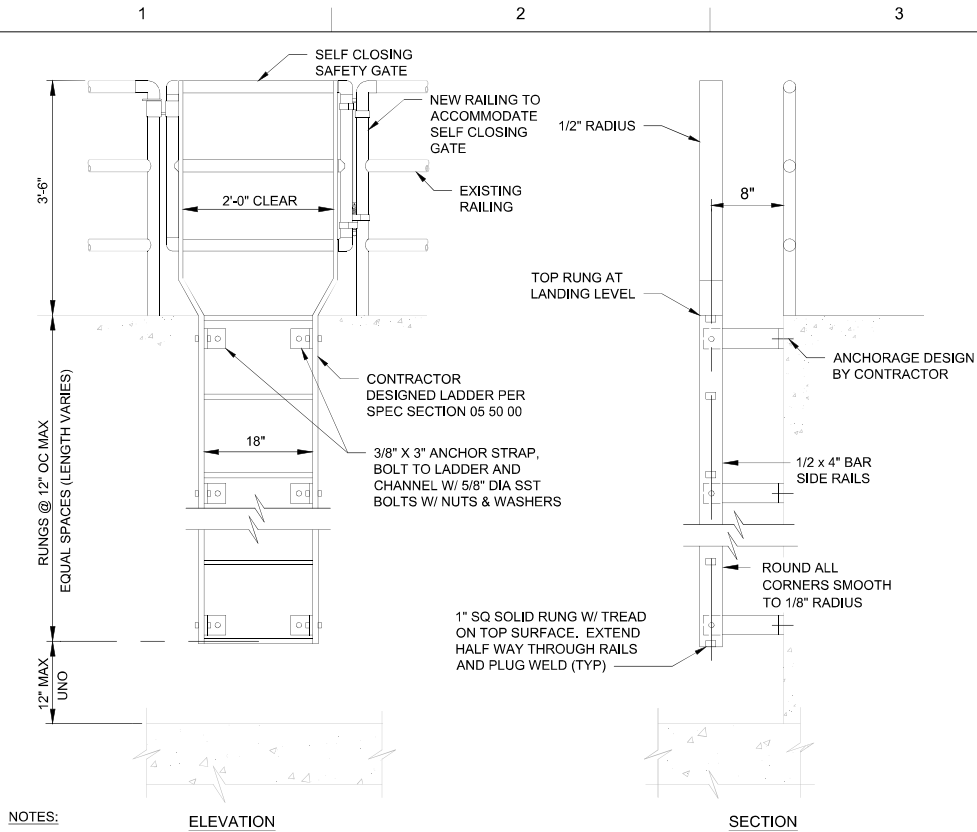
City of Folsom
Water Treatment Plant
BACKWASH AND RECYCLED
WATER CAPACITY PROJECT

STRUCTURAL PROCESS
DECANT PUMP STATION PLAN AND SECTIONS

0 1" 2"

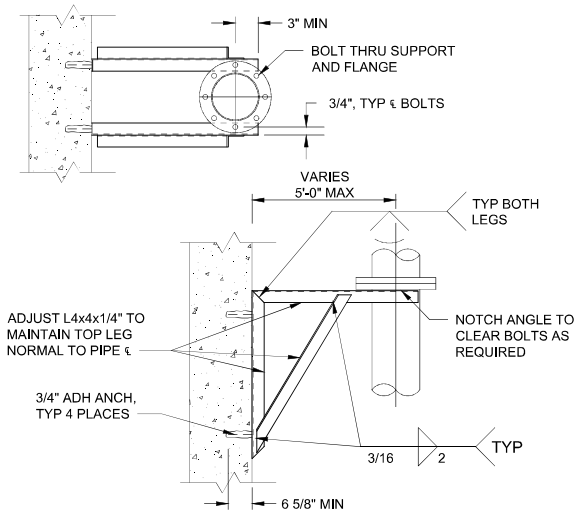
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SHEET
SP01

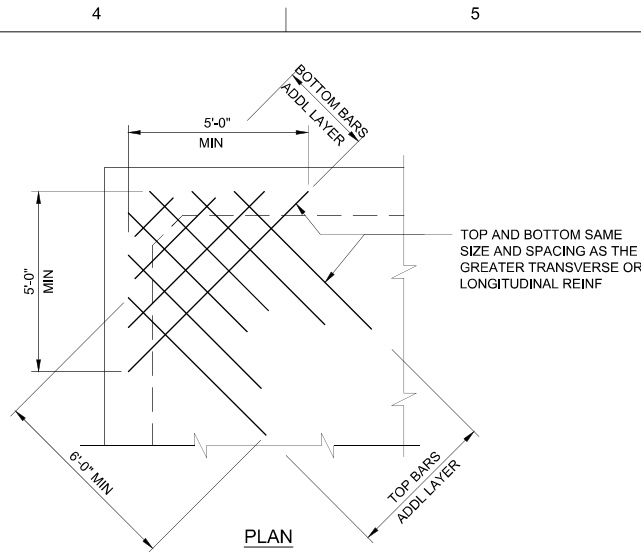


- NOTES:
1. MINIMUM CLEARANCE TO ANY OBSTRUCTION ADJACENT TO LADDER: 2'-6" AT CLIMBING SIDE (2'-3" AT SMOOTH WALL) 1'-3" EACH SIDE OF CENTER LINE, AT SIDES OF LADDER.
 2. LADDER TO BE ALUMINUM PER SPECIFICATIONS. PROVIDE ISOLATION OF DISSIMILAR METALS WHERE REQUIRED.

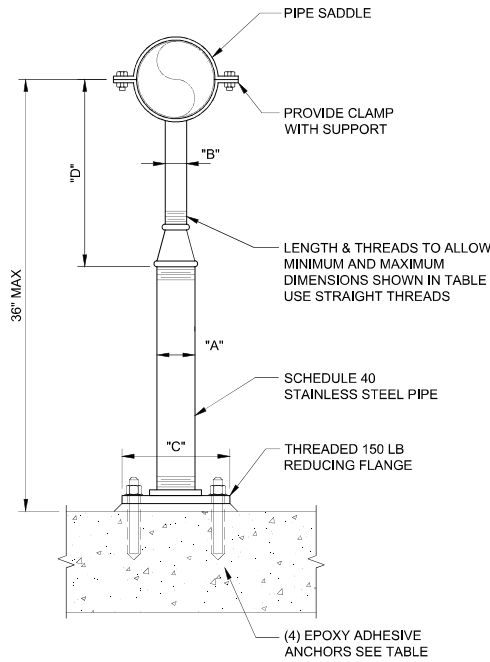
WALK-THRU LADDER (FOR REFERENCE)
NTS



RISER PIPE SUPPORT
NTS

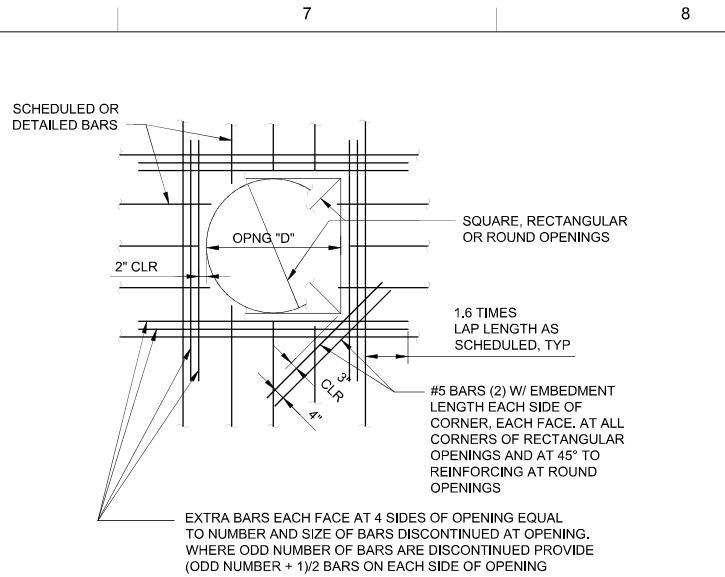


SLAB CORNER
NTS



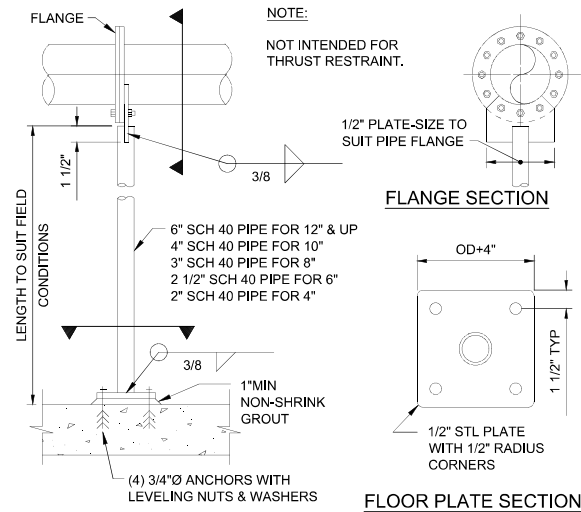
FLOOR PIPE SUPPORT SCHEDULE DIMENSIONS IN INCHES							
PIPE SIZE	"A"	"B"	"C"	"D"		ANCHORS	
				MINIMUM	MAXIMUM	DIA	EMBED
≤ 2 1/2	2 1/2	1 1/2	9	8	13	5/8	5
3	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
3 1/2	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
4	3	2 1/2	9	9 1/2	14	5/8	5
6	3	2 1/2	9	10 1/2	15 1/2	5/8	5
8	3	2 1/2	9	11 1/2	16 1/2	5/8	5
10	3	2 1/2	9	13 1/2	18 1/2	5/8	5
12	3	2 1/2	9	15	19 1/2	5/8	5
14	4	3	11	16 1/2	20 1/2	3/4	6 5/8
16	4	3	11	17 1/2	22 1/2	3/4	6 5/8
18	6	3 1/2	13 1/2	19 1/2	24	3/4	6 5/8
20	6	3 1/2	13 1/2	21	25 1/2	3/4	6 5/8
24	6	4	13 1/2	23 1/2	28 1/2	3/4	6 5/8

ADJUSTABLE PIPE SUPPORT
NTS



- NOTES:
1. THIS DETAIL IS APPLICABLE ONLY TO WALLS OR SLABS WITH THICKNESS 36" OR LESS. FOR CONDITIONS AT THICKER CONCRETE, SEE PLANS AND DETAILS.
 2. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA BARS AROUND OPENINGS IN WALLS, FLOORS, AND ROOFS AS SHOWN.
 3. EVERY BAR DISCONTINUED AT AN OPENING SHALL BE REPLACED IN KIND BY ONE EXTRA BAR PLACED AT ONE SIDE OF THE OPENING AS SHOWN ABOVE.
 4. FOR OPENINGS 8" OR LESS IN SLABS AND WALLS, NO EXTRA BARS ARE REQUIRED UNLESS OTHERWISE NOTED. SCHEDULED REBARS SHALL BE RESPACED (NOT CUT) TO ALLOW FOR UNIMPAIRED OPENINGS.

**REINFORCING AT
RECTANGULAR / CIRCULAR OPENINGS**
NTS



FLANGED PIPE SUPPORT
NTS



01
ISSUE

02/10/22
DATE

ISSUED FOR BIDS
DESCRIPTION

PROJECT MANAGER
DESIGNED BY
DESIGNED BY
CHECKED BY
DRAWN BY
DATE
HDR PROJECT NO.

A. SINGH
A. SINGH
R. STRATTON
S.LARI
NOV 2021
10292477



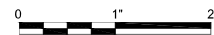
02/10/22



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

City of Folsom
Water Treatment Plant
BACKWASH AND RECYCLED
WATER CAPACITY PROJECT

STRUCTURAL PROCESS
STANDARD DETAILS



FILENAME
SCALE

NONE

SHEET
SP02

C:\pwworking\west01\42063692\E01.dwg
12/1/2021 3:19 PM, LARI, STEVEN

1	2	3	4	5	6	7	8
<div><div><div><div><div><div></div><div>X</div><div>20A</div><div>3P</div></div><div>OR</div><div><div><div></div><div>X</div><div>100AF</div><div>80AT</div><div>3P</div></div></div></div></div><div><div>CB</div></div><div><div>52</div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div><div><div></div><div></div></div></div><div>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01

ISSUE

02/10/22

DATE

ISSUED FOR BIDS

DESCRIPTION

PROJECT MANAGER

A. SINGH

DESIGNED BY

G. INIGUEZ

DESIGNED BY

R. GENATO

CHECKED BY

G. INIGUEZ

DRAWN BY

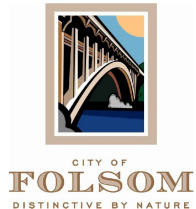
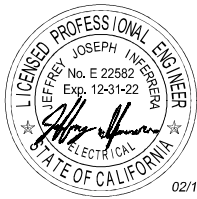
NOV 2021

DATE

HDR PROJECT NO.

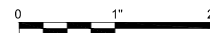
10292477

02/10/22



City of Folsom Water Treatment Plant BACKWASH AND RECYCLED WATER CAPACITY PROJECT

ELECTRICAL LEGEND, SYMBOLS, AND ABBREVIATIONS



FILENAME

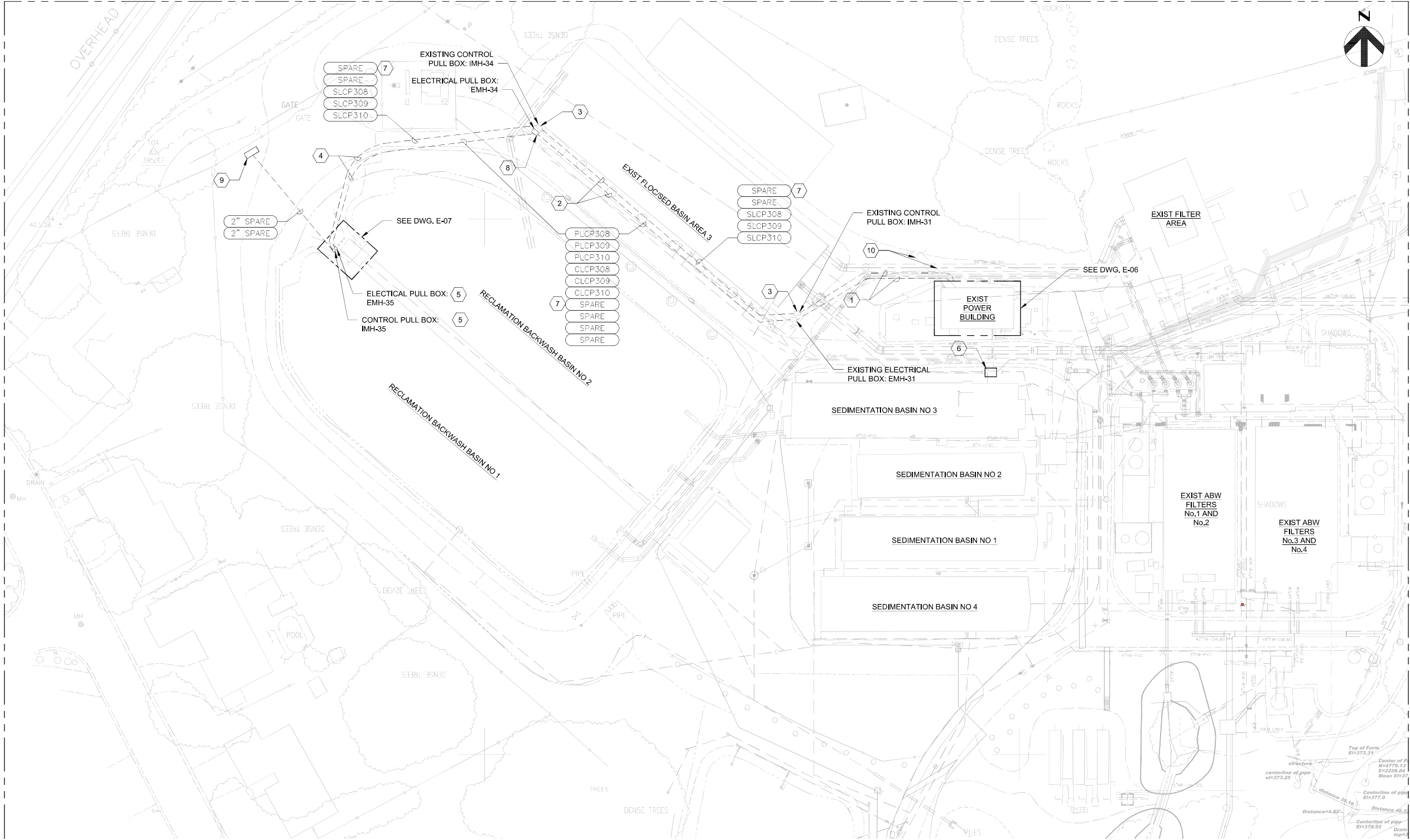
SCALE

NONE

SHEET

E01

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12/1/2021 3:19 PM, LARI, STEVEN



OVERALL ELECTRICAL SITE PLAN

1" = 40'

GENERAL NOTES:

1. AREA CLASSIFICATION: OUTDOOR, WET.

KEYNOTES:

1. INSTALL DUCT BANK PER DETAIL 1 ON DWG. E09. CONTRACTOR TO FIELD ROUTE DUCT BANKS FROM POWER BUILDING TO EXISTING PULL BOXES IMH-31 AND EMH-31. REFILL AND REPAIR GROUND TO MATCH EXISTING.
2. RUN DUCT BANKS FROM EXISTING PULL BOXES IMH-31 AND EMH-31 TO EXISTING PULLBOXES IMH-34 AND EMH-34 PARALLEL TO EXISTING DUCT BANKS. BACKFILL AND REPAIR GROUND TO MATCH EXISTING. INSTALL DUCT BANK PER DETAIL 1 ON DWG. E09.
3. DUCTBANK TO INTERCEPT EXISTING PULL BOX.
4. SAW CUT EXISTING ASPHALT PAVING TO INSTALL DUCT BANKS PER DETAIL 2 ON DWG. E09. REPLACE AND REPAIR EXISTING ASPHALT PER DETAIL 2 ON DWG. C02. MATCH EXISTING PAVING.
5. PROVIDE 36"WX36"L MINIMUM, PRECAST CONCRETE PULL BOX, H-20 RATED WITH STEEL COVERS. STEEL COVERS SHALL BE ENGRAVED WITH THE WORD "ELECTRICAL" FOR EMH-35 AND "CONTROLS" FOR IMH-35. DEPTH OF PULLBOX AS REQUIRED. INSTALL PER DETAIL 5 ON DWG. E09.
6. LOCATION OF EXISTING MAG FLOW METER. REFER TO DRAWING I02 FOR INSTRUCTION ON WORK TO BE DONE ON THE FLOW METER.
7. PROVIDE TWO 2" SPARE CONDUITS FOR SIGNALS, TWO 2" SPARE CONDUITS FOR CONTROL, AND TWO 2" SPARE CONDUITS FOR POWER. ROUTE SPARE CONDUITS FROM POWER BUILDING TO PULL BOXES IMH-35 AND EMH-35. PROVIDE PULL TAPE, CAP CONDUITS AT EVERY PULL BOX.
8. REMOVE EXISTING ELECTRICAL PULL BOX, EMH-34 AND SALVAGE TO OWNER. PROTECT EXISTING CONDUITS AND CONDUCTORS. INSTALL IN THE SAME LOCATION WITH A 36"WX36"L MINIMUM PRECAST CONCRETE PULL BOX. PROVIDE STEEL COVER. STEEL COVER SHALL BE ENGRAVED WITH THE WORD "ELECTRICAL". MATCH DEPTH OF PULL BOX TO EXISTING CONTROL PULL BOX IMH-34. INSTALL PER DETAIL 6 ON DWG. E09.
9. INSTALL A N17 CHRISTY BOX 12" FROM THE FENCE POST.
10. EXISTING DUCTBANKS MAY BE PRESENT IN THIS AREA, CONTRACTOR TO FIELD VERIFY.



01
ISSUE

02/10/22
DATE

ISSUED FOR BIDS

DESCRIPTION

PROJECT MANAGER

A. SINGH

DESIGNED BY

G. INIGUEZ

DESIGNED BY

R. GENATO

CHECKED BY

G. INIGUEZ

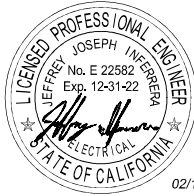
DRAWN BY

NOV 2021

DATE

HDR PROJECT NO.

10292477



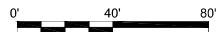
02/10/22



CITY OF
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City of Folsom
Water Treatment Plant
BACKWASH AND RECYCLED
WATER CAPACITY PROJECT

ELECTRICAL OVERALL SITE PLAN



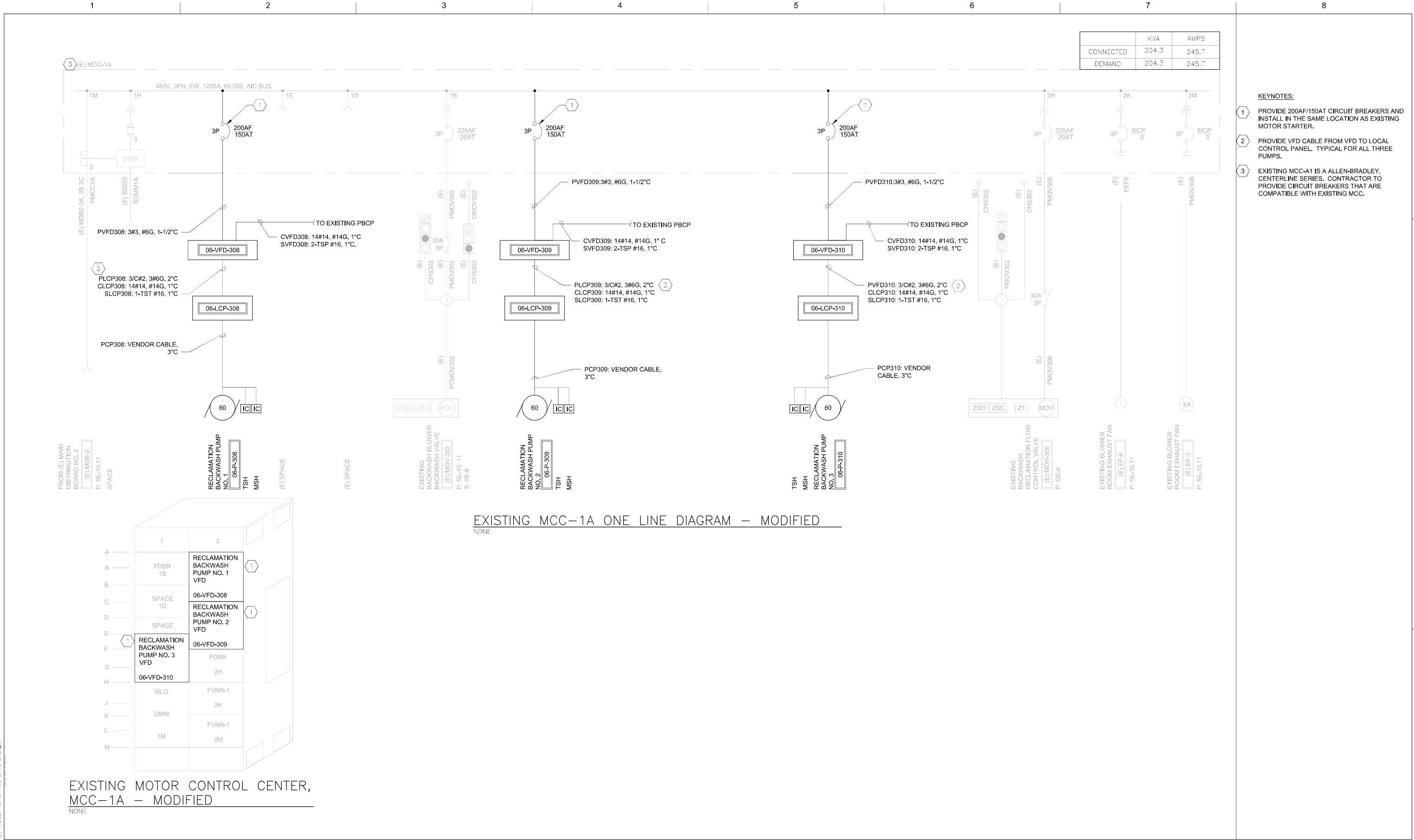
FILENAME

SCALE 1" = 40'

SHEET

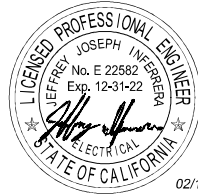
E04

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12/1/2021 3:19 PM, LARI, STEVEN



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HDR PROJECT NO.	10292477



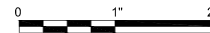
02/10/22



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WATER CAPACITY PROJECT

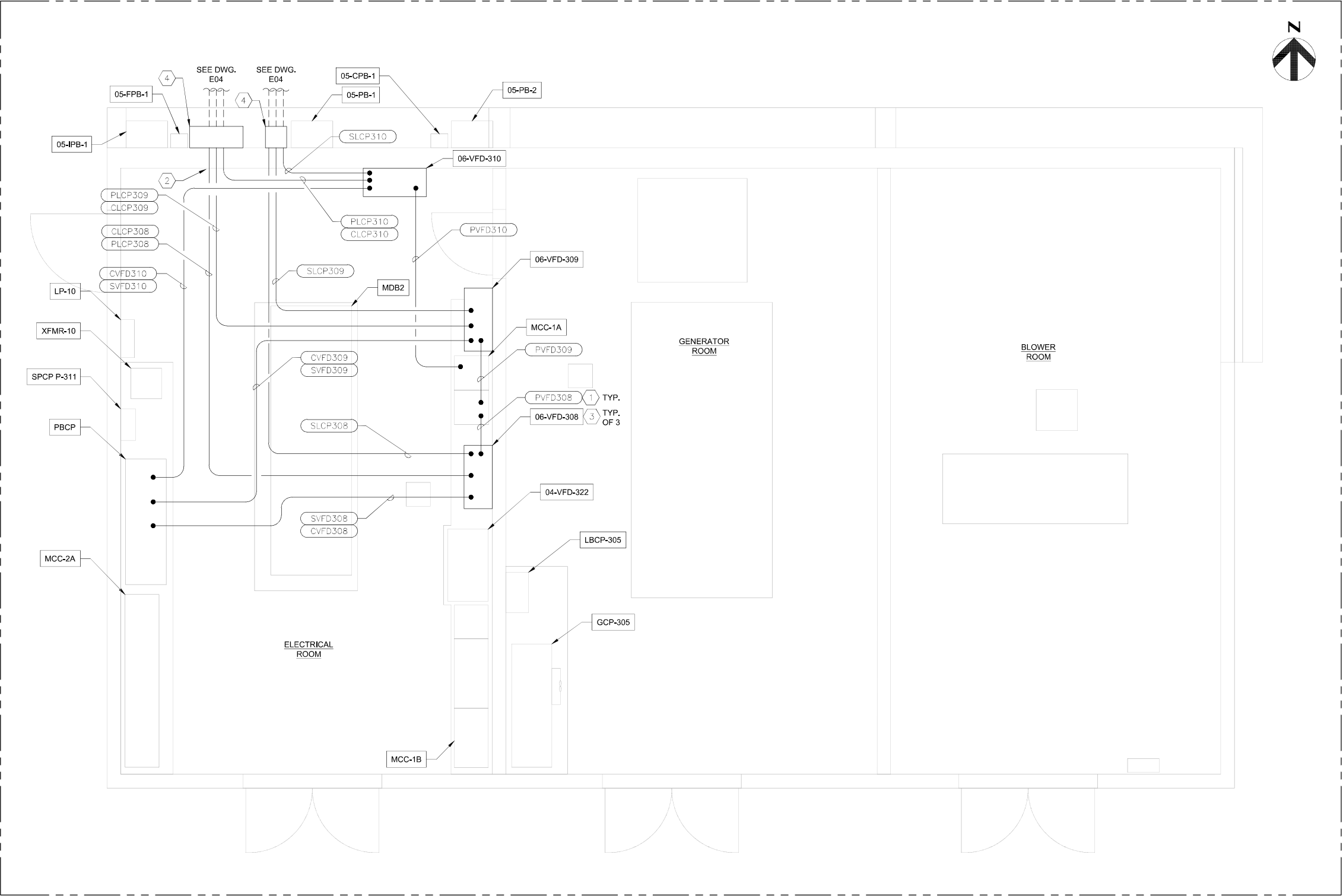
ELECTRICAL
EXISTING MCC 1A ONE LINE DIAGRAM - MODIFIED



FILENAME	
SCALE	NONE

SHEET

E05



GENERAL NOTES:

1. AREA CLASSIFICATION: INDOOR, DRY.

KEYNOTES:

1. ROUTE ALL CONDUITS INSIDE ELECTRICAL ROOM OVERHEAD.
2. CORE DRILL AND ROUTE CONDUITS TO PULL BOX OUTSIDE. CORE DRILL FOR SPARE CONDUITS AND CAP CONDUITS. SEAL GAP AROUND CONDUITS WITH NON-SHRINK GROUT. PAINT OUTSIDE AND INSIDE OF WALL TO MATCH EXISTING. TYPICAL FOR ALL CONDUITS.
3. WALL MOUNT VFD SUCH THAT CENTER OF VFD IS A MIN OF 48 IN ABOVE FINISHED FLOOR. WALL MOUNT VFD PER MANUFACTURER'S RECOMMENDATIONS. TYPICAL FOR 06-VFD-308, 309, AND 310.
4. INSTALL A 30"L X 30"W X 12"D PULLBOX FOR POWER AND CONTROLS AND A 12"L X 12"W X 12"D FOR SIGNAL. PULL BOXES SHALL BE NEMA 4X. INSTALL AT SAME HEIGHT OF EXISTING PULL BOXES. PULL BOXES SHALL HAVE REMOVABLE FRONT COVER.

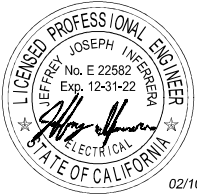
ELECTRICAL POWER BUILDING PLAN

3/8"=1'



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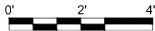
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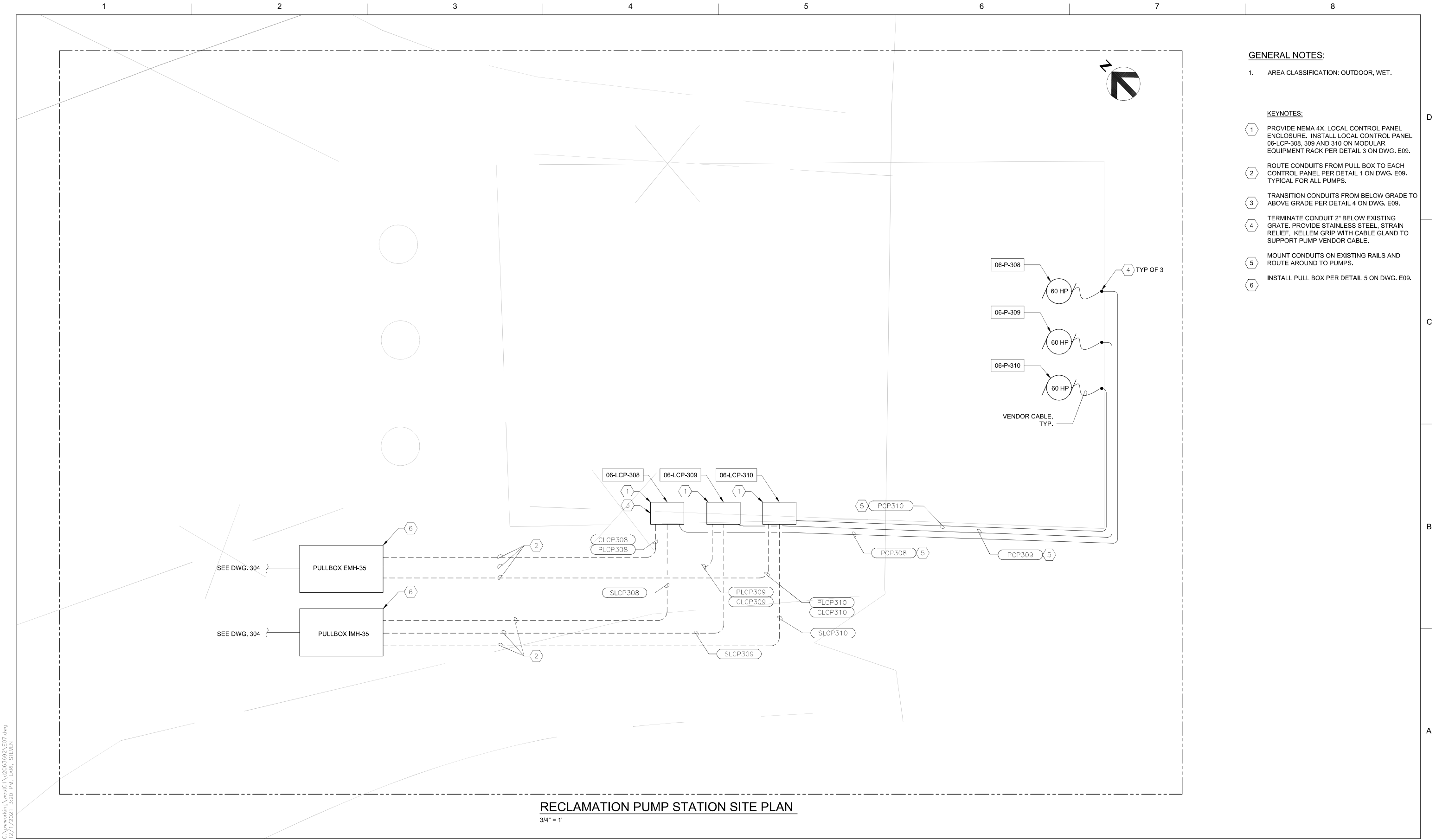
ELECTRICAL
POWER BUILDING PLAN



FILENAME	
SCALE	3/8" = 1'

SHEET

E06



GENERAL NOTES:

1. AREA CLASSIFICATION: OUTDOOR, WET.

KEYNOTES:

- 1 PROVIDE NEMA 4X, LOCAL CONTROL PANEL ENCLOSURE. INSTALL LOCAL CONTROL PANEL 06-LCP-308, 309 AND 310 ON MODULAR EQUIPMENT RACK PER DETAIL 3 ON DWG. E09.
- 2 ROUTE CONDUITS FROM PULL BOX TO EACH CONTROL PANEL PER DETAIL 1 ON DWG. E09. TYPICAL FOR ALL PUMPS.
- 3 TRANSITION CONDUITS FROM BELOW GRADE TO ABOVE GRADE PER DETAIL 4 ON DWG. E09.
- 4 TERMINATE CONDUIT 2" BELOW EXISTING GRATE. PROVIDE STAINLESS STEEL, STRAIN RELIEF, KELLEM GRIP WITH CABLE GLAND TO SUPPORT PUMP VENDOR CABLE.
- 5 MOUNT CONDUITS ON EXISTING RAILS AND ROUTE AROUND TO PUMPS.
- 6 INSTALL PULL BOX PER DETAIL 5 ON DWG. E09.

RECLAMATION PUMP STATION SITE PLAN

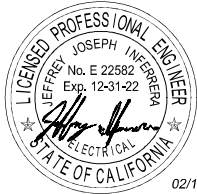
3/4" = 1'

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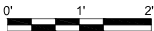
02/10/22



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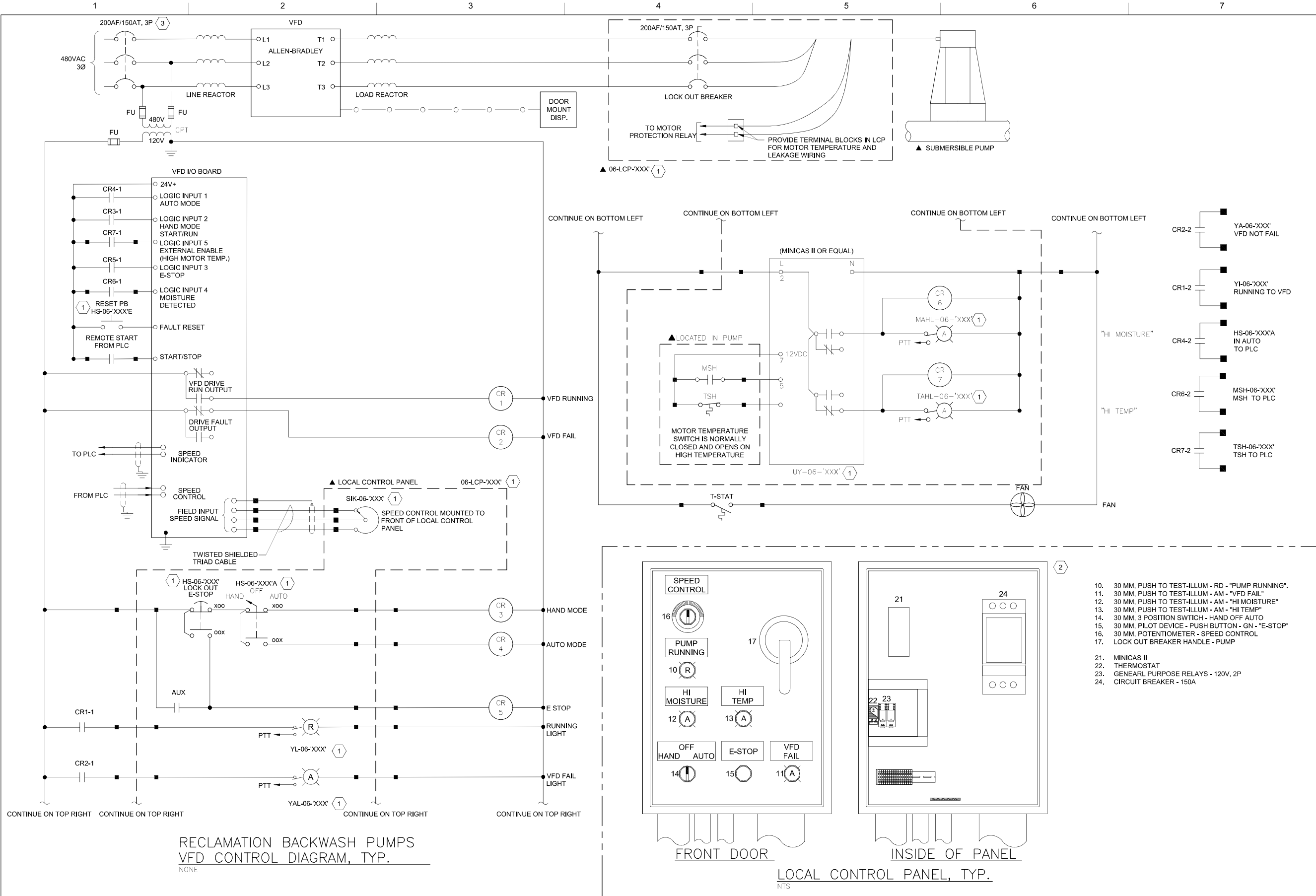
ELECTRICAL
RECLAMATION PUMP STATION



FILENAME	
SCALE	3/4" = 1'

SHEET

E07



RECLAMATION BACKWASH PUMPS
VFD CONTROL DIAGRAM, TYP.
NONE

GENERAL NOTES

1. PROVIDE ALL COMPONENTS/INTERLOCKS NECESSARY FOR A COMPLETE AND FUNCTIONING SYSTEM.
2. ALL EQUIPMENT SHALL BE INSTALLED TO THEIR MANUFACTURER'S LITERATURE AND DATA SHEETS AND THEIR RECOMMENDATIONS SHALL BE ADHERED TO.
3. CONTACTS SHOWN IN DE-ENERGIZED STATE.
4. ALL CONTROL CIRCUIT EQUIPMENT WITHIN THE LOCAL CONTROL PANEL SHALL BE DIN RAIL MOUNTED.
5. THE CONTROL EQUIPMENT IS BASED ON ALLEN BRADLEY EQUIPMENT. MODIFY CONTROL CIRCUITS TO SUIT FINAL SELECTION OF EQUIPMENT.

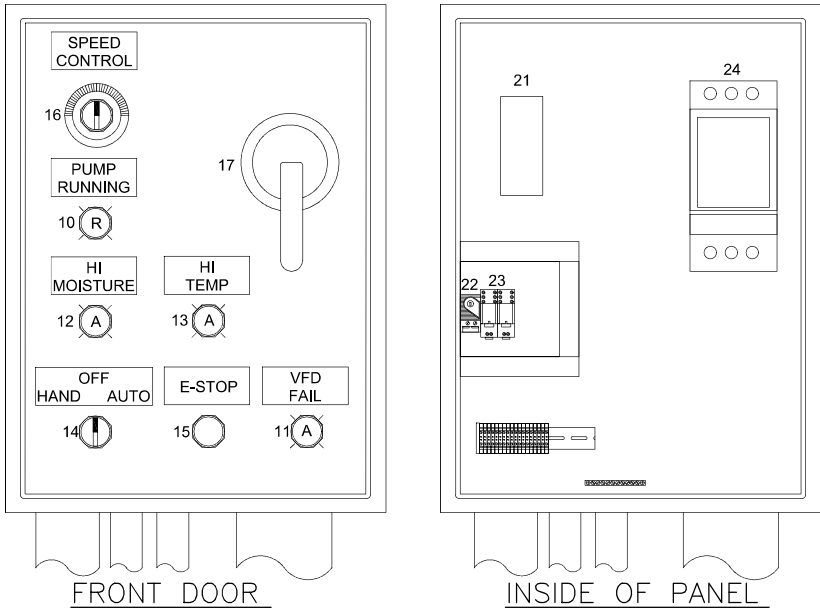
SHEET KEYNOTES

1. 'XXX' REPRESENTS THE RECLAMATION BACKWASH PUMP NUMBER: 308, 309, 310
2. PROVIDE A MINIMUM 16"Hx12"Hx8"D, NEMA 4X, CONTROL PANEL ENCLOSURE.
3. CIRCUIT BREAKER LOCATED AT MCC.

LEGEND

- ▲ INDICATES EQUIPMENT LOCATED IN FIELD.
- INDICATES TERMINAL CONNECTION FOR FIELD CONDUCTORS.
- INDICATES WIRING CONNECTION WITHIN CONTROL PANEL.
- INDICATES EQUIPMENT/COMPONENT TERMINAL POINTS.

10. 30 MM, PUSH TO TEST-ILLUM - RD - "PUMP RUNNING".
11. 30 MM, PUSH TO TEST-ILLUM - AM - "VFD FAIL"
12. 30 MM, PUSH TO TEST-ILLUM - AM - "HI MOISTURE"
13. 30 MM, PUSH TO TEST-ILLUM - AM - "HI TEMP"
14. 30 MM, 3 POSITION SWITCH - HAND OFF AUTO
15. 30 MM, PILOT DEVICE - PUSH BUTTON - GN - "E-STOP"
16. 30 MM, POTENTIOMETER - SPEED CONTROL
17. LOCK OUT BREAKER HANDLE - PUMP
21. MINICAS II
22. THERMOSTAT
23. GENERAL PURPOSE RELAYS - 120V, 2P
24. CIRCUIT BREAKER - 150A

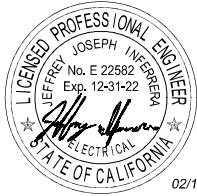


LOCAL CONTROL PANEL, TYP.
NTS



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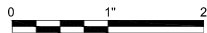
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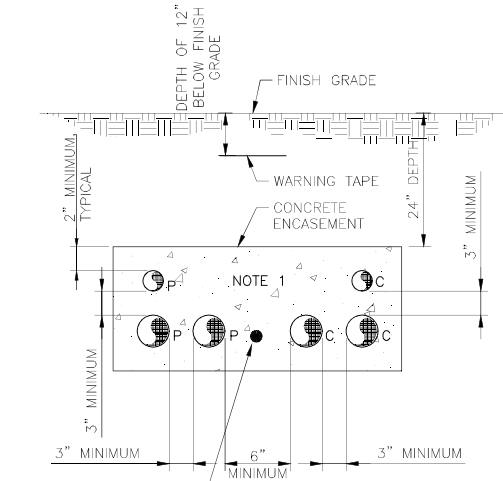
ELECTRICAL - VFD CONTROL DIAGRAM
RECLAMATION BACKWASH PUMPS



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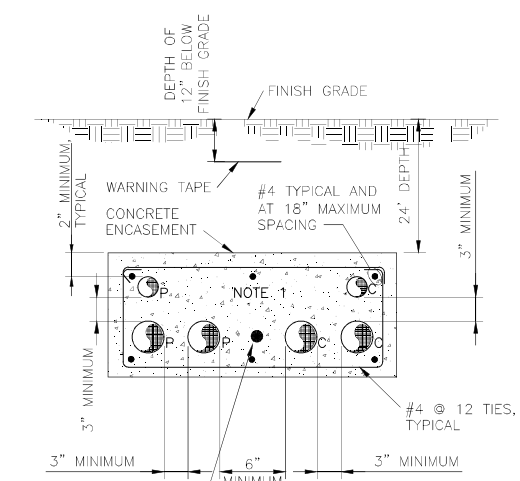
SHEET
E08

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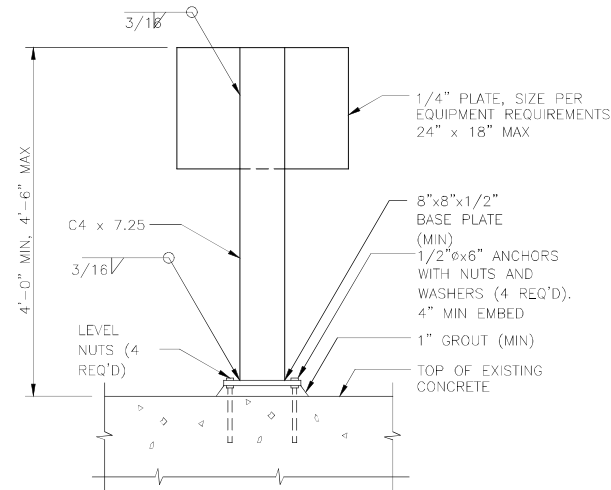
- #1/0 COPPER GROUND
- NOTES:
1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
 2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
 3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
 4. REFER TO SPECIFICATION 26 05 43 FOR DUCTBANK REQUIREMENTS.

1 CONCRETE ENCASED DUCTBANK SECTION
NTS



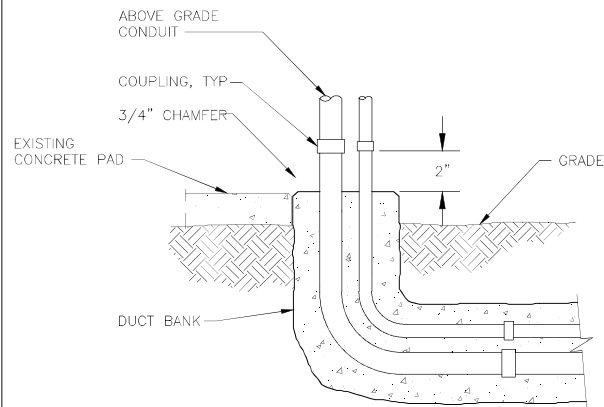
- #1/0 COPPER GROUND
- NOTES:
1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
 2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
 3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
 4. REFER TO SPECIFICATION 26 05 43 FOR DUCTBANK REQUIREMENTS.

2 REINFORCED CONCRETE ENCASED DUCTBANK SECTION
NTS



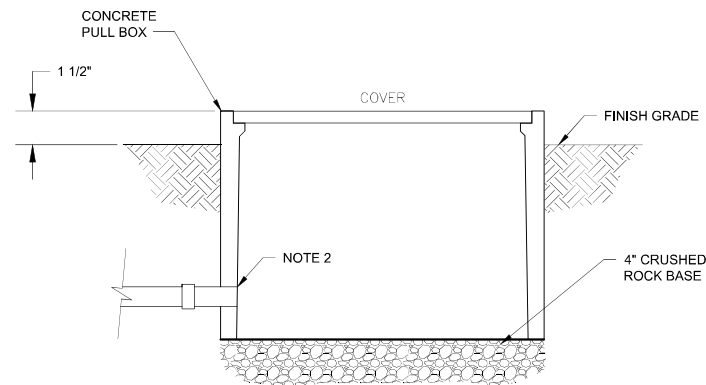
- NOTES:
1. ADAPT TO SPECIFIC REQUIREMENTS.
 2. USE FOR LARGER DEVICES SUCH AS MOTOR STARTERS, DISCONNECTS, AND CONTROL PANELS.
 3. SEE SECTION 26 05 00 FOR MATERIALS OF CONSTRUCTION.

3 MOUNTING STAND DETAIL
NTS



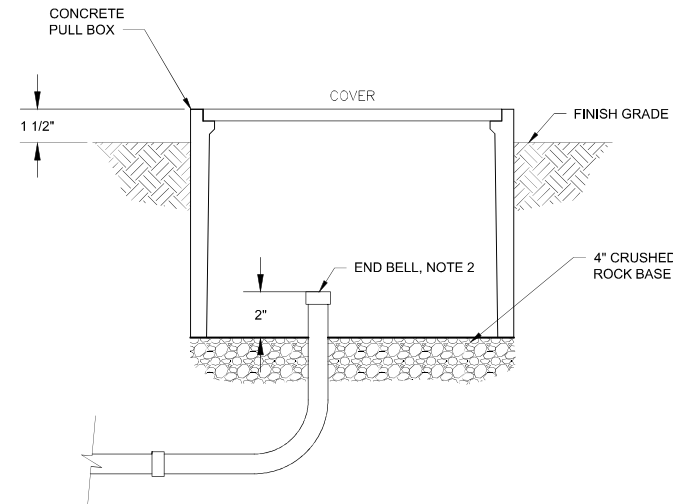
- NOTE:
1. SEE DUCT BANK SECTION DETAIL FOR ADDITIONAL REQUIREMENTS.

4 CONDUIT TRANSITION TO ABOVE GRADE (EXTERIOR)
NTS



- NOTES:
1. PULLBOX COVER TO HAVE "ELECTRICAL" LOGO, UNLESS OTHERWISE NOTED.
 2. SEAL OFF CONDUITS WITH CONDUIT SEALING CLAY.

5 PULLBOX INSTALLATION DETAIL 1
NTS



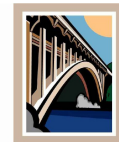
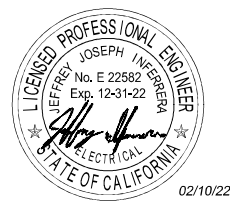
- NOTES:
1. PULLBOX COVER TO HAVE "ELECTRICAL" LOGO, UNLESS OTHERWISE NOTED.
 2. SEAL OFF CONDUITS WITH CONDUIT SEALING CLAY.

6 PULLBOX INSTALLATION DETAIL 2
NTS



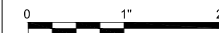
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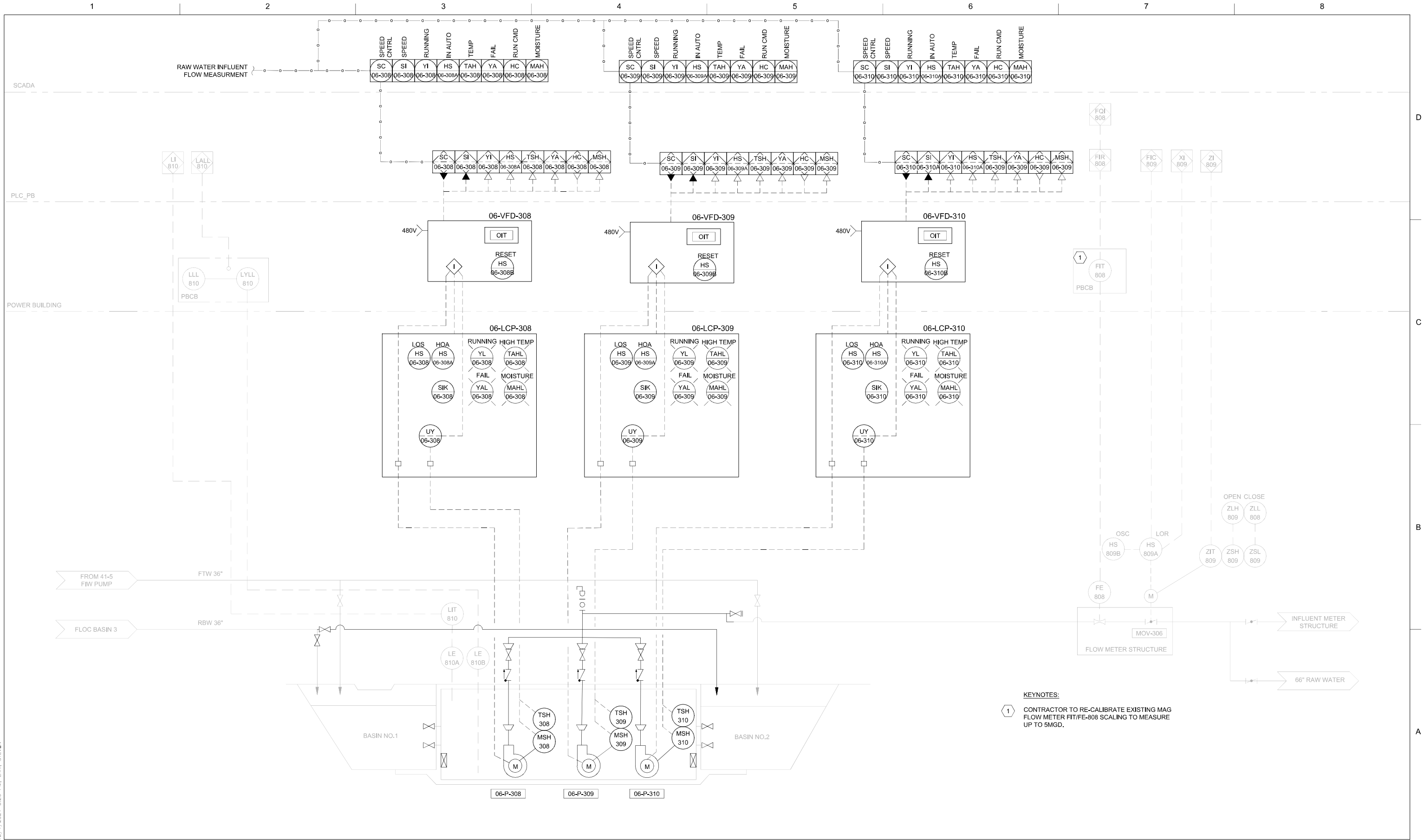
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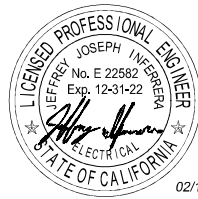
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FILENAME		E09
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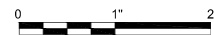
02/10/22



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INSTRUMENTATION
DECANT PUMP STATION P&ID



FILENAME	I02.dwg	SHEET 102
SCALE	NONE	