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ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ADCNR GRANT NO.: SIP08-ABMS

PROJECT NO.: 100200.32

PREPARED FOR

DAUPHIN ISLAND WATER & SEWER AUTHORITY

908 ALABAMA AVENUE

DAUPHIN ISLAND, AL. 36528

Dauphin Island

WATER AND SEWER AUTHORITY, ESTABLISHED MAY 27, 1972

PROJECT LOCATION

PREPARED BY:

ARDURRA
COLLABORATE. INNOVATE. CREATE.

200 CLINTON AVE., STE 601
HUNTSVILLE, AL 35801
PH. 256-203-9501

DATE PREPARED:

AUGUST 2024

VICINITY MAP

701 LEMOYNE DRIVE, ALABAMA

RELEASE FOR BID

ENGINEER SEAL

ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
			APVD.

DESIGNED BY: BL | DRAWN BY: DS | CHECKED BY: BL | APPROVED BY: JS

COVER SHEET

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY	APVD
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WASTEWATER TREATMENT FACILITY

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GENERAL SYMBOLS

DESCRIPTION	EXISTING	NEW
WATER VALVE		WV
WATER METER	WM	WM
FIRE HYDRANT	FH	FH
AIR RELEASE VALVE (BOX)		ARV
GRAVITY SEWER LINE	—8S—	N8S
FORCE MAIN	—8FM—	N8FM
SEWER MANHOLE	MH	MH
CLEAN OUT	CO	
STORM DRAIN	18SD	N18SD
CATCH BASIN	CB	CB
JUNCTION BOX	JB	JB
GAS LINE	—2G—	N2G
GAS VALVE	G	
PAVED ROAD		
CURB & GUTTER		
DIRT/GRAVEL ROAD	DIRT ROAD	
SIDEWALK		
GUARD RAIL		
FENCE LINE (LINK)	—X—X—X—X—X—	x x
FENCE LINE (WOOD)		
FENCE LINE (ALUMINUM)		ALF ALF ALF
TREE LINE		
SIFT FENCE		
UNDERGROUND FIBER OPTIC	—FO—	
POWER POLE	PP	
SERVICE POLE	SP	
LIGHT POLE	LP	
CONCRETE MONUMENT	CM	
BUILDING		
BENCHMARK	BM	

MATERIALS

	EXISTING	PROPOSED
EARTH OR GRADE		
CONCRETE		
ASPHALTIC PAVEMENT		
GRATING		

GENERAL SYMBOLS

- NEW MAIN THIS PROJECT
- PW — EXISTING POTABLE WATER
- NPW — EXISTING NON–POTABLE WATER
- SP — EXISTING SPRINKLER LINE
- DS — EXISTING DIGESTED SLUDGE
- WAS — EXISTING WASTE ACTIVATED SLUDGE
- RAS — EXISTING RETURN ACTIVATED SLUDGE
- E — EXISTING ELECTRICAL LINE
- EXISTING GAS LINE
- DR — EXISTING DRAIN LINE
- A — EXISTING AIR LINE
- SB–1 — SOIL BORING
- PZ–1 — PIEZOMETER
- 12 — EXISTING CONTOUR
- 12 — NEW CONTOUR
- 12.00 — EXISTING SPOT ELEVATION
- x 12.00 — NEW SPOT ELEVATION
- EXISTING STRUCTURES (TO BE MODIFIED)
- EXISTING STRUCTURES (TO BE REMOVED)
- *FUTURE STRUCTURES*

GENERAL NOTES:

1. SIMPLIFIED JOINT SYMBOL IS USED FOR ALL SINGLE LINE PIPING SHOWN ON THE INTERIOR AND EXTERIOR PIPING DRAWINGS.
2. BOTH SIMPLIFIED AND COMPLEX JOINT REPRESENTATIONS MAY BE SHOWN ON THE DRAWINGS.
3. UNLESS MODIFIED BY THE GENERAL PROJECT NOTES OR DETAILED ON THE LAYOUT AND SCHEMATIC DRAWINGS PIPE AND FITTING JOINT REQUIREMENTS FOR THE VARIOUS PIPE MATERIALS ARE DEFINED IN THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL CLEAN AND BACTERIOLOGICALLY CLEAR ALL POTABLE WATER LINES IN ACCORDANCE WITH AWWA C651, LATEST EDITION.

PIPING SYMBOLOGY

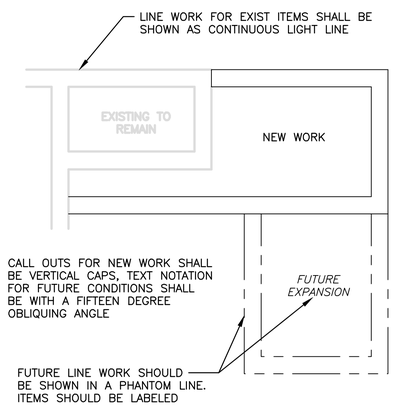
DOUBLE LINE SYMBOL	SINGLE LINE SYMBOL	FEATURE
		FLANGED JOINT SIMPLIFIED REPRESENTATION.
		FLANGED JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT COMPLEX REPRESENTATION.
		DIRECTION OF FLOW
		FLEXIBLE COUPLING OR EXPANSION JOINT (SLEEVE TYPE)
		FLEXIBLE COUPLING OR EXPANSION JOINT (BELLOWS TYPE)
		FLOW METER, GENERAL SYMBOL
		VENTURI FLOW METER

TYPE IDENTIFICATION REFER TO SPECS

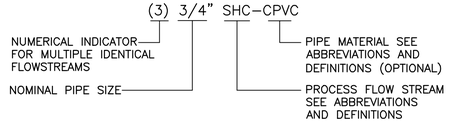
VALVE SYMBOLOGY

SYMBOL	FEATURE
	UNCLASSIFIED, TYPE AS SHOWN ON THE DRAWINGS ADJACENT TO SYMBOL
	FLOW METER
V	TELESCOPING VALVE
	GATE VALVE
	KNIFE GATE VALVE
	GLOBE VALVE
	BALL VALVE
	3–WAY BALL VALVE
	4–WAY BALL VALVE
	NEEDLE VALVE
	PINCH VALVE
	DIAPHRAGM VALVE
	BUTTERFLY VALVE
	PLUG VALVE, GENERAL SYMBOLS
	CHECK VALVE
	BALL CHECK VALVE
S	SOLENOID VALVE
M	MOTOR OPERATED VALVE
	MUD VALVE
	FLOOR DRAIN
	CALIBRATION CYLINDER
	AIR RELEASE VALVE

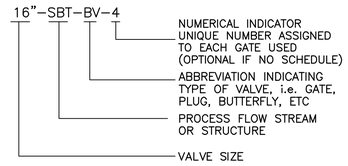
EXISTING OR FUTURE CONDITION DESIGNATION



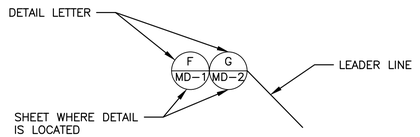
PIPE TAG



VALVE TAG (OPTIONAL)



DETAIL CALL OUT SYMBOLS



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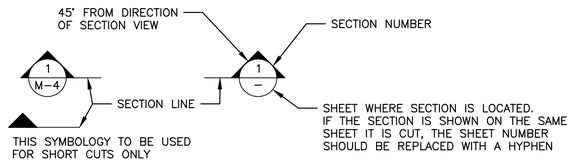
SECTION CUT SYMBOLS

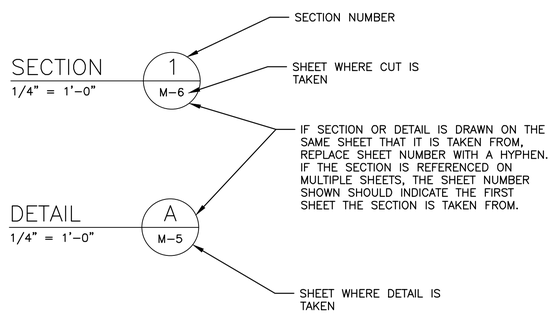


SUBTITLE OR DESCRIPTION (AS REQ'D)

PLAN

SCALE: 1/2" = 1'–0"

DRAWING, SECTION AND DETAIL TITLES



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WASTEWATER TREATMENT FACILITY

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#	NUMBER
&	AND
ø	DIAMETER
@	AT
A	AIR (COMPRESSED)
A	AMPERE
A/C	AIR CONDITIONER
AA	AERATION AIR
AB	AERATION BASIN OR ANCHOR BOLT
ABAN	ABANDON
ABI	AERATION BASIN INFLUENT
AC	AIR CONDITIONING OR ALTERNATING CURRENT
ACCV	AUTOMATIC CONTROL CHECK VALVE
ACP	ASBESTOS CEMENT PIPE
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADDL	ADDITIONAL
ADF	AVERAGE DAILY FLOW
ADJ	ADJUSTABLE
ADPT	ADAPTER
AEL	AERIAL ELECTRICAL LINE
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	ABOVE GROUND
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
ALT	ALTERNATE(ING)
AL/ALUM	ALUMINUM OR ALUMINUM SULFATE SOL.
ANOD	ANODIZE
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
AR	ACID RESISTANT
ARCH	ARCHITECT (URAL)(URE)
ARND	AROUND
ARV	AIR RELEASE VALVE
AS	ACTIVATED SLUDGE
ASPH	ASPHALT
ASSOC	ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWL	AVERAGE WATER LEVEL
B	BRASS
BAV	BALL VALVE
BCV	BALL CHECK VALVE
BDD	BACKDRAFT DAMPER
BEL	BELOW
BF	BLIND FLANGE
BFP	BELT FILTER PRESS
BFV	BUTTERFLY VALVE
BGO	BURIED GEAR OPERATOR
BHP	BRAKE HORSEPOWER
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICES
BOD5	BIOCHEMICAL OXYGEN DEMAND
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BOW	BOTTOM OF WALL
BPRV	BACK PRESSURE REGULATING VALVE
BRG	BEARING
BSMT	BASEMENT
BSP	BLACK STEEL PIPE
BTU	BRITISH THERMAL UNIT
BTWN	BETWEEN
BUR	BUILT UP ROOF(ING)
BV	BALL VALVE
BVL	BEVEL(ED)
BYP	BYPASS
C	CHANNEL (STRUCTURAL)
CA	COMPRESSED AIR
CAD	COMPRESSED AIR, DRIED
CAP	CAPACITY
CATV	CABLE TV
CB	CATCH BASIN OR CIRCUIT BREAKER
CBW	CHLORINE BACKWASH
CC	CENTER TO CENTER OR COOLING COIL
CCB	CHLORINE CONTACT BASIN
CCW	COUNTER CLOCKWISE
CD	CHEMICAL DRAIN
CDT	CONDUIT
CE	CHLORINATED EFFLUENT
CENT	CENTRIFUGAL
CF	CUBIC FOOT
CFM	CUBIC FOOT PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAMF	CHAMFER
CHKD	CHECKERED
CHL	CHLORINATOR
CHR	CHLOROPRENE RUBBER (NEOPRENE)
CI	CAST IRON
CIGL	CAST IRON PIPE GLASS LINED
CIP	CAST IRON PIPE
CIR	CIRCLE
CIRC	CIRCUMFERENTIAL
CIU	CAST IRON PIPE UNLINED
CJ	CONSTRUCTION JOINT
C	CENTER LINE
CL2	CHLORINE SYSTEM
CL2G	CHLORINE (GAS)
C2L	CHLORINE (LIQUID)
CL2S	CHLORINE SOLUTION
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CLR	CLEAR
CLV	CHLORINE GAS UNDER VACUUM
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CNR	CONDENSATE RETURN
CNS	CONDENSATE SUPPLY
CO	CLEAN OUT
COL	COLUMN
COMB	COMBINATION, COMBUSTION
COMP	COMPRESSIBLE
CN	CONTAINMENT
CONC	CONCRETE
COND	CONDUCTIVITY
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRUGATED
CPLG	COUPLING
CPOL	CATIONIC POLYMER
CPP	CONCRETE PRESSURE PIPE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL REPLAY
CRS	COURSE(S)
CS	CARBON STEEL OR CONTROL SWITCH
CSL	CONDITIONED SLUDGE
CSM	CHLORINE SULFONATED POLYETHYLENE (HYPALON)
CSTG	CASTING
CT	CURRENT TRANSFORMER
CTG	COATING
CTJ	CONTROL JOINT
C	CENTER(ED)
CTSK	COUNTERSINK
CTU	CENTRAL TELEMETRY UNIT
CU	COPPER OR CUBIC
CUH	CABINET UNIT HEATER
CUP	COPPER PIPE
CV	VALVE FLOW COEFFICIENT
CV—A	CHECK VALVE (AIR CUSHION)
CV—H	CHECK VALVE (HYDRAULIC CUSHION)
CVR	CONVECTOR
CW	COLD WATER
CWO	CLEARWELL OVERFLOW
CWR	COOLING WATER RETURN
CWS	COOLING WATER SUPPLY
D	DRAIN (STRUCTURE)
DA	COMPRESSED DRIED AIR
DAF	DISSOLVED AIR FLOTATION
DB	DECIBEL OR DRY BULB
DC	DIRECT CURRENT
DCU	DISTRIBUTED CONTROL UNIT
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF	DEWATERED FILTRATE
DG	DIGESTER GAS
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIGL	DUCTILE IRON GLASS LINED PIPE
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIV	DIVISION
DIW	DEIONIZED WATER
DL	DEAD LOAD
DN	DOWN
DO	DISSOLVED OXYGEN OR DITTO
DOI	DOOR INTERLOCK
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DR	DRIVE
DRN	DRAIN
DS	DIGESTED SLUDGE
DV	DIAPHRAGM VALVE
DW	DISTILLED WATER
DWG	DRAWING
DWL	DOWEL
DWTR	DEWATER(ED)
E	EMERGENCY WATER OR EAST
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	EMPTY CONDUIT
ECC	ECCENTRIC
ED—F	EQUIPMENT DRAIN (FLUSH TYPE)
ED—O	EQUIPMENT DRAIN (EXTENDED TYPE—OPEN)
ED—S	EQUIPMENT DRAIN (EXTENDED TYPE—SEALED)
EDH	ELECTRIC DUCT HEATER
EF	EACH FACE
EFF	EFFLUENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
EGO	ELEVATED GEAR OPERATOR
EL	ELEVATION
ELEC	ELECTRIC(AL)
EMERG	EMERGENCY
ENGR	ENGINEER
ENT	ENTERING
EOP	EDGE OF PAVEMENT
EP	ELECTROPNEUMATIC OR ELECTRICAL PANEL
EPDM	ETHYLENE PROPYLENE RUBBER
EQ	EQUAL(LY)
EQIV	EQUIVALENT
EQUIP	EQUIPMENT
ES	EACH SIDE
ESMT	EASEMENT
EST	ESTIMATE(D)
ETC	ETCETERA
EVAP	EVAPORATOR(ION)
EUH	ELECTRIC UNIT HEATER
EW	EACH WAY
EXA	EXHAUST AIR
EXH	EXHAUST
EXST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EXTD	EXTENDED
EY	EPOXY
F	FILTRATE OR FAHRENHEIT
f'c	CONCRETE COMPRESSION STRESS
f'm	MASONRY PRISM STRESS
FAB	FABRICATE (OR ED)
FAC	FACILITY OR FLANGED ADAPTOR COUPLING
FB	FLOOR BOX (BUSHING TYPE)
FBO	FURNISHED BY OTHERS
FBW	FILTERED BACKWASH
FC	FLEX CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDN	FOUNDATION
FE	FLOW ELEMENT (METER)
FEF	FILTER EFFLUENT
FFE	FINISHED FLOOR ELEVATION
Fe CL3	FERRIC CHLORIDE
FH	FIRE HYDRANT
FHMS	FLATHEAD MACHINE SCREW
FHWS	FLATHEAD WOOD SCREW
FI	FILTER INFLUENT
FIG	FIGURE
FIN	FINISH(ED)
FIT	FLOW INDICATING TRANSMITTER
FL	FLOOR OR FIRE LINE
FLD	FUSIBLE LINK DAMPER
FLEX,FLX	FLEXIBLE
FLG	FLANGE(D)
FLR	FLOOR
FLX	FLEXIBLE
FM	FORCE MAIN
FNPT	FEMALE NATIONAL PIPE THREAD
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FOV	FUEL OIL VENT
FP	FILTER PRESS
FPM	FEET PER MINUTE
FPT	FEMALE PIPE THREAD
FPVC	FUSIBLE POLYVINYL CHLORIDE
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOOR STAND
FT	FEET/FOOT
FTG	FOOTING/FITTING
FTR	FINNED TUBE RADIATION
FTW	FILTER TO WASTE
FU	FUSE
FURN	FURNISHED
FW	FILTERED WATER
fy	STEEL YIELD STRESS
G	NATURAL GAS
GA	GAGE
GALV	GALVANIZED
GE	GROOVED COUPLING (SHOULDERED ENDS)
GEC	GROUNDING ELECTRODE CONDUCT
GEN	GENERATOR
GF	GROUND FAULT INTERRUPTER
GI	GALVANIZED IRON
GL	GLASS PIPE
GLB	GLASS BLOCK
GOV	GLOBE VALVE
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRADE
GRAV	GRAVITY
GRND	GROUND
GRTG	GRATING
GSKT	GASKET
GSP	GALVANIZED STEEL PIPE
GST	GROUND STORAGE TANK
GV	GATE VALVE
HAS	HEADED ANCHOR STUD
HB	HOSE BIBB
HC	HEATING COIL
HCL	HYDROCHLORIC ACID
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWR	HARDWARE
HES	HIGH EARLY STRENGTH
HEX	HEXAGON
HFAC	HARNESSED FLANGED ADAPTOR COUPLING
HFL	HYDROFLUOSILIC ACID
HGR	HANGER
HH	HANDHOLE
HK	HOOK
HOA	HAND—OFF AUTO
HOR	HORIZONTAL
HP	HIGH POINT OR HORSEPOWER
HPA	HIGH PRESSURE AIR
HR	HOUR
HS	HIGH STRENGTH OR HIGH SERVICE
HSM	HIGH SERVICE MAIN
HSP	HIGH SERVICE PUMP
HT	HEIGHT
HTHW	HIGH TEMPERATURE HOT WATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	HOT WATER
HWA	HIGH WATER ALARM
HWL	HIGH WATER LEVEL
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWW	HIGH PRESSURE WASH WATER
HZ	HERTZ
IA	INSTRUMENT AIR
ID	INSIDE DIAMETER
IF	INSIDE FACE
IIR	ISOBUTENE ISOPRENE (BUTYL) RUBBER
IN	INCH
INF	INFLUENT
INS	INSIDE
INSTR	INSTRUMENT (TATION)
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IP	IRON PIPE BOUNDARY
IR	IRON ROD BOUNDARY
ISOL	ISOLATOR, ISOLATION
JB	JUNCTION BOX
JBG	—
JCT	JUNCTION
JT	JOINT
KO	KNOCKOUT
KSI	KIPS (1000 POUNDS) PER SQUARE INCH
KTV	KNIFE GATE VALVE
L	LENGTH OR STRUCTURAL ANGLE DESIGNATION
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAM	LAMINATED
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LB	POUND
LBS	POUNDS
LCP	LOCAL CONTROL PANEL
LF	LINEAL FEET
LG	LONG
LGB	LAG BOLT
LIME	LIME,DRY
LSO	LIME SOLUTION
LIT	LEVEL INDICATING TRANSMITTER
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNDG	LANDING
LOC	LOCATION/LOCATED
LONG	LONGITUDINAL
LP	LOW POINT OR LOW PRESSURE OR LIGHT POLE
LPA	LOW PRESSURE AIR (FROM BLOWERS)
LPNL	LIGHTING PANEL
LR	LONG RADIUS
LS	LIME SLURRY
LT	LIGHT
LG	LEAVING
LW	LIGHTWEIGHT
LWA	LOW WATER ALARM
LWL	LOW WATER LEVEL
LWT	LEAVING WATER TEMPERATURE
M	MOTOR
MASY	MASONRY
MATL	MATERIAL
MAU	MAKEUP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLTS
MBH	THOUSAND BTU PER HOUR
MC	TEEL MISCELLANEOUS CHANNEL
MCC	MOTOR CONTROL CENTER
MCJ	MASONRY CONTROL JOINT
MCP	MEMBRANE CLEANING PERMEATE
ME	METHANOL
MECH	MECHANICAL
MES	MITERED END SECTION
MFD	MANUFACTURED
MFG	MANUFACTURING
MFR	MANUFACTURER
MG	MILLION GALLONS
MG/L	MILLIGRAMS PER LITER
MGD	MILLIONS GALLONS PER DAY
MH	MANHOLE
MHS	METAL HOSE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
MO	MASONRY OPENING
MOD	MOTOR OPERATED DAMPER
MON	MONUMENT
MPH	MILES PER HOUR
MRPP	METAL REINFORCED PLASTIC PIPE
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MV	MUD VALVE
N	NEUTRAL OR NORTH
N2	NITROGEN
NaC1	SODIUM CHLORITE
NaOCL	SODIUM HYPOCHLORITE
NaOH	CAUSTIC SODA (SODIUM HYDROXIDE)
NBR	NITRILE RUBBER
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NG	NATURAL GAS
NH3—N	AMMONIA NITROGEN
NIC	NOT IN CONTRACT
NMO	NORMALLY OPEN
NOM	NOMINAL
NOS	NATIONAL OCEANOGRAPHIC SURVEY
NPOL	NONIONIC POLYMER
NPW	NON—POTABLE WATER
NPT	AMERICAN NATIONAL TAPER PIPE THREAD
NR	NATURAL RUBBER
NRCY	NITROGEN RICH RECYCLE
NTS	NOT TO SCALE
NO	NUMBER, NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER / ODOR CONTROL
OD	OUTSIDE DIAMETER
OE	OVERHEAD ELECTRIC
OEL	OVERHEAD ELECTRIC LINE
OF	OUTSIDE FACE
O/F	OVER FLOW
OG	OZONE OFF—GAS
OH	OVERHEAD (DOOR)
OL	OVERLOAD
OPER	OPERATOR
OPNG	OPENING
OP	OPPOSITE
OPT	OPTION (AL)
OS	OXIDIZED SLUDGE
OT	OVERHEAD TELEPHONE
OTV	OVERHEAD TELEVISION
OZA	OZONATED AIR
OZE	OZONE EXHAUST
O/E	OR EQUAL
P	PROTECTED
PA	PLANT AIR OR POLYAMIDE
PAB	PROCESS AERATION BLOWERS
PAC	PLANT AIR COMPRESSOR
PAG	AIRGAP PROTECTED WATER
PAVT	PAVEMENT
PB	PUSHBUTTON
PBAV	PLASTIC BALL VALVE
PC	POINT OF CURVE
PCC	POINT OF COMPLEX CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCF	POUND PER CUBIC FOOT
PCTFE	POLYCHLOROTRIFLUORETHYLENE
PCV	PRESSURE CONTROL VALVE
PD	PROCESS DRAIN
PE	PLAIN END
PEFL	PRIMARY EFFLUENT
PERF	PERFORATED
PERM	PERMEATE
PH	PHENOL—FORMALDEHYDE
PFU	POLYMER FEED UNIT
PGA	PURGE AIR(LIMO SILOS)
pH	HYDROGEN ION CONCENTRATION
ph	PHASE
PHF	PEAK HOURLY FLOW
PHOS	PHOSPHATE
PWH	PROTECTED HOT WATER
PI	POINT OF INTERSECTION OR PRESSURE INDICATOR
PINF	PRIMARY INFLUENT
PJF	PREMOLDED JOINT FILLER
PL	PROPERTY LINE, PLATE DESIGNATION, OR PILOT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLP	POLYPHOSPHATE
PLS	PLASTIC LINED STEEL
PLT	PLANT
PLYWD	PLYWOOD
PNL	PANEL
POJ	PUSH ON JOINT
POL	POLYMER
POLYE	POLYETHYLENE
POLYP	POLYPROPYLENE
POM	POLYOXYMETHYLNE
POT	POINT OF TANGENCY
POTH	POTASSIUM HYDROXIDE
POTM	POTASSIUM PERMANGANATE
PP	POWER POLE
PPD	POUNDS PER DAY
PPM	PARTS PER MILLION
PR	PRETREATED WATER SYSTEM
PRC	PRE—CHLORINATION
PRCST	PRECAST
PREFAB	PRE—FABRICATED
PRES	PRESSURE
PRIM	PRIMARY
PRV	PRESSURE RELIEF VALVE
PRW	PRESSURE WASTE
PS	PUMP STATION
PSC	PRIMARY SCUM
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAGE
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PT	POINT
PTFE	POLYTETRAFLUORETHYLENE
PTI	PRE—TREATED INFLUENT
PLGV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVDF	KYNAR—POLYVINYLIDENE FLUORIDE
PVMT	PAVEMENT
PVRV	PRESSURE VACUUM RELIEF VALVE
PW	POTABLE WATER
PWL	PEAK WATER LEVEL
PWM	PORTABLE WATER METER
QTY	QUANTITY/QUALITY
R/RAD	RADIUS
R/W	RIGHT—OF—WAY
RA	RETURN AIR
RAS	RETURN ACTIVATED SLUDGE
RBH	RUBBER HOSE
RC	REINFORCED CONCRETE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDT	ROTARY DRUM THICKENER
RDWD	REDWOOD
RED	REDUCER
REF	REFERENCE, REFER, ROOF EXHAUST FAN
REG	REGISTER
REINF	REINFORCING
REM	REMOVE
REQ'D	REQUIRED
RES	RESIDUAL
REV	REVISION
REU	REUSE WATER
RF	ROOF FAN
RH	RELATIVE HUMIDITY
RIS	RUBBER IN SHEAR
RJ	RESTRAINED JOINT
RL	RAIN LEADER
RLCI	RUBBER LINED CAST IRON
RLDI	RUBBER LINED DUCTILE IRON
RM	ROOM
RMS	ROOT MEAN SQUARE
RND	ROUND
RO	ROUGH OPENING
ROT	ROTAMETER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RQMT	REQUIREMENT
RR	RAILROAD
RS	RAW SEWAGE
RSL	RAW SLUDGE
RT	RIGHT
RTN	RETURN
RTU	REMOTE THERMAL UNIT
RW	REUSE WATER
RWW	RAW WASTEWATER
S	SIGNAL LINE OR STEEL S—SHAPE
SA	SUPPLY AIR
SAN	SANITARY
SAN S	SANITARY SEWER
SB	STONE MONUMENT BOUNDARY
SBI	SPLITTER BOX INFLUENT
SBS	SODIUM BISULFITE SOLUTION
SBT	SOUTHERN BELL AND TELEPHONE
SCH	SCHEDULE
SCE	SECONDARY CLARIFIER EFFLUENT
SCI	SECONDARY CLARIFIER INFLUENT
SCV	SILENT CHECK VALVE
SD	STORM DRAIN
SDCV	SLANTING DISC CHECK VALVE
SE	SECONDS OR SECONDARY EFFLUENT
SEC	SECTION
SF	SILT FENCE OR SUPPLY FAN
SG	SLUICE GATE
SG—C	SLUICE GATE — MANUAL CRANK OPERATOR
SG—HW	SLUICE GATE — HAND WHEEL OPERATOR
SG—M	SLUICE GATE — MOTOR OPERATOR
SHC	SODIUM HYPOCHLORITE
SHT	SHEET
SIM	SIMILAR
SL	SLUDGE
SLG	SLIDE GATE
SLG—C	SLIDE GATE — MANUAL CRANK OPERATOR
SLG—HW	SLIDE GATE — HAND WHEEL OPERATOR
SLG—M	SLIDE GATE — MOTOR
SLV	SLEEVE
SN	SOLID NEUTRAL
SN	SUPERNATANT
SO2G	SULFUR DIOXIDE (GAS)
SO2S	SUFFER DIOXIDE SOLUTION
SOJ	SLIP ON JOINT
SOL	SOLUTION
SP	SAMPLING POINT OR STATIC PRESSURE OR SPACE (D) OR SPRINKLER
SPC	SPACE (S. ED)
SPD	SUMP PUMP DISCHARGE
SPEC	SPECIFICATION, SPECIFIED
SPG	SPRING
SPL	SAMPLE
SPTG	SEPTAGE
SPW	SPRAY WATER
SQ	SQUARE
SR	SLUDGE RETURN
SS	STAINLESS STEEL
SSC	SECONDARY SCUM
SSFL	SODIUM SILICO FLUORIDE
SSIL	SODIUM SILICATE
SSK	SERVICE SINK
SSL	SECONDARY SLUDGE
SSP	STAINLESS STEEL PIPE
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUP (S)
STL	STEEL
STP	SLUDGE TRANSFER PUMP
STRUC	STRUCTURE (S. URAL)
SUSP	SUSPENDED
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWD	SIDE WATER DEPTH
SWGR	SWITCHGEAR
SWK	SIDEWALK
SYM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENCY
TAS	THICKENED ACTIVATED SLUDGE
TC	TIME DELAY ON CLOSING
TD	TRENCH DRAIN OR TEMPERATURE DIFFERENCE
TDH	TOTAL DESIGN HEAD
TDO	TIME DELAY ON OPENING
TE	TREATED EFFLUENT
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPRATURE/TEMPORARY
TF	TOP FACE, TRANSFER FAN
TFP	TRANSFER PUMP
THD	THREADED
THK	THICK(NESS)
TKD	TANK DRAIN
TKN	TOTAL KJELDAHL NITROGEN
TM	TELEMETER OR TIME
TO	TOP OF
TOB	TOP OF BERM/BANK
TOC	TOP OF CURB/CONCRETE
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TOXS	THICKENED OXIDIZED SLUDGE
TP	TURNING POINT OR TOTAL PHOSPHORUS
TPRP	THERMOPLASTIC REINFORCED PIPE
TPS	THICKENED PRIMARY SLUDGE
TPY	TEMPORARY
TR	TRIANGULATION POINT
TRAN	TRANSFER
TRANS	TRANSVERSE (ITION), TRANSITION
TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)
TSL	THICKENED SLUDGE
TSS	TOTAL SUSPENDED SOLIDS
TUBV	TIME UNION BALL VALVE
TURB	TURBIDITY
TV	TELEVISION
TW	TEMPERED WATER
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TYP	TYPICAL
U	HEAT TRANSFER COEFFICIENT
UD	UNDERDRAIN
UG	UNDERGROUND
UGC	UNDERGROUND CONDUIT
UGTC	UNDERGROUND TELEPHONE CABLE
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UPVC	UN—PLASTICIZED POLYVINYL CHLORIDE
V	VOLTS
VA	VENT AIR
VA—H	HYDRAULIC VALVE OPERATOR
VA—M	MOTOR VALVE OPERATOR
VA—P	PNEUMATIC VALVE OPERATOR
VA—S	SOLENOID VALVE OPERATOR
VAC	VACUUM
VAR	VARIOUS/VARIABLE
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
VBR	VACUUM BREAKER
VC	VICTAULIC COUPLING
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
VIPA	VIRGIN ISOPROPYL ALCOHOL
VNBA	VIRGIN N. BUTYL ACETATE
VOL	VOLUME
VP	VACUUM PRIMING
VS	VARIABLE SPEED
VSD	VARIABLE SPEED DRIVE
VT	VENT
VTR	VENT THROUGH ROOF
W	WIDTH
W/	WITH
W/IN	WITHIN
W/O	WITHOUT
WAP	WALL PIPE
WAS	WASTE ACTIVATED SLUDGE
WB	WET BULB
WC	WATER CLOSET
WCV	WAFER CHECK VALVE
WF	STEEL WIDE FLANGE
WH	WATER HEATER
WJ	WELDED JOINT
WL	WATER LEVEL
WM	WATER MAIN
WNSA	WASTE N. BUTYL ACETATE
WNC	WASTE NON—CHLORINATED
WOAS	WASTE OXYGEN ACTIVATED SLUDGE
WP	WELDED PIPE OR WORKING POINT
WPF	WEATHERPROOF
WR	WASHWATER RECOVERY
WS	WATERSTOP OR WATER SURFACE
WSH	WASHWATER
WSL	WASTE SLUDGE
WSV	WALL SLEEVE
WT	WEIGHT OR STEEL TEE—SHAPE DESIGNATION
WTP	WATER TREATMENT PLANT
WSD	WASHWATER DRAIN
WW	WASTE WATER
WWF	WELDED WIRE FABRIC
WWTP	WASTEWATER TREATMENT PLANT
WWR	WASHWATER RETURN
W3	REUSE WATER
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
YD	YARD
YR	YEAR

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
DESIGNED BY: BL		DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS	APVD BY:

ABBREVIATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVENUE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	G-4.0

Bryant Edwards PLOT 8/7/2024 10:15 AM SAVED 8/7/2024 10:07 AM

H:\PROJECT FILES\100200 — DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 — WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\01 GENERAL\01 CADD\G-5.0.DWG
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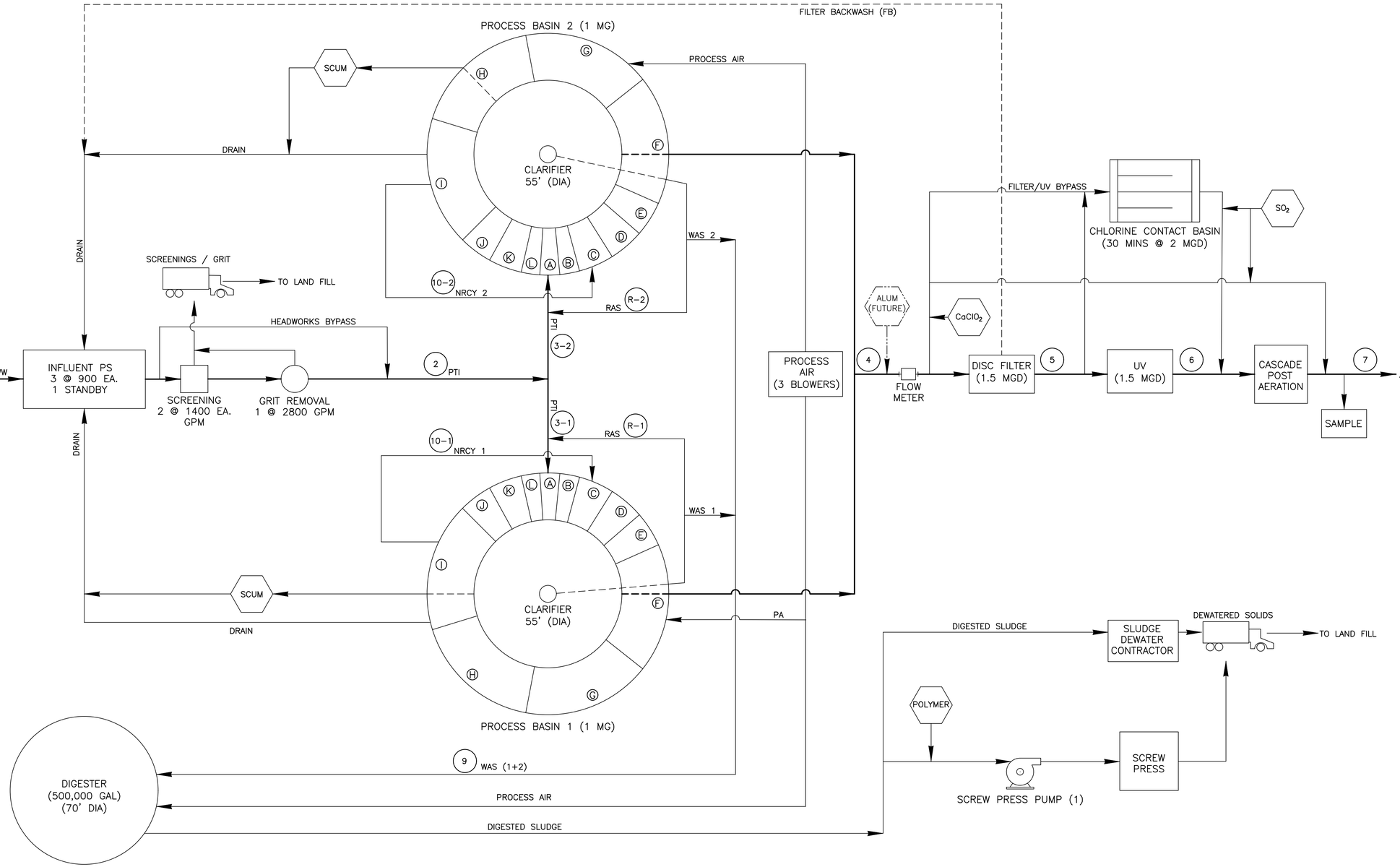

	ZONE	VOLUME (GAL)	% OF VOLUME
A	ANEROBIC 1	15,000	2.65
B	ANEROBIC 2	15,000	2.65
C	ANOXIC 1	26,667	4.71
D	ANOXIC 2	26,667	4.71
E	ANOXIC 3	26,667	4.71
F	OXIC 1	98,000	17.31
G	OXIC 2	98,000	17.31
H	OXIC 3	98,000	17.31
I	OXIC 4	98,000	17.31
J	POST ANOXIC 1	25,000	4.42
K	POST ANOXIC 2	25,000	4.42
L	POST OXIC	14,000	2.47

	MASS BALANCE FLOW STREAM										
	(1) RAW WASTEWATER (RWW)	(2) PRETREATED INFLUENT (PTI)	(3-1)(3-2) BIOLOGICAL INFLUENT	(X) MIXED LIQUOR SUSPENDED SOLIDS (MLSS)	(4) SECONDARY EFFLUENT (SCE)	(5) FILTER EFFLUENT (FEF)	(6) ULTRAVIOLET EFFLUENT (UVE)	(7) TREATED EFFLUENT (TE)	(R-1)(R-2) RETURN ACTIVATED SLUDGE (RAS)	(9) WASTE ACTIVATED SLUDGE (WAS)	(10-1)(10-2) NITROGEN RICH RECYCLE (NRCY)
FLOW (GPD)	1.30	1.30	1.285	1.285	1.27	1.27	1.27	1.27	1.27	0.03	1.95
CBOD5 (MG/L)	215	215	807.5	720.7	2.2	0.93	0.93	0.93	1,390	1,390	726.3
CBOD5 (PPD)	2,331	2,331	8,654	7,724	23	9.9	9.9	9.9	14,723	348	11,812
TSS MG/L	250	196	2,820.5	2,796	5.8	0.88	0.88	0.88	5,397	5,397	2801.5
TSS (PPD)	2,711	2,125	30,227	29,964	61	9.3	9.3	9.3	57,164	1,350	45,561
TN (MG/L)	35	35	209	198	3.3	2.97	2.97	2.97	379.5	379.5	200
TN (PPD)	379	379	2,240	2,122	35	31.5	31.5	31.5	4,020	95	3,253
TP (MG/L)	5	5	92.5	92.5	0.35	0.19	0.19	0.19	178.5	178.5	92.5
TP (PPD)	54.2	54.2	991.3	991.3	3.7	2.0	2.0	2.0	1890.6	44.7	1,504

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: JD	APPROVED BY: JS

PROCESS FLOW DIAGRAM

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.

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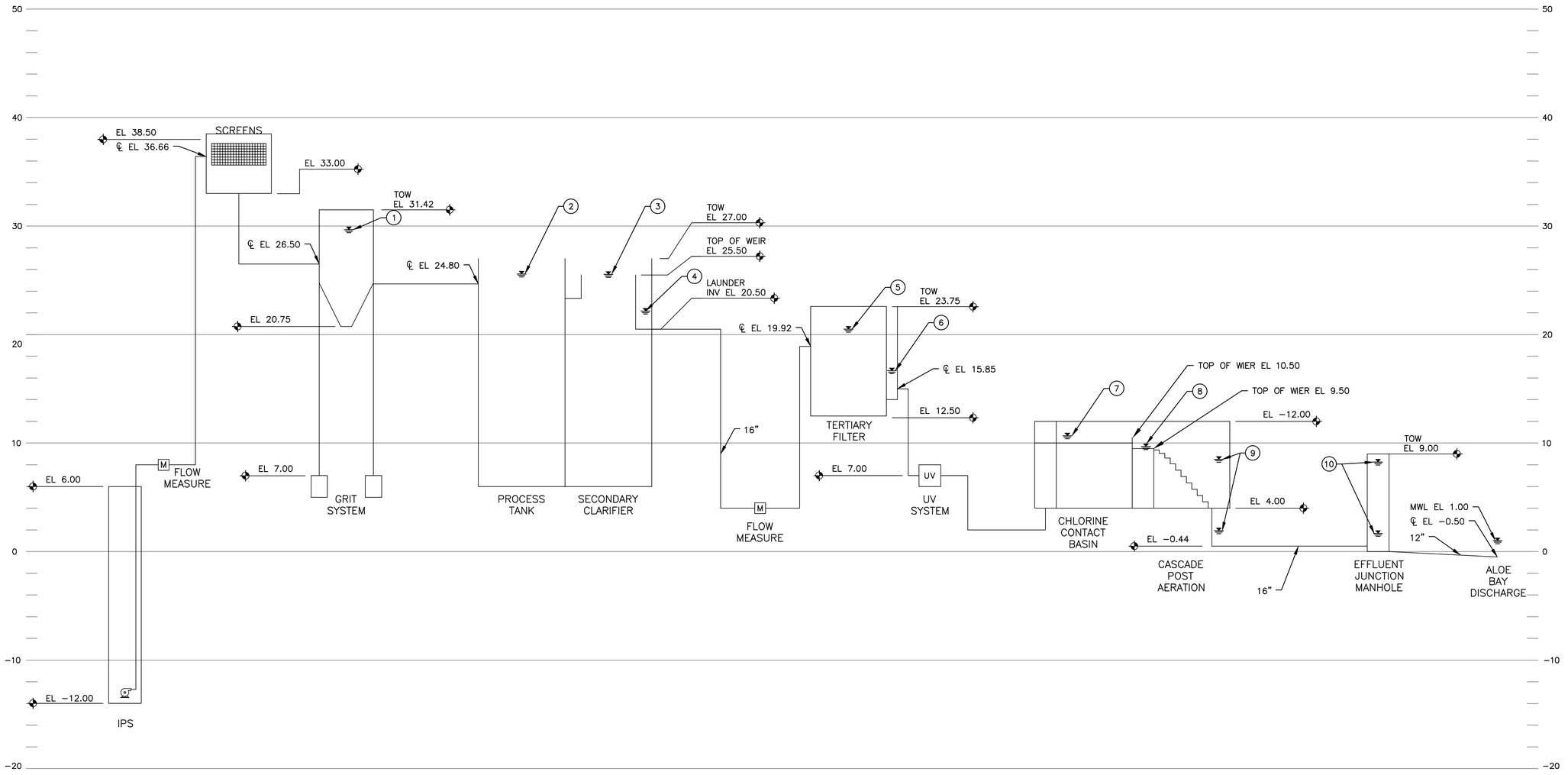

LEGEND

- PROPOSED PIPING
- PROPOSED MODIFICATIONS
- EXISTING PIPING
- EXISTING STRUCTURES

	1	2	3	4	5	6	7	8	9	10
1.3 MGD	29.84	25.60	25.59	23.12	21.59	16.77	10.74	9.74	1.66	1.63
4 MGD	29.90	25.68	25.63	N/A	N/A	N/A	10.99	9.99	7.01	6.67

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			APVD
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HYDRAULIC PROFILE

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)203-9901

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GENERAL		BIOLOGICAL NUTRIENT REMOVAL				FILTRATION/DISINFECTION		DEWATERING	
Design Flows		**BNR Basin Design**		**Mixing Pumps**		**Filter Design**		**Design Conditions**	
Design Average Daily Flow (mgd)	1.3	No./Basin Geometry	2 circular basins	Manufacturer	KSB/Flygt	Manufacturer	Aqua-Aerobics	Daily Sludge Quantity (lbs/day)	1,987
Maximum Daily Flow (mgd)	1.5	Freeboard (ft)	1.5	Model	KRTD 200-316-D	Model	ADFSP-54-X-6E-PC	Sludge Feed Concentration (%)	1-2
Peak Hourly Flow (mgd)	4	Diameter of Basin (ft)	91	Number of Units	4	Type	Cloth Media Filter		
Peak Instantaneous Flow (mgd)	4	Basin Water Depth (ft)	19	Horsepower	15	Number of Units	1	**Screw Press**	
				Flow (gpm)	2,000	Number of Discs	6	Manufacturer	BDP
Influent Design Values		**Aeration**		Head (ft)	9	Total Filter Area (sf)	322.8	Model	DSP 3618
CBOD (mg/L)	215	Manufacturer	Sanataire			Average Hydraulic Loading (gpm/sf)	3.23	Number of Units	1
TSS (mg/L)	250	No. Trains	2	**NRCY Pumps**		Max. Hydraulic Loading (gpm/sf)	4.3	Design Solids Loading (lbs/hr)	331
NH3-N (mg/L)	35	Total Diffusers (per train)	600	Manufacturer	KSB/Flygt	Solids Loading Rate (Max.) (lbs TSS/day/sf)	0.78	Design Hydraulic Loading (gpm)	66
Phosphorous (mg/L)	5	SOR (lbs/day)	18,200	Model	KRTD 150-253/156XEG-D	Avg. Design Flow (mgd)	1.5	Design Weekly Operation (hrs)	30
		SOTE (%)	36.1	Number of Units	2	Peak Design Flow (mgd)	2		
Design Effluent Parameters		Total Air Rate (scfm)	1,917	Horsepower	7.5	Avg. Influent TSS (mg/L)	10	**Sludge Transfer Pump**	
BOD (mg/L)	5	Static Pressure (psig)	7.88	Flow (gpm)	900	Max. Influent TSS (mg/L)	15	Manufacturer	Seepex
NH3-N (mg/L)	1	Pressure at Top of Drop (psig)	8.57	Head (ft)	9	Influent Phosphorous (mg/L)	2	Model	BN (SCT)
TSS (mg/L)	5	Oxic Volume per Train (gal)	786,800					Number of Units	1
Phosphorous (mg/L)	1			**RAS Pumps**		**UV System**		Horsepower	7.5
		Clarifiers		Manufacturer	KSB/Flygt	Manufacturer	Aquionics	Flow (gpm)	66
Influent Pump Station		Manufacturer	Clearstream	Model	KRTD 150-253/156XEG-D	Model	IL 5000	Head (ft)	20
Manufacturer	KSB/FLYGT	Type	Spiral Blade	Number of Units	2	Number of Units	1		
Model	KRT K160-317/156XEG	Units	2	Horsepower	7.5	Kilowatts	35	**Process Water Pumps**	
Number of Units	4	Diameter (ft)	55	Flow (gpm)	1000	Avg. Design Flow (mgd)	2	Manufacturer	Clay-Greene/Goulds
Horsepower	30	Sidewater Depth (ft)	12	Head (ft)	5	Max Design Flow (mgd)	4	Type	Vertical Turbine
Flow (gpm ea pump)	950	Drive Motor (Hp)	0.5			Minimum UV Transmittance (%)	65	Numbers Of Pumps	2
Head (ft)	63	Feedwell Diameter (ft)	10			TSS (mg/l)	<10	Horsepower	15
		Feedwell Depth (ft)	4.5			Inlet Enterococci (mpn/100ml)	<35,0000	Flow (gpm)	220
Grit Removal		Average SOR (gpd/sf)	274			Effluent Enterococci (mpn/100ml)	<35	Head (ft)	160
Manufacturer	Hydro	Average SLR (lbs/hr/sf)	12.4			Average UV Dose (mJ/cm2)	35		
Model	Grit King					Number of Lamps	8	**Odor Control**	
Number of Units	1	**Blowers**				Lamp Life (hrs)	10,000	Manufacturer	BioAir
Diameter (ft)	10	Manufacturer	Aerzen					Type	Biotrickling Filter
Design Flow (pdf)(mgd)	4	Model	D 76S					Model	EF81
		Number of Units	3					Air Flow CFM	950
Fine Screening		Horsepower	125					Avg. H2S Concentration (ppm)	300
Manufacturer	JWC	Air Flow per Unit (scfm)	2,115					Peak H2S Concentration (ppm)	900
Model	SHS 12042	Operating Pressure (psig)	8.6-9.0					Fan Motor HP	3
Number of Units	2							Avg. Water Consumption (gpd)	5436
Design Flow (pdf)(mgd)	4								
Screenings (cf/hr)	71								

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL		DRAWN BY: LB	CHECKED BY: JD	APPROVED BY: JS	APVD

DESIGN DATA SUMMARY

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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LEGEND:

P	=	OVERHEAD POWER LINES
P.P.	=	POWER LINE POLE
P.O.B.	=	POINT OF BEGINNING
C.R.F.	=	CAPPED REBAR IRON FOUND
C.R.S.	=	CAPPED REBAR IRON SET
C.T.	=	CRIMP TOP IRON PIPE FOUND
O.T.	=	OPEN TOP IRON PIPE FOUND
RBR.	=	REBAR FOUND
CMT.	=	CONCRETE MONUMENT FOUND
FFE	=	FINISH FLOOR ELEVATION
CR (1)	=	CAPPED IRON FOUND (WATTIER)
CR (2)	=	CAPPED IRON FOUND ()
CR (3)	=	CAPPED IRON FOUND ()
P.O.C.	=	POINT OF COMMENCEMENT
P.O.B.	=	POINT OF BEGINNING
R	=	RECORD
C	=	CALCULATED

VERTICAL DATUM IS REFERENCED TO NAVD 1988 VERTICAL DATUM

HORIZONTAL DATUM REFERENCED TO ALABAMA WEST STATE PLANE

ESTABLISHED USING TOPCON RTK G.P.S. CONNECTED TO A.L.D.O.T. C.O.R.S.

ALL RIGHTS OF WAYS AND DRAINAGE EASEMENTS OF RECORD ARE SHOWN ON THIS PLAT; BUT THIS PLAT DOES NOT REFLECT OTHER DOCUMENTS (i.e., UTILITY EASEMENTS, ETC.) THAT WOULD NORMALLY APPEAR AS AN EXCEPTION IN A TITLE COMMITMENT OR POLICY.

SURVEYOR'S CERTIFICATE –

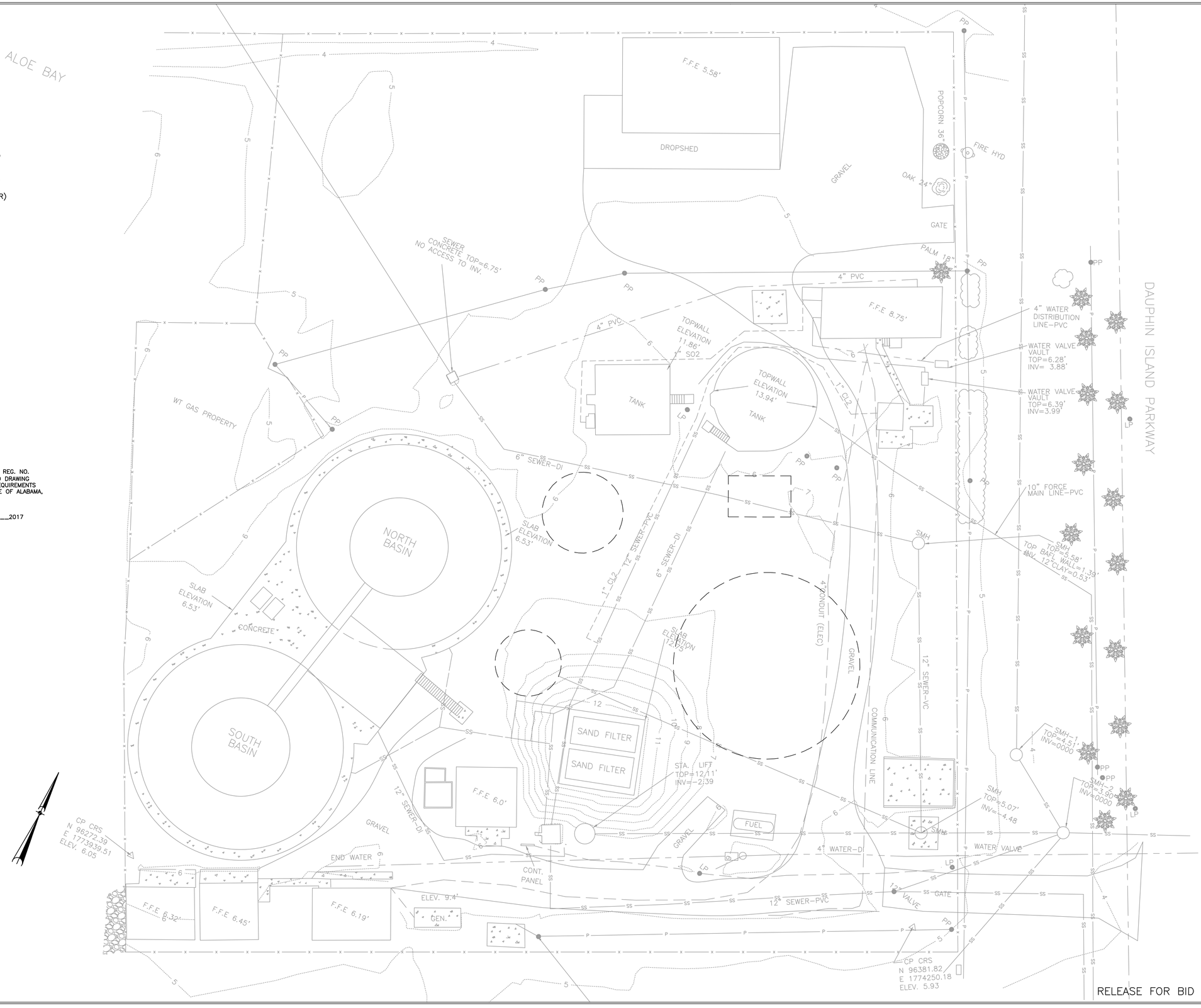
I, PAUL D. STEWART, A REGISTERED LAND SURVEYOR (ALABAMA. REG. NO. 30357) HEREBY CERTIFY THAT ALL PARTS OF THIS SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR SURVEYING IN THE STATE OF ALABAMA, TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

_____DATE:_____2017
PAUL D. STEWART, ALA. REG. NO. 30357

STEWART SURVEYING INC. 20008 DAUPHIN ISLAND PARKWAY THEODORE, AL 36582 251.973.0006 FAX 251.973.0191

ALOE BAY

EXISTING SITE PLAN
SCALE: 1" = 20'
0 20 40
GRAPHIC SCALE



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DEMOLITION NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION RELATED CONDITIONS PRIOR TO STARTING DEMOLITION OR NEW CONSTRUCTION.
2. CONTRACTOR SHALL AT ALL TIMES MAINTAIN BUILDINGS IN A WEATHER TIGHT CONDITION.
3. ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION OF THE NORMAL DAILY FUNCTIONS OF THE OWNER'S OCCUPIED AREAS.
4. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
5. NOISE DURING DEMOLITION AND CONSTRUCTION SHALL BE KEPT TO A MINIMUM.
6. ALL EXISTING SERVICES AND UTILITIES SHALL BE MAINTAINED TO ADJACENT AREAS THAT ARE IN OPERATION AND SERVED BY THESE UTILITIES AND SERVICES. COORDINATE ALL DISRUPTION OR DISCONTINUATIONS OF UTILITIES AND SERVICES WITH THE OWNER.
7. EXISTING ITEMS, EQUIPMENT, PLUMBING, FIXTURES, ETC. TO REMAIN IN PLACE SHALL BE PROTECTED FROM DIRT AND DAMAGE DURING DEMOLITION AND CONSTRUCTION. ANY ITEMS DAMAGED SHALL BE RESTORED TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. THE OWNER WILL RETAIN ALL SALVAGE THAT IS OF VALUE AS DESIGNATED BY THE ENGINEER. THE OWNER WILL DIRECT THE CONTRACTOR AS TO THE LOCATION OF STORAGE AREA FOR VARIOUS ITEMS. THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING FROM THE BUILDING AND THE CONSTRUCTION SITE ALL CONSTRUCTION DEBRIS AND/OR ITEMS NOT RETAINED BY THE ENGINEER.
9. THE CONTRACTOR IS RESPONSIBLE FOR STORAGE AND PROTECTION OF ALL SALVAGE ITEMS WHICH WILL BE REUSED IN THIS PROJECT.
10. ALL OPENINGS AND VOIDS LEFT BY THE REMOVAL OF EXISTING CONSTRUCTION, EQUIPMENT, PIPING, DUCTS, ETC. SHALL BE PROPERLY PATCHED AND CLOSED OFF TO MAINTAIN A WEATHER TIGHT CONDITION AND PROPER FIRE RATING IN WALLS, FLOORS AND CEILINGS.
11. AT CONSTRUCTION ACCESS, CONTRACTOR TO PROVIDE LABOR AND MATERIALS TO REPAIR ALL DISTURBED ELEMENTS.
12. PORTION OF WALLS, CEILINGS AND FLOORS THAT ARE REMOVED FOR DEMOLITION AND NEW CONSTRUCTION OF MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE REPLACED OR PATCHED TO MATCH EXISTING.
13. CONTRACTOR SHALL REFER TO SPECIFICATIONS FOR ITEMS TO BE SALVAGED AND DELIVERED TO OWNER DESIGNATED LOCATION.
14. USE EXTREME CAUTION WHEN REMOVING GAS PIPE & EQUIPMENT FROM SERVICE. CUT OFF GAS SUPPLY & PURGE SYSTEM WITH NITROGEN GAS PRIOR TO DEMOLITION. CAP AND FILL ALL PIPE AND EQUIPMENT PENETRATIONS AFTER DEMOLITION OF EXISTING COMPONENTS.
15. CAP AND FILL ALL PIPE AND EQUIPMENT PENETRATIONS AFTER DEMOLITION OF EXISTING COMPONENTS.
16. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED.
17. PROVIDE 6" OF CLEAN TOP SOIL OVER PREVIOUS IMPERVIOUS AREAS.
18. CORE MANHOLE AND WETWELL BOTTOMS FOR ABANDONED IN PLACE TO ALLOW FREE FLOW OF GROUND WATER.
19. ABANDONED BELOW GRADE PIPE OPENINGS SHALL BE PLUGGED WITH NON-SHINK GROUT.
20. ABANDONED BELOW GRADE PIPE UNDER STRUCTURES SHALL BE GROUT FILLED.
21. CLEANOUT FINAL 4' OF PROCESS BASINS. REMOVE AND DISPOSE OF SAND, SLUDGE AND DEBRIS PRIOR TO DEMO OF BASINS. SLUDGE MAY REQUIRE DEWATERING PRIOR TO DISPOSAL.
22. MAINTAIN SITE SECURITY FENCING THROUGHOUT PROJECT. PROPERTY SHALL BE FENCED AT ALL TIMES BY EXISTING, NEW, OR TEMPORARY FENCE.

PLAN
SCALE: 1" = 20'
0 20 40
GRAPHIC SCALE

LEGEND
- EXISTING YARD PIPE
- PREVIOUSLY ABANDONED IN PLACE YARD PIPE
- EXISTING STRUCTURES TO DEMOLISHED

DEMOLISH EXISTING PERIMETER FENCE
REMOVE 150 LF OF EXISTING 12" OUTFALL PIPE
REMOVE EXISTING POWER POLE (TYP)
RELOCATE EXISTING OHE
POWER POLE AND POWER LINE TO REMAIN
DEMOLISH & REPLACE WITH NEW 6' CHAINLINK FENCE
WT GAS PROPERTY
REMOVE JUNCTION BOX
RELOCATE PLANT WATER
SEWER CONCRETE TOP=6.75' NO ACCESS TO INV
REMOVE EXISTING 6" SEWER PIPE
FILL CLARIFIER CONE LEVEL W/ GROUT (TYP)
DEMOLISH EXISTING PROCESS BASIN COMPLETE TO CONCRETE FOUNDATION. REMOVE TANKS, EQUIPMENT, ELECTRICAL, PIPING, VALVES, PUMPS, AND HEADWORKS STRUCTURE.
REMOVE AND DISPOSE OF EXISTING AERATION BLOWERS
SLAB ELEVATION 6.53'
CONCRETE
FILL PIPES THRU SLAB W/ CONCRETE GROUT (TYP)
REMOVE CRUSHED CONCRETE RIP-RAP
CP CRS N 96272.39 E 1773939.51 ELEV. 6.05
ABANDON CLARIFIER EFFLUENT IN PLACE
ABANDON EXISTING 12" SEWER PIPE IN PLACE
END WATER
REMOVE GENERATOR TO OWNERS STORAGE
ELEV. 9.4'
CONT PANEL
DEMOLISH EXISTING LAB AND WAREHOUSE BUILDINGS. FURNISHINGS AND EQUIPMENT REMAINING INSIDE SHALL BE HAUL FOR DISPOSAL
DEMOLISH EXISTING PERIMETER FENCE
REMOVE AND DISPOSE OF EXISTING PREVIOUS DEMOLISHED DIGESTER BASIN
REMOVE 6" DI
6" VC (4'-0") REMOVE
ABANDON EXISTING INFLUENT SEWER IN PLACE
DEMOLISH 12"
ABANDON EXISTING 12" FM IN PLACE
DEMOLISH EXISTING IPS REMOVE AND DISPOSE OF BELOW GRADE STRUCTURE TO 5'-0" BELOW GRADE. FILL REMAINING WELL WITH CLEAN SAND. REMOVE AND DISPOSE OF ALL MECHANICAL AND ELECTRICAL COMPONENTS INCLUDING PUMPS, VALVES, PIPE, FITTINGS AND CONDUIT.
DEMOLISH AND REMOVE EXISTING CHLORINE CONTACT BASIN COMPLETE
RELOCATE EXISTING 4" CONCENTRATE ABANDON IN PLACE
TANK TOPWALL ELEVATION 13.94'
REMOVE EXISTING LIGHT POLE (TYP)
DEMOLISH AND REMOVE EXISTING MAINTENANCE BUILDING
RO BUILDING (TO REMAIN) F.F.E 8.75'
REMOVE BURIED ITF WETWELL
REMOVE EXISTING 12" SEWER PIPE
REMOVE 12" SEWER PVC
REMOVE AND DISPOSE EXISTING PREVIOUS DEMOLISHED CLARIFIER
BURIED EXISTING TRICKLING FILTER CONCRETE (3'-0" DEEP) TO BE REMOVED FOR CONSTRUCTION OF NEW BASINS
BURIED 4"CONDUIT (ELEC)
BURIED COMMUNICATION LINE
DEMOLISH EXISTING CONCRETE PAD AND RELOCATE EXISTING DIESEL FUEL TANK TEMPORARY RELOCATE TO WATER PLANT SITE (EMPTY FUEL)
N 96381.82 E 1774250.18 ELEV. 5.93
DEMOLISH EXISTING SEWER MANHOLE AND FILL GRAVITY LINES WITH GROUT
DEMOLISH EXISTING LIGHTS & POLE
EXISTING OHP TO BE RELOCATED BY ALABAMA POWER (PAID BY ALLOWANCE)
REMOVE 3'-0" POPCORN TREE
DEMOLISH EXISTING PERIMETER FENCE AND GATE (TYP)
REMOVE EXISTING SHRUBS AND VEGETATION
REMOVE 222 LF OF EXISTING 6" SEWER PIPE
DEMOLISH AND REMOVE EXISTING CONCRETE EQUALIZATION BASIN COMPLETE (WALLS, FOUNDATION, STAIRS, ETC.)
4" WATER DISTRIBUTION LINE-PVC
WATER VALVE VAULT TOP=6.28' INV=3.88'
DEMOLISH EXISTING CL2 BUILDING
WATER VALVE VAULT TOP=6.39' INV=3.99'
REMOVE EXISTING 10" FORCE MAIN-PVC
10" FORCE MAIN-PVC
REMOVE EXISTING POWER POLE (TYP)
REMOVE EXISTING MANHOLE
EXCAVATE AND REMOVE BURIED (PREVIOUSLY DEMOLISHED) TRICKLING FILTER CONCRETE BENEATH NEW STRUCTURES, BACKFILL WITH COMPACTED GRANULAR FILL.
REMOVE EXISTING 12" SEWER PIPE
DEMOLISH EXISTING DRYING BEDS
REMOVE AND REPLACE SMH-1
SMH-1 TOP=4.51' INV=0000
REMOVE EXISTING 10" FORCE MAIN-PVC
SMH TOP=5.07' INV=-4.48
SMH-2 TOP=3.90' INV=0000
4" WATER-DI
WATER VALVE
12" SEWER-PVC
12" VALVE
GATE
4" PVC
1" SO2
CL2
FIRE HYD
OAK 24"
PALM 12'
POPCORN 36"
GRAVEL
ALOE BAY
#IN ISLAND PARKWAY
RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

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DEMOLITION SITE PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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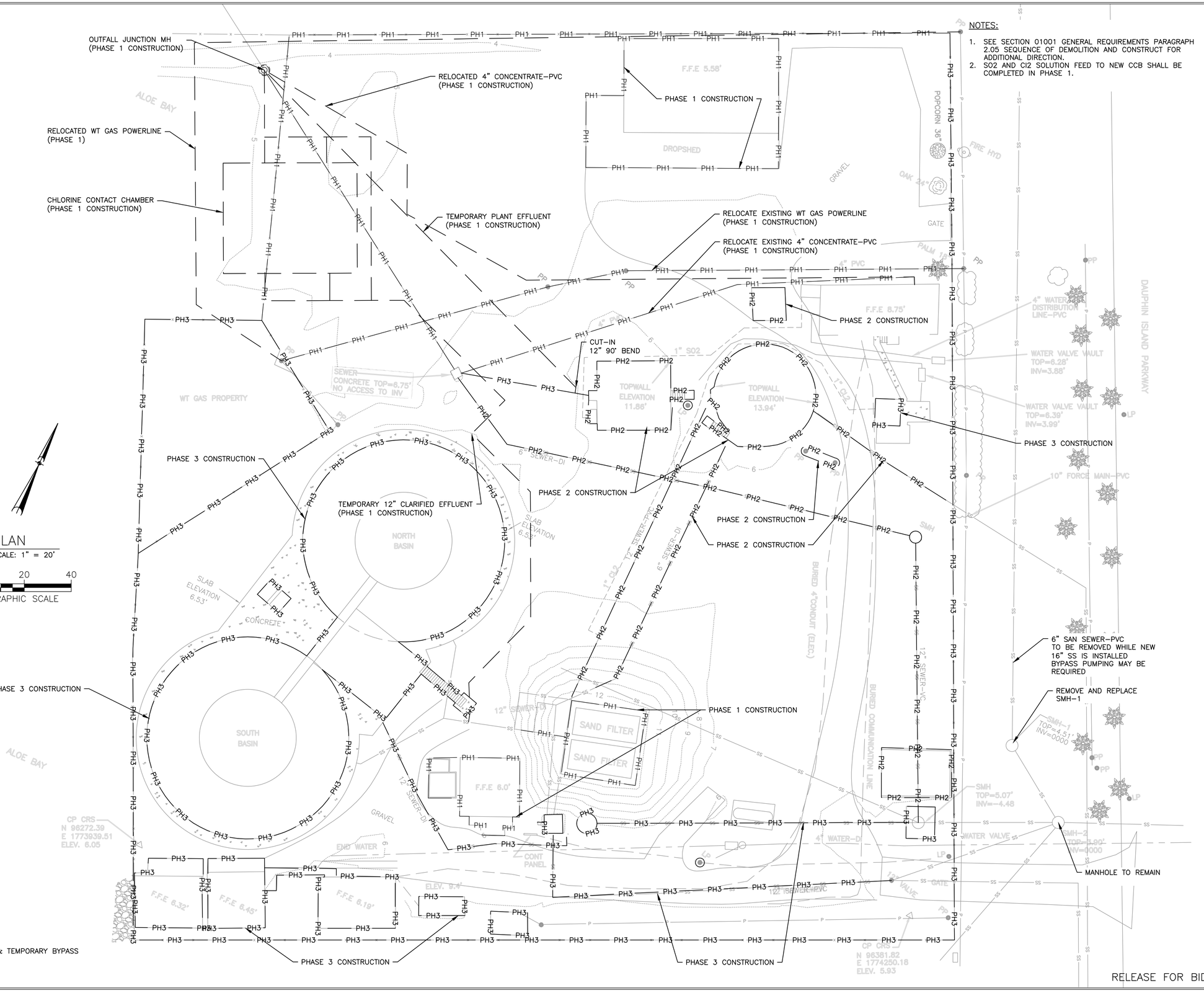

PLAN
SCALE: 1" = 20'

0 20 40
GRAPHIC SCALE

LEGEND

- PH1 — PHASE 1
- PH2 — PHASE 2
- PH3 — PHASE 3
- — — — PHASE 1 CONSTRUCTION & TEMPORARY BYPASS

NOTES:

1. SEE SECTION 01001 GENERAL REQUIREMENTS PARAGRAPH 2.05 SEQUENCE OF DEMOLITION AND CONSTRUCT FOR ADDITIONAL DIRECTION.
2. SO2 AND CI2 SOLUTION FEED TO NEW CCB SHALL BE COMPLETED IN PHASE 1.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS

SEQUENCE OF CONSTRUCTION AND DEMOLITION PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1")
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	C-2.1

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POINT TABLE		
POINT NUMBER	NORTHING	EASTING
1	96416.69	1774247.11
2	96421.16	1774220.86
3	96443.09	1774262.41
4	96442.04	1774226.92
5	96477.73	1774224.41
6	96542.28	1774151.20
7	96424.22	1774127.89
8	96484.92	1774117.10
9	96468.16	1774112.99
10	96475.41	1774069.12
11	96530.87	1774079.73
12	96673.27	1774119.64
13	96656.71	1773985.65
14	96601.77	1773952.31
15	96531.19	1773922.77
16	96551.04	1773850.46
17	96288.97	1774006.77
18	96248.94	1773969.99
19	96269.53	1774015.56
20	96301.32	1774034.11

PLAN
SCALE: 1" = 20'

0 20 40
GRAPHIC SCALE

343 LF OF 8'-0" WOOD PRIVACY FENCE
PP (BY ALABAMA POWER)
RELOCATED WT GAS POWER (2) 5" BURIED CONDUITS
297 LF OF 6'-0" ALUMINUM FENCE
0.5 MG DIGESTER (70'-0" DIA)
DEWATERING BUILDING
BOLLARD (TYP OF 9) 3 SD-0.7
CHLORINE CONTACT BASIN
INSTALL NEW 16'-0" ALUMINUM CANTILEVER ELECTRIC SLIDE GATE
FIRE HYD
OAK
GATE 1
PALM
PP (BY ALABAMA POWER)
2 SD-0.7 BOLLARD (TYP OF 2)
3' MAIN GATE
30' DOUBLE SWING GATE
WT GAS PROPERTY
F.F.E 8.75'
DAUPHIN ISLAND PARKWAY
WATER VALVE VAULT TOP=6.28' INV=3.88'
WATER VALVE VAULT TOP=6.39' INV=3.99'
PROCESS BASIN NO. 1 (91'-0" ID DIA)
GENERATOR
EOP
RELOCATED DIESEL FUEL TANK
2 SD-0.7 BOLLARD (TYP OF 6)
3 SD-0.7 BOLLARD (TYP OF 2)
HEADWORKS
BOLLARD (TYP OF 2) 2 SD-0.7
OPERATIONS BUILDING
BURIED 4" CONDUIT (ELEC.)
GRAVEL PARKING AREA (10 CARS)
588 LF OF 6'-0" CHAIN LINK FENCE
PROCESS BASIN NO. 2 (91'-0" ID DIA)
INFLUENT PUMP STATION
BURIED COMMUNICATION LINE
CP CRS N 96272.39 E 1773939.51 ELEV. 6.05
DRYING BEDS
DECANTER SLAB
ODOR CONTROL
WATER VALVE
2 SD-0.7 BOLLARD (TYP OF 2)
CP CRS N 96381.82 E 1774250.18 ELEV. 5.93
INSTALL NEW 16'-0" ALUMINUM CANTILEVER ELECTRIC SLIDE GATE
F CD-1 BULKHEAD TIE-BACKS (6 TOTAL)
350 LF OF 8'-0" WOOD PRIVACY FENCE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS

PROPOSED SITE PLAN AND HORIZONTAL CONTROL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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CIVIL NOTES:

1. ALL BURIED FITTINGS AND VALVES SHALL BE FULLY RESTRAINED WITH MECHANICAL JOINT RESTRAINTS. (MEGA-LUG OR APPROVED EQUAL)
2. PIPE JOINTS SHALL BE RESTRAINED ACCORDING TO THE RESTRAINT JOINT SCHEDULE.
3. ALL PIPE, FITTINGS AND JOINT RESTRAINTS SHALL BE RATED FOR NO LESS THAN 250 PSI OPERATING PRESSURE.
4. PRESSURE TESTING, FLUSHING AND DISINFECTION SHALL BE INCLUDED IN THE LINEAR FOOT COST OF PIPE INSTALL. IF NEEDED, CONTRACTOR SHALL INSTALL TEMPORARY AIR RELEASE VALVES AND REMOVE AFTER TESTING AT NO ADDITIONAL COST TO OWNER.
5. CONTRACTOR SHALL PROVIDE LABOR AND EQUIPMENT TO FIELD VERIFY EXISTING PIPE ELEVATIONS / LOCATION IN ADVANCE OF LAYING NEW PIPE. CONFLICT RESOLUTION SHALL BE PLANNED FOR IN ADVANCE PRIOR TO NEW PIPE INSTALLATION. UTILITY LOCATING SHALL BE INCLUDED IN THE COST OF INSTALLING NEW PIPE.
6. SCE 16" MAGNETIC METER SHALL BE OPERATIONAL DURING EXISTING PLANT BYPASS PERIOD.
7. EXISTING SMH-2 AND NEW MH-1 SHALL BE COATED WITH SPECTRASHIELD COATING SYSTEM OR APPROVED EQUAL.
8. 12" AIR – SS SHALL BE SLOPED DOWNWARD @ 1/8" PER LINEAR FOOT W/ LOW ELEV POINT AT SUBGRADE PROCESS-SIDE TERMINATION.
9. CONFIRM OUTFALL LINE ELEVATION PRIOR TO OUTFALL JUNCTION BOX SUBMITTAL.
10. ALL BURIED AIR-SS SHALL BE WELDED JOINT PIPE AND FITTINGS.
11. CONTRACTOR SHALL INSTALL TWO (2) 5"ø SCH. 40 PVC POWER CONDUITS ALONG THE NORTH PROPERTY BOUNDARY. COORDINATE INSPECTION WITH ALABAMA POWER PRIOR TO BACK FILLING. WORK NOT COVERED BY ALLOWENCE AND SHOULD BE INCLUDED WITH BASE BID AMOUNT.

PLAN
SCALE: 1" = 20'

0 20 40
GRAPHIC SCALE

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
ENGINEER
JAMES N. SMITH
8/19/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS	

YARD PIPING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DATE	AUGUST 2024
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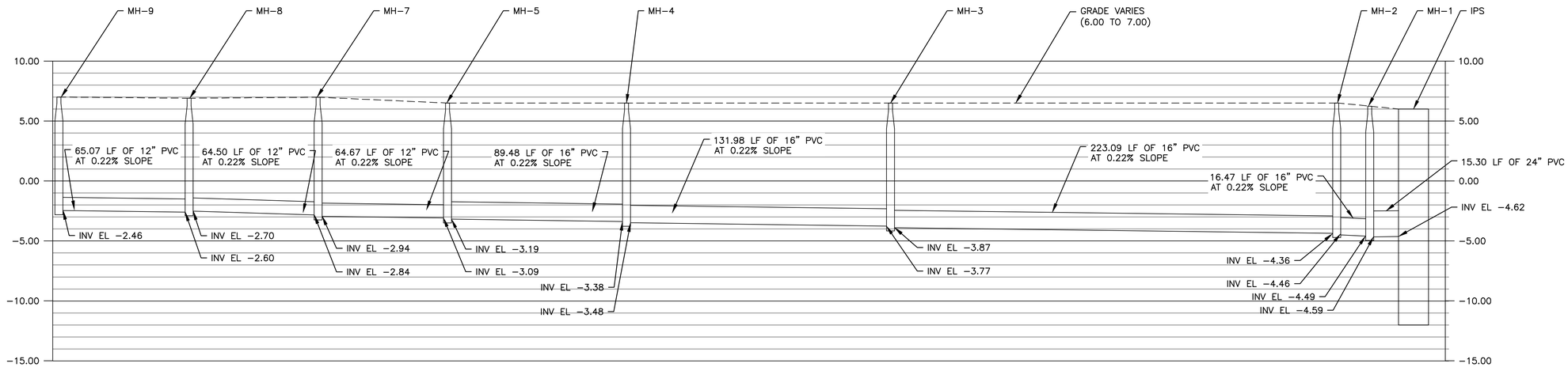
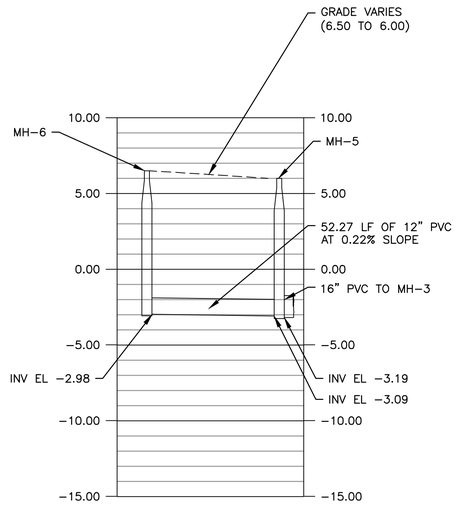
RELEASE FOR BID



PROFILE A
HORIZ 1" = 30'
VERT 1" = 5'



PROFILE B
HORIZ 1" = 30'
VERT 1" = 5'

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
ENGINEER
JAMES N. SMITH
6/7/24

NO.	DATE	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APVD
		SC	LB	SC	JS

REVISION BY APPROVED BY:

MANHOLE PROFILE ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVENUE, SUITE 601
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LEGEND

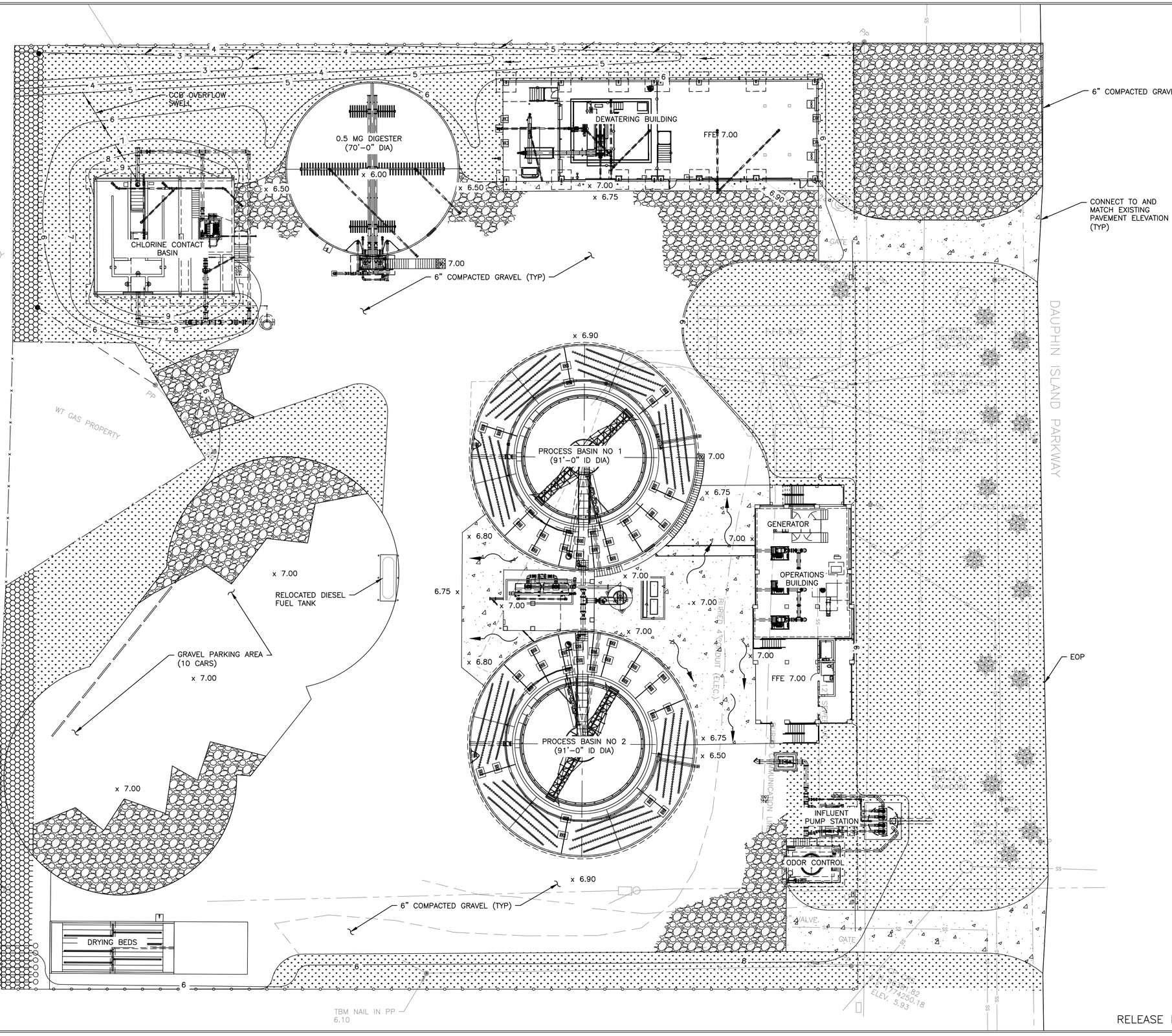
- GRASS LANDSCAPE
- CONCRETE
- CRUSHED STONE
- RIP RAP BUFFER

NOTES:

1. CRUSHED STONE DRIVEWAYS SHALL BE ALDOT 835 B GRADE GRAVEL OR APPROVED EQUAL.
2. 6" OF GRAVEL SHALL BE PLACED ON COMPACTED SUBGRADE WITH GEOTEXTILE FABRIC UNDERLAY.
3. REFER TO LANDSCAPING PLAN FOR DETAILED SOD AND PLANTING AREAS.

PLAN
SCALE: 1" = 20'

0 20 40
GRAPHIC SCALE



ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL		DRAWN BY: DS	CHECKED BY: BL	APPROVED BY: JS	APVD

PROPOSED PAVING AND GRADING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
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TYPICAL EPSC EROSION CONTROL NOTES:

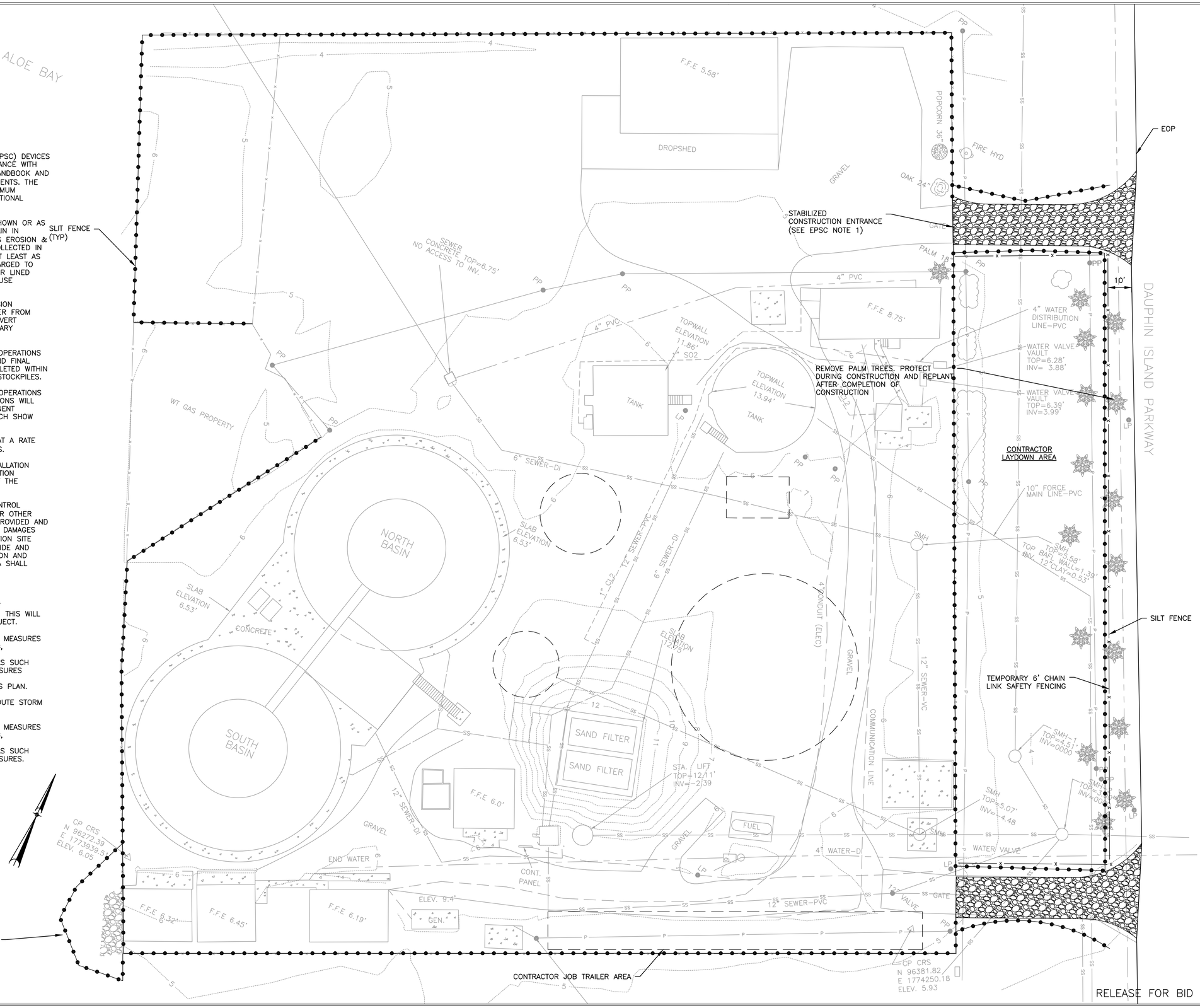
1. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE ADEM'S EROSION AND SEDIMENT CONTROL HANDBOOK AND ADEM'S CONSTRUCTION ACTIVITY PERMIT REQUIREMENTS. THE DEVICES SHOWN ON THE DRAWINGS ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL DEVICES AS NEEDED.
2. INSTALL TEMPORARY SEDIMENT TRAP(S) WHERE SHOWN OR AS OTHERWISE APPROPRIATE. CONSTRUCT AND MAINTAIN IN ACCORDANCE WITH THE REQUIREMENTS OF ADEM'S EROSION & SEDIMENT CONTROL HANDBOOK. MUDDY WATER COLLECTED IN SEDIMENT TRAP(S) SHALL BE HELD UNTIL IT IS AT LEAST AS CLEAR AS UPSTREAM WATER BEFORE IT IS DISCHARGED TO SURFACE WATERS. DISCHARGE THROUGH A PIPE OR LINED CHANNEL SO THAT THE DISCHARGE DOES NOT CAUSE EROSION & SEDIMENTATION.
3. INSTALL TEMPORARY DIVERSION BERMS OR DIVERSION CHANNELS AS NECESSARY TO DIVERT STORM WATER FROM RUNNING ONTO THE DISTURBED AREAS AND TO DIVERT RUNOFF FROM DISTURBED AREAS TO THE TEMPORARY SEDIMENT TRAP(S).
4. APPLY TEMPORARY SEEDING WHENEVER GRADING OPERATIONS ARE TEMPORARILY HALTED FOR OVER 14 DAYS AND FINAL GRADING OF EXPOSED SURFACES IS TO BE COMPLETED WITHIN ONE YEAR. APPLY TEMPORARY SEEDING TO SOIL STOCKPILES.
5. APPLY PERMANENT SEEDING WHENEVER GRADING OPERATIONS ARE COMPLETED AND ALL CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. APPLY PERMANENT SEEDING TO ALL NON–CONSTRUCTION AREAS, WHICH SHOW SIGNS OF EXCESSIVE EROSION.
6. UNLESS NOTED OTHERWISE, MULCH WITH STRAW AT A RATE OF 100 LBS./1000 S.F. OVER THE SEEDED AREAS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF SITE CONSTRUCTION POLLUTION PREVENTION CONTROLS THROUGHOUT THE LIFE OF THE PROJECT.
8. ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES, AND/OR OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE, EROSION PREVENTION AND SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL RESPONSIBILITY OF THE CONTRACTOR.

EPSC – STAGE 1 SEQUENCING NOTES

1. BEGIN STAGE 1 EROSION & SEDIMENT CONTROL BY INSTALLING STABILIZED CONSTRUCTION ENTRANCES. THIS WILL BE THE FIRST CONSTRUCTION WORK ON THE PROJECT.
2. STAGE 1 EROSION AND SEDIMENT CONTROL (EPSC) MEASURES SHALL BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES
3. INSTALL PERIMETER SILT FENCE AS SHOWN ON THIS PLAN.
4. CONSTRUCT DEVERSION DITCHES AS NEEDED TO ROUTE STORM WATER TO THE SEDIMENT PONDS & TRAPS.
5. STAGE 1 EROSION AND SEDIMENT CONTROL (EPSC) MEASURES SHALL BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
6. THIS WILL END STAGE 1.

PLAN
SCALE: 1" = 20'

0 20 40
GRAPHIC SCALE



RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: JS	DRAWN BY: DS	CHECKED BY: JS	APPROVED BY: JS

EROSION CONTROL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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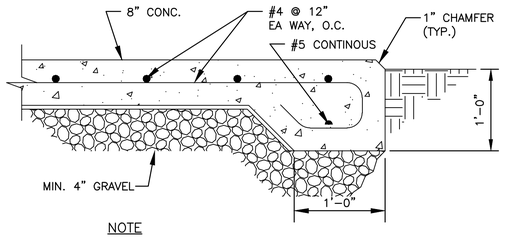


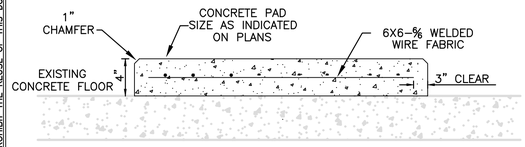
NOTE

1. DENSE GRADED BASE SHALL MEET ALDOT 825

CONCRETE DRIVE

DETAIL A

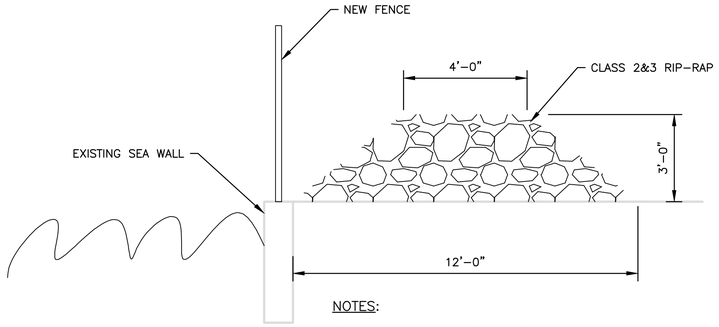
NTS



HOUSEKEEPING PAD

DETAIL B

NTS



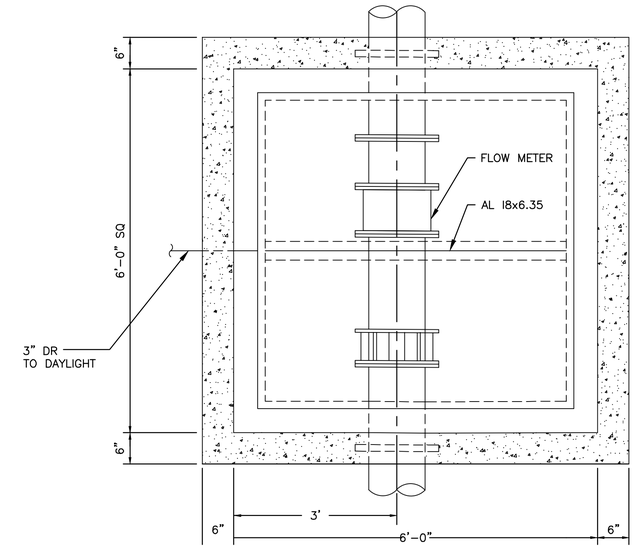
NOTES:

RIP RAP SHALL BE CLASS 2 AND 3 AND INSTALLATION SHALL COMPLY WITH ALDOT 610. SUFFICIENT SMALL SIZE STONES SHALL BE INTEGRATED TO CHOKE THE LARGE STONES.

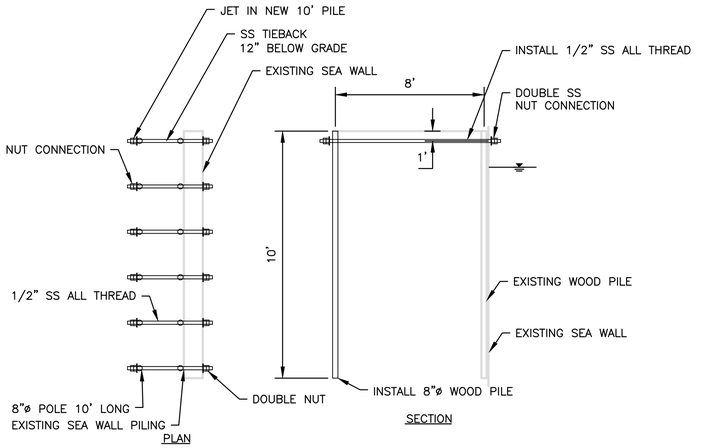
TYPICAL RIP RAP SECTION

DETAIL C

NTS



PLAN



PLAN

SECTION

BULKHEAD

DETAIL F

NTS

NOTE:
PROVIDE 6 TOTAL TIEBACKS AS SHOWN ON SHEET C-3

SECTION

FLOW METER VAULT

DETAIL D

NTS

LENGTH (L) TO BE RESTRAINED

SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS/VERTICAL OFFSETS				REDUCERS		VALVES OR DEADENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	45 BENDS (SEE NOTE 4)		
					L (FT.)	L (FT.)	
4	18	6	4	2	12	2	30
6	22	10	5	2	17	3	40
8	30	13	6	3	22	4	50
10	35	14	7	4	26	5	64
12	42	16	8	4	31	6	75
14	46	20	9	5	35	7	85
16	53	22	11	5	40	8	95
18	57	24	12	6	44	9	105
20	62	26	13	6	48	10	110
24	64	27	14	6	50	11	111
30	73	30	15	7	57	13	137
36	85	34	18	8	66	17	159
42	93	38	20	9	75	20	176
48	102	43	22	10	82	22	198

DUCTILE IRON PIPE RESTRAINT NOTES:

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. FOR D.I.P. W/POLY WRAP, USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM, PER THE DETAILS. Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

DIP RESTRAINT JOINT SCHEDULE

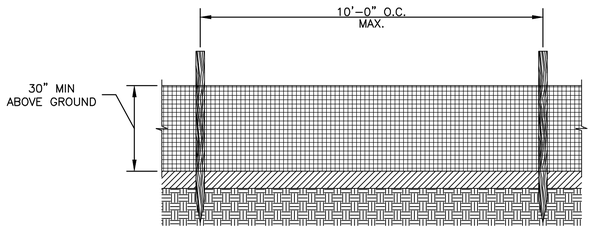
DETAIL E

NTS

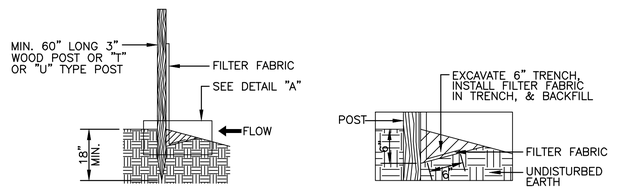
TEES	
SIZE (IN.)	L (FT.)
6x4	20
8x6	20
8x4	40
10x8	20
10x6	40
12x10	20
12x8	40
16x12	40
16x10	57
20x18	20
20x16	40
20x12	73
24x20	40
24x18	50
24x16	60
30x24	50
30x20	76
36x30	50
36x24	88
42x36	40
42x30	88
48x42	40
48x36	88

SEE NOTES		
RUN SIZE (IN)	BRANCH SIZE (IN)	L (FT.)
4	4	F.O.
4	6	6
	4 <LESS	F.O.
8	8	18
	6 <LESS	F.O.
10	10	27
	8	8
	6 <Less	F.O.
12	12	38
	10	20
	8 <LESS	F.O.
16	16	60
	12	20
	10 < LESS	F.O.
20	20	78
	16	40
	12 < LESS	F.O.
24	24	76
	20	53
	16	20
	12 < LESS	F.O.
30	30	99
	24	60
	20	37
	16 < LESS	F.O.
36	36	118
	30	88
	24	52
	20	37
	16 < LESS	F.O.
42	42	138
	36	110
	30	78
	24	37
	20 < LESS	F.O.
48	48	154
	42	132
	36	99
	30	59
	24 < LESS	F.O.

F.O = FITTING ONLY



FRONT VIEW



SIDE VIEW

DETAIL "A"

NOTE:
THE FILTER FABRIC SHALL BE FASTENED TO UPSTREAM SIDE OF POST.

SILT FENCE WITH FABRIC

DETAIL G

NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY	APVD
	DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

CIVIL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	CD-1

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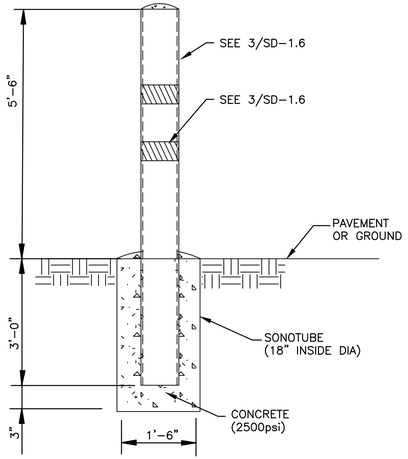
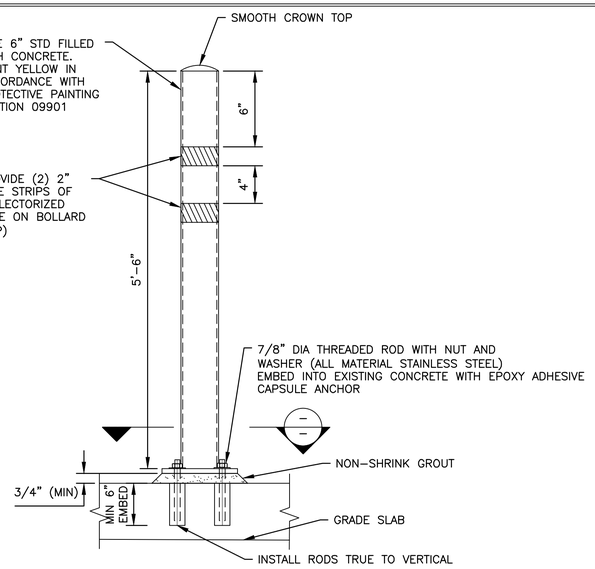


NOTES:

1. PROVIDE A SAFETY YELLOW SLEEVE COVER.
2. FOR STRIPING SEE 10/SD-1.6.

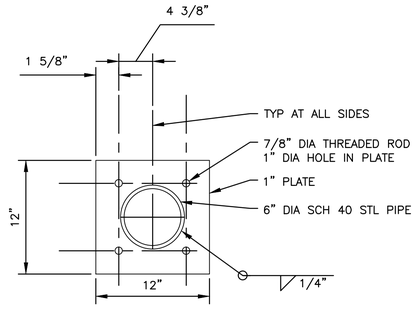
TYPICAL EMBEDED BOLLARD

DETAIL A
NTS



TYPICAL SURFACE MOUNTED BOLLARD

DETAIL B
NTS



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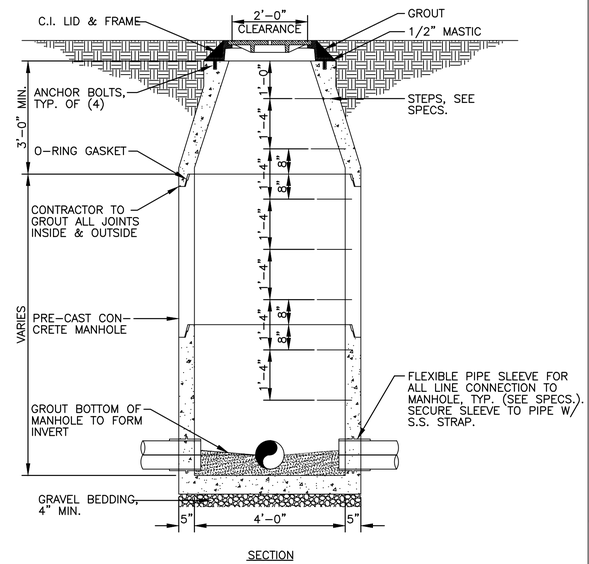

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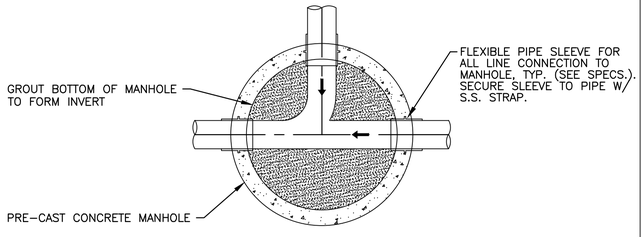
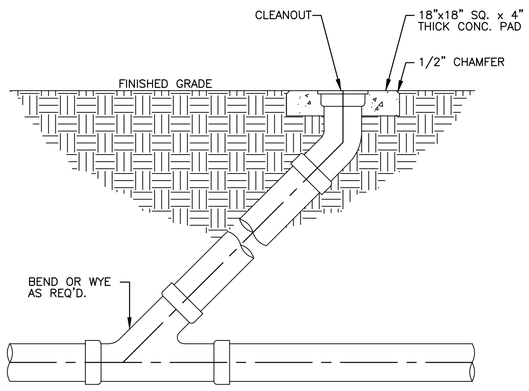


PLAN

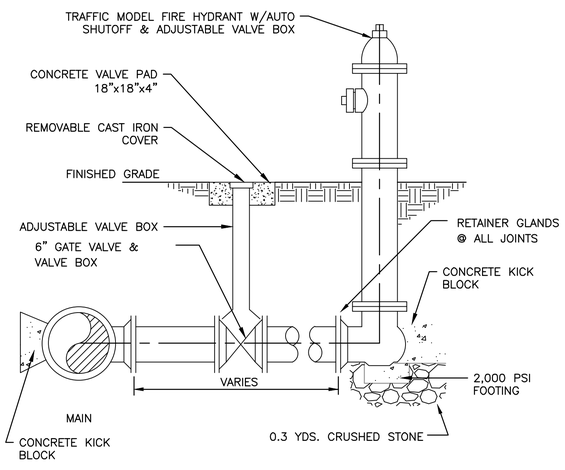
STANDARD MANHOLE

DETAIL C
NTS



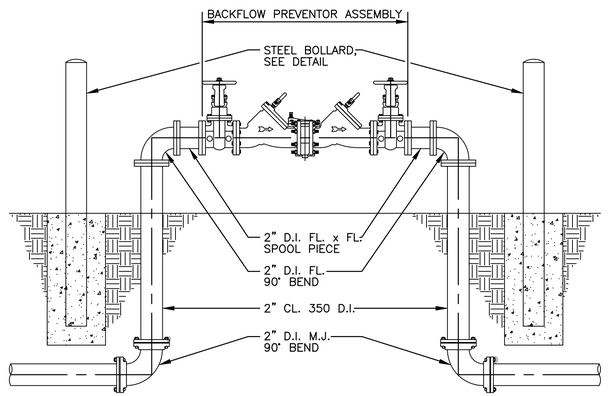
TYP. LINE CLEANOUT

DETAIL D
NTS



FIRE HYDRANT

DETAIL E
NTS



REDUCED PRESSURE BACKFLOW PREVENTER

DETAIL F
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
	DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

CIVIL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVENUE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
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DATE	AUGUST 2024
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DWG.	CD-2

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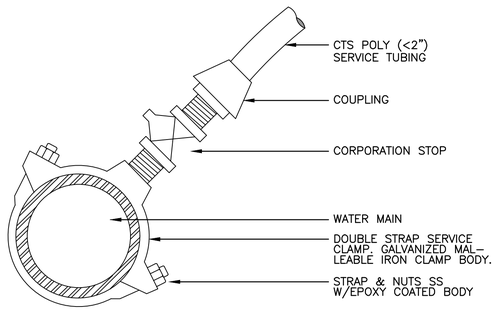
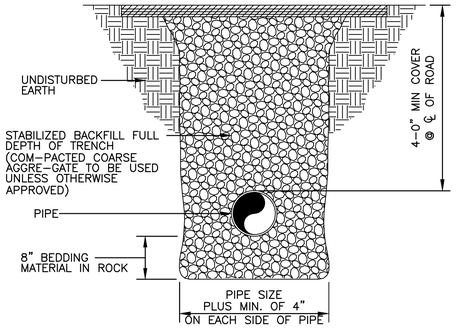


NOTES:

1. 2" TAPS SHALL BE SS FULL CIRCLE TAPPING SADDLES.
2. 2" SERVICE SHALL BE SCH 80 PVC

WATER SERVICE CONNECTION

DETAIL A
NTS

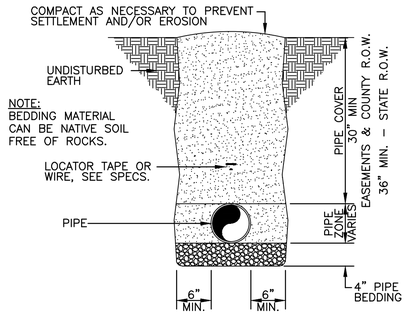


NOTES:

1. ONE HALF OF THE TRAVELED PORTION OF THE PAVING MUST BE OPENED TO TRAFFIC AT ALL TIMES.
2. OPEN CUTTING OF PAVEMENT SHALL BE DONE IN THE MANNER AND SEQUENCE AS FOLLOWS:
   A. OPEN TRENCH TO MINIMUM WIDTH REQUIRED, LAY PIPING.
   B. BACKFILL TRENCH TO SURFACE LEVEL PENDING REPLACING PAVEMENT AND ADDING LIMESTONE AS SHOWN.
   C. PLACE COMPACTED ASPHALT PAVEMENT TO MATCH EXISTING PAVING FOR TRENCH WIDTH PLUS 1'-0" ON EACH SIDE. SAW PAVING STRAIGHT & EVENLY BEFORE PLACEMENT OF ASPHALT PATCH.

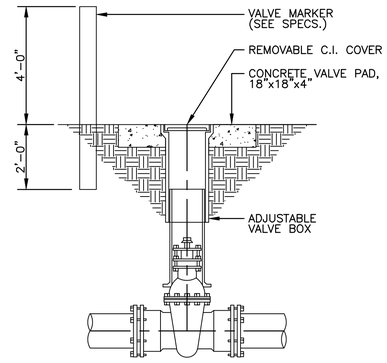
PAVED ROAD CROSSING

DETAIL B
NTS



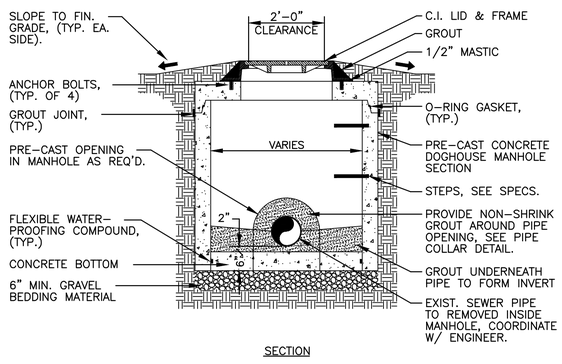
TYP. WATER TRENCH

DETAIL C
NTS



TYP. BURIED VALVE & BOX

DETAIL D
NTS



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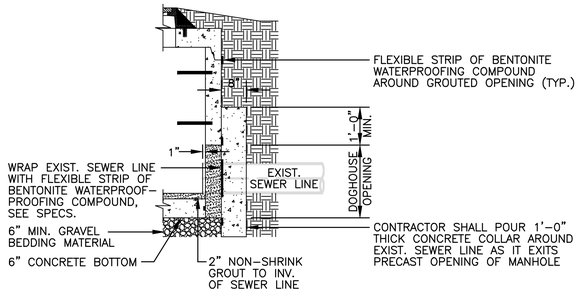
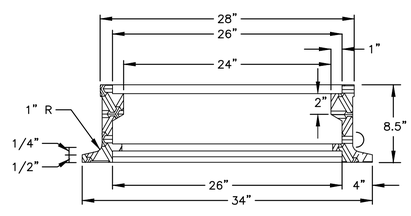


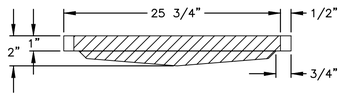
PIPE COLLAR SECTION

DOGHOUSE MANHOLE

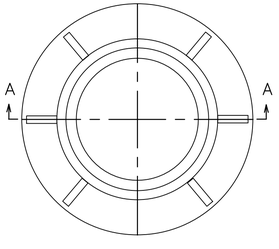
DETAIL E
NTS



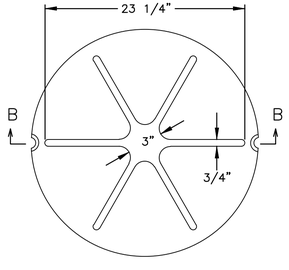
SECTION A-A



SECTION B-B



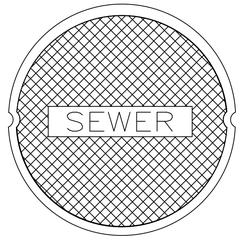
PLAN OF RING



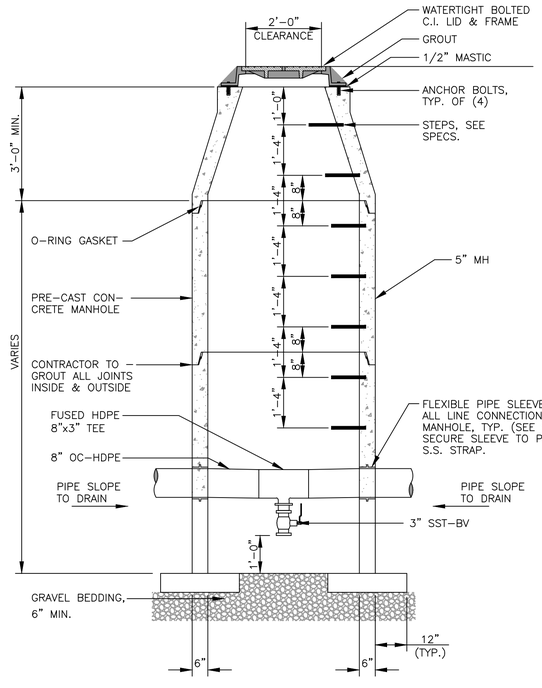
BOTTOM OF COVER

STANDARD MANHOLE COVER & RING

DETAIL F
NTS



TOP OF COVER



SECTION

NOTE:

INSTALL OC MANHOLE AT LOW POINT OF OC PIPING.

MANHOLE FOR ODOR CONTROL PIPE

DETAIL G
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

CIVIL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	CD-3

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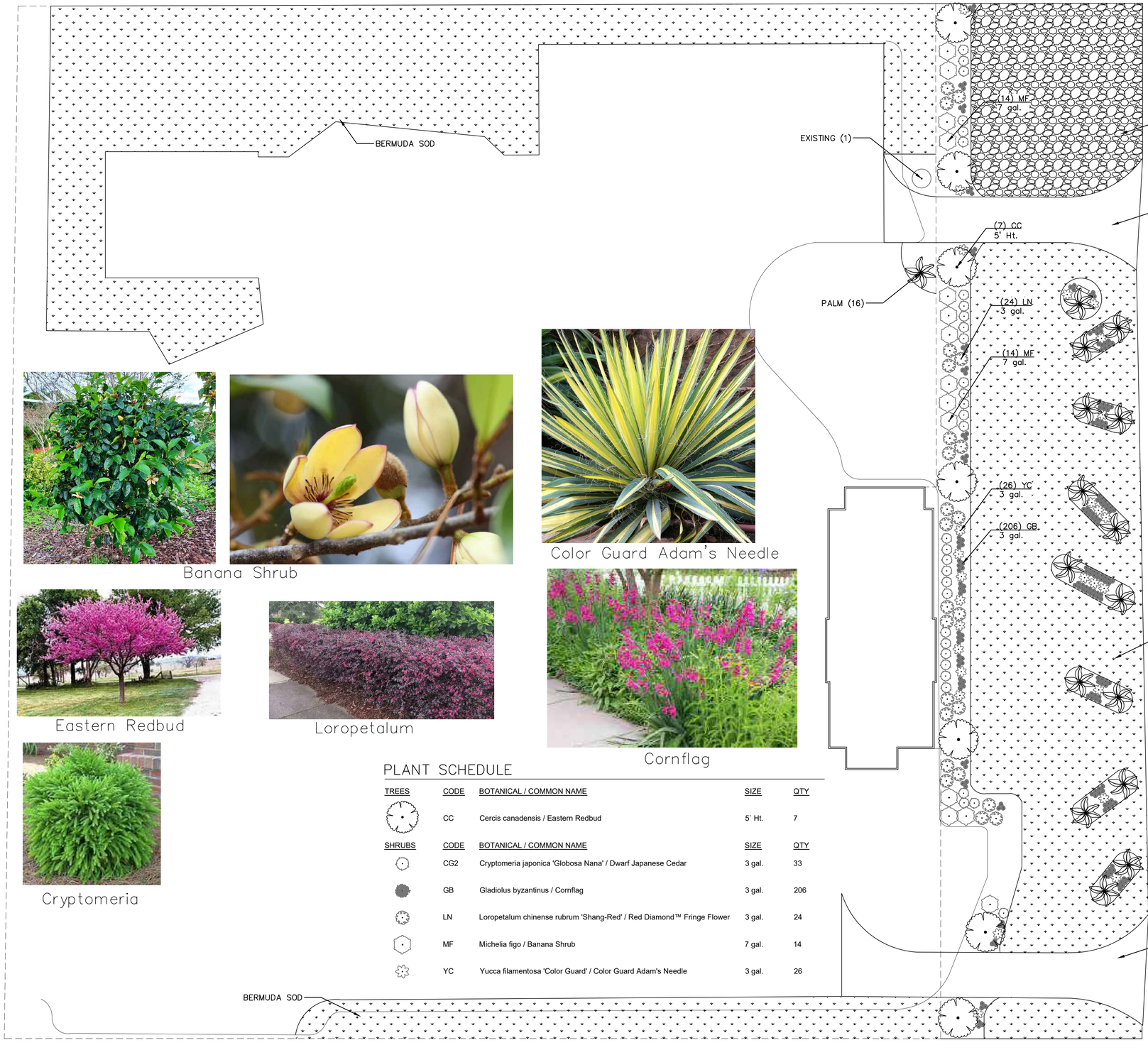

Banana Shrub

Color Guard Adam's Needle

Eastern Redbud

Loropetalum

Cornflag

Cryptomeria

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	QTY
	CC	Cercis canadensis / Eastern Redbud	5' Ht.	7
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**QTY**
	CG2	Cryptomeria japonica 'Globosa Nana' / Dwarf Japanese Cedar	3 gal.	33
	GB	Gladiolus byzantinus / Cornflag	3 gal.	206
	LN	Loropetalum chinense rubrum 'Shang-Red' / Red Diamond™ Fringe Flower	3 gal.	24
	MF	Michelia figo / Banana Shrub	7 gal.	14
	YC	Yucca filamentosa 'Color Guard' / Color Guard Adam's Needle	3 gal.	26

RELEASE FOR BID

Southern Scape

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/7/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
	DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

LANDSCAPING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING (0 – 1")
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	L-1.0

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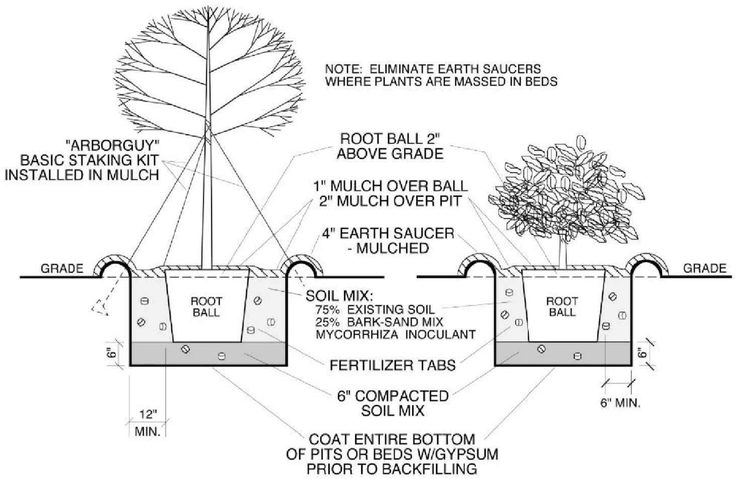
PLANTING NOTES

1. ALL PLANTS SHALL CONFORM TO THE SPECIFICATIONS OF THE AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION) BY THE "AMERICAN ASSOCIATION OF NURSERYMEN, INC.", WASHINGTON, DC.
2. QUANTITIES STATED ABOVE ARE FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR AND SHALL BE VERIFIED.
   - 2.1. THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL ALL PLANT MATERIALS SHOWN ON THE PLANTING PLAN REGARDLESS IF PLANT QUANTITIES ARE DIFFERENT THAN SHOWN ON PLANT SCHEDULE OR IF PLANTS ARE MISSING FROM THE PLANT SCHEDULE.
   - 2.2. PLANTING PLAN QUANTITIES SHALL OVERRIDE PLANT SCHEDULE QUANTITIES.
   - 2.3. THE LANDSCAPE CONTRACTOR SHALL SUPPLY AND INSTALL ALL SOD & SEED SHOWN ON THE PLANTING PLAN REGARDLESS IF ACTUAL QUANTITIES ARE DIFFERENT THAN SHOWN ON PLANT SCHEDULE.
3. THE LANDSCAPE ARCHITECT (OR OWNER) SHALL RESERVE THE RIGHT TO REJECT ANY AND ALL PLANT MATERIAL NOT MEETING SPECIFICATIONS SHOWN ABOVE. CONTAINER SIZES SHOWN ARE MINIMUM SIZES. B&B TREES WILL NOT BE ALLOWED.
4. THE LAYOUT OF ALL PLANT MATERIAL & BEDS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT (OR OWNER) PRIOR TO PLANTING. SPACING OF PLANTS SHALL BE CONSISTENT AND LINES SHALL BE TRUE TO THE LAYOUT SHOWN ON THE PLANTING PLAN. ANY PLANT MATERIAL INSTALLED WITHOUT SAID APPROVAL SHALL BE SUBJECT TO REVISIONS BY THE LANDSCAPE ARCHITECT (OR OWNER) AND SHALL BE CHANGED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE.
5. PLANT CULTIVARS LISTED SHALL BE USED WITHOUT EXCEPTION. WRONG CULTIVARS OR SPECIES SHALL BE REGARDED AS INCORRECT PLANT MATERIAL AND SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE.
6. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL SAMPLING AND SOIL TESTS TO DETERMINE EXACT AMENDMENT REQUIREMENTS.
7. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATIONS OF ALL EXISTING UTILITY LINES, IRRIGATION LINES, DRAIN LINES, ETC. ANY & ALL DAMAGE TO SAID LINES SHALL BE REPAIRED BY THE LANDSCAPE CONTRACTOR AT HIS EXPENSE.
8. MULCH FOR ALL PLANTING SHALL BE DARK STAINED HARDWOOD. MULCH ALL PLANTING BEDS WITHIN ENTIRE PREPARED AREA AS PER PLANTING DETAIL.
9. FERTILIZER FOR TREES, SHRUBS & GROUND COVERS SHALL BE "WOODACE" SLOW RELEASE PLANTING TABLETS (14-4-6) WITH MICRONUTRIENTS. TABLET RATE PER MANUFACTURER'S RECOMMENDATIONS. AVAILABLE FROM TIECO (639-1565). FERTILIZER FOR LAWNS SHALL BE A BALANCED (13-13-13) FERTILIZER WITH MICRONUTRIENTS. BROADCAST RATE PER MANUFACTURER'S RECOMMENDATIONS.
10. MYCORRHIZA INOCULANT SHALL BE "DIEHARD TRANSPLANT" WITH HYDROGEL AND SOIL CONDITIONERS. MIX RATES PER MANUFACTURER'S RECOMMENDATIONS. AVAILABLE FROM SMART GROW (251/370-0872).
11. TREE STAKING KITS SHALL BE "ARBORGUY" BASIC STAKING KIT. INSTALL ONE KIT PER TREE. AVAILABLE FROM TIECO (639-1565).
12. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS AND LABOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THE OWNER SHALL BE RESPONSIBLE FOR GENERAL MAINTENANCE AFTER SUBSTANTIAL COMPLETION, INCLUDING WATERING, WEEDING, MOWING, ETC. THE LANDSCAPE CONTRACTOR SHALL REPLACE ALL DEAD OR OTHERWISE NON-ACCEPTABLE PLANT MATERIAL, AS DETERMINED BY THE LANDSCAPE ARCHITECT (OR OWNER), DURING THE GUARANTEE PERIOD (SEE SPECS. FOR FREQUENCY). REPLACEMENT PLANT MATERIAL SHALL BE INSTALLED WITHIN THIRTY (30) DAYS FROM NOTIFICATION BY THE LANDSCAPE ARCHITECT.

IRRIGATION SYSTEM

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF AN AUTOMATIC IRRIGATION SYSTEM COORDINATED TO ALL LANDSCAPED AND GRASSED AREAS (SEE SPECS).
2. THE LANDSCAPE CONTRACTOR SHALL INCLUDE IN HIS BID ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF THE SYSTEM.



TREE & SHRUB PLANTING
NOT TO SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: JS		DRAWN BY: LB	CHECKED BY: JS	APPROVED BY: JS	APVD BY:

LANDSCAPING NOTES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
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(256)-203-9501

FILE	SEE LEFT
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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	L-2.0

BUILDING CODE SUMMARY

1. GENERAL INFORMATION
Name of Project: Aloe Bay Water Quality Enhancement - Wastewater Treatment Facility
Address: 524 Lemoyne Dr., Dauphin Island, AL. 36528
Proposed Use: Waste Water Treatment Facility

3. GENERAL CODE DATA

3.1 Town of Dauphin Island - Building and Fire Codes used in design
(Check all that apply)

_X_ 2018 International Building Code	_X_ 2017 National Electric Code
_X_ 2018 International Existing Building Code	_X_ 2017 International Mechanical Code
_X_ 2018 International Fire Prevention Code	_X_ 2018 International Plumbing Code
____ 2015 International Energy Conservation Code	___ 2021 International Fuel Gas Code

3.2 Construction Description
__X__New Construction ____Renovation (Existing Bldg.) _____Tenant Build-Out
_____Alteration _____Addition _____Change of Occupancy _____Shell

Total Building Footprint (sf): 3,961 sf**
** *Operations Building Only*

4. BUILDING DATA
Construction Type ___ IA ___ IB ___ IIA ___ IIB ___ IIIA
_X_ IIIB ___ IV ___ VA ___ VB

Mixed Construction: _X_ No _____Yes Types_____

Sprinklers _X_ No ___ Yes ____ Partial
System Type _____ 13 __ 13R ____ 13D

Standpipes _X_ No __ Yes __ Wet __ Dry Class __ Combined

Building Height 41'-6" Feet 2 Number of Stories ___ Unlimited (IBC 507 _____

Mezzanine: _X_ No __ Yes
High Rise _X_ No __ Yes
Atrium _X_ No __ Yes
Basement _X_ No __ Yes

5. OCCUPANCY CLASSIFICATION
__ Assembly 303 ____ A-1 ___ A-2 ___ A-3 ___A-4 ___ A-5
X Business 304
__ Education 305
__ Factory Industrial 306 ___ F-1 ___ F-2
__ High-Hazard 307 ___ H-1 ___ H-2 ___ H-3 ___ H-4 ___ H-5
__ Institutional 308 ___ I-1 ___ I-2 ___ I-3 ___ I-4
___condition __ Mercantile 309
___Residential 310 __ R-1 __ R-2 __ R-3 __ R-4
__ Storage 311 __ S-1 __ S-2 __ High-piled
__ Utility and Miscellaneous 312

5.1 Occupant Load
Occupant Load/Occupancy Type = Business (Group B) Total 24
Note: Include occupant load calculations for the following type of projects: assembly, educational, institutional, large complex projects, mixed ocupancies, multi-story projects.

Occupant Load Calculations = **24 Occupants**
Business Areas - 3,562 gsf/150 = 24

5.2 Special Occupancy 406 and 510

__ Parking Garage (406.4) __Open (406.5) __Enclosed (406.6) __Repair (406.8)
___ S-2 enclosed parking garage w/ S-2 open parking above (510.3)
___Parking Beneath R (510.4) __R-1 ___R-2 Construction Type ___II A___III A
_X_ Open Parking Beneath A, I, B, M and R (510.7)

5.3 Mixed Occupancy (508) _X_ No __Yes Separation ___ Hr. no separation required

6. ALLOWABLE BUILDING AREA AND HEIGHTS (Chapter 5)

6.1 Allowable Area (Table 506.2)
Allowable Area 19,000 sq. ft.
Actual Area 3,562 sq. ft.
Attach area increase calculations per section 506, if applicable. For unlimited areas, provide applicable paragraph number in section 507
_____.

6.2 Allowable Height (Tables 504.3 & 504.4)
Allowable height 55 ft.
Allowable no. of stories 3
Actual building height 41.5 ft.
Actual no. of stories 2

7. FIRE PROTECTION REQUIREMENTS

7.1 Table 601

Building Element	Req'd Rating	UL No.*
Structural Frame, Including columns, girders, trusses	0	
Bearing Walls Exterior	2	U905
Interior	0	
Non-Bearing walls and partitions Exterior	0	
Interior	0	
Floor Construction (including supporting beams and joists)	0	
Roof Construction (including supporting beams and joists)	0	

Sprinkler Systems __Yes _X_No ___Partial
Standpipes ___Yes _X_No ___Wet ___Dry Class
Fire/Smoke Alarm __Yes _X_No

7.2 Fire Rated Elements

Element	Required	UL* Hourly Rating	Number
Ceiling-Floors	0		
Beams	0		
Columns	0		
Ceiling-Roofs	0		
Shafts-Exit	0		
Shafts-Other **(713.5)**	1	2	U905
Corridor Separation	0		
Occupancy Separation	N/A		
Party/Fire Wall Separation:	N/A		
Smoke Barrier Separation:	N/A		
Tenant Separations:	N/A		

* or other approved agencies

FOOTNOTES:
1. All fire rated walls shall be identified on plans by hatching, shading, etc; show legend.
2. Identify code section shen using any special exceptions, etc.
3. Reproduce full UL or other approved agencies details or reproductions of rated assemblies/penetrations on the drawings.

7.3 Draftstopping
Draftstopping in floor (718.3) ____ yes _X_no
Draftstopping in attic (718.4) ____yes _X_no

7.4 Distance to property line from exterior wall (table 705.5)
(Site Plan/Reference Plan required) **Ref 1/A-0.2**
Fire separation distance +30 ft.
Fire resistance rating 0 hrs.

7.5 Life Safety Systems

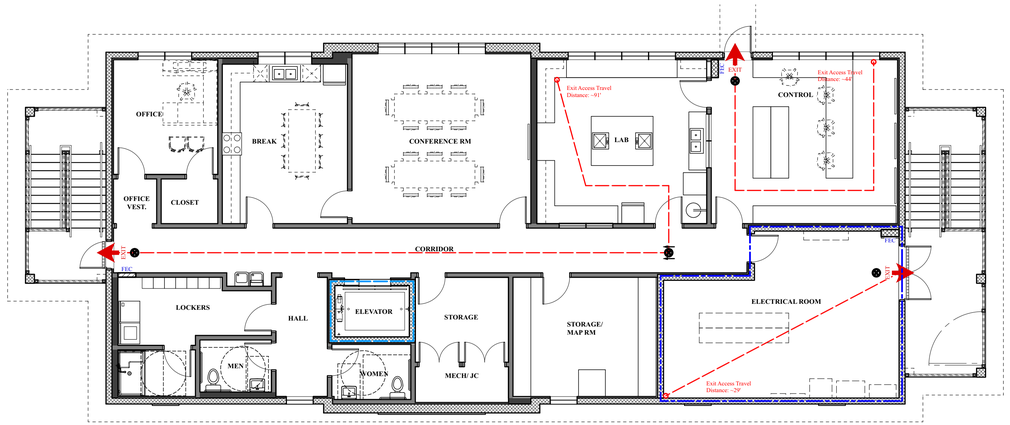
1008.3	Emergency lighting:	____no	_X_yes
1013.1	Exit signs:	____no	_X_yes
907	Fire alarm:	_X__no	____yes
907	Smoke detection systems:	_X__no	____yes
1010.2.9	Panic hardware:	_X__no	____yes

8. EXIT REQUIREMENTS

8.1 Exit Access (1006 & 1016)
no. of exits required 2
no. of exits furnished 3
8.2 Means of egress width (table 1005)
units of exit required 36 inches (24*0.2=4.8in)
units of exit furnished 144 inches
stair width units required 36 inches (24*0.3=7.2in) per 1011.2 Ex1
stair width units provided 46 inches
8.3 Diagonal Rule (1007.1)
Meets 1007.1.1 _X_ yes ___ no
8.4 Travel distance (table 1017.2)
Allowable travel distance 200 ft per
Actual travel distance (maximum) 90 ft
8.5 Spaces with one means of egress (table 1006.2.1)
For buildings with one means of egress, I have checked the occupant load and the common path of travel against the requirements IBC 1006 _X_ yes ___ no
9. LIFE SAFETY PLAN
Provided _X_ yes ___ no (if yes, See Drawing LS1.1)

10. ACCESSIBILITY
Design conforms to IBC Chapter 11 and ICC A117.1-17 __X__ yes ___ no
If no, explain condition that will not allow building to be accessible.

10.1 ACCESSIBLE PARKING
Total Parking Spaces ____11___ (3,562sf/350= 11)
(Per Dauphin Island Zoning Ordinance Article 6 Section 11.H.2.b)
Total Accessible Parking Spaces ___1____
Total Accessible Van Parking ____1____



NORTH

1 A-0.1 **Life Safety Plan**
1/8"=1'-0"

IPC Table 403.1 TOTAL NUMBER OF REQUIRED FIXTURES

	OCCUPANCY	OCCUPANT LOAD	WATER CLOSETS				LAVATORIES			DRINKING FOUNTAIN	SERVICE SINK
			RATIO	MEN	RATIO	WOMEN	RATIO	MEN	WOMEN		
REQUIRED	Business (B)	25	1 per 25		1 per 25		1 per 40			1 per 100	1
TOTAL				**1**		**1**		**1**	**1**	**1**	**1**

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R.B. Baker 3327
A.B. Davis 3269
08/02/2024

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LIFE SAFETY PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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DWG.	A-0.1

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1 A-0.2 **Architectural Site Plan**
1" = 30'-0"

0 15 30 60 120Ft

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ARCHITECTURAL SITE PLAN

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PROCESS BASIN NO. 1
(95'-0" DIA)

PROCESS BASIN NO. 2
(95'-0" DIA)

HEADWORKS

GENERATOR

OPERATIONS BUILDING

INFLUENT PUMP STATION

BURIED 4" CONDUIT (ELEC.)

COMMUNICATION LINE

WATER VALVE

ODOR CONTROL

FUEL TANK

PP

LP

1 A-0.3 **Enlarged Site Plan**
1" = 10'-0"

NORTH

0 5 10 20 40Ft

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ENLARGED SITE PLAN

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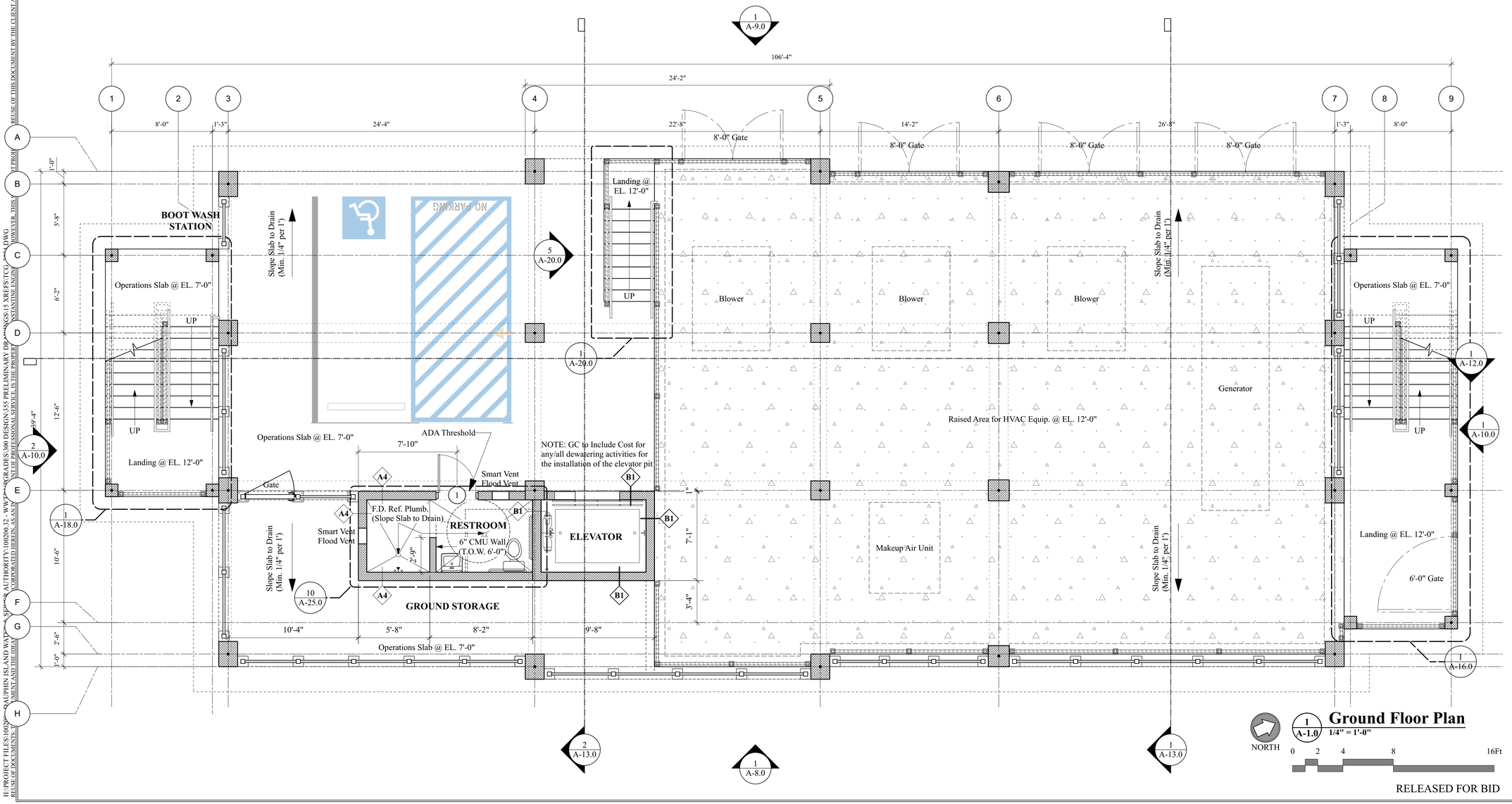

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08/02/2024

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GROUND FLOOR PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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NORTH

1 A-1.0 **Ground Floor Plan**
1/4" = 1'-0"

0 2 4 8 16Ft

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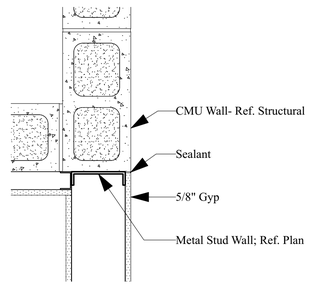

2 / A-2.0 **Plan Detail**
1-1/2" = 1'-0"

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FIRST FLOOR PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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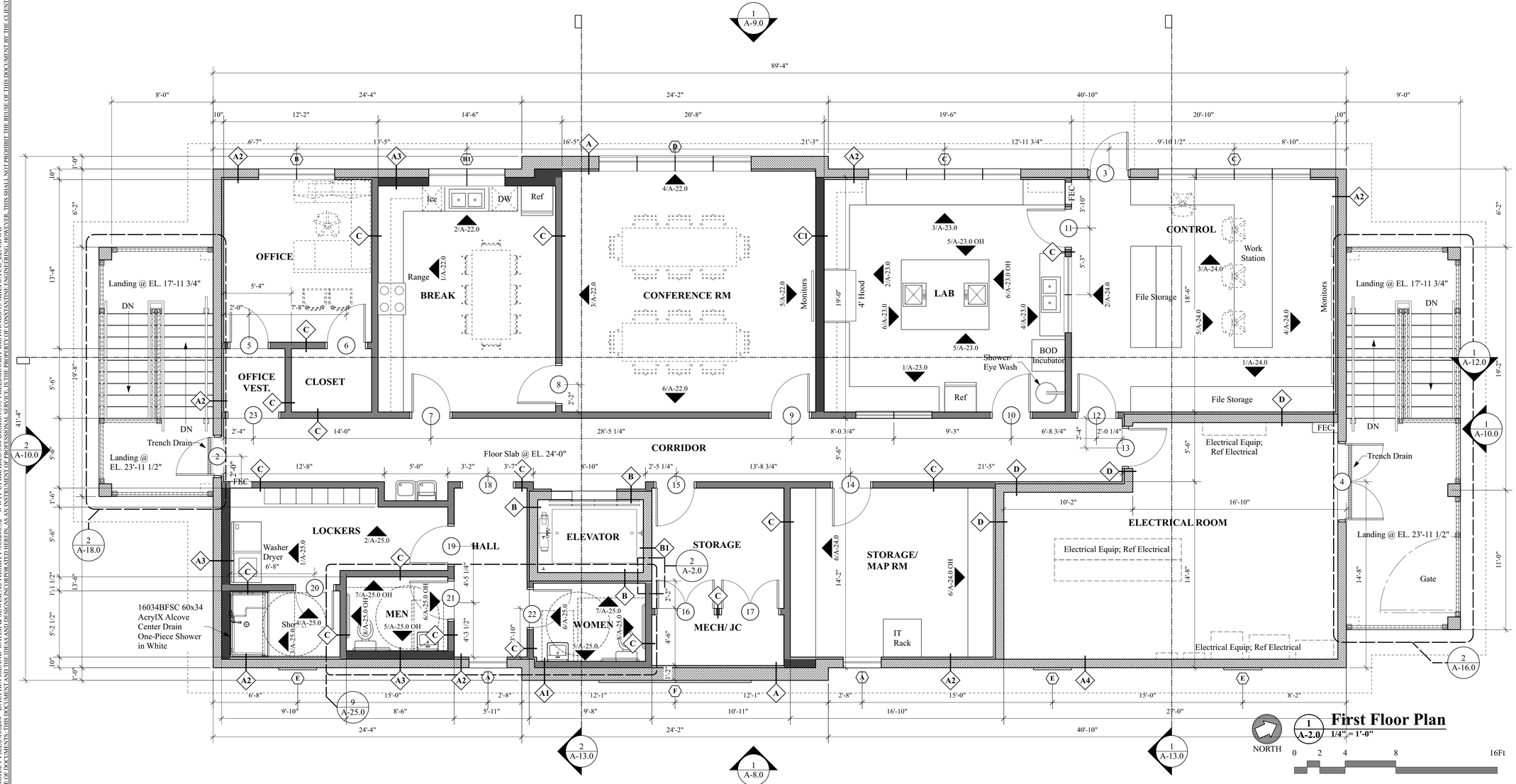

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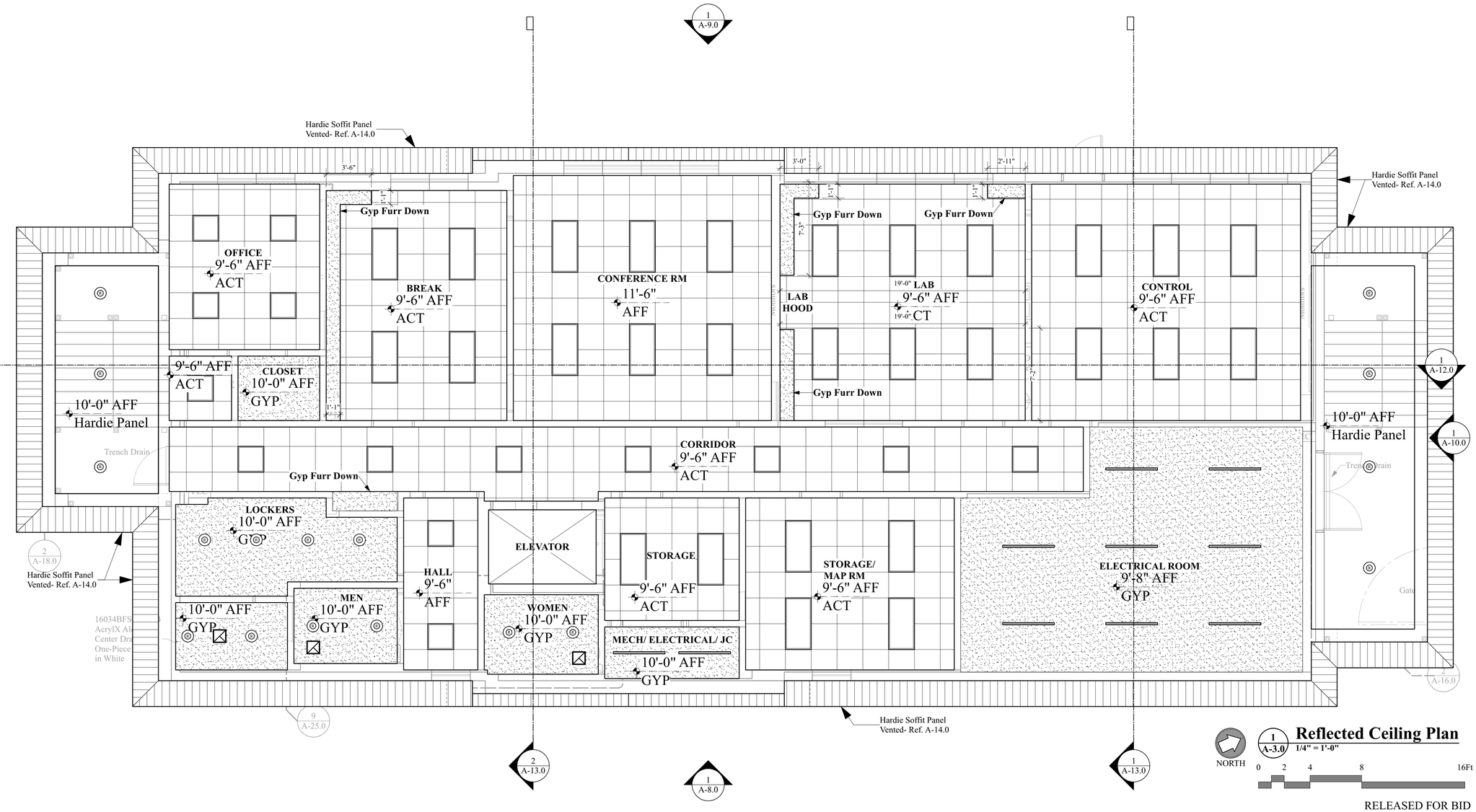

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REFLECTED CEILING PLAN

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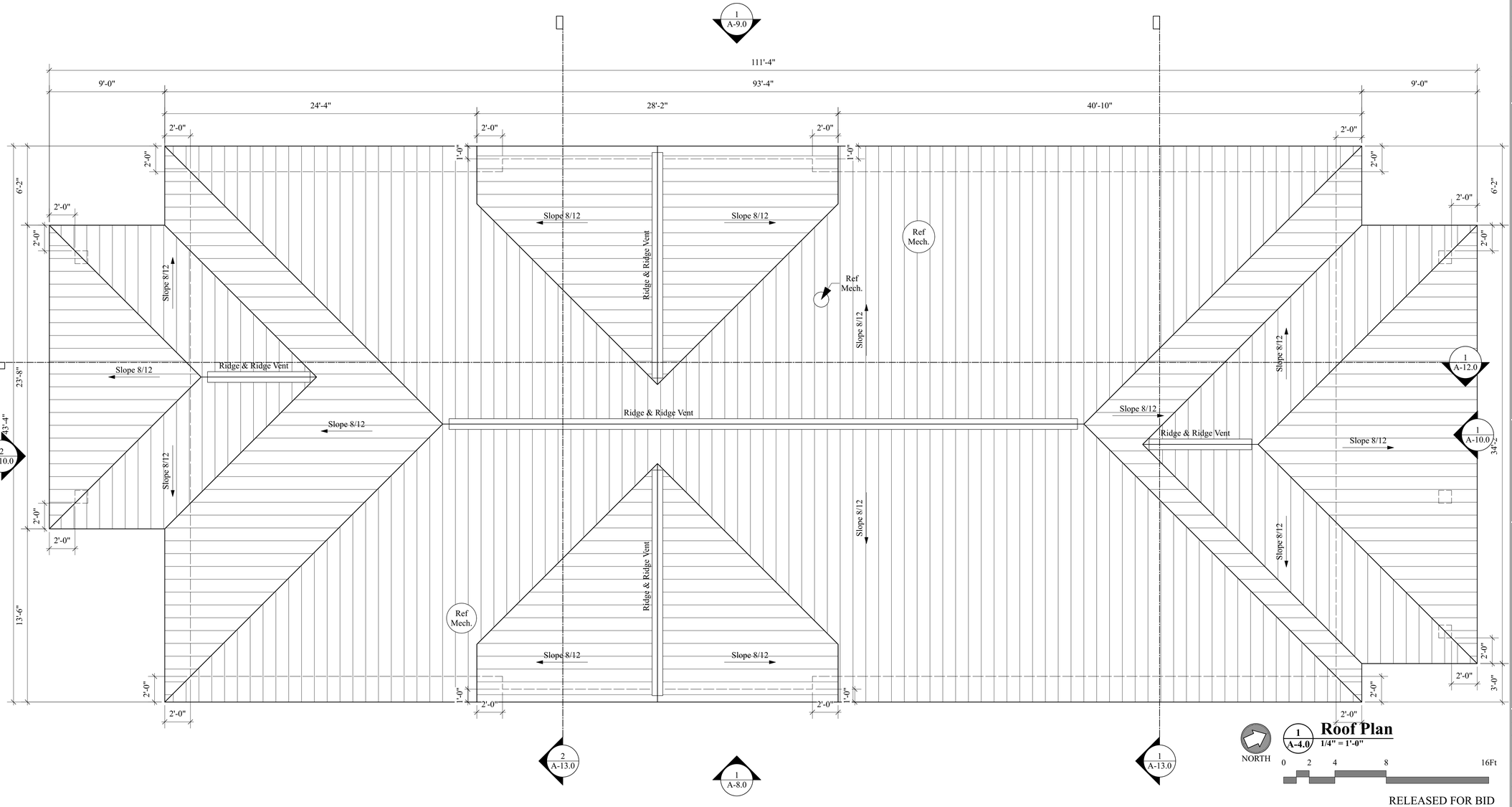

Roof Plan

1 A-4.0 — 1/4" = 1'-0"

NORTH

0 2 4 8 16Ft

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ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ROOF PLAN

Dauphin Island

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DWG.	A-4.0

Door General Notes:

1) GENERAL:
A. DOOR AND/OR FRAME CONSTRUCTION SHALL BE AS SPECIFIED UNLESS NOTED OTHERWISE.

B. ALL TYPES OF DOORS ARE REPRESENTED IN THIS SCHEDULE FOR CONVENIENCE. WHERE MORE DESCRIPTIVE INFORMATION MAY BE LOCATED ELSEWHERE, NOTATION IS MADE IN THE NUMBERED NOTES COLUMN. (E.G. ALUMINUM FRAMED ENTRANCE DOORS. SEE GLAZING SCHEDULE FOR CONFIGURATION.)

2) MATERIAL AND FINISH:
A. MATERIALS AND FINISHES INDICATED ON THE SCHEDULE ARE AS FOLLOWS:

HM	HOLLOW METAL
ST	STEEL
ST/S	STEEL / STAINLESS OR STAINLESS CLAD
AL	ALUMINUM
GL	GLAZING/GLASS
FRP	FIBERGLASS

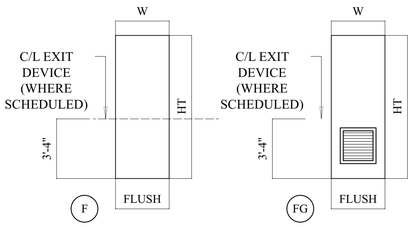
3) GLASS:
A. GLASS TYPES INDICATED ON THE SCHEDULE ARE AS FOLLOWS (SEE SPECIFICATION SECTIONS "GLAZING"):

G1	7.5mm CLEAR, TEMPERED
G2	HURRICANE IMPACT RESISTANT ,171 MPH, LOW-E SOLARBAN 60, GRAY TINTED, LAMINATED, LARGE MISSLE TESTED

4) DOOR HARDWARE:
A. "HARDWARE SET NUMBER" REFERS TO HARDWARE SETS SPECIFIED IN SPECIFICATION SECTION 087100 "DOOR HARDWARE".

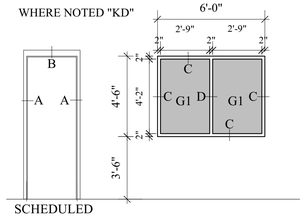
Door Comments Legend:

1. EGRESS DOOR - PROVIDE ACCESSIBLE EGRESS HARDWARE AS REQUIRED BY CODE
2. COORDINATE LOCKING REQUIREMENTS WITH OWNER



Frame Types Hollow Metal:

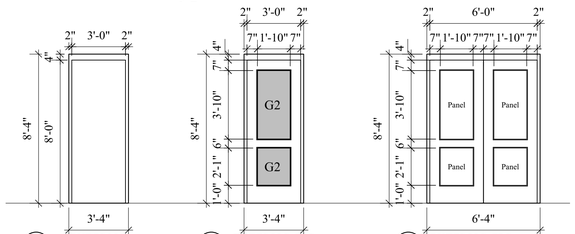
NOTE: ALL HOLLOW METAL FRAMES TO BE FACE-WELDED EXCEPT WHERE NOTED "KD"



F1 HOLLOW METAL FRAME in MTL Stud

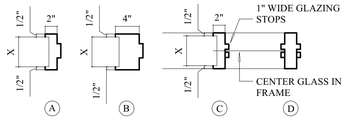
F2 HOLLOW METAL FRAME in MTL Stud

Frame & Door Types Aluminum:



FRAME PROFILES

NOTE: X = THROAT DIMENSION /PARTITION THICKNESS



Door Schedule

DOOR NUMBER	ROOM NAME	DOOR SIZE				DOOR / OPENING			FRAME DESCRIPTION			EXTERIOR HURRICANE IMPACT RESISTANT	FIRE RATING	DOOR HARDWARE	HEAD	JAMB	SILL	NUMBERED NOTES
		PAIR	W	H	THK	DOOR TYPE	MAT'L	GLASS OR LOUVER TYPE	FRAME TYPE	MAT'L	GLASS TYPE			HARDWARE SET NUMBER				
1	Restroom		3'-0"	8'-0"	1 3/4"	F3	FRP	-	F3	AL		Y	-	1	4/A-6.0	5/A-6.0	-	
2	South Entry Door		3'-0"	8'-0"	1 3/4"	F4	FRP/GL	G2	F4	AL		Y	-	2	4/A-6.0	5/A-6.0	6/A-6.0	
3	West Entry Door		3'-0"	8'-0"	1 3/4"	F4	FRP/GL	G2	F4	AL		Y	-	2	4/A-6.0	5/A-6.0	6/A-6.0	
4	North Entry Door	Y	3'-0"	8'-0"	1 3/4"	F5	FRP	-	F5	AL		Y	-	2	4/A-6.0	5/A-6.0	6/A-6.0	
5	Office		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	3	4/A-7.0	5/A-7.0	6/A-7.0	
6	Closet		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	4	4/A-7.0	5/A-7.0	6/A-7.0	REF. Mechanical for Door Grill Requirements
7	Break		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
8	Break		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
9	Conference		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
10	Lab		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
11	Lab		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
12	Control		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
13	Electrical Room		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	7/A-7.0	8/A-7.0	6/A-7.0	
14	Storage/map Room		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
15	Storage		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	3	4/A-7.0	5/A-7.0	6/A-7.0	
16	Mechanical/JC	Y	3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	4	4/A-7.0	5/A-7.0	6/A-7.0	
17	Mechanical/JC	Y	3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	4	4/A-7.0	5/A-7.0	6/A-7.0	
18	Hall		3'-0"	8'-0"	1 3/4"	-	-	-				N	-	-	4/A-7.0	5/A-7.0	6/A-7.0	
19	Lockers		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	5	4/A-7.0	5/A-7.0	6/A-7.0	
20	Shower		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	1	4/A-7.0	5/A-7.0	6/A-7.0	
21	Men RR		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	1	4/A-7.0	5/A-7.0	6/A-7.0	
22	Women RR		3'-0"	8'-0"	1 3/4"	F	HM	-	F1	HM		N	-	1	4/A-7.0	5/A-7.0	6/A-7.0	
23	Office Vestibule		4'-0"	8'-0"	-	-	-	-				N	-	-	4/A-7.0	5/A-7.0	6/A-7.0	

Door Hardware Sets:

GROUP #1 ***(Doors 1, 20, 21, 22)***
-3 Hinges
-Sargent 7 Line Lever Lock; Privacy/Bathroom Function 65
-Closer with Overhead Stop at 90°
-Soft Close
-Mop Plate
-Kick Down, Hold Open Device

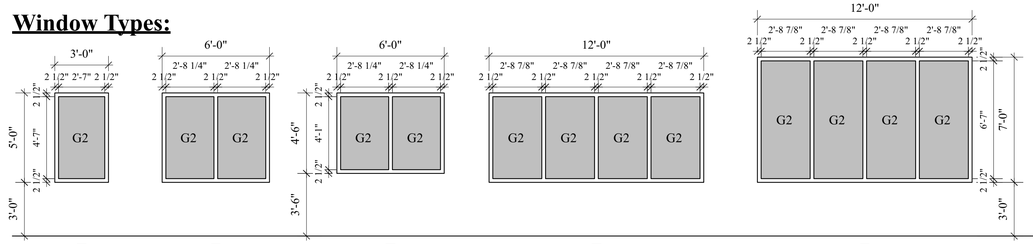
GROUP #2 ***(Doors 2, 3, 4)***
-3 Hinges
-Sargent 8500 Series; Night Latch Function 04
-Standard ET Lever Trim
-Closer with Overhead Stop at 90°
-Soft Close
-Kick Plate
-Kick Down, Hold Open Device

GROUP #3 ***(Doors 5, 15)***
-3 Hinges
-Sargent 7 Line Lever Lock; Entrance/Office Function 05
-Closer with Overhead Stop at 90°
-Soft Close
-Kick Plate
-Kick Down, Hold Open Device

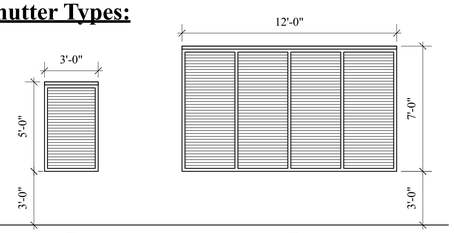
GROUP #4 ***(Doors 6, 16, 17)***
-3 Hinges
-Sargent 7 Line Lever Lock; Storeroom/Closet Function 04
-Closer with Overhead Stop at 90°
-Soft Close
-Kick Plate
-Kick Down, Hold Open Device

GROUP #5 ***(Doors 7, 8, 9, 10, 11, 12, 13, 14, 19)***
-3 Hinges
-Sargent 7 Line Lever Lock; PAssage Function 15
-Closer with Overhead Stop at 90°
-Soft Close
-Kick Plate
-Kick Down, Hold Open Device

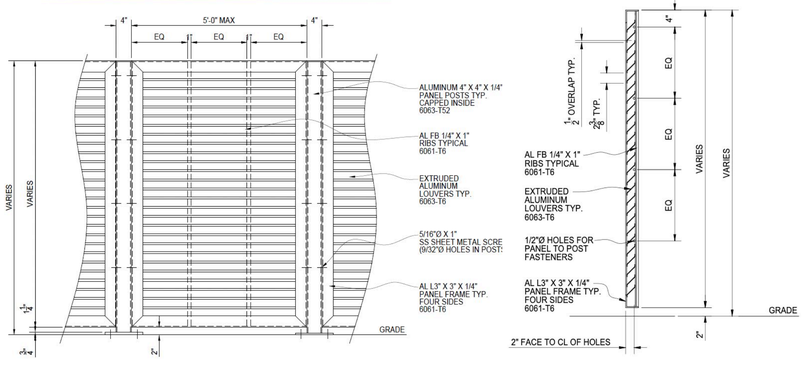
Window Types:



Shutter Types:



Basis of Design: ***LOUVERED WALL SYSTEM***
PALMShield Atlas Industrial Horizontal Louvers; Provide and Install system Per Manufacturer Instruction

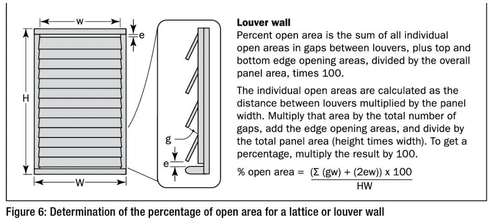


ELEVATION VIEW

TYPICAL PANEL SECTION

1 A-5.0 **Typ. Screen Detail** NTS

Figure 5: Compliant, fixed, wood louvers installed between pilings



Louver wall
Percent open area is the sum of all individual open areas in gaps between louvers, plus top and bottom edge opening areas, divided by the overall panel area, times 100.

The individual open areas are calculated as the distance between louvers multiplied by the panel width. Multiply that area by the total number of gaps, add the edge opening areas, and divide by the total panel area (height times width). To get a percentage, multiply the result by 100.

$$\% \text{ open area} = \frac{(\Sigma\,(gw) + (2ew)) \times 100}{HW}$$

Figure 6: Determination of the percentage of open area for a lattice or louver wall

- Wood or plastic slats or fixed louvers no thicker than 1 inch that, when installed, have at least 40 percent of their area open

2 A-5.0 **Typ. Screen Detail** 1/2" = 1'-0"

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R.W. Baker 3327
A.B. Davis 3269
08/02/2024

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SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	A-5.0

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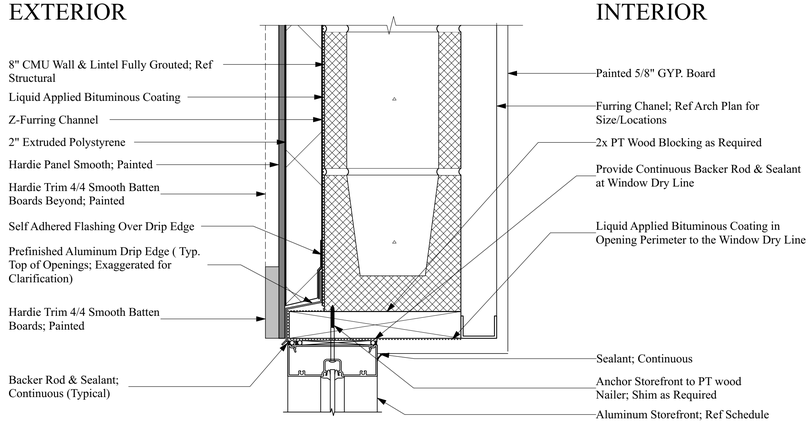
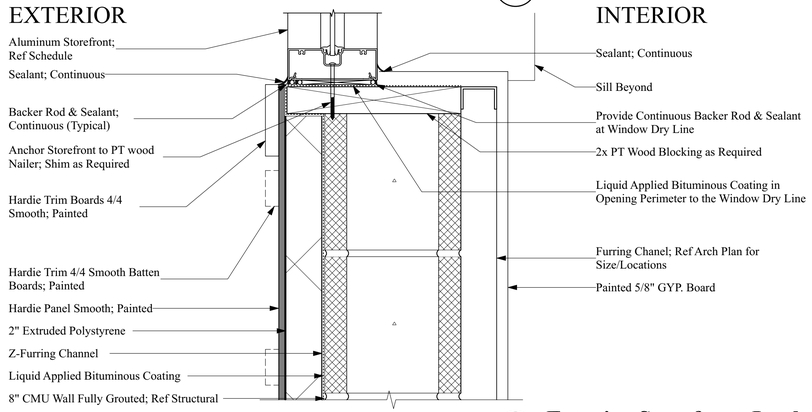
INTERIOR



1 / A-6.0 Exterior Storefront Head Detail (Window)
3" = 1'-0"

EXTERIOR

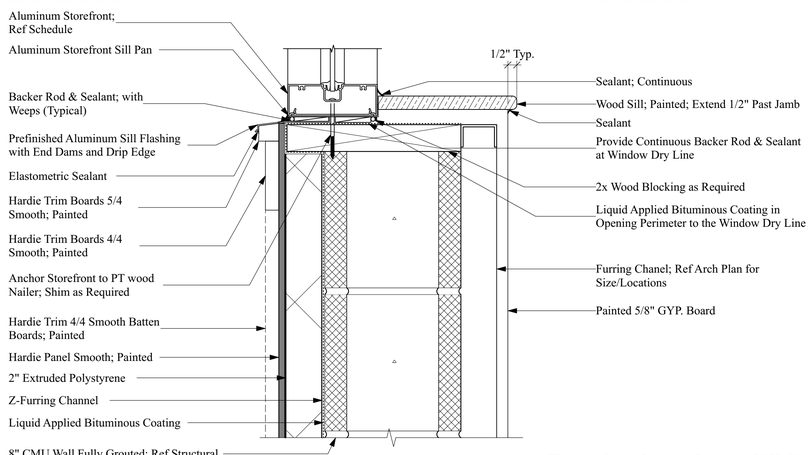
INTERIOR



2 / A-6.0 Exterior Storefront Jamb Detail (Window)
3" = 1'-0"

EXTERIOR

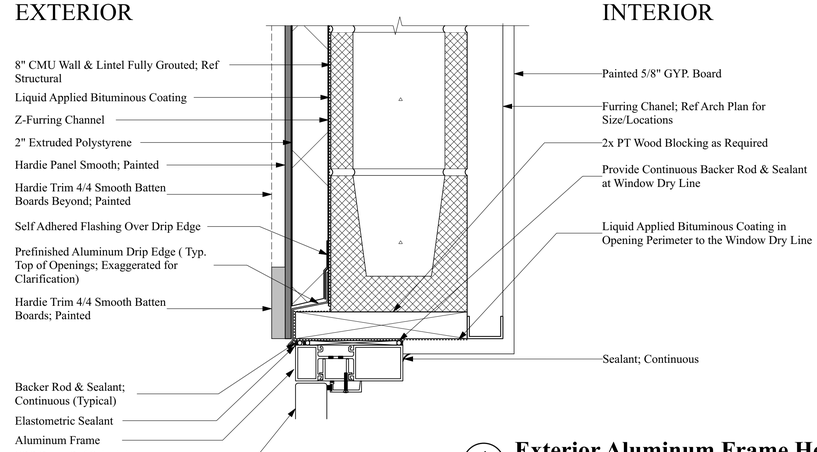
INTERIOR



3 / A-6.0 Exterior Storefront Sill Detail (Window)
3" = 1'-0"

EXTERIOR

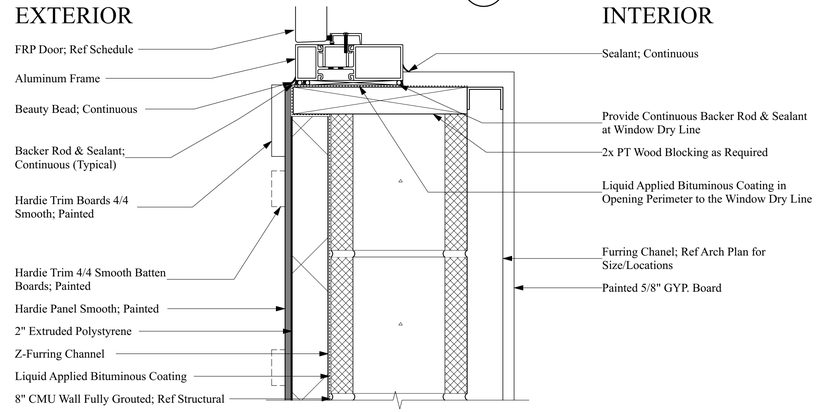
INTERIOR



4 / A-6.0 Exterior Aluminum Frame Head Detail (Door)
3" = 1'-0"

EXTERIOR

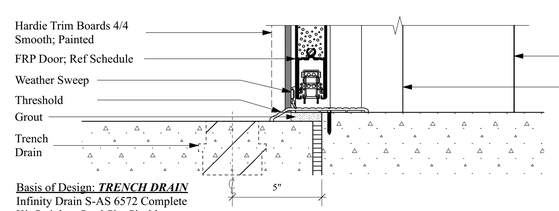
INTERIOR



5 / A-6.0 Exterior Aluminum Frame Jamb Detail (Door)
3" = 1'-0"

EXTERIOR

INTERIOR



Basis of Design: ***TRENCH DRAIN***
Infinity Drain S-AS 6572 Complete Kit Stainless Steel Site Sizable Series; Satin Stainless

6 / A-6.0 Exterior Aluminum Frame Sill Detail (Door)
3" = 1'-0"

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A.B. Adams III 3342
V.C. Verneuille 3326
R.P. Baker 3327
A.B. Davis 3269
08/02/2024

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	BY	APP'D
					APPROVED BY:	
DESIGNED BY:						

HJS DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

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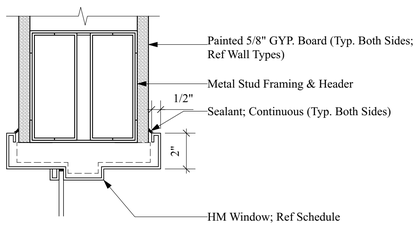
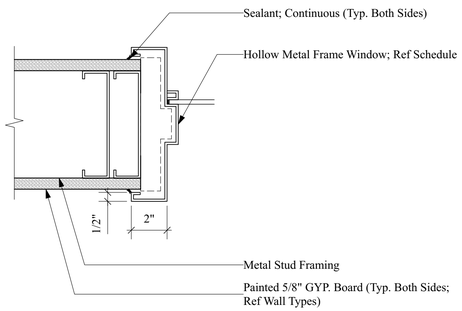
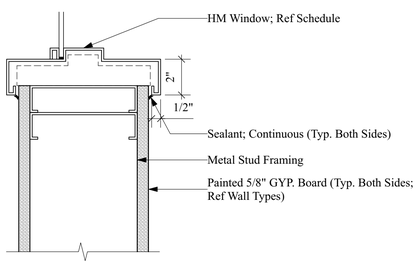
DWG.	A-6.0



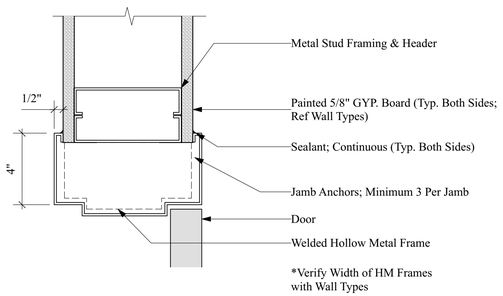
1 A-7.0 Interior HM Head Detail (Window)
3" = 1'-0"



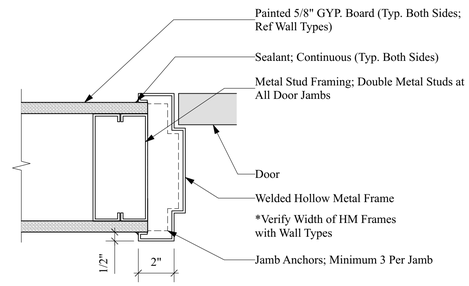
2 A-7.0 Interior HM Jamb Detail (Window)
3" = 1'-0"



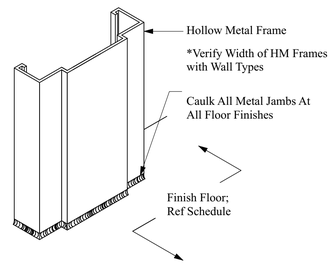
3 A-7.0 Interior HM Sill Detail (Window)
3" = 1'-0"



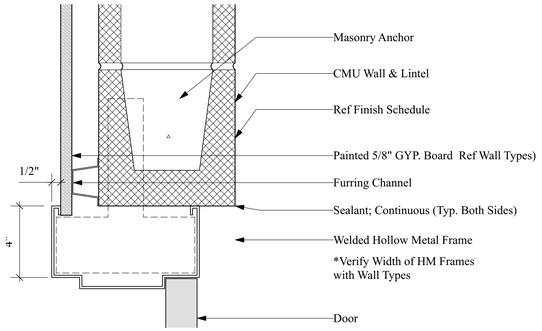
4 A-7.0 Interior HM in Stud Head Detail (Door)
3" = 1'-0"



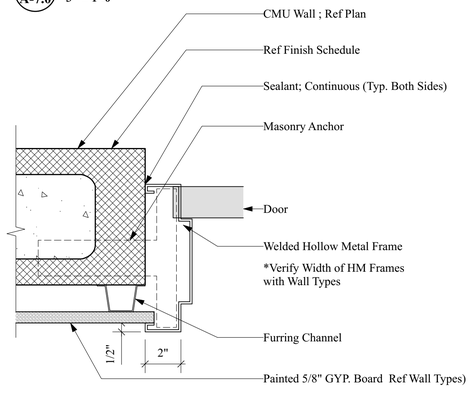
5 A-7.0 Interior HM in Stud Jamb Detail (Door)
3" = 1'-0"



6 A-7.0 Interior HM in Stud Sill Detail (Door)
3" = 1'-0"



7 A-7.0 Interior HM in Block Head Detail (Door)
3" = 1'-0"



8 A-7.0 Interior HM in Block Jamb Detail (Door)
3" = 1'-0"

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A.B. Davis 26269
08/02/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APP'D	APPROVED BY:

HJS DETAILS

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WASTEWATER TREATMENT FACILITY

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DWG.	A-7.0

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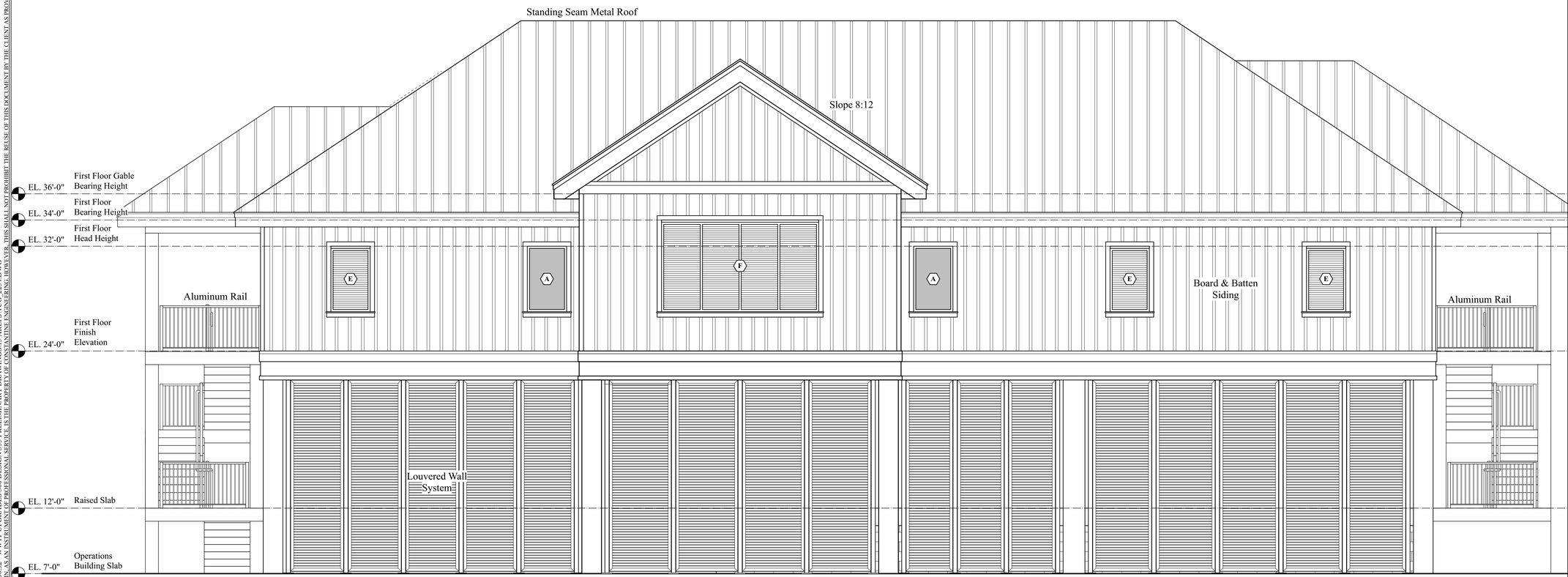

Basis of Design: ***LOUVERED WALL SYSTEM***
Atlas Industrial Horizontal Louvers; Provide and Install system Per Manufacturer Instruction

1 / A-8.0 East Elevation (Facing Street)
1/4" = 1'-0"

0 2 4 8 16Ft

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A.B. Davis 3269
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BUILDING ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	A-8.0

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Basis of Design: ***LOUVERED WALL SYSTEM***
Atlas Industrial Horizontal Louvers; Provide and Install system Per Manufacturer Instruction

1 / A-9.0 **West Elevation (Facing Basins)**
1/4" = 1'-0"

0 2 4 8 16Ft

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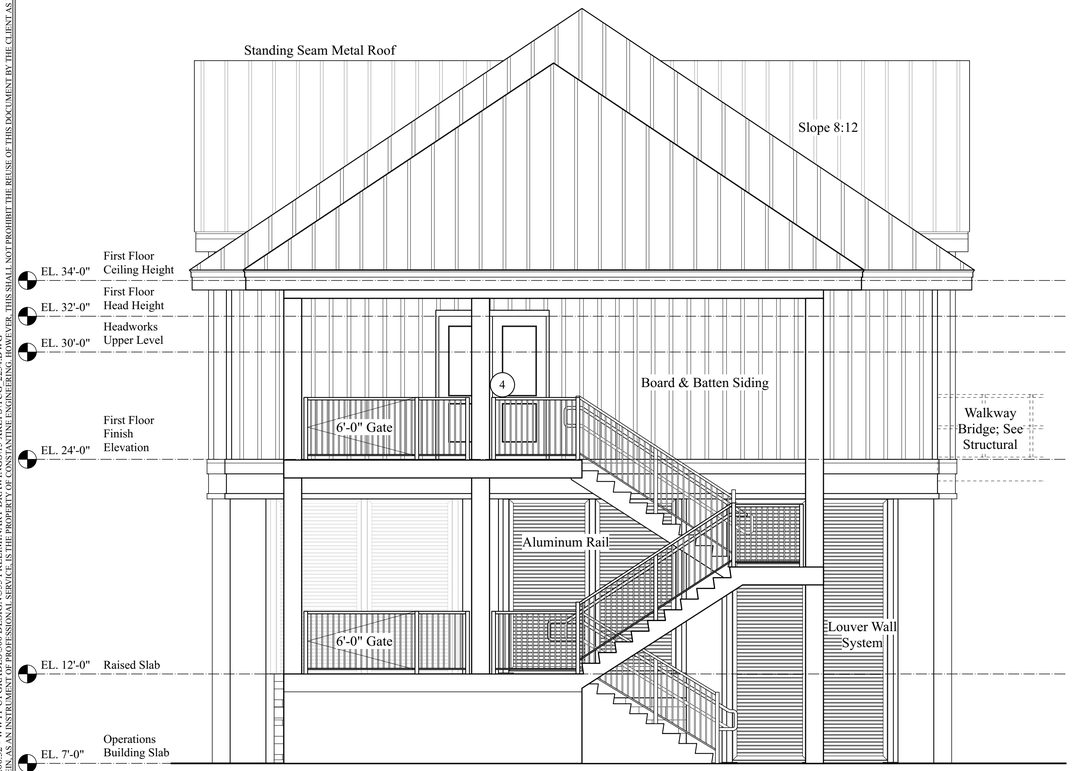
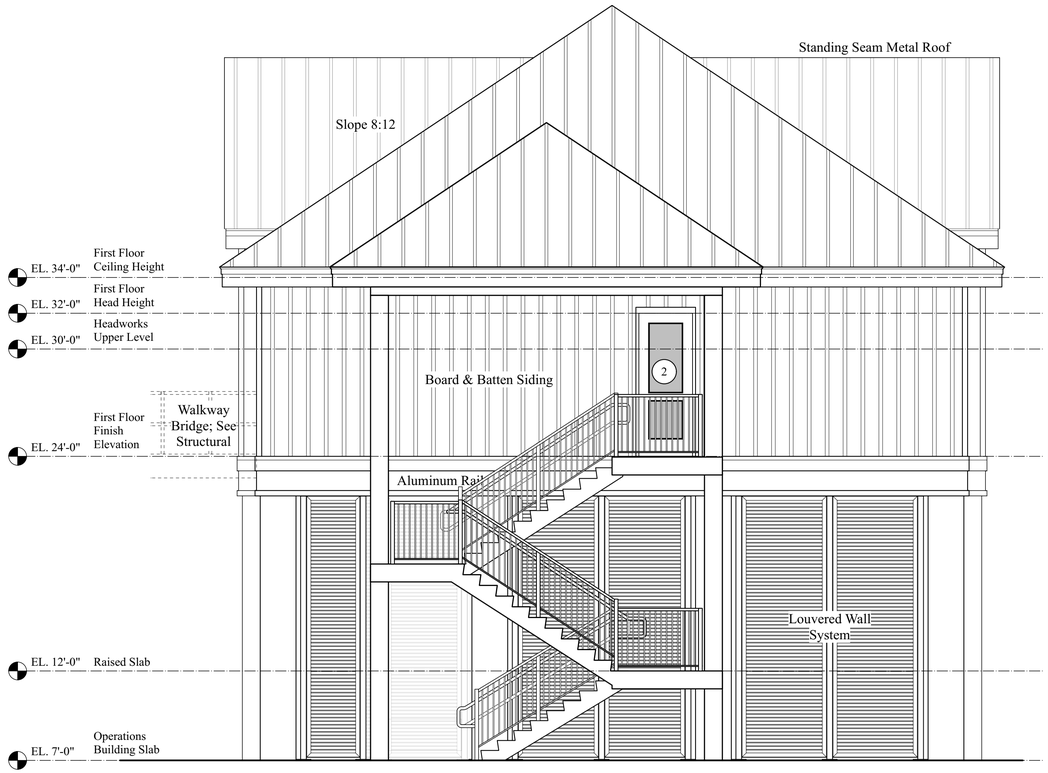


Basis of Design: ***LOUVERED WALL SYSTEM***
Atlas Industrial Horizontal Louvers; Provide and Install system Per Manufacturer Instruction

1 North Elevation (Facing Bridge)
A-10.0 — 1/4" = 1'-0"



Basis of Design: ***LOUVERED WALL SYSTEM***
Atlas Industrial Horizontal Louvers; Provide and Install system Per Manufacturer Instruction

2 South Elevation
A-10.0 — 1/4" = 1'-0"

0 2 4 8 16Ft

RELEASED FOR BID

WALCOTT
ADAMS
VERNEUILLE
ARCHITECTS

1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA
REGISTERED ARCHITECTS
C.A. Walcott 3269
M.C. Adams 10979
A.B. Davis 3269
08/02/2024

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY:
			APPROVED BY:

BUILDING ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256) 203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING
	0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	A-10.0

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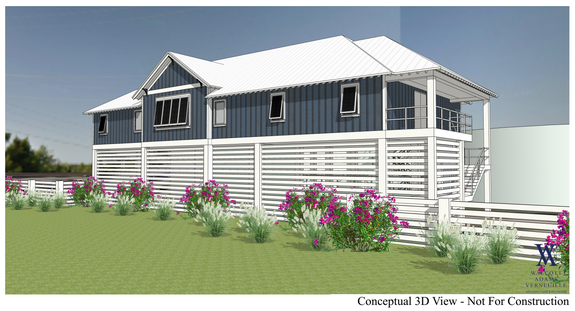
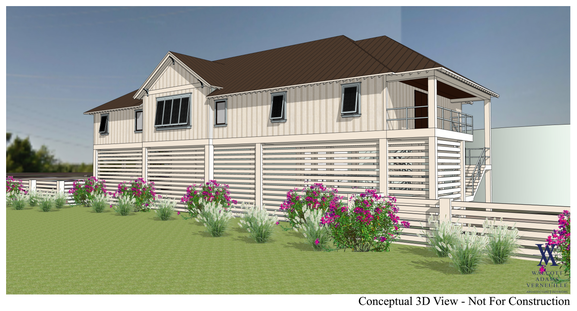
Conceptual 3D View - Not For Construction

1 A-11.0 **Conceptual 3D View**
NTS



Conceptual 3D View - Not For Construction



Conceptual 3D View - Not For Construction

RELEASED FOR BID

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R.D. Adams 3344
V.C. Verneuille 3269
R.P. Baker 3327
A.B. Davis 3269
08/02/2024

NO	DATE	REVISION	BY	APVD
DESIGNED BY:		DRAWN BY:	CHECKED BY:	APPROVED BY:

3D VIEWS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256) 203-9501

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DWG.	A-11.0

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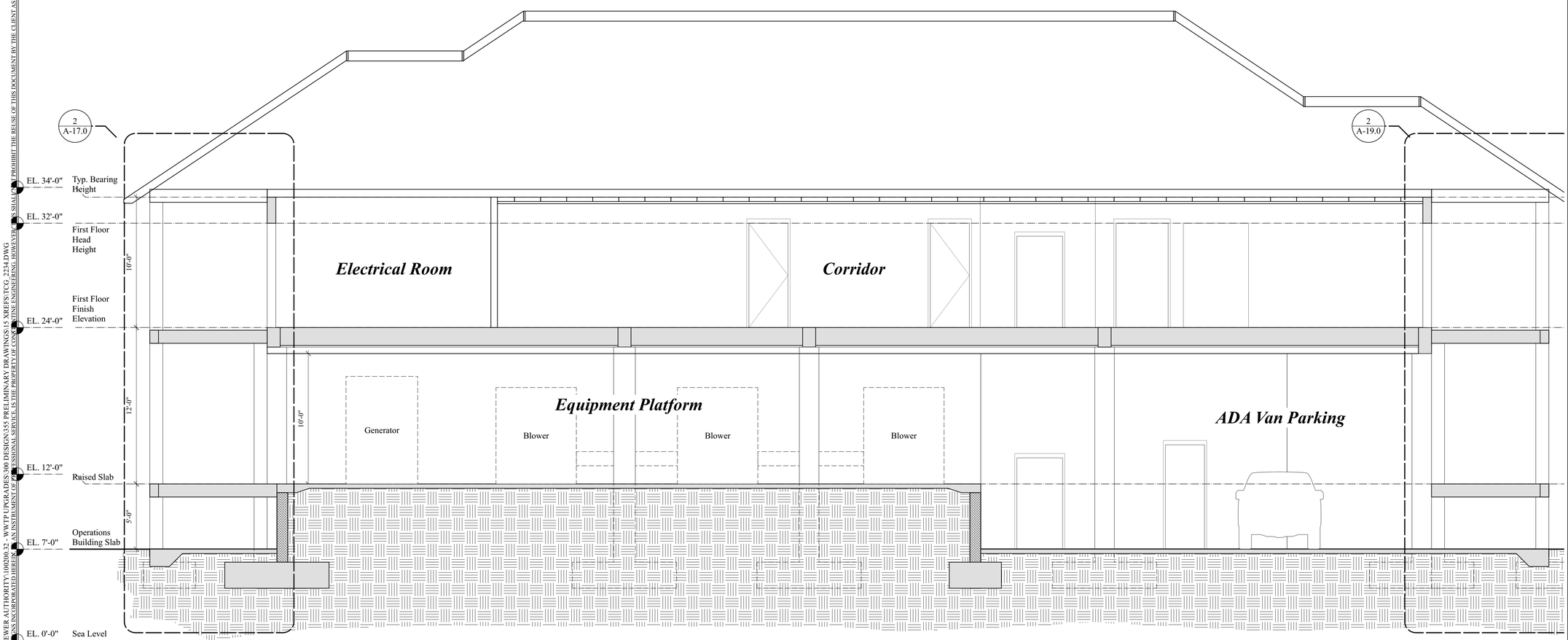

1 A-12.0 **Building Section**
1/4" = 1'-0"

RELEASED FOR BID

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ARCHITECTS

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(251) 928-6041

STATE OF ALABAMA
REGISTERED ARCHITECTS
C.M. Walcott Jr. #10327
Jeff Adams #10278
Adam H. Verneuille #33455
Ryan Baker #33327
A.B. Davis #10269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPROVED BY:	APVD

BUILDING SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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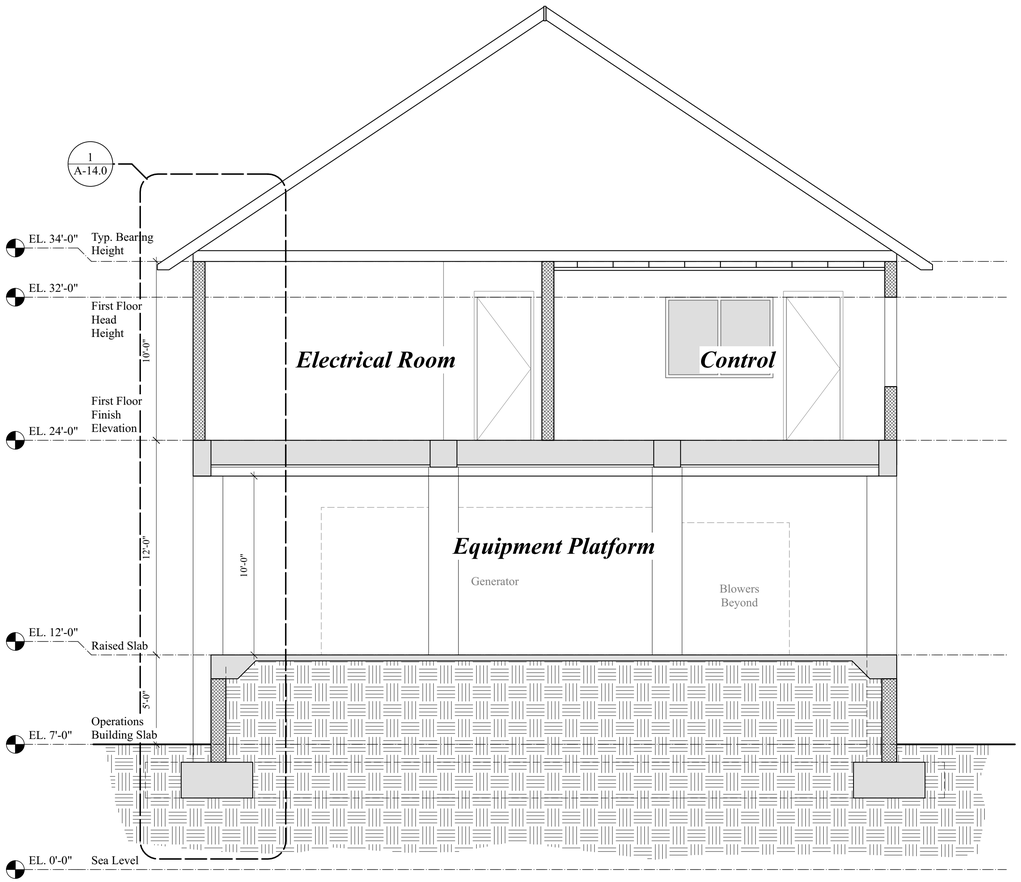
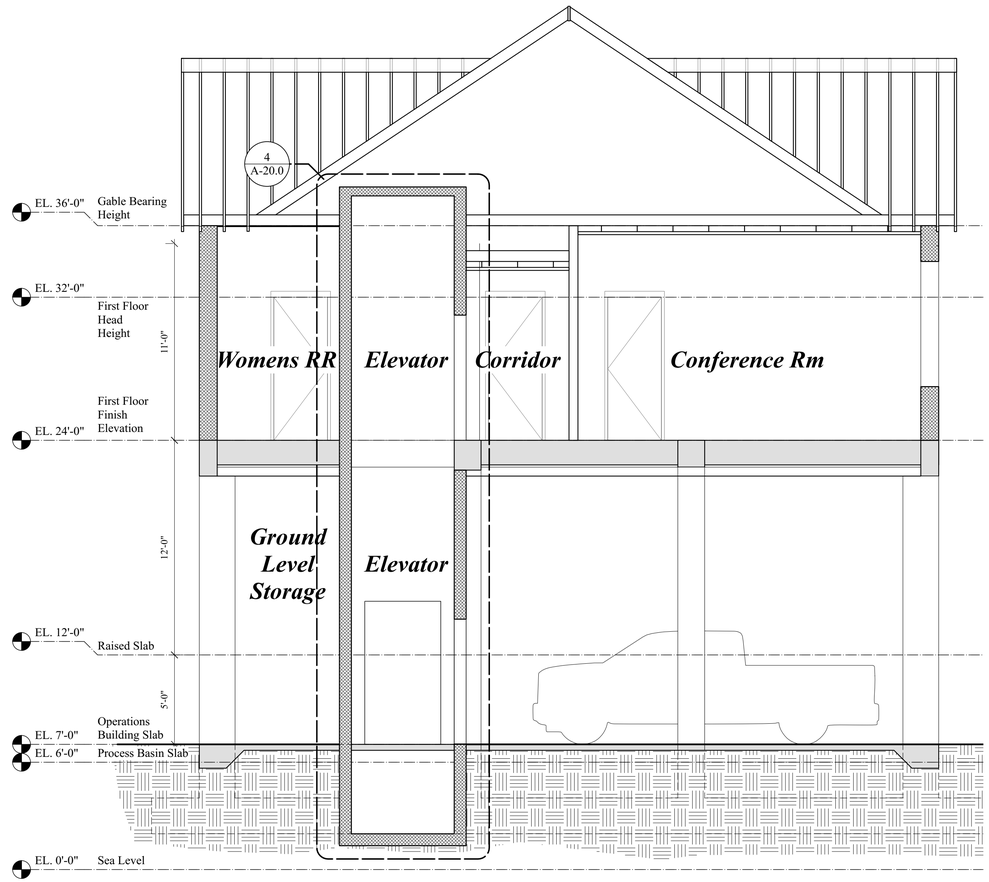


1 A-13.0 **Building Section**
1/4" = 1'-0"



2 A-13.0 **Building Section**
1/4" = 1'-0"

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ARCHITECTS

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(251) 928-6041

STATE OF ALABAMA REGISTERED ARCHITECTS
C.M. Walcott 3327
M.F. Verneuille 3279
A.B. Davis 3269
08/02/2024

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY:

APVD
APPROVED BY:

BUILDING SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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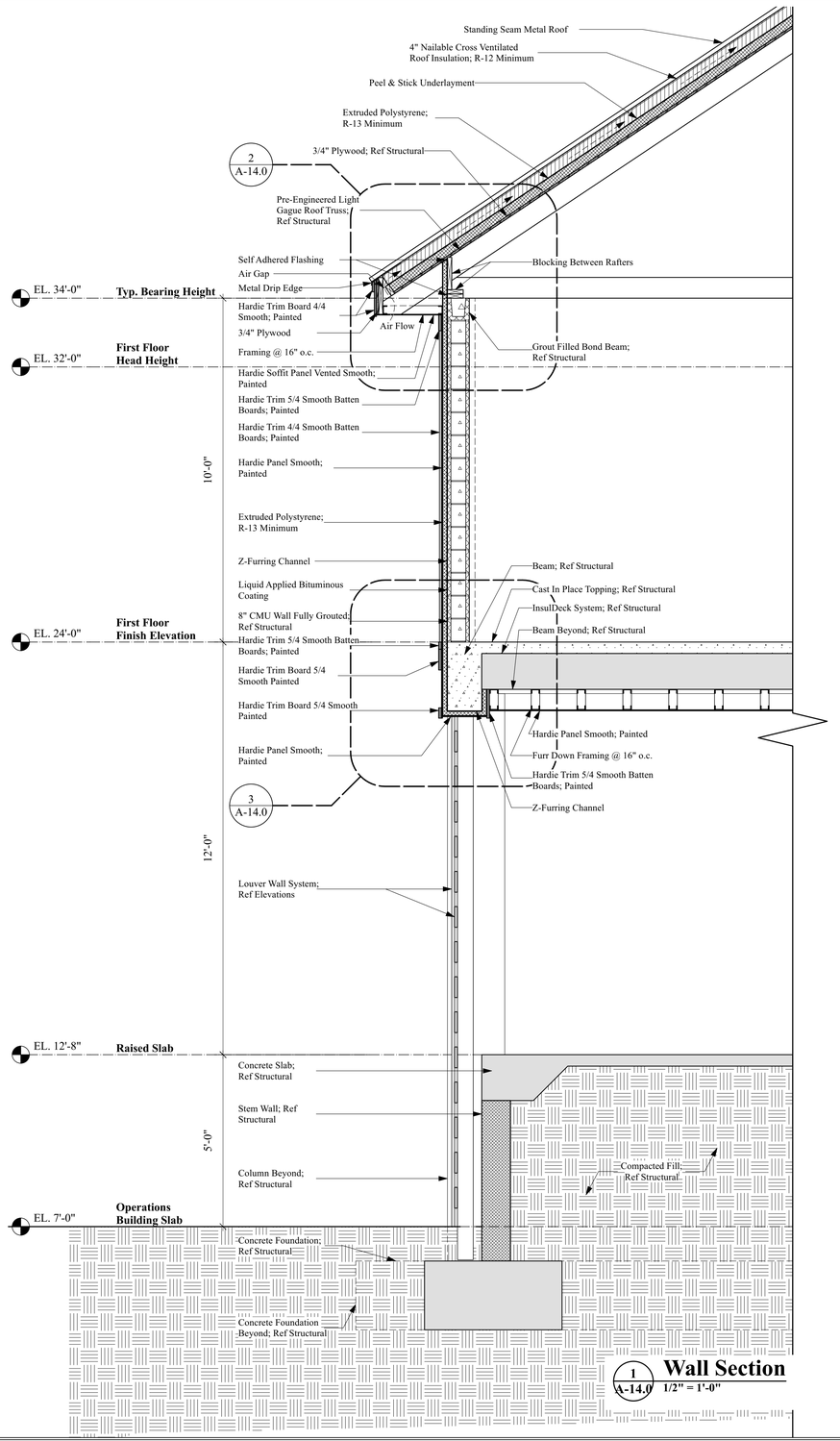
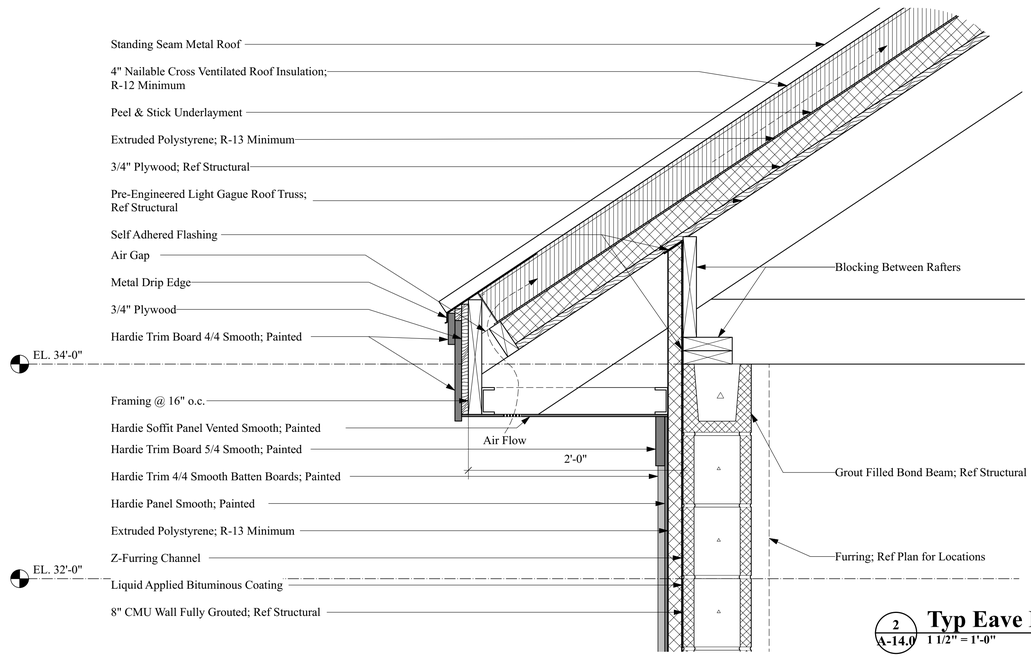
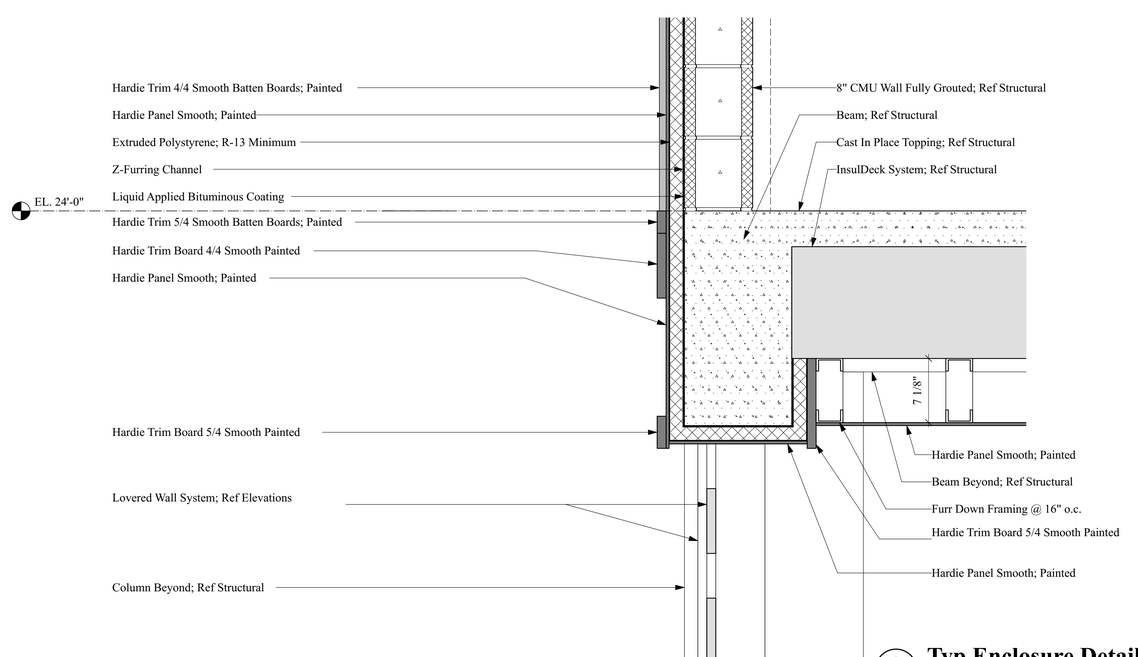


1 A-14.0 Wall Section 1/2" = 1'-0"



2 A-14.0 Typ Eave Detail 1 1/2" = 1'-0"



3 A-14.0 Typ Enclosure Detail 1 1/2" = 1'-0"

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WALCOTT ADAMS VERNEUILLE
ARCHITECTS
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FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA REGISTERED ARCHITECTS
C.A. Walcott 3269
M.C. Verneuille 3270
J.A. Adams III 3342
V.C. Verneuille 3268
R.P. Baker 33327
A.B. Davis 33269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPVD
							APPROVED BY:

WALL SECTION & DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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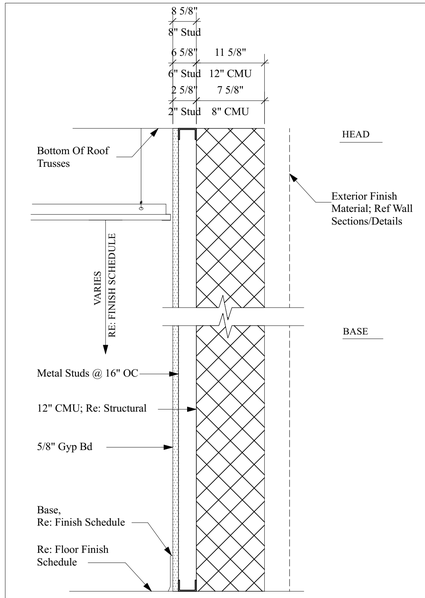
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	A-14.0



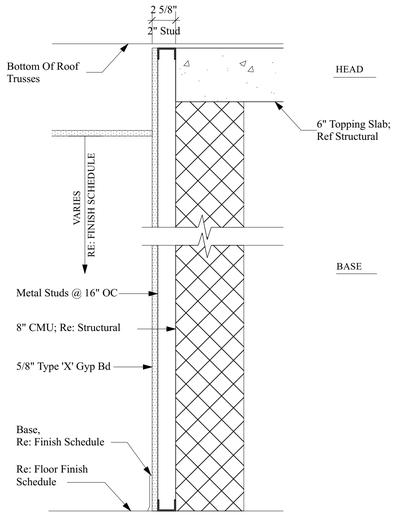
A — **12" CMU WALL WITH METAL STUDS & GYP BD INT**
2" METAL STUDS @ 16" OC (NO RATING)

A1 — **12" CMU WALL WITH METAL STUDS & GYP BD INT**
6" METAL STUDS @ 16" OC (NO RATING)

A2 — **8" CMU WALL WITH METAL STUDS & GYP BD INT**
2" METAL STUDS @ 16" OC (NO RATING)

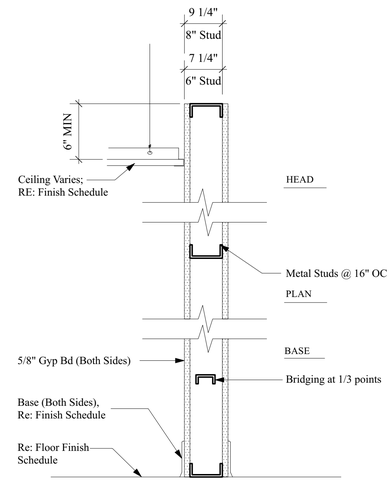
A3 — **8" CMU WALL WITH METAL STUDS & GYP BD INT**
8" METAL STUDS @ 16" OC (NO RATING)

A4 — **8" CMU WALL - NO METAL STUDS OR GYP BD INT**



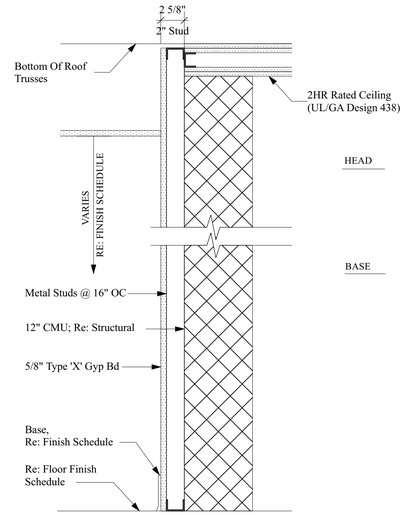
B — **8" CMU WALL WITH METAL STUDS & GYP BD INT**
1HR RATING - 2" METAL STUDS @ 16" OC

B1 — **8" CMU WALL - NO METAL STUDS OR GYP BD INT**
1HR RATING



C — **DRYWALL**
(6" STUDS) NO RATING

C1 — **DRYWALL**
(8" STUDS) NO RATING



D — **12" CMU WALL WITH METAL STUDS & GYP BD INT**
2HR RATING - 2" METAL STUDS @ 16" OC

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WALCOTT ADAMS VERNEUILLE
ARCHITECTS
1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA REGISTERED ARCHITECTS
C.M. Jacobs 3278
C.J. Verneuille 3278
Adam H. Walcott 33427
Verneuille 3278
Ryan Baker 33327
A.B. Davis 33269
08/02/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPROVED BY:	APP'D

WALL TYPES

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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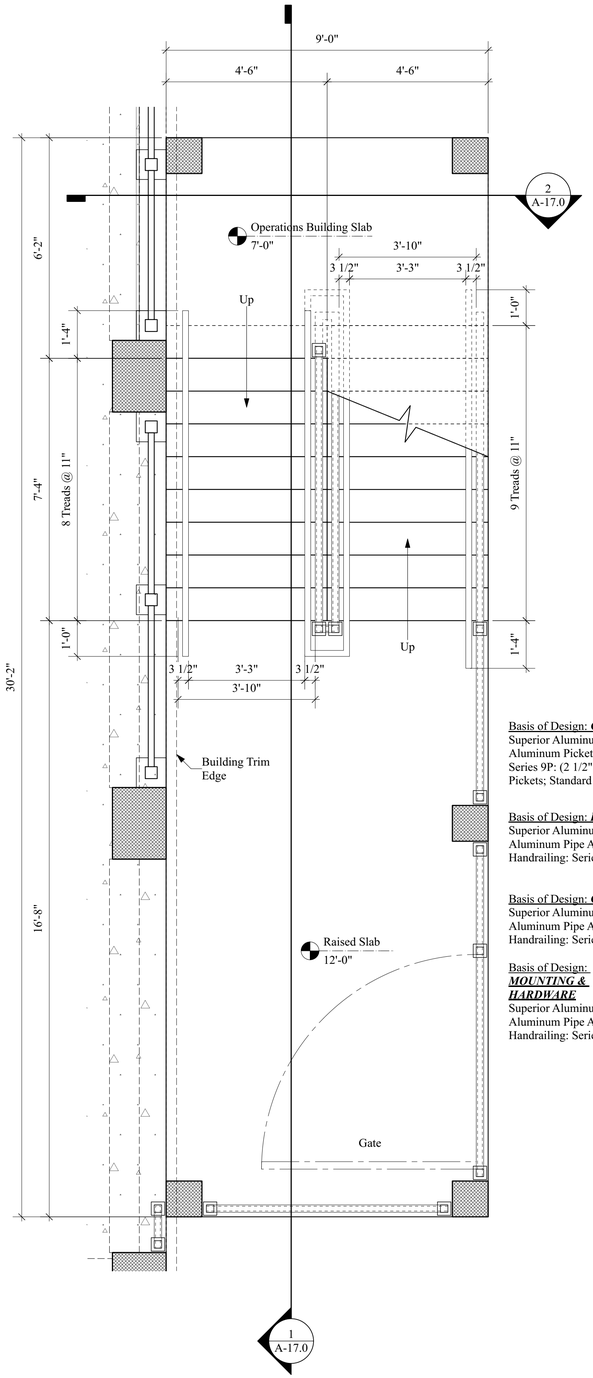
DWG.	A-15.0



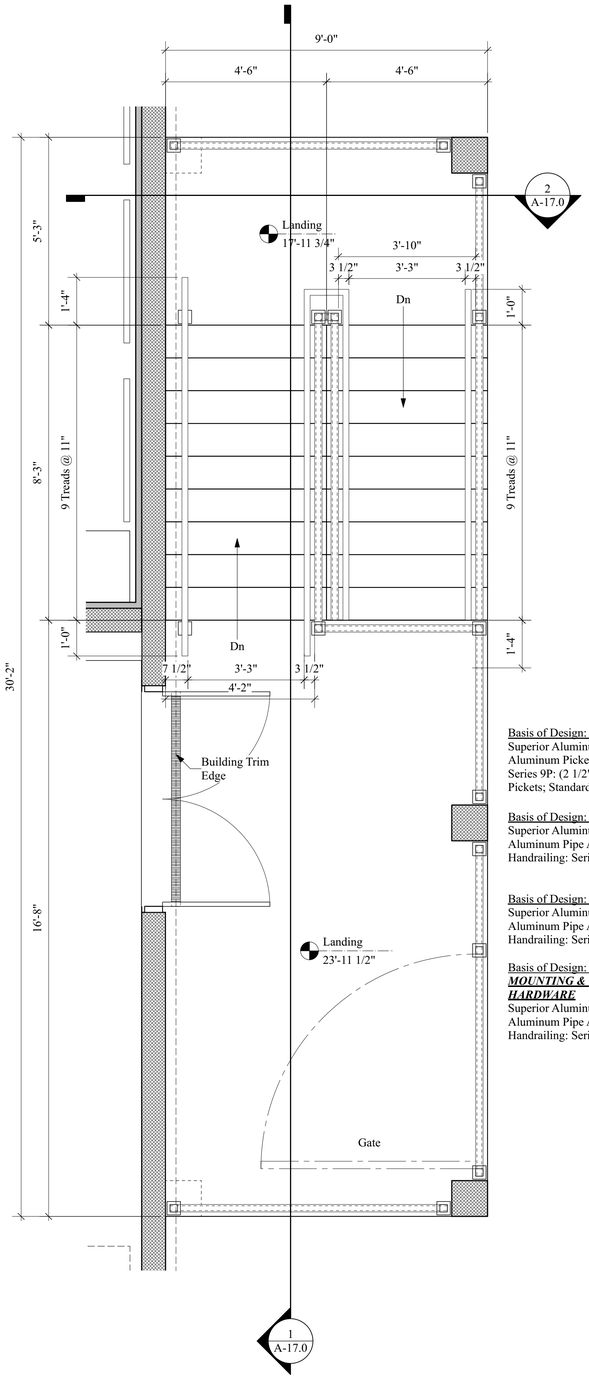
Basis of Design: ***GUARDS***
Superior Aluminum Products-
Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Basis of Design: ***GATE***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Basis of Design:
MOUNTING & HARDWARE
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

1 North Stair - Ground Floor
1/2" = 1'-0"



Basis of Design: ***GUARDS***
Superior Aluminum Products-
Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Basis of Design: ***GATE***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Basis of Design:
MOUNTING & HARDWARE
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

2 North Stair - First Floor
1/2" = 1'-0"

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(251) 928-6041

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Adam H. Walcott 33437
Verneuille 3268
Ray Baker 33327
A.B. Davis 33269
08/02/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APP'D
							APPROVED BY:

STAIR DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
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Basis of Design: ***TRENCH DRAIN***
Infinity Drain S-AS 6572 Complete Kit Stainless Steel Site Sizable Series; Satin Stainless

Trench Drain Infront of Door (Ref. HJS Details)

Basis of Design: ***GUARDS***
Superior Aluminum Products-Aluminum Picket Railing: Series 9P: (2 1/2" Posts; 3/4" Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

Provide and Install Guards; Rails and Gates Per Manufacturer Instruction

Basis of Design: ***GATE***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

Basis of Design: ***MOUNTING & HARDWARE***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

EL. 23'-11 1/2" Landing

Ref. Structural for Stair & Landing Structural Details

Set-In-Concrete Wooster Multi-Strip Grit Non Slip Strip (Typ)

EL. 17'-11 3/4" Landing

EL. 12'-0" Raised Slab

EL. 7'-0" Operations Building Slab

10 Risers @ +/- 7 1/8"
9 Risers @ +/- 6 11/16"
5'-11 3/4"
5'-0"
3'-0"
1'-4"

1 North Stair Section
A-17.0 — 1/2" = 1'-0"

Basis of Design: ***GUARDS***
Superior Aluminum Products-Aluminum Picket Railing: Series 9P: (2 1/2" Posts; 3/4" Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

Basis of Design: ***GATE***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

Basis of Design: ***MOUNTING & HARDWARE***
Superior Aluminum Products-Aluminum Pipe Assist Handrailing: Series 5A

Provide and Install Guards; Rails and Gates Per Manufacturer Instruction

3" (Typ.)
3'-6"

EL. 23'-11 1/2" Landing

EL. 17'-11 3/4" Landing

EL. 12'-0" Raised Slab

EL. 7'-0" Operations Building Slab

10 Treads @ +/- 7 1/8"
9 Risers @ +/- 6 11/16"
5'-11 3/4"
5'-0"
3'-0"
3'-6"

2 North Stair Section
A-17.0 — 1/2" = 1'-0"

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WALCOTT ADAMS VERNEUILLE
ARCHITECTS
1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA — REGISTERED ARCHITECTS
C.A. Walcott 3327
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A.B. Adams 3342
V.C. Verneuille 3268
R.H. Baker 3327
A.B. Davis 3269
08/02/2024

NO	DATE	REVISION	BY	APVD
	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:

STAIR DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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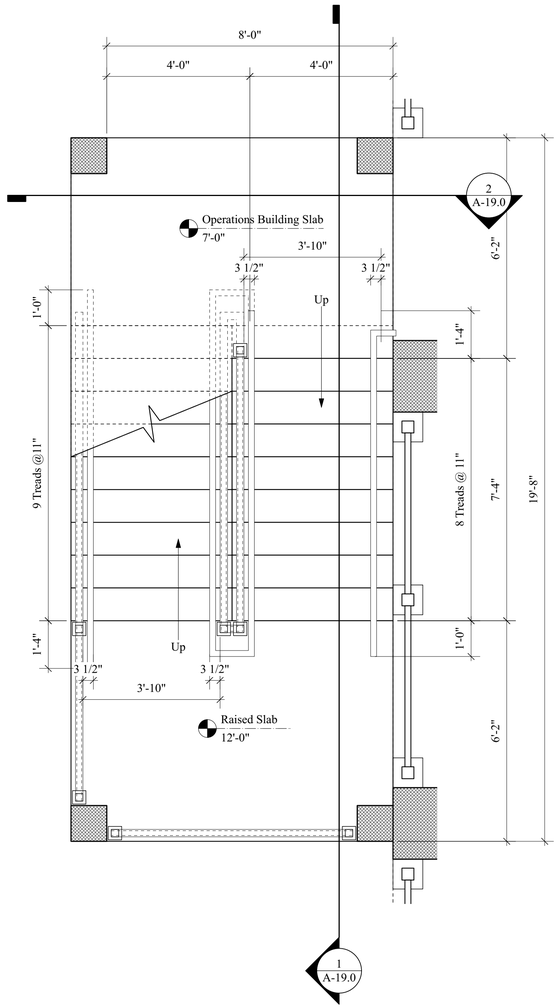
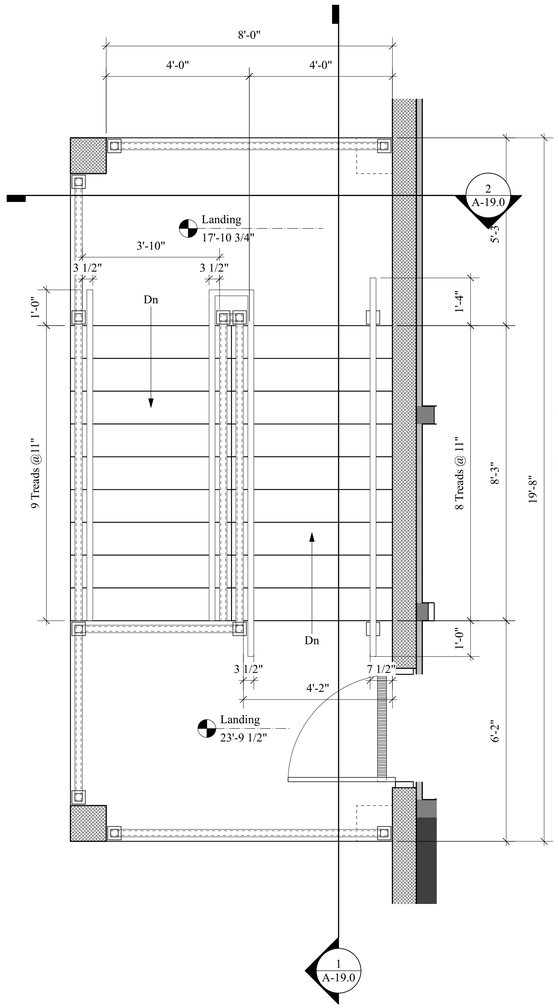


Basis of Design: ***GUARDS***
Superior Aluminum Products-
Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Provide and Install Guards;
Rails and Gates Per
Manufacturer Instruction



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Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
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Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Provide and Install Guards;
Rails and Gates Per
Manufacturer Instruction

1 A-18.0 South Stair - Ground Floor
1/2" = 1'-0"

2 A-18.0 South Stair - First Floor
1/2" = 1'-0"

RELEASED FOR BID

WALCOTT
ADAMS
VERNEUILLE
ARCHITECTS

1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA
REGISTERED ARCHITECTS
C.M. Walcott 3269
M.C. Verneuille 10878
Adam H. Walcott 33427
Verneuille 33428
Ryan Baker 35327
A.B. Davis 35269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPVD APPROVED BY:

STAIR DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
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DWG.	A-18.0

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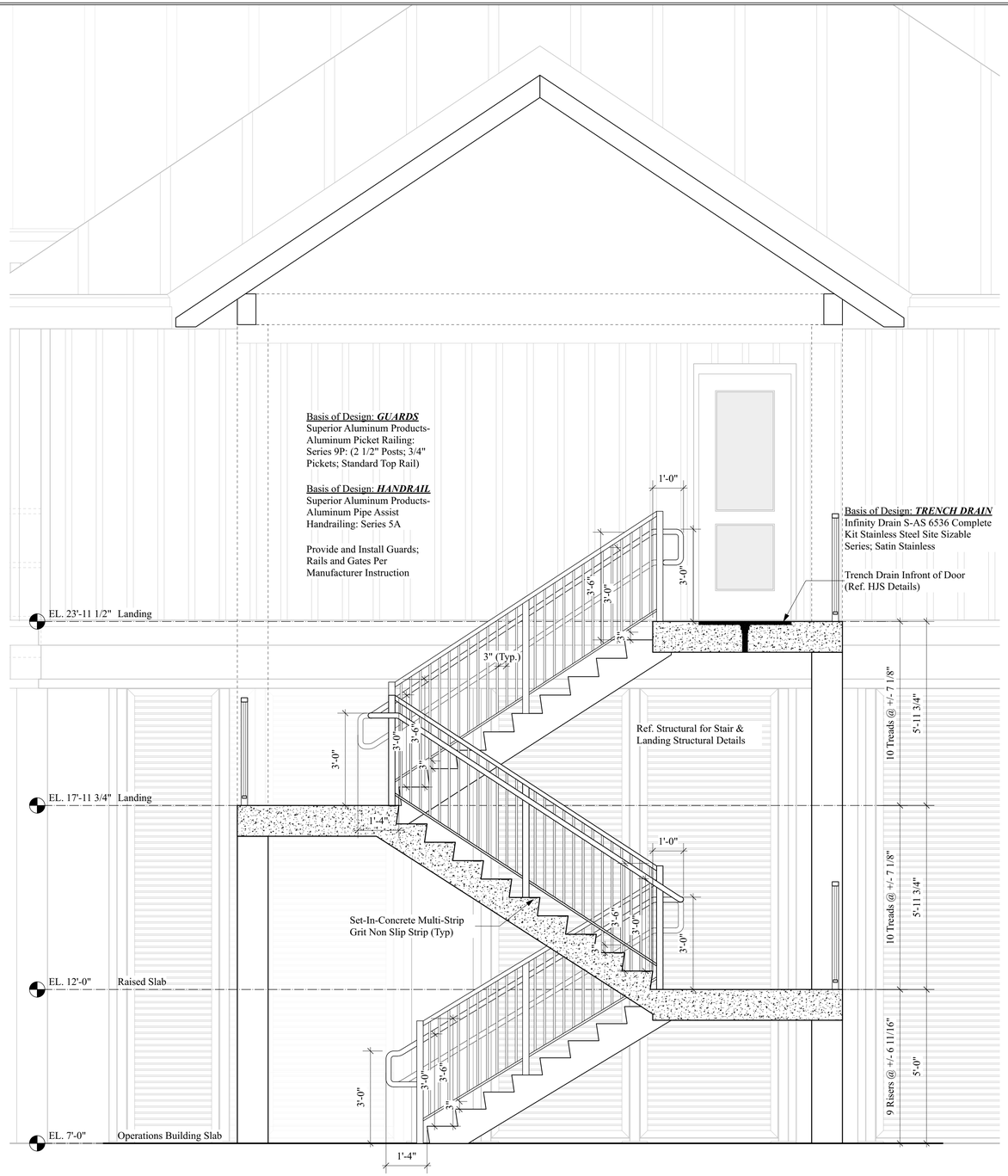
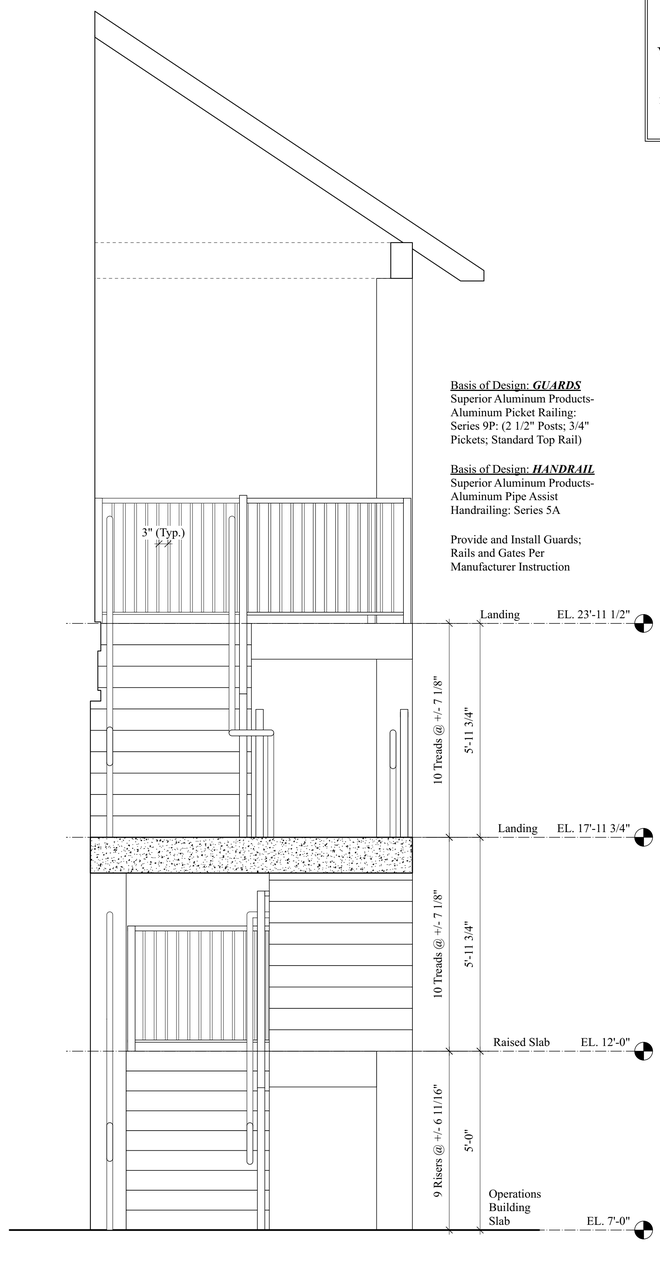


1 A-19.0 **South Stair Section**
1/2" = 1'-0"



2 A-19.0 **South Stair Section**
1/2" = 1'-0"

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WALCOTT
ADAMS
VERNEUILLE
ARCHITECTS
1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA
REGISTERED ARCHITECTS
C.A. Walcott 3327
C.J. Verneuille 3269
A.B. Davis 3327
R.P. Baker 3327
A.B. Davis 3269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPROVED BY:	APVD

STAIR DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
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(256)-203-9501

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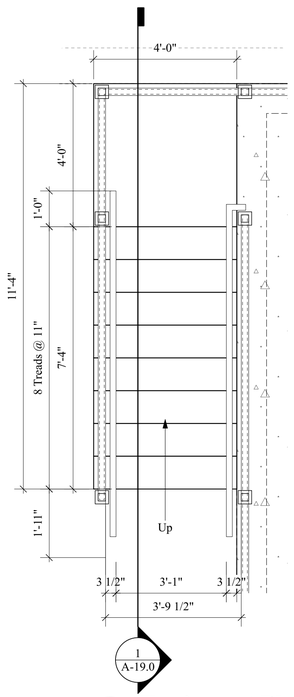
DWG.	A-19.0



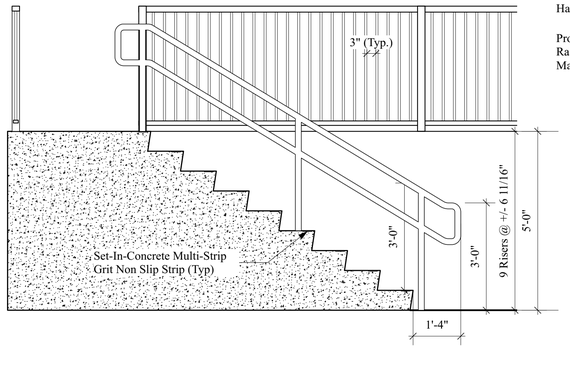
Basis of Design: ***GUARDS***
Superior Aluminum Products-
Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Provide and Install Guards;
Rails and Gates Per
Manufacturer Instruction

1 A-20.0 Equipment Platform Stair - Ground Floor

1/2" = 1'-0"



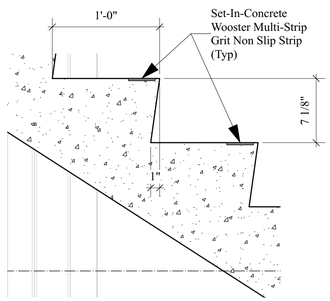
Basis of Design: ***GUARDS***
Superior Aluminum Products-
Aluminum Picket Railing:
Series 9P: (2 1/2" Posts; 3/4"
Pickets; Standard Top Rail)

Basis of Design: ***HANDRAIL***
Superior Aluminum Products-
Aluminum Pipe Assist
Handrailing: Series 5A

Provide and Install Guards;
Rails and Gates Per
Manufacturer Instruction

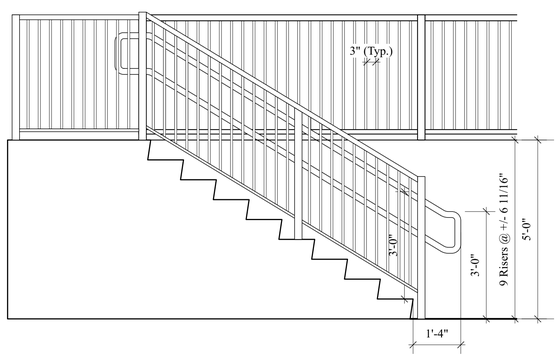
2 A-20.0 Equipment Platform Stair Section

1/2" = 1'-0"



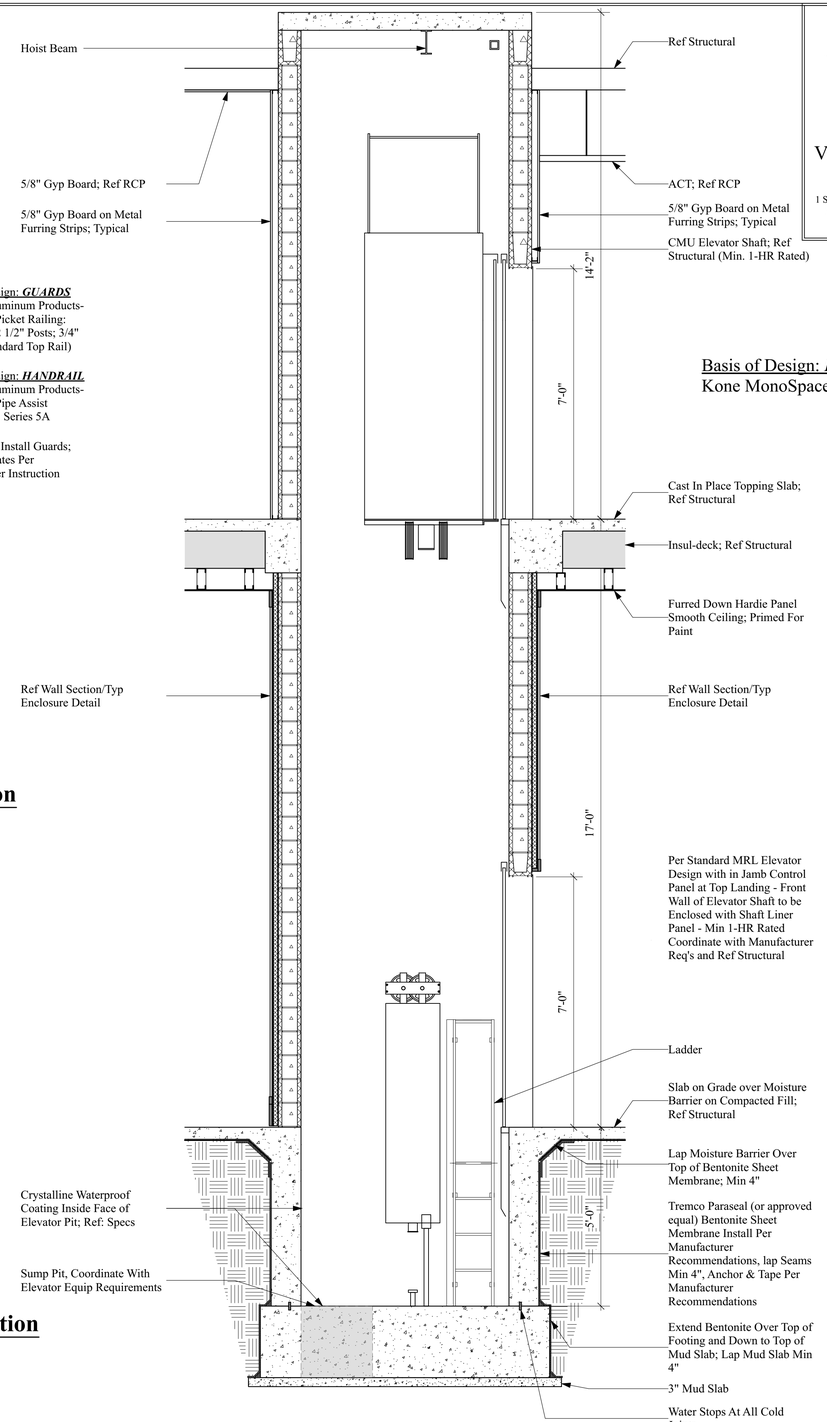
5 A-20.0 Typ. Stair Nosing Detail

1-1/2" = 1'-0"



4 A-20.0 Equipment Platform Stair Elevation

1/2" = 1'-0"



Basis of Design: ***ELEVATOR***
Kone MonoSpace 300 DX

3 A-20.0 Elevator Detail

1/2" = 1'-0"

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WALCOTT
ADAMS
VERNEUILLE
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REGISTERED ARCHITECTS
C.M. Walcott 6279
M.C. Adams 6278
J.V. Verneuille 6280
R.P. Baker 26327
A.B. Davis 26269

08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APVD
							APPROVED BY:

STAIR & ELEVATOR DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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Concrete

	ROOM NAME	FLOOR		BASE		WALL		CEILING		REMARKS
		Material	Finish	Material	Finish	Material	Finish	Material	Finish	
	Restroom	Concrete	Epoxy*	RB		CMU	PT	Concrete	PT	*Slip Resistant
	Elevator	Tile	UPS	-	-	Stainless Steel	Brushed	Stainless Steel	Brushed	
	Corridor	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Office	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Closet	Concrete	Epoxy*	RB		GYP	PT	GYP	PT	*Slip Resistant
	Break	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Conference Room	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Lab	Concrete	Epoxy*	Cove		GYP	PT	ACT		*Slip Resistant
	Control	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Electrical Room	Concrete	Epoxy*	RB		GYP	PT	GYP	PT	*Slip Resistant
	Storage/Map Room	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Mech/Electrical/ JC	Concrete	Epoxy*	RB		GYP	PT	GYP	PT	*Slip Resistant
	Hall	Concrete	Epoxy*	RB		GYP	PT	ACT		*Slip Resistant
	Lockers	Tile	UPS	Tile		Tile/GYP	PS/PT	GYP	PT	
	Shower	Tile	UPS	Tile		Tile/GYP	PS/PT	GYP	PT	
	Men	Tile	UPS	Tile		Tile/GYP	PS/PT	GYP	PT	
	Women	Tile	UPS	Tile		Tile/GYP	PS/PT	GYP	PT	
	Stair	Concrete	Broom Finish	-	-	-	-	-	-	Set-In-Concrete Wooster Multi-Strip Grit Non Slip Strip
	Parking Slab	Concrete	Broom Finish	-	-	-	-	-	-	
	HVAC Platform	Concrete	Broom Finish	-	-	-	-	-	-	

FINISH LEGEND

EPOXY
EP-1 Sherwin Williams Resuflor 3561 - (Color TBD) - Verify Textured Finish with Architect

COVE BASE
CB-1 Sherwin Williams Epoxy Cove Base System - (Color TBD)

RUBBER BASE
RB-1 Tarkett Johnsonite Duracove 6" Thermoplastic Rubber 1/8" Type TP - (Color TBD)
RB-2 Tarkett Johnsonite Duracove 4" Thermoplastic Rubber 1/8" Type TP - (Color TBD)
(At all cabinerty toe kick locations)

TILE (WALL)
TL-1 Daltile; Color Wheel Linear; Glazed Porcelain Matte Chalkboard 0780 4x12

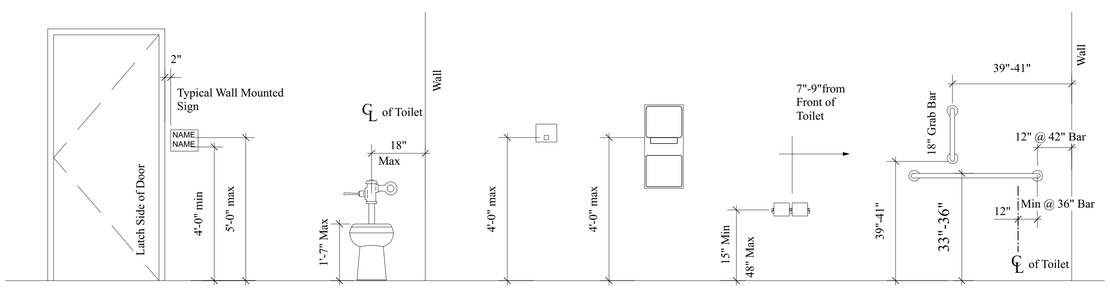
TILE (FLOOR)
TL-2 Crossville; Hand In Glove AV 312 UPS

SOLID SURFACE
SS-1 LG Hausys; Hi-Macs G160 Moondust

EPOXY COUNTERTOP
EC-1 ChemTops; Epoxy Resin Countertops - (Color TBD)

PAINT
PT-1 Sherwin Williams; SW7005 Pure White
PT-2 Sherwin Williams; SW7029 Agreeable Gray
PT-3 Sherwin Williams; SW9136 Lullaby
PT-4 Sherwin Williams; SW7069 Iron Ore

STAIN
ST-1 Minwax Performance Series Tintable Wood Stain - (Color TBD)



RELEASED FOR BID

WALCOTT ADAMS VERNEUILLE
ARCHITECTS
1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA REGISTERED ARCHITECTS
C.A. Verneuille 3269
M.T. Walcott 3078
J. Adams III 33427
V. Verneuille 3269
R.P. Baker 33327
A.B. Davis 3269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPVD
						APPROVED BY:	

FINISH SCHEDULE & LEGEND

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-3501

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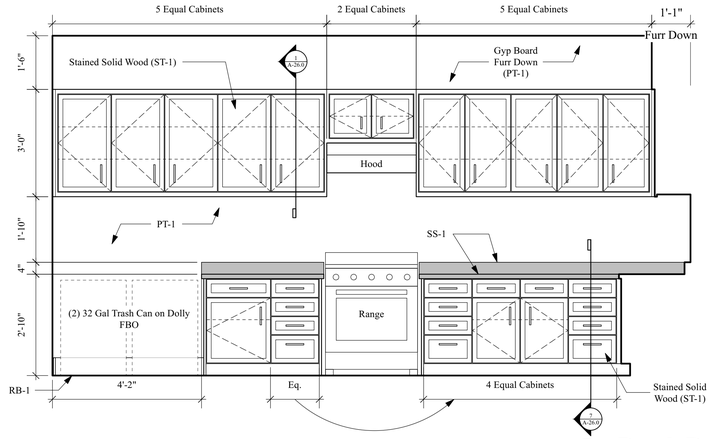
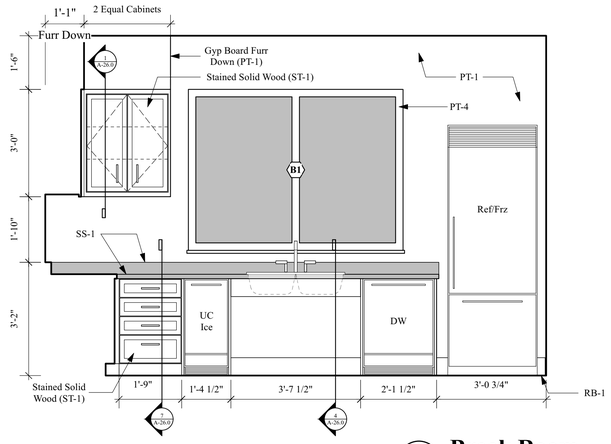
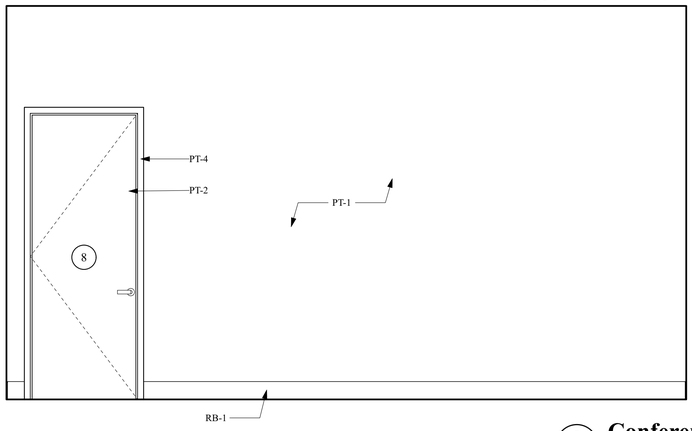
DWG.	A-21.0



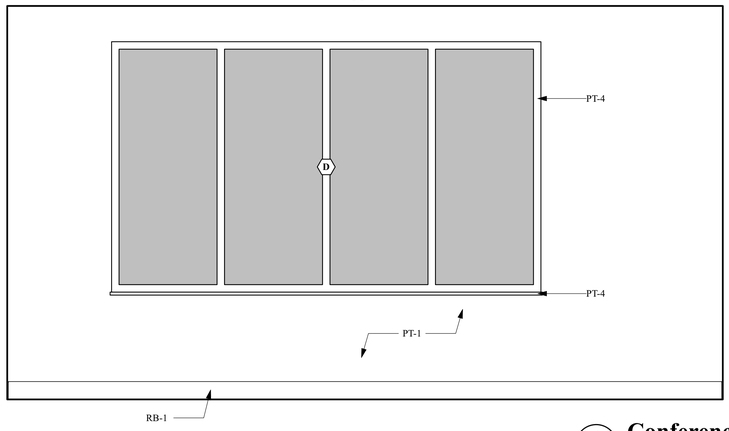
1 A-22.0 **Break Room**
1/2" = 1'-0"



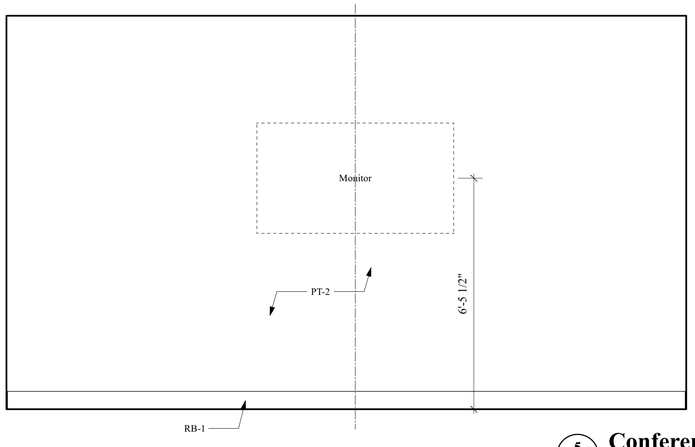
2 A-22.0 **Break Room**
1/2" = 1'-0"



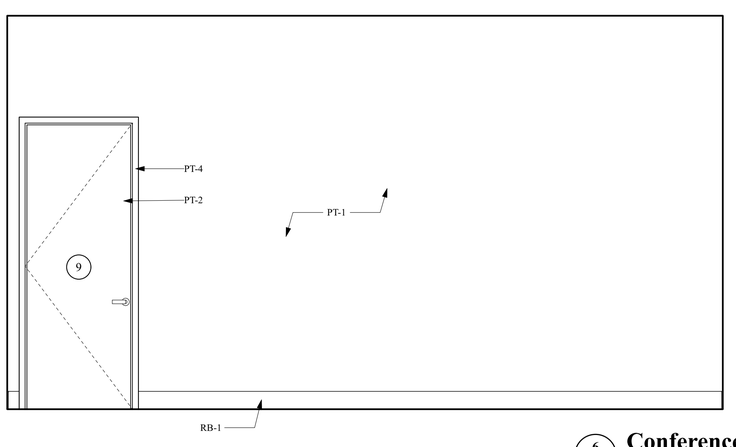
3 A-22.0 **Conference Room**
1/2" = 1'-0"



4 A-22.0 **Conference Room**
1/2" = 1'-0"



5 A-22.0 **Conference Room**
1/2" = 1'-0"



6 A-22.0 **Conference Room**
1/2" = 1'-0"

APPLIANCE LEGEND

Range Hood
Samsung NK30N7000US: 30 Inch Under Cabinet Smart Range Hood

Range
Samsung NE63T8511SS: 30 Inch Slide-In Smart Electric Range

Refrigerator/Freezer
Samsung RF22A4121SR: 30 Inch Smart French Door Refrigerator (ADA Compliant)

Dishwasher
Samsung DW60R2014US: 24 Inch Full Console Dishwasher

Ice Maker
Summit Commercial Series BIM44GCSSADA: 15 Inch Commercial Ice Maker

Washer & Dryer
Samsung SAWADREW60202: Side-by-Side Washer & Dryer Set with Front Load Washer and Electric Dryer in White

RELEASED FOR BID

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ARCHITECTS
1 SOUTH SCHOOL STREET
FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA — REGISTERED ARCHITECTS
C.M. Walcott 3327
C.J. Verneuille 26269
R.P. Baker 33327
A.B. Davis 33269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APPROVED BY:	APP'D

INTERIOR ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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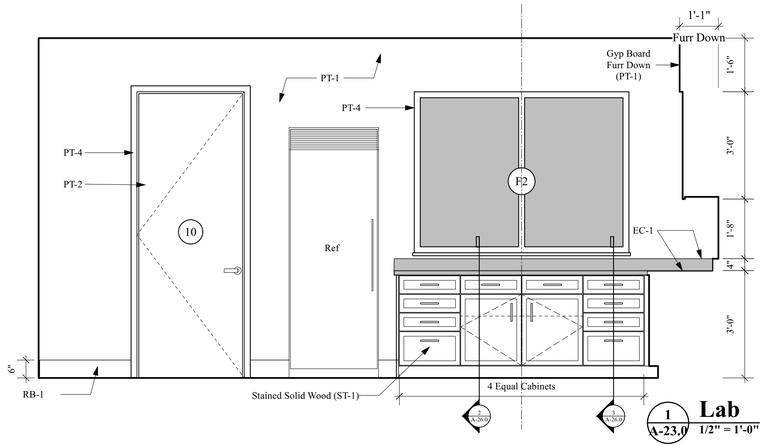
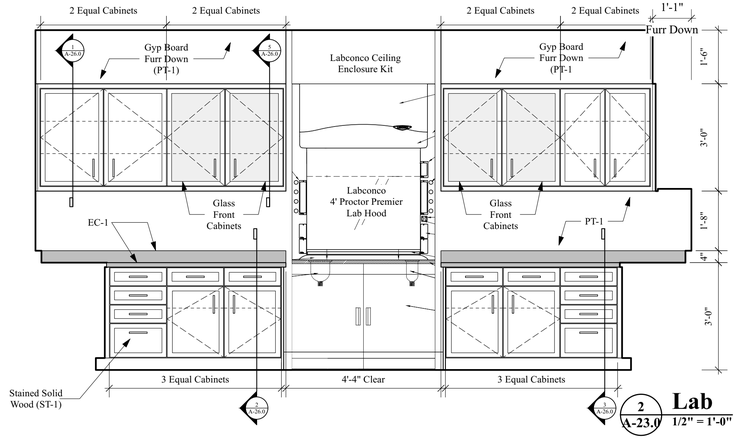
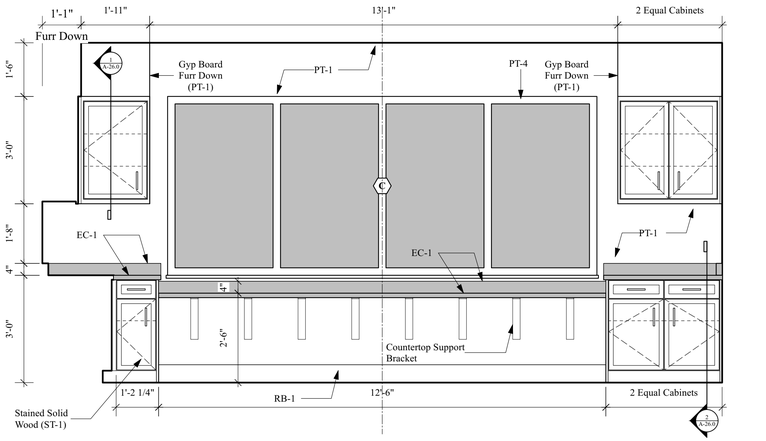


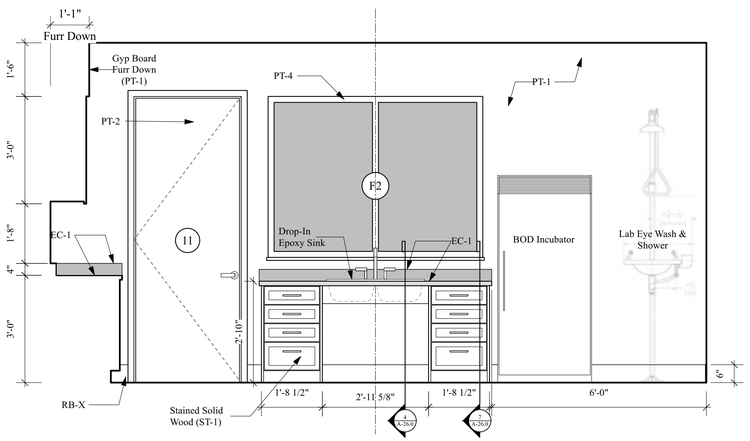
1 **Lab**
A-23.0 1/2" = 1'-0"



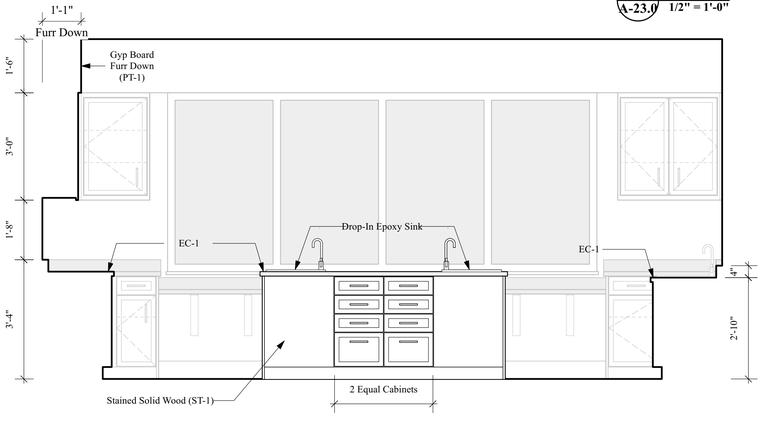
2 **Lab**
A-23.0 1/2" = 1'-0"



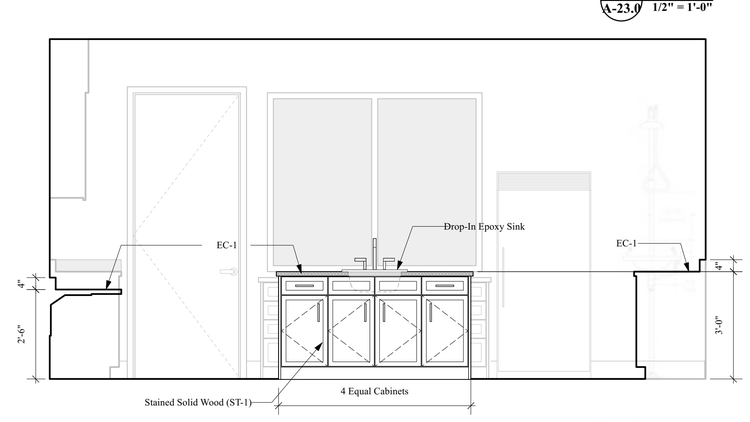
3 **Lab**
A-23.0 1/2" = 1'-0"



4 **Lab**
A-23.0 1/2" = 1'-0"



5 **Lab Island**
A-23.0 1/2" = 1'-0"



6 **Lab Island**
A-23.0 1/2" = 1'-0"

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ADAMS
VERNEUILLE
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STATE OF ALABAMA
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C.M. Walcott 3327
C.J. Adams 10079
M.F. Verneuille 3269
R.B. Baker 3327
A.B. Davis 3269
08/02/2024

NO	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APP'D	APPROVED BY:

INTERIOR ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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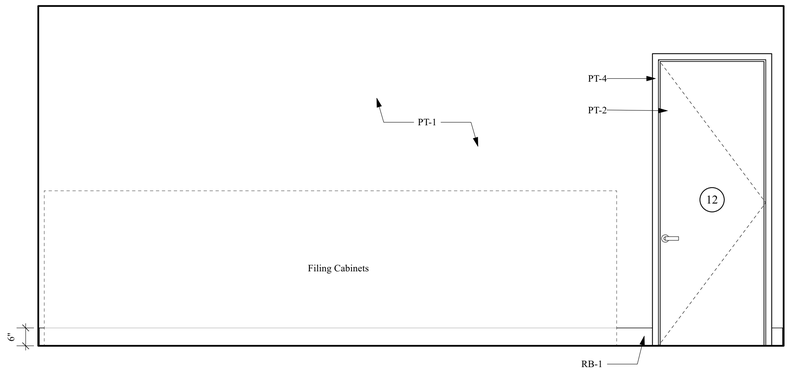
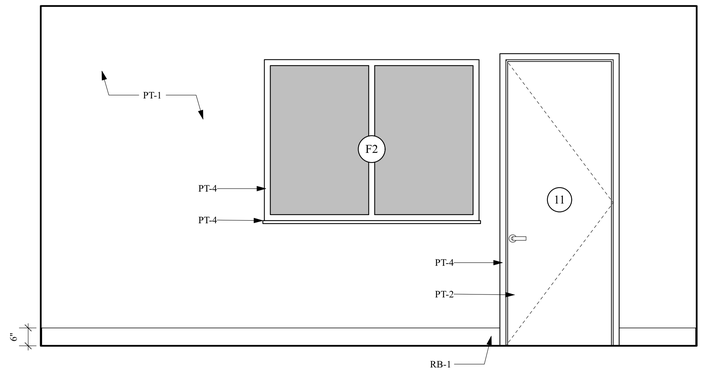
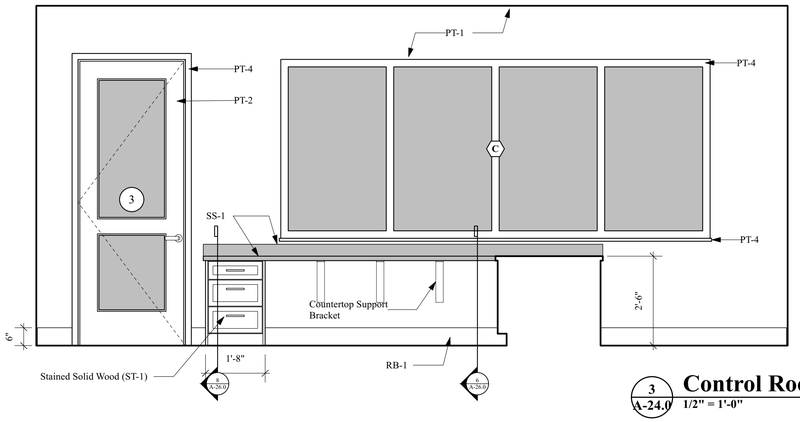


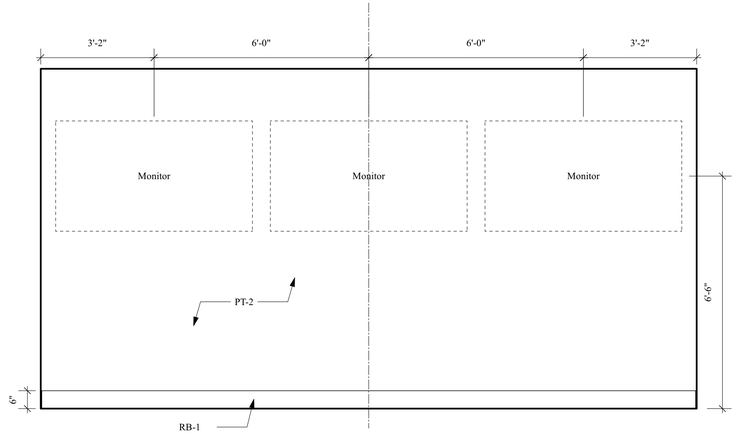
1 A-24.0 **Control Room**
1/2" = 1'-0"



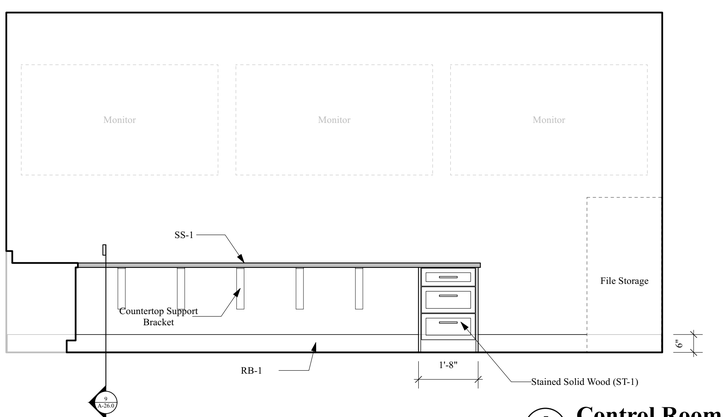
2 A-24.0 **Control Room**
1/2" = 1'-0"



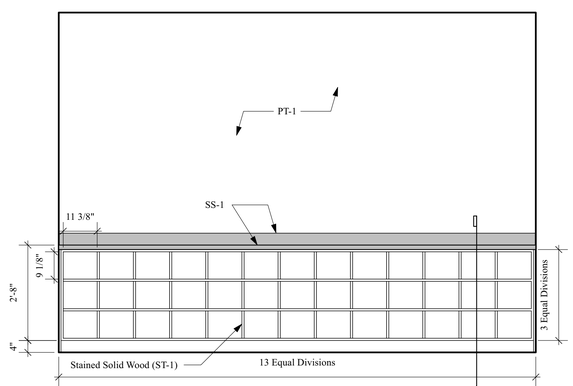
3 A-24.0 **Control Room**
1/2" = 1'-0"



4 A-24.0 **Control Room**
1/2" = 1'-0"



5 A-24.0 **Control Room**
1/2" = 1'-0"



6 A-24.0 **Storage/ Map Room**
1/2" = 1'-0"

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ARCHITECTS
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FAIRHOPE, AL 36532
(251) 928-6041

STATE OF ALABAMA
REGISTERED ARCHITECTS
C.M. Walcott 3269
J.C. Verneuille 3270
A.B. Davis 3344
V.C. Verneuille 3345
R.W. Baker 3327
A.B. Davis 3269
08/02/2024

NO.	DATE	REVISION	BY	APP'D
DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	

INTERIOR ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256) 203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING
	0 — 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	A-24.0

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\15 XREFS\TCG 2324.DWG
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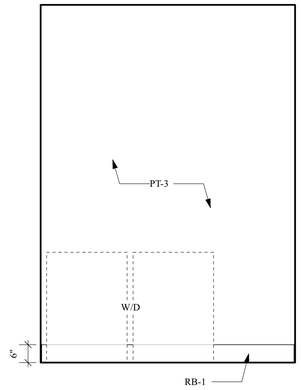
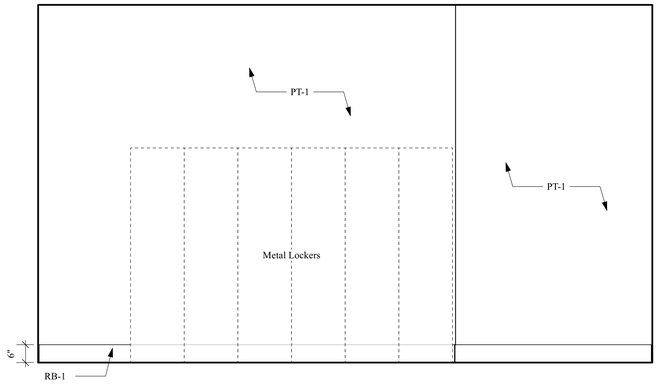
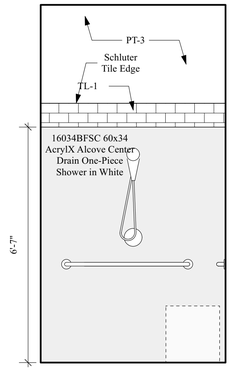


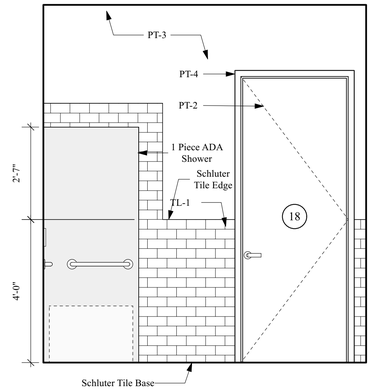
1 A-25.0 **Lockers** 1/2" = 1'-0"



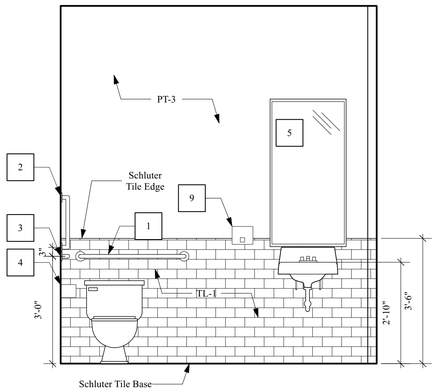
2 A-25.0 **Lockers** 1/2" = 1'-0"



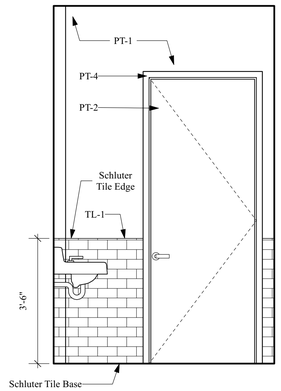
3 A-25.0 **Shower** 1/2" = 1'-0"



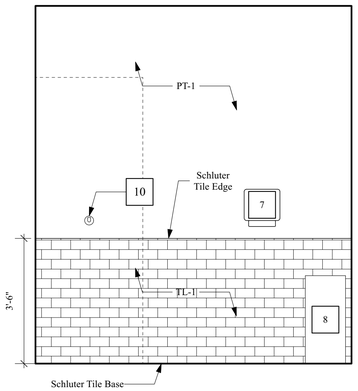
4 A-25.0 **Shower** 1/2" = 1'-0"



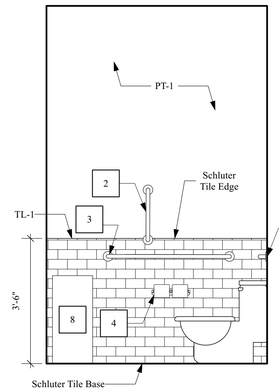
5 A-25.0 **Restroom (Typ)** 1/2" = 1'-0"



6 A-25.0 **Restroom (Typ)** 1/2" = 1'-0"



7 A-25.0 **Restroom (Typ)** 1/2" = 1'-0"

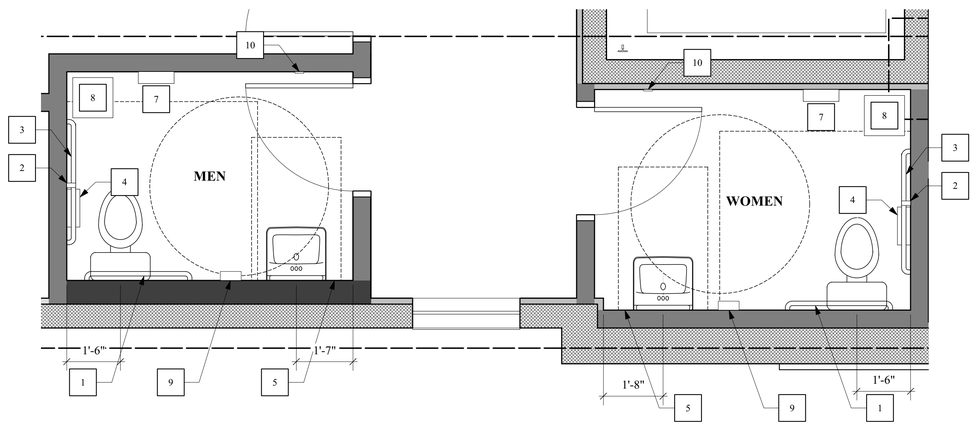


8 A-25.0 **Restroom (Typ)** 1/2" = 1'-0"

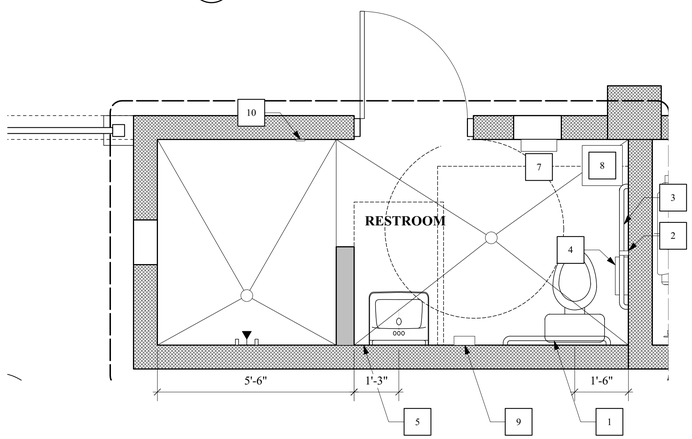
TOILET ACCESSORIES

See Specs
Coordinate with Owner

1	42" 1-1/4" Diameter Stainless Steel Straight Grab Bars; Bobrick B-5806 Satin Finish
2	18" 1-1/4" Diameter Stainless Steel Straight Grab Bars; Bobrick B-5806 Satin Finish
3	36" 1-1/4" Diameter Stainless Steel Straight Grab Bars; Bobrick B-5806 Satin Finish
4	Surface-Mounted Multi-Roll Toilet Tissue Dispenser; Bobrick B-3588
5	Welded-Frame Mirror; Bobrick B-290 2448; Stainless Steel with Satin Finish
6	Not Used
7	Surface Mounted Paper Towel Dispenser with TowelMate; Bobrick B-4262 Stainless Steel Satin Finish
8	ULINE Step-On Stainless Steel Trash Can; Simple Human H-6671 Half Round
9	Surface-Mounted Soap Dispenser; Bobrick B-4112 Stainless Steel
10	Coat Hook; Bobrick B-542 Stainless Steel Satin Finish



9 A-25.0 **First Floor Enlarged Restroom Plan** 1/2" = 1'-0"



10 A-25.0 **Ground Floor Enlarged Restroom Plan** 1/2" = 1'-0"

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Adam H. Walcott 33467
Verneuille 3378
Ron Baker 33327
A.B. Davis 33269
08/02/2024

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						APPROVED BY:
						DESIGNED BY:

INTERIOR ELEVATIONS

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WASTEWATER TREATMENT FACILITY

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DWG.	A-25.0

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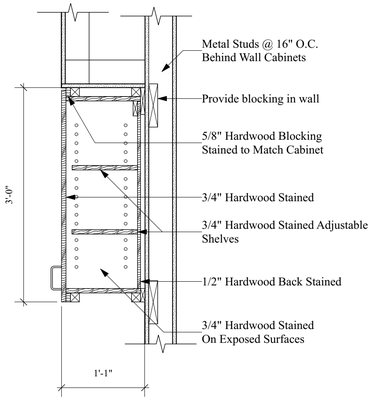
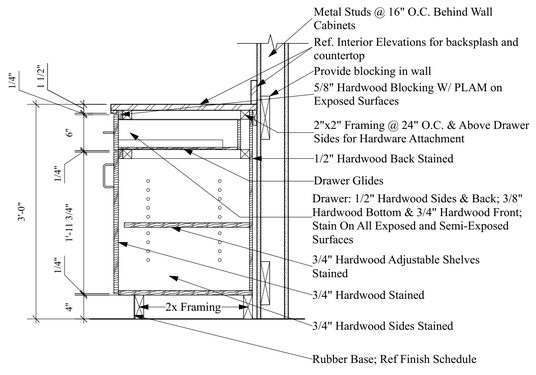
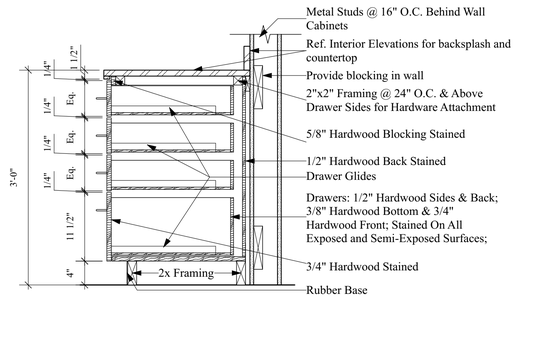


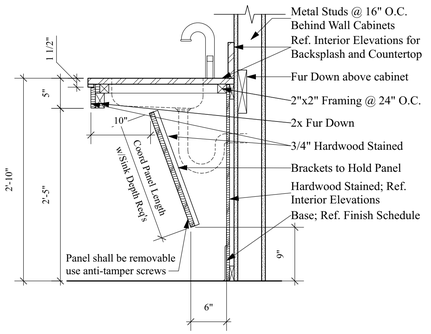
1 A-26.0 Wall Cabinet (Typ.)
1/2" = 1'-0"



2 A-26.0 Base Cabinet w/ Drawer (Typ.)
1/2" = 1'-0"



3 A-26.0 Base Cabinet w/ Drawers Only (Typ.)
1/2" = 1'-0"



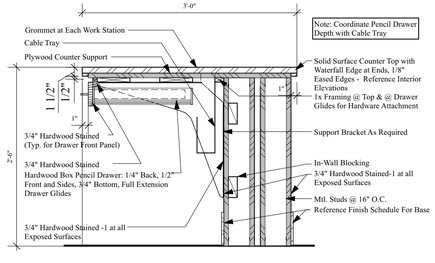
4 A-26.0 ADA Compliant Sink
1/2" = 1'-0"

5 A-26.0 Wall Cabinet w/ Glass Front
1/2" = 1'-0"

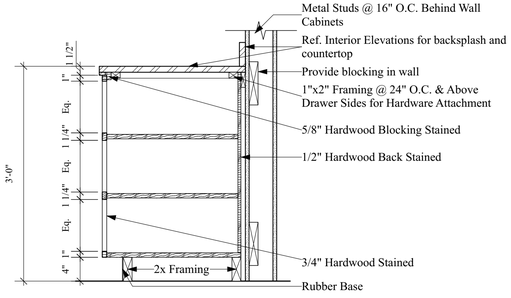
6 A-26.0 Desk Height (Typ.)
1/2" = 1'-0"

7 A-26.0 ADA Base Cabinet w/ Drawers Only
1/2" = 1'-0"

8 A-26.0 Desk Height Base Cabinet w/ Drawers Only
1/2" = 1'-0"



9 A-26.0 Desk Height Free Standing
1/2" = 1'-0"



10 A-26.0 Drawing/Map Storage Compartments
1/2" = 1'-0"

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A.B. Davis 3269
08/02/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	BY	APP'D	APPROVED BY:

MILLWORK DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	A-26.0

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STRUCTURAL NOTES: [BALANCE OF PLANT]

GENERAL:

1. THESE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE PROVISION OF THE 2021 IBC & ASCE/SEI 7-16. FOR SPECIAL INSPECTION REQUIREMENTS AND PROGRAM SEE THE PROJECT MANUAL.

2. DESIGN GRAVITY LOADS:

	UNIFORM	CONCENTRATED
LIVE LOADS:		
ROOF	20 PSF	1,000 LBS. (PEMB MAIN BUILDING FRAME ONLY)
ELECTRICAL AND PUMP ROOMS	300 PSF	3,000 LBS.
RESTROOMS	60 PSF	
MONORAIL HOIST & SUPPORT FRAMING	3/4 TON CAPACITY (UNO)	
DEWATERING BUILDING ROOF LOADS:		
DEAD LOAD:		
COLLATERAL	2 PSF	
MECHANICAL/ELECTRICAL	5 PSF	
TOTAL	15 PSF	
LIVE LOAD	20 PSF	

EQUIPMENT LOADS

DECANTER	9,000 LBS DRY
	63,000 LBS OPERATION
GRIT SEPERATOR	800 LBS DRY
	4,800 LBS OPERATION

3. DESIGN WIND LOAD (ASCE/SEI 7-16):
   1. ULTIMATE DESIGN WIND SPEED, Vult = 177 MPH
   2. NOMINAL DESIGN WIND SPEED Vasd = 138 MPH
   3. RISK CATEGORY: I I I
   4. WIND EXPOSURE CATEGORY: C
   5. COMPONENTS AND CLADDING WIND PRESSURE: (SEE PEMB DWG'S)
   6. INTERNAL PRESSURE COEFFICIENT (GCpi): +/- 0.18
   7. FOR BASE SHEARS SEE PEMB DRAWINGS.
4. SNOW DESIGN (ASCE/SEI 7-16):
   A. MINIMUM SNOW LOAD 6.0 PSF
5. DESIGN SEISMIC INFORMATION (ASCE/SEI 7-16):
   1. RISK CATEGORY: III
   2. MAPPED SPECTRAL RESPONSE COEFFICIENT, Ss = 0.088g
   3. MAPPED SPECTRAL RESPONSE COEFFICIENT, S1 = 0.055g
   4. SPECTRAL RESPONSE COEFFICIENT, Sds = 0.094g
   5. SPECTRAL RESPONSE COEFFICIENT, Sd1 = 0.088g
   6. SITE CLASS: D
   7. SEISMIC DESIGN CATEGORY: C
   8. SEISMIC IMPORTANCE FACTOR, Ie = 1.25
   9. MAIN LATERAL FORECE RESISTING SYSTEM
      A. DEWATERING BUILDING PEMB – R = 3 STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
      B. HEADWORKS – R = 3 ORDINARY REINFORCED CONCRETE MOMENT FRAMES
      C. CHLORINE CONTACT BASIN – R = 2 REINFORCED CONCRETE GROUND-SUPPORTED TANK WITH NON-SLIDING BASE
      D. ALL OTHER TANKS – R = 3 FLAT BOTTOM GROUND SUPPORTED TANKS – MECHANICALLY CONNECTED
      E. EMERGENCY GENERATOR – Rp = 2.5
   10. FOR BASE SHEARS SEE PEMB DRAWINGS.
6. NO PROVISIONS HAVE BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.
7. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SHOP DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
8. FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL FOR VERIFICATION OF ALL WALL LOCATIONS AND DIMENSIONS.
9. STRUCTURAL FRAME AND MASONRY WALLS (LOAD BEARING AND NON-LOAD BEARING) SHALL BE BRACED BY CONTRACTOR AGAINST WIND, CONSTRUCTION LOADS, AND OTHER TEMP. FORCES UNTIL ERECTION IS COMPLETE.
10. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER..
11. NO CHANGES IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
12. OPENINGS 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.
13. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE AT THE TIME THE LOADS ARE IMPOSED.
14. CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
15. UNLESS OTHERWISE NOTED, FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.
16. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON, OR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.
18. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
19. FUTURE LOADS: UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOOR, ROOFS, OR OTHER LOADS.
20. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.
21. NO STRUCTURAL MEMBER MAY BE CUT, NOTCHES OR OTHERWISE REDUCED IN STRENGTH WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF RECORD.

FOUNDATION

1. FOUNDATION & SLAB-ON-GRADE RECOMMENDATIONS, BASED ON GEOTECHNICAL REPORT ENTITLED "SOILS EXPLORATION AND GEOTECHINCAL STUDIES FOR THE PROPOSED ALOE BAY WATER QUALITY ENHANCEMENT PROJECT, PROJECT NO. 22-166 BY GEOTECHINCAL ENGINEERING AND TESTING , DATED SEPT. 19, 2022.

A. HEAD WORKS AND BUILDING FOUNDATIONS:	
ALLOWABLE BEARING PRESSURE:	1,550 PSF
MODULUS OF SUBGRADE REACTION:	150 PCI
COEFFICIENT OF FRICTION:	0.45
B. SLAB & EQUIPMENT MAT FOUNDATIONS:	
ALLOWABLE BEARING PRESSURE:	1,200 PSF
MODULUS OF SUBGRADE REACTION:	150 PCI
COEFFICIENT OF FRICTION:	0.45
C. FOUNDATION STEM AND RETAINING WALLS:	
MOIST SOIL UNIT WEIGHT:	120 PCF
BUOYANT SOIL UNIT WEIGHT:	60 PCF
ANGLE OF INTERNAL FRICTION:	30 DEGREES
COEFFICIENT OF ACTIVE EARTH PRESSURE:	KA = 0.30
AT REST LATERAL EARTH PRESSURE COEFFICIENT:	KP = 0.50
PASSIVE EARTH PRESSURE COEFFICIENT:	KP = 3.0

2. REMOVE TOPSOIL, ORGANICS, SOFT CLAY, AND OTHER UNSUITABLE MATERIALS UNDER ALL FLOOR SLABS, FOOTINGS AND 10'-0" BEYOND BUILDING WALLS. BACKFILL AS REQUIRED WITH CLEAN SELECTED FILL, COMPACTED IN 8-INCH TO 10-INCH LIFTS TO A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ALL LAYERS UP TO THE UPPER ONE FOOT. FILL TO BE PLACED WITHIN 12 INCHES OF THE DESIGN SUBGRADE ELEVATION IS TO BE COMPACTED TO 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT. COMPACT UPPER 8-INCH TO 12-INCH OF EXISTING SUBGRADE TO 95 PERCENT.
3. AFTER STRIPPING, DENSIFY EXPOSED SANDS BY PROOFROLLING WITH A FULLY-LOADED TANDEM-AXLED DUMP TRUCK OR SIMILAR EQUIPMENT. ANY SOFT, OR UNSUITABLE SURFACE CONDITIONS, WHICH PUMPS OR RUTS EXCESSIVELY, SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. THESE UNSUITABLE SURFACES SHALL BE UNDERCUT & REPLACED WITH GRANULAR BACKFILL SUCH AS #57 STONE.
4. CLEAN SELECT SAND FILL SHALL MEET UNIFIED SOIL CLASSIFICATION OF SP, SP-SM OR SP-SC AND SHALL HAVE A MINIMUM MODIFIED PROCTOR DRY DENSITY OF 110 PCF.
5. CONTRACTOR SHALL NOTIFY ENGINEER FOR GEOTECHNICAL INSPECTION OF SUBGRADE PRIOR TO POURING ANY CONCRETE.
6. BEARING CAPACITY SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. WRITTEN REPORTS OF FINDINGS SHALL BE SUBMITTED TO THE ARCHITECT.
7. CONTRACTOR SHALL DEWATER AS NECESSARY PRIOR TO EXCAVATING. SEE GEOTECHNICAL REPORT FOR FURTHER RECOMMENDATIONS IN MAINTAINING WATER LEVEL BELOW EXCAVATION.
8. CONTRACTOR SHALL PROTECT ALL FOUNDATION EXCAVATIONS FROM DETERIORATION DUE TO EXPOSURE TO MOISTURE UNTIL FOUNDATIONS AND BACK FILLING HAVE BEEN COMPLETED.

CONCRETE (INCLUDING ENVIROMENTAL STRUCTURES)

1. ALL CONCRETE DESIGNED IN ACCORDANCE TO ACI 318-14 EXCEPT ALL ENVIRONMENTAL STRUCTURES DESIGNED IN ACCORDANCE WITH ACI350.20.
2. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:

FOUNDATIONS & SLAB-ON-GRADE:	4,000 PSI NORMAL WT.
ENVIRONMENTAL STRUCTURES:	
PROCESS BASIN CHLORINE CONTACT	
BASIN PUMP STATION HEADWORKS	4,000 PSI NORMAL WT.

3. REINFORCING STEEL: ASTM A615, GRADE 60.
4. WELDED WIRE REINFORCEMENT: ASTM A1064 (FLAT SHEETS).
5. MINIMUM CLEAR CONCRETE COVER ON REINFORCING (PER ACI 318-19 & 350-20 FOR ENVIRONMENTAL STRCUTRES)

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER:	2 INCHES (U.N.O.)
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS WALLS JOISTS:	3/4 INCHES (U.N.O)
BEAMS, COLUMNS:	1 1/2 INCHES

6. DOWELS AND CONTINUOUS REINFORCING SHALL HAVE A MINIMUM LAP AS SHOWN ON S-0.1, BUT SHALL NOT BE LESS THAN 24 INCHES.
7. PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT.
8. CONCRETE FINISH: FLOORS - STEEL TROWEL; WALLS - WOOD FLOAT; SEE SPECIFICATIONS.
9. CONCRETE SHALL BE WET CURED FOR 7 DAYS. USE OF A WET CURING COMPOUND SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
10. EXPANSION JOINT FILLER BOND BREAKER: SEE SPECIFICATIONS.
11. SHEET VAPOR BARRIER: SEE SPECIFICATIONS.
12. WATER SHOULD NOT BE ADDED TO CONCRETE AT THE JOB SITE BEYOND THE MIX DESIGN AMOUNT. ADDITIONAL WATER SERIOUSLY REDUCES CONCRETE STRENGTH AND INCREASES SHRINKAGE. REQUEST A "HIGH RANGE WATER REDUCER" (SUPERPLASTICIZER) FOR MORE WORKABLE CONCRETE.
13. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 305 "HOT WEATHER CONCRETING" AND ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING".
14. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES-ACI 315.
15. ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES UNLESS OTHERWISE NOTED. REFERENCE ACI AND SCHEDULE ON SHEET S0.01.
16. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064, LATEST REVISION. FURNISH IN FLATSHEETS OR MATS. ROLLS WILL NOT BE ALLOWED.
17. WELDED WIRE REINFORCING SHALL LAP 2 FULL MESHES AND BE SECURELY WIRED AT EACH SIDE AND END.
18. REINFORCING BARS AND WELDED WIRE REINFORCEMENT SHALL BE SUPPORTED WITH STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN THE CONCRETE PROTECTION SPECIFIED.
19. UNLESS OTHERWISE NOTED, CHAMFER ALL EXPOSED CONCRETE CORNERS WITH A 3/4" x 45 DEGREE CHAMFER.
20. STEEL EMBEDMENTS SHOWN SHALL BE A36 STEEL AND SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
21. REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR PENETRATIONS IN SLABS REQUIRING SLEEVES, EMBEDMENTS, AND RECESSED ITEMS NOT SHOWN.
22. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL EQUIPMENT DETAILS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITY LINES THROUGHOUT THE BUILDING.
23. UNLESS NOTED OTHERWISE, SLABS SHALL BE FINISHED TO THE TOLERANCES IN ACCORDANCE WITH ASTM E1155 AS SHOWN IN THE SPECIFICATIONS.
24. ALL EMBEDDED STEEL SHALL CONFORM TO ASTM A36.
25. ADHESIVE ANCHORING SYSTEM:
   A. MASONRY (HOLLOW): ADHESIVE ANCHORS INTO MASONRY SHALL BE THE HILTI HIT HY-70 INJECTION SYSTEM OR APPROVED EQUIVALENT USING GALVANIZED HILTI HAS RODS OR CARBON STEEL GALVANIZED THREADED RODS (ASTM F1554, 55 KSI) WITH SCREENS.
   B. CONCRETE & SOLID GROUTED MASONRY: ADHESIVE ANCHORS INTO CONCRETE SHALL BE THE HILTI HIT-HY-200 OR HILTI HIT-RE500 V3 INJECTABLE ADHESIVE ANCHORING SYSTEM OR APPROVED EQUIVALENT USING GALVANIZED HILTI HAS RODS OR CARBON STEEL GALVANIZED THREADED RODS (ASTM F1554, 55 KSI).
   C. ALL ADHESIVE ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
26. PROVIDE 2 - #4 BARS X 3'-0" LONG DIAGONAL IN THE TOP FACE OF SLAB ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE 1" CLEAR OF CORNER.
27. EXTEND REINFORCING BARS PAST RE-ENTRANT CORNERS A MINIMUM OF TENSION DEVELOPMENT LENGTH (LD).
28. PROVIDE 2- #4 BARS IN TOP OF WALL FOOTINGS SUPPORTING MASONRY WALLS WHERE OPENINGS OF DOORS OCCUR. EXTEND BARS 2'-0" BEYOND EDGE OF OPENINGS.
29. SAW CUT ALL SLABS ON GRADE AS SOON AS POSSIBLE AFTER FINISHING OPERATIONS HAVE BEEN COMPLETED WITHOUT DISLODGING AGGREGATES. CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR SAW CUT JOINTS.
30. LOCALLY DEPRESS BOTTOM OF FOOTINGS AS REQUIRED AT ANCHOR BOLTS TO PROVIDE 3 INCH MINIMUM COVER TO BOTTOM OF ANCHOR BOLTS.
31. REFER TO ELECTRICAL DRAWINGS FOR GROUNDING DETAILS.

PRE-ENGINEERED METAL BUILDING

1. PRE-ENGINEERED METAL BUILDING SHALL BE FULLY ENGINEERED & FABRICATEDBY THE MANUFACTURER & SHALL BEAR THE SEAL & SIGNATURE OF A PROFESSIONAL ENGINEER (PE) ENGINEER LICENSED IN THE STATE OF ALABAMA.
2. FOOTINGS HAVE BEEN DESIGNED FOR ANTICIPATED LOADING. SEE LOADING INFORMATION ON THE FOUNDATION PLAN. STRUCTURAL ENGINEER TO VERIFY THAT THE PEMB LOADS ARE EQUAL TO OR LESS THAN THE LOADS SHOWN PRIOR TO CONSTRUCTION. PLEASE NOTE THAT ALL FOUNDATIONS ARE SUBJECT TO CHANGE PENDING RECEIVING FINAL SEALED REACTIONS FROM THE PEMB MFR.
3. CONCRETE FOOTINGS TO BE CENTERED ON PRE-ENGINEERED BUILDING STEEL COLUMNS UNLESS NOTED OTHERWISE.
4. NO FOUNDATION SHALL BE POURED UNTIL THE PRE-ENGINEERED BUILDING SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED, AND FOUNDATION LOADS HAVE BEEN REVIEWED AND VERIFIED BY THE ENGINEER OF RECORD.
5. NO PANELS ARE TO BE POURED UNTIL THE PRE-ENGINEERED BUILDING AND THE PANEL ELEVATION SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED, AND PANEL HEIGHTS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER OF RECORD.
6. DESIGN & ERECTION DRAWINGS SHALL BE SUBMITTED & SHALL INCLUDE COLUMN LAYOUT/LOCATIONS, MEMBER SPACING, SIZE OF MEMBERS, CONNECTIONS & BRACING.
7. DESIGN SHALL CONSIDER LL, DL (INCLUDING TRUE COLLATERAL DEAD LOAD FROM SUSPENDED PIPING, HVAC & OTHER EQUIPMENT LOADS SUPPORTED BY SUPER-STUCTURE & COORDINATED/CALCULATED BY PRE-ENGINEERED BUILDING DESIGNER), SNOW LOAD & SNOW DRIFT WHERE APPLICABLE (INCLUDING DRIFT ON PRE-ENGINEERED BUILDING WHERE CONSTRUCTED ADJACENT TO TALLER BUILDING/STRUCTURE). SEE SPECS.
8. PEMB IS TO BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE.
9. PEMB DESIGN SHALL PROVIDE VERTICAL AND LATERAL SUPPORT FOR THE 5 TON BRIDGE CRANE AND MONRAIL, FOR THE CHLORINE CONTACT BASIN COVER AND THE DEWATERING BUILDING, SEE SPECS.

STRUCTURAL MASONRY

1. ALL MASONRY WALLS ARE CONSIDERED STRUCTURAL MASONRY.
2. COMPRESSIVE STRENGTH OF MASONRY UNITS:
   A. CONCRETE UNITS: (NORMAL WEIGHT) ASTM C90 TYPE II, f'm = 2000 PSI (MIN.).
      I. PROVIDE INTEGRAL WATER REPELLANT FOR CMU'S AND MORTAR, WHEN TESTED ACCORDING TO ASTM E514
3. MASONRY GROUT: ASTM C476 GROUT, f'm = 2,000 psi, COARSE TYPE: SLUMP: 8" TO 11".
4. PROVIDE FULL HEIGHT VERTICAL BARS OF SIZE SHOWN ON SECTION, EXTENDING FROM TOP OF SLAB/TOP OF EXISTING GROUT FILL TO THE TOP OF THE WALL WITH A STANDARD 90° HOOK (9") INTO THE NEW UPPER BOND BEAM AND INTO FOOTING. PROVIDE SAME SIZE VERTICAL BARS AT THE FOLLOWING LOCATIONS:
   A. TWO (2) ADD'L BARS WITHIN 4" OF ALL WALL CORNERS & CONTROL JOINTS.
   B. TWO (2) ADD'L BARS WITHIN 16" MAX OF EACH SIDE OF ALL WALL OPENINGS.
   C. TWO (2) ADD'L BARS WITHIN 8" MAX. OF ALL WALL ENDS.
   D. BARS AT SPACING OR QUANTITY AS SHOWN ON PLANS.
5. FILL ALL CORES CONTAINING REINFORCEMENT WITH MASONRY GROUT.
6. PIPE SLEEVES, MISCELLANEOUS OPENINGS, ETC., NOT SHOWN SHALL BE SIZED AND LOCATED AS NOTED ON DRAWINGS BY OTHER DISCIPLINES. COORDINATE ALL REINFORCING FOR ALL OPENINGS PRIOR TO CONSTRUCTION.
7. ALL MASONRY MATERIALS, CONSTRUCTION, INSPECTION, AND TESTING SHALL CONFORM TO THE NORTH CAROLINA STATE BUILDING CODE, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-05/ASCE 5-13/TMS 402-13), AND SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1-13/ASCE 6-13/ TMS 602-13).
8. LAP SPLICES FOR BARS SHALL BE 50 BAR DIAMETERS MINIMUM.
9. PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET.
10. BOND BEAM REINFORCEMENT AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AT CORNERS. PROVIDE CORNER REINFORCEMENT TO LAP WITH TYPICAL REINFORCEMENT.
11. HORIZONTAL MASONRY REINFORCING, ASTM A951:
    A. WIRE SIZE FOR SIDE RODS: 3/16-INCH DIAMETER.
    B. WIRE SIZE FOR CROSS RODS: 9 GA
    C. SPACING OF CROSS RODS NOT MORE THAN 16 INCHES ON CENTER.
    D. PROVIDE BUTT-WELDED, LADDER-BOX REINFORCING.
    E. HOT-DIPPED GALVANIZED STEEL.

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
Digitally signed by: MARK F. WEISS
Date: 8/22/2024

NO.	DATE	REVISION	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	APVD BY:
			X	X	X	X	

STRUCTURAL NOTES
BALANCE OF PLANT
SHEET 1 OF 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1")
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-0.0

W:\2021-1353-00 -DAUPHIN ISLWAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\S-0.0.DWG
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

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REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE SPECIFIED:

   ACI SP-66; ACI DETAILING MANUAL - 2004
   CRSI MSP-1; MANUAL OF STANDARD PRACTICE, 28th EDITION, 2009

2. TYPICAL REINFORCING STEEL:

   DEFORMED BARS (NON-WELDABLE) ----------ASTM A615, GRADE 60
   DEFORMED BARS (WELDABLE) ----------ASTM A706, GRADE 60

3. ALL REINFORCED BAR HOOKS INDICATED ON THE DRAWINGS SHALL BE ACI STANDARD HOOKS CONFORMING TO THE BEND DIMENSION REQUIREMENTS OF ACI 318, UNESS SPECIFICALLY NOTED OTHERWISE.

4. REINFORCING BARS SHALL BE COLD BENT. BARS EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT WHEN SPECIFICALLY INDICATED ON THE DRAWINGS.

5. THE CONTRACTOR SHALL NOT CUT REINFORCEMENT UNLESS INDICATED BY SECTION OR DETAIL. AT LOCATIONS OF CONFLICT, SPREAD THE REINFORCEMENT TO ACCOMMODATE PLACEMENT. ADD ADDITIONAL BARS IF NECESSARY TO MAINTAIN SPACING REQUIREMENTS.

6. ALL WELDED REINFORCING SHALL BE IN ACCORDANCE WITH AWS D1.4. TACK WELDING IS NOT PERMITTED.

7. #11 AND SMALLER BARS MAY BE SPLICED USING MECHANICAL CONNECTIONS OR CONTACT LAP SPLICES. BAR LAPS SHALL BE SECURELY WIRED TOGETHER.

8. TENSION DEVELOPMENT AND REINFORCING BAR LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLES, UNLESS NOTED OTHERWISE. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS. PROVIDE CONTACT LAP SPLICES.

REBAR LAP SCHEDULE

f 'c = 4,000 PSI
(GRADE 60 UNCOATED BARS)

BAR SIZE	TENSION DEVELOPMENT		CLASS "B" LAP SPLICE	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	19	15	24	19
#4	25	19	32	25
#5	31	24	40	31
#6	37	29	48	37
#7	54	42	70	54
#8	62	48	80	62
#9	70	54	91	70
#10	79	61	102	79
	ALL LENGTHS ARE IN INCHES			

NOTES:
A. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW.
B. REINFORCING BAR LENGTHS ARE BASED ON NORMAL-WEIGHT CONCRETE. REFER TO TENSION DEVELOPMENT VALUES FOR CLASS "A" LAP SPLICE LENGTHS.
C. WHEN REINFORCING BAR SPACING IS LESS THAN 2 db FOR BEAMS AND COLUMNS OR 3 db FOR ALL OTHER CONCRETE ELEMENTS, LENGTHS SHALL BE MULTIPLIED BY A FACTOR OF 1.5. (db = REINFORCING BAR DIAMETER).

ALUMINUM

1. ALUMINUM FABRICATION SHALL BE IN CONFORMANCE WITH THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES".

2. UNLESS NOTED OTHERWISE, MATERIALS SHALL BE:
   A. PLATE & SHEET - ASTM B209; 6061-T6, 6061-T651 ALLOY. PIPE SECTIONS ARE SCHEDULE 40 UNO.
   B. EXTRUDED SHAPES - ASTM B221; 6061-T6, 6061-T651 ALLOY PIPE SECTIONS ARE SCHEDULE 40 UNO.
   C. CASTINGS - ASTM B108; 214 ALLOY.
   D. BOLTS - ASTM A193; GRADE B8 OR/ ASTM 276; TYPE 316 STAINLESS STEEL.
   E. NUTS - ASTM A194; GRADE M, OR ASTM 276; TYPE 316 STAINLESS STEEL.

3. ALUMINUM SHALL BE SEPARATED FROM DIRECT CONTACT WITH OTHER MATERIALS (STEEL, CONCRETE, ETC.) BY PRESSURE SENSITIVE TAPE, BITUMASTIC COATING, OR OTHER PROTECTIVE METHOD SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE.

4. CONNECTIONS SHALL HAVE A MINIMUM OF TWO 3/4" DIAMETER STAINLESS STEEL BOLTS.

5. WELDING ALUMINUM SHALL CONFORM TO AWS A5.10 & THE REQUIREMENTS OF THE ALUMINUM ASSOCIATIONS "ALUMINUM DESIGN MANUAL" (LATEST EDITION) TABLE 7.1-1 FOR WELD FILLERS FOR WROUGHT ALLOYS.

W:\2021--1353--00 --DAUPHIN ISLWAND WWTP\STRUCTURA\CURRENT WORKING DRAWINGS\S--0.1.DWG
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
DocuSigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY
	DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APVD BY:

STRUCTURAL NOTES
BALANCE OF PLANT
SHEET 2 OF 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-0.1

RELEASE FOR BID

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GENERAL [OPERATIONS BUILDING]

1. THESE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE PROVISION OF THE 2021 INTERNATIONAL BUILDING CODE.

2. DESIGN GRAVITY LOADS:

GROUND FLOOR:
DEAD LOADS:

SLAB-ON-GRADE:	SELF WEIGHT	
PUMP PADS	SEE MECH.	
ROOF TRUSS	SEE S2	
GENERATOR	13,400 LBS DRY	28,000 LBS WET

LIVE LOADS:	UNIFORM
ROOF	20 PSF
SECOND FLOOR	100 PSF
GENERATOR LEVEL	200 PSF

3. WIND VELOCITY (ASCE/SEI 7-16)
   A. ULTIMATE DESIGN WIND SPEED (3-SEC GUST): 177 MPH (ULT)
   B. RISK CATEGORY: III
   C. IMPORTANCE FACTOR: Iw = 1.0
   D. EXPOSURE CATEGORY: C
   E. INTERNAL PRESSURE COEFFICIENT: +/-0.18 (ENCLOSED BUILDINGS)
   F. ENCLOSURE CLASSIFICATION: ENCLOSED
   G. DIRECTIONALITY FACTOR (KD): 0.85
   H. DESIGN BASE SHEAR: V_X = 84.96 KIPS V_Y = 188.45 KIPS

4. SEISMIC DESIGN (ASCE/SEI 7-16):
   A. RISK CATEGORY: III
   B. SITE CLASSIFICATION: D (ASSUMED)
   C. SEISMIC IMPORTANCE FACTOR: IE = 1.25
   D. SEISMIC DESIGN CATEGORY: C
   E. MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S=.088%G; S_1=.055%G
   F. SPECTRAL RESPONSE COEFFICIENTS: S_{DS}=.094%G; S_{D1}=.088%G
   G. BASIC STRUCTURAL SYSTEM: BEARING WALL SYSTEM
   H. SEISMIC RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE MOMENT FRAMES
   I. RESPONSE MODIFICATION COEFFICIENT: R=3
   J. SEISMIC SHEAR COEFFICIENT: C_S=0.039
   K. EQUIVALENT LATERAL FORCE PROCEDURE
   L. NONSTRUCTURAL COMPONENT ANCHORAGE - (NOT REQUIRED)
   M. DESIGN BASE SHEAR: V_X = 32.40 KIPS V_Y = 32.40 KIPS

5. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SHOP DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.

6. FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL FOR VERIFICATION OF ALL WALL LOCATIONS AND DIMENSIONS.

7. STRUCTURAL FRAME AND MASONRY WALLS (LOAD BEARING AND NON-LOAD BEARING) SHALL BE BRACED BY CONTRACTOR AGAINST WIND, CONSTRUCTION LOADS, AND OTHER TEMP. FORCES UNTIL ERECTION IS COMPLETE.

8. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

9. NO CHANGES IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

10. OPENINGS 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.

11. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE AT THE TIME THE LOADS ARE IMPOSED.

12. CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.

13. UNLESS OTHERWISE NOTED, FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.

14. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON, OR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

16. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

17. FUTURE LOADS: UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOOR, ROOFS, OR OTHER LOADS.

18. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.

20. NO STRUCTURAL MEMBER MAY BE CUT, NOTCHES OR OTHERWISE REDUCED IN STRENGTH WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF RECORD.

21. WHEN MODIFICATIONS ARE PROPOSED TO STRUCTURAL ELEMENTS UNDER THE DESIGN AND CERTIFICATION OF A SPECIALTY ENGINEER, WRITTEN AUTHORIZATION BY THE SPECIALTY ENGINEER MUST BE OBTAINED AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW, PRIOR TO PERFORMING THE PROPOSED MODIFICATION.

FOUNDATION

1. FOUNDATION, SLAB-ON-GRADE, AND SEISMIC DESIGN BASED ON RECOMMENDATIONS IN REPORT OF GEOTECHNICAL EXPLORATION BY GTEC. PROJECT No. 22-166 DATED 9/19/22
   A. ALLOWABLE SOIL BEARING PRESSURE: 1,200 PSF. (OPERATION BUILDING)
   B. SITE CLASS D

2. REMOVE TOPSOIL, ORGANICS, SOFT CLAY, AND OTHER UNSUITABLE MATERIALS UNDER ALL FLOOR SLABS, FOOTINGS AND 10'-0" BEYOND BUILDING WALLS. BACKFILL AS REQUIRED WITH CLEAN SELECTED FILL, COMPACTED IN 8-INCH TO 10-INCH LIFTS TO A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ALL LAYERS UP TO THE UPPER ONE FOOT. FILL TO BE PLACED WITHIN 12 INCHES OF THE DESIGN SUBGRADE ELEVATION IS TO BE COMPACTED TO 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT. COMPACT UPPER 8-INCH TO 12-INCH OF EXISTING SUBGRADE TO 95 PERCENT.

3. AFTER STRIPPING, DENSIFY EXPOSED SANDS BY PROOF ROLLING IN THE PRESENCE OF THE PROJECT GEOTECHNICAL ENGINEER WITH A FULLY-LOADED TANDEM-AXLED DUMP TRUCK OR SIMILAR EQUIPMENT. ANY SOFT, OR UNSUITABLE SURFACE CONDITIONS, WHICH PUMPS OR RUTS EXCESSIVELY, SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. THESE UNSUITABLE SURFACES SHALL BE UNDERCUT & REPLACED WITH GRANULAR BACKFILL SUCH AS #57 STONE.

4. CLEAN SELECT SAND FILL SHALL MEET UNIFIED SOIL CLASSIFICATION OF SP, SP-SM OR SP-SC AND SHALL HAVE A MINIMUM MODIFIED PROCTOR DRY DENSITY OF 110 PCF.

5. CONTRACTOR SHALL NOTIFY ARCHITECT FOR GEOTECHNICAL INSPECTION OF SUBGRADE PRIOR TO POURING ANY CONCRETE.

6. BEARING CAPACITY SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. WRITTEN REPORTS OF FINDINGS SHALL BE SUBMITTED TO THE ARCHITECT.

7. CONTRACTOR SHALL DEWATER AS NECESSARY PRIOR TO EXCAVATING. SEE GEOTECHNICAL REPORT FOR FURTHER RECOMMENDATIONS IN MAINTAINING WATER LEVEL BELOW EXCAVATION.

8. CONTRACTOR SHALL PROTECT ALL FOUNDATION EXCAVATIONS FROM DETERIORATION DUE TO EXPOSURE TO MOISTURE UNTIL FOUNDATIONS AND BACK FILLING HAVE BEEN COMPLETED.

CONCRETE

1. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   FOUNDATIONS & SLAB-ON-GRADE: 4,000 PSI NORMAL WT.
   ELEVATED SLABS: 4,000 PSI NORMAL WT.
2. REINFORCING STEEL: ASTM A615, GRADE 60.
3. WELDED WIRE REINFORCEMENT: ASTM A1064 (FLATSHEETS).
4. MINIMUM CLEAR CONCRETE COVER ON REINFORCING (PER ACI 381-08):
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES
   CONCRETE EXPOSED TO EARTH OR WEATHER: 2 INCHES (U.N.O.)
   CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   SLABS WALLS JOISTS: 3/4 INCHES (U.N.O)
   BEAMS, COLUMNS: 1 1/2 INCHES

5. DOWELS AND CONTINUOUS REINFORCING SHALL HAVE A MINIMUM LAP OF 57 BAR DIAMETERS, BUT SHALL NOT BE LESS THAN 24 INCHES.

6. PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT.

7. CONCRETE FINISH: FLOORS - STEEL TROWEL; WALLS - WOOD FLOAT; SEE SPECIFICATIONS.

8. CONCRETE SHALL BE WET CURED FOR 7 DAYS. NO CURING COMPOUND IS ALLOWED.

9. EXPANSION JOINT FILLER BOND BREAKER: SEE SPECIFICATIONS.

10. SHEET VAPOR BARRIER: SEE SPECIFICATIONS.

11. WATER SHOULD NOT BE ADDED TO CONCRETE AT THE JOB SITE BEYOND THE MIX DESIGN AMOUNT. ADDITIONAL WATER SERIOUSLY REDUCES CONCRETE STRENGTH AND INCREASES SHRINKAGE. REQUEST A "HIGH RANGE WATER REDUCER" (SUPERPLASTICIZER) FOR MORE WORKABLE CONCRETE.

12. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF ACI 305 "HOT WEATHER CONCRETING" AND ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING".

13. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES-ACI 315.

14. ALL SPLICES TWO BARS OF DIFFERENT SIZES ARE SPLICED TO THE UNLESS OTHERWISE NOTED. LENGTH OF THE LARGER BAR SHALL BE USED.

BAR SIZE	SPLICE IN INCHES
4	29
5	36
6	43
7	62
8	71
9	81
10	91

15. WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064, LATEST REVISION. FURNISH IN FLATSHEETS OR MATS. ROLLS WILL NOT BE ALLOWED.

16. WELDED WIRE REINFORCING SHALL LAP 2 FULL MESHES AND BE SECURELY WIRED AT EACH SIDE AND END.

17. REINFORCING BARS AND WELDED WIRE REINFORCEMENT SHALL BE SUPPORTED WITH STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN THE CONCRETE PROTECTION SPECIFIED.

18. UNLESS OTHERWISE NOTED, CHAMFER ALL EXPOSED CONCRETE CORNERS WITH A 3/4" x 45 DEGREE CHAMFER.

19. REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR PENETRATIONS IN SLABS REQUIRING SLEEVES, EMBEDMENTS, AND RECESSED ITEMS NOT SHOWN.

20. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL EQUIPMENT DETAILS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITY LINES THROUGHOUT THE BUILDING.

21. UNLESS NOTED OTHERWISE, SLABS SHALL BE FINISHED TO THE TOLERANCES IN ACCORDANCE WITH ASTM E1155 AS SHOWN IN THE SPECIFICATIONS.

22. ALL EMBEDDED STEEL SHALL CONFORM TO ASTM A36.

23. ADHESIVE ANCHORING SYSTEM:
   A. MASONRY (HOLLOW): ADHESIVE ANCHORS INTO MASONRY SHALL BE THE HILTI HIT HY-70 INJECTION SYSTEM OR APPROVED EQUIVALENT USING GALVANIZED HILTI HAS RODS OR CARBON STEEL GALVANIZED THREADED RODS (ASTM F1554, 55 KSI) WITH SCREENS.

   B. CONCRETE & SOLID GROUTED MASONRY: ADHESIVE ANCHORS INTO CONCRETE SHALL BE THE HILTI HIT-HY-200 OR HILTI HIT-RE500 V3 INJECTABLE ADHESIVE ANCHORING SYSTEM OR APPROVED EQUIVALENT USING GALVANIZED HILTI HAS RODS OR CARBON STEEL GALVANIZED THREADED RODS (ASTM F1554, 55 KSI).

   C. ALL ADHESIVE ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

24. PROVIDE 2 - #4 BARS X 3'-0" LONG DIAGONAL IN THE TOP FACE OF SLAB ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE 1" CLEAR OF CORNER.

25. EXTEND REINFORCING BARS PAST RE-ENTRANT CORNERS A MINIMUM OF TENSION DEVELOPMENT LENGTH (LD).

26. PROVIDE 2- #4 BARS IN TOP OF WALL FOOTINGS SUPPORTING MASONRY WALLS WHERE OPENINGS OF DOORS OCCUR. EXTEND BARS 2'-0" BEYOND EDGE OF OPENINGS.

27. SAW CUT ALL SLABS ON GRADE AS SOON AS POSSIBLE AFTER FINISHING OPERATIONS HAVE BEEN COMPLETED WITHOUT DISLODGING AGGREGATES. CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR SAW CUT JOINTS.

28. LOCALLY DEPRESS BOTTOM OF FOOTINGS AS REQUIRED AT ANCHOR BOLTS TO PROVIDE 3 INCH MINIMUM COVER TO BOTTOM OF ANCHOR BOLTS.

29. REFER TO ELECTRICAL DRAWINGS FOR GROUNDING DETAILS.

MASONRY

1. COMPRESSIVE STRENGTH OF MASONRY UNITS: CONCRETE UNITS - NORMAL WEIGHT, ASTM C90, f'm = 2,000 PSI (MINIMUM).

2. COMPRESSIVE STRENGTH OF MORTAR AT 28 DAYS TO BE 2,000 PSI MINIMUM, TYPE "S".

3. TIE WYTHES WITH MINIMUM HORIZONTAL REINFORCING CONSISTING OF TWO (2) WIRES OF W1.7 AT 16" O.C. MAX. TERMINATE AT VERTICAL CONTROL JOINTS.

4. MASONRY GROUT: ASTM C476 GROUT, f'm = 2,000 psi, COARSE TYPE; SLUMP: 8" TO 11". ANY REFERENCE TO BOND BEAMS / LINTELS / CORES FILLED WITH "CONCRETE", SHALL MEAN MASONRY GROUT.

5. ALL BLOCK LINTELS SHALL HAVE A MINIMUM BEARING OF 8 INCHES ON SOLID MASONRY OR GROUTED CONCRETE BLOCK AT EACH END.

6. PROVIDE FULL HEIGHT VERTICAL BARS OF SIZE SHOWN ON PLAN, EXTENDING FROM THE FOUNDATION (AND FROM LINTELS) TO THE TOP OF THE WALL WITH A STANDARD 90° HOOK INTO THE UPPER BOND BEAM & PROVIDE SAME SIZE VERTICAL BARS AT THE FOLLOWING LOCATIONS:
   A. TWO (2) ADD'L BARS WITHIN 4" OF ALL WALL CORNERS & CONTROL JOINTS.
   B. TWO (2) ADD'L BARS WITHIN 16" MAX. OF EACH SIDE OF ALL WALL OPENINGS.
   C. TWO (2) ADD'L BARS WITHIN 8" MAX. OF ALL WALL ENDS.
   D. BARS AT SPACING OR QUANTITY AS SHOWN ON PLANS.

7. EXTEND LINTEL/BARS A MINIMUM OF 24" PAST CLEAR MASONRY OPENINGS.

8. MASONRY SHEAR PLATES SHALL BE FIELD ADJUSTED TO PREVENT ADHESIVE ANCHOR LOCATIONS FROM BEING WITHIN 1" OF A VERTICAL MORTAR JOINT AND PLACE NO MORE THAN ONE ANCHOR PER BLOCK CELL/CORE.

9. UNLESS NOTED OTHERWISE ON DRAWINGS PROVIDE MASONRY LINTELS PER LINTEL SCHEDULE FOR ALL MASONRY OPENINGS AND AS SHOWN ON DRAWINGS.

10. EXTEND CONTINUOUS BOND BEAM REINFORCING ACROSS VERTICAL CONTROL JOINTS.

11. CMU CONSTRUCTION SHALL BE COORDINATED WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

12. PIPE SLEEVES, MISCELLANEOUS OPENINGS, ETC., NOT SHOWN ON THE ARCHITECTURAL DRAWINGS SHALL BE SIZED AND LOCATED AS NOTED ON DRAWINGS BY OTHER DISCIPLINES. COORDINATE ALL REINFORCING FOR ALL OPENINGS PRIOR TO CONSTRUCTION.

13. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90.

14. ALL MASONRY MATERIALS, CONSTRUCTION, INSPECTION, AND TESTING SHALL CONFORM TO THE NORTH CAROLINA STATE BUILDING CODE, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-16), AND SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1-13/ASCE 6-13/ TMS 602-16).

15. LAP SPLICES FOR BARS SHALL BE 50 BAR DIAMETERS MINIMUM, UNO BY SCHEDULE.

16. FULLY GROUT ALL CELLS CONTAINING VERTICAL REINFORCING OTHER CELLS SHALL BE GROUTED AS NOTED. PROVIDE CLEANOUTS AT BOTTOM OF WALL TO ENSURE CELLS ARE FULLY GROUTED FOR CELLS WITH REINFORCED BARS.

17. PROVIDE VERTICAL BAR POSITIONERS FOR REINFORCEMENT AS NOTED IN THE PROJECT SPECIFICATIONS.

18. PLACE GROUT IN LIFTS NOT EXCEEDING 5 FEET.

19. BOND BEAM REINFORCEMENT AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AT CORNERS. PROVIDE CORNER REINFORCEMENT TO LAP WITH TYPICAL REINFORCEMENT.

RELEASE FOR BID

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024
ENGINEER SEAL
Doc Signed by: Mark Weiss
F81B5E0B3B9445...

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	APPROVED BY:
DESIGNED BY: X			X	X	BY APP'D

OPERATIONS BUILDING
STRUCTURAL NOTES
SHEET 1 OF 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-0.2

S:\PROJECTS\2021_1353-00-DAUPHIN_ISLAND_WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\S-0.2.DWG
REUSE OF DOCUMENTS. THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

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STEEL ROOF DECK

A. CONFORM TO STEEL DECK INSTITUTE DESIGN MANUAL, LATEST EDITION.

B. ROOF DECK SHALL BE 1 ½", TYPE B (WIDE-RIB), G90 GALVANIZED METAL DECK FOR A 3 SPAN CONDITION. MINIMUM YIELD STRENGTH SHALL BE 33,000 PSI.

C. ROOF DECK SHALL BE ATTACHED AS FOLLOWS:
   1. AT SUPPORTS: 5/8" DIAMETER WELDS
   2. AT SIDE LAPS: #10 TEKS.

D. SPACING OF CONNECTIONS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   1. INTERIOR SUPPORTS: 12" O.C. MAX. (36/4 PATTERN - SIDE LAPS MUST BE ATTACHED AT EACH SUPPORT).
   2. AT PERIMETER/EDGES OF BUILDING: 6" O.C.
   3. WITHIN 10'-0" OF PERIMETER/EDGES OF BLDG., FASTEN DECK TO SUPPORTS WITH 36/7 PATTERN (6" O.C.).
   4. SIDE LAPS: 2 PER SPAN.

E. DECK SHALL BE PLACED AT THE PERIMETER WITH A COMPLETE RIB BEARING ON THE STEEL SUPPORT. DECK SHALL BE SUPPORTED BY A MINIMUM OF FOUR SUPPORT LOCATIONS (THREE SPAN CONDITION).

F. ALL TESTING SHALL BE PAID FOR BY OWNER (CONTRACTOR SHALL COORDINATE WITH OWNER TO ENSURE THAT COST OF TESTING IS ACCURATE AND PRESENTED TO OWNER WITH CONSTRUCTION COSTS).

I. SUSPENDED LOADS SHALL NOT BE HUNG DIRECTLY FROM METAL DECK.

LIGHT GAGE TRUSSES

A. DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO AISI "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION. ALL METAL STUDS SHALL BE GALVANIZED. TRUSS CONNECTOR PLATES SHALL BE DESIGNED AND INSTALLED ACCORDING TO TRUSS PLATE INSTITUTE STANDARDS.

B. LIGHT-GAUGE TRUSSES SHALL BE FULLY ENGINEERED AND FABRICATED BY THE MANUFACTURER AND SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE CONSTRUCTION IS TO OCCUR. SHOP DRAWINGS SHALL BE SUBMITTED AND SHALL INCLUDE TRUSS SPACING (48" MAX.), SIZE OF MEMBERS, CONNECTIONS, AND BRACING. DESIGN SHALL CONSIDER L.L., DL, AND ALL SPECIAL LOADS FROM MECHANICAL AND PLUMBING. CALCULATIONS SHALL ALSO BE SUBMITTED AND SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE CONSTRUCTION IS TO OCCUR.

C. LIGHT GAUGE ROOF TRUSS LOADING:

- TOP CHORD:	LL = 20 PSF
	DL = 12 PSF
- BOTTOM CHORD:	DL = 8 PSF
TOTAL LOAD:	= 40 PSF

SEE MECHANICAL DRAWINGS AND ROOF PLAN FOR EQUIPMENT WEIGHTS, LOCATIONS AND ACCESS PATHS IN ROOF TRUSSES (IF APPLICABLE). DESIGN PITCHED ROOF TRUSSES FOR UNBALANCED SNOW LOAD PER BLDG. CODE OR LIVE LOADS NOTED WITH THE WORST CASE LOAD USED FOR THE DESIGN.

D. SPECIAL LOADS FROM MECHANICAL/PLUMBING OR OTHER EQUIPMENT SHALL BE COORDINATED BY THE METAL STUD TRUSS DESIGNER. METAL STUD TRUSSES SUPPORTING THESE SPECIAL LOADS SHALL BE DESIGNED FOR THESE LOADS IN ADDITION TO THE TYPICAL UNIFORM LOADS.

E. CONCENTRATED LOADS SHALL BE SUPPORTED AT PANEL POINTS ONLY. ANY LOADS SUSPENDED FROM TRUSSES MUST BE APPLIED TO EACH TRUSS UNIFORMLY WITH SPACING OF HANGERS NOT TO EXCEED 2'-0" O.C. (OR TRUSS SPACING) IN ANY DIRECTION.

F. MAXIMUM DEFLECTION OF METAL STUD TRUSSES SHALL BE L/240 FOR DL+LL AND L/360 FOR LL.

G. PROPER ERECTION BRACING SHALL BE INSTALLED TO HOLD THE TRUSSES TRUE AND PLUMB AND IN SAFE CONDITION UNTIL PERMANENT TRUSS BRACING AND BRIDGING CAN BE SOLIDLY NAILED IN PLACE TO FORM A STRUCTURALLY SOUND FRAMING SYSTEM. ALL ERECTION AND PERMANENT BRACING SHALL BE INSTALLED AND ALL COMPONENTS PERMANENTLY FASTENED BEFORE THE APPLICATION OF ANY LOADS TO THE TRUSSES. ALL BRACING SHALL BE DESIGNED BY MANUFACTURER AND INDICATED ON SHOP DRAWINGS. CONTRACTOR SHALL COORDINATE WITH TRUSS FABRICATOR TO ENSURE THAT ALL BRACING IS PROVIDED INCLUDING BOTTOM CHORD BRACING BY WAY OF CEILING SHEATHING OR SPECIFIC BRACES AT PREDETERMINED LOCATIONS (AT DROPPED SUSPENDED CEILING). ALL PREFABRICATED TRUSSES ARE TO BE INSTALLED IN ACCORDANCE WITH PUBLISHED STANDARDS/SPECIFICATIONS FOR BRACING LIGHT GA. TRUSSES. COMPONENT-TO- COMPONENT CONNECTIONS SHALL BE SPECIFIED ON PRE-ENGINEERED TRUSS DESIGN SUBMITTAL.

H. GENERAL CONTRACTOR SHALL NOT CUT, DRILL, OR ALTER ANY TRUSS MEMBER.

I. ALL TRUSS SHOP DRAWINGS INCLUDING LATERAL BRACING DETAILS SHALL BE AVAILABLE AT THE JOB SITE DURING TIMES OF INSPECTION AND SHALL BEAR CLEAR INDICATION THAT THEY HAVE BEEN REVIEWED AND APPROVED BY THE PROJECT STRUCTURAL ENGINEER OF RECORD.

J. TRUSS DESIGNER SHALL INDICATE THAT ALL HIPS, VALLEYS, AND RIDGES SHALL HAVE A 14 GAUGE G90 BENT PLATE LEGS TO BE 8" AND CONNECTED TO TRUSS MEMBERS WITH A MINIMUM OF TWO NO. 12-14 TEK SCREWS PER CONNECTION.

K. ALL HARDWARE REQUIRED FOR CONNECTIONS BETWEEN TRUSSES AS WELL AS CONNECTIONS BETWEEN TRUSSES AND MAIN STRUCTURE SHALL BE DESIGNED BY THE TRUSS SPECIALTY STRUCTURAL ENGINEER AND SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.

L. COLD-FORMED STEEL STRUCTURAL MEMBERS MAY BE ATTACHED BY EITHER WELDS OR SCREWS SIZED BY THE MANUFACTURER FOR THE SPECIFIED DESIGN LOADS. SEE THE SPECIFICATIONS. WELDING OF COLD-FORMED STEEL SHALL BE IN ACCORDANCE WITH THE STANDARD CODE OF ARC AND GAS WELDING IN BUILDING CONSTRUCTION.

M. PROVIDE 20 GA. MIN. MEMBER THICKNESS FOR ALL TRUSS MEMBERS (16 GA. MIN. FOR MEMBERS BEING WELDED TO STRUCTURE).

ALL WOOD IN CONTACT WITH CONCRETE, OR MASONRY, OR SOIL, EXPOSED TO WEATHER, OR AT OTHER LOCATIONS AS SHOWN ON STRUCTURAL DRAWINGS, SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AWPA REQUIREMENTS. PRESSURE TREATMENT APPROPRIATE FOR LUMBER IN CONTACT WITH SOIL SHALL BE PROVIDED WHERE APPLICABLE.

WALL STUDS SHALL BE CAPPED WITH A DOUBLE PLATE, INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS.

PLYWOOD FLOOR, WALL AND ROOF SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH 2018 INTERNATIONAL BUILDING CODE. UNLESS SHOWN OTHERWISE SPAN RATED PANELS SHALL BE FASTENED TO NOMINAL 2X SOUTHERN PINE FRAMING SPACED UP TO 24" 0C IN ACCORDANCE WITH THE FOLLOWING:

PANELS UP TO ½" THICK: 8d NAILS AT 6" OC ALONG SUPPORTED PANEL EDGE, 6" OC ELSEWHERE.
PANELS UP TO 5/8" THICK: lOd NAILS AT 6" OC ALONG SUPPORTED PANEL EDGE, 6" OC ELSEWHERE.
PANELS UP TO ¾" THICK: l2d NAILS AT 6" OC ALONG SUPPORTED PANEL EDGE, 6" OC ELSEWHERE.

ROOF AND FLOOR SHEATHING SHALL BE INSTALLED LONG DIMENSION PERPENDICULAR TO FRAMING AND END JOINTS SHALL BE STAGGERED.

NAILING, JOIST BLOCKING, AND RAFTER BLOCKING SHALL MEET THE MINIMUM REQUIREMENTS OF 2018 INTERNATIONAL BUILDING CODE UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED ON THE PLANS.

COLD -FORMED METAL FRAMING (METAL STUDS)

A. DESIGN FABRICATIONS AND ERECTION SHALL CONFORM TO 20XX AISI "NORTH AMERICAN SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS". ALL METAL STUDS SHALL BE GALVANIZED.

B. MINIMUM YIELD STRENGTH (FY) FOR MATERIAL IS 33,000 PSI FOR 33 MILS AND 43 MILS MATERIALS, AND 50,000 PSI FOR 54 MILS, 68 MILS AND 97 MILS MATERIALS.

C. ALL STUDS, JOISTS, TRACK, BRIDGING, END CLOSURES AND ACCESSORIES SHALL BE FORMED FROM STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" UNLESS NOTED OTHERWISE.

D. ALL PRODUCTS TO BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL MANUFACTURERS' ASSOCIATION.

E. ALL MATERIAL AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING, MEETING ASTM A-653.

F. ALL SCREWS SHALL BE NON-CORROSIVE NO. 12-14 STANDARD SELF-DRILLING SCREWS UNLESS NOTED OTHERWISE ON DRAWINGS (DO NOT USE STAINLESS STEEL OR COPPER COATED FASTENERS).

G. ALL POWDER ACTUATED FASTENERS (PAF) SHALL BE 0.177" DIAMETER POWDER ACTUATED FASTENERS (PROVIDE 0.145" DIAMETER, 3/4" MAX. EMBED FASTENERS WHERE ATTACHING TO POST-TENSION CONCRETE STRUCTURE).

H. ALL SCREWS SHALL BE SPACED NO CLOSER THAN 1" ON CENTER UNLESS NOTED OTHERWISE ON DRAWINGS. MIN. EDGE DISTANCE FOR SCREWS SHALL BE 1".

I. UNLESS NOTED OTHERWISE, TRACKS SHALL BE SAME DEPTH AS STUDS OR JOISTS AND EQUAL OR THICKER GAUGE THAN STUDS OR JOISTS. TRACKS SHALL BE CONNECTED TO SUPPORTS WITH TWO SCREWS OR PINS AT 16" MAX. STUDS OR JOISTS SHALL BE CONNECTED TO TRACKS AT EACH SIDE.

J. ALL WALLS SHALL HAVE WALL BRIDGING @ 4'-0" O.C. MAX. IF FULL-HEIGHT SHEATHING IS NOT INSTALLED ON BOTH SIDES OF STUDS.

K. CONTINUOUS BRIDGING MAY CONSIST OF 1 1/2"-33 MILS. STRAPS, (2 1/2"-43 MILS AT WALLS USED AS SHEARWALLS OR WALLS WITH STRAP BRACING) SCREW ATTACHED TO BOTH FLANGES OF EACH STUD WITH SOLID BLOCKING REQUIRED AT 12'-0" O.C. MAX., EACH END OF WALL AND ADJACENT TO EACH OPENING. (FASTEN STRAPS W/ (1) #8 SCREW MIN. TO EA. STUD & (2) #8 SCREW MIN. TO EA. BLOCKING). BLOCKING MAY BE MADE FROM 33 MILS STUD MATERIAL ATTACHED WITH 54 MIL CLIP ANGLE WITH 2 SCREWS PER ANGLE FLANGE. AS AN ALTERNATE BRIDGING, FOR 3 5/8" OR 4" STUDS ONLY, PROVIDE 1 1/2" CRC CHANNEL BRIDGING (150U50-54) AT THE CENTERLINE OF STUDS WITH (2) SCREWS PER ANGLE FLANGE.

L. ALL BRIDGING MUST BE CONTINUOUS FOR FULL LENGTH OF WALL OR PROPERLY SPLICED WITH AN APPROVED SPLICE ELEMENT.

M. THE QUANTITY OF STUDS AND JOISTS DISPLACED OR CUT FOR OPENING SHALL BE PLACED HALF ON EACH SIDE OF OPENING, UNLESS NOTED OTHERWISE, (2) STUDS MIN. EACH SIDE OF OPENING.

N. FOR ALL FULL HEIGHT STUD WALLS (WALLS WITH BASE SUPPORT AT FOUNDATION OR FLOOR STRUCTURE), PROVIDE CLIP SUPPORT WITH VERTICAL SLIP CAPACITY OR SLIP TRACK AT TOP TRACK CONNECTION TO ALLOW FOR 3/4" LIVE LOAD DEFLECTION OF STRUCTURE ABOVE THE STUD WALLS.

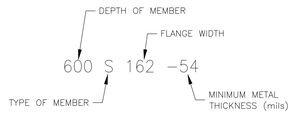
O. ALL WELDING TO BE PERFORMED BY A QUALIFIED WIRE FEED WELDER PER ASTM A-108. FIELD WELDING SHALL BE DONE WITH E60 ELECTRODES. WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STANDARD D1.3, LATEST EDITION.

P. APPLY ZINC COATING TO ALL WELDS.

Q. CONTRACTOR SHALL FURNISH COMPLETE FABRICATION AND ERECTION DRAWINGS FOR APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO THE COMMENCEMENT OF FABRICATION. INCLUDE PLACING DRAWINGS FOR FRAMING MEMBERS SHOWING SIZE AND GAGE DESIGNATIONS, NUMBER, TYPE, LOCATION AND SPACING. INDICATE SUPPLEMENTAL TRAPPING, BRACES, SPLICES, BRIDGING, ACCESSORIES AND DETAILS REQUIRED FOR PROPER INSTALLATION.

R. MULTIPLE STUD COLUMNS (INCLUDING JACK/FULL HT. STUD ASSEMBLIES EA. SIDE OF OPENINGS) SHALL BE WELDED TOGETHER AT BOTH FLANGES WITH 2" TOP AND BOTTOM AND 1" AT 24" O.C. BETWEEN. IF SCREWED CONNECTIONS REQUIRED TO FASTEN STUDS, PROVIDE (2) ROWS OF SCREWS AT SPACINGS NOTED FOR WELDS, FASTENED AT WEBS (NOTE: ADDITIONAL TRACK MEMBERS, SAME DEPTH AND GAGE AS STUD MEMBERS (MIN.), MAY BE REQ'D. TO BUILD BOX MEMBERS TO PROVIDE WEB SCREW CONNECTIONS NOTED. FASTEN FLANGES OF TRACKS TO FLANGES OF STUDS WITH SCREWS EA. FLANGE AT SAME SPACING NOTED ABOVE).

S. MEMBER SIZE, GAGE AND SPACING OF EXTERIOR WALL STUDS AND ALL MEMBER CONNECTIONS SHALL BE DESIGNED BY STUD MANUFACTURER. SUBMIT CALCULATIONS FOR MEMBERS AND CONNECTIONS WITH SHOP DRAWINGS (SIGNED AND STAMPED BY LICENSED STRUCTURAL ENGINEER IN THE STATE IN WHICH THE PROJECT WILL BE CONSTRUCTED) TO ENGINEER OF RECORD FOR REVIEW. DESIGN OF STUDS SHALL CONFORM TO LOAD CRITERIA NOTED ON DRAWINGS WITH MAXIMUM STUD DEFLECTION OF L/240 OF STUD LENGTH (L/360 FOR SIMULATED STONE WALLS OR STUCCO FINISHES, L/600 FOR BRICK OR STONE VENEER WALLS). SHOP DRAWINGS SHALL SHOW WALL SECTIONS COORDINATED WITH DRAWINGS SHOWING FRAMING, ACCESSORIES, ANCHORAGE AND CONNECTION DETAILS. REVIEW OF SHOP DRAWINGS SHALL BE FOR CONFORMANCE W/THE CONTRACT DOCUMENTS REGARDING ARRANGEMENT AND SIZES OF MEMBERS AND THE CONTRACTOR'S INTERPRETATION OF THE DESIGN LOADS AND CONTRACT DOCUMENT DETAILS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR THE DESIGN OF THE COLD-FORMED STEEL STRUCTURAL MEMBERS AND THEIR CONNECTIONS.



STEEL FRAMING NOMENCLATURE

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
Digitally signed by: MARK F. WEISS
Date: 8/2/2024
MARK F. WEISS 35811–E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
			REVISION		

OPERATIONS BUILDING
STRUCTURAL NOTES
SHEET 2 OF 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-0.3

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REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

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STRUCTURAL ABBREVIATIONS:

@	AT
≥	GREATER THAN
<	LESS THAN
=	EQUALS
+/-	PLUS OR MINUS
AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
ALUM	ALUMINUM
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BF	BOTTOM FACE
BLDG	BUILDING
BM	BEAM
B.O.	BOTTOM OF
BOS	BOTTOM OF STEEL
BOSD	BOTTOM OF STEEL DECK
BOT	BOTTOM
BP	BASE PLATE
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
C TO C	CENTER TO CENTER
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CTLJ	CONTROL / CONTRACTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
C.O.	CONTRACTING OFFICER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTR	CENTER
D	DEPTH
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOOR
FLG	FLANGE
FS	FAR SIDE
FT	FEET
FTG	FOOTING
GA	GAGE OR GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GDRL	GUARDRAIL
GR	GRADE
GRTG	GRATING

HAS	HEADED ANCHOR STUD
HDRL	HANDRAIL
HDG	HOT DIPPED GALVANIZED
HK	HOOK
HORIZ	HORIZONTAL
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
I.D.	INSIDE DIAMETER
I.F.	INSIDE FACE
IN	INCH
INFO	INFORMATION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LBS	POUNDS
LF	LINEAR FEET
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LP	LOW POINT
LWT	LIGHTWEIGHT
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLTS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
mm	MILLIMETER(S)
MTL	METAL
MWFRS	MAIN WIND FORCE RESISTING SYSTEM
N/A	NOT APPLICABLE
NO.	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OSL	OUTSTANDING LEG
PAF	POWDER ACTUATED FASTENER
PC	PRECAST
PCF	POUNDS PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
R	RISER
RAD	RADIUS
RC	REINFORCED CONCRETE
RD	ROOF DRAIN
RDAA	REBAR DOWEL ADHESIVE ANCHOR
RECT	RECTANGULAR
REF	REFER TO
REINF	REINFORCEMENT
REQD	REQUIRED
SC	SLIP-CRITCAL
SCHED	SCHEDULE
SECT	SECTION
SHT SIM	SHEET SIMILAR
SOG	SLAB ON GRADE
SPA	SPACING
SPEC	SPECIFICATION
SQ STD	SQUARE STANDARD
STGR	STRINGER
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
SS	STAINLESS STEEL
T	TREAD
T&B	TOP AND BOTTOM
TEMP	TEMPERATURE
TF	TOP FACE
THK	THICKNESS
T.O.	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTES OTHERWISE
VERT	VERTICAL
W/	WITH
W/O	WITHOUT
WL	WIND LOAD
WP	WORK POINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

RELEASE FOR BID

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STATE OF ALABAMA
ENGINEER'S SEAL
Docusigned by: MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	APVD BY:
X	X	X	X	

ABBREVIATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-0.4

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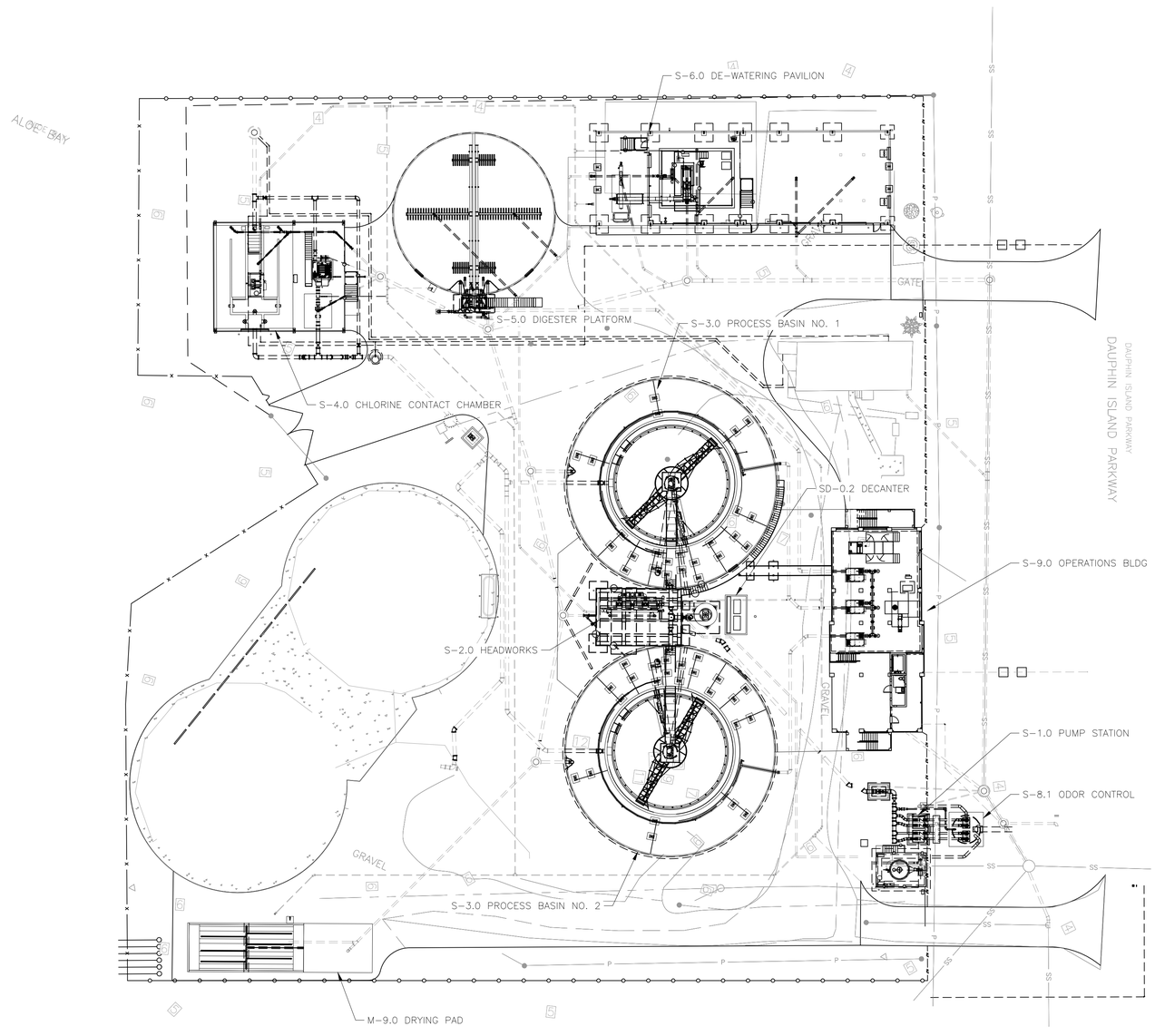

PLAN
SCALE: 1" = 30'

0 30 60
GRAPHIC SCALE

NOTE: BALANCE OF PLANT REFERS TO THE FOLLOWING:
S-1.0, S-2.0, S-3.0, S-4.0, S-5.0, S-6.0, S-7.0, S-8.1

RELEASE FOR BID

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
DocuSigned by: Mark Weiss
9/2/2024
ENGINEER'S SEAL

NO.	DATE	REVISION	BY
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KEY PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	S-0.5

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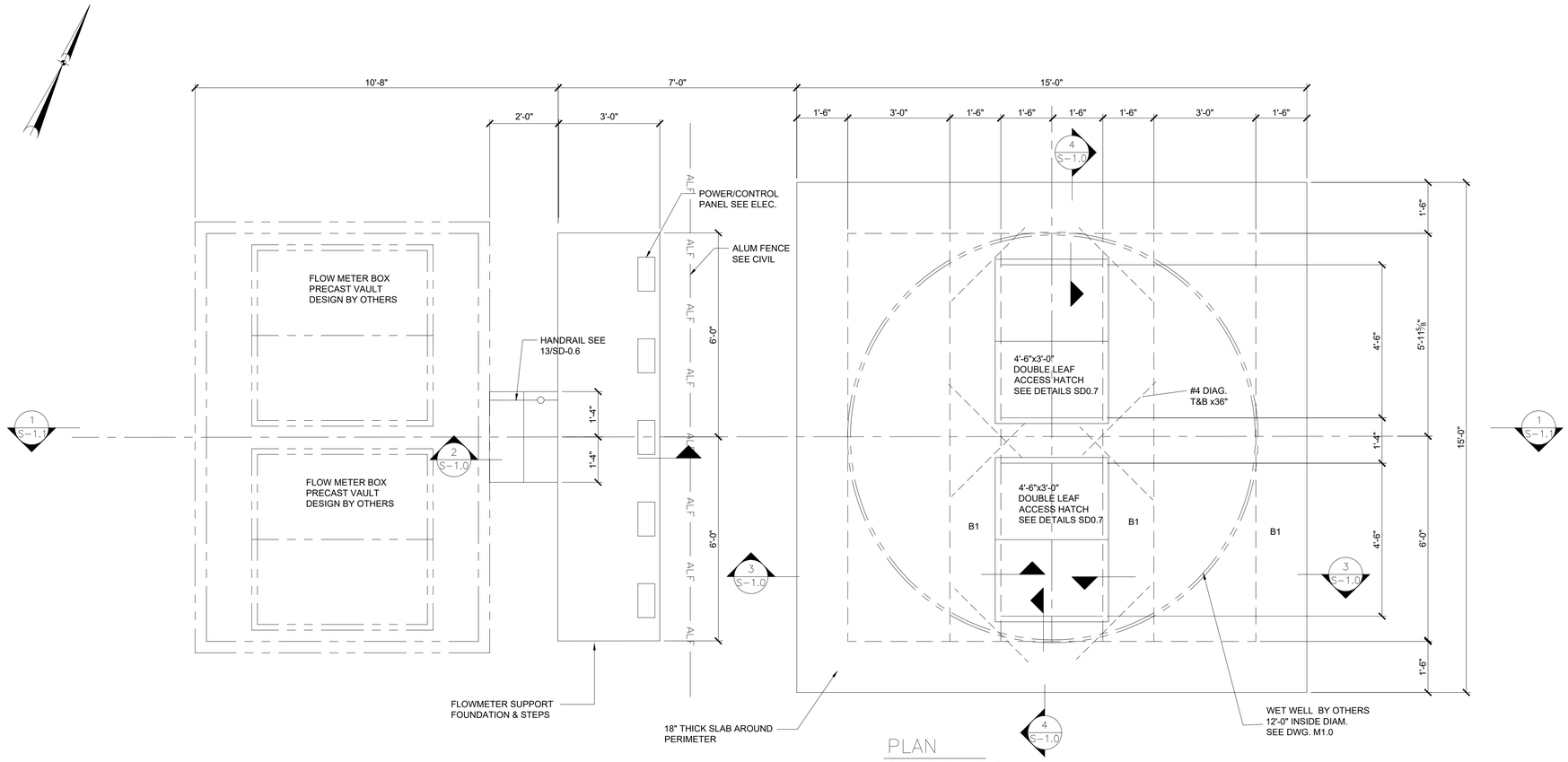
John G. Newton PLOT 8/2/2024 11:49 AM SAVED 8/2/2024 8:11 AM

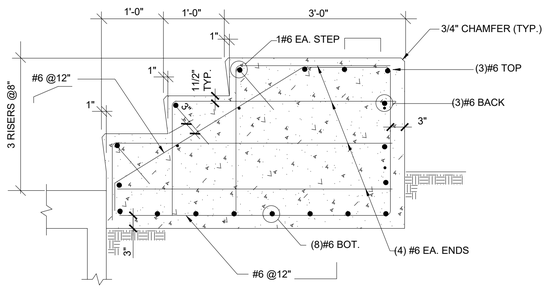


PLAN

SCALE: 1/2" = 1'-0"

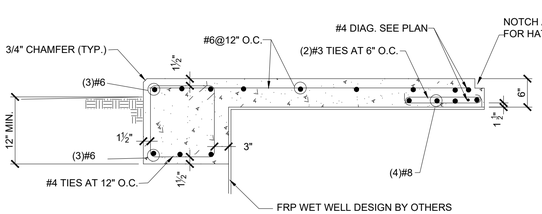
NOTES:

1. SLAB LIVE LOAD = 200 PSF.
   B1 DENOTES BEAM STRIP SEE DETAIL 3/S1.0.
2. FOR ELEVATED/TOS SEE 1/S1.1.



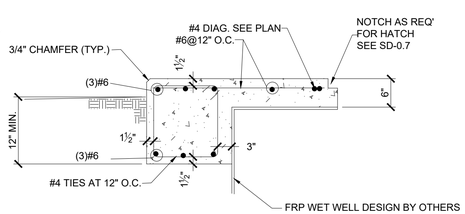
SECTION 2/S-1.0

3/4" = 1'-0"



SECTION 3/S-1.0

3/4" = 1'-0"



SECTION 4/S-1.0

3/4" = 1'-0"

0 2 4

GRAPHIC SCALE

RELEASE FOR BID

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024
ENGINEER'S SEAL
DocuSigned by: Mark Weiss
E781B1B0B0D6445...

NO.	DATE	REVISION	BY
DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

INFLUENT PUMP STATION AND FLOW METER BYPASS PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
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DATE	MAY 2023
PROJ.	100200.32
DWG.	S-1.0

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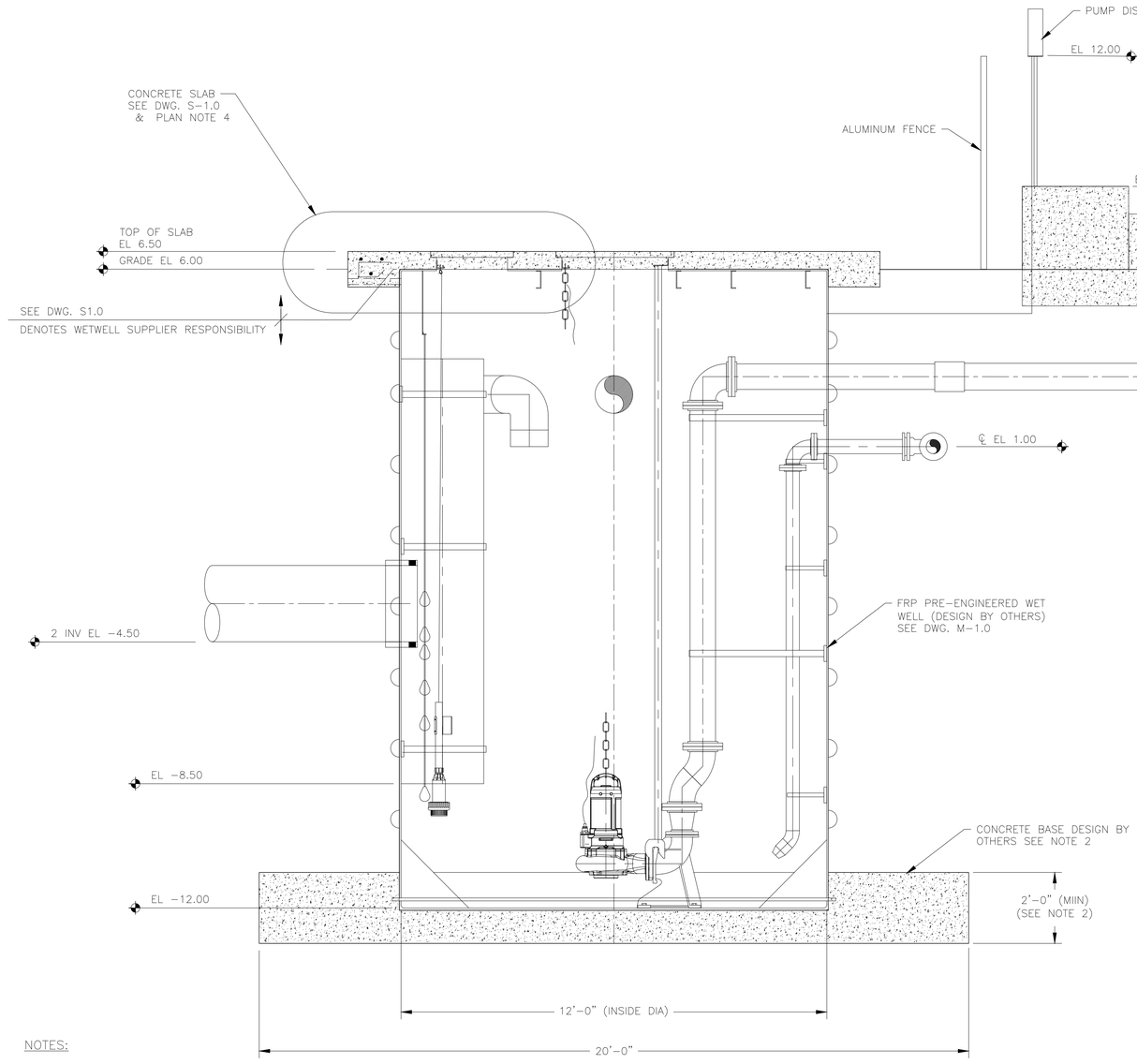

NOTES:

1. FRP WETWELL AND VALVE BOX SHALL MEET OR EXCEED ALL APPLICABLE ASTM REQUIREMENTS. FINAL DESIGN ON WET WELL & VALVE BOX SHALL BE BY OTHERS.
2. CONCRETE BASE AND ANCHORING FOR WETWELL DESIGNED BY AN ALABAMA PROFESSIONAL ENGINEER (RETAINED BY THE CONTRACTOR) SHALL BE CONSTRUCTED PER MANUFACTURER'S RECOMMENDATION AND SHALL BE SUFFICIENT TO PREVENT FLOTATION OF THE WETWELL FOR A GROUNDWATER ELEVATION EQUAL TO THE WETWELL TOP ELEVATION. PROPOSED DESIGN AND ANTI-FLOTATION CALCULATIONS SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.
3. SEE STRUCTURAL DWG. S1.0 FOR REINFORCED OPENINGS DETAILS.
4. FINAL TOP SLAB TO FRP WET WELL ANCHORAGE DETAILS TO BE COORDINATED WITH FINAL WET WELL VENDOR DRAWINGS.

SECTIONAL ELEVATION 1/M-1.0
1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

STATE OF ALABAMA
PROFESSIONAL ENGINEER
MARK F. WEISS
35811-E
REGISTERED
ENGINEER'S SEAL
Docusigned by: Mark F. Weiss
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APV'D

INFLUENT PUMP STATION SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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PROJ.	100200.32
DWG.	S-1.1

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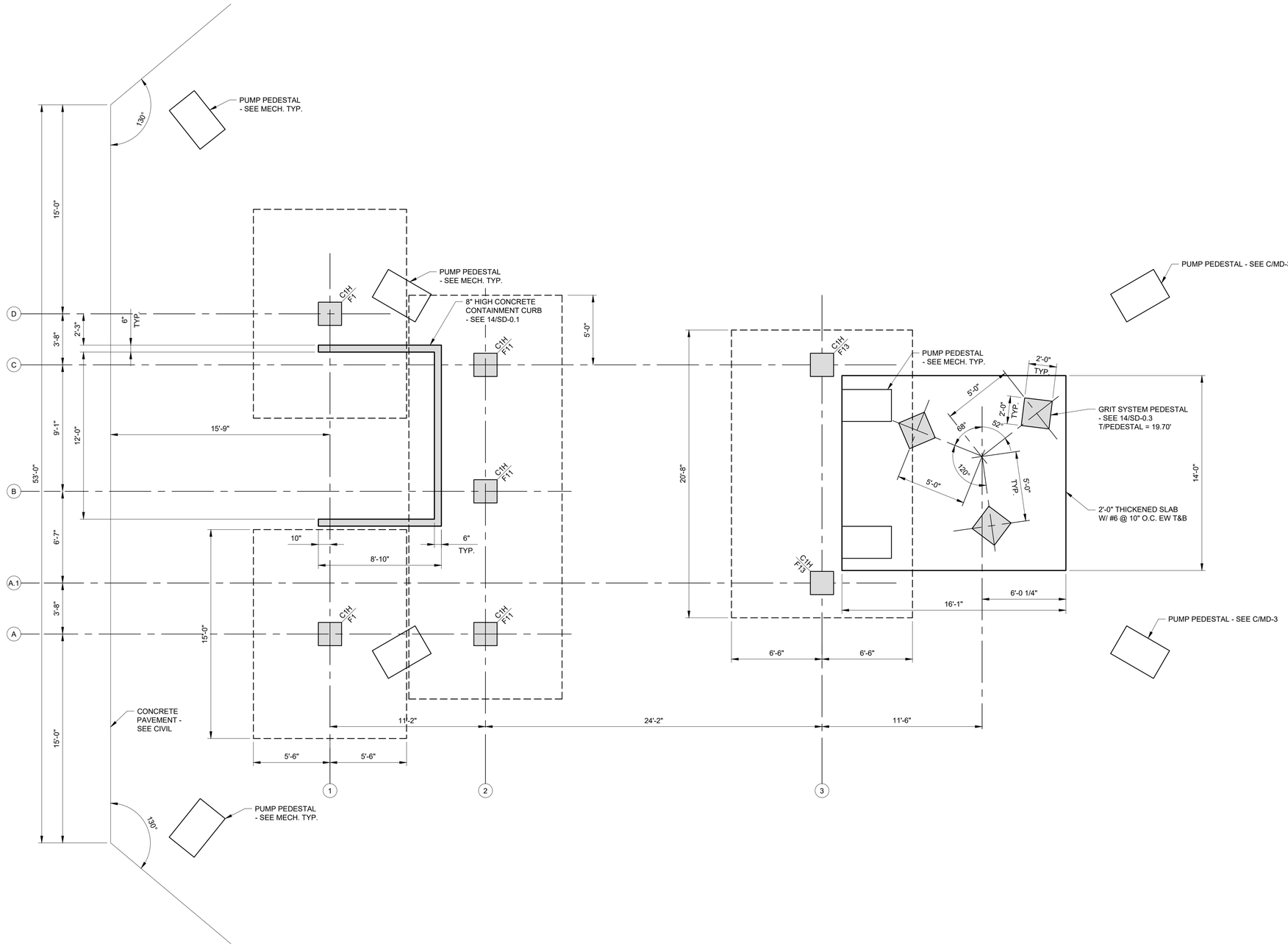

FOOTING SCHEDULE				
MARK	SIZE	THICKNESS	T/FTG (EL)	REINFORCING
F1	11'-0" x 15'-0"	1'-6"	-3.00	#7@9" EW / T&B
F13	13'-0" x 28'-8"	1'-6"	-3.00	#7@10" EW / T&B
F11	11'-0" x 29'-0"	1'-6"	-3.00	#7@12" EW / T&B
NOTE: GRADE = +7.00± SEE CIVIL				

COLUMN SCHEDULE		
MARK	SIZE	REINFORCING
C1H	1'-8" x 1'-8"	SEE 16/SD-0.3

FOUNDATION/SLAB PLAN

SCALE: 1/4" = 1'-0"

NOTE:
FOUNDATIONS SHALL BE BACKFILLED TO ELEVATION +5.00 PRIOR TO THE CONSTRACTOR SETTING ANY PROCESS EQUIPMENT ON THE +31.00 LEVEL.

0 4 8
GRAPHIC SCALE

RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
Docusigned by: MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

HEADWORKS FOUNDATION/SLAB PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501
FL. CERTIFICATE OF AUTHORIZATION # 27931

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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-2.0

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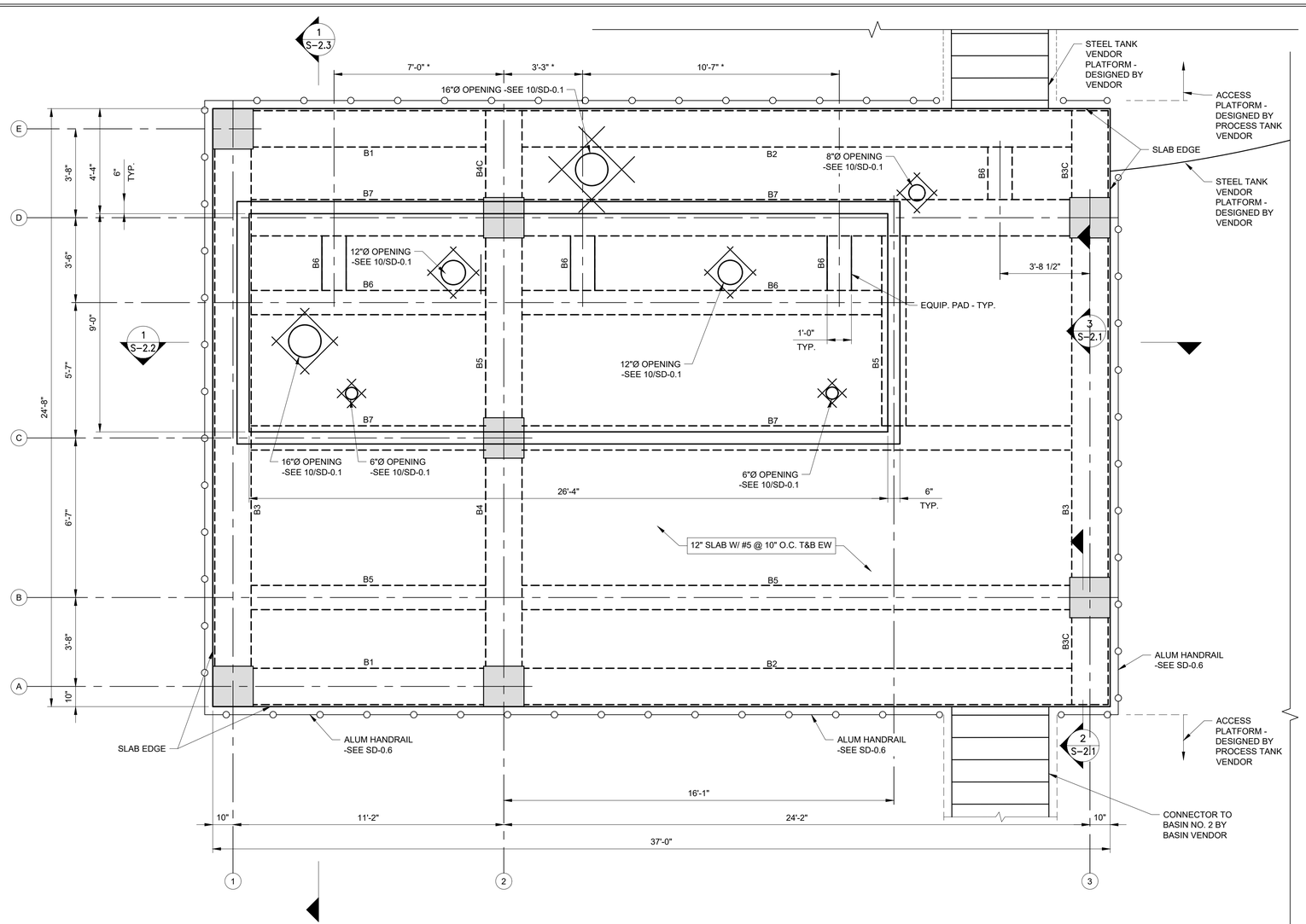
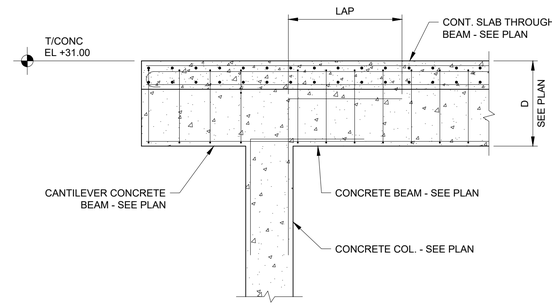
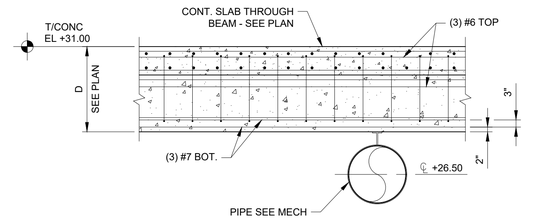




SECTION 2 / S-2.1
3/8" = 1'-0"

0 2 4
GRAPHIC SCALE



SECTION 3 / S-2.1
3/8" = 1'-0"

0 2 4
GRAPHIC SCALE

FRAMING PLAN (EL +31.00)

SCALE: 3/8" = 1'-0"

0 2 4
GRAPHIC SCALE

NOTES:

1. * VERIFY W/ FINAL MECH. / VENDOR INFORMATION
2. SEE MECH. FOR FINAL LOCATION AND QUANTITY OF THRU SLAB OPENING. FOR THRU PENETRATIONS LESS THAN 6"Ø NO SHOWN FOR CLARITY.

BEAM SCHEDULE

MARK	SIZE	LONGITUDINAL REINFORCING		STIRRUPS
	W x D (IN)	TOP	BOTTOM	
B1	18" x 24"	(3) #6	(3) #6	#4 @ 6" O.C.
B2	18" x 24"	(3) #6	(3) #7	#4 @ 6" O.C.
B3	18" x 36"	(3) #6	(6) #7 (2 LAYERS)	#4 @ 6" O.C. (2) SETS
B3C	18" x 36"	(3) #6	(6) #7 (2 LAYERS)	#4 @ 4" O.C. (2) SETS
B4	18" x 24"	(4) #6	(4) #7	#4 @ 6" O.C.
B4C	18" x 36"	(4) #6	(4) #7	#4 @ 6" O.C. (2) SETS
B5	12" x 12"	(3) #6	(3) #7	#4 @ 6" O.C.
B6	12" x 12"	(3) #5	(3) #6	#4 @ 6" O.C.
B7	12" x 24"	(3) #6	(3) #7	#4 @ 6" O.C.

FOR TYP REINF. DETAILS SD-0.1 & SD-0.3

RELEASE FOR BID

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024
ENGINEER'S SEAL
Docusigned by: Mark Weiss 35811-E
8/2/2024

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	APVD BY:
DESIGNED BY: X			X	X	APPROVED X

HEADWORKS UPPER LEVEL SLAB PLAN EL +31.00

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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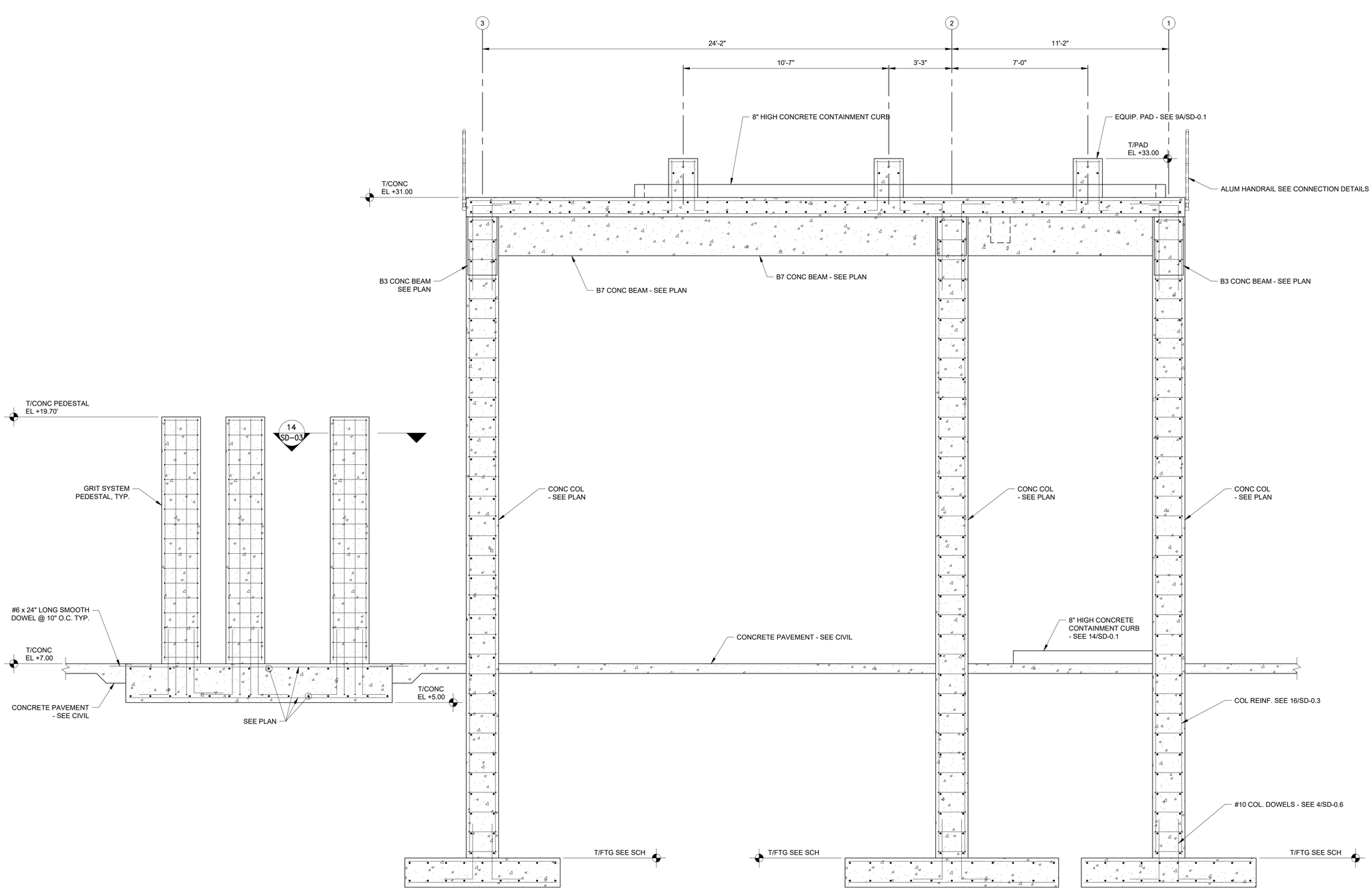

SECTION 1 / S-2.1
3/8" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
Mark Weiss
8/7/2024
Digitally signed by: MARK F. WEISS
Date: 2024.08.07 13:54:03 -05'00'

NO.	DATE	REVISION	BY
	DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APVD BY:

HEADWORKS SECTION

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	S-2.2

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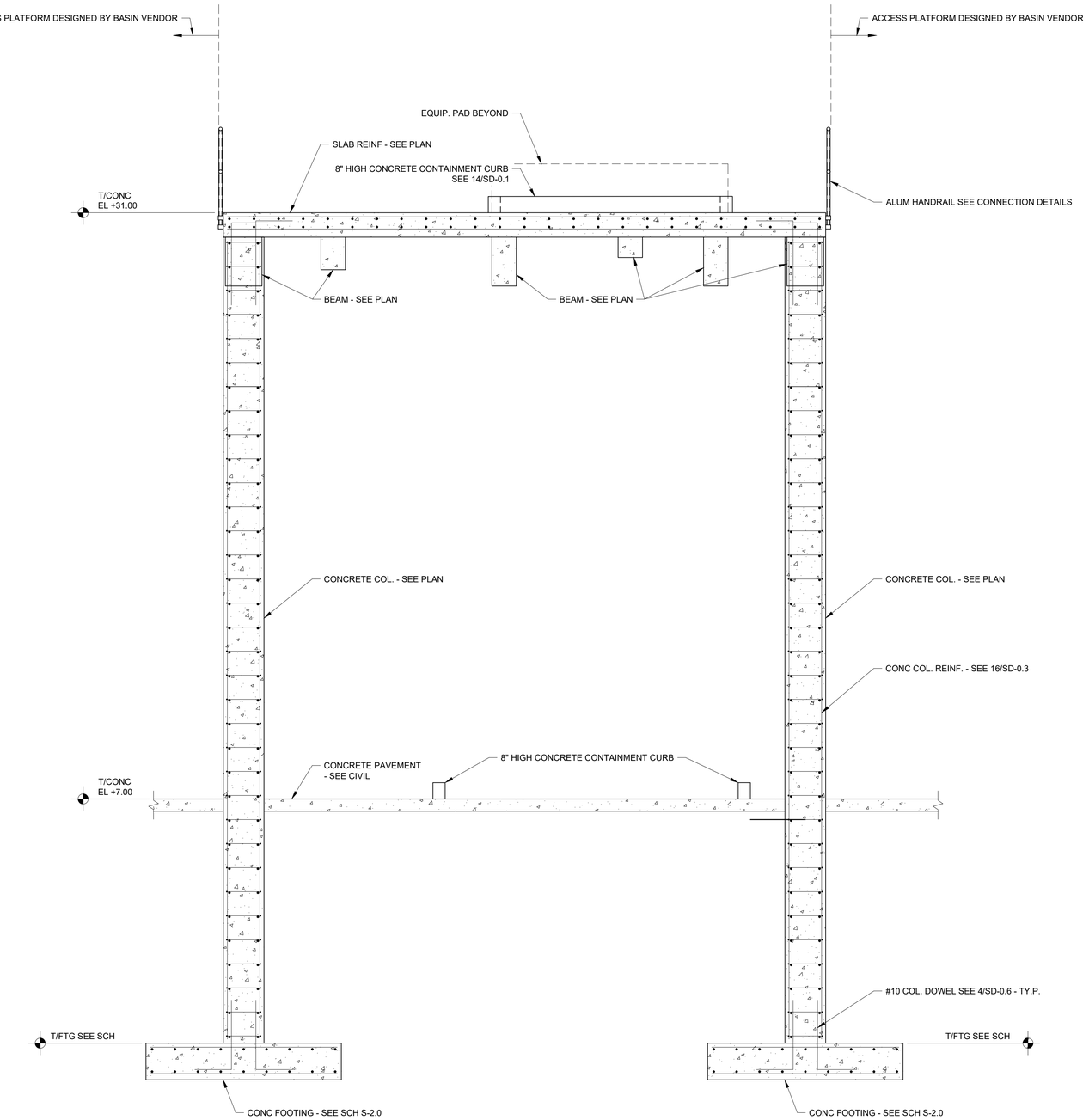

SECTION 1 / 3/8" = 1'-0" (S-2.1)

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024
Electronically Signed by: Mark Weiss
Certificate No. 35811

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APVD BY: APPROVED X

HEADWORKS SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
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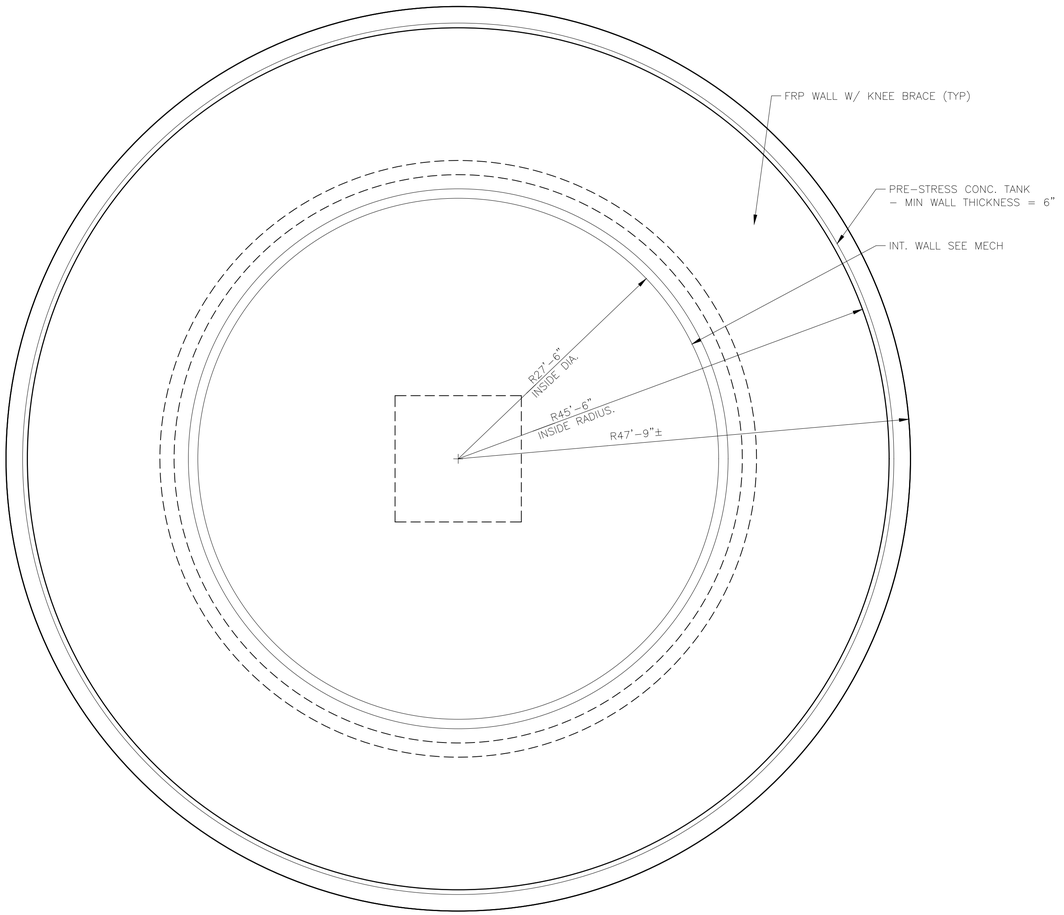

PROCESS BASIN NO. 1 (PROCESS BASIN NO. 2 SIMILAR)

FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

0 8 16

GRAPHIC SCALE

RELEASE FOR BID

ENGINEER'S SEAL

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER

DocuSigned By: Mark Weiss
F8E3E2B05442...

8/2/2024

NO.	DATE	REVISION	BY
	DESIGNED BY: MFW	DRAWN BY: LMN	CHECKED BY: X	APPROVED BY: X	APVD BY:

NORTH PROCESS BASIN NO. 1 & 2 FOUNDATION PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-3.0

W:\2021-1353-00 - DAUPHIN ISLAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\S-3.0.DWG
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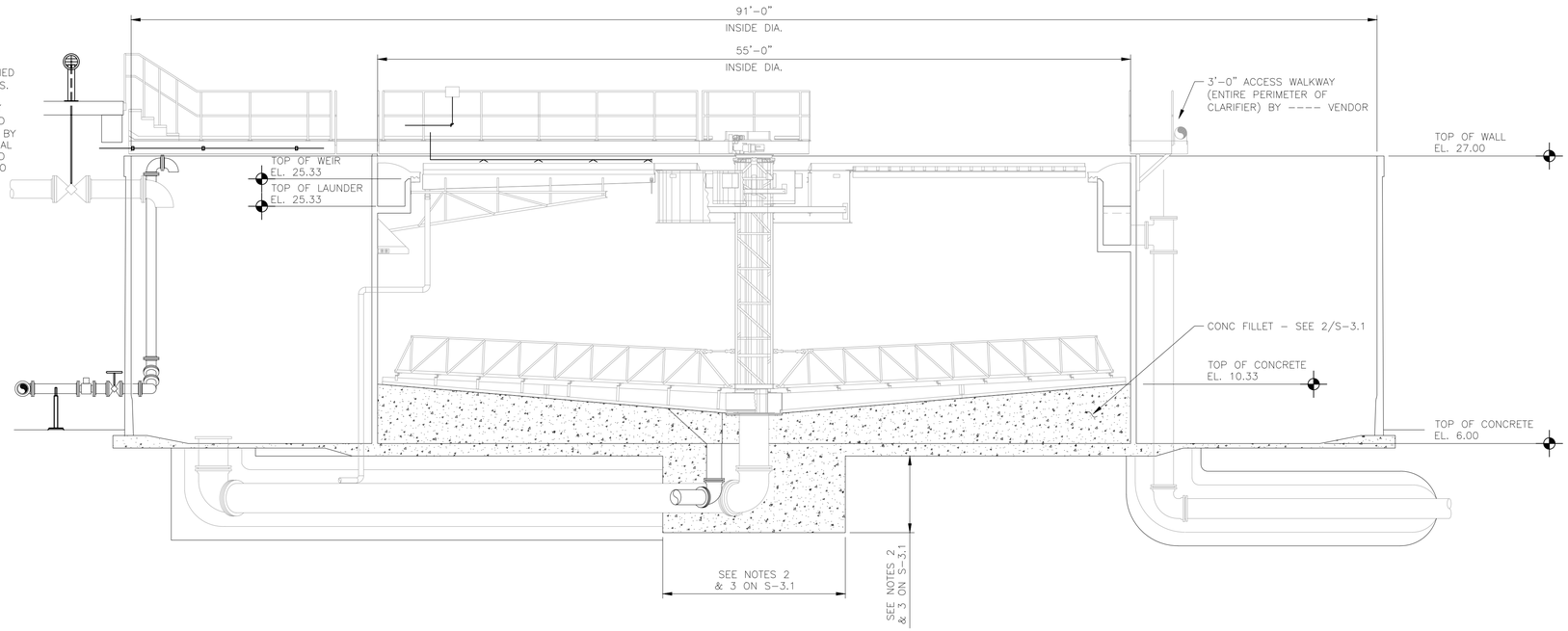
NOTES:

1. SOUTH BASIN IS A MIRROR IMAGE.
2. FINAL TANK LAYOUT, ETC. SHALL BE VERIFIED W/ FINAL APPROVED TANK SHOP DRAWINGS.
3. TANK FOUNDATION SHALL BE DESIGNED BY THE TANK EQUIPMENT VENDOR. (DELEGATED DESIGN) FOUNDATION SHALL BE DESIGNED BY AN ALABAMA PROFESSIONAL ENGINEER. FINAL DESIGN CALCULATIONS SHALL BE PREPARED BY THE TANK ENGINEER AND SUBMITTED TO THE ENGINEER OF RECORD.



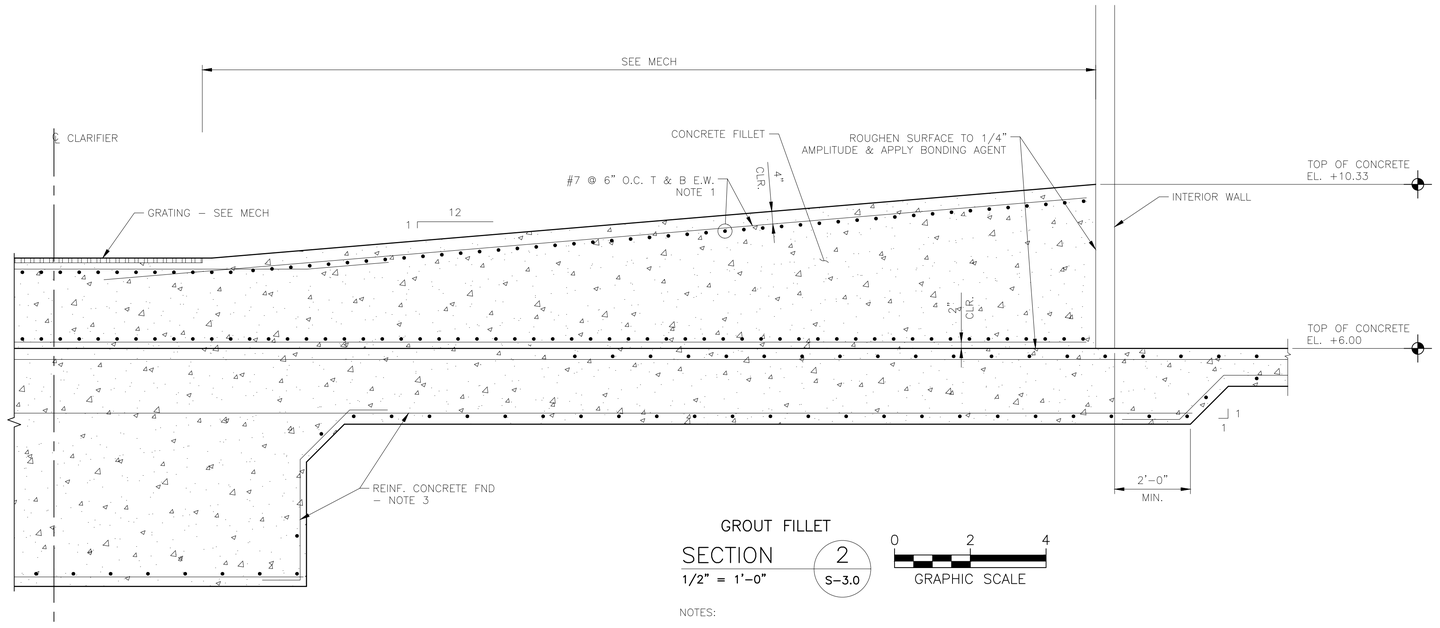
PROCESS BASIN NO. 1 (PROCESS BASIN NO. 2 SIMILAR)
SECTIONAL ELEVATION

SECTION 1 / S-3.0
3/16" = 1'-0"

0 4 8
GRAPHIC SCALE

NOTES:

1. FOR INFORMATION NOT SHOWN SEE MECH



GROUT FILLET

SECTION 2 / S-3.0
1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

NOTES:

1. AT CONTRACTOR OPTION, REINFORCING FOR CONCRETE FILLET MAY BE REPLACED WITH ACRYLIC FIBER MESH AT A DOSAGE OF 1 1b/CY.

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
Digitally Signed by: MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
Date: 2024.08.21

NO.	DATE	REVISION	BY
DESIGNED BY: MFW	DRAWN BY: LMN	CHECKED BY: X	APPROVED BY: X

NORTH PROCESS BASIN NO. 1 & 2 SECTIONS AND DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256) 203-9501
FL. CERTIFICATE OF AUTHORIZATION # 27931

FILE	SEE LEFT
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-3.1

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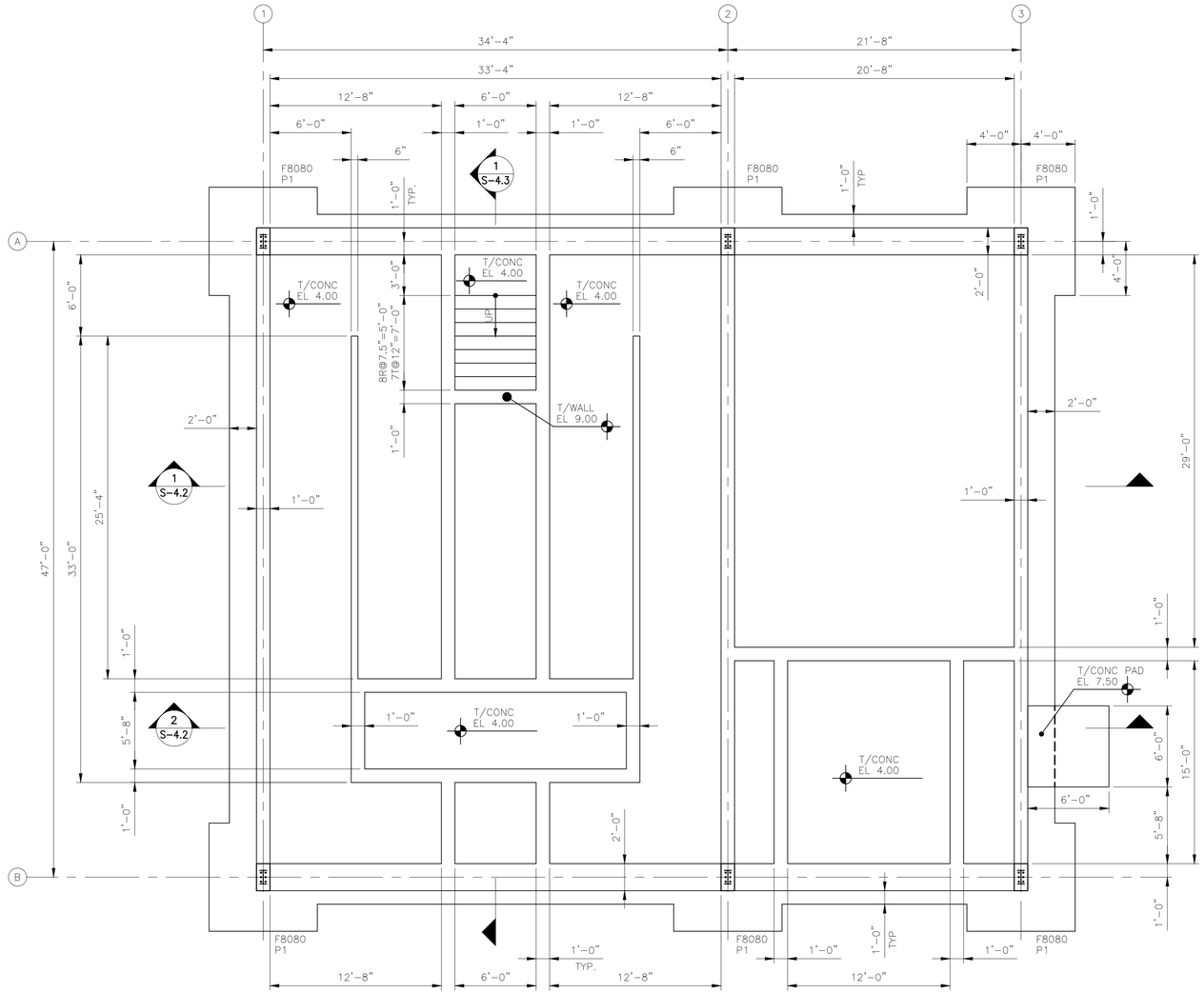

FOUNDATION PLAN

SCALE: 3/16" = 1'-0"

NOTES:

1. FOR TYPICAL CONCRETE DETAILS & WATERSTOP DETAILS SEE SD-0.1.
2. ALL INTERIOR & EXTERIOR WALLS SHALL HAVE WATERSTOPS SEE DETAIL 5/SD-0.1.

0 4 8
GRAPHIC SCALE

FOOTING SCHEDULE				
MARK	SIZE	THICKNESS	T/FTG (EL)	REINFORCING
F8080	8'-0" x 8'-0"	2'-0"	+4.00	(9)#6 EA TOP & BOTT
NOTE: FINISH GRADE = +7.00± SEE CIVIL				

PIER SCHEDULE			
MARK	PIER SIZE (IN.)		REMARKS
	LENGTH	WIDTH	
P1	24"	24"	SEE 11/SD-0.3

RELEASE FOR BID

STATE OF ALABAMA
PROFESSIONAL ENGINEER
REGISTERED
MARK F. WEISS
35811-E
DocuSigned by: Mark Weiss
8/2/2024
ENGINEER'S SEAL

NO.	DATE	REVISION	BY
			APVD
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

CHLORINE CONTACT BASIN CONCRETE PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-4.0

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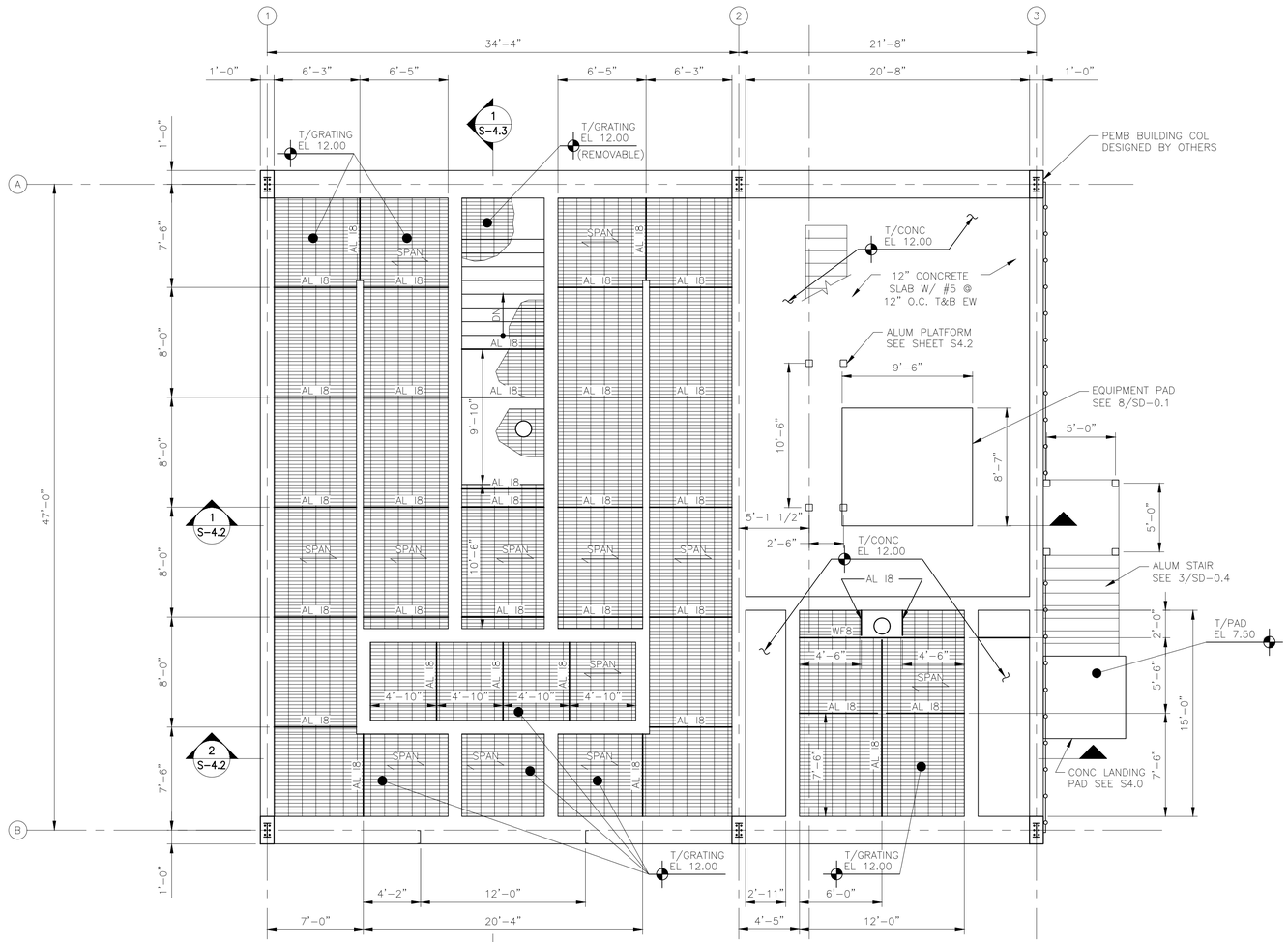

SLAB/GRATING PLAN

SCALE: 3/16" = 1'-0"

0 4 8

GRAPHIC SCALE

NOTE:
1. AL 18 DENOTES 18x7.02 ALUMINUM BEAM.
2. WF8 DENOTES W8x13 ALUMINUM BEAM FOR TYPICAL GRATING PENETRATION DETAIL SEE 9/SD-07.

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
Docusigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APVD BY:

CHLORINE CONTACT BASIN SLAB/GRATING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-4.1

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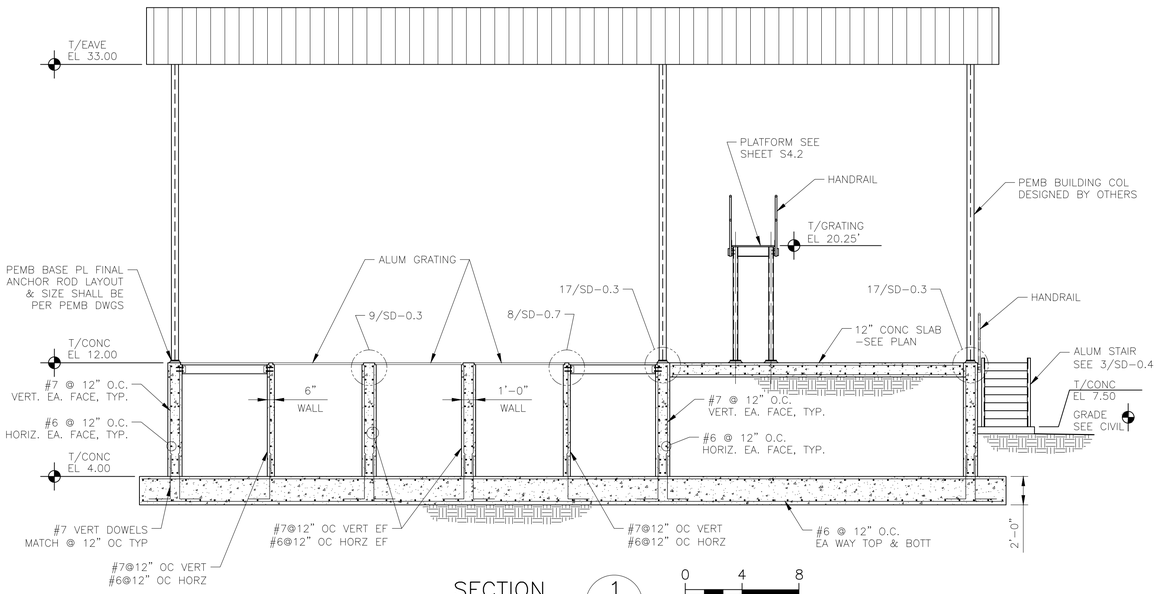
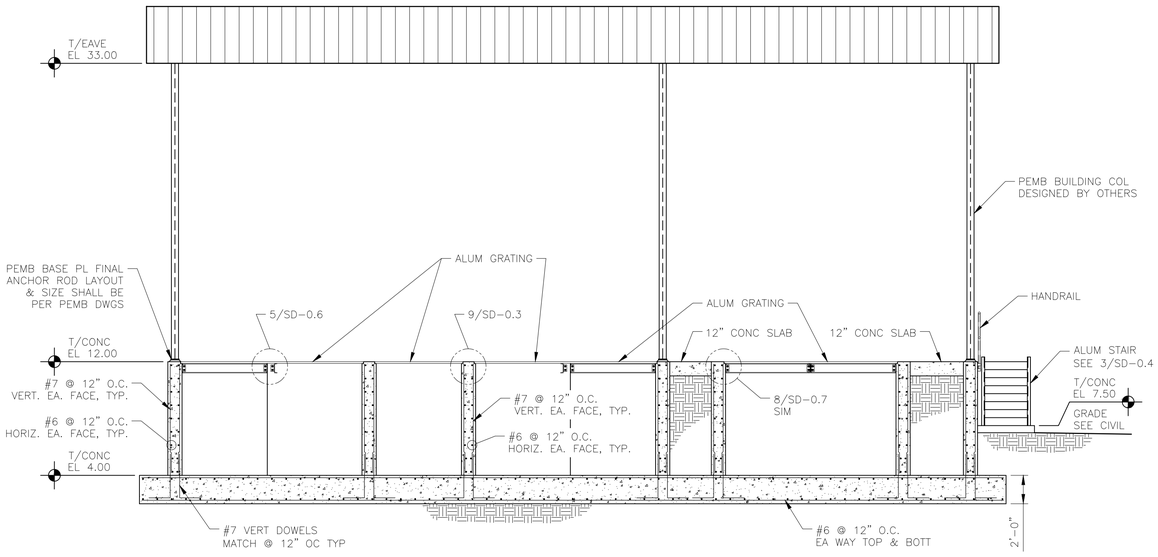


SECTION 1 — 3/16" = 1'-0" — S-4.2

0 4 8
GRAPHIC SCALE

NOTES:

1. FOR TYPICAL CONCRETE DETAILS & WATERSTOP DETAILS SEE SD-0.1.
2. ALL INTERIOR & EXTERIOR WALLS SHALL HAVE WATERSTOPS SEE DETAIL 5/SD-0.1.

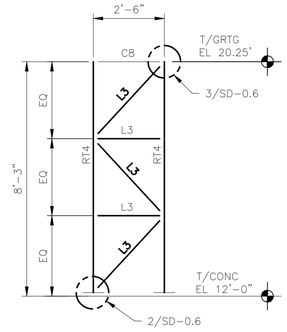


SECTION 2 — 3/16" = 1'-0" — S-4.2

0 4 8
GRAPHIC SCALE

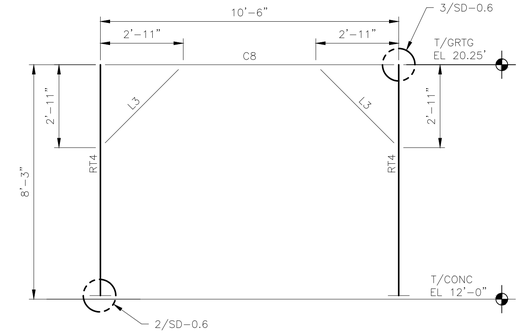
NOTES:

1. FOR TYPICAL CONCRETE DETAILS & WATERSTOP DETAILS SEE SD-0.1.
2. ALL INTERIOR & EXTERIOR WALLS SHALL HAVE WATERSTOPS SEE DETAIL 5/SD-0.1.



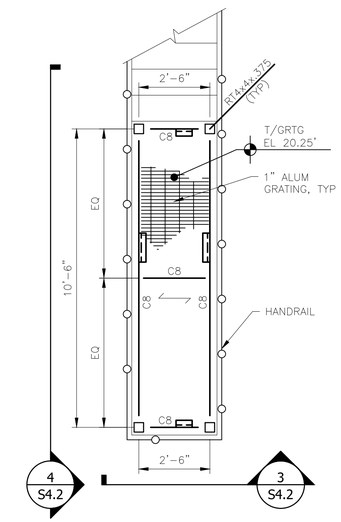
SECTION 3 — 3/8" = 1'-0" — S-4.2

0 4 8
GRAPHIC SCALE



SECTION 4 — 3/8" = 1'-0" — S-4.2

0 4 8
GRAPHIC SCALE



ALUMINUM PLATFORM PLAN

SCALE: 3/8" = 1'-0"

0 4 8
GRAPHIC SCALE

LEGEND

C10 = C10x10.4
C8 = C8x5.62
L3 = L3x3x1/4 (-3")
KB = KNEE BRACE SEE 3/SD-0.5
VB = VERT BRACE SEE 2/SD-0.5

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S Seal
Digitally signed by: MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPVD BY: APPROVED X

CHLORINE CONTACT BASIN
CROSS SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-4.2

S:\PROJECTS\2021-1353-00-DAUPHIN_ISLAND_WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SUBMITTAL\2024-08-02 DWGS\S-4.2.DWG
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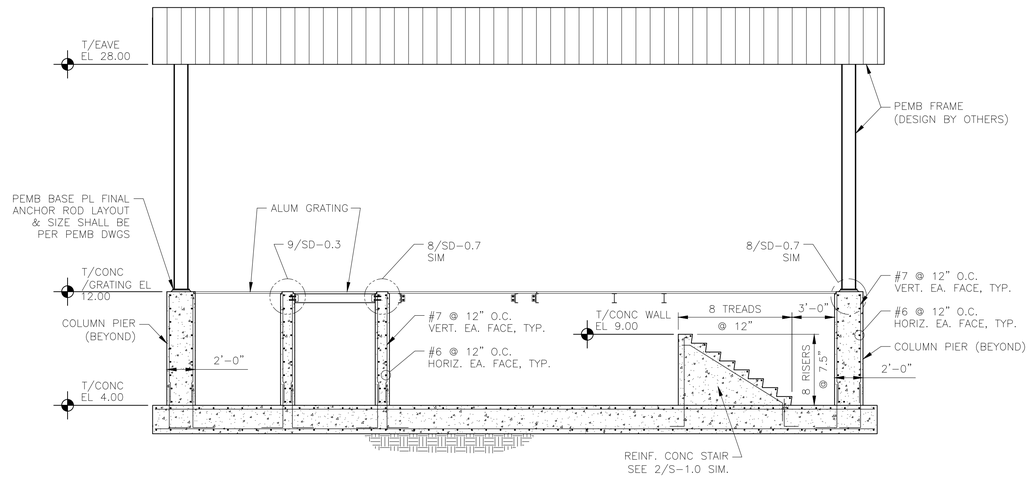

SECTION 1 / 3/16" = 1'-0" (S-4.3)

0 4 8
GRAPHIC SCALE

NOTES:

1. FOR TYPICAL CONCRETE DETAILS & WATERSTOP DETAILS SEE SD-0.1.
2. ALL INTERIOR & EXTERIOR WALLS SHALL HAVE WATERSTOPS SEE DETAIL 5/SD-0.1.

RELEASE FOR BID

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ENGINEER SEAL
STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
Docusigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

CHLORINE CONTACT BASIN CROSS SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-4.3

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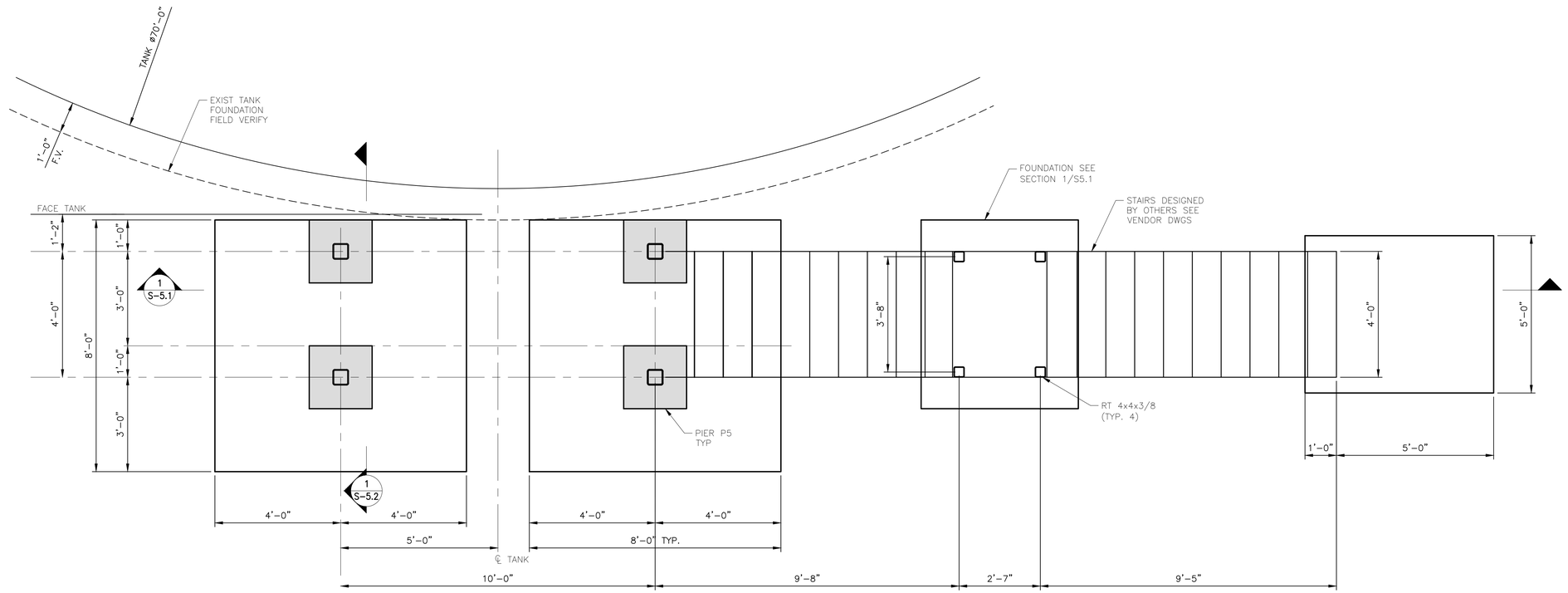
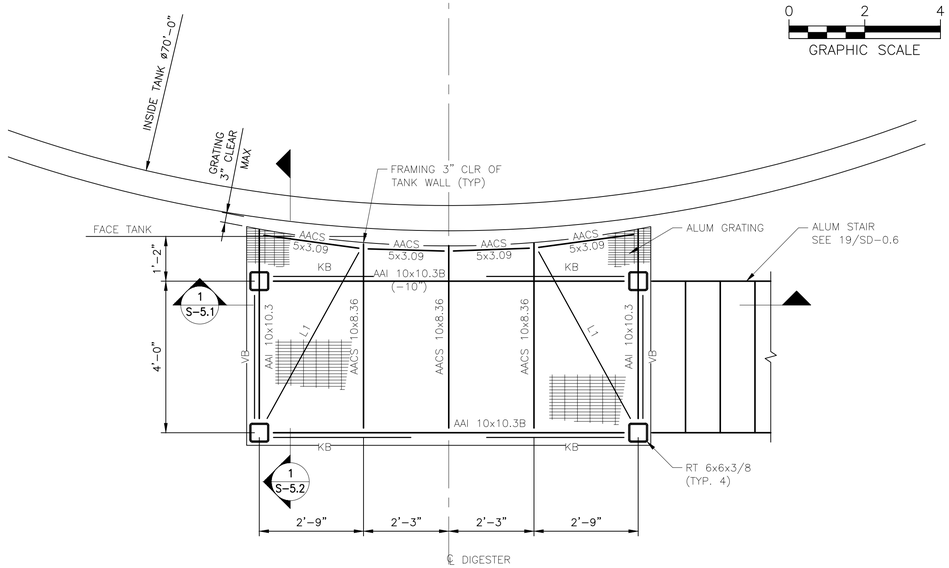


FOUNDATION PLAN

SCALE: 1/2" = 1'-0"

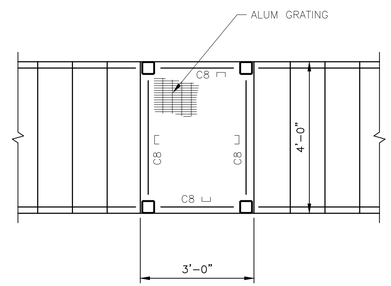
0 2 4
GRAPHIC SCALE



FRAMING PLAN

SCALE: 1/2" = 1'-0"
L1 = (-3")

0 2 4
GRAPHIC SCALE



STAIR LANDING PLATFORM FRAMING PLAN

SCALE: 1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
STATE OF ALABAMA
Docusigned by: MARK F. WEISS
Registration Number 35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	

DIGESTER PLANS
FOUNDATION & FRAMING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-5.0

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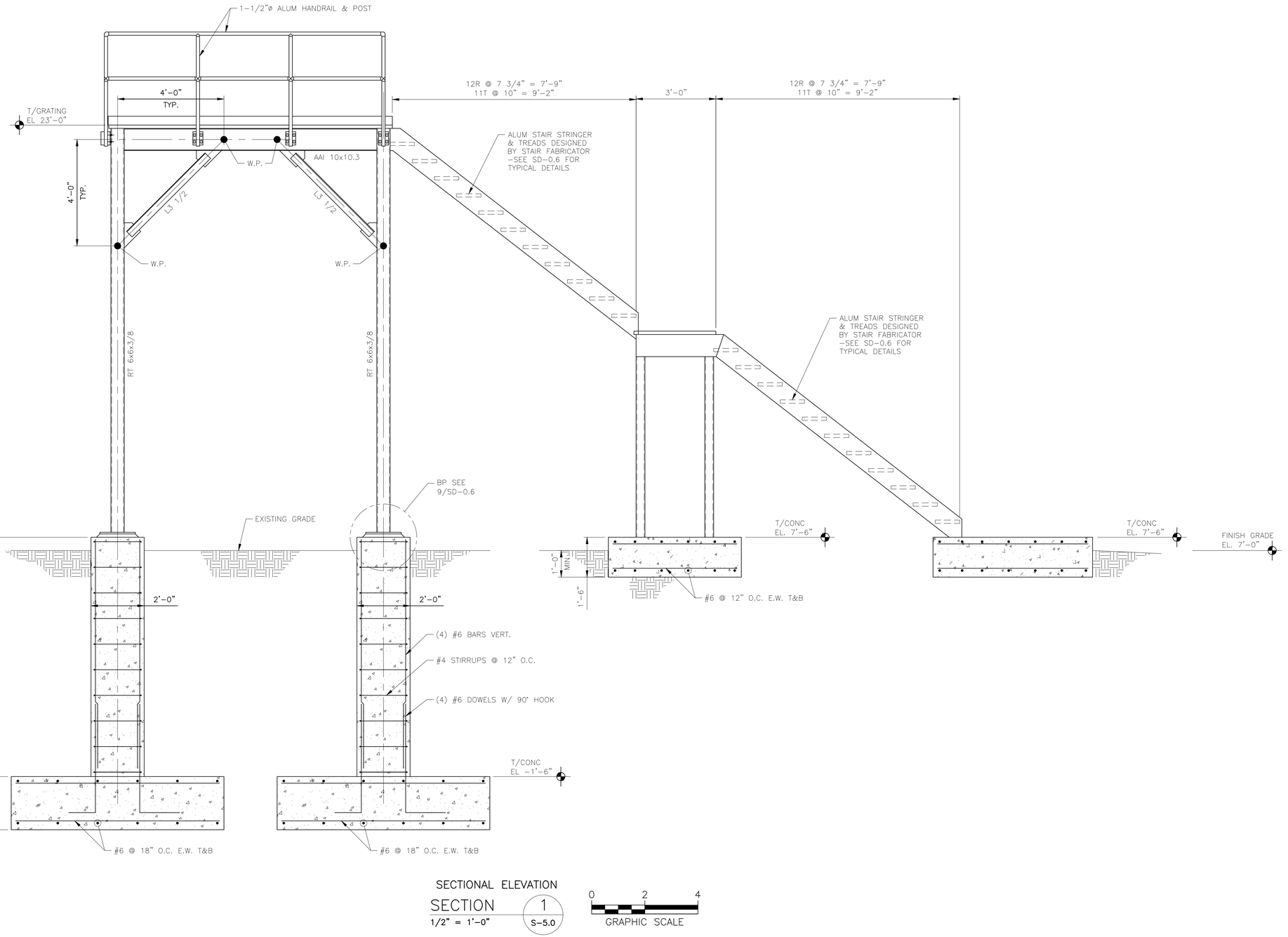

SECTIONAL ELEVATION

SECTION 1 / S-5.0

1/2" = 1'-0"

0 2 4

GRAPHIC SCALE

$L3\frac{1}{2} = L3\frac{1}{2}\times3\frac{1}{2}\times\frac{1}{4}$

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
Not Designed by: MARK F. WEISS 35811-E
Not Issued for Construction
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

DIGESTER CROSS SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
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DATE	AUG 2024
PROJ.	100200.32
DWG.	S-5.1

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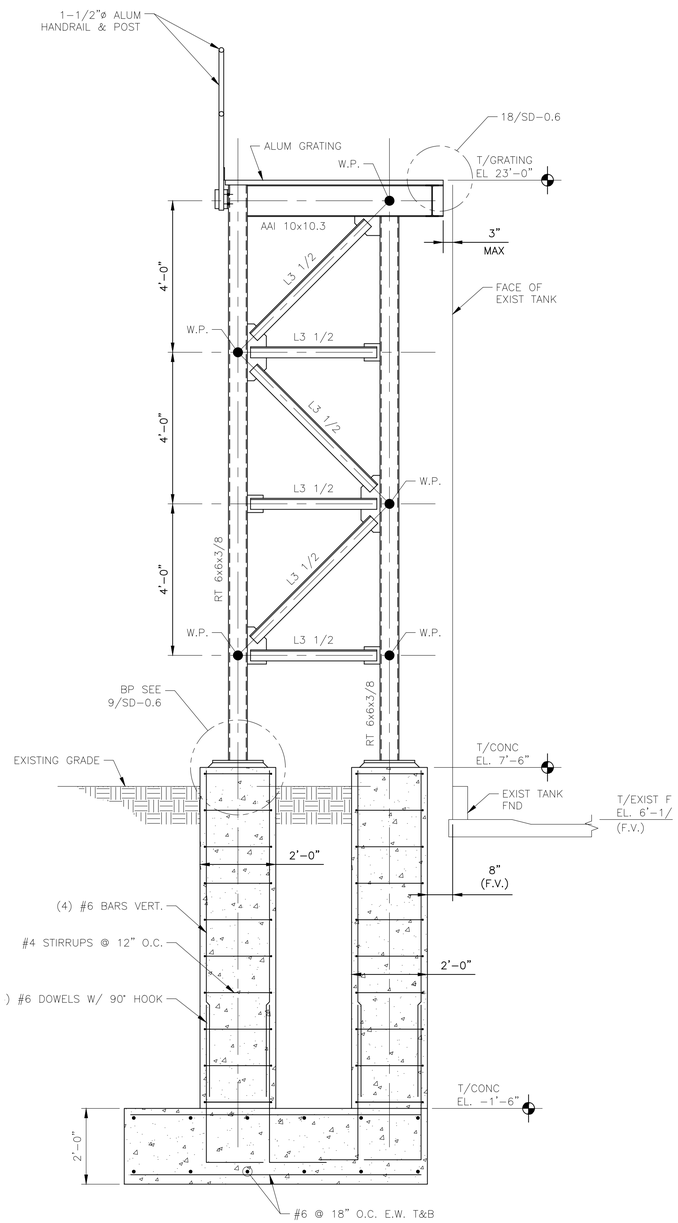

SECTIONAL ELEVATION

SECTION 1 / S-5.0

SCALE = 1/2"=1'-0"

0 2 4

GRAPHIC SCALE

1. $L3\frac{1}{2} = L3\frac{1}{2}\times3\frac{1}{2}\times\frac{1}{4}$
2. FIELD TRIM GRATING TO MATCH EXISTING TANK RADIUS.
3. CONTRACTOR SHALL PROVIDED TEMPORARY SHORING AT THE EXISTING TANK LOCATION SO AS TO NOT UNDERMINE THE EXISTING TANK FOUNDATION. SHORING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF AL.

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
Digitally Signed by: MARK F. WEISS
Date: 2024.08.02 13:35:44 -05'00'
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

DIGESTER CROSS SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	S-5.2

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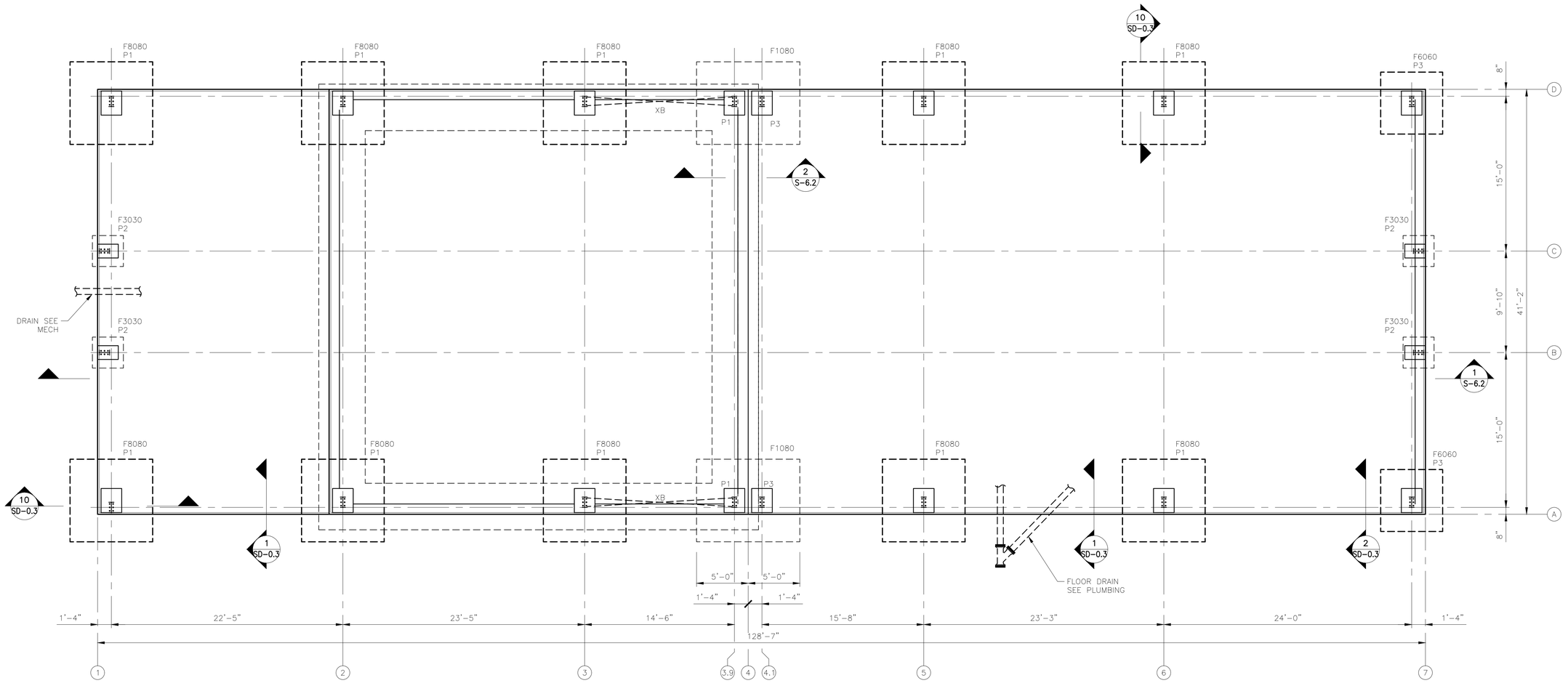

FOUNDATION PLAN

SCALE: 3/16" = 1'-0"

0 4 8

GRAPHIC SCALE

NOTES:
1. FOR PEDESTAL DETAILS SEE SD-0.3.
2. FOR CONTROL JOINTS SEE SD-0.3.

FOOTING SCHEDULE					
MARK	SIZE	THICKNESS	T/FTG (EL)	REINFORCING	DESIGNED MAX REACTION (UNFACTORED)
F1080	10'-0" x 8'-0"	2'-0"	+4.00'	#6 @ 10" O.C. EW / T&B	124K/ -24K
F3030	3'-0" x 3'-0"	1'-6"	+4.00'	#5 @ 10" O.C. EW / T&B	13.9K/ -2.0K
F6060	6'-0" x 6'0"	2'-0"	+4.00'	#6 @ 10" O.C. EW / T&B	55K/ -10.8K
F8080	8-0" x 8'-0"	2'-0"	+4.00'	#6 @ 10" O.C. EW / T&B	99K/ -19K
NOTE: GRADE = +7.00± SEE CIVIL					

PIER SCHEDULE					
MARK	PIER SIZE (IN.)		REINFORCING		REMARKS
	LENGTH	WIDTH	–	–	
P1	24"	24"	SEE DETAIL	SEE DETAIL	11/SD-0.3
P2	24"	16"	SEE DETAIL	SEE DETAIL	12/SD-0.3
P3	24"	24"	SEE DETAIL	SEE DETAIL	13/SD-0.3

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

Docusigned by: Mark Weiss
E3B0C5A45

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X

DEWATERING BUILDING SLAB PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-6.0

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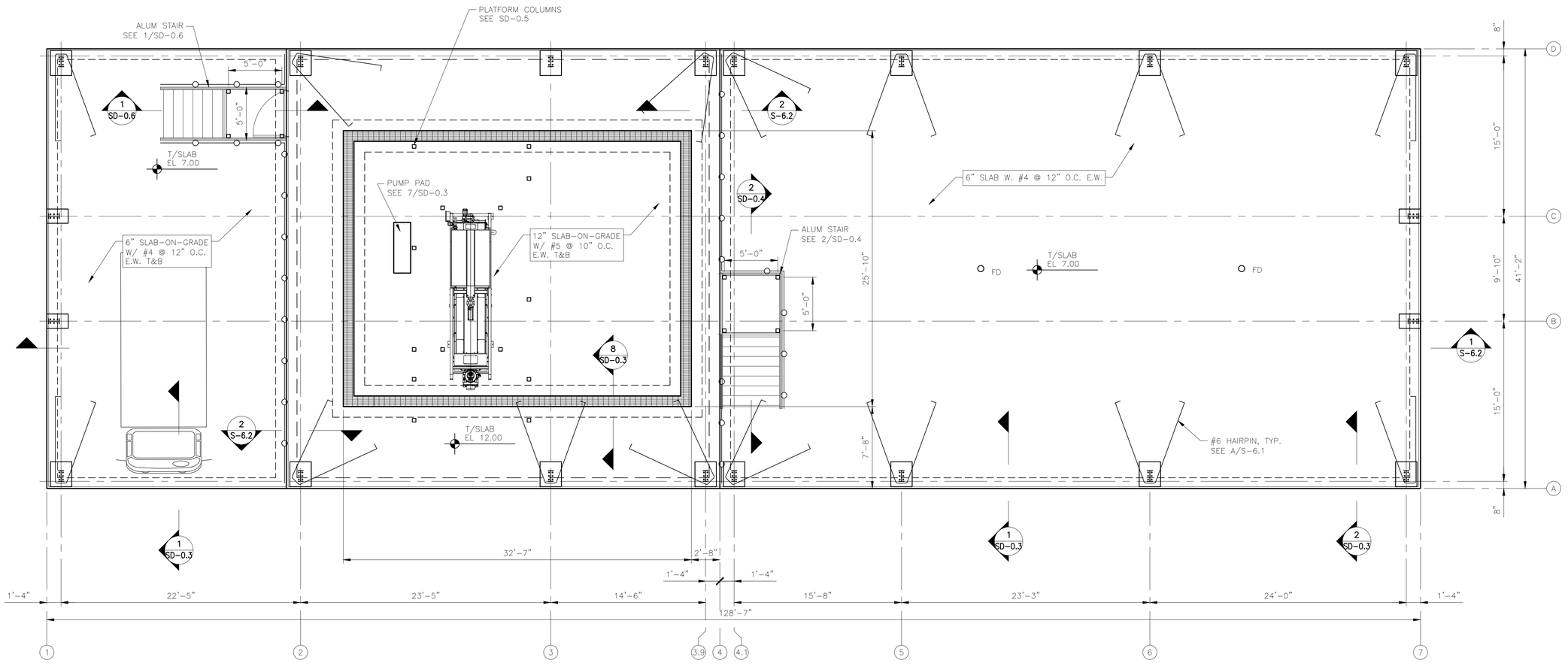


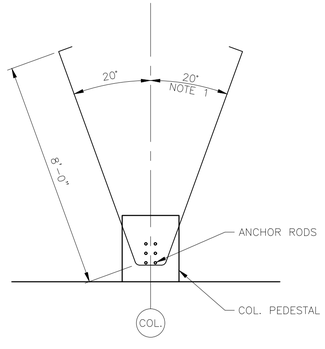
SLAB PLAN

SCALE: 3/16" = 1'-0"

0 4 8

GRAPHIC SCALE

NOTES:
1. FD = FLOOR DRAIN SEE PLUMBING PLANS.
2. ——o—o—— DENOTES HAND RAIL SEE D/SD-0.4.



A HAIRPIN DETAIL

NOT TO SCALE

NOTES:
1. AT PERIMETER ANGLE = 0°

RELEASE FOR BID

STATE OF ALABAMA
PROFESSIONAL ENGINEER
REGISTERED
MARK F. WEISS
35811-E
ENGINEERING SEAL
Doc Signed by: Mark Weiss 8/2/2024
8/2/2024

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X		X	X	X	

DEWATERING BUILDING FOUNDATION PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

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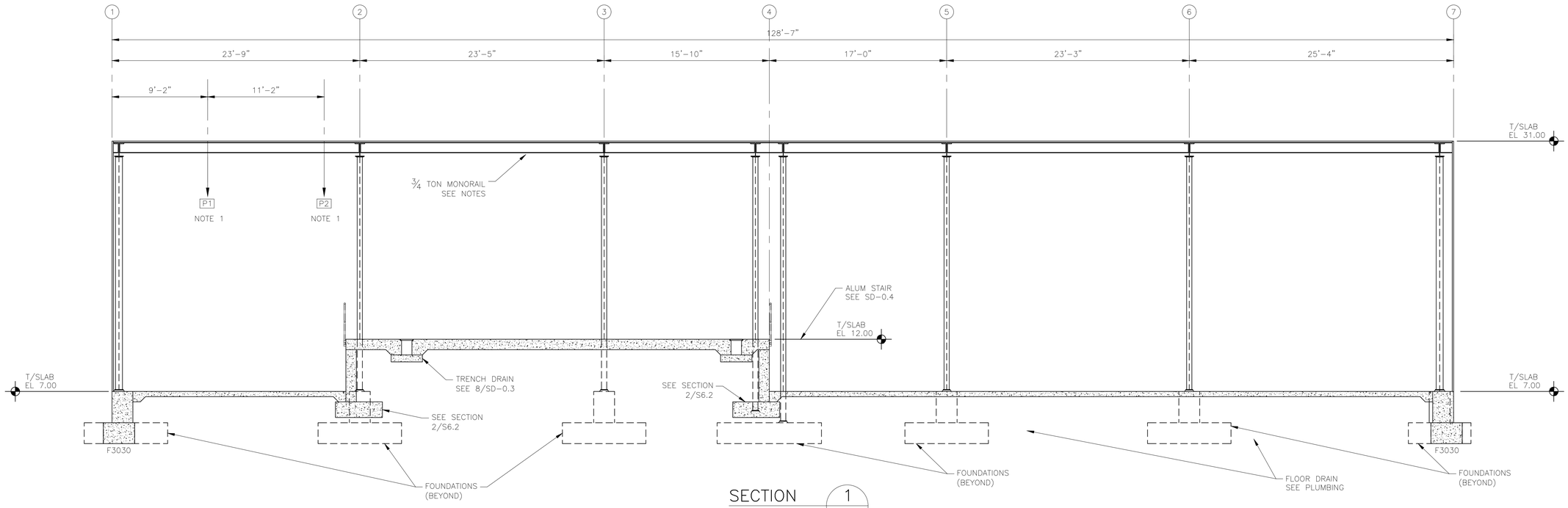
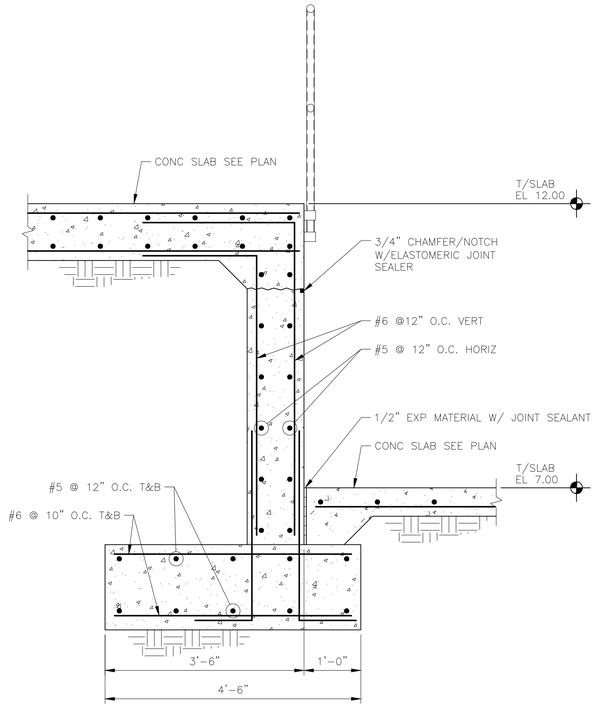


SECTION 1
3/16" = 1'-0"
S-6.2

0 4 8
GRAPHIC SCALE

NOTES:
1. P# DENOTES PROCESS DEAD LOAD AND LIVE LOAD ON PEMB FRAMING – SEE PROCESS DWG FOR LOCATION
   P1 = 4,000 LB
   P2 = 8,000 LB
2. PEMB VENDOR SHALL INCLUDE SUPPORT FOR MONORAIL HOIST AS SHOWN ON THE PROCESS /MECHANICAL DRAWINGS.



SECTION 2
3/4" = 1'-0"
S-6.2

0 1 2
GRAPHIC SCALE

RELEASE FOR BID

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ENGINEER'S SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
Docusigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY
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DEWATERING BUILDING
BUILDING SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501
FL. CERTIFICATE OF AUTHORIZATION # 27931

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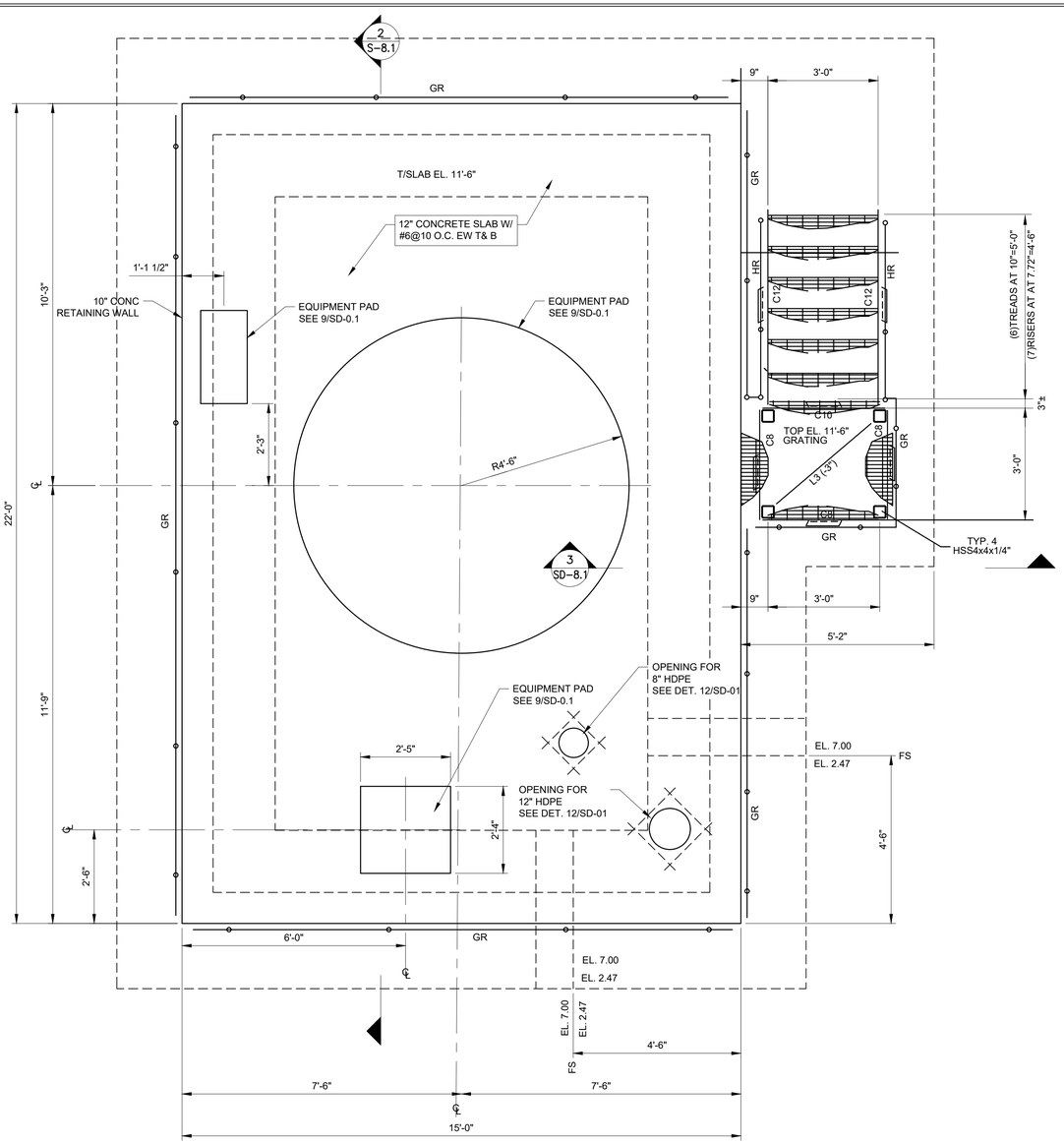
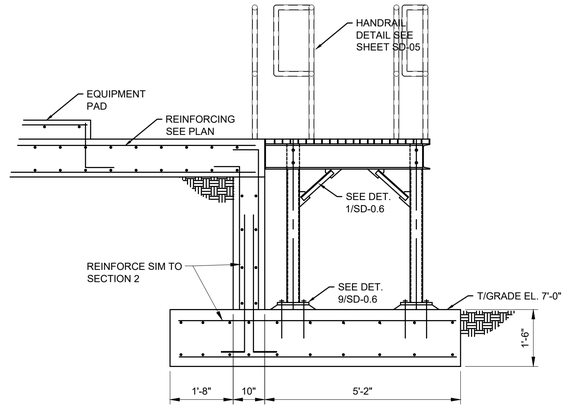


NORTH

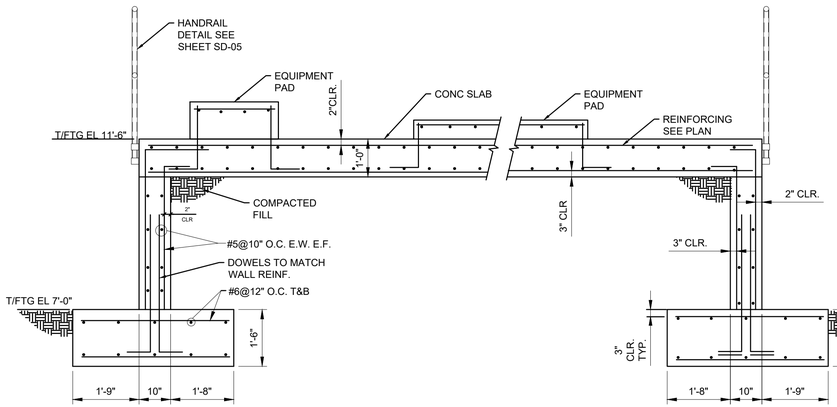
1 ODOR CONTROL FOUNDATION/SLAB PLAN
SCALE: 1/2"=1'-0"

1. ALL STAIR FRAMING, POST GUARDRAIL HAMDRAIL SHALL BE ALUMINUM SEE DRAWING SD-0.6 FOR ADDITIONAL DETAILS & SRQUIREMENTS.
2. SEE MECHANICAL DRAWINGS FOR LOCATION OF PADS & PENETRATIONS.
3. FS DENOTES FOOTING STEP SEE 3/S-8.1

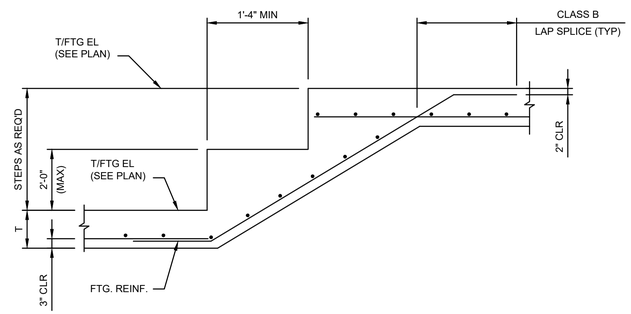
C8=C8x5.62
C10=C10x10.4
L3=L3x3x1/4" (-3")
C12=C12x10.4
HR=HANDRAIL
GR=GUARDRAIL



3 SECTION
SCALE: 1/2"=1'-0"



2 SECTION
SCALE: 1/2"=1'-0"



3 SECTION
SCALE: 1/2"=1'-0"

RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: MFW		DRAWN BY: LMN	CHECKED BY: MFW	APPROVED BY: MFW	APVD. BY:

ODOR CONTROL FOUNDATION/SLAB PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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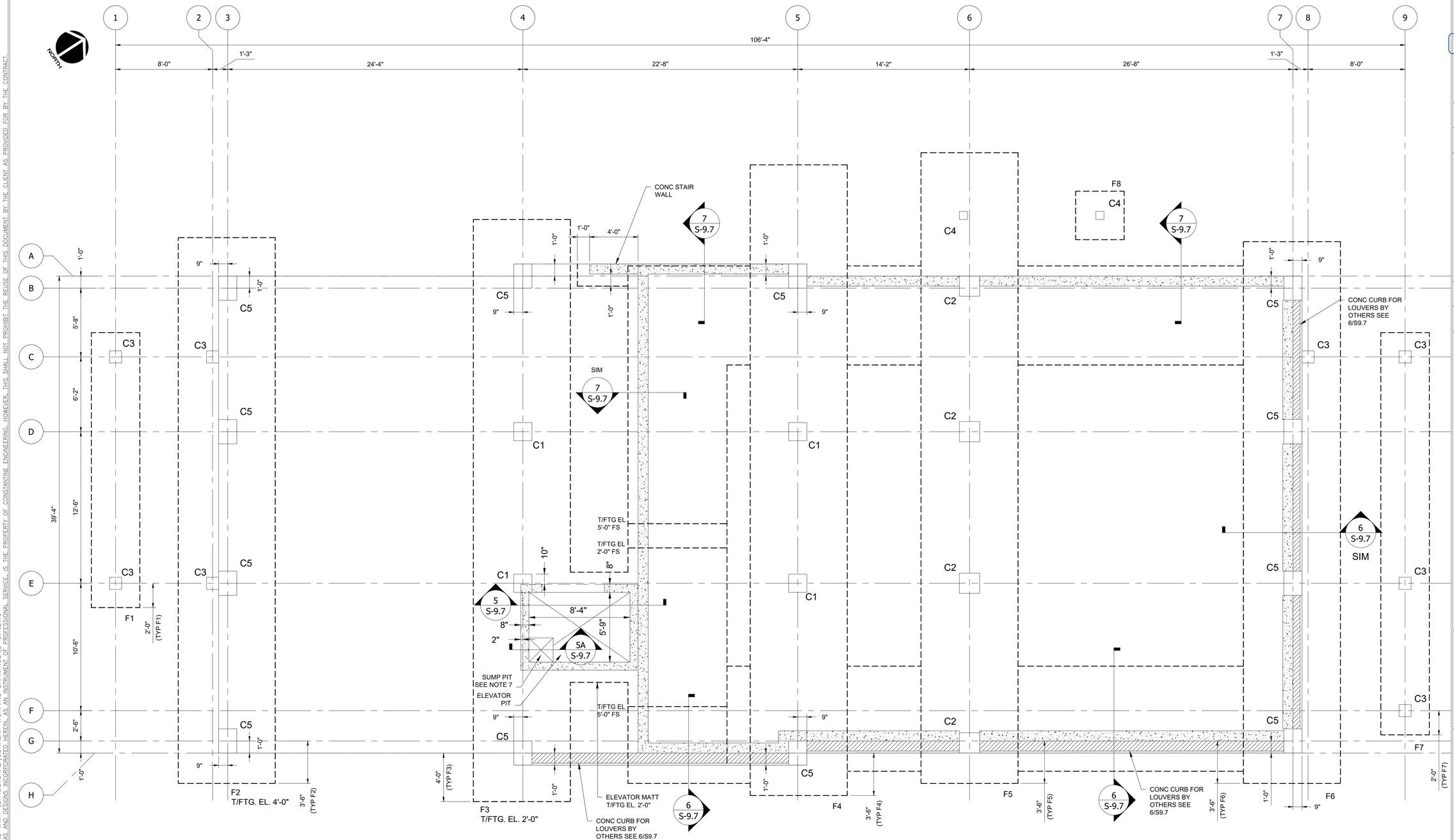

1 FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

1. F# - INDICATES COLUMN FOOTING MARK - SEE FOOTING SCHEDULE.
2. C# - INDICATES COLUMN MARK - SEE DETAIL 2/S-9.5.
3. Px - INDICATES PIER MARK - SEE PIER SEE SCHEDULE & DETAILS.
4. REFERENCE FLOOR ELEVATION IS (+7.00).
5. TOP OF FOOTING ELEVATION (+5.00') UNO.
6. FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL FOR VERIFICATION OF ALL WALL LOCATIONS AND DIMENSIONS.
7. COORDINATE SUMP LOCATION SIZE & DEPTH WITH FINAL VENDOR DRAWINGS.
8. [ ] DENOTES CONCRETE WALLS.
9. FS DENOTES FOOTING STEP -SEE 8/S9.6.

FOUNDATION SCHEDULE

FOOTING	T/FTG EL	SIZE	MIN. DEPTH	REINFORCING
F1	+5.00	4'-0" x 22'-8"	2'-0"	#6@12 LONG;#6@6 TRANS TOP & BOTT
F2	+4.00	8'-0" x 45'-0"	2'-0"	#8@9 LONG;#8@12 TRANS TOP & BOTT
F3	+2.00	8'-0" x 48'-0"	2'-0"	#8@12 LONG;#8@12 TRANS TOP & BOTT
F4	+5.00	8'-0" x 46'-0"	2'-0"	#8@12 LONG;#8@12 TRANS TOP & BOTT
F5	+5.00	8'-0" x 52'-0"	2'-0"	#8@12 LONG;#8@12 TRANS TOP & BOTT
F6	+5.00	8'-0" x 44'-8"	2'-0"	#8@9 LONG;#8@12 TRANS TOP & BOTT
F7	+5.00	4'-0" x 33'-2"	2'-0"	#6@12 LONG;#6@6 TRANS TOP & BOTT
F8	+5.00	4'-0" x 4'-0"	2'-0"	(7)#6 LONG EA WAY TOP & BOTT

COLUMN SCHEDULE

COLUMN	SIZE	REINFORCING
C1	18"x18"	SEE DETAIL 2/S-9.6
C2	20"x20"	SEE DETAIL 2/S-9.6
C3	12"x12"	SEE DETAIL 2/S-9.6
C4	8"x8"	SEE DETAIL 2/S-9.6
C5	18"x24"	SEE DETAIL 2/S-9.6

RELEASE FOR BID

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ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
DocuSigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY:	APPROVED BY:	APV'D
X		X	X	X	

OPERATIONS BUILDING FOUNDATION PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)203-9501

FILE	SEE LEFT
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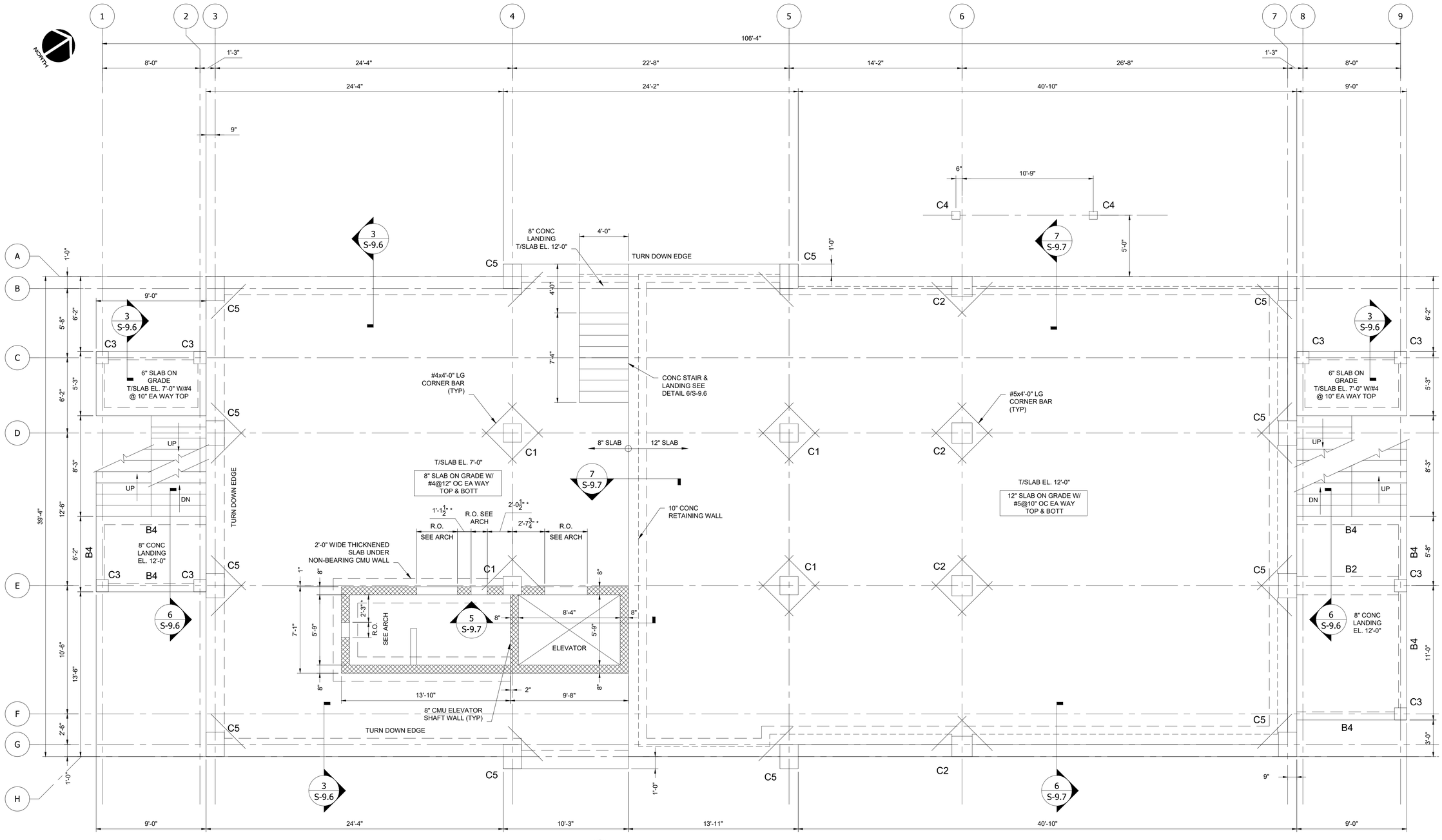

1 GROUND FLOOR SLAB PLAN

SCALE: 1/4" = 1'-0"

1. 6" CONC. SLAB ON VAPOR BARRIER & COMPACTED FILL (SEE SPECIFICATIONS). REINFORCE WITH 6x6 W2.9xW2.9 WWR TOP, FLAT SHEETS.
2. 12" CONC. SLAB ON VAPOR BARRIER & COMPACTED FILL (SEE SPECIFICATIONS). REINFORCE WITH #4 @ 8" O.C. EW. MID DEPTH & 6x6 - W2.9xW2.9 WWR TOP (FLAT SHEETS)
3. PROVIDE CONTROL JOINTS USING SAWED JOINTS (S.J.) OR CONSTRUCTION JOINTS (C.J.) AS REQUIRED BY CONCRETE PLACEMENT, AND AS SHOWN ON THE SLAB PLAN, BUT SHALL NOT BE LOCATED MORE THAN 15' APART AND SHALL HAVE AREAS LIMITED TO A MAXIMUM LENGTH-TO-WIDTH RATIO OF 1.5 OR LESS, U.N.O. SAWCUT PER ACI SPECIFICATIONS.
4. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
5. DENOTES NON-LOAD BEARING CMU WALLS.
6. * DENOTES VERIFY WITH ARCH.

COLUMN SCHEDULE		
COLUMN	SIZE	REINFORCING
C1	18"x18"	SEE DETAIL 2/S-9.6
C2	20"x20"	SEE DETAIL 2/S-9.6
C3	12"x12"	SEE DETAIL 2/S-9.6
C4	8"x8"	SEE DETAIL 2/S-9.6
C5	18"x24"	SEE DETAIL 2/S-9.6

RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
Docusigned by: Mark Weiss
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	APPROVED BY:	APV'D BY:

OPERATIONS BUILDING GROUND FLOOR SLAB PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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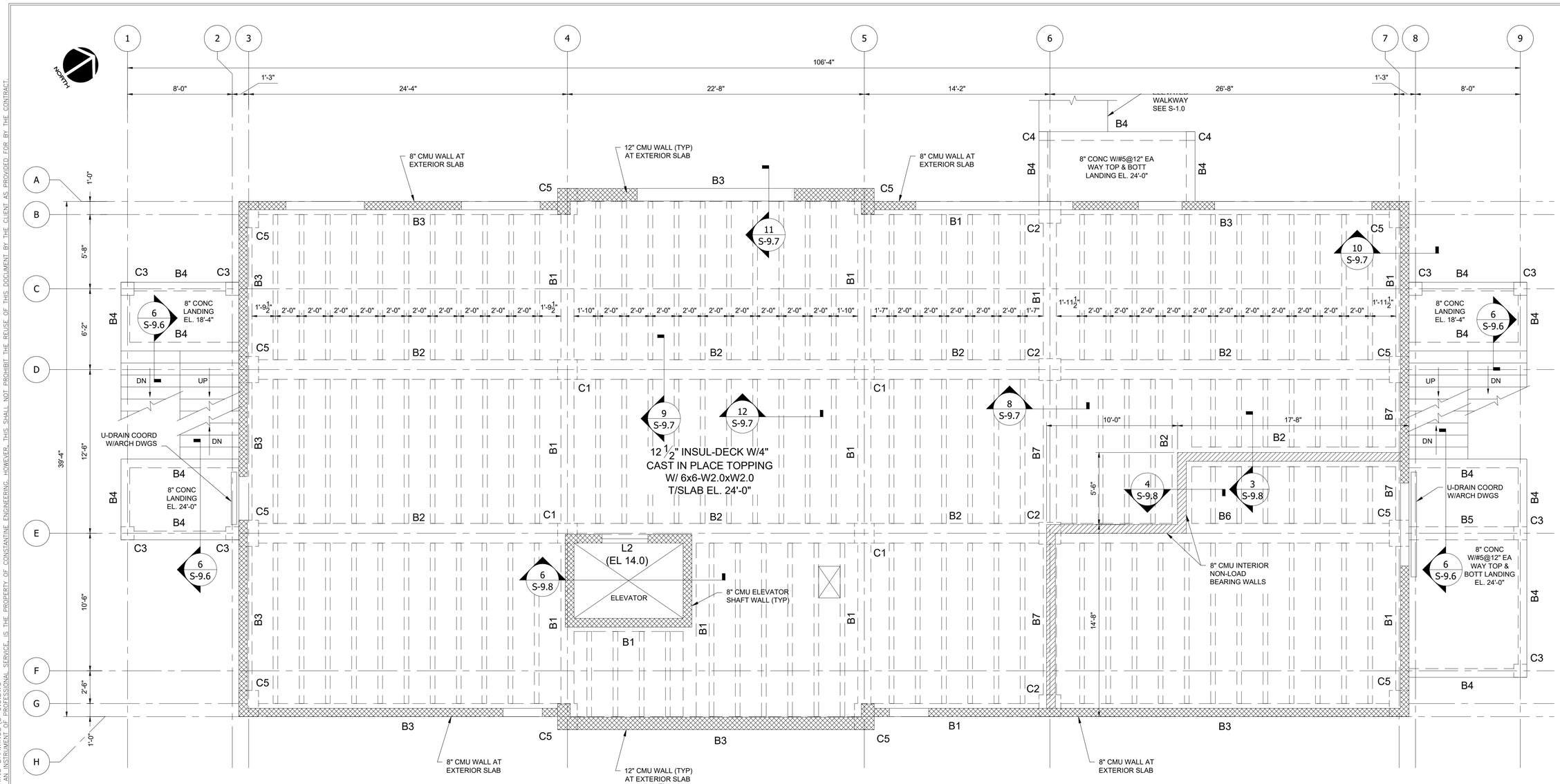

1 SECOND FLOOR-SLAB PLAN EL. 24'-0"

SCALE: 1/4" = 1'-0"

1. DENOTES NON-LOAD BEARING CMU WALLS ABOVE.
2. DENOTES LOAD BEARING CMU WALLS ABOVE.
3. DENOTES WALL OPENINGS SEE ARCHITECTURAL.

COLUMN SCHEDULE

COLUMN	SIZE	REINFORCING
C1	18"x18"	SEE DETAIL 2/S-9.6
C2	20"x20"	SEE DETAIL 2/S-9.6
C3	12"x12"	SEE DETAIL 2/S-9.6
C4	8"x8"	SEE DETAIL 2/S-9.6
C5	18"x24"	SEE DETAIL 2/S-9.6

BEAM SCHEDULE

BEAM	WIDTH	DEPTH	LONGITUDINAL		STIRRUPS	REMARKS
			BOTTOM	TOP		
B1	12"	18"	(2)#7	(2)#7	(1)#4 @ 6" OC	@ COL LINE 7 (3)#8
B2	18"	18"	(4)#8	(4)#8	(2)#4 @ 6" OC	
B3	12"	24"	(2)#7	(2)#7	(1)#4 @ 9" OC	@ COL LINE 3 (3)#8
B4	8"	12"	(2)#7	(2)#7	(1)#4 @ 12" OC	
B5	12"	12"	(2)#7	(2)#7	(1)#4 @ 3" OC	
B6	18"	28"	(4)#8	(4)#8	(1)#4 @ 6" OC	
B7	18"	24"	(4)#8	(4)#8	(1)#4 @ 6" OC	

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
Docusigned by: MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY	APV'D
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OPERATIONS BUILDING 2ND. FLOOR FRAMING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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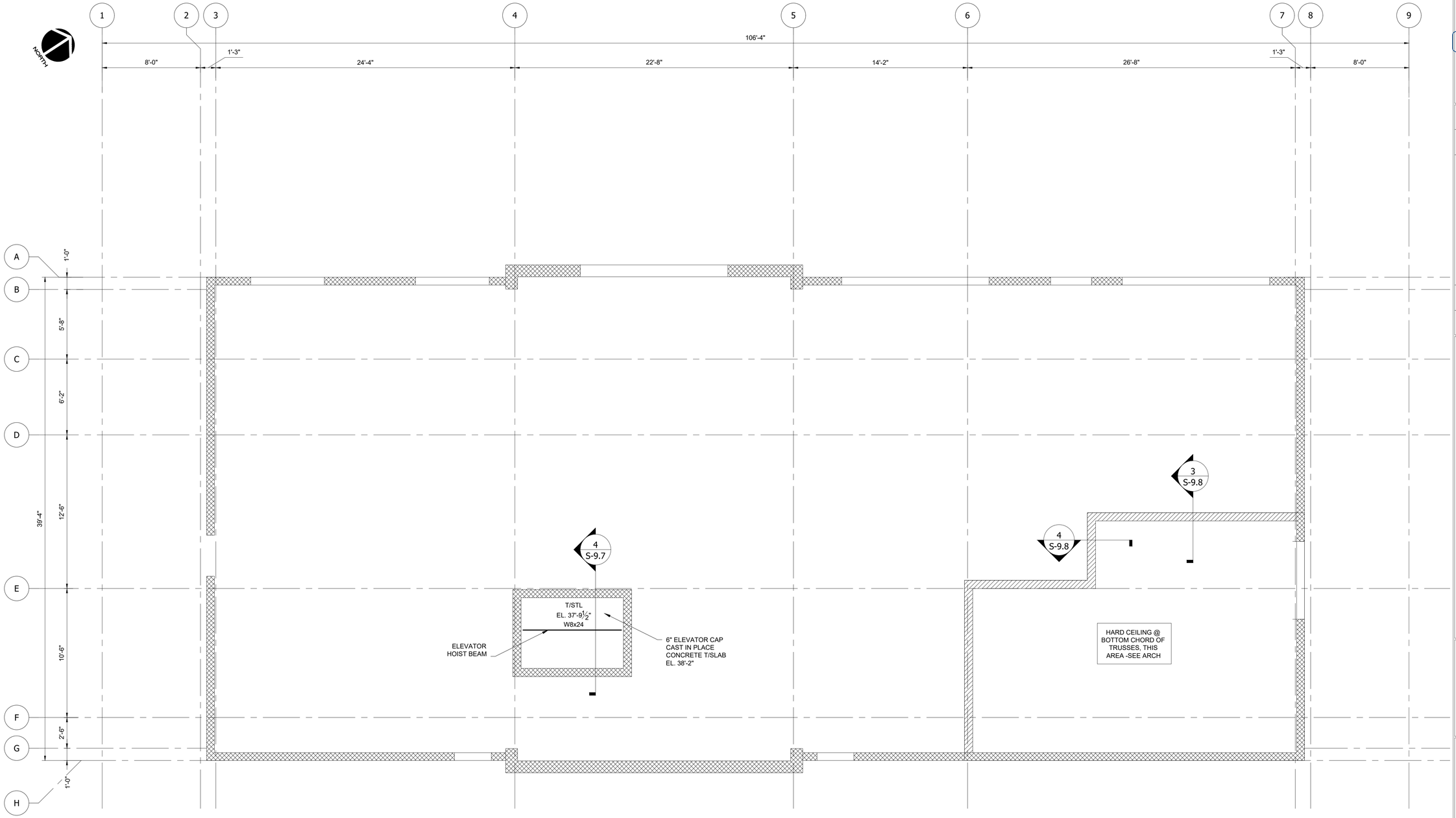

1 ELEVATOR & ELECTRICAL ROOM CAP PLAN

SCALE: 1/4" = 1'-0"

1. SEE SHEET S-9.3 FOR DIMENSIONS NOT SHOWN.
2. DENOTES NON-LOAD BEARING CMU WALLS ABOVE.
3. DENOTES LOAD BEARING CMU WALLS ABOVE.
4. DENOTES WALL OPENINGS SEE ARCHITECTURAL DRAWINGS.

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

Digitally signed by: MARK F. WEISS
Date: 2024.08.02 10:54:57 -05'00'

NO.	DATE	REVISION	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
			X	X	X	X

OPERATIONS BUILDING ELEVATOR & ELECTRICAL ROOM CAP PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

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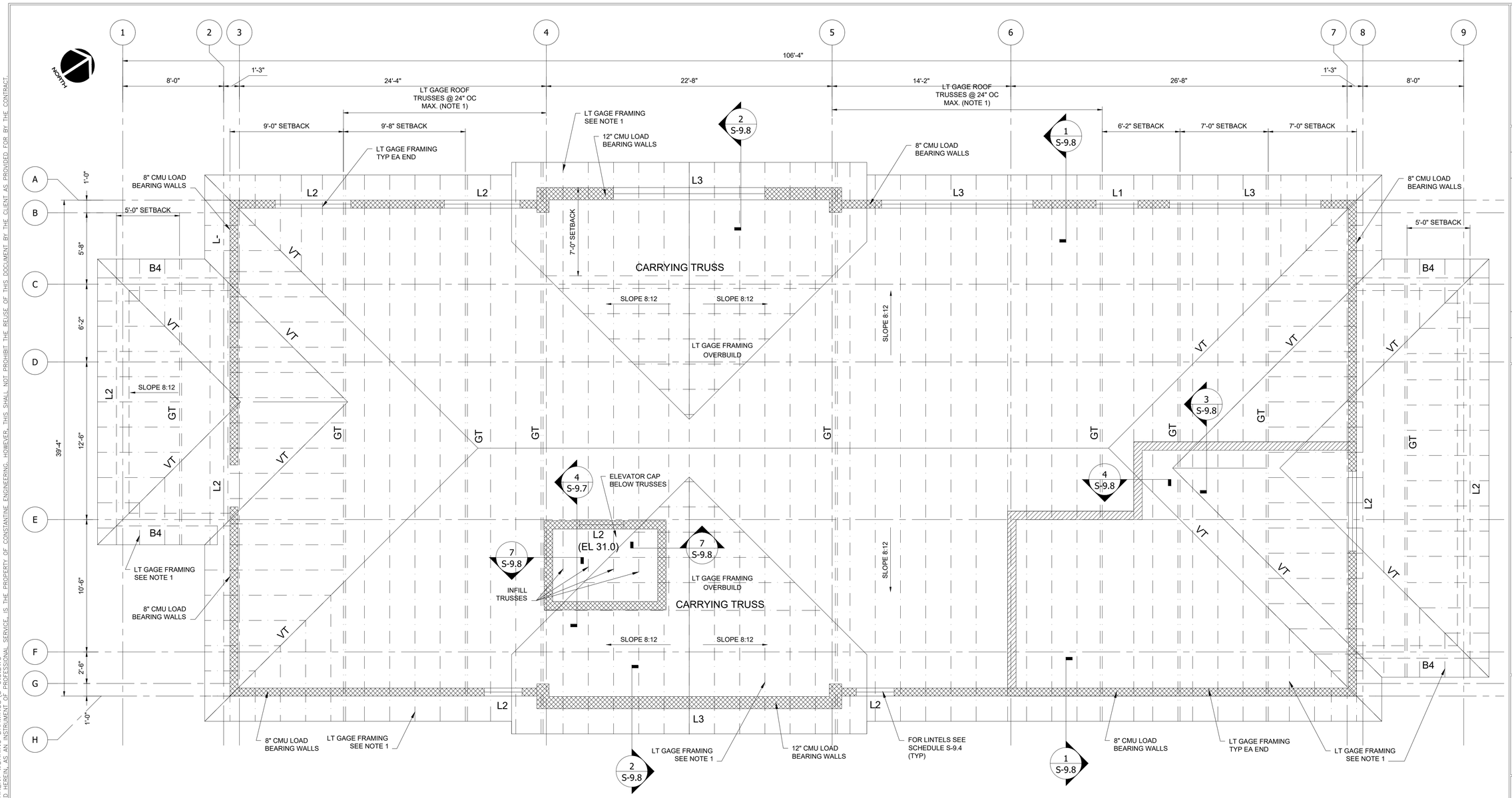

NO SUPERIMPOSED LOADS	8" LINTEL SCHEDULE		
	SYM	SECTION	DESCRIPTION
	L1	3"	8"X8" CMU LINTEL BLOCK W/(2)#5 BOTTOM, FILL W/ GROUT. M.O. TO 3'-4"
	L2	3"	8"X16" CMU LINTEL BLOCK W/(2)#5 TOP & BOT. FILL W/ GROUT., M.O. TO 6'-4"
	L3		W16 X 26 WITH BOTTOM PLATE 1/2" X WALL THICK LESS 1" ADD STUDS SEE NOTE 6 M.O. TO 12'-0" WIRE TIES TO BEAM AT JOINT

NO SUPERIMPOSED LOADS	12" LINTEL SCHEDULE		
	SYM	SECTION	DESCRIPTION
	L4	3"	12"X8" CMU LINTEL BLOCK W/(2)#5 BOTTOM, FILL W/ GROUT. M.O. TO 3'-4"
	L5	3"	12"X16" CMU LINTEL BLOCK W/(2)#5 TOP & BOT. FILL W/ GROUT., M.O. TO 6'-4"
	L6		W16 X 26 WITH BOTTOM PLATE 1/2" X WALL THICK LESS 1" ADD STUDS SEE NOTE 6 M.O. TO 12'-0" WIRE TIES TO BEAM AT JOINT

NOTES:
1. ALL U BLOCKS, BEAMS, & ANGLES SHALL SPAN OPENING + 8" EA. SIDE, U.N.O..
2. COORDINATE LOCATION, OPENING, AND WALL THK. W/ ARCHITECTURAL PLAN. SIZE LINTELS BY THIS SCHEDULE.
3. (+X.00) DENOTES BOTT OF MASONRY LINTEL.

1 ROOF FRAMING PLAN BOT. STL. EL. 34'-0"

SCALE: 1/4" = 1'-0"

LIGHT GAGE FRAMING NOTES :
1. FRAMING SHOWN IS FOR BID PURPOSES ONLY. FINAL LAYOUT & MEMBER SIZES SHALL BE BY LIGHT GAGE TRUSS SUPPLIER. DESIGN SHALL BE SEALED BY A REGISTER PROFESSIONAL ENGINEERING IN THE STATE OF AL.
2. ALL STRUCTURAL STEEL, CONCRETE, MASONRY, AND LIGHT GAGE FRAMING SHALL CONFORM TO REQUIREMENTS LOCATED ON SHT. S-0.2 & S-0.3
3. ALL ELEVATIONS ARE ABOVE FINISHED FLOOR FOR THIS DRAWING.
4. ENTIRE ROOF SHOWN ON THIS DRAWING SHALL RECEIVE $\frac{3}{4}$" CDX PLYWOOD SHEATHING W/#12 SELF TAPPING SCREWS SPACED AT 4" O.C. ALONG PERIMETER AND PANEL EDGES AND 8" AT INTERMEDIATES.
5. COORDINATE ALL ROOF OPENINGS W/ ARCHITECTURAL AND MECHANICAL, FOR SIZE & LOCATION.
6. WORK THIS DRAWING WITH ARCHITECTURAL DRAWINGS.
7. (*) INDICATES LIGHT GAGE TRUSSES AT 24" OC. (MAX.)
8. VT INDICATES VALLEY TRUSS.
9. FOR DIMENSIONS NOT SHOW SEE FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS.
10. B# DENOTES CONCRETE BEAM -SEE SCHEDULE ON S-9.3.
11. DENOTES NON-LOAD BEARING CMU WALLS.
12. DENOTES LOAD BEARING CMU WALLS.
13. GT = GIRDER TRUSS. -SIZE AND # PER TRUSS VENDOR.
14. CARRYING = CARRYING TRUSS.

RELEASE FOR BID

STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
ENGINEER SEAL
Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY	APVD.
DESIGNED BY:		DRAWN BY:	CHECKED BY:	APPROVED BY:
X		X	X	X

OPERATIONS BUILDING ROOF FRAMING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1")
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-9.5

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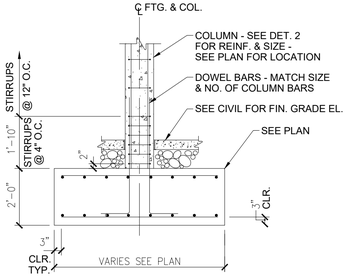
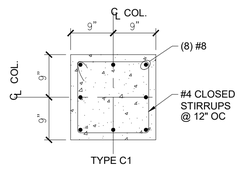
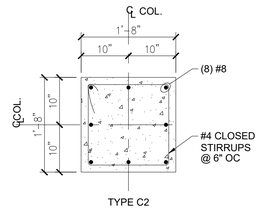
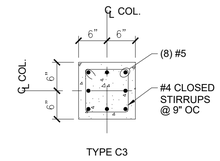
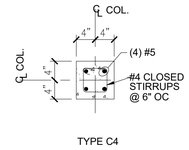


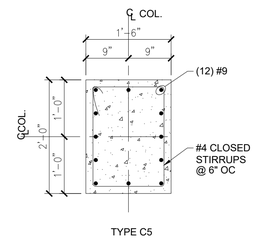
1 SECTION THRU FOUNDATION
SCALE: 3/8" = 1'-0"



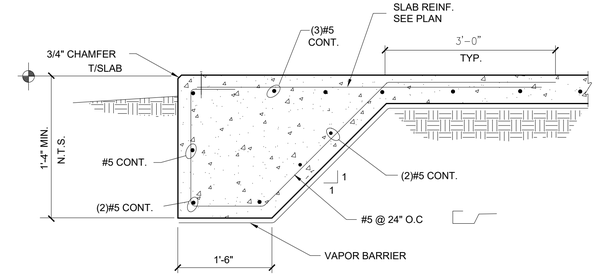




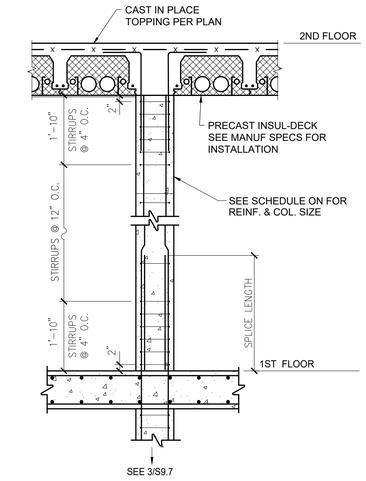




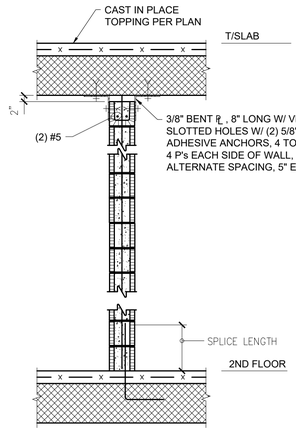
2 TYPICAL COLUMN DETAILS
SCALE: 3/4" = 1'-0"



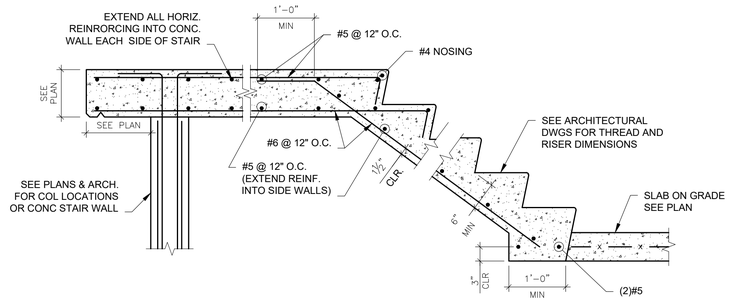
3 SECTION THRU TURNED DOWN EDGE
SCALE: 3/4" = 1'-0"



4 SECTION AT COLUMN
SCALE: 1/2" = 1'-0"



5 SECTION AT CMU WALL
SCALE: 1/2" = 1'-0"



6 TYPICAL STAIR LANDING SECTION
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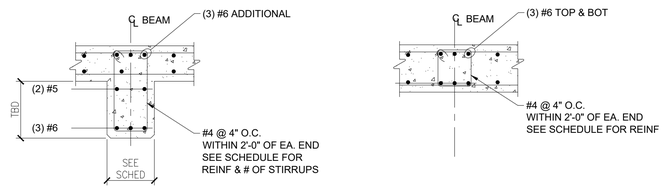
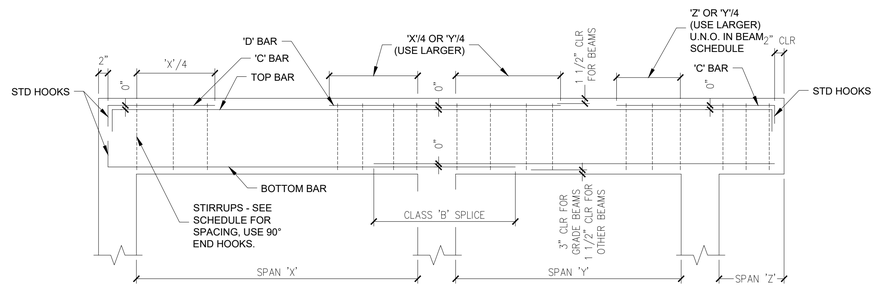
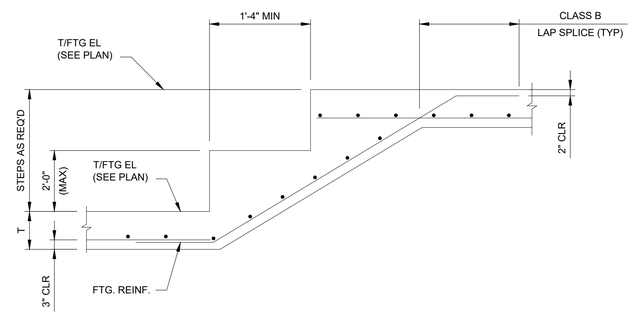


7 TYPICAL BEAM DETAILS
SCALE: 3/4" = 1'-0"



9 TYPICAL BENDING DIAGRAM FOR BEAMS
SCALE: 3/4" = 1'-0"



8 TYPICAL STEPPED FOOTING DETAIL
SCALE: 3/4" = 1'-0"

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
Digitally signed by: MARK F. WEISS
8/2/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	APPROVED BY:
		X	X		X	X

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SECTIONS & DETAILS

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WASTEWATER TREATMENT FACILITY

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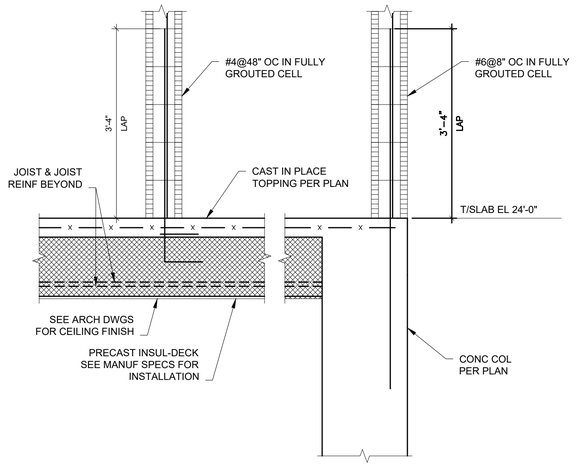

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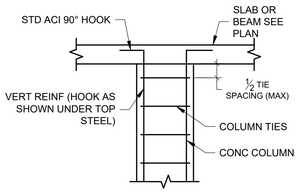
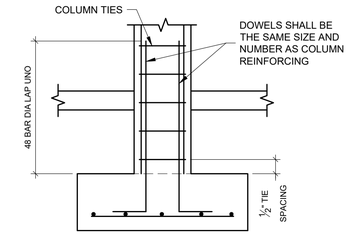


CONCRETE COLUMN TERMINATION



2 CONCRETE COLUMN BASE
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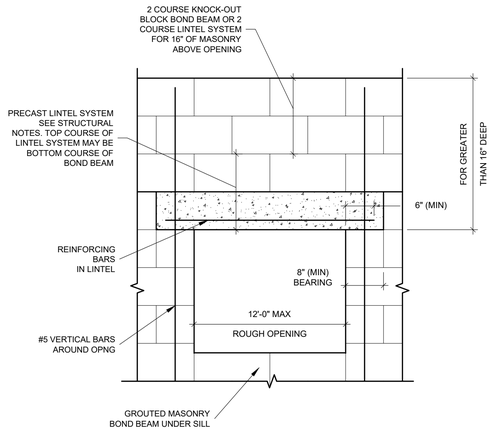
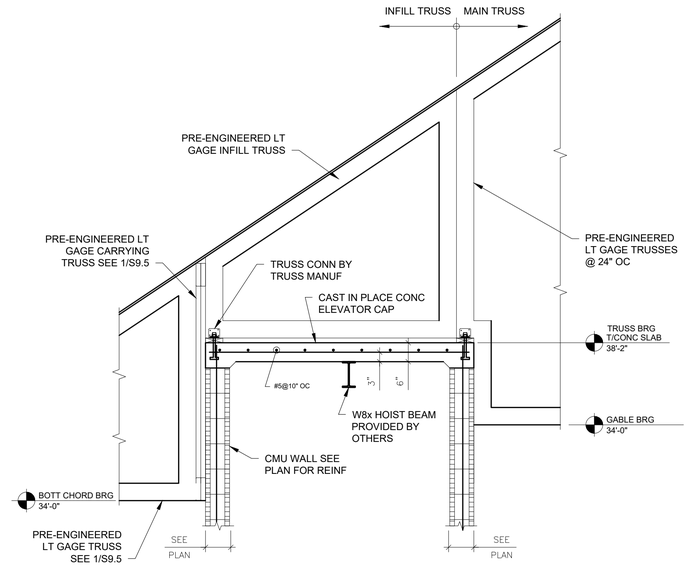
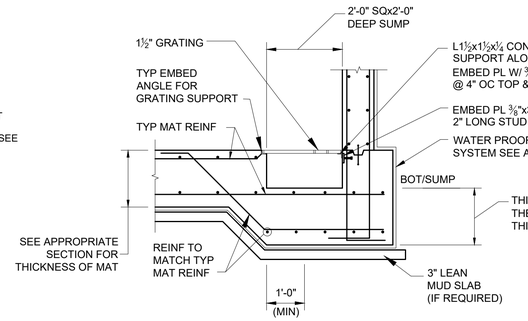


ATTACH WINDOW OR DOOR TO BUCK PER MANUFACTURER'S SPECIFICATIONS.

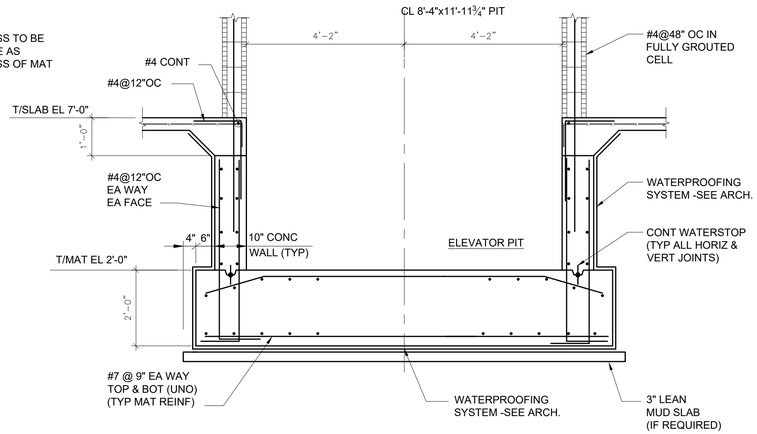
3 OPENING IN CMU
Scale: NTS



4 ELEVATOR CAP SECTION
Scale: 1/2"=1'-0"



5A ELEVATOR SUMP PIT DETAIL
Scale:NTS



5 ELEVATOR PIT FOUNDATION SECTION
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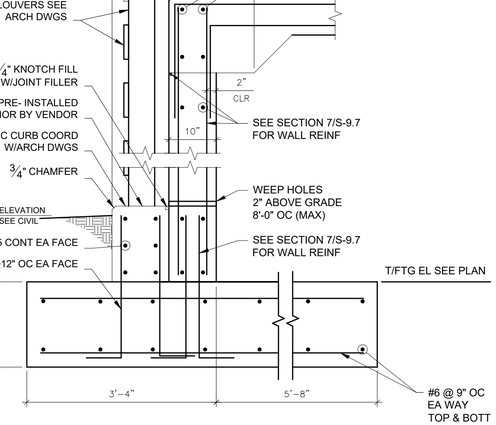
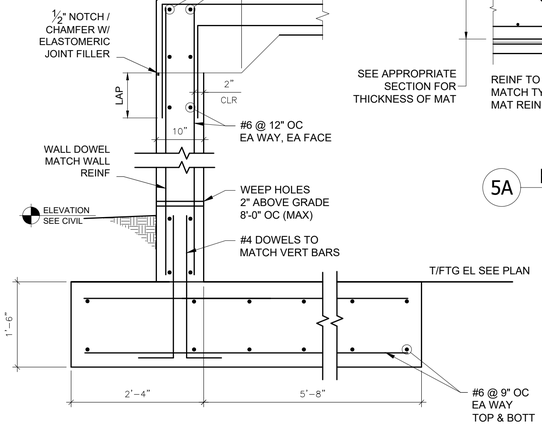


6 RETAINING WALL SECTION
Scale:3/4"=1'-0"



7 RETAINING WALL SECTION
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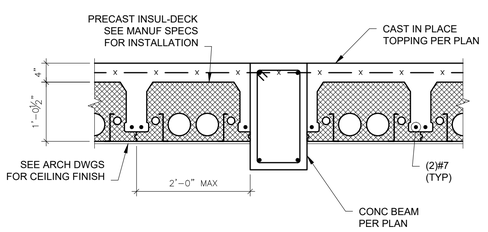

8 SECTION
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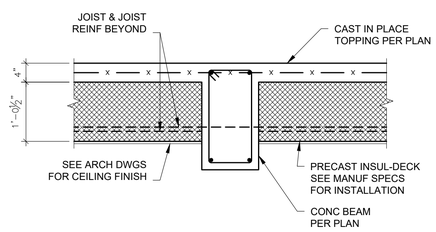

9 SECTION
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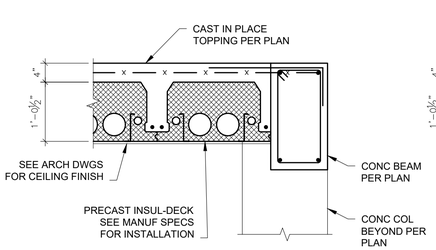

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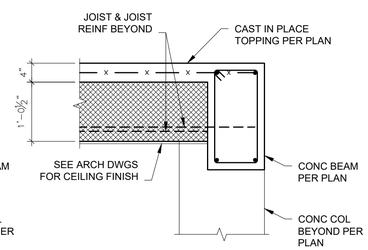

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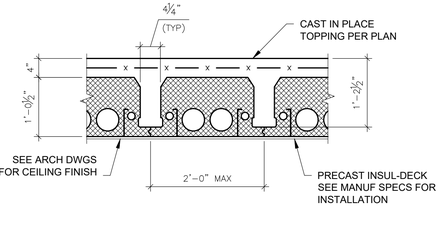

12 SECTION
Scale:3/4"=1'-0"

RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
Docusigned by: MARK F. WEISS 35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	APPROVED BY:	APV'D
						BY	
							X

OPERATIONS BUILDING
SECTIONS & DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
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FILE	SEE LEFT
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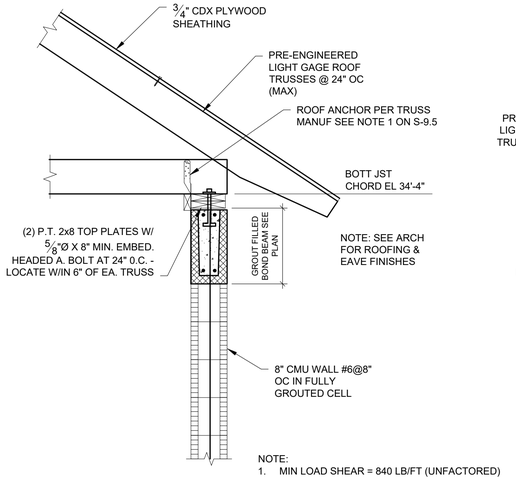

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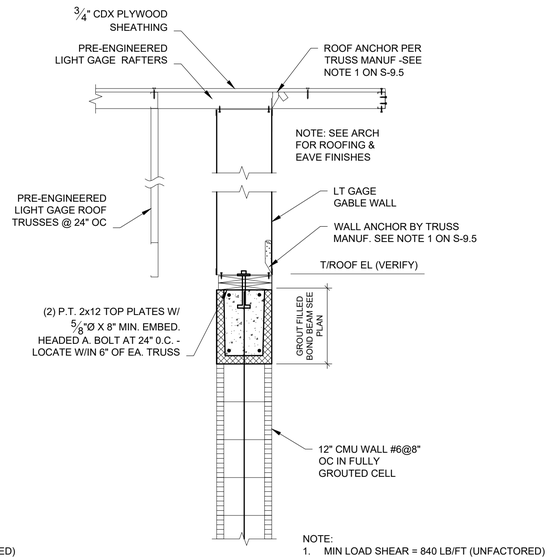

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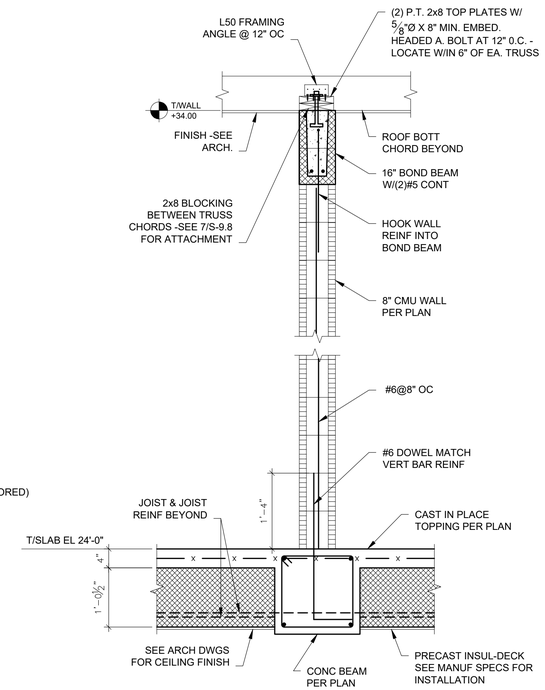

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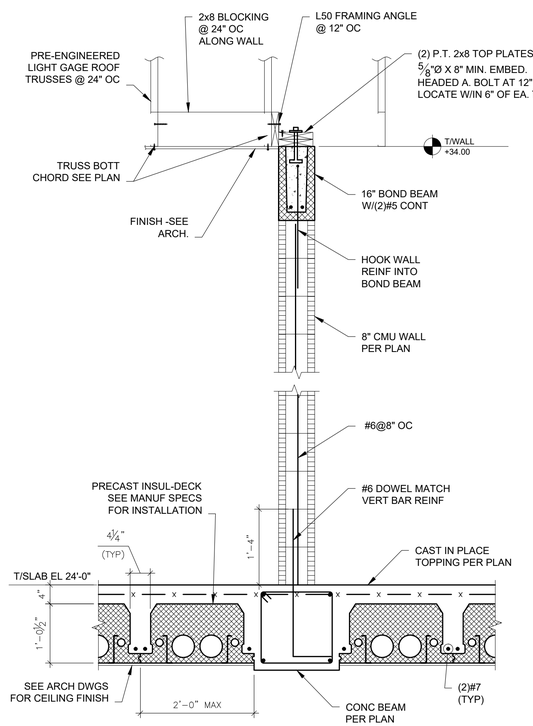

4 SECTION
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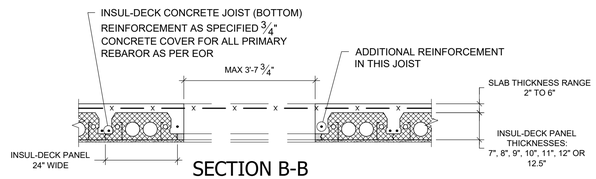
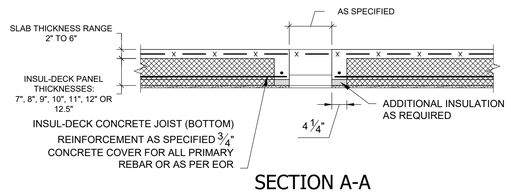
UTILITY FLOOR OPENING - TOP VIEW



SECTION B-B



SECTION A-A

5 SECTION
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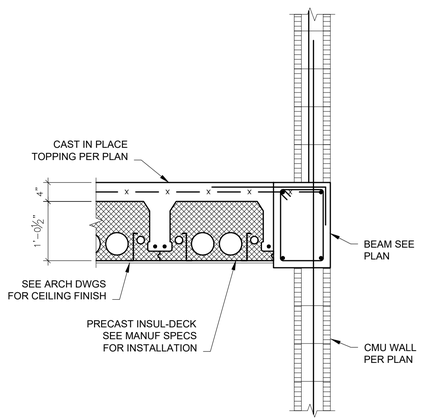
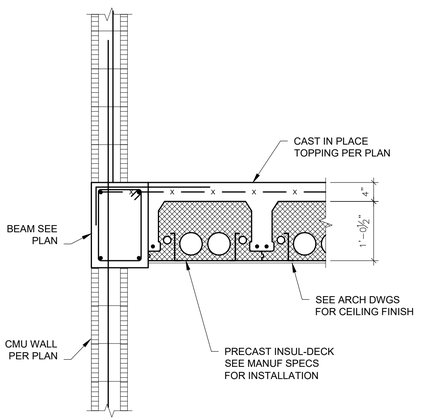
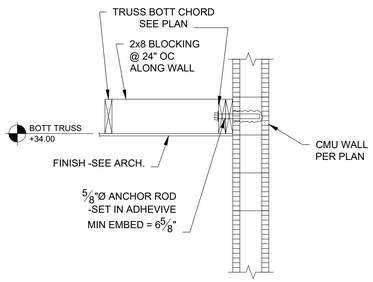




6 ELEVATOR SHAFT @ SECOND LEVEL
Scale:3/4"=1'-0"



7 SECTION
Scale: 3/4"=1'-0"

RELEASE FOR BID

STATE OF ALABAMA
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REGISTERED PROFESSIONAL ENGINEER
ENGINEER SEAL
Mark Weiss
8/2/2024

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DESIGNED BY:	X	DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APV'D

OPERATIONS BUILDING SECTIONS & DETAILS

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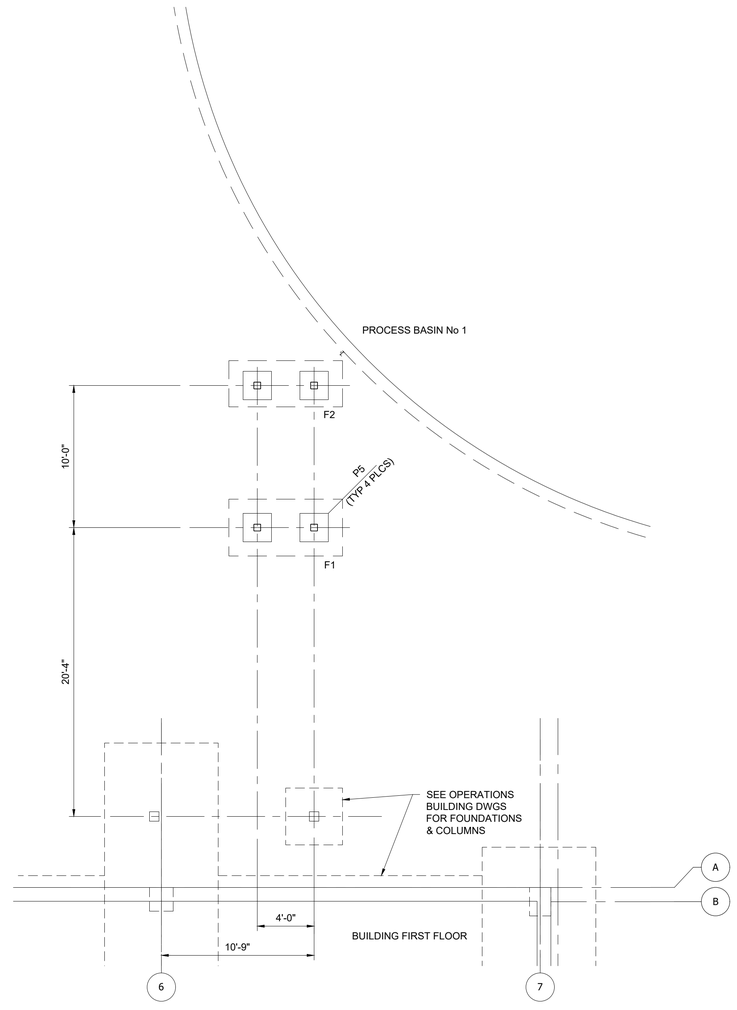


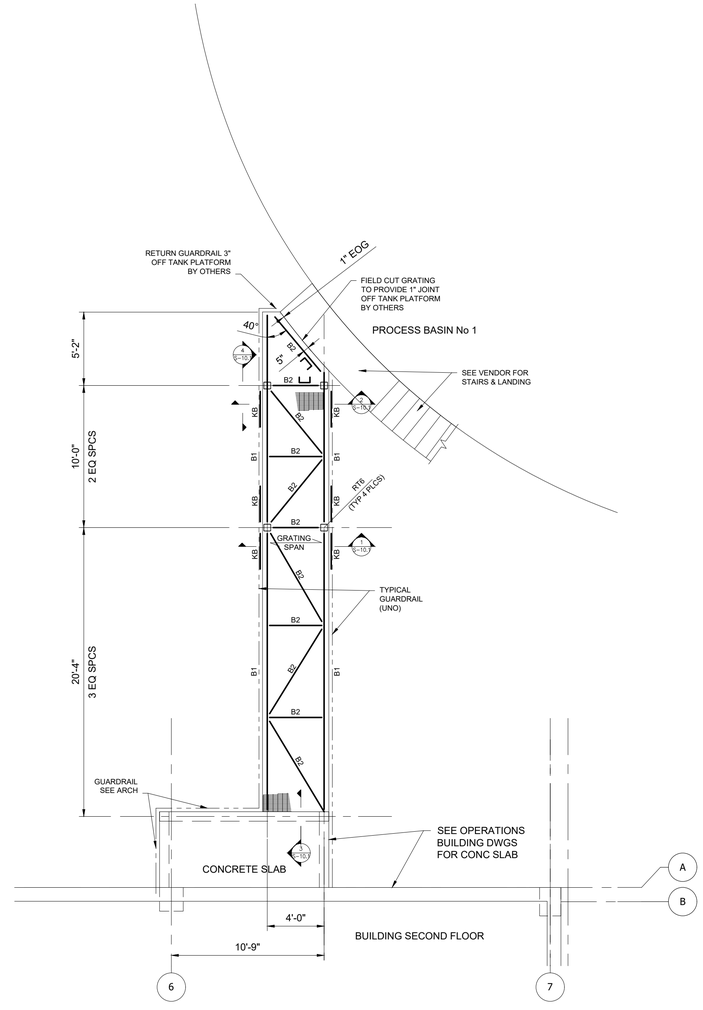
1 FOUNDATION PLAN

SCALE: 3/16" = 1'-0"

NOTES

1. F# - INDICATES COLUMN FOOTING MARK - SEE FOOTING SCHEDULE.
2. P# - INDICATES PIER MARK - SEE PIER SEE SCHEDULE & DETAILS.
3. REFERENCE FLOOR ELEVATION IS (7'-6")
4. FOR DIMENSIONS NOT SHOWN ON THE DRAWINGS, REFER TO THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL FOR VERIFICATION OF ALL WALL LOCATIONS AND DIMENSIONS.
5. T/FTG = 5'-0" U.N.O.

COLUMN FOUNDATION SCHEDULE			
FOOTING	SIZE	MIN. DEPTH	REINFORCING
F1	4'-0"x8'-0"	2'-0" THICK	#6@12" EA WAY TOP & BOTT
F2	3'-0"x8'-0"	2'-0" THICK	#6@12" EA WAY TOP & BOTT



2 PLATFORM FRAMING PLAN

SCALE: 3/16" = 1'-0"

NOTES:
T/GRTG EL 24'-0" (UN0)
T/ALUM FRAMING EL 23'-10 ½" (UN0)
1. RT6 = 6x6x⅜
2. B1 = WF10x10.3
3. B2 = CS8x5.62
4. KB = LS3 ½x3 ½x¼

STATE OF ALABAMA
ENGINEERING SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
Docusigned by: Mark Weiss
8/2/2024

NO.	DATE	REVISION	BY	APVD
	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
	X	X	X	X

OPERATIONS BUILDING ELEVATED WALKWAY PLATFORM FOUNDATION & FRAMING PLANS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-10.0

RELEASE FOR BID

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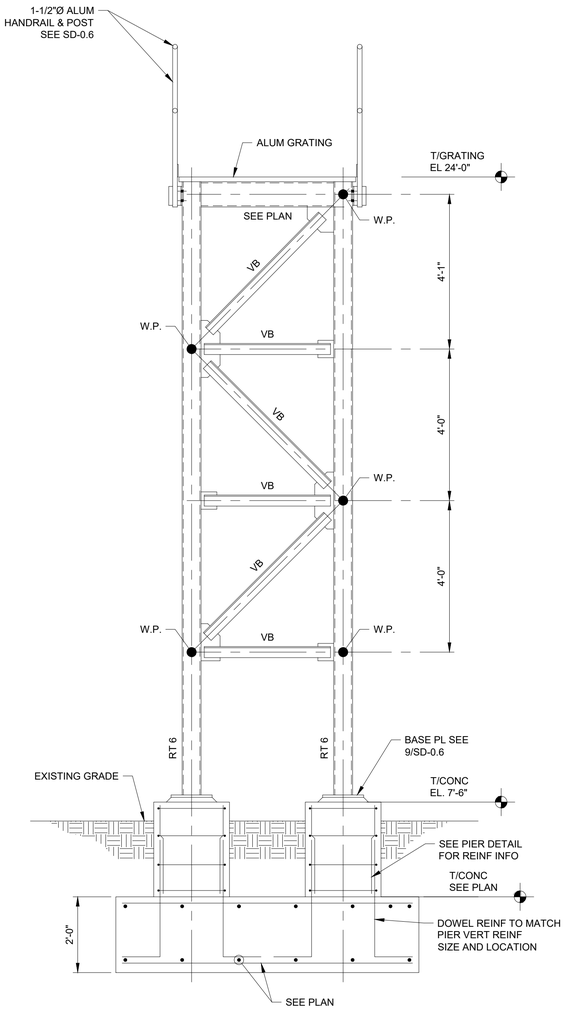
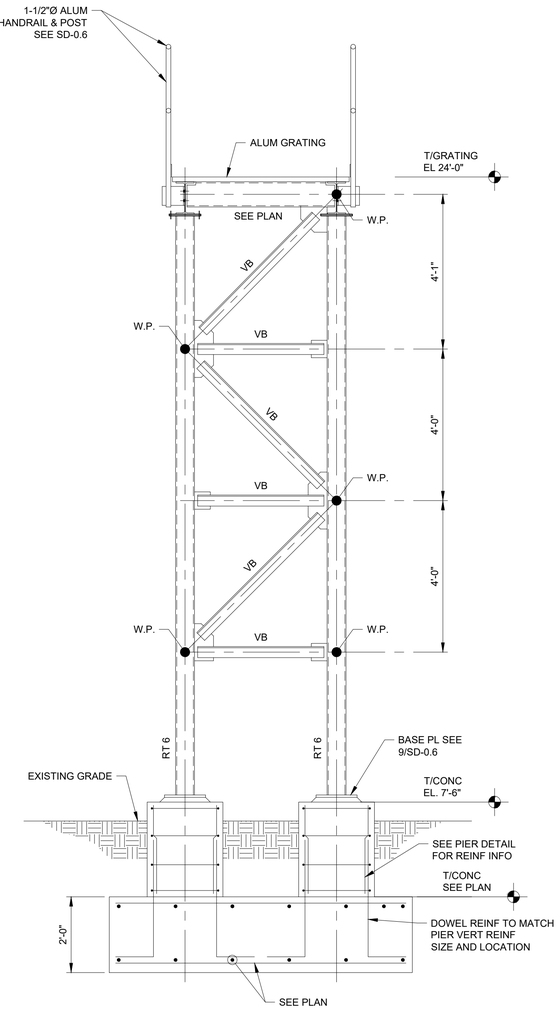


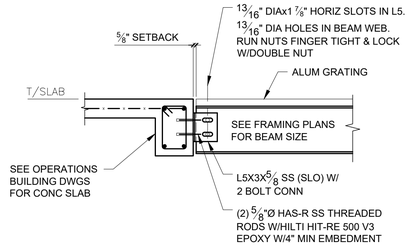
1 SECTION
SCALE: ½" = 1'-0"



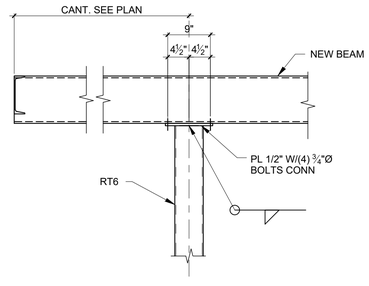
2 SECTION
SCALE: ½" = 1'-0"

NOTES:
1. VB = LS3 ½x3 ½x¼

NOTES:
1. VB = LS3 ½x3 ½x¼



3 SECTION
Scale:3/4"=1'-0"



4 SECTION
Scale:3/4"=1'-0"

S:\PROJECTS\2021_1353-00-DAUPHIN_ISLAND_WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\S-10.1.DWG
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ENGINEER SEAL
STATE OF ALABAMA
Docusigned by: Mark Weiss
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	APPROVED BY:
		X	X	BY	X	

OPERATIONS BUILDING ELEVATED WALKWAY PLATFORM SECTIONS & BENTS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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FILE	SEE LEFT
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	BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1")
DATE	AUG 2024
PROJ.	100200.32
DWG.	S-10.1

RELEASE FOR BID

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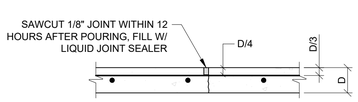
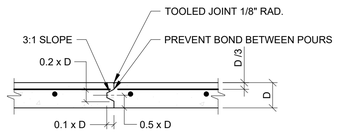


1 TYPICAL SAWED CONTROL JOINT
NOT TO SCALE



2 TYPICAL KEYED CONST. JOINT
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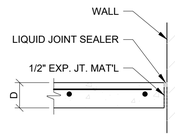

3 TYPICAL PERIMETER EXP. JOINT
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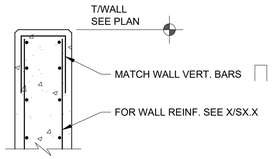

4 TOP WALL DETAIL
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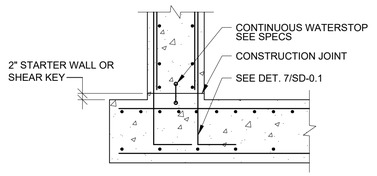

5 WATERSTOP DETAIL
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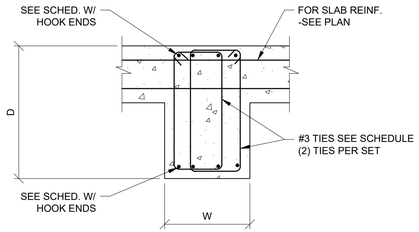
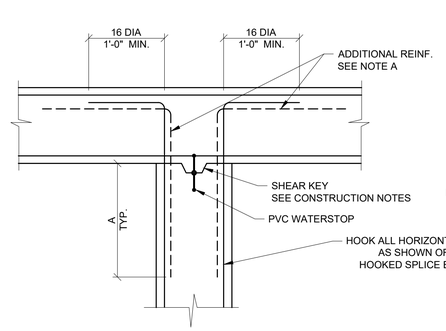
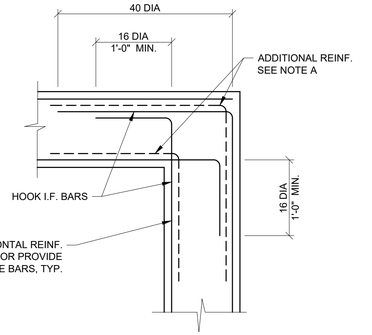


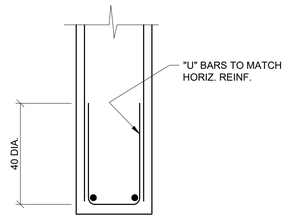
6 TYPICAL CONCRETE BEAM
SCALE: 1/2" = 1'-0"



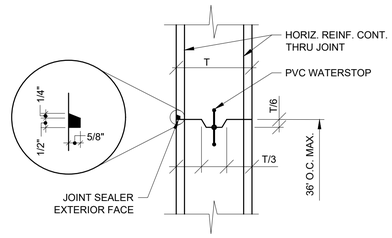
WALLS INTERSECTIONS



WALL CORNERS



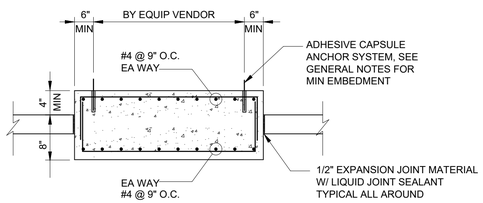
ENDS OF WALLS



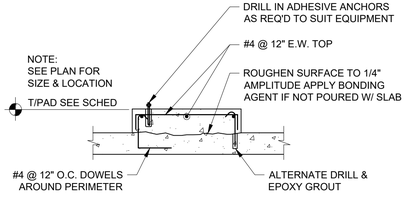
CONSTRUCTION JOINT

7 TYPICAL WALL DETAILS
NOT TO SCALE

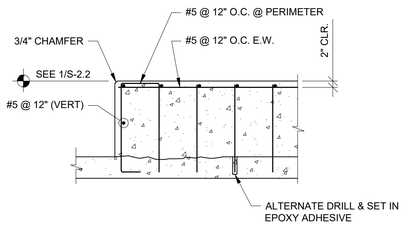
NOTES:
A. ADDITIONAL CORNER BARS REQUIRED ONLY AS SPECIFIED ON CONTRACT DOCUMENTS. ADDITIONAL BARS TO BE STAGGERED BETWEEN HORIZONTAL REINFORCING, FULL HEIGHT. "A" = 1/5 THE CLEAR SPAN DISTANCE MEASURED HORIZONTALLY BETWEEN WALLS OR (1) LAP LENGTH WHICHEVER IS GREATER.



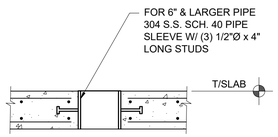
8 ISOLATED EQUIP. PAD
NOT TO SCALE



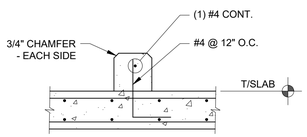
9 HOUSEKEEPING EQUIP. PAD
NOT TO SCALE



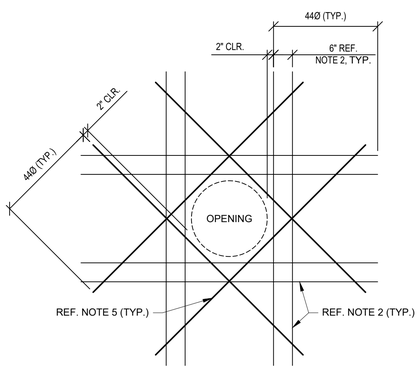
9A EQUIP. PEDESTAL
NOT TO SCALE



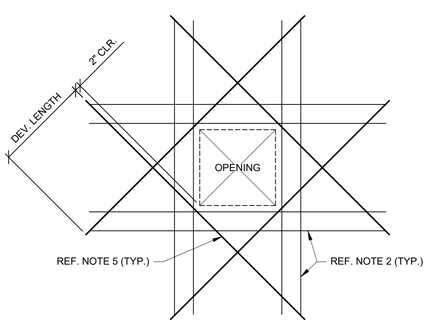
13 FLOOR SLEEVE DETAIL
NOT TO SCALE



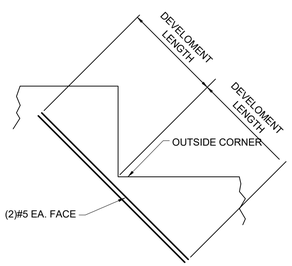
14 CURB DETAIL
NOT TO SCALE



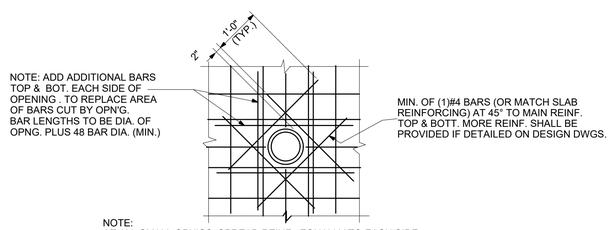
10 DETAIL - TYP. WALL PENETRATION REINF.
NOT TO SCALE



NOTES:
1. USE THIS DETAIL FOR PENETRATIONS 8" OR LARGER. FOR SMALLER OPENINGS BEND BARS IN FIELD PER ACI 318 LATEST EDITION.
2. PLACE EXTRA BARS OF THE SAME SIZE AS THE INTERRUPTED BARS AT EACH SIDE OF OPENINGS. QUANTITY OF EXTRA BARS AT EACH SIDE SHALL EQUAL HALF THE QUANTITY OF INTERRUPTED BARS, EXCEPT WHERE NOTED OTHERWISE. PROVIDE ONE DIAGONAL BAR EACH SIDE OF OPENING, SIZE TO BE EQUAL TO MAIN REINFORCING. (TYP. EA. FACE).
3. "Ø" SYMBOL = BAR DIAMETERS.
4. IF REINF. IS SPACED @ 6" OR LESS INSTALL THE "EXTRA" BARS @ HALF THE BAR SPACING.
5. IF BAR IS INTERRUPTED BY EDGE OF CONCRETE BEND BAR PARALLEL TO THE EDGE & KEEP 2" CLR. OF THE EDGE. BEND BAR LEG LENGTH TO CONFORM W/ CLASS B SPLICE CRITERIA.



11 REINFORCING OUTSIDE CORNER
NOT TO SCALE



RECTANGULAR OR ROUND OPENINGS

12 SLAB REINFORCING AT 10" 0R LARGER SLAB OPENING
NOT TO SCALE

RELEASE FOR BID

STATE OF ALABAMA
DocuSigned by: MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
ENGINEERING
8/2/2024

NO.	DATE	REVISION	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
			X	X	X	X

SECTIONS AND DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1")
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.1

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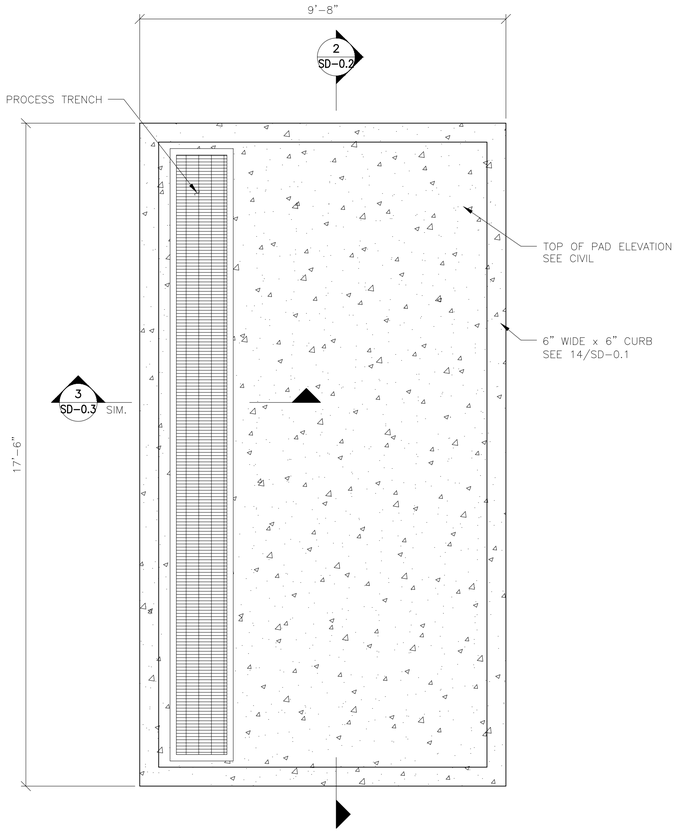
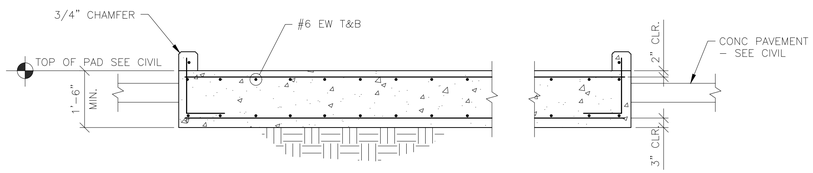


1 PLAN DECANTER FOUNDATION PAD

SCALE: 1/2" = 1'-0"

NOTES:
1. PAD DECANTER BASED ON DECANTER MODEL _____
2. DECANTER WEIGHT = _____



2 SECTION THRU DECANTER PAD

SCALE: 1/2" = 1'-0"

W:\2021-1353-00 -DAUPHIN ISLWAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SD-0.2.DWG
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RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
DocuSigned by: Mark Weiss
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APVD BY:

DECANTER PLAN AND SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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COLLABORATE. INNOVATE. CREATE.
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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.2

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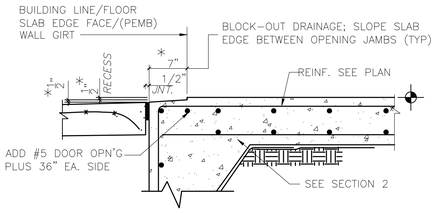
NOTE: "*" DENOTES VERIFY WITH ARCH.



1 SECTION
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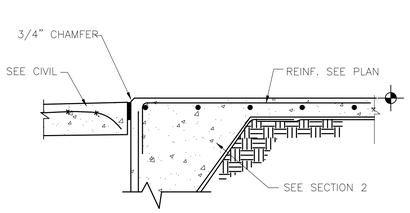

2 SECTION
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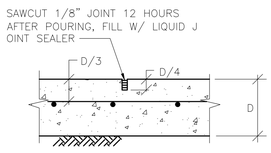
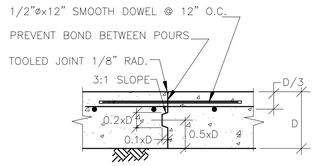


3 SECTION - (SJ)
SCALE: 3/4" = 1'-0"



4 SECTION - (CJ)
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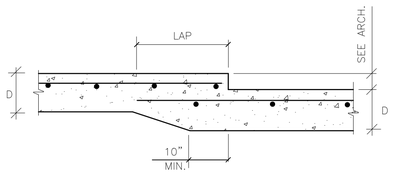

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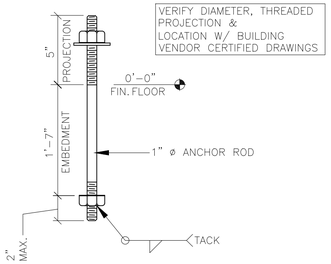
SCALE: 3/4" = 1'-0"



6 ANCHOR ROD DETAIL
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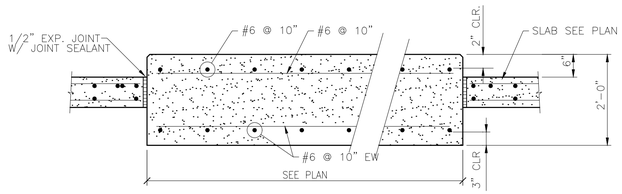
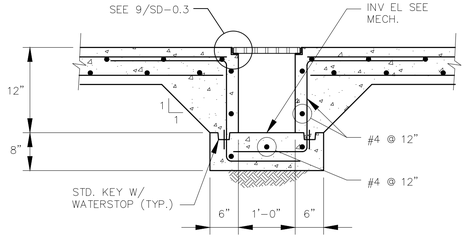
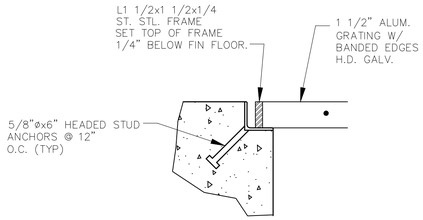


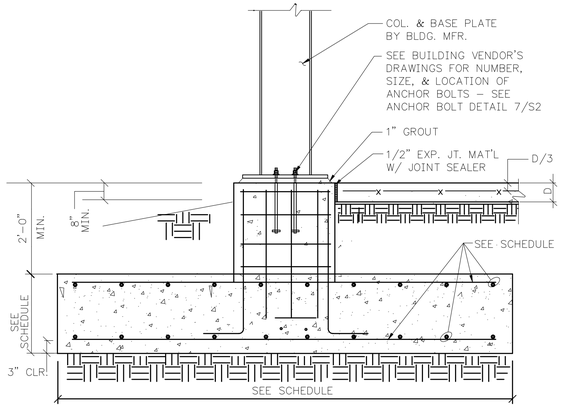
7 SECTION
SCALE: 3/4" = 1'-0"



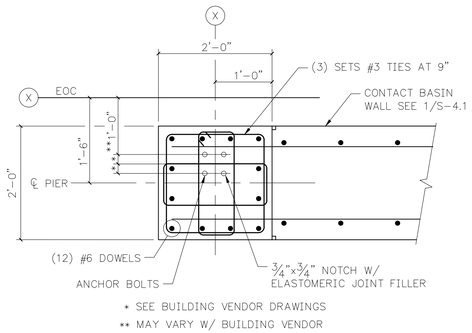
8 SECTION THRU TRENCH DRAIN
NOT TO SCALE



9 EDGE DETAIL
NOT TO SCALE



10 SECTION @ COL. FTG.
SCALE: 3/4" = 1'-0"



11 PIER PLAN P1
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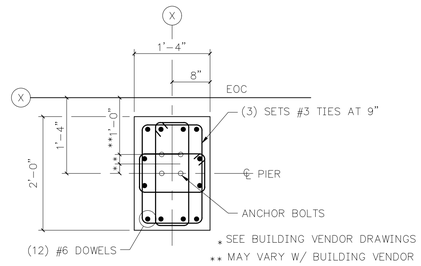

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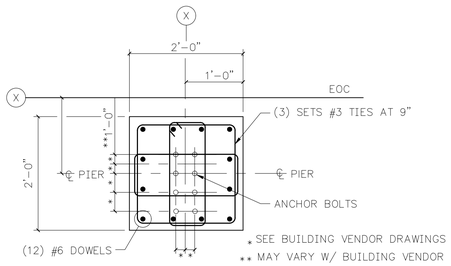

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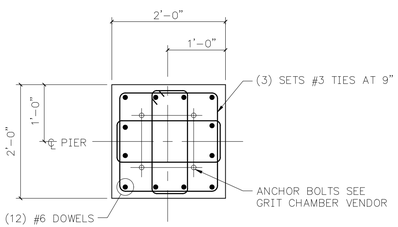

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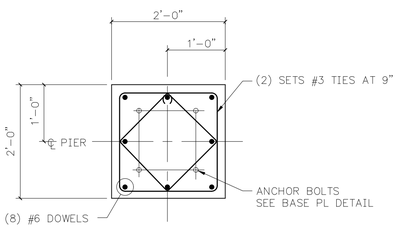

15 PIER PLAN P5
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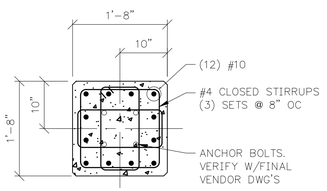
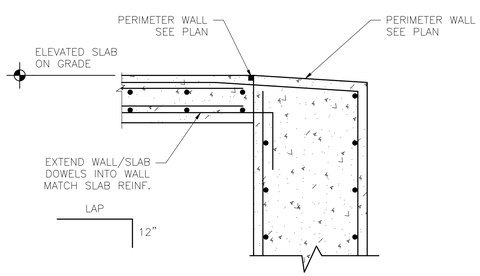


16 PIER PLAN C1H
NOT TO SCALE



17 SECTION
NOT TO SCALE

RELEASE FOR BID

Docusigned by:
Mark Weiss
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALABAMA
ENGINEERING
8/2/2024

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: X	DRAWN BY: X	CHECKED BY: X		APPROVED BY: X

CONCRETE DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

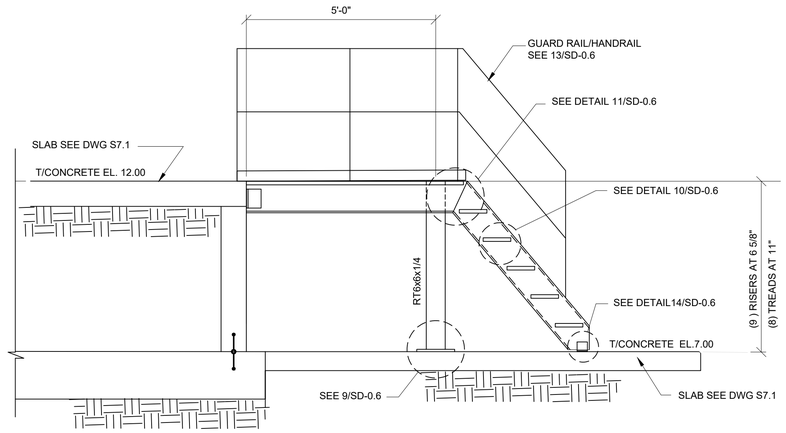
Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.3

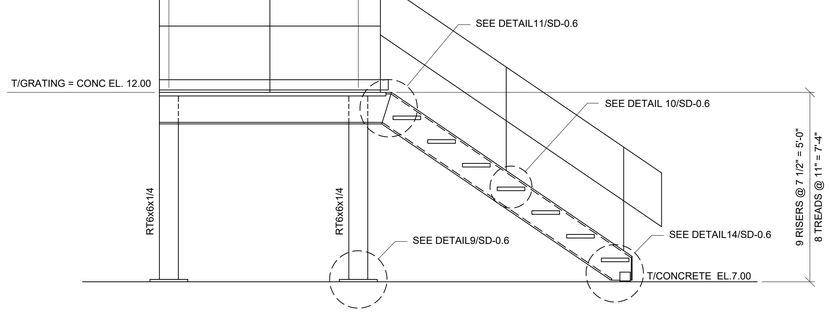
Docusign Envelope ID: C8AC3E03-E421-4BBB-A541-4473AAE97F64

W:\2021-1353--00--DAUPHIN ISLWAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SD--0.4.DWG
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

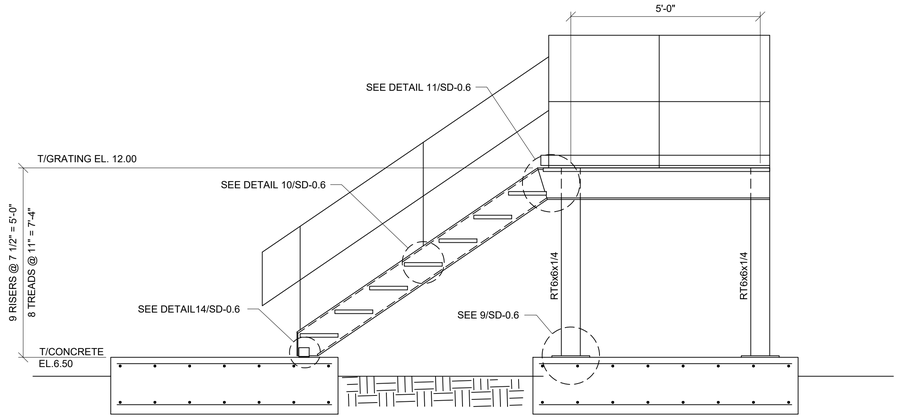


1 STAIR AT DEWATERING BUILDING
SCALE: 1/2"=1'-0"

NOTE:
1. ALL CLIPS & FASTENERS SHALL BE 316 STL STEEL.
2. ALL STRINGERS SHALL BE ALUM.
3. ALL HANDRAIL, POSTS, KICKPLATES & TREADS SHALL BE ALUMINUM.
4. FOR GENERAL STAIR NOTES SEE SD-0.6 & GENERAL NOTE SHEET.



2 STAIR AT DEWATERING BUILDING
SCALE: 1/2"=1'-0"



3 STAIR AT CHLORINE CONTACT BASIN
SCALE: 1/2"=1'-0"

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
Docusigned by: MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APV'D BY:

STAIR SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.4

Docusign Envelope ID: C8AC3E03-E421-4BBB-A541-4473AAE97F64

W:\2021-1353-00 -DAUPHIN ISLWAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SD-0.5.DWG
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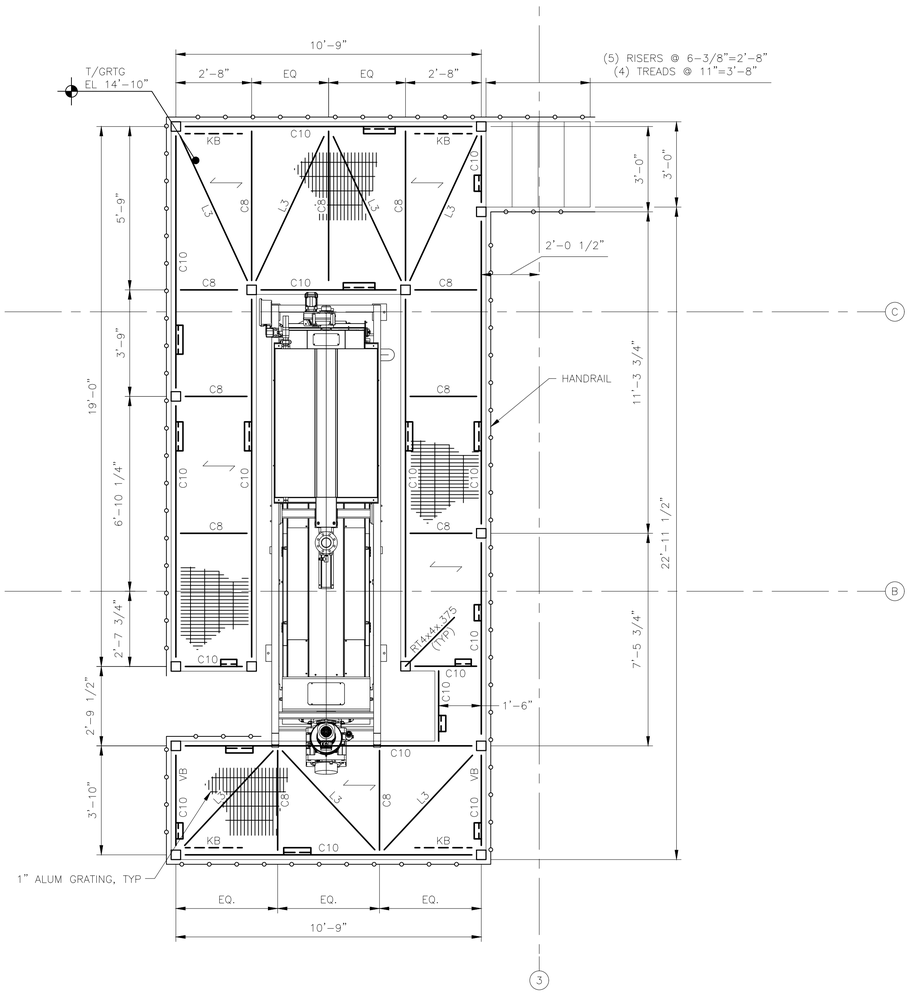


DEWATERING PLATFORM PLAN

SCALE: 3/8" = 1'-0"

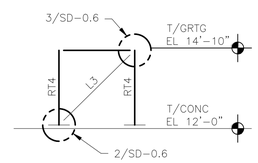
0 4 8

GRAPHIC SCALE

LEGEND

C10 = C10x10.4
C8 = C8x5.62
L3 = L3x3x1/4 (-3")
KB = KNEE BRACE SEE 3/SD-0.5
VB = VERT BRACE SEE 2/SD-0.5

NOTES:
1. ⊸—⊸ DENOTES HANDRAIL SEE D/SD-0.4.
2. ⟷ DENOTES GRATING SPAN.
3. FOR TYPICAL DETAILS SEE SD-0.4.
4. □ DENOTES RT4x4x3/8 POST.

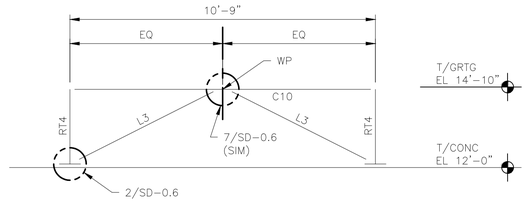


(VB) VERT BRACE ELEVATION

SCALE: 3/8" = 1'-0"

0 4 8

GRAPHIC SCALE

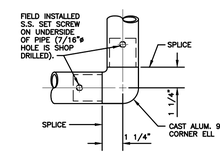


(KB) KNEE BRACE ELEVATION

SCALE: 3/8" = 1'-0"

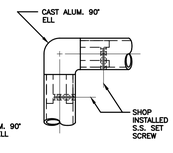
0 4 8

GRAPHIC SCALE

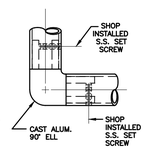


DETAIL 1

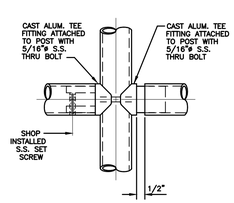
PLAN VIEW



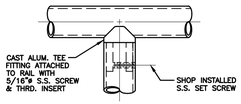
DETAIL 2



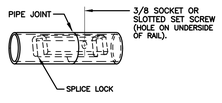
DETAIL 3



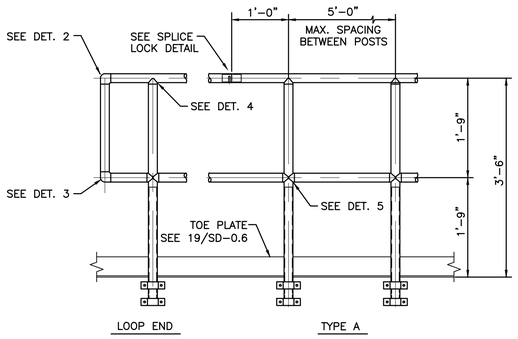
DETAIL 5



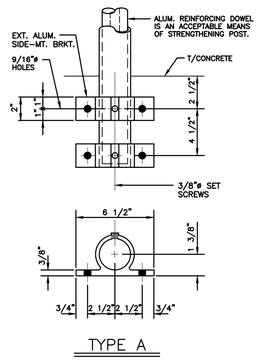
DETAIL 4



SPLICE LOCK



HANDRAILS SIDE MOUNT



TYPE A

HANDRAILS SIDE MOUNT

TYPICAL HANDRAIL CONNECTION DETAILS

RELEASE FOR BID

STATE OF ALABAMA
ENGINEER'S SEAL
MARK F. WEISS
35811-E
REGISTERED
PROFESSIONAL ENGINEER
8/2/2024
Digitally signed by: Mark Weiss
Date: 2024.08.05 13:54:48 -05'00'

NO.	DATE	REVISION	BY
DESIGNED BY: X		DRAWN BY: X	CHECKED BY: X	APPROVED BY: X	APV'D BY:

DEWATERING PLATFORM PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.5

Docusign Envelope ID: C8AC3E03-E421-4BBB-A541-4473AAE97F64

W:\2021-1353-00 - DAUPHIN ISLWAND, WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SD-0.6.DWG
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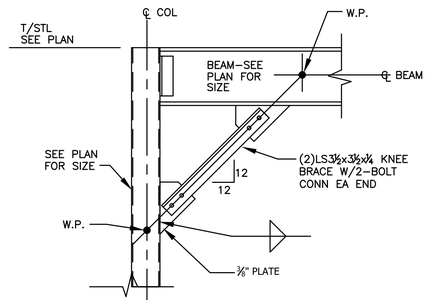
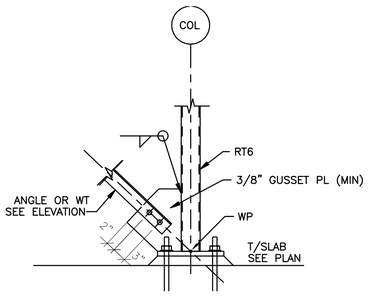
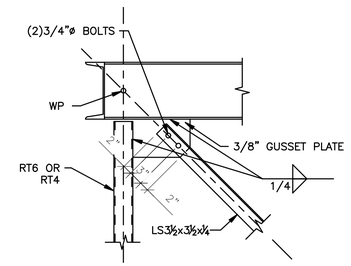


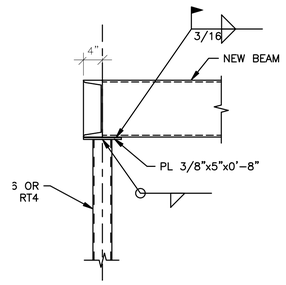
1 TYPICAL KNEE BRACE DETAIL
Scale: NTS



2 DETAIL AT VERTICAL BRACE
Scale: 3/4" = 1'-0"



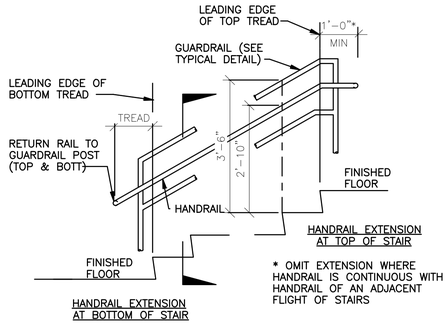
3 DIAGONAL BRACE DETAIL
Scale: 3/4" = 1'-0"



4 BEAM TO COL DETAIL
Scale: 3/4" = 1'-0"

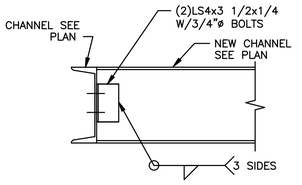
NOTES TO STAIR FABRICATION

1. ALUM. STAIRS DETAILS AS SHOW ARE FOR ORIENTATION ONLY. STAIRS ARE TO BE ALUMINUM, DESIGN & DETAILING OF STAIRS TO SUIT ALUM. STAIR FABRICATORS STANDARD & THE LATEST EDITION OF THE ALABAMA STATE BUILDING CODE.
2. FABRICATOR SHALL SUPPLY FULL DESIGN ANALYSIS SHOWING LOADING WITH SHOP DRAWINGS.
3. STAIR VENDOR DRAWINGS SHALL BE SEALED BY A ALABAMA LICENSED ENGINEER.

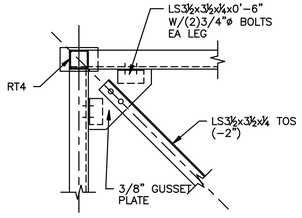


* OMIT EXTENSION WHERE HANDRAIL IS CONTINUOUS WITH HANDRAIL OF AN ADJACENT FLIGHT OF STAIRS

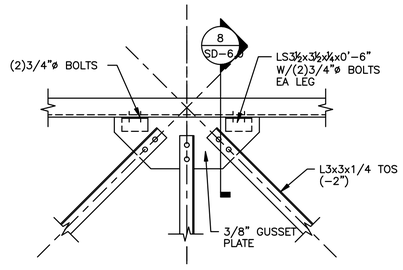
NOTES:
1. ENDS OF ALL RAILS & POSTS SHALL BE COMPLETELY CLOSED BY THEIR CONNECTIONS OR WITH CLOSURE PL 3/16" (MIN) SEAL WELDED ALL AROUND (UNO).
2. FOR TYPICAL CONNECTIONS SEE SD–0.5.



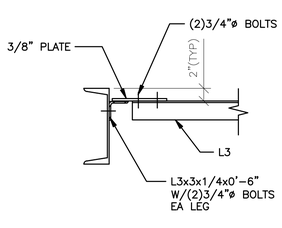
5 BEAM TO BEAM
Scale: 1" = 1'-0"



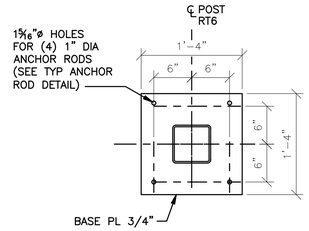
6 HORIZONTAL BRACING
Scale: 3/4" = 1'-0"



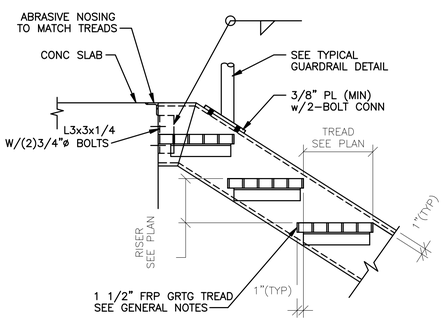
7 HORIZONTAL BRACING
Scale: 3/4" = 1'-0"



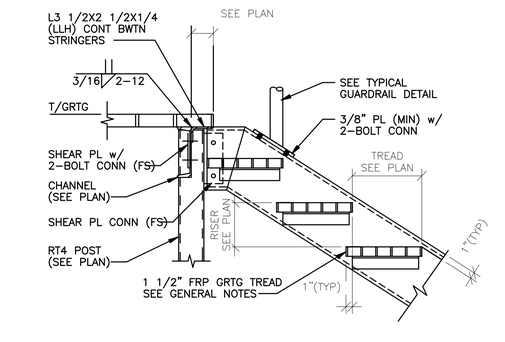
8 HORIZONTAL BRACING
Scale: 1" = 1'-0"



9 TYPICAL BASE PLATE DETAIL
Scale: 1" = 1'-0"



10 STAIR DETAIL
Scale: 1" = 1'-0"



11 STAIR DETAIL
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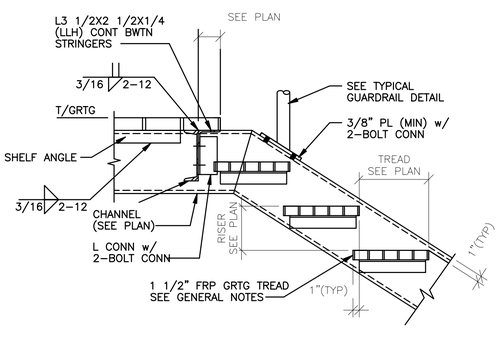

12 STAIR DETAIL
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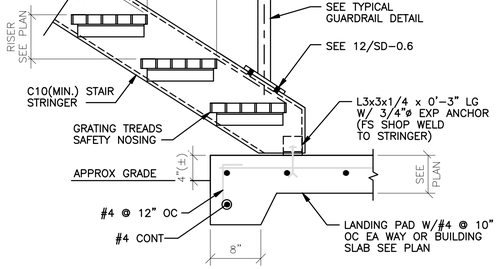
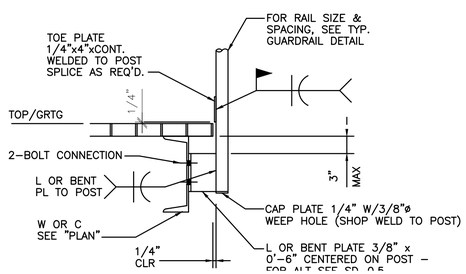
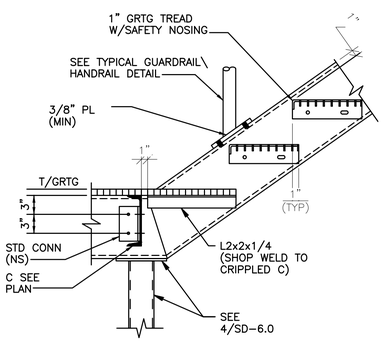


13 HANDRAIL DETAIL
Scale: 1/2" = 1'-0"

14 STAIR DETAIL
Scale: 1" = 1'-0"



15 HANDRAIL DETAIL
Scale: 1" = 1'-0"



16 STAIR DETAIL
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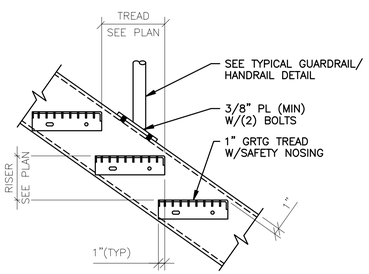
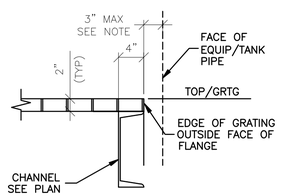
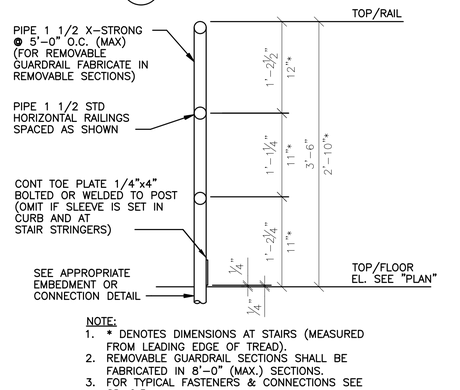


17 STAIR DETAIL
Scale: 1" = 1'-0"



18 TYPICAL EDGE OF GRADING
Scale: 1" = 1'-0"

NOTE: PROVIDE ℄ ¼"x6" TOE ℄ IF OPENING IS GREATER THAN 3".



NOTE:
1. * DENOTES DIMENSIONS AT STAIRS (MEASURED FROM LEADING EDGE OF TREAD).
2. REMOVABLE GUARDRAIL SECTIONS SHALL BE FABRICATED IN 8'–0" (MAX.) SECTIONS.
3. FOR TYPICAL FASTENERS & CONNECTIONS SEE SD–0.5.

19 TYPICAL THREE RAIL HANDRAIL DETAIL
Scale: 1" = 1'-0"

RELEASE FOR BID

STATE OF ALABAMA
ENGINEERING
Docusigned by: MARK F. WEISS 35811–E
Mark Weiss
REGISTERED PROFESSIONAL ENGINEER
8/2/2024

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	APVD. BY:
DESIGNED BY:					APPROVED
X			X	X	X

PLATFORM DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.6

Docusign Envelope ID: C8AC3E03-E421-4BBB-A541-4473AAE97F64

W:\2021-1353-00 - DAUPHIN ISLWAND WWTP\STRUCTURAL\CURRENT WORKING DRAWINGS\SD-0.7.DWG
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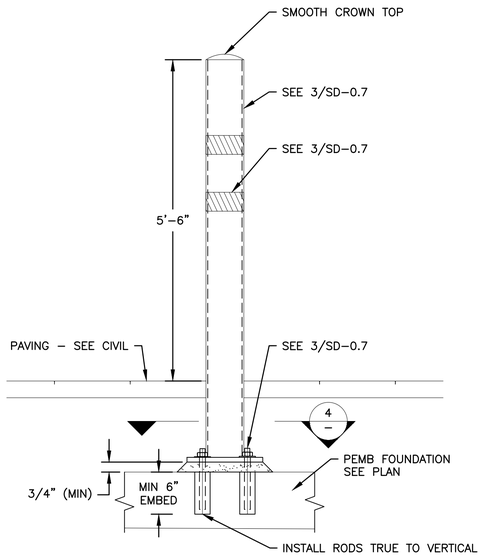
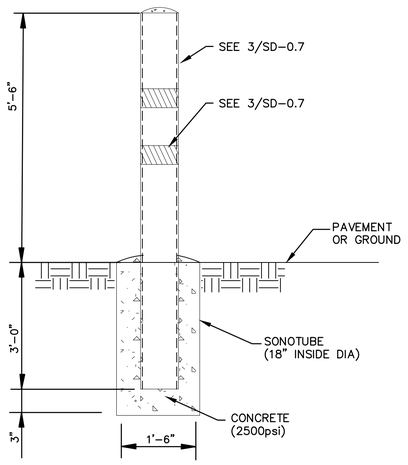


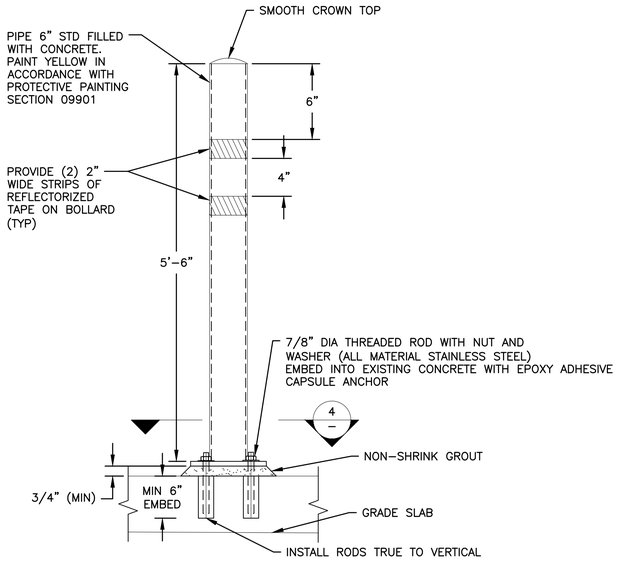
1 TYPICAL SURFACE MOUNTED BOLLARD
N.T.S.



NOTES:

1. PROVIDE A SAFETY YELLOW SLEEVE COVER.
2. FOR STRIPING SEE 3/SD-0.7

2 TYPICAL EMBEDED BOLLARD
N.T.S.



3 TYPICAL SURFACE MOUNTED BOLLARD
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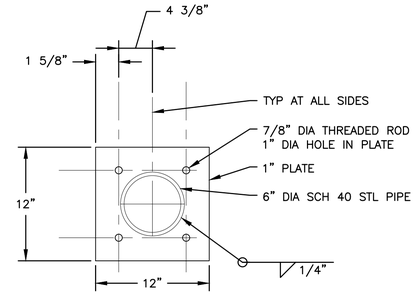
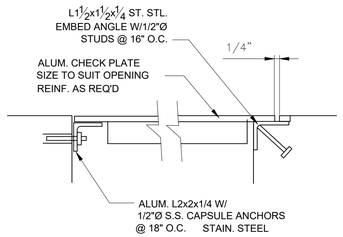
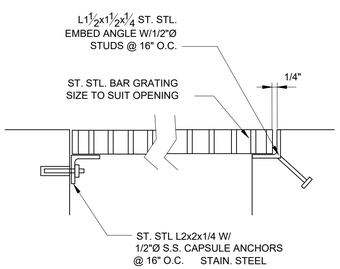


4 SECTION
N.T.S.



5 TYPICAL PLATE HATCH SUPPORT DETAIL
N.T.S.



6 TYPICAL GRATING SUPPORT DETAIL
N.T.S.

NOTES TO HATCH - GRATING FABRICATOR

1. SEE PLAN FOR SIZE OF OPENING, DESIGN & DETAILING MAY VARY TO SUIT MANUFACTURES STANDARD DESIGN.
2. SUPPLY FULL DESIGN ANALYSIS SHOWING LOADING WITH SHOP DRAWINGS.
3. HATCH OR GRATING VENDOR DRAWINGS MUST BE SEALED BY A GEORIGA REGISTERED STRUCTURAL ENGINEER.
4. BEARING TO BE PROVIDED ON ALL SIDES OF OPENING.
5. ALUMINUM SHALL BE SEPARATED FROM DIRECT CONTACT WITH OTHER MATERIALS (STEEL, CONCRETE, ETC) BY PRESSURE SENSITIVE TAPE, BITUMASTIC COATING, OR OTHER PROTECTIVE METHOD.
6. GRATING SHALL BE MANUFACTURED IN SECTIONS NOT TO EXCEED 60 LBS.
7. PROVIDE BINDING STRIPS ON SIDES OF GRATING TO MATCH MAIN BEARING BARS

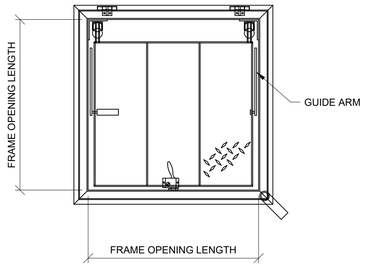
MATERIAL NOTES:

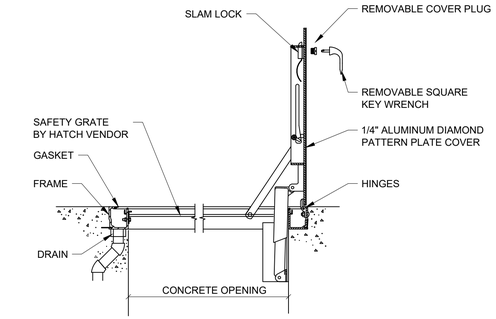
1 ALUMINUM FABRICATION SHALL BE IN CONFORMANCE WITH THE ALUMINUM ASSOCIATION, INC. " SPECIFICATIONS FOR ALUMINUM STRUCTURES"

2 MATERIALS SHALL BE AS FOLLOWS (UNLESS NOTED OTHERWISE):

ALUMINUM	PLATE AND SHEET	ASTM B209	6061-T6 T651 ALLOY
	EXTRUDED SHAPES	ASTM B221	6061-T6 T6510 ALLOY
	CASTINGS	ASTM B108	214 ALLOY

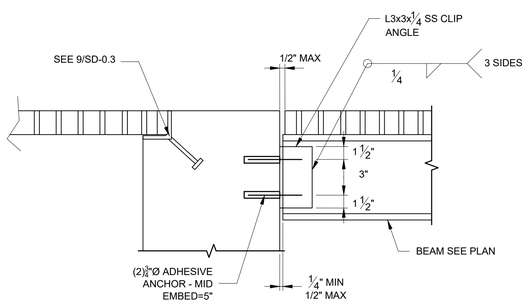
3. GRATING SHALL BE HD 316 ST. STEEL BAR GRATING SIZE TO SUIT SPAN OF OPENING SERRATED BEARING BARS ON 1 3/16 INCH CENTERS WITH CROSS BARS ON 4" O.C.. THE BEARING BARS SHALL BE 6063-T6 ALUMINUM AND THE CROSS BARS SHALL BE 6063-T5 ALUMINUM. EACH 2 FOOT WIDE SECTION OF THE GRATING SHALL BE FASTENED TO THE SUPPORTING MEMBER WITH FOUR 1/2 INCH DIAMETER STAINLESS STEEL BOLTS.



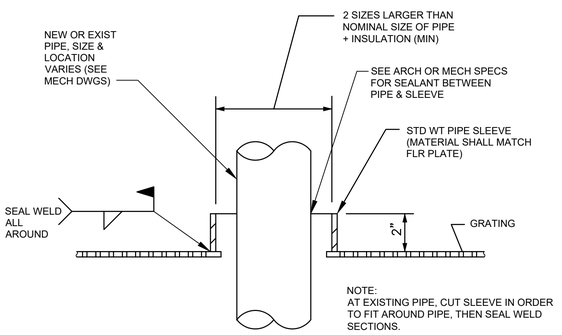


NOTE: SINGLE LEAF DETAIL SHOWN, DOUBLE LEAF REQUIRED SEE DWG. S-1.0 & M-1.0 FOR SIZE, LOCATION AND ORIENTATION.

7 TYPICAL VENDOR SUPPLIED HATCH DETAIL
N.T.S.



8 TYPICAL GRATING SUPPORT DETAIL
N.T.S.



9 TYPICAL GRATING PENETRATION DETAIL
N.T.S.

RELEASE FOR BID

ENGINEER'S SEAL
STATE OF ALABAMA
MARK F. WEISS
35811-E
REGISTERED PROFESSIONAL ENGINEER
8/2/2024
Electronically Signed By:
Mark Weiss
(205) 314-0035446

NO.	DATE	REVISION	BY
DESIGNED BY: X	DRAWN BY: LMN	CHECKED BY: MFW	APPROVED BY: MFW

STANDARD DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUG 2024
PROJ.	100200.32
DWG.	SD-0.7

H:\PROJECT FILES\100200 — DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 — WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-1.0.DWG
Bryant Edwards PLOT 8/19/2024 3:34 PM SAVED 8/19/2024 1:54 PM
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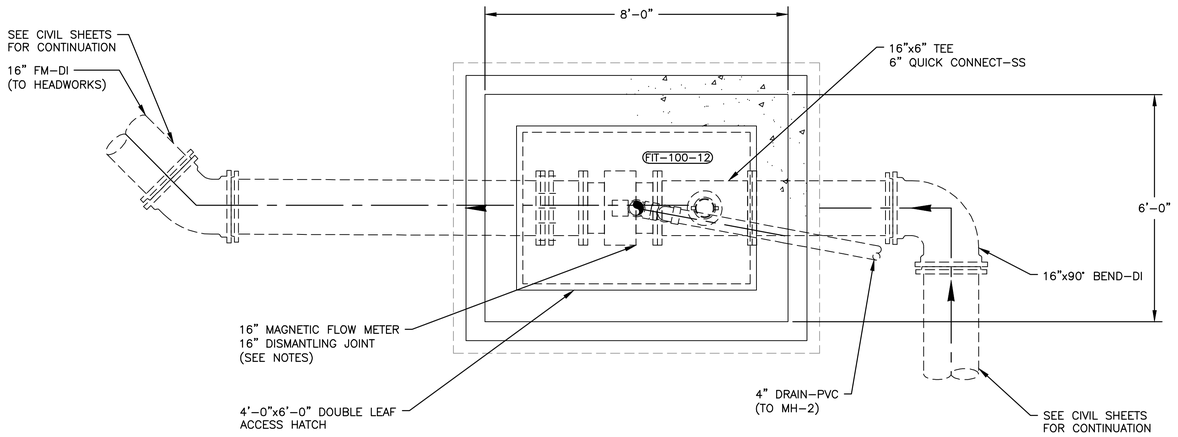
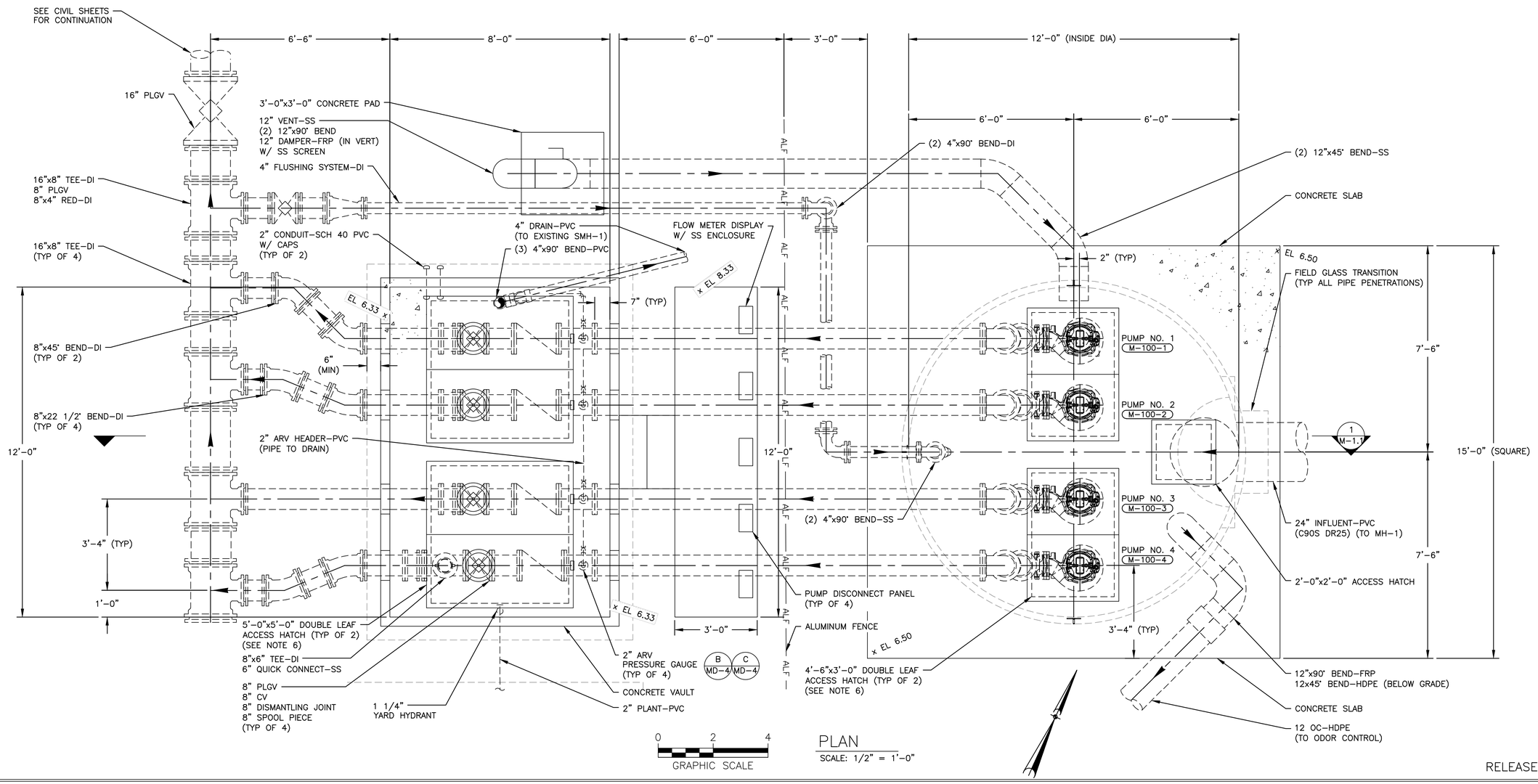
NOTES:

1. PROVIDE UPSTREAM AND DOWNSTREAM STRAIGHT PIPE RUNS AS REQUIRED BY THE METER SUPPLIER.
2. PROVIDE 20" CLEARANCE FROM CENTERLINE OF PIPE TO FLOOR AND 12" MINIMUM CLEARANCE BETWEEN FLANGES AND VAULT SIDEWALLS.
3. MAGNETIC FLOW METER. FURNISH AND INSTALL 1" C EMPTY FROM MAGNETIC FLOW METER DISPLAY LOCATION TO MAGNETIC METER VAULT FOR SENSOR WIRE. SEE CIVIL FOR APPROXIMATE MAGNETIC METER VAULT LOCATION. VERIFY EXACT LOCATION PRIOR TO ANY ROUGHING. INSTALL WIRE FROM SENSOR TO TRANSMITTER AS REQUIRED.
4. PROVIDE (1) SPARE 2" CONDUIT PASS THROUGH CAPPED ON EACH SIDE.
5. ALL FLANGE BOLTS SHALL BE 316 SS.
6. SEE STRUCTURAL FOR REINFORCED OPENINGS DETAILS.





0 2 4
GRAPHIC SCALE

PLAN
SCALE: 1/2" = 1'–0"

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS
			APV'D BY:

INFLUENT PUMP STATION AND FLOW METER BYPASS PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-1.0

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-1.1.DWG
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANTINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.
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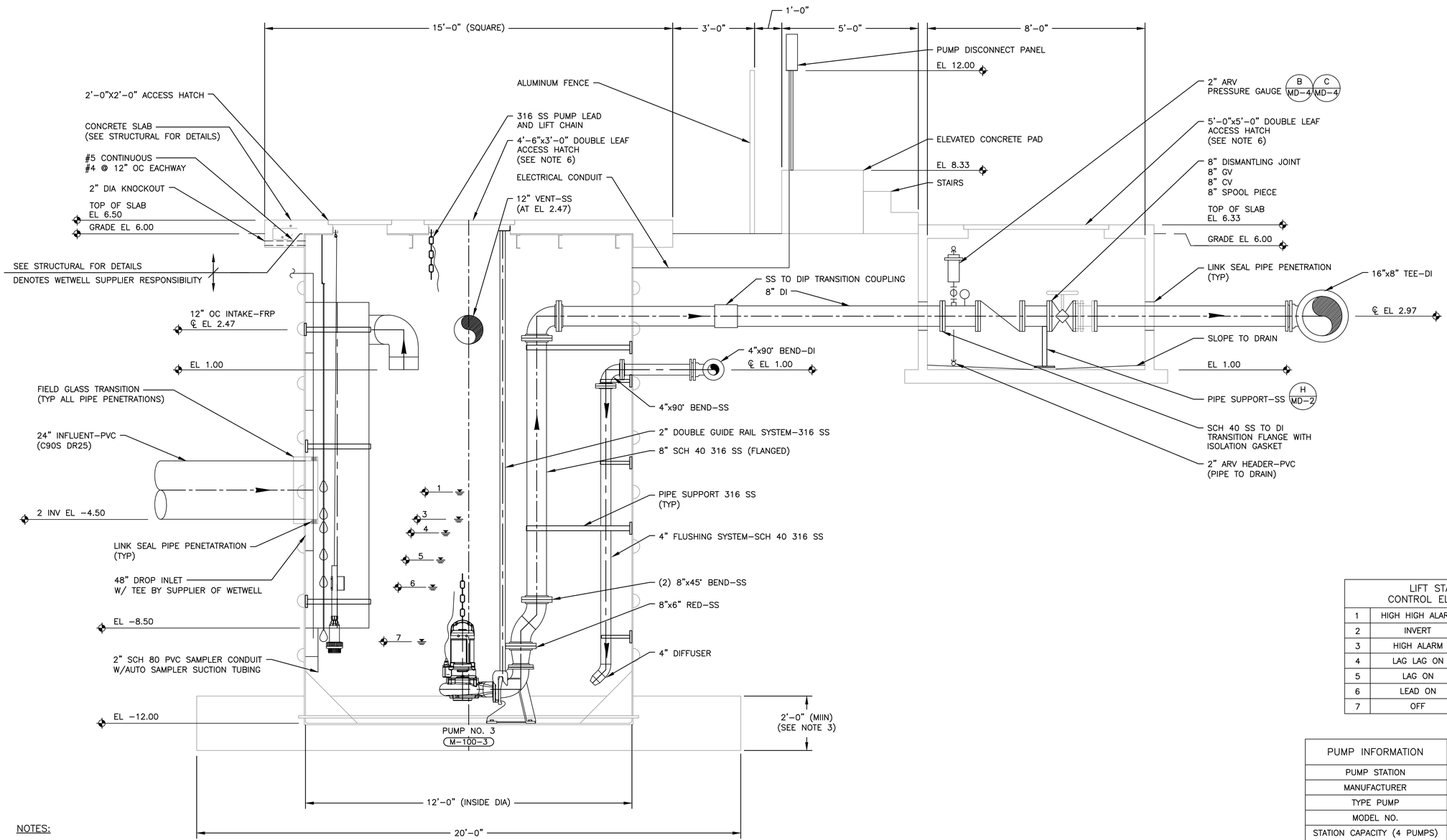

NOTES:

1. PUMP AND WETWELL SUPPLIER SHALL PROVIDE WETWELL, PUMPS, DISCHARGE PIPING, RAILS, SUPPORTS, PRE-FAB DROP STRUCTURE, ACCESS COVERS, FLOATS, LEVEL, SEALS AND ALL ASSOCIATED INTERIOR ITEMS FOR FULLY FUNCTIONAL PUMP STATION.
2. FRP WETWELL AND VALVE BOX SHALL MEET OR EXCEED ALL APPLICABLE ASTM REQUIREMENTS.
3. CONCRETE BASE AND ANCHORING FOR WETWELL SHALL BE CONSTRUCTED PER MANUFACTURER'S RECOMMENDATION AND SHALL BE SUFFICIENT TO PREVENT FLOTATION OF THE WETWELL FOR A GROUNDWATER ELEVATION EQUAL TO THE WETWELL TOP ELEVATION. PROPOSED DESIGN AND ANTI-FLOTATION CALCULATIONS SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY THE SIZE OF ALL VALVES, FITTINGS, PIPE, AND APPURTENANCES AND PROVIDE PREFABRICATED CONCRETE VALVE VAULT WITH SUFFICIENT WIDTH, LENGTH, AND DEPTH TO ALLOW THE REQUIRED CLEARANCES AND PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES.
5. ALL ABOVE GROUND PIPING ABOVE 3" SHALL BE FLANGED. BELOW GROUND SHALL BE RESTRAINED JOINT.
6. SEE STRUCTURAL FOR REINFORCED OPENINGS DETAILS.

SECTIONAL ELEVATION 1
1/2" = 1'-0"
M-1.0

0 2 4
GRAPHIC SCALE

LIFT STATION CONTROL ELEVATIONS		
1	HIGH HIGH ALARM	EL -3.50
2	INVERT	EL -4.50
3	HIGH ALARM	EL -4.50
4	LAG LAG ON	EL -5.00
5	LAG ON	EL -6.00
6	LEAD ON	EL -7.00
7	OFF	EL -9.00

PUMP INFORMATION	WWTF INFLUENT PUMP STATION
PUMP STATION	VFD QUADPLEX
MANUFACTURER	KSB OR EQUAL
TYPE PUMP	---
MODEL NO.	KRTD 100-4031226XE62-S
STATION CAPACITY (4 PUMPS)	2850 GPM
IMPELLER SIZE & NO.	13.46
DISCHARGE SIZE (MIN.)	6 IN.
HP-RATED RPM	22.6 HP - 1180 RPM
VOLTAGE	460V/60HZ
MAX. PUMP HORSEPOWER EACH	30 HP (NOL)

VFD DESIGN CONDITIONS			
PUMP SPEED	PUMP CONDITION	PUMP CAPACITY	TOTAL HEAD
1180 RPM	NORMAL FLOW	950 GPM	51 FT
1180 RPM (3)	PEAK FLOW (TRIPLEX)	2850 GPM	63 FT
980 RPM	LOW FLOW	500 GPM	48 FT

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	

INFLUENT PUMP STATION SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-1.1

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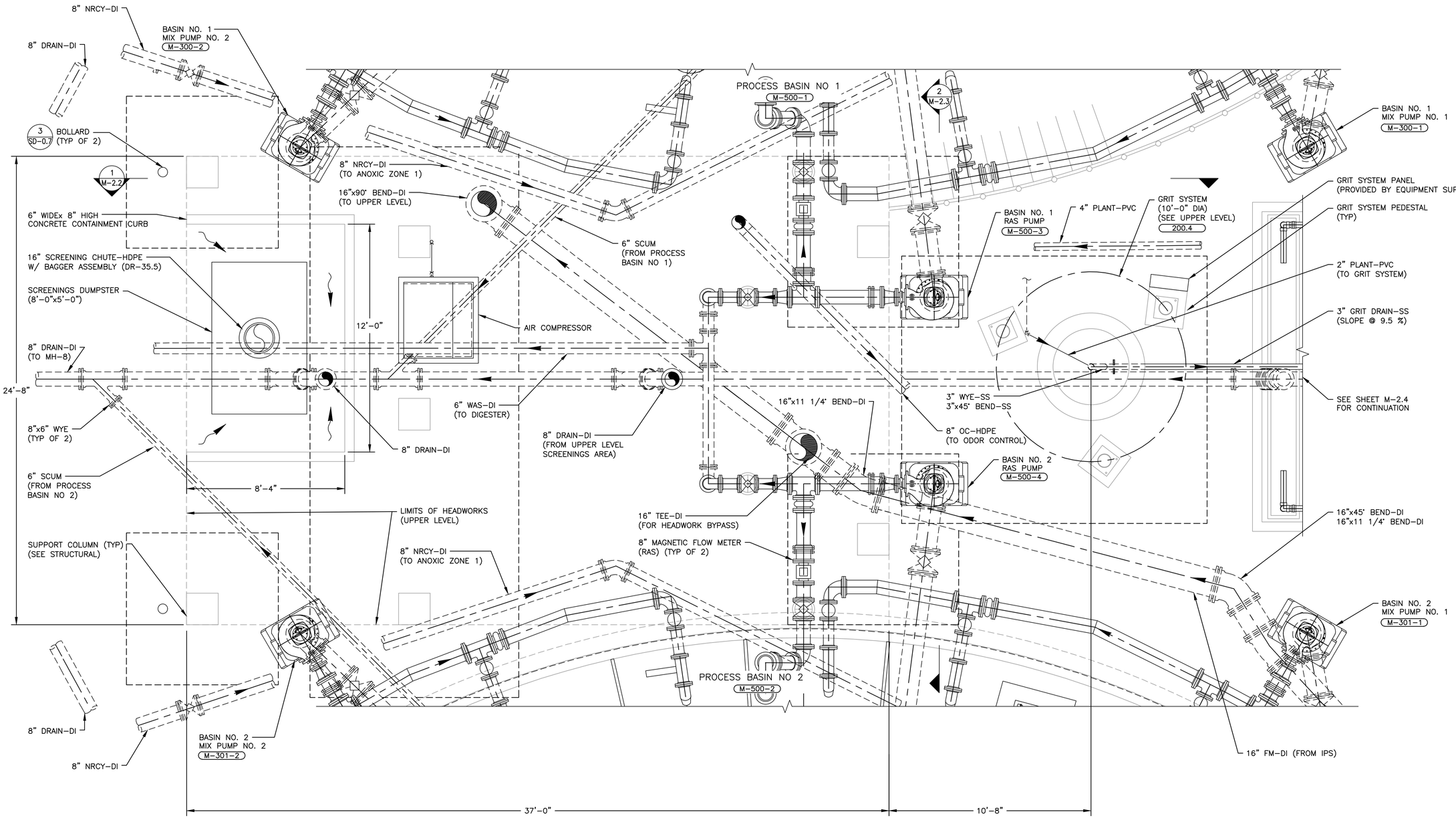

NOTES:

1. PROCESS BASIN NO 2 MIX PUMP 1 AND 2 SIMILAR.

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

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

HEADWORKS LOWER LEVEL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE, SUITE 600
HUNTSVILLE, ALABAMA 35801
(256)203-9901

FILE	SEE LEFT
	VERIFY SCALE
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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-2.0

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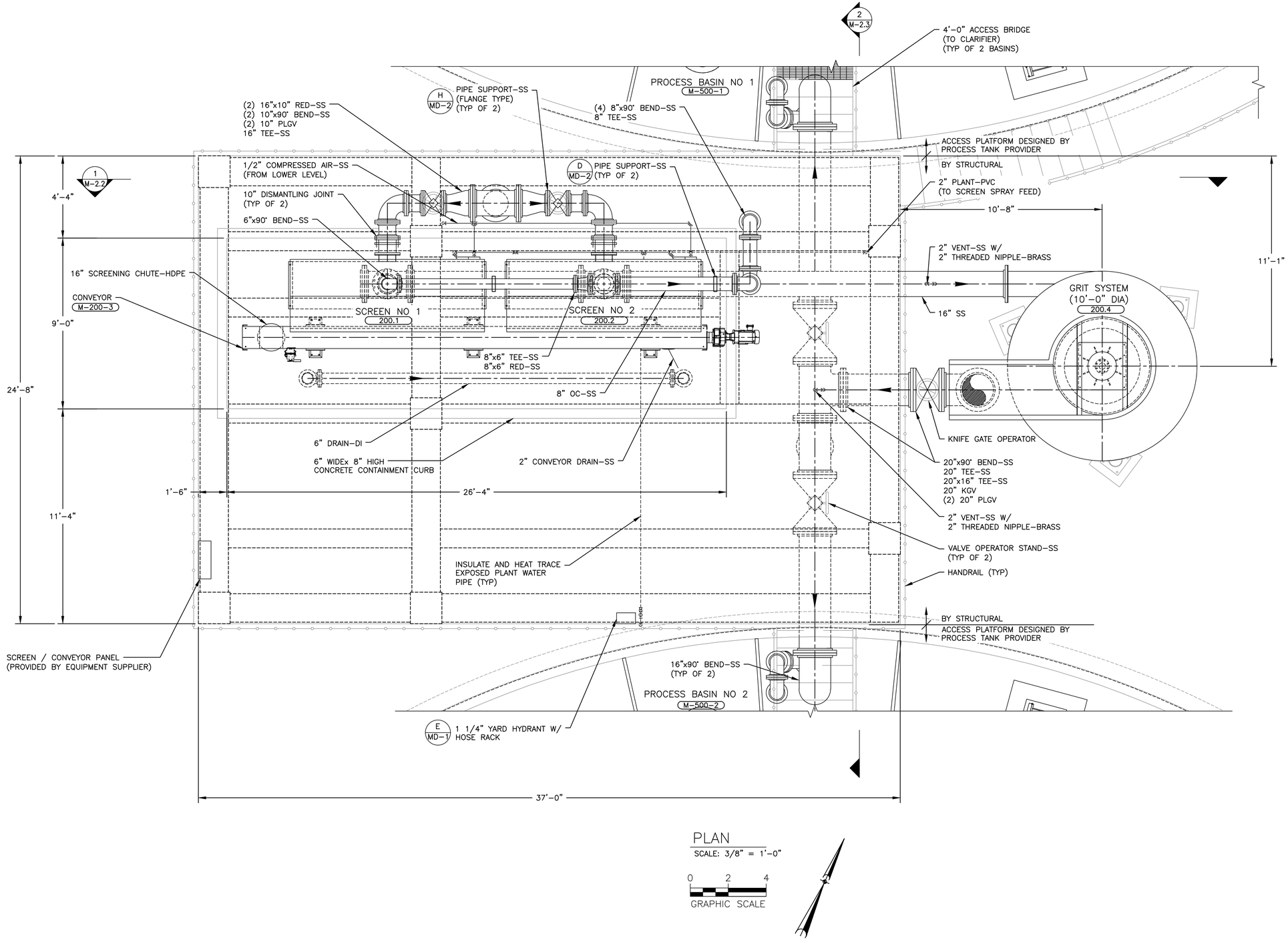

PLAN
SCALE: 3/8" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
	DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD

HEADWORKS UPPER LEVEL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9901

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-2.1

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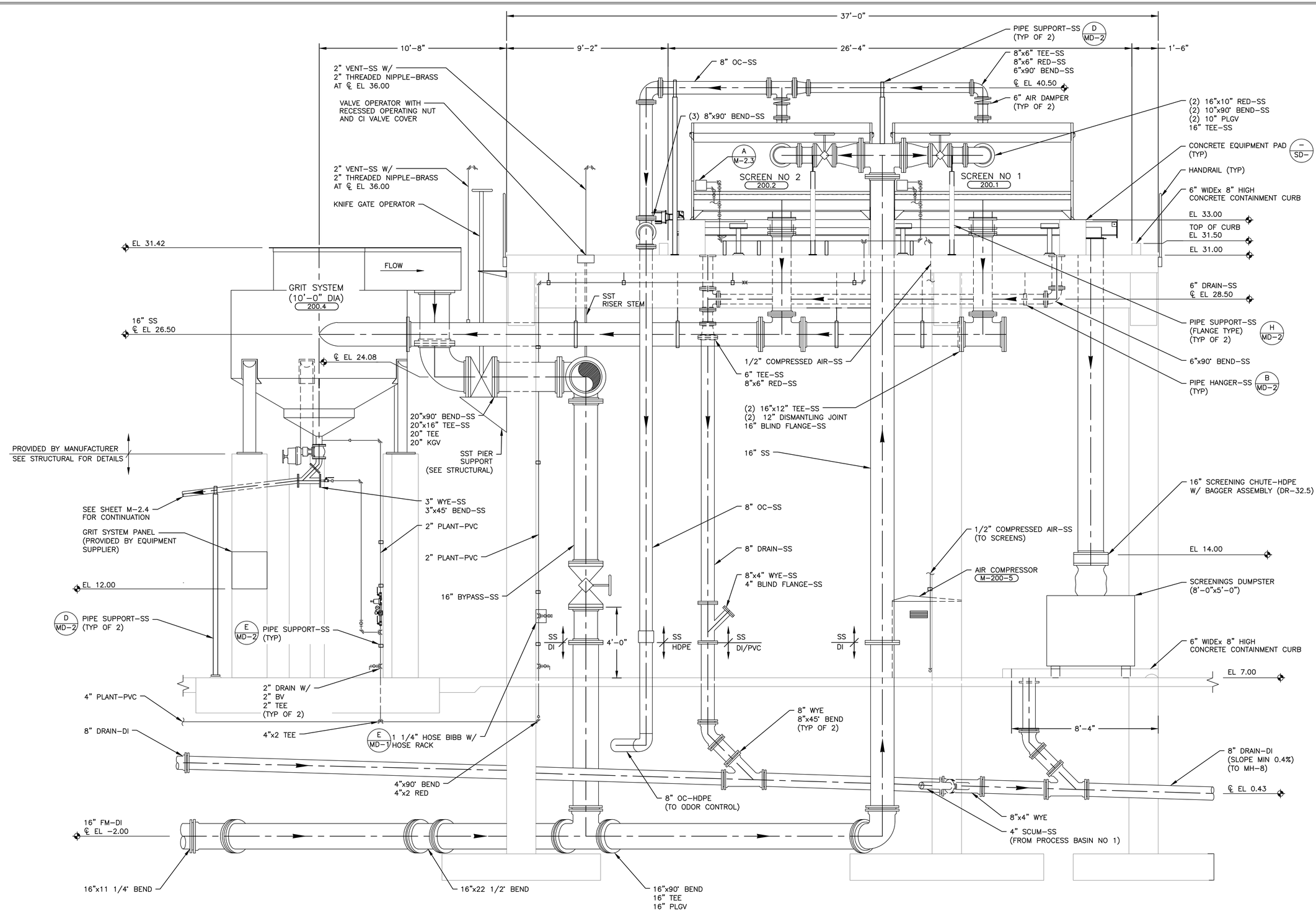

NOTES:

1. STAINLESS STEEL PIPE FOR GRAVITY AND PRESSURE ABOVE GRADE SHALL BE SCH 40 304 SS UNLESS NOTED OTHERWISE.
2. ABOVE GRADE ODOR CONTROL DUCT SHALL BE SCH 5 STAINLESS STEEL.

0 2 4
GRAPHIC SCALE

SECTION 1
3/8" = 1'-0" M-2.0, M-2.1

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/19/24

NO.	DATE	REVISION	BY
	DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD

HEADWORKS SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-205-9501

FILE	SEE LEFT
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	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-2.2

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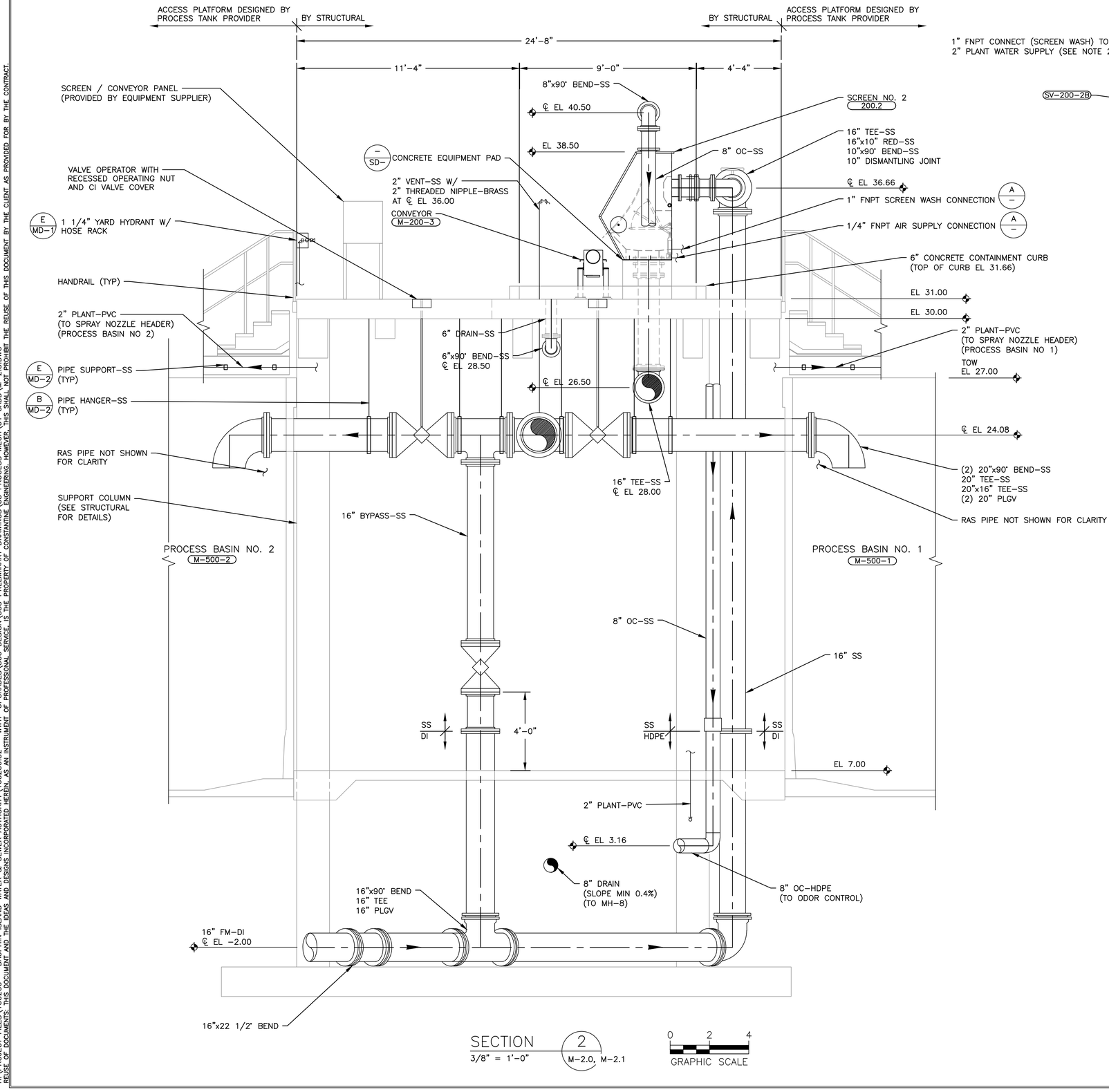
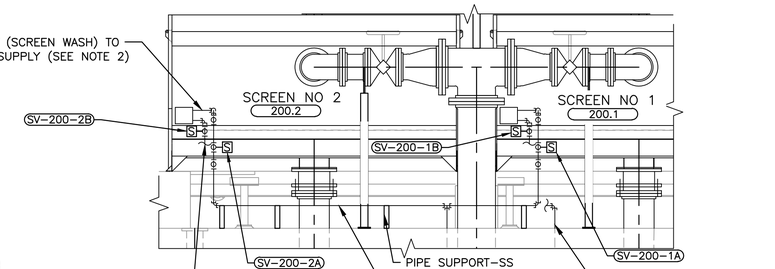
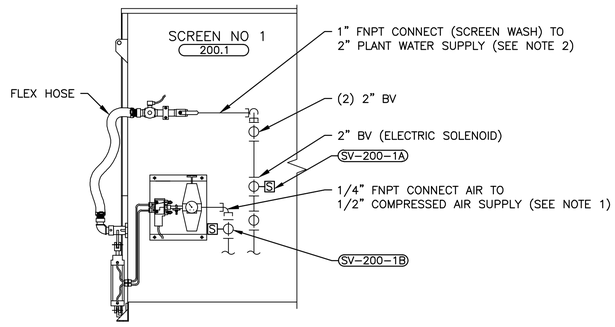


SECTION 2 (M-2.0, M-2.1)
3/8" = 1'-0"

0 2 4
GRAPHIC SCALE





SCREEN WASH SPRAY AND AIR SUPPLY CONNECTIONS
DETAIL A
NTS

NOTES:

1. AIR SOLENOID TO BE MOUNTED ON BACK OF SCREEN HOUSING.
2. PLANT WATER SOLENOID TO BE MOUNTED ON BACK OF SCREEN HOUSING.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/19/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
	DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD

HEADWORKS SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island Water & Sewer Authority

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 600
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-2.3

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-2.4.DWG
Bryant Edwards PLOT 8/16/2024 8:22 AM SAVED 8/14/2024 2:00 PM
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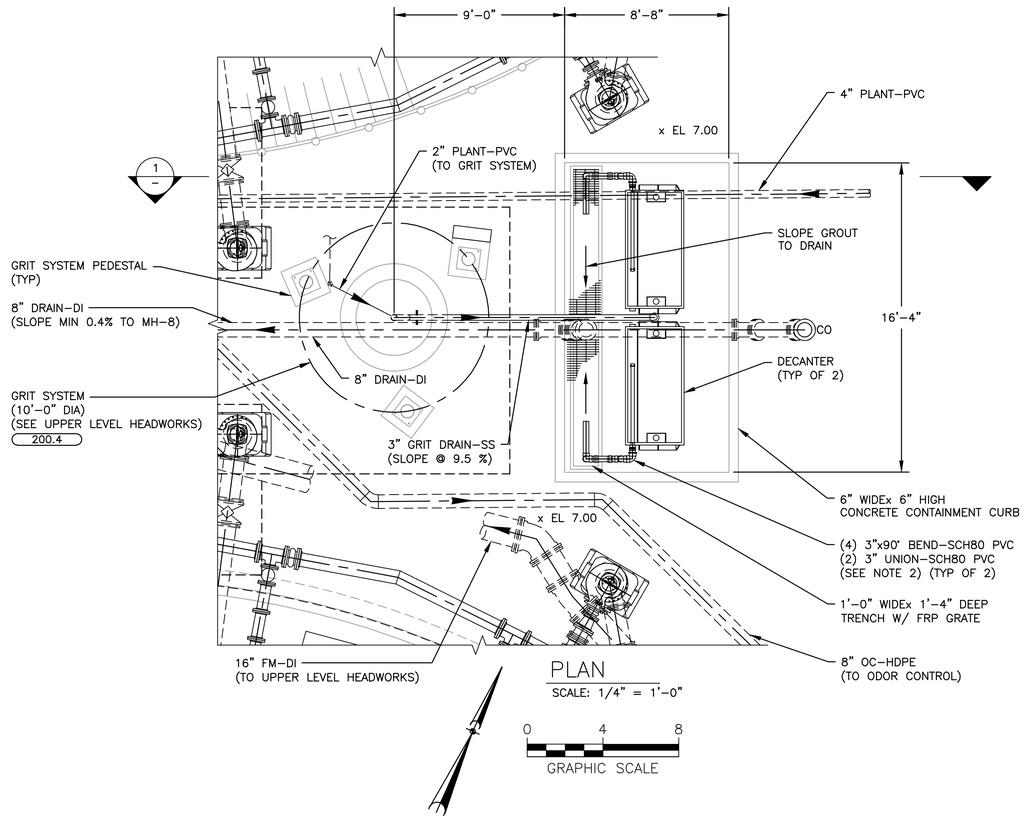
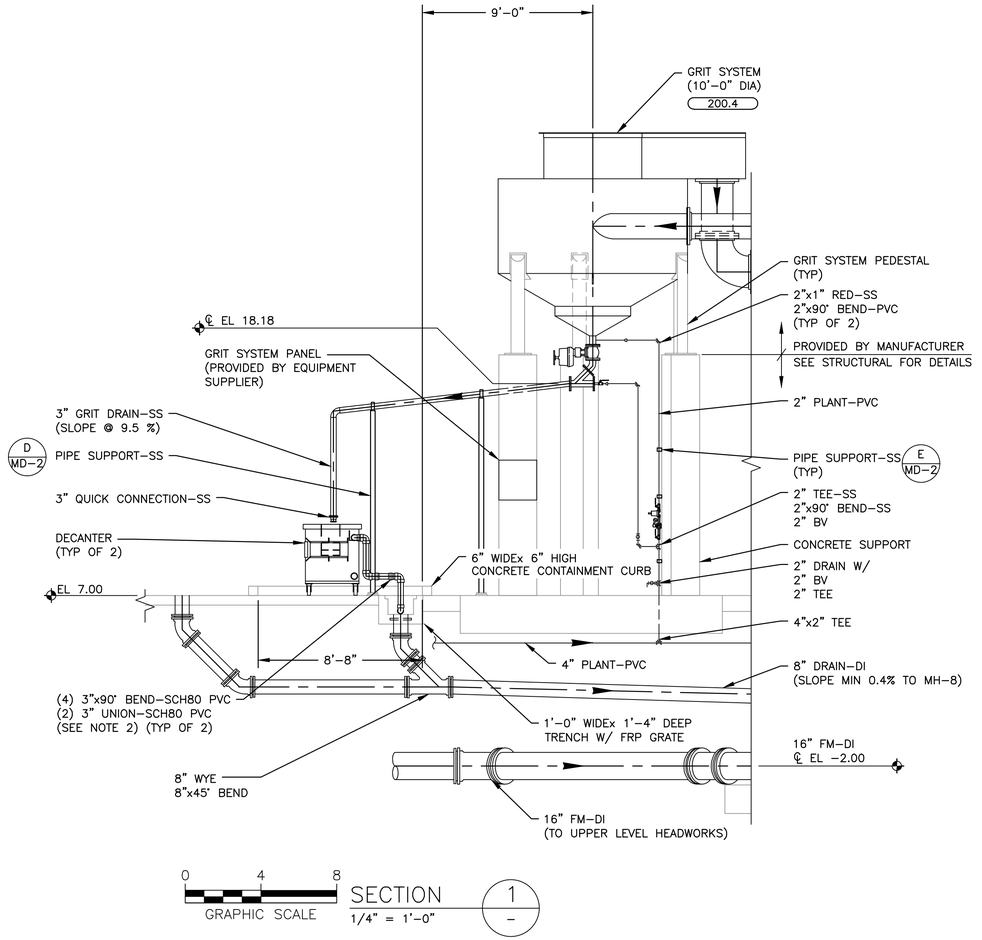


PLAN

SCALE: 1/4" = 1'–0"

0 4 8

GRAPHIC SCALE



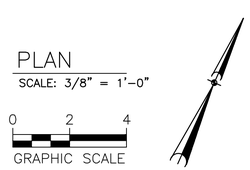
0 4 8

GRAPHIC SCALE

SECTION 1 / 1/4" = 1'–0"

NOTES:

1. DECANTER SHALL BE GALVANIZED STEEL CONSTRUCTION.
2. CONTRACTORS TO DIRECT FLOW TO AN OPEN DRAIN.
3. DECANTER WEIGHT (LBS) DRY: 800, WET: 4,800.
4. CONNECT GRIT SYSTEM UNDER FLOW PIPING AS REQUIRED BY MANUFACTURER SUBMITTAL.



RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC	DRAWN BY: DS	CHECKED BY: SC	APPROVED BY: JS

DECANTER PLAN AND SECTION

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-2.4

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-3.0.DWG
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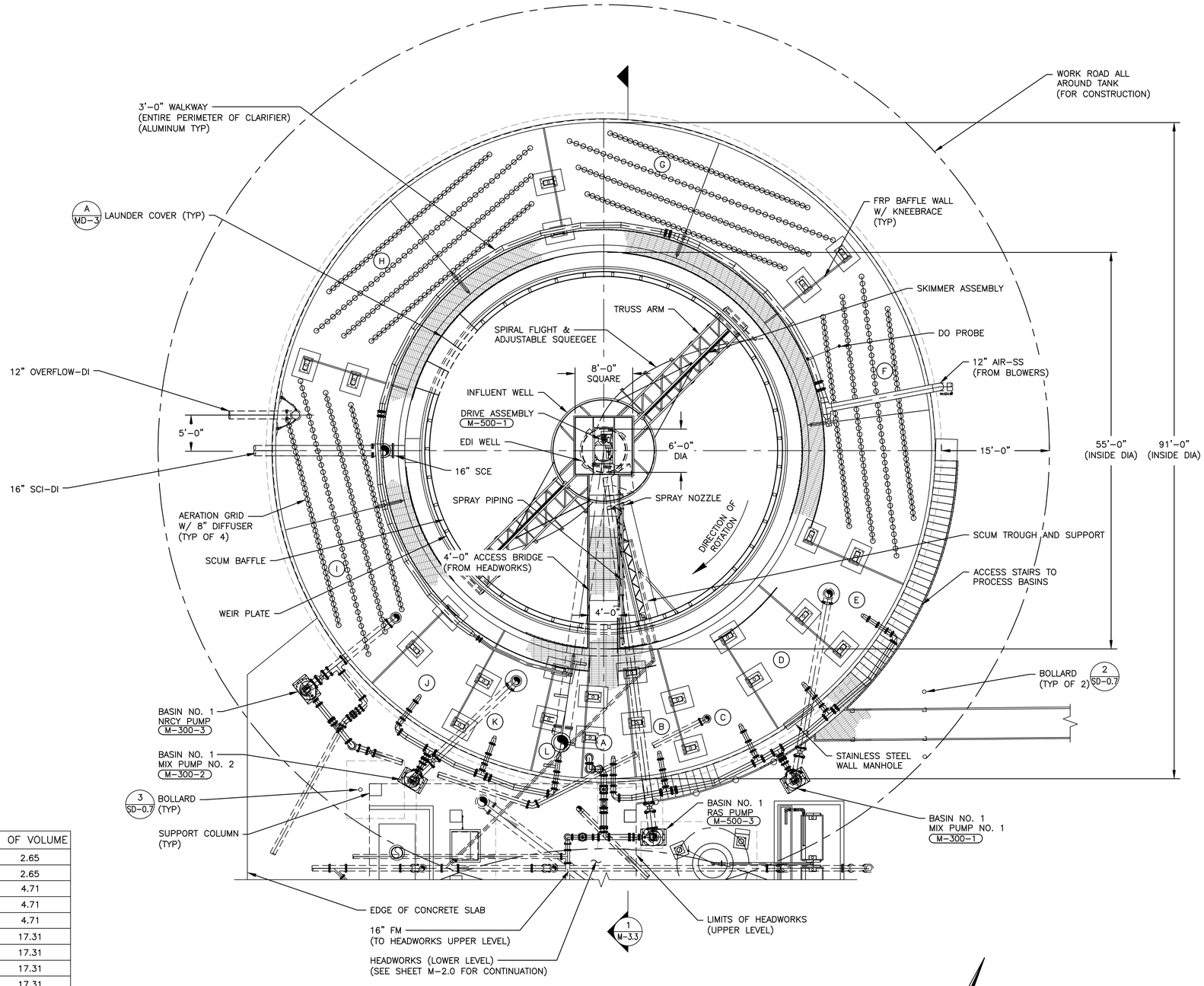
Bryant Edwards PLOT 8/16/2024 8:22 AM SAVED 8/14/2024 1:55 PM

NOTES:

1. PROCESS BASIN NO 2 IS A MIRROR IMAGE.
2. PROVIDE 4–FT BETWEEN ADJACENT NOZZLES AND LOCATE SPRAY HEADER 2'–7" ABOVE WATER SURFACE ELEVATION. FIELD VERIFY THE ANGLE OF NOZZLES.
3. CONCRETE ENCASE ALL PIPE UNDER SLABS OR TANK FOUNDATIONS.



	ZONE	VOLUME (GAL)	% OF VOLUME
A	ANEROBIC 1	15,000	2.65
B	ANEROBIC 2	15,000	2.65
C	ANOXIC 1	26,667	4.71
D	ANOXIC 2	26,667	4.71
E	ANOXIC 3	26,667	4.71
F	OXIC 1	98,000	17.31
G	OXIC 2	98,000	17.31
H	OXIC 3	98,000	17.31
I	OXIC 4	98,000	17.31
J	POST ANOXIC 1	25,000	4.42
K	POST ANOXIC 2	25,000	4.42
L	POST OXIC	14,000	2.47

PROCESS BASIN NO. 1 (PROCESS BASIN NO. 2 SIMILAR)

PLAN

SCALE: 1/8" = 1'–0"

0 8 16

GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

PROCESS BASIN NO. 1 PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 610
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.0

I:\PROJECT FILES\100200 – DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 – WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-3.1.DWG
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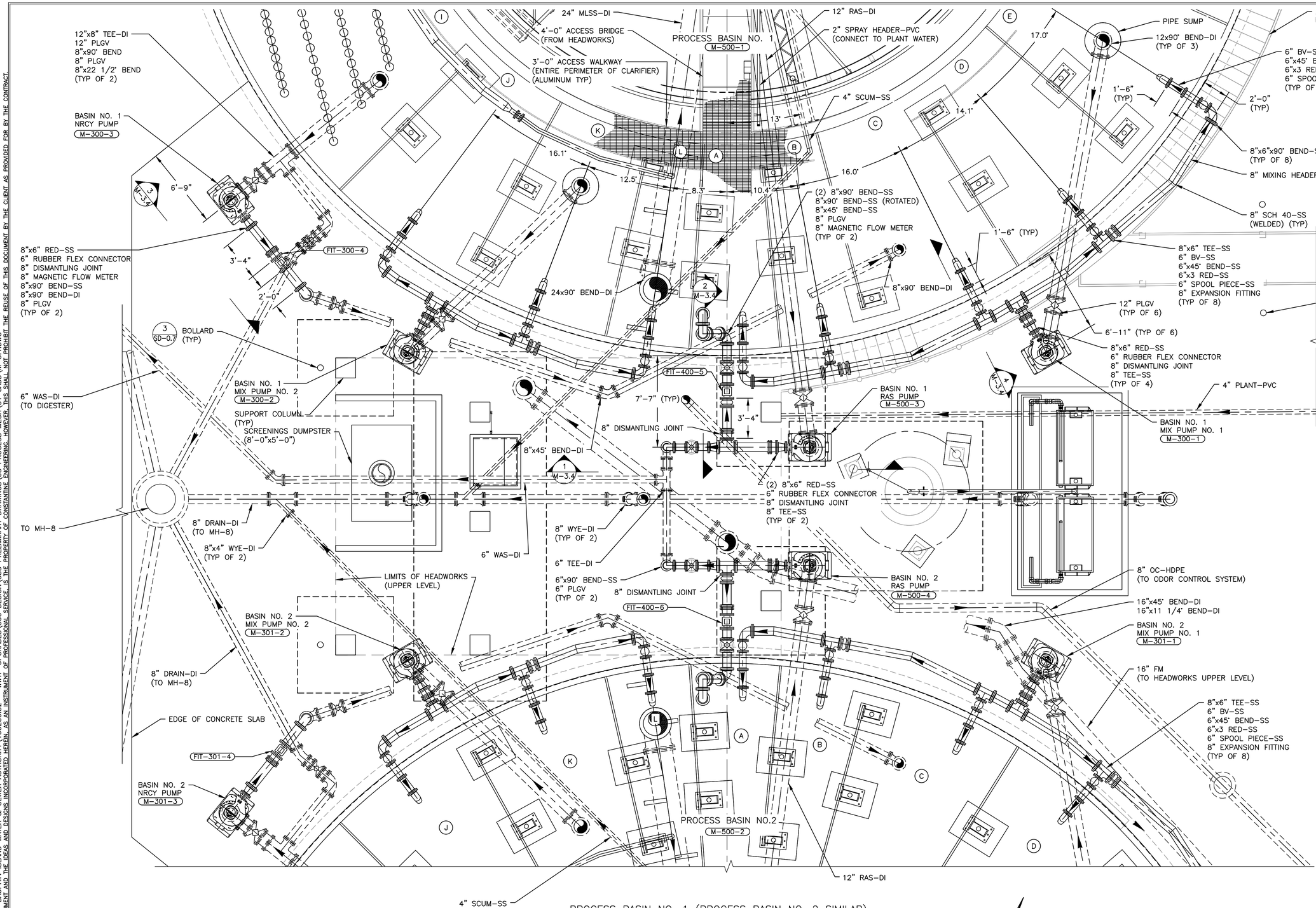

PROCESS BASIN NO. 1 (PROCESS BASIN NO. 2 SIMILAR)

PLAN

SCALE: 1/4" = 1'-0"

GRAPHIC SCALE 0 4 8

NOTES:

1. PROCESS BASIN NO 2 IS A MIRROR IMAGE.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS

PROCESS BASIN NO. 1 ENLARGED PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVENUE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.1

H:\PROJECT FILES\100200 – DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 – WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS\MECH\01 CADD\M-3.2.DWG
Bryant Edwards PLOT 8/16/2024 8:23 AM SAVED 8/14/2024 1:48 PM
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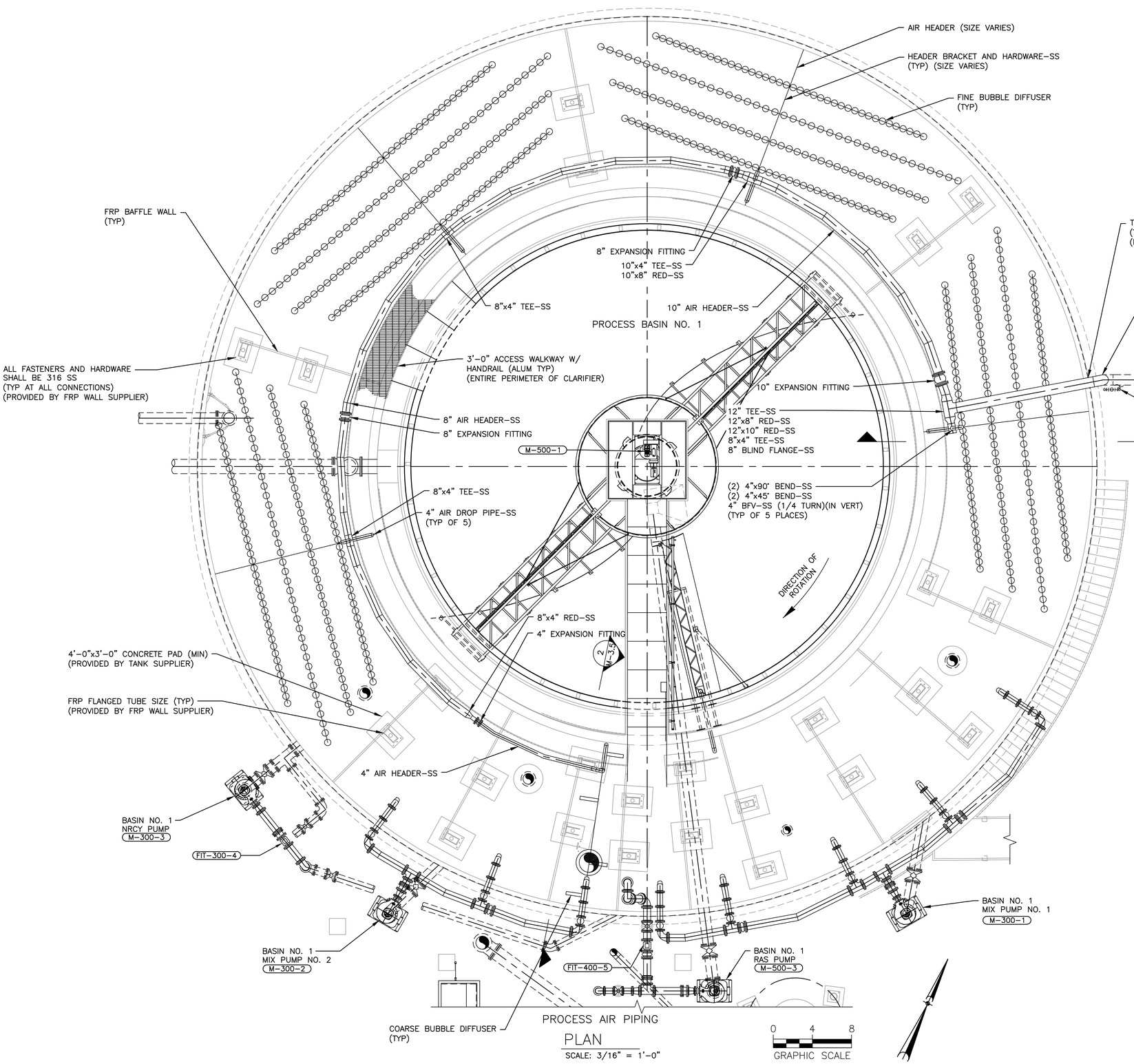
NOTES:

1. AIR PIPE EXPANSION FITTINGS SHALL BE TWIN CITY HOSE OR EQUAL 150# SST FLANGE WITH EPDM NYLON BODY RATED FOR 250°F.
2. PUMP EXPANSION JOINTS SHALL BE GENERAL RUBBER RESTRAINED STYLE 1101 WITH ALL STAINLESS STEEL RODS, GUSSETS AND HARDWARE.
3. DISMANTLING JOINTS SHALL BE JCM 362 SST RESTRAINED FLANGE COUPLING ADAPTERS.



PROCESS AIR PIPING

PLAN

SCALE: 3/16" = 1'–0"

0 4 8

GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: DS	CHECKED BY: SC	APPROVED BY: JS	APVD

PROCESS BASIN NO. 1 PROCESS AIR PIPING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. E, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.2

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-3.3.DWG
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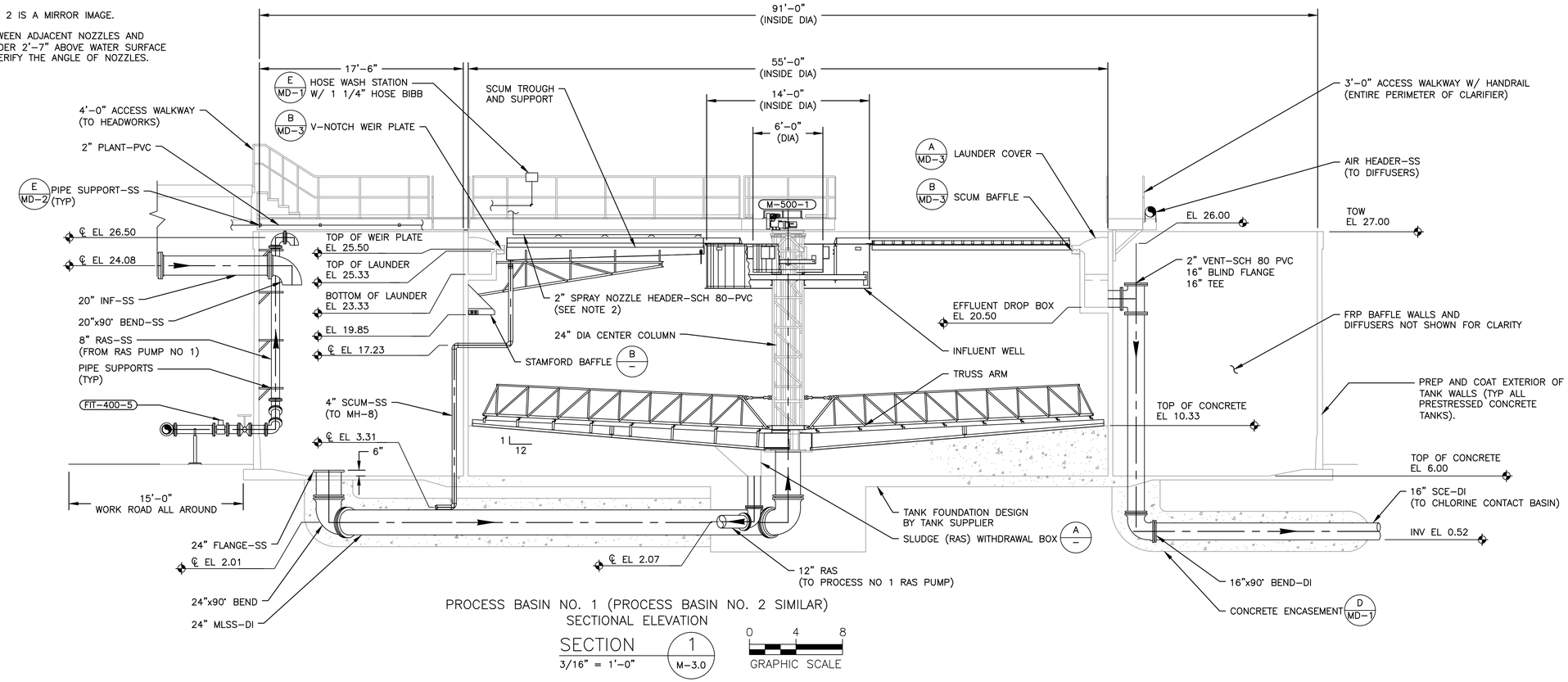
Bryant Edwards PLOT 8/19/2024 2:58 PM SAVED 8/19/2024 2:53 PM

NOTES:

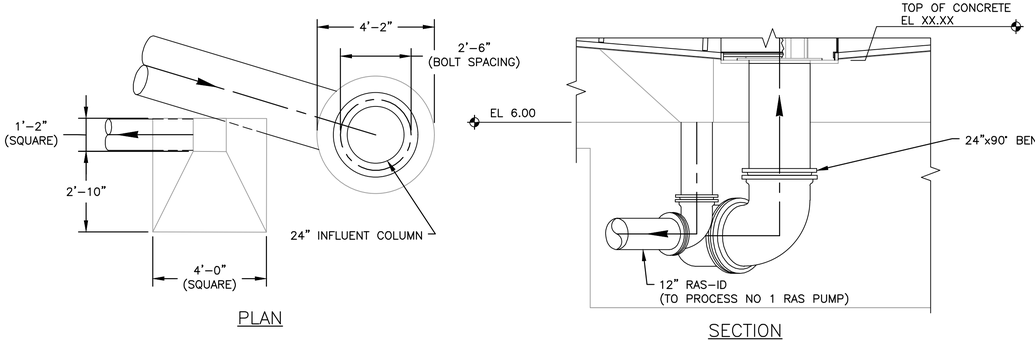
1. PROCESS BASIN NO 2 IS A MIRROR IMAGE.
2. PROVIDE 4-FT BETWEEN ADJACENT NOZZLES AND LOCATE SPRAY HEADER 2'-7" ABOVE WATER SURFACE ELEVATION. FIELD VERIFY THE ANGLE OF NOZZLES.



PROCESS BASIN NO. 1 (PROCESS BASIN NO. 2 SIMILAR)
SECTIONAL ELEVATION

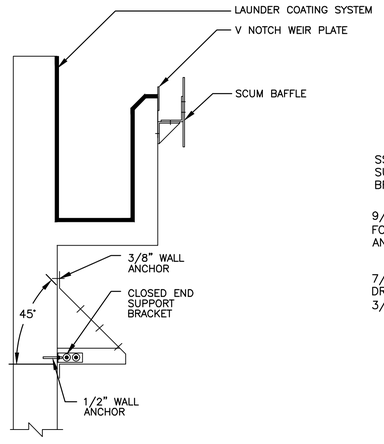
SECTION 1 / M-3.0
3/16" = 1'-0"

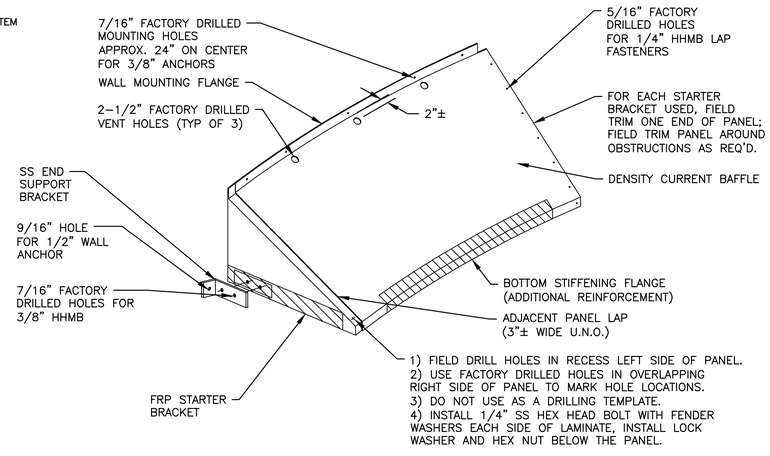
0 4 8
GRAPHIC SCALE



SLUDGE WITHDRAWAL BOX

DETAIL A / –
NTS





STAMFORD BAFFLE

DETAIL B / –
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/19/24

NO.	DATE	REVISION	BY
	DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS	APVD BY:

PROCESS BASIN NO. 1
SECTION AND DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.3

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS_MECH\01 CADD\M-3.4.DWG
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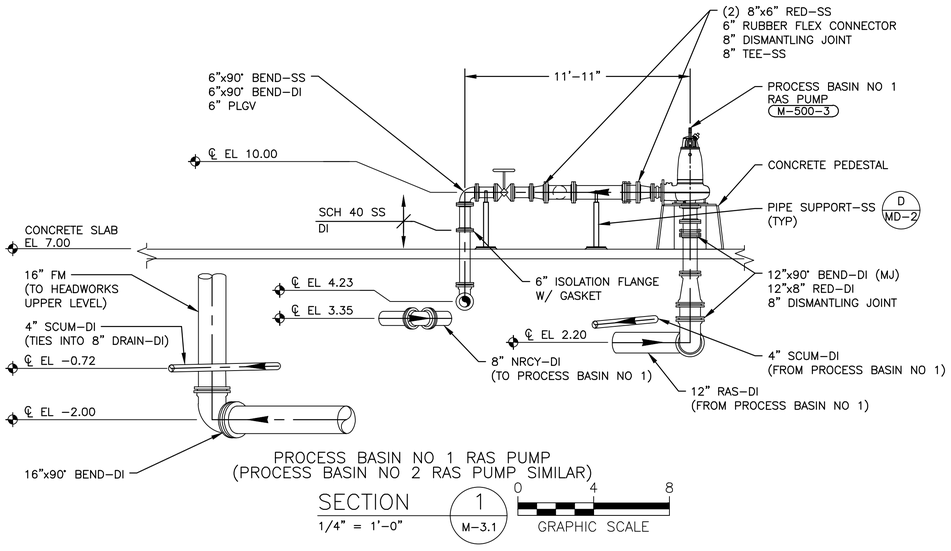
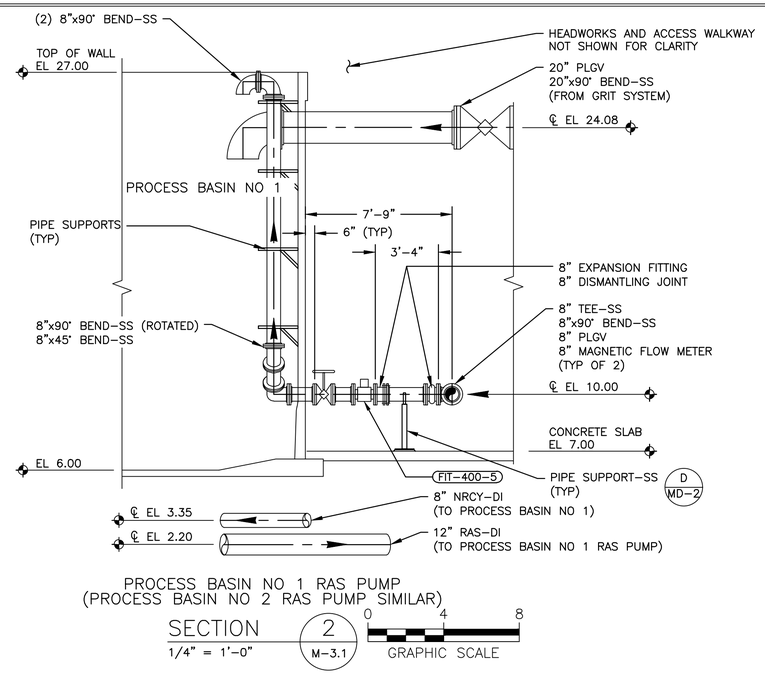
NOTES:

1. PUMP EXPANSION JOINTS SHALL BE GENERAL RUBBER RESTRAINED STYLE 1101 WITH ALL STAINLESS STEEL RODS, GUSSETS AND HARDWARE.
2. DISMANTLING JOINTS SHALL BE JCM 362 SST RESTRAINED FLANGE COUPLING ADAPTERS.



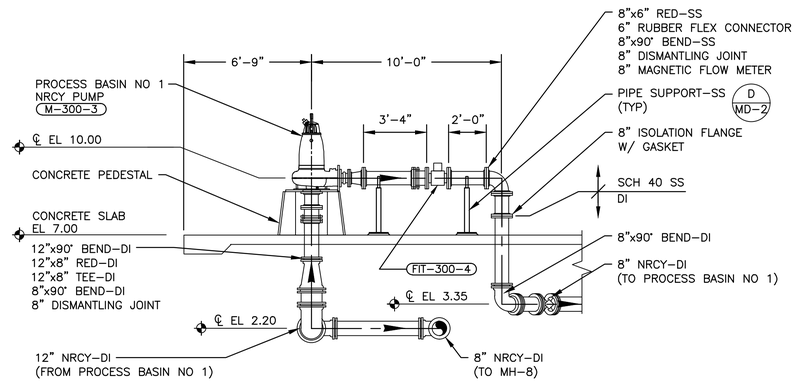
PROCESS BASIN NO 1 RAS PUMP
(PROCESS BASIN NO 2 RAS PUMP SIMILAR)

SECTION 1/4" = 1'–0" — 1 / M–3.1 — 0 4 8 GRAPHIC SCALE



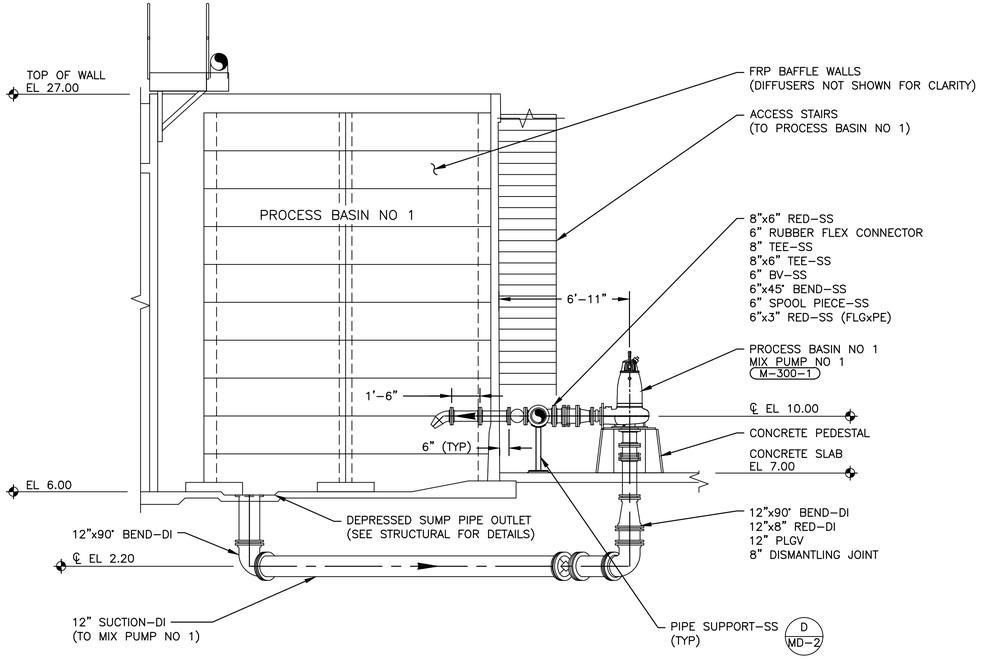
PROCESS BASIN NO 1 RAS PUMP
(PROCESS BASIN NO 2 RAS PUMP SIMILAR)

SECTION 1/4" = 1'–0" — 2 / M–3.1 — 0 4 8 GRAPHIC SCALE



PROCESS BASIN NO 1 NRCY PUMP
(PROCESS BASIN NO 2 NRCY PUMP SIMILAR)

SECTION 1/4" = 1'–0" — 3 / M–3.1 — 0 4 8 GRAPHIC SCALE



PROCESS BASIN NO 1 MIX PUMP NO 1
(PROCESS BASIN NO 2 MIX PUMP SIMILAR)

SECTION 1/4" = 1'–0" — 4 / M–3.1 — 0 4 8 GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/19/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: DS	CHECKED BY: BL	APPROVED BY: JS

PROCESS BASIN NO. 1 SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE, SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 — 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.4

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-3.5.DWG
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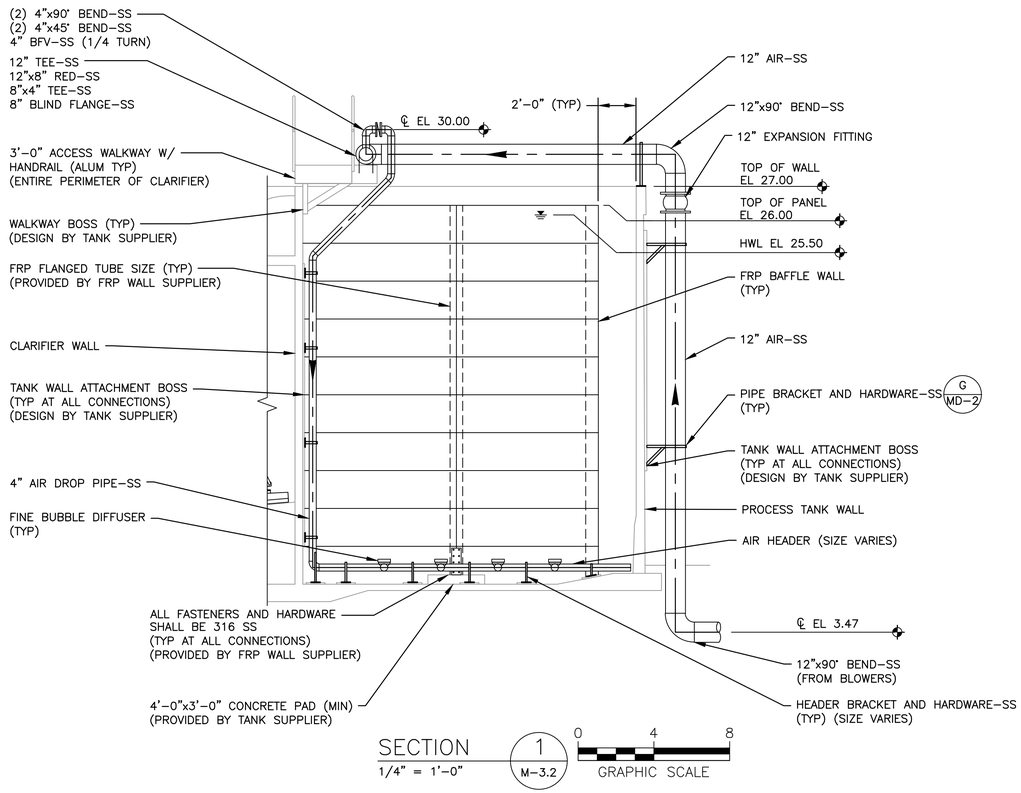
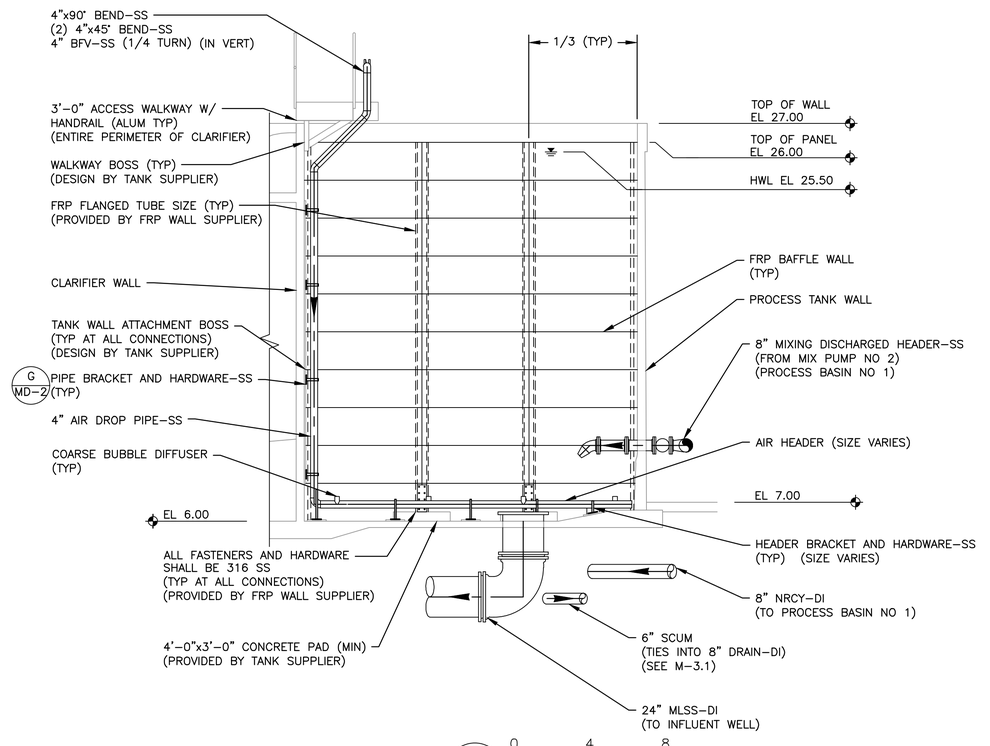


SECTION 1/4" = 1'-0" (1 / M-3.2)

0 4 8 GRAPHIC SCALE



SECTION 1/4" = 1'-0" (2 / M-3.2)

0 4 8 GRAPHIC SCALE

NOTES:

1. AIR PIPE EXPANSION FITTINGS SHALL BE TWIN CITY HOSE OR EQUAL 150# SST FLANGE WITH EPDM NYLON BODY RATED FOR 250°F.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/19/24

NO.	DATE	REVISION	BY
	DESIGNED BY: SC	DRAWN BY: DS	CHECKED BY: SC	APPROVED BY: JS	APVD

PROCESS BASIN NO. 1
PROCESS AIR PIPING
SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-3.5

H:\PROJECT FILES\100200 — DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 — WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\M-4.0.DWG
Bryant Edwards PLOT 8/16/2024 8:37 AM SAVED 8/14/2024 2:47 PM
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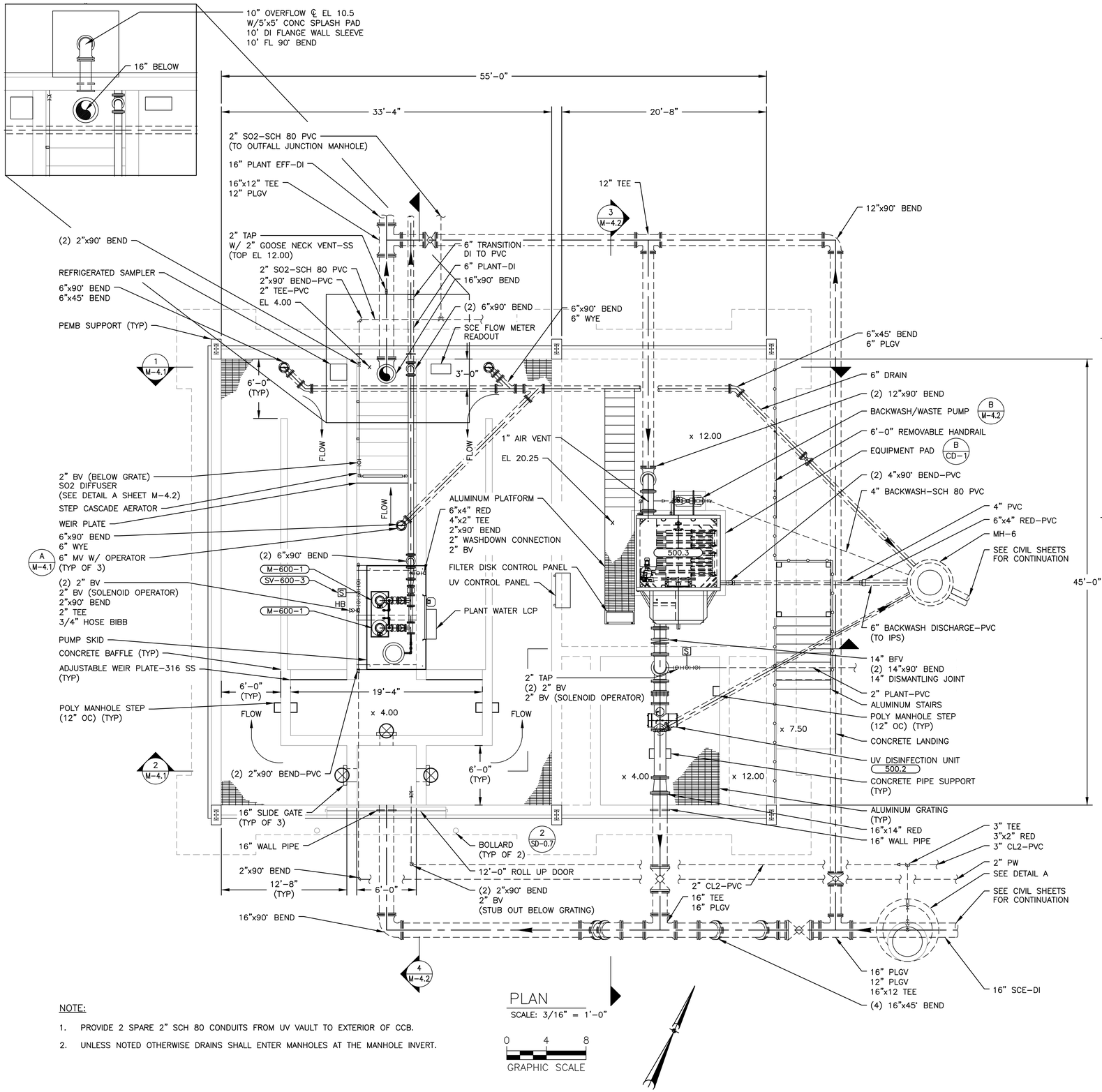


PLAN

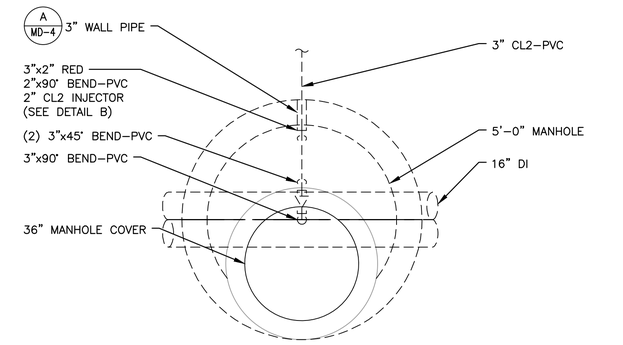
SCALE: 3/16" = 1'-0"

0 4 8

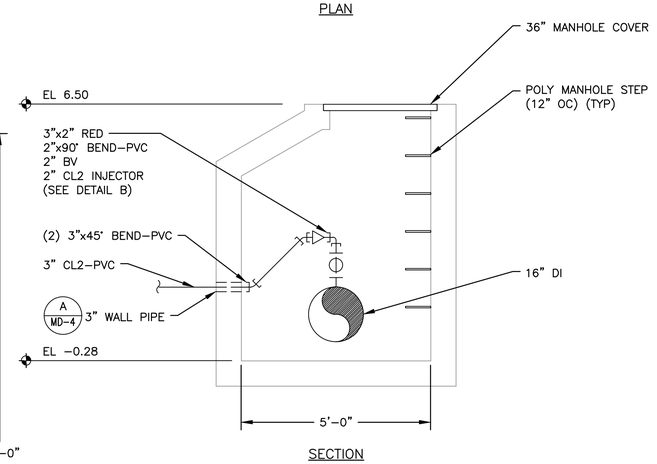
GRAPHIC SCALE

NOTE:

1. PROVIDE 2 SPARE 2" SCH 80 CONDUITS FROM UV VAULT TO EXTERIOR OF CCB.
2. UNLESS NOTED OTHERWISE DRAINS SHALL ENTER MANHOLES AT THE MANHOLE INVERT.



PLAN

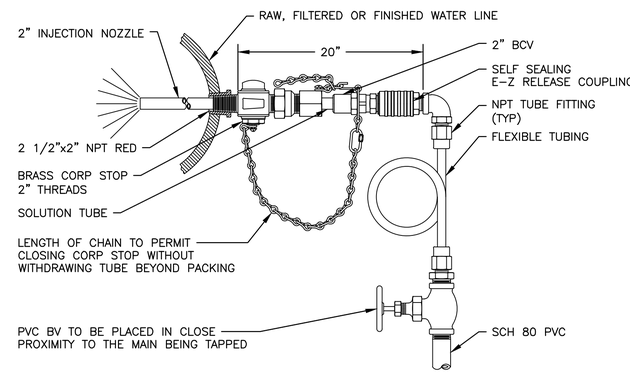


SECTION

CL2 INJECTION MANHOLE

DETAIL A

NTS



NOTE:

1. MATERIALS SHALL BE COMPATIBLE WITH THE CHEMICAL SPECIFIED FOR INJECTION.

2" CL2 INJECTOR

DETAIL B

NTS

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY:	BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD. BY:

CHLORINE CONTACT BASIN PLAN AND DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-4.0

Bryant Edwards PLOT 8/16/2024 8:37 AM SAVED 8/14/2024 2:51 PM
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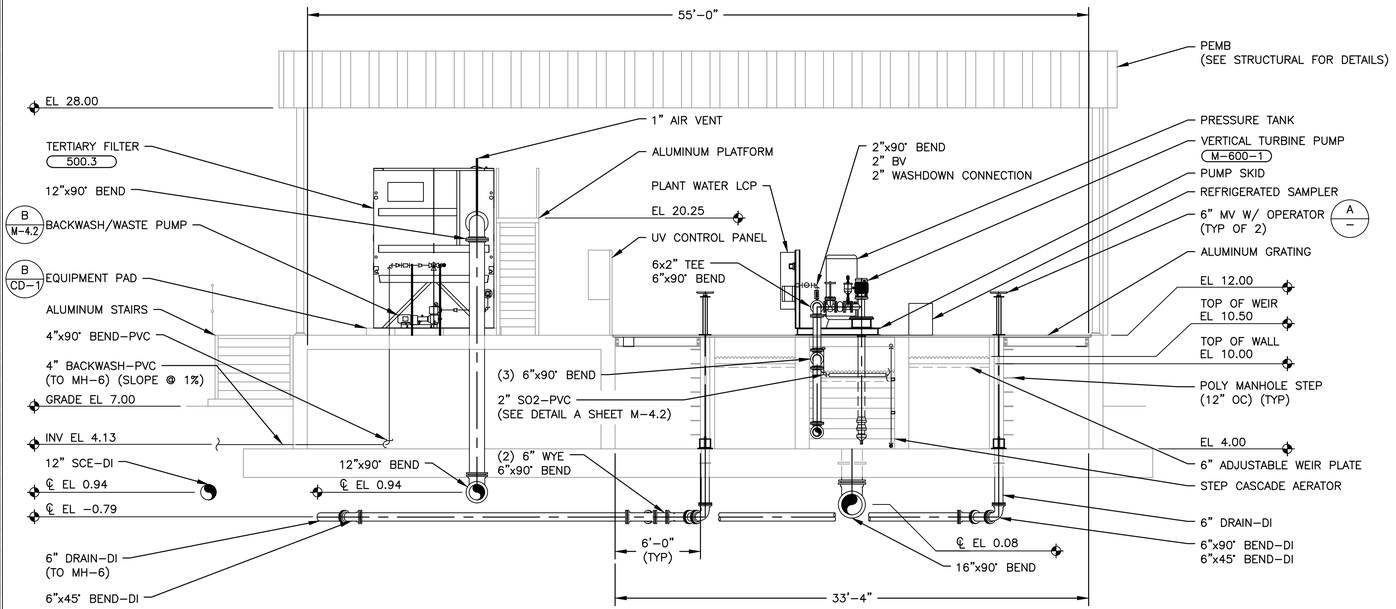
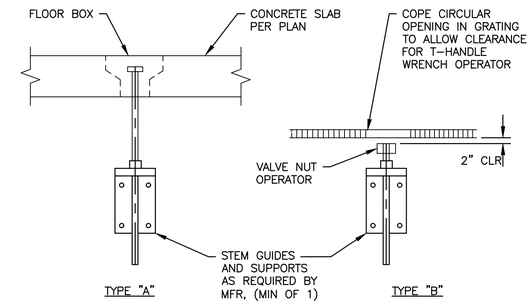
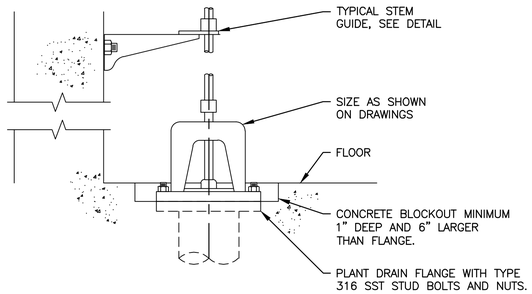


SECTION 1 / 3/16" = 1'-0" (M-4.0)

0 4 8 GRAPHIC SCALE

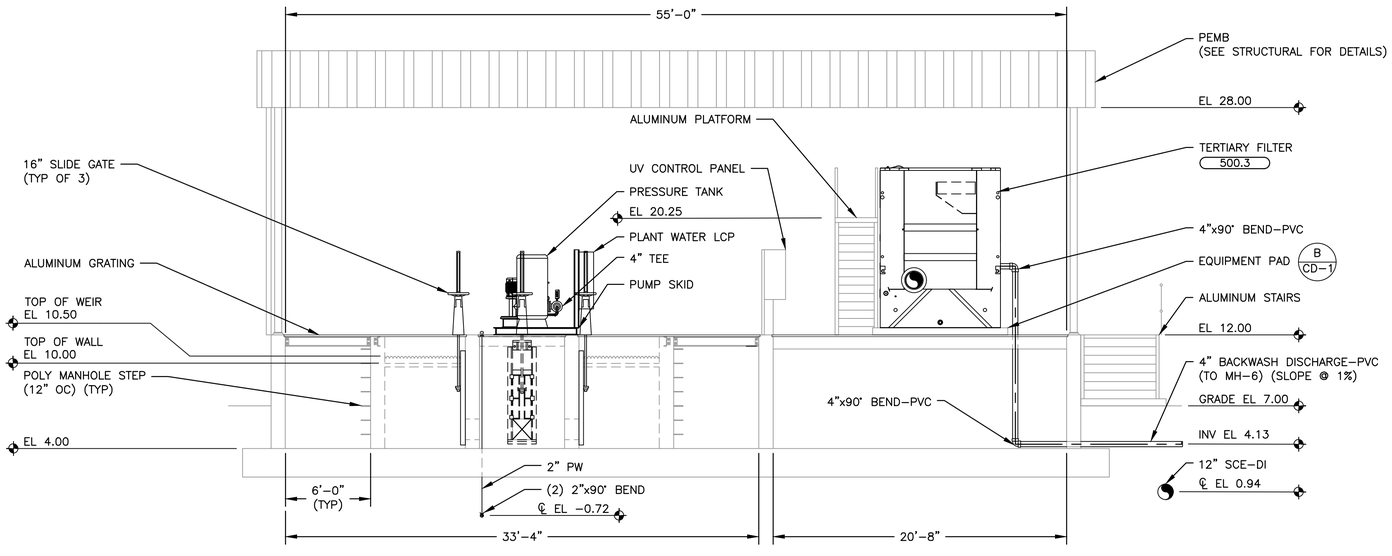


VALVE NUT INSTALLATION



MUD VALVE

DETAIL A / NTS



SECTION 2 / 3/16" = 1'-0" (M-4.0)

0 4 8 GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
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CHLORINE CONTACT BASIN SECTIONS AND DETAIL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-4.1

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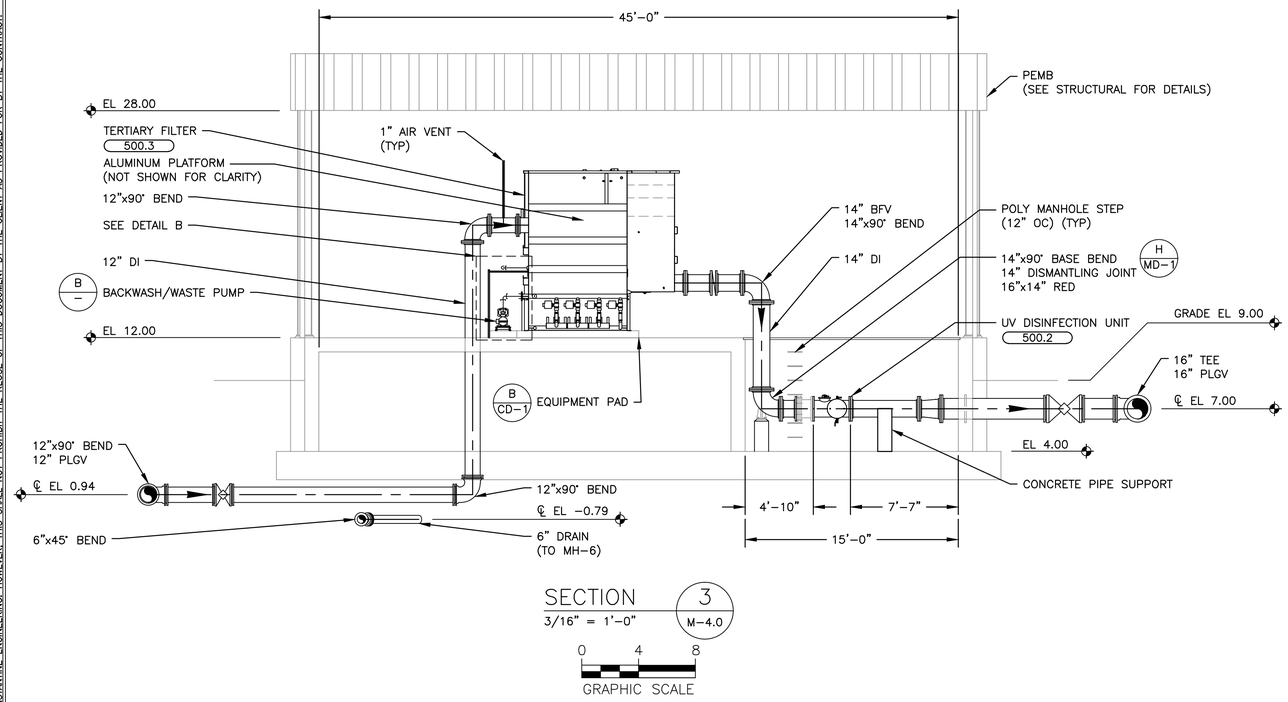
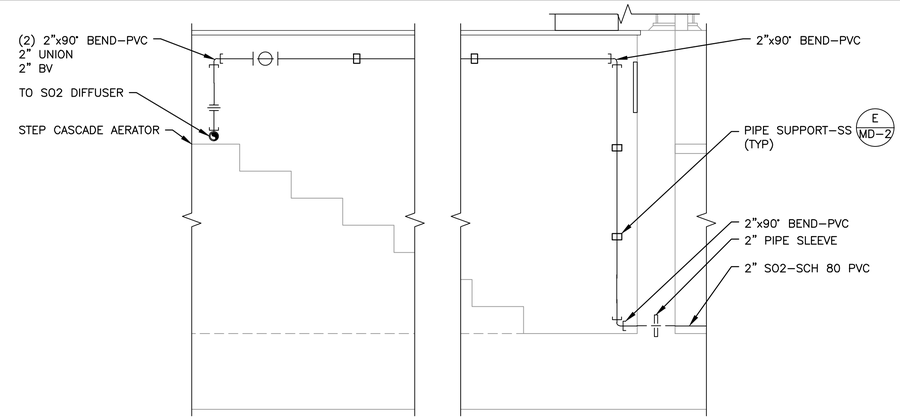
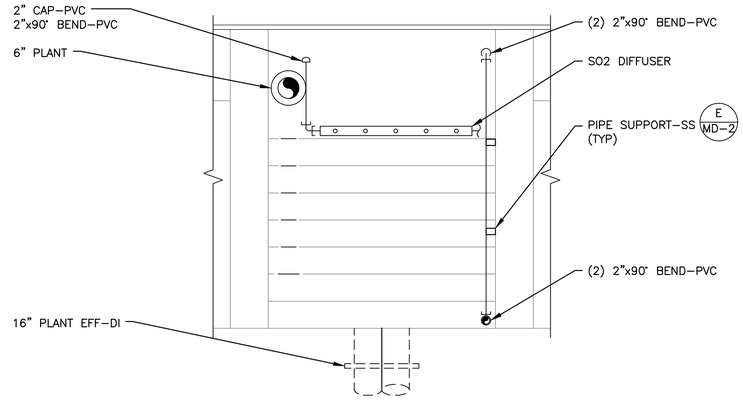
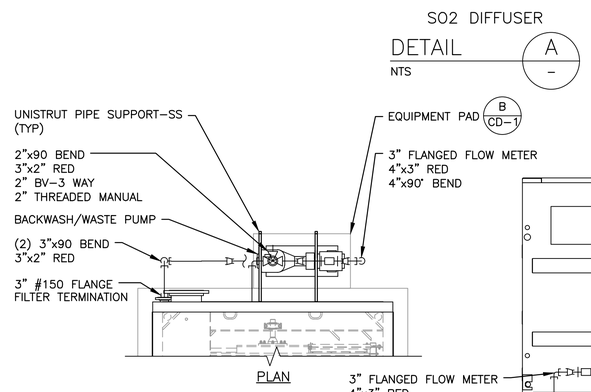


SECTION 3
3/16" = 1'-0"
M-4.0

0 4 8
GRAPHIC SCALE





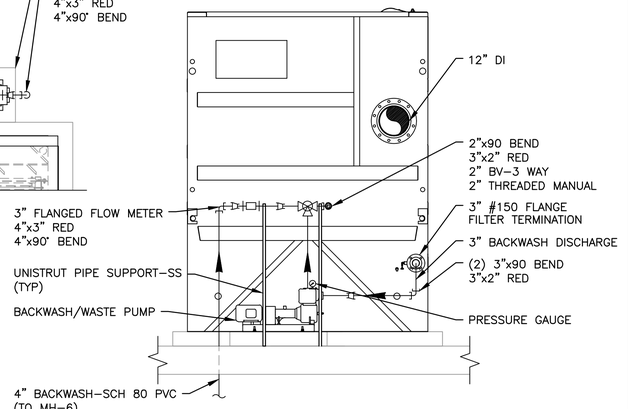


SECTION 4
3/16" = 1'-0"
M-4.0

0 4 8
GRAPHIC SCALE

SO2 DIFFUSER
DETAIL A
NTS

PLAN



SECTION

BACKWASH/WASTE PUMP
DETAIL B
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
ENGINEER
JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

CHLORINE CONTACT BASIN SECTIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
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200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-4.2

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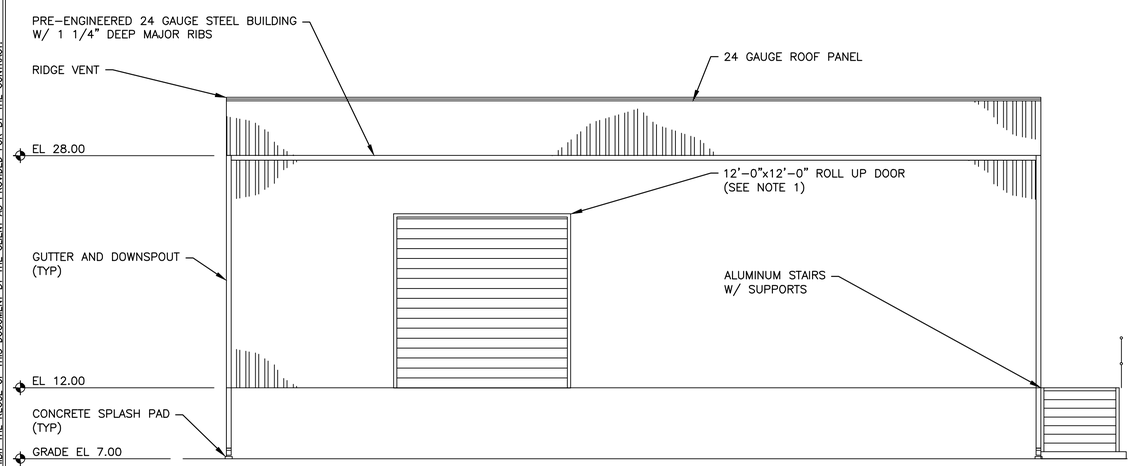
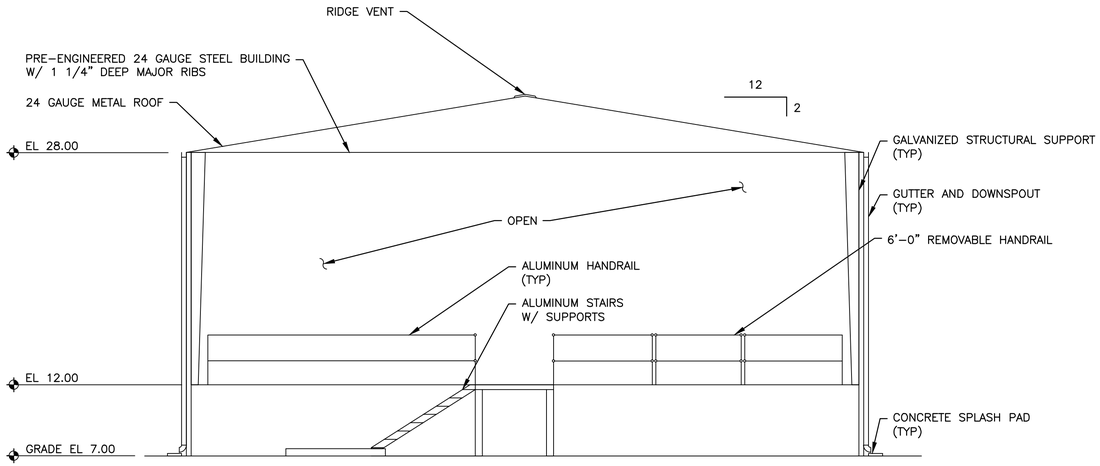
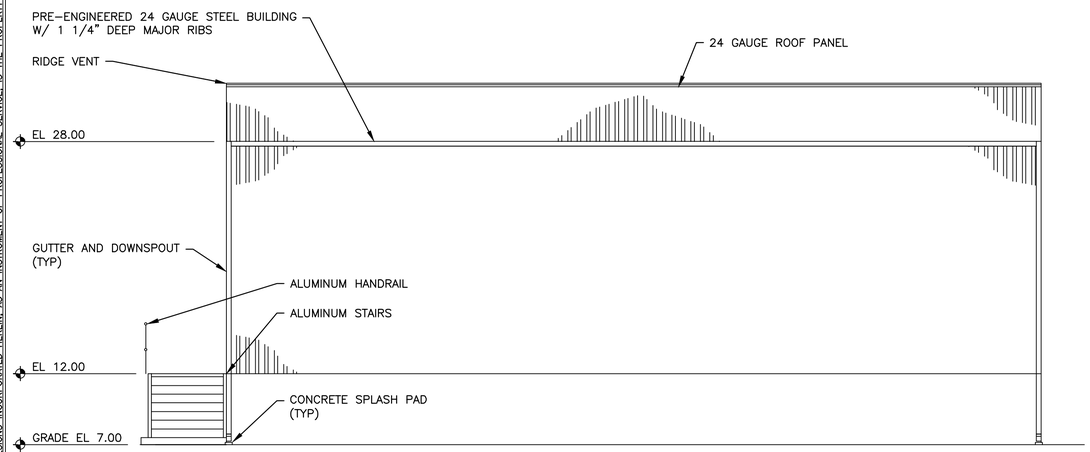


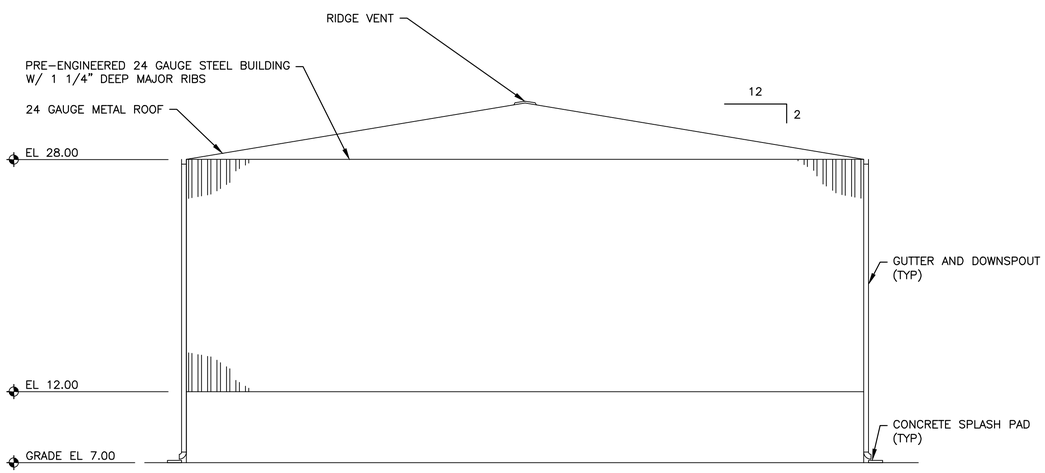
SOUTH
ELEVATION
3/16" = 1'-0"



EAST
ELEVATION
3/16" = 1'-0"



NORTH
ELEVATION
3/16" = 1'-0"



WEST
ELEVATION
3/16" = 1'-0"

NOTES:

1. 12'-0"x12'-0" ROLL UP DOOR SHALL BE POWDER COATED ALUMINUM AND CHAIN OPERATED.

RELEASE FOR BID

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8/7/24

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CHLORINE CONTACT BASIN
ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
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(256)-203-9501

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0 1"
DATE AUGUST 2024
PROJ. 100200.32
DWG. M-4.3

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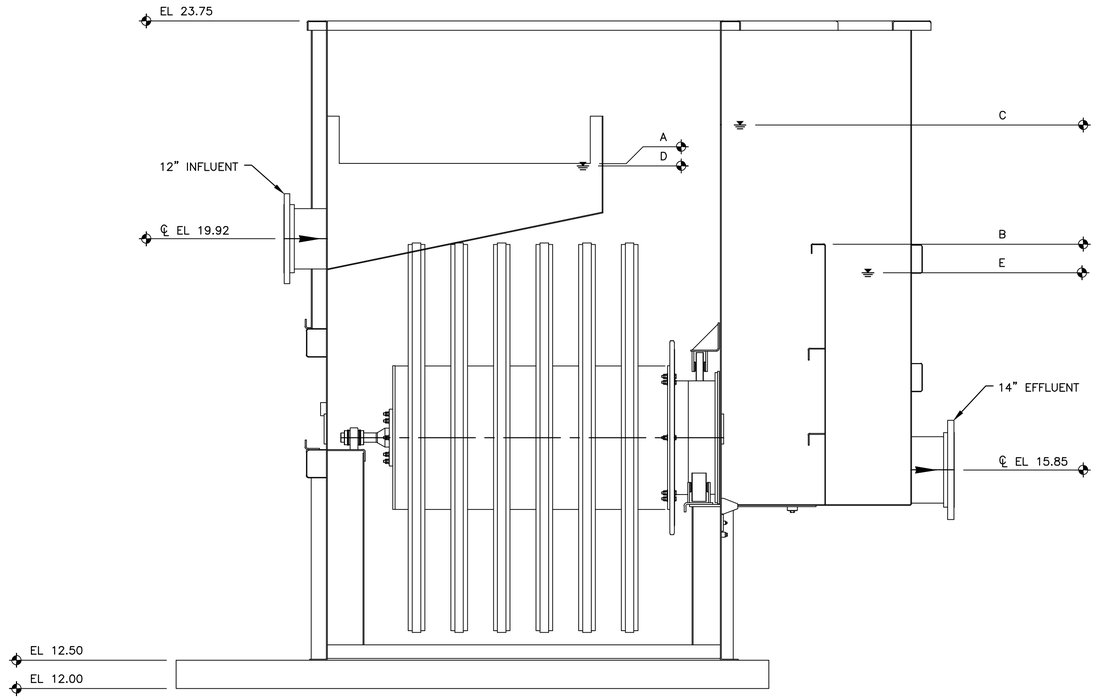

DETAIL A
NTS

	LOCATION	LENGTH	ELEVATION (FT)	NAPPE EL (FT)	NAPPE EL (FT)
A	INFLUENT WEIR	4.42	21.24	21.53	21.59
B	EFFLUENT WEIR	5.08	19.82	20.09	20.14
C	OVERFLOW WEIR	2.67	21.92	22.32	22.41
D	BACKWASH INITIATE	–	21.20	–	–
E	MAX DOWNSTREAM EL	–	19.32	–	–

FLOW CONDITION	AVG DESIGN	MAX DESIGN
QTY FILTERS ONLINE	1	1
PLANT FLOW (MGD)	1.50	2.00
FLOW/FILTER (MGD)	1.50	2.00
FLUX RATE (GPM/FT^2)	3.23	4.30

RELEASE FOR BID

ENGINEER SEAL
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8/17/24

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TERTIARY FILTER DETAIL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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PROJ.	100200.32
DWG.	M-4.4

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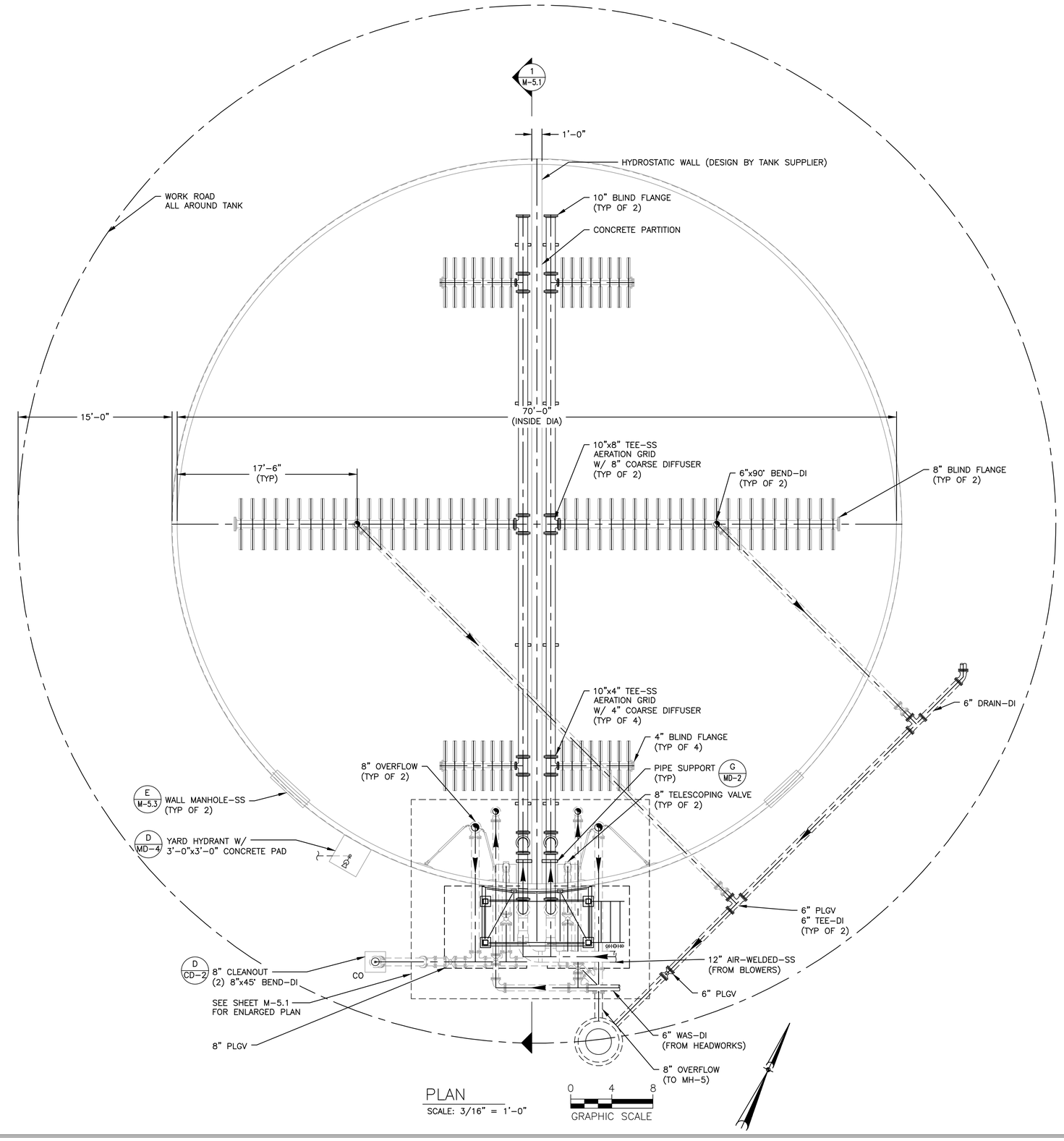

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
			APVD

DESIGNED BY: JS | DRAWN BY: LB | CHECKED BY: SC | APPROVED BY: JS

DIGESTER PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	M-5.0

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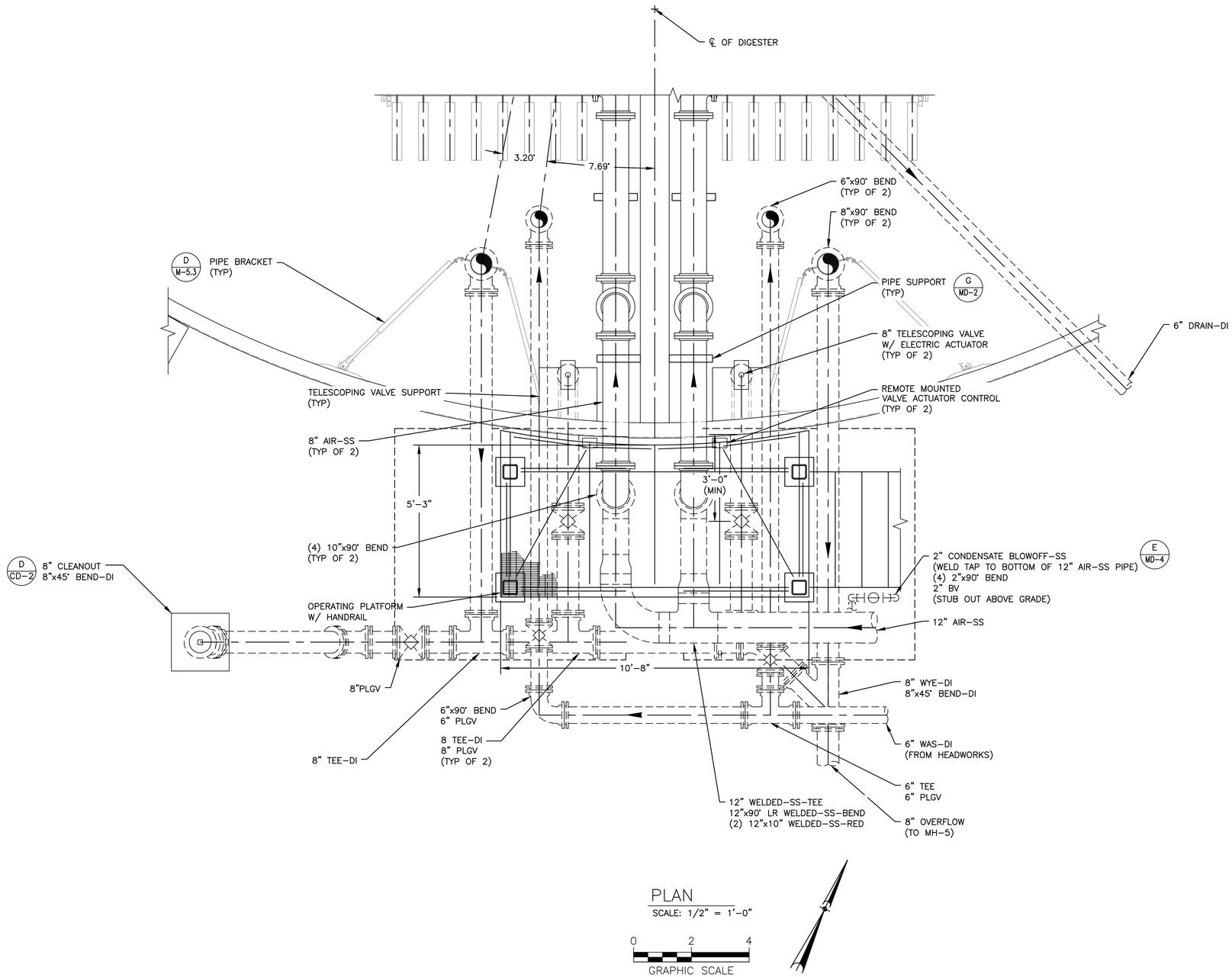

PLAN
SCALE: 1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
			APVD
DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

DIGESTER ENLARGED PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9901

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DWG.	M-5.1

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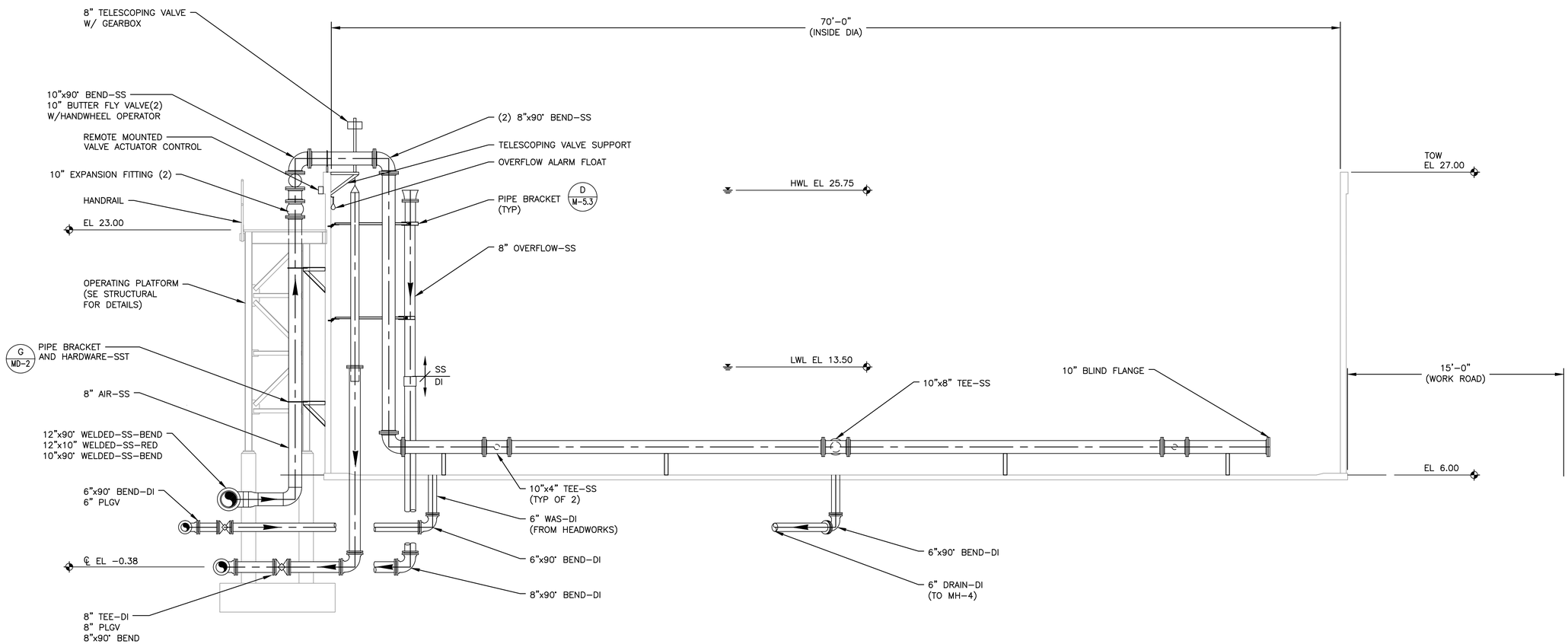

SECTIONAL ELEVATION

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

0 4 8

GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
			APVD
			APPROVED BY: JS
		CHECKED BY: SC	
		DRAWN BY: LB	
		DESIGNED BY: JS	

DIGESTER SECTION

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

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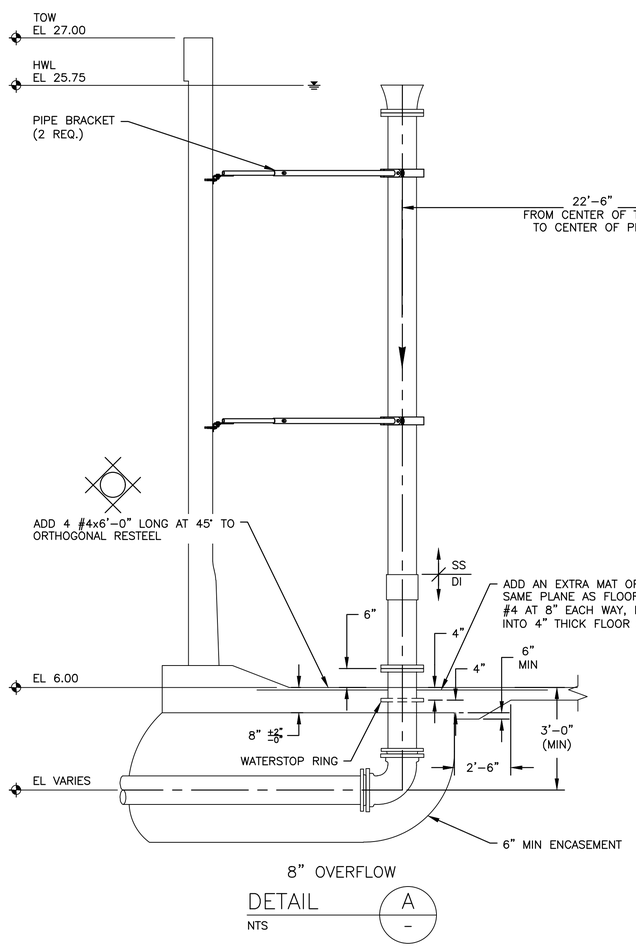


8" OVERFLOW

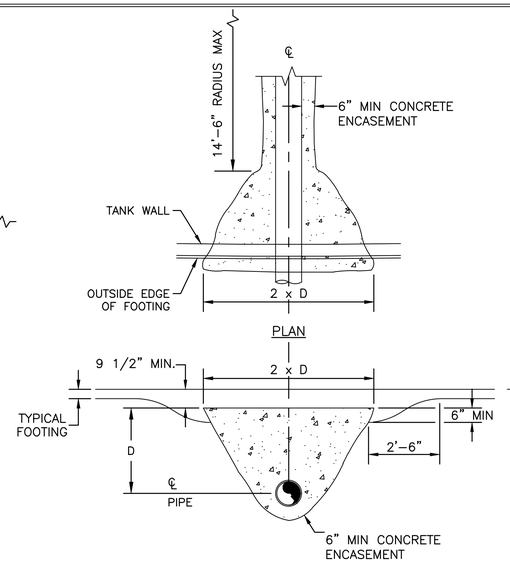
DETAIL A

NTS

PIPE BRACKET (2 REQ.)

DETAIL D

NTS



ELEVATION

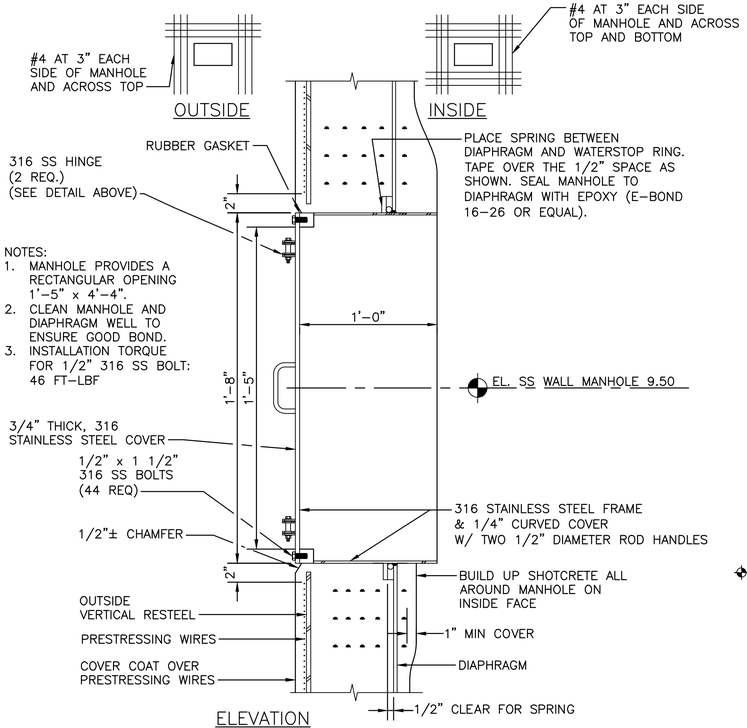
NOTES:

1. FLARE ENCASEMENT AT TANK WALL TO PREVENT UNDERMINING.

PIPE ENCASEMENT AT FOOTING

DETAIL B

NTS



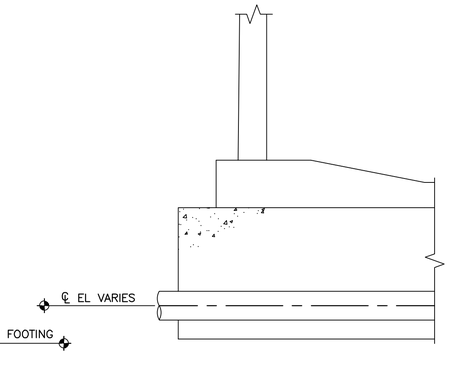
NOTES:
1. MANHOLE PROVIDES A RECTANGULAR OPENING 1'–5" x 4'–4".
2. CLEAN MANHOLE AND DIAPHRAGM WELL TO ENSURE GOOD BOND.
3. INSTALLATION TORQUE FOR 1/2" 316 SS BOLT: 46 FT–LBF

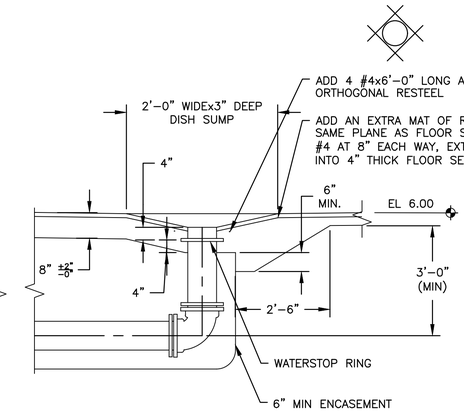
ELEVATION

STAINLESS STEEL WALL MANHOLE

DETAIL E

NTS

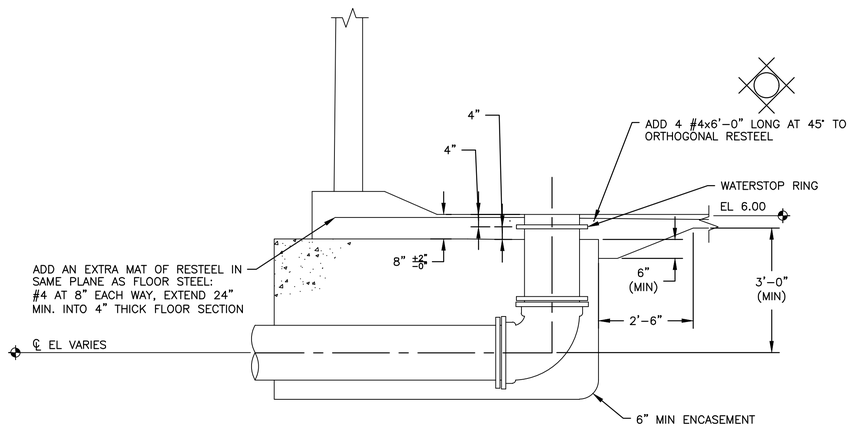




12" DRAIN AND 6" DRAIN

DETAIL C

NTS



12" INLET AND 6" INLET

DETAIL F

NTS

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY:
		DESIGNED BY: SC	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD BY:

PROCESS/DIGESTER TANK DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

FILE	SEE LEFT
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DWG.	M-5.3

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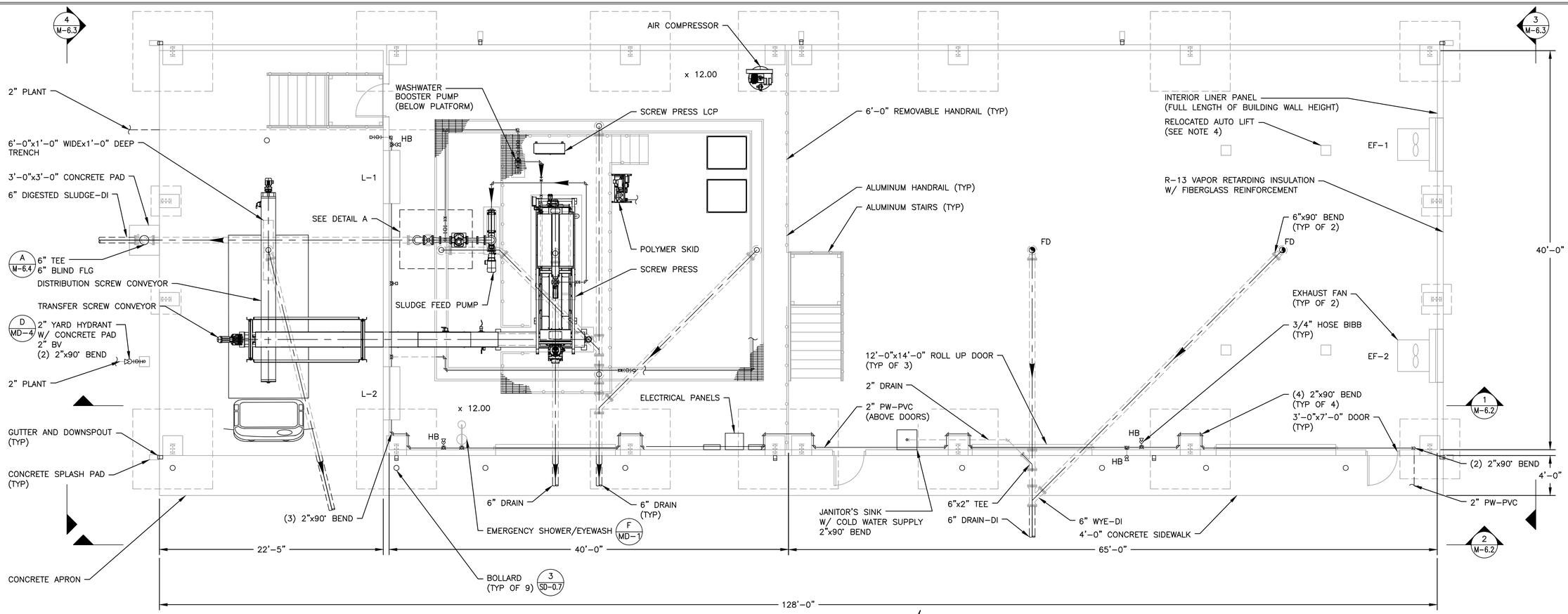


0 4 8
GRAPHIC SCALE

PLAN
SCALE: 3/16" = 1'-0"

FAN SCHEDULE														
MARK	LOCATION	SERVING	FAN TYPE	BLADE TYPE	DRIVE	CFM	HP	RPM	SP (IN)	SONES	VOLT/PH	BASIS OF DESIGN		ACCESSORIES
												MANUFACTURER	MODEL	
EF-1	HIGH ON EXTERIOR WALL	DEWATERING BUILDING	PACKAGED WALL FAN	PROP	BELT	9,200	1.0	490	0.125	14.4	460/3	COOK	42P7B	1, 2, 3, 4
EF-2	HIGH ON EXTERIOR WALL	DEWATERING BUILDING	PACKAGED WALL FAN	PROP	BELT	9,200	1.0	490	0.125	14.4	460/3	COOK	42P7B	1, 2, 3, 4

ACCESSORIES:

1. PROVIDE OSHA WIRE GUARD.
2. PROVIDE WALL COLLAR.
3. PROVIDE MOTORIZED DISCHARGE WALL SHUTTER.
4. ENTIRE ASSEMBLY SHALL HAVE BAKED ENAMEL FINISH TO MATCH COLOR SELECTED BY ARCHITECT/ENGINEER.

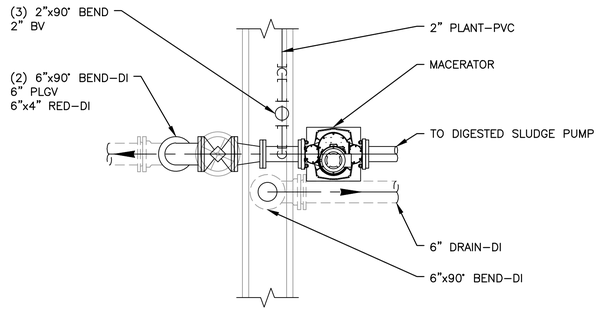
LOUVER SCHEDULE											
MARK	FUNCTION	SIZE	CFM	FREE AREA (SF)	CONSTRUCTION	FRAME TYPE	FINISH	BASIS OF DESIGN	MODEL	OPTIONS	NOTES
L-1	INTAKE FOR EF-1	48"x72"x4"	9,200	13.13	0.125" EXTENDED ALUMINUM	FLANGE	KYNAR	RUSKIN	ELF375DXH	1, 2, 3, 4	1
L-2	INTAKE FOR EF-2	48"x72"x4"	9,200	13.13	0.125" EXTENDED ALUMINUM	FLANGE	KYNAR	RUSKIN	ELF375DXH	1, 2, 3, 4	1

OPTIONS:

1. PROVIDE 1/4"x1/4" WELDED WIRE MESH SCREEN IN REMOVABLE FRAME.
2. PROVIDE KYNAR FINISH. SUBMIT COLOR CHART FOR ARCHITECT/ENGINEER TO SELECT COLOR.
3. PROVIDE SPRING RETURN MOTORIZED ACTUATOR AND LOW LEAK OPPOSED BLADE DAMPER.
4. PROVIDE SECURITY BARS IN LOUVER ASSEMBLY.

NOTES:

1. RUSKIN HAS BEEN SPECIFIED TO ESTABLISH THE TYPE AND QUALITY OF LOUVER TO BE INSTALLED. EQUAL LOUVERS BY GREENHECK OR AMERICAN WARMING AND VENTILATING WILL BE CONSIDERED.



DETAIL A
1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

NOTES:

1. 2" HOSE BIBB SHALL BE STAINLESS STEEL FIRE HOSE QUICK CONNECT (FEMALE).
2. PROVIDE 50' OF 2" SINGLE JACKET MILL HOSE AND HOSE RACK AT EACH 2" HOSE BIBB LOCATION. PROVIDE 2" STAINLESS STEEL QUICK CONNECT (MALE).
3. ALL DRAINS IN DEWATERING BUILDING SHALL HAVE P-TRAPS.
4. INSTALL OWNER PROVIDED ANCHORS FOR AUTO LIFT. RELOCATE LIFT FROM OLD MAINTENANCE BUILDING TO SPECIFIED LOCATION.
5. ROUTE 2" PW OVER DOORS AND UNDER ELECTRIC PANELS.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY	APVD
	DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

DEWATERING BUILDING SERVICES PLAN AND DETAIL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-6.0

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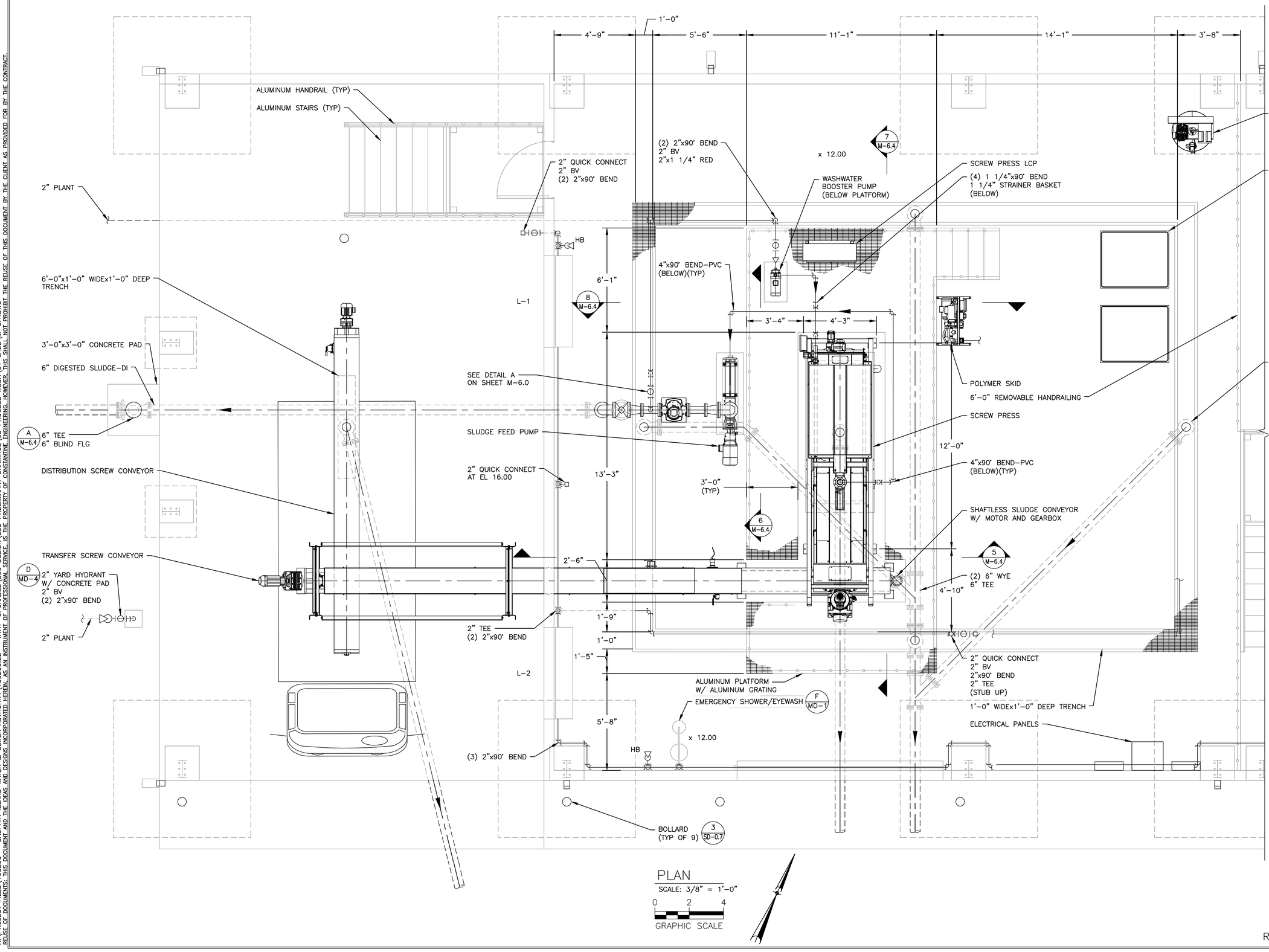

PLAN
SCALE: 3/8" = 1'-0"
0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
8/17/24
ENGINEER
JAMES N. SMITH

NO.	DATE	REVISION	BY
		DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

DEWATERING BUILDING ENLARGED PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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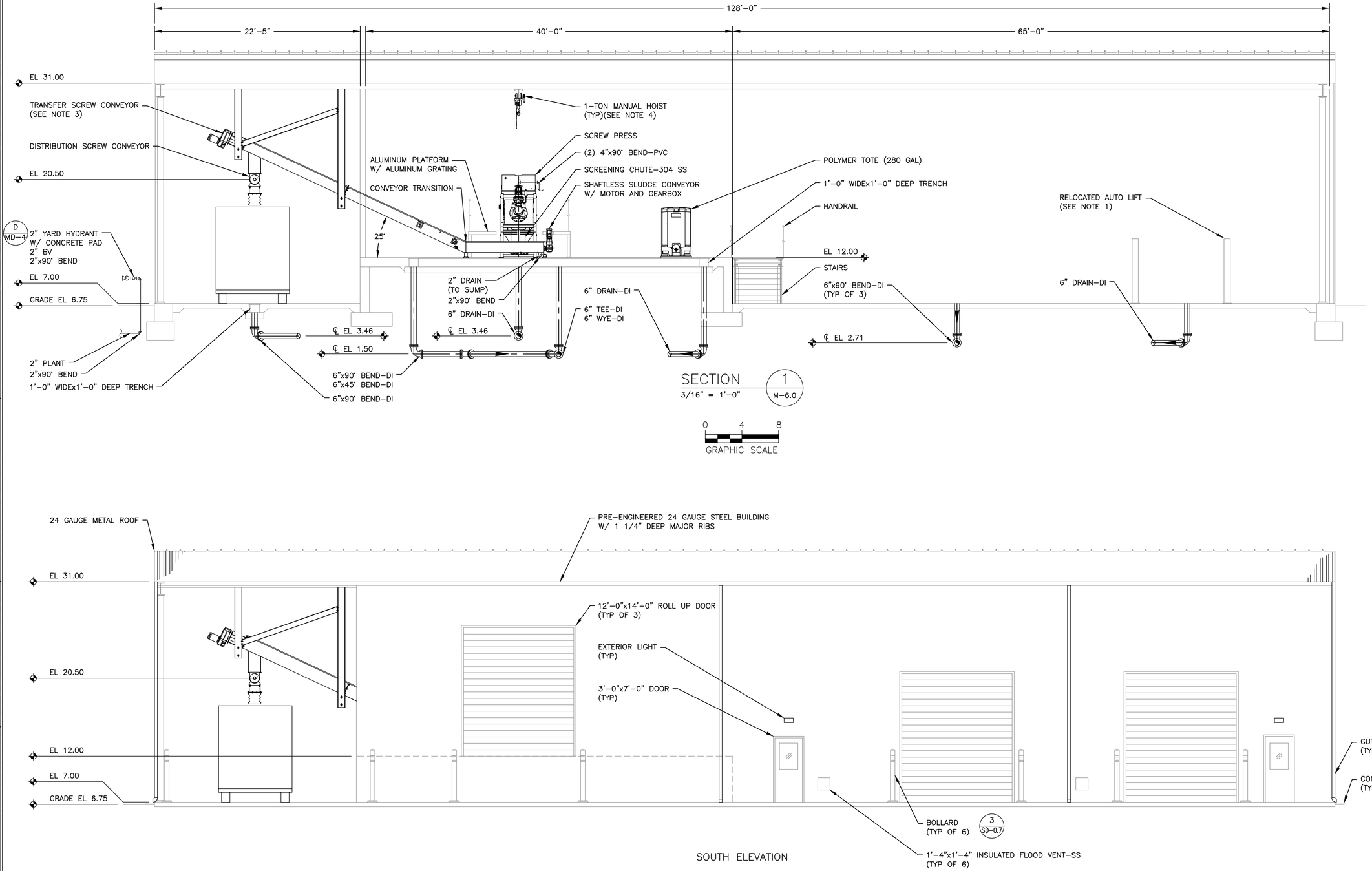
PROJ.	100200.32
DWG.	M-6.1



SECTION 1 / 3/16" = 1'-0" / M-6.0

0 4 8
GRAPHIC SCALE

SOUTH ELEVATION

SECTION 2 / 3/16" = 1'-0" / M-6.0

0 4 8
GRAPHIC SCALE

NOTES:

1. INSTALL OWNER PROVIDED ANCHORS FOR AUTO LIFT. RELOCATE LIFT FROM OLD MAINTENANCE BUILDING TO SPECIFIED LOCATION.
2. ALL DRAINS IN DEWATERING BUILDING SHALL BE EQUIPPED WITH P-TRAPS.
3. COORDINATE CONVEYOR SUPPORT ATTACHMENTS WITH THE PEMB SUPPLIER. PEMB STRUCTURE SHALL BE DESIGNED TO CARRY CONVEYOR LOADS.
4. COORDINATE MONO-RAIL ATTACHMENT WITH PEMB SUPPLIER. PEMB STRUCTURE SHALL BE DESIGNED TO CARRY MONO-RAIL LOADS.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/7/24

NO.	DATE	REVISION	BY
	DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD.

DEWATERING BUILDING
SECTION AND ELEVATION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
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200 CLINTON AVE. SUITE 601
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(256)-203-9501

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PROJ.	100200.32
DWG.	M-6.2

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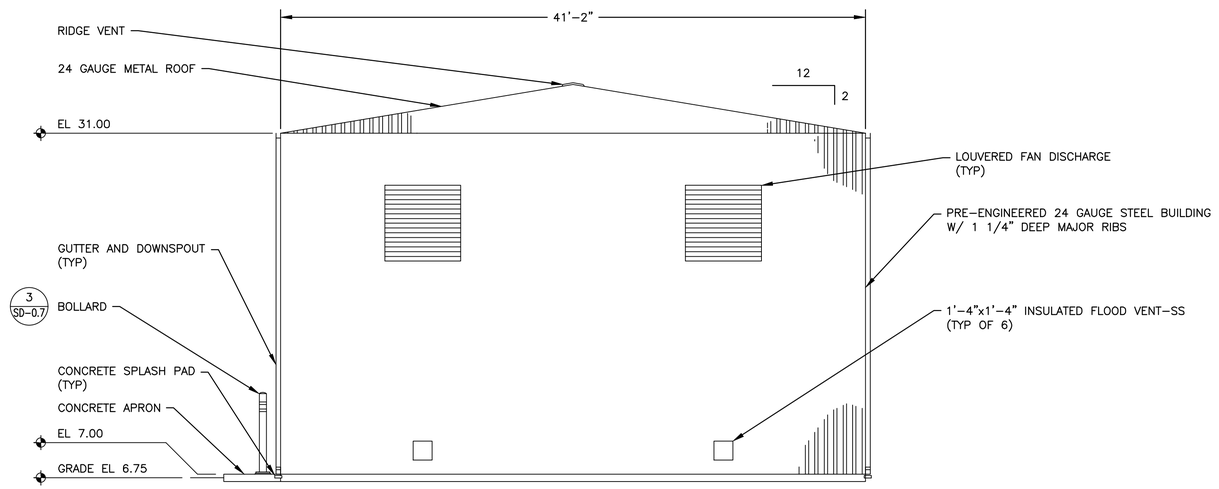
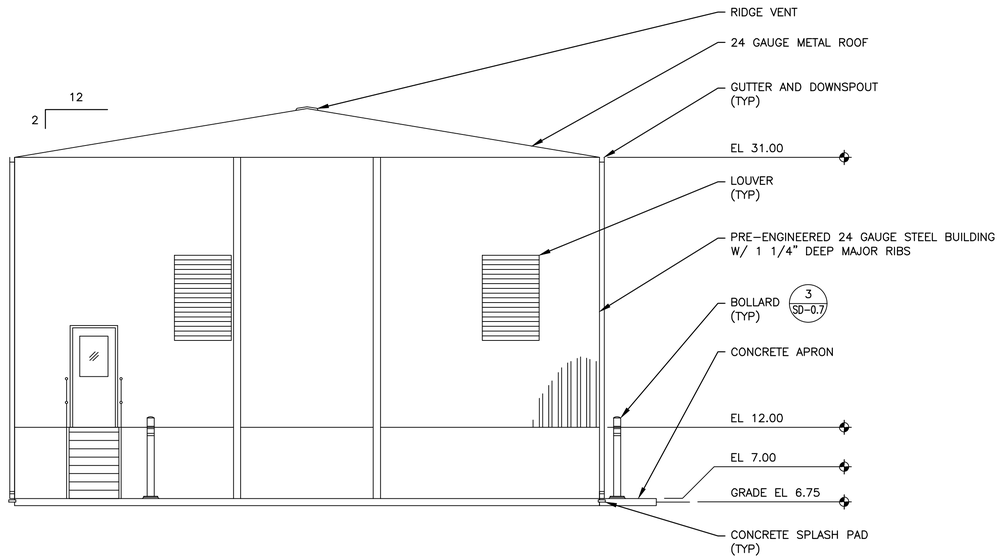


EAST ELEVATION

SECTION 3/16" = 1'-0" — 3 / M-6.0

0 4 8

GRAPHIC SCALE



WEST ELEVATION

SECTION 3/16" = 1'-0" — 4 / M-6.0

0 4 8

GRAPHIC SCALE

NOTES:

1. CONCRETE FLOORS SHALL BE MECHANICAL SCREED AND SEALED.
2. INTERIOR WALLS SHALL BE FULL HEIGHT PVC LINER PANELS.
3. 3'-0"x7'-0" DOORS SHALL BE PAINTED STEEL.
4. ROLL-UP DOORS SHALL BE MANUAL OPERATOR POWDER COATED ALUMINUM.
5. FLOOD VENTS SHALL BE STAINLESS STEEL INSULATED (SMART VENT OR APPROVED EQUAL).
6. 3'-0"x7'-0" DOORS SHALL BE EQUIPPED WITH HEAVY DUTY HARDWARE SS. INTERIOR SHALL HAVE PANIC EXIT DEVICE (SARGENT 3828 OR EQUAL). EXTERIOR SHALL BE SARGENT 8200 LEVER LOCK WITH MORTISE LOCK OR EQUAL.
7. 3'-0"x7'-0" DOORS SHALL BE EQUIPPED WITH AUTOCLOSERS (YALE 3301 BF SNB OR EQUAL), SWEEPS, THRESHOLDS AND WEATHER STRIPPING.

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: JS		DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD. BY:

DEWATERING BUILDING ELEVATIONS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9901

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PROJ.	100200.32
DWG.	M-6.3

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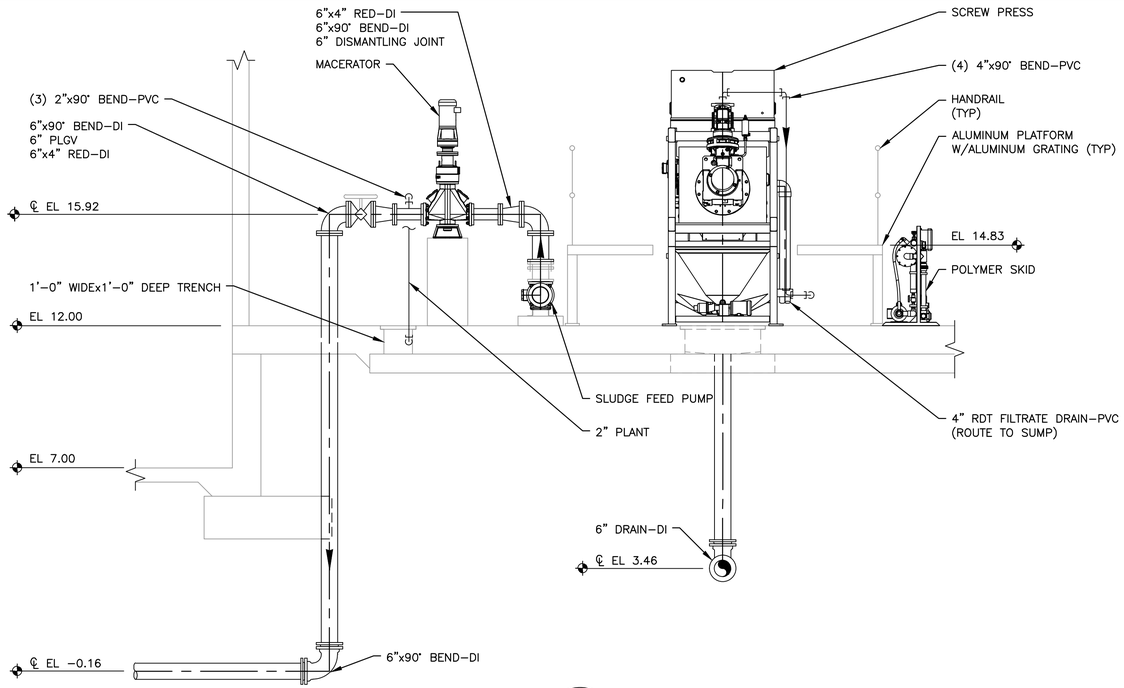
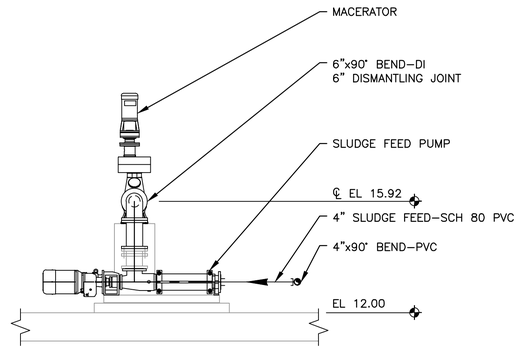


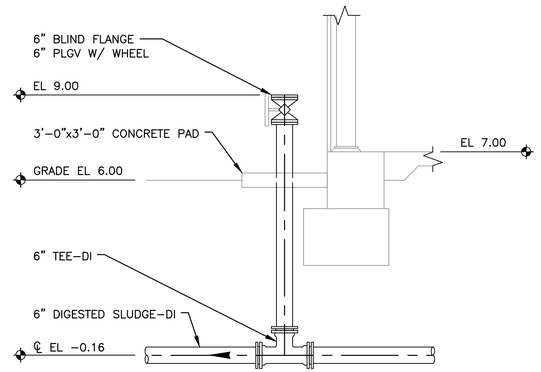
SECTION 5 — M–6.0
3/8" = 1'–0"

0 2 4
GRAPHIC SCALE

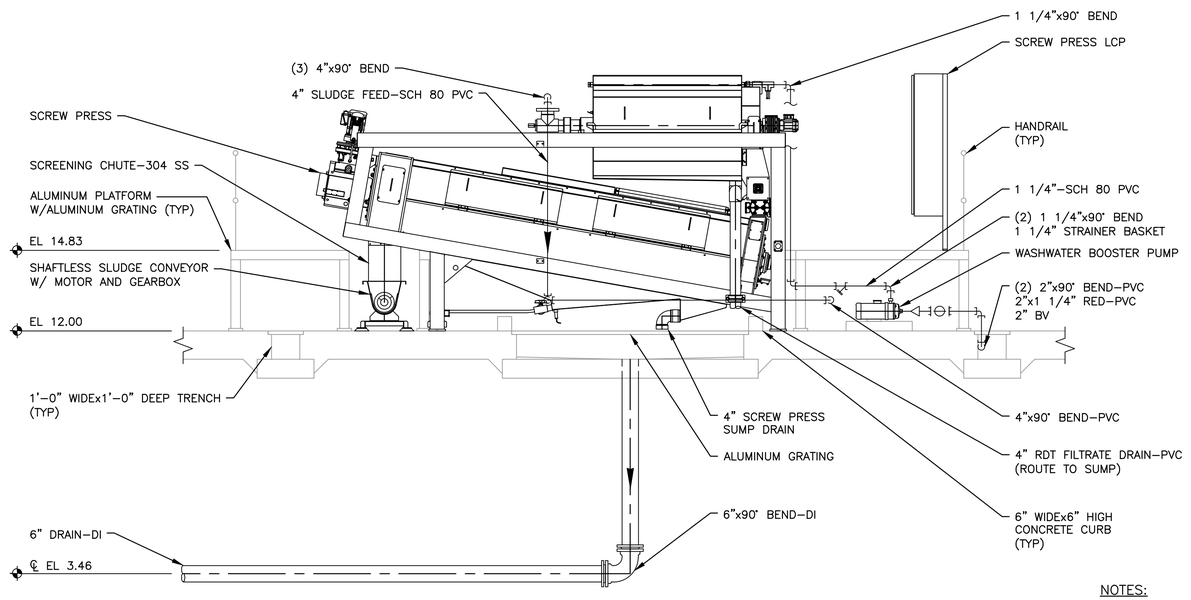


SECTION 6 — M–6.0
3/8" = 1'–0"

0 2 4
GRAPHIC SCALE

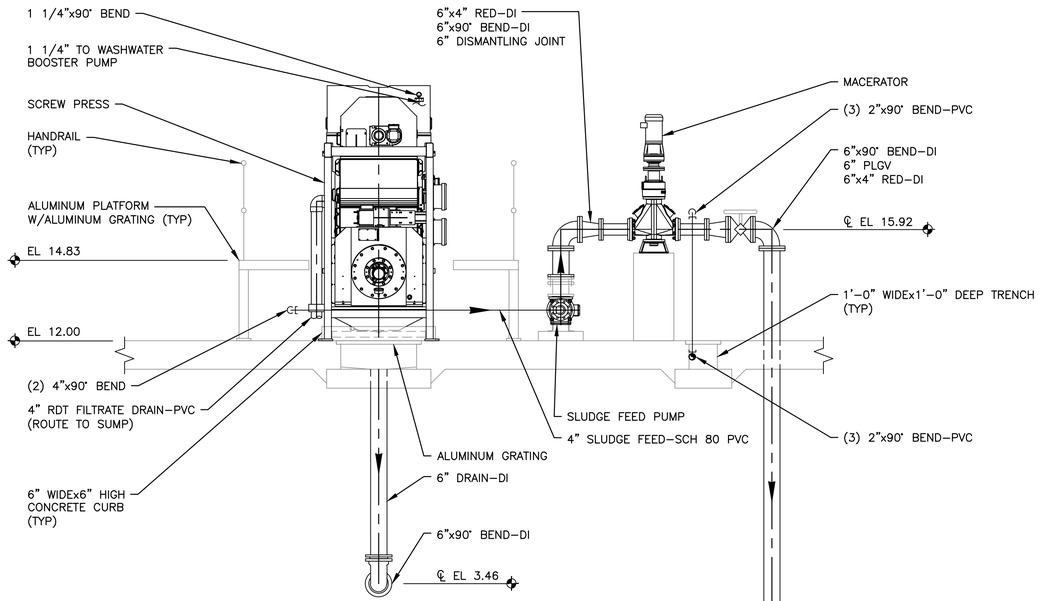


DETAIL A — M–6.0
NTS



SECTION 7 — M–6.0
3/8" = 1'–0"

0 2 4
GRAPHIC SCALE



SECTION 8 — M–6.0
3/8" = 1'–0"

0 2 4
GRAPHIC SCALE

NOTES:

1. ALL PIPING SHALL BE INDEPENDENTLY SUPPORTED.
2. FRAME IS TUBULAR 304 STAINLESS STEEL.
3. ALL STAINLESS STEEL SHEET AND PLATE IS TYPE 304 SS. ALL FASTENERS AND HARDWARE ARE TYPE 304 SS.
4. APPROXIMATE WEIGHTS: 9500 LBS. DRY 11,000 LBS. OPERATING
5. ALL DRAINS IN DEWATERING BUILDING SHALL BE EQUIPPED WITH P–TRAPS.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

DEWATERING BUILDING SECTIONS AND DETAIL

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island Water & Sewer Authority

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9901

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DWG.	M-6.4

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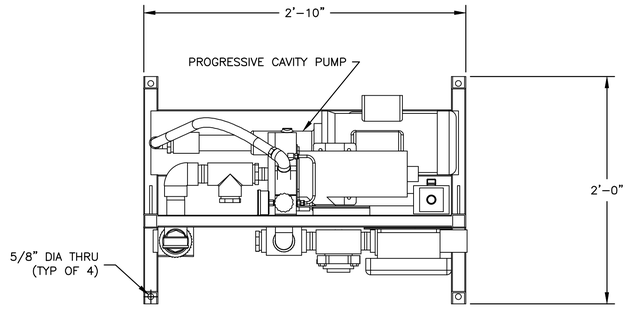
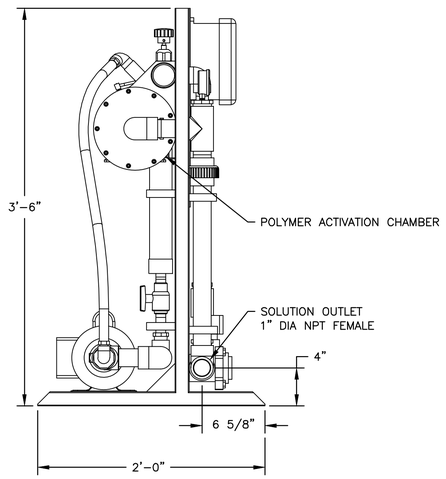


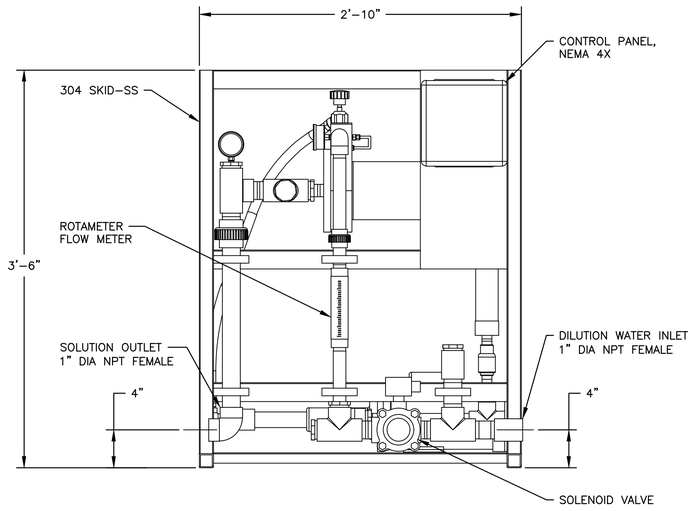
PLAN

NOTES:

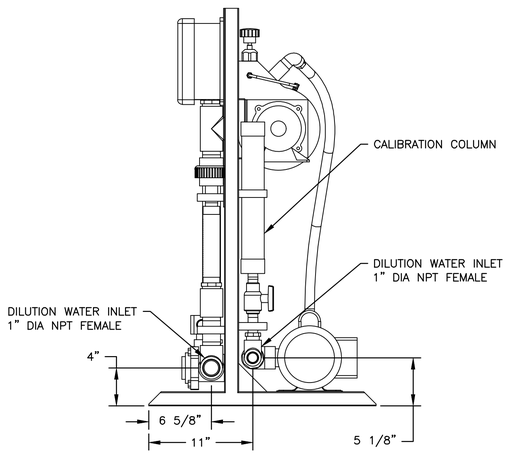
1. SCREW PRESS POLYMER SKID SHALL BE SIZED AND SUPPLIED BY THE SCREW PRESS MANUFACTURER.
2. PROVIDE POTABLE WATER SUPPLY LINE TO THE SKID AS REQUIRED.
3. PROVIDE FLEX CONNECTION LINE FROM POLYMER TOTE TO POLYMER UNIT (8'-0" FLEX HOSE MIN)(2" DIA MIN)
4. PROVIDE BALL VALVE ISOLATION FOR ALL CONNECTIONS TO THE POLYMER BLENDING UNIT.



LEFT SIDE



ELEVATION



RIGHT SIDE

DETAIL 1
NTS M-

RELEASE FOR BID

ENGINEER SEAL

ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/17/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: JS	DRAWN BY: LB	CHECKED BY: JS	APPROVED BY: JS	

POLYMER SKID DETAIL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
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(256)-203-9901

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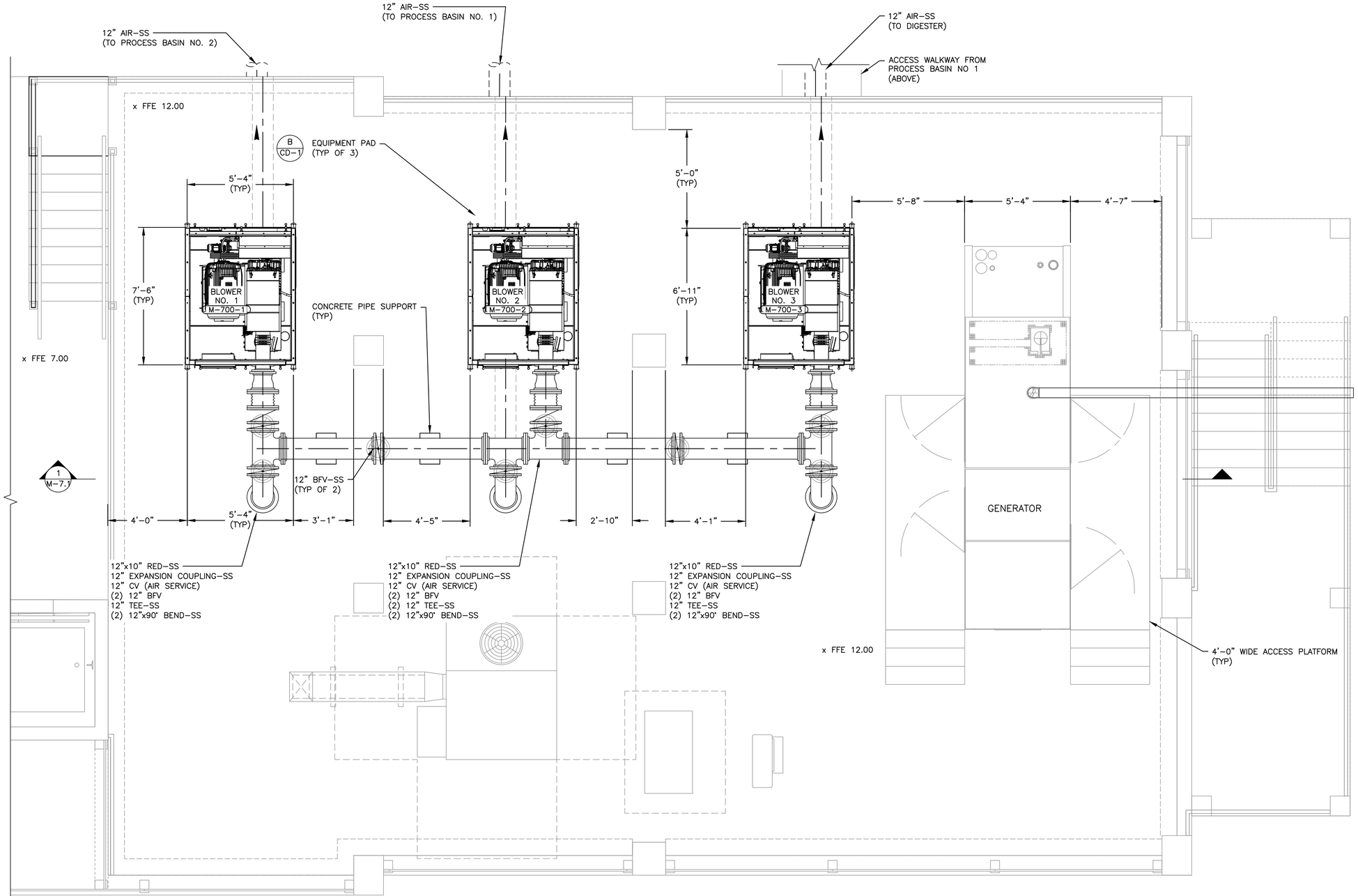
DWG.	M-6.5



0 2 4
GRAPHIC SCALE

PLAN
SCALE: 3/8" = 1'–0"

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 25847
PROFESSIONAL
ENGINEER
JAMES N. SMITH
8/7/24

NO.	DATE	REVISION	BY	APVD
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BLOWER PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
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(256)-203-9501

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PROJ.	100200.32
DWG.	M-7.0

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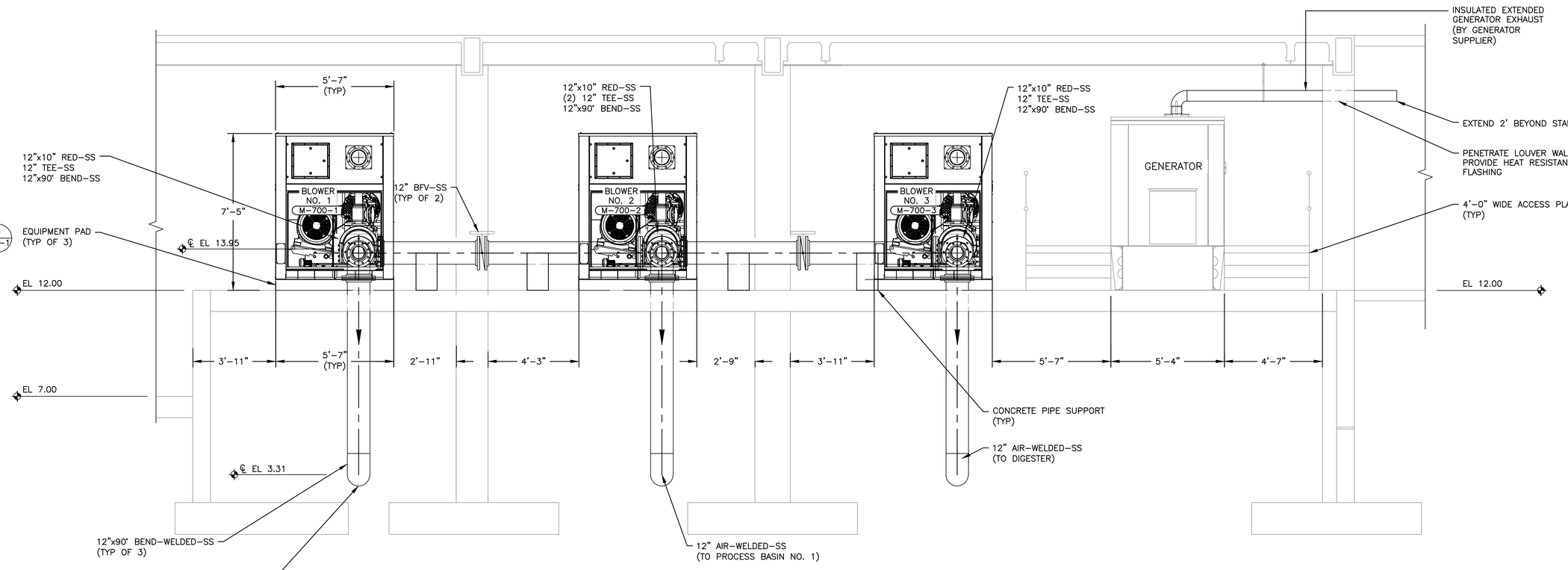
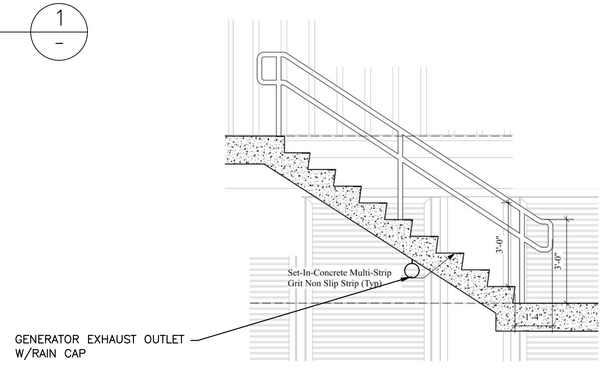


0 2 4
GRAPHIC SCALE

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



RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD BY:

BLOWER PLAN AND SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)203-9901

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PROJ.	100200.32
DWG.	M-7.1

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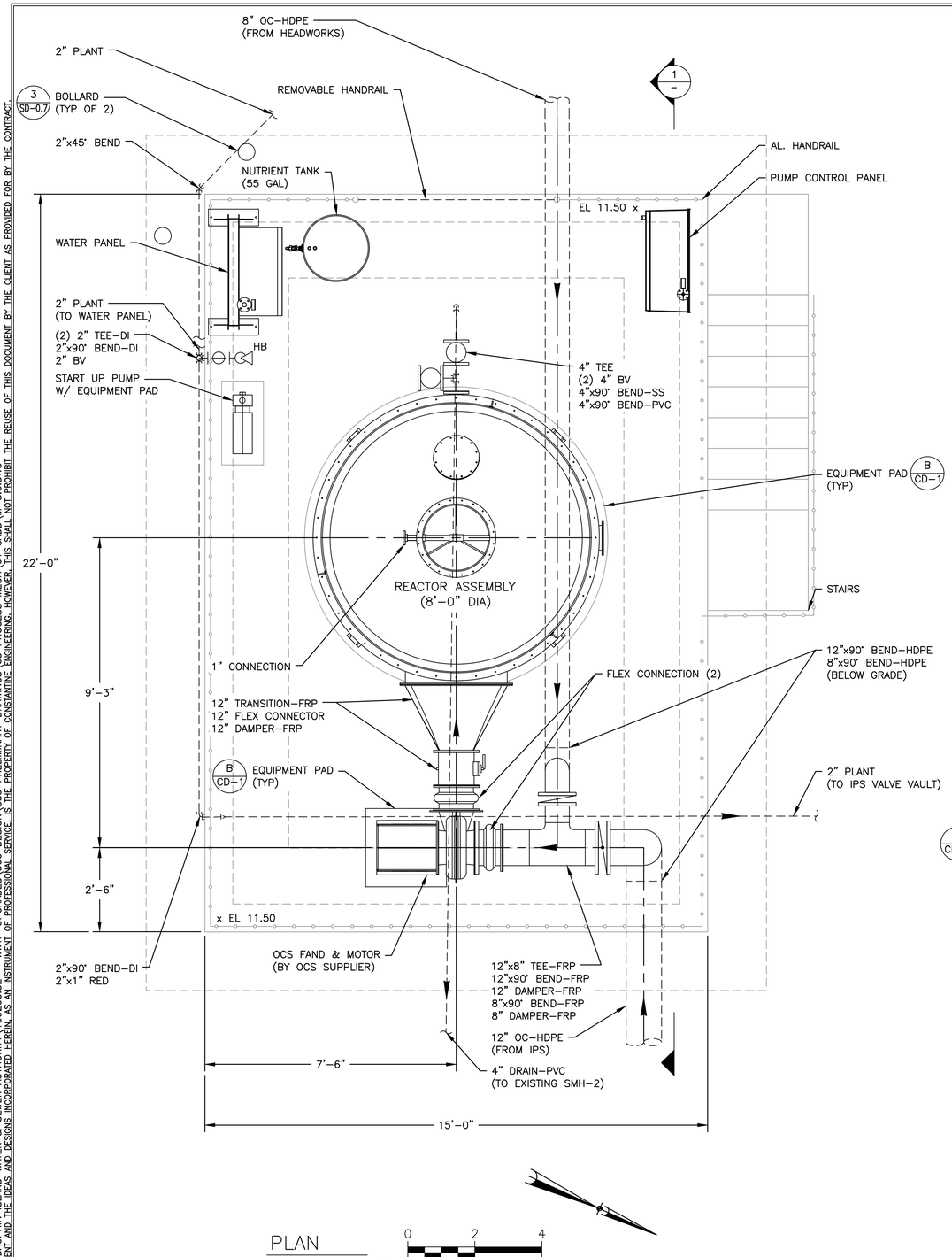
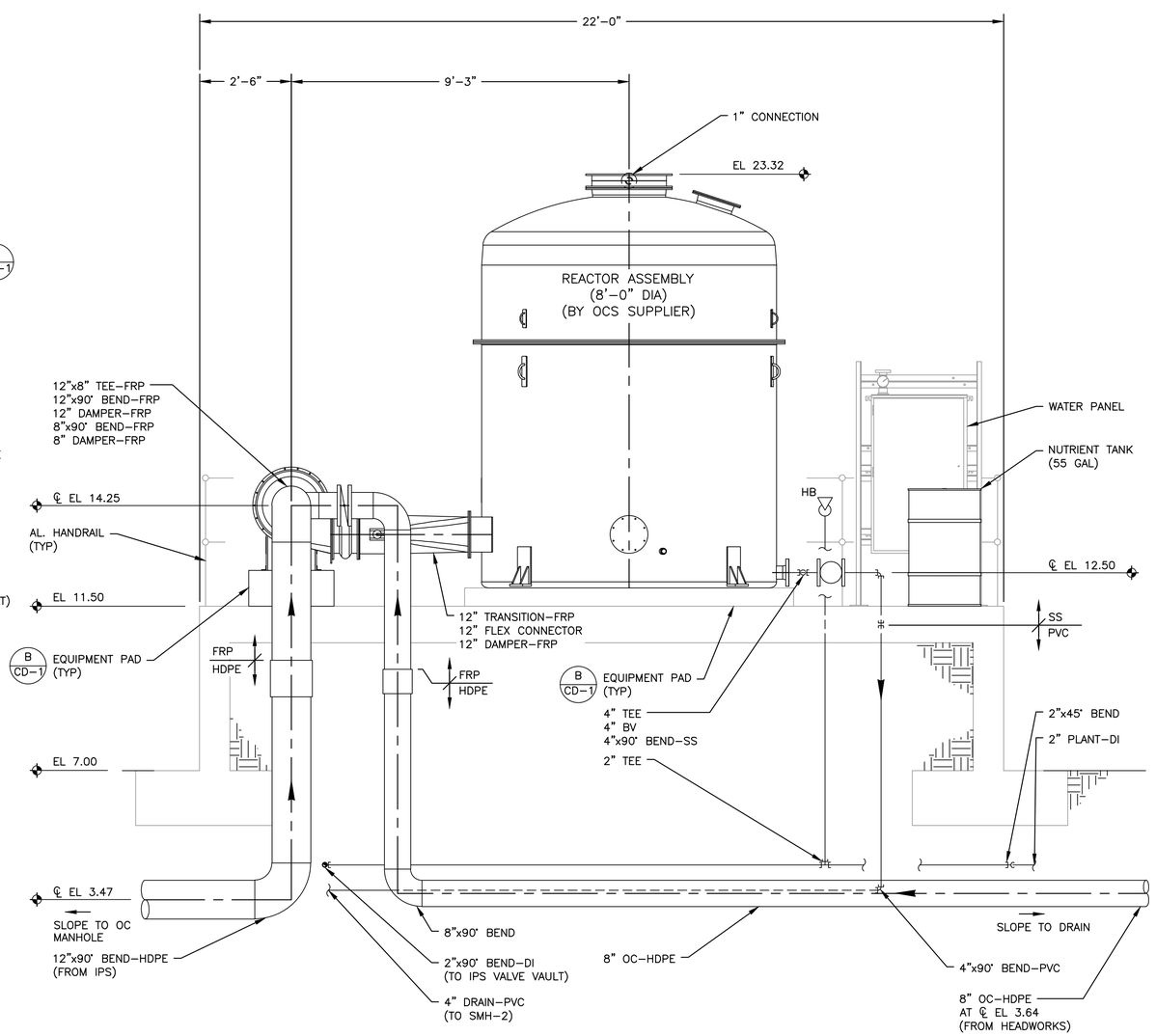


PLAN
SCALE: 1/2" = 1'-0"

0 2 4
GRAPHIC SCALE



SECTION 1/ –
1/2" = 1'-0"

0 2 4
GRAPHIC SCALE

NOTES:

1. PROVIDE PLANT WATER CONNECTIONS AS REQUIRED BY ODOR CONTROL SUPPLIER.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS	APVD. BY:

ODOR CONTROL PLAN AND SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	M-8.0

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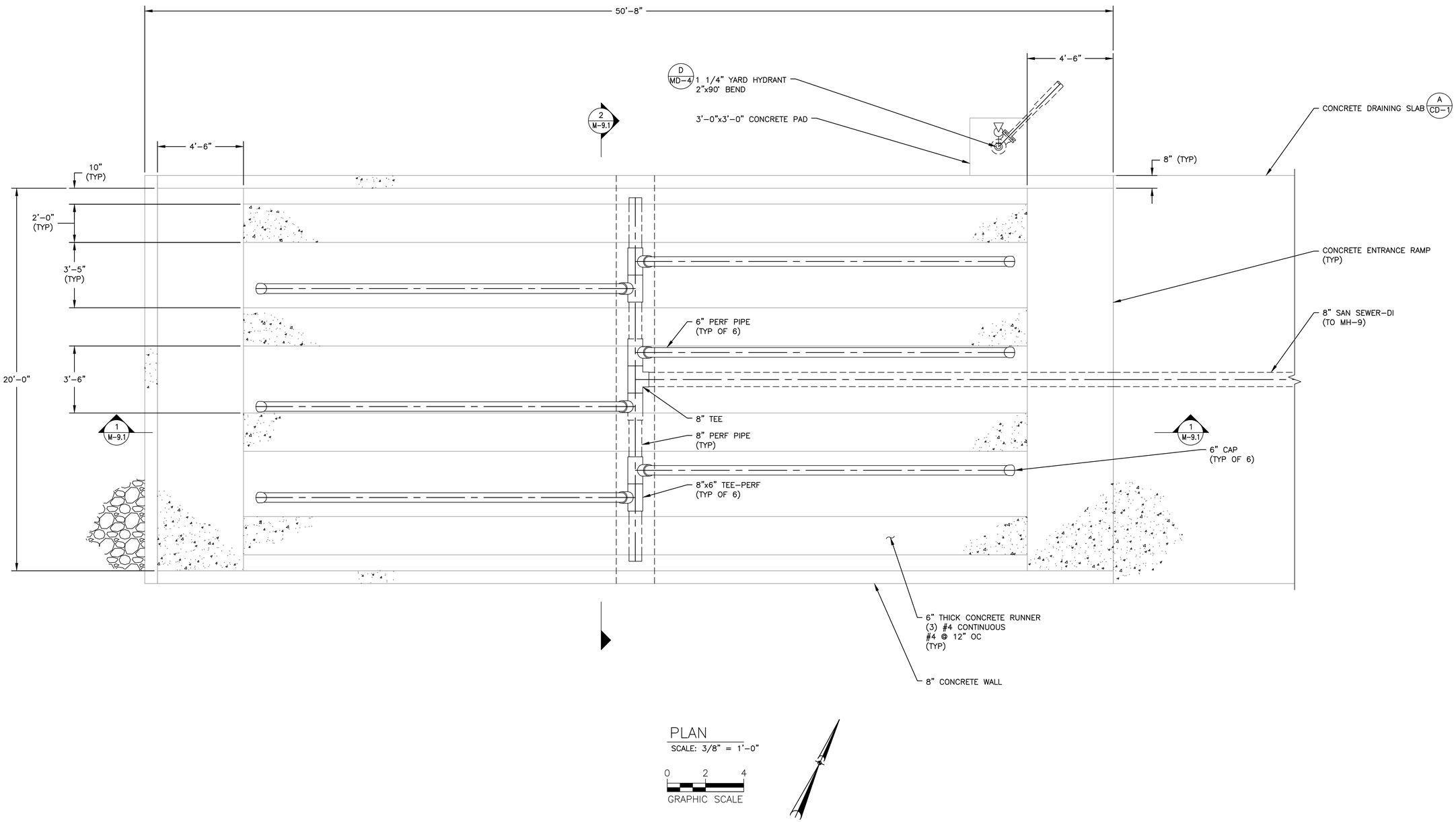

PLAN
SCALE: 3/8" = 1'-0"

0 2 4
GRAPHIC SCALE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/17/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APPROVED BY: JS

SLUDGE DRYING BED PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	M-9.0

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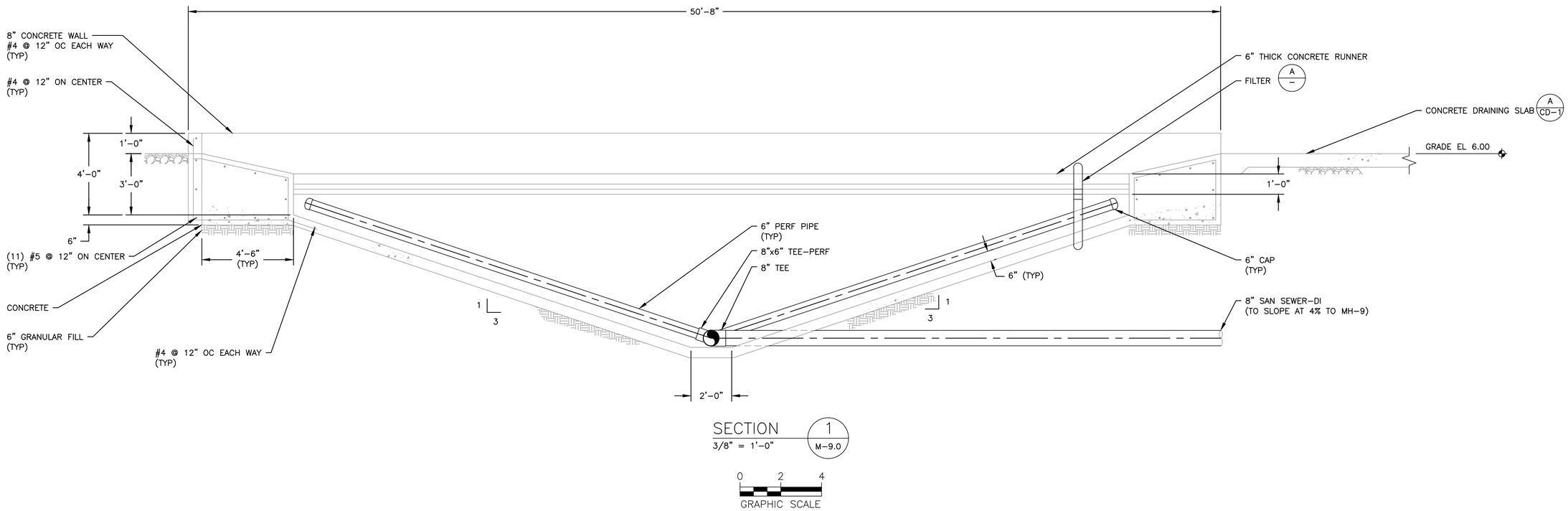
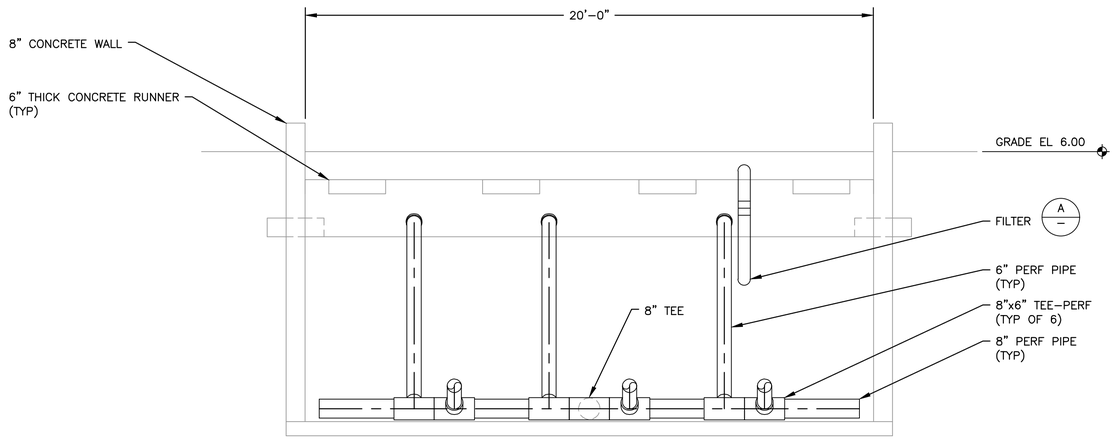


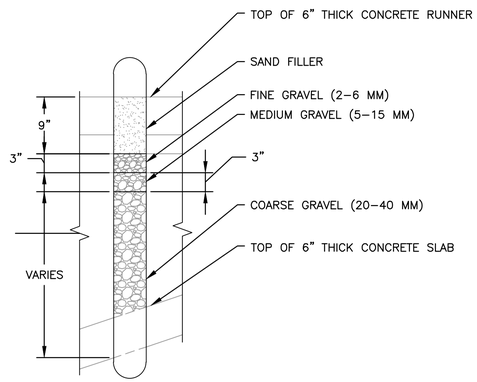
SECTION 1 — 3/8" = 1'–0" — M–9.0

0 2 4
GRAPHIC SCALE



SECTION 2 — 3/8" = 1'–0" — M–9.0

0 2 4
GRAPHIC SCALE



DETAIL A — 1" = 1'–0"

0 1 2
GRAPHIC SCALE

NOTES:

1. SAND SHALL BE CLEANED, WASHED AND FREE OF FINES BEFORE PLACEMENT.
2. UNIFORMITY COEFFICIENT FOR SAND – LESS THAN 4.0. EFFECTIVE SIZE – 0.3–0.75 MM.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH
8/7/24

NO.	DATE	REVISION	BY
	DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: SC	APVD BY: APPROVED JS

SLUDGE DRYING BED SECTION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	M-9.1

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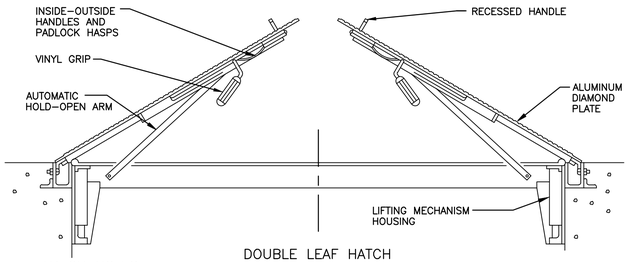


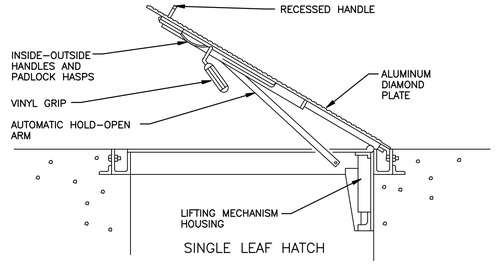
DOUBLE LEAF HATCH

HATCH NOTES:

1. ALUMINUM HATCHES TO BE SUPPLIED WITH STAINLESS STEEL HARDWARE.
2. ALL HATCHES TO BE SUPPLIED WITH SAFETY CHAINS. CORNER POST WITH FLOOR INSERTS MUST ALSO BE PROVIDED FOR SINGLE LEAF HATCHES.
3. ALL HATCHES TO BE SUPPLIED WITH HIGH SECURITY DETENTION LOCKS.
4. HINGE PINS SHALL NOT BE ACCESSIBLE WHEN THE HATCH IS IN THE CLOSED POSITION.
5. ALL HATCHES SHALL BE SUPPLIED WITH SAFETY GRATES.
6. WATER TIGHT HATCHES SHALL HAVE THE DRAIN LINE CONNECTED TO HATCH GUTTER AND RUN TO DAYLIGHT OR DOWN WALL OF VAULT TO FLOOR DRAIN IN THE VAULT.

TYPICAL DOUBLE LEAF HATCH

DETAIL A
NTS



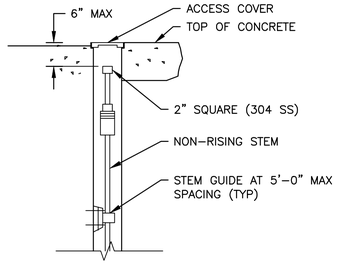
SINGLE LEAF HATCH

HATCH NOTES:

1. ALUMINUM HATCHES TO BE SUPPLIED WITH STAINLESS STEEL HARDWARE.
2. ALL HATCHES TO BE SUPPLIED WITH SAFETY CHAINS. CORNER POST WITH FLOOR INSERTS MUST ALSO BE PROVIDED FOR SINGLE LEAF HATCHES.
3. ALL HATCHES TO BE SUPPLIED WITH HIGH SECURITY DETENTION LOCKS.
4. HINGE PINS SHALL NOT BE ACCESSIBLE WHEN THE HATCH IS IN THE CLOSED POSITION.
5. ALL HATCHES SHALL BE SUPPLIED WITH SAFETY GRATES.
6. WATER TIGHT HATCHES SHALL HAVE THE DRAIN LINE CONNECTED TO HATCH GUTTER AND RUN TO DAYLIGHT OR DOWN WALL OF VAULT TO FLOOR DRAIN IN THE VAULT.

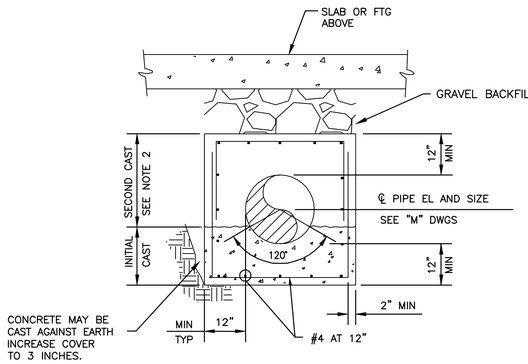
TYPICAL SINGLE LEAF HATCH

DETAIL B
NTS



RECESSED OPERATOR

DETAIL C
NTS

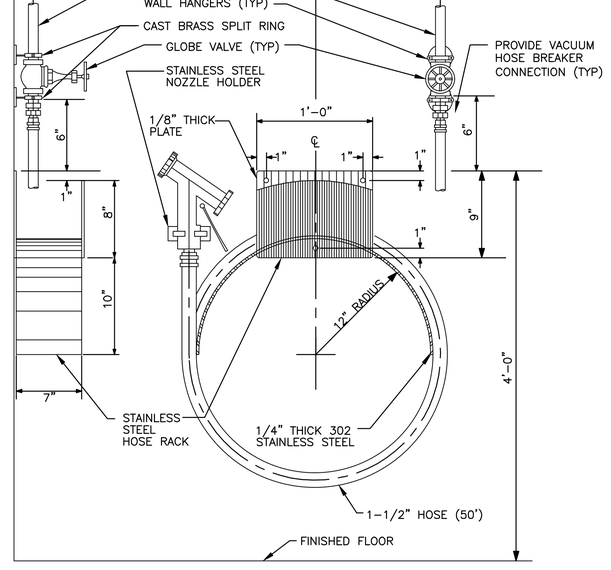


PIPE ENCASEMENT NOTES

1. ALL PIPE SHALL BE PRESSURE TESTED BEFORE CONCRETE ENCASEMENT.
2. ALL BELOW GRADE PIPES SHALL BE SUPPORTED ON CONCRETE BLOCKS PRIOR TO CASTING OF CONCRETE BEDDING. SIZE AND SPACING OF CONCRETE BLOCK SUPPORTS SHALL BE PER PIPE MANUFACTURER.
3. FOR ALL PIPES 12–INCH DIAMETER AND LARGER ENCASEMENT SHALL BE CAST IN TWO POURS AS SHOWN. INITIAL CAST SHALL BE CURED FOR 12 HR. BEFORE CASTING THE SECOND POUR.

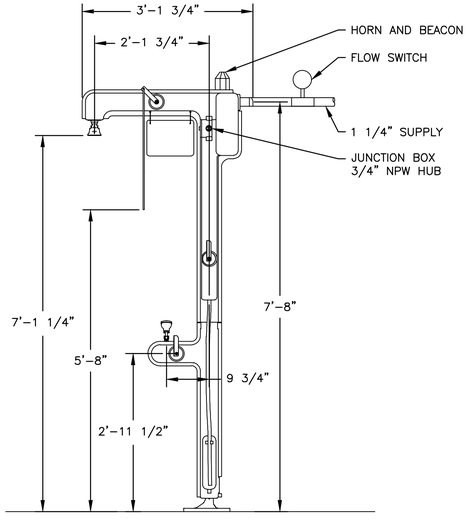
CONCRETE PIPE ENCASEMENT

DETAIL D
NTS



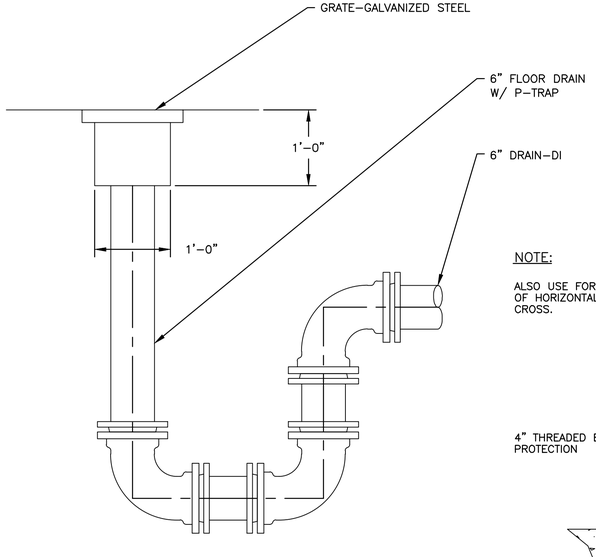
HOSE WASH STATION

DETAIL E
NTS



NON–FREEZE TYPE
EMERGENCY SHOWER/EYEWASH

DETAIL F
NTS

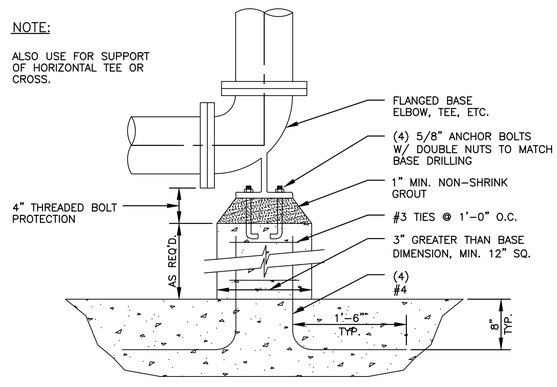


6" FLOOR DRAIN
W/ P–TRAP

DETAIL G
NTS

NOTE:

ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS.



BASE BEND "A"

DETAIL H
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: BL	DRAWN BY: LB	CHECKED BY: BL	APPROVED BY: JS

MISCELLANEOUS MECHANICAL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9901

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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	MD-1

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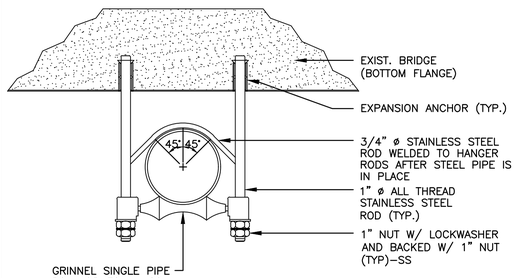
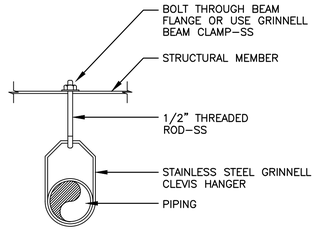


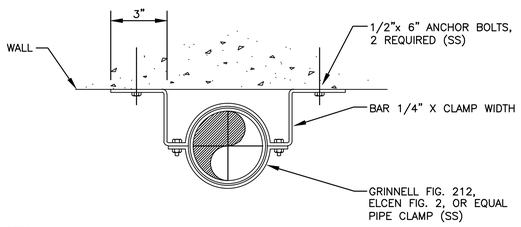
PIPE HANGER
DETAIL A
NTS



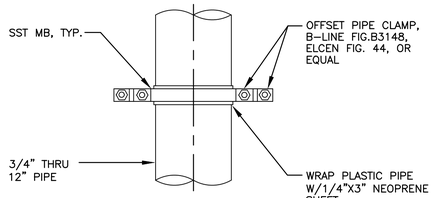
NOTES:

1. ALL HANGER COMPONENTS AND FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.
2. CLEVIS HANGERS SHALL BE FIGURE 426 BY PHD MANUFACTURING, IN. OR ENGINEER APPROVED EQUAL.
3. COMPONENT DIMENSIONS AND ANCHORING SYSTEM SHALL BE AS MANUFACTURERS RECOMMENDATIONS.

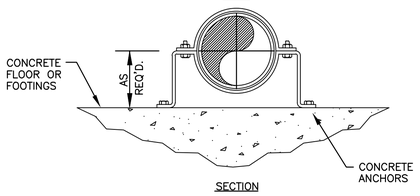
PIPE HANGER
DETAIL B
NTS



TYPE "B" PIPE SWAY BRACE
DETAIL C
NTS

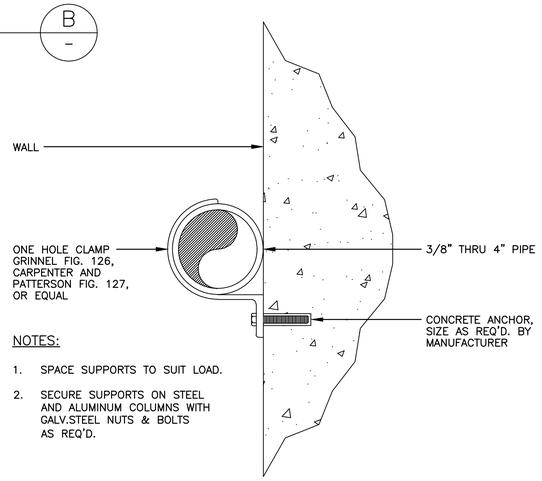


PLAN



SECTION

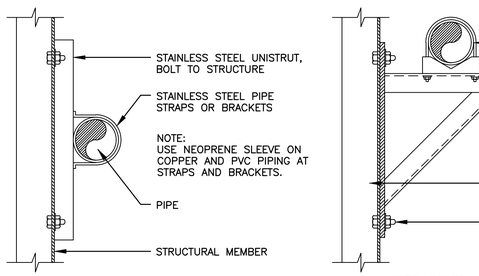
PIPE SUPPORT "C"
DETAIL E
NTS



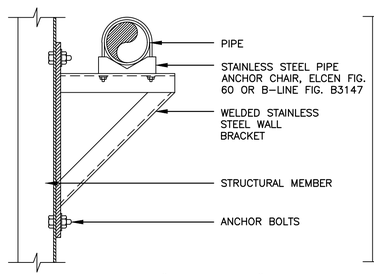
NOTES:

1. SPACE SUPPORTS TO SUIT LOAD.
2. SECURE SUPPORTS ON STEEL AND ALUMINUM COLUMNS WITH GALV.STEEL NUTS & BOLTS AS REQ'D.

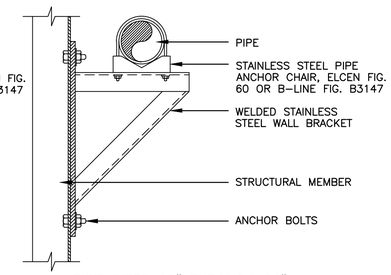
3/8" THRU 4" PIPE SUPPORT
DETAIL F
NTS



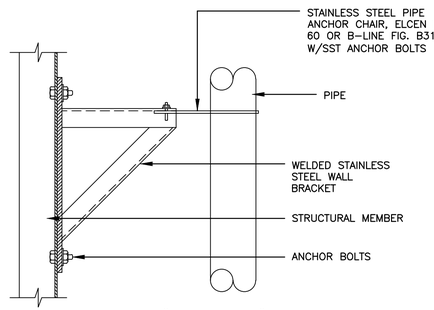
PIPE SIZES < 4"



PIPE SIZES 4" THROUGH 8"

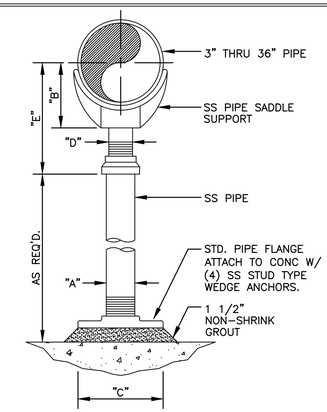


PIPE SIZES 16" THROUGH 24"



PIPE SIZES 4" THROUGH 8"

PIPE SUPPORT "B"
DETAIL G
NTS



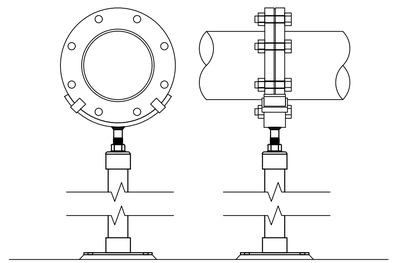
DIMENSION TABLE

PIPE SIZE	"A"	"B"	"C"	"D"	"E" MIN.	"E" MAX.
3"	2"	4 1/4"	8"	1 1/2"	8 1/2"	13 1/4"
4"	2"	4 1/2"	8"	1 1/2"	9 3/4"	14 1/2"
6"	3"	5 1/2"	9"	2 1/2"	10 1/2"	15 1/4"
8"	3"	6 7/8"	9"	2 1/2"	11 3/4"	16 1/2"
10"	3"	8 1/2"	9"	2 1/2"	13 1/2"	18 1/4"
12"	3"	9 15/16"	9"	2 1/2"	15"	19 3/4"
14"	4"	10 15/16"	11"	3"	16 1/4"	20 3/4"
16"	4"	12 3/8"	11"	3"	17 3/4"	22 1/4"
18"	6"	13 7/8"	13 1/2"	3 1/2"	19 1/2"	24"
20"	6"	15 3/8"	13 1/2"	3 1/2"	21"	25 1/2"
24"	6"	17 15/16"	13 1/2"	4"	23 3/4"	28 1/4"
30"	6"	21 5/16"	13 1/2"	4"	27"	31 1/2"
32"	6"	22 1/2"	13 1/2"	4"	28 1/4"	32 3/4"
36"	6"	24 1/2"	13 1/2"	4"	30 1/4"	34 3/4"

NOTES:

1. PROVIDE HALF ROUND RIGID INSULATION & INSULATION PROTECTION SHIELD.
2. PROVIDE NEOPRENE WAFFLE ISOLATION PAD UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
3. FOR BASE, HEIGHT, AND FLANGE DIMENSIONS, SEE TABLE.

3" THRU 36" PIPE SUPPORT (SADDLE TYPE)
DETAIL D
NTS



DIMENSIONS					
FLANGE CL 125	CRADLE MATERIAL	THREAD STUD	BASE PLATE	EXTENSION PIPE REQ'D	MINIMUM DIST. TO FLOOR
3"	1/2" x 2"	1" x 6"	4"x6"x1/4"	2" SCH 40	7"
4"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" SCH 40	7"
6"	1/2" x 2"	1" x 6"	8"x8"x1/4"	2" SCH 40	7"
8"	1/2" x 2 1/2"	1" x 6"	8"x8"x1/4"	2" SCH 40	7"
10"	1/2" x 2 1/2"	1" x 6"	8"x8"x1/4"	2" SCH 40	7"
12"	1/2" x 2 1/2"	1" x 6"	8"x8"x1/4"	2" SCH 40	7"
14"	5/8" x 3"	1 1/2" x 6"	8"x8"x1/2"	3" SCH 40	9 1/2"
16"	5/8" x 3"	1 1/2" x 6"	8"x8"x1/2"	3" SCH 40	9 1/2"
18"	3/4" x 3 1/2"	2" x 6"	8"x8"x1/2"	4" SCH 40	10"
20"	3/4" x 3 1/2"	2" x 6"	8"x8"x1/2"	4" SCH 40	10"
24"	3/4 x 4"	2" x 6"	8"x8"x1/2"	4" SCH 40	10"

NOTES:

1. FLANGE CRADLE ASTM A36. COLLAR/BASE CUPS: ASTM A53/ASTM A513 D.O.M. TUBING. THREAD STUD ASTM A36, ROLLED THREAD, GRADE ASTM A307.
2. ALL WELDS 100% MIG WELDING, ELECTRODE E70XX. CRADLE RADIUSED TO CL 125 FLANGE DIAMETER, 120° COVERAGE (NOT DESIGNED FOR SCH 80 PVC FLANGES)
3. ALL SUPPORTS SHALL BE TYPE TYPE 304L–SS MATERIAL RESOURCE INC. STANDON MODEL S96 OR EQUAL

FLANGE SADDLE PIPE SUPPORT
DETAIL H
NTS

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: RI	DRAWN BY: RI	CHECKED BY: SC	APPROVED BY: JS	

MISCELLANEOUS MECHANICAL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVENUE, SUITE 601
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(256)-203-9501

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PROJ.	100200.32
DWG.	MD-2

H:\PROJECT FILES\100200 – DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 – WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\MD-3.DWG
Bryant Edwards PLOT 8/7/2024 3:31 PM SAVED 7/6/2023 12:24 PM
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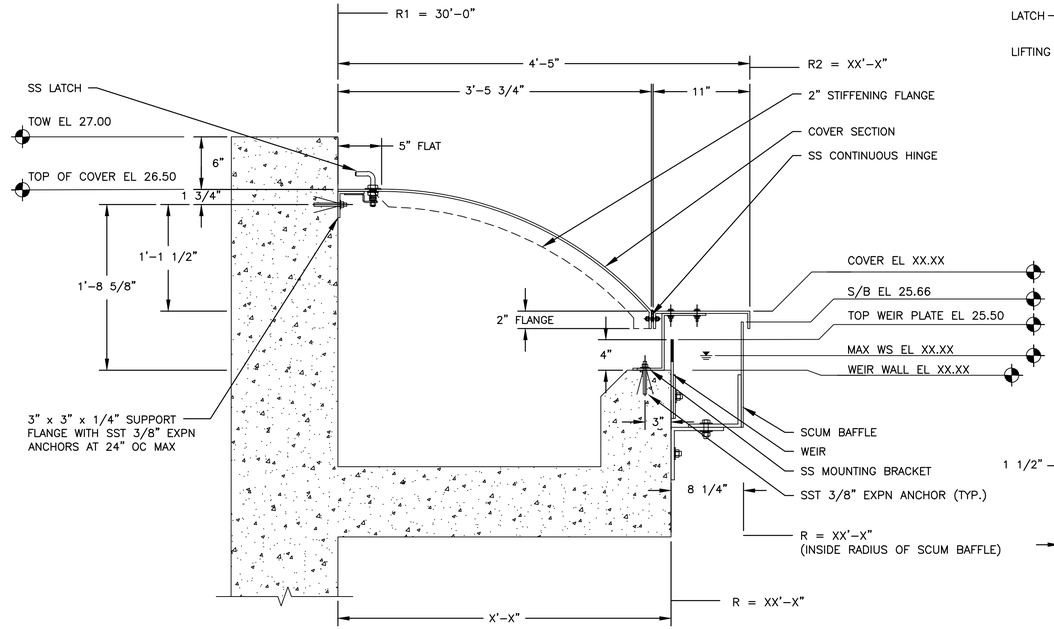
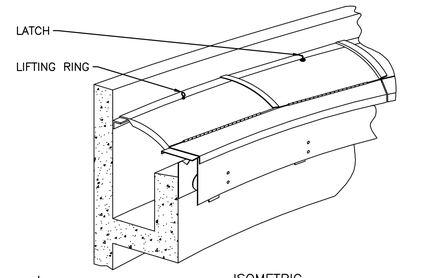
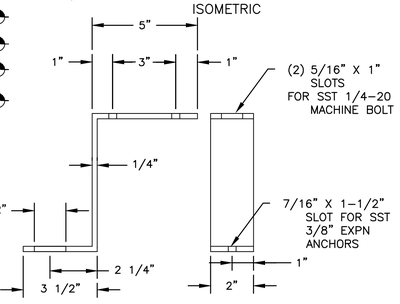
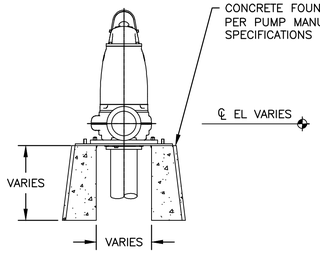




ISOMETRIC

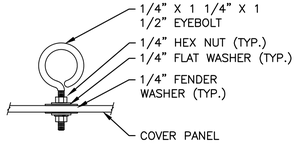


304 SST MOUNTING BRACKET

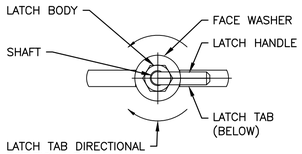


PUMP PEDESTAL

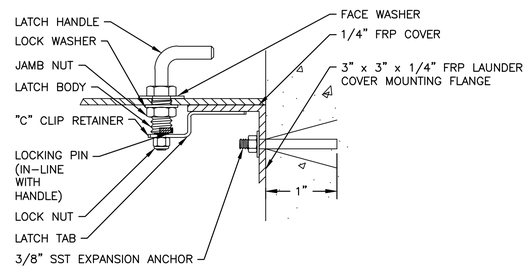
DETAIL C
NTS –



304 SST LIFTING RING



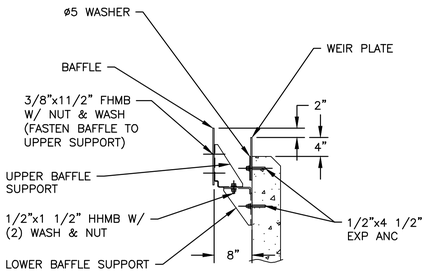
304 SST LATCH



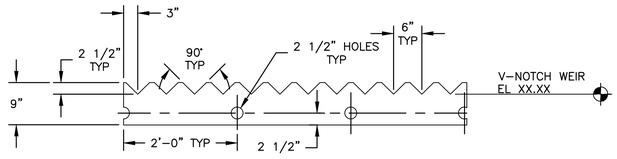
CROSS SECTION DETAIL

LAUNDER COVER

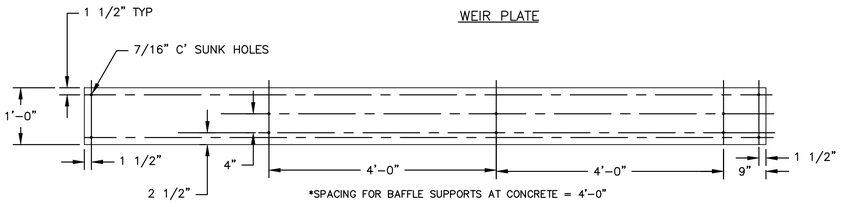
DETAIL A
NTS –



TYPICAL WEIR AND BAFFLE SECTION



WEIR PLATE



*SPACING FOR BAFFLE SUPPORTS AT CONCRETE = 4'–0"

BAFFLE PLATE

DETAIL B
NTS –

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: DS	CHECKED BY: SC	APPROVED BY: JS	APV'D

MISCELLANEOUS MECHANICAL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	MD-3

H:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\05 PROCESS MECH\01 CADD\MD-4.DWG
Bryant Edwards PLOT 8/19/2024 4:18 PM SAVED 8/19/2024 12:41 PM
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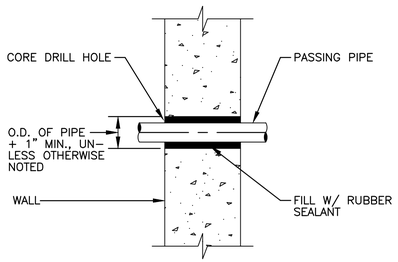
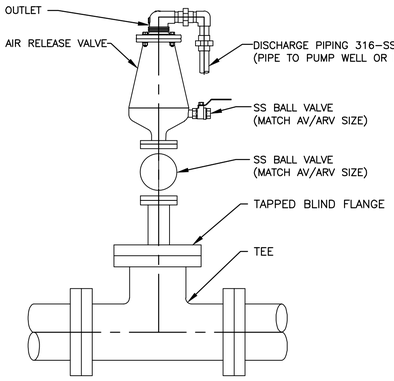


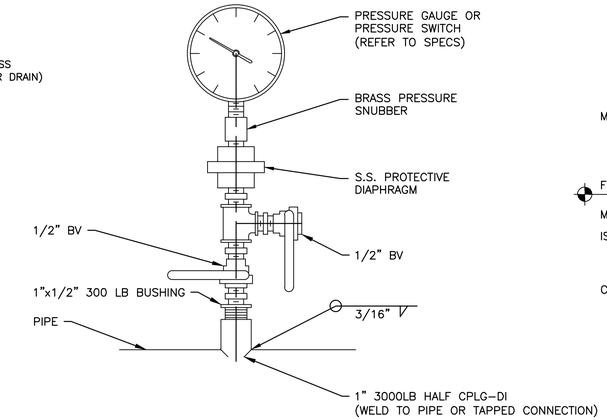
WALL PIPE PENETRATION
DETAIL A
NTS



NOTES:

1. ALL PIPE AND FITTINGS ON AIR ASSEMBLY VALVE SHALL BE 316-SS.
2. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
3. ALL PIPE AND FITTINGS SHALL BE SAME NOMINAL SIZE AS THE ASSOCIATED AIR VALVE ASSEMBLY.

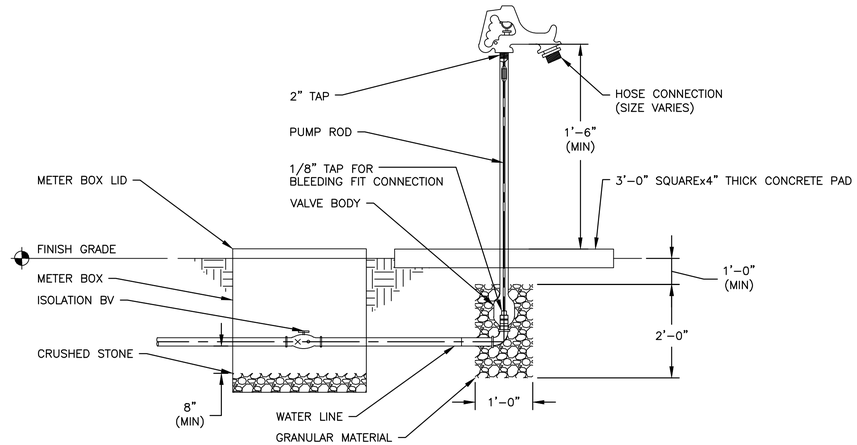
AV/ARV
DETAIL B
NTS



NOTES:

1. USE DIAPHRAGM SEALS AND VALVES FOR ALL CHEMICALS, SEWAGE, SLUDGE AND OTHER LIQUIDS CONTAINING SOLIDS.

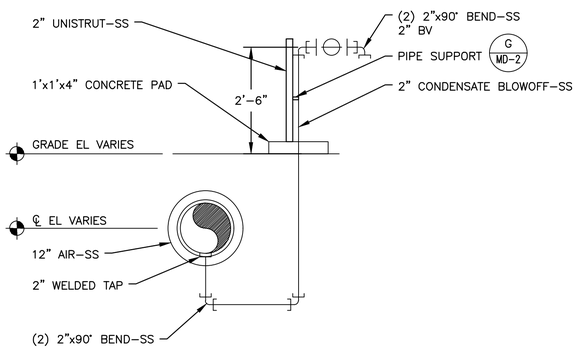
PRESSURE GAUGE
DETAIL C
NTS



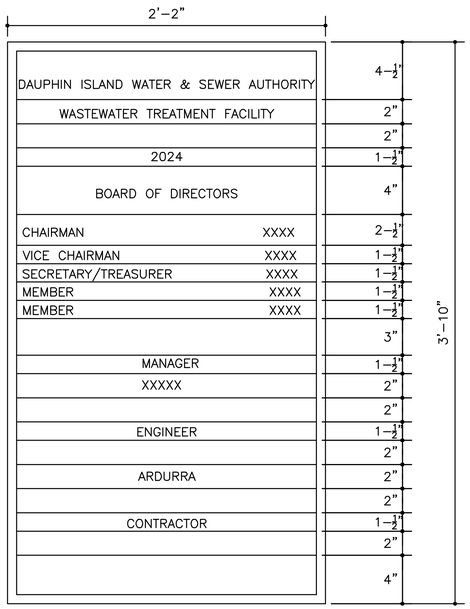
NOTES:

1. YARD HYDRANT TO BE SIMMONS 800 SERIES FREEZE PROOF OR APPROVED EQUAL.
2. SIZE VARIES (SEE PLAN)

YARD HYDRANT
DETAIL D
NTS



CONDENSATE BLOWOFF
DETAIL E
NTS



NOTE:

1. PLAQUE SHALL BE CAST ALUMINUM. FINAL FINISH AND CONTENT SHALL BE PROVIDED BY OWNER.

NAME PLAQUE DETAIL

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 25847 PROFESSIONAL ENGINEER JAMES N. SMITH 8/7/24

NO.	DATE	REVISION	BY
DESIGNED BY: SC		DRAWN BY: DS	CHECKED BY: SC	APPROVED BY: JS	APVD

MISCELLANEOUS MECHANICAL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	MD-4

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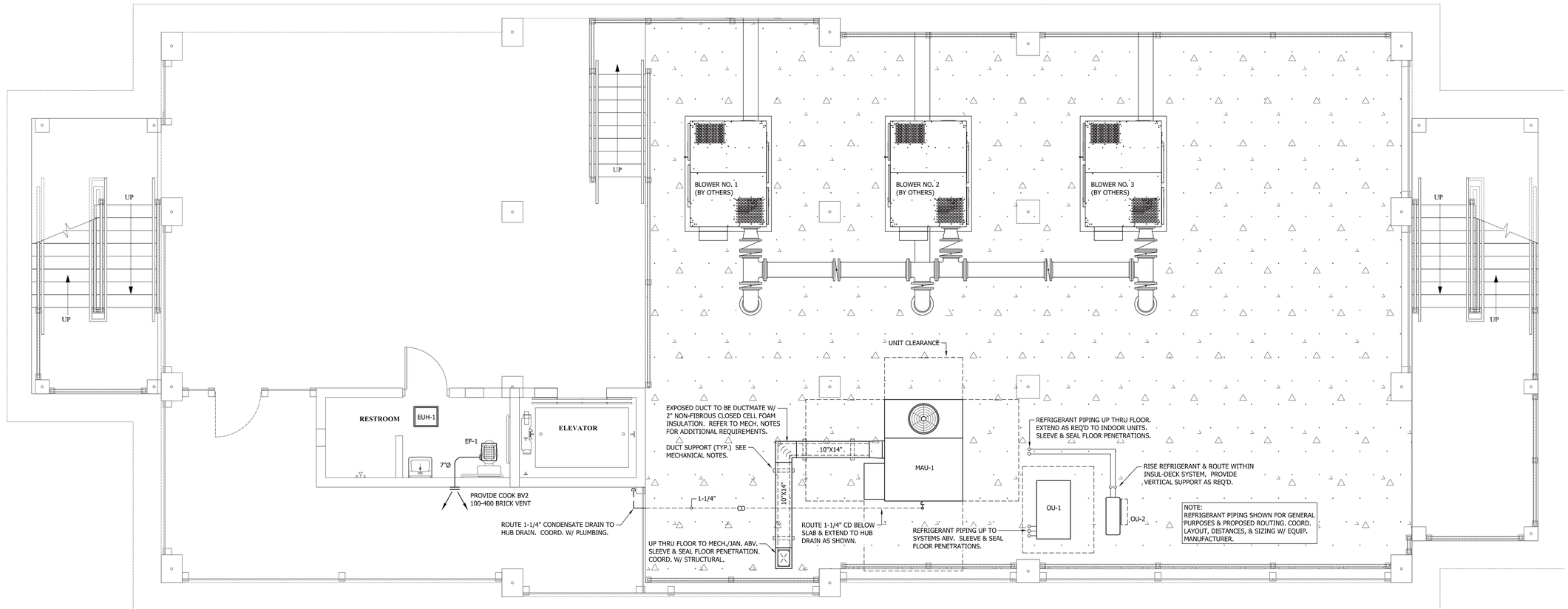
MIMS ENGINEERING INC.
CONSULTING ENGINEERS
112 SOUTH SIDE SQUARE, SUITE B
HUNTSVILLE, AL. 35801
PHONE: (256) 881-4126
FAX: (256) 880-6743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL

ALABAMA LICENSED No. 15067 PROFESSIONAL 8/2/2024 JEFFREY KEVIN MIMS ENGINEER

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY:	APPROVED BY:	APV'D BY:



GROUND FLOOR
MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

RELEASE FOR BID

GROUND FLOOR MECHANICAL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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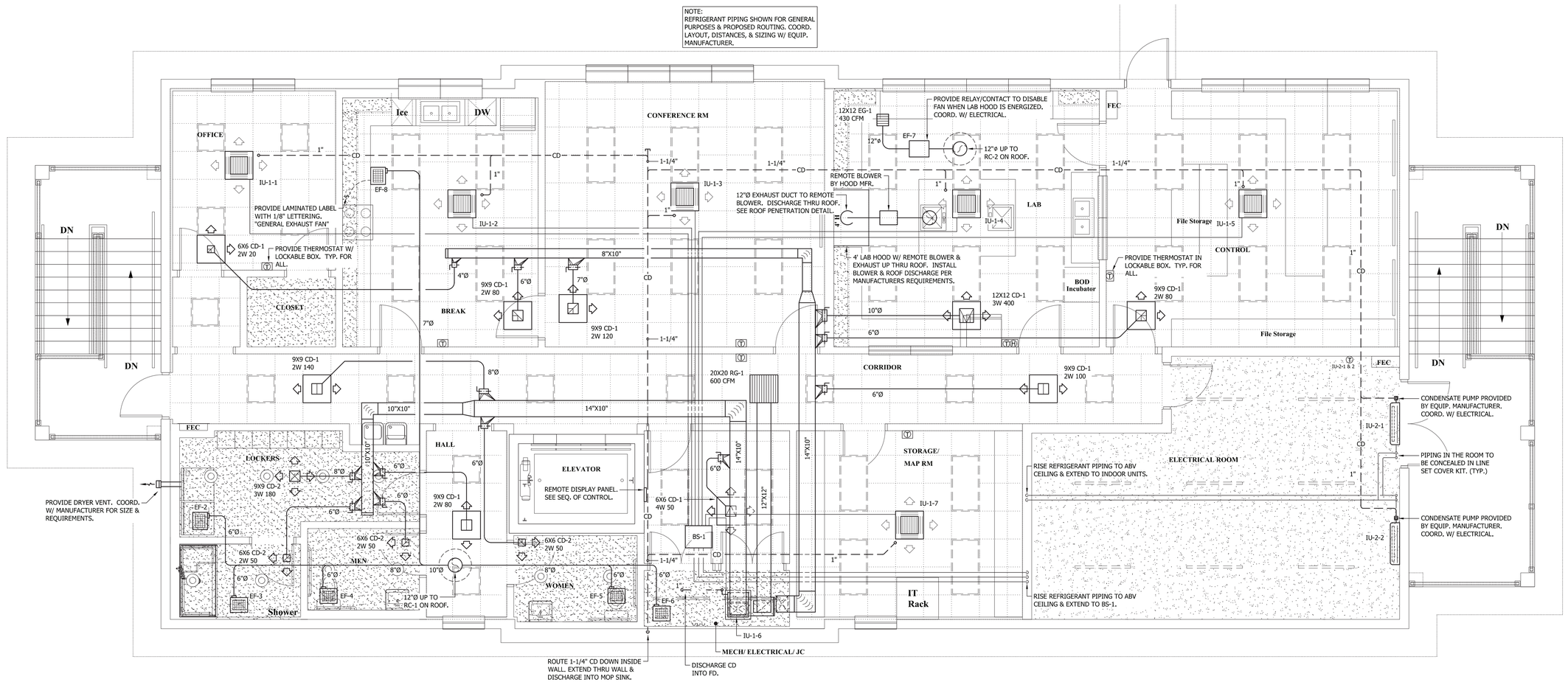
HUNTSVILLE, AL. 35801
PHONE: (256) 881-4126
FAX: (256) 880-4743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED No. 15067 PROFESSIONAL ENGINEER JEFFREY KEVIN MIMS
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY: APPROVED BY: APV'D

NOTE:
REFRIGERANT PIPING SHOWN FOR GENERAL PURPOSES & PROPOSED ROUTING. COORD. LAYOUT, DISTANCES, & SIZING W/ EQUIP. MANUFACTURER.



FIRST FLOOR
MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

RELEASE FOR BID

FIRST FLOOR MECHANICAL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	H-1.2

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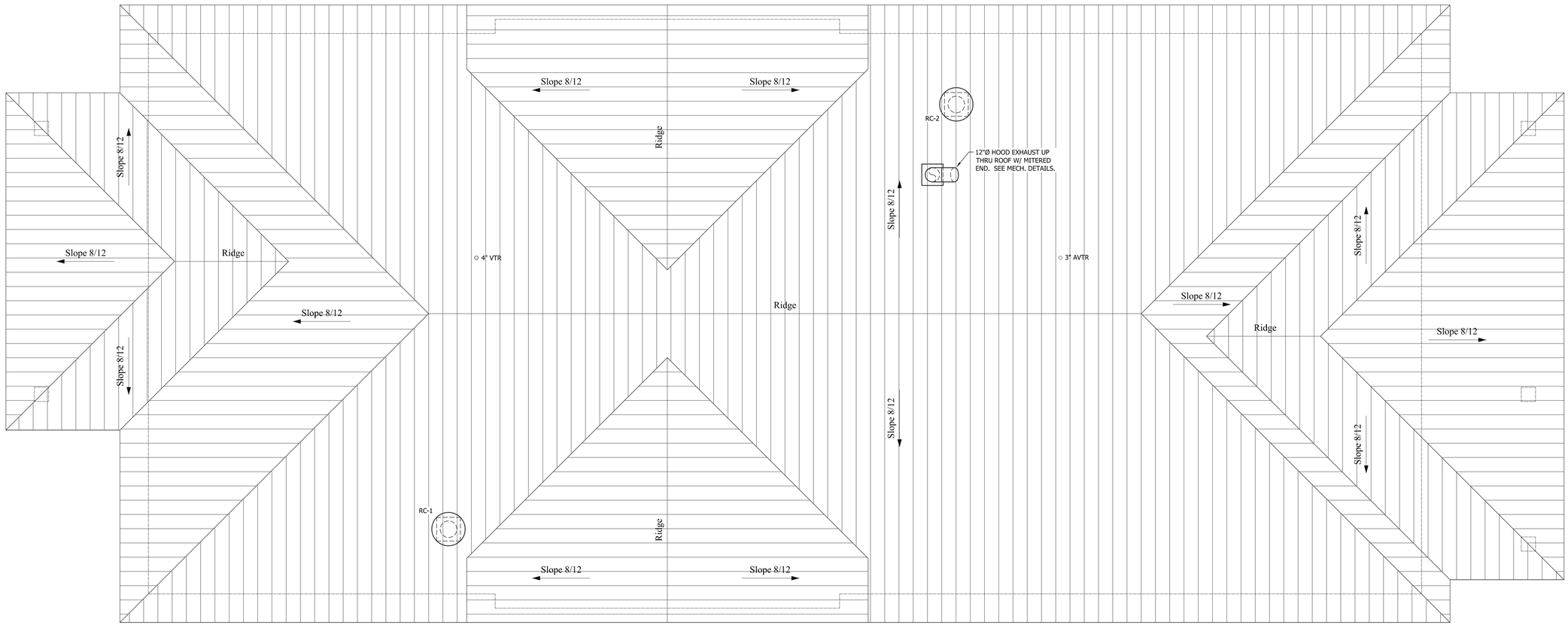

MECHANICAL ROOF PLAN

SCALE: 1/4" = 1'-0"

RELEASE FOR BID

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CONSULTING ENGINEERS
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HUNTSVILLE, AL. 35801
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FAX: (256) 880-6743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
JEFFREY KEVIN MIMS
No. 15067
8/2/2024

NO.	DATE	REVISION	BY
DESIGNED BY:		DRAWN BY:	CHECKED BY: APPROVED BY: APVD

MECHANICAL ROOF PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DATE	8/2/2024
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DWG.	H-1.3

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PHONE: (256) 881-4126
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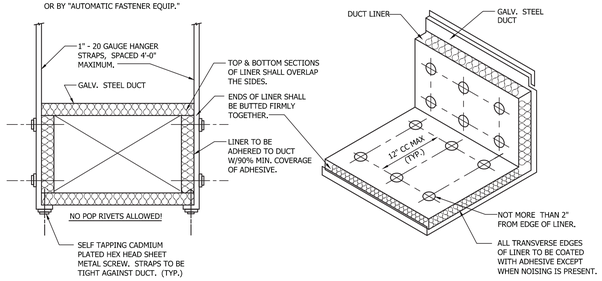
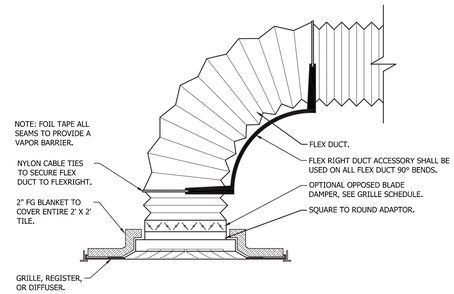
ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
JEFFREY KEVIN MIMS
No. 15067
8/2/2024

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	APPROVED BY:

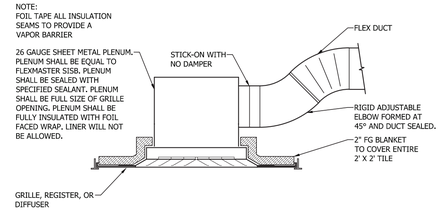
METAL FASTENERS:
OMARK INSUL-PINS, DURO DYNE FASTENER, OR GRIP NAILS. GRIP NAILS SHALL BE INSTALLED BY "GRIP NAIL AIR HAMMER" OR BY "AUTOMATIC FASTENER EQUIP."



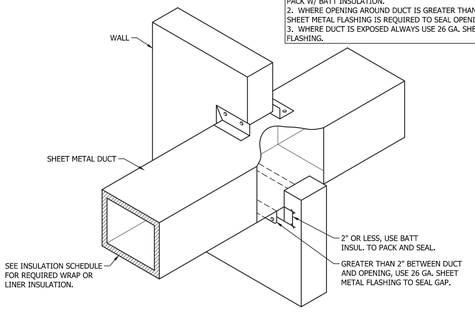
RECTANGULAR DUCT
LINER & STRAP HANGER DETAIL
NOT TO SCALE



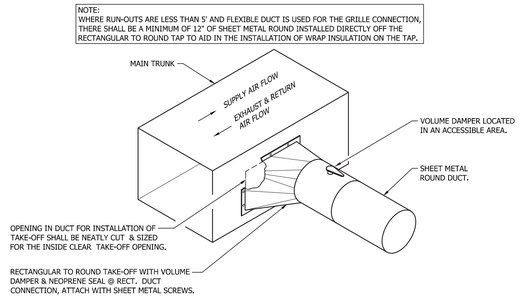
LAY-IN
GRILLE, REGISTER, DIFFUSER DETAIL
NOT TO SCALE



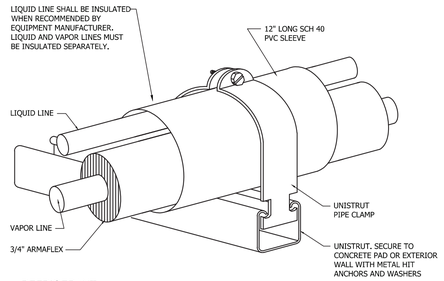
LAY-IN
GRILLE, REGISTER, DIFFUSER DETAIL
NOT TO SCALE



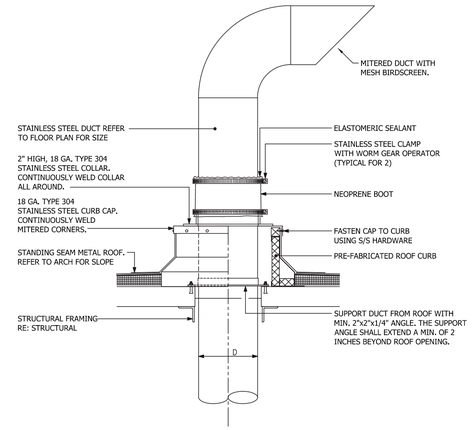
NON-RATED WALL
TYPICAL DUCT PENETRATION DETAIL
NOT TO SCALE



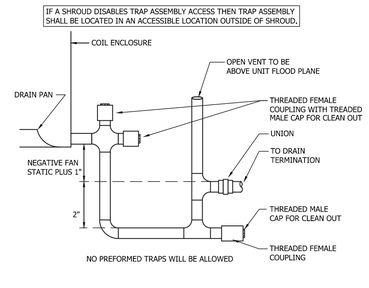
RECTANGULAR TO ROUND
BRANCH DUCT DETAIL
NOT TO SCALE



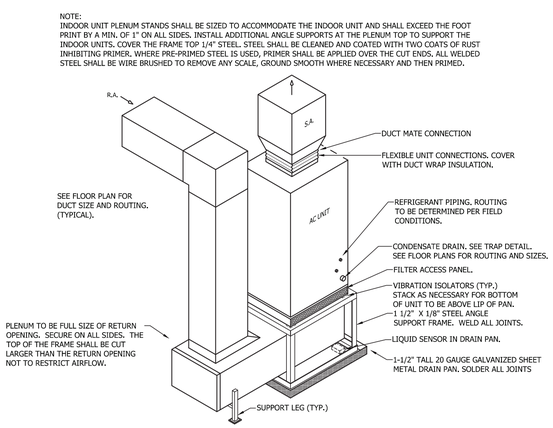
REFRIGERANT
EXTERIOR PIPE SUPPORT DETAIL
NOT TO SCALE



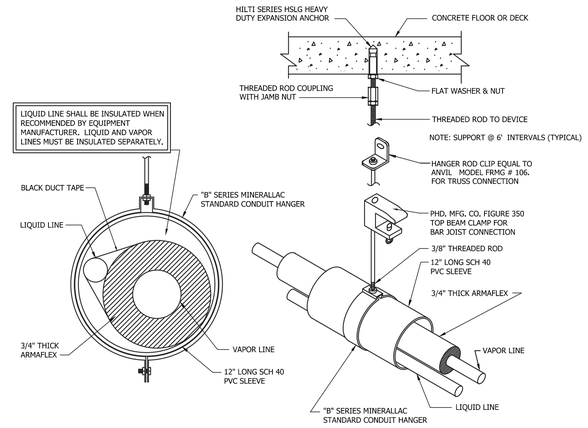
ROUND DUCT THROUGH ROOF
NOT TO SCALE



TYPICAL CONDENSATE
CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE



DX FAN COIL W/ SIDE PLENUM RETURN
INDOOR UNIT MOUNTING DETAIL
NOT TO SCALE



REFRIGERANT
PIPE HANGER DETAIL
NOT TO SCALE

RELEASE FOR BID

MECHANICAL DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DATE	8/2/2024
PROJ.	100200.32
DWG.	H-2.1

MIMS ENGINEERING INC.
CONSULTING ENGINEERS
112 SOUTH SIDE SQUARE, SUITE B
HUNTSVILLE, AL. 35801
PHONE: (256) 881-4126
FAX: (256) 880-6743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED No. 15067 PROFESSIONAL ENGINEER JEFFREY KEVIN MIMS
8/2/2024

VRF MULTI-ZONE SPLIT SYSTEMS

Outdoor Unit													Branch Controller						Indoor Unit																
Mark	Location	Capacity		Refrigerant Lines			Refrigerant Length to BC (Estimate)	Power			Weight lbs	Basis of Design		Options	Mark	Location	Power		Basis of Design		Mark	Location	Serving	CFM	Entering DB/WB °F	Cooling, MBH		Heating	Power			Refrigerant Lines		Manuf.	Model	Options
		Cooling MBH (req'd)	Heating MBH	Size, in.				Volt/Ph	MCA	MOCP		Manuf.	Model				MCA / MOP	Volt/Ph	Manuf.	Model						Total	Sens.	MBH	Volt/Ph	MCA	MOCP	Size, in.				
				Suction	Liquid	Hot Gas																											Liquid	Suction			
OU-1	Platform	125.3	134.3	1/2"	1 1/8"	7/8"	80	460/3/60	27.9	40	793	Daikin	REYQ144XAYDB	2	BS-1	Abv. Ceiling	0.8 / 15	208/1/60	Daikin	BSF8Q54TVJ	IU-1-1	Ceiling Cassette	Office	320	75 / 64	8.5	5.7	10.9	208/1/60	0.3	15	1/4"	1/2"	Daikin	FXZQ09TBVJU	1, 2
																					IU-1-2	Ceiling Cassette	Break	510	75 / 64	16.0	11.0	20.8	208/1/60	0.6	15	1/4"	1/2"	Daikin	FXZQ18TBVJU	1, 2
																					IU-1-3	Ceiling Cassette	Conference	510	75 / 64	16.0	11.0	20.8	208/1/60	0.6	15	1/4"	1/2"	Daikin	FXZQ18TBVJU	1, 2
																					IU-1-4	Ceiling Cassette	Lab	510	75 / 64	16.0	11.0	20.8	208/1/60	0.6	15	1/4"	1/2"	Daikin	FXZQ18TBVJU	1, 2
																					IU-1-5	Ceiling Cassette	Control Room	510	75 / 64	16.0	11.0	20.8	208/1/60	0.6	15	1/4"	1/2"	Daikin	FXZQ18TBVJU	1, 2
																					IU-1-6	Mech/Jan.	Corridor/RR's	600	75 / 64	16.1	10.5	20.7	208/1/60	4.9	15	1/4"	1/2"	Daikin	FXTQ18TAVJUD	2
																					IU-1-7	Ceiling Cassette	Storage/Map Room	320	75 / 64	8.5	5.7	10.9	208/1/60	0.3	15	1/4"	1/2"	Daikin	FXZQ09TBVJU	1, 2

Options:
1. Provide condensate pump.
2. Provide ball valves on all refrigerant pipes for isolating individual indoor units.

Notes (Applicable to all systems):
A. All refrigerant lines shall be sized in accordance with manufacturer's recommendations.
B. All installed refrigerant line lengths shall be less than the manufacturer's maximum length.
C. All refrigerant lines shall be insulated separately.
D. Provide a centralized controller for each building and an interface with the manufacturer supplied, web accessible control network

PACKAGED MAKE-UP AIR UNIT SCHEDULE

Mark	MAU-1
Location	Raised Platform
Serving	1st Floor Offices & Labs
System	
Compressors, Number	1
Compressors, Type	Inverter Scroll
Refrigerant Type	R-32
EER	11.1
Fan	
Outside Air CFM (Max / Min.)	800
Ext. S.P., In. W.G.	1.5
HP	4
BHP	0.35
Cooling	
Total Capacity at ARI, MBH	72.2
Sensible Capacity at ARI, MBH	27.5
EAT FDB/FWB, °F	84 / 80
LAT FDB/FWB, °F	53 / 53
Moisture Removal, lbs/h	46.1
Heating	
Total Capactiy	55.3
EAT/LAT	45 / 107
Hot Gas Reheat	Modulating Hot Gas Reheat
Total Capacity, MBH	17.2
LAT DB/WB, °F	70 / 58
Electric Heat	
Size, kW	12
Capacity, MBH	41
Contol	SCR
EAT/LAT °F	33 / 81
Volt/Phase	460/3/60
Unit FLA	30.3
MCA	36.8
MOCP	40
Basis of Design	
Manufacturer	Daikin
Model	DPS006A
Weight, lbs.	1,300
Options	As Listed
Notes	A

Options:
1. Provide EC motor with direct drive premium efficiency plenum fan.
2. Provide inverter scroll compressor.
3. Provide a factory mounted non-fused disconnect and convenience outlet.
4. Provide electric heat as scheduled.
5. Provide Condenser Coil Guards.
6. Provide modulating Hot Gas Reheat.
7. Provide factory installed Electro Fin E-coating on all coils (condenser, evaporator, & HGRH). Coating is to be rated a minimum of 6,000-hour salt spray according to ASTM B117 test standards.
8. Provide coil temperature sensor, discharge air temperature sensor, outside air sensor, filter status, supply fan sensor, and combination room temp/humidity sensor.

Notes:
A. See Sequence of Control

DUCTLESS SPLIT SYSTEM SCHEDULE

Serving	Electrical Room	Electrical Room
Indoor Unit	Wall	Wall
Outdoor Unit	Raised Platform	Raised Platform
System		
Nominal Tonnage	1.5	1.5
SEER	18	18
EER	12.5	12.5
Rated Cooling Capacity, (Min/Max) MBH	18 (5.5 / 20.0)	18 (5.5 / 20.0)
Sensible Capacity at ARI, MBH	14.48	14.48
Heat Pump Capacity at 47° F	-	-
Heat Pump Capacity at 17° F	-	-
Refrigerant Pipe Length (Max)	98	98
Refrigerant Pipe Height Difference (Max)	65	65
Indoor Unit		
Mark	IU-2-1	IU-2-2
Supply Fan		
Supply Air, CFM (Wet Coil)	713	713
FLA/MCA	0.3	0.3
Volt/Phase	208 / 60 / 1	208 / 60 / 1
Basis of Design, Manufacturer	Daikin	Daikin
Model	FTK18NMVJU	FTK18NMVJU
Weight (lbs.)	27	27
Outdoor Unit		
Mark	OU-2	
Volt/Phase	208 / 60 / 1	
MCA	18.3	
MOCP	20	
Basis of Design, Manufacturer	Daikin	
Model	RK36NMVJU	
Weight (lbs.)	133	
Options	1, 2, 3	
Notes	A, B, C	

Options:
1. Provide low ambient controls, wind baffle, and condensate pump.
2. Provide hard wired wall mounted thermostat.
3. Outdoor unit shall be mounted to raised mechanical platform as required by manufacturer and shall be secured in compliance w/ IBC 1609 Wind Load requirements.

Notes:
A. Indoor unit receives power from outdoor unit thru field supplied interconnecting wiring.
B See Sequence of Control
C Daikin has been specified to establish quality.

DUCTWORK INSULATION SCHEDULE

System	Interior Exposed		Interior Concealed		Exterior	
	Round	Rectangular	Round	Rectangular	Round	Rectangular
MAU-1 Supply	-	-	Type 1, 6	Type 7	-	8

Insulation Types

1. Fiberglass Blanket, 2" thick., FSK
2. Fiberglass Blanket, 3" thick., FSK
3. Rigid Fiberglass Board, 1" thick., ASJ
4. Rigid Fiberglass Board, 2" thick., FSK
5. Semi-Rigid Fiberglass Board, 1-1/2" thick., ASJ
6. Insulated Flexible Duct
7. Duct Liner
8. KoolDuct Non-Fibrous Closed Cell Foam (Min. R-8)

Notes:
1. Refer to the Specifications for additional insulation details and requirements
2. Round drops from the unit boot connections shall be hard duct with no more than 5'-0" of flexible duct.
3. Double Wall duct shall be paint grip material. Coordinate with Owner/Architect for color selection.

EXHAUST FAN SCHEDULE

Mark	EF-1	EF-2	EF-3	EF-4	EF-5	EF-6	EF-7	EF-8
Location	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Abv. Ceiling	Ceiling
Serving	Ground Floor RR	Lockers	Shower	Men RR	Women RR	Janitor Closet	Lab	Break
Fan Type	Ceiling Cabinet	Ceiling Cabinet	Ceiling Cabinet	Ceiling Cabinet	Ceiling Cabinet	Ceiling Cabinet	Centrifugal Inline	Ceiling Cabinet
Blade Type	FC	FC	FC	FC	FC	FC	BI	FC
Drive	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
CFM	120	30	50	70	70	50	430	100
HP (Watts)	(41.3)	(30)	(30)	(30)	(30)	(30)	1/8	(37.8)
Static Pressure, In WG	.25	.25	.25	.25	.25	.25	.25	.25
RPM	1010	734	734	734	734	734	1200	890
Sones	2.0	8	8	8	8	8	6.3	1.5
Volt/Phase	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60
Basis of Design								
Manufacturer	Cook	Cook	Cook	Cook	Cook	Cook	Cook	Cook
Series	Gemini	Gemini	Gemini	Gemini	Gemini	Gemini	SQND	Gemini
Model	GC-148	GC-148	GC-148	GC-148	GC-148	GC-148	90SQN12D	GC-148
Accessories	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5	1, 2, 3, 4	1, 2, 3, 4, 5, 6
Notes	A, C	A, B	A, C	A, C	A, C	A, B	A, B	A, D

Accessories:
1. Provide a factory mounted prewired service disconnect
2. Provide a factory mounted prewired fan speed controller
3. Provide rubber in shear vibration isolation kit.
4. Provide a backdraft damper
5. Provide deluxe white aluminum grille.
6. Provide time delay switch.

Notes:
A. See Sequence of Control
B. Fan shall run continuous.
C. Fan shall be interlocked with lights.
D. Fan shall be controlled via wall mounted switch.

ROOF CAP SCHEDULE

Mark	Function	Unit Serving	CFM	Throat Area, SF	Face Area, SF	Weight	Construction	Finish	Manufacturer	Cap Model	Notes
RC-1	Relief	EF-2, 3, 4, 5, 6, & 8	370	0.852	2.04	30	16 Ga. Marine Alloy Aluminum	Kynar	Cook	PR-12	As Listed
RC-2	Relief	EF-7	430	0.852	2.04	30	16 Ga. Marine Alloy Aluminum	Kynar	Cook	PR-12	As Listed

Notes:
1. Provide a factory prefabricated roof curb with wood nailer and thermal insulation.
2. Cap and curb to have Kynar finish.
3. Provide a stainless steel bird screen.

Condensate Drain Sizing

Pipe Size	Load in Tons
3/4"	Up To 2 Tons
1"	Up to 5 Tons
1-1/4"	Up to 30 Tons
1-1/2"	Up to 50 Tons
2"	Up to 175 Tons
3"	Up to 300 Tons

Notes:
1. All condensate drains below slab or grade to be a minimum of 2"
2. Where slope is less than 1" per foot, increase values by one pipe size.
3. Where unit condensate drains are combined, the pipe size shall be for the combined tonnage of the units.
4. Where unit or combined unit tonnage exceeds 300, the pipe size shall be 4"

ELECTRIC UNIT HEATER SCHEDULE

Mark	EUH-1
Location	Ground Floor Restroom
kW	3
MBH	10.2
Volt/Phase	208/1
Amps	14.4
Control Voltage	-
Mounting	
Type	Ceiling
Configuration	Surface Mount
Height AFF	Min. 12'-0"
Temp Rise °F	-
CFM	150
Throw, ft	-
Basis of Design	
Manufacturer	Berko
Model	QFF4004
Accessories	5
Notes	-

Accessories:
1. Provide built in on/off switch, overheat protection, automatic fan delay, heavy duty 14-gauge front cover w/ tamper resistant screws, & built in thermostat.

COORDINATION AMONG TRADES

The Civil Contractor, General/Structural Contractor, Fire Protection Contractor, Plumbing Contractor, Mechanical Contractor and Electrical Contractor shall coordinate with each other to determine the space required by, the location of, and the routing of their required respective structural members, beams, footing pours, piping, ductwork, conduits, etc. A jointly created scaled shop drawing at a minimum scale of 1/8" per 1'-0" with dimensions confirming their coordination and installation locations shall be submitted for approval prior to any installation. The minimum sheet size shall be 24" X 36". Failure to coordinate does not constitute a change order when components will not fit within the allocated space and may result in installed equipment and materials being removed at the contractor's expense.

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					APPROVED

MECHANICAL SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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SEQUENCE OF CONTROL

The Electrical Contractor shall furnish and install all wall boxes and rigid conduit in all walls for all thermostats, sensors, and other wall mounted devices. The Mechanical/Controls Contractor shall coordinate with the Electrical Contractor for the installation, location and quantity of these boxes. The Mechanical/Controls Contractor shall provide and install wiring in conduit and boxes installed by the Electrical Contractor. The Mechanical/Controls Contractor shall install all rigid conduit, boxes and wire for control devices installed in unfinished areas pending approval from the Architect that conduit, boxes and wire will be allowed to be exposed. These shall be installed in accordance with Division 16 and the box locations shall be coordinated with All Trades.

All control wiring shall be shielded cable. All control wire sheathing shall be one color, orange, or as directed by the Owner's representative.

Controls shall be factory installed controls provided w/ equipment. Provide remote display similar to Daikin ITM or approved equal in mech/janitor room to moniter all available points for MAU and VRV systems.

System

Makeup Air Unit (MAU-1)
The unit shall run continously to provide required make-up air to the facility, the outside air damper shall open and the factory installed controls shall operate the unit as required in order to maintain the cooling coil discharge air set point of 55◦F anytime the outside air dewpoint is above 55°F. Anytime the outdoor air dewpoint falls below 55°F, the unit shall modulate the heating sequence to deliver 70◦F (adj.) air to the space.

If the room humidity rises above 55% the unit shall enable cooling & the hot gas reheat coil shall operate as required to maintain the discharge set-point temperature.

VRV Ductless Split Systems
System shall be operated and controlled by the factory mounted controls.

Exhaust Fans EF-1, 3, 4, & 5
Exhaust fans shall be energized with the light switch. When the light switch is turned off, a time delay switch shall keep the fan energized for 15 minutes.

Exhaust Fans EF-2 (Lockers) & EF-6 (Janitor)
Exhaust fan shall run continuously during occupied periods.

Exhaust Fans EF-7 (LAB)
Exhaust fan shall run continuously during occupied periods except for when the fume hood exhaust fan is enabled on. When the fume hood is energized a relay shall de-energize exhaust fan EF-7. When the lab hood is de-energized, the EF-7 shall be energized.

MECHANICAL DEVICES & NOTES

1 All equipment on raised platform shall have a complete perimeter steel support system. Base rail shall be secured to the steel on all sides as designed by curb manufacturer by professional engineer in the state of Alabama. Consult with the equipment manufacturer for maximum spacing requirements of the screws to achieve IBC 1609 Wind Loading requirements. When an approved installation of the curb and steel is completed, the equipment must be secured in a tested and approved manner. Screw attachments as required by fans and similar caps must be secured to the curb with a submitted and approved attachment procedure from the manufacturer. Equipment with base rails must have seismic clip installations. Clips must be submitted and approved, including spacing and attachment requirements.

2 Condensate drains shall be supported at proper intervals & at all elbows to prevent sagging. Minimum main condensate drain pipe size shall be 1-1/4". The Mechanical Contractor will determine which is closest for routing of the drain. Provide S.S. strut clamp. Fan coil unit condensate drain connections to the condensate gravity drain piping shall have a 90° connection to the top of the main piping.

3 Structural steel furnished for equipment or piping support shall be cleaned and coated with two coats of rust inhibiting primer. Where pre-primed steel is used, primer shall be applied over the cut ends. All welded steel shall be wire brushed to remove any scale, ground smooth where necessary and then primed. Where structural support steel is provided for by Structural Drawings, coordinate with the steel installer with dimensions of all curbs prior to the installation.

4 All above ceiling mounted equipment and powered devices shall be mounted no greater than 24" above the ceiling level and in an accessible location for service and routine maintenance. Equipment shall include but not be limited to all indoor HVAC equipment with or without filters, fans, motorized control dampers, remote control panels, transformers and like devices

5 Mechanical Contractor shall coordinate the location of all air terminals & cassettes w/ the architectural ceiling plan and other disciplines.

6 Mechanical Contractor shall be responsible for installing a roll type filter media over any return grilles or open return ducts as a temporary measure to block infiltration of construction dust and debris into any active returns serving existing or new HVAC systems until the completion of construction. Any tape or clips used to secure the media shall not leave permanent marks on the grilles.

7 Exterior duct supports shall be Miro Industries DS duct supports w/ polycarbonate base and hot dip galvanized metal parts. Support pads shall be installed below base. Maximum loading not to exceed 335 lbs/base. Recommended spacing is not to exceed 8' centers depending on load. Coordinate w/ Miro Industries to provide supports with the exact width and height needed.

8 Exposed ductwork shall be Ductmate lined with KoolDuct non-fibrous closed cell foam insulation (min. R-8) with aluminum surface. Insulation to meet UL 181 and UL 723 25/50 flame/smoke rating. All seams & joints shall be sealed weathertight using appropriate materials and methods approved to withstand high/low temperatures and resistant to ultraviolet rays.

9 All mechanical equipment, supports, piping, etc. shall be coated w/ anti-corrosion to combat & provide maximum resistance to corrosion from saltwater environment.

10 All refrigerant systems shall also be tested in accordance with ASHRAE Standard 15

GRILLE, REGISTER AND DIFFUSER SCHEDULE

Mark	Description	Mounting	Material	Finish	Max NC Rating	Basis of Design		Accessories / Notes
						Manuf.	Model	
CD-1	Ceiling Diffuser Square Louvered Face Square Neck	Lay-In	Aluminum	See Architect	30	Titus	TDCA-AA	Border Type 3 Sq. to Rnd. Adaptor
CD-2	Ceiling Diffuser Square Louvered Face Square Neck	Surface	Aluminum	See Architect	30	Titus	TDCA-AA	Border Type 1 Sq. to Rnd. Adaptor
RG-1	Return Grille Square Louvered Face Square Neck	Lay-in	Aluminum	See Architect	30	Titus	350FL	Border Type 3 35° Deflection
EG-1	Exhaust Grille Square Louvered Face Square Neck	Surface	Aluminum	See Architect	30	Titus	350FL	Sq. to Rnd. Adaptor Border Type 3 35° Deflection

Notes:
1. Titus has been specified to establish the type and quality of air device to be installed. Equals by Price or Tuttle & Bailey will be considered.
2. Air devices that are ceiling cut-in type shall be centered in the tile or at the quarter points as indicated on the drawings.
3. Ceiling mounted louvered return grilles shall be installed with the blades pointed toward the closest wall so that the blades form a view block.
4. Wall mounted return grilles shall be installed with the blades pointing toward the floor or ceiling, whichever is nearest, so that the blades form a view block.
5. Internal portion of duct, including square to round adapter, attached to supply, return, exhaust and transfer grilles shall be blacked out with a dull finish, non-toxic, DTM paint.
6. Submit a color chart for the Architects selection of the device color.

VENTILATION SIZING SUMMARY

Zone Name / Space Name	Mult.	Supply Air (CFM)	Floor Area (ft²)	Required Outdoor Air (CFM/ft²)	Time Averaged Occupancy	Required Outdoor Air (CFM/person)	Air Distribution Effectiveness	Required Outdoor Air (CFM)	Uncorrected Outdoor Air (CFM)	Space Ventilation Efficiency
MAU-1 (100% O.A.)										
Office	1	189	154	0.06	1	5	1.0	**14**	*14*	1.000
Break	1	366	259	0.06	8	5	1.0	**56**	*56*	1.000
Conference	1	520	390	0.06	16	5	1.0	**103**	*103*	1.000
Lab	1	472	352	0.18	8	10	1.0	**143**	*143*	1.000
Control Room	1	442	389	0.06	3	5	1.0	**40**	*40*	1.000
Storage/Map Room	1	232	218	0.06	1	5	1.0	**18**	*18*	1.000
Corridor	1	139	355	0.06	0	0	1.0	**21**	*21*	1.000
Hall	1	44	72	0.06	0	0	1.0	**4**	*4*	1.000
Lockers/Laundry	1	190	126	0.12	2	5	1.0	**25**	*25*	1.000
Men	1	25	52	0	0	0	1.0	**0**	*0*	1.000
Women	1	26	55	0	0	0	1.0	**0**	*0*	1.000
Show er	1	27	50	0	0	0	1.0	**0**	*0*	1.000
Totals (incl. Space Multipliers)								**424**	*424*	

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MIMS ENGINEERING INC.
CONSULTING ENGINEERS
112 SOUTH SIDE SQUARE, SUITE B
HUNTSVILLE, AL. 35801
PHONE: (256) 881-4126
FAX: (256) 880-4743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 15067
JEFFREY KEVIN MIMS
8/2/2024

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MECHANICAL SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

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PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	CONNECTION SIZES				REMARKS
		WASTE	VENT	CW	HW	
P1	ADA ACCESSIBLE WATER CLOSET, FLOOR MOUNTED, TANK TYPE	4"	2"	1/2"		
P1A	ADA ACCESSIBLE WATER CLOSET, FLOOR MOUNTED, TANK TYPE	4"	2"	1/2"		
P2	ADA ACCESSIBLE LAVATORY, WALL HUNG. BATTERY OPERATED SENSOR FAUCET WITH THERMOSTATIC MIXING VALVE (TMV-1) AT 110°F MAX. DISCHARGE TEMP.	1-1/2"	1-1/2"	1/2"	1/2"	
P2A	ADA ACCESSIBLE LAVATORY, WALL HUNG. SINGLE LEVER MANUAL FAUCET WITH THERMOSTATIC MIXING VALVE (TMV-1) AT 110°F MAX. DISCHARGE TEMP.	1-1/2"	1-1/2"	1/2"	1/2"	
P3	ADA ACCESSIBLE, (BREAK ROOM) DOUBLE BOWL STAINLESS STEEL COUNTER MOUNTED SINK WITH DISPOSER AND THERMOSTATIC MIXING (TMV-1) AT 119°F MAX. DISCHARGE TEMP	2"	1-1/2"	1/2"	1/2"	
P4	ADA, SHOWER AND TRIM (SHOWER ENCLOSURE SPECIFIED BY ARCHITECT INSTALLED BY PLUMBING CONTRACTOR). THERMOSTATIC MIXING VALVE SET AT 120°F MAX. DISCHARGE TEMP	2"	1-1/2"	1/2"	1/2"	
P5	MOP SINK, FLOOR MOUNTED TERRAZZO WITH SERVICE FAUCET	3"	1-1/2"	3/4"	3/4"	
P6	ADA ACCESSIBLE, SINK, SINK PROVIDED UNDER OTHER DIVISION AND INSTALLED UNDER DIV 22. DIVISION 22 TO PROVIDE FAUCET AND ALL TRIM WITH THERMOSTATIC MIXING VALVE (TMV-1) AT 110°F MAX. DISCHARGE TEMP	2"	1-1/2"	1/2"	1/2"	ACID WASTE & VENT
P7	ADA ACCESSIBLE, DOUBLE BOWL SINK, PROVIDED UNDER OTHER DIVISION AND INSTALLED UNDER DIV 22. DIV. 22 TO PROVIDE FAUCET AND ALL TRIM WITH THERMOSTATIC MIXING VALVE (TMV-1) AT 110°F MAX. DISCHARGE TEMP	2"	1-1/2"	1/2"	1/2"	ACID WASTE & VENT
P8	EMERGENCY SHOWER/EYE WASH. THERMOSTATIC MIXING (TMV-2) SET AT 85°F MAX. DISCHARGE TEMP	2"	1-1/2"	1-1/2"	1"	ACID WASTE & VENT
P9	ADA ACCESSIBLE, DUAL ELECTRIC WATER COOLER, PUSH BAR OPERATION WITH BOTTLE FILLER STATION SENSOR OPERATED. SEE ARCH. FOR MOUNTING HEIGHT REQT'S. SECURE TOP & BOT. OF FIXTURE TO CARRIER	1-1/2"	1-1/2"	1/2"		
P10	ADA, SHOWER, TRIM (ENCLOSURE BY OTHERS) THERMOSTATIC MIXING VALVE SET AT 120°F MAX. DISCHARGE TEMP	2"	1-1/2"	1/2"	1/2"	
FD1	FLOOR DRAIN, PROVIDE TRAP GUARD INSERT AND TRAP PRIMER	3"	1-1/2"			
FD2	ACID WASTE FLOOR DRAIN. PROVIDE TRAP PRIMER AND TRAP GUARD AND TRAP PRIMER	4"	2"			ACID WASTE & VENT
FD3	FLOOR DRAIN, PROVIDE TRAP GUARD INSERT	2"	1-1/2"			
HD1	HUB DRAIN, PROVIDE TRAP GUARD INSERT AND TRAP PRIMER	2"	1-1/2"			
HD2	HUB DRAIN. PROVIDE TRAP PRIMER AND TRAP GUARD AND TRAP PRIMER	4"	2"			
IMVB	ICE MACHINE VALVE BOX, RECESSED BOX WITH VALVE			1/2"		
WHB1	WALL HYDRANT BOX, FREEZE PROOF			3/4"		
WMVB	WASHING MACHINE VALVE BOX	2"	1-1/2"	3/4"	3/4"	

NOTES:
1. COORDINATE MOUNTING HEIGHT OF ALL WALL MOUNTED FIXTURES WITH THE ARCHITECTURAL DRAWINGS.

WATER HEATER SCHEDULE

MARK	APPROXIMATE LOCATION	MIN. STOR. CAP. (GAL.)	MIN. REC. (GPH)	DISC. TEMP. DEG F	TEMP. RISE DEG F	ELECTRICAL		NATURAL GAS			REMARKS
						TOTAL KW	VOLTS/ PHASE	CFH	PRESS. IN. W.C.	FLUE SIZE	
EWH-1	JAN	80	71	140	70 DEG	12.1	480/3	--	--	--	RHEEM ELD80-12.1

REMARKS:
1. PROVIDE 12" STAND FOR WATER HEATER. REFER TO DETAILS SHEETS.

EXPANSION TANK SCHEDULE (ET)

MARK	SERVICE	HEATER TANK SIZE (GALLONS)	CONNECTION SIZE	MAX. PRESSURE (PSIG)	LOCATION	REMARKS
ET-1	DOMESTIC HOT WATER	80	3/4"	90	JAN (EWH-1)	1

REMARKS:
1. AMTROL THERM-X-TROL ST-12C ASME-STAMPED, DIAPHRAGM TYPE

MIXING VALVE SCHEDULE

MARK	LOCATION	MIN. FLOW GPM	ΔP PSI MAX	MIXED WATER TEMP.	REMARKS
TMV-1	ALL LAVATORIES & SINKS	0.25	5	109°F	1
TMV-2	P8	1-8	5	85°F	SEE FIXTURE SPECIFICATION

REMARKS:
1. POINT OF USE THERMOSTATIC MIXING VALVE WITH MOUNTING BRACKET AND INTEGRAL CHECK VALVE LEONARD MODEL 270-LF-BRKT OR APPROVED EQUAL. REQUIRED TO BE INSTALL ABOVE CEILING (NOT SHOWN ON PLANS) FOR FIXTURES. CONTRACTOR MAY ADD ADDITIONAL FIXTURES TO TMV BUT IS REQUIRED TO SELECT/PROVIDE APPROPRIATE SIZE VALVE MODEL 370-LF-BRKT OR AS REQUIRED PER MANUFACTURER.
2. PROVIDE THERMOSTATIC MIXING VALVE FOR ONE EMERGENCY SHOWER/EYE WASH STATION AS SUPPLED BY FIXTURE MANUFACTURER. SEE SPEC 22 11 10.
3. NOTE: SHOWERS TO BE SETA T120°F VIA THERMOSTATIC SHOWER VALVE.

WATER HAMMER ARRESTOR SCHEDULE

MARK	MANUFACTURER	MODEL	SIZE	FIXTURE UNIT CAPACITY	CONNECTION SIZE
SA-A	ZURN	Z-1700	100	1 - 11	3/4"
SA-B	ZURN	Z-1700	200	12 - 32	3/4"

NOTES:
1. WATER HAMMER ARRESTORS HAVE BEEN SHOWN GENERALLY ON THE PIPING DIAGRAMS. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL ARRESTORS AS NECESSARY CONFORMING TO IPC, LOCAL CODE AND THE MANUFACTURER'S INSTALLATION REQUIREMENTS BASED ON THE LENGTH OF PIPE AND THE TOTAL QUANTITY OF FIXTURE UNITS ON EACH BRANCH LINE.
2. ZURN SHOKTROLS ARRESTORS HAVE BEEN SPECIFIED. EQUAL ARRESTORS SHALL BE WATTS SS STAINLESS STEEL SERIES OR JAY R. SMITH HYDROTROLS.
3. ARRESTORS SPECIFIED ARE RATED FOR THE REQUIRED TEST PRESSURES OF THE HOT AND COLD WATER PIPING SYSTEMS. ALL ARRESTORS SHALL BE INSTALLED WHEN PIPING IS TESTED.

ACID NEUTRALIZATION TANK SCHEDULE (ANT)

MARK	CAPACITY	CONNECTION INLET SIZE	CONNECTION OUTLET SIZE	INTERIOR TANK DIMENSIONS		REMARKS
				DIAMETER	HEIGHT	
ANT-1	150 GALLONS	4"	4"	30"	44"	1

REMARKS:
1. TOWN & COUNTRY NTB-150 WITH OPTIONAL VENT CONNECTION. PROVIDE OPTIONAL H20 TRAFFIC COVER WITH RISER/EXTENSION.

SUMP PUMP SCHEDULE (SP)

MARK	LOCATION	SERVICE	TYPE OF PUMP	FLOW GPM	HEAD FEET	RPM	ELECTRIC		REMARKS
							HP	SERVICE V/ϕ	
SP-1	ELEVATOR	SUMP PIT	SUBMERSIBLE	65	8	3600	0.50	120/1	1,2,3

REMARKS:
1. STANCOR SE50A WITH CB1000-1 CONTROL SYSTEM - SEE SPECIFICATIONS AND DETAIL. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR, TYPICAL. DO NOT INSTALL IN ELEVATOR PIT.
2. SYSTEM SHALL BE CONNECTED TO EMERGENCY GENERATOR WHEN AVAILABLE.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
FFE	FINISH FLOOR ELEVATION
INV EL	INVERT ELEVATION
	EXISTING PIPING TO BE ABANDONED IN PLACE
	EXISTING PIPING OR EQUIPMENT TO REMAIN
	ELBOW UP, DOWN
	TEE UP, DOWN
	GATE VALVE - HORIZ., VERT.
	SPRING OR SILENT CHECK VALVE
	BALL VALVE
	UNION
AVTR AV	ACID WASTE VENT AND ACID WASTE VENT THRU ROOF
AW	ACID WASTE
CW	COLD WATER
CW	COLD WATER WITH HEAT TAPE (FREEZE PROTECTION)
HW	HOT WATER WITH HOT WATER MAINTENANCE CABLE (140°F)
PD	PUMPED DISCHARGE
SAN	SANITARY WASTE
VTR V	SANITARY VENT AND VENT THRU ROOF
FCO WCO	CLEANOUT - FLOOR, WALL (YCO -YARD)
FD1	FLOOR DRAIN WITH TRAP GUARD & TRAP PRIMER
HD	HUB DRAIN WITH TRAP GUARD & TRAP PRIMER
SA-A	SHOCK ABSORBER WITH SIZE (PROVIDE AP WHERE REQUIRED)
P1	PLUMBING FIXTURE DESIGNATION
IMVB	ICE MAKER VALVE BOX
WHB	WALL HYDRANT BOX

GENERAL PLUMBING NOTES:

1 ALL EQUIPMENT AND PIPING SHALL BE INSTALLED IN COMPLIANCE WITH ALL LOCAL CODES.

2 ALL INTERIOR FLOOR DRAINS, HUB DRAINS, FLOOR SINKS AND OPEN RECEPTACLES WITH TRAPS SHALL BE PROTECTED BY A TRAP GUARD (SEE SPECIFICATIONS AND PLANS FOR LOCATION)

3 WATER LINES SHALL NOT BE ROUTED ABOVE ANY ELECTRICAL ROOM, ELECTRICAL PANELS, COMMUNICATION OR TELEPHONE ROOMS.

4 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH OTHER CRAFTS TO MINIMIZE SPATIAL CONFLICTS.

5 ALL PIPING ENTERING AND LEAVING STRUCTURES BELOW GRADE, THROUGH FOUNDATION, BELOW FOOTINGS OR FIRE WALLS SHALL BE SLEEVED AND PACKED AS REQUIRED BY LOCAL AUTHORITIES AND PER A UL RATED ASSEMBLY. ALL SLEEVES ARE NOT INDICATED ON DRAWINGS. THIS CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR PRIOR TO ANY WORK FOR ALL INTERIOR FOOTINGS AND HAVE THEM DROPPED AS REQUIRED TO AVOID PIPING CONFLICTS. SLEEVE BELOW INTERIOR FOOTINGS AS REQUIRED (NOT SHOWN ON PLANS IN ALL LOCATIONS).

6 OBTAIN ALL CENTERLINE DIMENSIONS FOR ROUGH-IN FROM ARCHITECTURAL DRAWINGS.

7 CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS BEFORE CONSTRUCTION BEGINS, INCLUDING SEWER INV. ELEV. CONTACT ENGINEER SHOULD DISCREPANCIES OCCUR.

8 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF PIPING BETWEEN BUILDING(S) AND SITE UTILITIES. REFER TO CIVIL DRAWINGS AS REQUIRED.

9 REQUIRED WALL CLEANOUTS MAY NOT BE SHOWN ON PLANS BUT SHALL BE INSTALLED AS REQUIRED IN ACCORDANCE WITH PLUMBING CODE.

10 ALL FLOOR CLEANOUTS (FCO) SHALL BE OFFSET CLOSE TO WALL (NOT CENTERED IN CORRIDOR).

11 PROVIDE STAINLESS STEEL ACCESS PANELS FOR ALL VALVES, SHOCK ABSORBERS CONCEALED IN WALLS THAT ARE NOT PAINTED. FOR PAINTED BLOCK & GYPSUM BOARD WALLS, PRIME AND PAINT TO MATCH SURROUNDING WALL. ACCESS BOXES/COVERS SHALL BE PER SPEC'S.

12 ALL MECHANICAL ROOM FLOOR DRAIN BODIES, TRAPS, AND HORIZONTAL & VERTICAL PIPING FROM SECOND FLOOR SHALL BE INSULATED WITH 1/2" ARMAFLEX. SEE SPEC'S FOR ADDITIONAL INFORMATION.

13 ALL CW, HW, & HWR PIPING LOCATED IN MASONRY WALLS SHALL BE INSULTED WITH ARMAFLEX. SEE SPECIFICATIONS.

14 APPROXIMATE LOCATION OF VTR'S ARE SHOWN ON PLAN, REFER TO RISER DIAGRAMS FOR PIPE SIZES AND APPROXIMATE ROUTINGS FOR ADDITIONAL INFORMATION. VTR'S ARE SHOWN ON PLAN OR RISERS, VENTS NOT SHOWN SHALL BE ROUTED TO NEAREST VTR.

15. ALL EXPOSED VTR'S THAT ARE VISIBLE SHALL BE PAINTED TO MATCH COLOR OF ROOF AND SHALL BE LOCATED ON LEAST VISIBLE SIDE OF STRUCTURE.

16 CONTRACTOR SHALL LIMIT EXPOSED PIPING IN AREAS WITHOUT CEILINGS SUCH AS TOILETS, LOCKER ROOMS, ETC.

17 ALL DOMESTIC HW, CW, & HWR PIPING SHALL BE INSTALLED TO ALLOW ACCESS TO VALVES ABOVE LAY-IN CEILINGS MAINTAIN A MAXIMUM OF 36" ABOVE CEILING. AREAS WITHOUT CEILINGS HOLD PIPE HIGH AS POSSIBLE, PRIME AND PAINT AS DIRECTED BY ARCHITECT.

18. INSTALL BOTTOM OF ALL EXTERIOR WALL HYDRANTS AT 24" ABOVE FINISH GRADE ELEVATION. COORDINATE WITH BRICK OR WALL DETAILING AND ADJUST AS MAY BE REQUIRED.

19 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY UTILITIES COMMITTEE AND COORDINATING THE INSTALLATION AND ALL COST REQUIRED TO COMPLETE:
A) NEW 1.5" DOMESTIC WATER SERVICE TO THE BUILDING AS SHOWN ON FLOOR PLANS. TOTAL DOMESTIC WATER DEMAND IS 35 GPM.
B) NEW SANITARY (INCLUDE IMPACT FEES, ETC.) COORD. WITH CITY AND CIVIL PLANS.
THIS CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING SANITARY, WATER FROM BUILDING TO THE CITY SYSTEMS (SEE CIVIL SITE UTILITIES PLAN).

20 REQUIRED WALL & YARD CLEANOUTS MAY NOT BE SHOWN ON PLANS BUT SHALL BE INSTALLED AS REQUIRED IN ACCORDANCE WITH PLUMBING CODE.

RELEASE FOR BID

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CONSULTING ENGINEERS
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HUNTSVILLE, AL. 35801
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FAX: (256) 880-6743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED No. 15067 PROFESSIONAL 8/2/2024 JEFFREY KEVIN MIMS ENGINEER

NO.	DATE	DESIGNED BY:	DRAWN BY:	REVISION	CHECKED BY:	APPROVED BY:	APVD BY:

PLUMBING LEGEND, NOTES & SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island
ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE SEE LEFT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
DATE 8/2/2024
PROJ. 100200.32
DWG. P-1.0

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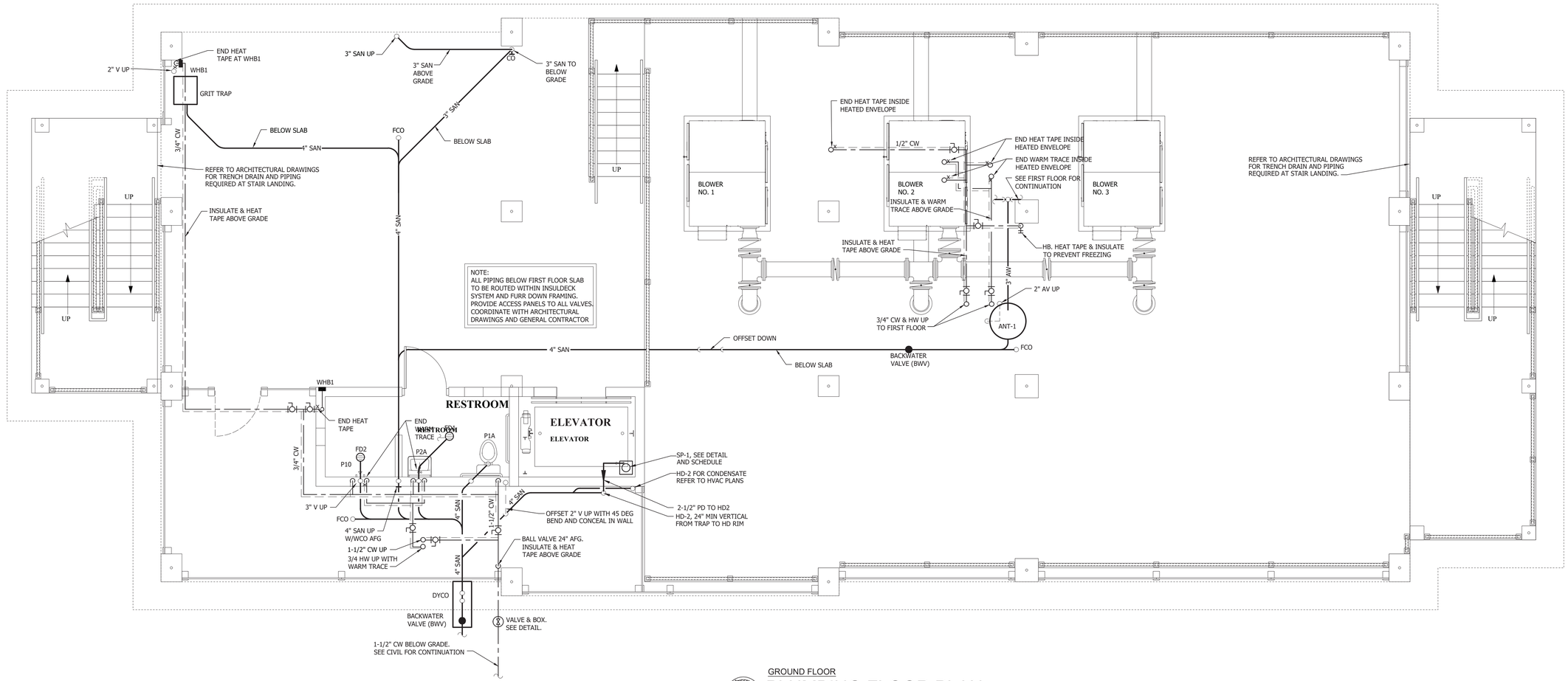

GROUND FLOOR

PLUMBING FLOOR PLAN

SCALE: 1/4" = 1'-0"

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ENGINEER SEAL

ALABAMA LICENSED No. 15067 PROFESSIONAL ENGINEER JEFFREY KEVIN MIMS
8/2/2024

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GROUND FLOOR PLUMBING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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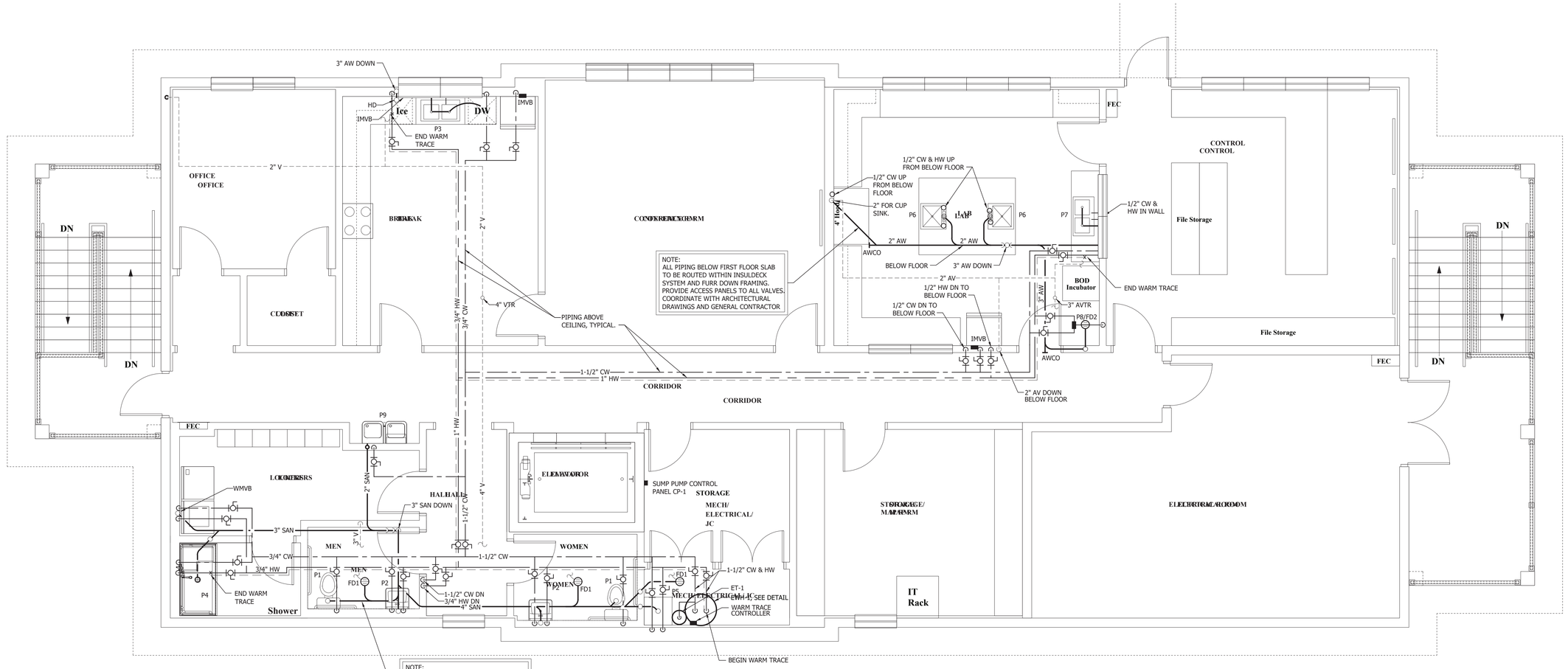

FIRST FLOOR
PLUMBING FLOOR PLAN
SCALE: 1/4" = 1'-0"

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JEFFREY KEVIN MIMS
No. 15067
8/2/2024

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FIRST FLOOR PLUMBING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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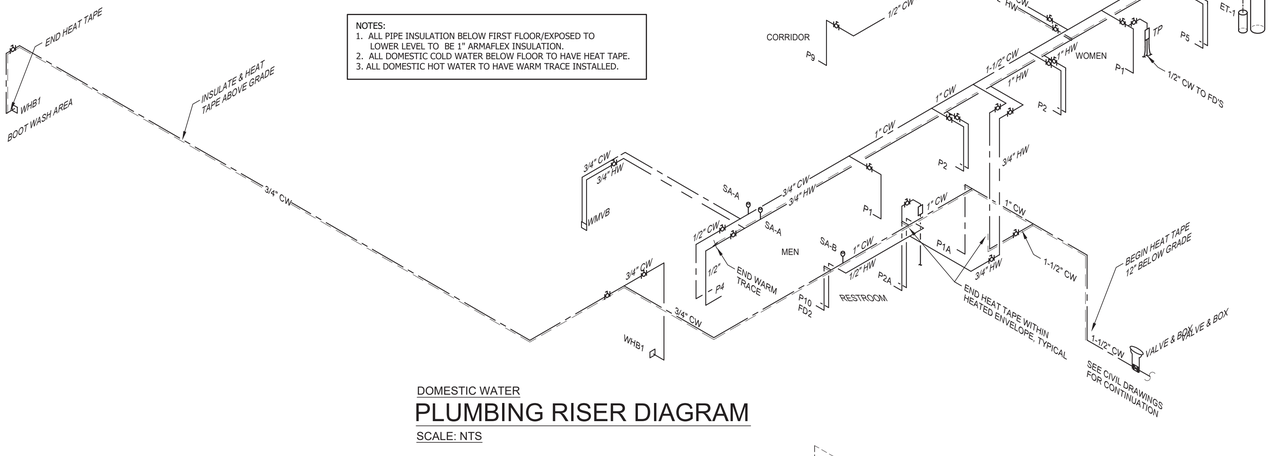
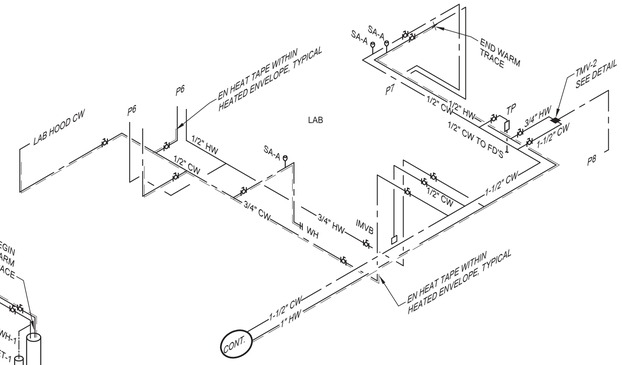
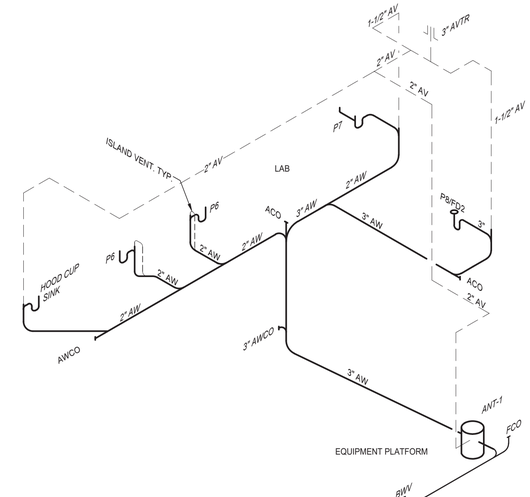
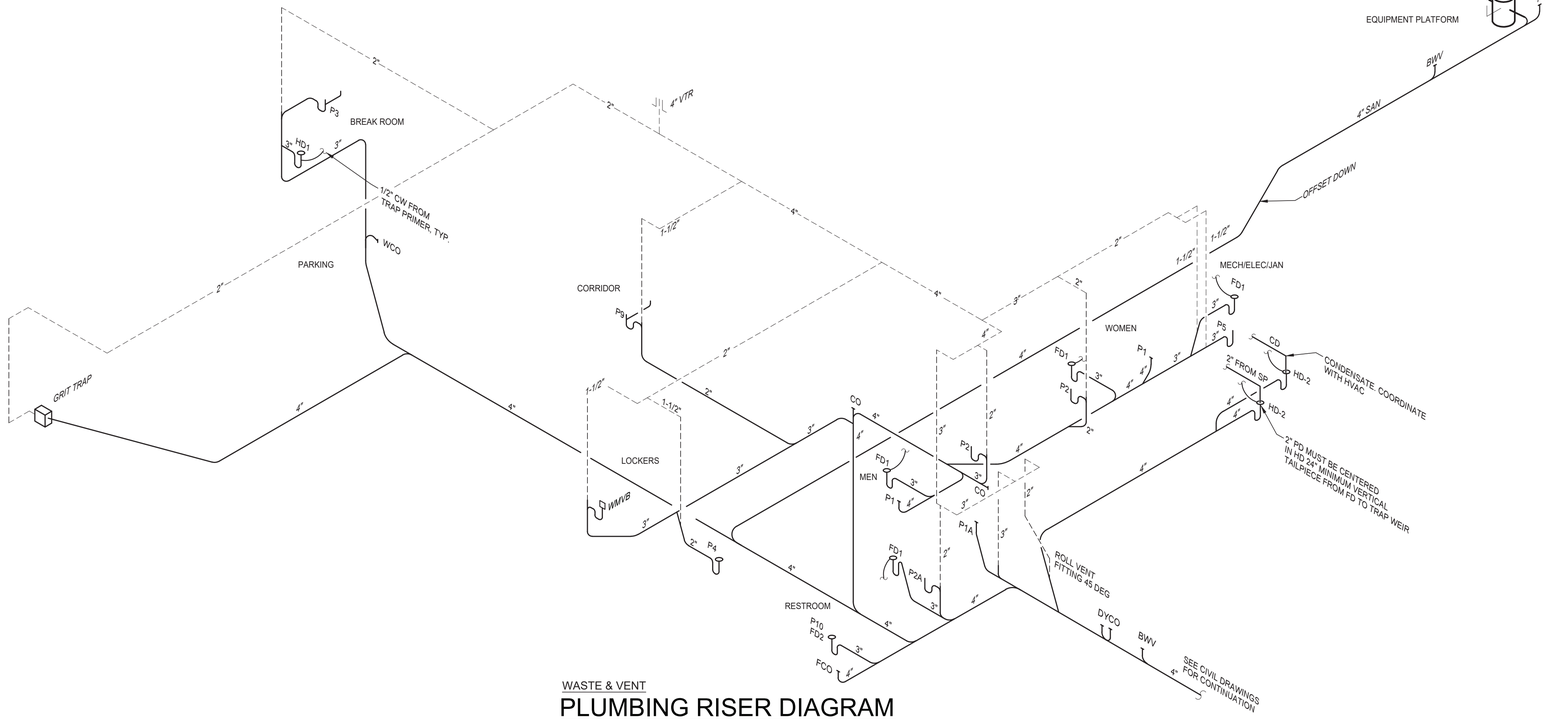


NOTES:
1. ALL PIPE INSULATION BELOW FIRST FLOOR/EXPOSED TO LOWER LEVEL TO BE 1" ARMAFLEX INSULATION.
2. ALL DOMESTIC COLD WATER BELOW FLOOR TO HAVE HEAT TAPE.
3. ALL DOMESTIC HOT WATER TO HAVE WARM TRACE INSTALLED.

DOMESTIC WATER
PLUMBING RISER DIAGRAM
SCALE: NTS







WASTE & VENT
PLUMBING RISER DIAGRAM
SCALE: NTS

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PLUMBING RISERS

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WASTEWATER TREATMENT FACILITY

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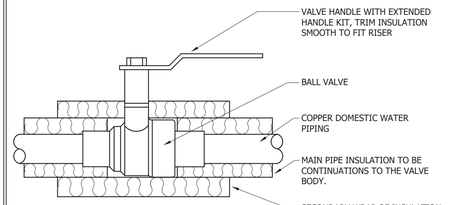
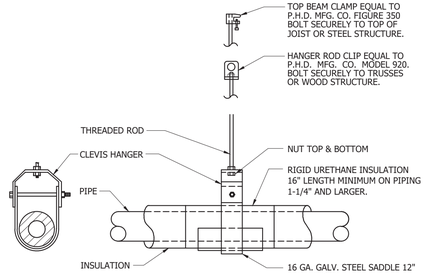


NOTE: PROVIDE ACCESS PANEL WHERE REQUIRED.

HOT & COLD WATER PIPING

SERVICE VALVE DETAIL

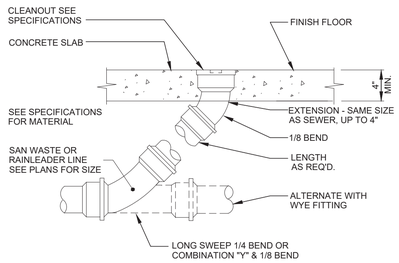
NOT TO SCALE



HOT & COLD WATER

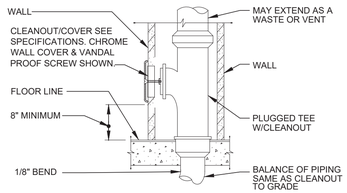
PIPE HANGER DETAIL

NOT TO SCALE



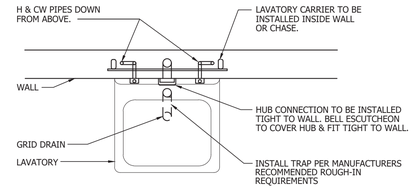
FLOOR CLEANOUT DETAIL

NOT TO SCALE



WALL CLEANOUT DETAIL (WCO)

NOT TO SCALE

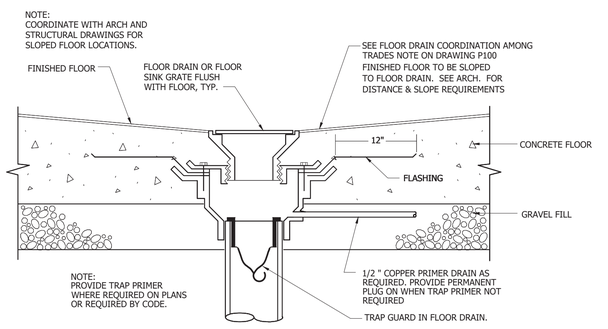


NOTE: INSTALL TMV ABOVE LAY-IN CEILING WHEN AVAILABLE (NOT SHOWN).

HANDICAPPED LAV. WITH SHROUD

PIPE INSTALLATION DETAIL

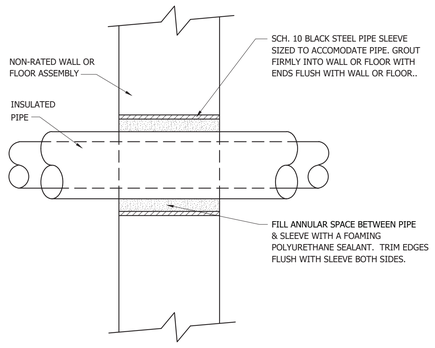
NOT TO SCALE



FLOOR ON GRADE (FLOOR SINK SIMILAR)

FLOOR DRAIN DETAIL (FD)

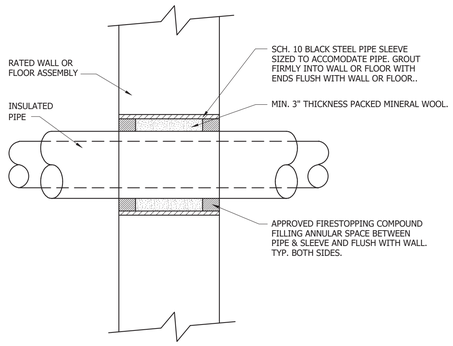
NOT TO SCALE



NON-RATED

PIPE SLEEVE DETAIL

NOT TO SCALE

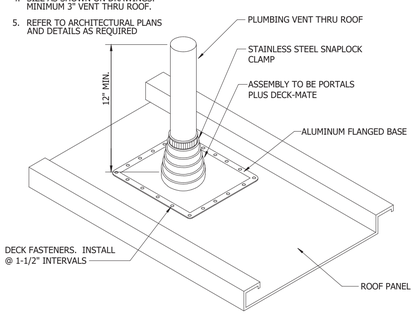


RATED-U.L. LISTED

PIPE SLEEVE DETAIL

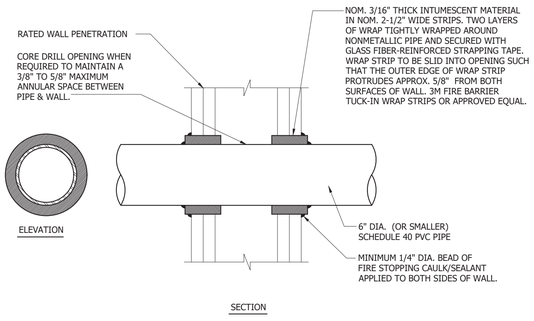
NOT TO SCALE

NOTES:
1. LOCATE VENT STACKS TO MAINTAIN A MINIMUM CLEARANCE OF 15' FROM ANY OUTSIDE AIR INTAKE. COORDINATE WITH MECHANICAL CONTRACTOR
2. COORDINATE FLASHING WITH ARCHITECT AND ROOFING CONTRACTOR
3. PRIME AND PAINT EXPOSED VTR TO MATCH ROOF COLOR
4. SIZE AS SHOWN ON DRAWINGS. MINIMUM 3" VENT THRU ROOF.
5. REFER TO ARCHITECTURAL PLANS AND DETAILS AS REQUIRED



PLUMBING VENT THRU ROOF DETAIL

NOT TO SCALE

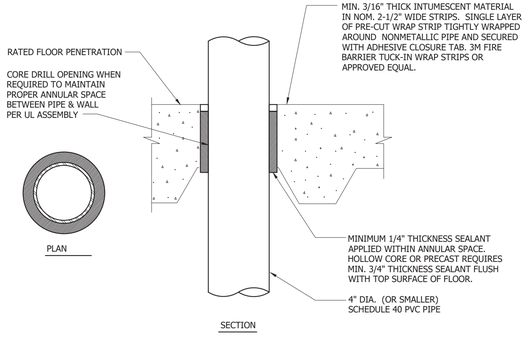


NOTE:
PROVIDE SUBMITTAL DATA FOR ALL UL ASSEMBLIES. WHERE PENETRATIONS VARY FROM THIS DETAIL CONTRACTOR SHALL PROVIDE APPROPRIATE RATED UL ASSEMBLY AS REQUIRED.

PVC PIPE THRU WALL (U.L. LISTED)

FIRE STOPPING DETAIL

NOT TO SCALE

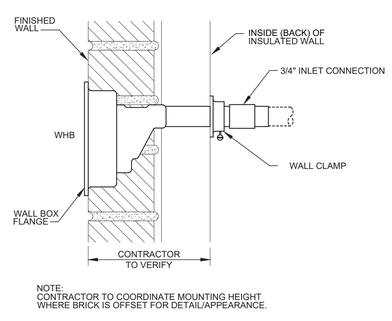


NOTES:
1. PROVIDE SUBMITTAL DATA FOR ALL UL ASSEMBLIES. WHERE PENETRATIONS VARY FROM THIS DETAIL CONTRACTOR SHALL PROVIDE APPROPRIATE RATED UL ASSEMBLY AS REQUIRED.
2. RISER CLAMPS NOT SHOWN BUT REQUIRED.

PVC PIPE THRU FLOOR (U.L. LISTED)

FIRE STOPPING DETAIL

NOT TO SCALE

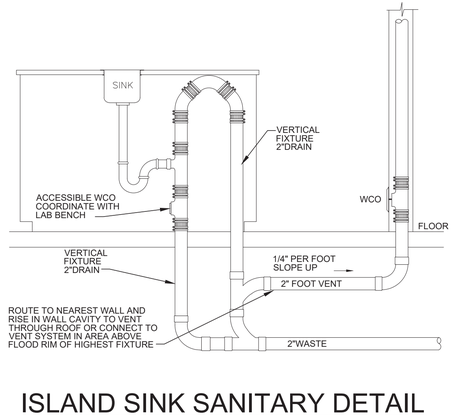


NOTE:
CONTRACTOR TO COORDINATE MOUNTING HEIGHT WHERE BRICK IS OFFSET FOR DETAIL/APPEARANCE.

WHB

FREEZE PROOF WALL HYDRANT BOX

NOT TO SCALE



ISLAND SINK SANITARY DETAIL

NOT TO SCALE

RELEASE FOR BID

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8/2/2024

NO.	DATE	REVISION	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:

PLUMBING DETAILS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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DWG.	P-1.4

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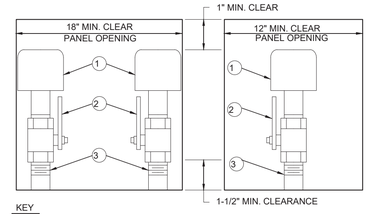


KEY

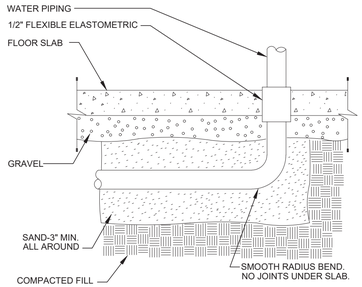
1. WATER HAMMER ARRESTOR
2. BALL VALVE, SAME NOMINAL SIZE AS PIPE BRANCH IN CHASE. OPENING IN BALL VALVE TO MATCH PIPE I.D.
3. PIPE SAME SIZE AS BRANCH IN CHASE TO WHICH IT IS ATTACHED.

NOTE:
PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTOR.

SINGLE AND DOUBLE APPLICATION

TYPICAL WATER HAMMER PANEL INSTALLATION

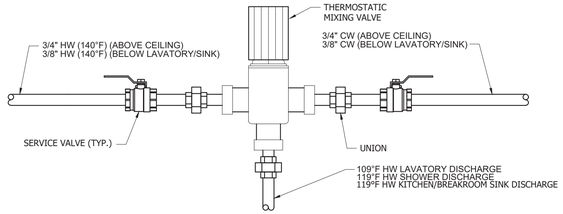
NOT TO SCALE



NOTE: HOT WATER TO BE INSULATED. SEE SPECIFICATIONS.

UNDER SLAB WATER PIPING DETAIL

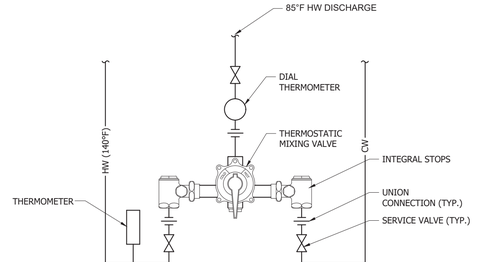
NOT TO SCALE



NOTES:
1) PIPING: COPPER, STANDARD TUBE SIZE.
2) REDUCE CW & HW LINE SIZES AT MIXING VALVE STATION.
5) ALL PIPING TO BE INSULATED PER SPEC'S
6) INSTALL BELOW CABINETS, ABOVE LAY-IN CEILING WHEN AVAILABLE AND LAST OPTION BELOW LAVATORY.
7) ANGLE VALVES CAN REPLACE BALL VALVES WHEN INSTALLED BELOW SINK OR LAVATORY.

THERMOSTATIC MIXING VALVE DETAIL (TMV-1)

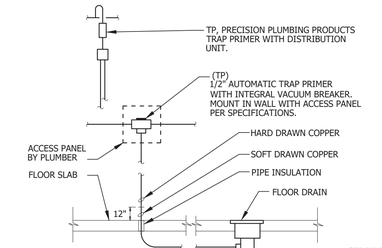
NOT TO SCALE



NOTES:
1) PIPING: COPPER, STANDARD TUBE SIZE.
2) REDUCE CW & HW LINE SIZES AT MIXING VALVE.
3) ALL PIPING TO BE INSULATED PER SPEC'S

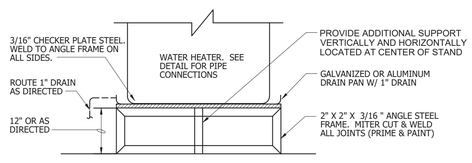
THERMOSTATIC MIXING VALVE DETAIL (TMV-2)

NOT TO SCALE



FLOOR DRAIN TRAP PRIMER

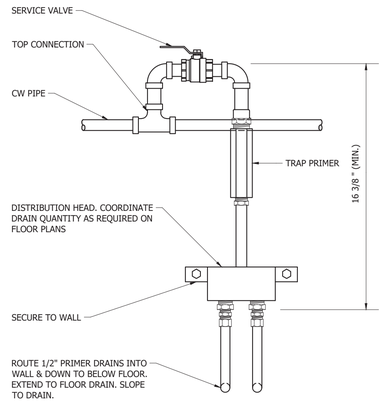
NOT TO SCALE



NOTE:
CONTRACTOR MAY SUBMIT PREFAB STAND THAT SUPPORTS WEIGHT OF 120 GALLON WATER HEATER FILLED.

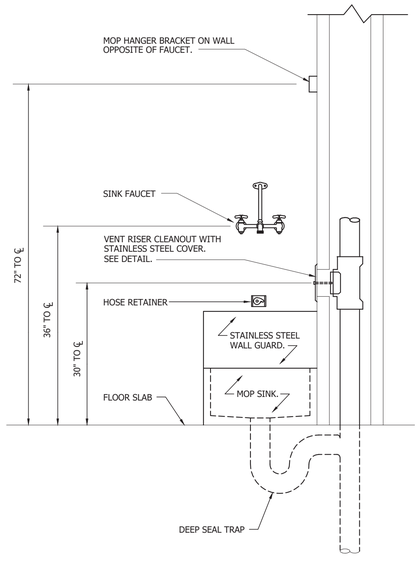
WATER HEATER SUPPORT DETAIL

NOT TO SCALE



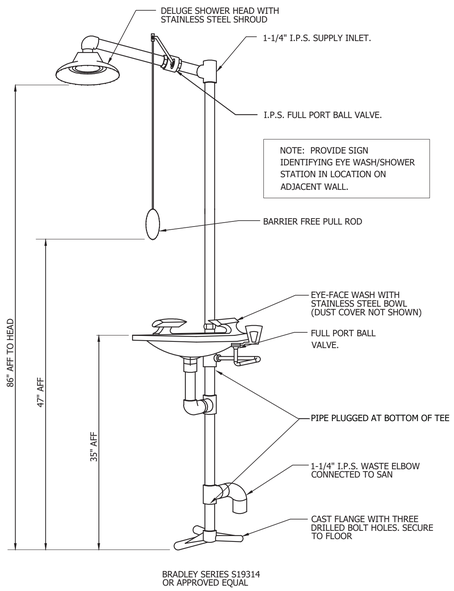
TRAP PRIMER DETAIL

NOT TO SCALE



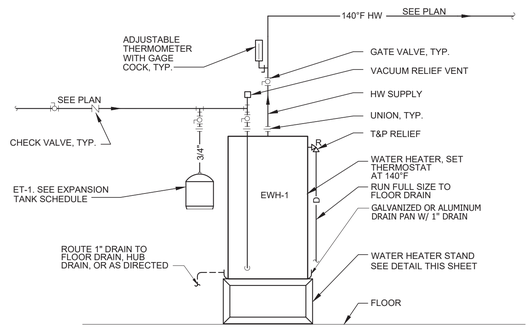
MOP SINK INSTALLATION DETAIL

NOT TO SCALE



EMERGENCY EYE WASH/SHOWER DETAIL

NOT TO SCALE



ELECTRIC WATER HEATER PIPING DETAIL

NOT TO SCALE

RELEASE FOR BID

MIMS ENGINEERING INC.
CONSULTING ENGINEERS
112 SOUTH SIDE SQUARE, SUITE B
HUNTSVILLE, AL. 35801
PHONE: (256) 881-4126
FAX: (256) 880-4743
WWW.MIMSENGINEERING.COM

ENGINEER SEAL
ALABAMA LICENSED
No. 15067
PROFESSIONAL
8/2/2024
JEFFREY KEVIN MIMS
ENGINEER

NO.	DATE	REVISION	DRAWN BY:	CHECKED BY:	APPROVED BY:	APV'D BY:
DESIGNED BY:						

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WASTEWATER TREATMENT FACILITY

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ENGINEER SEAL

ALABAMA LICENSED No. 15067 PROFESSIONAL ENGINEER JEFFREY KEVIN MIMS
8/2/2024

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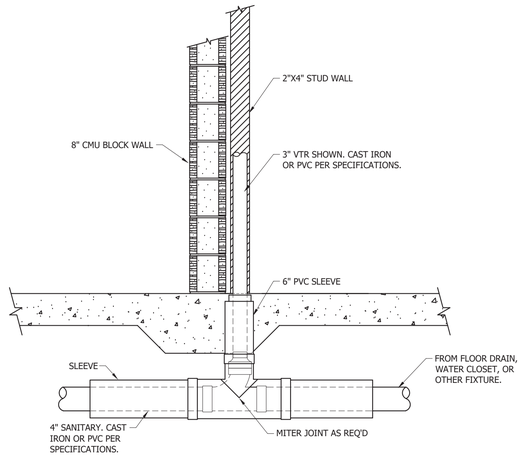
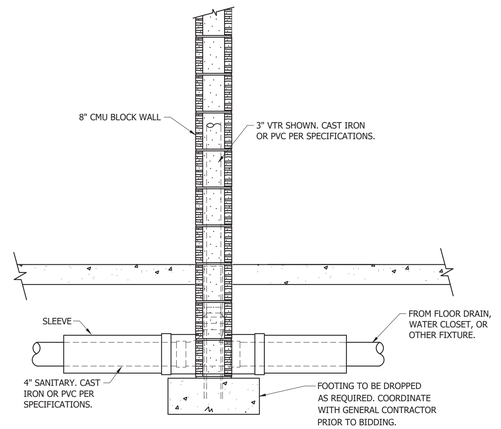
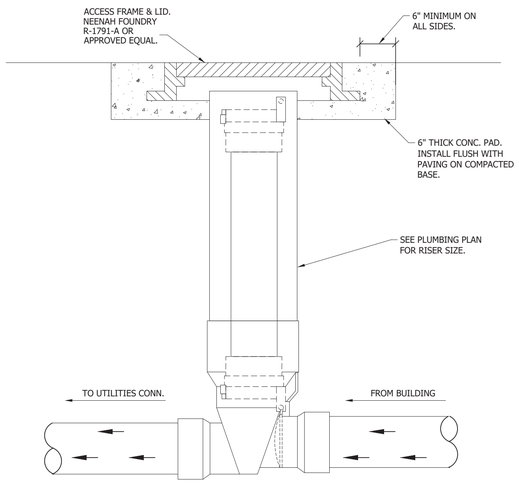




NOTES:
1. SLEEVES ARE NOT SHOWN ON FLOOR PLANS BUT ARE REQUIRED AT ALL FOUNDATION WALLS.
2. SLEEVES SHALL BE 2 PIPE SIZES LARGER THAN THE SANITARY OR VENT PIPE.
3. INSTALLATION TO ALLOW FOR RELIEVING ARCH WHERE PIPES PASS THRU OR UNDER FOOTINGS
4. SLEEVE SHALL BE GALV. STEEL PIPE OR CAST IRON FOR LOAD BEARING WALLS. PVC WILL BE ALLOWED ON NON-LOAD BEARING WALLS.
5. STONE BACKFILL NOT SHOWN IS REQUIRED. FULL DEPTH OF TRENCH.

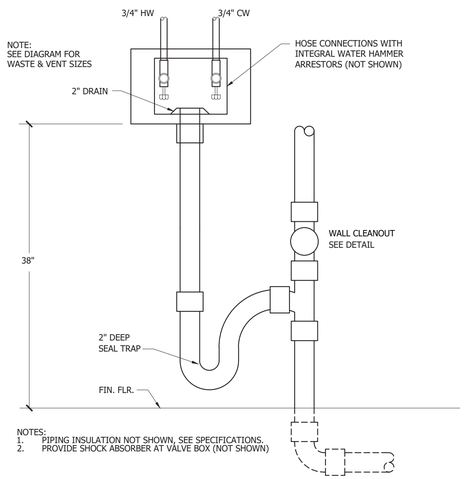
RELIEVING ARCH DETAILS

NOT TO SCALE



BACKWATER VALVE DETAIL (BWV)

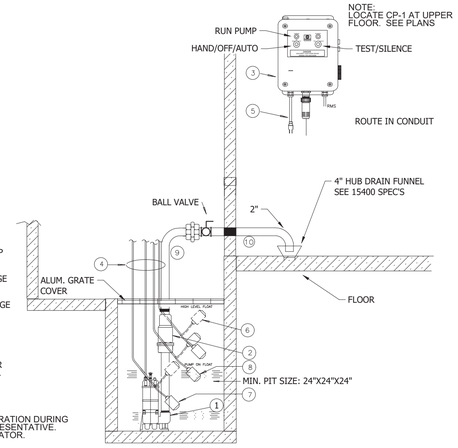
NOT TO SCALE



NOTES:
1. PIPING INSULATION NOT SHOWN, SEE SPECIFICATIONS.
2. PROVIDE SHOCK ABSORBER AT VALVE BOX (NOT SHOWN)

WASHER BOX DETAIL

NOT TO SCALE



REFERENCE NOTES:
1. STANCOR MODEL SE-50A SUBMERSIBLE EFFLUENT PUMP 0.50 HP, 115 VOLT, 3600 RPM, 2" DISCHARGE CONNECTION
2. STANCOR CHECK VALVE
3. STANCOR SERIES CB100-1 115V, 1 PHASE CONTROL SYSTEM WITH OPTIONAL BUILT IN AUDIBLE AND VISUAL ALARM PROVIDE SILENCING BUTTON FOR AUDIBLE ALARM BUILT INTO PANEL. PANEL SHALL HAVE ADDITIONAL CONTACT FOR A REMOTE ALARM CONNECTED TO BUILDING AUTOMATION SYSTEM. (BAS) LIGHTS FOR PUMP RUN POWER, AND HIGH LIQUID LEVEL.
4. FLOAT CABLES, ON/OFF/HI-LEVEL
5. POWER CABLE, COORDINATE LENGTH WITH FIELD CONATIONS.
6. HIGH LIQUID ALARM FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING
7. PUMP ON FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING
8. PUMP OFF FLOAT WITH CLAMP DEVICE TO MOUNT TO PUMP DISCHARGE PIPING
9. ACTUAL ROUTING OF PIPING ABOVE & BELOW FLOOR SHALL BE AS SHOWN ON THE FLOOR PLANS.
10. PUMP DISCHARGE PIPE SHALL BE COPPER PIPE, TYPE L HARD DRAWN COPPER PER ASTM B 88. FITTINGS: WROUGHT COPPER OR CAST BRASS. JOINTS: HARD TEMPER WITH BRAZED JOINTS.

NOTES:
1. CONTRACTOR WILL BE REQUIRED TO FIELD TEST PUMP OPERATION DURING FINAL OBSERVATIONS IN PRESENCE OF ENGINEERING REPRESENTATIVE.
2. CONNECT PUMP & CONTROL PANEL TO EMERGENCY GENERATOR.

ELEVATOR PIT

SUMP PUMP DETAIL (SP)

NOT TO SCALE

RELEASE FOR BID

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ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

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Daniel Stevenson PLOT 8/8/2024 11:43 AM SAVED 7/17/2023 4:43 PM
V:\PROJECT FILES\100200 - DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 - WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\07 ELECTRICAL\01 CADD\ELEC SYMBOLS AND NOTES.DWG
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ABBREVIATIONS

A OR AMP	AMPERES
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AM	AMMETER
AS	AMMETER SELECTION SWITCH
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AT	AUTOMATIC TRANSFORMER
BCP	BACKUP CONTROL PANEL
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CNTL	CONTROL
CT	CURRENT TRANSFORMER
Δ	DELTA CONNECTION
D	DEPTH
DP	DISTRIBUTION PANELBOARD
DS OR DISC	DISCONNECT SWITCH
DTC	DATA TERMINAL CABINET
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EMCP	ENERGY MANAGEMENT CONTROL PANEL
EGC	EQUIPMENT GROUNDING CONDUCTOR
EMT	ELECTRICAL METALLIC TUBING
ESTOP	EMERGENCY STOP
ETR	EXISTING TO REMAIN
EX OR EXIST.	EXISTING
EXP	EXPLOSION PROOF
F	FUSE
FA	FIRE ALARM
FCR	FLOAT CONTROL RELAY
FLR	FLOOR
FACP	FIRE ALARM CONTROL PANEL
FMPX	FIRE ALARM MULTIPLEX PANEL
G OR GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GF	GROUND FAULT
GFI	GROUND FAULT INTERRUPTING
H	HEIGHT
HP	HORSEPOWER
HV	HIGH VOLTAGE, 600VAC
HVAC	HEATING, VENTILATION AND AIR
IMC	INTERMEDIATE METAL CONDUIT
JB OR J	JUNCTION BOX
KVA	KILOVOLT – AMPS
KW	KILOWATTS
KWH	KILOWATT–HOUR
L	LENGTH
LA	LIGHTING ARRESTOR
LCP	LIGHTING CONTROL PANEL
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LP	LIGHTING PANELBOARD
LV	LOW VOLTAGE, 240VAC
MCB OR MB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MH OR MTG	MOUNTING HEIGHT
MLO	MAIN LUG ONLY
MMS	MICROPROCESSOR–BASED METERING SYSTEM
MT OR MTD	MOUNT OR MOUNTED
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON–FUSIBLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATES
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PFC	POWER FACTOR CAPACITOR
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMT	PAD MOUNT TRANSFORMER
PNL	PANEL
PVC	POLYVINYLCHLORIDE CONDUIT
RC	REMOTE CONTROL SWITCH
REC OR RECPT	RECEPTACLE
RGC	RIGID GALVANIZED CONDUIT
RMS	ROOT MEAN SQUARE
RTU	REMOTE TERMINAL UNIT
SS	STAINLESS STEEL, SOFT START
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TBB	TELEPHONE BACKBOARD
TCP	TEMPERATURE CONTROL PANEL
TTC	TELEPHONE TERMINAL CABINET
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
VMS	VOLTMETER SELECTOR SWITCH
W	WIDTH
W/	WITH
WHDM	WATT HOUR DEMAND METER
WM	WATTMETER
WP	WEATHER PROOF
XFMR	TRANSFORMER
Y	WYE CONNECTION

GENERAL NOTES

1. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
   - 1.1. NFPA 70, NATIONAL ELECTRICAL CODE.
   - 1.2. NFPA 101 LIFE SAFETY CODE.
   - 1.3. NFPA 820 STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES.
2. WET WELLS ARE CLASS 1, DIV. 1, SPACES.
3. ALL ELECTRICAL CIRCUITS SHALL INCLUDE A GREEN GROUNDING CONDUCTOR SIZED PER NEC.
4. CONDUIT AND DEVICE LOCATIONS ARE SHOWN DIAGRAMMATICALLY ONLY, CONTRACTOR SHALL FIELD LOCATE OR ROUTE AS REQUIRED.
5. ALL CONDUIT SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE.
6. ALL PANEL LEGENDS SHALL BE RETYPED TO REFLECT UP TO DATE CONDITIONS. ALL PANEL LEGENDS SHALL INDICATE THE PANEL'S FEEDER CKT. SOURCE PANEL (OR SUBSTATION) AND ITS LOCATION.
7. ELECTRICAL EQUIPMENT AND DEVICES SHALL BE PROVIDED WITH PHENOLIC NAMEPLATES. ALL NAMEPLATES SHALL BE MECHANICALLY FASTENED WITH S.S. SCREWS OR RIVETS. THE USE OF ADHESIVE NAMEPLATES SHALL NOT BE ALLOWED.
8. CONTRACTOR SHALL MAINTAIN A SET OF PRINTS AND MARK–UP DURING CONSTRUCTION TO REFLECT "AS–BUILT" CONDITIONS. PRINTS SHALL BE DELIVERED TO THE ENGINEER UPON COMPLETION OF THE PROJECT AS A COMPLETE SET OF RECORD DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ELECTRONIC COPIES OF ALL UPDATES "AS–BUILT" DRAWINGS IN AUTOCAD 2007 FORMAT.
9. THE CONTRACTOR SHALL PROVIDE PULL BOXES IN POWER CIRCUIT CONDUIT AS REQUIRED, SO AS TO LIMIT THE NUMBER OF BENDS TO A MAXIMUM OF 360 DEGREES OR FOUR 90 DEGREE TURNS.
10. PROVIDE CONDUIT EXPANSION FITTINGS AS CONDUIT CROSSES BUILDING EXPANSION JOINTS.
11. ALL EXTERIOR ELECTRICAL ENCLOSURES SHALL BE NEMA 4X STAINLESS STEEL UNLESS OTHERWISE NOTED.
12. ALL SUPPORTING AND FASTENING DEVICES SHALL BE STAINLESS STEEL.
13. CONTRACTOR MAY COMBINE HOMERUNS TO ALL PANEL BOARDS PER NEC.
14. ALL RECEPTACLE BRANCH CIRCUITS OVER 75' IN LENGTH SHALL USE #10 AWG CONDUCTOR (FOR VOLTAGE DROP).
15. CONTRACTOR TO PROVIDE ALL REQUIRED POWER AND STARTERS FOR PROCESS EQUIPMENT (COORDINATE WITH PROCESS EQUIPMENT SUPPLIER).
16. ALL SERVICE ENTRANCE CONDUITS SHALL BE SCH. 80 PVC BURIED 4' BELOW GRADE WITH MARKER TAPE 6" ABOVE TOP OF CONDUIT.
17. CONTRACTOR SHALL PAY ALL FEES ASSESSED BY ELECTRICAL UTILITY CO.
18. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL SERVICE WITH UTILITY COMPANY.
19. CONTRACTOR SHALL PROVIDE 2 SPARE FUSES FOR EACH FUSE INSTALLED INCLUDING ALL EQUIPMENT AND CONTROLS.
20. CONTROL AND POWER CONDUITS SHALL BE SEPARATED BY 12" MIN. AND SHALL BE IN SEPARATE JUNCTION BOXES AND DUCT BANKS. MAINTAIN 12" SEPARATION BETWEEN DUCT BANKS.
21. CONTRACTOR SHALL MAINTAIN OPERATION OF THE ELECTRICAL SERVICE DURING THE UPGRADE.
22. CONTRACTOR SHALL PROVIDE A GROUNDING SYSTEM AS DETAILED IN PLANS. THE INSTALLED GROUNDING SYSTEM SHALL HAVE A RESISTANCE OF LESS THAN 5 OHMS TO GROUND.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING ALL PROJECT SPECIFICATIONS AND WILL BE RESPONSIBLE FOR MEETING ALL REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.
24. ALL CONDUITS ENTERING CLASS 1 DIV. 1 AND DIV 2 SPACES SHALL BE STAINLESS STEEL.
25. ALL CONDUITS ABOVE GRADE, IN NON–HAZARDOUS LOCATIONS, SHALL BE RIGID ALUMINUM.
26. ALL CONDUITS BELOW GRADE SHALL BE PVC.
27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COORDINATED ELECTRICAL SYSTEM IN ACCORDANCE WITH NEC ARTICLE 240.12 AND ARTICLE 700.27.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DETAILED ELECTRICAL EQUIPMENT LAYOUT DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY	APVD

SYMBOL	DESCRIPTION
	CONTACT, NORMALLY OPEN
	CONTACT, NORMALLY CLOSED
	OPERATING COIL * DESIGNATION: C – CONTACTOR R – CONTROL RELAY M – MAGNETIC MOTOR STARTER – NON REVERSING MF – MAGNETIC MOTOR STARTER – FORWARD MR – MAGNETIC MOTOR STARTER – REVERSE MO – MAGNETIC MOTOR STARTER – OPEN MC – MAGNETIC MOTOR STARTER – CLOSE MH – MAGNETIC MOTOR STARTER – HIGH SPEED ML – MAGNETIC MOTOR STARTER – LOW SPEED SOV – SOLENOID OPERATED VALVE TD – TIME DELAY RELAY T – PROGRAMMABLE TIMER
ETM	METER, ELAPSED TIME
	INDICATING LIGHT – FULL VOLTAGE TRANSFORMER OR LED * DESIGNATION: A – AMBER R – RED B – BLUE W – WHITE G – GREEN Y – YELLOW
	INDICATING LIGHT, PUSH –TO–TEST * DESIGNATION: A – AMBER R – RED B – BLUE W – WHITE G – GREEN Y – YELLOW
	SWITCH, PUSHBUTTON, NORMALLY OPEN CIRCUIT
	SWITCH, PUSHBUTTON, NORMALLY CLOSED CIRCUIT
TL	SWITCH, PUSHBUTTON, TAG LINE, NORMALLY CLOSED CIRCUIT WITH MAINTAINED CONTACT
	SWITCH, PUSHBUTTON, TWO CIRCUIT, NORMALLY OPEN AND NORMALLY CLOSED
	SWITCH, EMERGENCY SHUTDOWN, MUSHROOM–HEAD PUSHBUTTON, NORMALLY CLOSED CIRCUIT WITH MAINTAINED CONTACT
H O A	SWITCH, MASTER OR CONTROL X – INDICATES CONTACT CLOSED
	MOMENTARY–CONTACT SWITCH
	SWITCH PRESSURE/VACUUM OPERATED. NORMALLY OPEN. CLOSING ON RISING PRESSURE
	SWITCH PRESSURE/VACUUM OPERATED. NORMALLY CLOSED OPENING ON RISING PRESSURE
	SWITCH, FLOW ACTUATED, NORMALLY OPEN, CLOSING ON INCREASE IN FLOW
	SWITCH, FLOW ACTUATED, NORMALLY CLOSED OPENING ON INCREASE IN FLOW
	SWITCH, TEMPERATURE ACTUATED, NORMALLY CLOSED OPENING ON RISING TEMPERATURE
	SWITCH, TEMPERATURE ACTUATED, NORMALLY OPEN CLOSING ON RISING TEMPERATURE
	CONTACT, TIME DELAY, NORMALLY OPEN WITH TIME DELAY CLOSING
	CONTACT, TIME DELAY, NORMALLY OPEN WITH TIME DELAY OPENING
	CONTACT, TIME DELAY, NORMALLY CLOSED WITH TIME DELAY OPENING
	CONTACT, TIME DELAY, NORMALLY CLOSED WITH TIME DELAY CLOSING
LS	SWITCH, LIMIT
TS	SWITCH, TORQUE
	SWITCH, LIQUID LEVEL ACTUATED, CLOSING ON RISING LEVEL
	SWITCH, LIQUID LEVEL ACTUATED, OPENING ON RISING LEVEL

SYMBOL	DESCRIPTION
25A	FUSE (AMPERE RATING SHOWN)
I 12KV 1200A 150A	FUSED DISCONNECT SWITCH, 3 POLE * DESIGNATION: LS – LOAD BREAK SWITCH DS – DISCONNECT SWITCH
1200A	POWER CIRCUIT BREAKER, MEDIUM–VOLTAGE, DRAWOUT TYPE (AMPERE RATING SHOWN)
500AT 600AF	CIRCUIT BREAKER, DRAWOUT TYPE, 600VAC OR LESS, 3P (TRIP AND FRAME AMPERE RATING SHOWN)
60AT	CIRCUIT BREAKER, THERMOMAGNETIC, 600 VAC OR LESS, 3P (AMPERE RATING SHOWN)
600AT 1000AF	CIRCUIT BREAKER, THERMOMAGNETIC, 600 VAC OR LESS, 3P ADJUSTABLE TRIP (TRIP & FRAME AMPERE RATING SHOWN)
7A	MOTOR CIRCUIT PROTECTOR, 600V AC OR LESS, 3P UON (CONTINUOUS AMPERE RATING SHOWN)
3P 20A	CONTACTOR (NUMBER OF POLES AND AMPERE RATING SHOWN)
	MAGNETIC MOTOR STARTER * NEMA SIZE ** DESIGNATION: NONE – FULL VOLTAGE, NON–REVERSING FVR – FULL VOLTAGE, REVERSING RVNR – REDUCED VOLTAGE, NON–REVERSING RVR – REDUCED VOLTAGE, REVERSING
M	MANUAL MOTOR STARTER
	VARIABLE FREQUENCY DRIVE / INVERTER
750KVA 4.16/ 0.48KV	POWER TRANSFORMER (KVA RATING, VOLTAGES AND WINDINGS CONNECTIONS SHOWN)
Z=X%	SERIES REACTOR (LINE OR LOAD RATING SHOWN)
(2) 4200/ 120V	VOLTAGE TRANSFORMER (QUANTITY AND VOLTAGE RATIO SHOWN)
(3) 800/5A	CURRENT TRANSFORMER (QUANTITY AND CURRENT RATIO SHOWN)
(3) 2200/5A SET AT	MULTI–RATIO CURRENT TRANSFORMER (QUANTITY, MAXIMUM CURRENT RATIO AND SETTING SHOWN)
1200/5A 800/5A	ZERO SEQUENCE CURRENT TRANSFORMER (CURRENT RATIO SHOWN)
	CAPACITOR
	GROUND CONNECTION
(3)	SURGE ARRESTER (QUANTITY SHOWN)
3P 400A	TRANSFER SWITCH (NUMBER OF POLES AND AMPERE RATING SHOWN)
125VDC	BATTERY (RATING SHOWN)
10	MOTOR, INDUCTION (HORSEPOWER SHOWN)

SYMBOL	DESCRIPTION
XXXKW XXXV 3–PHASE	GENERATOR (KW RATINGS, VOLTAGE AND PHASE SHOWN)
	THERMISTOR
	DIODE, SEMICONDUCTOR
RTD	RESISTANCE TEMPERATURE DETECTOR
	RESISTOR
	SPACE HEATER
500VA 480/120V	CONTROL POWER TRANSFORMER, (VA RATING VOLTAGES)
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
CS	CONTROL SWITCH
	METER * DESIGNATION: AM – AMMETER VM – VOLTMETER PFM – POWER FACTOR WM – WATTMETER FMM – FREQUENCY METER WHM – WATTHOUR METER PM – POWER MONITORING DEVICE
	PROTECTIVE RELAY OR DEVICE * DESIGNATION: 11 – MULTIFUNCTION PROTECTIVE RELAY 25 – SYNCHRONIZING OR SYNCHRONISM–CHECK RELAY 26 – APPARATUS THERMAL DEVICE 27 – UNDERVOLTAGE RELAY 32 – DIRECTIONAL POWER RELAY 37 – UNDERCURRENT OR UNDERPOWER RELAY 40 – FIELD RELAY 46 – REVERSE–PHASE OR PHASE–BALANCE CURRENT RELAY 49 – MACHINE OR TRANSFORMER THERMAL RELAY 50 – INSTANTANEOUS OVERCURRENT RELAY 50GS– INSTANTANEOUS GROUND FAULT RELAY 51 – AC TIME OVERCURRENT RELAY 51GS– AC TIME GROUND FAULT RELAY 51V – AC TIME OVERCURRENT RELAY (VOLTAGE RESTRAINT) 55 – POWER FACTOR RELAY 59 – OVERVOLTAGE RELAY 60 – VOLTAGE OR CURRENT BALANCE RELAY 63 – PRESSURE SWITCH 64 – GROUND DETECTOR RELAY 67 – AC DIRECTIONAL OVERCURRENT RELAY 81 – FREQUENCY RELAY 86 – LOCKOUT RELAY 87 – DIFFERENTIAL PROTECTIVE RELAY 87G – GENERATOR DIFFERENTIAL GROUND FAULT RELAY

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

ELECTRICAL SYMBOLS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
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PROJ.	100200.32
DWG.	E-0.20

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WIRING

(J)	JUNCTION BOX
PB	PULL BOX
H	HANDHOLE
(PXX)	CONDUIT CONDUCTOR WIRE TAG. P–DENOTES POWER, AND C–DENOTES CONTROL
	COMMUNICATION
—(D)	DATA COMMUNICATION OUTLET
—(C)	CABLE TELEVISION OUTLET
	DATA COMMUNICATION FLOOR OUTLET
	TELEPHONE FLOOR RECEPTACLE
	WALL MOUNTED TELEPHONE
	WALL MOUNTED DATA
(S)	CEILING MOUNTED SPEAKER

LIGHTING

	EXIT SIGN WALL MOUNTED LIGHT
	ELECTRIC RESISTANCE HEATER
	FLUORESCENT EMERGENCY LIGHT FIXTURE
$	SINGLE POLE SWITCH
$3	THREE–WAY SWITCH
$T	TIMER OPERATED SWITCH
$F	FUSED SWITCH
$P	SWITCH WITH PILOT LIGHT
(P)	CEILING MOUNTED PULL SWITCH
$2	DOUBLE POLE SWITCH
$4	FOUR–WAY SWITCH
$K	KEY OPERATED SWITCH
(L)PS	LAMP HOLDER POLE SWITCH

LIGHTING (CONT)

$LM	LOW VOLTAGE MASTER SWITCH
$WP	WEATHER PROOF SWITCH
	INCANDESCENT CEILING MOUNTED LIGHT
	RECESSED FLUORESCENT 2X4 LIGHT FIXTURE
	RECESSED FLUORESCENT 1X4 LIGHT FIXTURE
	RECESSED FLUORESCENT 1X8 LIGHT FIXTURE
	SURFACE MOUNTED FLUORESCENT 2X4 LIGHT FIXTURE
	SURFACE MOUNTED FLUORESCENT 1X4 LIGHT FIXTURE
	SURFACE MOUNTED FLUORESCENT 1X8 LIGHT FIXTURE
	STREET LIGHT WITH BRACKET
	EXTERIOR BUILDING LIGHT
	EMERGENCY BATTERY POWERED LIGHTS
	2' X 2' LIGHT FIXTURE
	INDUSTRIAL OR STRIP FIXTURE
	HIGHMAST LIGHTING ASSEMBLY
	AREA LIGHTING ASSEMBLY

POWER

	CLOCK HANGER RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX ON EMERGENCY POWER RECEPTACLE
	DUPLEX WITH GFI RECEPTACLE
	QUADRAPLEX RECEPTACLE
	SINGLE RECEPTACLE
S	SINGLE RECEPTACLE WITH SWITCH
	SPECIAL PURPOSE RECEPTACLE
S	DUPLEX RECEPTACLE WITH SWITCH
	FLUSH MOUNTED PANELBOARD CABINET
	SURFACE MOUNTED PANELBOARD CABINET
T	TRANSFORMER

SINGLE LINE (CONT)

	EARTH GROUND
	FUSED DISCONNECT SWITCH
	UNFUSED DISCONNECT SWITCH
(M)	METER
DP#_	DISTRIBUTION PANEL
LP#_	LIGHTING PANEL
PP#_	POWER PANEL

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER DANIEL COLE STEVENS
8/8/24

NO.	DATE	REVISION	BY

DESIGNED BY: AB
DRAWN BY: DS
CHECKED BY: AB
APPROVED BY: JS
APVD BY:

ELECTRICAL SYMBOLS CONT

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG. E-0.30

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GENERAL NOTES:

1. ALL CONDUITS AND CONDUCTORS REQUIRED FOR FUTURE LOADS SHALL BE INSTALLED AND PULLED AS PART OF THE INITIAL PROJECT.
2. CONDUITS AND CONDUCTORS CAN BE COMBINED IN ACCORDANCE WITH NEC FILL REQUIREMENTS. POWER (AC) AND CONTROL SIGNAL CONDUCTORS SHALL BE ROUTED SEPARATE CONDUITS. DIGITAL AND ANALOG CONTROL SIGNAL CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUITS.
3. SEE ELECTRICAL DRAWINGS E–0.70 – E–0.72 FOR PANEL SCHEDULES AND E–0.73 FOR CONDUIT & CONDUCTOR AND MISCELLANEOUS SCHEDULES.

KEY NOTES:

(A) MAIN CIRCUIT BREAKER (MCB). SHALL BE A 480V, 3 POLE, 1600A FULLY RATED BREAKER IN A UL TYPE 4 CIRCUIT BREAKER DISCONNECT ENCLOSURE WITH GROUND AND NEUTRAL KITS. SHALL BE SE RATED.

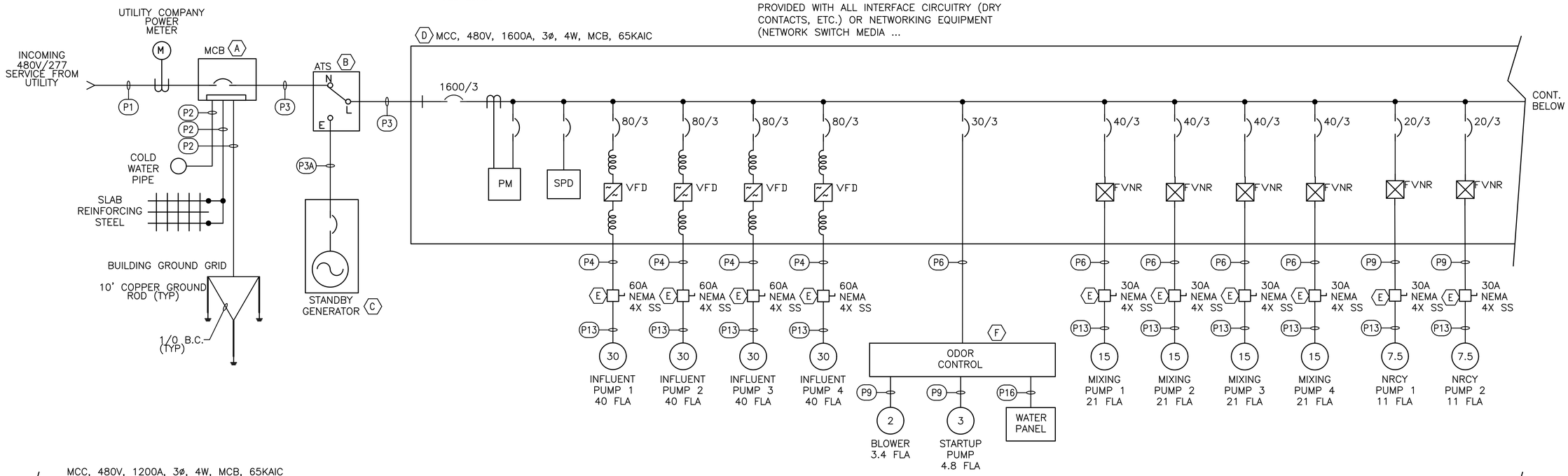
(B) AUTOMATIC TRANSFER SWITCH (ATS). SHALL BE A 480V, 3 POLE 1600A SWITCH IN A UL TYPE 4 ENCLOSURE.

(C) STANDBY GENERATOR. SHALL BE A 480V, 3ø, 600KW GENERATOR WITH MAIN CIRCUIT BREAKER, SOUND ATTENUATED ENCLOSURE, AND SUB BASE FUEL TANK WITH 48 HOURS OF FUEL CAPACITY AT FULL LOAD.

(D) MOTOR CONTROL CENTER (MCC). SHALL BE A 480V, 3ø, 4W, 1600A, MAIN CIRCUIT BREAKER (FULLY RATED), 65KAIC, UL TYPE 4 MCC.

(E) DISCONNECT WITH A 30MM 3 POSITION SELECTOR SWITCH (HOA) FOR LOCAL CONTROL AND A 30MM GREEN PILOT LIGHT FOR RUNNING INDICATION.

(F) PACKAGED CONTROL PANEL. SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER. THE PANEL SHALL CONTAIN ALL MOTOR STARTERS AND CONTROLS NECESSARY FOR THE ASSOCIATED EQUIPMENT. THE PANEL SHALL BE PROVIDED WITH ALL INTERFACE CIRCUITRY (DRY CONTACTS, ETC.) OR NETWORKING EQUIPMENT (NETWORK SWITCH MEDIA ... CONVERTER, ETC.) TO FACILITATE INTERCONNECTION WITH THE PLANT'S SCADA SYSTEM. THE CONTROL PANEL SHALL BE CONSTRUCTED TO UL 508A AND UL 698A STANDARDS (IF APPLICABLE) AND THE COMPLETED ASSEMBLY SHALL BE UL TYPE 4X IF OUTDOORS OR IN CORROSIVE ENVIRONMENTS; UL TYPE 12 IF LOCATED IN NON–CORROSIVE INDOOR LOCATIONS.



MCC SINGLE LINE
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
8/8/24
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

ELECTRICAL SINGLELINE

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
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(256)-203-9501

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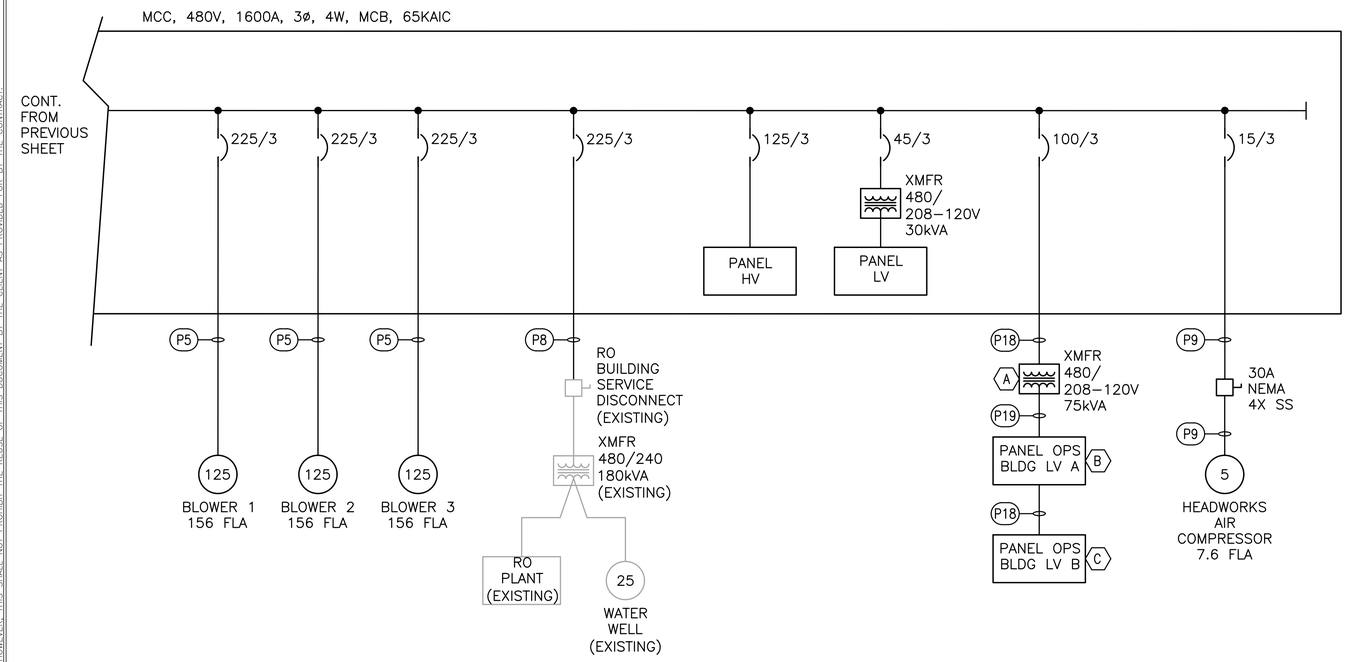
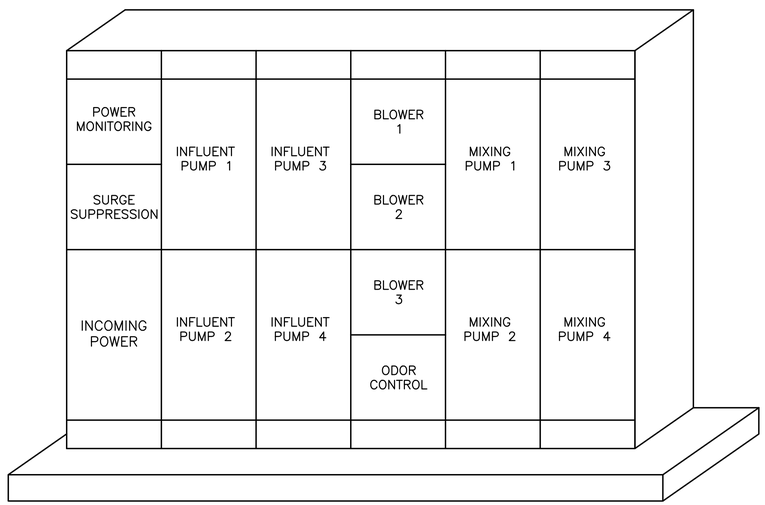


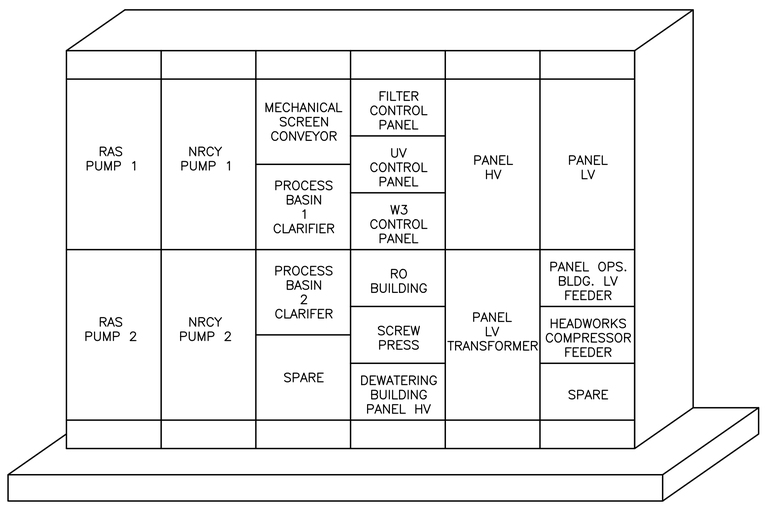
MCC SINGLE LINE CONT.

SCALE: NONE



MCC ELEVATION – FRONT

SCALE: 3/4" = 1'



MCC ELEVATION – BACK

SCALE: 3/4" = 1'

GENERAL NOTES:

1. SEE ELECTRICAL DRAWINGS E–0.70 – E–0.72 FOR PANEL SCHEDULES AND E–0.73 FOR CONDUIT & CONDUCTOR AND MISCELLANEOUS SCHEDULES.

KEY NOTES:

(A) TRANSFORMER LV. SHALL BE A 480–208/120V 75KVA ENCLOSED TRANSFORMER.

(B) PANEL OPS BLDG LV A – SHALL BE A 208/120V 3ø 200A MCB DISTRIBUTION PANEL HOUSED IN A NEMA TYPE 4 ENCLOSURE.

(C) PANEL OPS BLDG LV B – SHALL BE A 208/120V 3ø 125A MLO DISTRIBUTION PANEL HOUSED IN A NEMA TYPE 4 ENCLOSURE.

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
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ELECTRICAL SINGLELINE CONT

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

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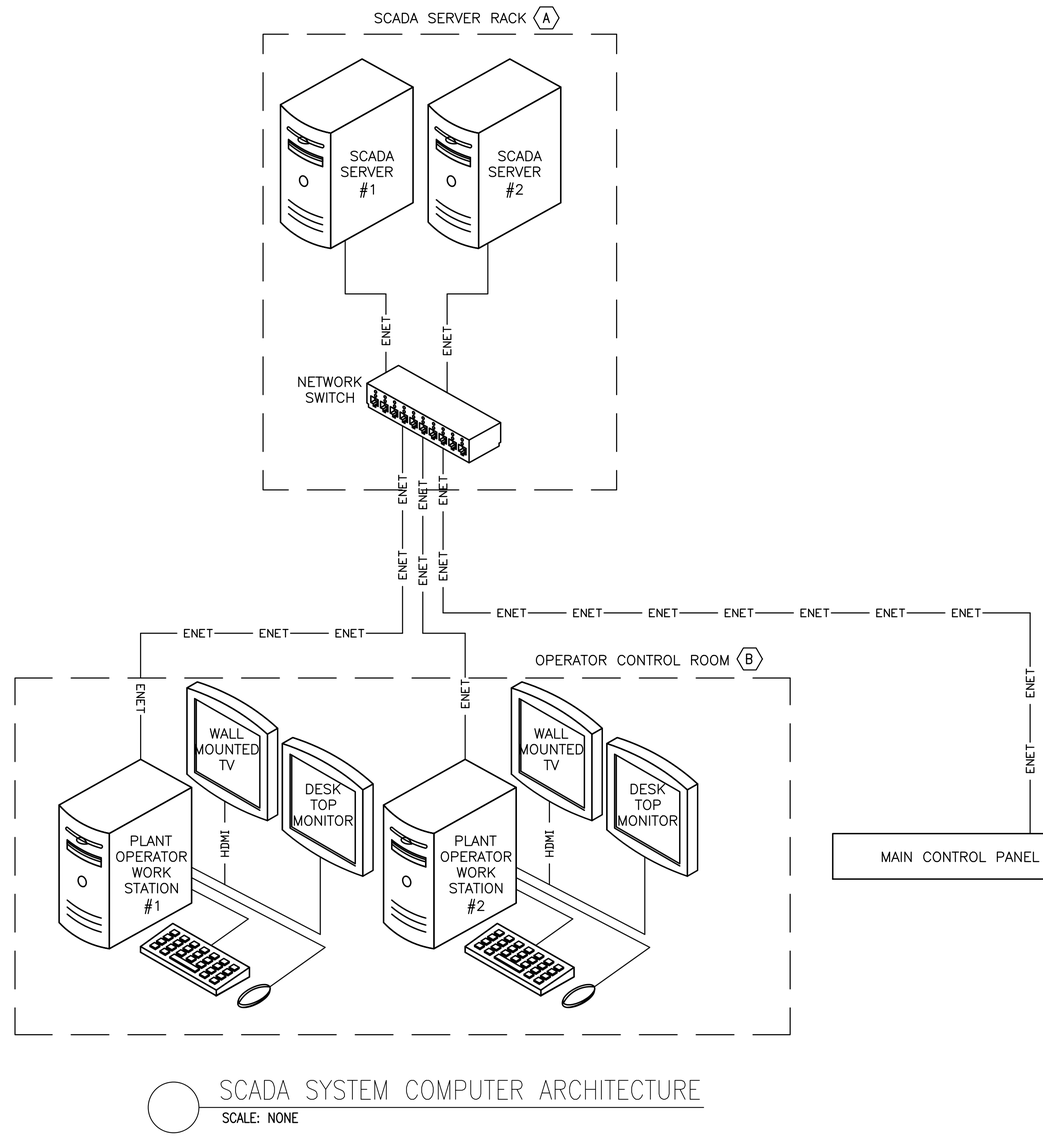

SCADA SYSTEM COMPUTER ARCHITECTURE
SCALE: NONE

GENERAL NOTES

1. THE SYSTEM INTEGRATOR SHALL:
   - 1.1. PROVIDE THE SERVERS, SERVER RACK, SERVER UPS, SERVER NETWORK SWITCH, VIRTUALIZATION SOFTWARE, SCADA SOFTWARE, SCADA WORKSTATIONS, WORKSTATION MONITORS, AND WORKSTATION WALL MOUNT MONITORS.
   - 1.2. PROGRAMMING AND CONFIGURATION OF THE SERVER VIRTUAL ENVIRONMENT.
   - 1.3. PROGRAMMING AND CONFIGURATION OF THE SCADA SOFTWARE AND REMOTE ANNUNCIATION SOFTWARE.
2. SYSTEM INTEGRATION SHALL BE PERFORMED BY ARDURRA

KEYNOTES:

(A) SCADA SYSTEM SERVERS (TYP. OF 2). SHALL BE DELL POWEREDGE R250 RACK SERVER WITH WINDOWS SERVER 2022. SHALL BE PROVIDED WITH VIRTUALIZATION SOFTWARE TO CREATE VIRTUAL MACHINES ON EACH SERVER FOR ADDITIONAL REDUNDANCY. THE SERVERS SHALL BE PROVIDED WITH A SERVER RACK, UPS, AND NETWORK SWITCH CAPABLE OF ACCEPTING ALL THE NECESSARY NETWORK CONNECTIONS. GE'S IFIX SHALL BE PROVIDED, LICENSED, AND INSTALLED IN A REDUNDANT CONFIGURATION ON THE SERVER PAIR. WIN911 FOR REMOTE ANNUNCIATION SHALL BE PROVIDED, LICENSED, AND INSTALLED ON THE REDUNDANT SERVERS TO PROVIDE REMOTE ANNUNCIATION OF ALARMS ASSOCIATED WITH THE PLANT.

(B) SCADA SYSTEM OPERATOR WORK STATIONS (TYP. OF 2) AND PERIPHERALS. THE OPERATOR WORKSTATION(S) AND PERIPHERALS SHALL FACILITATE ACCESS TO THE GE IFIX SYSTEM FOR PLANT PERSONNEL TO MONITOR AND CONTROL THE FACILITY WITHOUT DIRECT ACCESS TO THE SERVERS TO PROVIDE AN ADDITIONAL LAYER OF SECURITY. ACCESS SHALL BE EITHER THROUGH TERMINAL SERVICES OR THROUGH A IFIX CLIENT LICENSE. WORKSTATIONS SHALL BE DELL OPTIPLEX 7000 MICRO FORM FACTOR MACHINES SUPPLIED WITH SUPPORT (SOFTWARE & HARDWARE) FOR MULTIPLE MONITOR OUTPUT. EACH WORK STATION SHALL BE SUPPLIED WITH ONE 24" WIDE SCREEN MONITOR AND ONE 42" WALL MOUNTABLE TV (WITH MOUNTING BRACKET).

(C) MAIN CONTROL PANEL (MCP). SEE NEXT SHEET FOR MAIN CONTROL PANEL SINGLE LINE DIAGRAM. THE CONTROL PANEL SHALL BE CONSTRUCTED TO UL 508A STANDARDS AND THE FINAL ASSEMBLY SHALL HAVE A UL TYPE 12 RATING. TO FACILITATE INTERCONNECTION WITH THE REMOTE LIFT STATIONS, A CELLULAR MODEM (WITH ANTENNA, CABLE, ETC.) SHALL BE SUPPLIED AND INTEGRATED INTO THE MCP.

(D) LIFT STATION RTU (TYP. OF 2). EACH LIFT STATION RTU SHALL BE CONSTRUCTED TO UL 508A STANDARDS AND THE FINAL ASSEMBLY SHALL HAVE A UL TYPE 4X RATING (NEMA 4X SS ENCLOSURE). EACH RTU SHALL BE COMPRISED OF AN ALLEN BRADLEY MICRO850 SERIES 2080-L50E-24AWB PLC AND ONE (1) TWO CHANNEL 2080-IF2 ANALOG INPUT MODULE. ALL DIGITAL & ANALOG INPUTS SHALL BE WIRED TO TERMINAL BLOCKS AND ALL DIGITAL OUTPUTS SHALL BE WIRED TO SPDT SLIM RELAYS. TO FACILITATE INTERCONNECTION WITH THE WASTEWATER PLANT, A CELLULAR MODEM (WITH ANTENNA, CABLE, ETC.) SHALL BE SUPPLIED AND INTEGRATED INTO THE RTU. ALL ANCILLARY COMPONENTS (MAIN CIRCUIT BREAKER, POWER SUPPLY, UPS, BATTERIES, FUSES, ETC.) SHALL BE SUPPLIED TO PROVIDE A COMPLETE ASSEMBLY.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

SCADA SYSTEM ARCH

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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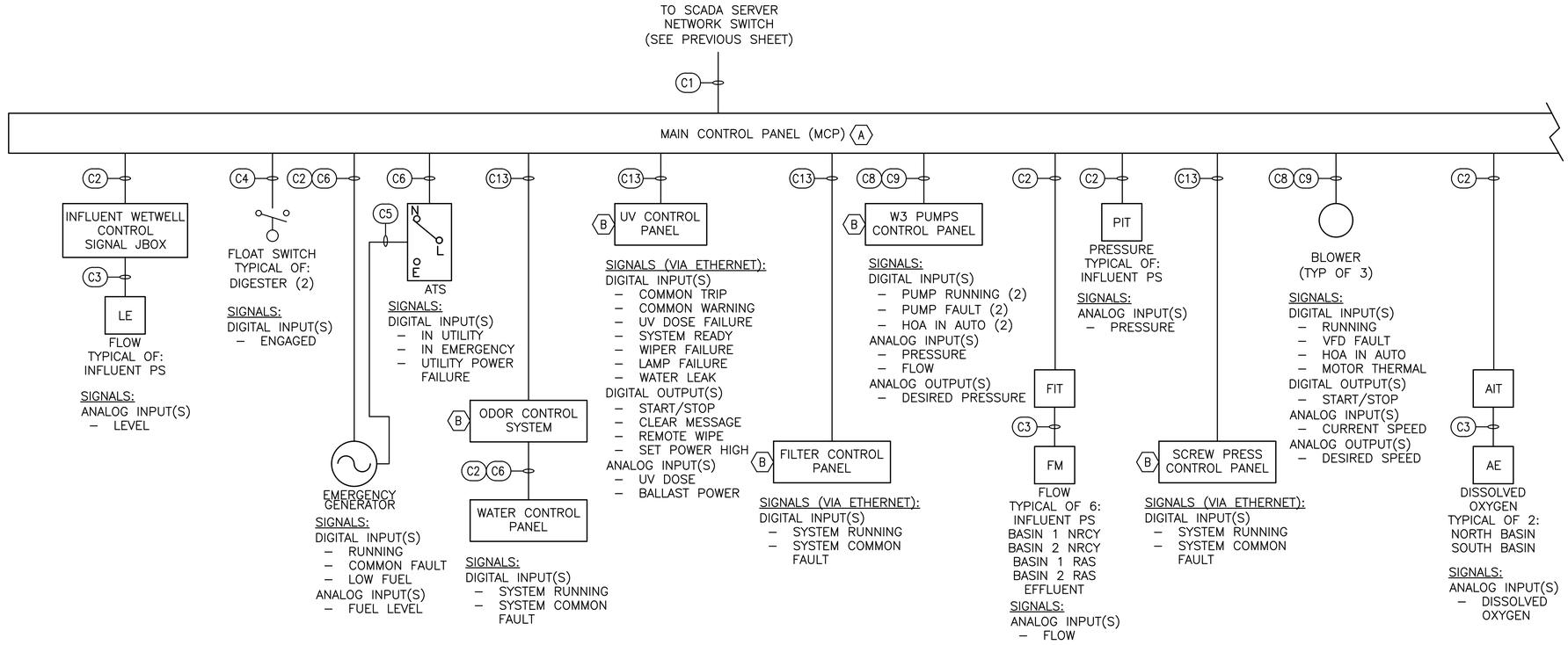

CONTROL SINGLELINE DIAGRAM
SCALE: NONE

GENERAL NOTES:

1. THE SYSTEM INTEGRATOR (ARDURRA) SHALL BE RESPONSIBLE FOR PROVIDING THE FOLLOWING:

   1.1. ALL PROGRAMMING AND CONFIGURATION ASSOCIATED WITH THE MAIN CONTROL PANEL (MCP). THE MAIN CONTROL PANEL SHALL BE PROVIDED BY THE CONTRATOR AND CONSTRUCTED BY A UL 508A PANEL SHOP.

   1.2. PC BASED SCADA SYSTEM AND HUMAN MACHINE INTERFACE (HMI) SOFTWARE. THE SOFTWARE SHALL BE GE'S iFIX OR APPROVED EQUAL. THE COMPUTER SPECS SHALL MEET THE MINIMUM REQUIREMENTS OF ALL SCADA/HMI SOFTWARE. THE PC SHALL BE CONSTRUCTED WITH COMPONENTS RATED FOR USE IN A 24/7 OPERATION. THE PC SHALL BE CONFIGURED WITH ALL REQUIRED COMPONENTS TO FACILITATE THE OPERATION OF ALL OF ITS SCADA/HISTORIAN/WEB SERVER TASKS. IT SHALL BE PROVIDED WITH KEYBOARD, MOUSE, MONITOR AND UPS.

   1.3. THE SCADA SYSTEM SOFTWARE SHALL BE INSTALLED AND CONFIGURED ON THE SCADA SERVERS TO PROVIDE MONITORING AND CONTROL CAPABILITIES FOR PLANT PERSONNEL INCLUDING:

      1.3.1. VISUALIZATION AND CONTROL OF THE ENTIRE WASTEWATER TREATMENT PLANT.

      1.3.2. WEB BASED ACCESS (IF DESIRED) FOR UP TO 5 USERS THROUGH THE INTERNET

      1.3.3. HISTORIZATION/TRENDING OF ALL ANALOG SIGNALS AND PUMP RUNNING STATUS POINTS. TRENDS SHALL BE CONFIGURED FOR ALL ASSOCIATED PROCESS AREAS (I.E. INFLUENT PUMPS SPEED & THE WETWELL LEVEL)

      1.3.4. ALL FAULTS/ALARMS SHALL BE CONFIGURED SUCH THAT THEY ARE ARCHIVED IN THE SCADA SYSTEM (FOR REVIEW AND ACKNOWLEDGEMENT BY PLANT PERSONNEL) AS WELL AS REMOTE ANNUNCIATION/NOTIFICATION VIA EMAIL/TEXT MESSAGES.

2. ALL REMOTE NODE ID'S AND IP ADDRESSES SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.

KEY NOTES:

(A) MAIN CONTROL PANEL (MCP). SHALL BE A NEMA 4 UL 508A ASSEMBLY. THE MCP PLC SHALL BE AN ALLEN BRADLEY CONTROLLOGIX PLC WITH ALL REQUIRED I/O SHOWN ON THE PROJECT PLANS AND SPECIFICATIONS AS WELL AS 10% FULLY WIRED SPARES.

(B) PACKAGED SYSTEM. ALL IP ADDRESSES SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR (IF APPLICABLE).

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER DANIEL COLE STEVENS 8/8/24

NO.	DATE	REVISION	BY
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CONTROL SINGLELINE

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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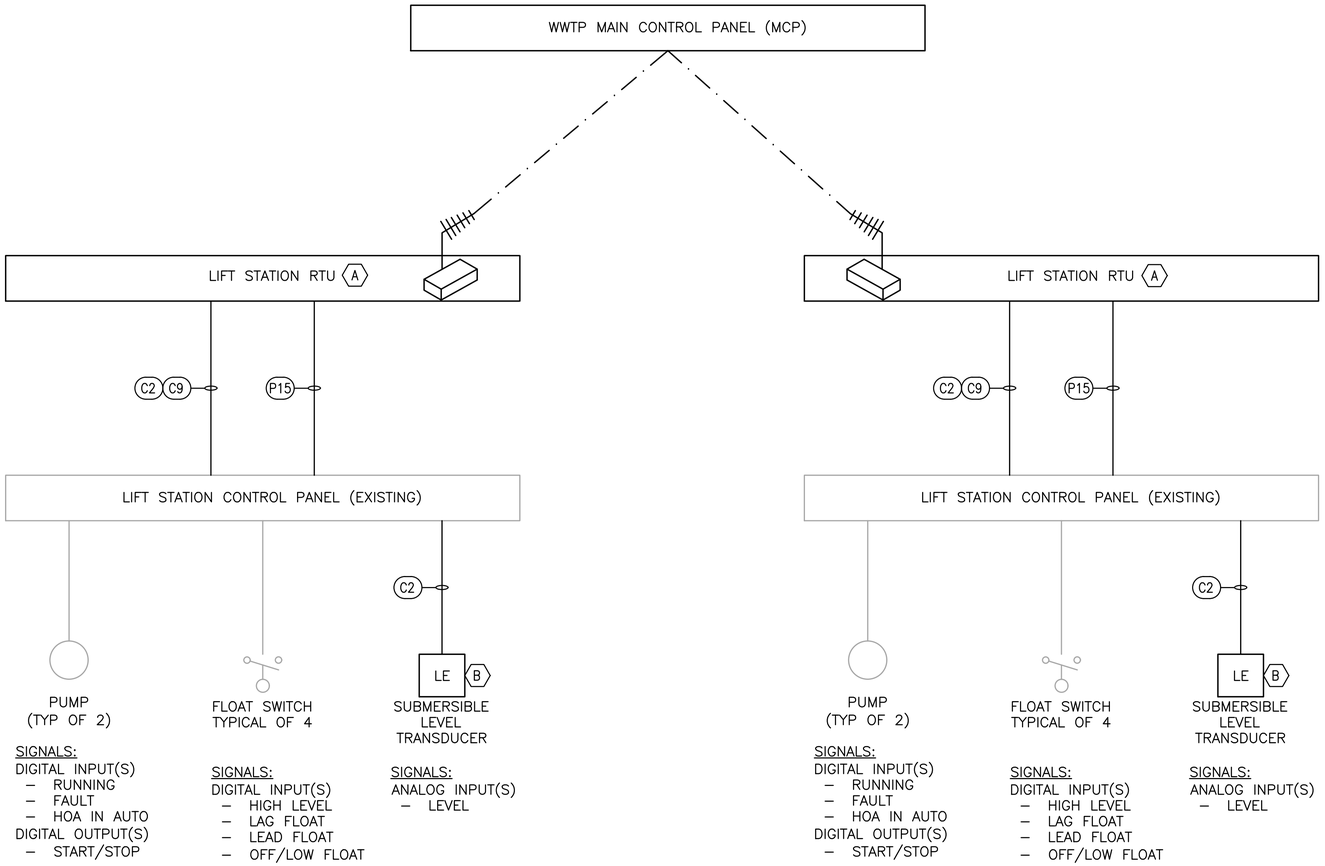

CHURCH LIFT STATION RTU
SCALE: NONE

DESOTO LIFT STATION RTU
SCALE: NONE

GENERAL NOTES:

1. THE GENERAL CONTRACTOR/ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE FOLLOWING:
   - 1.1. RTUs FOR EACH LIFT STATION
   - 1.2. SUBMERSIBLE LEVEL TRANSDUCERS FOR EACH LIFT STATION
   - 1.3. PHYSICAL INSTALLATION OF THE RTUs AT EACH LIFT STATION. SHALL BE INCLUSIVE OF ANY ELECTRICAL EQUIPMENT RACK ADDITIONS/MODIFICATIONS.
   - 1.4. ELECTRICAL INSTALLATION OF THE RTUs AT EACH LIFT STATION. ELECTRICAL INSTALLATION SHALL BE INCLUSIVE OF THE RTU'S 120VAC POWER SUPPLY FROM THE EXISTING LIFT STATION CONTROL PANEL AND CONTROL SIGNAL INTERCONNECTION (CONDUIT AND CONDUCTORS). PROVISION OF THE 120VAC POWER SUPPLY SHALL INCLUDE THE ADDITION OF A CIRCUIT BREAKER AND ANY ANCILLARY ITEMS (WIRE, TERMINALS, LABOR, ETC.) TO FACILITATE PROVIDING POWER FOR THE RTUs.
   - 1.5. PHYSICAL AND ELECTRICAL INSTALLATION OF THE SUBMERSIBLE LEVEL TRANSDUCER.
2. THE SYSTEM INTEGRATOR SHALL BE RESPONSIBLE FOR PROVIDING PROGRAMMING AND INTEGRATION OF THE LIFT STATIONS INTO THE WWTP SCADA SYSTEM.

KEY NOTES:

(A) LIFT STATION RTU (TYP. OF 2). EACH LIFT STATION RTU SHALL BE CONSTRUCTED TO UL 508A STANDARDS AND THE FINAL ASSEMBLY SHALL HAVE A UL TYPE 4X RATING (NEMA 4X SS ENCLOSURE). EACH RTU SHALL BE COMPRISED OF AN ALLEN BRADLEY MICRO850 SERIES 2080–L50E–24AWB PLC AND ONE (1) TWO CHANNEL 2080–IF2 ANALOG INPUT MODULE. ALL DIGITAL & ANALOG INPUTS SHALL BE WIRED TO TERMINAL BLOCKS AND ALL DIGITAL OUTPUTS SHALL BE WIRED TO SPDT SLIM RELAYS. TO FACILITATE INTERCONNECTION WITH THE WASTEWATER PLANT, A CELLULAR MODEM (WITH ANTENNA, CABLE, ETC.) SHALL BE SUPPLIED AND INTEGRATED INTO THE RTU. ALL ANCILLARY COMPONENTS (MAIN CIRCUIT BREAKER, POWER SUPPLY, UPS, BATTERIES, FUSES, ETC.) SHALL BE SUPPLIED TO PROVIDE A COMPLETE ASSEMBLY. ONE (1) SPARE PLC AND ONE (1) SPARE ANALOG INPUT MODULE SHALL BE PROVIDED.

(B) SUBMERSIBLE LEVEL TRANSDUCER. SHALL BE A ENDRESS + HAUSER WATERPILOT FMX21 OR APPROVED EQUAL. CABLE LENGTH SHALL BE AS REQUIRED TO REACH THE BOTTOM OF THE WETWELL AND PROVIDED WITH THE MANUFACTURER'S MOUNTING CABLE GRIP/MOUNTING CLAMP. THE PRESSURE RANGE SHALL BE APPLICABLE FOR THE FULL HEIGHT OF THE WETWELL.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34084-E
8/8/24
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB		DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APVD. BY:

RTU CONTROL SINGLE LINE

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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PANEL: HV

3 PH 4 WIRE VOLTAGE L-L: 480 L-N: 277 MAIN: 125A MLO

LOCATION: ELECTRICAL ROOM MCC — PHASE A / PHASE B / PHASE C — MOUNTING: MCC

CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	PHASE A	PHASE B	PHASE C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	20	3	DIGESTER 1 TELESCOPING VALVE	305	4305			4000	HOT WATER MAINT. CONTROLLER	1	15	2
3	-	-		305		305		0	SPARE	1	20	4
5	-	-		305			305	0	SPARE	1	20	6
7	20	3	DIGESTER 1 TELESCOPING VALVE	305	305			0	SPARE	3	20	8
9	-	-		305		305		0		-	-	10
11	-	-		305			305	0		-	-	12
13	40	3	ADMIN BLDG OUTDOOR HVAC OU-1	7750	7750			0	SPARE	3	50	14
15	-	-		7750		7750		0		-	-	16
17	-	-		7750			7750	0		-	-	18
19	40	3	MAKE UP AIR UNIT MAU-1	8400	8400			0	SPARE	3	20	20
21	-	-		8400		8400		0		-	-	22
23	-	-		8400			8400	0		-	-	24
25	20	3	WATER HEATER EWH-1	3052	3052			0	SPARE	3	50	26
27	-	-		3052		3052		0		-	-	28
29	-	-		3052			3052	0		-	-	30
31	20	3	ELEVATOR	3330	3330			0	SPARE	3	20	32
33	-	-		3330		3330		0		-	-	34
35	-	-		3330			3330	0		-	-	36
37	25	3	MECH/ELEC JANITORAL CLOSET EWH-1	4000	4000			0	SPARE	3	20	38
39	-	-		4000		4000		0		-	-	40
41	-	-		4000			4000	0		-	-	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					31142	27142	27142					

TOTAL CONNECTED LOAD(VA) THIS PANEL: 85426 — TOTAL CONNECTED LOAD (AMPS): 103

TOTAL DEMAND LOAD (VA) THIS PANEL: 68340.8 — TOTAL DEMAND LOADS (AMPS): 82

NOTES:
1.

PANEL HV SCHEDULE
SCALE: NONE

PANEL: LV

3 PH 4 WIRE VOLTAGE L-L: 208 L-N: 120 MAIN: 125A MLO

LOCATION: ELECTRICAL ROOM MCC — PHASE A / PHASE B / PHASE C — MOUNTING: MCC

CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	PHASE A	PHASE B	PHASE C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	20	1	EFFLUENT REFRIGERATED SAMPLER	600	1360			760	INFLUENT PS & ODOR LIGHTS & RECPT.	1	20	2
3	20	1	INFLUENT PUMP STATION FLOW METER	120		500		380	NORTH BASIN AREA LIGHT & RECPT.	1	20	4
5	20	1	NORTH BASIN NRCY FLOW METER	120			500	380	SOUTH BASIN AREA LIGHT & RECPT.	1	20	6
7	20	1	SOUTH BASIN NRCY FLOW METER	120	880			760	HEADWORKS AREA LIGHTS & RECPT.	1	20	8
9	20	1	NORTH BASIN DO METER	120		600		480	W3, FILTER, & UV LIGHTING	1	20	10
11	20	1	SOUTH BASIN DO METER	120			440	320	W3, FILTER, & UV LIGHTING	1	20	12
13	20	1	SPARE	0	380			380	DIGESTER PLATFORM LIGHT & RECPT.	1	20	14
15	20	1	NORTH BASIN RAS & WAS FLOW METERS	240		1740		1500	HEADWORKS SCREEN AIR COMP.	2	20	16
17	20	1	SOUTH BASIN RAS & WAS FLOW METERS	240			1740	1500		-	-	18
19	20	1	EFFLUENT FLOW METER	120	1320			1200	GRIT SYSTEM CONTROL PANEL	1	20	20
21	20	1	SCREEN/CONVEYOR CONTROL PANEL	600		1080		480	W3 (REUSE) WATER LINE HEAT TRACE	1	20	22
23	20	1	ODOR CONTROL W1 & W3 HEAT TRACE	480			480	0	SPARE	1	20	24
25	20	1	HEADWORKS W1 & W3 HEAT TRACE	480	480			0	SPARE	1	20	26
27	20	1	FILTER/UV AREA HEAT TRACE	480		480		0	SPARE	1	20	28
29	20	1	INFLUENT REFRIGERATED SAMPLER	600			600	0	SPARE	1	20	30
31	20	1	GENERATOR BLOCK HEATER	2000	2000			0	SPARE	1	20	32
33	20	1	GENERATOR BATTERY CHARGER	1200		1200		0	SPARE	1	20	34
35	30	1	NORTH ELECTRIC GATE OPENER	1920			1920	0	SPARE	1	20	36
37	30	1	SOUTH ELECTRIC GATE OPENER	1920	1920			0	SPARE	1	20	38
39	20	1	YARD LIGHTING	760		760		0	SPARE	1	20	40
41	20	1	SPARE	0			0	0	SPARE	1	20	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					8340	6360	5680					

TOTAL CONNECTED LOAD(VA) THIS PANEL: 20380 — TOTAL CONNECTED LOAD (AMPS): 57

TOTAL DEMAND LOAD (VA) THIS PANEL: 16304 — TOTAL DEMAND LOADS (AMPS): 45

NOTES:
1.

PANEL LV SCHEDULE
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENS

NO.	DATE	REVISION	BY
DESIGNED BY: AB		DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APV'D BY:

HV & LV PANEL SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE., SUITE 601
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(256)-203-9501

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PANEL: OPS BLDG LV A

3 PH | 4 WIRE | VOLTAGE | L-L: 208 | L-N: 120 | MAIN: | 200A MCB

LOCATION: ELECTRICAL ROOM

CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	PHASE A	PHASE B	PHASE C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	15	2	HVAC BRANCH CONTROLLER	167	227			60	1ST FLOOR MENS RR LIGHTS & EF-4	1	20	2
3	-	-	-	167		227		60	1ST FLOOR WOMENS RR LIGHTS & EF-5	1	20	4
5	15	2	HVAC OFFICE CEILING CASSETTE IU-1-1	63			233	170	MECH ROOM LIGHTS & EF-6	1	20	6
7	-	-	-	63	457			394	LAB LIGHTS EXHAUST FAN EF-7	1	20	8
9	15	2	HVAC BREAK CEILING CASSETTE IU-1-2	126		1326		1200	LAB HOOD BLOWER	1	20	10
11	-	-	-	126			2726	2600	GROUND FLOOR RR HEATER EUH-1	2	20	12
13	15	2	HVAC CONF. CEILING CASSETTE IU-1-3	126	2726			2600	-	-	-	14
15	-	-	-	126		1302		1176	ELEVATOR SUMP PUMP	1	20	16
17	15	2	HVAC LAB CEILING CASSETTE IU-1-4	126			1526	1400	LOCKER ROOM WASHING MACHINE	1	20	18
19	-	-	-	126	5126			5000	LOCKER ROOM DRYER	2	30	20
21	15	2	HVAC CNTRL CEILING CASSETTE IU-1-5	126		5126		5000	-	-	-	22
23	-	-	-	126			8126	8000	BREAKROOM RANGE	2	50	24
25	15	2	HVAC CORR. CEILING CASSETTE IU-1-6	1020	9020			8000	-	-	-	26
27	-	-	-	1020		2820		1800	BREAKROOM DISHWASHER	1	20	28
29	15	2	HVAC STOR. CEILING CASSETTE IU-1-7	63			463	400	BREAKROOM REF/FREEZER	1	20	30
31	-	-	-	63	303			240	BREAKROOM ICE MAKER	1	20	32
33	20	2	SPLIT SYSTEM OUTDOOR UNIT OU-2	3300		3700		400	LAB REFRIGERATOR	1	20	34
35	-	-	-	3300			4164	864	LAB BOD INCUBATOR	1	20	36
37	20	1	GROUND FLOOR RR LIGHTS & EF-1	93	6190			6097	PANEL ADMIN LV B	3	100	38
39	20	1	LOCKER ROOM LIGHTS & EF-2	106		5977		5871	-	-	-	40
41	20	1	1ST FLOOR SHOWER LIGHTS & EF-3	60			6512	6452	-	-	-	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					24049	20478	23750					

TOTAL CONNECTED LOAD(VA) THIS PANEL: 68277 — TOTAL CONNECTED LOAD (AMPS): 189.5

TOTAL DEMAND LOAD (VA) THIS PANEL: 54621.6 — TOTAL DEMAND LOADS (AMPS): 152

NOTES:
1.

PANEL OPS BLDG LV A SCHEDULE
SCALE: NONE

PANEL: OPS BLDG LV B

3 PH | 4 WIRE | VOLTAGE | L-L: 208 | L-N: 120 | MAIN: | 125A MCB

LOCATION: ELECTRICAL ROOM

CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	PHASE A	PHASE B	PHASE C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	20	1	OFFICE LIGHTS	116	836			720	MECH/ELEC/JC RECPT.	1	20	2
3	20	1	BREAK ROOM LIGHTS & EF-8	294		834		540	LOCKER ROOM RECPT.	1	20	4
5	20	1	CONF. ROOM LIGHTS	384			768	384	BLOWER & GENERATOR LIGHTS	1	20	6
7	20	1	LAB LIGHTS	384	960			576	BLOWER & GENERATOR LIGHTS	1	20	8
9	20	1	CONTROL ROOM LIGHTS	384		512		128	UNDER BUILDING STORAGE LIGHTS	1	20	10
11	20	1	ELECTRICAL ROOM LIGHTS	512			704	192	VEHICLE PARKING LIGHTS	1	20	12
13	20	1	STORAGE ROOM LIGHTS	256	448			192	VEHICLE PARKING LIGHTS	1	20	14
15	20	1	CORRIDOR & HALL LIGHTS	292		892		600	COLD WATER LINE HEAT TRACE	1	20	16
17	20	1	BREAKROOM KITCHEN RECEPT.	720			840	120	HOT WATER LINE WARM TRACE	1	20	18
19	20	1	BREAKROOM KITCHEN RECEPT.	360	480			120	IRRIGATION CONTROLLER	1	20	20
21	20	1	BREAKROOM WALL RECEPT.	720		1280		560	BREAKROOM SINK DISPOSAL	1	20	22
23	20	1	CONF. ROOM RECEPT.	900			1800	900	OFFICE RECEPT.	1	20	24
25	20	1	CONF. ROOM RECEPT.	720	853			133	EXTERIOR LIGHTS	1	20	26
27	20	1	LAB RECPT.	900		913		13	ELEVATOR SHAFT LIGHT	1	20	28
29	20	1	LAB RECPT.	900			1260	360	1ST FLOOR BATHROOM RECPT.	1	20	30
31	20	1	CONTROL ROOM DESK RECPT.	1440	1440			0	SPARE	1	20	32
33	20	1	CONTROL ROOM MONITOR RECPT.	720		720		0	SPARE	1	20	34
35	20	1	CONTROL ROOM RECPT.	360			360	0	SPARE	1	20	36
37	20	1	ELECTRICAL ROOM RECPT.	1080	1080			0	SPARE	1	20	38
39	20	1	STORAGE ROOM RECPT.	720		720		0	SPARE	1	20	40
41	20	1	SERVER RACK RECPT.	720			720	0	SPARE	1	20	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					6097	5871	6452					

TOTAL CONNECTED LOAD(VA) THIS PANEL: 18420 — TOTAL CONNECTED LOAD (AMPS): 51.1

TOTAL DEMAND LOAD (VA) THIS PANEL: 14736 — TOTAL DEMAND LOADS (AMPS): 41

NOTES:
1.

PANEL OPS BLDG LV B SCHEDULE
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY	APVD.
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OPS BLDG PANEL SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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PANEL: DEWATERING HV

3 PH	4 WIRE	VOLTAGE	L-L: 480		L-N: 277	MAIN:	125A MCB			
LOCATION: DEWATERING BLDG			PHASE	PHASE	PHASE		MOUNTING: SURFACE			
CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	A	B	C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	20	3	DEWATERING BLDG EXHAUST FAN EF-1	583	4055			3472	DEWATERING LV TRANSFORMER	3	20	2
3	-	-		583		4215		3632		-	-	4
5	-	-		583			2105	1522		-	-	6
7	20	3	DEWATERING BLDG EXHAUST FAN EF-1	583	583			0	SPARE	3	20	8
9	-	-		583		583		0		-	-	10
11	-	-		583			583	0		-	-	12
13	20	3	SPARE	0	0			0	SPARE	3	50	14
15	-	-		0		0		0		-	-	16
17	-	-		0			0	0		-	-	18
19	20	3	SPARE	0	0			0	SPARE	3	20	20
21	-	-		0		0		0		-	-	22
23	-	-		0			0	0		-	-	24
25	20	3	SPARE	0	0			0	SPARE	3	50	26
27	-	-		0		0		0		-	-	28
29	-	-		0			0	0		-	-	30
31	20	3	SPARE	0	0			0	SPARE	3	20	32
33	-	-		0		0		0		-	-	34
35	-	-		0			0	0		-	-	36
37	20	3	SPARE	0	0			0	SPARE	3	20	38
39	-	-		0		0		0		-	-	40
41	-	-		0			0	0		-	-	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					4638	4798	2688					

TOTAL CONNECTED LOAD(VA) THIS PANEL:	12124	TOTAL CONNECTED LOAD (AMPS):	15
TOTAL DEMAND LOAD (VA) THIS PANEL:	9699.2	TOTAL DEMAND LOADS (AMPS):	12

NOTES:
1.

PANEL DEWATERING HV SCHEDULE
SCALE: NONE

PANEL: DEWATERING LV

3 PH	4 WIRE	VOLTAGE	L-L: 208		L-N: 120	MAIN:	125A MCB			
LOCATION: DEWATERING BLDG			PHASE	PHASE	PHASE		MOUNTING: SURFACE			
CKT#	BKR.	POLE	DESCRIPTION	VOLT-AMP	A	B	C	VOLT-AMP	DESCRIPTION	POLE	BKR.	CKT#
1	30	1	POLYMER TOTE 1 MIXER	1656	1976			320	DEWATERING LOADING LIGHTS	1	20	2
3	30	1	POLYMER TOTE 2 MIXER	1656		1976		320	SCREW PRESS LIGHTS	1	20	4
5	20	1	SOLIDS BULDING ROLL UP DOOR 1	1176			1496	320	SCREW PRESS LIGHTS	1	20	6
7	20	1	SOLIDS BULDING ROLL UP DOOR 2	1176	1496			320	STORAGE AREA LIGHTS	1	20	8
9	20	1	SOLIDS BULDING ROLL UP DOOR 3	1176		1656		480	STORAGE AREA LIGHTS	1	20	10
11	20	1	SPARE	0			26	26	DEWATERING BUILDING EXTERIOR LIGHTS	1	20	12
13	20	1	SPARE	0	0			0	SPARE	1	20	14
15	20	1	SPARE	0		0		0	SPARE	1	20	16
17	20	1	SPARE	0			0	0	SPARE	1	20	18
19	20	1	SPARE	0	0			0	SPARE	1	20	20
21	20	1	SPARE	0		0		0	SPARE	1	20	22
23	20	1	SPARE	0			0	0	SPARE	1	20	24
25	20	1	SPARE	0	0			0	SPARE	1	20	26
27	20	1	SPARE	0		0		0	SPARE	1	20	28
29	20	1	SPARE	0			0	0	SPARE	1	20	30
31	20	1	SPARE	0	0			0	SPARE	1	20	32
33	20	1	SPARE	0		0		0	SPARE	1	20	34
35	20	1	SPARE	0			0	0	SPARE	1	20	36
37	20	1	SPARE	0	0			0	SPARE	1	20	38
39	20	1	SPARE	0		0		0	SPARE	1	20	40
41	20	1	SPARE	0			0	0	SPARE	1	20	42
TOTAL LOAD(VA)/PHASE THIS PANEL:					3472	3632	1522					

TOTAL CONNECTED LOAD(VA) THIS PANEL:	8626	TOTAL CONNECTED LOAD (AMPS):	24
TOTAL DEMAND LOAD (VA) THIS PANEL:	6900.8	TOTAL DEMAND LOADS (AMPS):	19

NOTES:
1.

PANEL DEWATERING LV SCHEDULE
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER DANIEL COLE STEVENS

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DEWATERING PANEL SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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CONNECTED LOAD SCHEDULE		
DESCRIPTION	LOAD (HP)	LOAD (NEC FLA)
INFLUENT PUMP 1	30	40
INFLUENT PUMP 2	30	40
INFLUENT PUMP 3	30	40
INFLUENT PUMP 4	30	40
ODOR CONTROL	N/A	30
MIXING PUMP 1	15	21
MIXING PUMP 2	15	21
MIXING PUMP 3	15	21
MIXING PUMP 4	15	21
NRCY PUMP 1	7.5	11
NRCY PUMP 2	7.5	11
RAS PUMP 1	7.5	11
RAS PUMP 2	7.5	11
MECH SCREEN CONVEYOR	1.5	3
CLARIFIER 1	0.5	1.1
CLARIFIER 2	0.5	1.1
FILTER SLUGE PUMP	3	4.8
UV VESSEL	35 KW	53
W3 PUMP 1	15	21
W3 PUMP 2	15	21
SCREW PRESS	25	33.7
SCREW CONVEYOR 1	5	7.6
SCREW CONVEYOR 2	5	7.6
SCREW CONVEYOR 3	5	7.6
PANEL DEWATERING HV	N/A	15
BLOWER 1	125	156
BLOWER 2	125	156
BLOWER 3	125	156
RO PLANT	30	40
WATER WELL	30	40
PANEL HV	N/A	103
LV TRANSFORMER	N/A	36
OPS BUILDING	N/A	82
HEADWORKS COMPRESSOR	5	7.6
TOTAL CONNECTED LOAD		1271
25% OF MAX LOAD		39
MINMUM SERVICE SIZE		1310

MCC LOAD SCHEDULE
SCALE: NONE

P1	5 SETS OF 3#400KCMIL, 1#400KCMIL N IN A 3" C EACH
P2	1#4/0 G
P3	5 SETS OF 3#400KCMIL, 1#400KCMIL N, 1#4/0 G IN A 3" C EACH
P3A	3 SETS OF 3#300KCMIL, 1#300KCMIL N, 1#2/0 G IN A 3" C EACH
P4	3#8, 1#8 G VFD RATED CABLE IN A 1" C
P5	3#3/0, 1#4 G IN A 2-1/2" C
P6	3#10, 1#10 G IN A 1" C
P7	3#12, 1#12 G VFD RATED CABLE IN A 1" C
P8	3#4/0, 1#4/0 N, 1#4 G IN A 3" C
P9	3#12, 1#12 G IN A 1" C
P10	3#1, 1#1 N, 1#6 G IN A 1-1/2" C
P11	3#4, 1#8 G IN A 1-1/2" C
P12	3#8, 1#8 N, 1#10 G IN A 1" C
P13	MANUFACTURER CABLE, CONDUIT AS REQUIRED
P14	3#6, 1#10 G IN A 1" C
P15	3#12 IN A 3/4" C
P16	3#12, 3#12 N, 2#12 G IN A 1" C
P17	3#4, 1#4 N, 1#8 G IN A 1-1/2" C
P18	3#2, 1#2 N, 1#6 G IN A 1-1/2" C
P19	3#4/0, 1#4/0 N, 1#2 G IN A 3" C
P20	3#8, 1#10 G IN A 1" C

POWER CONDUIT AND CONDUCTOR SCHEDULE
SCALE: NONE

C1	CAT6 CABLE, 1" C
C2	2 - 2#18 TSP CABLE IN A 1" C
C3	MANUFACTURER CABLE, CONDUIT AS REQUIRED
C4	3#14 IN A 3/4" C
C5	4#14 IN A 3/4" C
C6	6#14 IN A 3/4" C
C7	8#14 IN A 3/4" C
C8	4 - 2#18 TSP CABLE IN A 1-1/4" C
C9	20#14 IN A 1-1/4" C
C10	200#14 IN A 3" C
C11	20 - 2#18 TSP CABLE IN A 3" C
C12	10#14 IN A 1" C
C13	6 STRAND FIBER OPTIC MULTIMODE CABLE (OM3) IN A 2" C

CONTROL CONDUIT AND CONDUCTOR SCHEDULE
SCALE: NONE

SYMBOL	MANUFACTURER CAT. NO.	MANUFACTURER	DESCRIPTION	LAMPS			MOUNTING	MOUNTING TYPE	REMARKS	OPTIONS
				WATTS	NO. PER FIXTURE	TYPE				
	EG3-4-LED-4L-DA-S-UNV-DIM-40-8-	LSI	LED ENCLOSED & GASKETED FIXTURE	32	N/A	LED	CEILING	SURFACE		
	WSL-LED-1L-UNV-DIM-40-BZA-PC120	LSI	OUTDOOR WALLPACK	13	N/A	LED	WALL	SURFACE		PHOTOCELL
	LPRX-R-U-WH-LD11	LSI	EMERGENCY/EXIT LIGHT	1.1	2	LED	WALL	SURFACE		
	GA24-LED-SS-NW-UE	LSI	2'X4' TROFFER	45	N/A	LED	CEILING	RECESSED		
	GA22-LED-SS-NW-UE	LSI	2'X2' TROFFER	29	N/A	LED	CEILING	RECESSED		
	SMA-LED-28L-ACR-3-UNV-DIM-40-BRZ-PM	LSI	COMMERCIAL AREA LIGHT	200	N/A	LED	POLE	POLE	SHALL BE PROVIDED WITH 10' POLE, INTEGRATED RECEPTACLE, AND SWITCH	
	WCP-LED-5L-DA-W-UNV-DIM-40-BRZ	LSI	LED CANOPY LIGHT	40	N/A	LED	PENDANT/ CEILING	PENDANT/ CEILING		
	ADL-FS1-UNV-6R-WHT	LSI	LED RECESSED CAN	19	N/A	LED	CEILING	RECESSED		

FIXTURE SCHEDULE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS
			APVD. BY:

MISC. SCHEDULES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

FILE	SEE LEFT
	VERIFY SCALE
	BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	E-0.73

V:\PROJECT FILES\100200 — DAUPHIN ISLAND WATER & SEWER AUTHORITY\100200.32 — WWTP UPGRADES\300 DESIGN\355 PRELIMINARY DRAWINGS\07 ELECTRICAL\01 CADD\SCHEDULES.DWG
Daniel Stevenson PLOT 8/8/2024 11:51 AM SAVED 8/8/2024 11:25 AM
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HERIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CONSTANINE ENGINEERING. HOWEVER, THIS SHALL NOT PROHIBIT THE REUSE OF THIS DOCUMENT BY THE CLIENT AS PROVIDED FOR BY THE CONTRACT.

GENERAL NOTES:

1. INDIVIDUAL CONDUITS PER LOAD/DEVICE SHOWN FOR CLARITY. CONDUCTORS CAN BE COMBINED PER THE NEC TO REDUCE THE OVERALL DUCT BANK SIZE. POWER AND CONTROL CONDUITS SHALL REMAIN SEPARATE.
2. ALL DUCT BANKS SHALL CONTAIN TWO (2) SPARE 2" CONDUITS.

POWER DUCT BANK 1 (P1)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P6	1"	3#10, 1#10G	ODOR CONTROL POWER FROM MCC
2	P15	3/4"	3#12	PW HEAT TRACE FROM PANEL LV
3	P15	3/4"	3#12	ODOR CONTROL AREA LIGHT FROM PANEL LV
4	P15	3/4"	3#12	SOUTH GATE POWER FROM PANEL LV

P1 POWER DUCT BANK 1

POWER DUCT BANK 2 (P2)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P15	3/4"	3#12	INF PS AREA LIGHT POWER FROM PANEL LV
2	P15	3/4"	3#12	INF PS FLOW METER POWER FROM PANEL LV
3	P4	1"	3#8, 1#8G VFD	PUMP 1 POWER FROM MCC
4	P4	1"	3#8, 1#8G VFD	PUMP 2 POWER FROM MCC
5	P4	1"	3#8, 1#8G VFD	PUMP 3 POWER FROM MCC
6	P4	1"	3#8, 1#8G VFD	PUMP 4 POWER FROM MCC

P2 POWER DUCT BANK 2

POWER DUCT BANK 3 (P3)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P6	1"	3#10, 1#10G	ODOR CONTROL POWER FROM MCC
2	P15	3/4"	3#12	PW HEAT TRACE FROM PANEL LV
3	P15	3/4"	3#12	ODOR CONTROL AREA LIGHT FROM PANEL LV
4	P15	3/4"	3#12	SOUTH GATE POWER FROM PANEL LV
5	P15	3/4"	3#12	INF PS AREA LIGHT POWER FROM PANEL LV
6	P15	3/4"	3#12	INF PS FLOW METER POWER FROM PANEL LV
7	P4	1"	3#8, 1#8G VFD	PUMP 1 POWER FROM MCC
8	P4	1"	3#8, 1#8G VFD	PUMP 2 POWER FROM MCC
9	P4	1"	3#8, 1#8G VFD	PUMP 3 POWER FROM MCC
10	P4	1"	3#8, 1#8G VFD	PUMP 4 POWER FROM MCC

P3 POWER DUCT BANK 3

POWER DUCT BANK 4 (P4)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P6	1"	3#10, 1#10G	ODOR CONTROL POWER FROM MCC
2	P15	3/4"	3#12	PW HEAT TRACE FROM PANEL LV
3	P15	3/4"	3#12	ODOR CONTROL AREA LIGHT FROM PANEL LV
4	P15	3/4"	3#12	SOUTH GATE POWER FROM PANEL LV
5	P15	3/4"	3#12	INF PS AREA LIGHT POWER FROM PANEL LV
6	P15	3/4"	3#12	INF PS FLOW METER POWER FROM PANEL LV
7	P4	1"	3#8, 1#8G VFD	PUMP 1 POWER FROM MCC
8	P4	1"	3#8, 1#8G VFD	PUMP 2 POWER FROM MCC
9	P4	1"	3#8, 1#8G VFD	PUMP 3 POWER FROM MCC
10	P4	1"	3#8, 1#8G VFD	PUMP 4 POWER FROM MCC
11	P15	3/4"	3#12	HW SCREENING LIGHTS POWER FROM PANEL LV
12	P15	3/4"	3#12	SCREEN/CONVEYOR CP POWER FROM PANEL LV
13	P15	3/4"	3#12	SCREENING & GRIT W3 HEAT TRACE FROM PANEL LV
14	P15	3/4"	3#12	GRIT SYSTEM CP POWER FROM PANEL LV
15	P15	3/4"	3#12	SCREENING PLANT WATER HEAT TRACE FROM PANEL LV
16	P9	1"	3#12, 1#12 G	NORTH CLAR. POWER FROM MCC
17	P15	3/4"	3#12	NORTH CLAR. AREA LIGHT FROM PANEL LV
18	P15	3/4"	3#12	NORTH BASIN DO METER FROM PANEL LV
19	P9	1"	3#12, 1#12 G	NORTH NRCY PUMP POWER FROM MCC
20	P15	3/4"	3#12	NORTH NRCY FLOW METER FROM PANEL LV
21	P6	1"	3#10, 1#10 G	NORTH MIXING PUMP 1 POWER FROM MCC
22	P9	1"	3#12, 1#12 G	SCREEN AIR COMPRESSOR POWER FROM PANEL LV
23	P15	3/4"	3#12	NORTH RAS FLOW METER FROM PANEL LV
24	P7	1"	3#12, 1#12 G VFD	NORTH RAS PUMP POWER FROM MCC
25	P6	1"	3#10, 1#10 G	NORTH MIXING PUMP 2 POWER FROM MCC
26	P9	1"	3#12, 1#12 G	SOUTH CLAR. POWER FROM MCC
27	P15	3/4"	3#12	SOUTH CLAR. AREA LIGHT FROM PANEL LV
28	P15	3/4"	3#12	SOUTH BASIN DO METER FROM PANEL LV
29	P9	1"	3#12, 1#12 G	SOUTH NRCY PUMP POWER FROM MCC
30	P15	3/4"	3#12	SOUTH NRCY FLOW METER FROM PANEL LV
31	P6	1"	3#10, 1#10 G	SOUTH MIXING PUMP 1 POWER FROM MCC
32	P15	3/4"	3#12	SOUTH RAS FLOW METER FROM PANEL LV
33	P7	1"	3#12, 1#12 G VFD	SOUTH RAS PUMP POWER FROM MCC
34	P6	1"	3#10, 1#10 G	SOUTH MIXING PUMP 2 POWER FROM MCC
35	P11	1-1/2"	3#4, 1#8 G	DEWATERING CP POWER FROM MCC
36	P10	1-1/2"	3#1, 1#1N, 1#6 G	DEWATERING BUILDING PANEL HV POWER FROM MCC
37	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
38	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
39	P15	3/4"	3#12	DIG. AREA LIGHT POWER FROM PANEL LV
40	P15	3/4"	3#12	EFF FLOW METER POWER FROM PANEL LV
41	P15	3/4"	3#12	EFF REF SAMPLER POWER FROM PANEL LV
42	P15	3/4"	3#12	REUSE WATER HEAT TRACE POWER FROM PANEL LV
43	P14	1"	3#6, 1#10 G	REUSE PUMP STATION CP POWER FROM MCC
44	P14	1"	3#6, 1#10 G	UV SYSTEM CP STATION POWER FROM MCC
45	P6	1"	3#10, 1#10 G	FILTER CP POWER FROM MCC
46	P15	3/4"	3#12	UV/FILTER REUSE HEAT TRACE POWER FROM PANEL LV
47	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
48	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
49	P15	3/4"	3#12	NORTH GATE POWER FROM PANEL LV
50	P8	3"	4#4/0, 1#4 G	RO BUILDING FEED FROM MCC

P4 POWER DUCT BANK 4

POWER DUCT BANK 5 (P5)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P15	3/4"	3#12	HW SCREENING LIGHTS POWER FROM PANEL LV
2	P15	3/4"	3#12	SCREEN/CONVEYOR CP POWER FROM PANEL LV
3	P15	3/4"	3#12	SCREENING & GRIT W3 HEAT TRACE FROM PANEL LV
4	P15	3/4"	3#12	GRIT SYSTEM CP POWER FROM PANEL LV
5	P15	3/4"	3#12	SCREENING PLANT WATER HEAT TRACE FROM PANEL LV
6	P9	1"	3#12, 1#12 G	NORTH CLAR. POWER FROM MCC
7	P15	3/4"	3#12	NORTH CLAR. AREA LIGHT FROM PANEL LV
8	P15	3/4"	3#12	NORTH BASIN DO METER FROM PANEL LV
9	P9	1"	3#12, 1#12 G	NORTH NRCY PUMP POWER FROM MCC
10	P15	3/4"	3#12	NORTH NRCY FLOW METER FROM PANEL LV
11	P6	1"	3#10, 1#10 G	NORTH MIXING PUMP 1 POWER FROM MCC
12	P9	1"	3#12, 1#12 G	SCREEN AIR COMPRESSOR POWER FROM PANEL LV
13	P15	3/4"	3#12	NORTH RAS FLOW METER FROM PANEL LV
14	P7	1"	3#12, 1#12 G VFD	NORTH RAS PUMP POWER FROM MCC
15	P6	1"	3#10, 1#10 G	NORTH MIXING PUMP 2 POWER FROM MCC
16	P9	1"	3#12, 1#12 G	SOUTH CLAR. POWER FROM MCC
17	P15	3/4"	3#12	SOUTH CLAR. AREA LIGHT FROM PANEL LV
18	P15	3/4"	3#12	SOUTH BASIN DO METER FROM PANEL LV
19	P9	1"	3#12, 1#12 G	SOUTH NRCY PUMP POWER FROM MCC
20	P15	3/4"	3#12	SOUTH NRCY FLOW METER FROM PANEL LV
21	P6	1"	3#10, 1#10 G	SOUTH MIXING PUMP 1 POWER FROM MCC
22	P15	3/4"	3#12	SOUTH RAS FLOW METER FROM PANEL LV
23	P7	1"	3#12, 1#12 G VFD	SOUTH RAS PUMP POWER FROM MCC
24	P6	1"	3#10, 1#10 G	SOUTH MIXING PUMP 2 POWER FROM MCC

P5 POWER DUCT BANK 5

POWER DUCT BANK 6 (P6)

CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P11	1-1/2"	3#4, 1#8 G	DEWATERING CP POWER FROM MCC
2	P10	1-1/2"	3#1, 1#1N, 1#6 G	DEWATERING BUILDING PANEL HV POWER FROM MCC
3	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
4	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
5	P15	3/4"	3#12	DIG. AREA LIGHT POWER FROM PANEL LV
6	P15	3/4"	3#12	EFF FLOW METER POWER FROM PANEL LV
7	P15	3/4"	3#12	EFF REF SAMPLER POWER FROM PANEL LV
8	P15	3/4"	3#12	REUSE WATER HEAT TRACE POWER FROM PANEL LV
9	P14	1"	3#6, 1#10 G	REUSE PUMP STATION CP POWER FROM MCC
10	P14	1"	3#6, 1#10 G	UV SYSTEM CP STATION POWER FROM MCC
11	P6	1"	3#10, 1#10 G	FILTER CP POWER FROM MCC
12	P15	3/4"	3#12	UV/FILTER REUSE HEAT TRACE POWER FROM PANEL LV
13	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
14	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
15	P15	3/4"	3#12	NORTH GATE POWER FROM PANEL LV
16	P8	3"	4#4/0, 1#4 G	RO BUILDING FEED FROM MCC

P6 POWER DUCT BANK 6

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	

POWER DUCT BANK SCH 1

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
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(256)-203-9501

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DWG.	E-0.74

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POWER DUCT BANK 7 (P7)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P14	1"	3#6, 1#10 G	DEWATERING CP POWER FROM MCC
2	P10	1-1/2"	3#1, 1#1N, 1#6 G	DEWATERING BUILDING PANEL HV POWER FROM MCC
3	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
4	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
5	P15	3/4"	3#12	DIG. AREA LIGHT POWER FROM PANEL LV
6	P15	3/4"	3#12	EFF FLOW METER POWER FROM PANEL LV
7	P15	3/4"	3#12	EFF REF SAMPLER POWER FROM PANEL LV
8	P15	3/4"	3#12	REUSE WATER HEAT TRACE POWER FROM PANEL LV
9	P14	1"	3#6, 1#10 G	REUSE PUMP STATION CP POWER FROM MCC
10	P14	1"	3#6, 1#10 G	UV SYSTEM CP STATION POWER FROM MCC
11	P6	1"	3#10, 1#10 G	FILTER CP POWER FROM MCC
12	P15	3/4"	3#12	UV/FILTER REUSE HEAT TRACE POWER FROM PANEL LV
13	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
14	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
15	P15	3/4"	3#12	SOUTH GATE POWER FROM PANEL LV

P7 POWER DUCT BANK 7

POWER DUCT BANK 8 (P8)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P11	1-1/2"	3#4, 1#8 G	DEWATERING CP POWER FROM MCC
2	P10	1-1/2"	3#1, 1#1N, 1#6 G	DEWATERING BUILDING PANEL HV POWER FROM MCC

P8 POWER DUCT BANK 8

POWER DUCT BANK 9 (P9)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
2	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
3	P15	3/4"	3#12	DIG. AREA LIGHT POWER FROM PANEL LV
4	P15	3/4"	3#12	EFF FLOW METER POWER FROM PANEL LV
5	P15	3/4"	3#12	EFF REF SAMPLER POWER FROM PANEL LV
6	P15	3/4"	3#12	REUSE WATER HEAT TRACE POWER FROM PANEL LV
7	P14	1"	3#6, 1#10 G	REUSE PUMP STATION CP POWER FROM MCC
8	P14	1"	3#6, 1#10 G	UV SYSTEM CP STATION POWER FROM MCC
9	P6	1"	3#10, 1#10 G	FILTER CP POWER FROM MCC
10	P15	3/4"	3#12	UV/FILTER REUSE HEAT TRACE POWER FROM PANEL LV
11	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
12	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV

P9 POWER DUCT BANK 9

POWER DUCT BANK 10 (P10)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
2	P9	1"	3#12, 1#12 G	DIG. TELESCOPING VALVE POWER FROM PANEL HV
3	P15	3/4"	3#12	DIG. AREA LIGHT POWER FROM PANEL LV

P10 POWER DUCT BANK 10

POWER DUCT BANK 11 (P11)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	P15	3/4"	3#12	EFF FLOW METER POWER FROM PANEL LV
2	P15	3/4"	3#12	EFF REF SAMPLER POWER FROM PANEL LV
3	P15	3/4"	3#12	REUSE WATER HEAT TRACE POWER FROM PANEL LV
4	P14	1"	3#6, 1#10 G	REUSE PUMP STATION CP POWER FROM MCC
5	P14	1"	3#6, 1#10 G	UV SYSTEM CP STATION POWER FROM MCC
6	P6	1"	3#10, 1#10 G	FILTER CP POWER FROM MCC
7	P15	3/4"	3#12	UV/FILTER REUSE HEAT TRACE POWER FROM PANEL LV
8	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV
9	P15	3/4"	3#12	W3/FILTER/UV LIGHTING POWER FROM PANEL LV

P11 POWER DUCT BANK 11

GENERAL NOTES:

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2. ALL DUCT BANKS SHALL CONTAIN TWO (2) SPARE 2" CONDUITS.

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENS 8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS
			APV'D

POWER DUCT BANK SCH 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	E-0.75

RELEASE FOR BID

CONTROL DUCT BANK 1 (C1)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C13	2"	6 STRAND FO	ODOR CONTROL SYSTEM TO MCP

C1 CONTROL DUCT BANK C1

CONTROL DUCT BANK 2 (C2)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE PRESSURE TO MCP
2	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE FLOW TO MCP
3	C7	3/4"	8#14	PUMP 1 CONTROL SIGNALS TO MCC
4	C7	3/4"	8#14	PUMP 2 CONTROL SIGNALS TO MCC
5	C7	3/4"	8#14	PUMP 3 CONTROL SIGNALS TO MCC
6	C7	3/4"	8#14	PUMP 4 CONTROL SIGNALS TO MCC
7	C2	1"	2-2#18 TSP	INFLUENT PS LEVEL TO MCP
8	C9	1-1/4"	20#14	FLOAT SWITCH SIGNALS TO MCC

C2 CONTROL DUCT BANK C2

CONTROL DUCT BANK 3 (C3)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C13	2"	6 STRAND FO	ODOR CONTROL SYSTEM TO MCP
2	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE PRESSURE TO MCP
3	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE FLOW TO MCP
4	C7	3/4"	8#14	PUMP 1 CONTROL SIGNALS TO MCC
5	C7	3/4"	8#14	PUMP 2 CONTROL SIGNALS TO MCC
6	C7	3/4"	8#14	PUMP 3 CONTROL SIGNALS TO MCC
7	C7	3/4"	8#14	PUMP 4 CONTROL SIGNALS TO MCC
8	C2	1"	2-2#18 TSP	INFLUENT PS LEVEL TO MCP
9	C9	1-1/4"	20#14	FLOAT SWITCH SIGNALS TO MCC

C3 CONTROL DUCT BANK C3

CONTROL DUCT BANK 4 (C4)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C13	2"	6 STRAND FO	ODOR CONTROL SYSTEM TO MCP
2	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE PRESSURE TO MCP
3	C2	1"	2-2#18 TSP	INFLUENT PS DISCHARGE FLOW TO MCP
4	C7	3/4"	8#14	PUMP 1 CONTROL SIGNALS TO MCC
5	C7	3/4"	8#14	PUMP 2 CONTROL SIGNALS TO MCC
6	C7	3/4"	8#14	PUMP 3 CONTROL SIGNALS TO MCC
7	C7	3/4"	8#14	PUMP 4 CONTROL SIGNALS TO MCC
8	C2	1"	2-2#18 TSP	INFLUENT PS LEVEL TO MCP
9	C9	1-1/4"	20#14	FLOAT SWITCH SIGNALS TO MCC
10	C4	3/4"	3#14	SCREEN CONV. CABLE SW SIGNALS TO MCC
11	C4	3/4"	3#14	SCREEN CONV. OP. LIMIT SW SIGNALS TO MCC
12	C12	1"	10#14	GRIT SYS. CP SIGNALS TO MCP
13	C7	3/4"	8#14	NORTH CLARIFIER SIGNALS TO MCC
14	C4	3/4"	3#14	NORTH CLARIFIER SPRAY SOLENOID TO MCC
15	C2	1"	2-2#18 TSP	NORTH CLARIFIER DO SIGNAL TO MCP
16	C7	3/4"	8#14	NORTH NRCY PUMP SIGNALS TO MCC
17	C2	1"	2-2#18 TSP	NORTH NRCY FM SIGNAL TO MCP
18	C7	3/4"	8#14	NORTH MIXING PUMP 1 SIGNALS TO MCC
19	C2	1"	2-2#18 TSP	NORTH RAS FM SIGNAL TO MCP
20	C7	3/4"	8#14	NORTH RAS PUMP SIGNALS TO MCC
21	C7	3/4"	8#14	NORTH MIXING PUMP 2 SIGNALS TO MCC
22	C7	3/4"	8#14	SOUTH CLARIFIER SIGNALS TO MCC
23	C4	3/4"	3#14	SOUTH CLARIFIER SPRAY SOLENOID TO MCC
24	C2	1"	2-2#18 TSP	SOUTH CLARIFIER DO SIGNAL TO MCP
25	C7	3/4"	8#14	SOUTH NRCY PUMP SIGNALS TO MCC
26	C2	1"	2-2#18 TSP	SOUTH NRCY FM SIGNAL TO MCP
27	C7	3/4"	8#14	SOUTH MIXING PUMP 1 SIGNALS TO MCC
28	C2	1"	2-2#18 TSP	SOUTH RAS FM SIGNAL TO MCP
29	C7	3/4"	8#14	SOUTH RAS PUMP SIGNALS TO MCC
30	C7	3/4"	8#14	SOUTH MIXING PUMP 2 SIGNALS TO MCC
31	C13	2"	6 STRAND FO	DEWATERING SIGNALS TO MCP
32	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
33	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
34	C2	1"	2-2#18 TSP	EFF FLOW METER SIGNAL TO MCP
35	C8	1-1/4"	2-2#18 TSP	REUSE SYSTEM CP SIGNALS TO MCP
36	C9	1-1/4"	20#14	REUSE SYSTEM CP SIGNALS TO MCP
37	C13	2"	6 STRAND FO	UV SYSTEM CP SIGNALS TO MCP
38	C13	2"	6 STRAND FO	FILTER CP SIGNALS TO MCP
39	C4	3/4"	3#14	UV SYSTEM PLANT WATER SOLENOID TO MCP

C4 CONTROL DUCT BANK C4

CONTROL DUCT BANK 5 (C5)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C4	3/4"	3#14	SCREEN CONV. CABLE SW SIGNALS TO MCC
2	C4	3/4"	3#14	SCREEN CONV. OP. LIMIT SW SIGNALS TO MCC
3	C12	1"	10#14	GRIT SYS. CP SIGNALS TO MCP
4	C7	3/4"	8#14	NORTH CLARIFIER SIGNALS TO MCC
5	C4	3/4"	3#14	NORTH CLARIFIER SPRAY SOLENOID TO MCC
6	C2	1"	2-2#18 TSP	NORTH CLARIFIER DO SIGNAL TO MCP
7	C7	3/4"	8#14	NORTH NRCY PUMP SIGNALS TO MCC
8	C2	1"	2-2#18 TSP	NORTH NRCY FM SIGNAL TO MCP
9	C7	3/4"	8#14	NORTH MIXING PUMP 1 SIGNALS TO MCC
10	C2	1"	2-2#18 TSP	NORTH RAS FM SIGNAL TO MCP
11	C7	3/4"	8#14	NORTH RAS PUMP SIGNALS TO MCC
12	C7	3/4"	8#14	NORTH MIXING PUMP 2 SIGNALS TO MCC
13	C7	3/4"	8#14	SOUTH CLARIFIER SIGNALS TO MCC
14	C4	3/4"	3#14	SOUTH CLARIFIER SPRAY SOLENOID TO MCC
15	C2	1"	2-2#18 TSP	SOUTH CLARIFIER DO SIGNAL TO MCP
16	C7	3/4"	8#14	SOUTH NRCY PUMP SIGNALS TO MCC
17	C2	1"	2-2#18 TSP	SOUTH NRCY FM SIGNAL TO MCP
18	C7	3/4"	8#14	SOUTH MIXING PUMP 1 SIGNALS TO MCC
19	C2	1"	2-2#18 TSP	SOUTH RAS FM SIGNAL TO MCP
20	C7	3/4"	8#14	SOUTH RAS PUMP SIGNALS TO MCC
21	C7	3/4"	8#14	SOUTH MIXING PUMP 2 SIGNALS TO MCC

C5 CONTROL DUCT BANK C5

GENERAL NOTES:

1. INDIVIDUAL CONDUITS PER LOAD/DEVICE SHOWN FOR CLARITY. CONDUCTORS CAN BE COMBINED PER THE NEC TO REDUCE THE OVERALL DUCT BANK SIZE. POWER AND CONTROL CONDUITS SHALL REMAIN SEPARATE.
2. ALL DUCT BANKS SHALL CONTAIN TWO (2) SPARE 2" CONDUITS.

CONTROL DUCT BANK 6 (C6)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C13	2"	6 STRAND FO	DEWATERING SIGNALS TO MCP
2	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
3	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
4	C2	1"	2-2#18 TSP	EFF FLOW METER SIGNAL TO MCP
5	C8	1-1/4"	2-2#18 TSP	REUSE SYSTEM CP SIGNALS TO MCP
6	C9	1-1/4"	20#14	REUSE SYSTEM CP SIGNALS TO MCP
7	C13	2"	6 STRAND FO	UV SYSTEM CP SIGNALS TO MCP
8	C13	2"	6 STRAND FO	FILTER CP SIGNALS TO MCP
9	C4	3/4"	3#14	UV SYSTEM PLANT WATER SOLENOID TO MCP

C6 CONTROL DUCT BANK C6

CONTROL DUCT BANK 7 (C7)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C13	2"	6 STRAND FO	DEWATERING SIGNALS TO MCP

C7 CONTROL DUCT BANK C7

CONTROL DUCT BANK 8 (C8)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
2	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
3	C2	1"	2-2#18 TSP	EFF FLOW METER SIGNAL TO MCP
4	C8	1-1/4"	2-2#18 TSP	REUSE SYSTEM CP SIGNALS TO MCP
5	C9	1-1/4"	20#14	REUSE SYSTEM CP SIGNALS TO MCP
6	C13	2"	6 STRAND FO	UV SYSTEM CP SIGNALS TO MCP
7	C13	2"	6 STRAND FO	FILTER CP SIGNALS TO MCP
8	C4	3/4"	3#14	UV SYSTEM PLANT WATER SOLENOID TO MCP

C8 CONTROL DUCT BANK C8

CONTROL DUCT BANK 9 (C9)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP
2	C4	3/4"	3#14	DIG. HIGH LEVEL FLOAT SWITCH TO MCP

C9 CONTROL DUCT BANK C9

CONTROL DUCT BANK 10 (C10)				
CONDUIT NO.	CONDUIT MARKER	CONDUIT SIZE	CONDUCTORS	DESCRIPTION
1	C2	1"	2-2#18 TSP	EFF FLOW METER SIGNAL TO MCP
2	C8	1-1/4"	2-2#18 TSP	REUSE SYSTEM CP SIGNALS TO MCP
3	C9	1-1/4"	20#14	REUSE SYSTEM CP SIGNALS TO MCP
4	C13	2"	6 STRAND FO	UV SYSTEM CP SIGNALS TO MCP
5	C13	2"	6 STRAND FO	FILTER CP SIGNALS TO MCP
6	C4	3/4"	3#14	UV SYSTEM PLANT WATER SOLENOID TO MCP

C10 CONTROL DUCT BANK C10

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

CONTROL DUCT BANK SCH

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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VERIFY SCALE
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0 1"
DATE AUGUST 2024
PROJ. 100200.32
DWG. E-0.76

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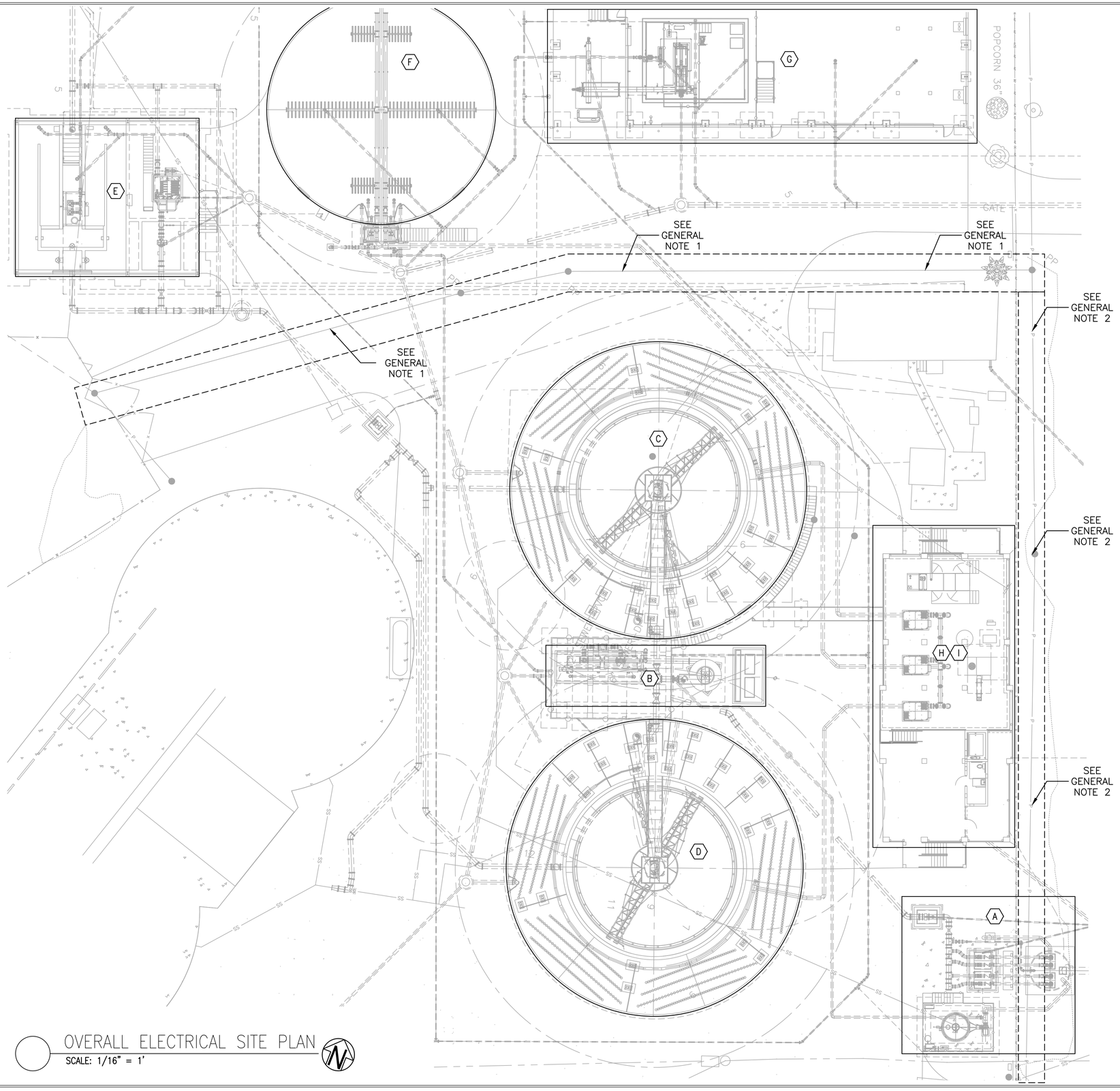

OVERALL ELECTRICAL SITE PLAN
SCALE: 1/16" = 1'

GENERAL NOTES:

1. THE CONTRACTOR SHALL WORK WITH THE ELECTRICAL UTILITY COMPANY REGARDING THE RELOCATION OF THE EXISTING OVERHEAD ELECTRICAL LINE RUNNING THROUGH THE MIDDLE OF THE PROJECT SITE. THE DESIRED/PREFERRED PATH FOR THE RELOCATED LINE IS FOR IT TO CONTINUE NORTH ALONG THE EASTERN SIDE OF THE PROPERTY UNTIL THE NORTHERN PROPERTY LINE IS REACHED. THEN IT SHALL BE ROUTED TO THE WEST UNTIL IT REACHES THE EDGE OF THE PROPERTY AND CAN TURN SOUTH TO REACH THE EXISTING EQUIPMENT. FINAL REROUTING SHALL BE COORDINATED AND VERIFIED WITH THE UTILITY COMPANY, OWNER, AND ENGINEER. ANY COSTS ASSOCIATED WITH THE RELOCATION OF THE LINE IMPOSED BY THE UTILITY COMPANY SHALL BE COVERED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL WORK WITH THE ELECTRICAL UTILITY COMPANY REGARDING THE RELOCATION OF THE EXISTING OVERHEAD ELECTRICAL LINE ALONG THE EASTERN PORTION OF THE PROJECT SITE. THE NEW OPERATIONS BUILDING WILL BE TOO CLOSE TO THE EXISTING OVERHEAD LINE AND THEREFORE IT MUST BE RELOCATED TO THE EAST. FINAL REROUTING SHALL BE COORDINATED AND VERIFIED WITH THE UTILITY COMPANY, OWNER, AND ENGINEER. ANY COSTS ASSOCIATED WITH THE RELOCATION OF THE LINE IMPOSED BY THE UTILITY COMPANY SHALL BE COVERED BY THE CONTRACTOR.

KEY NOTES:

- (A) INFLUENT PUMP STATION & ODOR CONTROL. SEE DRAWINGS E-1.0 & E-1.1 FOR ELECTRICAL DETAILS.
- (B) HEADWORKS. SEE DRAWINGS E-2.0 FOR ELECTRICAL DETAILS.
- (C) NORTH PROCESS BASIN. SEE DRAWING E-3.0 FOR ELECTRICAL DETAILS.
- (D) SOUTH PROCESS BASIN. SEE DRAWING E-3.1 FOR ELECTRICAL DETAILS.
- (E) FILTER, UV, & CHLORINE CONTACT BASIN. SEE DRAWING E-4.0 FOR ELECTRICAL DETAILS.
- (F) DIGESTER. SEE DRAWING E-5.0 FOR ELECTRICAL DETAILS.
- (G) DEWATERING. SEE DRAWINGS E-6.0 & E-6.1 FOR ELECTRICAL DETAILS.
- (H) BLOWERS. SEE DRAWINGS E-7.0 & E-7.1 FOR ELECTRICAL DETAILS.
- (I) OPERATIONS BUILDING. SEE DRAWINGS E-8.0 - E-8.3 FOR ELECTRICAL DETAILS.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENS 8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

ELECTRICAL SITE PLAN OVERVIEW

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
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(256)-203-9501

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DWG.	E-0.80

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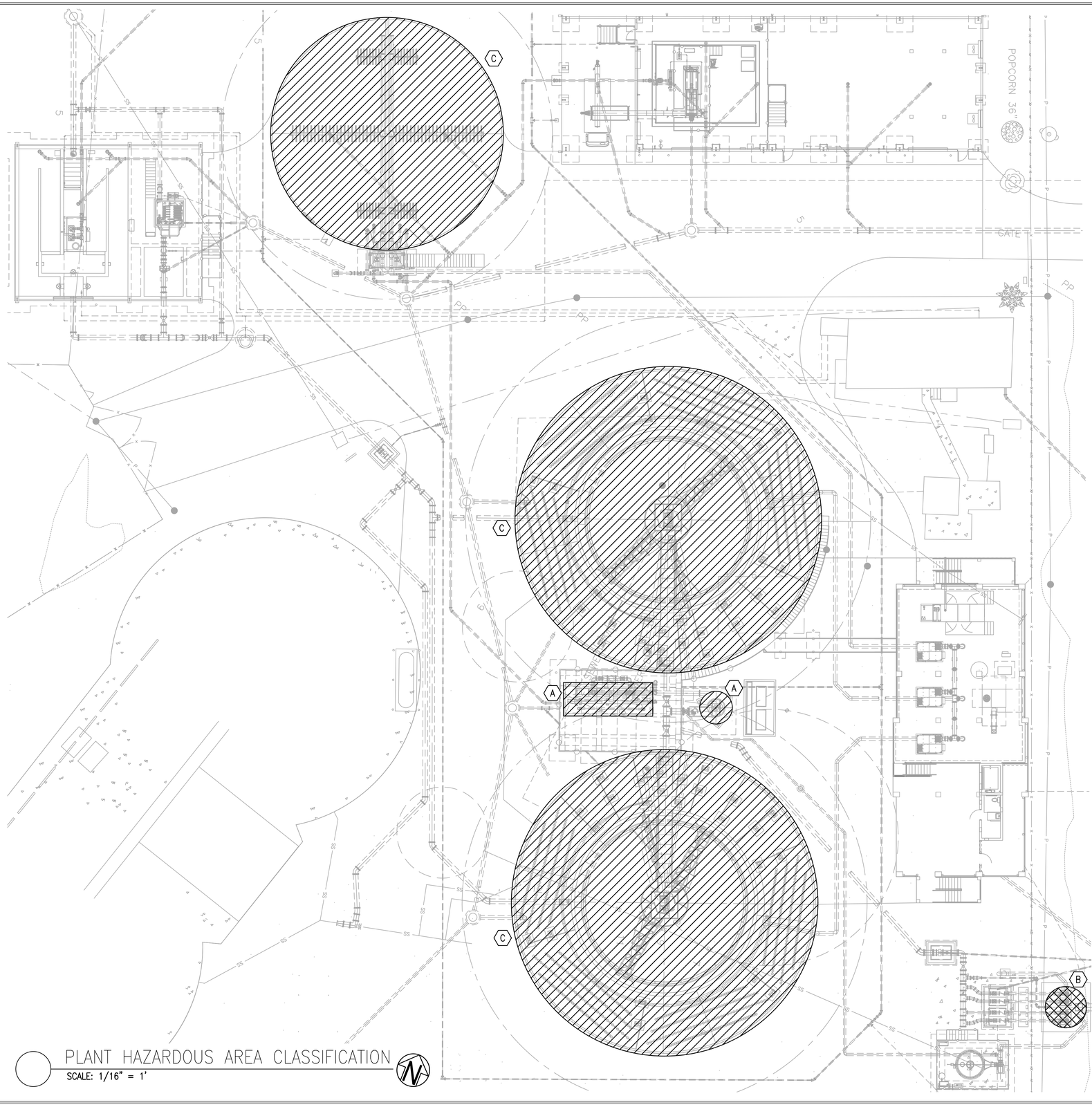

PLANT HAZARDOUS AREA CLASSIFICATION
SCALE: 1/16" = 1'

GENERAL NOTES:

1. ALL WIRING IN CLASSIFIED LOCATIONS SHALL BE DONE IN ACCORDANCE WITH NEC ARTICLES 500, 501 AND 502.
2. SEAL ALL CONDUITS AS REQUIRED BY NEC ARTICLE 501 AT THE CLASSIFIED BOUNDARY.

KEY NOTES:

(A) SCREENING & GRIT REMOVAL. ALL AREAS WITHIN A 10' (3m) ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL SHALL BE A CLASS 1 DIVISION 2 AREA.

(B) INFLUENT PUMPING STATION. ALL AREA INSIDE OF THE STATION SHALL BE A CLASS 1 DIVISION 1 LOCATION. ALL AREAS 18" (0.5 m) ABOVE THE WETWELL HATCHES EXTENDING 36" (0.9 m) SHALL BE A CLASS 1 DIVISION 2 AREA.

(C) PROCESS BASINS & DIGESTER. INTERIOR AREAS OF THE TANKS FROM THE MINIMUM OPERATING WATER SURFACE TO THE TOP OF THE TANK WALL; THE ENVELOPE 18" (0.5 m) ABOVE THE TOP OF THE TANK EXTENDING 18" (0.5 m) BEYOND THE EXTERIOR WALL; AND THE ENVELOPE 18" (0.5 m) ABOVE GRADE EXTENDING HORIZONTALLY 10' (3 m) FROM THE EXTERIOR TANK WALLS SHALL BE CLASSIFIED CLASS 1 DIVISION 2 LOCATIONS.

CLASSIFICATION LEGEND

CLASS 1 DIV. 1 — CLASS 1 DIV. 2

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: AB		DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

HAZARDOUS AREA CLASSIFICATION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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DWG.	E-0.81

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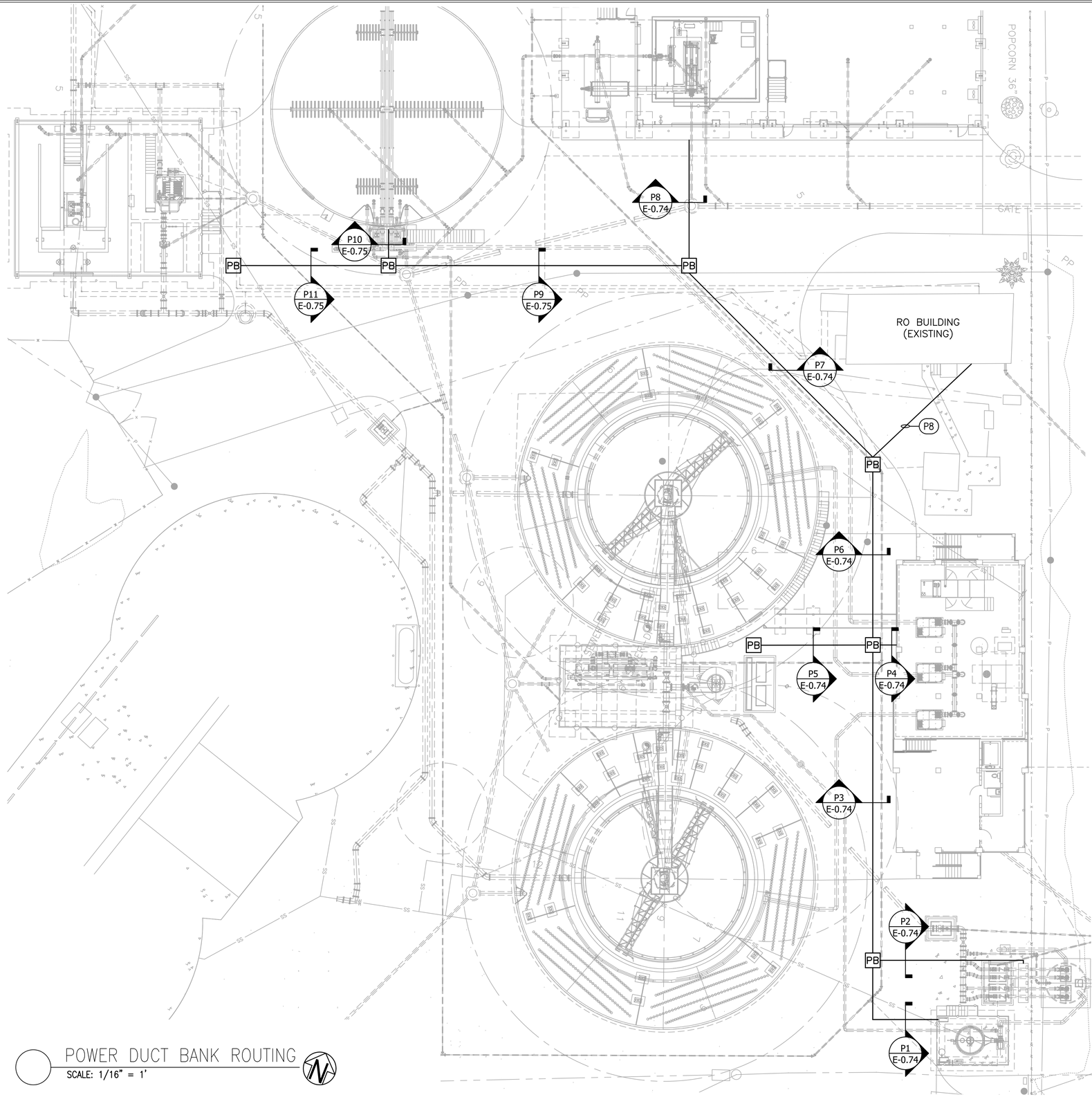

GENERAL NOTES:

1. SEE DRAWINGS E–0.74, E–0.75, & E–0.76 FOR DUCT BANK DETAILS. INDIVIDUAL CONDUITS FOR EACH LOAD/DEVICE HAVE BEEN DETAILED (FOR CLARITY) IN EACH DUCT BANK IN THE SCHEDULES. CONDUCTORS CAN BE COMBINED PER THE NEC TO REDUCE THE OVERALL DUCT BANK SIZE. POWER AND CONTROL CONDUITS SHALL REMAIN SEPARATE.

2. ALL DUCT BANKS SHALL CONTAIN TWO (2) SPARE 2" CONDUITS.

POWER DUCT BANK ROUTING
SCALE: 1/16" = 1'

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENS

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POWER DUCT BANK ROUTING

ALOE BAY WATER QUALITY ENHANCEMENT
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DWG.	E-0.82

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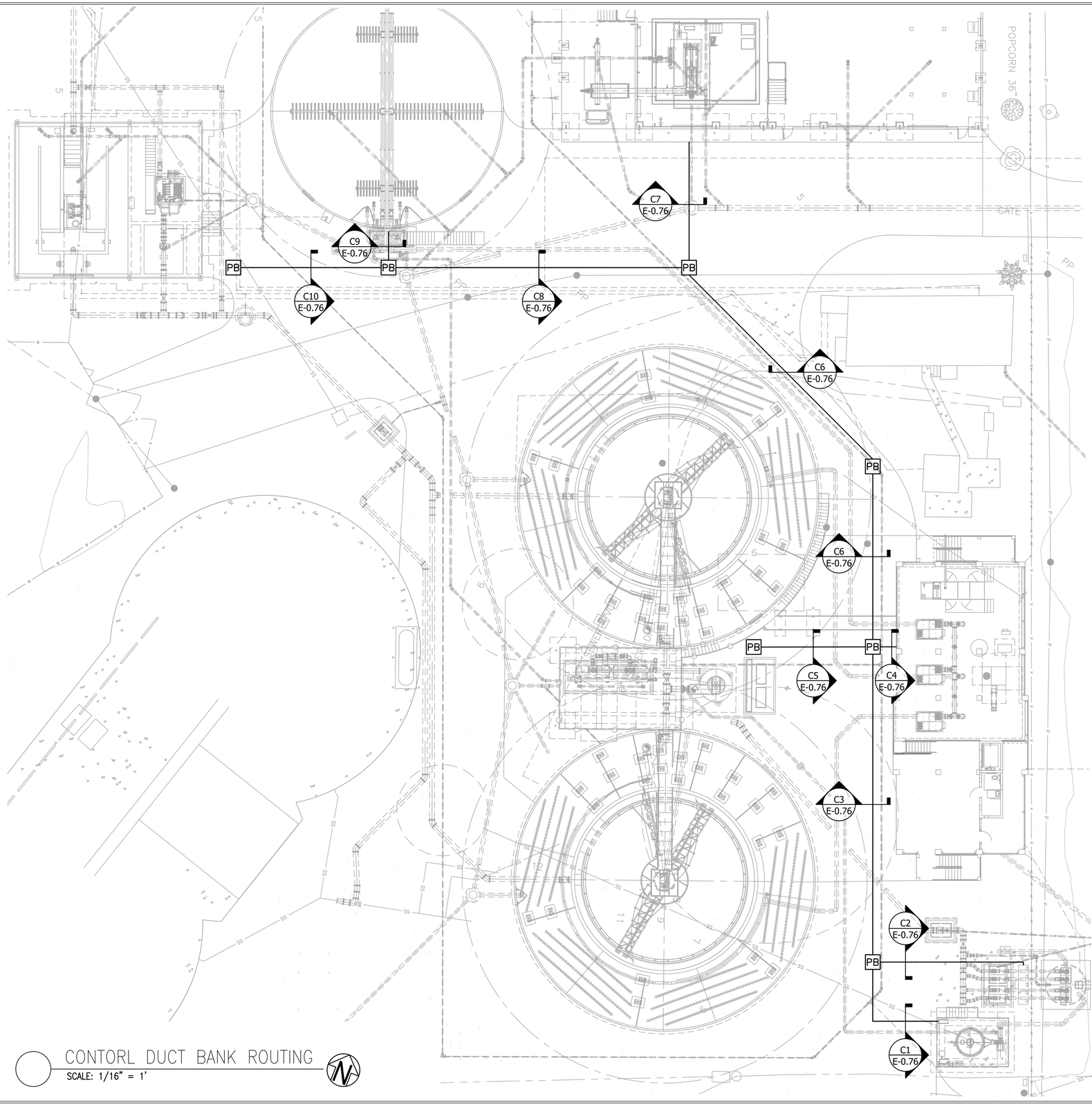

CONTORL DUCT BANK ROUTING
SCALE: 1/16" = 1'

GENERAL NOTES:

1. SEE DRAWINGS E-0.74, E-0.75, & E-0.76 FOR DUCT BANK DETAILS. INDIVIDUAL CONDUITS FOR EACH LOAD/DEVICE HAVE BEEN DETAILED (FOR CLARITY) IN EACH DUCT BANK IN THE SCHEDULES. CONDUCTORS CAN BE COMBINED PER THE NEC TO REDUCE THE OVERALL DUCT BANK SIZE. POWER AND CONTROL CONDUITS SHALL REMAIN SEPARATE.

2. ALL DUCT BANKS SHALL CONTAIN TWO (2) SPARE 2" CONDUITS.

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

CONTROL DUCT BANK ROUTING

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	E-0.83

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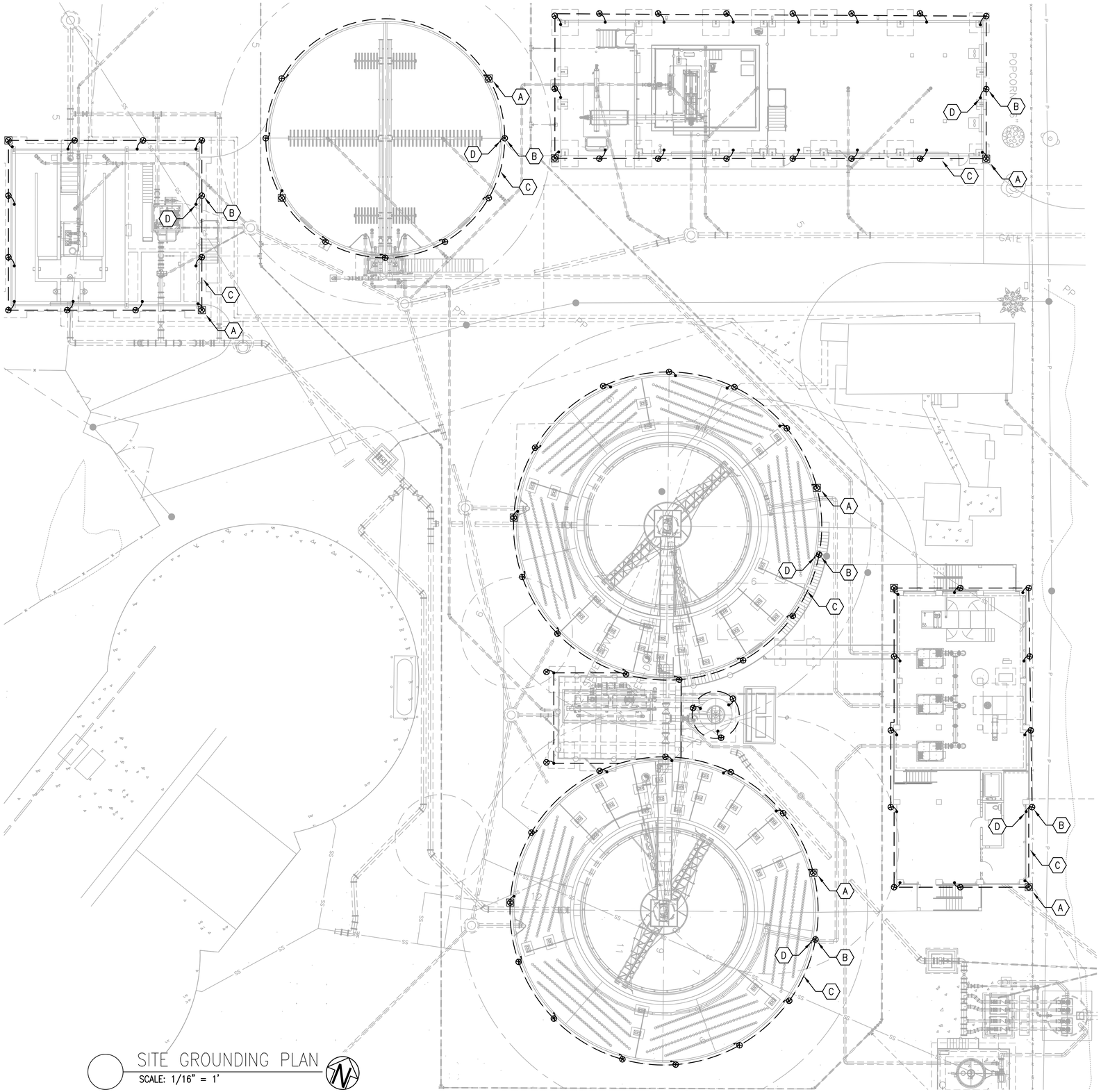

SITE GROUNDING PLAN
SCALE: 1/16" = 1'

GENERAL NOTES:

1. PROVIDE LIGHTNING PROTECTION FOR ALL STRUCTURES ADDED OR MODIFIED AS PART OF THIS PROJECT.
2. REGARDLESS OF WHETHER EXPLICITLY SHOWN, BOND EACH MOTOR, CONTROLLER, CONTROL PANEL, DISCONNECT, AND OTHER EQUIPMENT TO THE NEAREST COMPONENT OF THE GROUND ELECTRODE SYSTEM.
3. BOND EACH METALLIC PIPE TO THE NEAREST COMPONENT OF THE GROUNDING SYSTEM IMMEDIATELY UPSTREAM AND DOWNSTREAM OF EACH MOTOR OR OTHER POWERED EQUIPMENT.
4. INSTALL GROUND RODS APPROXIMATELY 20' FROM EACH OTHER – NOT ALL GROUND RODS HAVE BEEN SHOWN.

KEY NOTES:

(A) GROUND TEST WELL (TYP.)

(B) 3/4" X 10' COPPER CLAD STEEL GROUND ROD (TYP.) 20' MAXIMUM INTERVAL.

(C) #2/0 BARE COPPER GROUND (TYP.)

(D) BOND TO STRUCTURAL AND/OR REINFORCING STEEL (TYP.)

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

SITE GROUNDING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
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(256)-203-9501

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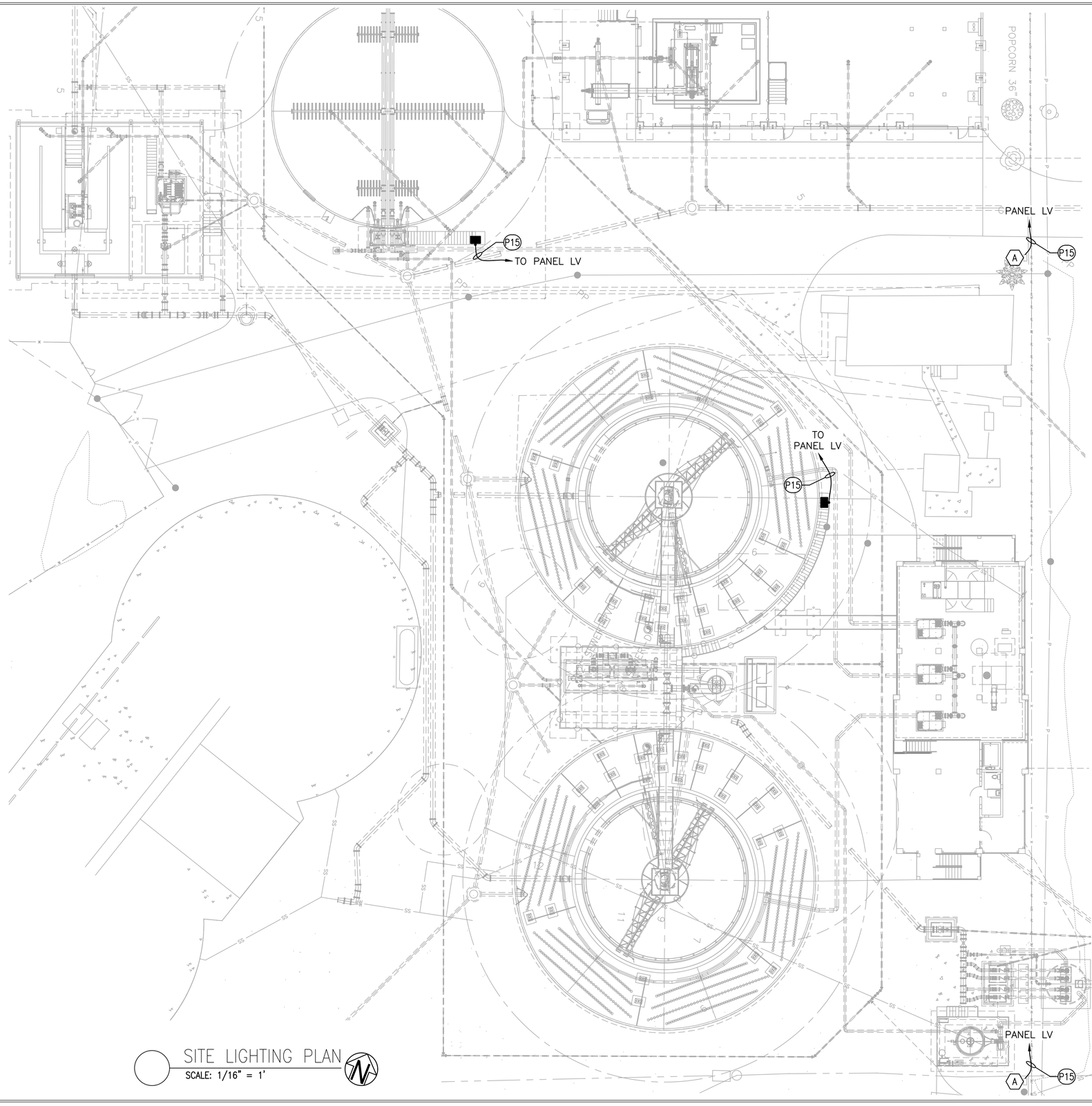

SITE LIGHTING PLAN
SCALE: 1/16" = 1'

GENERAL NOTES:

1. INDIVIDUAL PROCESS AREA LIGHTING HAS BEEN SHOWN ON EACH THE ASSOCIATED PROCESS AREA DRAWING.

KEY NOTES:

(A) GATE OPERATOR, TYP. OF 2.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENS
8/8/24

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SITE LIGHTING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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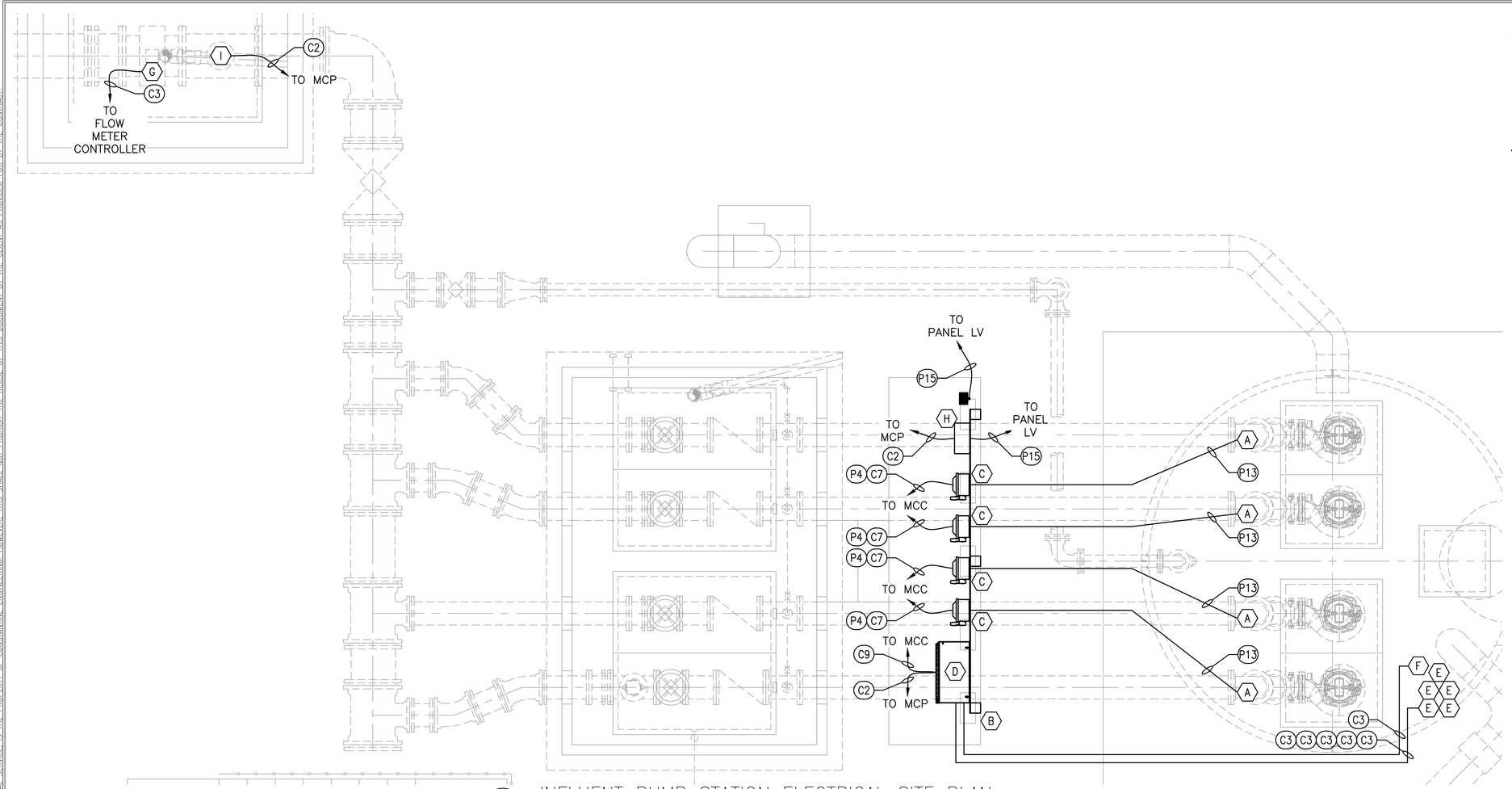
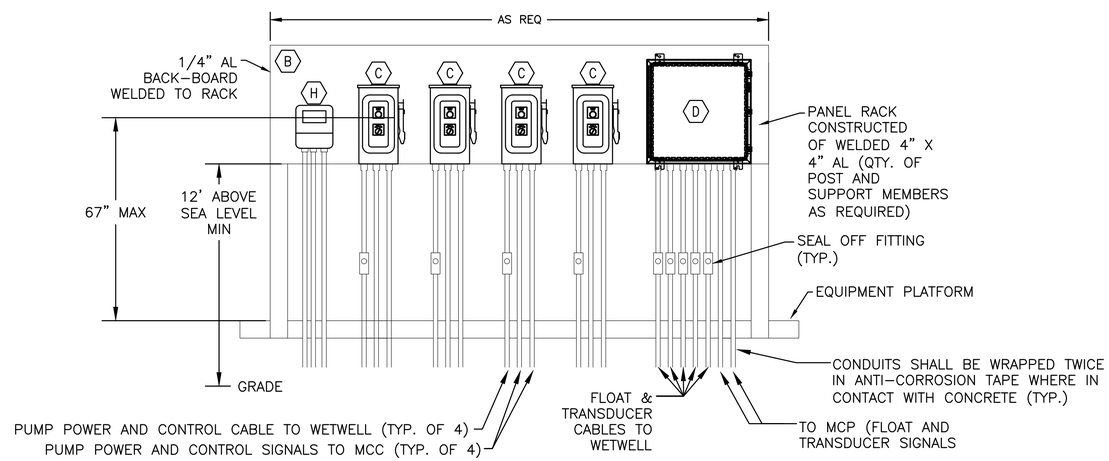
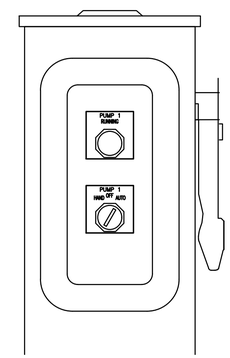


INFLUENT PUMP STATION ELECTRICAL SITE PLAN
SCALE: 1/2" = 1'



INFLUENT PUMP STATION EQUIPMENT RACK
SCALE: NONE



INFLUENT PUMP DISCONNECT DETAIL
SCALE: NONE

GENERAL NOTES:

1. THE WETWELL SHALL BE SUPPLIED WITH A CABLE/FLOAT HANGER RACK. THE RACK SHALL BE CONSTRUCTED FROM 316 S.S. AND SUPPLIED WITH ENOUGH HOOKS TO HANG ALL CABLES ASSOCIATED WITH THE WETWELL.

KEY NOTES:

- (A) SUBMERSIBLE INFLUENT PUMP
- (B) ELECTRICAL EQUIPMENT BACKBOARD. SEE DETAIL THIS SHEET. BACKBOARD SHALL BE PAINTED WHITE TO REDUCE RADIATION OF HEAT.
- (C) DISCONNECT SWITCH. SHALL BE A NEMA 4X SS ASSEMBLY WITH INTEGRAL 3 POSITION HAND/OFF/AUTO SWITCH AND RUNNING PILOT LIGHT. SEE DETAIL THIS SHEET.
- (D) INFLUENT WETWELL CONTROL SIGNAL JUNCTION BOX
- (E) FLOAT SWITCH (TYP. OF 5)
- (F) LEVEL TRANSDUCER
- (G) FLOW METER. SHALL BE PROVIDED WITH GROUNDING RINGS.
- (H) FLOW METER CONTROLLER. SHALL BE MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK AND PROVIDED WITH A SUNSHIELD.
- (I) PRESSURE TRANSDUCER. SHALL BE SUPPLIED WITH BLOCK & BLEED VALVES AS WELL AS A DIAPHRAGM SEAL.

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34084-E DANIEL COLE STEVENSON 8/8/24

NO.	DATE	REVISION	BY
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INFLUENT PUMP STATION

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GENERAL NOTES:

1. ALL EXPOSED PLANT WATER (W3) AND POTABLE WATER (W1) PIPING WITH A DIAMETER OF LESS THAN 6" SHALL BE INSULATED AND HEAT TRACED.

KEY NOTES:

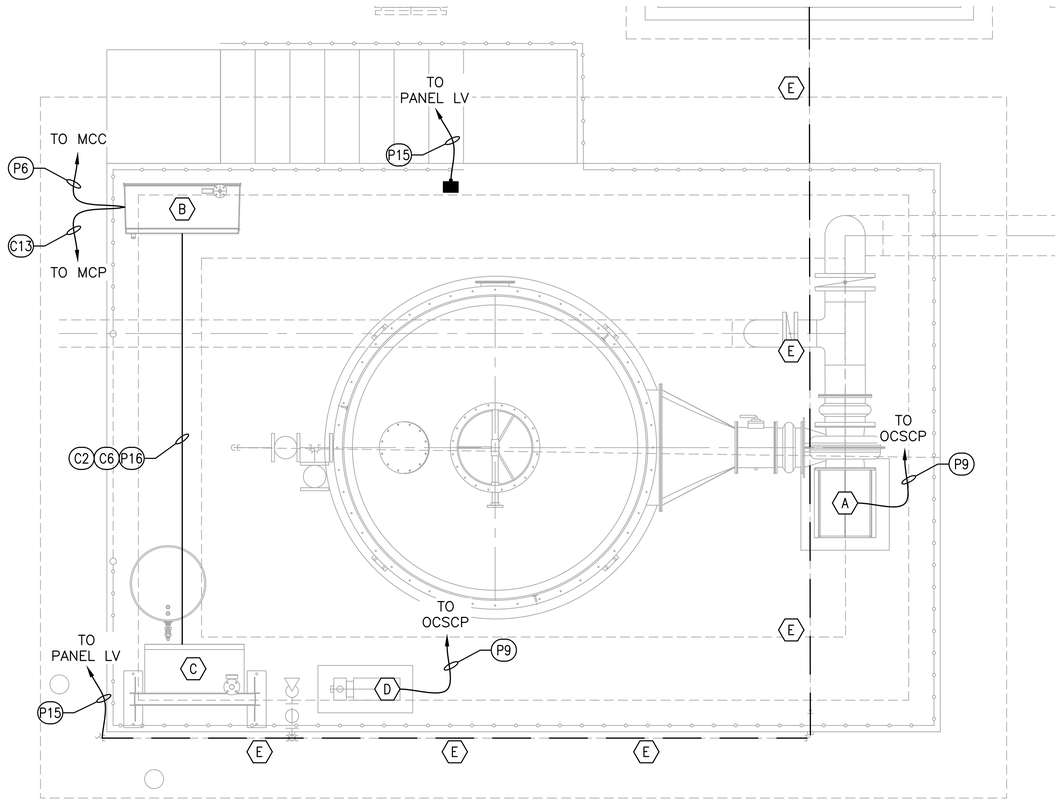
(A) ODOR CONTROL BLOWER

(B) ODOR CONTROL SYSTEM CONTROL PANEL (OCSCP)

(C) ODOR CONTROL WATER PANEL

(D) ODOR CONTROL STARTUP PUMP

(E) PLANT WATER PIPING. SHALL BE INSULATED AND HEAT TRACED.



INFLUENT PUMP STATION ODOR CONTROL ELECTRICAL SITE PLAN

SCALE: 1/2" = 1'

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
DANIEL COLE STEVENSON
8/8/24

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INFLUENT PS ODOR CONTROL

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WASTEWATER TREATMENT FACILITY

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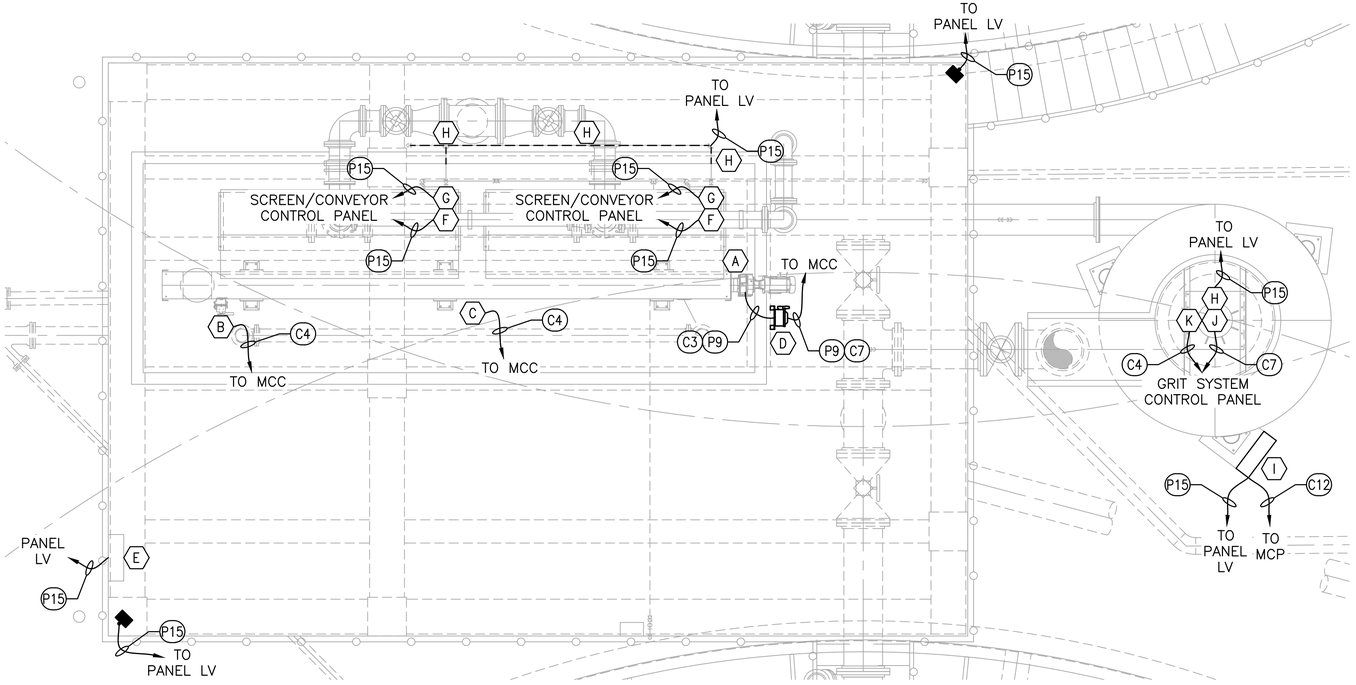

SCREENS/HEADWORKS UPPER ELECTRICAL PLAN

SCALE: 1/4" = 1'

GENERAL NOTES:

1. ALL EXPOSED PLANT WATER (W3) AND POTABLE WATER (W1) PIPING WITH A DIAMETER OF LESS THAN 6" SHALL BE INSULATED AND HEAT TRACED.
2. ALL ELECTRICAL PANELS (DISCONNECTS, CONTROL PANELS, ETC.) SHALL BE MOUNTED SO THAT THE BOTTOM OF THE PANEL IS NO LOWER THAN ELEVATION 12' TO KEEP THE EQUIPMENT OUT OF THE FLOOD PLAIN. FOR THIS AREA, THAT WILL RESULT IN THE BOTTOM OF THE EQUIPMENT BEING APPROXIMATELY 5' ABOVE GRADE. FOR DISCONNECT SWITCHES AND/OR DISCONNECT HANDLES, THE HANDLE SHALL BE NO HIGHER THAN 6'7" ABOVE FINISHED GRADE OR PLATFORM. IF NECESSARY, PLATFORMS SHALL BE PROVIDED TO ALLOW THE EQUIPMENT TO REMAIN OUT OF THE FLOOD PLAIN WHILE ALSO NOT EXCEEDING A HEIGHT OF 6'7" ABOVE GRADE OR THE WORKING PLATFORM.

KEY NOTES:

- (A) MECHANICAL SCREENING CONVEYOR
- (B) SCREENING EMERGENCY CABLE SWITCH
- (C) SCREENING CONVEYOR OPERATIONAL LIMIT SWITCH
- (D) MOTOR DISCONNECT WITH 3 POSITION SELECTOR SWITCH AND RUNNING INDICATION LIGHT. SEE DRAWING E-1.0 FOR DISCONNECT DETAIL. SHALL BE A NEMA 4X SS UNIT MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK.
- (E) SCREEN/CONVEYOR CONTROL PANEL
- (F) WASH WATER SOLENOID. TYPICAL OF 2 – ONE FOR EACH SCREEN.
- (G) COMPRESSED AIR SOLENOID. TYPICAL OF 2 – ONE FOR EACH SCREEN.
- (H) PLANT WATER PIPING. SHALL BE INSULATED AND HEAT TRACED.
- (I) GRIT SYSTEM CONTROL PANEL. LOCATED BELOW THE HEADWORKS PLATFORM. SHALL BE MOUNTED SO THAT THE BOTTOM OF THE PANEL IS A MINIMUM ELEVATION OF 12' (OUT OF THE FLOOD PLAIN).
- (J) GRIT SYSTEM UNDER FLOW VALVE (LOCATED BELOW GRIT SYSTEM "TEA CUP")
- (K) GRIT SYSTEM FLUIDIZING SOLENOID VALVE (LOCATED BELOW GRIT SYSTEM "TEA CUP")

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
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HEADWORKS ELECTRICAL

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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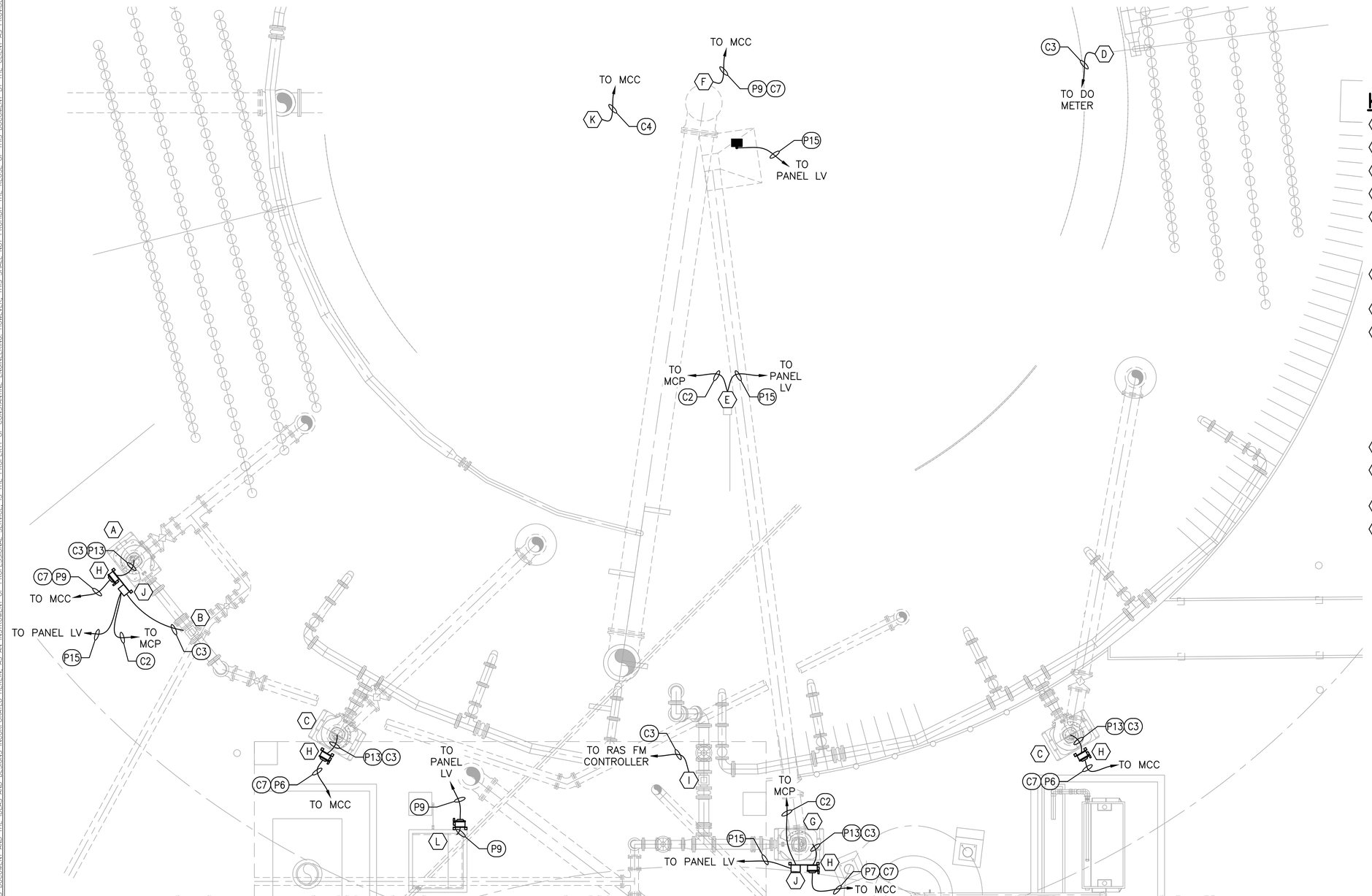

NORTH PROCESS BASIN ELECTRICAL SITE PLAN
SCALE: 1/4" = 1'

GENERAL NOTES:

1. ALL ELECTRICAL PANELS (DISCONNECTS, CONTROL PANELS, ETC.) SHALL BE MOUNTED SO THAT THE BOTTOM OF THE PANEL IS NO LOWER THAN ELEVATION 12' TO KEEP THE EQUIPMENT OUT OF THE FLOOD PLAIN. FOR THIS AREA, THAT WILL RESULT IN THE BOTTOM OF THE EQUIPMENT BEING APPROXIMATELY 5' ABOVE GRADE. FOR DISCONNECT SWITCHES AND/OR DISCONNECT HANDLES, THE HANDLE SHALL BE NO HIGHER THAN 6'7" ABOVE FINISHED GRADE OR PLATFORM. IF NECESSARY, PLATFORMS SHALL BE PROVIDED TO ALLOW THE EQUIPMENT TO REMAIN OUT OF THE FLOOD PLAIN WHILE ALSO NOT EXCEEDING A HEIGHT OF 6'7" ABOVE GRADE OR THE WORKING PLATFORM.

KEY NOTES:

(A) NRCY PUMP

(B) NRCY FLOW METER.

(C) MIXING PUMP. TYPICAL OF 2

(D) DISSOLVED OXYGEN PROBE

(E) DISSOLVED OXYGEN METER. SHALL BE MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK AND PROVIDED WITH A SUNSHIELD.

(F) CLARIFIER MOTOR & TORQUE SWITCH JUNCTION BOX

(G) RAS PUMP

(H) MOTOR DISCONNECT WITH 3 POSITION HOA SWITCH AND 30MM RUNNING PILOT LIGHT. SHALL BE A NEMA 4X SS UNIT MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK. SEE DISCONNECT DETAIL ON DRAWING E-1.0. SHALL BE MOUNTED ABOVE THE REQUIRED FLOOD ELEVATION BUT THE FINAL ELEVATION OF THE HANDLE SHALL NOT BE GREATER THAN ALLOWED BY THE NEC.

(I) RAS FLOW METER

(J) FLOW METER CONTROLLER (TYP. OF 2). SHALL BE PROVIDED WITH SUNSHIELD.

(K) CLARIFIER SPRAY SOLENOID

(L) MECHANICAL SCREEN AIR COMPRESSOR

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENS

NO.	DATE	REVISION	BY
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NORTH PROCESS BASIN

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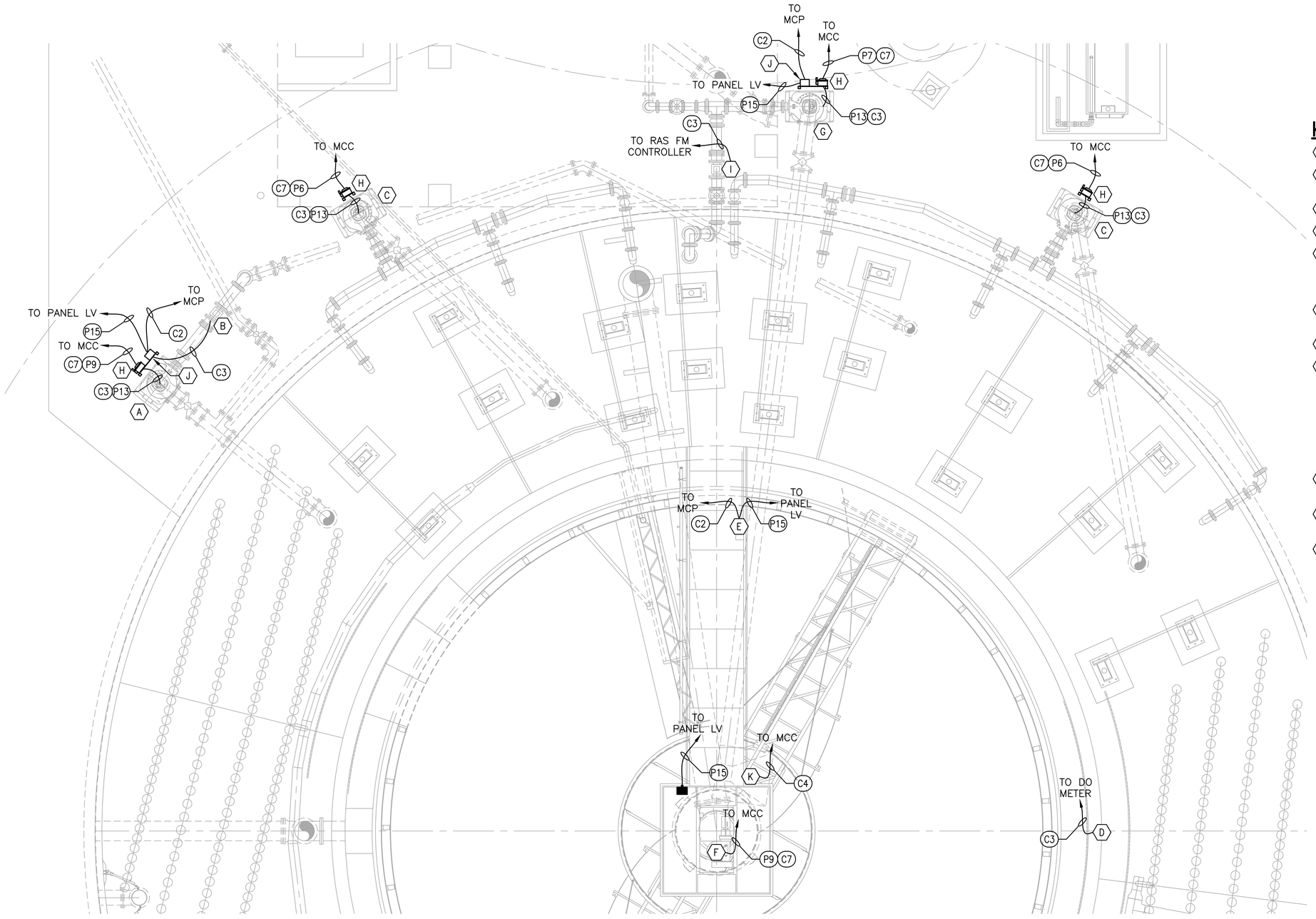

SOUTH PROCESS BASIN ELECTRICAL SITE PLAN

SCALE: 1/4" = 1'

GENERAL NOTES:

1. ALL ELECTRICAL PANELS (DISCONNECTS, CONTROL PANELS, ETC.) SHALL BE MOUNTED SO THAT THE BOTTOM OF THE PANEL IS NO LOWER THAN ELEVATION 12' TO KEEP THE EQUIPMENT OUT OF THE FLOOD PLAIN. FOR THIS AREA, THAT WILL RESULT IN THE BOTTOM OF THE EQUIPMENT BEING APPROXIMATELY 5' ABOVE GRADE. FOR DISCONNECT SWITCHES AND/OR DISCONNECT HANDLES, THE HANDLE SHALL BE NO HIGHER THAN 6'7" ABOVE FINISHED GRADE OR PLATFORM. IF NECESSARY, PLATFORMS SHALL BE PROVIDED TO ALLOW THE EQUIPMENT TO REMAIN OUT OF THE FLOOD PLAIN WHILE ALSO NOT EXCEEDING A HEIGHT OF 6'7" ABOVE GRADE OR THE WORKING PLATFORM.

KEY NOTES:

- (A) NRCY PUMP
- (B) NRCY FLOW METER, SHALL BE PROVIDED WITH GROUNDING RINGS.
- (C) MIXING PUMP. TYPICAL OF 2
- (D) DISSOLVED OXYGEN PROBE
- (E) DISSOLVED OXYGEN METER. SHALL BE MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK AND PROVIDED WITH A SUNSHIELD.
- (F) CLARIFIER MOTOR & TORQUE SWITCH JUNCTION BOX
- (G) RAS PUMP
- (H) MOTOR DISCONNECT WITH 3 POSITION HOA SWITCH AND 30MM RUNNING PILOT LIGHT. SHALL BE A NEMA 4X SS UNIT MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK. SEE DISCONNECT DETAIL ON DRAWING E-1.0. SHALL BE MOUNTED ABOVE THE REQUIRED FLOOD ELEVATION BUT THE FINAL ELEVATION OF THE HANDLE SHALL NOT BE GREATER THAN ALLOWED BY THE NEC.
- (I) RAS FLOW METER, SHALL BE PROVIDED WITH GROUNDING RINGS.
- (J) FLOW METER CONTROLLER (TYP. OF 2). SHALL BE PROVIDED WITH SUNSHIELD.
- (K) CLARIFIER SPRAY SOLENOID

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
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SOUTH PROCESS BASIN

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WASTEWATER TREATMENT FACILITY

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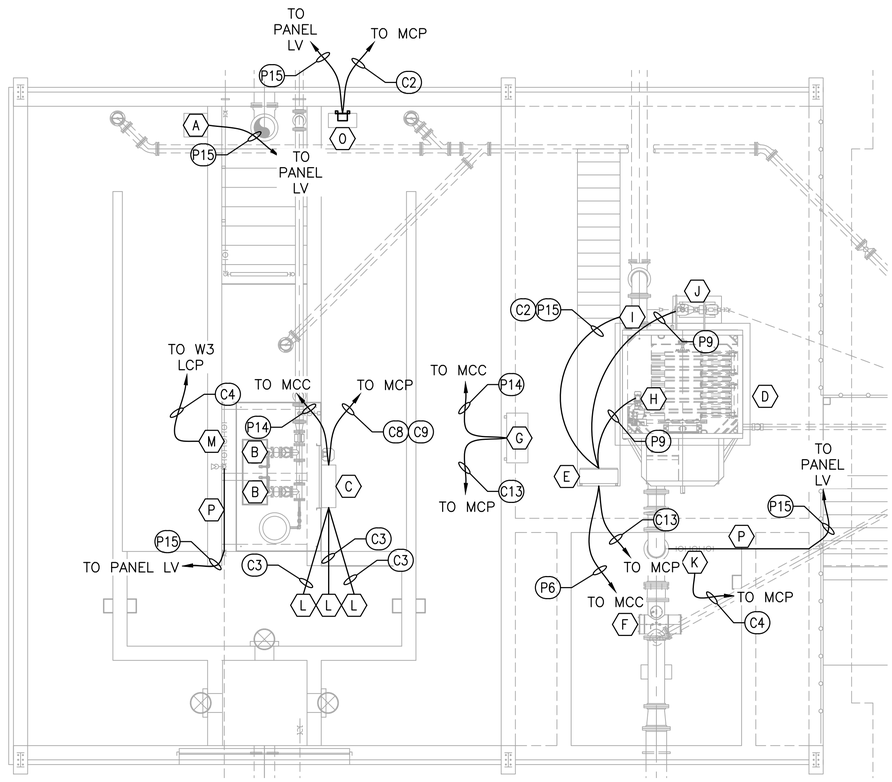
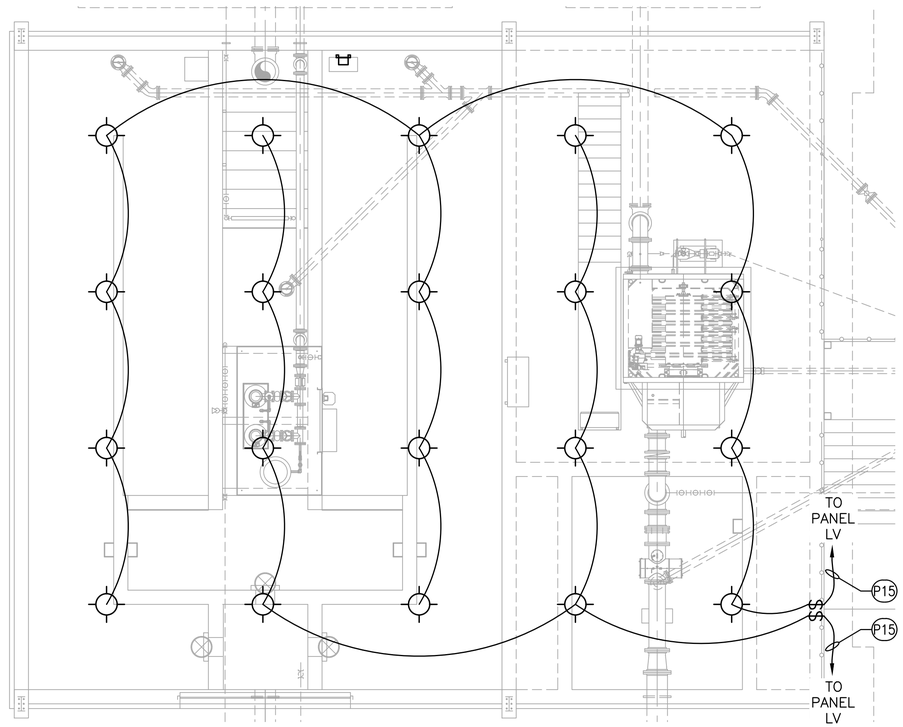


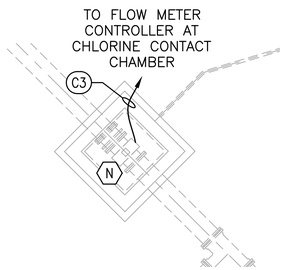
W3, FILTER, & UV ELECTRICAL SITE PLAN

SCALE: 3/16" = 1'



W3, FILTER, & UV LIGHTING SITE PLAN

SCALE: 3/16" = 1'



EFFLUENT FLOW METER

SCALE: 3/16" = 1'

GENERAL NOTES:

1. ALL EXPOSED PLANT WATER (W3) AND POTABLE WATER (W1) PIPING WITH A DIAMETER OF LESS THAN 6" SHALL BE INSULATED AND HEAT TRACED.

KEY NOTES:

(A) REFRIGERATED SAMPLER

(B) W3 PUMP (TYP. OF 2)

(C) W3 PUMP LOCAL CONTROL PANEL

(D) FILTER

(E) FILTER CONTROL PANEL

(F) UV FILTER

(G) UV CONTROL PANEL

(H) DISK FILTER DRIVE MOTOR

(I) DISK FILTER BACKWASH FLOW METER

(J) DISK FILTER BACKWASH/WASTE PUMP

(K) UV SYSTEM PLANT WATER SOLENOID. SHALL BE OPENED WHENEVER THE EFFLUENT FLOW FALLS BELOW 50GPM.

(L) PLANT WATER PUMP (W3) FLOAT SWITCH (TYP. OF 3). THE PLANT WATER PUMP CONTROL PANEL SHALL MONITOR THE STATUS OF THE FLOATS. WHEN THE LEVEL FALLS TO THE MIDDLE FLOAT THE CONTROL PANEL SHALL ENGAGE THE POTABLE WATER SOLENOID. IF THE LEVEL RISES TO THE HIGH FLOAT THE SOLENOID SHALL BE DISENGAGED. IF THE LEVEL FALLS TO THE LOW FLOAT THE W3 PUMPS SHALL BE SHUT OFF UNTIL THE LEVEL REACHES THE MIDDLE FLOAT AGAIN.

(M) PLANT WATER PUMP POTABLE WATER SOLENOID.

(N) EFFLUENT FLOW METER. SHALL BE PROVIDED WITH GROUNDING RINGS.

(O) EFFLUENT FLOW METER CONTROLLER. SHALL BE MOUNTED TO A STAINLESS STEEL UNISTRUT EQUIPMENT RACK AND PROVIDED WITH A SUNSHIELD.

(P) PLANT WATER PIPING. SHALL BE INSULATED AND HEAT TRACED.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
8/8/24
DANIEL COLE STEVENSON

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CL CONTACT BASIN ELEC. PLAN

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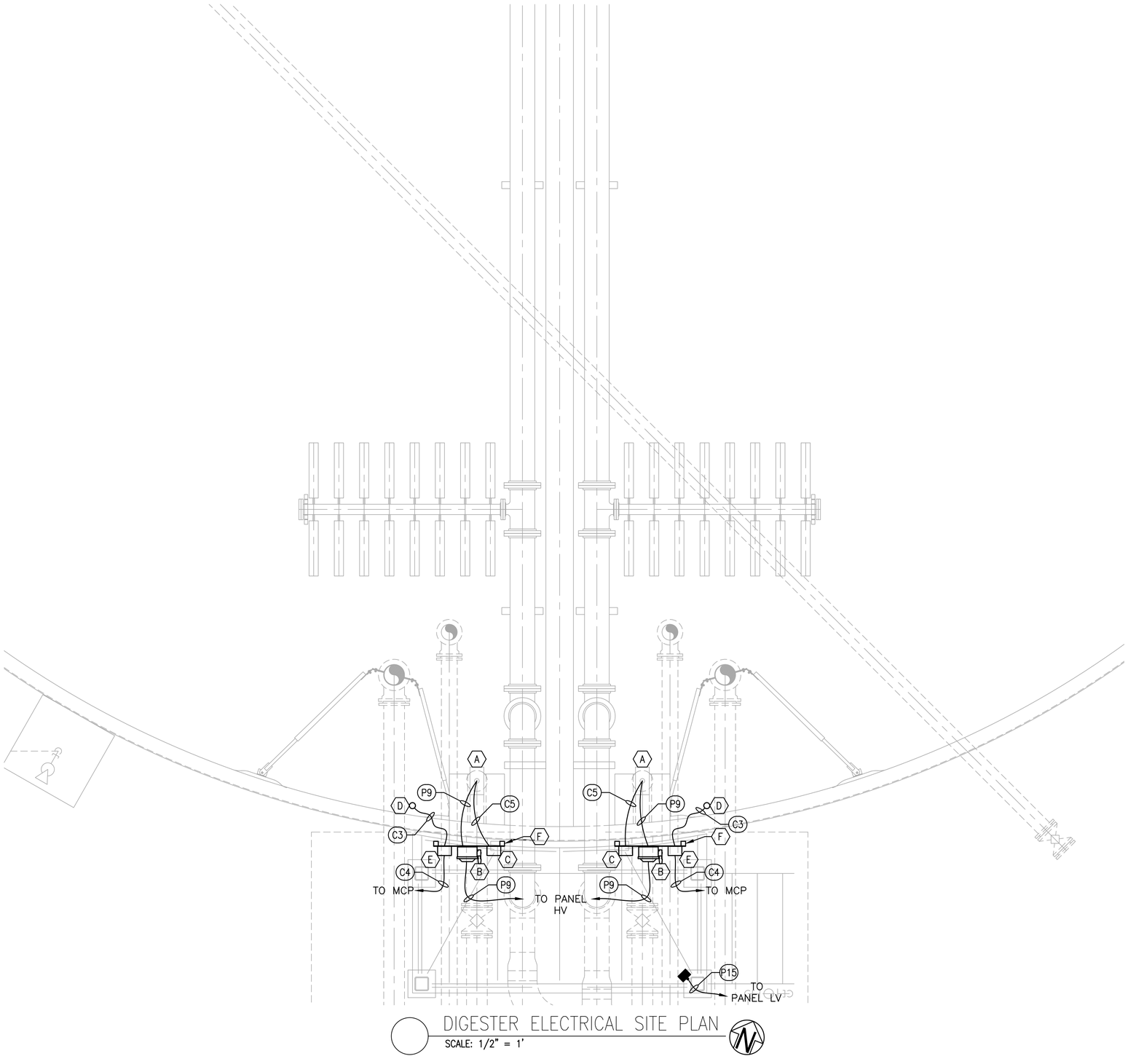

DIGESTER ELECTRICAL SITE PLAN
SCALE: 1/2" = 1'

KEY NOTES:

(A) ELECTRICALLY ACTUATED TELESCOPING VALVE (TYP. OF 2)

(B) TELESCOPING VALVE DISCONNECT SWITCH (TYP. OF 2). SHALL BE NEMA 4X SS UNITS.

(C) OPEN/CLOSED REMOTE PUSH BUTTON STATION (TYP. OF 2). PUSH BUTTON STATION SHALL BE NEMA 4X UNITS MOUNTED ON THE OPERATOR PLATFORM TO ALLOW PERSONNEL TO OPERATE THE VALVES.

(D) HIGH LEVEL FLOAT SWITCH (TYP. OF 2)

(E) DIGESTER FLOAT SWITCH JUNCTION BOX (TYP. OF 2). SHALL BE A NEMA 4X SS ENCLOSURE.

(F) DIGESTER ELECTRICAL EQUIPMENT RACK (TYP. OF 2). SHALL BE SIZED FOR THE SHOWN EQUIPMENT. ALL EQUIPMENT SHALL BE MOUNTED SO THAT EACH PIECE IS A MINIMUM OF 18" ABOVE THE TOP OF THE DIGESTER.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON
8/8/24

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			APVD
			APPROVED BY: JS
			CHECKED BY: AB
		DRAWN BY: DS	
DESIGNED BY: AB			

DIGESTER ELECTRICAL PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	E-5.0

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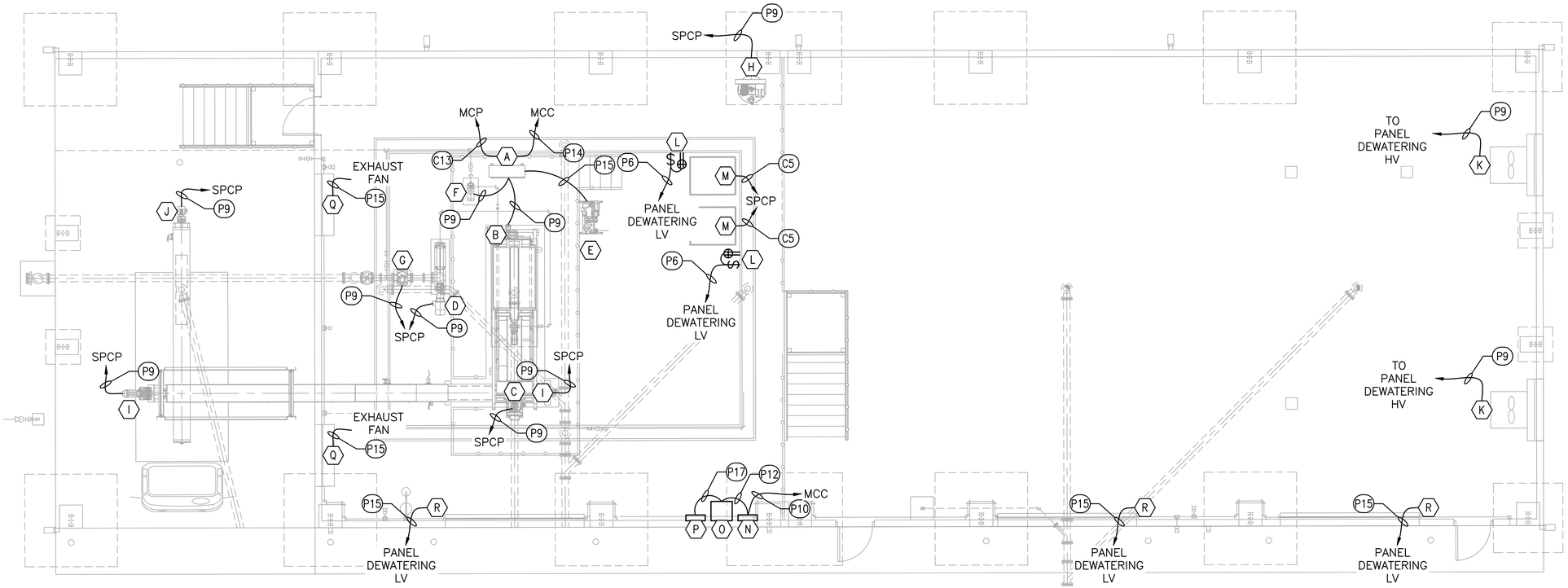
KEY NOTES:

- (A) SCREW PRESS CONTROL PANEL (SPCP)
- (B) SCREW PRESS DRIVE MOTOR
- (C) SCREW PRESS DRUM MOTOR
- (D) FEED PUMP
- (E) POLYMER SYSTEM
- (F) WASHWATER BOOSTER PUMP
- (G) MACERATOR
- (H) AIR COMPRESSOR
- (I) TRANSFER SCREW CONVEYOR (TYP. OF 2)
- (J) DISTRIBUTION SCREW CONVEYOR
- (K) EXHAUST FAN (TYP. OF 2)
- (L) DEDICATED RECEPTACLE AND DISCONNECT SWITCH FOR POLYMER TOTE MIXER. SHALL BE RATED FOR 120VAC, 1 HP. TYPICAL OF 2.
- (M) POLYMER TOTE LOW LEVEL SENSOR (TYP. OF 2)
- (N) PANEL DEWATERING HV
- (O) DEWATERING LV TRANSFORMER
- (P) PANEL DEWATERING LV
- (Q) EXHAUST FAN LOUVER, SHALL BE INTERLOCKED WITH ASSOCIATED EXHAUST FAN
- (R) ROLLUP DOOR ELECTRIC MOTOR



DEWATERING ELECTRICAL SITE PLAN
SCALE: 3/16" = 1'

RELEASE FOR BID

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ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34084-E
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
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DEWATERING ELECTRICAL SITE PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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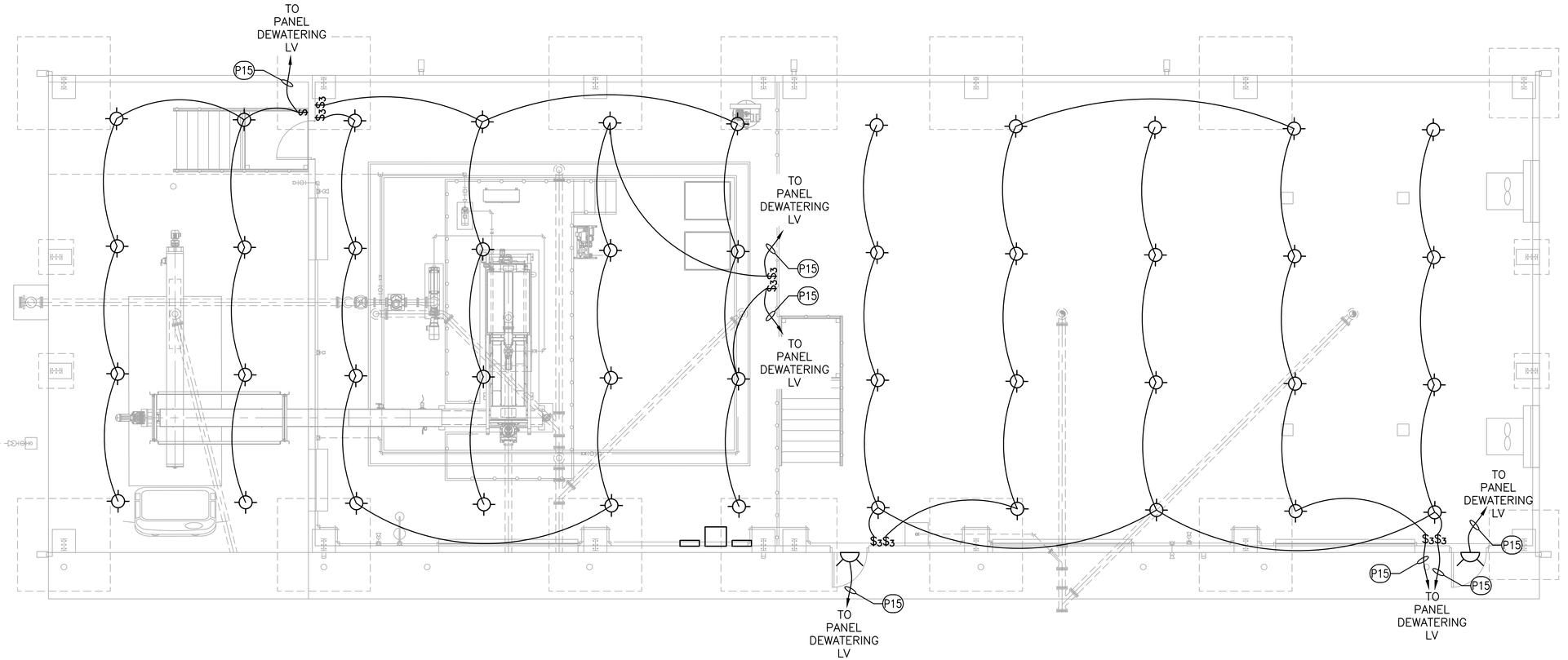

DEWATERING LIGHTING SITE PLAN
SCALE: 3/16" = 1'

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ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON
8/8/24

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DEWATERING LIGHTING PLAN

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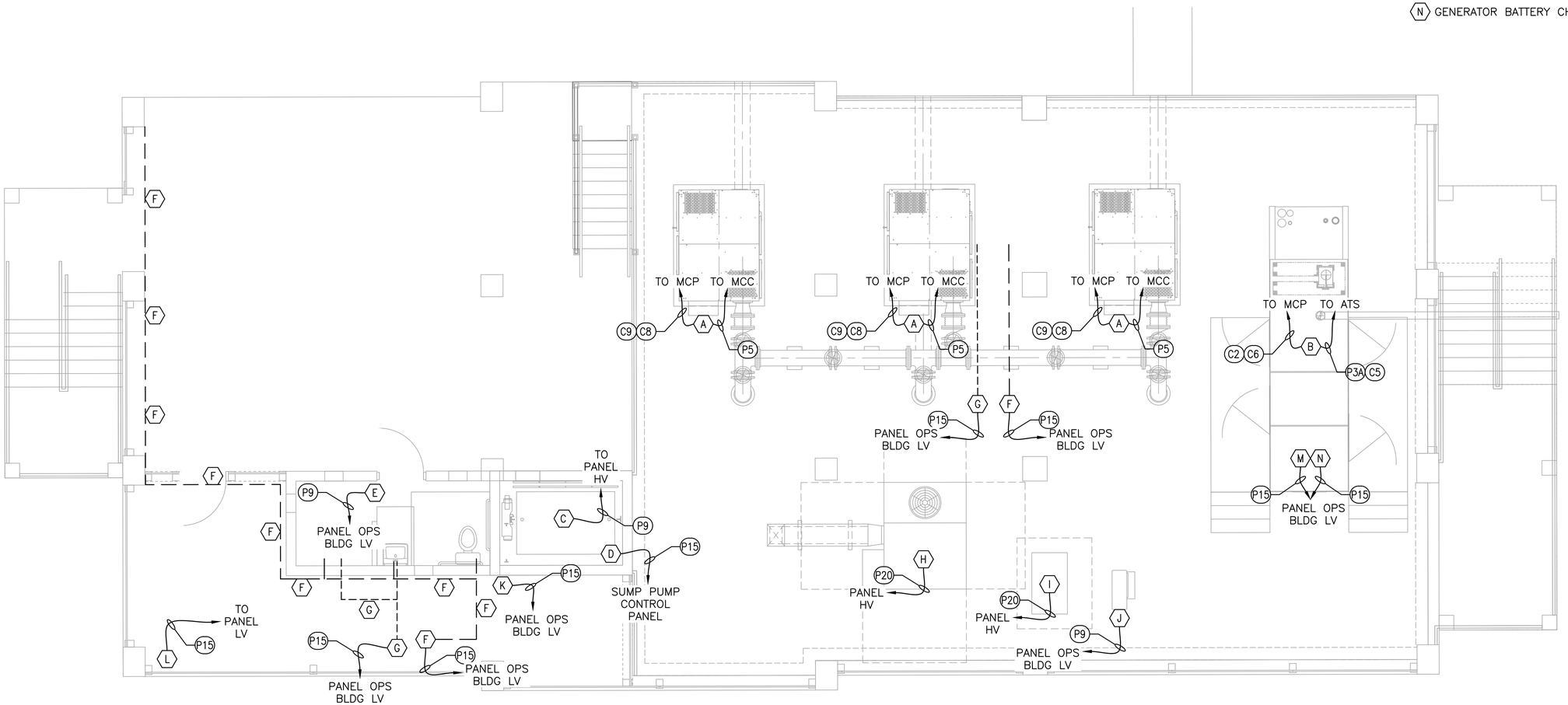
KEY NOTES:

- (A) BLOWER (TYP. OF 3)
- (B) EMERGENCY GENERATOR
- (C) ELEVATOR
- (D) ELEVATOR SHAFT SUMP PUMP. SEE E-8.0 FOR CONTROLLER LOCATION.
- (E) ELECTRIC UNIT HEATER (EUH-1)
- (F) COLD WATER LINE HEAT TRACE. SEE P-1.1 FOR DETAILS.
- (G) HOT WATER LINE WARM TRACE. SEE P-1.1 FOR DETAILS.
- (H) MAKE UP AIR UNIT 1 (MAU-1). SEE H DRAWINGS FOR DETAILS.
- (I) OUTDOOR UNIT 1 (OU-1). SEE H DRAWINGS FOR DETAILS.
- (J) SPLIT SYSTEM OUTDOOR UNIT 1 (OU-2). SEE H DRAWINGS FOR DETAILS.
- (K) IRRIGATION CONTROLLER
- (L) INFLUENT REFRIGERATED SAMPLER
- (M) GENERATOR BLOCK HEATER
- (N) GENERATOR BATTERY CHARGER



BLOWERS & GENERATOR ELECTRICAL SITE PLAN
SCALE: 1/4" = 1'

RELEASE FOR BID

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ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

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BLOWERS ELECTRICAL PLAN

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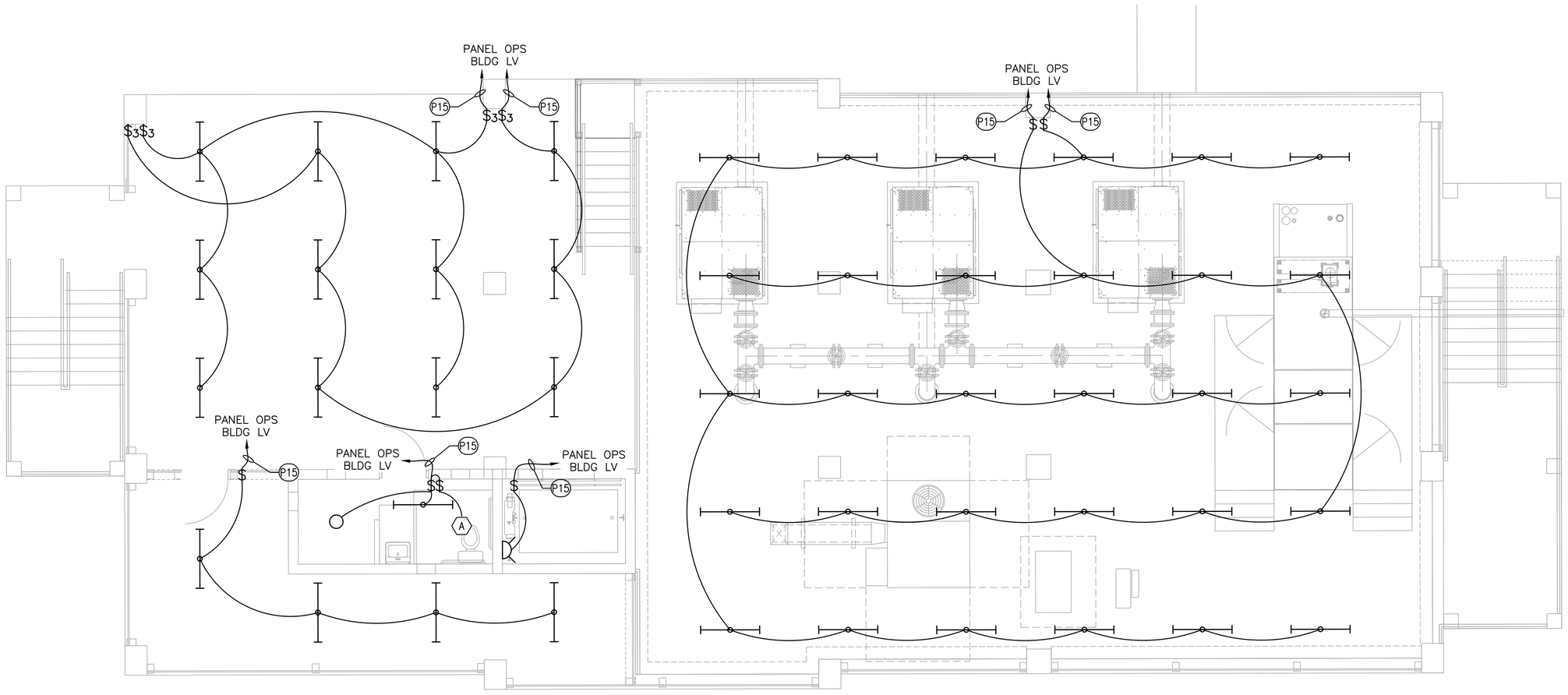
KEY NOTES:

(A) BATHROOM EXHAUST FAN



BLOWERS & GENERATOR LIGHTING SITE PLAN

SCALE: 1/4" = 1'

RELEASE FOR BID

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ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

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BLOWERS LIGHTING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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DWG.	E-7.1

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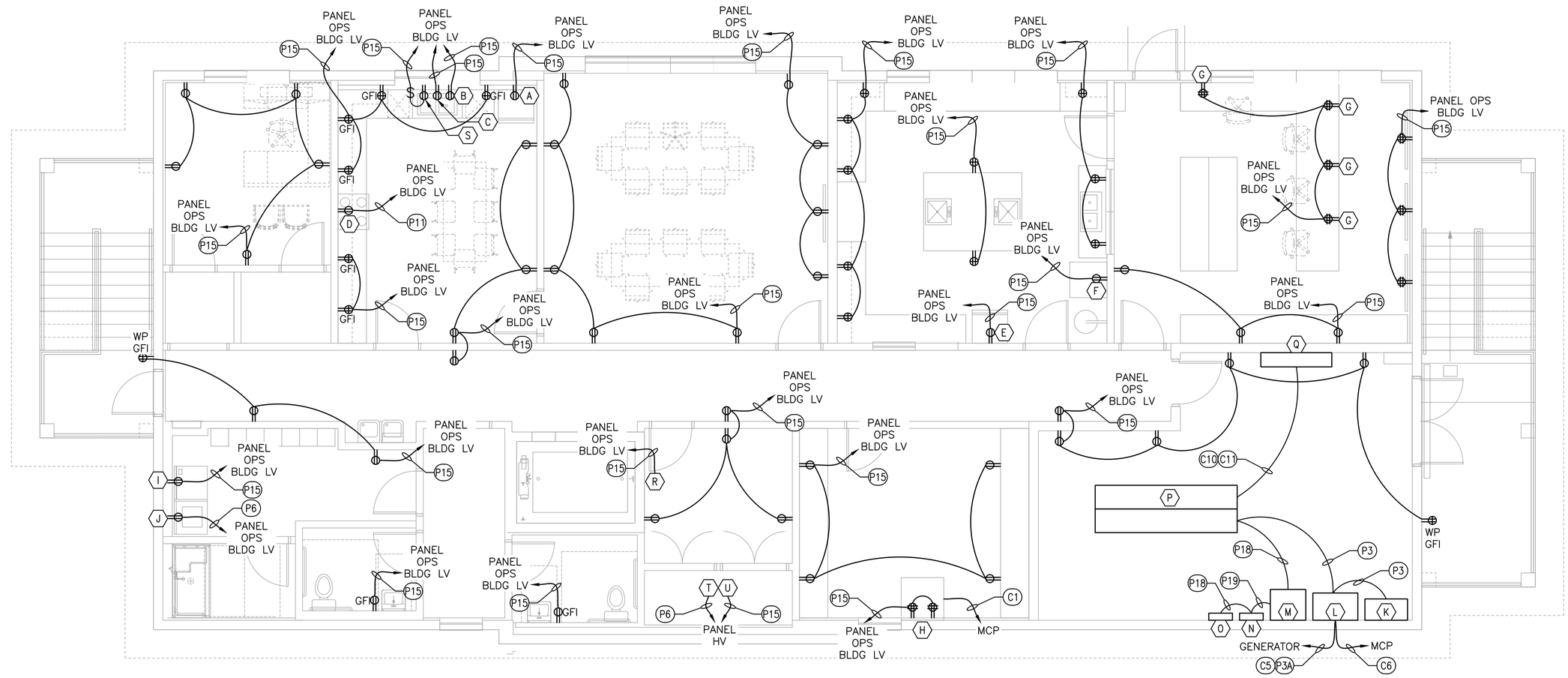
KEY NOTES:

- (A) DEDICATED RECEPTACLE FOR THE BREAKROOM REFRIGERATOR
- (B) DEDICATED UNDER CABINET RECEPTACLE FOR THE BREAKROOM DISHWASHER
- (C) DEDICATED UNDER CABINET RECEPTACLE FOR THE BREAKROOM ICE MAKER
- (D) DEDICATED RECEPTACLE FOR THE BREAKROOM RANGE
- (E) DEDICATED RECEPTACLE FOR THE LAB REFRIGERATOR
- (F) DEDICATED RECEPTACLE FOR THE LAB BOD INCUBATOR
- (G) CONTROL ROOM IN CABINET/UNDER DESK RECEPTACLE
- (H) DEDICATED RECEPTACLES FOR CONTROL SYSTEM SERVER EQUIPMENT
- (I) DEDICATED RECEPTACLE FOR LOCKER ROOM WASHING MACHINE
- (J) DEDICATED RECEPTACLE FOR LOCKER ROOM DRYER
- (K) MAIN CIRCUIT BREAKER (MCB)
- (L) AUTOMATIC TRANSFER SWITCH (ATS)
- (M) TRANSFORMER LV
- (N) OPERATIONS BUILDING PANEL LV A (OPS BLDG LV A)
- (O) OPERATIONS BUILDING PANEL LV B (OPS BLDG LV B)
- (P) MOTOR CONTROL CENTER (MCC)
- (Q) MAIN CONTROL PANEL (MCP)
- (R) ELEVATOR SHAFT SUMP PUMP CONTROL PANEL
- (S) DEDICATED UNDER CABINET RECEPTACLE FOR THE BREAKROOM SINK DISPOSAL. THE ASSOCIATED SWITCH SHALL BE MOUNTED ABOVE THE SINK.
- (T) MECHANICAL/ELECTRICAL JANITORIAL CLOSET WATER HEATER (EWH–1)
- (U) MECHANICAL/ELECTRICAL JANITORIAL CLOSET HOT WATER MAINTENANCE CONTROLLER



OPERATIONS BUILDNG POWER PLAN
SCALE: 1/4" = 1'

RELEASE FOR BID

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ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON

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OPS BLDG POWER PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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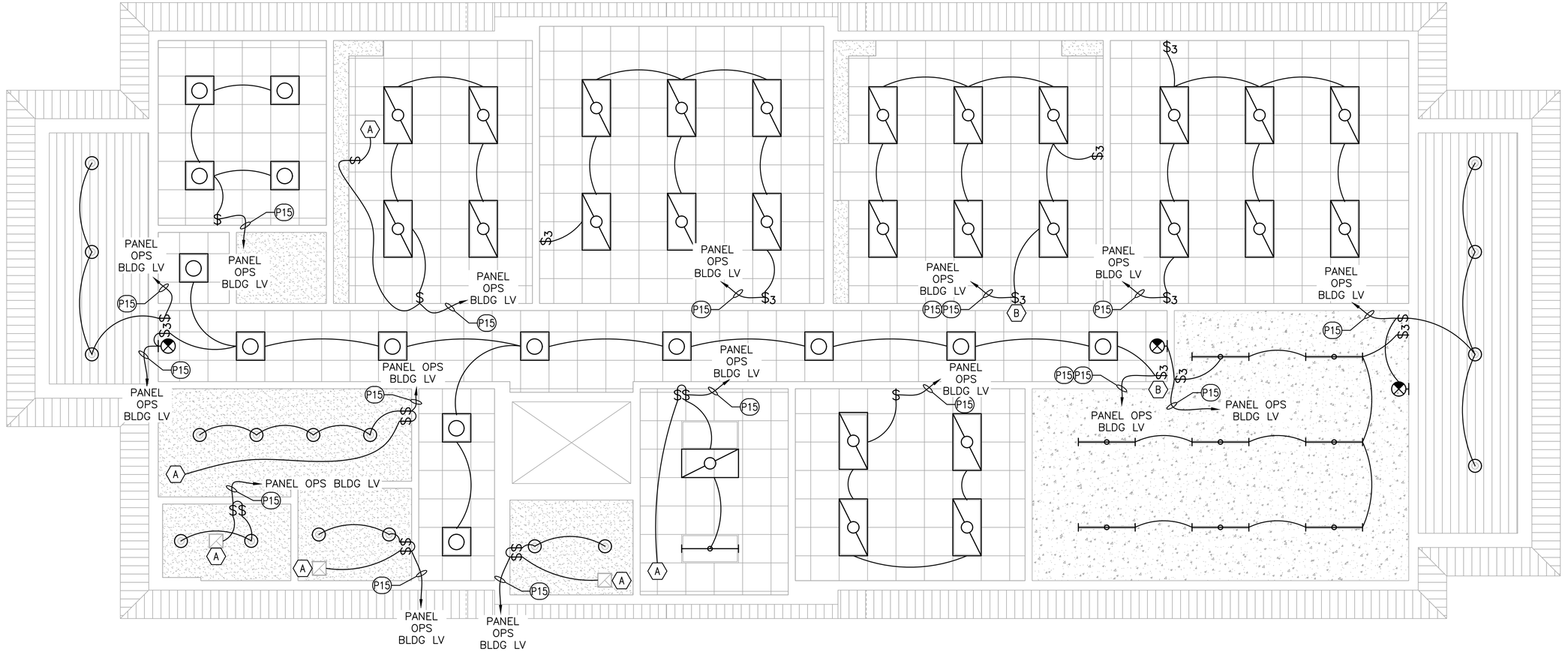
KEY NOTES:

(A) EXHAUST FAN

(B) DOUBLE POLE LIGHT SWITCH SHALL PROVIDE POWER TO THE ASSOCIATED LIGHTS AND THE LAB EXHAUST FAN (EF-6) VIA THE LAB HOOD/EXHAUST FAN INTERCONNECTION JUNCTION BOX. SEE NEXT SHEET AND E98.4 FOR DETAILS.



OPERATIONS BUILDNG LIGHTING & EXHAUST FAN PLAN

SCALE: 1/4" = 1'

RELEASE FOR BID

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ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON

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OPS BLDG LIGHTING PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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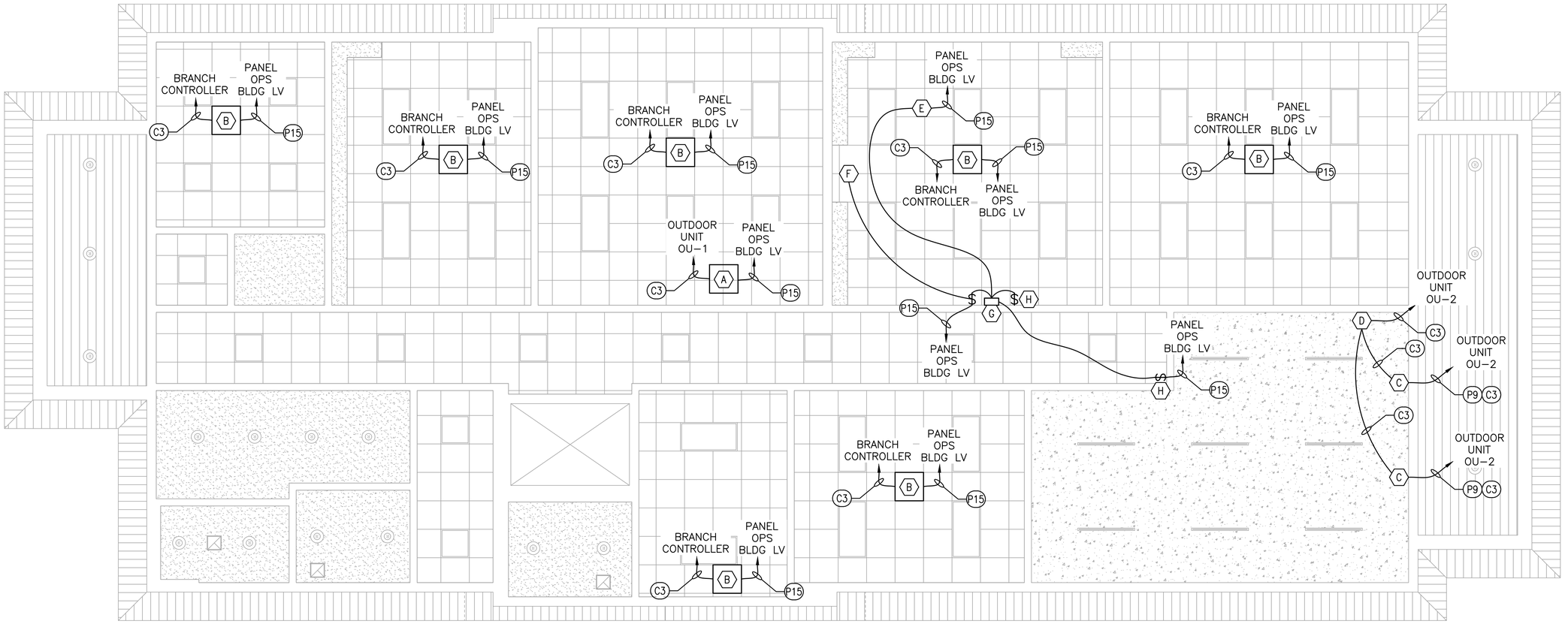
KEY NOTES:

- (A) HVAC BRANCH CONTROLLER
- (B) HVAC CEILING CASSETTE
- (C) SPLIT SYSTEM INDOOR WALL UNIT (TYP. OF 2)
- (D) SPLIT SYSTEM THERMOSTAT
- (E) EXHAUST FAN (EF-6). OPERATION SHALL BE INTERLOCKED SO THAT EF-6 IS DE-ENERGIZED WHEN THE LAB HOOD IS TURNED ON. SHALL BE ENABLED TO RUN WITH EITHER THE LAB OR CORRIDOR LIGHTS. SEE DRAWING E-98.4 FOR SCHEMATIC DETAILS.
- (F) LAB HOOD
- (G) EF-6 & LAB HOOD INTERCONNECTION CIRCUITRY JUNCTION BOX. SEE DRAWING E-98.4 FOR SCHEMATIC DETAILS.
- (H) DOUBLE POLE LIGHT SWITCH SHALL PROVIDE POWER TO THE ASSOCIATED LIGHTS AND THE LAB EXHAUST FAN (EF-6) VIA THE LAB HOOD/EXHAUST FAN INTERCONNECTION JUNCTION BOX. SEE NEXT SHEET AND E98.4 FOR DETAILS.



OPERATIONS BUILDNG LIGHTING PLAN
SCALE: 1/4" = 1'

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER DANIEL COLE STEVENSON

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OPS BLDG ELEC. HVAC PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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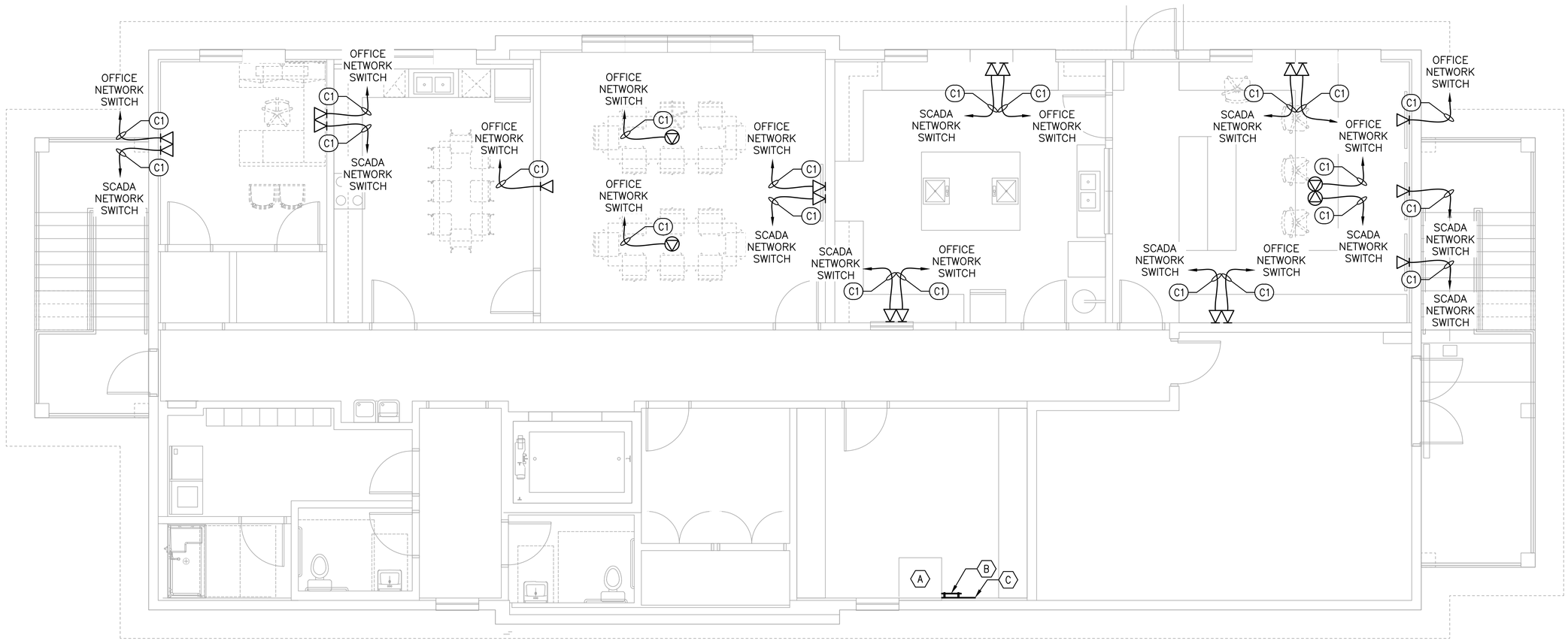
KEY NOTES:

(A) OFFICE AND SCADA SYSTEM NETWORK EQUIPMENT SERVER RACK

(B) TELECOM GROUNDING BAR. SHALL BE A 1/4" X 4" (NOMINAL WIDTH) X 20" (MIN LENGTH) FLAT COPPER STOCK. SHALL BE ISOLATED FROM ITS MOUNTING HARDWARE AND ANY BUILDING STRUCTURAL METAL. SHALL BE PROVIDED WITH FOUR SPARE GROUND LUGS.

(C) TELECOM PLYWOOD BACKBOARD. THE BACKBOARD SHALL BE 3/4" PLYWOOD FIRE RATED PAINTED WITH TWO COATS OF LIGHT COLORED PAINT ON ALL SURFACES. SHALL BE MOUNTED AS HIGH AS POSSIBLE.



OPERATIONS BUILDNG COMMUNCIATION PLAN
SCALE: 1/4" = 1'

RELEASE FOR BID

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ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34084-E DANIEL COLE STEVENSON

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OPS BLDG COMMUNICATION PLAN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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DWG.	E-8.3

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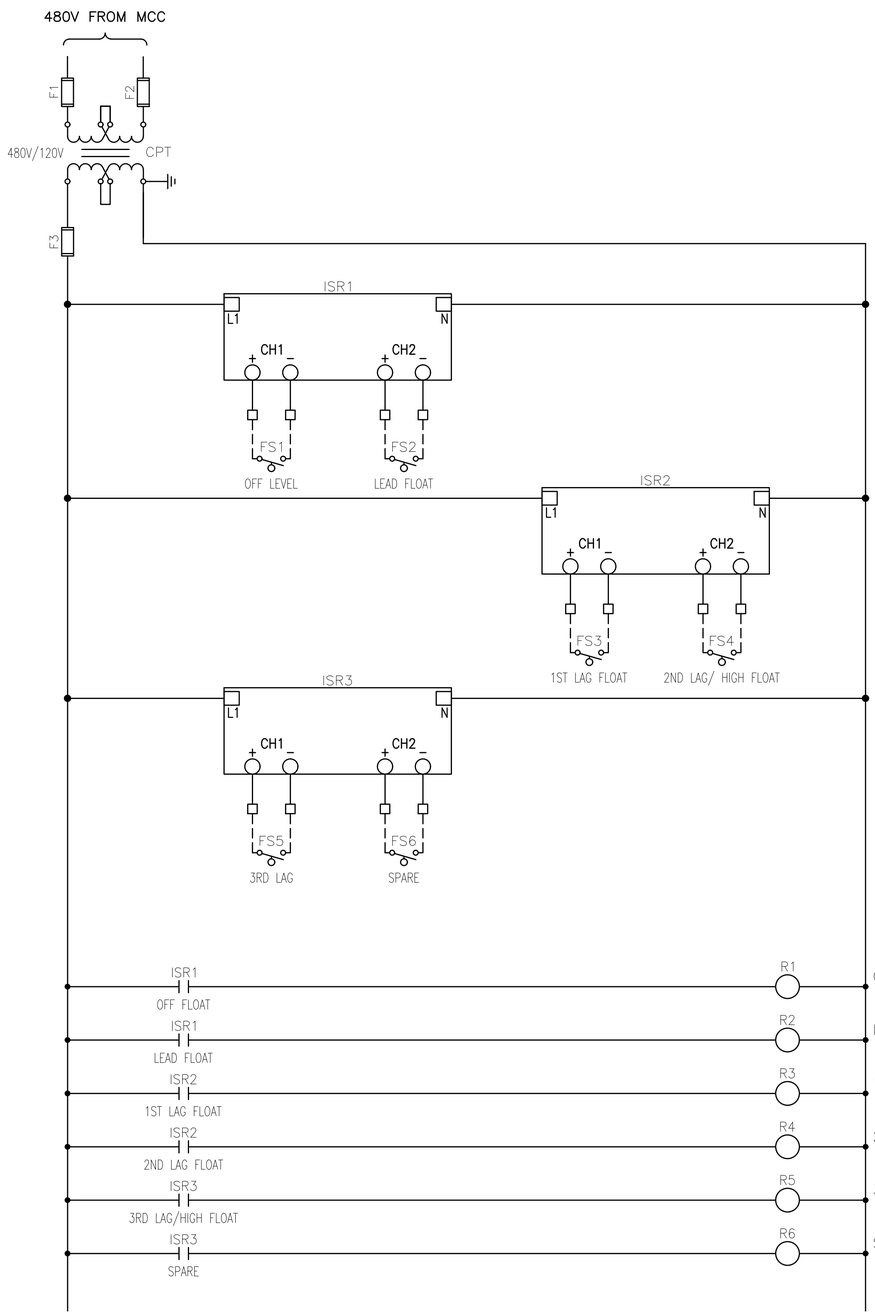

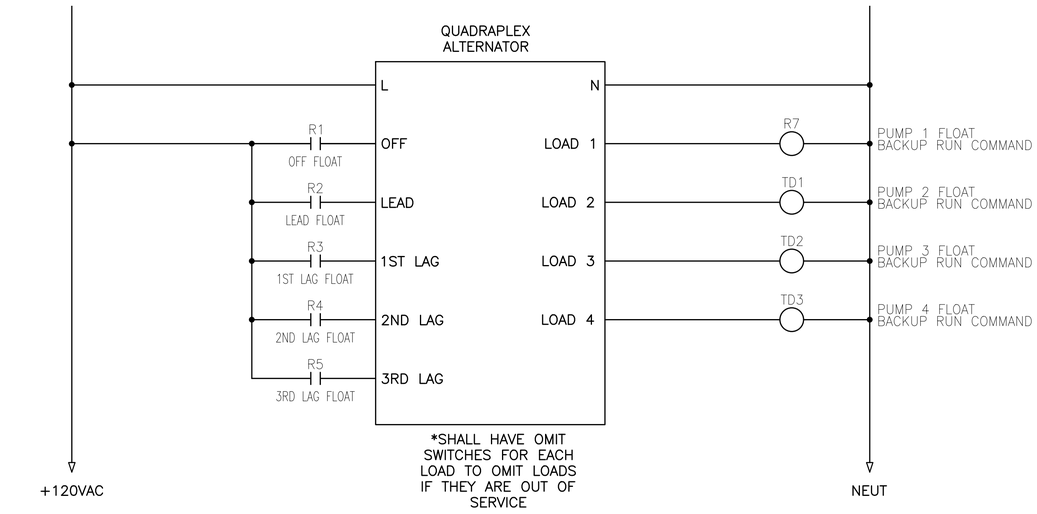

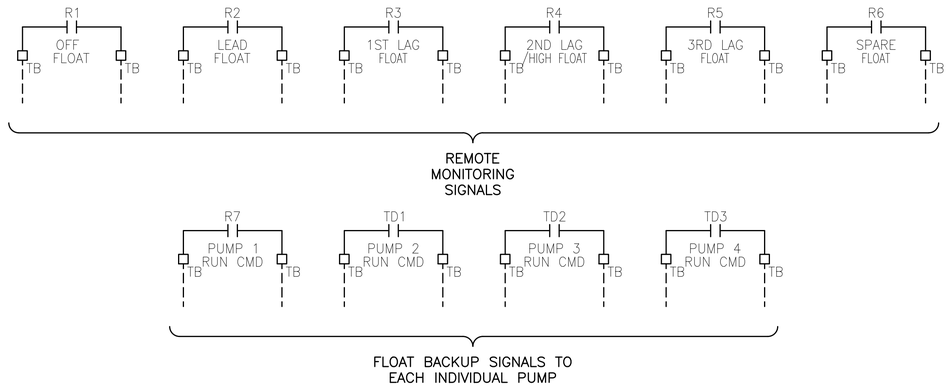

INFLUENT LIFT STATION FLOAT BACKUP MCC CUBICLE

SCALE: NONE

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ENGINEER SEAL
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No. 34084-E
DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
	DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APVD BY:

INF PS FLOAT BACKUP CUBICLE

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

FILE	SEE LEFT
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	BAR IS ONE INCH ON ORIGINAL DRAWING 0 — 1"
DATE	AUGUST 2024
PROJ.	100200.32
DWG.	E-98.0

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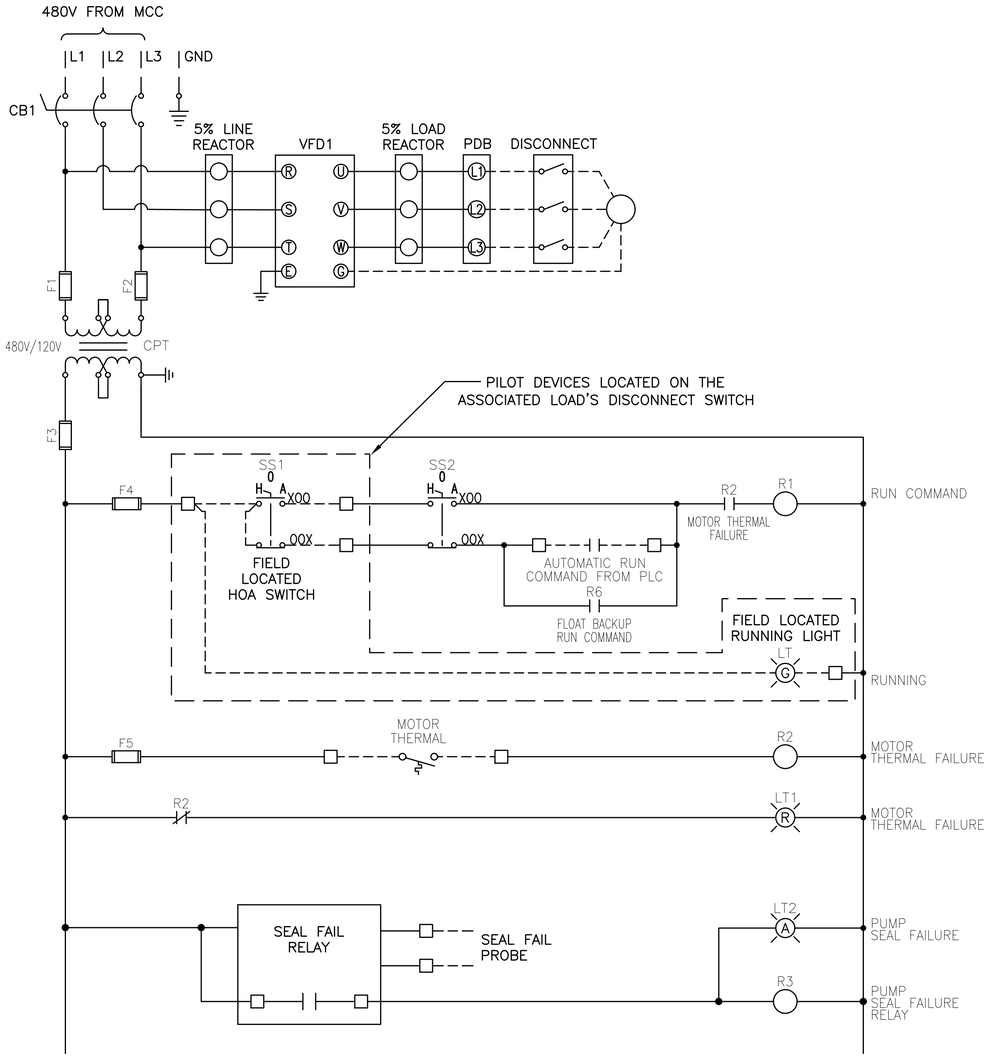

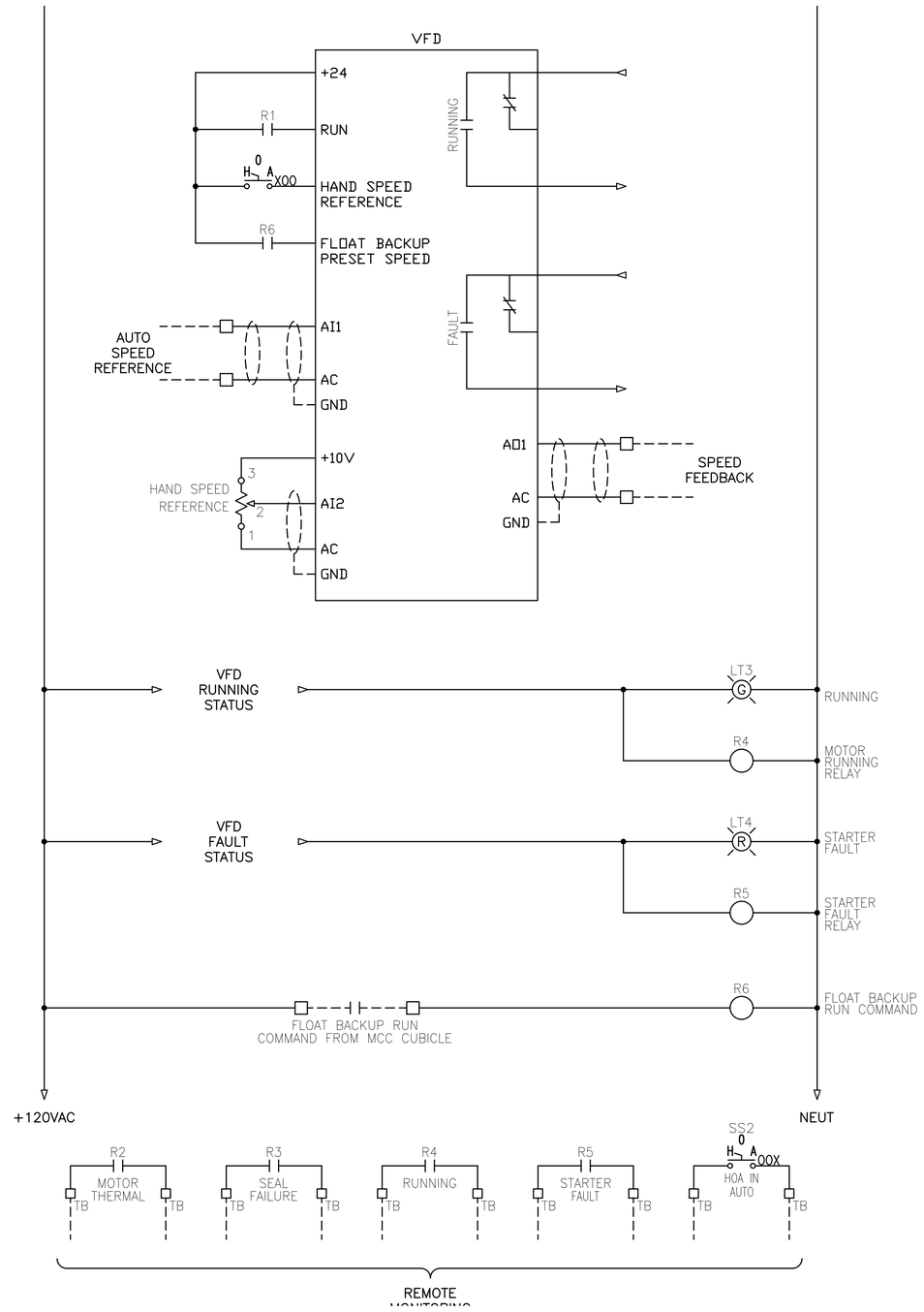

TYPICAL INFLUENT PUMP VFD MCC CUBICLE CONTROL SCHEMATIC

SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34084-E
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
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TYP INF PUMP CUBICLE

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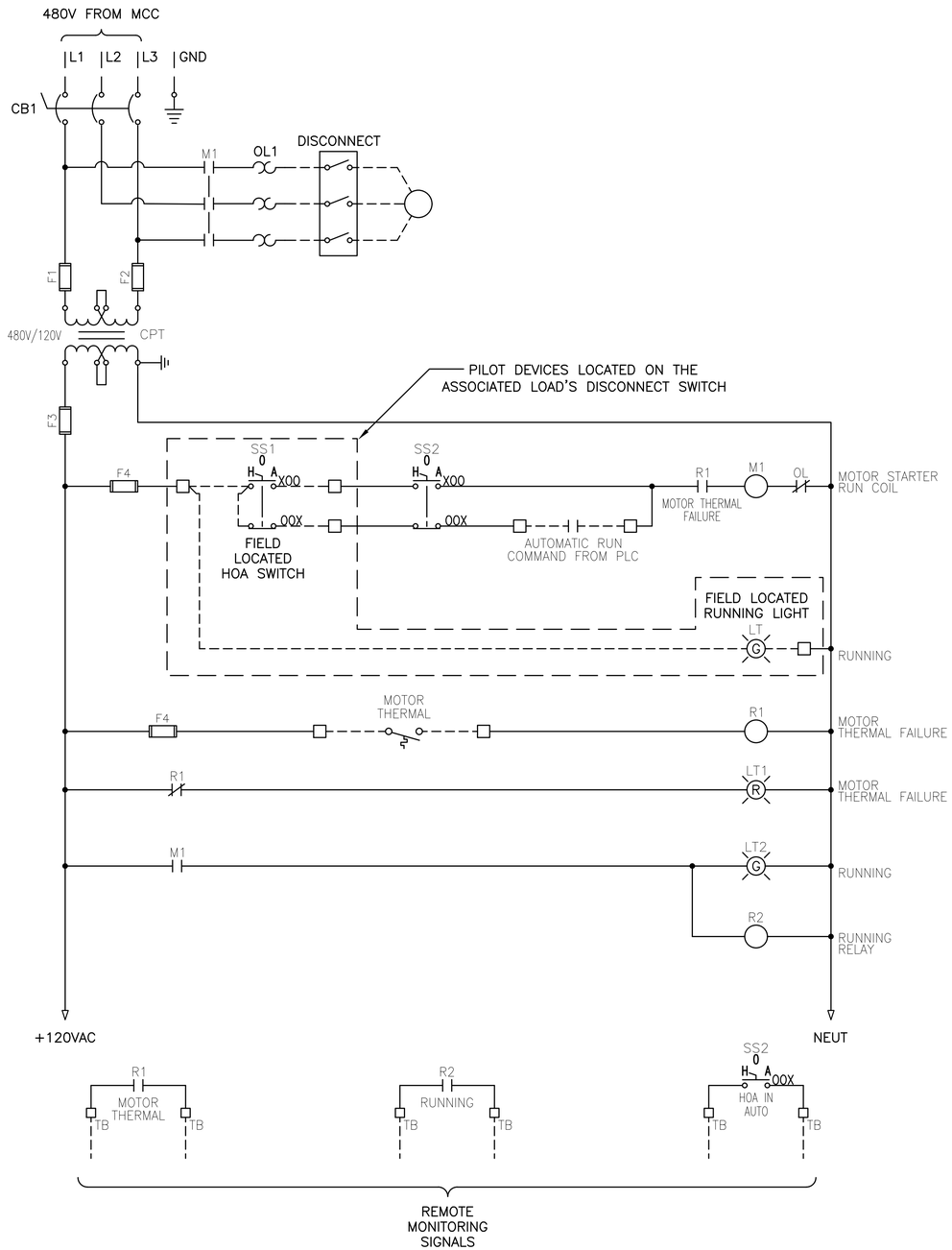
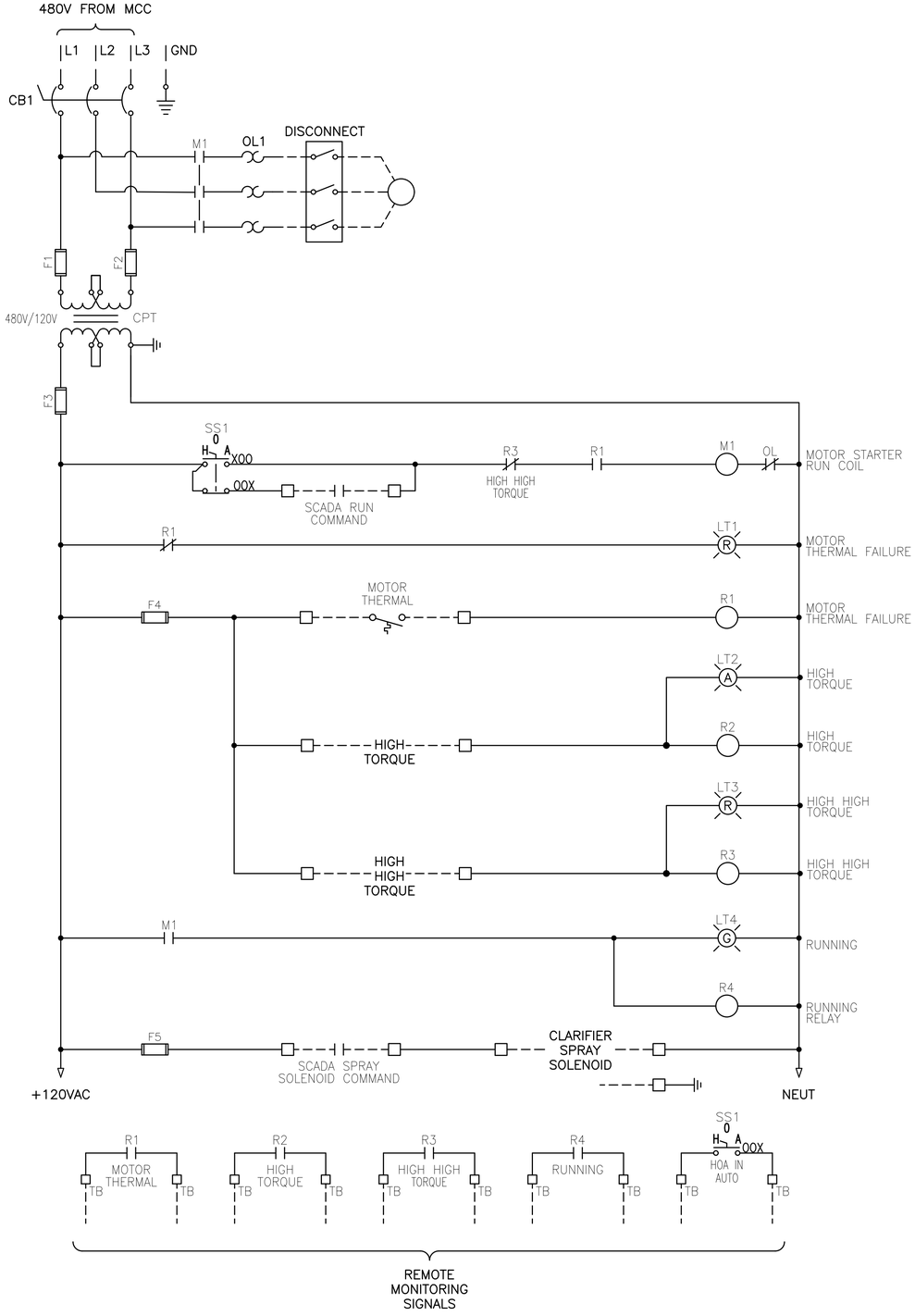
PROJ.	100200.32
DWG.	E-98.1



TYPICAL MIXING/NRCY PUMP FVNR MCC CUBICLE CONTROL SCHEMATIC

SCALE: NONE



TYPICAL CLARIFIER FVNR MCC CUBICLE CONTROL SCHEMATIC

SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
DANIEL COLE STEVENS
8/8/24

NO.	DATE	REVISION	BY
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TYP MIXING & NRCY PUMP CUBICLE

ALOE BAY WATER QUALITY ENHANCEMENT
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DWG.	E-98.2

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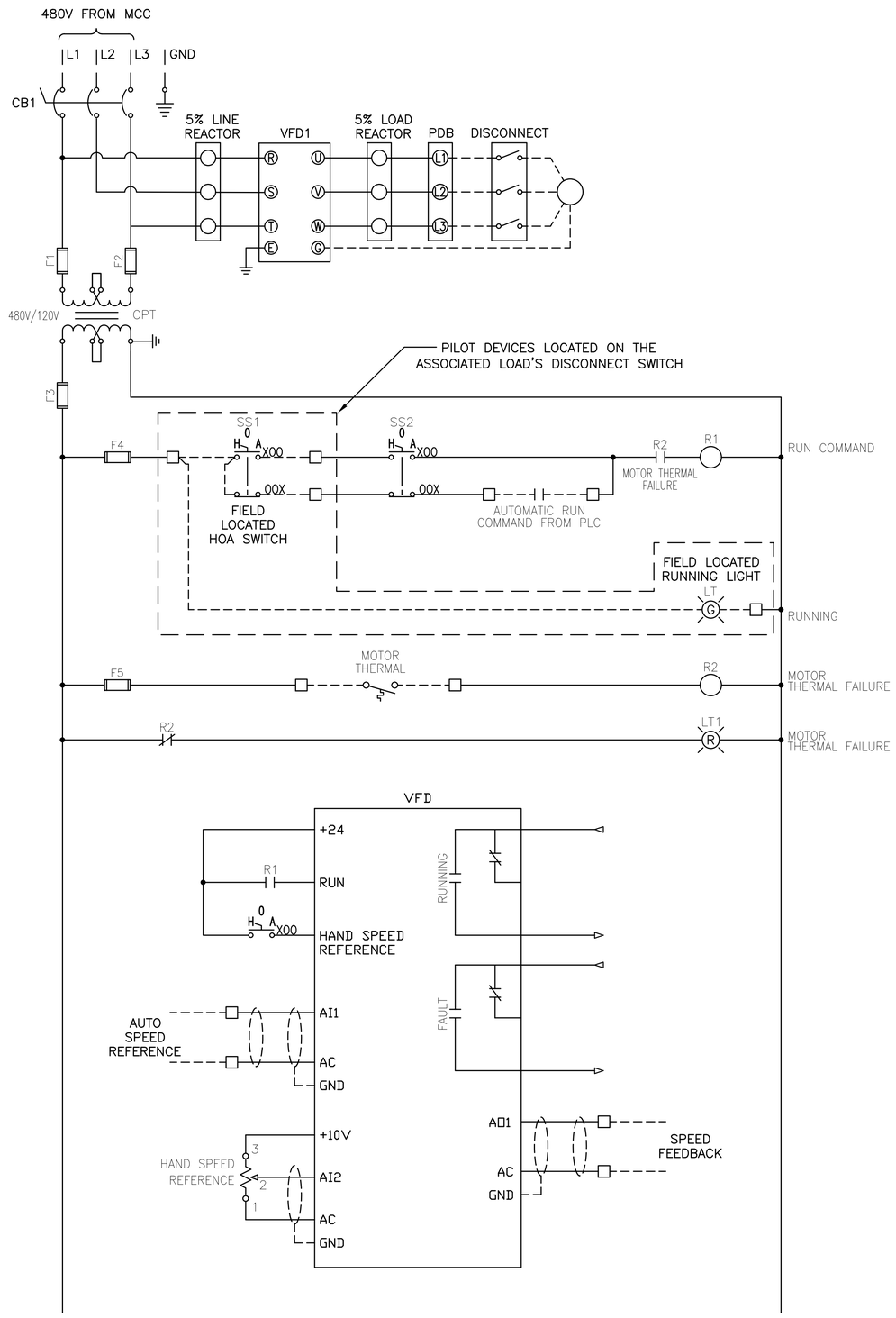

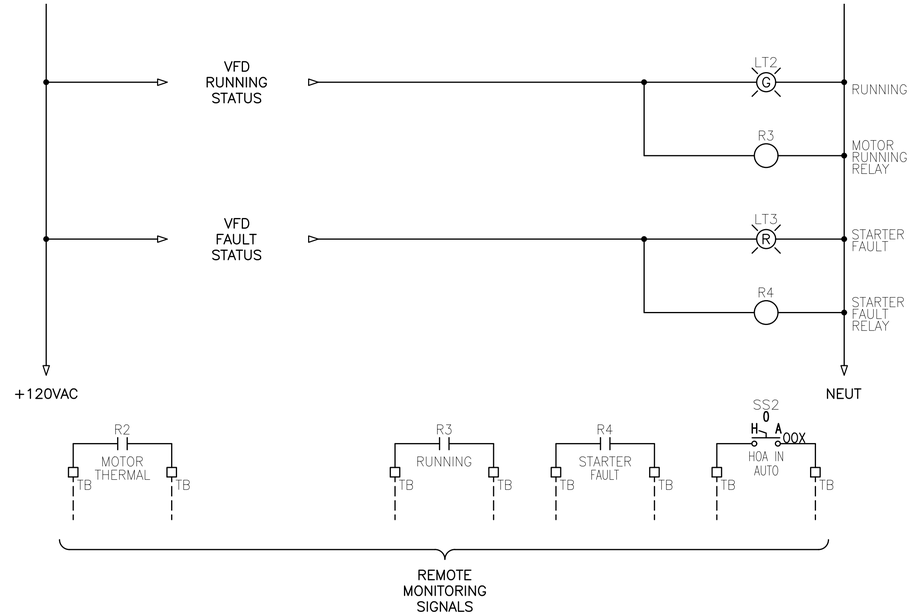

TYPICAL RAS PUMP MCC CUBICLE CONTROL SCHEMATIC

SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
DANIEL COLE STEVENSON

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TYP RAS PUMP CUBICLE

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DWG.	E-98.3

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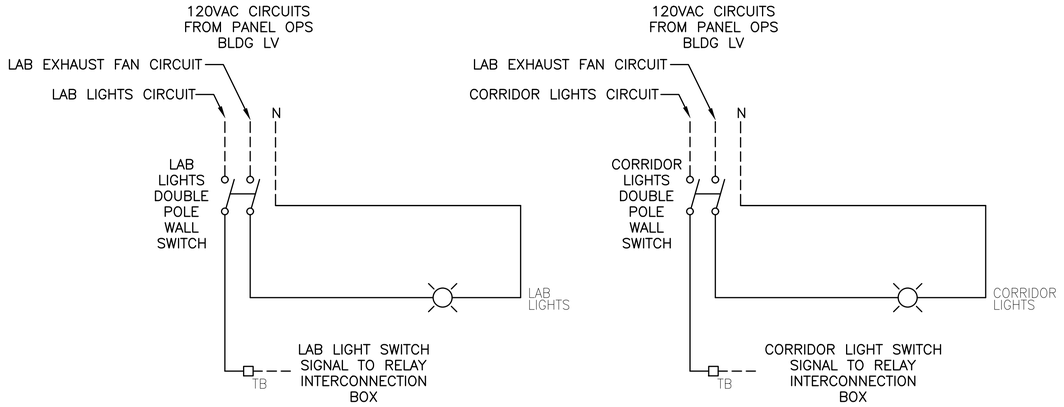

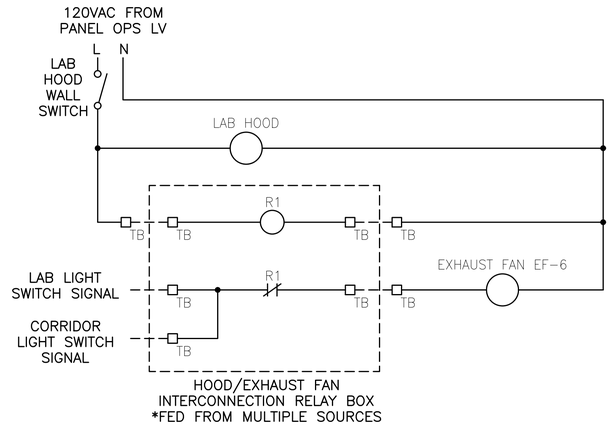

LAB HOOD & EXHAUST FAN INTERCONNECTION CIRCUIT

NOTES:

1. THE LAB EXHAUST FAN SHALL RUN WHENEVER EITHER THE CORRIDOR OR LAB LIGHT SWITCHES HAVE BEEN ENGAGED AND THE LAB HOOD IS OFF.
2. THE LAB AND CORRIDOR LIGHT SWITCHES SHALL BE DOUBLE POLE SWITCHES. ONE SWITCH SHALL BE RESPONSIBLE FOR POWERING THE ASSOCIATED LIGHTS AND THE OTHER SHALL PROVIDE POWER TO THE LAB EXHAUST FAN VIA THE INTERCONNECTION RELAY BOX.
3. IF THE LAB HOOD IS ENGAGED OPERATION OF THE LAB EXHAUST FAN SHALL BE DISABLED.

RELEASE FOR BID

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ALABAMA LICENSED PROFESSIONAL ENGINEER
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8/8/24
DANIEL COLE STEVENSON

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LAB HOOD & EXHAUST FAN CIRCUIT

ALOE BAY WATER QUALITY ENHANCEMENT
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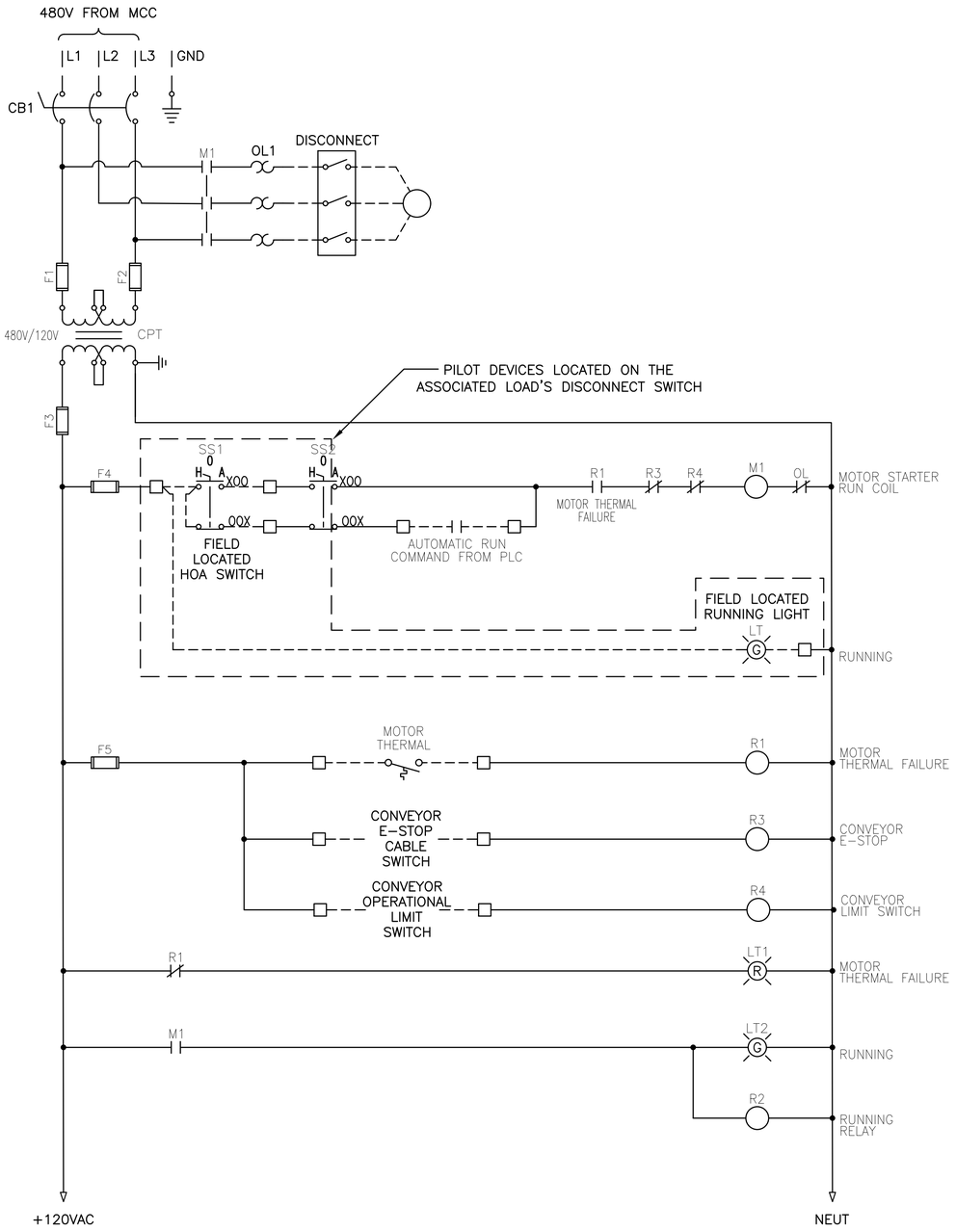

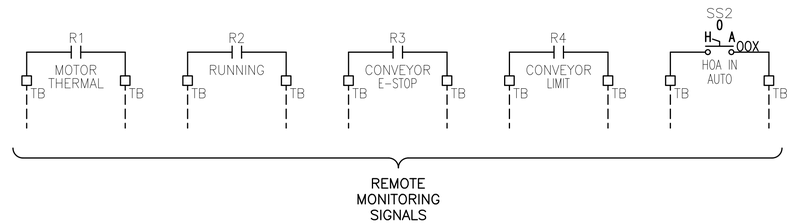

SCREEN CONVEYOR MCC CUBICLE CONTROL SCHEMATIC

SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB		DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APVD. BY:

SCREEN CONVEYOR MCC CUBICLE

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DWG.	E-98.5

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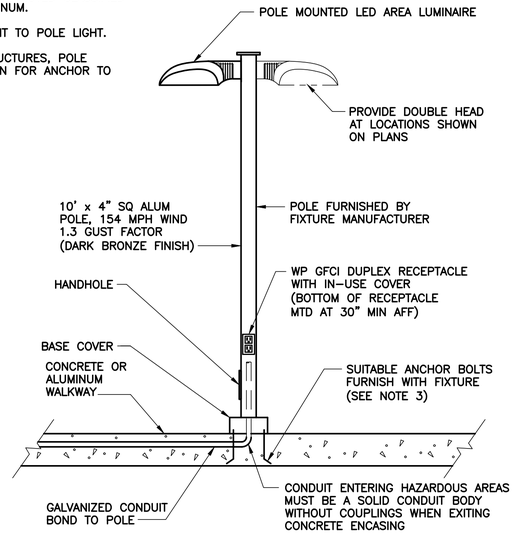
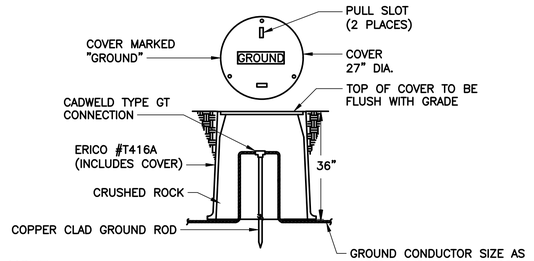
NOTES:

1. PROVIDE EXPLOSION–PROOF SEAL OFF FITTINGS AT ALL AREAS REQUIRED BY THE NEC FOR THE NOTED CLASSIFIED AREA. FITTINGS SHALL BE CAST ALUMINUM.
2. PROVIDE SEAL OFF FITTING AT CONDUIT TO POLE LIGHT.
3. WHERE POLES ARE MOUNTED TO STRUCTURES, POLE MANUFACTURER SHALL PROVIDE DESIGN FOR ANCHOR TO MEET THE SPECIFIED WIND RATINGS.



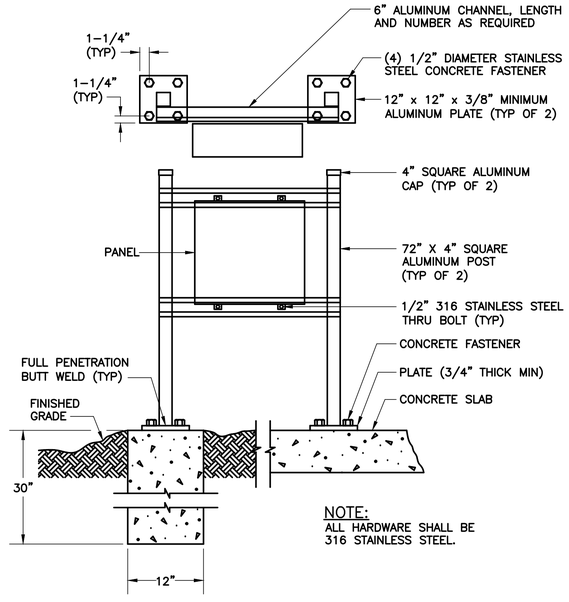
POLE MOUNTED FIXTURE
SCALE: NONE



NOTE:

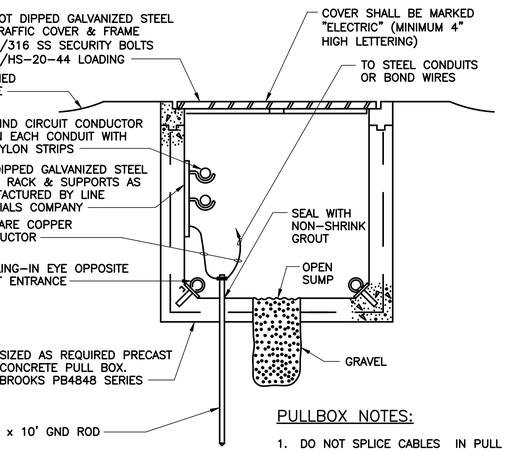
1. TO IMPROVE SYSTEM RESISTANCE, ERICO GEM MAY BE USED AS A BACKFILL MATERIAL IN AN AUGERED HOLE.

GND ROD TEST WELL STATION DETAIL
SCALE: NONE



NOTE:
ALL HARDWARE SHALL BE 316 STAINLESS STEEL.

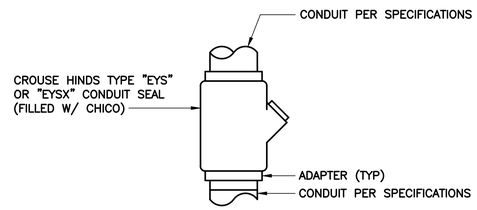
PANEL MOUNTING DETAIL
SCALE: NONE



PULLBOX NOTES:

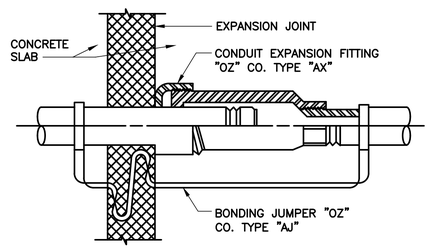
1. DO NOT SPLICE CABLES IN PULL BOXES UNLESS OTHERWISE NOTED.
2. ALL MOUNTING HARDWARE SHALL BE 316 SS.
3. PULLBOX TO BE PLACED ON 6" BASE OF GRAVEL.

TYPICAL PULLBOX DETAIL
SCALE: NONE



NOTE:
PROVIDE COPPER–FREE ALUMINUM BODIES, NIPPLES AND ENCLOSURES.

CONDUIT SEAL CONNECTION DETAIL
SCALE: NONE



EXPANSION FITTING DETAIL
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON
8/8/24

NO.	DATE	REVISION	BY
	DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APVD. BY:

ELECTRICAL DETAILS 1

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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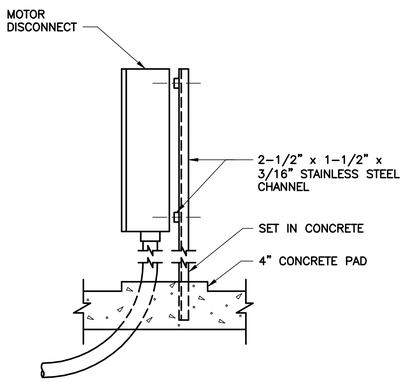

TYPICAL DISCONNECT DETAIL
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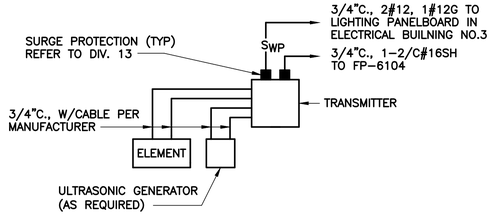

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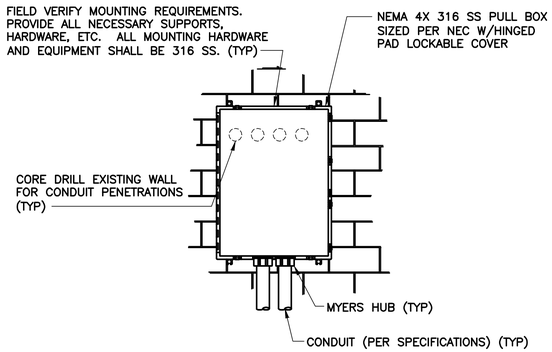
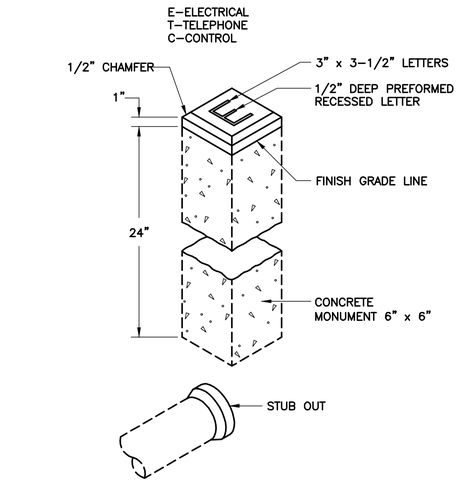
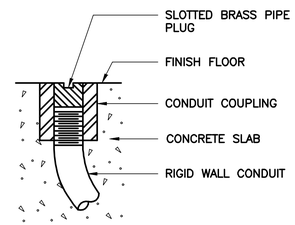


WALL MOUNT PULL BOX
SCALE: NONE



CONDUIT STUB MONUMENT DETAIL
SCALE: NONE



CONDUIT TERINATION STUB UP DETAIL
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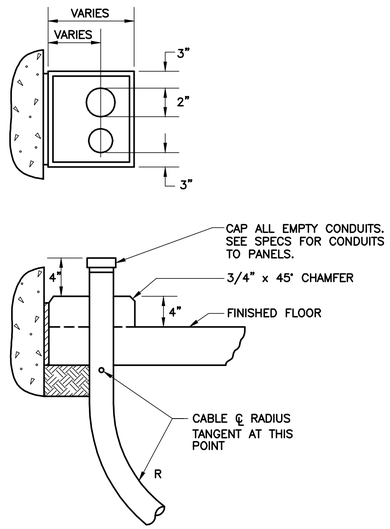
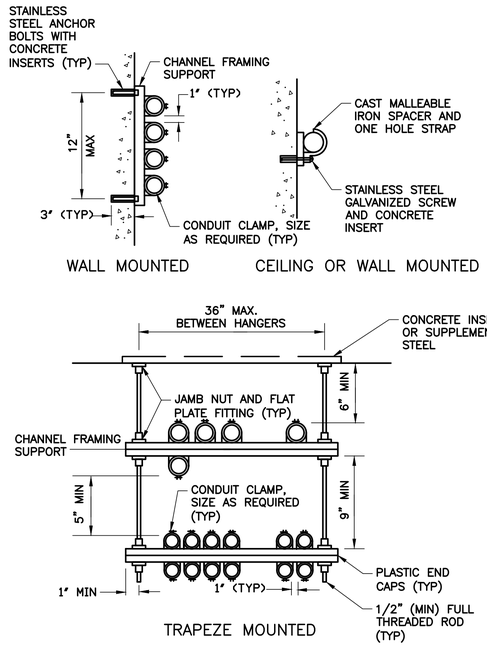


TYPICAL CONDUIT THROUGH SLAB DETAIL
SCALE: NONE



CONDUIT MOUNTING DETAIL
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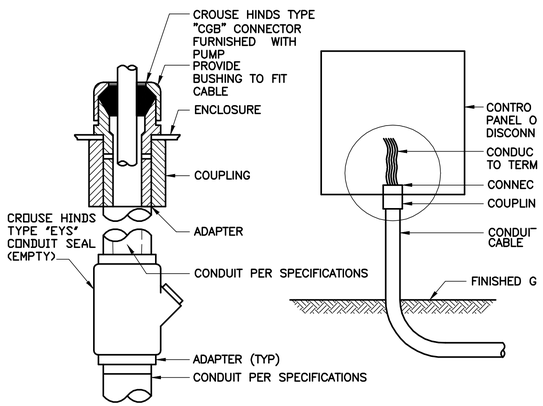

WATER TIGHT CONNECTION DETAIL
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34384-E PROFESSIONAL ENGINEER 8/8/24 DANIEL COLE STEVENS

NO.	DATE	REVISION	BY	APVD.
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	

ELECTRICAL DETAILS 2

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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DWG.	E-99.1

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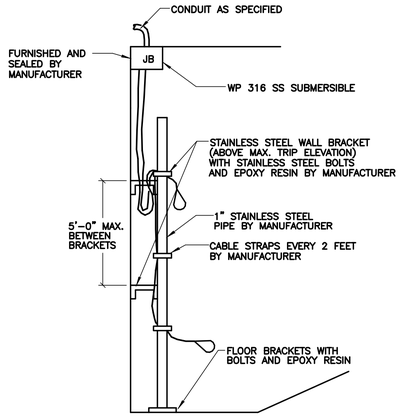

FLOAT SWITCH INSTALLATION DETAIL
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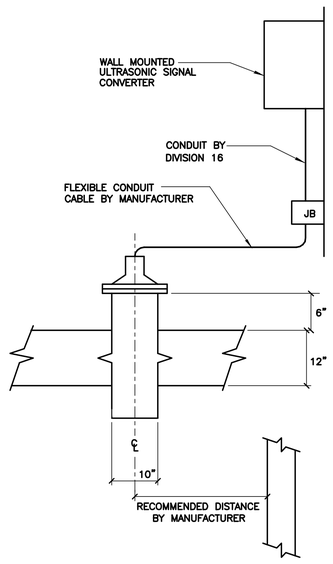

ULTRASONIC LEVEL TRANSMITTER DETAIL
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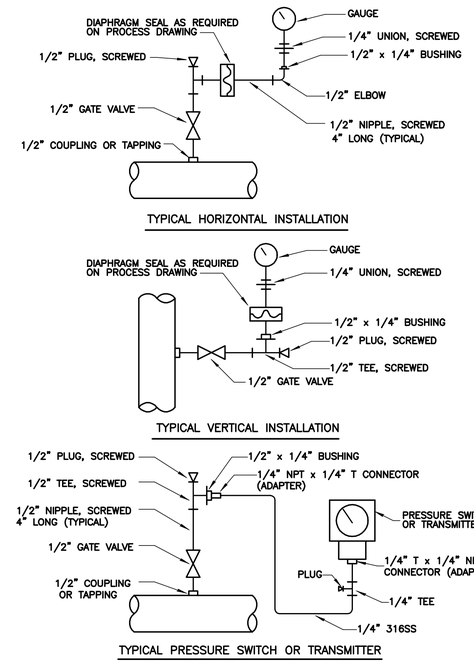
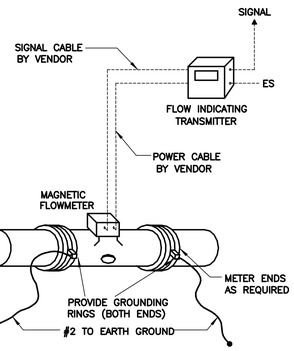
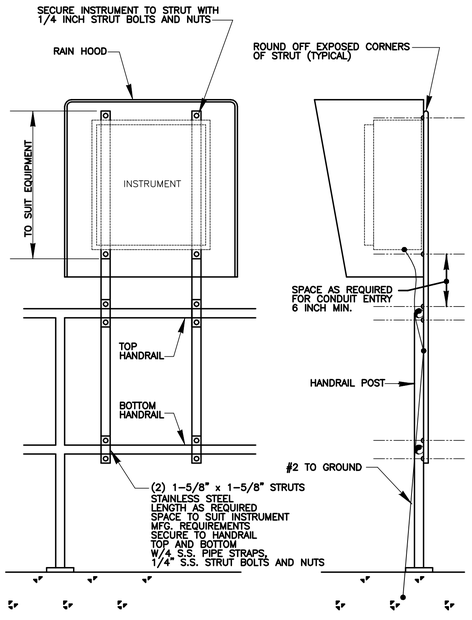


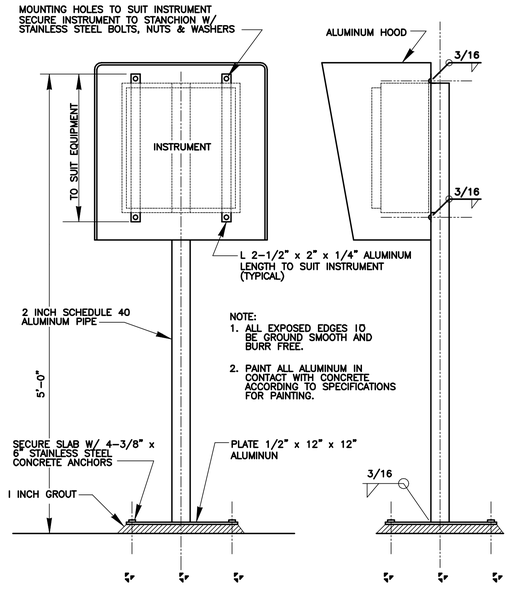
PRESSURE INSTRUMENTS INSTALLATION
SCALE: NONE



MAGNETIC FLOWMETER INSTALLATION
SCALE: NONE



HANDRAIL MOUNTING FOR CASE MOUNTED INSTRUMENTS
SCALE: NONE



STANCHION MOUNTING FOR CASE MOUNTED INSTRUMENTS
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
8/8/24
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

ELECTRICAL DETAILS 3

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	E-99.2

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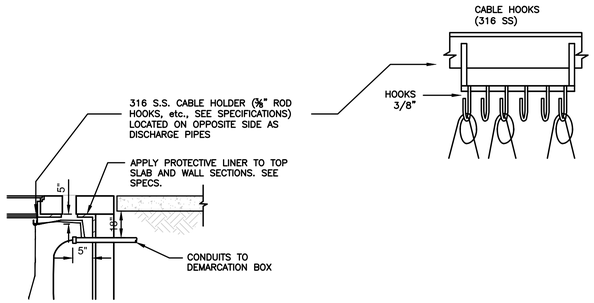
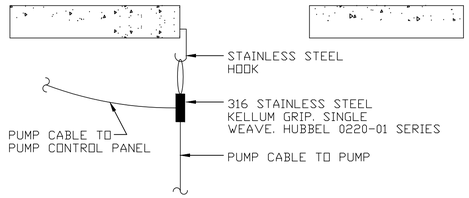
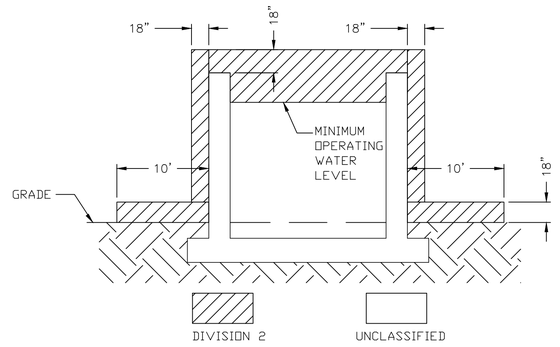


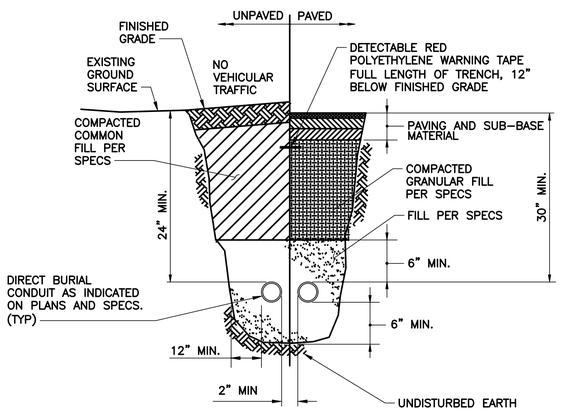
WETWELL FLOAT AND SUBMERSIBLE TRANSDUCER CABLE ENTRY DETAILS
SCALE: NONE



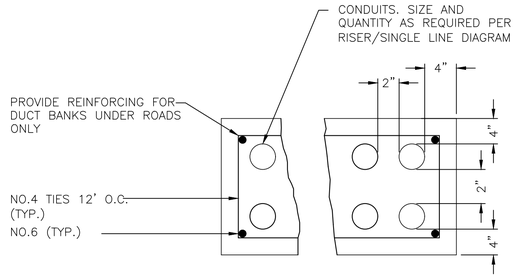
PUMP CABLE MOUNTING DETAIL
SCALE: NONE



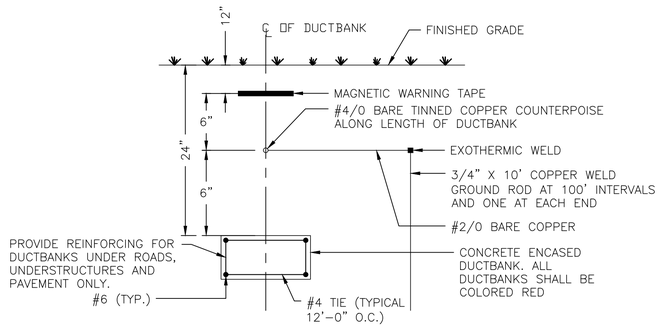
HAZARDOUS CLASSIFICATION BOUNDARIES
SCALE: NONE



TYPICAL DIRECT BURIED CONDUIT INSTALLATION DETAIL
SCALE: NONE



TYPICAL DUCTBANK CONDUIT SECTION
SCALE: NONE



TYPICAL DUCTBANK DETAIL
SCALE: NONE

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON 8/8/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB		APPROVED BY: JS

ELECTRICAL DETAILS 4

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	E-99.3

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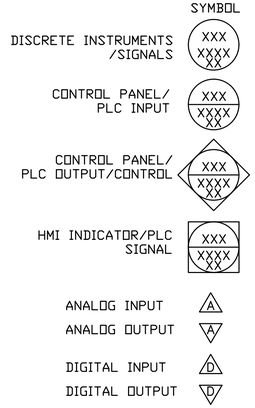
ABBREVIATIONS

AI	ANALOG IN
AIR	AIR
AO	ANALOG OUT
AS	AIR SUPPLY
ASC	ANTISCALANT SYSTEM
BCM	BACKUP CONTROL MODULE
BFV	BUTTERFLY VALVE
BGS	BELOW THE GROUND SURFACE
BLD	BLEED
BLW	BLEND WATER
BV	BALL VALVE
BW	BACKWASH
BYP	BYPASS
CAFP	CONTAINMENT FLOOD ALARM PANEL
CAT5(E)	CATEGORY 5 (E) CABLE
CHV	CHECK VALVE
CIP	CLEAN IN PLACE
CL	CHLORINE
CONC	CONCENTRATE
COND	CONDUCTIVITY
CORI	CORROSION INHIBITOR
CPU	CENTRAL PROCESSING UNIT
CS	CONSTANT SPEED
CV	CHECK VALVE
D	DRAIN
DCU	DISTRIBUTED CONTROL UNIT
DNB	DEVICENET MODULE
DI	DIGITAL INPUT / DUCTILE IRON
DIP	DUCTILE IRON PIPE
DO	DIGITAL OUTPUT / DISSOLVED OXYGEN
DUR	DURATION
ECC	ECCENTRIC
EFAP	EYEWASH FLOW ALARM PANEL
EFW	EMERGENCY FLUSHING WATER
ENBT	ETHERNET MODULE
ES	ELECTRIC SUPPLY, 120VAC
F	FAN
FC	FAIL CLOSED
FCP	FIELD CONTROL PANEL
FFP	FEED PUMP PANEL
FIN	FINISHED WATER
FLP	FAIL LAST POSITION
FM	FORCE MAIN
FNIC	FIBER NETWORK INTERFACE CARD
FO	FAIL OPEN / FIBER OPTIC
FOE	FIBER OPTIC ETHERNET
FOC	FIBER OPTIC CABLE
FP	FIELD PANEL
FREQ	FREQUENCY
FSP	FILL SUPPLY PANEL
FW	FEED WATER
FWP	FEED WATER PUMP
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GTV	GATE VALVE
HMI	HUMAN MACHINE INTERFACE
HSTDBY	HOT STANDBY
INT	INTERSTAGE
I/O	INPUT/OUTPUT
IS	IN-SERVICE
KV	KNIFE VALVE
KVM	KEYBOARD/VIDEO/MOUSE SWITCH
LAN	LOCAL AREA NETWORK
LB	LOWER BEARING
L/C	LOCAL/COMPUTER
LIO	LOCAL INPUT/OUTPUT RACK
MC	MOTOR CONTROLLER
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
NAOH	SODIUM HYDROXIDE
NC	NORMALLY CLOSED
NIC	NETWORK INTERFACE CARD
NO	NORMALLY OPEN
NPW	NON POTABLE WATER
OCM	OPTICAL COMMUNICATION MODULE
OFO	OVERHEAD FIBER OPTIC
OIU	OPERATOR INTERFACE UNIT
OL	OVERLOAD
OVF	OVERFLOW
OWS	OPERATOR WORKSTATION
P	PUMP
PC	PERSONAL COMPUTER
PERM	PERMEATE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMU	POWER MONITOR UNIT
POLM	POLYMER
POS	POSITION
PRESS	PRESSUP
PRV	PRESSURE RELIEF VALVE
PS	POWER SUPPLY
PTZ	PAN/TILT/ZOOM
PV	PROCESS VARIABLE / PLUG VALVE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
RCP	RELAY CONTROL PANEL
RDCR	REDUCER
RIO	REMOTE INPUT/OUTPUT RACK
RIOD	REMOTE I/O DROP MODULE
RIOH	REMOTE I/O HEAD MODULE
ROP	REVERSE OZMOSIS PUMP
RS	RAW SEWAGE
RTU	REMOTE TERMINAL UNIT
RW	RAW WATER
SD	STORM DRAIN
SUA	SULFURIC ACID
SCFM	STANDARD CUBIC FEED PER MINUTE
SDI	SILT DENSITY INDEX

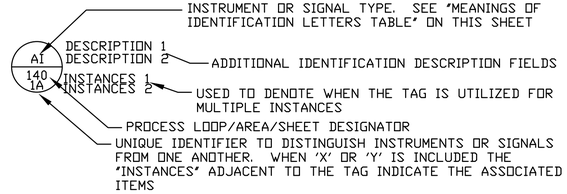
ABBREVIATIONS (CONT.)

SP	SETPOINT
SPL	SAMPLE
SR	SURGE RELIEF
SS	STAINLESS STEEL
SSM	SOLID STATE METERING
ST	STORAGE
SUBM	SUBMERSIBLE
SWGR	SWITCHGEAR
T	TEE
TDH	TOTAL DYNAMIC HEAD
TDR	TIME DELAY RELAY
UB	UPPER BEARING
uP	MICROPROCESSOR
UPS	UNINTERRUPTIBLE POWER SUPPLY
uS	MICRO SIEMENS
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
VNT	WENT
VS	VARIABLE SPEED
VSD	VARIABLE SPEED DRIVE
WAN	WIDE AREA NETWORK
WW	WASH WATER

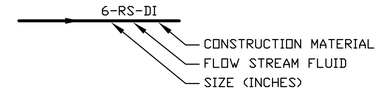
GENERAL INSTRUMENT OR FUNCTION SYMBOLS



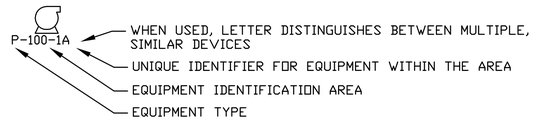
TYPICAL TAG NUMBERS & DESIGNATION



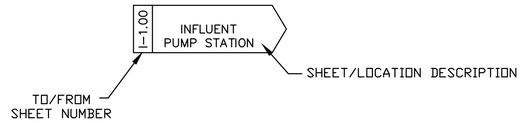
TYPICAL PIPE TAG NUMBERS & DESIGNATION



TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION



TO/FROM DESIGNATOR



GENERAL NOTES

1. THIS IS A GENERAL LEGEND SHEET, SOME SYMBOLS AND ABBREVIATIONS MAY NOT APPLY TO THIS SPECIFIC PROJECT.
2. THIS LEGEND APPLIES TO INSTRUMENTATION DIAGRAMS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
3. IN GENERAL THIS LEGEND SHEET AND THE INSTRUMENTATION DIAGRAMS ARE BASED ON INSTRUMENTATION, SYSTEMS AND AUTOMATION SOCIETY (ISA) STANDARDS FOR PRACTICES FOR INSTRUMENTATION. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE THE PROJECT REQUIREMENTS.
4. SOME PROCESS ITEMS, SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOTE SHOWN ON THE INSTRUMENTATION SHEETS.
5. SEE ELECTRICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS FOR EQUIPMENT NOT SHOWN OR NOT PROVIDED BY THE INSTRUMENTATION SUPPLIER.

PROCESS LINE SYMBOLS

- MAJOR PROPOSED PROCESS PIPING, DIRECTION AS SHOWN
- MAJOR EXISTING PROCESS PIPING, DIRECTION AS SHOWN
- MAJOR FUTURE PROCESS PIPING, DIRECTION AS SHOWN
- MINOR PROPOSED PROCESS PIPING, DIRECTION AS SHOWN
- MINOR EXISTING PROCESS PIPING, DIRECTION AS SHOWN
- MINOR FUTURE PROCESS PIPING, DIRECTION AS SHOWN
- // PROCESS AIR

ELECTRICAL/CONTROL LINE SYMBOLS

- ELECTRICAL OR ELECTRONIC SIGNAL
- SOFTWARE SIGNAL

MEANINGS OF IDENTIFICATION LETTERS

THIS TABLE APPLIES TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		EMERGENCY	USER'S CHOICE	USER'S CHOICE
C	USERS CHOICE		CLEANER	CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGING (DIMENSIONAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH OR OPEN
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW OR CLOSED
M	USER'S CHOICE	MOMENTARY			MIDDLE OR INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE OR TOTALIZE			
R	RUN		RECORD		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY, VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	FAILURE	X AXIS			
Y	EVENT, STATE OR PRESSENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVE, ACTUATE OR UNCLASSIFIED CONTROL ELEMENT	

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34384-E
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	

INST. LEGEND AND NOTES

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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200 CLINTON AVE. SUITE 601
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DWG.	I-0.10

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MISCELLANEOUS SYMBOLS

- SIGHT GLASS
- DIAPHRAGM SEAL
- BLIND FLANGE
- AIR GAP
- VENT TO ATMOSPHERE
- PROCESS DRAIN
- AERATOR
- PLUG
- RECEPTACLE
- SELF CONTAINED AIR SUPPLY
- COMPOSITE SAMPLER (DIFFER TYPE)
- COMPOSITE SAMPLER (SUCTION TYPE)
- TV CAMERA
- RADIO ANTENNA
- 'ON' TIME DELAY B 'ON' X-SEC AFTER A 'ON' INSTANT 'ON'
- 'OFF TIME DELAY B 'OFF' X-SEC. AFTER A 'OFF' INSTANT 'ON'
- INTERLOCK, SEE CONTROL DIAGRAMS
- MEMORY ELEMENT S = SET, R = RESET
- PURGE SET X: W = WATER A = AIR
- AIR SET XX = SUPPLY IN PSIG
- FILTER / REGULATOR/ GAUGE SET
- FLEXIBLE COUPLING
- 120 VOLT, 60 HZ POWER
- 480 VOLT, 60 HZ POWER
- ANNULAR DIAPHRAGM SEAL
- RUPTURE DISK
- PULSATION DAMPENER
- PIG CATCH POINT
- MIXER
- ELECTRIC MOTOR
- PRESSURE GAUGE
- TONE TRANSMITTER NO. X
- TONE RECEIVER NO. X
- VOICE COMMUNICATION POINT
- TV MONITOR
- LOGIC ELEMENT: IF A AND NOT B THEN C
- LOGIC ELEMENT: IF A OR B THEN C
- ON/OFF RELAY. INPUT IS CONNECTED TO OUTPUT WHEN SWITCHING SIGNAL IS PRESENT
- SWITCHING SIGNAL
- SWITCHING RELAY. INPUT WITH DOT IS CONNECTED TO OUTPUT WHEN SWITCHING SIGNAL IS PRESENT
- OTHER INPUT IS CONNECTED TO OUTPUT WHEN SWITCHING SIGNAL IS NOT PRESENT
- FLUSHING CONNECTION
- HOSE ADAPTER
- SEAL WATER SET
- FILTER SILENCER

PUMP AND COMPRESSOR SYMBOLS

NOTE: XX: AS = ADJUSTABLE SPEED
CS-1 = CONSTANT SPEED (SINGLE SPEED)
CS-2 = CONSTANT SPEED (TWO SPEED)

- CENTRIFUGAL PUMP (DRY PIT)
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP
- CHEMICAL FEED PUMP
- DIAPHRAGM PUMP
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- VERTICAL TURBINE PUMP
- CENTRIFUGAL FAN/BLOWER
- PROGRESSIVE CAVITY PUMP
- SUBMERSIBLE SUMP PUMP
- COMPRESSOR (CENTRIFUGAL) OR BLOWER
- COMPRESSOR (PISTON)
- EJECTOR
- HOSE PUMP
- VERTICAL MOTOR WITH CENTRIFUGAL PUMP

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- WEIR
- ORIFICE PLATE
- FLOW TUBE
- PILOT-STATIC
- VORTEX METER
- ROTAMETER
- FLOW SWITCH
- ULTRASONIC FLOWMETER (INLINE)
- ELECTROMAGNETIC FLOWMETER
- PROPELLAR OR TURBINE METER
- LEVEL (FLOAT)
- LEVEL (PROBE)
- LEVEL (ULTRASONIC)
- CALIBRATION COLUMN
- SILENCER

FLOW STREAM IDENTIFICATION

AIR	AIR
AW	ACID WASTE
FM	FORCE MAIN
NS	NUTRIENT SOLUTION
OA	ODOROUS AIR
OVF	OVERFLOW
PW	POTABLE WATER
RS	RAW SEWAGE
SD	STORM DRAIN
SR	SURGE RELIEF
VNT	VENT
WW	WASH WATER

VALVE SYMBOLS

- GATE
- KNIFE GATE
- BUTTERFLY
- GLOBE
- BALL
- VEE-BALL
- PLUG
- SEAT PORT ECCENTRIC PLUG
- DIAPHRAGM
- PINCH
- NEEDLE
- SWING CHECK
- BALL CHECK
- SAMPLE
- MUD
- PRESSURE RELIEF
- AIR AND / OR VACUUM RELEASE
- REGULATED SIDE PRESSURE CONTROL
- MULTI-PORT VALVES (BALL VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) ARROWS INDICATE FLOW PATTERN. SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- STRAINER

ACTUATOR SYMBOLS

- PNEUMATIC W/ POSITIONER
- PNEUMATIC W/ SOLENOID
- ELECTRIC
- ELECTRIC W/ POSITIONER
- ELECTROHYDRAULIC
- HYDRAULIC
- PNEUMATIC W/ VOLUME BOOSTER
- SOLENOID

NOTE: ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL OR HYDRAULIC)
XX: FO = FAIL OPEN
FC = FAIL CLOSED
FLP = FAIL TO LAST POSITION

GATE SYMBOLS

- SLUICE
- BUTTERFLY
- FLAP
- FABRICATED SLIDE
- SHEAR

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON 8/8/24

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INST. SYMBOLS

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WASTEWATER TREATMENT FACILITY

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TAH 100 XA X=1-4 THERMAL FAULT
YA 100 XB X=1-4 SEAL FAILURE
YA 100 XC X=1-4 VFD FAULT
HS 100 XD X=1-4 HOA IN AUTO
RS 100 XE X=1-4 RUNNING
SI 100 XF X=1-4 SPEED
LAL 100 5, LS 100 6, LS 100 7, LS 100 8, LSH 100 9
MC 100 XG X=1-4 START/STOP
SC 100 XH X=1-4 SPEED
LAL 100 10, LAH 100 10, LALL 100 10, LAHH 100 10, LI 100 10
PAH 100 11, PAHH 100 11, PI 100 11
FI 100 12
RS 100 13A, YA 100 13B SYSTEM FAULT

SCADA/HMI
MAIN CONTROL PANEL/MAIN PLC
MCC/LOCAL CONTROL PANEL

WETWELL CONTROL SIGNAL JUNCTION BOX
RS 100 XE X=1-4, HS 100 XG X=1-4 PUMP DISCONNECT TYP. OF 4
HS 100 XG X=1-4 FIELD HOA
HS 100 XD X=1-4 MCC HOA

LSH 100 9, LS 100 8, LS 100 7, LS 100 6, LSL 100 5
LIT 100 10, LE 100 10

PIT 100 11, FIT 100 12, FE 100 12
16"-FM-DI
ELECTROMAGNETIC FLOW METER
I-2.00 HEADWORKS

PI
8" 2" ARV
FRESH AIR DAMPER 12" 12"
8" 6" PV QUICK CONNECT
12" OC-FRP

TS 100 1A, YS 100 1B
TS 100 2A, YS 100 2B
TS 100 3A, YS 100 3B
TS 100 4A, YS 100 4B

M 100 1 INFLUENT PUMP NO.1
M 100 2 INFLUENT PUMP NO.2
M 100 3 INFLUENT PUMP NO.3
M 100 4 INFLUENT PUMP NO.4

INFLUENT PUMP STATION

PLANT INFLUENT
PLANT SAN SEWER NETWORK

ODOR CONTROL SYSTEM 100.13
PACKAGED ODOR CONTROL SYSTEM FAN & FILTER
ECOFILTER REACTOR
PACKAGED ODOR CONTROL SYSTEM WATER PANEL
RS 100 13A, YA 100 13B
NUTRIENT TANK
PACKAGED ODOR CONTROL SYSTEM STARTUP SYSTEM

I-2.00 SCREENS 8" OC-HDPE 8" OC-FRP
I-6.00 PLANT WATER 2"-PW-PVC

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENS 8/8/24

NO.	DATE	REVISION	BY	APVD
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	

INFLUENT PUMP STATION

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

ARDURRA
COLLABORATE. INNOVATE. CREATE.
200 CLINTON AVE. SUITE 601
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(256)203-9501

FILE	SEE LEFT
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DATE	AUGUST 2024
PROJ.	100200.32
DWG.	I-1.00

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TAH 200 3A THERMAL FAULT
HS 200 3B HOA IN AUTO
RS 200 3C RUNNING
YA 200 3D E-STOP
YA 200 3E OP LIMIT
MC 200 3G START/ STOP
HS 200 4 SYS IN AUTO
ZSO 200 4A / YA 200 4A FAULT
ZSO 200 4B / ZSC 200 4B

SCADA/HMI
MAIN CONTROL PANEL/MAIN PLC
MCC/LOCAL CONTROL PANEL

SCREEN AIR & WATER CONTROL PANEL

I-6.00 PLANT WATER — 2"-PW-PVC — SV 200 1A
I-1.00 INFLUENT PUMP STATION — 16"-FM-DI 16"-SS
10"-SS — SV 200 1B
MECH SCREEN 1 200.1
HW SCREEN CONVEYOR
SV 200 2A
10"-SS
MECH SCREEN 2 200.2
YA 200 3E / YA 200 3D
TS 200 3A
HS 200 3F / RS 300 3C MECH. SCREEN DISCONNECT
M HW SCREEN CONVEYOR M 200 3
HW SCREEN DUMPSTER
XX HW COMPRESSOR M 200 5
SV 200 2B
SV 200 4A
GRIT SYSTEM CONTROL PANEL 200.4
GRIT REMOVAL 200.4
MV 200 4B — 3"-DRN-SS
DECANTER
8"-OC-SS — 8"-OC-HDPE — I-1.00 ODOR CONTROL
K — 20"-SS
20"-BYP-SS
I-3.00 NORTH PROCESS BASIN
I-3.01 SOUTH PROCESS BASIN
16"-BYP-DI 16"-BYP-SS 16"-BYP-SS 20"-BYP-SS

GENERAL NOTES:

1. BOTH THE SCREEN AIR & WATER CONTROL PANEL AND GRIT SYSTEM CONTROL PANEL SHALL INCLUDE ALL RELAYS AND TIMERS TO CONTROL THE ASSOCIATED SOLENOID VALVES.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENS 8/8/24

NO.	DATE	REVISION	BY	APVD
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HEADWORKS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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THERMAL FAULT
TAH 300 XA X=1-3
HOA IN AUTO
HS 300 XC X=1-3
RUNNING
RS 300 XD X=1-3
START/ STOP
MC 300 XE X=1-3
FIELD HOA
HS 300 XB X=1-3
FI 300 4
AI 300 5
SCADA/HMI
MAIN CONTROL PANEL/MAIN PLC
MCC/LOCAL CONTROL PANEL
PUMP/MIXER DISCONNECT TYP. OF 3
FIT 300 4
FE 300 4
ELECTROMAGNETIC FLOW METER
8"-NRCY-DI
8"-NRCY-SS
TS 300 3A
M 300 3
NRCY PUMP
12"
8"
12"-DI-NRCY
8"-NRCY-DI
I-1.00 INFLUENT PS VIA PLANT MAN HOLES
AIT 300 5
AE 300 5
DO
I-4.00 NORTH SEC CLARIFIER RAS FLOW
8"-RAS-SS
I-2.00 HEADWORKS
20"-INF-SS
ANEROBIC 1 ZONE
ANEROBIC 2 ZONE
ANOXIC 1 ZONE
ANOXIC 2 ZONE
ANOXIC 3 ZONE
OXIC 1 ZONE
OXIC 2 ZONE
OXIC 3 ZONE
OXIC 4 ZONE
POST ANOXIC 1 ZONE
POST ANOXIC 2 ZONE
POST OXIC ZONE
24"-MLSS-DI
I-4.00 NORTH SECONDARY CLARIFIER
6"
12"
4"
8"-SS
12"-DI
TS 300 1A
TS 300 2A
M 300 1
MIXING PUMP 1
M 300 2
MIXING PUMP 2
I-7.00 BLOWERS
12"-AIR-SS
12"-OVF-DI
I-1.00 INFLUENT PS VIA PLANT MAN HOLES

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34084-E DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS
			APV'D BY:

PROCESS BASIN 1

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	I-3.00

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THERMAL FAULT
TAH 301 XA X=1-3
HOA IN AUTO
HS 301 XC X=1-3
RUNNING
RS 301 XD X=1-3
START/ STOP
MC 301 XE X=1-3
FIELD HOA
HS 301 XB X=1-3
FI 301 4
AI 301 5
SCADA/HMI
MAIN CONTROL PANEL/MAIN PLC
MCC/LOCAL CONTROL PANEL
PUMP/MIXER DISCONNECT TYP. OF 3
FIT 301 4
FE 301 4
ELECTROMAGNETIC FLOW METER
8"-NRCY-DI
8"-NRCY-SS
TS 301 3A
M 301 3
NRCY PUMP
12"
8"
12"-DI-NRCY
8"-DR
I-1.00 INFLUENT PS VIA PLANT MAN HOLES
AIT 301 5
AE 301 5
DO
I-4.00 SOUTH SEC CLARIFIER RAS FLOW
8"-RAS-SS
I-2.00 HEADWORKS
20"-INF-SS
ANEROBIC 1 ZONE
ANEROBIC 2 ZONE
ANOXIC 1 ZONE
ANOXIC 2 ZONE
ANOXIC 3 ZONE
OXIC 1 ZONE
OXIC 2 ZONE
OXIC 3 ZONE
OXIC 4 ZONE
POST ANOXIC 1 ZONE
POST ANOXIC 2 ZONE
POST OXIC ZONE
24"-MLSS-DI
I-4.00 SOUTH SECONDARY CLARIFIER
6"
12"
4"
8"-SS
12"-DI
TS 301 1A
TS 301 2A
M 301 1
MIXING PUMP 1
M 301 2
MIXING PUMP 2
I-7.00 BLOWERS
12"-PA-SS
12"-OVF-DI
I-1.00 INFLUENT PS VIA PLANT MAN HOLES
RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER No. 34384-E DANIEL COLE STEVENSON 8/8/24

NO.	DATE	REVISION	BY
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS

PROCESS BASIN 2

ALOE BAY WATER QUALITY ENHANCEMENT WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	I-3.01

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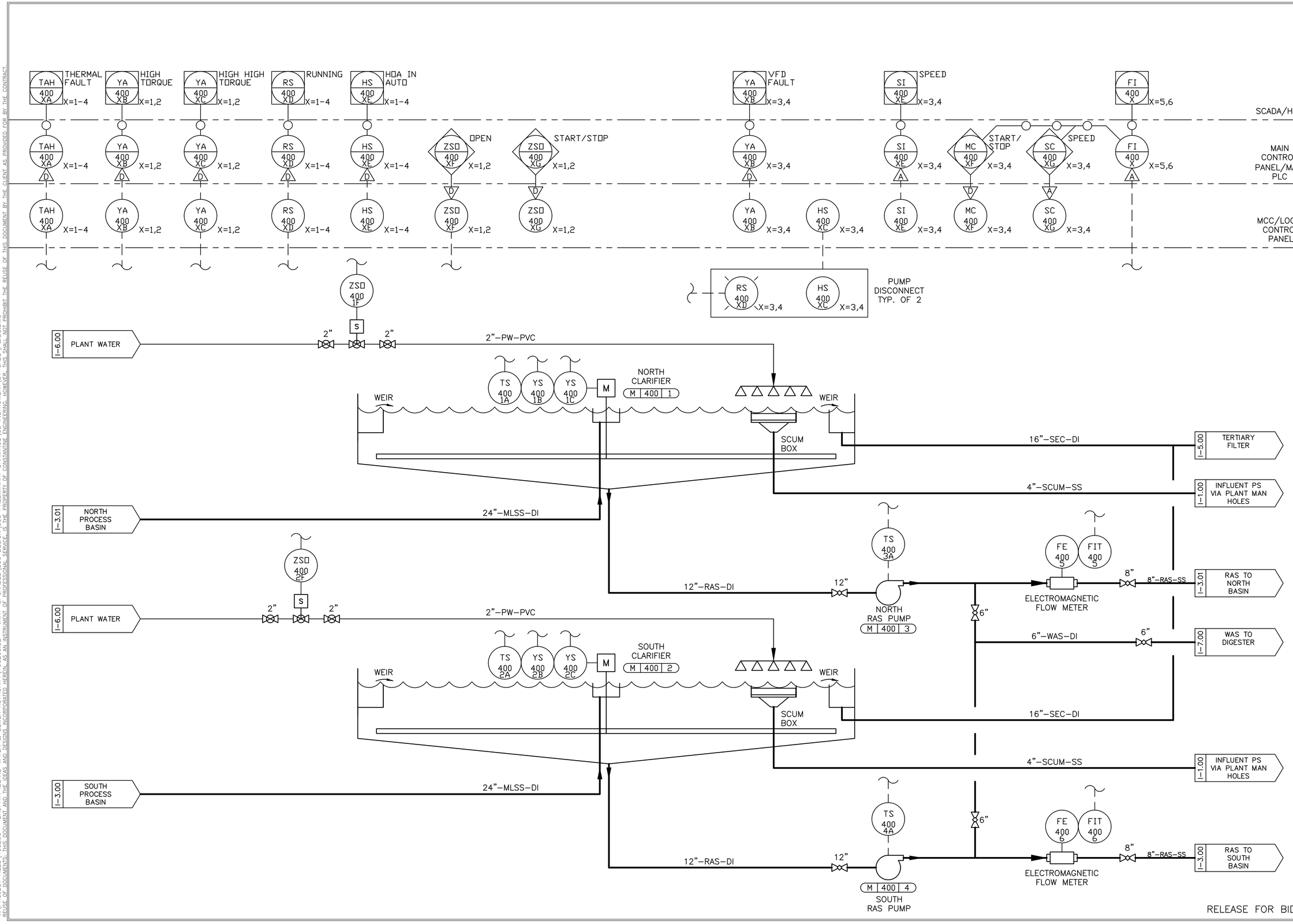

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER DANIEL COLE STEVENS

NO.	DATE	REVISION	BY	APVD
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CLARIFIERS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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DWG.	I-4.00

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FI 500 1

SYSTEM RUNNING — RS 500 3A

COMMON FAULT — YA 500 3B

COMMON TRIP — YA 500 2A

COMMON WARNING — YA 500 2B

UV DOSE FAIL — YA 500 2C

WIPER FAIL — YA 500 2D

LAMP FAIL — YA 500 2E

WATER LEAK — YA 500 2F

SYS. READY — YA 500 2G

START STOP — MC 500 2H

CLEAR MESSAGE — MC 500 2I

REM. WIPE — MC 500 2J

SET HIGH POWER — MC 500 2K

UV DOSE — AI 500 2L

BALLAST POWER — AI 500 2M

SCADA/HMI

MAIN CONTROL PANEL/MAIN PLC

MCC/LOCAL CONTROL PANEL

FI 500 1 — A

ZSO 500 4 — OPEN — D

RS 500 3A — D

YA 500 3B — D

ZSO 500 4

ZSO 500 4 — S

I-6.00 PLANT WATER — 2"-PW-PVC — 2" — 2"

FILTER CONTROL PANEL

FE 500 1 — FIT 500 1

I-4.00 NORTH & SOUTH SEC CLARIFIER FLOW — 16"-SEC-DI

ELECTROMAGNETIC FLOW METER

16"-SEC-DI — 12"-SEC-DI

16"-BYP-DI

M — DRIVE MOTOR

FILTER 500.3

CHLORINE — 3"-CL2-PVC

BACKWASH PUMP

PACKAGED SYSTEM

UV CONTROL PANEL

UV DISINFECTION UNIT 500.2

PACKAGED SYSTEM

ALOE BAY OUTFALL

8"-OF-DI — I-6.00 CHLORINE CONTACT BASIN

4"-DRN-DI — I-1.00 INFLUENT PUMP STATION

I-6.00 CHLORINE CONTACT BASIN

RELEASE FOR BID

ENGINEER SEAL
ALABAMA
LICENSED
No. 34384-E
PROFESSIONAL ENGINEER
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY	APVD.
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB	BY	APPROVED BY: JS

FILTER & UV

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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HUNTSVILLE, ALABAMA 35801
(256)-203-9501

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DWG.	I-5.00

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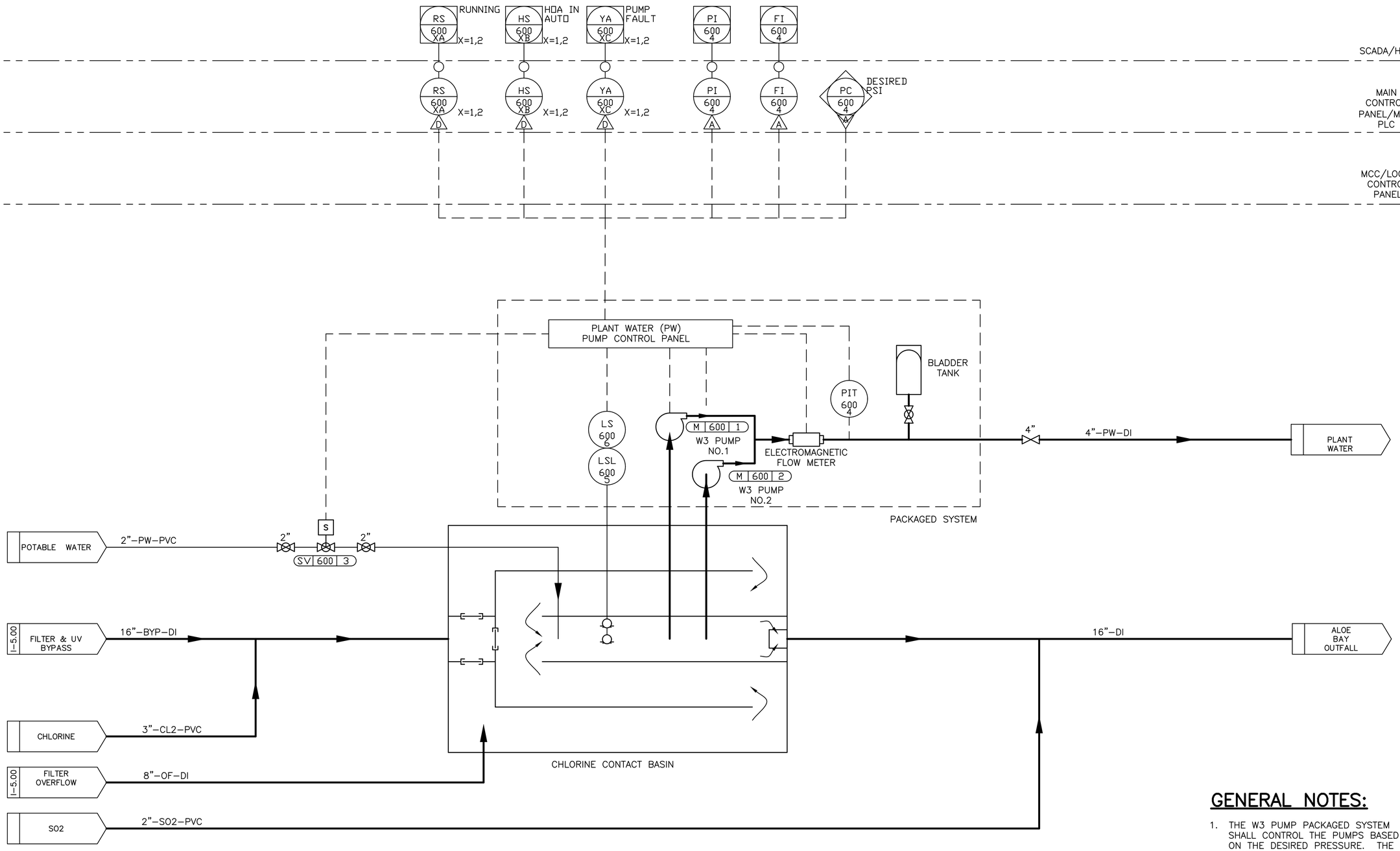

GENERAL NOTES:

1. THE W3 PUMP PACKAGED SYSTEM SHALL CONTROL THE PUMPS BASED ON THE DESIRED PRESSURE. THE SYSTEM SHALL ALSO CONTROL THE POTABLE WATER SUPPLY VALVE WHENEVER THE LEVEL IN THE BASIN DROPS TO THE LOW FLOAT. THE SYSTEM SHALL SHUT OFF THE VALVE WHENEVER THE LEVEL RISES TO THE HIGHER FLOAT.

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED No. 34084-E PROFESSIONAL ENGINEER DANIEL COLE STEVENSON 8/8/24

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CHLOROINE CONTACT BASIN

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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TAH 700 XA THERMAL FAULT X=1-3
YA 700 XB VFD FAULT X=1-3
HS 700 XC HOA IN AUTO X=1-3
RS 700 XD RUNNING X=1-3
SI 700 XE SPEED X=1-3
MC 700 XF START/ STOP X=1-3
SC 700 XG SPEED X=1-3
AI 300 5 DD
AI 301 5 DD
LAH 700 4
LAH 700 5

SCADA/HMI

MAIN CONTROL PANEL/MAIN PLC

BLOWER

BLOWER CONTROL PANEL
INLET FILTER
INLET SILENCER
VS BLOWER
PI
DISCHARGE SILENCER

BLOWER 1
M 700 1

BLOWER 2
M 700 2

BLOWER 3
M 700 3

MANUAL BLOWOFF
6"
4"
D

12"-AIR-SS

I-3.00 SOUTH PROCESS BASIN

I-3.01 NORTH PROCESS BASIN

LSH 700 4
LSH 700 5

OVER-FLOW
TELESCOPING VALVE
WEST DIGESTER
EAST DIGESTER
8"-OF-SS
8"-SS

8"
6"
6"-DRN-DI

MANHOLE 4

8"-OF-SS
8"-DI
8"-OF-DI

CLEANOUT

I-4.00 WAS 6"-WAS-DI

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34084-E
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY:	APVD. BY:
DESIGNED BY: AB	DRAWN BY: DS	CHECKED BY: AB		APPROVED BY: JS

BLOWERS & DIGESTERS

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

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YS 800 XA RUNNING
YS 800 XB IN AUTO
YA 800 XA ZERO SPEED
YA 800 XB ESTOP
YA 800 XC LOW WATER PRESSURE
YA 800 XD LOW AIR PRESSURE
YA 800 XE ROTARY DRUM
YA 800 XF SCREEN DRIVE
YA 800 XG XFER PUMP
YA 800 XH HIGH DISCH
YA 800 XJ POLY PUMP
YA 800 XK SLUDGE PUMP

SCADA/HMI
MAIN CONTROL PANEL/MAIN PLC
LOCAL CONTROL PANEL/MCC

SCREW PRESS CONTROL PANEL 800

I-7.00 DIGESTER
6" DSL-DI
GRINDER
SLUDGE FEED PUMP
FE
SCREW PRESS
DISCHARGE CONVEYOR 1
DISCHARGE CONVEYOR 2
DISTRIBUTION CONVEYOR
SOLIDS DUMPSTER

I-6.00 PLANT WATER
2" PW-PVC
WASH WATER BOOSTER PUMP

POLYMER MIXER
NEAT POLYMER TOTE
2"
2"
POLYMER BLENDING SYSTEM

1-1/4" SS-AIR
XX
SCREW PRESS COMPRESSOR

PACKAGED SYSTEM

GENERAL NOTES:

1. ALL ITEMS SHOWN ON THIS SHEET SHALL BE SUPPLIED BY THE PRESS MANUFACTURER AND CONTROLLED VIA THE PRESS CONTROL PANEL/PLC

RELEASE FOR BID

ENGINEER SEAL
ALABAMA LICENSED PROFESSIONAL ENGINEER
No. 34084-E
DANIEL COLE STEVENSON

NO.	DATE	REVISION	BY
DESIGNED BY: AB		DRAWN BY: DS	CHECKED BY: AB	APPROVED BY: JS	APVD. BY:

DEWATERING

ALOE BAY WATER QUALITY ENHANCEMENT
WASTEWATER TREATMENT FACILITY

Dauphin Island

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(256)-203-9501

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DWG.	I-8.00