ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
S2 CS	—	MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH
FRAME TRIP	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
SIZE # AMPS TYPE *		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON–REVERSING UNLESS OTHERWISE NOTED: * FVR – FULL VOLTAGE REVERSING RVNR – REDUCED VOLTAGE NON–REVERSING RVAT – REDUCED VOLTAGE AUTOTRANSFORMER RVSS – REDUCED VOLTAGE SOLID STATE 2S1W – TWO SPEED, ONE WINDING 2S2W – TWO SPEED, TWO WINDING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
*/		NON–FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
*/	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE. * AMPERE RATING AND FUSE SIZE AS NOTED * AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	—	DRAWOUT TYPE EQUIPMENT OR DEVICE
	—	MEDIUM VOLTAGE CABLE TERMINATION
	—	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
*	—	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH * FUSE RATING
	—	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
XFMR NO. 1 480V Δ KVA 120/208V 3P, 4W	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS, ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K–20 RATING
* A TO 5	—	CURRENT TRANSFORMER * QUANTITY A = PRIMARY AMPERES
* V TO 120	—	POTENTIAL TRANSFORMER * QUANTITY V = PRIMARY VOLTAGE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
ATS N S 100A	—	AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS–1), (MTS–1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
*	*	VARIABLE SPEED DRIVE CONTROLLER * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE
#KW	E	UNIT HEATER – ELECTRIC HEATING COIL AND FAN # – RATING
—	U	UNIT HEATER – GAS FIRED, STEAM OR WATER HEATING COIL AND FAN
5	M	MOTOR, NUMERAL INDICATES HORSEPOWER
VS VM *	—	VOLTMETER WITH SWITCH, 3 PHASE
AS AM *	—	AMMETER WITH SWITCH, 3 PHASE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
*	—	METER * WM – WATTMETER WHM – WATTHOUR METER WHDM – WATTHOUR DEMAND METER WHDR – WATTHOUR DEMAND RECORDER PF – POWER FACTOR METER DMU – DIGITAL METERING UNIT TRANSDUCER AX – CURRENT TRANSDUCER WX – WATT TRANSDUCER WHX – WATTHOUR TRANSDUCER
*	*	RELAY, NO. AS INDICATED 25 – SYNCHRONISM CHECK RELAY 27 – UNDERVOLTAGE RELAY 32 – DIRECTIONAL POWER RELAY 38 – BEARING PROTECTIVE DEVICE 40 – LOSS OF EXCITATION RELAY 42 – RUNNING CONTACTOR/PILOT RELAY 46 – REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 – PHASE SEQUENCE VOLTAGE RELAY 49 – MACHINE OR TRANSFORMER THERMAL RELAY 50/51 – INSTANTANEOUS/TIME OVERCURRENT RELAY 50G – INSTANTANEOUS GROUND 51 – TIME OVERCURRENT RELAY 51G – TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N – TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V – TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X – AUXILIARY RELAY (TRIPS CB AND ALARMS) 59 – OVERVOLTAGE RELAY 60 – NEGATIVE SEQUENCE VOLTAGE RELAY 62 – TIME DELAY RELAY 63 – OVERPRESSURE RELAY 64 – GENERATOR FIELD GROUND RELAY 67 – AC DIRECTIONAL OVERCURRENT RELAY 74 – ALARM LATCHING RELAY 83 – AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 – LOCKING–OUT RELAY 87 – DIFFERENTIAL PROTECTIVE RELAY B – SUFFIX INDICATES "BUS" G – SUFFIX INDICATES "GENERATOR" GF – GROUND FAULT ST – SHUNT TRIP T – SUFFIX INDICATES "TRANSFORMER" X – SUFFIX INDICATES "AUXILIARY"
*	—	SPECIAL CAPACITOR * SC – SURGE CAPACITOR PF – POWER FACTOR CORRECTION CAPACITOR
*	—	TUNED POWER FACTOR CORRECTION CAPACITOR
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
STOP START	PBL	START–STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP
	PBM	START–STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP
OFF ON	S/S	OFF/ON SELECTOR SWITCH
L R (XO) (OX)	LR	LOCAL/REMOTE SELECTOR SWITCH
A B C* (XOO) (OXO) (OOX)	*	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O–OPEN X–CLOSED POSITION / TOP CONTACT / MIDDLE CONTACT / BOTTOM CONTACT A / X / O / O B / O / X / O C / O / O / X NAMEPLATE (A/B/C) HOA – HAND/OFF/AUTO HOR – HAND/OFF/REMOTE LOR – LOCAL/OFF/REMOTE RSL – RAISE/STOP/LOWER TOA – TEST/OFF/AUTO

GD/VF #	GD/VF #	GAS DETECTOR / VENTILATION FAILURE ALARM
		# INDICATES TYPE OF UNIT
		1=MASTER, 2=REMOTE

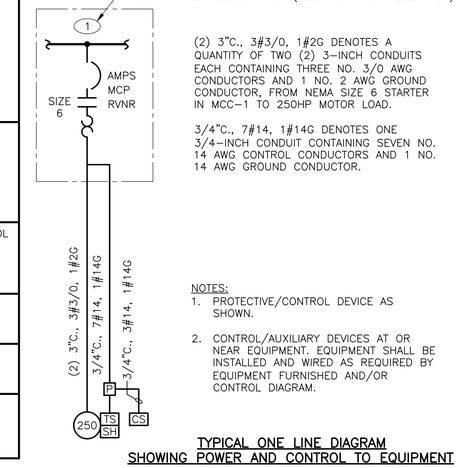
42 #	—	MOTOR STARTER COIL, NUMBER AS INDICATED TO DENOTE INTERLOCKING ONLY
CR #	—	CONTROL RELAY COIL, NUMBER AS INDICATED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
*	—	PILOT LIGHT, COLOR AS NOTED * R – RED G – GREEN B – BLUE W – WHITE A – AMBER
*	—	PILOT LIGHT, PUSH–TO–TEST TYPE, COLOR AS NOTED ABOVE.
* # RANGE SETPOINT		TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED # NUMBER AS INDICATED * TDE – TIME DELAY AFTER ENERGIZATION ON DELAY TDD – TIME DELAY AFTER DE–ENERGIZATION OFF DELAY
* NOTC		NOTC– NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED
NCTO		NCTO– NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
NOTO		NOTO– NORMALLY OPEN, TIMED OPENING WHEN DE–ENERGIZED
NCTC		NCTC– NORMALLY CLOSED, TIMED CLOSING WHEN DE–ENERGIZED
	* – ##	FIELD INSTRUMENT, TAG NO. AS INDICATED * INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO.
	LS OR ■	LIQUID LEVEL (FLOAT) SWITCH
		NORMALLY OPEN, CLOSES ON RISING LEVEL
		NORMALLY CLOSED, OPENS ON RISING LEVEL
	PS OR ■	PRESSURE OR VACUUM SWITCH
		NORMALLY OPEN, CLOSES ON RISING PRESSURE
		NORMALLY OPEN, CLOSES ON DROPPING PRESSURE
		NORMALLY CLOSED, OPENS ON RISING PRESSURE
		NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
	TS OR T OR ■	TEMPERATURE SWITCH OR THERMOSTAT
		NORMALLY OPEN, CLOSES ON RISING TEMPERATURE
		NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE
		NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
		NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	FS OR ■	FLOW SWITCH (AIR, WATER, ETC.)
		NORMALLY OPEN, CLOSES ON INCREASED FLOW
		NORMALLY CLOSED, OPENS ON INCREASED FLOW
	ZS OR ■	POSITION (LIMIT) SWITCH
		NORMALLY OPEN
		NORMALLY OPEN – HELD CLOSED
		NORMALLY CLOSED
		NORMALLY CLOSED – HELD OPEN
	WS OR ■	TORQUE SWITCH
		NORMALLY OPEN, CLOSES ON HIGH TORQUE
		NORMALLY CLOSED, OPENS ON HIGH TORQUE
#	—	UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
	—	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	—	CONDUCTORS ELECTRICALLY CONNECTED
	S	SOLENOID VALVE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
LA	—	LIGHTNING ARRESTER
		GROUND OR GROUND ROD
30A	—	FUSE, AMPERE RATING AS NOTED
	HTR	STRIP HEATER OR HEATING ELEMENT
	—	INDUCTOR
TG	TG	TACHOMETER GENERATOR
	—	CONTACT, NORMALLY OPEN (NO)
	—	CONTACT, NORMALLY CLOSED (NC)
	—	OVERLOAD RELAY HEATER
	—	* K = KEY INTERLOCK E = ELECTRICAL INTERLOCK
TB	—	TERMINAL OR TEST BLOCK
RTD	—	RESISTANCE TEMPERATURE DETECTOR
VE OR VE	—	VIBRATION DETECTOR
DM	DM	DAMPER MOTOR
ETM	—	ELAPSED TIME METER
M	M	MOTOR OPERATED VALVE OR GATE
	—	INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE

EXISTING WORK | NEW WORK | FUTURE EXPANSION

EXISTING, NEW OR FUTURE CONDITION DESIGNATION



(2) 3"C., 3#3/0, 1#2G DENOTES A QUANTITY OF TWO (2) 3–INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR, FROM NEMA SIZE 6 STARTER IN MCC–1 TO 250HP MOTOR LOAD.

3/4"C., 7#14, 1#14G DENOTES ONE 3/4–INCH CONDUIT CONTAINING SEVEN NO. 14 AWG CONTROL CONDUCTORS AND 1 NO. 14 AWG GROUND CONDUCTOR.

NOTES:
1. PROTECTIVE/CONTROL DEVICE AS SHOWN.
2. CONTROL/AUXILIARY DEVICES AT OR NEAR EQUIPMENT. EQUIPMENT SHALL BE INSTALLED AND WIRED AS REQUIRED BY EQUIPMENT FURNISHED AND/OR CONTROL DIAGRAM.

TYPICAL ONE LINE DIAGRAM SHOWING POWER AND CONTROL TO EQUIPMENT

NOTES:

1. IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS WHICH SHALL INCLUDE CONDUITS SHOWN ON ONE–LINE AND RISER DIAGRAMS AND HOME–RUNS SHOWN ON PLAN DRAWINGS. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.
2. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
3. SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW:
   - BLANK: NOT INTENDED FOR USE. PLATE ONLY
   - SPACE: EQUIPPED WITH REQUIRED BUS AND HARDWARE FOR THE FUTURE ADDITION OF BREAKERS AND/OR STARTERS WITHIN THE SIZE AND RANGE SHOWN
   - SPARE: CONTAINS A COMPLETELY INSTALLED BREAKER AND/OR STARTER OF SIZE AND TYPE INDICATED FOR FUTURE USE.
4. INTERPRETATION OF ELECTRICAL DRAWINGS: CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS:

A. ONE LINE POWER DIAGRAMS: POWER, CONTROL AND SIGNAL WIRING REQUIREMENTS FOR ELECTRICAL DISTRIBUTION EQUIPMENT AND UTILIZATION EQUIPMENT POWERED FROM SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND MAJOR POWER DISTRIBUTION PANELBOARDS ARE TYPICALLY SHOWN ON THE ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE AND QUANTITY FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT, AND SIZE OF THE GROUNDING ELECTRODE CONDUCTORS.

B. INSTRUMENTATION AND CONTROL RISER DIAGRAMS: POWER, CONTROL, SIGNAL AND DATA HIGHWAY WIRING REQUIREMENTS FOR INSTRUMENTS AND CONTROL DEVICES CONTROLLED/MONITORED FROM INSTRUMENTATION AND CONTROL PANELS SUCH AS RTUS, PLCS, TERMINAL CABINETS, AND REMOTE I/O PANELS ARE TYPICALLY SHOWN ON THE INSTRUMENTATION AND CONTROL ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE, QUANTITY AND TYPE FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT.

C. FLOOR PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS LOCATED WITHIN STRUCTURES, FLOOR PLANS SHOW THE LOCATION OF ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, UTILIZATION EQUIPMENT, INSTRUMENTS, ANCILLARY EQUIPMENT AND DEVICES AND THE ANTICIPATED PENETRATION LOCATIONS WHERE CONDUITS EXIT/ENTER THE STRUCTURE. HOMERUNS MAY ALSO BE SHOWN FROM MISCELLANEOUS EQUIPMENT NOT SHOWN ON A ONE LINE OR RISER DIAGRAM.

D. SITE PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS EXTERIOR TO STRUCTURES AND TO IDENTIFY THE SPECIFIC REQUIREMENTS OF THE UNDERGROUND CONDUITS OR DUCT BANKS, SITE PLANS SHOW THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS WITH SECTIONS INDICATING THE CONDUIT SIZE, ARRANGEMENT AND CIRCUIT ROUTING.

E. NOTE THAT CONDUIT SIZE WITHIN THE STRUCTURE IS INDICATED ON ONE–LINE DIAGRAM AND UNDERGROUND SIZE IS INDICATED ON DUCT BANK SECTIONS.

GENERAL NOTE
THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA A City Without Limits

CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

ELECTRICAL LEGEND I

PROJECT NO. 20790–298446
FILE NAME: E001NFLG.DWG
SHEET NO. E-1

ISSUED FOR BID

SYMBOL	DESCRIPTION
A 3 b	LIGHTING FIXTURE "A" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "b" – CONTROLLED BY SWITCH "b" "3" – CIRCUIT NUMBER
A 3 b	LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b	WALL MOUNTED TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 OR A 3	CROSS HATCH INDICATES LIGHTING FIXTURE THAT IS UNSWITCHED AND SHALL REMAIN ON AT ALL TIMES. NOTATIONS SAME AS ABOVE.
A 3 b OR A 3 b	SHADED AREA INDICATES LIGHTING FIXTURE THAT IS EQUIPPED WITH EMERGENCY BACKUP POWER SOURCE. NOTATIONS SAME AS ABOVE.
A 3	POLE MOUNTED AREA TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3	POLE MOUNTED ROADWAY TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
EM 3 (*)	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS "EM" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" – SUPERVISORY CIRCUIT * – FIXTURE TAG #
R-2 BU-1(*)	REMOTE EMERGENCY ADJUSTABLE WALL LIGHTING FIXTURE WITH TWO LAMP HEADS "R-2" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) * – HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN (2) NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND (1) NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
A 3	COMBINATION BATTERY UNIT AND EXIT SIGN. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
A 3	CEILING MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN. (DOUBLE FACE DOUBLE CHEVRONS SHOWN)
A 3	WALL MOUNTED EXIT SIGN, NOTATIONS SAME AS ABOVE. WHEN USED, ARROW INDICATES DIRECTION OF EGRESS. FILLED QUADRANT REPRESENTS FACE SIDE OF SIGN.
RH-3 E 3 BU-1(*)	REMOTE EMERGENCY CEILING LIGHTING FIXTURE. "RH-3" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "3" – SUPERVISORY CIRCUIT * – HOME RUN TO BATTERY UNIT INDICATED. CONDUIT SHALL BE 3/4" AND CONTAIN 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE INDICATED.
	HOME RUN TO DESIGNATED EQUIPMENT. BRANCH CIRCUIT CONDUIT WITH 2 NO. 12 AWG BRANCH CIRCUIT CONDUCTORS AND 1 NO. 12 AWG GROUND CONDUCTOR UNLESS OTHERWISE NOTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. FOR MINIMUM SIZE CONDUIT PERMITTED REFER TO THE SPECIFICATIONS.
	CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING.
	CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND.
	CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
	'X' INDICATES EXPLOSION PROOF CONDUIT SEAL FITTING.
	CONCRETE ENCASED DUCTBANK. WIDTH VARIES, SEE DUCTBANK SECTION/DETAILS FOR REQUIREMENTS AND WIDTH
	CONDUIT STUBBED OUT AND CAPPED
(2) 3"c., 3#3/0, 1#2G	DENOTES A QUANTITY OF TWO (2) 3–INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR.
2–2/C#16 SH	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
2–3/C#16 SH	SAME AS ABOVE EXCEPT CABLE TO CONSIST OF THREE NO. 16 AWG CONDUCTORS TWISTED, SHIELDED AND COVERED WITH AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.
(3) 4"C.	THREE 4–INCH CONDUITS
	FLEXIBLE METAL CONDUIT "WHIP" (3/4"C., 2#12, 1#12G UNLESS OTHERWISE NOTED) FOR LIQUID TIGHT MOTOR CONNECTIONS
	'X' INDICATES CONDUIT SEAL FITTING IN OTHER THAN CODE REQUIRED LOCATIONS.
	INDICATES MOTOR STARTER AND/OR MOTOR CONTROL EQUIPMENT WITHIN THE ENCLOSURE.

SYMBOL	DESCRIPTION
$a	SINGLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$a 2	DOUBLE POLE SWITCH "a" INDICATES FIXTURES CONTROLLED.
$c 3	THREE WAY SWITCH "c" INDICATES FIXTURES CONTROLLED.
$a 4	FOUR WAY SWITCH "a" INDICATES FIXTURES CONTROLLED.
$a D	DIMMER SWITCH "a" INDICATES FIXTURES CONTROLLED
$OS	SINGLE POLE SWITCH "OS" INDICATES A PASSIVE INFRARED OCCUPANCY SENSOR
$OS 2	DOUBLE POLE SWITCH "OS" INDICATES PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF INBOARD/OUTBOARD SWITCHING
$DT	SINGLE POLE SWITCH "DT" INDICATES DUAL TECHNOLOGY PROGRAMMABLE OCCUPANCY SENSOR CAPABLE OF SENSING MOTION AND SOUND
C 3	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
	PUSH BUTTON STATION
TYPE A	INDICATES ALL LIGHTING FIXTURES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
	LIGHTING PANELBOARD (LP–#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
	POWER PANELBOARD (PP–#) OR DISTRIBUTION PANELBOARD (DP–#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
	LIGHTING CONTACTOR PANELBOARD (LCP–#) SHOWN ON PLAN PER ACTUAL PANEL DIMENSIONS
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W * GFCI – GROUND FAULT CIRCUIT INTERRUPTER TYPE WP – WEATHERPROOF WITH WHILE–IN–USE–COVER XP – EXPLOSION PROOF T – TRANSIENT VOLTAGE SURGE SUPPRESSOR IC – ISOLATED GROUND 4 – CIRCUIT NUMBER
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W MOUNTED ABOVE COUNTER–TOP OR 42" AFF * NOTATIONS SAME AS ABOVE
* 60 3 4W	SPECIAL PURPOSE RECEPTACLE * – VOLT RATING "3" – NUMBER OF POLES "60" – AMPERE RATING "4W" – 4 WIRES IN ADDITION TO GROUND
	MULTI–OUTLET ASSEMBLY, SYMBOL DENOTES RECEPTACLE TYPE
	FLUSH FLOOR OUTLET BOX WITH TYPE OUTLET INDICATED
	UNDER FLOOR DUCT SYSTEM WITH TYPE OUTLETS INDICATED
	THREE CELL UNDER FLOOR DUCT SYSTEM JUNCTION BOX
J OR J	JUNCTION BOX
P	PULL BOX
TC	TERMINAL CABINET
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
ESA	EMERGENCY EYEWASH/SHOWER ALARM STATION WITH FLOW SWITCH(ES)
	INDICATED EQUIPMENT AND MATERIALS TO BE DEMOLISHED
DUST	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
DAMP OR WET	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CORROSIVE	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR CORROSION RESISTANT CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
CLASS I, DIV. 1 GROUP D	INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.

SYMBOL	DESCRIPTION
	GROUND SYSTEM GRID OR LOOP, 36" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
	EXOTHERMIC WELD CONNECTION
	3/4" x 10'–0" GROUND ROD. UNLESS SPECIFIED OTHERWISE.
	GROUND ROD TEST WELL STATION (SEE DETAIL SHEET FOR REQUIREMENTS)
	COMMUNICATION SYSTEMS
K	TELEPHONE OUTLET FOR DESK TYPE HANDSET K = KEY SYSTEM
K	TELEPHONE OUTLET FOR WALL TYPE HANDSET (MOUNT UP 4'–6") K = KEY SYSTEM
	PAGE/PARTY TELEPHONE OUTLET FOR DESK TYPE HANDSET
	PAGE/PARTY TELEPHONE OUTLET FOR WALL TYPE HANDSET, MOUNT UP 4'–6"
S H W	PAGING SPEAKER, WALL MOUNTED H = HORN TYPE W = WIDE ANGLE TYPE
S W	PAGING SPEAKER, WALL MOUNTED, BI–DIRECTIONAL, HORN TYPE W = WIDE ANGLE TYPE
S	PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE
S	PAGING SPEAKER, SURFACE MOUNTED CEILING TYPE
VC	REMOTE WALL MOUNTED VOLUME CONTROL FOR CEILING SPEAKER, MOUNT UP 5'–0"
A	PAGING SPEAKER AMPLIFIER ASSEMBLY
TM	TELEPHONE CABINET OR BACKBOARD AS NOTED
P OR C	"C" – CAMERA SYSTEM WORKSTATION DATA OUTLET (CAT6 RJ–45 JACK) "P" – PROCESS COMPUTER SYSTEM (CAT6 RJ–45 JACK)

GD/VF #	GAS DETECTOR/VENTILATION FAILURE ALARM,
	# INDICATES TYPE OF UNIT.
	1 = MASTER, 2 = REMOTE

GB	GAS DETECTION/VENTILATION FAILURE WEATHERPROOF DUAL–LITE BEACON MOUNT TOP OF DEVICE UP 6'–8" A.F.F.
15 G	GAS DETECTION/VENTILATION FAILURE HORN/STROBE MOUNT TOP OF DEVICE UP 6'–8" A.F.F.
G	GAS DETECTION/VENTILATION FAILURE HORN, MOUNT TOP OF DEVICE UP 6'–8" A.F.F.
G	GAS DETECTION/VENTILATION FAILURE STROBE, MOUNT TOP OF DEVICE UP 6'–8" A.F.F.
	SECURITY SYSTEMS
SACP	SECURITY ALARM CONTROL PANEL
DS	SECURITY ALARM DOOR SWITCH
M	MASTER CONTROL STATION – VIDEO/INTERCOM/ACCESS CONTROL FOR GATE AND ELECTRIFIED DOORS
R	VIDEO/INTERCOM/CARD READER
WS	SECURITY ALARM WINDOW SWITCH
	SECURITY ALARM MOTION DETECTOR
CCTV	CLOSED CIRCUIT TV CAMERA
PTZ	PAN, TILT, ZOOM CAMERA LENS CONTROLS
GB	GLASS BREAK DETECTOR
	FIRE ALARM SYSTEMS
H 200 R	FIRE ALARM HEAT DETECTOR 135 FIXED TEMPERATURE UNLESS OTHERWISE NOTED. "200" – 200 FIXED TEMPERATURE "R" – FIXED TEMPERATURE RATE–OF–RISE TYPE
I	FIRE ALARM SMOKE DETECTOR PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED. "I" – IONIZATION TYPE.
D	FIRE ALARM DUCT SMOKE DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FV	FIRE ALARM VENTILATION PANEL WITH GRAPHIC PANEL
FA	REMOTE FIRE ALARM ANNUNCIATOR PANEL

SYMBOL	DESCRIPTION
F	FIRE ALARM MASTER BOX
F	FIRE ALARM HORN, MOUNT UP 7'–6"
15 F	FIRE ALARM STROBE, MOUNT UP 6'–8" 15 = CANDELA RATING
15 F	FIRE ALARM HORN AND STROBE LIGHT COMBINATION, MOUNT UP 6'–8" 15 = CANDELA RATING
F	FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'–0"
VSS	SPRINKLER VALVE SUPERVISORY SWITCH
SFS	SPRINKLER FLOW ALARM SWITCH
F	FIRE ALARM BELL
FB	WEATHERPROOF HI–INTENSITY FIRE ALARM STROBE LIGHT WITH HORN
PIR	PASSIVE INFRARED DETECTOR
R	SMOKE BEAM DETECTOR (RECEIVER)
T	SMOKE BEAM DETECTOR (TRANSMITTER)
	FIRE ALARM SMOKE DETECTOR REMOTE INDICATOR AND TEST SWITCH

ABBREVIATIONS	
A	AMPS
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AIC	AMPERE INTERRUPTING CAPACITY
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CGD	COMBUSTIBLE GAS DETECTOR
CKT	CIRCUIT
CHH	COMMUNICATIONS HANDHOLE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH/CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
CWS	CONDUIT WALL SEAL
DC	DIRECT CURRENT
DIA	DIAMETER
DMU	DIGITAL METERING UNIT
DN	DOWN
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
ENCL	ENCLOSURE OR ENCLOSED

ABBREVIATIONS (CONTINUED)	
EQUIP	EQUIPMENT
ES	EMERGENCY STOP
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING
FO	FIBER OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HACR	HEATING & AIR CONDITIONING RATED
HH	HANDHOLE
HT	HEIGHT
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HZ	HERTZ
ID	IDENTIFICATION
INSTR	INSTRUMENT
K	KILO (PREFIX)
kcmil	1000 CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LA	LIGHTNING ARRESTER
LTG	LIGHTING
LP	LIGHTING PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OL	OVERLOAD
PB	PULL BOX
PCP	PUMP CONTROL PANEL
PH	PHASE
PHH	POWER HANDHOLE
PMH	POWER MANHOLE
PNL	PANEL OR PANELBOARD
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
REQD	REQUIRED
QTY	QUANTITY
SA	SURGE ARRESTER
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SPACE HEATER
SHH	SIGNAL HANDHOLE
SPD	SURGE PROTECTIVE DEVICE
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME TO CLOSE OR TRAY CABLE
TEL	TELEPHONE
TO	TIME TO OPEN
TS	TWISTED SHIELDED OR THERMAL SWITCH
TTC	TELEPHONE TERMINAL CABINET
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS, WIDTH, WITH, WIRE
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

A / E–4 — SHEET NO. WHERE DETAIL IS DRAWN

SYMBOL WHERE THERE IS A DETAIL

DETAIL A — 1/4" = 1'–0" — E–3 — SHEET NO. WHERE THERE IS A DETAIL

SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL

1 / E–4 — SHEET NO. WHERE SECTION IS DRAWN

SYMBOL WHERE THERE IS A SECTION

SECTION 1 — 1/4" = 1'–0" — E–3 — SHEET NO. WHERE SECTION IS TAKEN

SYMBOL WHERE SECTION IS DRAWN

SECTION SYMBOL

GENERAL NOTE
THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA A City Without Limits

CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

ELECTRICAL LEGEND II

PROJECT NO. 20790–298446
FILE NAME: E002NFLG.DWG

SHEET NO.
E-2

ISSUED FOR BID

SCOPE OF WORK:

1. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED AND INSTALL COMPLETE AND MAKE OPERATIONAL, ELECTRICAL AND PROCESS INSTRUMENTATION SYSTEMS AT THE WITHLACOOCHEE WPCP BELT FILTER PRESS REPLACEMENT PROJECT AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN DIVISION 26.
2. THE WORK SHALL INCLUDE FURNISHING, INSTALLING AND TESTING THE EQUIPMENT AND MATERIALS SPECIFIED IN OTHER SECTIONS OF THE DIVISION 26 SPECIFICATIONS AND SHOWN ON THE DRAWINGS.
3. CONDUIT, WIRE AND FIELD CONNECTIONS FOR ALL MOTORS, MOTOR CONTROLLERS, CONTROL DEVICES, CONTROL PANELS AND ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS.
4. CONDUIT, WIRING AND TERMINATIONS FOR ALL FIELD_MOUNTED INSTRUMENTS FURNISHED UNDER OTHER DIVISIONS, INCLUDING PROCESS INSTRUMENTATION PRIMARY ELEMENTS, TRANSMITTERS, LOCAL INDICATORS AND CONTROL PANELS. LIGHTNING AND SURGE PROTECTION EQUIPMENT WIRING AT PROCESS INSTRUMENTATION TRANSMITTERS. INSTALL VENDOR FURNISHED CABLES SPECIFIED UNDER OTHER DIVISIONS.
5. POWER WIRING FOR ALL HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS, INCLUDING POWER WIRING FOR 120V UNIT HEATER MOTORS, THERMOSTATS, FAN MOTORS, DAMPERS AND OTHER HVAC INLINE UNIT WIRING SHOWN ON THE DRAWINGS.
6. A COMPLETE RACEWAY SYSTEM FOR THE DATA HIGHWAY CABLES AND SPECIALTY CABLE SYSTEMS. INSTALL THE DATA HIGHWAY (FIBER OPTIC, ETHERNET, ETC.) CABLES AND OTHER SPECIALTY CABLE SYSTEMS FURNISHED UNDER DIVISION 40 IN ACCORDANCE WITH THE SYSTEM MANUFACTURERS' INSTALLATION INSTRUCTIONS. REVIEW THE RACEWAY LAYOUT, PRIOR TO INSTALLATION, WITH THE SCADA/COMPUTER INSTRUMENTATION SYSTEM SUPPLIER (ISS) AND THE CABLE MANUFACTURER TO ENSURE RACEWAY COMPATIBILITY WITH THE SYSTEMS AND MATERIALS BEING FURNISHED. WHERE REDUNDANT CABLES ARE FURNISHED, INSTALL CABLES IN SEPARATE RACEWAYS.
7. IT IS THE INTENT OF THE DRAWINGS AND DIVISION 26 SPECIFICATIONS THAT THE ELECTRICAL SYSTEM SHALL BE SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. ALL MATERIAL AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THE WORK OF THE DIVISION 26 SPECIFICATIONS SHALL BE FURNISHED AT NO EXTRA COST.
8. PROVIDE ELECTRICAL AND INSTRUMENTATION CONDUIT LAYOUT SHOP DRAWINGS FOR YARD ELECTRICAL, WITHIN AND UNDER ALL ROADS, BUILDINGS AND STRUCTURES TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. LAYOUTS SHALL INCLUDE BUT NOT BE LIMITED TO EQUIPMENT, PULL BOXES, MANHOLES, CONDUIT ROUTING, DIMENSIONING, METHODS AND LOCATIONS OF SUPPORTS, REINFORCING, ENCASEMENT, MATERIALS, CONDUIT SIZING, EQUIPMENT ACCESS, POTENTIAL CONFLICTS, BUILDING AND YARD LIGHTING, AND ALL OTHER PERTINENT TECHNICAL SPECIFICATIONS FOR ALL ELECTRICAL AND INSTRUMENTATION CONDUITS AND EQUIPMENT TO BE FURNISHED. THE LAYOUTS SHALL BE BASED ON APPROVED MANUFACTURERS' EQUIPMENT SHOP DRAWINGS. ALL LAYOUTS SHALL BE DRAWN TO SCALE ON 24" X 36" SHEETS.
9. IN ADDITION TO MANUFACTURER'S EQUIPMENT SHOP DRAWINGS, SUBMIT ELECTRICAL INSTALLATION WORKING DRAWINGS CONTAINING THE FOLLOWING:
   a. CONDUIT LAYOUTS, SHOWN ON FLOOR PLANS DRAWN AT NOT LESS THAN 1/4" = 1' – 0" SCALE. THE LAYOUTS SHALL INCLUDE LOCATIONS OF PROCESS EQUIPMENT, MOTOR CONTROL CENTERS, SWITCHBOARDS, TRANSFORMERS, PANELBOARDS, CONTROL PANELS AND EQUIPMENT, MOTORS, SWITCHES, MOTOR STARTERS, LARGE JUNCTION OR PULL BOXES, INSTRUMENTS AND ANY OTHER ELECTRICAL DEVICES CONNECTED TO CONDUITS. THE LAYOUTS SHALL BE BASED ON APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS.
   b. PLANS SHALL BE DRAWN ON HIGH QUALITY REPRODUCIBLE PAPER AND SHALL BE PRESENTED IN A NEAT, PROFESSIONAL MANNER. IN ADDITION TO THE HARD COPIES, LAYOUT DRAWINGS SHALL BE SUBMITTED IN PDF FORMAT.
   c. CONCRETE FLOORS AND/OR WALLS CONTAINING CONCEALED CONDUITS SHALL NOT BE POURED UNTIL CONDUIT LAYOUTS ARE APPROVED.
10. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND MAKING ANY MINOR CORRECTION CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE ENTIRE SYSTEM AND ALL EQUIPMENT. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
11. A SINGLE MANUFACTURER SHALL PROVIDE SWITCHBOARDS, MOTOR STARTERS, TRANSFORMERS, DISCONNECT SWITCHES, PANELBOARDS, ETC.
12. CONTRACTOR SHALL PROVIDE THEIR OWN TEMPORARY POWER FOR MISCELLANEOUS POWER (DRILLS, PUMPS, ETC.). NO FACILITY CIRCUITS SHALL BE USED UNLESS APPROVED IN WRITING BY THE ENGINEER. ANY TEMPORARY ADDED SHALL BE REMOVED AT JOB COMPLETION.
13. COMPLETE COORDINATION WITH OTHER CONTRACTORS. CONTRACTOR SHALL COORDINATE WITH ALL OTHER CONTRACTORS EQUIPMENT SUBMITTALS AND OBTAIN ALL RELEVANT SUBMITTALS.
14. MOUNT TRANSMITTERS, CONTROL PANELS, PROCESS INSTRUMENTS, OPERATORS STATIONS, ETC. FURNISHED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS.

GENERAL NOTES:

1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
2. COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
3. CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES, OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
4. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. EXCEPT WHERE DIMENSIONS ARE SHOWN, LOCATIONS OF EQUIPMENT, FIXTURES, OUTLETS, AND SIMILAR DEVICES ARE APPROXIMATE.
5. WORK SHALL COMPLY WITH NEC AND LOCAL CODES.
6. DO NOT SPLICE CONDUCTORS EXCEPT AS NOTED.
7. POWER AND CONTROL CONDUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR WIRE SIZED PER TABLE 250.122 OF THE NEC (UON).
8. CONCEAL CONDUITS TO GREATEST EXTENT PRACTICABLE.
9. WHERE LOCAL DISCONNECTS AND CONTROL PANELS ARE SHOWN ON PLAN VIEWS, LOCATIONS ARE APPROXIMATE. ADJUST LOCATION AS REQUIRED TO COMPLY WITH NEC ARTICLE 110 FOR WORKING CLEARANCES.
10. DO NOT INSTALL MAJOR CONDUIT RUNS THROUGH AREAS DESIGNATED FOR FUTURE STRUCTURES.

SUBMITTALS:

1. SUBMIT SHOP DRAWINGS FOR EQUIPMENT, MATERIALS AND OTHER ITEMS FURNISHED UNDER DIVISION 26.
2. SUBMIT CONDUIT SHOP DRAWINGS FOR YARD ELECTRICAL, WITHIN AND UNDER ROADS, BUILDINGS AND STRUCTURES PRIOR TO COMMENCING WORK. DO NOT POUR CONCRETE UNTIL ENGINEER HAS APPROVED THE ASSOCIATED SHOP DRAWING.
3. SUBMIT OPERATION AND MAINTENANCE MANUALS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
4. SUBMIT STARTUP/COMMISSIONING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
5. SUBMIT TESTING AND SERVICE REPORTS FOR EQUIPMENT AND MATERIALS FURNISHED UNDER DIVISION 26.
6. SUBMIT TRAINING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
7. SUBMIT RECORD DOCUMENTATION TO ACCURATELY SHOW COMPLETED INSTALLATION. INCLUDE MODIFICATIONS TO CONTRACT DOCUMENTS (ONE LINE POWER DIAGRAMS, EQUIPMENT ELEVATIONS, PANEL SCHEDULES, ELEMENTARY CONTROL DIAGRAMS, RISER DIAGRAMS, PLANS, CONDUIT AND DUCTBANK ROUTING, ETC) ALONG WITH ADDITIONAL DRAWINGS OR SKETCHES CREATED TO CONVEY COMPLETED INSTALLATION.

CLEANING:

1. REMOVE ALL RUBBISH AND DEBRIS FROM INSIDE AND AROUND ELECTRICAL EQUIPMENT AND ENCLOSURES.
2. REMOVE DIRT, DUST OR CONCRETE SPATTER FROM INTERIOR AND EXTERIOR OF EQUIPMENT USING BRUSHES, VACUUM CLEANER OR CLEAN LINT–FREE RAGS. DO NOT USE COMPRESSED AIR.

DELEGATED DESIGN / PROFESSIONAL ENGINEERING SERVICES:

1. WHEN ENGINEERING SERVICES ARE SPECIFIED TO BE PROVIDED BY CONTRACTOR, CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PERFORM THE SERVICES. ENGINEER SHALL BE LICENSED AT THE TIME SERVICES ARE PERFORMED AND LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED. IF THE STATE ISSUES DISCIPLINE SPECIFIC LICENSES, ENGINEER SHALL BE LICENSED IN THE APPLICABLE DISCIPLINE. ENGINEER SHALL BE EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED.
2. ENGINEERING WORK SHALL BE DONE ACCORDING TO THE APPLICABLE REGULATIONS FOR PROFESSIONAL ENGINEERS TO INCLUDE SIGNING, SEALING AND DATING DOCUMENTS.

NEC CLASSIFIED HAZARDOUS AREAS:

1. THIS PROJECT INCLUDES NEC CLASSIFIED HAZARDOUS AREAS. THE FOLLOWING NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD APPLY:
   - NFPA 820 – STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES.
2. EQUIPMENT, MATERIALS, AND INSTALLATION SHALL COMPLY WITH NEC ARTICLES 500, 501, 502, AND 503.

CONTROL STATIONS AND INDICATORS:

1. CONTROL STATIONS SHALL BE HEAVY–DUTY TYPE, WITH FULL SIZE (30.5mm) NEMA 4X OR 7 OPERATORS, INDICATORS, ETC.
2. INDICATORS SHALL BE FULL VOLTAGE AND PUSH–TO–TEST TYPE. INDICATORS LOCATED INDOORS SHALL BE LED AND INDICATORS LOCATED OUTDOORS SHALL BE INCANDESCENT LAMP TYPE.
3. NEMA 4X ENCLOSURES SHALL BE STAINLESS STEEL.
4. NEMA 7 ENCLOSURE SHALL BE CAST ALUMINUM.
5. CONTROL STATIONS SHALL BE SQUARE D COMPANY CLASS 9001 OR SIMILAR BY EATON OR GENERAL ELECTRIC.

DEMOLITION AND DISPOSITION OF EQUIPMENT:

1. DRAWING PLANS SHOWING REMOVAL OF MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT IS NOT INTENDED TO SHOW ALL COMPONENTS TO BE DEMOLISHED. NOT ALL PIPING, CONDUITS, DUCTS, EQUIPMENT, ANCILLARY DEVICES, ETC. ARE SHOWN. THE CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
2. UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO SOURCE AND/OR POINT OF CONCEALMENT INCLUDING ABOVE ACCESSIBLE CEILING FINISHES. WIRING SHALL BE REMOVED.
3. CUT FLUSH WITH SLAB, CEILING, OR WALL ABANDONED CONCEALED CONDUIT. SUITABLY PLUG CONDUITS.
4. REPAIR AND RESTORE ADJACENT CONSTRUCTION AND FINISHES AFTER DEMOLITION IS COMPLETE.
5. MATERIAL AND EQUIPMENT INDICATED FOR REMOVAL OR DEMOLITION IS TO BECOME CONTRACTOR'S PROPERTY UPON REMOVAL, UNLESS NOTED OTHERWISE. REMOVED MATERIAL TO BE PROPERLY HANDLED AND DISPOSED.

INTERPRETATION OF CONTRACT DOCUMENTS:

1. IF DURING PERFORMANCE OF WORK, THERE IS A CONFLICT, ERROR, OR DISCREPANCY BETWEEN OR AMONG CONTRACT DOCUMENTS AND LAWS AND REGULATIONS, PROVIDE THE HIGHER PERFORMANCE STANDARD UNLESS OTHERWISE DIRECTED BY ENGINEER.
2. PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS GOVERN OVER SCALED DIMENSIONS, DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS, LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS, CHANGE ORDER DRAWINGS SUPERCEDE ORIGINAL CONTRACT DRAWINGS, AND CONTRACT DRAWINGS GOVERN SHOP DRAWINGS.
3. IN GENERAL, DRAWINGS DO NOT SHOW CONDUIT ROUTING. PLAN AND ROUTE CONDUITS IN COMPLIANCE WITH SPECIFICATIONS AND DRAWING DETAILS. COORDINATE INSTALLATION WITH OTHER TRADES AND ACTUAL SUPPLIED EQUIPMENT.
4. DUCTBANK ROUTING SHOWN ON ELECTRICAL SITE PLANS IS DIAGRAMMATIC IN NATURE AND MAY NOT INCLUDE INTERFERENCES THAT MAY BE PRESENT.
5. SEE ADDITIONAL NOTES ON ELECTRICAL LEGEND II SHEET.

ENCLOSURE TYPES:

PROVIDE THE FOLLOWING NEMA TYPE ELECTRICAL ENCLOSURES, UNLESS OTHERWISE NOTED:

1. NEMA 1 IN DRY, NON–PROCESS INDOOR LOCATIONS.
2. NEMA 12 IN "DUST" LOCATIONS SHOWN ON THE DRAWINGS.
3. NEMA 4X STAINLESS STEEL IN OUTDOOR LOCATIONS, ROOMS BELOW GRADE INCLUDING BASEMENTS AND BURIED VAULTS AND "DAMP" OR "WET" LOCATIONS SHOWN ON THE DRAWINGS.
4. NEMA 4X STAINLESS STEEL IN "CORROSIVE" LOCATIONS SHOWN ON THE DRAWINGS.
5. NEMA 7 AND LISTED FOR THE SPECIFIC NEC HAZARDOUS AREA CLASSIFICATION AS SHOWN ON THE DRAWINGS.

MATERIALS AND EQUIPMENT:

1. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND SHALL BEAR APPROPRIATE UL LISTING MARK OR CLASSIFICATION MARKING. EQUIPMENT, MATERIALS, ETC. UTILIZED NOT BEARING A UL CERTIFICATION SHALL BE FIELD OR FACTORY UL CERTIFIED PRIOR TO EQUIPMENT ACCEPTANCE AND USE.
3. PROVIDE MAJOR ELECTRICAL EQUIPMENT BY A SINGLE MANUFACTURER: I.E. UNIT SUBSTATIONS, SWITCHGEAR, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, PANELBOARDS, ETC.

EQUIPMENT SIZE, HANDLING AND STORAGE:

1. COORDINATE WITH EQUIPMENT MANUFACTURER SHIPPING SPLITS TO PERMIT SAFE HANDLING AND PASSAGE OF EQUIPMENT TO FINAL INSTALLATION LOCATION.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR UPRIGHT EQUIPMENT ORIENTATION DURING TRANSPORTATION.
3. PROTECT EQUIPMENT FROM MECHANICAL INJURY, OR EXPOSURE TO MOISTURE, CHEMICALS, OR CORROSIVE GASES. DO NOT STORE ELECTRICAL EQUIPMENT OUTDOORS.
4. PROVIDE AND ENERGIZE TEMPORARY SPACE HEATERS IF REQUIRED TO CONTROL MOISTURE DURING STORAGE.

CUTTING AND PATCHING:

1. CUT AND PATCH IN A WORKMANLIKE MANNER AS REQUIRED TO INSTALL ELECTRICAL WORK.
2. CUTTING OF STRUCTURAL MEMBERS SUCH AS JOISTS, BEAMS, GIRDERS OR COLUMNS IS PROHIBITED.
3. PATCH SURFACES TO RESTORE TO ORIGINAL INTEGRITY (WATERPROOF OR FIREPROOF AS REQUIRED) AND APPEARANCE.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA A City Without Limits

CITY OF VALDOSTA, GA

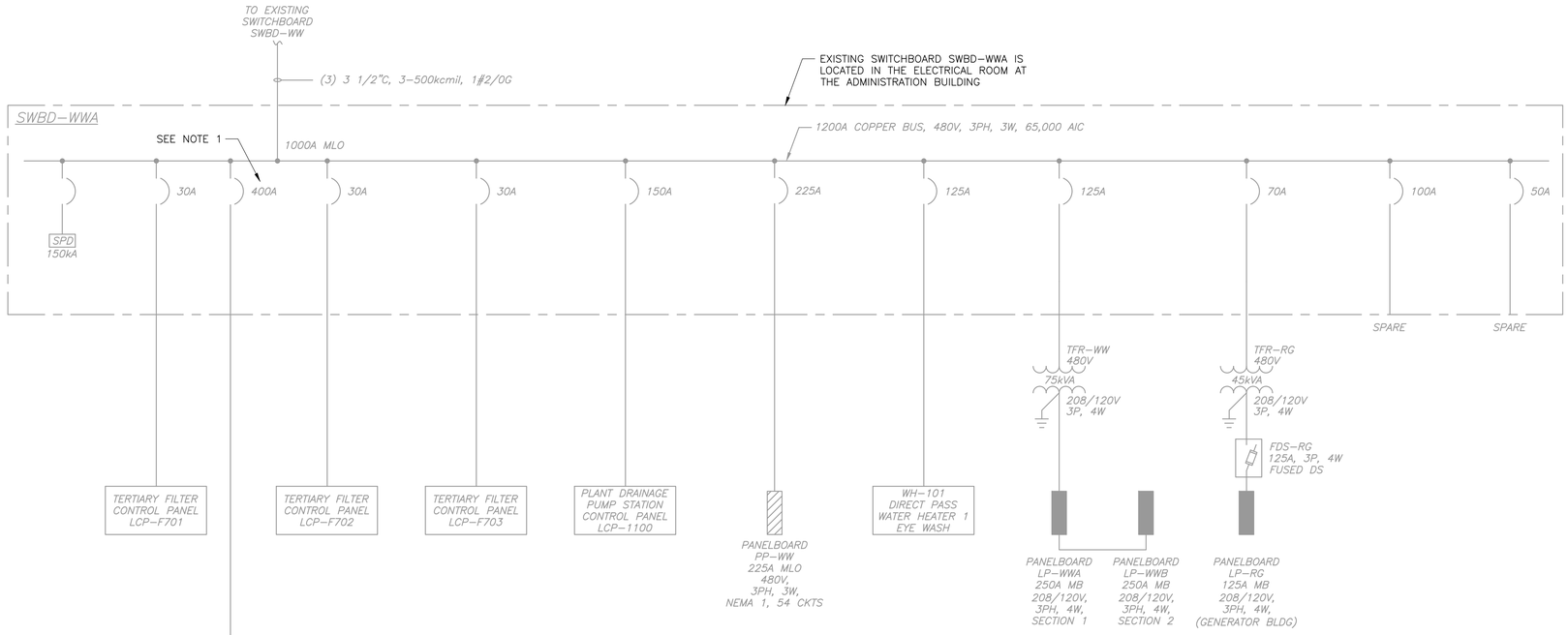
WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

ELECTRICAL NOTES

PROJECT NO. 20790–298446
FILE NAME: E003NFNT.DWG

SHEET NO.
E-3

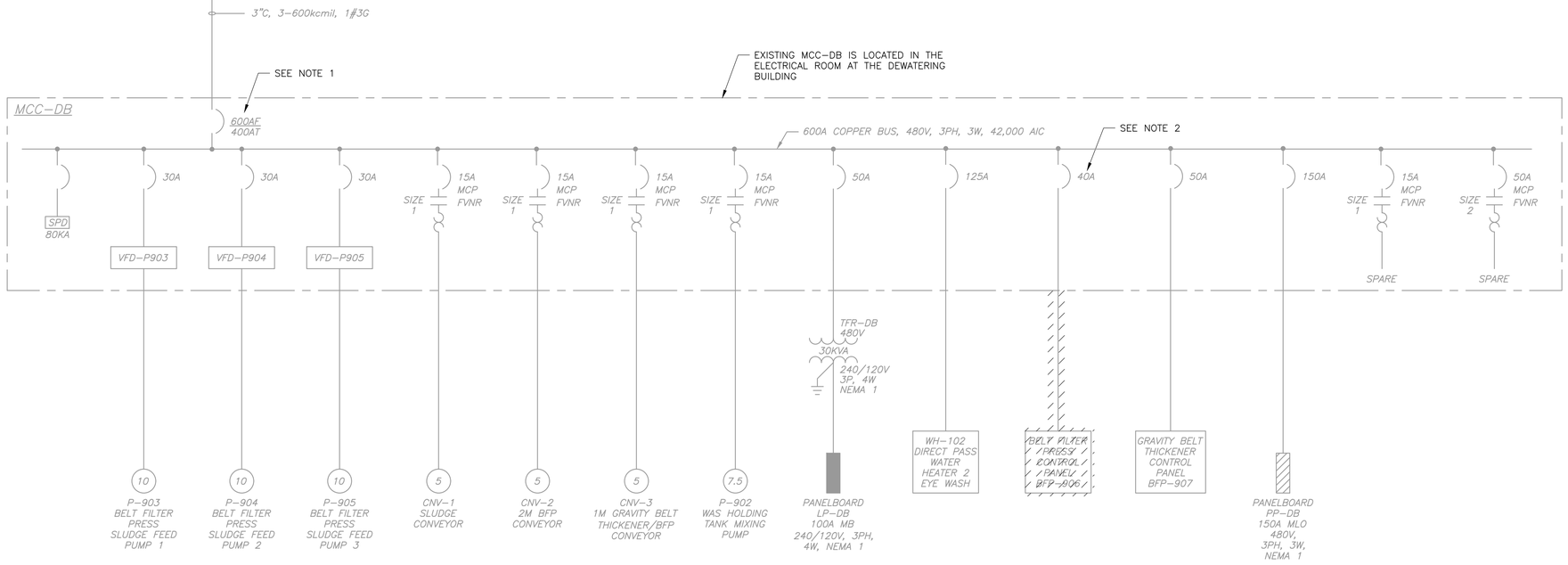
ISSUED FOR BID



EXISTING SWBD-WWA

ONE LINE POWER DIAGRAM

(DEMOLITION)



EXISTING MCC-DB

ONE LINE POWER DIAGRAM

(DEMOLITION)

NOTES:

1. EXISTING 80% RATED CIRCUIT BREAKER TO BE REPLACED WITH A 100% RATED CIRCUIT BREAKER. MATCH EXISTING MANUFACTURER, TYPE, AND AIC RATING.
2. EXISTING FEEDER CIRCUIT BREAKER TO BE REPLACED. MATCH EXISTING MANUFACTURER, TYPE, AND AIC RATING.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
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VALDOSTA A City Without Limits

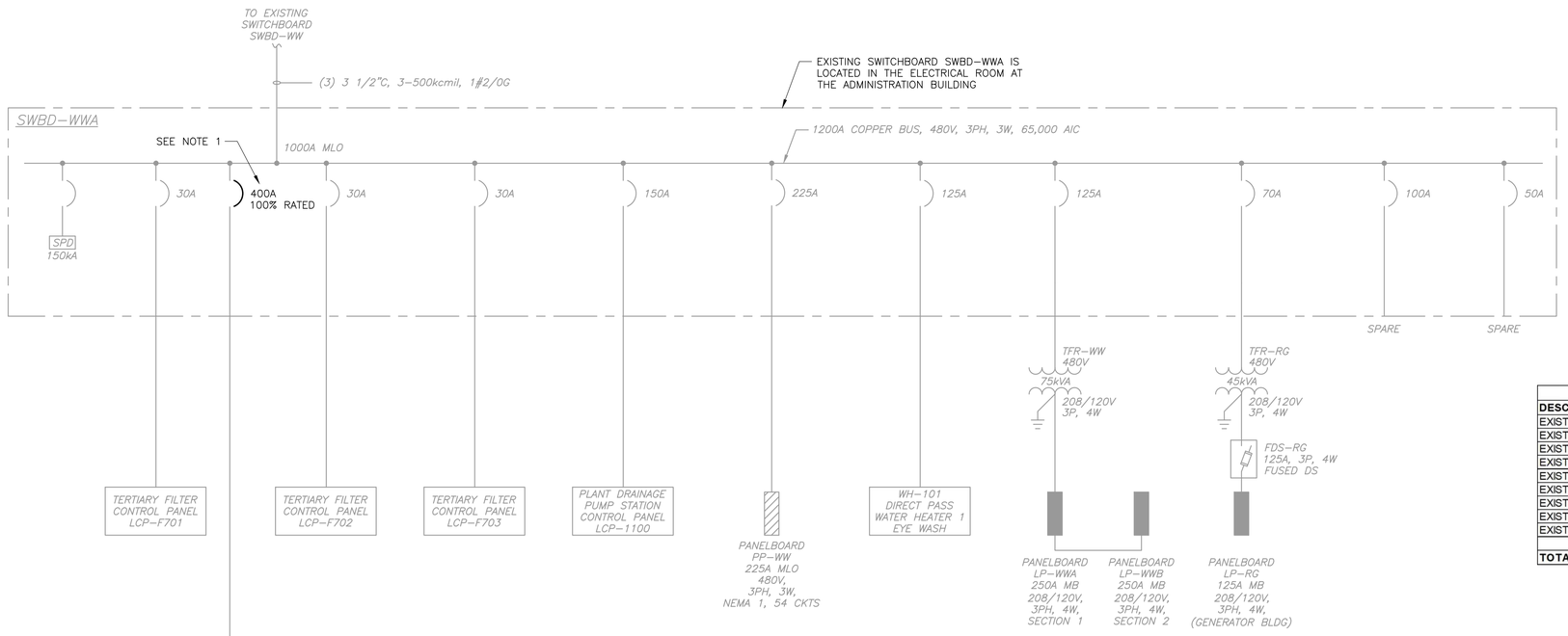
CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

EXISTING SWBD-WWA AND MCC-DB ONE LINE POWER DIAGRAMS (DEMOLITION)

PROJECT NO. 20790-298446
FILE NAME: E004NFOL.DWG
SHEET NO. E-4

ISSUED FOR BID



EXISTING SWBD–WWA

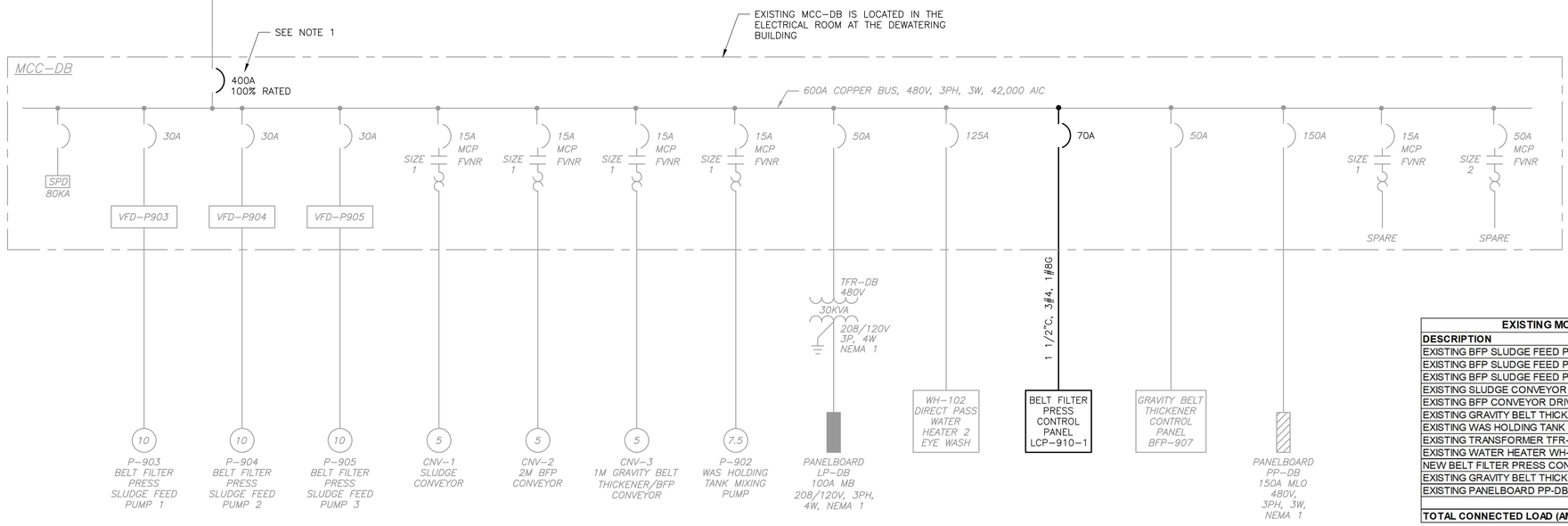
ONE LINE POWER DIAGRAM

(MODIFICATIONS)

NOTE:

1. PROVIDE A NEW 100% RATED CIRCUIT BREAKER. MATCH EXISTING MANUFACTURER, TYPE, AND AIC RATING.

SWBD-WWA CONNECTED LOAD SCHEDULE	
DESCRIPTION	**LOAD (AMPERES)**
EXISTING TERTIARY FILTER CONTROL PANEL LCP-F701	8
EXISTING TERTIARY FILTER CONTROL PANEL LCP-F702	8
EXISTING TERTIARY FILTER CONTROL PANEL LCP-F703	8
EXISTING PLANT DRAINAGE PUMP STATION CONTROL PANEL LCP-1100	120
EXISTING PANELBOARD PP-WW	181
EXISTING DIRECT PASS WATER HEATER WH-101	96
EXISTING PANELBOARD LP-WWA	68
EXISTING PANELBOARD LP-RG	40
EXISTING MCC-DB	373
TOTAL CONNECTED LOAD (AMPERES @ 480V, 3-PHASE) =	**903**



EXISTING MCC–DB

ONE LINE POWER DIAGRAM

(MODIFICATIONS)

EXISTING MCC-DB CONNECTED LOAD SCHEDULE	
DESCRIPTION	**LOAD (AMPERES)**
EXISTING BFP SLUDGE FEED PUMP 1	14
EXISTING BFP SLUDGE FEED PUMP 2	14
EXISTING BFP SLUDGE FEED PUMP 3 (STANDBY)	14
EXISTING SLUDGE CONVEYOR DRIVE CNV-1	8
EXISTING BFP CONVEYOR DRIVE CNV-2	8
EXISTING GRAVITY BELT THICK/BFP CONVEYOR DRIVE CNV-3	8
EXISTING WAS HOLDING TANK MIXING PUMP	11
EXISTING TRANSFORMER TFR-DB (3-PHASE)	27
EXISTING WATER HEATER WH-102	95
NEW BELT FILTER PRESS CONTROL PANEL LCP-910-1	47
EXISTING GRAVITY BELT THICKENER CONTROL PANEL BFP-907	40
EXISTING PANELBOARD PP-DB	88
TOTAL CONNECTED LOAD (AMPERES @ 480V, 3-PHASE) =	**373**

NOTE: THREE-PHASE AC MOTOR FULL LOAD CURRENTS PER NEC TABLE 430.250.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. CARTER
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA A City Without Limits

CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

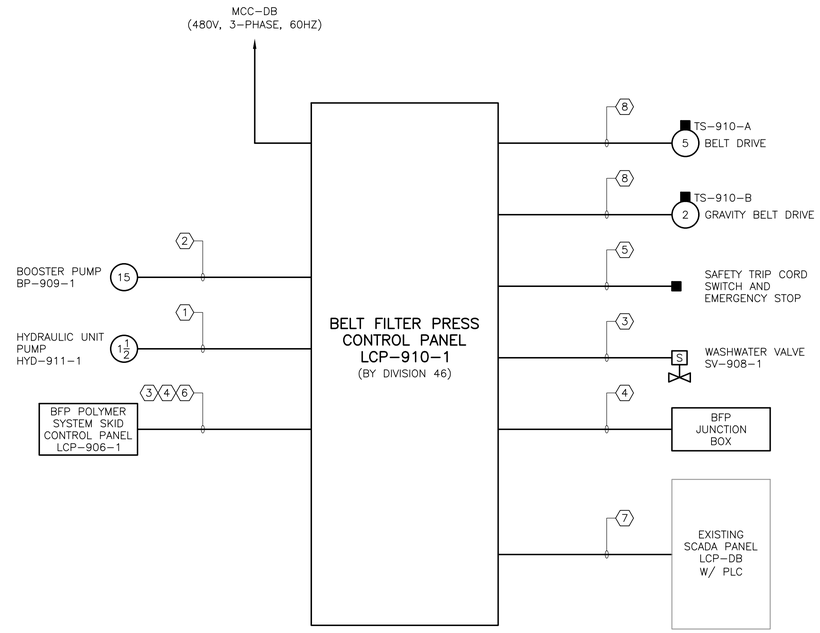
EXISTING SWBD-WWA AND MCC-DB ONE LINE POWER DIAGRAMS (MODIFICATIONS)

PROJECT NO. 20790–298446
FILE NAME: E005NFOL.DWG
SHEET NO. E-5

ISSUED FOR BID

CONDUIT AND WIRE LEGEND
(NUMBERS REFERENCE THIS SHEET ONLY)

NO.	DESCRIPTION
1	3/4"C, 3#12, 1#12G
2	1"C, 3#8, 1#10G
3	3/4"C, 2#12, 1#12G
4	1"C, 18#14, 1#14G
5	3/4"C, 2#14, 1#14G
6	1"C, 2-2/C#16SH
7	1"C, CAT6 ETHERNET CABLE
8	1"C, 3#12, 2#14, 1#12G



BELT FILTER PRESS
RISER DIAGRAM

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. CARTER
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
VALDOSTA A City Without Limits
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

CITY OF VALDOSTA, GA

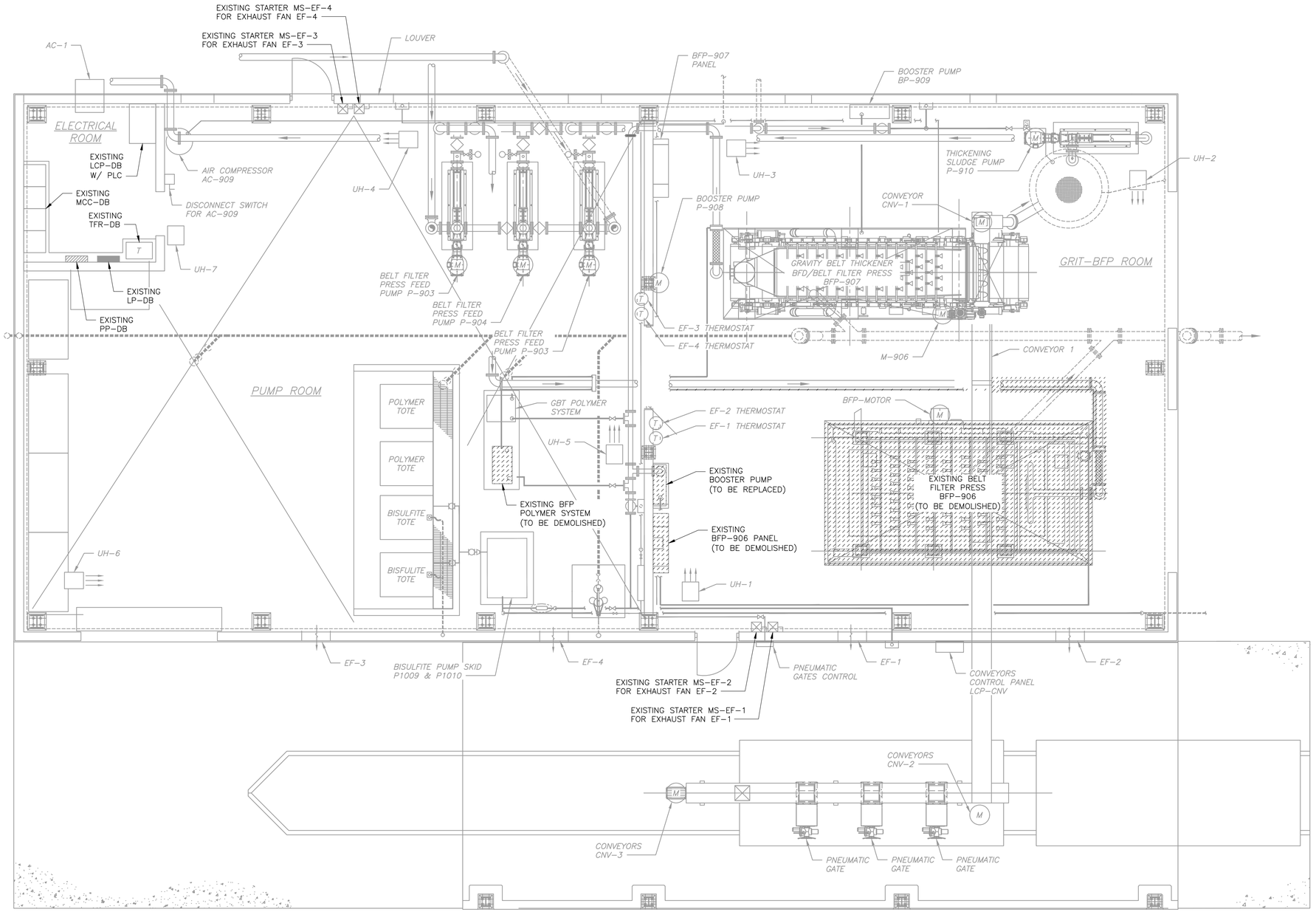
WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

RISER DIAGRAMS

PROJECT NO. 20790-298446
FILE NAME: E006NFRD.DWG

SHEET NO.
E-6

ISSUED FOR BID



PLAN
1/4" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

CDM Smith
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VALDOSTA
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CITY OF VALDOSTA, GA

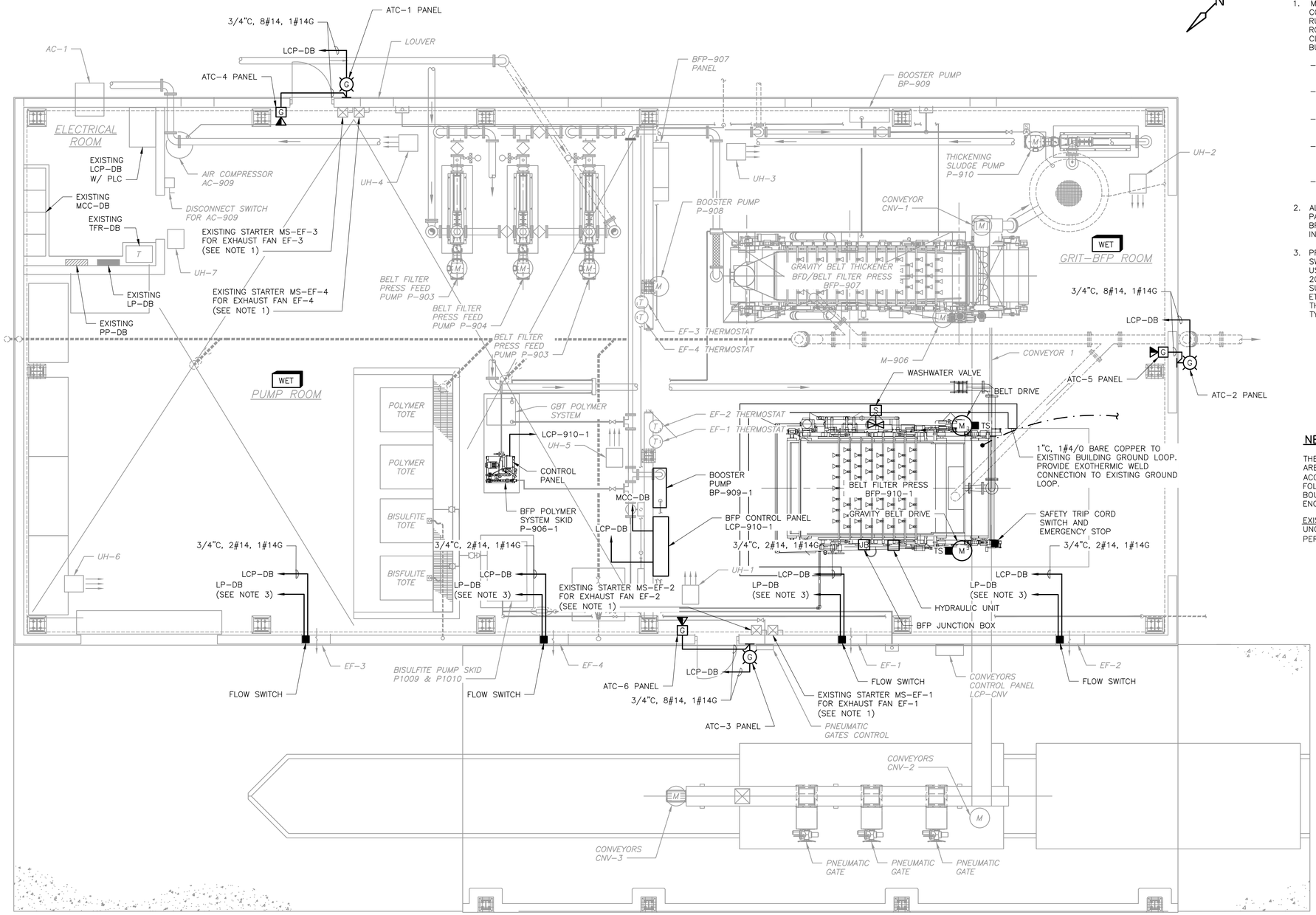
WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

DEWATERING BUILDING
ELECTRICAL DEMOLTION PLAN

PROJECT NO. 20790-298446
FILE NAME: E007DWDM.DWG

SHEET NO.
E-7

ISSUED FOR BID



PLAN
1/4" = 1'-0"

NOTES:

1. MODIFY THE EXISTING EXHAUST FAN MOTOR STARTER CONTROLS AND OPERATION SO THAT THE EXHAUST FAN RUNS CONTINUOUSLY ON HIGH SPEED ALL YEAR ROUND TO MEET NFPA 820 HAZARDOUS AREA CLASSIFICATION REQUIREMENTS FOR THE DEWATERING BUILDING.
   - REMOVE SLOW CONTACTOR, OVERLOADS, RESET BUTTON, RELAYS, AND ASSOCIATED CONTROL WIRING.
   - REMOVE SLOW SPEED CONDUCTORS FROM STARTER TO MOTOR.
   - REPLACE THE "SLOW/OFF/FAST" SELECTOR SWITCH WITH AN "ON/OFF" SELECTOR SWITCH.
   - PROVIDE COVER PLATES IN THE MOTOR STARTER ENCLOSURE DOOR FOR HOLES LEFT BY REMOVED DEVICES.
   - PROVIDE WIRING, TERMINALS, ETC. AS REQUIRED FOR THE MODIFICATIONS.
2. ALL NEW CONDUITS TO AND FROM THE BFP CONTROL PANEL LCP-910-1 TO THE BELT FILTER PRESS SKID, BFP POLYMER SKID AND BOOSTER PUMP SHALL BE INSTALLED EXPOSED AND OVERHEAD.
3. PROVIDE 3/4"C, 2#12, 1#12G FROM THE FLOW SWITCH TO THE EXISTING LIGHTING PANEL LP-DB. USE SPARE 20A,1P CIRCUIT BREAKER. PROVIDE A 20A,1P CIRCUIT BREAKER AS REQUIRED OR PROVIDE A SUB-PANEL WITH CIRCUIT BREAKERS, CONDUIT, WIRE, ETC. AS REQUIRED FOR THE 120V POWER SUPPLY TO THE FLOW SWITCH. MATCH EXISTING MANUFACTURER, TYPE AND AIC RATING.

NEC HAZARDOUS AREAS:

THERE ARE MULTIPLE LOCATIONS WITHIN THE FACILITY THAT ARE CLASSIFIED AS NEC CLASS 1, HAZARDOUS AREAS IN ACCORDANCE WITH NFPA 820 (2024 EDITION). THE FOLLOWING ARE THE NEC HAZARDOUS AREAS AND THEIR BOUNDARIES THAT THE CONTRACTOR IS ANTICIPATED TO ENCOUNTER ON THIS PROJECT.

EXISTING DEWATERING BUILDING:
UNCLASSIFIED
PER NFPA 820, TABLE 6.2.2(a), ROW 12(a)

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

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4651 Salsbury Road, Suite 420
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GA COA No. PEF000106; EXP. DATE 06/30/2024

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CITY OF VALDOSTA, GA

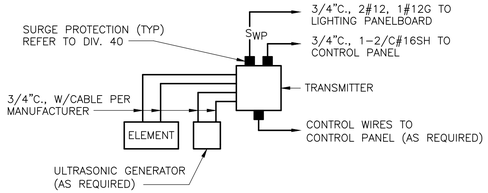
WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

DEWATERING BUILDING
ELECTRICAL MODIFICATIONS PLAN

PROJECT NO. 20790-298446
FILE NAME: E00BDWPL.DWG

SHEET NO.
E-8

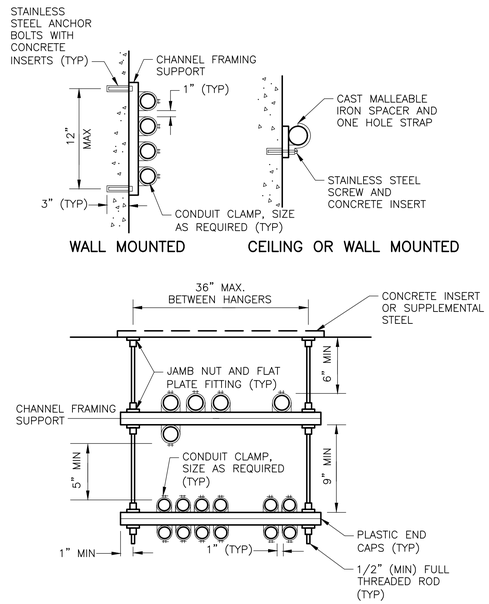
ISSUED FOR BID



TYPICAL TRANSMITTER

DETAIL A

NTS



CONDUIT MOUNTING

DETAIL B

NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. SANCHEZ
DRAWN BY: R. RUCK
SHEET CHK'D BY: S. PERRY
CROSS CHK'D BY: A. SRIRAM
APPROVED BY: S. PERRY
DATE: SEPTEMBER 2025

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GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA
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WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

ELECTRICAL DETAILS

PROJECT NO. 20790-298446
FILE NAME: ED01NFDT.DWG

SHEET NO.
ED-1

ISSUED FOR BID

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

SHARED DISPLAY/ SHARED CONTROL				
PRIMARY CHOICE	SECONDARY CHOICE	COMPUTER SOFTWARE	DISCRETE	LOCATION AND ACCESSIBILITY
◯	◇	⬡	◯	FIELD MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◑	◈	⬢	◑	PRIMARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◑	◈	⬢	◑	PRIMARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE
◒	◈	⬢	◒	SECONDARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
◒	◈	⬢	◒	SECONDARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE

◯◯ INSTRUMENTS SHARING COMMON HOUSING

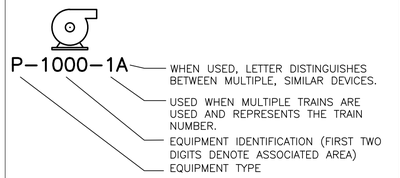
◒ PILOT LIGHT

INSTRUMENTATION FUNCTION CODE

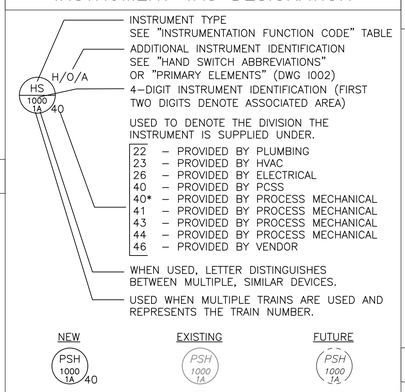
	FIRST LETTERS		SUCCEEDING LETTERS		
	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
	MEASURED/ INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS		ALARM (2)		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	COMMUNICATION			CONTROL	CLOSED
D	USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			FAULT
G	USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE (2)		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (2)		LOW
M	MOISTURE				MIDDLE, INTERMEDIATE
N	TORQUE		ENABLE (READY)	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH (2)	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL, ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		WARNING
X	UNCLASSIFIED (1)	X–AXIS	ACCESSORY DEVICES, UNCLASSIFIED (1)	UNCLASSIFIED (1)	UNCLASSIFIED (1)
Y	EVENT, STATE, PRESENCE	Y–AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z–AXIS, SAFETY INSTRUMENT SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED, FINAL CONTROL ELEMENT	

TABLE NOTES:
1. WHEN USED SYMBOL OR SIGNAL LINE IS ANNOTATED.
2. FUNCTION ALLOWS FOR MODIFIER (COLUMN 5).

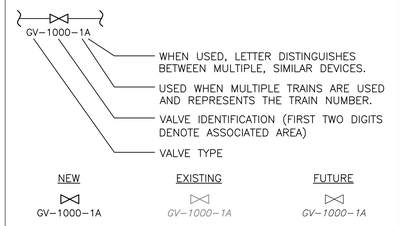
EQUIPMENT TAG DESIGNATION



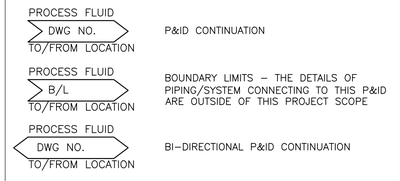
INSTRUMENT TAG DESIGNATION



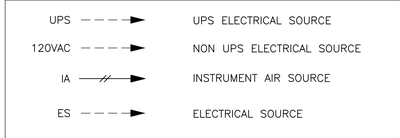
VALVE TAG DESIGNATION



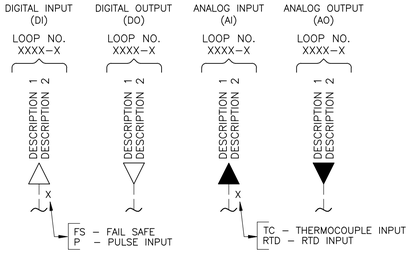
OFF PAGE CONNECTORS



ELECTRICAL / AIR SOURCES



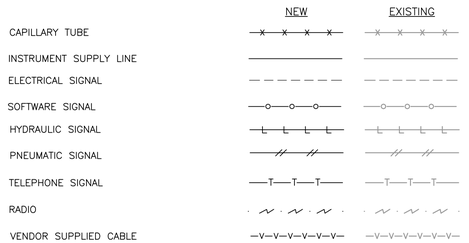
I/O SIGNALS



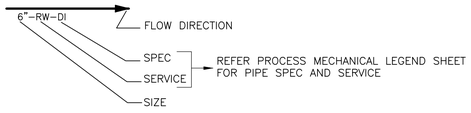
** MEASURED VARIABLE OR OUTPUT FUNCTION FROM "INSTRUMENTATION FUNCTION CODE" TABLE.

** FAIL SAFE – NORMALLY CLOSED CONTACT UNDER NORMAL PROCESS CONDITIONS.

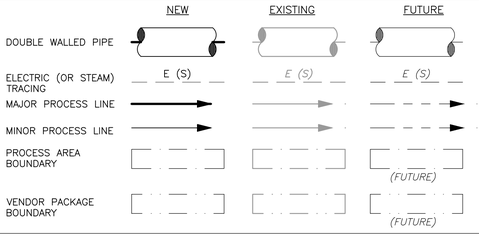
INSTRUMENT LINE SYMBOLS



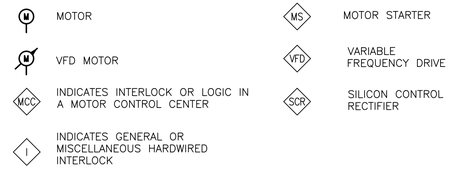
PIPE TAG DESIGNATION



PROCESS LINES TYPES



MOTOR CONTROL SYMBOLS



GENERAL ABBREVIATIONS

AI	ANALOG IN
AO	ANALOG OUT
CCTV	CLOSED CIRCUIT TELEVISION
CPU	CENTRAL PROCESSING UNIT
DI	DIGITAL OR DISCRETE INPUT
DO	DIGITAL OUTPUT
DVR	DIGITAL VIDEO RECORDER
ES	ETHERNET SWITCH (UNMANAGED) OR ELECTRICAL SOURCE
ETM	ELAPSED TIME METER
FC	FAIL CLOSED
FO	FAIL OPEN OR FIBER OPTIC
FOCE	FIBER OPTIC COMMUNICATION ENCLOSURE
FOES	FIBER OPTIC ETHERNET SWITCH
FOPP	FIBER OPTIC PATCH PANEL
FW	FIREWALL
HIM	HUMAN INTERFACE MODULE
HMI	HUMAN MACHINE INTERFACE
I/O	INPUT/OUTPUT
ISP	INTERNET SERVICE PROVIDER
KVM	KEYBOARD VIDEO MONITOR
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
MC	MEDIA CONVERTER
MCC	MOTOR CONTROL CENTER
MES	MANAGED ETHERNET SWITCH
MS	MOTOR STARTER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NVR	NETWORK VIDEO RECORDER
OED	OPEN EQUIPMENT DRAIN
OIT	OPERATOR INTERFACE TERMINAL
OWS	OPERATOR WORKSTATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PS	POWER SUPPLY
RAD	RADIO
RIO	REMOTE INPUT/OUTPUT
RT	RUN TIME
RTU	REMOTE TERMINAL UNIT
SPD	SURGE PROTECTION DEVICE
TC	THIN CLIENT
TKC	THICK CLIENT
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
VPN	VIRTUAL PRIVATE NETWORK

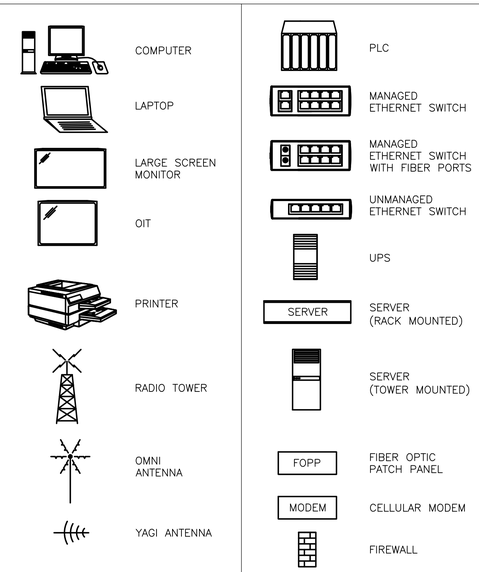
HAND SWITCH ABBREVIATIONS

A/O	– AUTO/OFF
A/M	– AUTO/MANUAL
C/L	– COMPUTER/LOCAL
C/M	– COMPUTER/MANUAL
E–STOP	– EMERGENCY STOP
F/R	– FORWARD/REVERSE
F/O/R	– FORWARD/OFF/REVERSE
F/S	– FAST/SLOW
F/O/S	– FAST/OFF/SLOW
H/O/A	– HAND/OFF/AUTO
H/O/R	– HAND/OFF/REMOTE
L/A	– LOCAL/AUTO
L/R	– LOCAL/REMOTE
L/L/S	– LEAD/LAG/STANDBY
L/O/A	– LOCAL/OFF/AUTO
L/O/R	– LOCAL/OFF/REMOTE
LO/S	– LOCKOUT/STOP
O/C	– OPEN/CLOSE
O/C/A	– OPEN/CLOSE/AUTO
O/C/R	– OPEN/CLOSE/REMOTE
O/O	– ON/OFF
O/O/A	– ON/OFF/AUTO
O/O/R	– ON/OFF/REMOTE
O/S/C	– OPEN/STOP/CLOSE
R/S/L	– RAISE/STOP/LOWER
S/O/R	– START/OFF/RESET
S/S	– START/STOP

GENERAL NOTES

1. THIS LEGEND APPLIES TO P&IDS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
2. IN GENERAL THIS LEGEND SHEET AND THE P&IDS ARE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS AND RECOMMENDED PRACTICES FOR INSTRUMENTATION AND CONTROL. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.
3. SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE P&IDS.
4. SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.

SYSTEM ARCHITECTURE SYMBOLS



SYSTEM ARCHITECTURE LINETYPES

C C C	CAT 6 CABLE
FO FO FO	FIBER OPTIC CABLE
	COAXIAL CABLE
HDMI HDMI	HDMI CABLE
RS232 RS232	SERIAL CABLE RS232
RS485 RS485	SERIAL CABLE RS485
DN DN DN	DEVICENET
FF FF	FOUNDATION FIELDBUS

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. NEAL
DRAWN BY: D. BENIL
SHEET CHK'D BY: B. NEAL
CROSS CHK'D BY: W. WHITMORE
APPROVED BY: B. NEAL
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
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CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

INSTRUMENTATION LEGEND I

PROJECT NO. 20790–298446
FILE NAME: I001SYMB.DWG

SHEET NO. I-1

ISSUED FOR BID

VALVE SYMBOLS

- BACKFLOW PREVENTER (BFP)
- BALL CHECK VALVE (BCV)
- BALL VALVE (BV)
- BUTTERFLY VALVE (BFV)
- CONE VALVE (CONV)
- DIAPHRAGM VALVE (DV)
- DOUBLE DISC CHECK VALVE (DDCV)
- DUCKBILL CHECK VALVE (DBCV)
- GATE VALVE (GV)
- GLOBE BODY SILENT CHECK VALVE (GBCV)
- GLOBE VALVE (GLV)
- KNIFE VALVE (KNV)
- MUD VALVE (MV)
- NEEDLE VALVE (NV)
- PINCH VALVE (PCHV)
- PLUG VALVE (PV)
- RUBBER FLAPPER CHECK VALVE (RFCV)
- RUPTURE DISC (RD)
- STOP CHECK VALVE (SCV)
- SWING CHECK VALVE (CV)
- TELESCOPIC VALVE (TV)
- V NOTCH BALL VALVE (VNBV)
- BACK PRESSURE REGULATING VALVE (BPV)
- DIFFERENTIAL PRESSURE REGULATING VALVE W/ EXTERIOR TAPS
- PRESSURE REGULATING VALVE (PREGV)
- SELF-CONTAINED DIFFERENTIAL PRESSURE REGULATING VALVE
- SELF-CONTAINED DIFFERENTIAL PRESSURE REGULATING VALVE (SOLENOID OPERATED)
- SOLENOID VALVE (SV)
- 3-WAY SOLENOID VALVE (SV)
- DAMPER (D)
- AIR RELEASE VALVE (ARV) OR PRESSURE RELIEF VALVE (PRV)
- AIR VACUUM VALVE (AVV)
- VACUUM BREAKER VALVE (VBV)
- COMBINATION AIR VALVE (CVV)

GATE SYMBOLS

- BULK HEAD GATE/STOP LOG
- CAST IRON SLIDE GATE (SG)
- BUTTERFLY GATE
- FABRICATED SLIDE GATE (SLG)
- FLAP GATE
- WEIR SLIDE GATE (WSG)

VALVE ACTUATORS

- DIAPHRAGM, PRESSURE-BALANCED
- DIAPHRAGM, SPRING OPPOSED
- SOLENOID
- ELECTROHYDRAULIC
- CYLINDER, SINGLE-ACTING OR DOUBLE ACTING, SPRING OPPOSED WITHOUT POSITIONER OR PILOT.
- EXAMPLE OF CYLINDER WITH POSITIONER
- ANY CYLINDER THAT IS ASSEMBLED WITH A PILOT SO THAT ASSEMBLY IS ACTUATED BY ONE CONTROLLED INPUT. PILOT MAY BE POSITIONER, SOLENOID VALVE, SIGNAL CONVERTER, etc.
- SYMBOLIZES MOTORIZED ACTUATOR WITH H/O/R SWITCH, OPEN/STOP/CLOSE PUSHBUTTONS AND STATUS LIGHT AS REQUIRED. REFER TO ACTUATOR SPECIFICATIONS 400557 FOR MORE DETAILED INFORMATION.
  - 46 – PROVIDED BY VENDOR
  - 40* – PROVIDED BY PROCESS MECHANICAL
- SYMBOLIZES MOTORIZED ACTUATOR WITH H/O/R SWITCH, STATUS LIGHT AND POSITION FEEDBACK AND CONTROL AS REQUIRED. REFER TO ACTUATOR SPECIFICATIONS 400557 FOR MORE DETAILED INFORMATION.
  - 46 – PROVIDED BY VENDOR
  - 40* – PROVIDED BY PROCESS MECHANICAL

PIPE LINE SYMBOLS

- PIPE UNION
- PIPE FLANGE
- CONTINUED PIPE
- BLIND FLANGE
- FLEXIBLE BELLOWS TYPE COUPLING
- FLEXIBLE COUPLING (GENERAL SYMBOL)
- QUICK CONNECT TYPE COUPLING
- END CAP
- HOSE CONNECTION
- REDUCER/ENLARGER
- ECCENTRIC REDUCER/ENLARGER
- THREADED DIAPHRAGM SEAL
- ANNULAR SEAL
- Y-STRAINER
- BASKET STRAINER
- BELLOW
- HOSE BIB (HB)
- OPEN EQUIPMENT DRAIN
- DIFFUSER
- AIR FILTER
- EDUCTOR
- EJECTOR
- PULSATION DAMPENER

MISCELLANEOUS SYMBOLS

- PURGE OR FLUSHING DEVICE

PRIMARY ELEMENTS

FLOW INSTRUMENTS

- AVERAGING PITOT TUBE FLOW METER
- CORIOLIS FLOW METER
- FLUME FLOW METER (OPEN CHANNEL)
- MAGNETIC FLOW METER
- ORIFICE PLATE FLOW METER
- PITOT TUBE FLOW METER
- POSITIVE DISPLACEMENT FLOW METER
- ROTAMETER
- TARGET FLOW METER
- THERMAL MASS FLOW METER
- TURBINE OR PROPELLER FLOW METER
- ULTRASONIC FLOW METER (DOPPLER)
- ULTRASONIC FLOW METER (TRANSIT TIME)
- VENTURI FLOW METER
- INSERT VENTURI FLOW METER
- VORTEX FLOW METER
- WEIR
- GENERAL INSERTION FLOW METER
  - IM=INSERT MAG
- FLOW SWITCH
  - TD – THERMAL DISPERSION
  - V – VANE ACTUATED

LEVEL INSTRUMENTS

- RADAR LEVEL SENSOR (GUIDED WAVE)
- RADAR LEVEL SENSOR (NON CONTACT)
- SUBMERSIBLE HYDROSTATIC LEVEL SENSOR
- ULTRASONIC LEVEL SENSOR
- LASER LEVEL SENSOR
- BUBBLER SYSTEM
- CAPACITANCE LEVEL SENSOR
- MAGNETOSTRICTIVE LEVEL SENSOR
- DISPLACEMENT LEVEL SENSOR
- FLOAT SWITCH
- ULTRASONIC GAP SWITCH
- VIBRATING TUNING FORK LEVEL SWITCH
- CAPACITANCE LEVEL SWITCH
- PADDLE LEVEL SWITCH

PRESSURE INSTRUMENTS

- PRESSURE GAUGE
- PRESSURE DIFFERENTIAL GAUGE
- PRESSURE INDICATING TRANSMITTER
- PRESSURE DIFFERENTIAL TRANSMITTER
- PRESSURE SWITCH
- PRESSURE DIFFERENTIAL SWITCH

TEMPERATURE INSTRUMENTS

- TEMPERATURE GAUGE
- TEMPERATURE SENSOR
  - TC – THERMOCOUPLE
  - RTD – RESISTANCE TEMPERATURE DETECTOR
- TEMPERATURE SENSOR WITH THERMOWELL
- TEMPERATURE INDICATING TRANSMITTER
- TEMPERATURE SWITCH

TORQUE INSTRUMENTS

- TORQUE SENSOR
- TORQUE SWITCH

WEIGHT INSTRUMENTS

- WEIGHT ELEMENT (LOAD CELL)
- WEIGHT INDICATING TRANSMITTER

ANALYZER INSTRUMENTS

- GENERAL ANALYZER
  - ALK – ALKALINITY
  - CEMS – CONTINUOUS EMISSIONS MONITORING SYSTEM
  - COND – CONDUCTIVITY
  - CL2F – FREE CHLORINE RESIDUAL
  - CL2T – TOTAL CHLORINE RESIDUAL
  - CL2(G) – CHLORINE GAS
  - CO – CARBON MONOXIDE
  - CO2 – CARBON DIOXIDE
  - DEW – DEW POINT
  - DO – DISSOLVED OXYGEN
  - Fe – IRON
  - FL – FLUORIDE
  - H2S – HYDROGEN SULFIDE
  - LEL – % LOWER EXPLOSIVE LIMIT
  - Mn – MANGANESE
  - NH2CL – MONOCHLORAMINE
  - NH3 – DISSOLVED AMMONIA
  - NH3(G) – AMMONIA GAS
  - NO3 – NITRATE
  - N2 – NITROGEN
  - ORP – OXIDATION REDUCTION POTENTIAL
  - O2(G) – OXYGEN GAS
  - O3 – DISSOLVED OZONE
  - O3(G) – OZONE GAS
  - P – PHOSPHOROUS
  - PC – PARTICLE COUNTER
  - pH – HYDROGEN ION
  - pH/TEMP – pH/TEMPERATURE
  - SB – SLUDGE BLANKET
  - SC – STREAMING CURRENT
  - SDI – SILT DENSITY INDEX
  - SO2 – SULPHUR DIOXIDE
  - THM – TRIHALOMETHANES
  - TOC – TOTAL ORGANIC CARBON
  - TSS – TOTAL SUSPENDED SOLIDS
  - TURB – TURBIDITY
  - UVI – ULTRAVIOLET INTENSITY
  - UVT – ULTRAVIOLET TRANSMITTANCE
- SINGLE PARAMETER ANALYZER TRANSMITTER
- MULTI-PARAMETER ANALYZER TRANSMITTER

EQUIPMENT

- AIR COMPRESSOR
- AIR-OPERATED DIAPHRAGM PUMP
- CENTRIFUGAL BLOWER OR FAN
- CENTRIFUGAL PUMP
- DIAPHRAGM METERING PUMP
- PERISTALTIC PUMP
- PISTON PUMP
- DOUBLE-DISK PUMP
- PROGRESSIVE CAVITY PUMP
- ROTARY BLOWER
- ROTARY LOBE COMPRESSOR
- ROTARY LOBE PUMP
- VERTICAL TURBINE PUMP
- POLYMER SYSTEM

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. NEAL
DRAWN BY: D. BENIL
SHEET CHK'D BY: B. NEAL
CROSS CHK'D BY: W. WHITMORE
APPROVED BY: B. NEAL
DATE: SEPTEMBER 2025

CDM Smith
4651 Salsbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
GA COA No. PEF000106; EXP. DATE 06/30/2024

VALDOSTA
A City Without Limits

CITY OF VALDOSTA, GA

WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

INSTRUMENTATION LEGEND II

PROJECT NO. 20790-298446
FILE NAME: I002SYMB.DWG

SHEET NO.
I-2

ISSUED FOR BID

LOOP NO. BP-909-1

LOOP NO. P-906-1

LOOP NOS. P-903-1, P-904-1 AND P-905-1

LOOP NOS. P-912-1, P-912-2, P-912-3, P-912-4

START/STOP (2)
WATER SUPPLY LOW FLOW
LIQUID POLYMER PUMP FAULT
POLYMER SYSTEM RUNNING
LOW NEAT POLYMER
TOTAL PRESS AMPS
TOTAL POWER CONSUMPTION (KVA)
TOTAL POWER CONSUMPTION (KW)
POLYMER SYSTEM START RELAY
POLYMER SYSTEM RUNNING
POLYMER SYSTEM IN REMOTE
POLYMER SYSTEM COMMON ALARM
CONVEYOR SYSTEM CALL TO START
CONVEYOR SYSTEM RUNNING
POLYMER PUMP SPEED FEEDBACK
POLYMER PUMP SPEED SETPOINT
SLUDGE FEED FLOW RATE
SLUDGE PUMP SPEED SETPOINT
SLUDGE PUMP RUN COMMAND (2)
SLUDGE PUMP FEED RUNNING
BOOSTER PUMP RUNNING
BOOSTER PUMP FAULT
BELT FILTER PRESS RUNNING
BELT FILTER PRESS FAULT
BELT FILTER PRESS EMERGENCY TRIP
MOTOR RUN COMMAND
CONVEYOR IN AUTO (2)
MOTOR RUNNING
VENTILATION SYSTEM FAILUER
VENTILATION SYSTEM HORN (3)
VENTILATION ON SAFE TO ENTER
EXHAUST FAN FAULT

PLC-DB

ETHERNET/IP

LS-910-1A	UPPER BELT NO TENSION LIMIT SWITCH
LS-910-1B	LOWER BELT NO TENSION LIMIT SWITCH
LS-910-1C	UPPER BELT OVERTRAVEL LIMIT SWITCH
LS-910-1D	LOWER BELT OVERTRAVEL LIMIT SWITCH
PS-910-1A	LOW AIR PRESSURE SWITCH
PS-910-1B	LOW WATER PRESSURE SWITCH
SV-910-1	DETENSION SOLENOID
TS-910-1A	UPPER BELT MOTOR TEMPERATURE SWITCH
TS-910-1B	LOWER BELT MOTOR TEMPERATURE SWITCH

NOTE:
1. THERMAL DISPERSION FLOW SWITCH, PROVIDE FLUID COMPONENTS INTERNATIONAL MODEL FLT93, OR APPROVED EQUAL. REFERENCE MECHANICAL DRAWING MD-1, DETAIL D.
2. INTERLOCK CONVEYOR RUNNING WITH BFP RUN COMMAND AND SLUDGE PUMP RUN COMMAND.
3. AESS SHALL NEED TO PROGRAM THESE SIGNALS, WITH EXISTING SPARE IO POINTS AND NEW WIRING.

BEACON
SIREN
FS 102
WATER
B/L
POTABLE WATER
EWS-102-1
EMERGENCY EYEWASH SHOWER

LCP-906-1
POLYMER SYSTEM LOCAL CONTROL PANEL
MS VFD
POST DILUTION FLOW ON/OFF HS 906 1A
POLYMER SYSTEM LOR HS 906 1B
METERING PUMP POA HS 906 1C
WATER INLET PRESSURE PI 906 1A
WATER DISCHARGE PRESSURE PI 906 1B
LOW FLOW ALARM FLL 906 1
POLYMER SYSTEM RUNNING YLR 906 1A
WATER INLET FLOW FI 906 1A
WATER DISCHARGE FLOW FI 906 1B
(DIV. 46)

LCP-910-1
BELT FILTER PRESS MAIN CONTROL PANEL
MS
HORN
OIT
PLC
OFF/ON HS 910
E-STOP HLS 910 1
RESET HS 910 1A
SILENCE HS 910 1B
ON PL 910 1
TENSION MOTOR RESET HS 910 1C
BOOSTER PUMP MOTOR RESET HS 910 1D
CIRCUIT BREAKER A RESET HS 910 1E
VFD VFD MS
(DIV. 46)

MCC-DB
MS MS MS
HOA HS 276 1
HOA HS 276 2
HOA HS 276 3
LCP-CNV
CONVEYORS LOCAL CONTROL PANEL

FE 906 1A 46
FE 906 1B 46
1"-POLY
1"-PSW
S
SV-906-1 BV-906-1
P-906-1
POLYMER PUMP
POLYMER SYSTEM
VENDOR PROVIDED (DIV. 46)
TK-906-1
POLYMER CHEMICAL TOTE
B/L
TO EXISTING GBT POLYMER SYSTEM
1"-POLY

WATER B/L PROCESS SERVICE WATER
B/L TO EXISTING GBT POLYMER SYSTEM
SLUDGE B/L SLUDGE SUPPLY FROM SLUDGE FEED PUMPS
6"-WAS
6"-WAS

LS 910 1A
LS 910 1B
LS 910 1C
LS 910 1D
PS 910 1A
PS 910 1B
SV 910 1
BFP-910-1
BELT FILTER PRESS
TS 910 1A
TS 910 1B
1 1/2"-PW
8" DRAIN
HYD-911-1
HYDRAULIC PACK
BP-909-1
BOOSTER PUMP
1 1/2"-PW
SV-908-1
WATER B/L PROCESS SERVICE WATER
WATER B/L PROCESS SERVICE WATER
WET CAKE B/L FROM BFP-907

CNY-276-1
CONVEYOR NO. 1
CNY-276-2
CONVEYOR NO. 2
CNY-276-3
CONVEYOR NO. 3
YC 276 1
YI 276 1
YA 276 1
YC 276 2
YI 276 2
YA 276 2
YC 276 3
YI 276 3
YA 276 3
VENDOR PROVIDED (DIV. 46)
AIR B/L AIR FROM COMPRESSORS
P

FSL 912 1 40 EXHAUST FAN NO. 1
FSL 912 2 40 EXHAUST FAN NO. 2
FSL 912 3 40 EXHAUST FAN NO. 3
FSL 912 4 40 EXHAUST FAN NO. 4

SEE DETAIL-B SHEET ID-1 (TYP.)
ATC-915-1
ATC-915-2
ATC-915-3
EXTERIOR
ATC-915-4
ATC-915-5
ATC-915-6
ROLL UP DOORS
EAST DOORS
WEST DOORS
INTERIOR
SEE DETAIL-A SHEET ID-1(TYP.)

DRIAN B/L TO EXISTING PLANT DRAIN SYSTEM

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: B. NEAL
DRAWN BY: D. BENIL
SHEET CHK'D BY: B. NEAL
CROSS CHK'D BY: W. WHITMORE
APPROVED BY: B. NEAL
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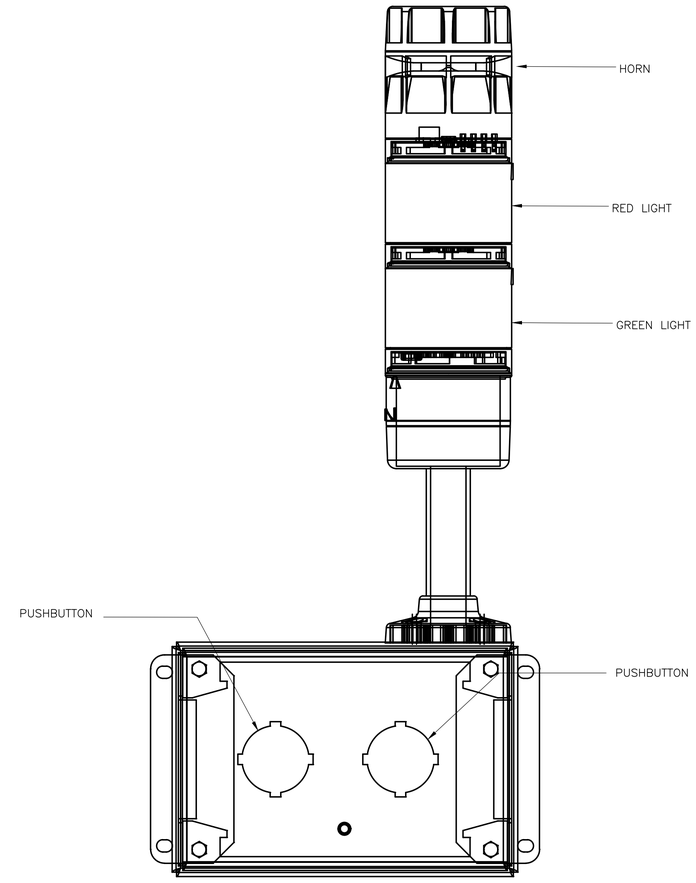
WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

PROCESS & INSTRUMENTATION DIAGRAM BELT FILTER PRESS AND POLYMER SYSTEM

PROJECT NO. 20790-298446
FILE NAME: I003PIDI.DWG
SHEET NO. I-3

ISSUED FOR BID

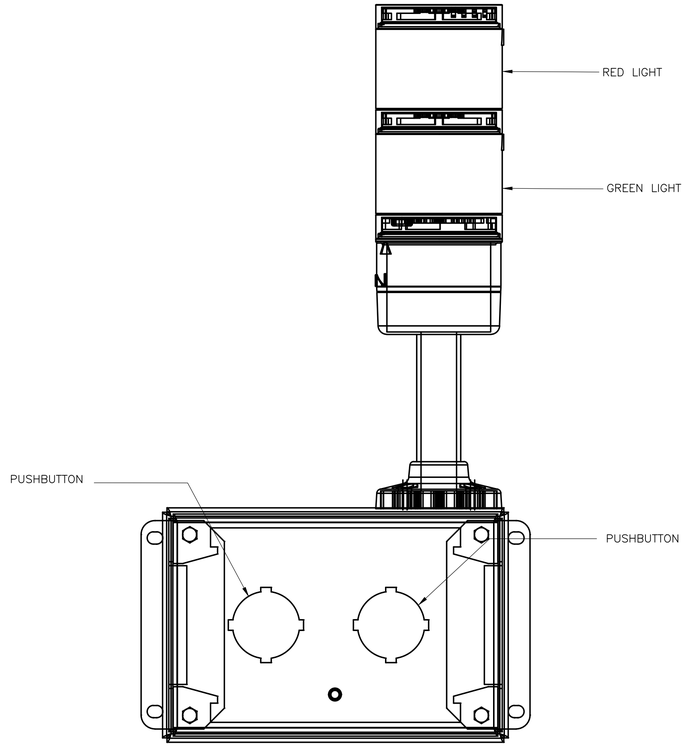


ATC–4 THROUGH 6 (INTERIOR)
LOCAL ALARM STATION

DETAIL A
(DIV. 40)

NOTES:

1. PROVIDE HOFFMAN 2–HOLE PBX STATION, SS 304, NEMA 4x, OR APPROVED EQUAL.
2. PROVIDE ALLEN BRADLEY TYPE 800T 30 MM PUSHBUTTONS, OR APPROVED EQUAL.
3. PUSHBUTTONS ARE ACKNOWLEDGE AND SILENCE PUSHBUTTONS.
4. LED STACK LIGHT WITH ALARM AND MOUNTING BASE SHALL BE ALLEN BRADLEY BULLETIN 855 CONTROL TOWER STACK LIGHTS.
5. EXTERIOR AND INTERIOR ALARM STATION (UNCLASSIFIED AREAS) – VISIBLE GREEN LIGHT/RED LIGHT (GO/NO GO). PROVIDE A STAINLESS STEEL NEMA 4X ENCLOSURE WITH TWO LED STACK LIGHTS. GREEN STACK LIGHT SHALL BE LABELED "VENTILATION SYSTEM NORMAL OPERATION" AND SHALL BE A GREEN STEADY BURN NEMA 4 LED STACK. RED STACK LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE" AND SHALL BE A RED FLASHING NEMA 4 LED STACK. ALARM HORN SHALL SOUND WHILE RED LIGHT FLASHES. ALARM STATION SHALL BE FIELD WIRED TO CHANGE FROM FLASHING RED LIGHT TO STEADY BURN RED LIGHT AND HORN SHALL SILENCE WHEN ALARM IS SILENCED/ACKNOWLEDGED AT THE ATC PANEL SILENCE PUSHBUTTON. STEADY BURN RED ALARM STACK SHALL REMAIN ON UNTIL RESET AT THE ATC PANEL.



ATC–1 THROUGH 3 (EXTERIOR)
LOCAL ALARM STATION

DETAIL B
(DIV. 40)

NOTES:

1. PROVIDE HOFFMAN 2–HOLE PBX STATION, SS 304, NEMA 4x, OR APPROVED EQUAL.
2. PROVIDE ALLEN BRADLEY TYPE 800T 30 MM PUSHBUTTONS, OR APPROVED EQUAL.
3. PUSHBUTTONS ARE ACKNOWLEDGE AND SILENCE PUSHBUTTONS.
4. LED STACK LIGHT WITH ALARM AND MOUNTING BASE SHALL BE ALLEN BRADLEY BULLETIN 855 CONTROL TOWER STACK LIGHTS.
5. EXTERIOR AND INTERIOR ALARM STATION (UNCLASSIFIED AREAS) – VISIBLE GREEN LIGHT/RED LIGHT (GO/NO GO). PROVIDE A STAINLESS STEEL NEMA 4X ENCLOSURE WITH TWO LED STACK LIGHTS. GREEN STACK LIGHT SHALL BE LABELED "VENTILATION SYSTEM NORMAL OPERATION" AND SHALL BE A GREEN STEADY BURN NEMA 4 LED STACK. RED STACK LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE" AND SHALL BE A RED FLASHING NEMA 4 LED STACK. ALARM STATION SHALL BE FIELD WIRED TO CHANGE FROM FLASHING RED LIGHT TO STEADY BURN RED LIGHT WHEN ALARM IS SILENCED/ACKNOWLEDGED AT THE ATC PANEL. STEADY BURN RED ALARM STACK SHALL REMAIN ON UNTIL RESET AT THE ATC PANEL.

REV. NO.	DATE	DRWN	CHKD	REMARKS

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DRAWN BY: D. BENIL
SHEET CHK'D BY: B. NEAL
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WITHLACOOCHEE WATER POLLUTION CONTROL PLANT

INSTRUMENTATION DETAILS

PROJECT NO. 20790–298446
FILE NAME: ID01PIDT.DWG

SHEET NO.
ID-1

ISSUED FOR BID