ENGINEERING COMMITTE MEETING

AGENDA

Tuesday, November 3, 2026 • 2:00 p.m.

IN-PERSON

Calaveras County Water District
120 Toma Court
San Andreas, California 95249

REMOTE ACCESS

Join the meeting now
Meeting ID: 256 493 461 299 63
Passcode: 45Z8Pe7G

OUR MISSION

Protect, enhance, and develop Calaveras County's water resources and watersheds to provide safe, reliable, and cost-effective services to our communities.

2021–2026+ Strategic Plan, adopted April 28, 2021 | View strategic plan

COMMITTEE MEMBERS

District 4 - Russ Thomas, Director
District 5 - Jeff Davidson, Chair

ACCESSIBILITY | In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, contact the Administration Office at 209-754-3028. Advance notification will enable CCWD to make reasonable arrangements. Documents made available to the Board before or at the meeting, not privileged or otherwise protected from disclosure and related to agenda items, will be available at CCWD for public review.

PUBLIC PARTICIPATION | District Board meetings are open to in-person attendance and are conducted virtually. Remote participants will have an opportunity to address the Board, and comments will be included in the meeting recording. Remote access is offered for convenience. If a technological malfunction occurs, the Board can guarantee receipt of live comments only through in-person attendance and may proceed without remote access, except during a noticed teleconference meeting.

ORDER OF BUSINESS

	CALL TO ORDER / PLEDGE OF ALLEGIANCE
1	**ROLL CALL**
2	**PUBLIC COMMENT**

Members of the public may address the Board on any non-agendized item. The public is encouraged to work through staff to place items on the agenda for Board consideration. No action can be taken on matters not listed on the agenda. Comments are limited to three minutes per person.

3	**APPROVAL OF THE MINUTES**
3a	Approval of the minutes for the meeting of **September 1, 2026**
4	**NEW BUSINESS**
4a	Copper Cove Tertiary Project | CIP 15094 *Kevin Williams, District Engineer*
4b	Electrical Standards Update *Kevin Williams, District Engineer*
4c	Wallace Tanks Project Update | CIP 11083W *Chase King, Senior Civil Engineer*
4d	Copper Cove Conveyance Study & Ebbett's Pass Pre Design Study *Kevin Williams, District Engineer*
4e	Developer Updates *Sam Singh, Senior Engineering Technician*
5	**OLD BUSINESS**
5a	Project Updates *Engineering Department*
6	**GENERAL MANAGER COMMENTS**
7	**DIRECTOR COMMENTS / FUTURE AGENDA ITEMS**
8	**NEXT COMMITTEE MEETINGS**
	Tuesday, January 5, 2027, 2:00 p.m.
9	**ADJOURNMENT**

* No information included in packet.

Agenda Item

3a



ENGINEERING COMMITTEE MEETING

Draft MINUTES

Tuesday, September 1, 2026 • 2:00 p.m.

COMMITTEE MEMBERS PRESENT:

Russ Thomas, Committee Member
Jeff Davidson, Committee Member

STAFF PRESENT:

Michael Minkler	General Manager
Rebecca Hitchcock*	Clerk to the Board
Kelly Gerkensmeyer	External Affairs Manager
Kevin Williams	District Engineer
Dylan Smith*	Information Systems Technician
Nick Schroven*	Water Resources Technician
Haley Airola	Engineering Coordinator
Chase King	Senior Civil Engineer
Sam Singh	Senior Engineering Technician

OTHERS PRESENT: None

*Attended Virtually

ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

Director Davidson called the Engineering Committee Meeting to order at 2:02 p.m. and led the Pledge of Allegiance.

1 ROLL CALL

All Committee members were present.

2 PUBLIC COMMENT

No Public Comment was provided.

3 APPROVAL OF THE MINUTES

Minutes were approved by Director Thomas and seconded by Director Davidson.

4	NEW BUSINESS
4a	Hydraulic Modeling Update for Ebbetts Pass Water *Sam Singh, Senior Engineering Technician*
	DISCUSSION: Sam Singh presented the Ebbetts Pass Hydraulic model, the findings and future intentions. Sam Singh answered any questions from the Committee directly. **PUBLIC COMMENT:** No public comment was provided.
4b	Arnold Secondary Clarifier Project Update | CIP 15095 *Chase King, Senior Civil Engineer*
	DISCUSSION: Chase King provided the Committee with a project update and status. Any questions from the Committee were answered directly by Chase. **PUBLIC COMMENT:** No public comment was provided.
4c	Sawmill & Wallace Tanks Projects Update | CIP 11083S & 11083W *Chase King, Senior Civil Engineer*
	DISCUSSION: Chase King provided the Committee with a project update and project status. Any questions from the Committee were answered directly by Chase. **PUBLIC COMMENT:** No public comment was provided.
4d	Jenny Lind A-B Transmission Main Project Update | CIP 11088 *Sam Singh, Senior Engineering Technician*
	DISCUSSION: Sam Singh provided the Committee with an update on the finishing tasks of the project. Anticipation to take to the full Board for completion. Any questions from the Committee were answered directly by Sam. **PUBLIC COMMENT:** No public comment was provided.
4e	VSPUD State Revolving Fund *Kevin Williams, District Engineer*
	DISCUSSION: Kevin Williams provided an update on the application process. Any questions from the Committee were answered directly by Kevin. **PUBLIC COMMENT:** No public comment was provided.

5 OLD BUSINESS

5a Project Updates
Sam Singh, Senior Engineering Technician

DISCUSSION: Engineering Staff provided updates on all projects. Any questions from the Committee were answered by Engineering Staff.

PUBLIC COMMENT: No public comment was provided.

5b Developer Updates
Kevin Williams, District Engineer

DISCUSSION: Engineering Staff provided updates on all projects. Any questions from the Committee were answered by Engineering Staff.

PUBLIC COMMENT: No public comment was provided.

6 GENERAL MANAGER COMMENTS

Michael Minkler recognized that the engineering team completed 20 million dollars in CIP projects 25-26 fiscal year.

7 COMMITTEE MEMBER COMMENTS / INFORMATION / FUTURE AGENDA ITEMS

Director Davidson - Request regarding the commercial account charges.

Director Thomas – Review of commercial EDU charges and the commercial account review policy.

A brief discussion was held regarding the implications of Proposition 218 as they relate to commercial charges and the ability to make changes.

8 NEXT COMMITTEE MEETING

Tuesday, November 3, 2026, 2:00 p.m.

9 ADJOURNMENT

With no further business, the meeting adjourned at 3:36 p.m.

By:

_____

Haley Airola
Engineering Coordinator

Agenda Item

4a



AGENDA ITEM 4A

SUBJECT: COPPER COVE WASTEWATER TERTIARY TREATMENT PROJECT.

SUMMARY:

The Copper Cove Wastewater Treatment Plant Tertiary Treatment Project continues to make significant progress toward construction. The third revision of the 100% design package was submitted to the U.S. Army Corps of Engineers (USACE) last week, and staff are hopeful this submittal will address the remaining comments and serve as the final bid-ready set of plans. After several years of planning and multiple design iterations, the project is nearing construction.

USACE Section 219 funding will support construction of a new tertiary treatment system, including solids handling, wastewater filtration, electrical upgrades, mechanical equipment, and associated process piping. The project also includes the Suspended Air Flotation (SAF) facility as an in-kind contribution. The existing filter system will be replaced with modern treatment infrastructure that will improve reliability, operational efficiency, and the District's ability to treat and reuse wastewater.

It is the District's understanding that this may be one of the first, if not the first, Section 219 projects in California to advance into construction. Reaching this stage has required navigating changing federal requirements, evolving project expectations, and personnel turnover within USACE. More recently, the District has established a strong working relationship with the current USACE project team, whose responsiveness and collaboration have been instrumental in moving the project forward.

Once design review is complete, USACE will manage bidding, contractor selection, and construction administration. CCWD and HydroScience Engineers will continue to provide technical support throughout construction. Construction is currently anticipated to begin in Spring 2027.

Separately, the District is meeting with DSOD to explore lower-cost options for increasing recycled water storage within the existing Pond 6 footprint. The goal is to expand storage capacity without pursuing a full reservoir enlargement. While additional storage remains important, a full dam raise presents significant challenges and increases stormwater

runoff that must be managed and treated. The Letter Report and the Project Partner Agreement will be amended with the USACE to provide direction for use of the remaining three million dollars that could be available for this work effort.

The District's highest priority remains completing the tertiary treatment project and maximizing wastewater reuse so Pond 6 can be drawn down to its lowest practical level during the dry season. Because the upgraded treatment process will remove solids rather than returning them to Pond 6, water quality is expected to improve over time.

Staff are excited to see the project approaching construction after years of planning with USACE. This major investment in the Copper Cove wastewater system will provide long-term benefits through improved treatment reliability, expanded water reuse opportunities, and greater operational flexibility for the District.

In recent developments…Following completion of the 100% design, USACE prepared its own independent construction cost estimate, which is typically used internally by USACE. That estimate came in over 50% higher than the estimates prepared by CCWD and HydroScience Engineers. CCWD believes its estimate provides a reasonable understanding of current construction costs based on the District's recent experience designing and bidding the Arnold Wastewater Treatment Plant project, which included similar and, in some cases, more costly treatment plant improvements. The District's estimate also accounted for the additional administrative requirements associated with USACE-funded construction, including increased project management, supervision, quality assurance, and other contractor requirements. Staff are meeting with USACE to review their estimate at a high level, although USACE is unable to share all of the underlying cost information. If the USACE estimate ultimately controls the project budget, the $3.1 million in additional Section 219 funding may need to be incorporated into the Letter Report and Project Partnership Agreement (PPA) before USACE can advertise and award the Tertiary construction contract. This could affect the project schedule because the estimated construction cost, combined with funds already spent by USACE in Project Management, Environmental Studies and Reviews, would exceed the current $13 million project authorization.

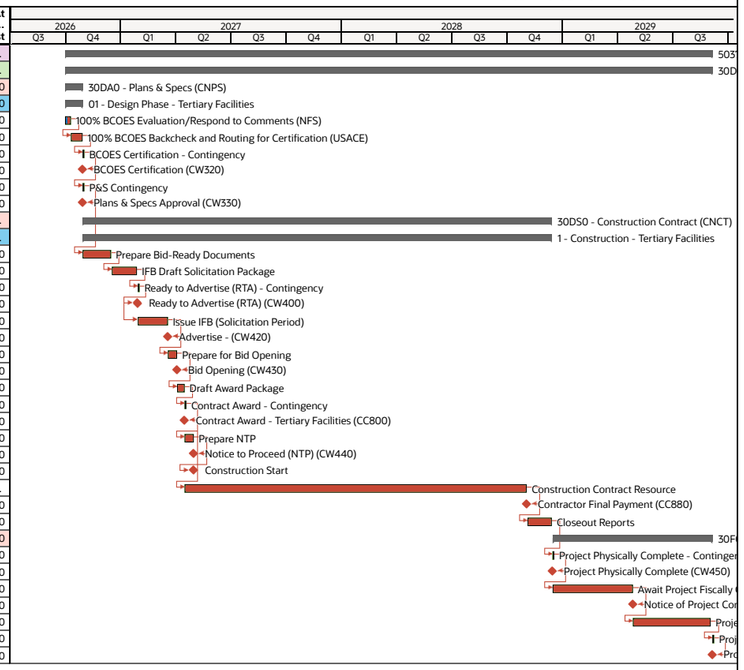
FINACIAL CONSIDERATION:

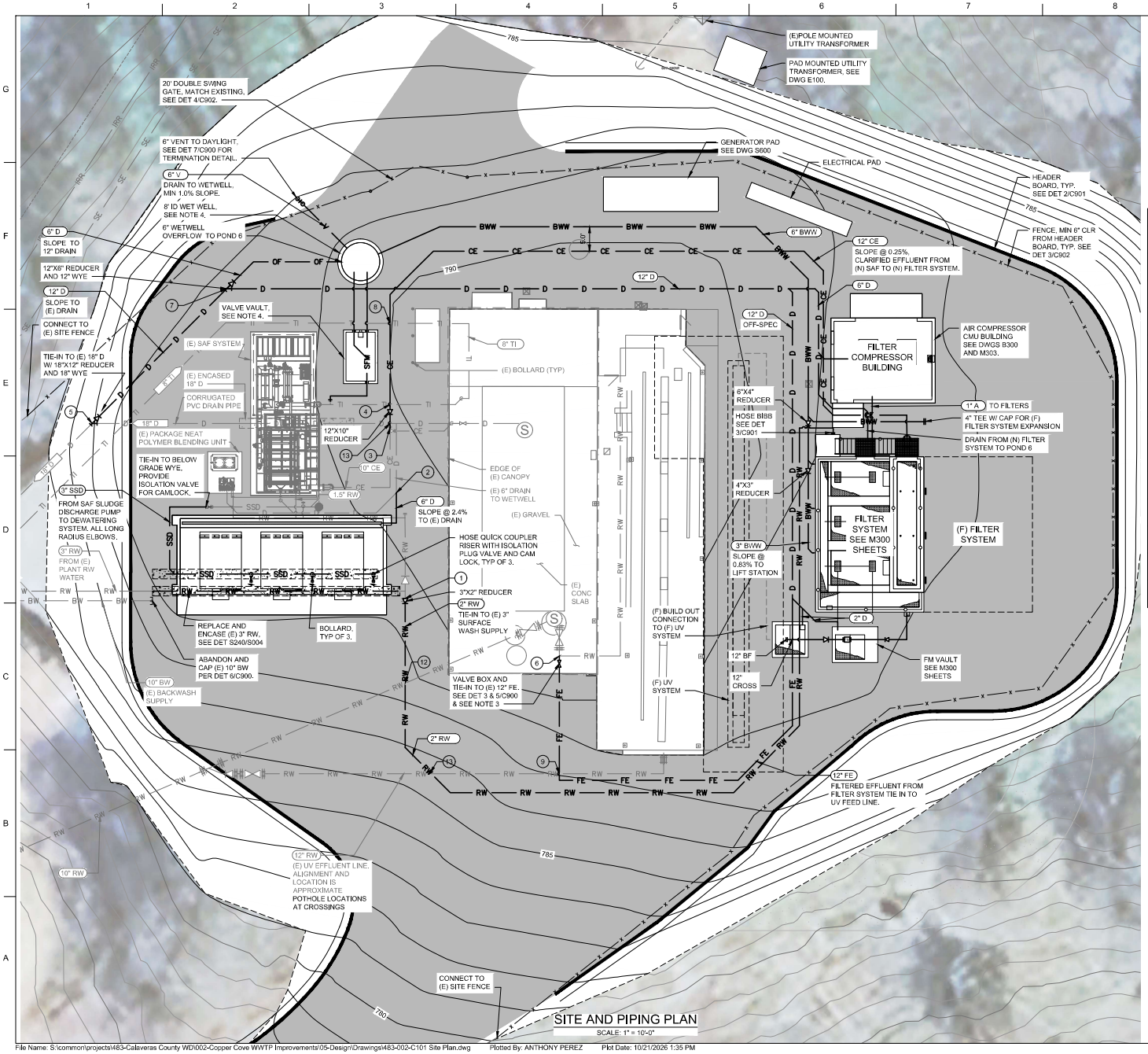
USACE Section 219 Funding for Construction.

503704 - CALAVERAS COUNTY, SECTION 219, CA

Data Date: 01-Oct-26 08:00

ID	CEFMS_Work_Ite...	Name	Remaining Duration	At Completion Duration	Start	Finish	Expected Finish	PMB Start	PMB Finish	ZZ - L0 Milestone - Civil Works	Milestone - Civil Works	Milestone - Construction	Actual Total Cost	At Completi... Total Cost
503704 - CALAVERAS COUNTY, SECTION 219, CA			731d	733d	29-Sep-26 08:00 A	04-Sep-29 08:00	08-Oct-26 17:00	07-Aug-26 08:00	20-Jun-30 17:00				$0.00	$10,600,...
30D00 - Construction E&D			731d	733d	29-Sep-26 08:00 A	04-Sep-29 08:00	08-Oct-26 17:00	07-Aug-26 08:00	20-Jun-30 17:00				$0.00	$10,600,...
30DA0 - Plans & Specs (CNPS)			18d	20d	29-Sep-26 08:00 A	28-Oct-26 08:00	08-Oct-26 17:00	07-Aug-26 08:00	30-Nov-26 17:00				$0.00	$0.00
01 - Design Phase - Tertiary Facilities			18d	20d	29-Sep-26 08:00 A	28-Oct-26 08:00	08-Oct-26 17:00	07-Aug-26 08:00	30-Nov-26 17:00				$0.00	$0.00
CNPSC120		100% BCOES Evaluation/Respond t...	6d	8d	29-Sep-26 08:00 A	08-Oct-26 17:00	08-Oct-26 17:00	07-Aug-26 08:00	20-Aug-26 17:00				$0.00	$0.00
CNPSC130		100% BCOES Backcheck and Routin...	12d	12d	09-Oct-26 08:00	27-Oct-26 17:00		21-Aug-26 08:00	02-Oct-26 17:00				$0.00	$0.00
CNPSC140		BCOES Certification - Contingency	0d	0d	28-Oct-26 08:00	28-Oct-26 08:00		05-Oct-26 08:00	13-Nov-26 17:00				$0.00	$0.00
CNPSC150		BCOES Certification (CW320)	0d	0d		28-Oct-26 08:00			13-Nov-26 17:00		CW320 - BCOE Review ...		$0.00	$0.00
CNPSC160		P&S Contingency	0d	0d	28-Oct-26 08:00	28-Oct-26 08:00		16-Nov-26 08:00	30-Nov-26 17:00				$0.00	$0.00
CNPSC200		Plans & Specs Approval (CW330)	0d	0d		28-Oct-26 08:00			30-Nov-26 17:00		CW330 - Plans & Specs...		$0.00	$0.00
30DS0 - Construction Contract (CNCT)			532d	532d	28-Oct-26 08:00	13-Dec-28 17:00		01-Dec-26 08:00	09-Apr-29 17:00				$0.00	$10,600,...
1 - Construction - Tertiary Facilities			532d	532d	28-Oct-26 08:00	13-Dec-28 17:00		01-Dec-26 08:00	09-Apr-29 17:00				$0.00	$10,600,...
CNCTC000		Prepare Bid-Ready Documents	32d	32d	28-Oct-26 08:00	14-Dec-26 17:00		01-Dec-26 08:00	10-Feb-27 17:00				$0.00	$0.00
CNCTC020		IFB Draft Solicitation Package	28d	28d	15-Dec-26 08:00	26-Jan-27 17:00		11-Feb-27 08:00	23-Mar-27 17:00				$0.00	$0.00
CNCTC030		Ready to Advertise (RTA) - Continge...	0d	0d	27-Jan-27 08:00	27-Jan-27 08:00		24-Mar-27 08:00	21-Apr-27 17:00				$0.00	$0.00
CNCTC040		Ready to Advertise (RTA) (CW400)	0d	0d	27-Jan-27 08:00			22-Apr-27 08:00			CW400 - RTA		$0.00	$0.00
CNCTC050		Issue IFB (Solicitation Period)	35d	35d	27-Jan-27 08:00	17-Mar-27 17:00		22-Apr-27 08:00	10-Jun-27 17:00				$0.00	$0.00
CNCTC060		Advertise - (CW420)	0d	0d		17-Mar-27 17:00			10-Jun-27 17:00		CW420 - Construction ...		$0.00	$0.00
CNCTC070		Prepare for Bid Opening	11d	11d	18-Mar-27 08:00	01-Apr-27 17:00		11-Jun-27 08:00	28-Jun-27 17:00				$0.00	$0.00
CNCTC080		Bid Opening (CW430)	0d	0d		01-Apr-27 17:00			28-Jun-27 17:00		CW430 - Bid Opening		$0.00	$0.00
CNCTC090		Draft Award Package	8d	8d	02-Apr-27 08:00	13-Apr-27 17:00		29-Jun-27 08:00	09-Jul-27 17:00				$0.00	$0.00
CNCTC100		Contract Award - Contingency	0d	0d	14-Apr-27 08:00	14-Apr-27 08:00		10-Jul-27 08:00	08-Aug-27 17:00				$0.00	$0.00
CNCTC105		Contract Award - Tertiary Facilities (...	0d	0d		14-Apr-27 08:00			08-Aug-27 17:00			CC800 - CC800 | Contr...	$0.00	$0.00
CNCTC110		Prepare NTP	15d	15d	14-Apr-27 08:00	28-Apr-27 17:00		09-Aug-27 08:00	23-Aug-27 17:00				$0.00	$0.00
CNCTC120		Notice to Proceed (NTP) (CW440)	0d	0d		28-Apr-27 17:00			23-Aug-27 17:00		CW440 - Construction ...		$0.00	$0.00
CNCTC130		Construction Start	0d	0d	29-Apr-27 08:00			24-Aug-27 08:00				CC815 - CC815 | Const...	$0.00	$0.00
CNCTC135		Construction Contract Resource	568d	568d	14-Apr-27 08:00	01-Nov-28 17:00		09-Aug-27 08:00	26-Feb-29 17:00				$0.00	$10,600,...
CNCTC240		Contractor Final Payment (CC880)	0d	0d		01-Nov-28 17:00			26-Feb-29 17:00			CC880 - CC880 | Contr...	$0.00	$0.00
CNCTC250		Closeout Reports	42d	42d	02-Nov-28 08:00	13-Dec-28 17:00		27-Feb-29 08:00	09-Apr-29 17:00				$0.00	$0.00
30F00 - Project Closeout			181d	181d	14-Dec-28 08:00	04-Sep-29 08:00		10-Apr-29 08:00	20-Jun-30 17:00				$0.00	$0.00
PMPCC000		Project Physically Complete - Contin...	0d	0d	14-Dec-28 08:00	14-Dec-28 08:00		10-Apr-29 08:00	21-May-29 17:00				$0.00	$0.00
PMPCC010		Project Physically Complete (CW450)	0d	0d		14-Dec-28 08:00			21-May-29 17:00		CW450 - Project Physic...		$0.00	$0.00
PMPCC015		Await Project Fiscally Complete	90d	90d	14-Dec-28 08:00	24-Apr-29 17:00		22-May-29 08:00	28-Sep-29 17:00				$0.00	$0.00
PMPCC020		Notice of Project Completion/Assum...	0d	0d		24-Apr-29 17:00			28-Sep-29 17:00		CW480 - Notice of Proj...		$0.00	$0.00
PMPCC025		Project Closeout Activity	90d	90d	25-Apr-29 08:00	31-Aug-29 17:00		01-Oct-29 08:00	11-Feb-30 17:00				$0.00	$0.00
PMPCC026		Project Fiscally Complete - Continge...	0d	0d	04-Sep-29 08:00	04-Sep-29 08:00		12-Feb-30 08:00	20-Jun-30 17:00				$0.00	$0.00
PMPCC030		Project Fiscally Complete (CW470)	0d	0d		04-Sep-29 08:00			20-Jun-30 17:00		CW470 - Project Fiscall...		$0.00	$0.00





SITE AND PIPING PLAN

SCALE: 1" = 10'-0"

0 10' 20'

PLAN NORTH

NOTES

1. ALL PRESSURIZED PIPING WITHIN SCOPE OF WORK SHALL BE FULLY RESTRAINED. REFER TO SHEET C102 AND SPECIFICATIONS FOR CONNECTOR TYPE.
2. LOCATIONS OF EXISTING PIPELINES ARE BASED UPON AS-BUILT RECORD DRAWINGS AND NOT CONFIRMED BY A PROFESSIONAL SURVEY OR POTHOLING. TO CONFIRM EACH UTILITIES HORIZONTAL AND VERTICAL POSITION, CONTRACTOR SHALL POTHOLE ACCORDINGLY TO CONFIRM ELEVATIONS AT EACH PLANNED UTILITY CROSSING AND TIE-IN.
3. PROVIDE THRUST BLOCKING AT ALL TIE-INS TO EXISTING PIPING PER DET 1/C900.
4. INSTALL TRAFFIC RATED LID AND ACCESS HATCH, SEE SHEET M400.
5. SEE DETAIL 4/C901 FOR PIPE CROSSING DETAIL.

PIPE INVERT ELEVATIONS

LOCATION	2" RW	6" D	12" DRAIN	18" DRAIN	12" FE	8" TI	12" CE	12" RW	10" RW
1	MATCH (E) RW IE	-	-	-	-	-	-	-	-
2	-	MATCH (E) D IE	-	-	-	-	-	-	-
3	-	-	-	-	-	-	784.17	-	-
4	-	-	-	-	-	-	784.16	-	-
5	-	-	MATCH (E) D IE	POTHOLE REQ'D	-	-	-	-	-
6	-	-	-	-	MATCH (E) EL	-	-	-	-
7	-	MATCH (E) D IE	-	-	-	-	-	-	-
8	-		-	-	-	POTHOLE REQ'D	784.12	-	-
9	-	-	-	-	-	-	-	POTHOLE REQ'D	-
10	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-		-	POTHOLE REQ'D
13	-	-	-	-	-	-	-	POTHOLE REQ'D	-

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: OCTOBER 2026
SPEC NO.: 25580
DRAWING FILE NO.: 34-25-0026
PROJECT NO.: 483-002

DESIGNED BY: JDB
DRAWN BY: JDB/CAB/P
CHECKED BY: WJS
SUBMITTED BY: WJS
NAVD88
ANSI D

U.S. ARMY CORPS OF ENGINEERS
CALAVERAS COUNTY WATER DISTRICT
891 MOUNTAIN RANCH ROAD
SAN ANDREAS, CA 95249

HydroScience
10569 OLD PLACERVILLE RD
SACRAMENTO, CA 95827 (916)364-1490

COPPER COVE
WASTEWATER TREATMENT PLANT
IMPROVEMENTS (SECTION 219)

SITE AND PIPING PLAN

SHEET ID
C101

File Name: S:\common\projects\483-Calaveras County WD\002-Copper Cove WWTP Improvements\05-Design\Drawings\483-002-C101 Site Plan.dwg Plotted By: ANTHONY PEREZ Plot Date: 10/21/2026 1:35 PM

100% SUBMITTAL - OCTOBER 2026

Agenda Item

4b



AGENDA ITEM 4B

SUBJECT: COMPLETION OF ELECTRICAL DESIGN STANDARDS.

SUMMARY:

Engineering Staff has completed the development of CCWD's Electrical Design Standards in coordination with A.T.E.E.M. and District Electrical Staff. The standards include standardized drawings and specifications for common District infrastructure, including pump stations, lift stations, and other electrical facilities. Following a review meeting with Electrical Staff, all comments were incorporated into the final standards package. Copies of the standards have been included in the Engineering Committee agenda package for review and discussion.

The standards will improve consistency across District projects, simplify the design process for consultants and developers, and establish uniform requirements for electrical equipment, installation, testing, and commissioning. On the recommendation of ATEEM, staff anticipates providing these standards directly to consultants, developers, and designers for projects involving CCWD infrastructure rather than incorporating them into the District's publicly published Design and Construction Standards. Electronic AutoCAD versions of the standard details can also be made available so they can be utilized in development of project specific drawings or standard plan sheet can be attached to the project drawings similar to other standard drawings.

Following completion of the Electrical Design Standards, Staff would like to begin updating the District's Water and Sewer Standards and Standard Drawings. Potential updates include standardized designs for pump stations and lift stations, incorporation of materials and equipment currently being utilized on District CIP projects, updated backflow prevention requirements, revised utility separation criteria, and pavement restoration requirements that are consistent with current County standards. This effort would continue the District's goal of modernizing and standardizing its design and construction requirements.

Recommendation: Receive the update and provide comments or direction regarding implementation of the Electrical Design Standards and future updates to the District's Water and Sewer Standards.

FINACIAL CONSIDERATION:

These standards should help streamline design and Electrical Engineer review time. Engineering Department Budget includes funds to update these standards.

MISCELLANEOUS ELECTRICAL & INSTRUMENTATION ABBREVIATIONS

&	AND	HOA	HAND-OFF-AUTO	PRESS	PRESSURE
@	AT	HOR	HAND-OFF-REMOTE	PRI	PRIMARY
A	AMBER, AMPERES	HP	HORSEPOWER	PROVIDE	FURNISH, INSTALL & CONNECT
AC	ALTERNATING CURRENT	HPS	HIGH PRESSURE SODIUM	PRR	POWER RELAY
AF	AMP FRAME	HS	HAND SWITCH	PS	PRESSURE SWITCH, POWER SUPPLY
AFF	ABOVE FINISHED FLOOR	HTR	HEATER	PT	POTENTIAL TRANSFORMER
AI	ANALOG INPUT	HZ	HERTZ (CYCLES PER SECOND)	PTT	PUSH TO TEST
AIC	AMP INTERRUPTING CAPACITY SYMMETRICAL	HZD	HAZARDOUS AREA, EXPLOSION PROOF	PV	PROCESS VARIABLE
AL	RIGID ALUMINUM CONDUIT	I	INTERLOCK	PVC	POLY VINYL CHLORIDE
ALT	ALTERNATOR	I/O	INPUT/OUTPUT	PWR	POWER
AM	AMMETER	ICR	INSTRUMENTATION CONTROL RELAY	R	RED
ARMS	ARC FLASH REDUCTION MAINTENANCE SYS	INST	INSTANTANEOUS	RCT	REPEAT CYCLE TIMER
ARV	AIR RELEASE VALVE	ISC	SHORT CKT INTERRUPTING CURRENT (SYMM)	REF	REFERENCE
AO	ANALOG OUTPUT	ISR	INTRINSICALLY SAFE RELAY	RIO	REMOTE I/O
AT	AMP TRIP	J	JUNCTION BOX	RTD	RESISTANCE TEMPERATURE DETECTOR
ATS	AUTOMATIC TRANSFER SWITCH	K	KILO, PREFIX	RTM	RUN TIME METER
AWG	AMERICAN WIRE GUAGE	KAIC	KILO-AMPERE INTERRUPTING CAPACITY	RTU	REMOTE TELEMETRY UNIT
B	BLUE	L	LINE	RVNR	REDUCED VOLTAGE NON-REVERSING
BC	BARE COPPER	LA	LIGHTNING ARRESTOR	(R)	REWIRE, RELOCATE, REVISE, REUSE, REPLACE
BFC	BELOW FINISHED CEILING	LC	LIGHTING CONTACTOR	SC	SHORTING CONTACTOR
BOD	BIOCHEMICAL OXYGEN DEMAND	LCD	LIQUID CRYSTAL DISPLAY	SCH	SCHEDULE
BLK	BLANK	LED	LIGHT EMITTING DIODE	SEC	SECONDARY
BKR	BREAKER	LEL	LOWER EXPLOSIVE LIMIT	SECS	SECONDS
C	CONDUIT	LGT	LIGHT	SEL	SELECTOR
CAP	CAPACITOR	LO	LOW	SFA	SERVICE FACTOR AMPS
CB	CIRCUIT BREAKER	LOR	LOCAL-OFF-REMOTE	SP	SETPOINT
CBL	CABLE	LOS	LOCK-OUT STOP SWITCH	SPD	SURGE PROTECTIVE DEVICE
CH	CHANNEL	LP	LIGHTING PANELBOARD	SPEC	SPECIFICATION
CKT	CIRCUIT	LPU	LINE PROTECTION UNIT	SS	STAINLESS STEEL
COAX	COAXIAL CABLE	LS	LEVEL SWITCH	SSS	SOLID STATE SOFT STARTER
COMM	COMMUNICATION PORT	LSI	LONG, SHORT, INSTANTANOUS	STT	START
CP	CONTROL PANEL	M	MOTOR CONTRACTOR	STP	STOP
CPT	CONTROL POWER TRANSFORMER	MAX	MAXIMUM	SV	SOLENOID VALVE
CR	CONTROL RELAY	MCC	MOTOR CONTROL CENTER	SW	SWITCH
CT	CURRENT TRANSFORMER	MCM	THOUSAND CIRCULAR MILS	SWBD	SWITCHBOARD
CTQ	CONSTANT TORQUE	MCP	MOTOR CIRCUIT PROTECTOR	SWGR	SWITCHGEAR
CU	COPPER, CONDENSING UNIT	MH	MANHOLE	SYMM	SYMMETRICAL
DC	DIRECT CURRENT	MHD	METAL HALIDE	T	TRIP
DET	DETAIL	MIN	MINIMUM	TB	TERMINAL BLOCK
DI	DIGITAL INPUT	MINS	MINUTES	TC	TIME CLOCK
DIA	DIAGRAM	MISC	MISCELLANEOUS	TDOD	TIME DELAY ON DE-ENERGIZATION
DISC	DISCONNECT	MMS	METER/MAIN SWITCHBOARD	TDOE	TIME DELAY ON ENERGIZATION
DIV	DIVISION	MNFR	MANUFACTURER	TEL	TELEMETRY
DO	DIGITAL OUTPUT	MOV	MOTOR OPERATED VALVE	TELCO	TELEPHONE COMPANY
DPDT	DOUBLE POLE DOUBLE THROW	MPS	MOTOR PROTECTION SYSTEM	TEMP	TEMPERATURE
DWG	DRAWING	MS	MOISTURE SENSOR/SWITCH	TM	THERMAL MAGNETIC
EF	EXHAUST FAN	MTR	MOTOR	TOC	TOTAL ORGANIC CARBON
ELEV	ELEVATION	MTS	MANUAL TRANSFER SWITCH	TR	TIME DELAY RELAY
EMT	ELECTRICAL METALLIC TUBING	MV	MEDIUM VOLTAGE	TRIAD	TWISTED & SHIELDED 3 CONDUCTOR
ETM	ELAPSED TIME METER	N	NEUTRAL	TS	TEMPERATURE SWITCH
(E)	EXISTING	NC	NORMALLY CLOSED	TSPR	TWISTED & SHIELDED PAIR
F	FRAME	NEC	NATIONAL ELECTRICAL CODE	TYP	TYPICAL
FC	FAIL CLOSED, FAN COIL	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	UG	UNDERGROUND
FCS	FIELD CONTROL STATION	NIC	NOT IN CONTRACT	UL	UNDERWRITERS LABORATORIES
FCU	FAN CONTROL UNIT	NO	NORMALLY OPEN	UON	UNLESS OTHERWISE NOTED
FLA	FULL LOAD AMPS	NP	NAMEPLATE	UPS	UNINTERRUPTIBLE POWER SUPPLIES
FO	FAIL OPEN	NTS	NOT TO SCALE	V	VOLTAGE
FLEX	FLEXIBLE, METAL LIQUID TIGHT CONDUIT	(N)	NEW	VA	VOLT AMPS
FROA	FORWARD-REVERSE-OFF-AUTO	OC	ON CENTER	VAR	VOLT AMP REACTIVE
FS	FLOW SWITCH OR FULL SPEED	OI	OPERATOR INTERFACE	VFD	VARIABLE FREQUENCY DRIVE
FV, FVNR	FULL VOLTAGE NON-REVERSING	OL	OVERLOAD	VLV	VALVE
FWD	FORWARD	ORP	OXIDATION REDUCTION POTENTIAL	VM	VOLTMETER
(F)	FUTURE	P	PHASE, POLE	VTQ	VARIABLE TORQUE
G	GREEN	PB	PULL BOX	W	WHITE, WATTS
GALV	GALVANIZED	PBI	PULL BOX INSTRUMENT	WHM	WATT-HOUR METER
GEN	GENERATOR	PBP	PULL BOX POWER	WM	WATTMETER
GFI	GROUND FAULT CIRCUIT INTERRUPTER	PE	PHOTOCELL	WP	WATERPROOF, WEATHER PROOF
GND	GROUND	PF	POWER FAIL	WS	TORQUE SWITCH, WATER SURFACE
GRS	GALVANIZED RIGID STEEL CONDUIT	PFR	POWER (PHASE) FAIL RELAY	XFMR	TRANSFORMER
GRS-PVC	PVC COATED GRS CONDUIT	PH	HYDROGEN ION CONCENTRATION	XS	MISCELLANEOUS SWITCH
HACR	HEATING AIR CONDITIONING AND REFRIGERATION	PLC	PROGRAMMABLE LOGIC CONTROLLER	Y	YELLOW
HC	PUSHBUTTON	PM	POWER MONITOR	Z	IMPEDANCE
HI	HIGH	PMP	PUMP	ZS	LIMIT SWITCH
HID	HIGH INTENSITY DISCHARGE	PNL	PANEL		
HMI	HUMAN MACHINE INTERFACE	PR	PAIR, TWISTED & SHIELDED CABLE		

SWITCHES – PROCESS

SYMBOL	DESCRIPTION
FS	FLOW SWITCH – CLOSES UPON INCREASING FLOW
FS	FLOW SWITCH – OPENS UPON INCREASING FLOW
LS	LEVEL SWITCH – CLOSES UPON INCREASING LEVEL
LS	LEVEL SWITCH – OPENS UPON INCREASING LEVEL
PS	PRESSURE SWITCH – CLOSES UPON INCREASING PRESSURE (INCREASING VACUUM)
PS	PRESSURE SWITCH – OPENS UPON INCREASING PRESSURE (INCREASING VACUUM)
TS	TEMPERATURE SWITCH – CLOSES UPON INCREASING TEMPERATURE
TS	TEMPERATURE SWITCH – OPENS UPON INCREASING TEMPERATURE
ZS	LIMIT SWITCH – CLOSES AT SET LIMIT
ZS	LIMIT SWITCH – OPENS AT SET LIMIT
WS	TORQUE SWITCH – CLOSES UPON INCREASING TORQUE
WS	TORQUE SWITCH – OPENS UPON INCREASING TORQUE

SWITCHES – OPERATOR

SYMBOL	DESCRIPTION
SW	TOGGLE OR DISCONNECT SWITCH
PB	PUSHBUTTON – NORMALLY OPEN, MOMENTARY ACTION
PB	PUSHBUTTON – NORMALLY CLOSED, MOMENTARY ACTION
PB	PUSHBUTTON, MECHANICALLY INTERLOCKED, DOUBLE CIRCUIT – NORMALLY CLOSED AND NORMALLY OPEN, MAINTAINED ACTION
H O A	SELECTOR SWITCH, 3 POSITION – CONTACT STATUS SHOWN EXISTS AT POSITION OF H–HAND, O–OFF, OR A–AUTO
2–1 1–2	SELECTOR SWITCH, 2 POSITION – CONTACT STATUS SHOWN EXISTS AT POSITION AS SHOWN

DEVICES – RELAY

SYMBOL	DESCRIPTION
CR 1 28, 111	CONTROL RELAY CR1 WITH NORMALLY OPEN CONTACT ON LINE 28 & NORMALLY CLOSED CONTACT ON LINE 111
TR 1	TIME DELAY RELAY TR2 – ADJUSTABLE TIME DELAY RANGE & SETTING AS SHOWN
TDOE TDOD	TIME DELAY ON ENERGIZATION TIME DELAY ON DE–ENERGIZATION
M1	CONTACTOR OR STARTER M1
SV	SOLENOID
CR1 (105)	NORMALLY OPEN, RELAY CONTACT – ACTUATED BY RELAY CR1 COIL LOCATED ON LINE 105
CR1	NORMALLY CLOSED, RELAY CONTACT – ACTUATED BY RELAY CR1
TR2	NORMALLY OPEN, TIME DELAY RELAY CONTACT – CONTACT CLOSES AFTER TR2 IS ENERGIZED
TR2	NORMALLY CLOSED, TIME DELAY RELAY CONTACT – CONTACT OPENS AFTER TR2 IS ENERGIZED
TR2	NORMALLY OPEN, TIME DELAY RELAY CONTACT – CONTACT OPENS AFTER TR2 IS DE–ENERGIZED
TR2	NORMALLY CLOSED, TIME DELAY RELAY CONTACT – CONTACT CLOSES AFTER TR2 IS DE–ENERGIZED
TR2	CONTACT OPENS AND CLOSES IN A TIMED REPEAT CYCLE

DEVICES – FRONT PANEL

SYMBOL	DESCRIPTION
X	INDICATING LIGHT, LETTER "X" INDICATES COLOR: R=RED G=GREEN, A=AMBER, W=WHITE Y=YELLOW, B=BLUE
PTT X	INDICATING LIGHT, PUSH TO TEST
AMP	AMP METER
VM	VOLT METER
ETM	ELAPSED TIME METER
RTM	RUN TIME METER
XS	MULTI–POSITION SWITCH WHERE LETTER "X" IS FUNCTION: A=AMP, V=VOLT

DEVICES – MISCELLANEOUS

SYMBOL	DESCRIPTION
	AUDIBLE ALARM
TG	TACHOMETER GENERATOR
+	BATTERY
HTR	HEATER
# HP	3 PHASE MOTOR # = MOTOR HP
# HP	SINGLE PHASE MOTOR
	TRANSFORMER
	LINE REACTOR

DEVICES – PROTECTIVE

SYMBOL	DESCRIPTION
	DISCONNECT, 3 POLE
	CIRCUIT BREAKER, 3 POLE THERMAL MAGNETIC (TM) OR MOTOR CIRCUIT PROTECT (MCP)
OL	THERMAL OVERLOAD CONTACT
	THERMAL OVERLOAD ELEMENT
	FUSE WITH BLOWN FUSE INDICATING LIGHT
	FUSE
	FUSED DISCONNECT

WIRING – CONNECTIONS

SYMBOL	DESCRIPTION
	PANEL OR EQUIPMENT WIRING
	FIELD WIRING
	CONDUCTORS – NOT CONNECTED
	CONDUCTORS – CONNECTED
	GROUND
	CHASSIS OR FRAME GROUND
	PLUG AND RECEPTACLE
	INCOMING LINE
	TERMINAL BLOCKS
	TERMINALS
SHIELD CONDUCTOR	SHIELDED CABLE

PLAN – SYMBOLS

SYMBOL	DESCRIPTION
	CONDUIT, EXPOSED
	CONDUIT, IN SLAB OR BELOW GRADE
	CONDUIT STUBBED OUT & CAPPED
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT ENDS
	CONDUIT CHANGE IN ELEVATION
G	BARE COPPER GROUND WIRE
	GROUND CONNECTION BOLTED TYPE
	GROUND CONNECTION EXOTHERMIC WELD TYPE
	DISCONNECT SWITCH
	FIELD CONTROL STATION WITH JUNCTION BOX
#A	FIELD CONTROL STATION WITH #AMP DISCONNECT SWITCH
	FIELD MOUNTED DEVICE
	SPECIAL RECEPTACLE
J	JUNCTION BOX
T	THERMOSTAT
A a #	LIGHTING, FANS, HEATERS # – CIRCUIT BREAKER NUMBER A – FIXTURE SCHEDULE REF. a – CONTROL SWITCH REFERENCE
	EMERGENCY LIGHT
#	DUPLEX RECEPTACLE # – CIRCUIT BREAKER NUMBER
a #$2	TOGGLE SWITCH # – CIRCUIT BREAKER NUMBER SUBSCRIPT – CIRCUIT CONTROLLED SUPERSCRIPT – BLANK = 1 POLE 2 = 2 POLE 3 = 3 WAY
#	CONDUIT #
	CAMERA

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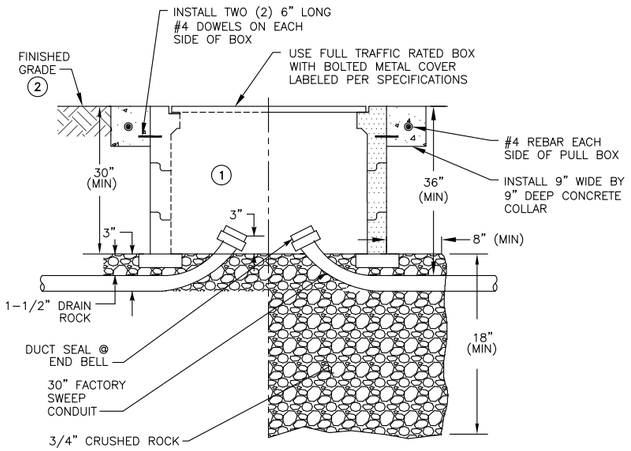
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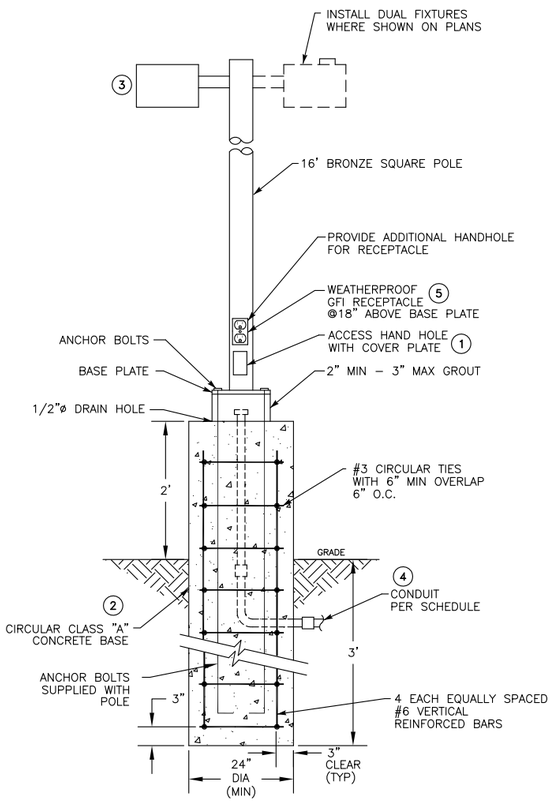
ELECTRICAL SYMBOLS & ABBREVIATIONS

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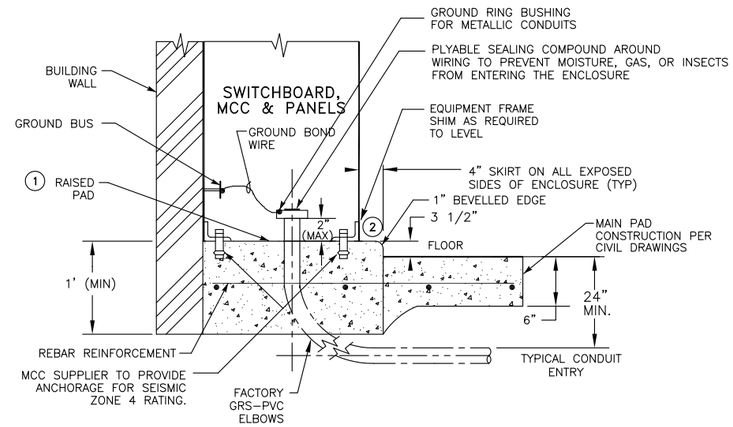
PULL BOX DETAIL — NOT TO SCALE — A / E2

NOTES:
1. TRAFFIC RATED CHRISTY B2436 OR EQUAL, MINIMUM BOX SIZE. PROVIDE LARGER AT NO ADDTIONAL COST TO OWNER.
2. ADD EXTENSIONS WHERE NECESSARY TO RAISE COVER TO FINISHED GRADE.



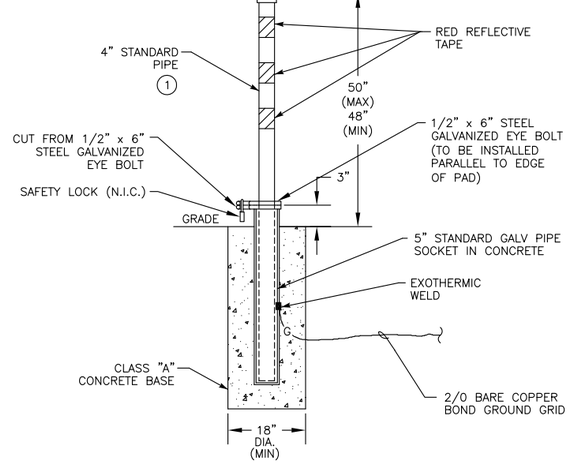
AREA LIGHT DETAIL — NOT TO SCALE — B / E2 — 3

NOTES:
1. PROVIDE 2 POLE FUSE HOLDER WITH FUSES & RUBBER BOOTS ON LIGHT WIRING FEED INSIDE HANDHOLE.
2. PLACE FINISH CONCRETE ON EXPOSED SURFACE AFTER FORMING TUBE IS REMOVED.
3. LIGHT CONTROLLED BY REMOTE MOUNTED RECEPTACLE TYPE PHOTOCELL.
4. ROUTE CONDUITS TO 11" x 17" LIGHTING PULL BOX WHEN USING MULTIPLE AREA LIGHTS IN SERIES.
5. PROVIDE PADLOCKABLE METAL IN-USE COVER.



EQUIPMENT CONCRETE PAD DETAIL — NOT TO SCALE — C / E2 — 3

NOTES:
1. CONCRETE PAD ABOVE FLOOR TO BE POURED AFTER MAIN PAD HAD BEEN POURED. PAD ABOVE FLOOR TO BE FINE CONCRETE COMPOSITION ACCURATELY LEVELED WITHIN 1/16 INCH.
2. ALL ENCLOSURES INSTALLED IN NEMA 4X AREAS TO HAVE BEAD OF SILICON AROUND ALL BOTTOM EDGES TO SEAL OUT WATER.
3. CONDUIT TRANSITIONS PER DWG E3, DETAIL "G".



REMOVABLE GUARD POLE DETAIL — NOT TO SCALE — D / E2

NOTE:
1. GUARD POSTS SHALL BE PAINTED YELLOW TO PREVENT CORROSION.
2. PER UTILITY STANDARD.

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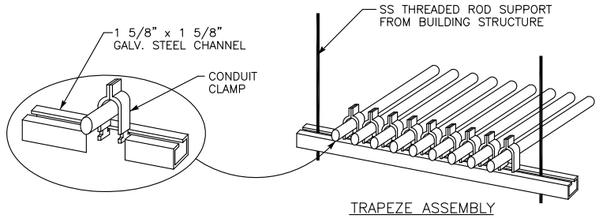
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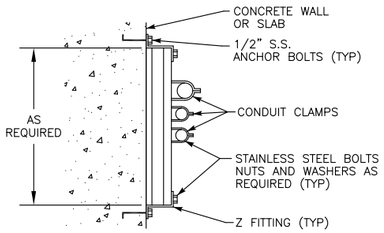
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TYPICAL ELECTRICAL DETAILS NO.1

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TRAPEZE ASSEMBLY

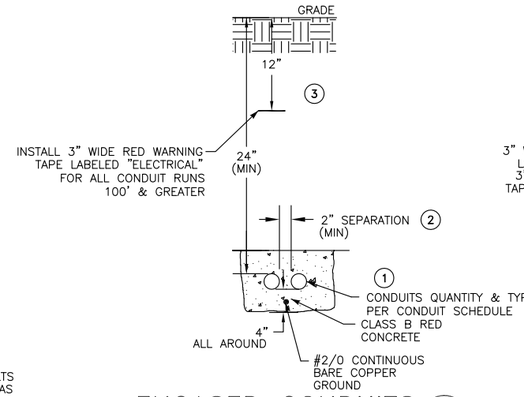


CONDUIT SUPPORT

CONDUIT PIPE STRAP MOUNTING DETAIL

NOT TO SCALE — A / E3

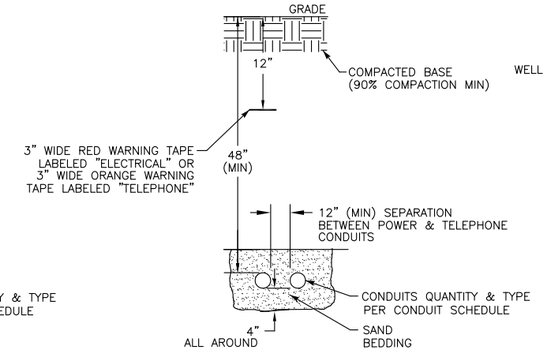
NOTES:
1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. CHANNEL AND ALL SUPPORT DEVICES TO BE NEMA RATED PER AREA CLASSIFICATION. FIELD COAT ALL CUTS, ETC. TO MATCH.
3. CHANNELS TO BE SPACED 5' MAXIMUM.



ENCASED CONDUITS DETAIL

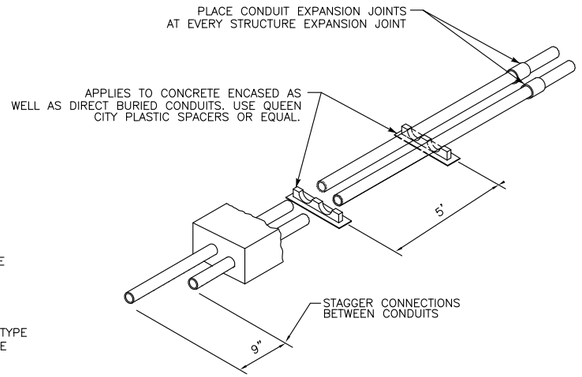
NOT TO SCALE — B / E3

NOTES:
1. PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
2. PROVIDE 12" (MIN) SEPERATION BETWEEN "A, C, D & M" TYPE GROUP AND "E, L & P" TYPE GROUP CONDUITS.
3. TRENCHING & COMPACTED BACKFILL PER SPECIFICATIONS.



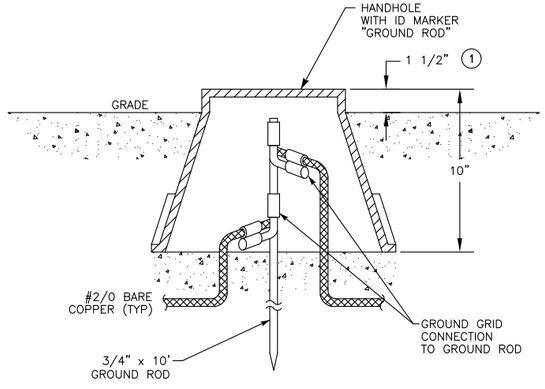
UTILITY CONDUITS DETAIL

NOT TO SCALE — C / E3



SPACERS AND JOINTS INSTALLATION DETAIL

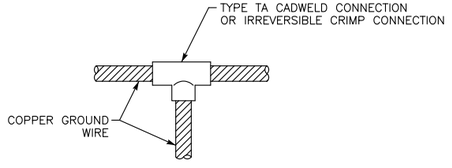
NOT TO SCALE — D / E3



HANDHOLE GROUNDING DETAIL

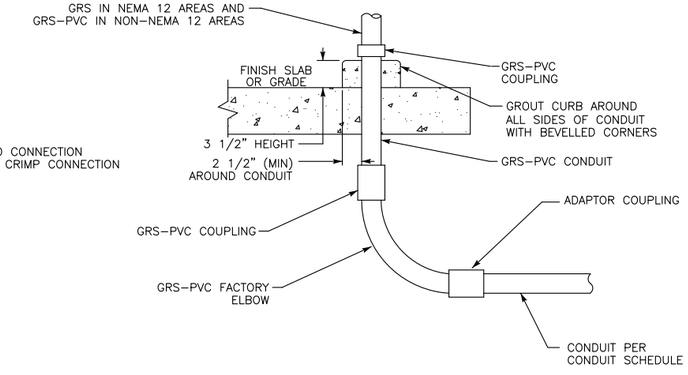
NOT TO SCALE — E / E3

NOTES: 1. FLUSH IN PAVED AREAS.



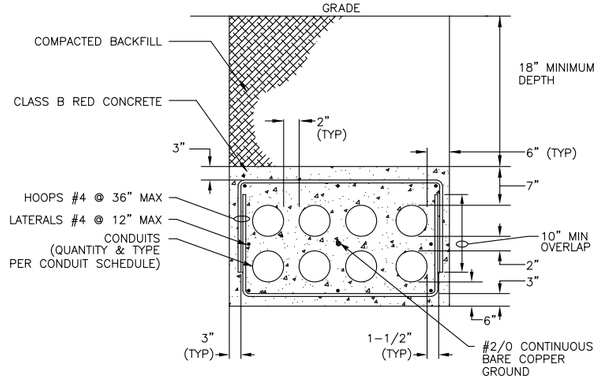
GROUND CABLE CONNECTION DETAIL

NOT TO SCALE — F / E3



EXPOSED CONDUIT TRANSITION DETAIL

NOT TO SCALE — G / E3



DUCT BANK DETAIL

NOT TO SCALE — H / E3

NOTES:
1. PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
2. PROVIDE 12" (MIN) SEPERATION BETWEEN "A, C, D & M" TYPE GROUP AND "E, L & P" TYPE GROUP CONDUITS.
3. TRENCHING & COMPACTED BACKFILL PER SPECIFICATIONS.

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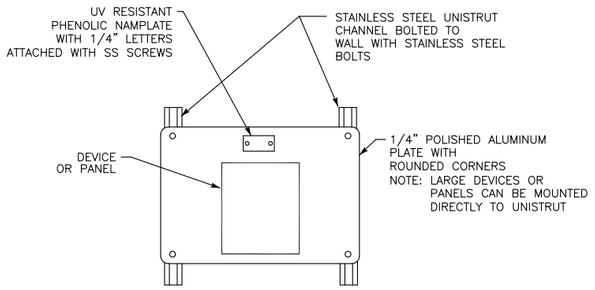
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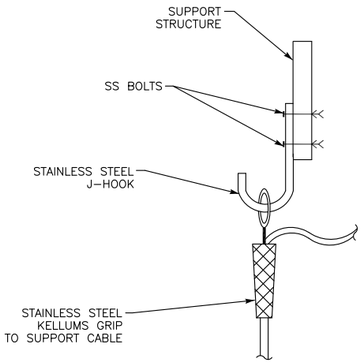
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TYPICAL ELECTRICAL
DETAILS NO.2

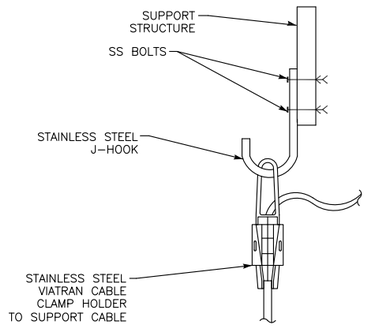
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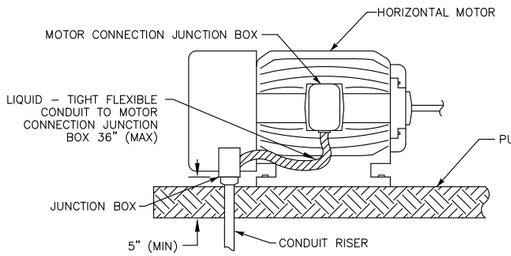
WALL PLATE SUPPORT (A / E4)
NOT TO SCALE DETAIL



PUMP CABLE SUPPORT (B / E4)
NOT TO SCALE DETAIL

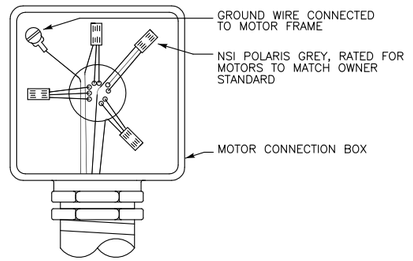


INSTRUMENTATION CABLE SUPPORT (C / E4)
NOT TO SCALE DETAIL

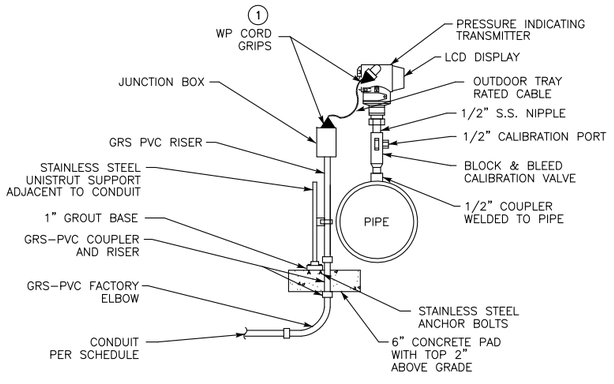


HORIZONTAL MOTOR CONNECTION (D / E4)
NOT TO SCALE DETAIL

NOTES: (1) MAKEUP MOTOR LEADS PER DWG E16, DETAIL "E".

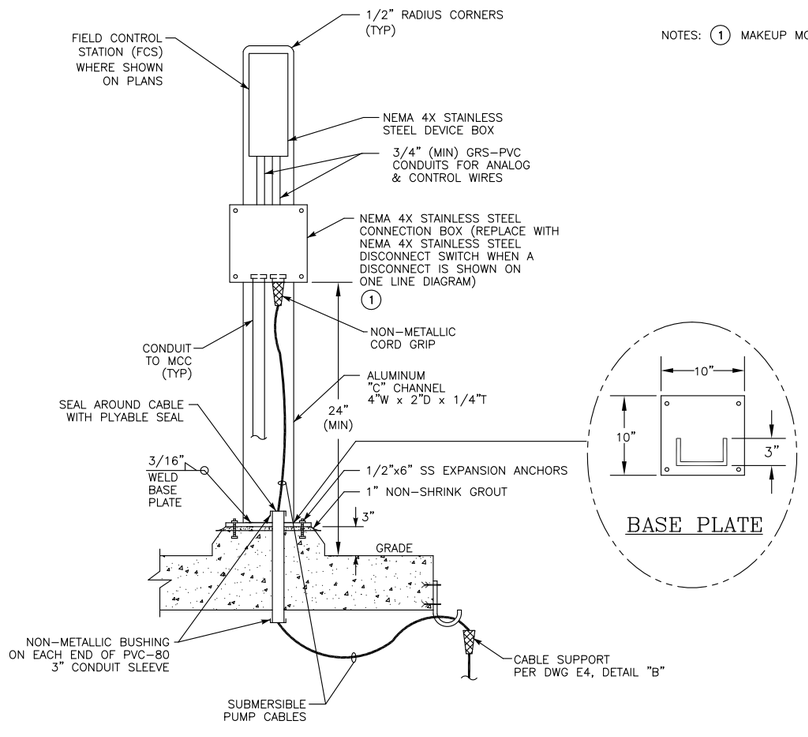


MOTOR MAKE–UP (E / E4)
NOT TO SCALE DETAIL



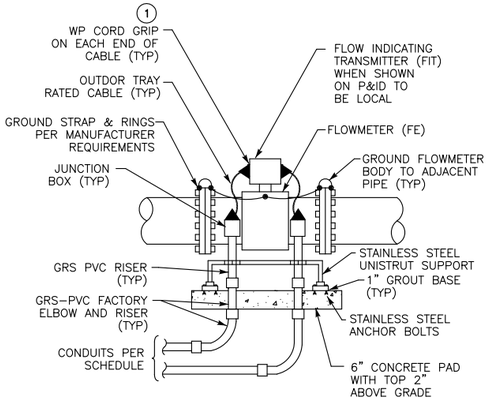
PRESSURE TRANSMITTER (F / E4)
NOT TO SCALE DETAIL

NOTES: (1) USE METALLIC FLEX CONDUIT OUTSIDE.



PUMP CABLE ISOLATION (G / E4)
NOT TO SCALE DETAIL

NOTES: (1) PLACE SS TRANSITION BOX BELOW DISCONNECT IF DISCONNECT SWITCH DOES NOT HAVE ENTRY AREA FOR ALL CONDUITS.



ABOVE GROUND FLOWMETER (H / E4)
NOT TO SCALE DETAIL

NOTES: (1) USE METALLIC FLEX CONDUIT OUTSIDE.

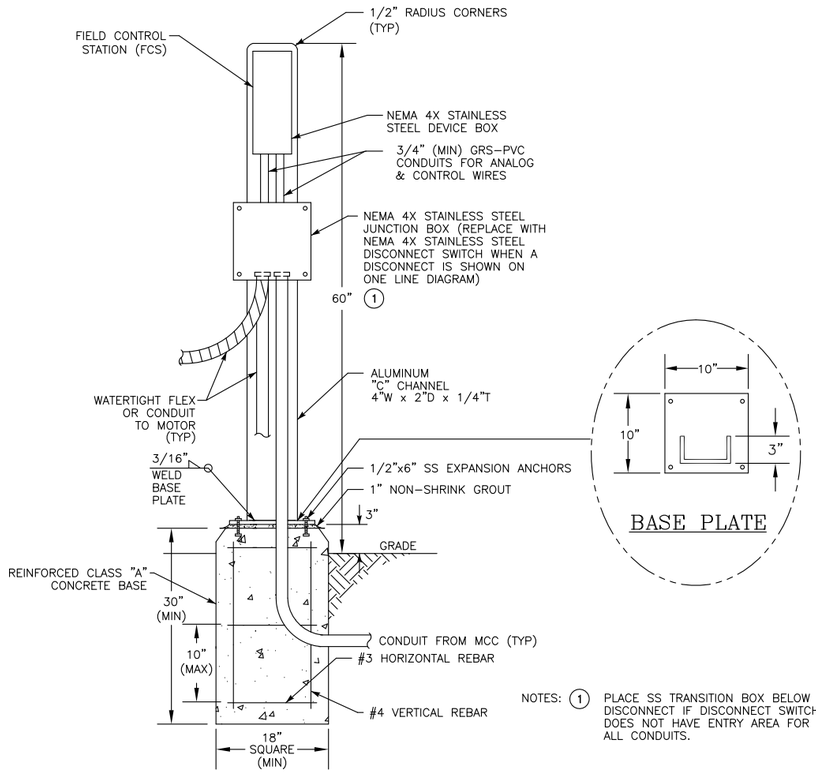
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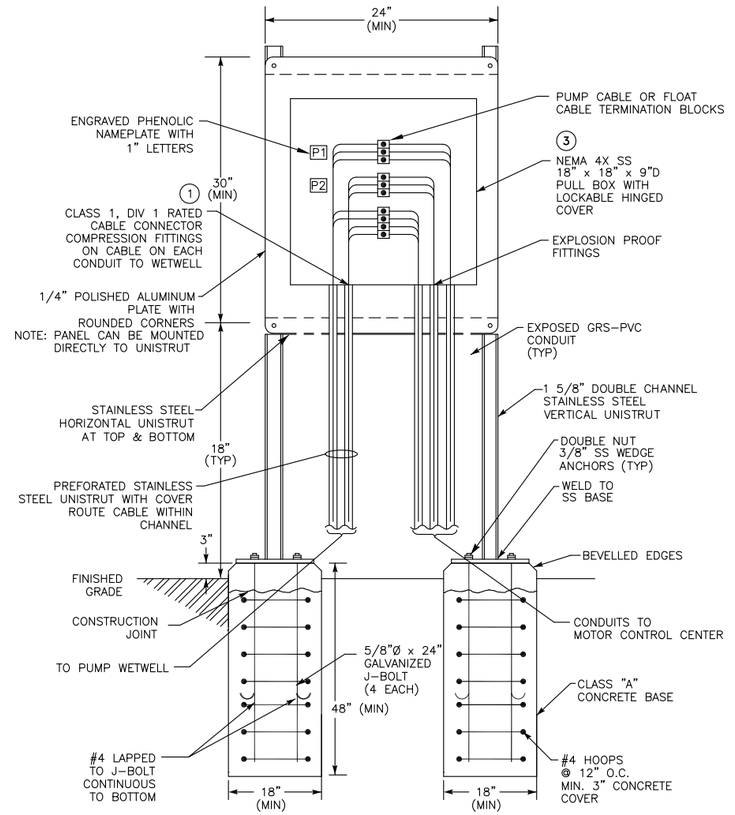
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TYPICAL ELECTRICAL DETAILS NO.3

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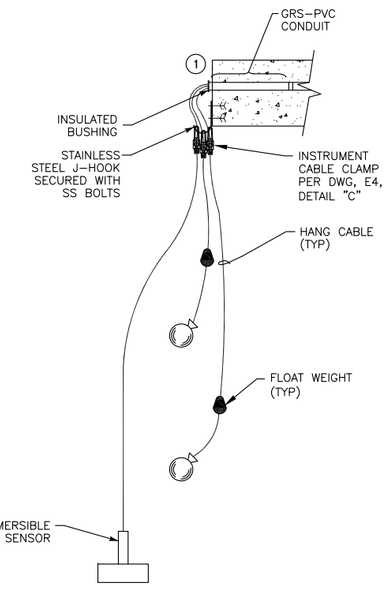


FCS FREESTANDING DETAIL (A / E5)
NOT TO SCALE



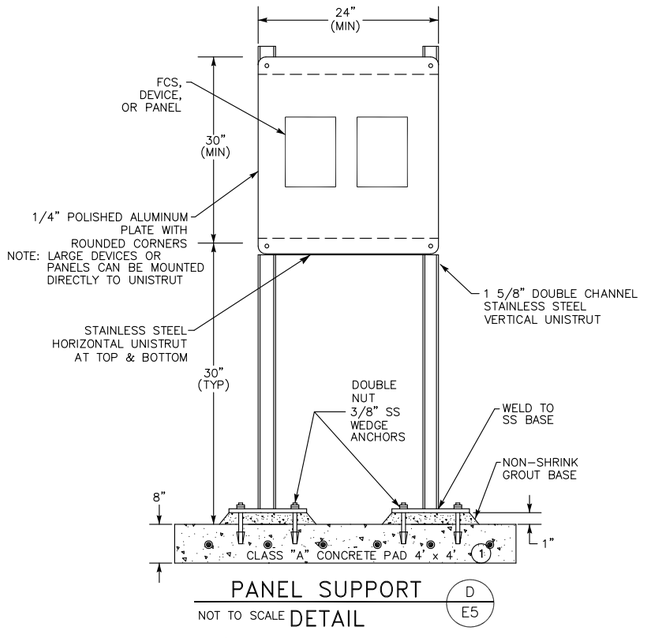
PUMP CABLE BOX DETAIL (B / E5) (2)
NOT TO SCALE

NOTES:
(1) HUBBELL CORROSSION – RESISTANT STRAIGHT NYLON CONNECTORS, MODEL SHC SERIES.
(2) SECURE TO BUILDING OR HANDRAIL AS SHOWN ON SITE PLANS.
(3) PUMP CABLE BOX SHALL HAVE ENGRAVED NAMEPLATE ON PANEL EXTERIOR STATING VOLTAGE, PHASE AND "PUMP CABLE BOX".



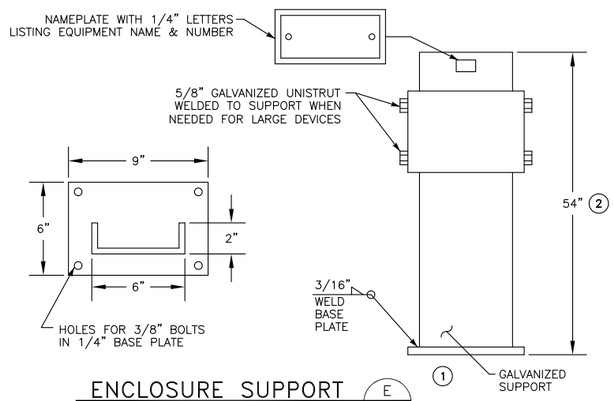
LEVEL SWITCH & TRANSMITTER CABLE DETAIL (C / E5)
NOT TO SCALE

NOTE: (1) CONDUIT TO ENTER THROUGH SIDE OF WETWELL ACCESS OPENNING.



PANEL SUPPORT DETAIL (D / E5)
NOT TO SCALE

NOTES: (1) #3 REBAR CROSSWAYS AT 12" INTERVALS INSIDE PAD.



ENCLOSURE SUPPORT DETAIL (E / E5)
NOT TO SCALE

NOTES:
(1) PLACE SUPPORT ON CLASS "A" CONCRETE BASE MIN 24" IN DEPTH WITH #3 REBAR CROSSWAYS AT TOP & BOTTOM. TOP OF BASE TO BE 3" ABOVE GRADE.
(2) HEIGHT MAY BE REDUCED FOR EQUIPMENT MOUNTED LOWER.

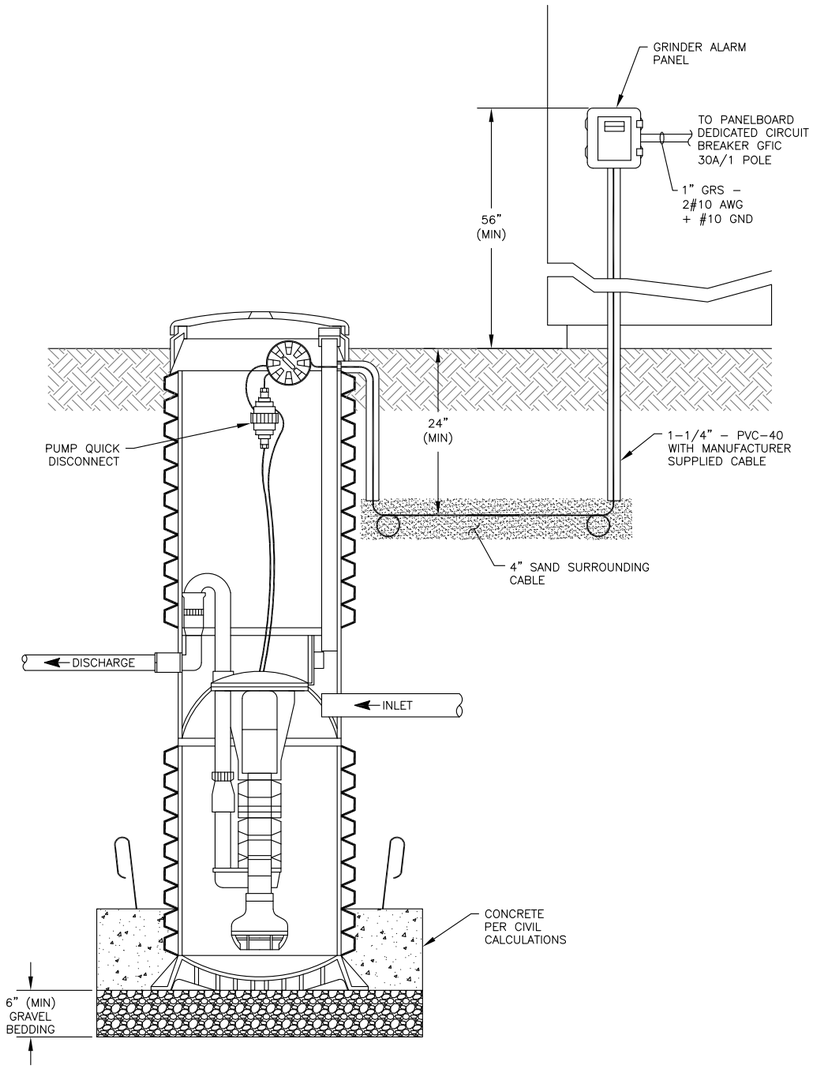
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TYPICAL ELECTRICAL DETAILS NO.4

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E5
APPROVED: --	DATE: JUNE 2026	



PACKAGE GRINDER SYSTEM DETAIL (A / E7)

NOT TO SCALE

NOTES: (1) INSTALL CONDUIT & WIRE PER LATEST NEC & LOCAL CODES.

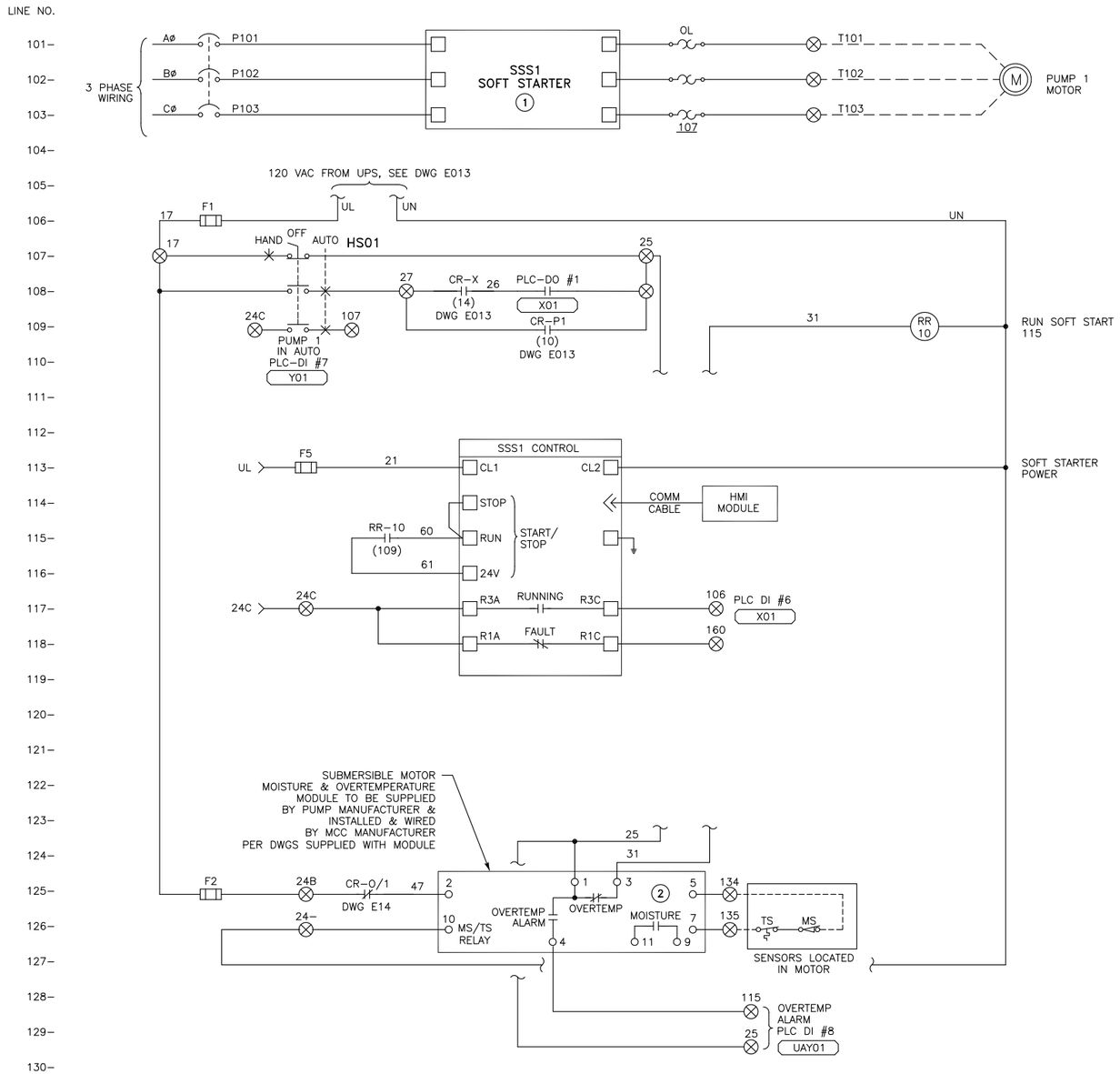
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TYPICAL ELECTRICAL DETAILS NO.6

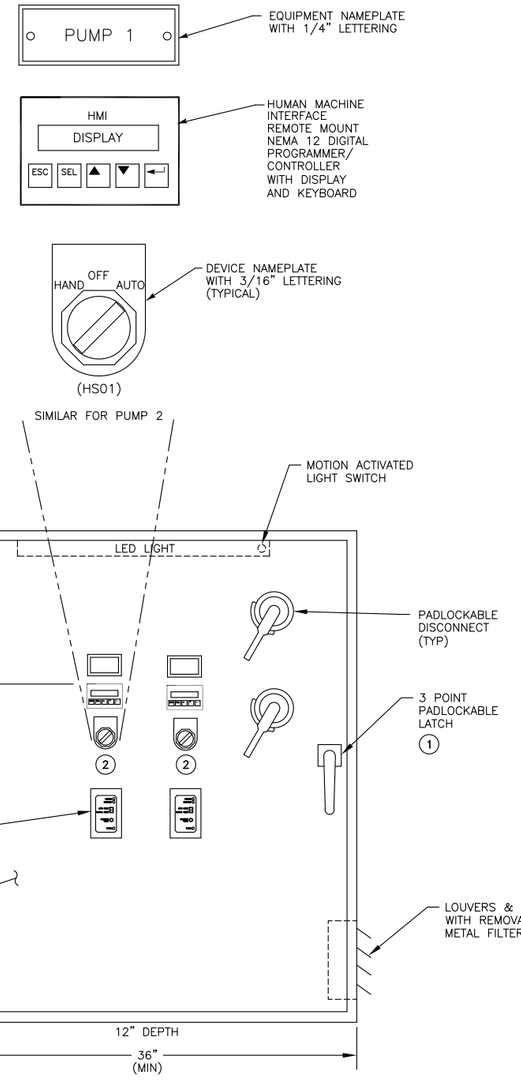
DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E7
APPROVED: --	DATE: JUNE 2026	



PUMP ELEMENTARY DIAGRAM–SOFT STARTER

PMP01
PMP02

NOTES:
1. BUILT–IN PHASE REVERSAL, PHASE LOSS & UNDER VOLTAGE AND OVERLOAD PROTECTION.
2. INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.
3. TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2, ETC.



TYPICAL PUMP PANEL ELEVATION DETAILS

A
E11

NOT TO SCALE

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.

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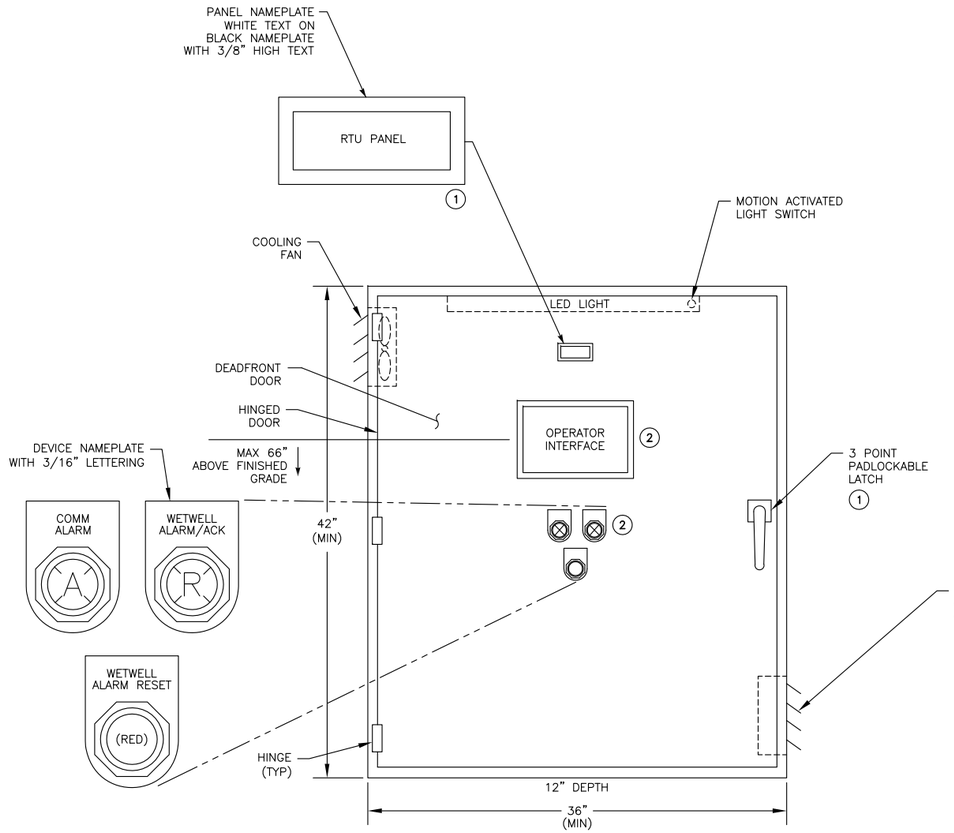
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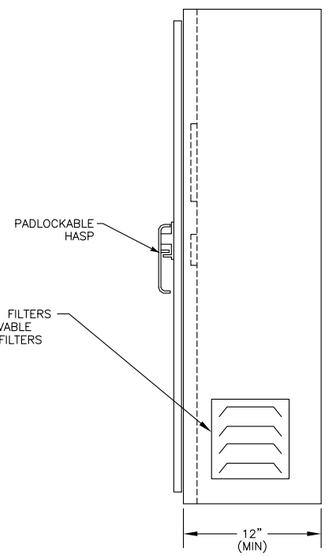
2 PUMPS LIFT STATION - SSS
PUMP ELEMENTARY & ELEVATION - SOFT STARTER

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E011
APPROVED: --	DATE: JUNE 2026	



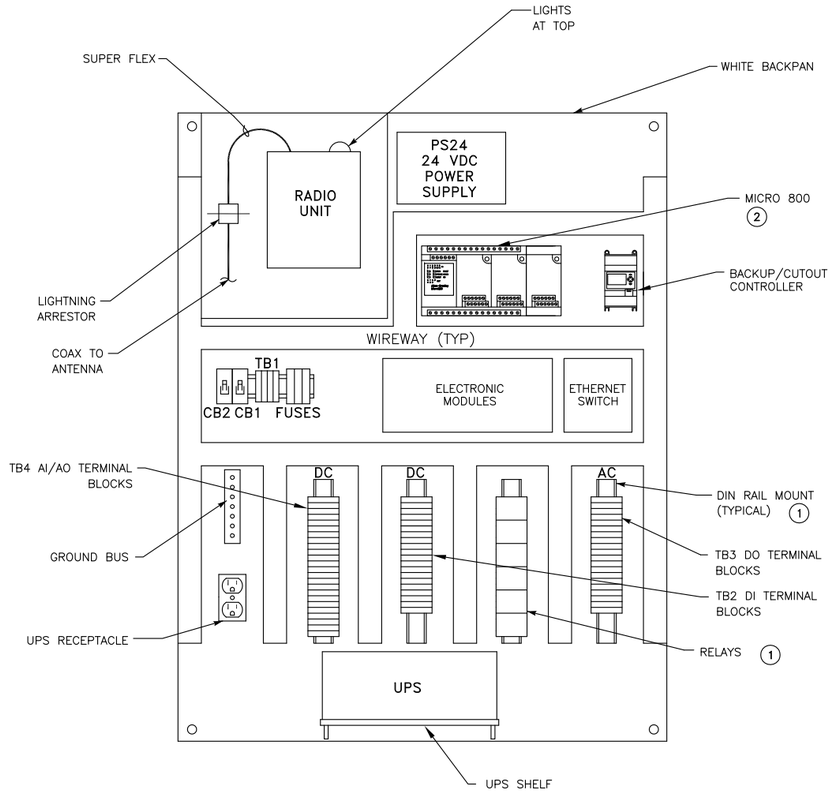
TYPICAL RTU PANEL ELEVATION DETAILS (A / E12)

NOT TO SCALE



SIDE VIEW (B / E12)

NOT TO SCALE

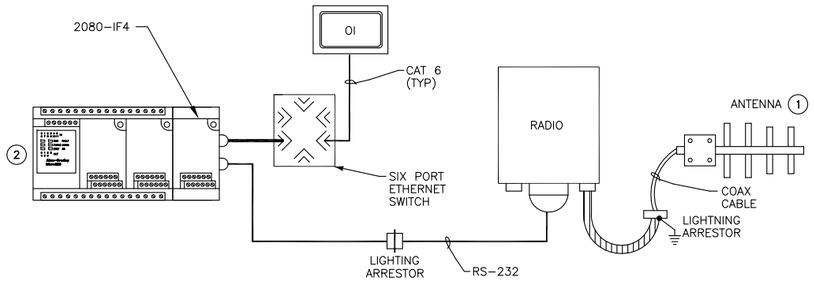


TYPICAL BACKPAN LAYOUT (C / E12)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.



PLC BLOCK DIAGRAM (D / E12)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IF4 (4 AI).

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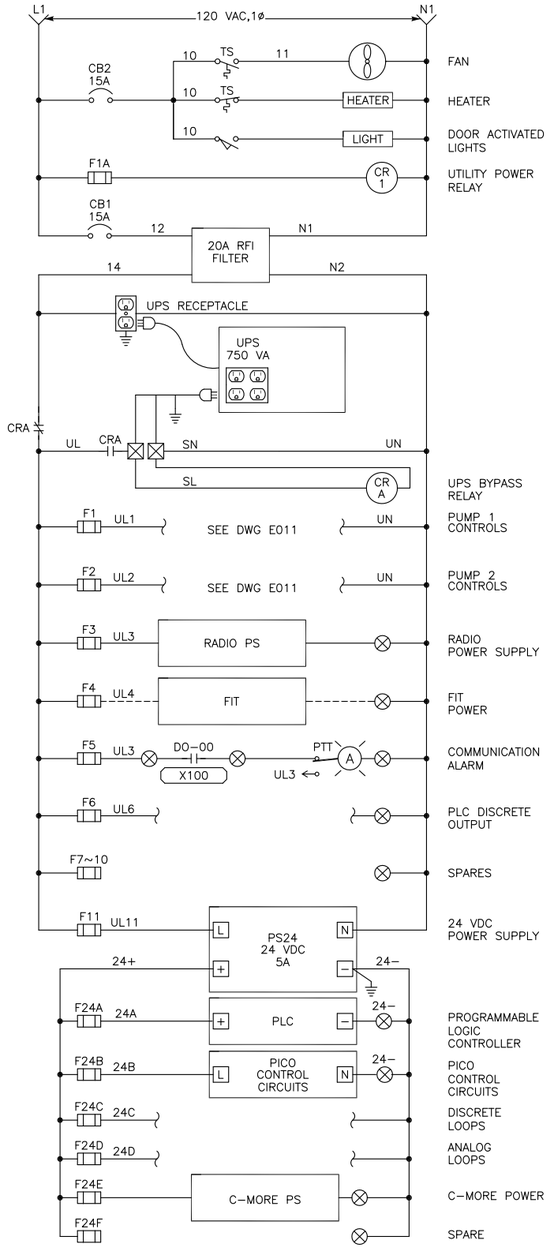
FILE: 2602C

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2 PUMPS LIFT STATION - SSS
TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E012
APPROVED: --	DATE: JUNE 2026	



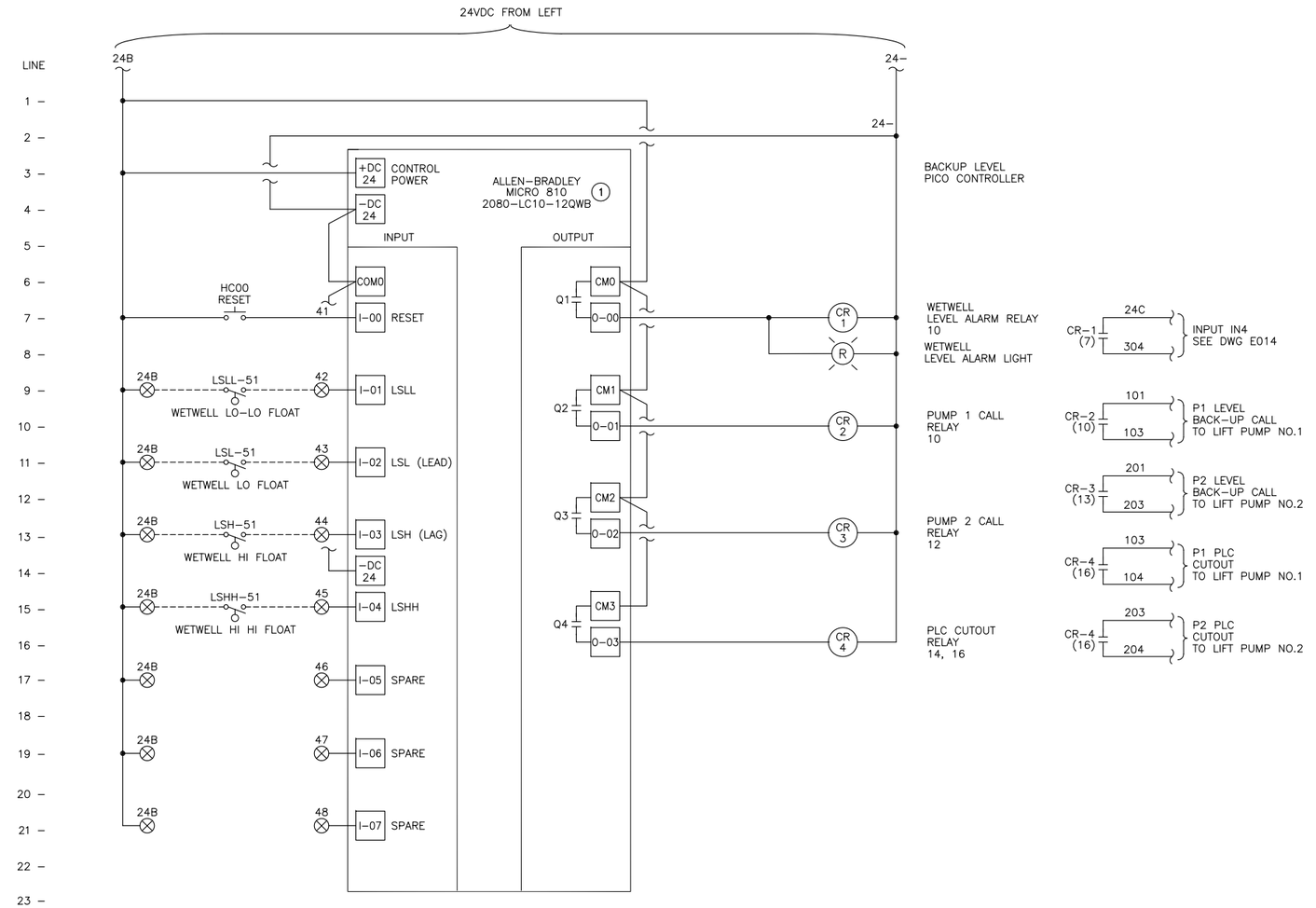
CR−1 — UTILITY POWER AVAILABLE INPUT IN1 SEE DWG E014 (2)

CR−A — UPS TROUBLE INPUT IN3 SEE DWG E014

POWER DISTRIBUTION DIAGRAM (1)

NOTES:
(1) DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

(2) PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.



BACKUP/CUTOUT CONTROL ELEMENTARY DIAGRAM

NOTES:
(1) ALLEN−BRADLEY PICO WITH MICRO 800 LCD DISPLAY & KEYPAD.

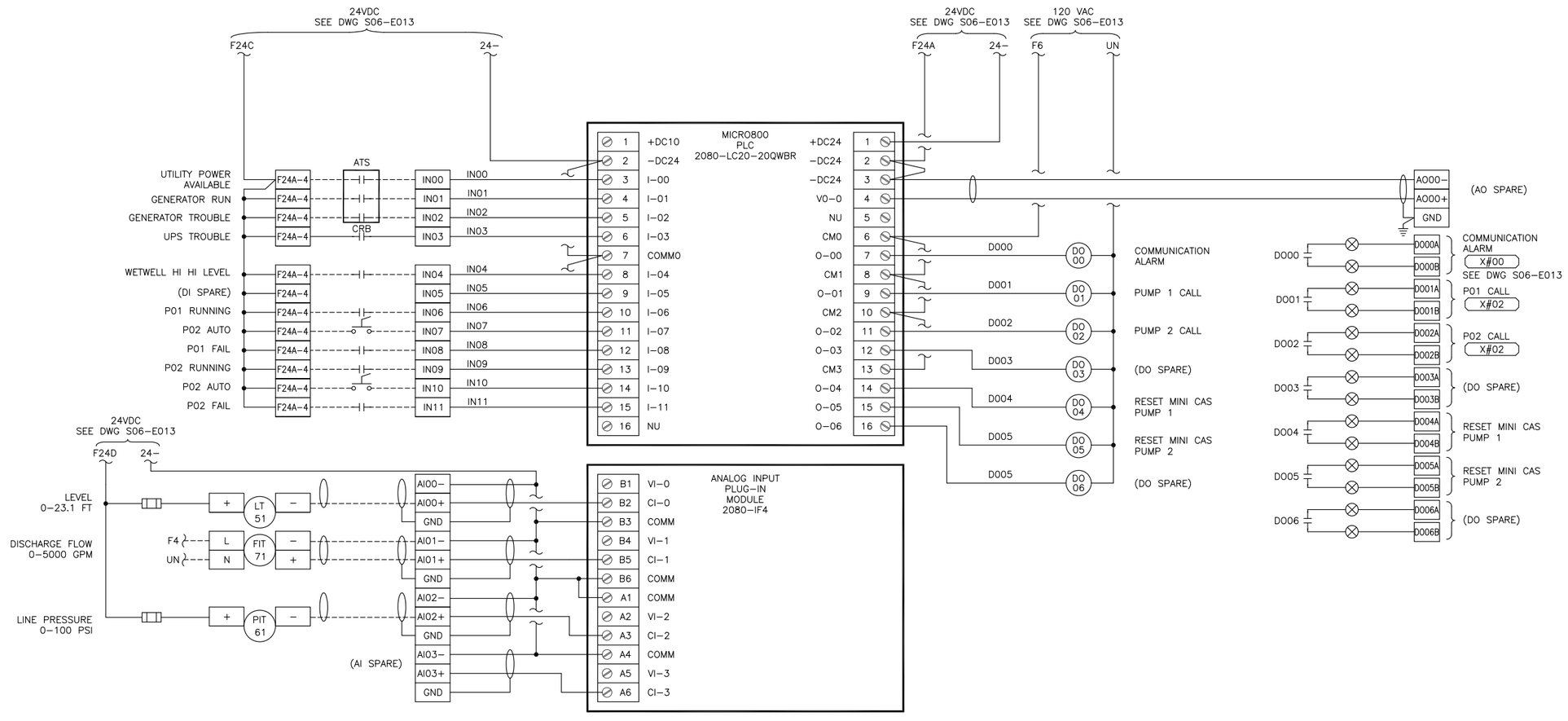
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2 PUMPS LIFT STATION - SSS
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

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ATEEN	NONE	S06-E013
APPROVED: --	DATE: JUNE 2026	



RTU I/O LAYOUT

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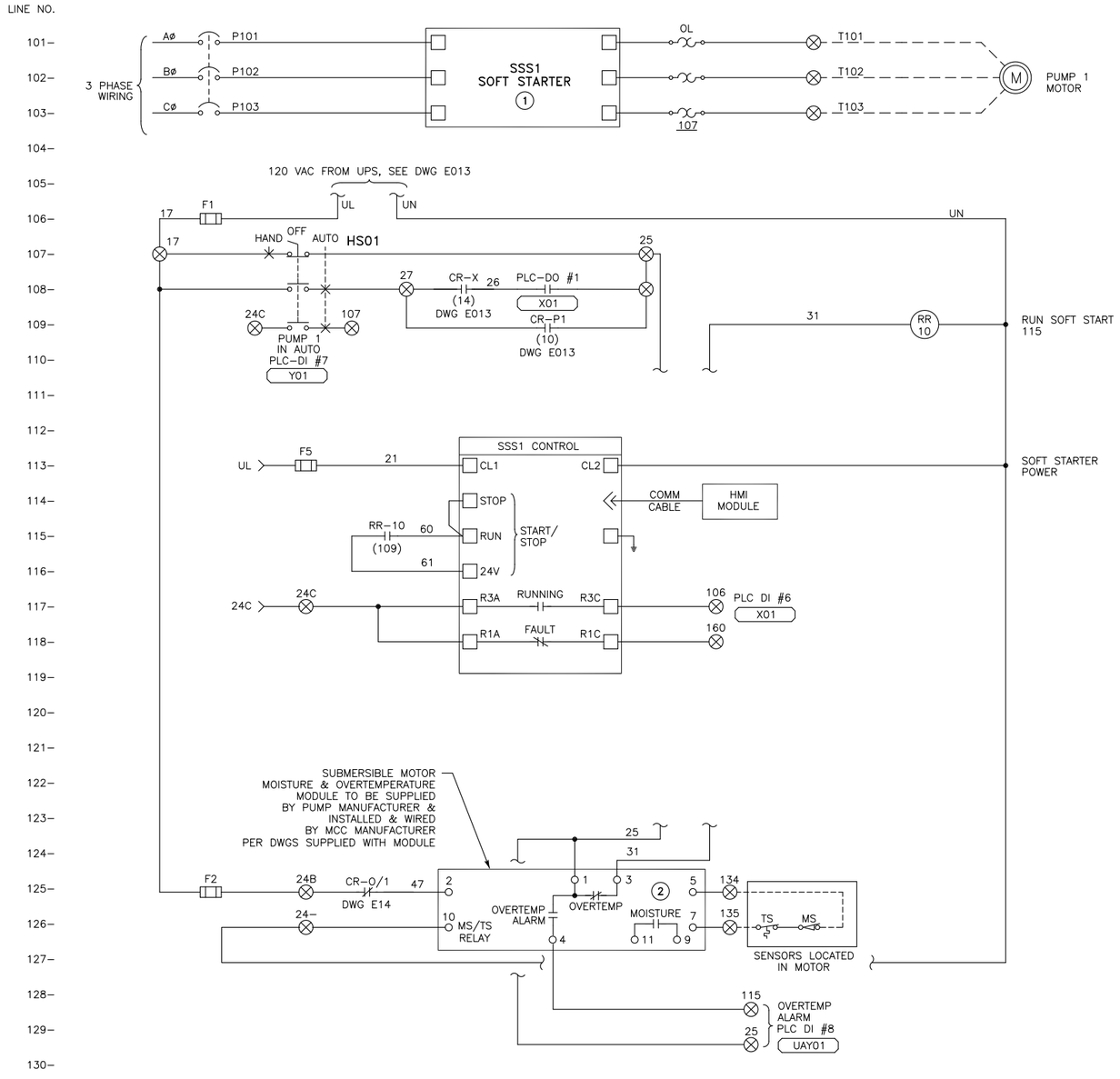
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2 PUMPS LIFT STATION - SSS
RTU PANEL STANDARD I/O LAYOUT

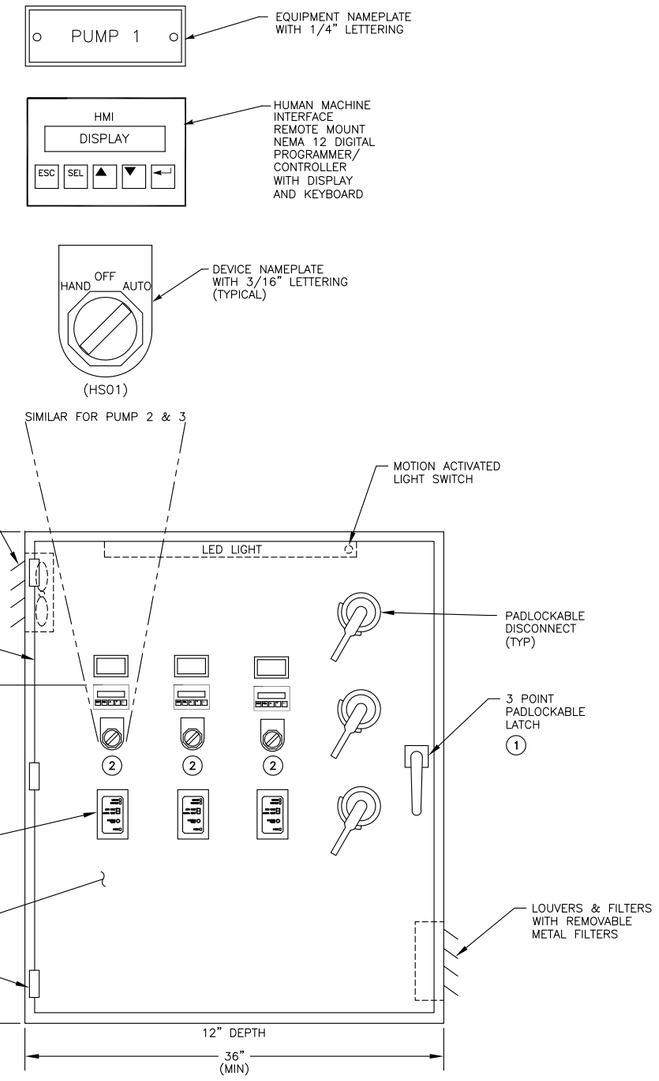
DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E014
APPROVED: --	DATE: JUNE 2026	



PUMP ELEMENTARY DIAGRAM–SOFT STARTER

PMP01
PMP02
PMP03

NOTES:
1. BUILT–IN PHASE REVERSAL, PHASE LOSS & UNDER VOLTAGE AND OVERLOAD PROTECTION.
2. INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.
3. TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2, ETC.



TYPICAL PUMP PANEL ELEVATION DETAILS

A
E21

NOT TO SCALE

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.

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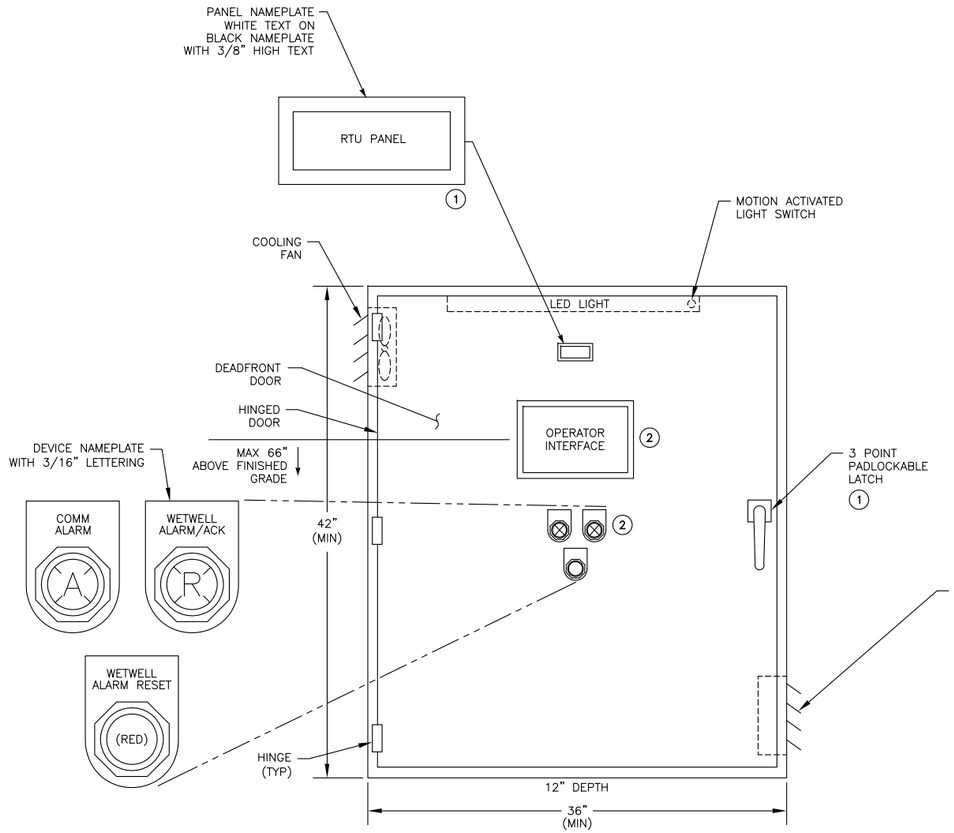
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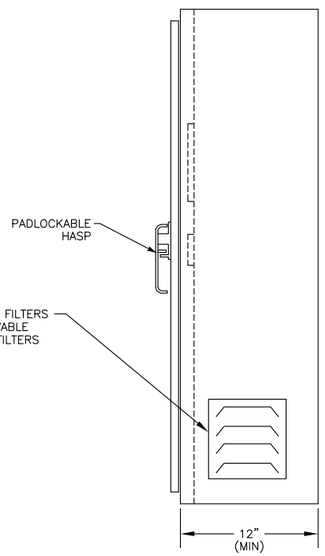
3 PUMPS LIFT STATION - SSS
PUMP ELEMENTARY & ELEVATION - SOFT STARTER

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E021
APPROVED: --	DATE: JUNE 2026	



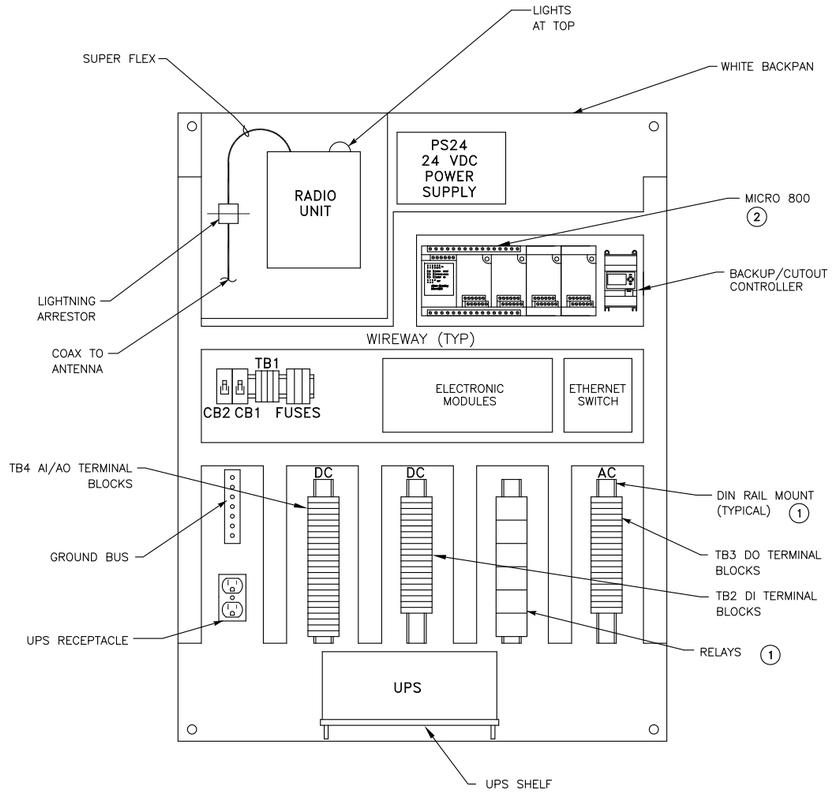
TYPICAL RTU PANEL ELEVATION DETAILS (A / E22)

NOT TO SCALE



SIDE VIEW (B / E22)

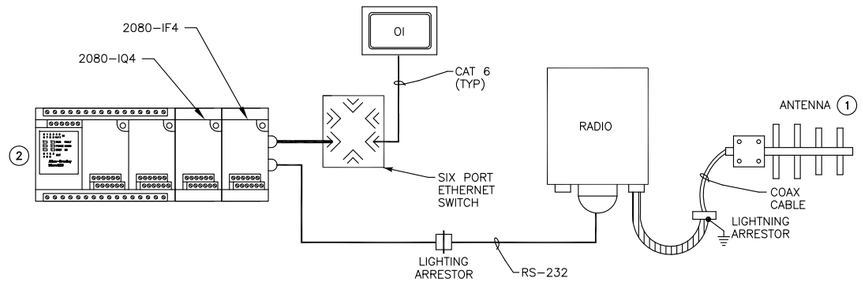
NOT TO SCALE



TYPICAL BACKPAN LAYOUT (C / E22)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.



PLC BLOCK DIAGRAM (D / E22)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IQ4 (4 DI) & 2080-IF4 (4 AI).

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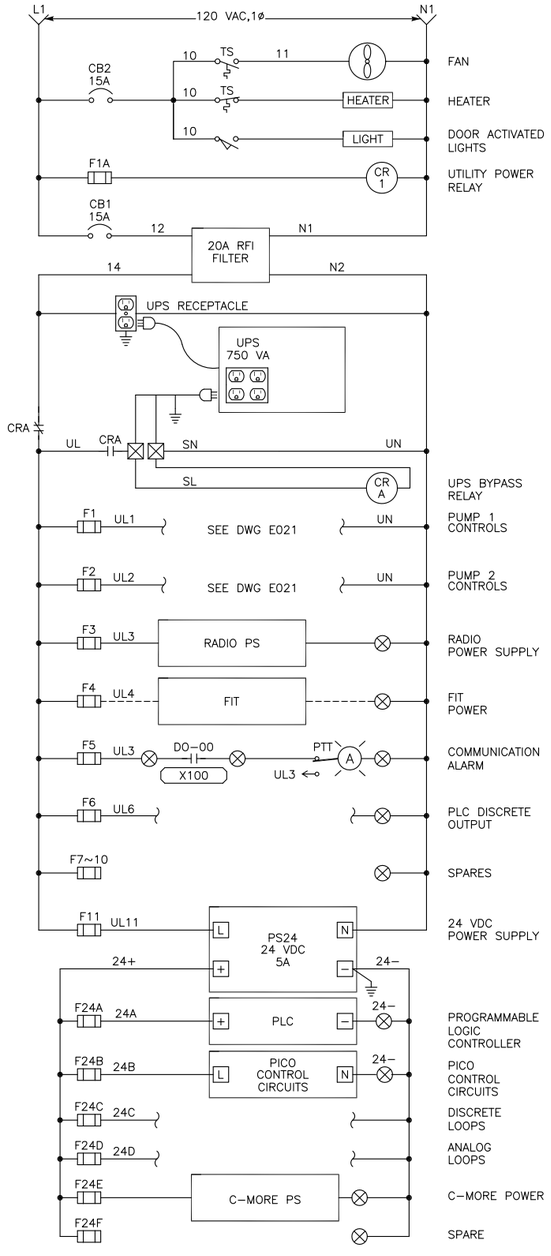
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3 PUMPS LIFT STATION - SSS
TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E022
APPROVED: --	DATE: JUNE 2026	



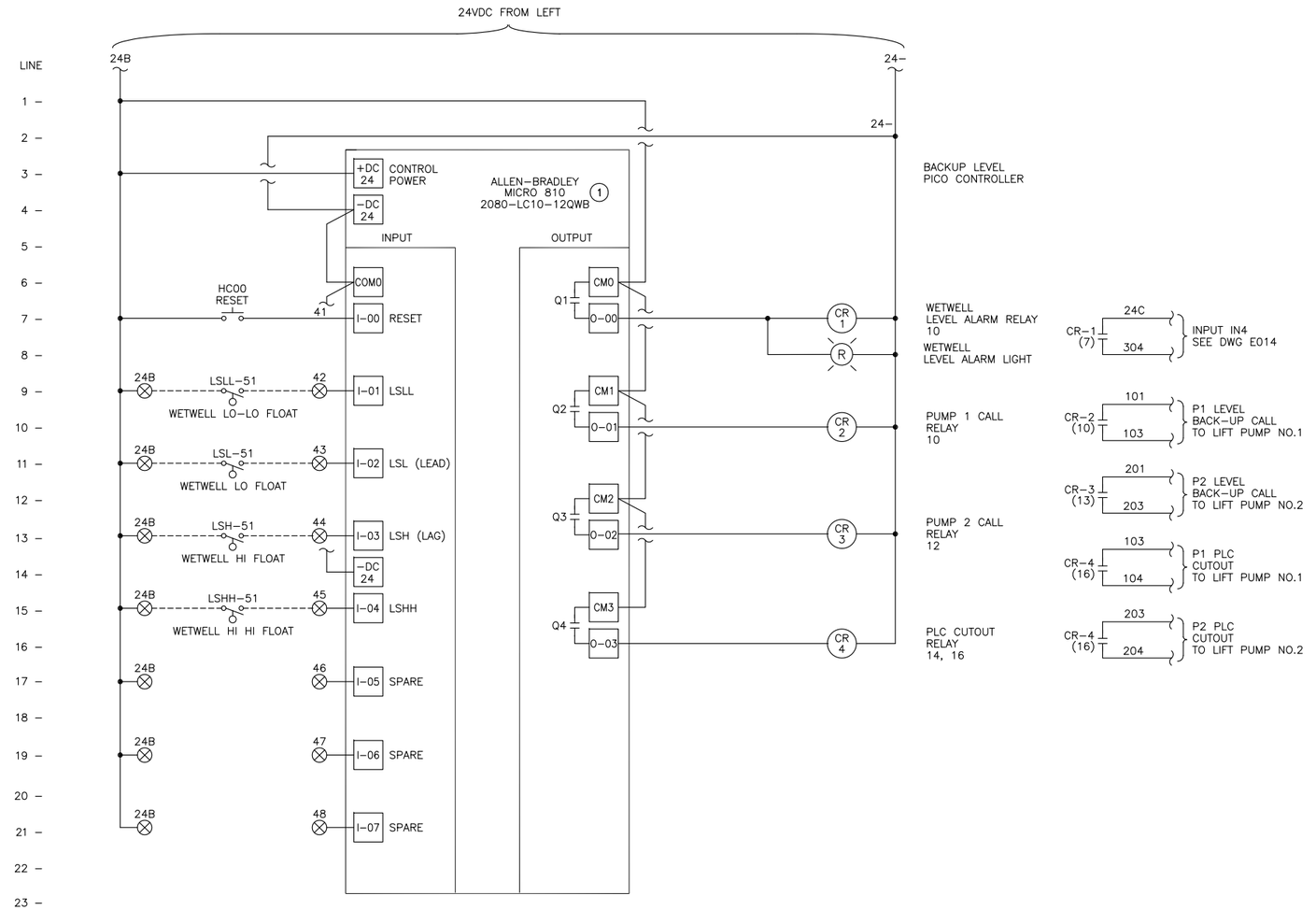
CR−1 — UTILITY POWER AVAILABLE INPUT IN1 SEE DWG E024 (2)

CR−A — UPS TROUBLE INPUT IN3 SEE DWG E024

POWER DISTRIBUTION DIAGRAM (1)

NOTES:
(1) DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

(2) PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.



BACKUP/CUTOUT CONTROL ELEMENTARY DIAGRAM

NOTES:
(1) ALLEN−BRADLEY PICO WITH MICRO 800 LCD DISPLAY & KEYPAD.

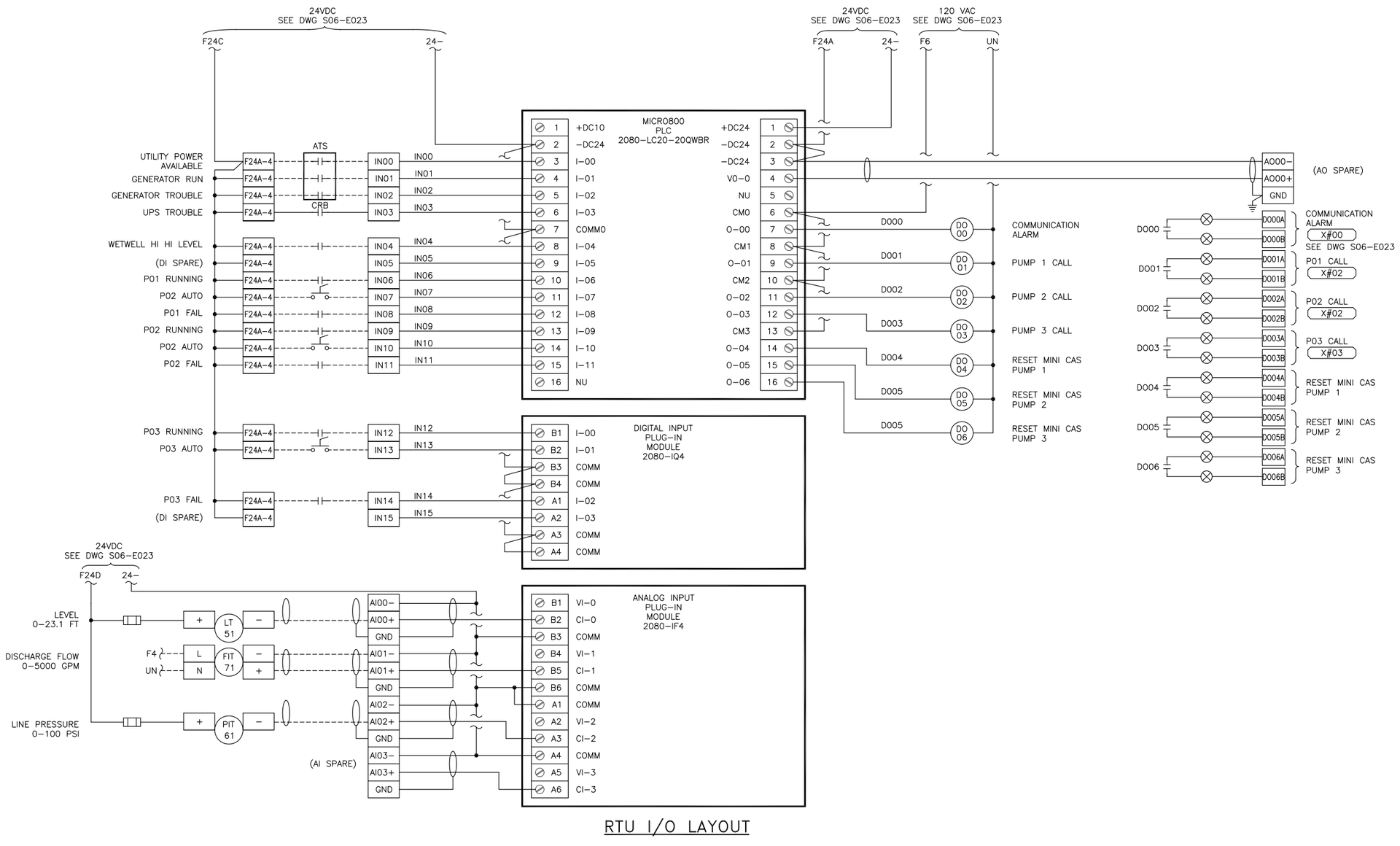
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3 PUMPS LIFT STATION - SSS
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

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ATEEN	NONE	S06-E023
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RTU I/O LAYOUT

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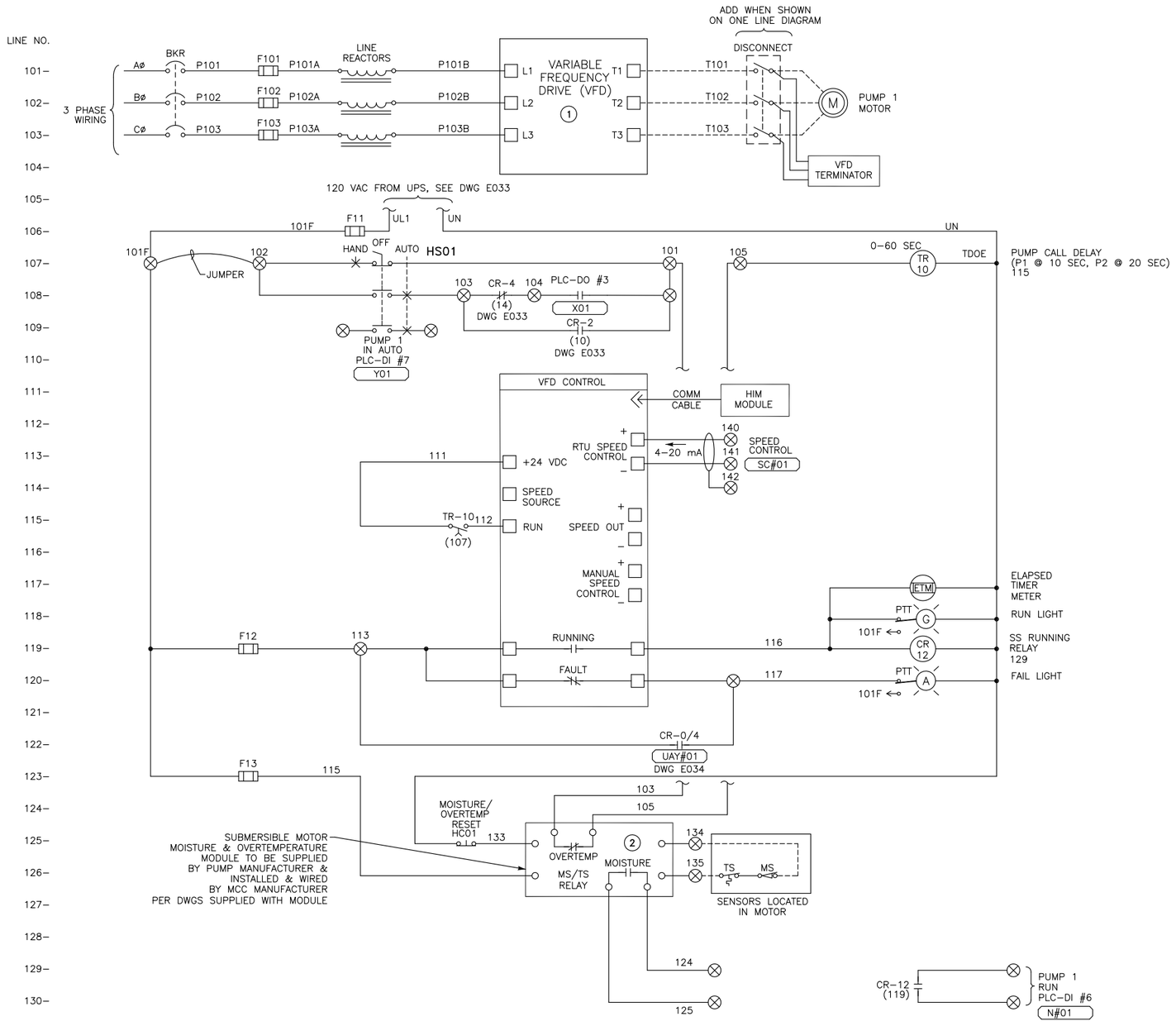
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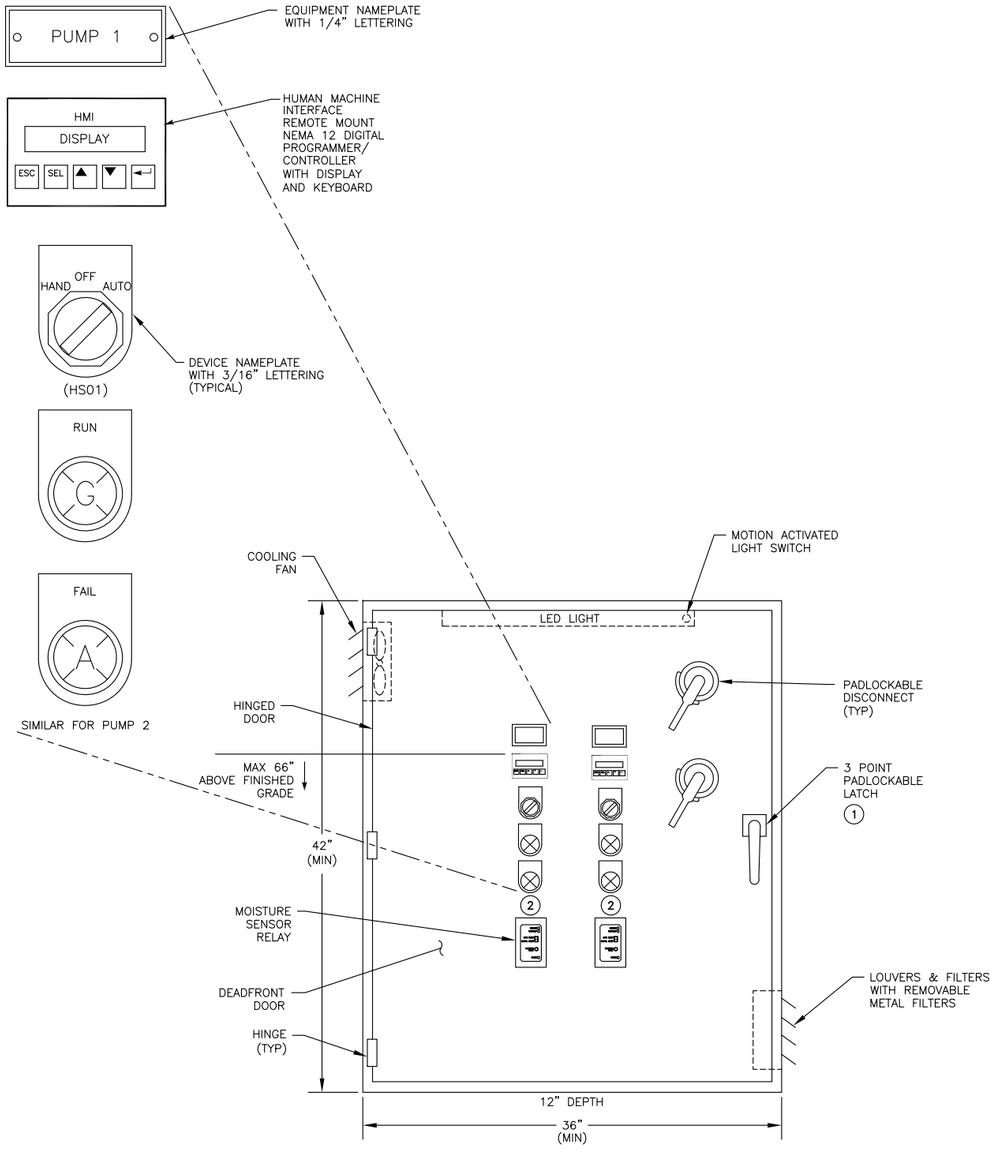
3 PUMPS LIFT STATION - SSS
RTU PANEL STANDARD I/O LAYOUT

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E024
APPROVED:	DATE:	
--	JUNE 2026	



PUMP ELEMENTARY DIAGRAM-VFD (P01, P02) (3)

NOTES:
1. VFD WITH ELECTRONIC OVERLOAD & BUILT-IN RF FILTER.
2. INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.
3. TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2.



TYPICAL PUMP PANEL ELEVATION DETAILS (A / E21)

NOT TO SCALE

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.

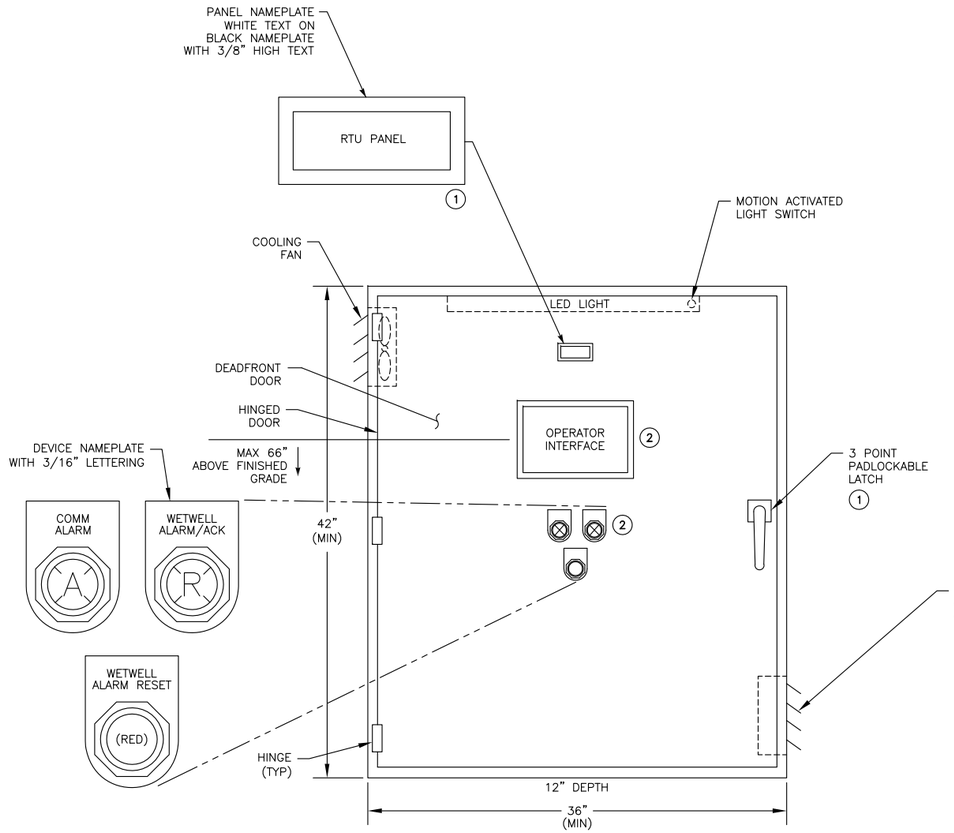
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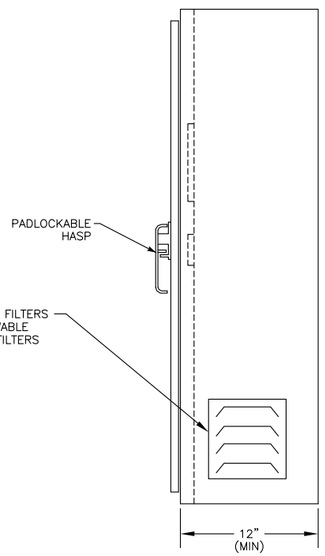
2 PUMPS LIFT STATION - VFD
PUMP ELEMENTARY & ELEVATION - VFD

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E031
APPROVED: --	DATE: JUNE 2026	



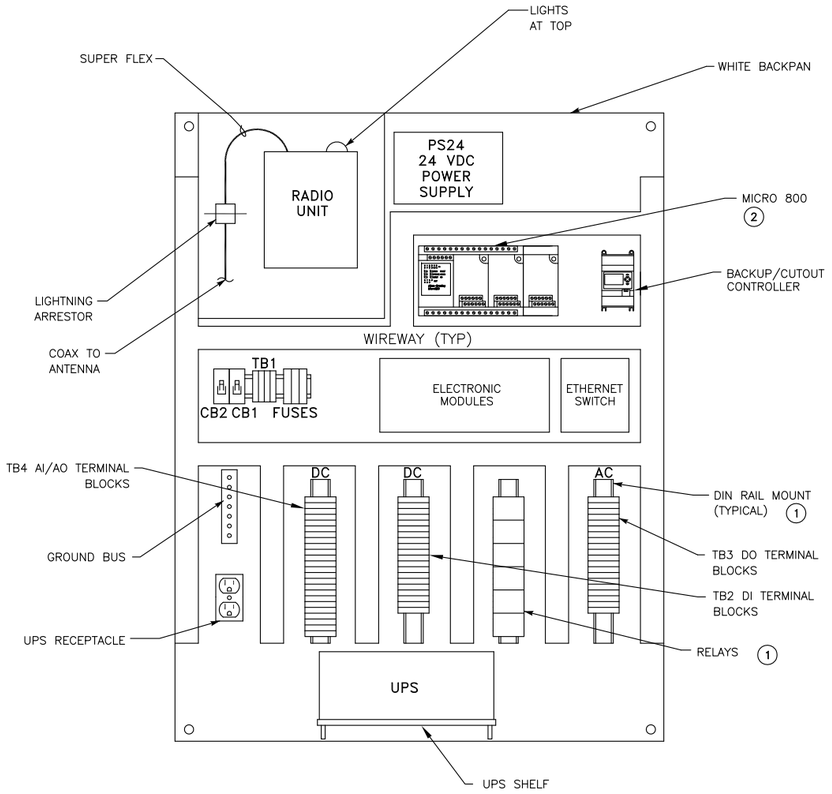
TYPICAL RTU PANEL ELEVATION DETAILS (A / E32)

NOT TO SCALE



SIDE VIEW (B / E32)

NOT TO SCALE

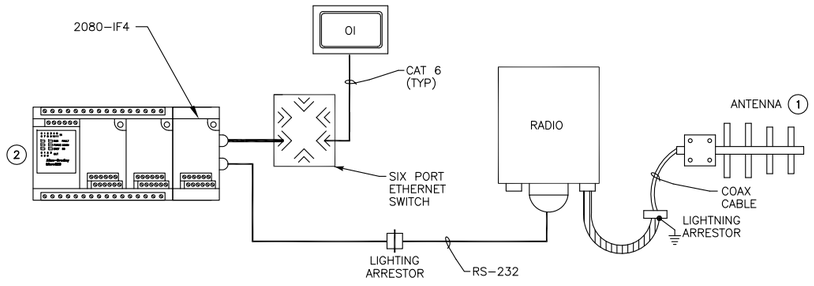


TYPICAL BACKPAN LAYOUT (C / E32)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.



PLC BLOCK DIAGRAM (D / E32)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IF4 (4 AI).

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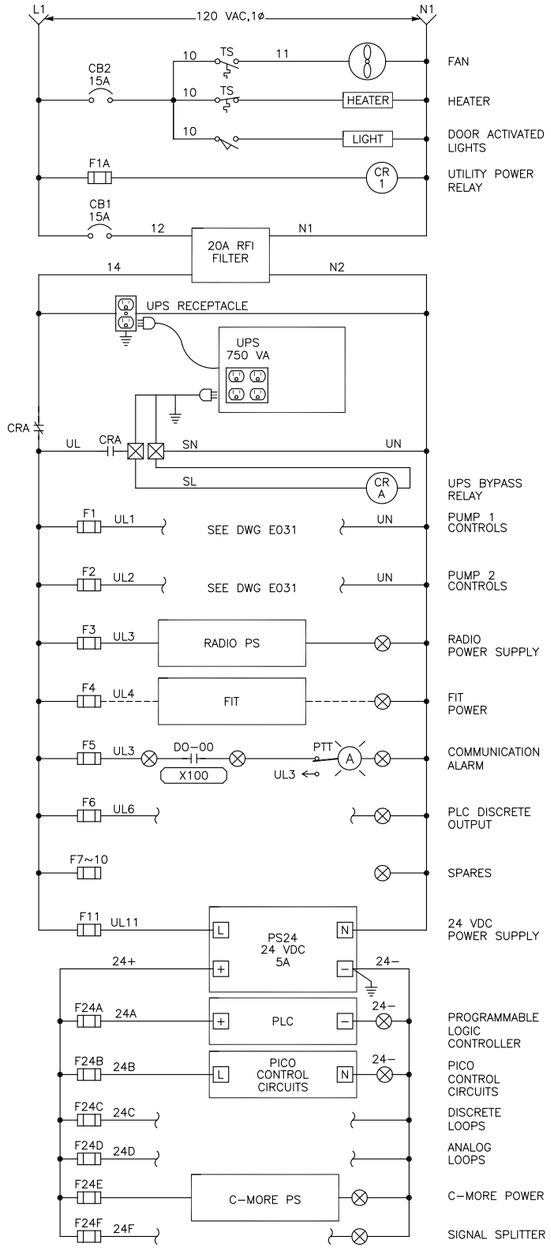
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2 PUMPS LIFT STATION -VFD
TYPICAL RTU BACKPAN AND ELEVATION

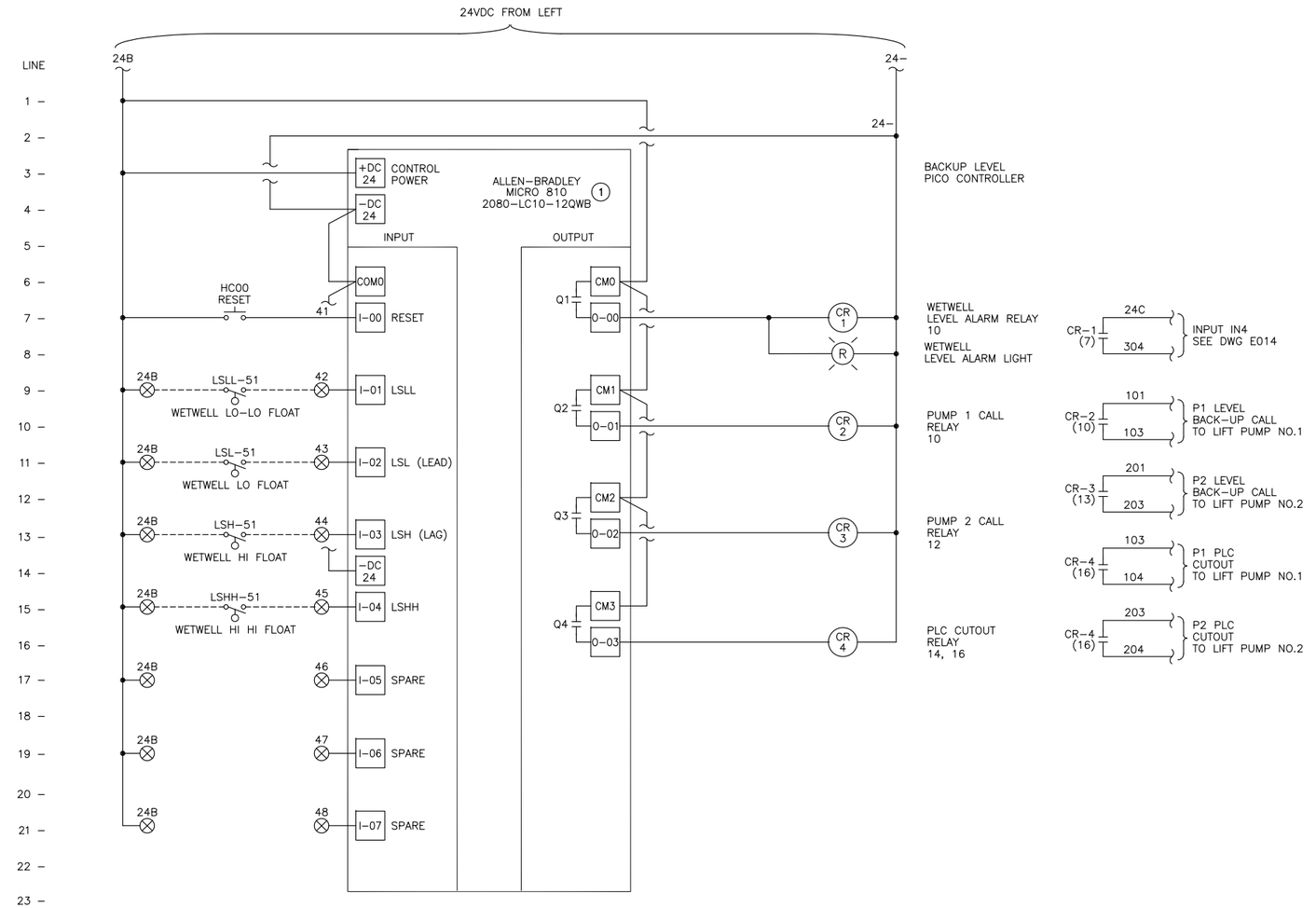
DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E032
APPROVED: --	DATE: JUNE 2026	



POWER DISTRIBUTION DIAGRAM ①

NOTES:
① DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

② PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.



BACKUP/CUTOUT CONTROL ELEMENTARY DIAGRAM

NOTES:
① ALLEN−BRADLEY PICO WITH MICRO 800 LCD DISPLAY & KEYPAD.

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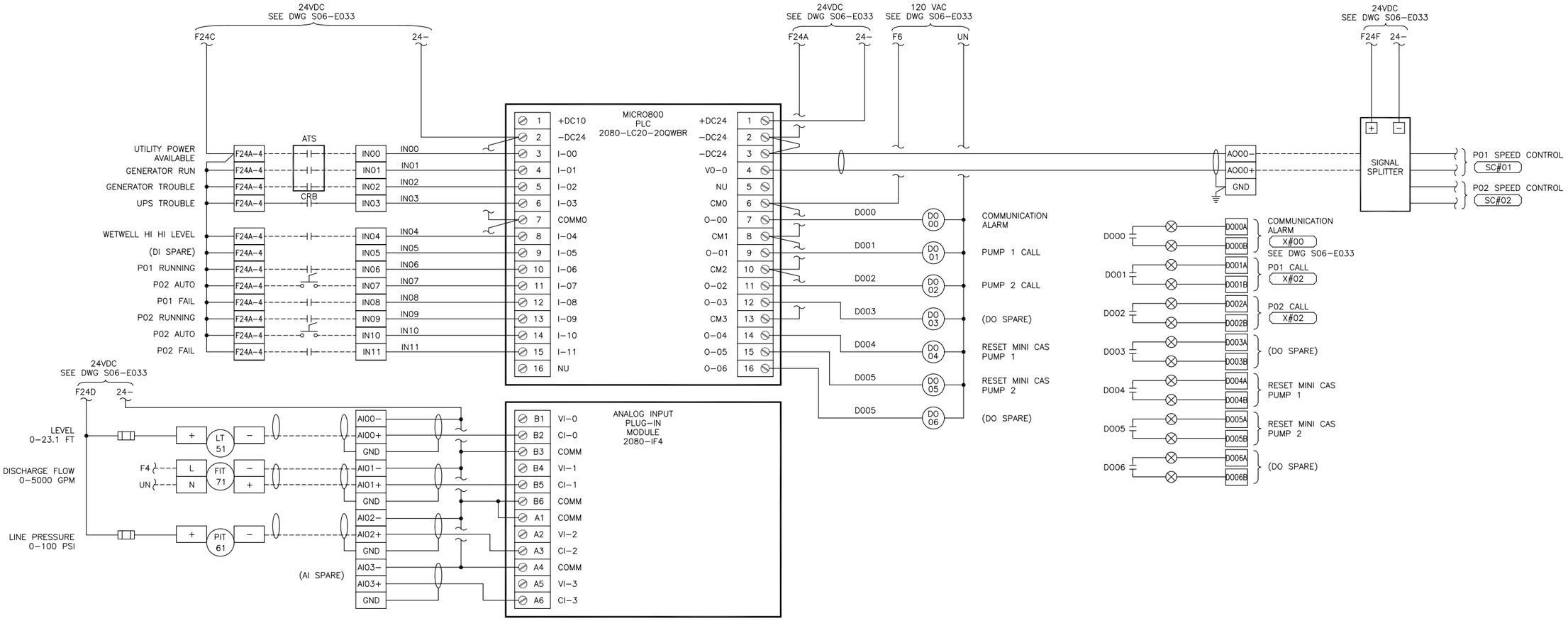
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2 PUMPS LIFT STATION - VFD
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

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ATEEN	NONE	S06-E033
APPROVED:	DATE:	
--	JUNE 2026	



RTU I/O LAYOUT

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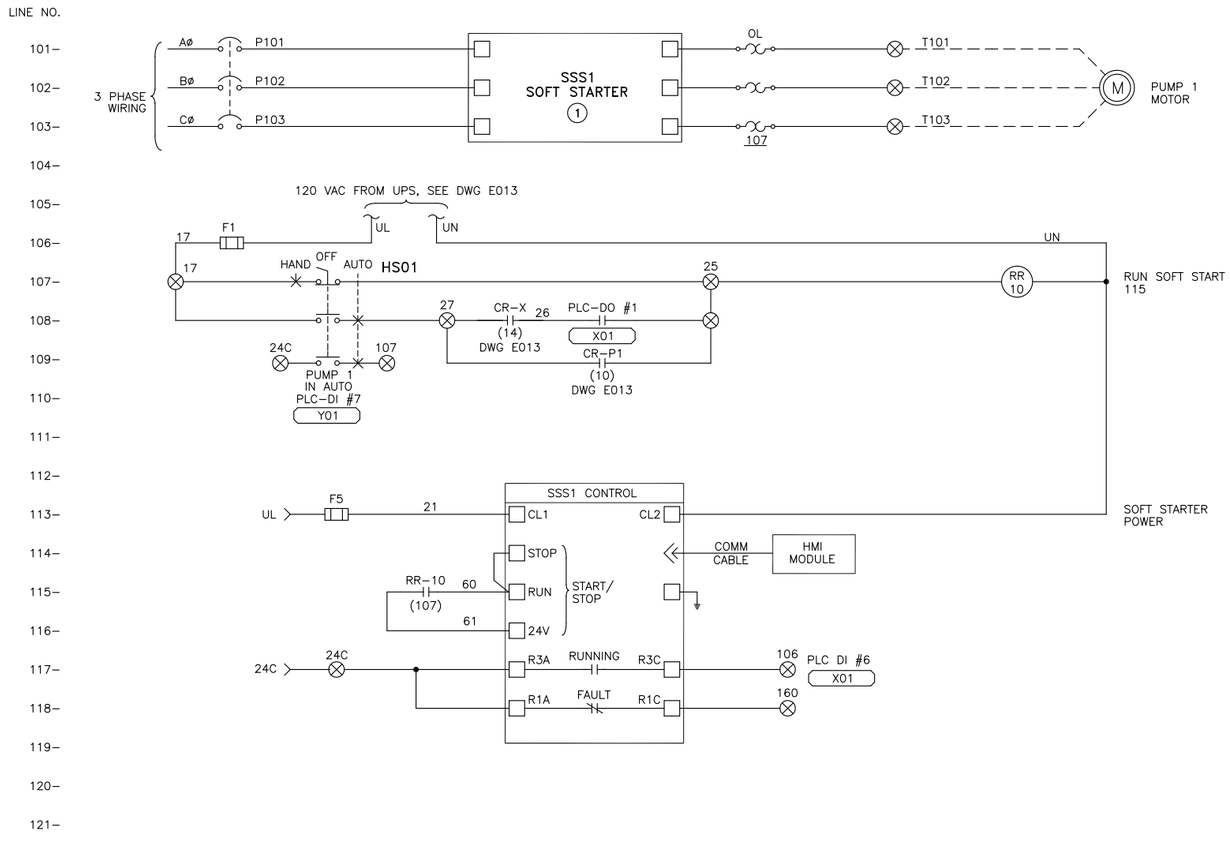
FILE: 2602CE001

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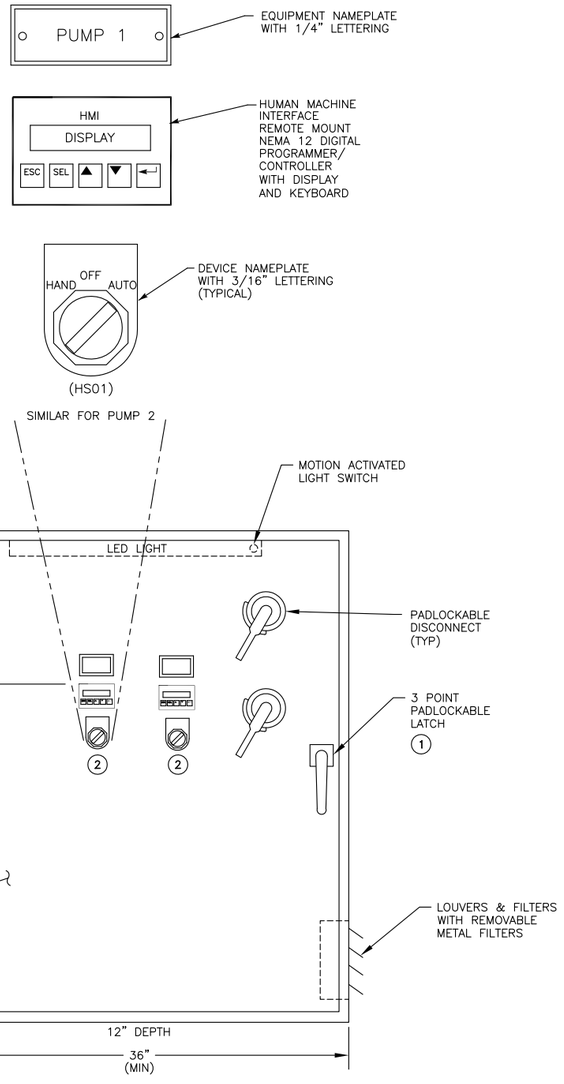
2 PUMPS LIFT STATION - VFD
RTU PANEL STANDARD I/O LAYOUT

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E034
APPROVED: --	DATE: JUNE 2026	



PUMP ELEMENTARY DIAGRAM–SOFT STARTER (PMP01) (PMP02)

NOTES:
1. BUILT–IN PHASE REVERSAL, PHASE LOSS & UNDER VOLTAGE AND OVERLOAD PROTECTION.
2. INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.
3. TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2, ETC.



TYPICAL PUMP PANEL ELEVATION DETAILS (A / E11)

NOT TO SCALE

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.

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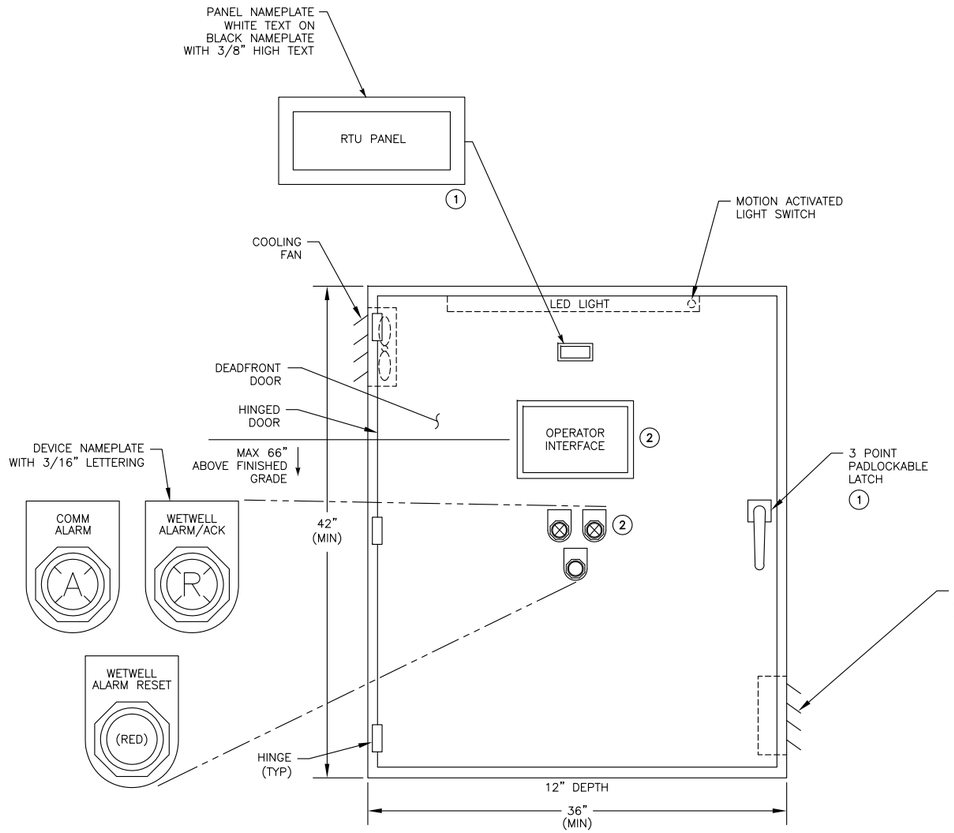
FILE: 2602CE001

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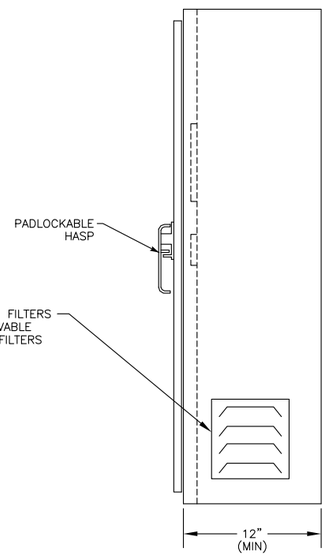
2 PUMPS BOOSTER STATION - SSS
PUMP ELEMENTARY & ELEVATION - SOFT STARTER

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E041
APPROVED: --	DATE: JUNE 2026	



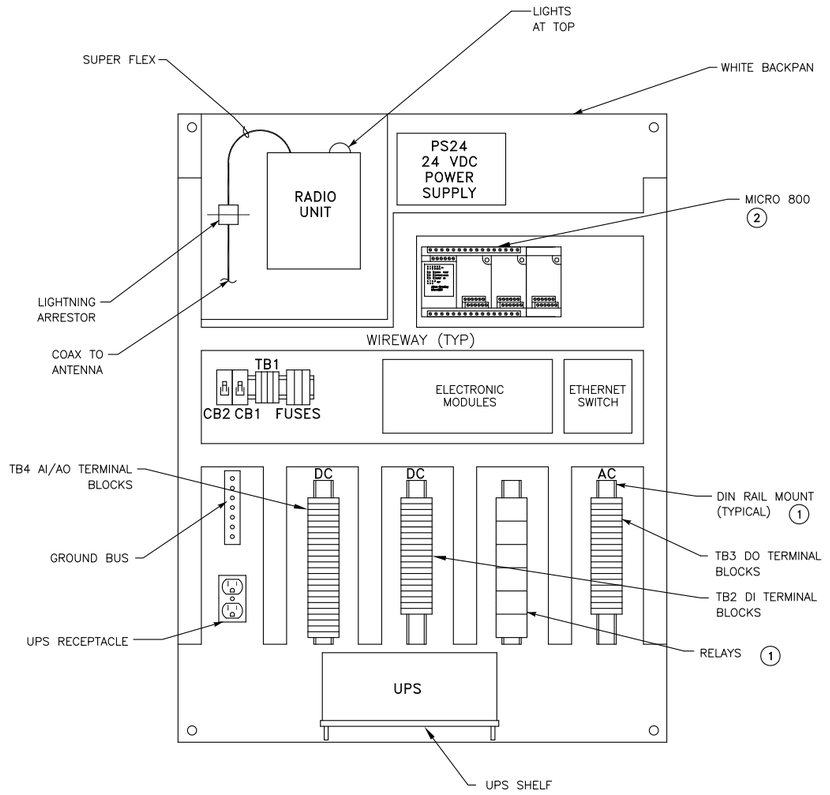
TYPICAL RTU PANEL ELEVATION DETAILS (A / E42)

NOT TO SCALE



SIDE VIEW (B / E42)

NOT TO SCALE

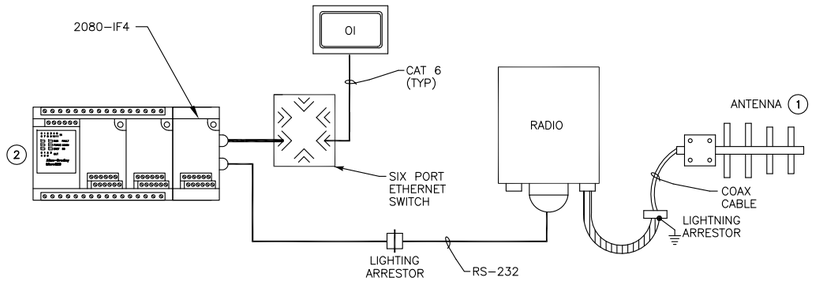


TYPICAL BACKPAN LAYOUT (C / E42)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.



PLC BLOCK DIAGRAM (D / E42)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IF4 (4 AI).

T.E.E.m.
(916) 457-8144

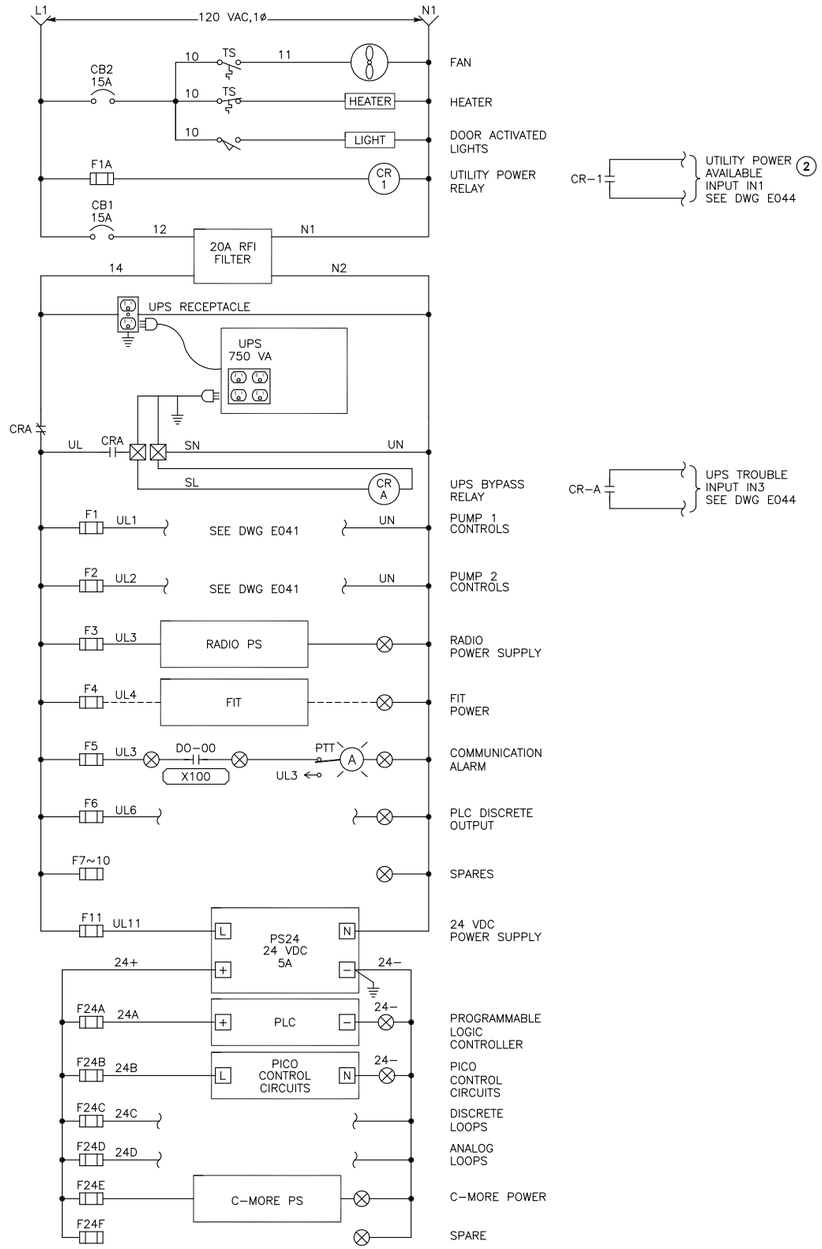
FILE: 2602C

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2 PUMPS BOOSTER STATION -SSS
TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E042
APPROVED: --	DATE: JUNE 2026	



POWER DISTRIBUTION DIAGRAM ①

NOTES:
① DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

② PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.

T.E.E.m.
(916) 457-8144

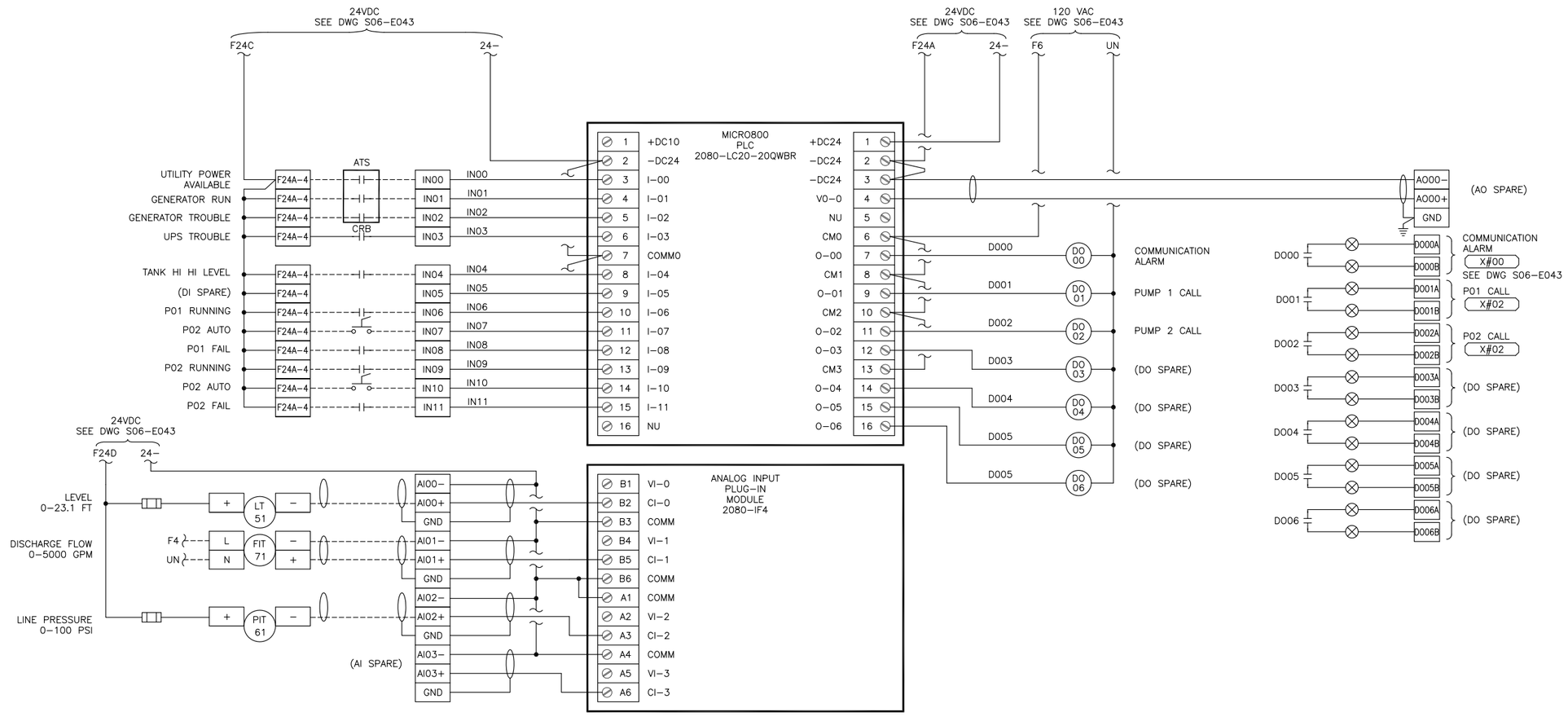
FILE: 2602C

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2 PUMPS BOOSTER STATION - SSS
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E043
APPROVED:	DATE:	
--	JUNE 2026	



RTU I/O LAYOUT

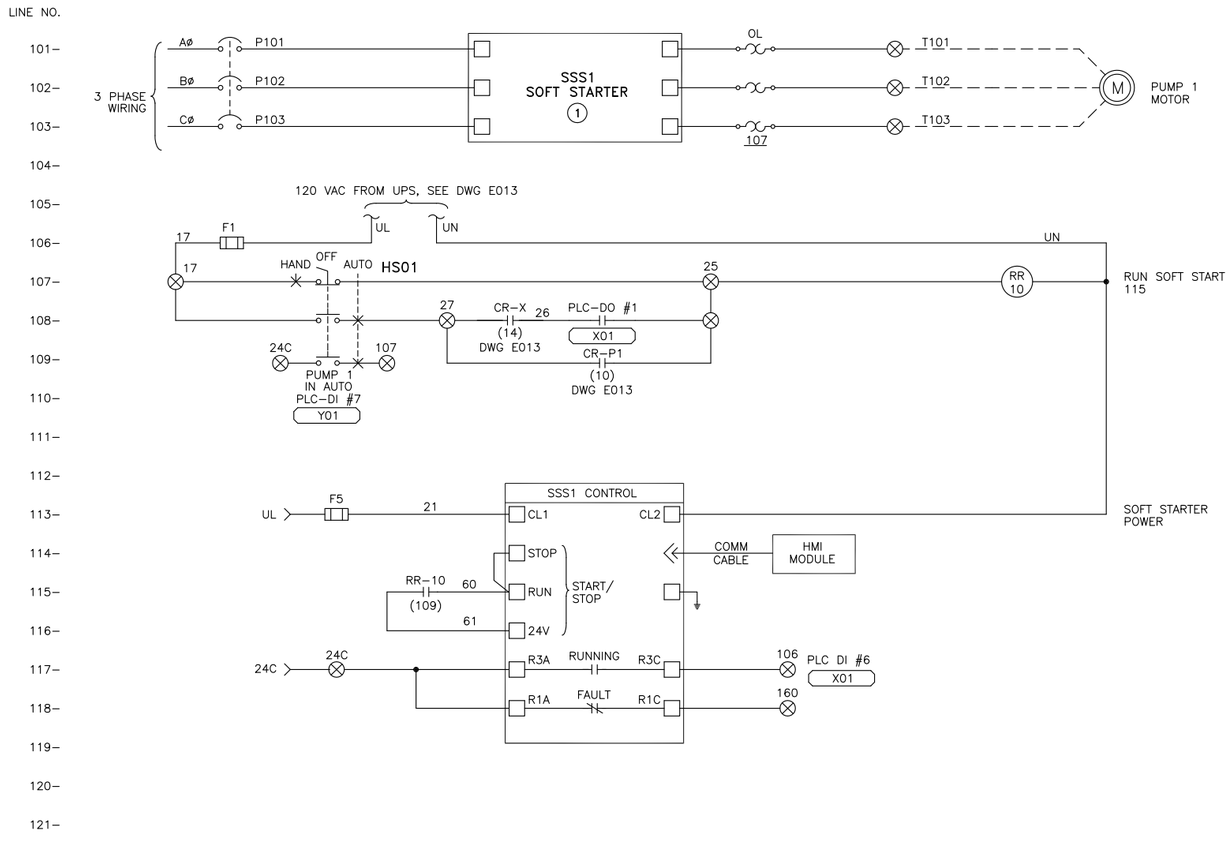
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2 PUMPS BOOSTER STATION - SSS
RTU PANEL STANDARD I/O LAYOUT

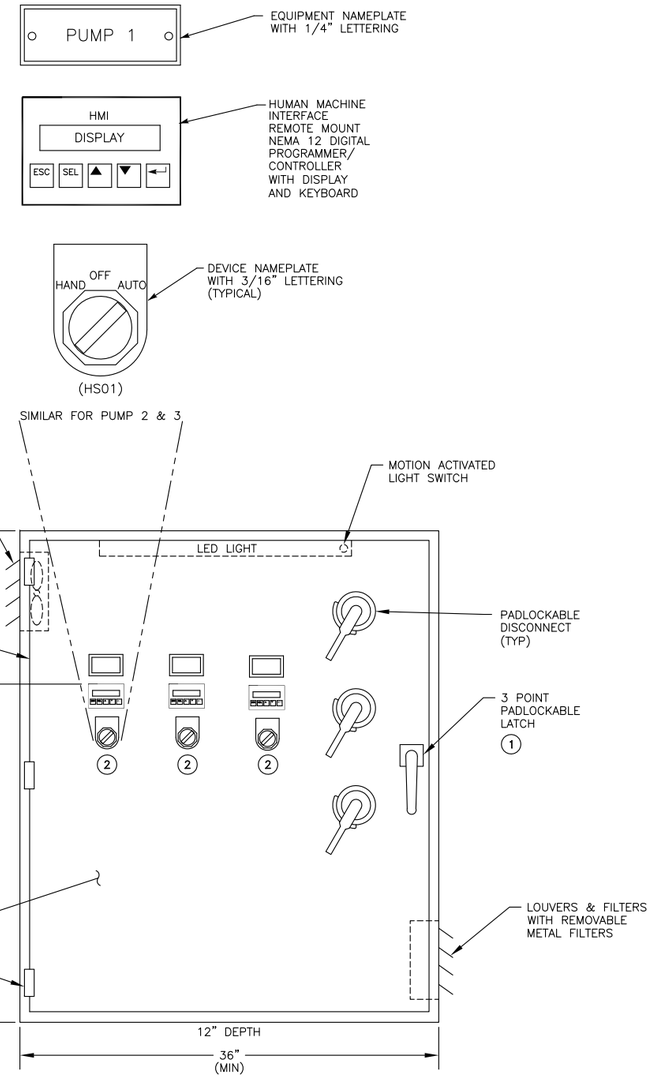
DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E044
APPROVED: --	DATE: JUNE 2026	



PUMP ELEMENTARY DIAGRAM–SOFT STARTER

PMP01 PMP02 PMP03

NOTES:
1. BUILT–IN PHASE REVERSAL, PHASE LOSS & UNDER VOLTAGE AND OVERLOAD PROTECTION.
2. INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.
3. TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2, ETC.



TYPICAL PUMP PANEL ELEVATION DETAILS

A E21

NOT TO SCALE

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.

T.E.E.M.
(916) 457–8144

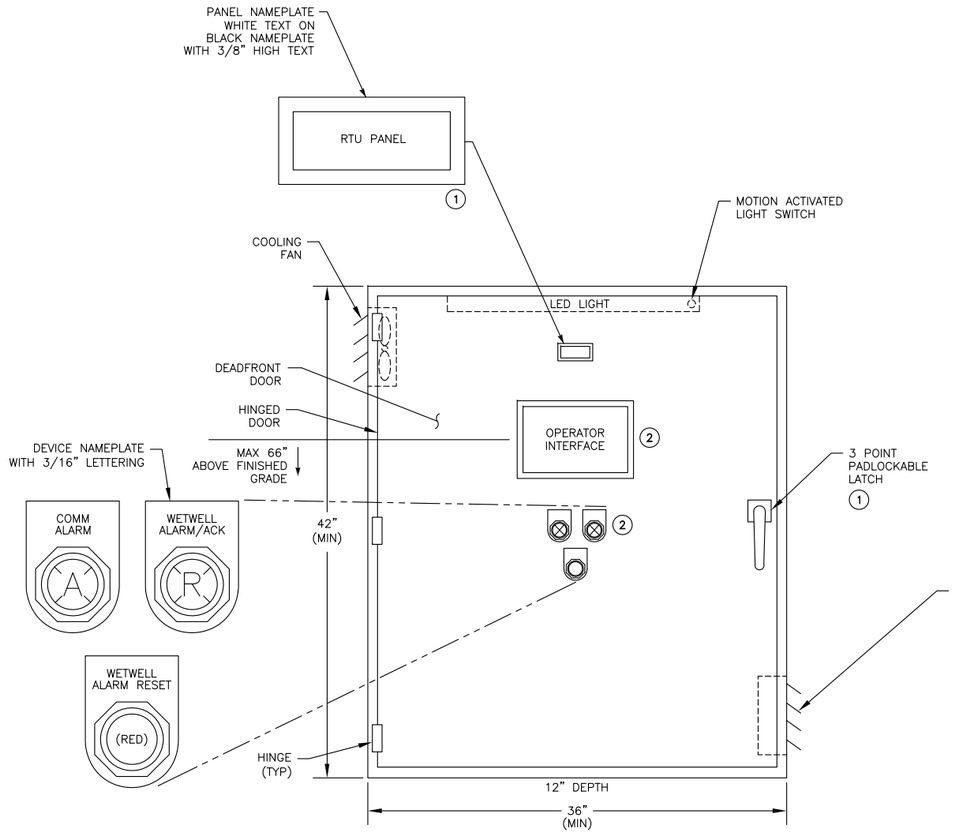
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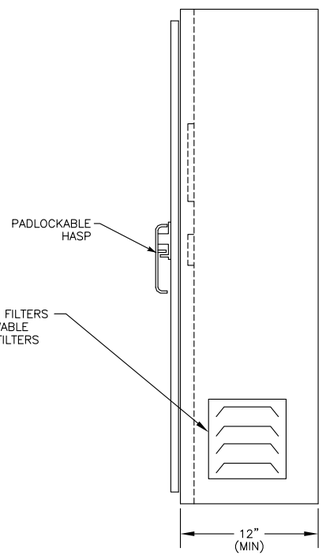
3 PUMPS BOOSTER STATION - SSS
PUMP ELEMENTARY & ELEVATION - SOFT STARTER

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E051
APPROVED: --	DATE: JUNE 2026	



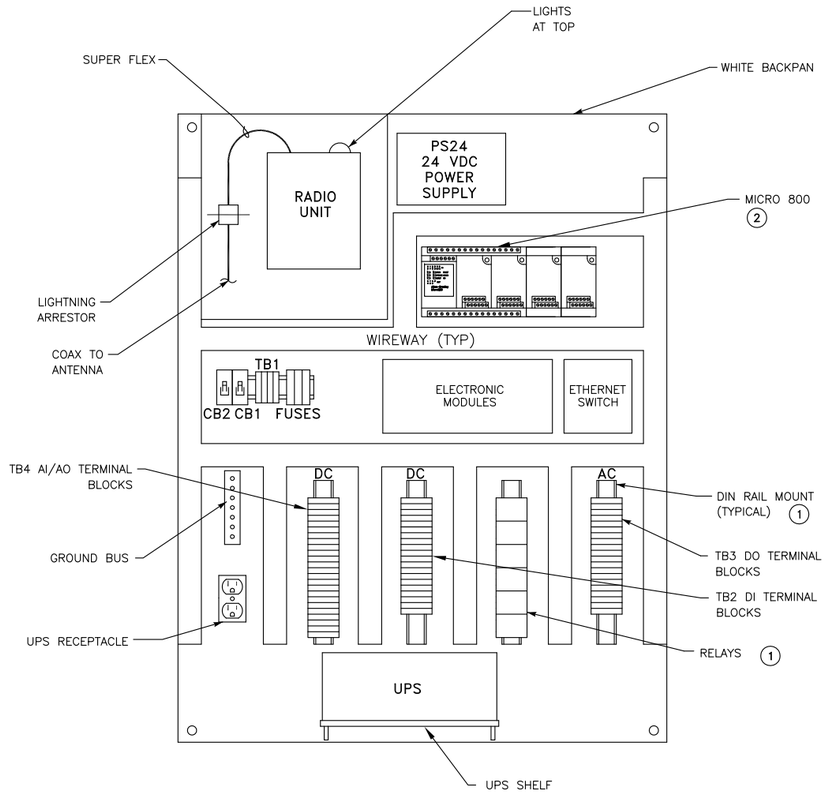
TYPICAL RTU PANEL ELEVATION DETAILS (A / E52)

NOT TO SCALE



SIDE VIEW (B / E52)

NOT TO SCALE

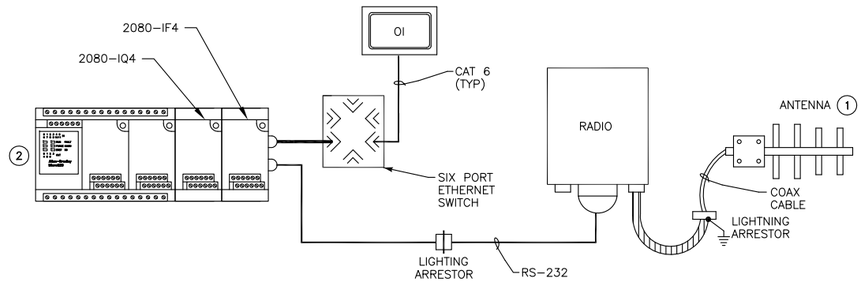


TYPICAL BACKPAN LAYOUT (C / E52)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.

NOTES:
1. MOUNTED ON EXTERIOR DOOR.
2. MOUNTED ON DEADFRONT DOOR.



PLC BLOCK DIAGRAM (D / E52)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IQ4 (4 DI) & 2080-IF4 (4 AI).

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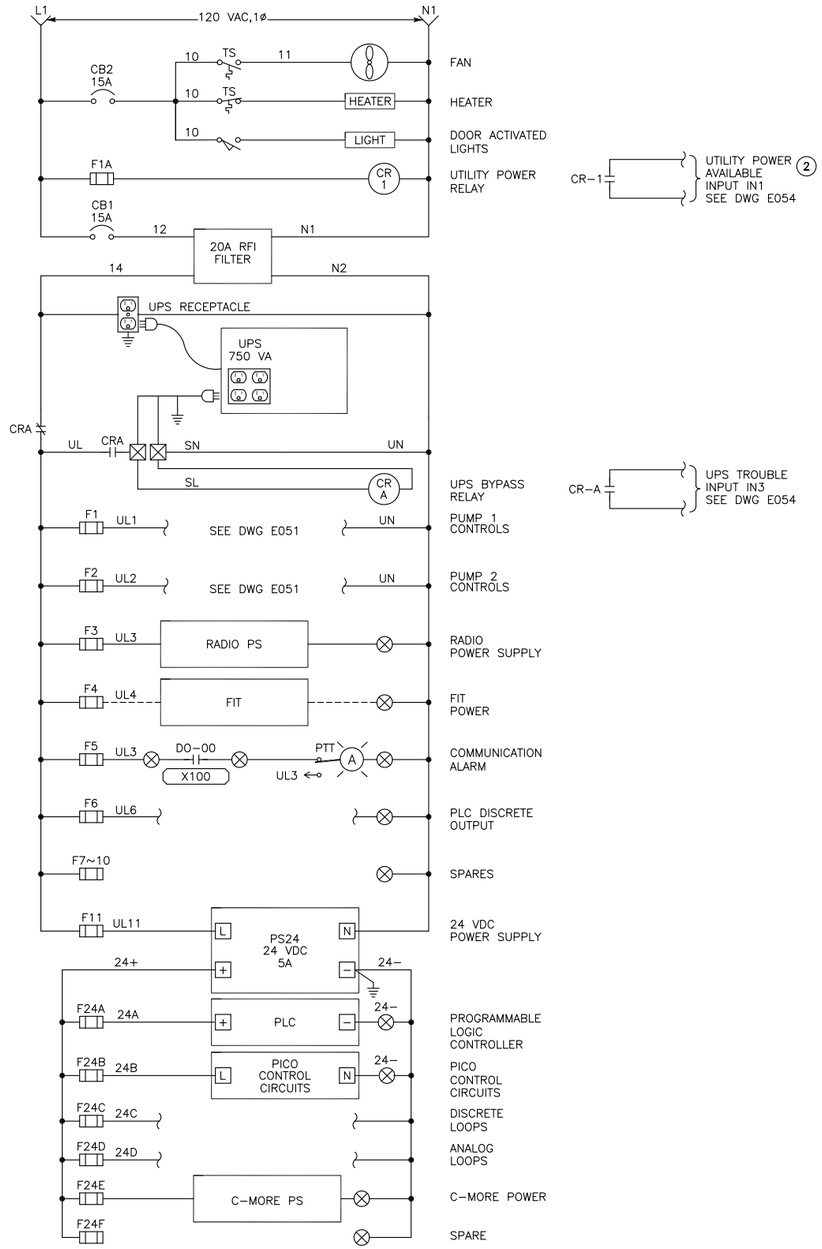
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3 PUMPS BOOSTER STATION - SSS
TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E052
APPROVED: --	DATE: JUNE 2026	



POWER DISTRIBUTION DIAGRAM (1)

NOTES:
(1) DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

(2) PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.

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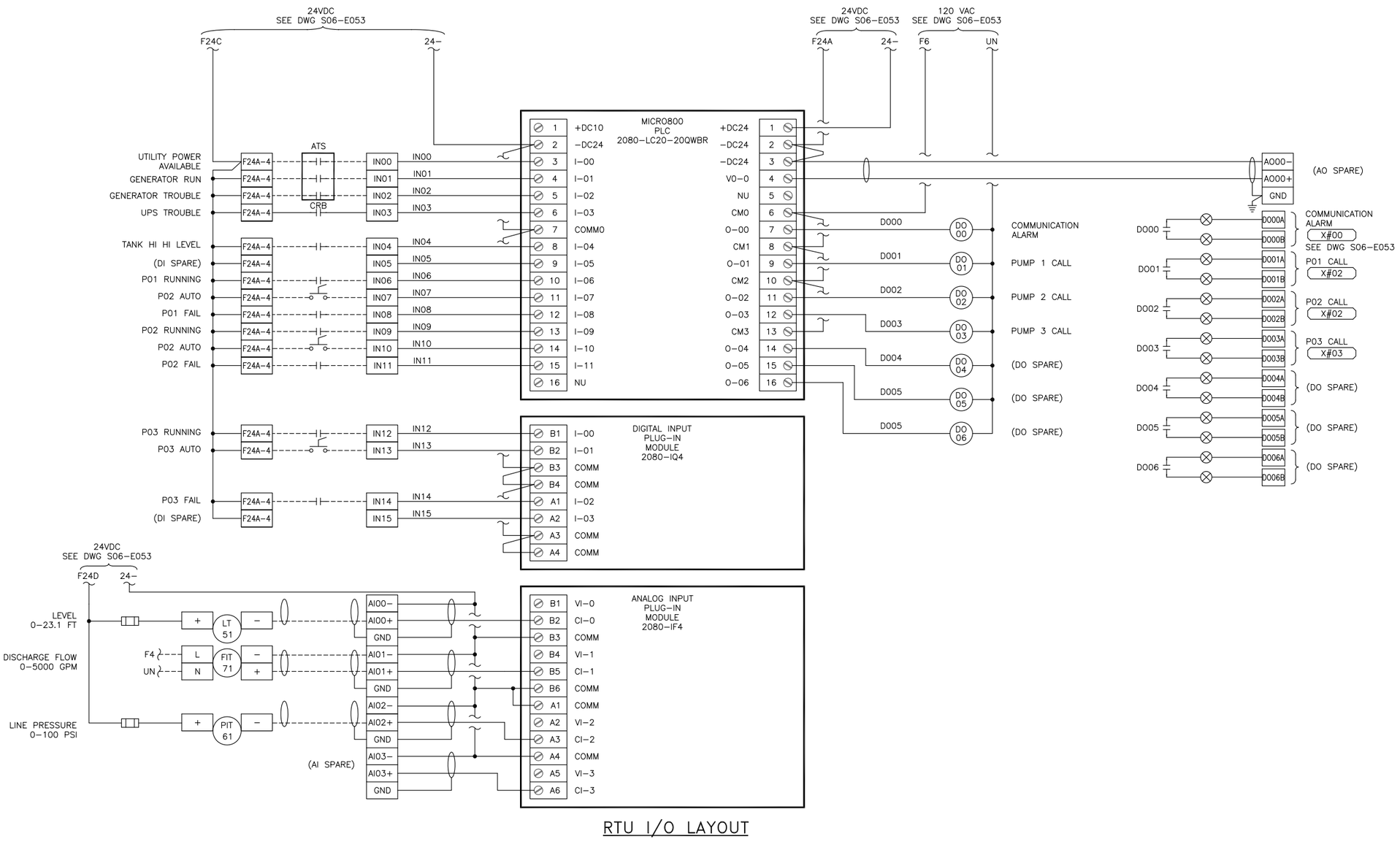
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3 PUMPS BOOSTER STATION - SSS
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E053
APPROVED:	DATE:	
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RTU I/O LAYOUT

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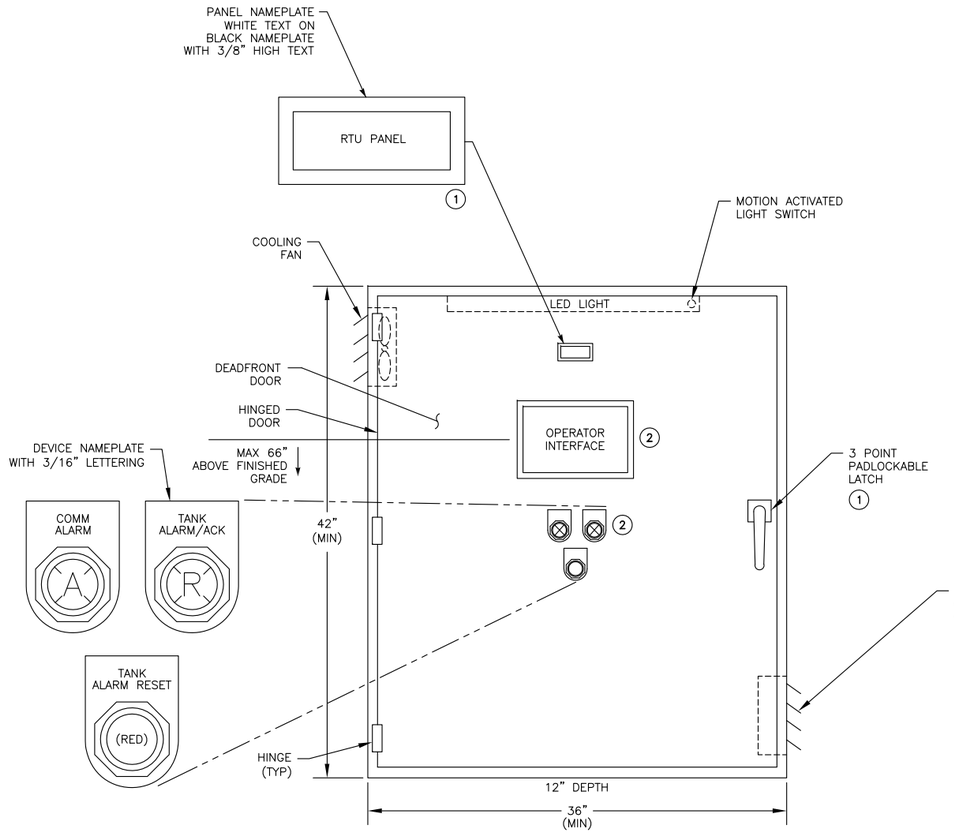
FILE: 2602CE001

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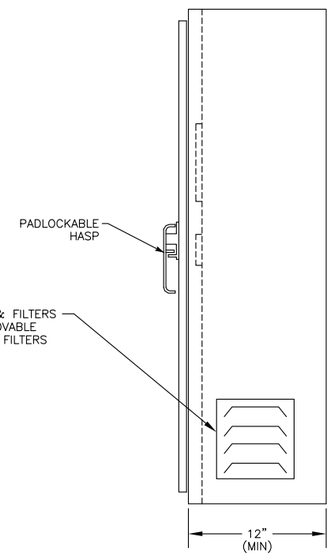
3 PUMPS BOOSTER STATION - SSS
RTU PANEL STANDARD I/O LAYOUT

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E054
APPROVED: --	DATE: JUNE 2026	



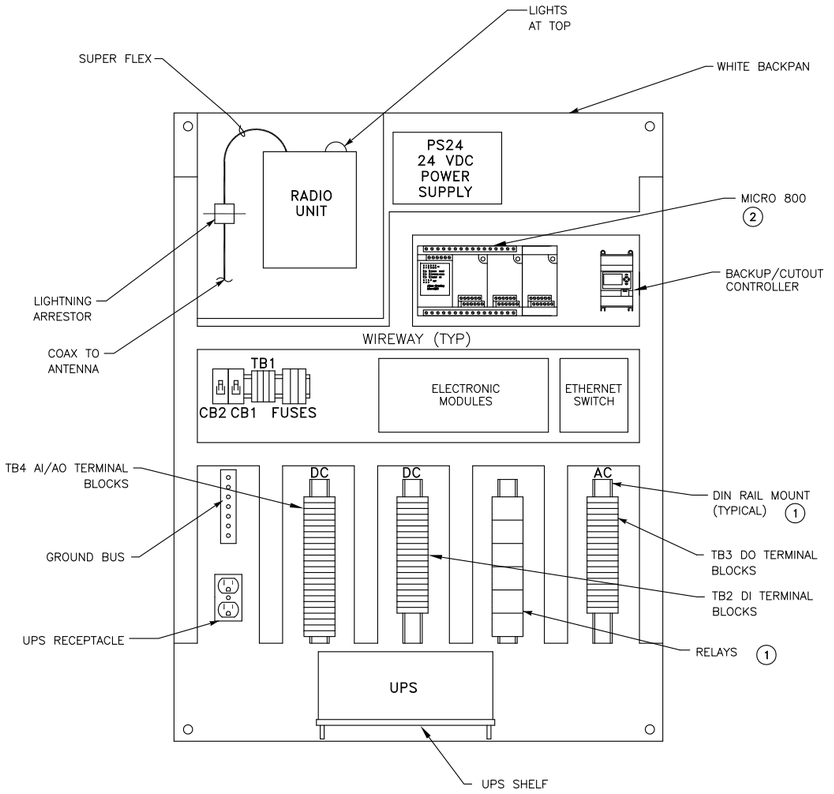
TYPICAL RTU PANEL ELEVATION DETAILS (A / E62)

NOT TO SCALE



SIDE VIEW (B / E62)

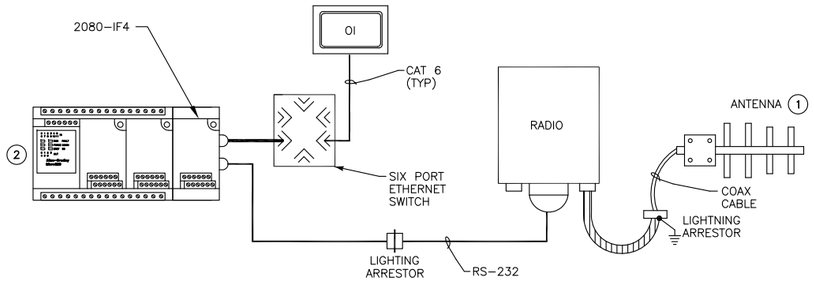
NOT TO SCALE



TYPICAL BACKPAN LAYOUT (C / E62)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.



PLC BLOCK DIAGRAM (D / E62)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IF4 (4 AI).

T.E.E.m.
(916) 457-8144

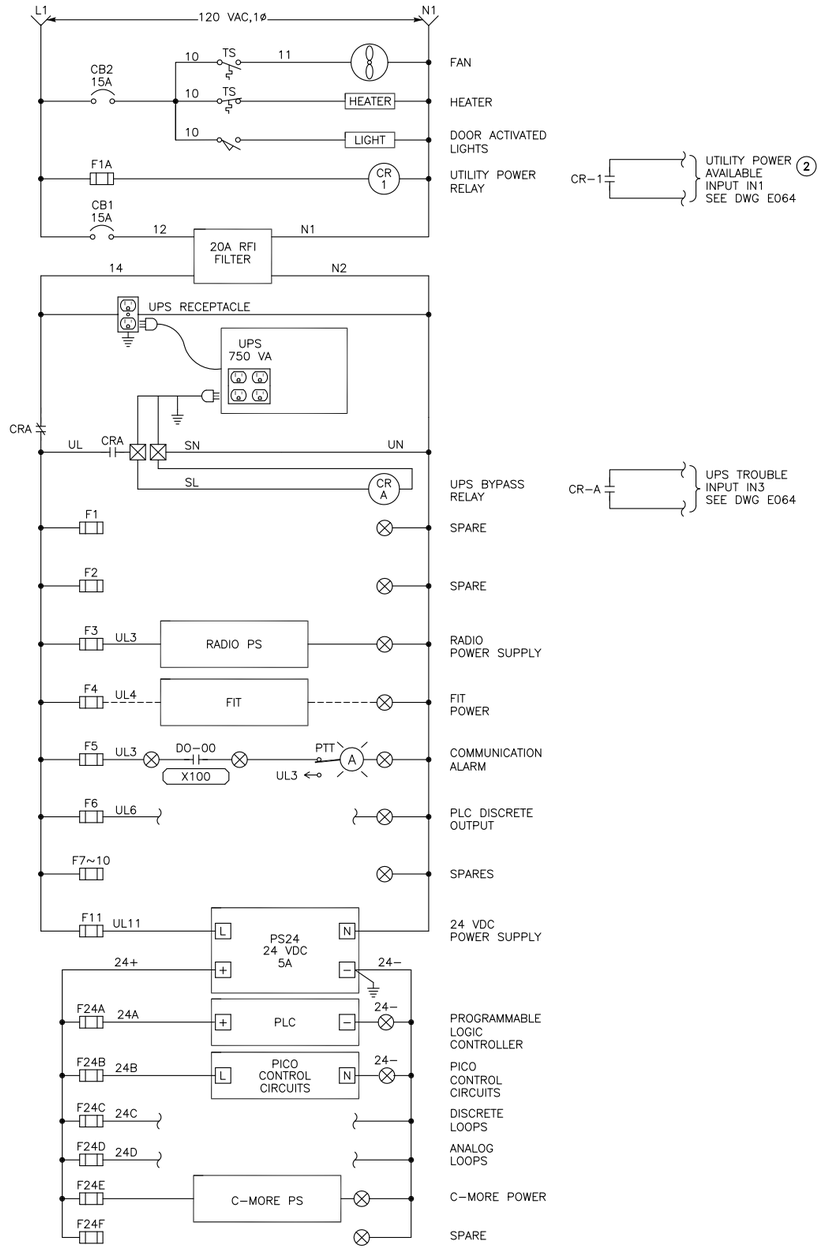
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TANK TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E062
APPROVED: --	DATE: JUNE 2026	



POWER DISTRIBUTION DIAGRAM (1)

NOTES:
(1) DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

(2) PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.

T.E.E.m.
(916) 457–8144

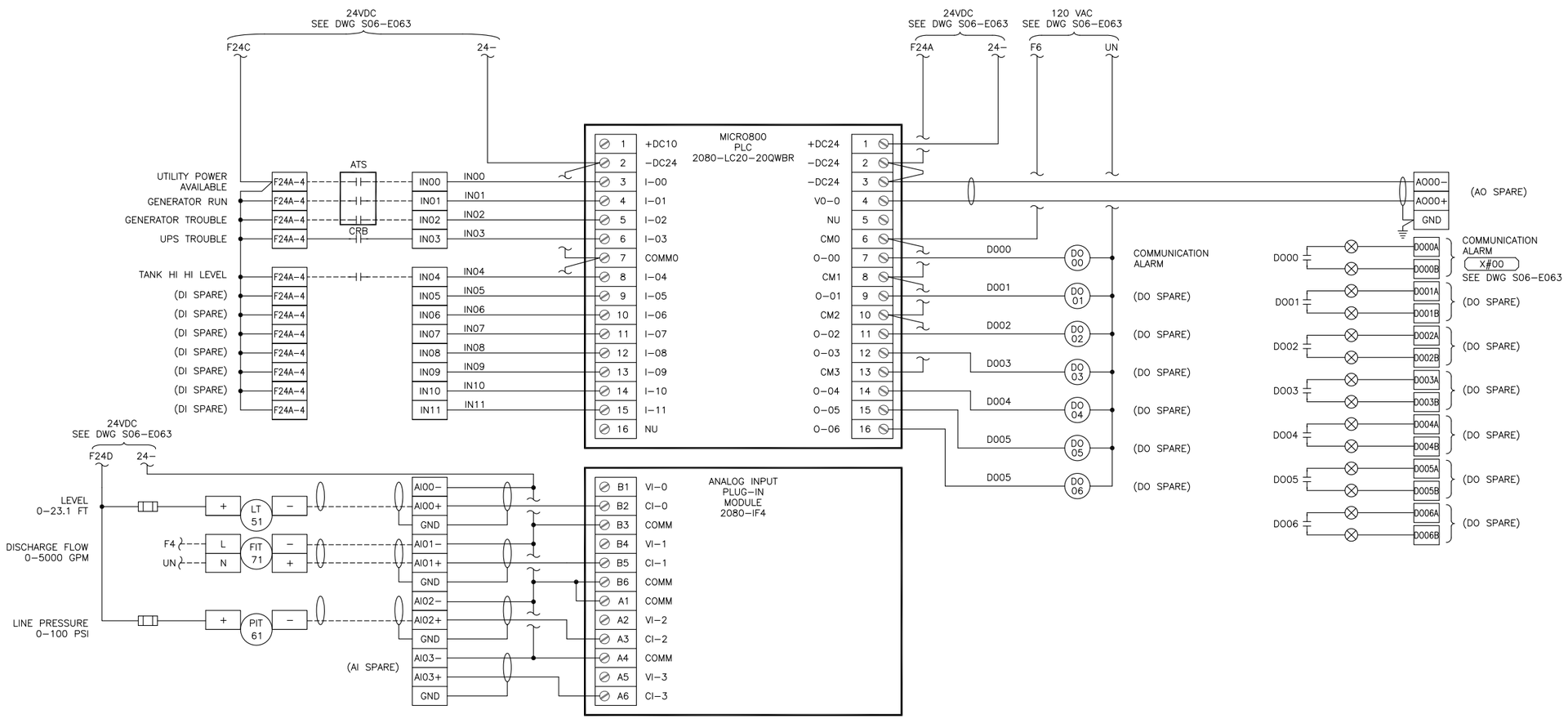
FILE: 2602C

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TANK RTU PANEL
CONTROL POWER DISTRIBUTION DIA

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E063
APPROVED:	DATE:	
--	JUNE 2026	



RTU I/O LAYOUT

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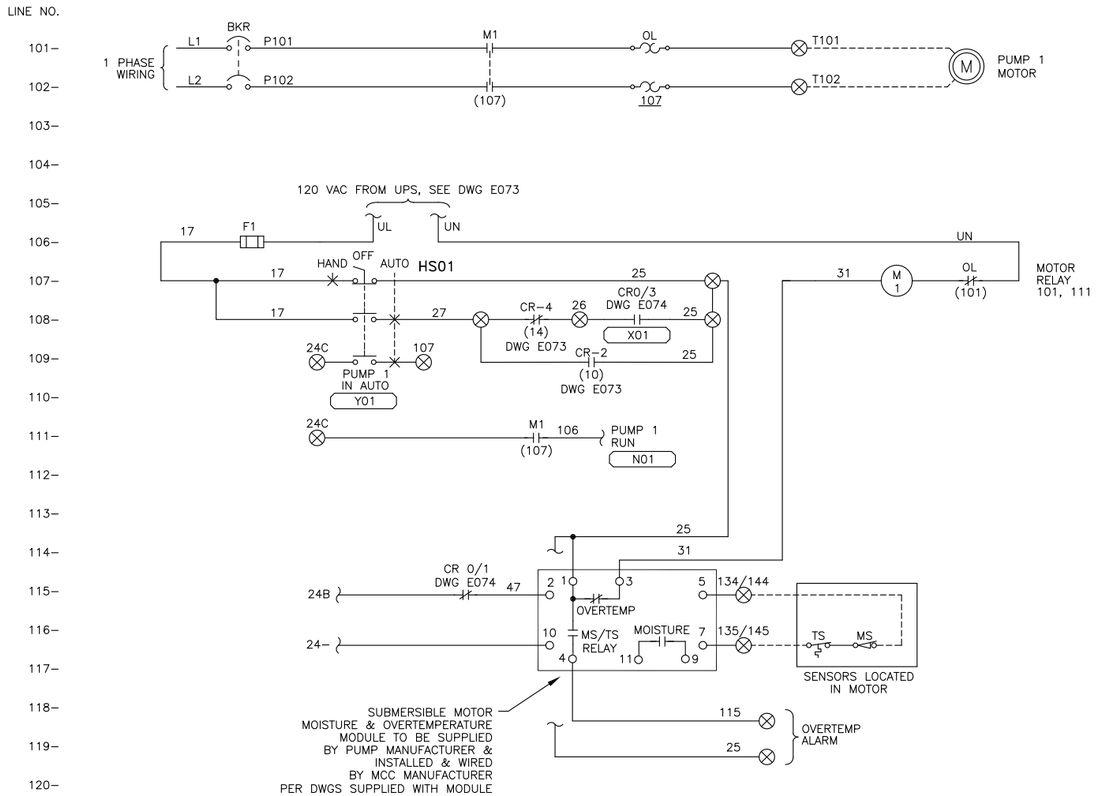
FILE: 2602CE001

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TANK RTU PANEL
STANDARD I/O LAYOUT

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E064
APPROVED:	DATE:	
--	JUNE 2026	

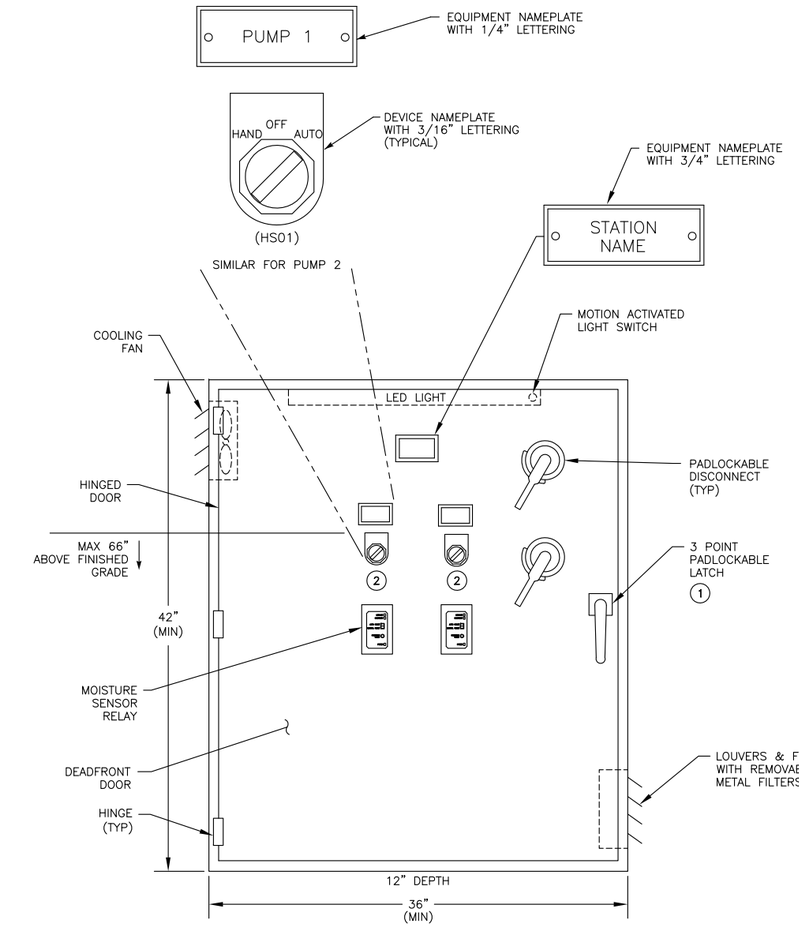


PUMP ELEMENTARY DIAGRAM–SINGLE PHASE

PMP01
PMP02

NOTES: (1) INCLUDE PROVISIONS FOR MOISTURE & OVERTEMPERATURE MODULE FOR FUTURE USE IF NOT REQUIRED AT THIS TIME.

(3) TYPICAL FOR PUMPS#1~2. TERMINALS, TAGS SHOWN ARE FOR PUMP 1. USE 02, 20 & 200 SERIES NUMBERING FOR PUMP #2, ETC.



TYPICAL PUMP PANEL ELEVATION DETAILS

A / E11

NOT TO SCALE

NOTES: (1) MOUNTED ON EXTERIOR DOOR.

(2) MOUNTED ON DEADFRONT DOOR.

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(916) 457–8144

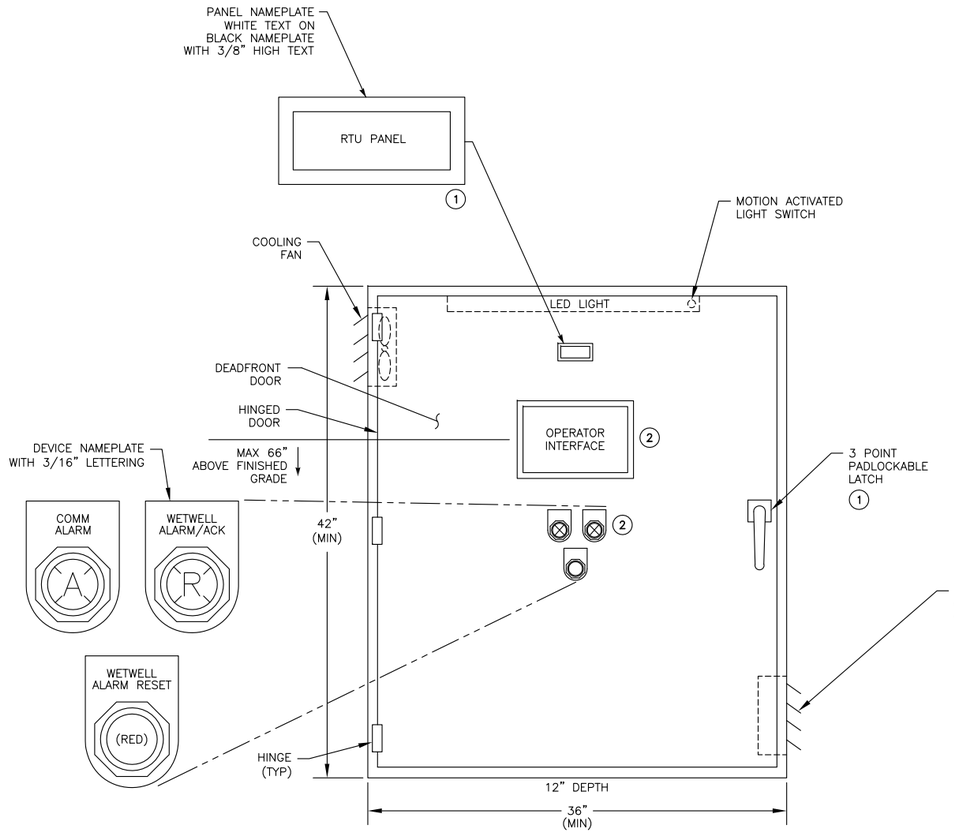
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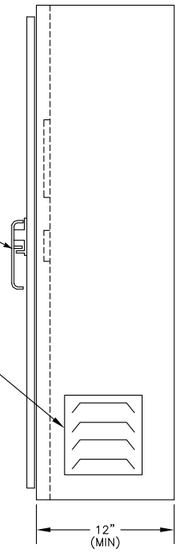
2 PUMPS LIFT STATION - SINGLE PHASE
PUMP ELEMENTARY & ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E071
APPROVED: --	DATE: JUNE 2026	



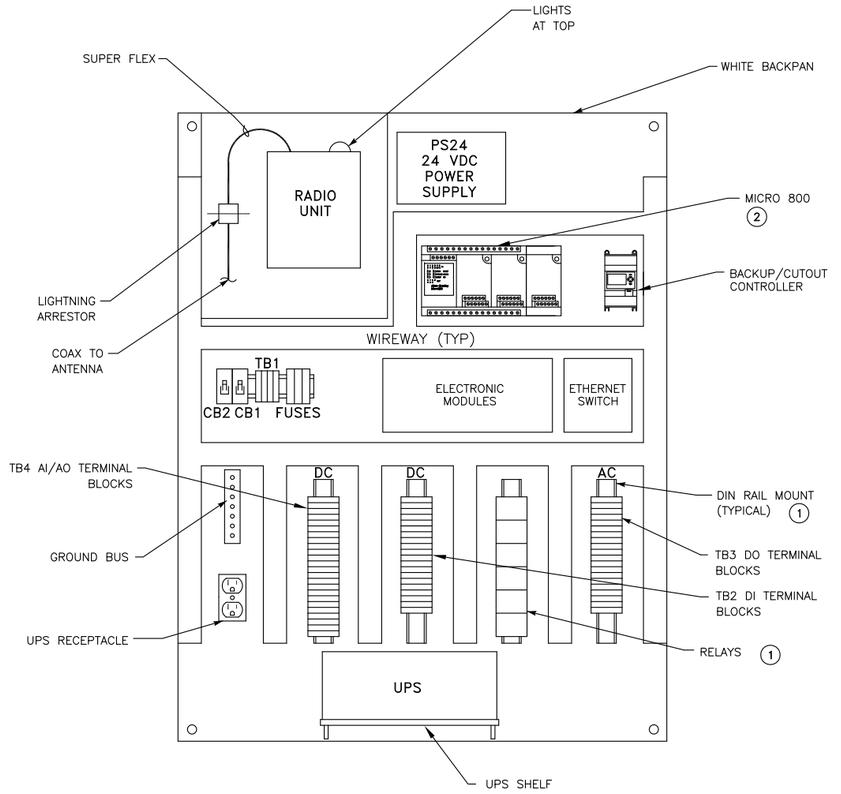
TYPICAL RTU PANEL ELEVATION DETAILS (A / E72)

NOT TO SCALE



SIDE VIEW (B / E72)

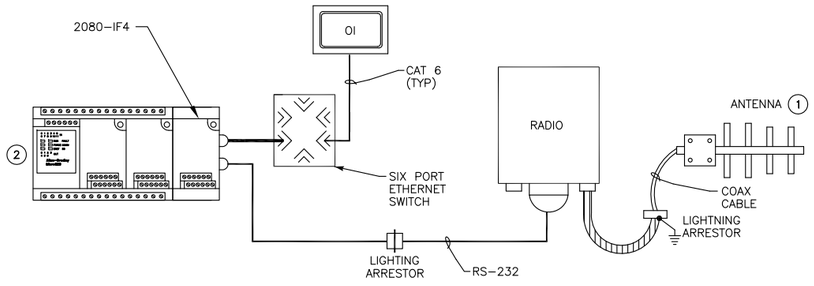
NOT TO SCALE



TYPICAL BACKPAN LAYOUT (C / E72)

NOT TO SCALE

NOTES:
1. PROVIDE EXTRA DIN RAIL TO BE ABLE TO ADD THREE RELAYS OR TEN TERMINAL BLOCKS TO EACH DIN RAIL.
2. WIRE ALL SPARE I/O TO TERMINAL BLOCKS.



PLC BLOCK DIAGRAM (D / E72)

NOTES:
1. REUSE (E) ANTENNA AND MAST.
2. 2080-LC20-20QWBR (12 DI, 7 RELAY DO, 1 AO) WITH 2080-IF4 (4 AI).

T.E.E.m.
(916) 457-8144

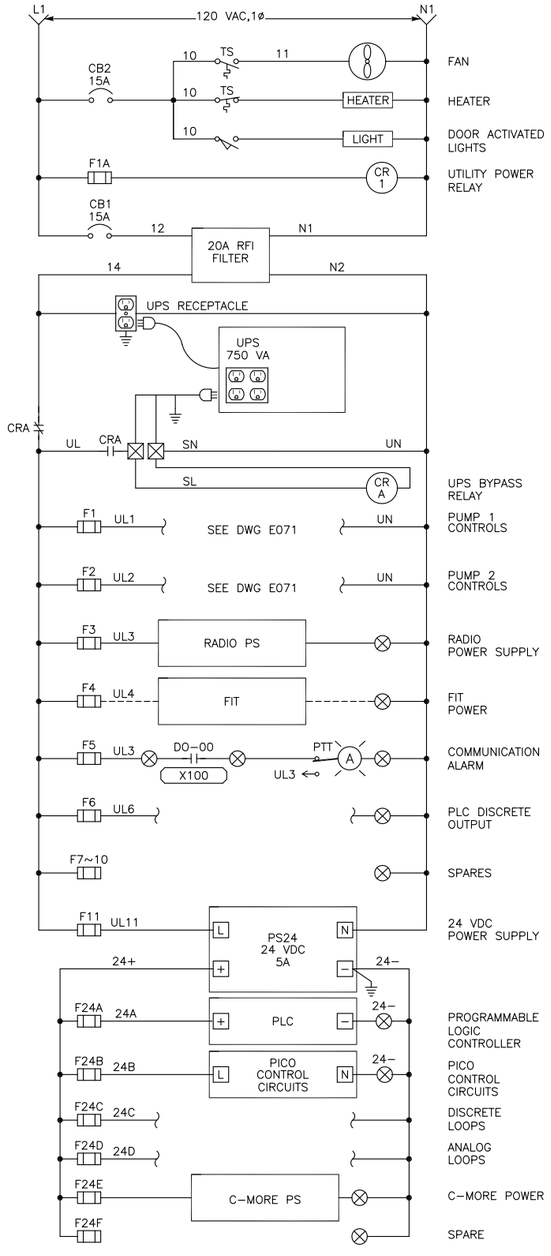
FILE: 2602C

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2 PUMPS LIFT STATION - SINGLE PHASE
TYPICAL RTU BACKPAN AND ELEVATION

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E072
APPROVED: --	DATE: JUNE 2026	



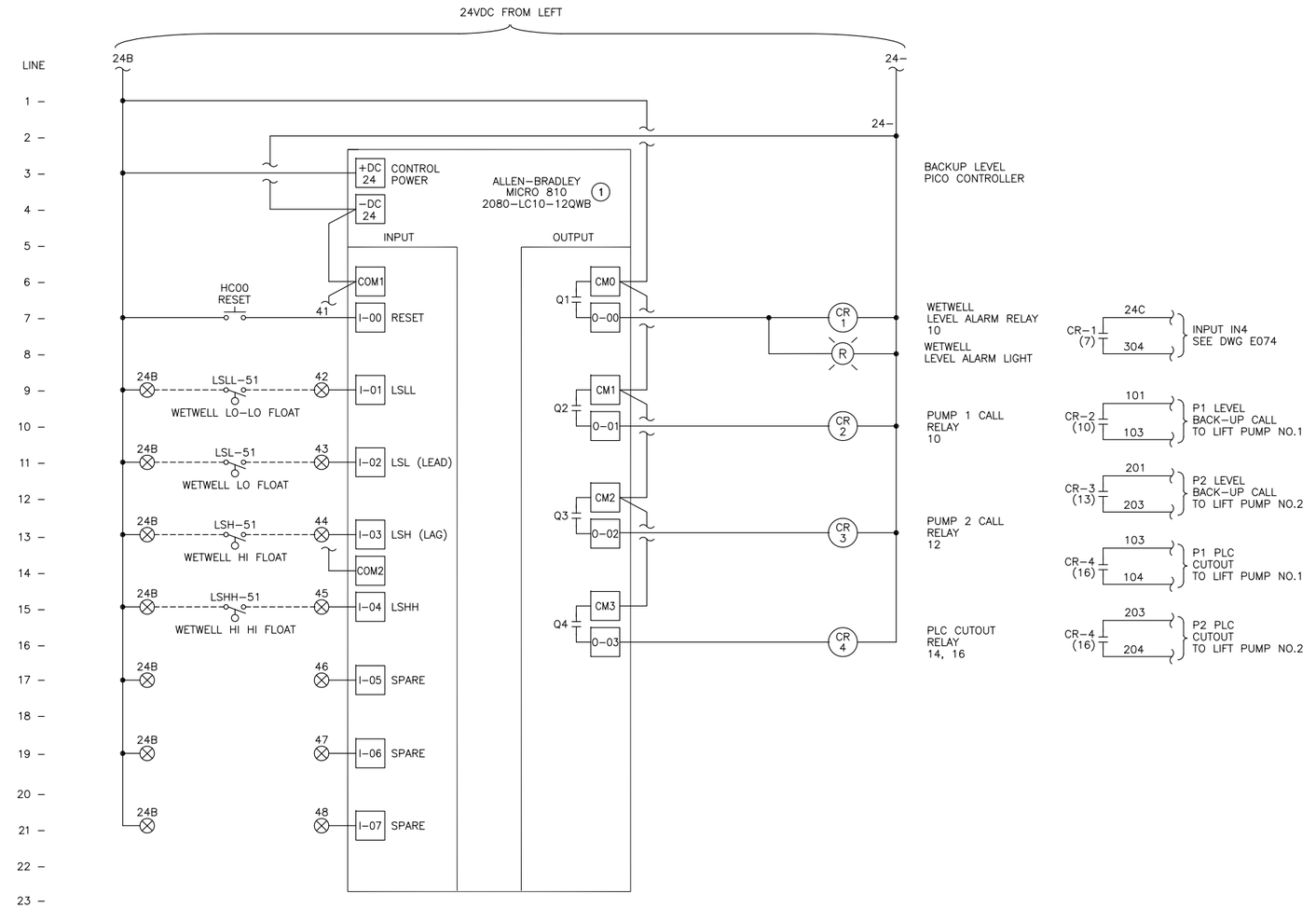
CR−1 — UTILITY POWER AVAILABLE INPUT IN1 SEE DWG E074 (2)

CR−A — UPS TROUBLE INPUT IN3 SEE DWG E074

POWER DISTRIBUTION DIAGRAM (1)

NOTES:
(1) DISTRIBUTION DIAGRAM REPRESENTATIVE OF MAJOR COMPONENTS ONLY. ADDITIONAL FUSES, CIRCUITS, AND COMPONENT CONNECTIONS MAY BE REQUIRED FOR A FUNCTIONAL SYSTEM.

(2) PROVIDE IF GENERATOR AND ATS ARE NOT PROVIDED.



BACKUP/CUTOUT CONTROL ELEMENTARY DIAGRAM

NOTES:
(2) ALLEN−BRADLEY PICO WITH MICRO 800 LCD DISPLAY & KEYPAD.

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(916) 457−8144

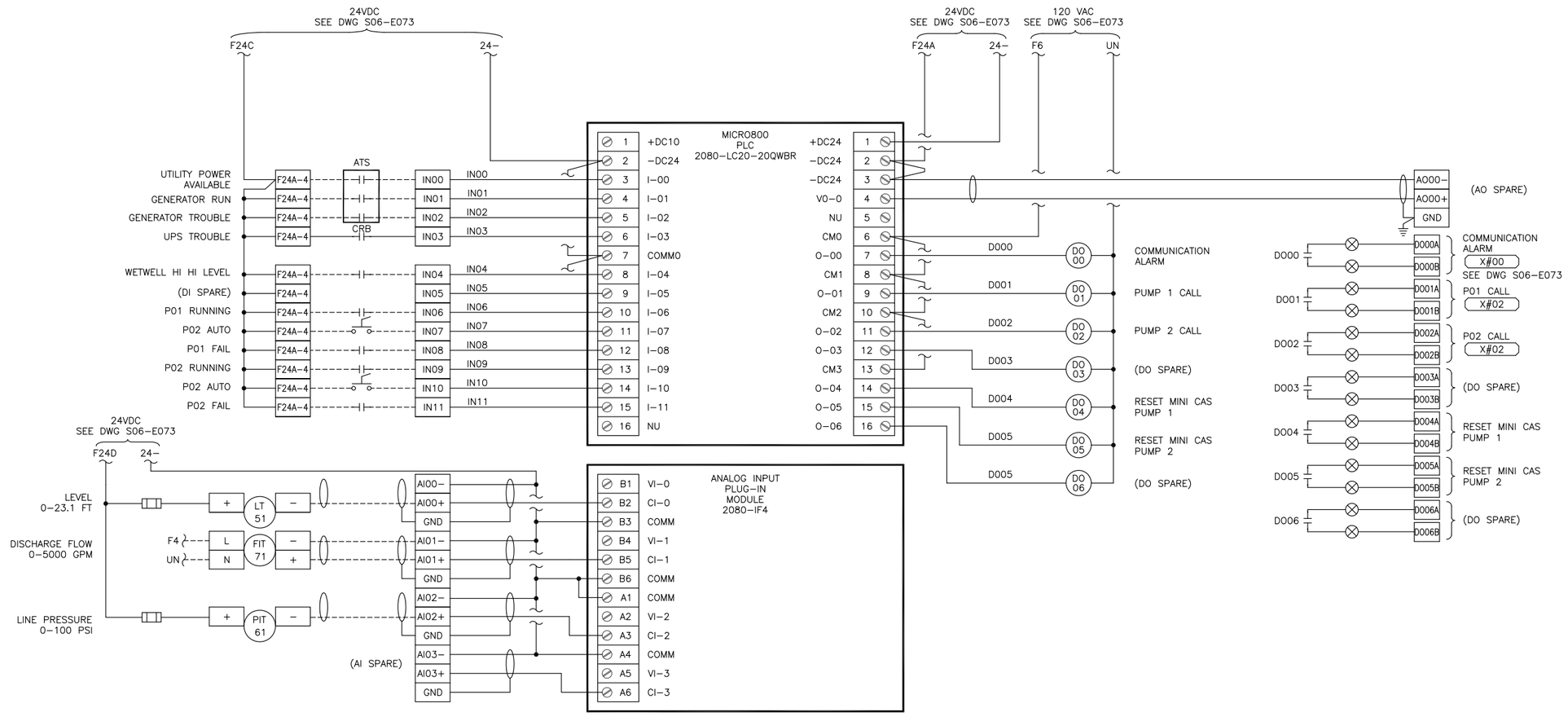
FILE: 2602CE001

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2 PUMPS LIFT STATION - SINGLE PHASE
RTU PANEL & CONTROL POWER DISTRIBUTION DIA

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E073
APPROVED: --	DATE: JUNE 2026	



RTU I/O LAYOUT

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2 PUMPS LIFT STATION - SINGLE PHASE
RTU PANEL STANDARD I/O LAYOUT

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-E074
APPROVED:	DATE:	
--	JUNE 2026	

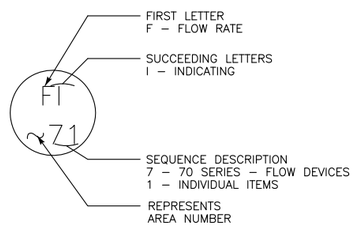
P & I DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
XXX / XXX	FIELD MOUNTED INSTRUMENT
XXX / XXX	FACE MOUNTED INSTUMENT ON LOCAL PANEL, OPERATOR ACCESSIBLE
XXX / XXX	FACE MOUNTED INSTRUMENT ON FIELD PANEL, OPERATOR ACCESSIBLE
XXX / XXX	INSTRUMENT MOUNTED IN LOCAL PANEL, OPERATOR INACCESSIBLE
XXX / XXX	INSTRUMENT MOUNTED IN FIELD PANEL, OPERATOR INACCESSIBLE
I	OPERATION PERFORMED WITH LOGIC OR HARDWIRED DEVICES
DWG #	– REFERENCE ELEMENTARY DWG. #
XXX / XXX	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL INDICATION
XXX / XXX	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL ALARM INDICATION
XXX / XXX	PLC OR COMPUTER PERFORMING INTERNAL OPERATION
XXX / XXX	PLC OR COMPUTER PERFORMING INTERNAL ALARM OPERATION
$\propto \int \frac{\partial}{\partial t}$	PROPORTIONAL, INTEGRAL, AND DIFFERENTIAL PARAMETERS
% +/–	RATIO AND BIAS PARAMETERS
	AUDIBLE ALARM (BUZZER OR HORN)
R#–C# XXX / XXX	ANNUNCIATOR WINDOW R – ROW # C – COLUMN #
X	LAMP INDICATION (STATUS OR ALARM)
XXXXX	DISCRETE INPUT
	DISCRETE OUTPUT
	ANALOG INPUT
	ANALOG OUTPUT
a XXXX / XXXX a	JUMP TAG FROM ONE AREA TO ANOTHER AREA OF DRAWING "a" TAG CONNECT POINT ON EACH DRAWING
I–X / I–X	CONTINUED ON DWG I–X
#	AUTODIALER PRIORITY # PC BASED SOFTWARE

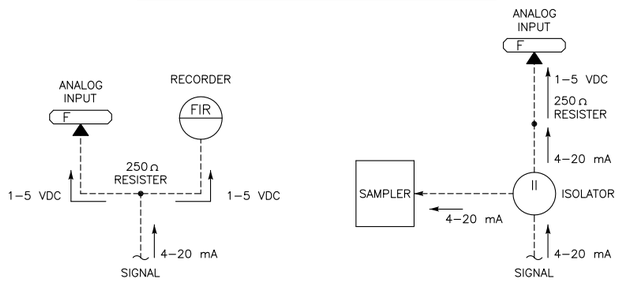
SYMBOL (OPEN / CLOSED)	DESCRIPTION
	GATE VALVE
	PLUG VALVE
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	MUD VALVE
	V–PORT VALVE \ ECCENTRIC VALVE
	KNIFE GATE
	SLIDE GATE
	SLUICE GATE
	CLAMP GATE
W	WEIR SLIDE GATE
	FLAP GATE
	SWING CHECK VALVE
	BALL CHECK VALVE
	PRESSURE REGULATOR
	PUMP (GENERAL)
	BLOWER (GENERAL)
XXXXX	EQUIPMENT NUMBER
XXXXX	VALVE OF GATE NUMBER
	ELECTRIC SIGNAL
	LOGIC OR DATA SIGNAL
	PNEUMATIC SIGNAL
	CAPILLARY TUBING (FILLED SYSTEM)
	HYDRAULIC SIGNAL
ES AS	SONIC OR ELECTROMAGNETIC SIGNAL
E	ELECTRIC SUPPLY FROM PANELBOARD CKT
SA	SERVICE AIR
IA	INSTRUMENT AIR

INSTRUMENT IDENTIFICATION LETTERS

	FIRST – LETTER	SUCCEEDING – LETTER			
	MEASURED OF INITIATING VARIABLE	MODIFIER	READOUT PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROLLER	
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GENERAL		GLASS VIEWING DEVICE		
H	HAND				HIGH, OPENED
I	CURRENT (ELEC.)		INDICATING, INDICATOR		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW, CLOSED
M	MOISTURE	MOMENTARY			MIDDLE
N	STATUS		STATUS	USER'S CHOICE	USER'S CHOICE
O	OPERATOR		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTERGRATE, TOTALIZE			
R	RESET		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMITTER	TEST
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER LOUVER	
W	WEIGHT, FORCE		WELL		
X	SWITCH	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTER, CONVERTOR	
Z	POSITION DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSEIFIED FINAL CONTROL ELEMENT	



P&ID INSTRUMENT IDENTIFICATION EXAMPLE



TYPICAL ANALOG SIGNAL FLOWS

NUMBERING SEQUENCE

SEQUENCE NUMBER	DESCRIPTION
00	COMMON ALARM
01–09	INDIVIDUAL ITEMS
10	MECHANICAL
20	MECHANICAL
30	MECHANICAL
40	MECHANICAL
50	LEVEL DEVICES
60	PRESSURE DEVICES
70	FLOW DEVICES
80	ANALYTICAL DEVICES
90	SAFETY & SECURITY DEVICES

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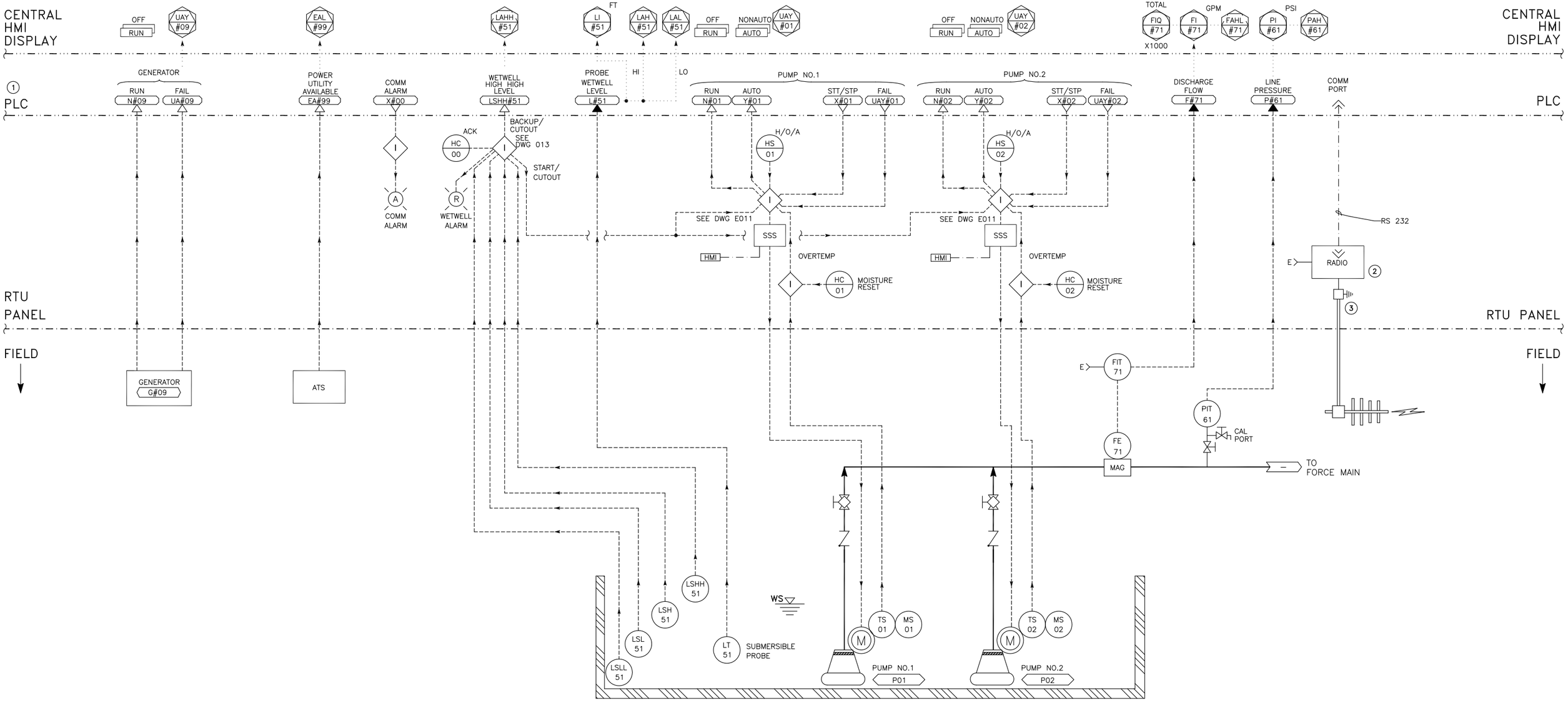
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INSTRUMENTATION SYMBOLS & ABBREVIATIONS

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-I001
APPROVED: --	DATE: JUNE 2026	



2 PUMPS LIFT STATION RTU

NOTES:

1. SEE E014 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
2. LICENSED RADIO PROVIDED & INSTALLED BY CCWD.
3. LIGHTNING ARRESTOR PROVIDED & INSTALLED BY CCWD.

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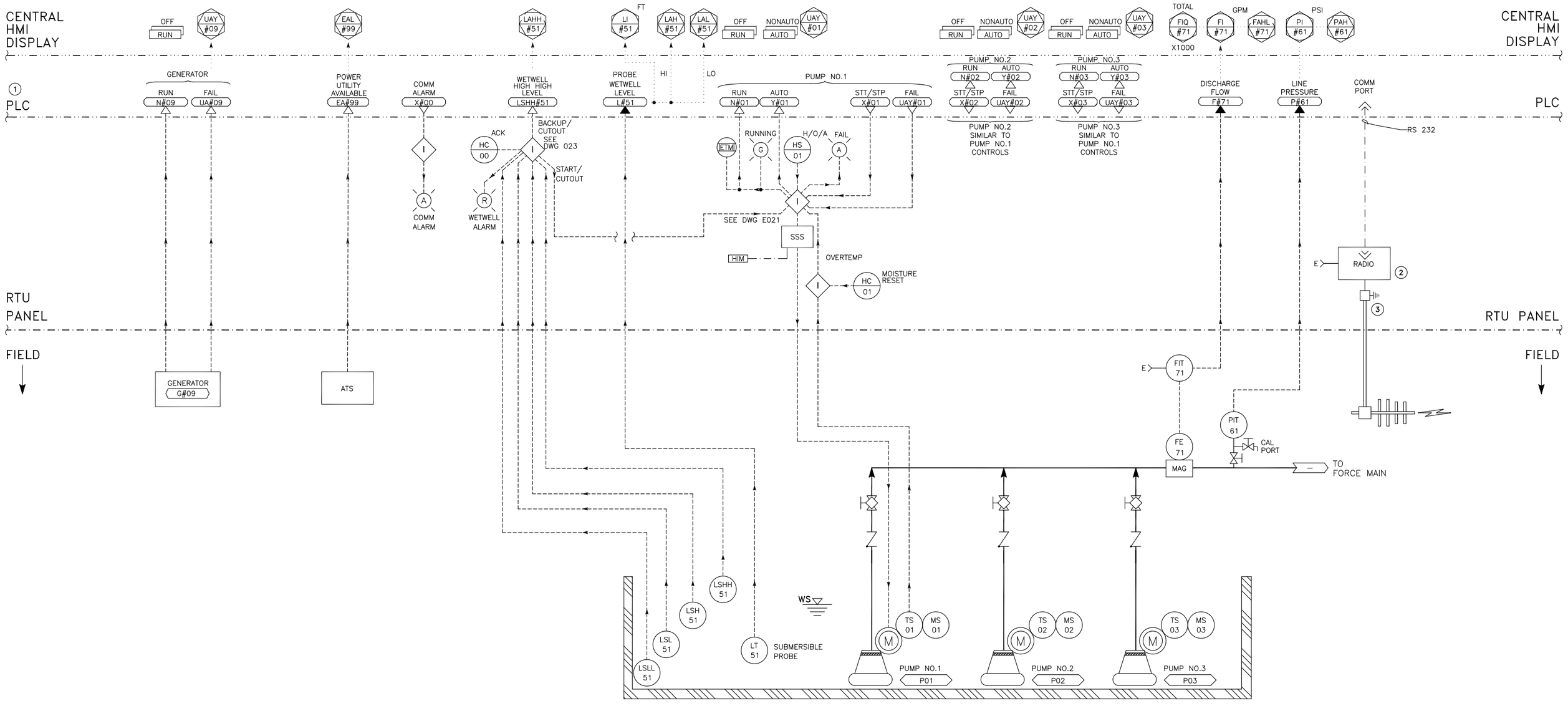
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2 PUMPS LIFT STATION - SSS
P&ID

DRAWN BY:	SCALE:	CCWD STANDARD DRAWING NO.
ATEEN	NONE	S06-I011
APPROVED: --	DATE: JUNE 2026	



3 PUMPS LIFT STATION RTU

NOTES:

1. SEE E014 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
2. LICENSED RADIO PROVIDED & INSTALLED BY CCWD.
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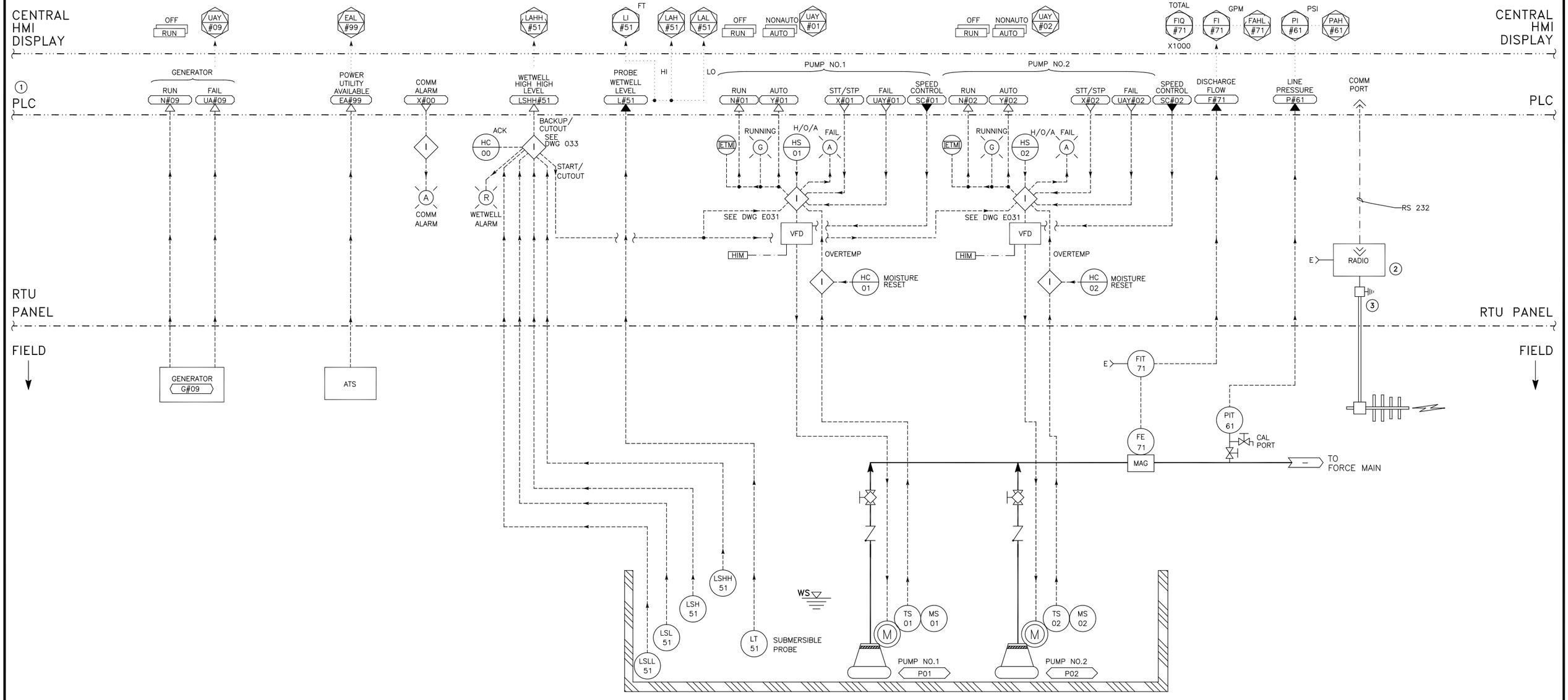
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3 PUMPS LIFT STATION - SSS
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ATEEN	NONE	S06-I021
APPROVED: --	DATE: JUNE 2026	



2 PUMPS VFD LIFT STATION RTU

NOTES:

1. SEE E014 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
2. LICENSED RADIO PROVIDED & INSTALLED BY CCWD.
3. LIGHTNING ARRESTOR PROVIDED & INSTALLED BY CCWD.

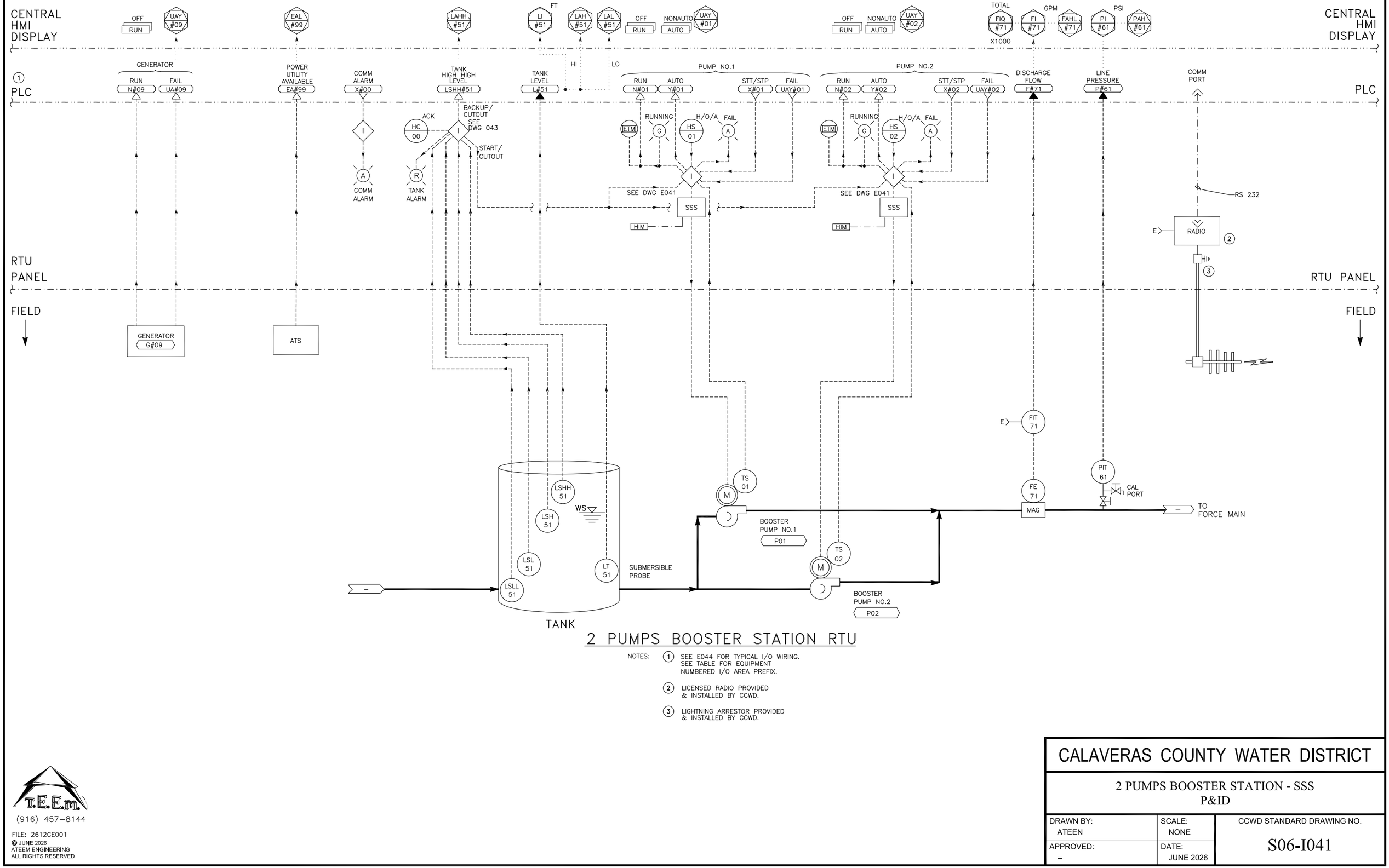
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2 PUMPS LIFT STATION - VFD
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ATEEN	NONE	S06-I031
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2 PUMPS BOOSTER STATION RTU

NOTES:

1. SEE E044 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
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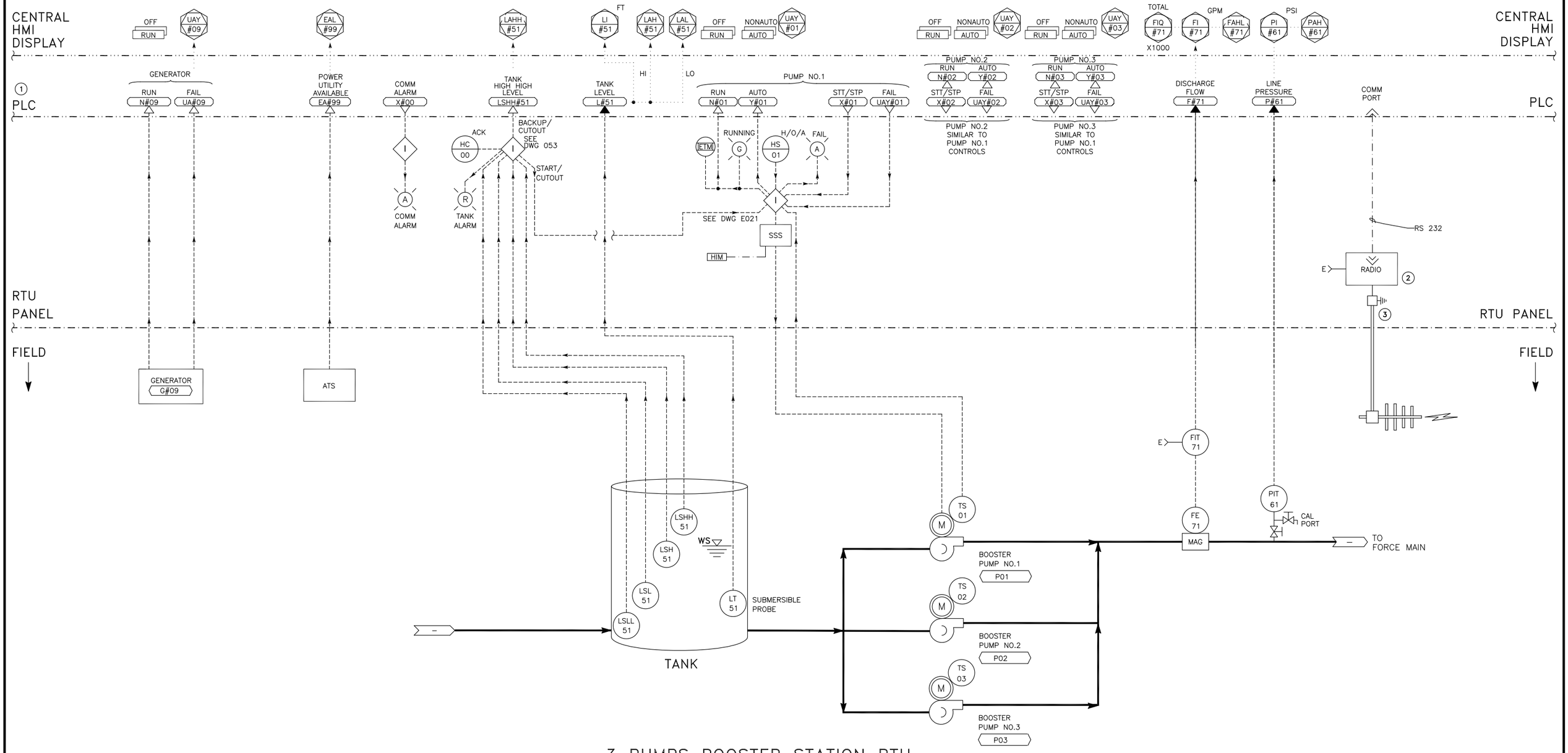
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2 PUMPS BOOSTER STATION - SSS
P&ID

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ATEEN	NONE	S06-I041
APPROVED: --	DATE: JUNE 2026	



3 PUMPS BOOSTER STATION RTU

NOTES:

1. SEE E054 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
2. LICENSED RADIO PROVIDED & INSTALLED BY CCWD.
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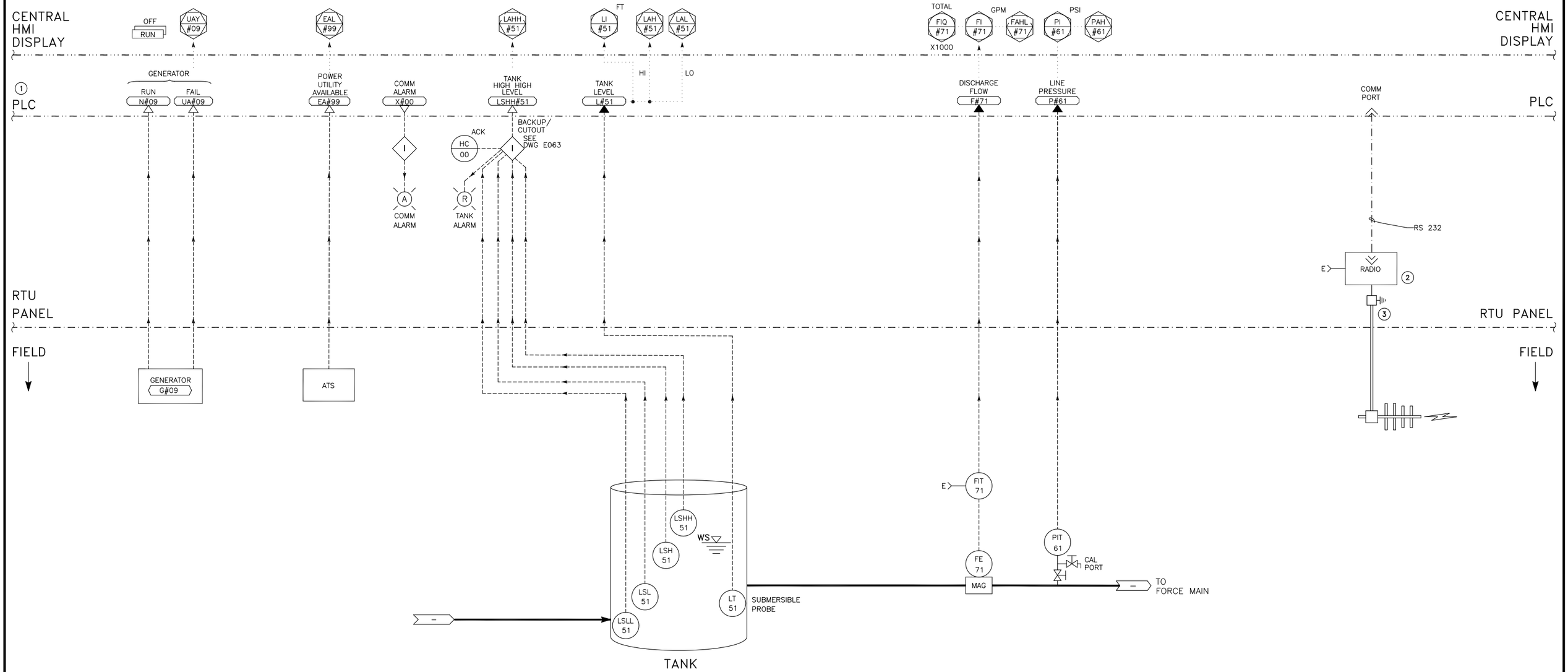
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3 PUMPS BOOSTER STATION - SSS
P&ID

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ATEEN	NONE	S06-I051
APPROVED: --	DATE: JUNE 2026	



TANK RTU

NOTES:

1. SEE E064 FOR TYPICAL I/O WIRING. SEE TABLE FOR EQUIPMENT NUMBERED I/O AREA PREFIX.
2. LICENSED RADIO PROVIDED & INSTALLED BY CCWD.
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TANK
P&ID

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ATEEN	NONE	S06-I061
APPROVED: --	DATE: JUNE 2026	

Agenda Item

4c



AGENDA ITEM 4C

SUBJECT: CIP 11083S/W Wallace & Sawmill Water Storage Tanks Replacement Project

SUMMARY:

The existing Wallace Tank and Sawmill Tank are both welded steel tanks, have reached the end of their useful lives, and are proposed to be replaced with new bolted glass-lined steel tanks (Project). The 220,000 gallon Wallace Tank will be replaced in its existing location with a new 230,000 gallon tank. The 3,000,000 gallon Sawmill Tank will be replaced with two (2) 500,000 gallon tanks to more realistically meet current and future demand, improve water quality, and provide redundancy. Both tank sites will include the removal and replacement of the existing piping, valves, and conduit, the implementation of a tank mixer, level sensor, and flow meter, and the integration of all controls with the existing PLC and HMI screen.

CONSTRUCTION ACTIVITIES 8/31 TO PRESENT:

1. Wallace Tank:
    a. 8/31: Moyle Excavation, Inc (Moyle) mobilized to the site.
    b. 9/3: Plant control review from Cooper Controls.
    c. 9/4: Moyle installed a new fire hydrant at the direction of the District to provide fire protection and project water.
    d. 9/10: Plant control improvements made by ATEEM.
    e. 9/16/26: Attended the Wallace Community Services District Board Meeting to provide an overview and timeline of the Wallace Tank Project activities.
    f. 8/31 to 9/24: The temporary tanks were installed, decontaminated, and tied in with the existing system.
    g. 10/05: Decommissioning of the existing ground tank began after the temporary tanks were tested and confirmed to meet operational demand.
    h. 10/13: Existing ground tank and foundation was demolished.
    i. 10/14 to 10/19: New tank foundation was over excavated and backfilled with engineered fill to 95% compaction.
    j. 10/26 to 10/27: Tank footing excavated and reinforcement placed.
    k. 10/28: Tank footing poured.
    l. 11/3: Tank pad poured.
    m. 11/6: Tank erection to begin.

n. Tank commissioning anticipated to be complete on or around 2/1/27.

2. Sawmill Tank:
    a. 10/26: Cal FIRE approved Conversion Exemption Application to remove the recently acquired lot from SPI's Timber Harvest Plan. The site is now clear for construction.
    b. 11/2: Delivery of the Sawmill tank materials to the CCWD San Andreas yard is expected to be received.
    c. Given we are nearing the end of the construction season in the Arnold area, the Sawmill Project has been scheduled to begin at the start of the following construction season, on or around April 1, 2027.
    d. Project completion is expected in the 2027 calendar year.

FINACIAL CONSIDERATION:

As of October 28, 2026, contractor progress payments have been paid through August 31, 2026. The Contractor has not yet submitted pay requests for work completed after that date. Physical construction completed during the reporting period has been limited to the Wallace Tank site; construction at the Sawmill Tank site has not yet begun.

Registered Professional Forester Tim Tate obtained Cal FIRE's approval of the Conversion Exemption Application for the Sawmill Tank site. These services, at a cost of $1,200, successfully removed the lot purchased from SPI from their Timber Harvest Plan and cleared the site for construction.

An additional Professional Service Agreement with ATEEM, in the amount of $41,220, was entered into for electrical engineering and supervisory control and data acquisition (SCADA) services at the Wallace and Sawmill tank sites. ATEEM improved water-level control for the Wallace ground and elevated tanks; however, the Wallace Water Treatment Plant controls could not be modified because of the limitations of the existing control panel, which was designed in the mid-1980s. Based on ATEEM's advice, replacement of the plant control panel with modern controls should be prioritized to support general plant operation and allow future modifications and troubleshooting by an electrical engineer. The scope, cost, and funding for plant control panel replacement should be evaluated separately; a replacement cost is not identified in this update.

The services provided by Tim Tate ($1,200), ATEEM ($41,220), and Cooper Controls will be funded from the project contingency. The identified costs for Tim Tate and ATEEM total $42,420, excluding Cooper Controls, whose service cost is not yet identified in this update. At this time, a budget adjustment is not necessary.

ATTACHMENTS:

None

Agenda Item

4d



AGENDA ITEM 4D

SUBJECT: EBBETTS PUMP STATION PRE-DESIGN STUDY AND COPPER COVE WASTEWATER CONVEYANCE PLANNING STUDY

SUMMARY:

Staff will provide an update on two planning efforts currently underway that will support future capital improvement projects identified in the District's Capital Improvement Program (CIP). These studies are funded within the Engineering Department budget and the CIP and are intended to develop planning-level recommendations, establish design criteria, identify system constraints, and create well-defined scopes of work for future design procurements.

The first effort is a predesign study for the Big Trees 1, Big Trees 4, Timber Trails, and Larkspur Pump Station improvement projects. These pump station improvements are included in the current CIP and are considered critical reliability and resiliency projects for the Ebbetts Pass Water System. The study will evaluate hydraulic performance, storage requirements, pumping configurations, electrical infrastructure, standby power needs, redundancy requirements, and operational constraints to establish design criteria for future improvements. HydroScience Engineers was selected to perform this work because of its familiarity with the District's systems through its ongoing Water Master Plan and hydraulic modeling efforts. The study will leverage work already being completed as part of the District's planning initiatives and will help develop a focused and efficient design RFP.

The second effort is the Copper Cove Wastewater Conveyance System Planning Study. This study will evaluate key bottlenecks and deficiencies within the wastewater collection and conveyance system, including the Upper and Lower Cross Country force mains, Lift Station 40, and several deteriorated manholes. The study will assess conveyance capacity limitations, operational concerns, constructability constraints, and future system needs while developing planning-level recommendations and cost estimates. The resulting report will identify preferred improvement alternatives and establish the framework for future design and construction projects. This study is being funded by Engineering Department Budget for Copper Cove service area study.

Engineering staff recently conducted site visits with HydroScience and District Operations personnel at the pump station facilities to review existing conditions, discuss operational challenges, and identify opportunities for improvement. The participation of Operations staff ensures that maintenance considerations, reliability concerns, and day-to-day operational experience are incorporated into the planning process.

The Engineering Department is currently operating with two vacant engineering positions while continuing to advance numerous capital, regulatory, planning, and development projects. Utilizing consultants with detailed knowledge of District infrastructure allows projects to continue moving forward while providing specialized expertise on systems they are already familiar with. HydroScience's ongoing hydraulic modeling work and Verdantas' familiarity with previous planning efforts provide continuity, reduce duplication of effort, and allow both studies to build upon existing District data and planning documents.

Completion of these studies will provide the technical basis for future design procurements, improve project definition, refine project budgets, reduce design uncertainty, and support implementation of critical water and wastewater infrastructure improvements throughout the District. Eliminating uncertainty on what scope of future projects will help focus the design and minimize surprises when issuing RFP for design services and ability to right size the project to maximize the benefits with limited .

Agenda Item

4e



AGENDA ITEM 4E

SUBJECT: DEVELOPER UPDATES

SUMMARY:

1. LGI Homes

The developer has broken ground, and active grading and earthwork are underway for the planned 156-unit residential development. The contractor anticipates beginning storm drain and sewer installation during the week of November 2, 2026. The lift station submittals have been approved and ordered by the contractor as of last field meeting. The remaining underground water and sewer force main improvements are anticipated to begin spring 2027.

2. Jenny Lind Elementary School (JLES) Force Main Project:

The contractor has installed the 4-inch force main along Berkesey Lane from Baldwin Lane. Connection to the District's sewer collection system at Vista Delago West must wait until LGI Homes completes the sewer infrastructure required for the connection. The District continues to coordinate the construction work with the School District Project Management team.

3. Copper Town Square Improvements

District staff continue to coordinate with the developer on improvements to existing utility infrastructure serving Buildings 11, 12, and 15 and the townhome project.

- **Townhome plans:** District staff have approved the townhome utility improvement plans. The owner is proceeding with permitting requirements through the County Planning Department.
- **Force main and lift station design:** The owner's design team continues to advance the force main and lift station designs. The District has approved the lift station design basis report.

- **Unused utility abandonment and removal:** As development plans evolve from the original concept, the District has requested that the owner abandon and remove selected existing utilities that will no longer be needed, reducing the potential for future failures around the unused infrastructure. The owner has been receptive and continues to coordinate with the District.
- **Reeds Turnpike Pump Station:** The contractor has mobilized to the project site and established a temporary fence around the work site. The project will provide the required water supply capacity to the Copper Tank Zone and will meet the future development needs in the area.

FINACIAL CONSIDERATION:

None at this time.

Agenda Item

5a



AGENDA ITEM 5A

SUBJECT: PROJECT UPDATES

SUMMARY:

Jenny Lind A–B Transmission Main – D.A. Woods has completed the construction of the project. Staff are coordinating with Calaveras County Public works to finish up the paving agreement and processing the final invoice to the County Public Works for paving work.

Copper Cove Pond 6 / SAF Project – The District has secured an additional $3.1 million in Section 219 Federal Funding to cover increased construction costs. The District staff continues to coordinate the work with USACE through weekly meetings.

District Construction team has poured a concrete pad for the SAF unit. Interdepartmental coordination is ongoing for the installation of the SAF unit and its appurtenances to tie-in to the existing filtration system at the tertiary treatment facility.

An updated letter report is being generated to address the project's scope and cost estimate provided by the USACE.

Copper Cove C Transmission and Booster Pump Station – Mozingo has completed installation of the new 20-inch water transmission main. Delivery of the Booster Pump Station electrical components delivery is expected by February 2027. The electrical system components are experiencing delays throughout the industry due to high demand The contractor has completed the final paving on little John Road and other road segments per the Calaveras County encroachment permit.

West Point Drought Project – Phase 1 submittals, including the 60 percent design, environmental documentation, and permitting materials, have been submitted to Cal OES. A request for information from FEMA’s Environmental and Historic Preservation review was issued and responded to in July 2026. The District received DSOD’s final comments on the 60 percent design, and engineering staff and the project design engineer met with the DSOD engineering team to address those comments. The District is also coordinating geotechnical exploration at the site, as requested by DSOD, with fieldwork anticipated in the coming weeks. Staff are working to complete the design before FEMA concludes its environmental review to minimize potential delays

associated with DSOD review. Based on prior experience, construction funding approval is anticipated within approximately 12 months, subject to environmental approval.

Lake Tulloch Intertie – The construction contract has been awarded to Ford Construction LLC. Staff is reviewing material submittals for the project and will continue coordinating with the contractor over the next few months. Construction is expected to begin in early 2027.

Huckleberry Lift Station – Design and CEQA are complete. Construction is expected to proceed once funding is secured through an upcoming grant application.

La Contenta Wastewater Treatment Plant Improvements – Environmental studies for Phase 3 Improvements have been initiated and are currently being conducted by E-Corp Consulting. An Initial Study/Mitigated Negative Declaration (IS/MND) is being prepared, and following the public review period, a final IS/MND will be completed. Upon completion of the environmental review, the 100% design will be finalized and aligned with upcoming grant application requirements.

Ebbetts Pass Master Plan and Hydraulic Model – Hydroscience Engineers have developed the hydraulic model for the Ebbetts Pass Distribution system. Model is utilized in the development of the master plan for the said service area. Staff have been working with the design engineer on growth projections and finalizing details about the buildout.

Sawmill / Wallace Tank Replacement Project – The contractor has initiated work with the Wallace Project site. The ground tank demolition is complete. Footing for the new tank is poured, engineered fill material in place, slab is expected to be poured next week. The temporary storage tanks are operational for the water supply to the elevated tank.

Arnold Sewer Master Plan – Flow monitoring will continue through the upcoming wet season due to the limited significant precipitation events experienced last season. Additional monitoring is necessary to capture representative wet-weather conditions and accurately evaluate I/I impacts, lift station capacities, and actual collection system performance. Design engineer provided a draft sewer model to the District. Staff are reviewing the pump assessments, clearwell operating conditions, flow conditions and patterns to provide accurate feedback for the model.

Arnold Secondary Clarifier – KW Emerson (Contractor) has been on site and finished construction of concrete work for the wet well, center cone, clarifier floor and walls, and flow splitter pad. Soil has been placed and compacted around the cone and associated piping. Crews also investigated existing underground utility locations in the areas planned for the new control building and electrical lines.

Hunters Raw Water Pump Station– CalOES confirmed that the Grant has completed the Final Program Review stage and is currently at FEMA Headquarters undergoing final obligation review. Blackwater completed the 90% Design Drawings and is under review by CCWD.