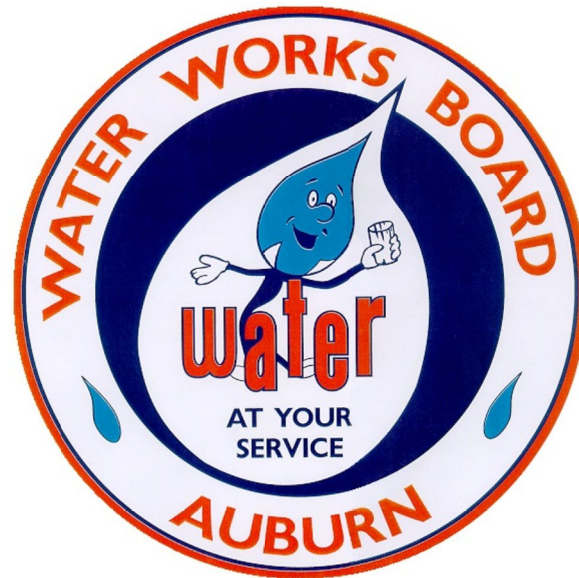
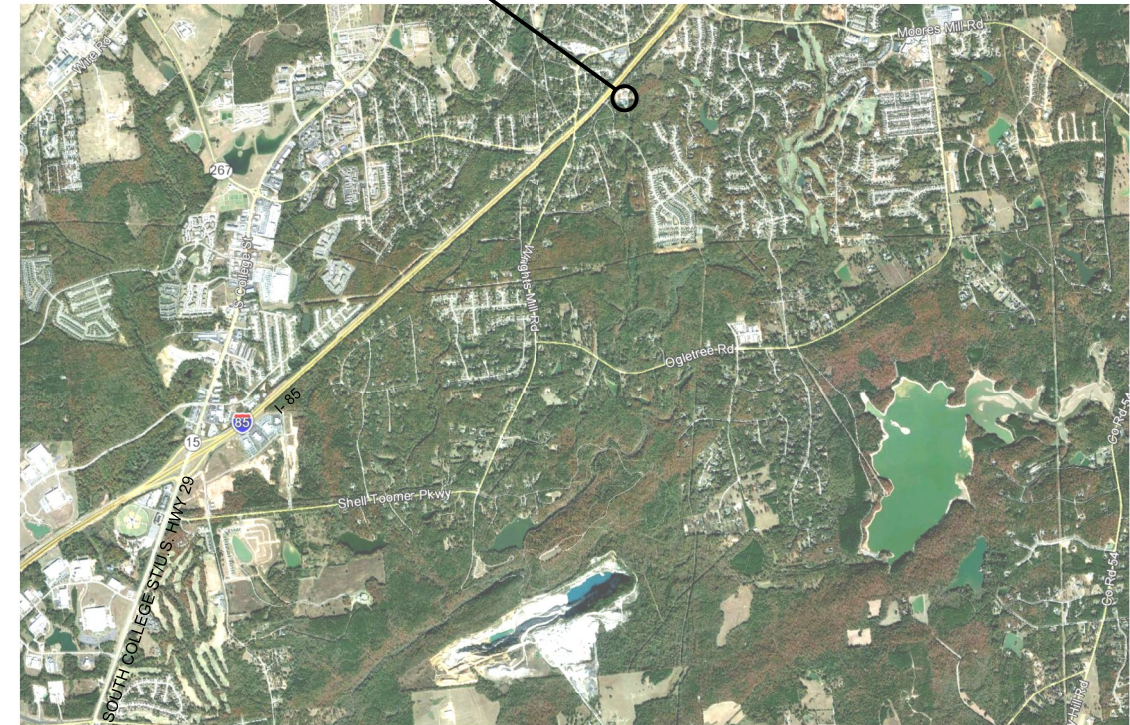


JAMES ESTES WTP 2020 IMPROVEMENTS



PREPARED FOR
THE WATER WORKS BOARD
OF THE CITY OF AUBURN
AUBURN, ALABAMA

 PROJECT LOCATION MAP
1385 BINFORD DR.
AUBURN, AL. 36831



VOLUME 3 OF 3
DRAWINGS

For information regarding this project, contact:
MATTHEW McDOUGALD, P.E.
4121 CARMICHAEL RD
MONTGOMERY, ALABAMA 36106
(334) 271-1445 EXT. 59034

Jacobs

Project No. D3389300

JUNE 2021

BID DOCUMENTS

01 - GENERAL

SHT NO.	DWG NO.	TITLE
01	01-G-001	COVER
02	01-G-002	DRAWING INDEX AND GENERAL LEGEND
03	01-G-003	ABBREVIATIONS
04	01-G-004	CIVIL LEGEND AND NOTES
05	01-G-005	ARCHITECTURAL GENERAL NOTES AND LEGEND
06	01-G-006	STRUCTURAL NOTES
07	01-G-007	STRUCTURAL NOTES
08	01-G-008	PROCESS MECHANICAL LEGEND
09	01-G-009	BUILDING MECHANICAL LEGEND
10	01-G-010	ELECTRICAL LEGEND SHEET 1 OF 1
11	01-G-011	ELECTRICAL LEGEND SHEET 2 OF 2
12	01-G-012	INSTRUMENTATION AND CONTROL LEGEND SHEET 1 OF 2
		INSTRUMENTATION AND CONTROL LEGEND SHEET 2 OF 2

05 - SITE CIVIL & ELECTRICAL

13	05-C-101	CIVIL - OVERALL SITE
14	05-C-102	CIVIL - EXISTING WTP SITE AND DEMOLITION PLAN
15	05-C-103	CIVIL - WTP SITE DEMOLITION PHOTOS
16	05-C-201	CIVIL - WTP SITE AND YARD PIPE IMPROVEMENTS PLAN
17	05-E-201	ELECTRICAL - WTP SITE PLAN

08 - INSTRUMENTATION AND CONTROL

18	08-N-001	P&ID RAW WATER PUMP STATION AND PAC FEED
19	08-N-002	P&ID RAPID MIX AND SETTLING BASINS 1 & 2
20	08-N-003	P&ID BASINS 3 & 4
21	08-N-004	P&ID TYPICAL FILTER
22	08-N-005	P&ID BACKWASH PUMPS
23	08-N-006	P&ID WASHWATER BASIN (WASTE) PUMPS
24	08-N-007	P&ID FINISHED WATER PUMPS
25	08-N-008	P&ID SODIUM HYPOCHLORITE STORAGE TANKS
26	08-N-009	P&ID SODIUM HYPOCHLORITE FEED PUMPS
27	08-N-010	P&ID LIME STORAGE AND FEED PUMPS
28	08-N-011	NEW EQUIPMENT NETWORK BLOCK DIAGRAM FOR NEW EQUIPMENT
29	08-N-012	P&ID RAW WATER PUMP STATION AND PAC FEED

10 - RWPS CARBON FEED

30	10-C-201	CIVIL - RWPS SITE AND YARD PIPE IMPROVEMENTS PLAN
31	10-A-201	ARCHITECTURAL - CARBON FEED BUILDING FLOOR AND LIFE SAFETY PLAN CODE DATA
32	10-A-301	ARCHITECTURAL - CARBON FEED BUILDING ELEVATIONS AND SECTION
33	10-A-302	ARCHITECTURAL - DETAILS
34	10-SD-201	STRUCTURAL/PROCESS MECHANICAL - CARBON FEED PLAN AND SECTIONS
35	10-D-201	PROCESS MECHANICAL - CARBON FEED AUXILIARY BUILDING PLAN AND SECTIONS
36	10-E-201	ELECTRICAL - RWPS SITE PLAN
37	10-E-202	ELECTRICAL - CARBON FEED AUXILIARY BUILDING PLAN
38	10-E-203	ELECTRICAL - CARBON FEED PLAN
39	10-E-601	ELECTRICAL - RAW WATER PUMP STATION SINGLE LINE DIAGRAM AND ELEVATION

20 - FLOCCULATION/SEDIMENTATION BASINS

40	20-S-201	STRUCTURAL - PLAN
41	20-S-202	STRUCTURAL - COATINGS NEW WALL PLAN
42	20-S-301	STRUCTURAL - SECTIONS AND DETAIL
43	20-S-302	STRUCTURAL - SECTIONS
44	20-S-401	STRUCTURAL - DETAILS
45	20-S-501	STRUCTURAL - ENLARGED SECTION AND DETAIL
46	20-S-601	STRUCTURAL - PHOTO VIEWS
47	20-D-101	PROCESS MECHANICAL - DEMOLITION PLAN
48	20-D-102	PROCESS MECHANICAL - DEMOLITION PHOTOS
49	20-D-103	PROCESS MECHANICAL - DEMOLITION PHOTOS
50	20-D-201	PROCESS MECHANICAL - PLAN
51	20-D-301	PROCESS MECHANICAL - SECTIONS
52	20-E-201	ELECTRICAL - PLAN

25 - FILTERS IMPROVEMENTS

53	25-D-101	PROCESS MECHANICAL - FILTERS 1 & 2 DEMOLITION PLAN
54	25-D-102	PROCESS MECHANICAL - FILTERS 3-8 AND SODIUM HYPOCHLORITE DEMOLITION PLAN
55	25-D-103	PROCESS MECHANICAL - FILTERS 3-8 AND SODIUM HYPOCHLORITE DEMOLITION PHOTOS
56	25-D-104	PROCESS MECHANICAL - FILTERS 1-8 DEMOLITION PHOTOS
57	25-D-201	PROCESS MECHANICAL - FILTERS 1 & 2 VALVE REPLACEMENT
58	25-D-202	PROCESS MECHANICAL - FILTERS 3-8 AND SODIUM HYPOCHLORITE MODIFICATIONS PLAN
59	25-M-101	BUILDING MECHANICAL - FILTERS AND SODIUM HYPOCHLORITE DEMOLITION PLAN
60	25-M-201	BUILDING MECHANICAL - FILTERS AND SODIUM HYPOCHLORITE RENOVATION PLAN
61	25-E-201	ELECTRICAL - FILTERS 1 & 2 PLAN
62	25-E-202	ELECTRICAL - FILTERS 3-6 AND SODIUM HYPOCHLORITE PLAN
63	25-E-203	ELECTRICAL - SODIUM HYPOCHLORITE ENLARGED PLAN AND STORAGE TANKS PLAN

30 - POST MIXER IMPROVEMENTS

64	30-D-201	PROCESS MECHANICAL - POST MIXER DEMOLITION AND MODIFICATIONS PLANS AND SECTIONS
----	----------	---

35 - LIME FEED IMPROVEMENTS

65	35-S-201	STRUCTURAL - LIME FEED OVERALL PLAN AND SECTION
66	35-D-201	PROCESS MECHANICAL - LIME FEED OVERALL PLAN
67	35-D-301	PROCESS MECHANICAL - LIME FEED SECTION
68	35-E-201	ELECTRICAL - LIME FEED PLAN

45 - SODIUM HYPOCHLORITE TANKS

69	45-D-101	PROCESS MECHANICAL - DEMOLITION PLAN SECTIONS AND DETAILS
70	45-D-201	PROCESS MECHANICAL - PLAN, SECTIONS AND DETAILS

65 - WASHWATER BASIN

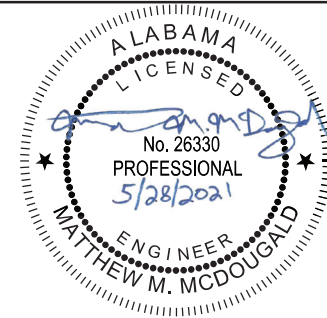
71	65-D-101	PROCESS MECHANICAL - DEMOLITION PLANS AND SECTIONS
72	65-D-201	PROCESS MECHANICAL - PLANS AND SECTIONS
73	65-E-201	ELECTRICAL - PLAN

70 - ELECTRICAL BUILDING IMPROVEMENTS

74	70-A-201	ARCHITECTURAL - PLAN - UPPER
75	70-A-202	ARCHITECTURAL - ROOF PLAN
76	70-A-301	ARCHITECTURAL - BUILDING ELEVATION AND SECTION
77	70-A-302	ARCHITECTURAL - DETAILS AND OPENING SCHEDULE
78	70-M-101	BUILDING MECHANICAL - DEMOLITION PLAN
79	70-M-201	BUILDING MECHANICAL - RENOVATION PLAN
80	70-M-301	BUILDING MECHANICAL - SECTIONS AND SCHEDULES
81	70-E-101	ELECTRICAL - DEMOLITION PLAN LOWER
82	70-E-201	ELECTRICAL - PLAN LOWER
83	70-E-601	ELECTRICAL - OVERALL SINGLE LINE DIAGRAM AND ELEVATION
84	70-E-602	ELECTRICAL - EXISTING MCC-C AND MCC-D SINGLE LINE DIAGRAM AND ELEVATION
85	70-E-603	ELECTRICAL - NEW MCC-C AND MCC-D SINGLE LINE DIAGRAM AND ELEVATION
86	70-E-604	ELECTRICAL - MCC-E SINGLE LINE DIAGRAM AND ELEVATION
87	70-E-605	ELECTRICAL - REVISED MCC-E SINGLE LINE DIAGRAM AND ELEVATION
88	70-E-606	ELECTRICAL - EXISTING MCC-F AND MCC-G SINGLE LINE DIAGRAM AND ELEVATION
89	70-E-607	ELECTRICAL - MOTOR CONTROL DIAGRAMS

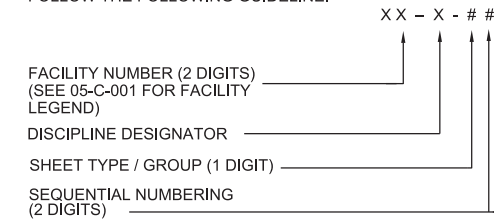
99 - STANDARD DETAILS

90	99-C-501	CIVIL - STANDARD DETAILS
91	99-C-502	CIVIL - STANDARD DETAILS
92	99-S-501	STRUCTURAL - STANDARD DETAILS
93	99-S-502	STRUCTURAL - STANDARD DETAILS
94	99-S-503	STRUCTURAL - STANDARD DETAILS
95	99-S-504	STRUCTURAL - STANDARD DETAILS
96	99-S-505	STRUCTURAL - STANDARD DETAILS
96A	99-S-505A	STRUCTURAL - STANDARD DETAILS
96B	99-S-505B	STRUCTURAL - STANDARD DETAILS
97	99-D-501	PROCESS MECHANICAL - STANDARD DETAILS
98	99-D-502	PROCESS MECHANICAL - STANDARD DETAILS
99	99-M-501	BUILDING MECHANICAL - STANDARD DETAILS
100	99-E-501	ELECTRICAL - STANDARD DETAILS
101	99-E-502	ELECTRICAL - STANDARD DETAILS



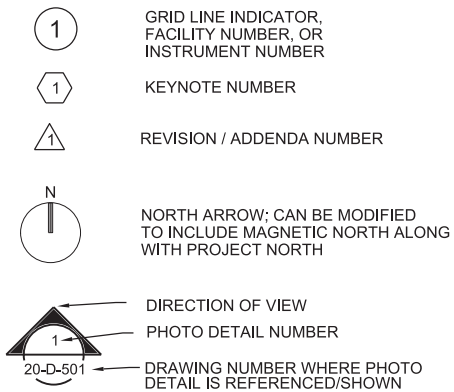
DRAWING NUMBER LEGEND

THE DRAWING NUMBERS FOR THIS PROJECT SHALL FOLLOW THE FOLLOWING GUIDELINE:

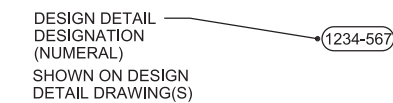


DESIGNATOR	DISCIPLINE	SHEET TYPE / GROUP	SEQUENTIAL NUMBERS
G	GENERAL	0 GENERAL	00
C	CIVIL	1 DEMOLITION	01
Y	YARD PIPING	2 PLANS	02
A	ARCHITECTURAL	3 SECTIONS	03
S	STRUCTURAL	4 ENLARGED VIEWS	
D	PROCESS MECHANICAL	5 DETAILS	
M	BUILDING MECHANICAL	6 SCHEDULES	
P	PLUMBING		
E	ELECTRICAL		
N	I&C		

DRAWING SYMBOL LEGEND



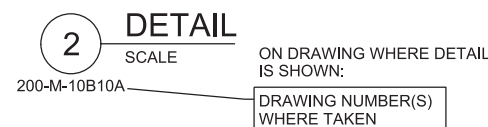
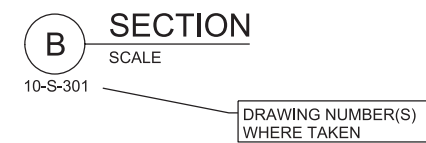
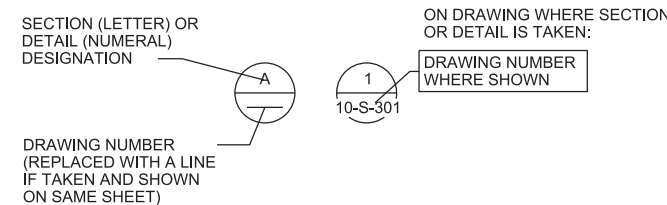
DESIGN DETAIL DESIGNATION



NOTES:

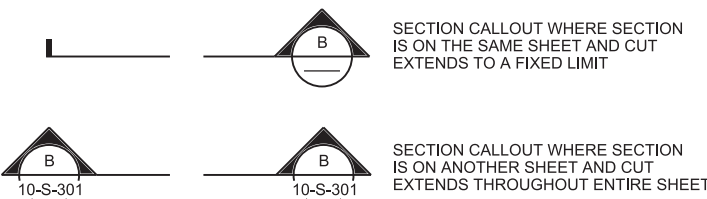
- ALL DESIGN DETAILS ARE TYPICAL AND MUST BE USED IF DESIGN DETAIL DESIGNATION IS NOT SHOWN
- THE TERM STANDARD DETAIL, OR A FORM OF IT, IS SYNONYMOUS WITH DESIGN DETAIL. THE DESIGN DETAILS REPRESENT THE CHARACTER AND NATURE OF THE WORK REQUIRED THROUGHOUT THE PROJECT. ALL ASSOCIATED WORK SHALL BE IN ACCORDANCE WITH THE DESIGN DETAILS SHOWN WHETHER THE DETAILS ARE SPECIFICALLY REFERENCED OR NOT.

SECTION / DETAIL DESIGNATIONS



DRAWING TITLE

SCALE

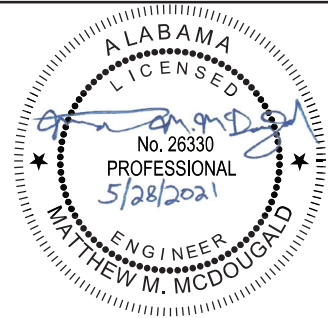


JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
GENERAL
INDEX OF DRAWINGS AND
GENERAL LEGEND

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	01-G-001
SHEET	01 of 101

BID DOCUMENTS



AB	ANCHOR BOLT	ENGR	ENGINEER	MB	MACHINE BOLT	STIF	STIFFENER
ABDN	ABANDON	EOG	EDGE OF GUTTER	MC	MASONRY CLEARANCE	STIRR	STIRRUP
AC	ASPHALTIC CEMENT	EOP	EDGE OF PAVEMENT	MECH	MECHANICAL	STL	STEEL
ACI	AMERICAN CONCRETE INSTITUTE	EP	EDGE OF PAVING	MET	METAL	ST	STRAIGHT
ACST	ACOUSTICAL	EQ	EXPLOSION PROOF	MFD	MANUFACTURED	STRUL	STRUCTURAL
AD	AREA DRAIN	EQ SP	EQUAL	MFR	MANUFACTURER	STRUCT	STRUCTURE
ADD	ADDITIONAL	EQPT., (EQUIP)	EQUALLY SPACED	MGD	MILLION GALLONS PER DAY	SUSP	SUSPENDED
AFF	ABOVE FINISHED FLOOR	EW	EACH WAY	MIN	MINIMUM	SYMM	SYMMETRICAL
AG	ACOUSTICAL GLASS	EXH	EXHAUST	MISC	MISCELLANEOUS	T&B	TOP AND BOTTOM
AGGR	AGGREGATE	EXP	EXPANSION	MJ	MECHANICAL JOINT	T/	TOP OF
AHR	ANCHOR	EXP AB	EXPANSION ANCHOR BOLT	MLO	MAIN LUGS ONLY	TECH	TECHNICAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	EXP JT	EXPANSION JOINT	M.O.	MASONRY OPENING	TEMP	TEMPORARY
AL (ALUM)	ALUMINUM	EXST., (EXIST)	EXISTING	MTD	MOUNTED	TF	TOP FACE
ALKY	ALKALINITY	EXT	EXTERIOR	MTS	MILL TYPE STEEL PIPE	THD	THREAD
ALTN., (ALT)	ALTERNATE			MWS	MAXIMUM WATER SURFACE	THK	THICKNESS
AM	AUTO-MANUAL			N	NORTH	THRU	THROUGH
ANDZ	ANODIZE			N/A	NOT APPLICABLE	TL	TEFLON LINE PIPE
APPROX	APPROXIMATE	°F	DEGREE FAHRENHEIT	NGS STA	NATIONAL GEODETTIC SURVEY STATION	TPER	THERMOPLASTIC ELASTOMERIC RUBBER WATERSTOP
APVD	APPROVED	FAI	FRESH AIR INLET	NIC	NOT IN CONTRACT	TDR	TREAD
ARCH	ARCHITECTURAL	FC	FLEXIBLE CONDUIT	NO, #	NUMBER	TS	TUBE STEEL
AVG	AVERAGE	FCA	FLANGED COUPLING ADAPTER	NP	NON-PROTECTED	TYP	TYPICAL
@	AT	FCO	FLOOR CLEANOUT	NS	NON-SHRINK	UON	UNLESS OTHERWISE NOTED
B	BELL	FCTY	FACTORY	NTS	NOT TO SCALE	UBC	UNIFORM BUILDING CODE
(B)	BRONZE TINT	FD	FLOOR DRAIN			V	VALVE
BAL	BALANCE	FDN	FOUNDATION			V	VENT
BD	BUTTERFLY DAMPER	FF	FINISHED FLOOR	O TO O	OUT TO OUT	VB	VAPOR BARRIER
BF	BLIND FLANGE	FG	FINISH GRADE	OA	OVERALL	VCP	VITRIFIED CLAY PIPE
BFV	BUTTERFLY VALVE	FHY	FIRE HYDRANT	OC	ON CENTER	VERT	VERTICAL
BL	BASELINE	FIG	FIGURE	OD	OUTSIDE DIAMETER	VP	VENEER PLASTER
BLDG	BUILDING	FL	FLOW LINE	OF	OUTSIDE FACE	VPS	VENEER PLASTER SYSTEM
BLK	BLOCK	FLG	FLANGE	OL	OVERLOAD RELAY	VT	VINYL TILE
BM	BEAM	FL (FLR)	FLOOR	OPNG	OPENING	VTR	VENT THRU ROOF
BM	BENCHMARK	FLEX	FLEXIBLE	OSD	OPEN SITE DRAIN	W	WEST
BOT., (BOTT), B/	BOTTOM	FLH	FLAT HEAD	OZ	OUNCE	W	WIDE FLANGE (BEAM)
BRG	BEARING	FNSH	FINISH	P	PILASTER, PIPE	WI	WITH
BSP	BLACK STEEL PIPE	FPS	FEET PER SECOND	PAV	PAVER TILE	WD	WOOD
BV	BALL VALVE	FRP	FIBERGLASS REINFORCED PLASTIC	PE	PLAIN END	WP	WEATHERPROOF
C	CONDUIT	FT	FOOT OR FEET	PEP	POLYETHYLENE PIPE	WP	WEATHERPROOF
°C	DEGREE CELSIUS	FTG	FOOTING	PJF	PRE-MOLDED JOINT FILLER	WSE	WATER SURFACE ELEVATION
C-C	CENTER TO CENTER	FU	FIXTURE UNIT	PL	PLATE (STEEL)	WS	WATERSTOP
CAB	CABINET	FWD	FORWARD	PL	PROPERTY LINE	WS	WELDED STEEL
CB	CATCH BASIN	GA	GAUGE	PLAS	PLASTIC	WTP	WATER TREATMENT PLANT
CFM	CUBIC FEET PER MINUTE	GAL	GALLON	PLYWD	PLYWOOD	WTR	WATER
CHAN, C	CHANNEL (BEAM)	GALV	GALVANIZED	PPL	POLYPROPYLENE LINED		
CHDPE	CORRUGATED HIGH DENSITY POLYETHYLENE PIPE	GPD	GALLONS PER DAY	PRCST	PRECAST		
CI	CAST IRON	GPH	GALLONS PER HOUR	PREFAB	PREFABRICATION		
CIP	CAST IRON PIPE	GPM	GALLONS PER MINUTE	PRES	PRESSURE		
CIPS	CAST IRON SOIL PIPE	GRTG	GRATING	PRI	PRIMARY		
CJ	CONSTRUCTION JOINT	GSP	GALVANIZED STEEL PIPE	PRM	PERMANENT REFERENCED MARKER		
CKT	CIRCUIT	GV	GATE VALVE	PROJ	PROJECTION		
CL, CL	CENTERLINE	GVL	GRAVEL	PROP	PROPERTY		
CLDI	CEMENT LINED DUCTILE IRON PIPE	GWB	GYPSON WALL BOARD	PS	POLYCARBONATE SHEET		
CLG	CEILING	GYP	GYPSON	PSF	POUNDS PER SQUARE FOOT		
CLR	CLEAR	HAS	HEADED ANCHOR STUD	PSI	POUNDS PER SQUARE INCH		
CMU	CONCRETE MASONRY UNIT	HC	HOLLOW CORE	PSIG	POUNDS PER SQUARE INCH, GAUGE		
CO	CLEANOUT	HD	HUB DRAIN	PT	PRESSURE TREATED		
COL	COLUMN	HDR	HEADER	PV	PLUG VALVE		
CONC	CONCRETE	HDW	HARDWARE	PVC	POLYVINYL CHLORIDE		
CONDNTN	CONDITIONED	HESR	HYPALON ELASTIC SHEET ROOFING	PVMT	PAVEMENT		
CONN	CONNECTION	HGL	HYDRAULIC GRADE LINE	R (RAD)	RADIUS		
CONST	CONSTRUCT	HGT	HEIGHT	RC	REINFORCED CONCRETE		
CONT	CONTINUOUS, CONTINUATION	HK	HOOK	RCP	REINFORCED CONCRETE PIPE		
CONTR	CONTRACTOR	HM	HOLLOW METAL	RD	ROAD		
COORD	COORDINATE	HORIZ	HORIZONTAL	RD	ROOF DRAIN		
CP	CENTER PIVOT	H.P.	HIGH POINT	RDCR	REDUCER		
CPLG	COUPLING	HRDN	HARDENER	RDW	REDWOOD		
CRS	PVC COATED RIGID STEEL	HW	HEADWALL	REF	REFER OR REFERENCE		
CTR	CENTER	HWL	HIGH WATER LEVEL	REINF	REINFORCED, REINFORCING, REINFORCE		
CTR'D	CENTERED	ID	INSIDE DIAMETER	REQD	REQUIRED		
CTSK	COUNTERSUNK	IE	INVERT ELEVATION	RG	REFLECTIVE		
CU	CUBIC	IF	INSIDE FACE	RLS	RUBBER LINED STEEL		
CU FT	CUBIC FOOT	IG	INSULATING GLASS	RPM	REVOLUTIONS PER MINUTE		
CU IN	CUBIC INCH	IN	INCH	RS	RIGID STEEL		
CU YD	CUBIC YARD	INST	INSTANTANEOUS	RST	REINFORCING STEEL		
CUH	COPPER TUBING, HARD DRAWN	INSUL	INSULATION	RTN	RETURN		
CV	CHECK VALVE	INVT	INVERT	RRUB	RADIAL RUBBER		
D	DRAIN	ITG	INSULATED TEMPERED GLASS	S	SLOPE		
DBA	PENNY NAIL SIZE	IU	INTAKE UNIT	S	SOUTH		
DBL	DEFORMED BAR ANCHOR	JT	JOINT	SCC	SOLID CORE		
DEG	DOUBLE	KIP	THOUSAND POUNDS	SCFM	STANDARD CUBIC FEED PER MINUTE		
DET	DEGREE	L	ANGLE, LENGTH	SCH	SCHEDULE		
DDI	DETAIL	LA	LIGHTNING ARRESTER	SCU	SPEED CONTROL UNIT		
DI	DUCTILE IRON	LB	POUND	SDMH	STORM DRAIN MANHOLE		
DIA, O	DIAMETER	LAM	LAMINATE	SEC	SECONDARY		
DIAG	DIAGONAL	LAT	LATITUDE	SECT	SECTION		
DIP	DUCTILE IRON PIPE	LB	POUND	SF	SQUARE FEET		
DIR	DIRECTION	LB/CU FT	POUNDS PER CUBIC FOOT	SGWB	SUSPENDED GYPSON WALL BOARD		
DISCH	DISCHARGE	LC	LIGHTING CONTACTOR	SH (SHT)	SHEET		
DS	DOWNSPOUT	LF	LINEAR FEET	SHA	SURFACE HARDENING AGENT		
DWG	DRAWING	LG	LONG	SIM	SIMILAR		
DWN	DOWN	LONG	LONGITUDINAL	SMH	STORMWATER MANHOLE		
Δ	DELTA	LP	LIGHT POLE	SOLN	SOLUTION		
E	EAST	L.P.	LOW POINT	SPA.	SPACING		
E	EMPTY	LR	LATCHING RELAY	SPC.	SPECIFICATIONS		
EA	EACH	LR	LONG RADIUS	SPC'D.	SPECIFIED		
EF	EXHAUST FAN	LWL	LOW WATER LEVEL	SPLY	SUPPLY		
EL, ELEV	ELEVATION	LYRS	LAYERS	SQ	SQUARE		
ELB	ELBOW	MA	MANUAL-AUTO	SQ FT	SQUARE FOOT, FEET		
EIFS	EXTERIOR INSULATION FINISH SYSTEM	MAS	MASONRY	SQ IN	SQUARE INCH		
		MATL	MATERIAL	SS, SST	STAINLESS STEEL		
		MAX	MAXIMUM	STA	STATUS		
				STD	STANDARD		

JACOBS

GENERAL
ABBREVIATIONS

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

DATE: JUNE 2021
PROJ: D3389300
DWG: 01-G-002
SHEET: 02 of 101

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
1" = 1'

DATE: JUNE 2021
PROJ: D3389300
DWG: 01-G-002
SHEET: 02 of 101

REVISION
CHK
APVD
BY
APVD
M MCDUGALD
E MINICHEW
J THORNTON
DR
M MCDUGALD
DSGN
NO. DATE

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

BID DOCUMENTS

GENERAL SITE NOTES:

- EXISTING CONDITIONS MAPPING SHOWN IS FROM VARIOUS RECORD DRAWINGS FROM 1959 TO 2013. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
- HORIZONTAL DATUM: NAD83. ALABAMA STATE PLANE EAST, US SURVEY FEET.
- VERTICAL DATUM: NAVD88.
- MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE FOR LOCATION OF STAGING AREAS, EMPLOYEE PARKING, AND STORAGE OF MATERIALS.
- ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
- SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
- SOIL DISTURBING ACTIVITIES WILL INCLUDE: PLACEMENT OF EROSION AND SEDIMENT CONTROL PRIOR TO SITE CLEARING AND GRUBBING, GRADING OPERATIONS, FACILITIES CONSTRUCTION, AND TRENCH EXCAVATION AND BACKFILL.
- EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED UNTIL CONSTRUCTION IS FINALIZED AND PERMANENT GROUND COVER IS ESTABLISHED.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES INSTALLED FOR THE FULL DURATION OF THE CONSTRUCTION.
- ANY AREA THAT HAS BEEN DISTURBED AND WILL REMAIN SO FOR MORE 15 DAYS SHALL BE SEEDED AND MULCHED WITHIN 5 DAYS OF BEING DISTURBED.
- ADDITIONAL BMP'S MAY BE REQUIRED BY THE QUALIFIED CERTIFIED PROFESSIONAL (QCP) AND/OR CITY OF AUBURN OVER THE COURSE OF THE PROJECT TO MINIMIZE SEDIMENT RELEASE FROM THE SITE.
- ALL BMP'S SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS AND THE CITY OF AUBURN STANDARD EROSION AND SEDIMENT CONTROL DETAILS.
- THE USE OF FLOC-BLOCKS, POLYACRYLAMIDE (PAM), OR OTHER SETTLING ENHANCEMENT MATERIALS SHALL BE REQUIRED BY THE QCP OR CITY OF AUBURN DURING COURSE OF CONSTRUCTION TO MINIMIZE TURBIDITY AND SEDIMENT RELEASE FROM THE SITE.
- SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROVIDED WHERE SHOWN AND WHERE REQUIRED DURING CONSTRUCTION.
- NO BURN OR BURY PITS SHALL BE PERMITTED ON THE SITE.
- A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.
- CONTRACTOR SHALL INSTALL AND ADD TO EROSION CONTROL MEASURES DETERMINED BY THE ENGINEER AND/OR THE CITY OF AUBURN.
- AMENDMENTS/REVISIONS TO THE EROSION AND SEDIMENT CONTROL PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY A QCP.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH NPDES GENERAL PERMIT REQUIREMENTS, AS APPLICABLE.
- A COPY OF THE APPROVED NOTICE OF INTENT IS REQUIRED TO BE RETAINED ON THE PROJECT SITE WITH THE APPROVED CONSTRUCTION BEST MANAGEMENT PRACTICES PLAN (CBMPP) UNTIL THE NOTICE OF TERMINATION IS SUBMITTED.
- WASTE MATERIAL SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
- LAND DISTURBANCE OPERATIONS IN THE VICINITY OF STREAM AND WETLAND BUFFERS SHALL BE CAREFULLY CONTROLLED TO AVOID DUMPING OR SLOUGHING INTO THE BUFFER ZONE.

CIVIL LEGEND

EXISTING	THIS CONTRACT	
		SPOT ELEVATION
		CONTOUR LINE
		EMBANKMENT AND SLOPE
		DRAINAGWAY OR DITCH
		CATCH BASIN OR INLET
		SIGN
		MANHOLE
		ELECTRICAL MANHOLE
		ELECTRIC HANDHOLE
		POST OR GUARD POST
		FIRE HYDRANT
		UTILITY POLE
		LIGHT POLE
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		LIMITS OF CONSTRUCTION
		STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
		BORING LOCATION AND NUMBER
		DEMOLITION
		STRUCTURE, BUILDING OR FACILITY
		ASPHALT PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT/SIDEWALK
		CURB
		CURB AND GUTTER
		VALLEY GUTTER
		EXISTING BURIED ELECTRIC
		SINGLE SWING GATE
		DOUBLE SWING GATE
		BARBED WIRE CHAIN LINK FENCE
		SILT FENCE

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
		NOMINAL PIPE DIAMETER
		PIPE USE IDENTIFICATION
		PIPING < 30" DIAMETER
		PIPING ≥ 30" DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT
		FIRE HYDRANT

GENERAL YARD PIPING AND UTILITIES NOTES:

- EXISTING UNDERGROUND UTILITIES SHOWN OBTAINED RECORD DRAWINGS, NOT ALL UTILITIES ARE SHOWN. UNLESS OTHERWISE NOTED ALL UNDERGROUND FEATURES ARE SHOWN AT ASCE 38-02 QUALITY LEVEL D.
 ASCE 38-02 DEFINITIONS:
 QUALITY LEVEL D: INFORMATION DERIVED FROM EXISTING RECORDS.
 QUALITY LEVEL C: INFORMATION OBTAINED FROM SURVEYING ABOVE GROUND UTILITY FEATURES.
 QUALITY LEVEL B: INFORMATION OBTAINED FROM SURFACE GEOPHYSICAL METHODS, MARKED, SURVEYED (WITH TOLERANCES), AND MAPPED.
 QUALITY LEVEL A: PRECISE HORIZONTAL AND VERTICAL LOCATION KNOWN.
- CONTRACTOR SHALL USE NON-DESTRUCTIVE METHODS (HAND-DIGGING, POTHOLING, ETC.) TO FIELD VERIFY DEPTH AND LOCATION OF EXISTING PIPING. UNLESS OTHERWISE NOTED, PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
- FOR FLOW STREAM IDENTIFICATION, SEE DRAWING 01-G-007.
- UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 3 FEET COVER.
- ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
- ALL NEW RAW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED IN SPECIFICATION 33 13 00 DISINFECTION OF WATER UTILITY DISTRIBUTION FACILITIES.
- FOR TRENCHING AND BACKFILL, SEE 3123-110
- UNLESS OTHERWISE NOTED, ALL SURFACE RESTORATION OF TRENCHES SHALL BE COMPLETED PER DETAIL 3123-115



Digitally signed by Jose A. Ramos
Date: 2021.05.28 08:43:42-04'00'

NO.	DATE	DR	CHK	APVD	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
GENERAL
CIVIL
LEGEND AND NOTES

DATE	JUNE 2021
PROJ	D3389300
DWG	01-G-003
SHEET	03 of 101

ARCHITECTURAL ABBREVIATIONS

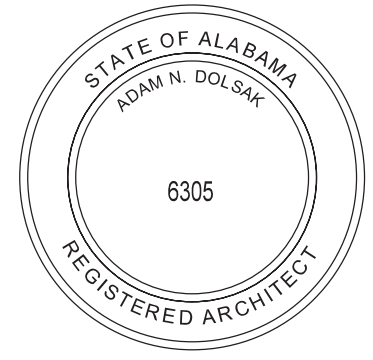
ABBREVIATION	DEFINITION
A	AWNING
AC	ACOUSTICAL CEILING
ACFL	ACCESS FLOORING
ACMU	ACOUSTICAL CMU
ACT	ACOUSTICAL TILE
AJ	ADJUSTABLE
AL	ALUMINUM
AS	AS SELECTED
BRK	BRICK
BNZ	BRONZE
BV	BLOCK VENT
C	CASEMENT
CLR	CLEAR
CLSR	CLOSER
CMU	CONCRETE MASONRY UNITS
CNTR	COUNTER
COL	COLOR
CONC	CONCRETE
CONSTR	CONSTRUCTION
CPT	CARPET
CRC	CHEMICAL-RESISTANT COATINGS
CT	CERAMIC TILE
DA	DUAL ACTION
DB	DRAINABLE
DH	DOUBLE HUNG
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EXP	EXPOSED STRUCTURE
FCTY	FACTORY
FNSH	FINISH
FRP	FIBERGLASS REINFORCED PLASTIC
FWC	FABRIC WALL COVERING
FX	FIXED
GALV	GALVANIZED STEEL
GCMU	GLAZED CONCRETE MASONRY
GH	GREENHOUSE
GLZ	GLAZING
GMU	GLASS MASONRY UNIT
GSB	GYPSON SOFFIT BOARD
GWB	GYPSON BOARD
HC	HOLLOW CORE
HDNR	HARDENER
HGT	HEIGHT
HM	HOLLOW METAL
HS	HORIZONTAL SLIDING
J	JALOUSIE
JA	JAL-AWNING
KEY	KEY GROUP
KPL	KICK PLATE
LD	COMBINATION LOUVER/DAMPER
MATL	MATERIAL
MDO	MEDIUM DENSITY OVERLAY
MET	METAL
MO	MANUALLY OPERABLE
MS	MANUFACTURER'S STANDARD
P	PROJECTED
PAVT	PAVER TILE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLWD	PLYWOOD
PNL	PANELING
PP	PUSH-PULL
PTN	PARTITION
QT	QUARRY TILE
RESIL	RESILIENT
RFS	ROLL-UP FIRE SHUTTER
RRUB	RADIAL RUBBER FLOORING
RUB	RUBBER SHEET FLOORING
SC	SOLID CORE WOOD
SIM	SIMILAR
SMLS	SEAMLESS EPOXY
SOI	SPRAY-ON INSULATION
SP	STORMPROOF
SST	STAINLESS STEEL
STL	STEEL
SVIN	SHEET VINYL
TCTG	TRAFFIC COATING
TH	TOP HINGED
TR	TRANSOM
TSHD	THRESHOLD
TWP	TRANSLUCENT PANEL SYSTEM
VCT	VINYL COMPOSITION TILE
VINT	VINYL TILE
VNL	VINYL
VP	VERTICAL PIVOTED
VS	VERTICAL SLIDE
VWC	VINYL WALL COVERING
WD	WOOD
WHT	WHITE
WRB	WATER RESISTANT GWB
WS	WEATHERSTRIPPING
WW	WINDOW WALL
X	OPEN

ARCH/STRUCT MATERIAL SYMBOLS

SYMBOL	LEGEND	SYMBOL	LEGEND
	GRATING, SPAN DIRECTION INDICATED		WOOD STUD WALL (PLAN)
	CHECKERED PLATE		RIGID INSULATION
	GROUT		BATT INSULATION
	GRANULAR FILL		STEEL
	EARTH OR FINISH GRADE		ALUMINUM
	CONCRETE		PLYWOOD
	CMU WALL (PLAN)		GYPSON WALLBOARD
	CMU WALL (SECTION)		ACOUSTICAL TILE
	MASONRY WALL		WOOD, ROUGH CONTINUOUS
	METAL STUD WALL (PLAN)		WOOD, ROUGH NON-CONTINUOUS
			WOOD, FINISHED

ARCHITECTURAL/STRUCTURAL LEGEND

SYMBOL	LEGEND	SYMBOL	LEGEND
	GRID / COLUMN INDICATOR		FIRE EXTINGUISHER "X" = NUMBER IN SPECIFICATIONS
	ROOM IDENTIFIER		CONTROL JOINT
	DOOR IDENTIFIER		EXPANSION JOINT "X" = DIMENSION
	WINDOW IDENTIFIER		RAILINGS
	RELIGHT IDENTIFIER		
	LOUVER IDENTIFIER		
	WALL TYPE INDICATOR		
	SIGNAGE IDENTIFIER		
	INTERIOR ELEVATION INDICATOR		
	SPOT ELEVATION INDICATOR (IN FEET)		
	ELEVATION DATUM (IN FEET)		
	DIRECTION OF SLOPE DOWN		
	HINGE SIDE		



Adam Dolsak
2021.06.02 11:43:46 -04'00'

APPLICABLE CODES AND STANDARDS

- 2015 International Building Code
- 2015 International Plumbing Code
- 2015 International Mechanical Code
- 2015 International Fuel/ Gas Code
- 2015 International Fire Code
- 2015 International Commercial Energy Code
- 2014 National Electric Code Code
- ICC A117.1-2009 Standards for Accessible and Usable Buildings
- 2010 ADA Standards for Accessible Design
Adoptions and Amendments to the ICC and State of Alabama Codes by the City of Auburn

GENERAL ARCHITECTURAL NOTES

- UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
- "FLOOR LINE" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
- REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING. DIMENSION SHALL BE 6" FROM FACE OF ALL TO EDGE OF ROUGH OPENING AT CONCRETE WALLS, 8" AT CMU WALLS.
- AT SOUND INSULATED WALLS, FULL HEIGHT PARTITIONS SHALL BE SEALED BOTH SIDES WITH ACOUSTIC SEALANT; TOP, BOTTOM, INTERSECTION, DOOR FRAMES, GLAZED OPENING FRAMES, AND OTHER PENETRATIONS.
- LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
- VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OR DRAWINGS FOR ADDITIONAL NOTES.
- VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.
- FOR APPLICABLE CODES AND LIFE SAFETY PLAN, SEE DRAWING 10-A-201 AND 70-A-201
- FOR LOUVERS DESCRIPTION, SEE SPECIFICATION SECTION 08 90 00.
- NIC MEANS "NOT IN CONTRACT".

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

JACOBS
GENERAL
ARCHITECTURAL
GENERAL NOTES AND LEGEND

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 01-G-004
SHEET 04 of 101

DESIGN CRITERIA

- APPLICABLE CODE: 2015 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE STATE OF ALABAMA AND ALL OTHER APPLICABLE LOCAL AGENCIES.
- REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
- ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.
- DEAD LOADS:
 - SELF WEIGHT
 - SEE PLANS FOR STRUCTURE SPECIFIC WEIGHTS AND SUPERIMPOSED LOAD (EXCEPT 0 PSF FOR LOAD COMBINATIONS WITH WIND UPLIFT):
- ROOF LOADS:

GROUND SNOW LOAD, P _g	= 5 PSF
SNOW EXPOSURE FACTOR, C _e	= 0.9
THERMAL FACTOR, C _t	= 1.2
MINIMUM FLAT ROOF SNOW LOAD, P _f	= 6 PSF
IMPORTANCE FACTOR, I	= 1.1
LIVE LOAD (NON REDUCIBLE)	= 20 PSF
MISCELLANEOUS MECHANICAL AND ELECTRICAL LOADS	= 10 PSF

DEFLECTION CRITERIA FOR CONTRACTOR DESIGNED ROOF FRAMING MEMBERS:

TOTAL LOAD	L/240
LIVE LOAD	L/360

WHERE L IS THE MEMBER SPAN LENGTH
- FLOOR LIVE LOADS:

OFFICE	100 PSF
MECHANICAL EQUIPMENT ROOM	200 PSF
CORRIDORS, EXITS, STAIRS	100 PSF
WALKWAYS AND ELEVATED PLATFORMS	100 PSF
LIGHT STORAGE	125 PSF
HEAVY STORAGE (INCLUDING FACILITY 10 BULK BAG STORAGE ROOM)	250 PSF

COLUMNS, FOOTINGS, AND FLOOR FRAMING MEMBERS HAVE BEEN DESIGNED FOR REDUCED LIVE LOADS IN ACCORDANCE WITH THE BUILDING CODE.
- WIND LOADS

BASIC WIND SPEED	= 120 MPH
V _{ult}	= 93 mph
V _{asd}	= C
EXPOSURE CATEGORY	= III
RISK CATEGORY	= III
INTERNAL PRESSURE COEFFICIENT, GC _{pi}	= +/-0.18 UON
- SEISMIC LOADS

RISK CATEGORY	= III
SEISMIC IMPORTANCE FACTOR, I _e	= 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS	
S _s	= 0.134g
S ₁	= 0.075g
DESIGN SPECTRAL RESPONSE ACCELERATIONS	
S _{ds}	= 0.143g
S _{d1}	= 0.12g
SITE CLASS	= D (ASSUMED)
SEISMIC DESIGN CATEGORY	= B

NEW STRUCTURES HAVE BEEN ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURES OF ASCE 7.
- SPECIAL LOADS: SEE PLANS FOR STRUCTURE SPECIFIC LOADS
- HYDRAULIC LOADS: SEE PLANS FOR STRUCTURE SPECIFIC LOADS
- SOIL DESIGN PARAMETERS:

A. NET ALLOWABLE SOIL BEARING PRESSURES: EXCEPT FOR FACILITY 10 - CARBON FEED AUXILIARY BUILDING:	SEE PLANS FOR STRUCTURE SPECIFIC
B. GROUND WATER (GW) ELEVATION: NORMAL HIGH GW	= FIELD VERIFY
	= NEAR LAKE WATER LEVEL AT THE RAW WATER INTAKE SITE
	= EL 603.0 FT NAVD88 AT THE WTP SITE
	= EL 487 FT NAVD88 AT THE RAW WATER INTAKE SITE
C. VERTICAL SURCHARGE:	230 PSF
D. MODULUS OF SUBGRADE REACTION	125 FOR FLOOR SLAB
	100 PCI FOR MAT FOUNDATION
E. NATIVE SOIL UNIT WEIGHT	115 PCF
- FROST DEPTH: 12 IN

GENERAL INFORMATION

- FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
- DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
- VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
- FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
- DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.
- INFORMATION (DETAILING, DIMENSIONS, CONFIGURATIONS, AND ELEVATIONS, ETC.) OF EXISTING CONSTRUCTION SHOWN REFLECTS AVAILABLE EXISTING DESIGN DOCUMENTS, AND DOES NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE. NOTIFY ENGINEER IF CONDITIONS VARY FROM THAT SHOWN PRIOR TO STARTING WORK.

INSPECTION AND TESTING

- SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.
- UNLESS OTHERWISE NOTED, SPECIFIED CONCRETE AND MASONRY AND OTHER MATERIAL TESTING RELATED TO SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED.
- SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS. REFER TO SECTION 01 45 33 SPECIAL INSPECTION, OBSERVATION, AND TESTING.

FOUNDATIONS

- REFER TO GEOTECHNICAL DATA REPORT BY CHRISTIAN TESTING LABORATORIES (CTL) DATED JANUARY 1997, BY CLT DATED DECEMBER 2011, AND BY CLT DATED JANUARY 2013, AND SUPPLEMENTAL DESIGN MEMO : LIME FEED, CARBON FEED AND AUXILIARY BUILDING GEOTECHNICAL RECOMMENDATIONS DATED MAY, 2021.
- EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE AND DAMAGE TO ADJACENT EXISTING STRUCTURES, ROADS, UTILITIES, ETC.
- FOUNDATION SLABS, SLABS-ON-GRADE AND WALL AND COLUMN FOUNDATIONS SPECIFICALLY NOTED TO BE ON FILL SHALL BEAR ON 6 INCHES OF COMPACTED GRANULAR FILL, UNLESS OTHERWISE NOTED.
- FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNER PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS AND DATA REPORTS.
- NO BACKFILL SHALL BE PLACED BEHIND WALLS UNTIL THE WALL'S CONCRETE HAS ATTAINED 100 PERCENT AND TOP SUPPORTING SLAB'S CONCRETE HAS ATTAINED 80 PERCENT OF THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH, OR UNTIL TOP-OF-WALL FRAMING SYSTEMS, INCLUDING STEEL OR WOOD DIAPHRAGMS, HAVE BEEN COMPLETED.
- NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.

FORMWORK, SHORING, AND BRACING

- STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
- TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.
- "BURY" BARS OR "CARRIER" BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING

- REINFORCING STEEL:

TYPICAL:	ASTM A615, GRADE 60
WELDED:	ASTM A706, GRADE 60 (WELDING IS ONLY PERMITTED WITH WRITTEN PERMISSION FROM ENGINEER)
- FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
- MINIMUM REINFORCING FOR CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"	#5@12"	EACH FACE

PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.



Chrzanowski, Mark
 AAA00006867
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:36:53 -04'00'

CONCRETE REINFORCING (CONT)

- CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:

WHEN CAST AGAINST EARTH:	3"
INTERIOR, DRY, HUMIDITY CONTROLLED AREAS:	
WALLS, SLABS AND JOISTS	3/4"
BEAM STIRRUPS AND COLUMN TIES	1 1/2"
CONCRETE EXPOSED TO EARTH, LIQUID, WASHDOWN, OR WEATHER:	
WALLS AND SLABS	2"
BEAM STIRRUPS AND COLUMN TIES	2"
BEAM AND COLUMN PRIMARY REINFORCING	2 1/2"
- REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 0330-003. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.
- 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE STANDARD HOOKS IN ACCORDANCE WITH TABLE 25.3.1 OF ACI 318-14.
- WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN DETAIL 0330-003.
- WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS. ALL WALL FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS OR PILASTERS FOOTINGS.
- LAP VERTICAL WALL BARS WITH DOWELS FROM BASE SLABS AND EXTEND INTO TOP FACE OF ROOF SLABS AND LAP WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF FOUR FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
- LOCATE ELEVATED SLAB AND BEAM TOP BAR SPLICES AT MIDSPAN AND BOTTOM BAR SPLICES AT SUPPORTS.
- REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
- REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI MIN AT 28 DAYS ³		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING = 3"	TOP BAR ²	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-6"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR ²	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR ²	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR ²	1'-0"	1'-3"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR ²	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR ²	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

- LAP LENGTHS ARE BASED ON MINIMUM CONCRETE COVER OF 2". LONGER LENGTHS ARE REQUIRED FOR CONCRETE COVER LESS THAN 2".
- TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
- WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT. WHERE 3500 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 7 PERCENT.
- REFER TO OPENING REINFORCING DETAIL 0330-001.
- REFER TO VERTICAL WALL/DOWEL PLACEMENT DETAIL 0330-005 UON.

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

GENERAL
 STRUCTURAL NOTES

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	01-G-005
SHEET	05 of 101

BID DOCUMENTS

CAST IN PLACE CONCRETE

- 28-DAY COMPRESSIVE STRENGTHS (TO MEET STRUCTURAL STRENGTH REQUIREMENTS):
HYDRAULIC STRUCTURES: 4500 PSI
BUILDING STRUCTURES: 4000 PSI
CONCRETE FILL: 3500 PSI
CURBS AND SIDEWALKS: 3500 PSI
DUCT BANKS AND PIPE ENCASEMENTS: 3500 PSI
NOT INTEGRAL WITH FOUNDATIONS: 3500 PSI
- DESIGN STRENGTHS ARE SAME AS 28-DAY COMPRESSIVE STRENGTHS.
- CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN CONSTRUCTION JOINTS OF HYDRAULIC STRUCTURES, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
- CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS. LAYOUT SHOWING ALL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.
- ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.
- COORDINATE PLACEMENT OF OPENINGS, PIPE PENETRATIONS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
- NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
- DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.
- PATCH FORM TIE HOLES IN ACCORDANCE WITH DETAILS 0310-051 AND/OR 0310-052.

GENERAL NOTES AND REPAIRS

- ELEVATIONS ARE REFERENCED FROM EXISTING RECORD DRAWINGS. FOR JAMES ESTES WTP.
- VERIFY INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE COMMENCING FABRICATION, ORDERING OF MATERIAL, OR PERFORMING WORK. NOTIFY THE OWNER, IN WRITING, OF DISCREPANCIES IN CONDITIONS AND/OR DIMENSIONS FOUND IN THE FIELD AND IN THE CONTRACT DOCUMENTS. ALSO NOTIFY THE OWNER OF CONDITIONS THAT MAY HAMPER THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- COORDINATE WORK WITH OWNER SO AS TO NOT DISRUPT OWNERS OPERATIONS.
- THE LOCATIONS OF EXISTING STRUCTURES SHOWN ON THE CONTRACT DRAWINGS ARE BASED ON AVAILABLE INFORMATION. THERE MAY BE ADDITION ELEMENTS NOT SHOWN ON DRAWINGS WHICH REQUIRE MODIFICATION OR REMOVAL, AND REPLACEMENT. THERE MAY ALSO BE ADDITIONAL EQUIPMENT AND FACILITIES THAT COULD IMPEDE CONTRACTOR'S WORK. VISIT JOB SITE DURING BID PERIOD TO ASCERTAIN AS-BUILT CONSTRUCTION AND POTENTIAL IMPEDENCES. BID SHALL TAKE INTO ACCOUNT THE COST IMPACT OF THESE ITEMS, TO THE EXTENT THAT THEY ARE VISIBLE ON DAY OF JOBSITE VISIT.
- INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE EXCAVATING, AND ADVISE OWNER OF VARIATIONS. EXCAVATIONS NEAR THESE LINES SHALL BE CARRIED OUT WITH EXTREME CAUTION. NOTIFY OWNER IF APPARENT CONTAMINATED OR HAZARDOUS MATERIALS ARE FOUND.
- REMOVE DEMOLISHED MATERIAL, DEBRIS, AND UNUSED MATERIAL FROM THE SITE AND DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.
- PRECAUTIONS SHALL BE TAKEN AS NECESSARY OR MAY BE REQUIRED TO PREVENT CONTAMINATED WATER, GASOLINE, CONSTRUCTION DEBRIS AND OTHER CONTAMINANT FROM ENTERING THE WATERWAY.
- DISPOSAL OF HAZARDOUS OR CONTAMINATED MATERIALS, GROUNDWATER OR SOIL ENCOUNTERED SHALL BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.
- SUBMIT WORK PLAN FOR APPROVAL OF OWNER PRIOR TO MOVING AND/OR STORING CONSTRUCTION MATERIALS ON JAMES ESTES WTP.

CONCRETE REPAIR AND CONSTRUCTION NOTES

- THE SCOPE OF CONCRETE REPAIR AND CONSTRUCTION WORK, INCLUDING, THE NUMBER OF DEFECTS, SAWCUT LIMITS, AND REPAIR QUANTITIES FOR EACH REPAIR SHALL BE FIELD VERIFIED BY CONTRACTOR. THE OWNER SHALL BE NOTIFIED AND APPROVE ADDITIONAL REPAIRS BEYOND THOSE LISTED IN THE REPAIR SCHEDULE.
- SEE SECTIONS 03 01 32 REPAIR OF VERTICAL AND OVERHEAD CONCRETE SURFACES AND 03 01 33 REPAIR OF HORIZONTAL CONCRETE SURFACES, FOR REQUIREMENTS RELATED TO CONCRETE SURFACE AND SPALL REPAIR.
- THE SCOPE OF THE CRACK REPAIR WORK INCLUDING THE NUMBER OF DEFECTS AND REPAIR QUANTITIES FOR EACH REPAIR SHALL BE FIELD VERIFIED BY THE CONTRACTOR. THE OWNER SHALL BE NOTIFIED AND APPROVE ADDITIONAL REPAIRS BEYOND THOSE LISTED IN THE REPAIR SCHEDULE.
- SEE SECTION 03 30 10 STRUCTURAL CONCRETE, FOR REQUIREMENTS RELATED TO CRACK REPAIR.

PRECAST CONCRETE MEMBERS

- PRECAST ARCHITECTURAL WALL PANELS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- DESIGN PER PCI DESIGN HANDBOOK 8th EDITION, ACI 318 AND ACI 550.1.
- FABRICATE, TRANSPORT AND ERECT PER PCI DESIGN HANDBOOK 7th EDITION, ERECTOR'S MANUAL, AND ACI 304 AND ACI ITG-7.
- DESIGN PRECAST ARCHITECTURAL WALL PANELS TO SUPPORT LOADS TRANSFERRED FROM WINDOWS, LOUVERS, AND DOORS AS WELL AS CANOPY LOADS NOTED IN DESIGN CRITERIA ON PREVIOUS DRAWING.
- SUBMIT CALCULATIONS AND DRAWINGS STAMPED BY AN ENGINEER LICENSED IN THE STATE OF ALABAMA FOR REVIEW PRIOR TO FABRICATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PICK UP POINT INSERTS AND LOCATIONS, SPECIAL PICK UP REINFORCING, STRONGBACKING, LOCATION AND SPACING OF SHIMS AND SIMILAR ITEMS, AND ALL PICK UP AND PLACING OPERATIONS.
- VERIFY GEOMETRY OF INSERTS AND OPENINGS AS REQUIRED PER ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
- DESIGN AND PROVIDE PANEL CONNECTIONS AND BEARING PADS.
- CHAMFER EDGES OF PANELS. PROVIDE EMBEDS, AND CAST GROOVES AS SHOWN ON ARCHITECTURAL DRAWINGS.
- PANEL SURFACING SHALL BE AS SPECIFIED AND AS SHOWN ON ARCHITECTURAL DRAWINGS.
- PROVIDE INSERTS AND EMBEDS AS SHOWN ON DRAWINGS.
- VERIFY AND PROVIDE OPENINGS AS PER ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. VERIFY GEOMETRY WITH ARCHITECTURAL DRAWINGS.
- DESIGN SHALL ADHERE TO TOLERANCE REQUIREMENTS PER PCI DESIGN HANDBOOK 7th EDITION AND ITG-7. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONFORM WITH THESE TOLERANCES INCLUDING BUT NOT LIMITED TO THE ADJUSTMENT OF BEARING HEIGHTS.
- CONTRACTOR'S ENGINEER SHALL PROVIDE LIST OF SPECIAL INSPECTION REQUIREMENTS THAT ARE IN ADDITION TO THOSE LISTED IN CONTRACT DOCUMENTS

WELDING

- WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):
D1.1, STRUCTURAL WELDING CODE STEEL
D1.2, STRUCTURAL WELDING CODE ALUMINUM
D1.3, STRUCTURAL WELDING CODE SHEET STEEL
D1.4, STRUCTURAL WELDING CODE REINFORCING STEEL
D1.6, STRUCTURAL WELDING CODE STAINLESS STEEL
- REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 SECTION 5.26.
- USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
- BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
W-SHAPES A992
MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC. A36
HOLLOW STRUCTURAL SECTIONS (HSS) A500, GRADE B
STEEL PIPE A53, GRADE B
STAINLESS STEEL SHAPES A276
- ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
STRUCTURAL SHAPES B308
PLATES B209
- STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
- FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:
UNLESS SHOWN OTHERWISE A325-N
SLIP CRITICAL A325-SC
DIRECT TENSION INDICATORS OR LOAD INDICATOR WASHERS ASTM F959
TENSION CONTROL (TC) BOLTS ASTM A325 AND ASTM F1852
ANCHOR BOLTS (AB)
STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
STEEL OR GALVANIZED STEEL F1554, GR 36 / A153
MACHINE BOLTS (MB)
STEEL A307
STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
GALVANIZED STEEL A307 / A153
ALUMINUM F468, ALLOY 2024-T4
- ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.



Chrzanowski, Mark
AAA00006867
Digitally signed by Chrzanowski, Mark
AAA00006867
Date: 2021.06.02 16:37:53 -04'00'

DEFERRED SUBMITTALS

- DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.
- WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
- THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 OF 2015 IBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE PERMITTING AGENCY AND APPROVED PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED	DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15		ANCHORAGE AND BRACING
03 40 00		PRECAST CONCRETE
05 05 19		POST-INSTALLED ANCHORS
40 05 15		PIPING SUPPORT SYSTEMS
OTHER		ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

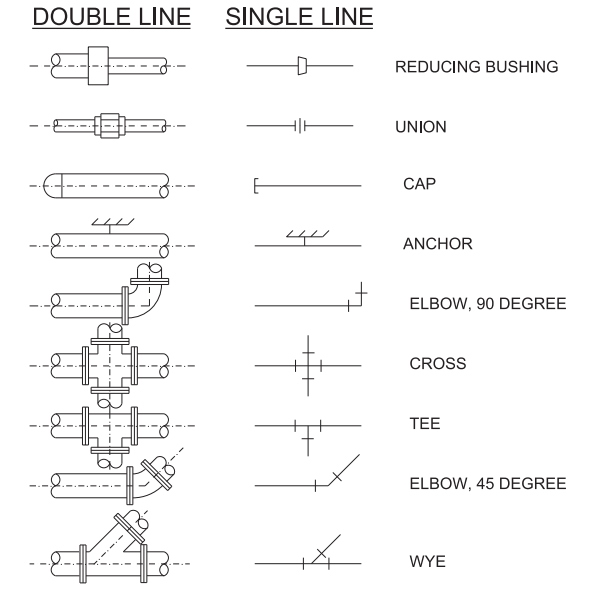
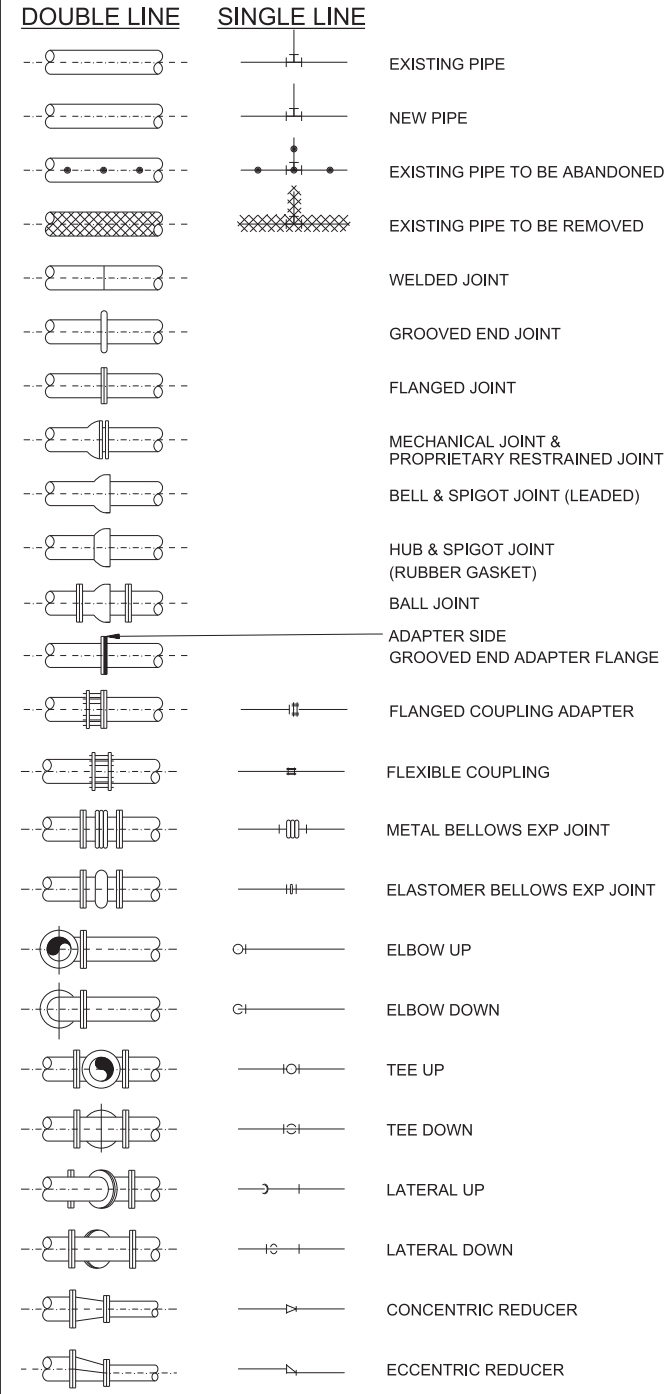
JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA		NO.	DATE	DR	CHK	BY
G. ADAMDEJAN		M. CHRZANOWSKI		M. CHRZANOWSKI		M. CHRZANOWSKI
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.						
© JACOBS 2021. ALL RIGHTS RESERVED.						

JACOBS
GENERAL
STRUCTURAL NOTES

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 01-G-006
SHEET: 06 of 101

BID DOCUMENTS

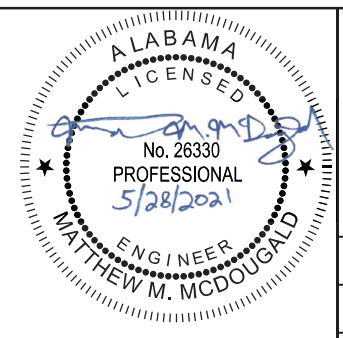
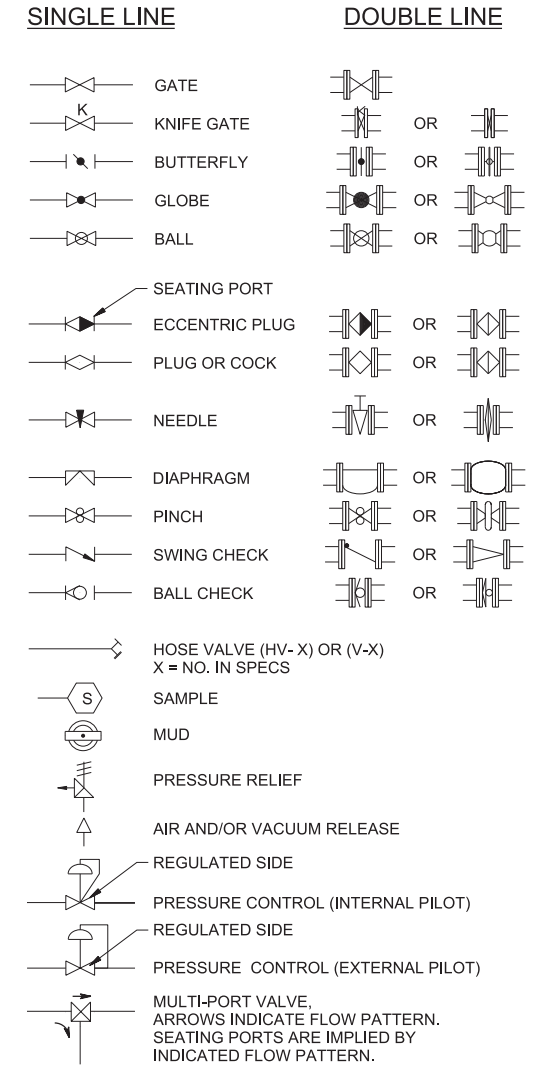
PIPE AND FITTING SYMBOLS



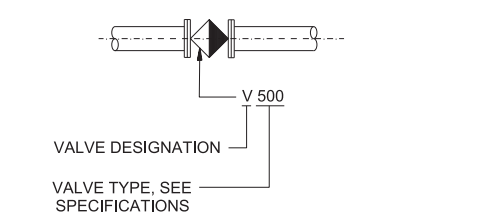
NOTES:

- ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
- SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
- EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

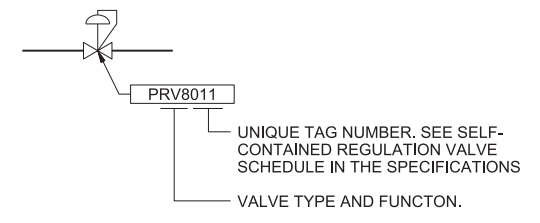
VALVE SYMBOLS



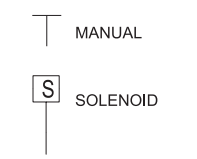
VALVE DESIGNATIONS



SELF-CONTAINED REGULATING VALVES



ACTUATOR SYMBOLS

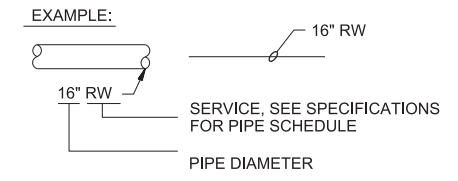


MECHANICAL LEGEND AND NOTES

GENERIC PIPING NOTES

- LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
- ALL JOINTS SHALL BE WATERTIGHT.
- ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
- SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED.
- NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

PIPING DESIGNATION



FLOW STREAM ID

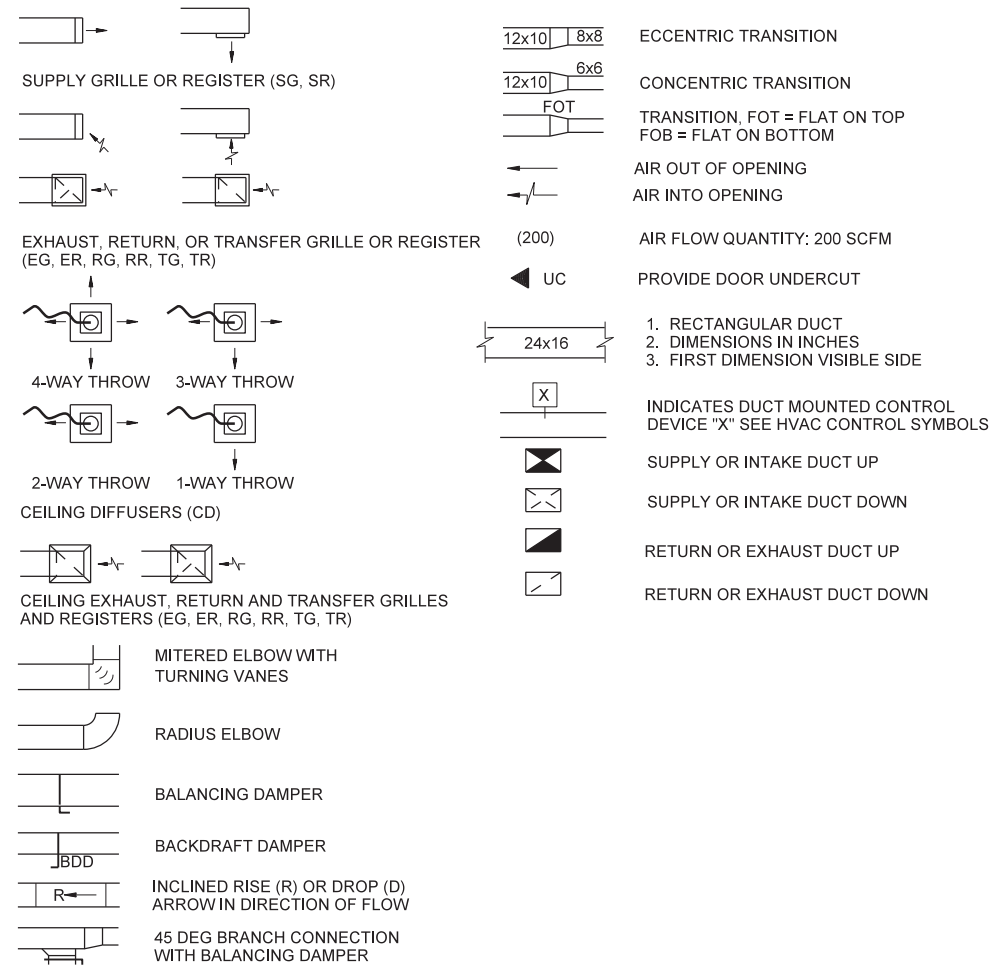
AIR	AIR, HIGH PRESSURE
DR	DRAIN
NPW	NON POTABLE WATER
OF	OVER FLOW
RW	RAW WATER
S	SAMPLE
V	VENT

NO.	DATE	REVISION	BY	APPROVED
		CHK	J THORNTON	APVD
		DR	E MINICHEW	APVD
			M MCDUGALD	APVD

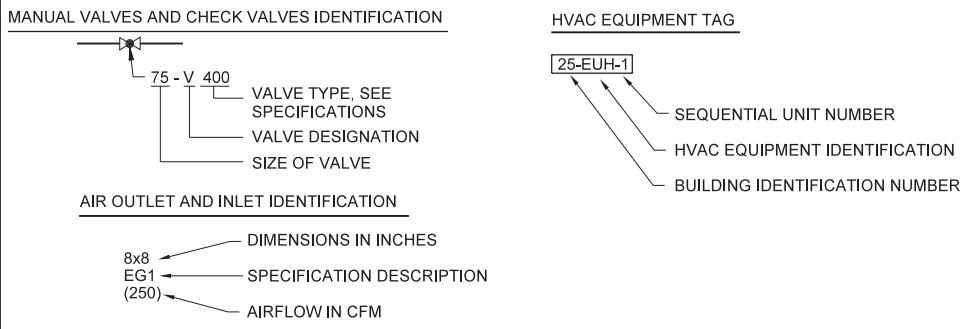
JACOBS
GENERAL
PROCESS MECHANICAL LEGEND
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 01-G-007
SHEET: 07 of 101

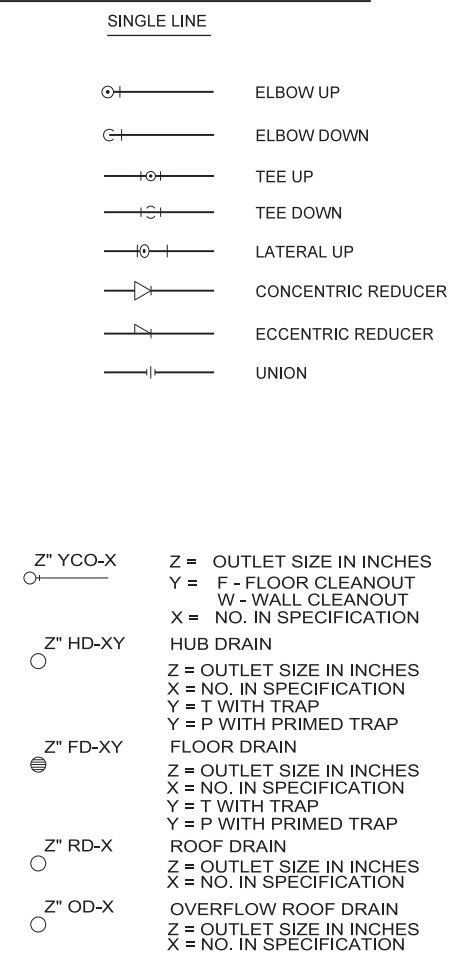
HEATING, VENTILATING, AND AIR CONDITIONING SYMBOLS



EQUIPMENT NOMENCLATURE



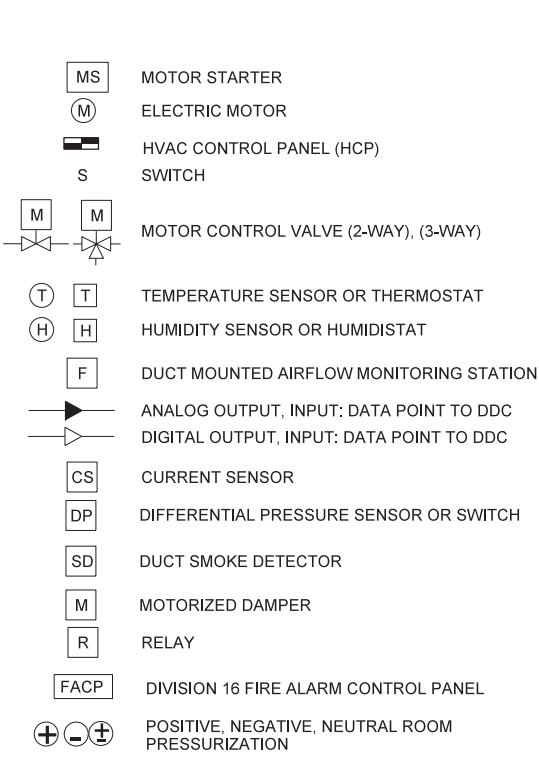
PIPING SYMBOLS



PLUMBING GENERAL NOTES

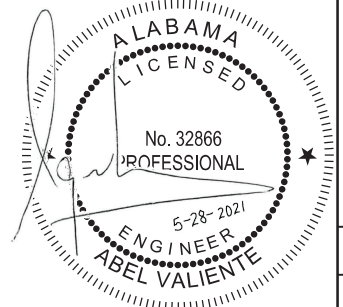
- ALL BURIED AND CONCRETE ENCASED COPPER PIPING SHALL BE INSTALLED WITH A PROTECTIVE SLEEVE, OR WRAP, FOR ITS ENTIRE LENGTH. SLEEVE, OR WRAP, SHALL BE FLEXIBLE POLYETHYLENE MANUFACTURED FOR CONTINUOUS PIPE COVER APPLICATION. EXTEND SLEEVE, OR WRAP, 2 INCHES ABOVE FINISHED FLOOR.
- ALL PIPE PENETRATIONS THROUGH FLOORS AND WALLS SHALL BE SLEEVED AND SEALED.
- INSTALL TRAP PRIMER VALVES ON ALL FLOOR AND HUB DRAINS WITH "P" EXTENSION. FLOOR AND HUB DRAINS WITH "T" EXTENSIONS SHALL HAVE DEEP SEAL TRAPS. FIELD ROUTE TRAP PRIMER TUBING TO FLOOR AND HUB DRAINS.
- FURNISH AND INSTALL WATER HAMMER ARRESTORS ON W1, HW, AND TW PIPING ON QUICK CLOSING VALVES.
- THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING RUNS, IN ADDITION TO WHAT IS SHOWN ON THE DRAWINGS, WHERE REQUIRED TO CLEAR DUCT, STRUCTURE, AND OTHER PIPING SYSTEMS.
- PLUMBING VENTS THROUGH ROOF SHALL BE OFFSET AT ROOF TO PROVIDE MINIMUM DISTANCE OF 3'-6" FROM EXTERIOR WALL.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES.
- CLEANOUT TO GRADE FITTINGS, WHERE SANITARY DRAIN EXITS THE BUILDING, SHALL ALLOW FOR RODDING BOTH WAYS.
- COORDINATE FINAL LOCATIONS OF FLOOR AND HUB DRAINS THAT RECEIVE CONDENSATE DRAINAGE FROM HVAC EQUIPMENT.
- ALL PIPES PASSING THROUGH FIRE RATED WALLS AND FLOORS SHALL BE INSTALLED TO MEET APPLICABLE UL SYSTEM REQUIREMENTS PERTAINING TO THE TYPE OF CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR WALLS WHICH ARE FIRE RATED.

HVAC CONTROLS SYMBOLS



HVAC GENERAL NOTES

- THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
- FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS FOR PLUMBING, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL.



ABBREVIATIONS AND EQUIPMENT ID

ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
BD	BALANCING DAMPER
BDD	BACKDRAFT DAMPER (GRAVITY)
EA	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ET	DIAPHRAGM EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
FD	FIRE DAMPER
FF	FINAL FILTER
FRP	FIBERGLASS REINFORCED PLASTIC
HCP	HVAC CONTROL PANEL
MD	MOTORIZED DAMPER
OAI	OUTSIDE AIR INTAKE
OSA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
RL	REFRIGERANT LIQUID PIPE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION PIPE
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
TG	TRANSFER GRILLE
UH	UNIT HEATER
AD	AREA DRAIN
AC	AIR COMPRESSOR
ANT	ACID NEUTRALIZATION TANK
AR	AIR RECEIVER
BFP	BACKFLOW PREVENTER
BP	BOOSTER PUMP
CP	CIRCULATION PUMP
DB	DOWNSPOUT BOOT
DN	DOWNSPOUT NOZZLE
DT	DILUTION TANK
DWT	DOMESTIC WATER STORAGE TANK
ET	EXPANSION TANK
ETP	ELECTRONIC TRAP PRIMER
IM	ICE MAKER
HX	HEAT EXCHANGER
OD	OVERFLOW ROOF DRAIN
ON	OVERFLOW NOZZLE
OS	OIL/WATER SEPERATOR
P	PUMP
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
SP	SUMP PUMP
TP	TRAP PRIMER ASSEMBLY
TWT	TEMPERED WATER STORAGE TANK
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
VP	VACUUM PUMP

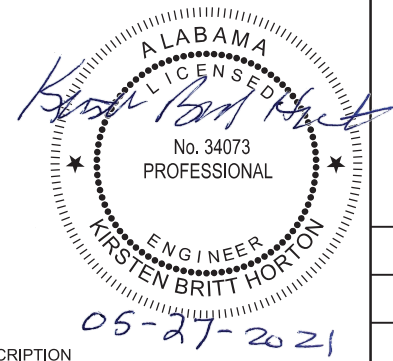
JAMES ESTES WATER TREATMENT PLANT		2020 IMPROVEMENTS		WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA	
NO.	DATE	DR	T PRICE	APVD	A VALIENTE
REVISION	CHK	BY	APVD	A VALIENTE	
Jacobs					
GENERAL BUILDING MECHANICAL LEGEND					
NTS					
VERIFY SCALE					
BAR IS ONE INCH ON ORIGINAL DRAWING.					
DATE	JUNE 2021				
PROJ	D3389300				
DWG	01-G-008				
SHEET	08 of 101				

SYMBOL	DESCRIPTION
ONE-LINE DIAGRAM	
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO
	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
	FUSE, CURRENT RATING AND QUANTITY INDICATED
	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE
	CABLE OR BUS CONNECTION POINT
	KEY INTERLOCK
	SURGE ARRESTER (GAP TYPE)
	CAPACITOR - KVAR INDICATED, 3 PHASE
	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
	GENERATOR, KW/KVA RATING SHOWN
	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVAR PF = POWER FACTOR
	DIGITAL POWER METER (MULTIFUNCTION)
	UTILITY REVENUE METER
	GROUND
	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED
	SHIELDED ISOLATION TRANSFORMER
	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
	SURGE PROTECTIVE DEVICE

SYMBOL	DESCRIPTION
CONTROL DIAGRAM	
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:
	X - CLOSED CONTACT O - OPEN CONTACT
	TOGGLE SWITCH, ON-OFF TYPE
	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD PUSHBUTTON SWITCH
	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR
	INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE
	ELAPSED TIME METER
	MOTOR STARTER CONTACTOR COIL
	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSURES WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, CLOSURES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSURES WHEN DE-ENERGIZED AND TIMED OUT
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSE, RATING INDICATED
	TRANSFORMER, CONTROL POWER
NOTES:	
1. THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.	
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.	

SYMBOL	DESCRIPTION
POWER SYSTEM PLAN	
	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION.
	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
	PANELBOARD - SURFACE MOUNTED
	PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
	MOTOR, SQUIRREL CAGE INDUCTION
	GENERATOR, VOLTAGE AND SIZE AS INDICATED.
	HOME RUN - DESTINATION SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	CONCEALED CONDUIT AND CONDUCTORS*
NOTE:	
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.	
	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
	EXISTING CONDUIT/ DUCT BANK
	BUS DUCT - SEE SPECIFICATIONS
	CONCRETE ENCASED CONDUIT
	DIRECT BURIED CONDUIT
	FIBER OPTIC CONDUIT
	CONCRETE ENCASED DUCT BANK WHERE XXXX IS THE DUCT BANK NAME. SEE CIRCUIT AND RACEWAY CODING DEFINITION
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
	CABLE TRAY
	TRANSFORMER
	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE
	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED

SYMBOL	DESCRIPTION
POWER SYSTEM PLAN	
	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED
	LIGHTING CONTACTOR, CURRENT RATING INDICATED
	STARTER, MAGNETIC NEMA SIZE INDICATED
	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
LIGHTING SYSTEM PLAN	
	LUMINAIRE, SEE SCHEDULE
	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE
	STRIP LUMINAIRE, SEE SCHEDULE
	LUMINAIRE AND POLE, SEE SCHEDULE
	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE
	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP- WEATHERPROOF CRE- CORROSION RESISTANT EX- EXPLOSIONPROOF L- MOMENTARY 3-WAY M- MOTOR RATED MS- MANUAL STARTER WITH OVERLOADS
	OCCUPANCY SENSOR
	LIGHTING CONTACTOR
	MOTION DETECTOR
	PHOTOCELL
GROUND SYSTEM PLAN	
	GROUND ROD
	GROUND ROD IN TEST WELL
	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
	EQUIPMENT GROUND BUS
	EQUIPMENT NEUTRAL BUS



JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA	
DATE	JUNE 2021
PROJ	D3389300
DWG	01-G-009
SHEET	09 of 101
NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

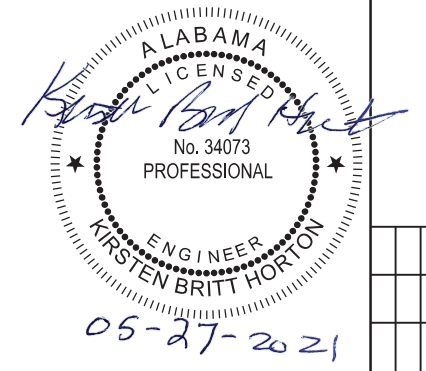
POWER CIRCUIT CALLOUTS				MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS			
[P1]	[1/2" FLEX, 2#12, #12G]	[P24]	[1"C, 3#8, 3#14, 1#10G]	[PC1]	[3/4"C, 1 (3C#12, 1#12G) TYPE 2]	[PC2]	[3/4"C, 1 (3C#10, 1#10G) TYPE 2]
[P2]	[3/4"C, 2#12, 1#12G]	[P25]	[1"C, 3#8, 4#14, 1#10G]	[PC3]	[1"C, 1 (3C#8, 1#10G) TYPE 2]	[PC4]	[1 1/4"C, 2 (3C#12, 1#12G) TYPE 2]
[P3]	[3/4"C, 3#12, 1#12G]	[P26]	[1"C, 3#8, 5#14, 1#10G]	[PC5]	[1 1/2"C, 2 (3C#10, 1#10G) TYPE 2]		
[P4]	[3/4"C, 4#12, 1#12G]	[P27]	[1"C, 2#6, 1#10G]				
[P5]	[3/4"C, 5#12, 1#12G]	[P28]	[1"C, 3#6, 1#8G]				
[P6]	[3/4"C, 6#12, 1#12G]	[P29]	[1"C, 4#6, 1#8G]				
[P7]	[3/4"C, 7#12, 1#12G]	[P30]	[1"C, 3#6, 3#14, 1#8G]	[PC1A]	[3/4"C, 1 (2C#12, 1#12G) TYPE 2]		
[P8]	[3/4"C, 8#12, 1#12G]	[P31]	[1"C, 3#6, 4#14, 1#8G]	[PC2A]	[3/4"C, 1 (2C#10, 1#10G) TYPE 2]		
[P9]	[3/4"C, 3#12, 2#14, 1#12G]	[P32]	[1"C, 3#6, 5#14, 1#8G]				
[P10]	[3/4"C, 3#12, 3#14, 1#12G]	[P33]	[1"C, 2#4, 1#8G]	[PC20]	[2"C, 1 (3C#2/0 W/G) TYPE 2]		
[P11]	[3/4"C, 3#12, 4#14, 1#12G]	[P34]	[1 1/4"C, 3#4, 1#8G]	[PC50]	[3 1/2"C, 1 (3C-500 W/G) TYPE 2]		
[P12]	[3/4"C, 3#12, 5#14, 1#12G]	[P35]	[1 1/4"C, 3#4, 5#14, 1#8G]				
[P13]	[3/4"C, 3#12, 6#14, 1#12G]	[P36]	[1 1/4"C, 3#3, 1#6G]				
[P14]	[3/4"C, 3#12, 7#14, 1#12G]	[P37]	[1 1/4"C, 3#3, 3#14, 1#6G]	[PV12]	[1"C, 1 (3C#12, 1#12G/S) TYPE 8]		
[P15]	[3/4"C, 2#10, 1#10G]	[P38]	[1 1/4"C, 3#2, 1#6G]				
[P16]	[3/4"C, 3#10, 1#10G]	[P39]	[1 1/4"C, 3#1, 1#6G]				
[P17]	[3/4"C, 3#10, 2#14, 1#10G]	[P40]	[1 1/2"C, 4#1, 1#6G]				
[P18]	[3/4"C, 3#10, 3#14, 1#10G]	[P41]	[1 1/2"C, 3#2/0, 1#4G]				
[P19]	[3/4"C, 3#10, 4#14, 1#10G]	[P42]	[2"C, 3#3/0, 1#4G]				
[P20]	[3/4"C, 3#10, 5#14, 1#10G]	[P43]	[2"C, 3#4/0, 1#3G]				
[P21]	[1"C, 2#8, 1#10G]	[P44]	[3"C, 3-350, 1#2/0G]				
[P22]	[1"C, 3#8, 1#10G]	[P45]	[4"C, 3-500, 1#1/0G]				
[P23]	[1"C, 3#8, 2#14, 1#10G]	[P46]	[4"C, 3-600, 1#2/0G]				
ANALOG CIRCUIT CALLOUTS				CONTROL CIRCUIT CALLOUTS			
[A1]	[3/4"C, 1 TYPE 3]	[C1]	[3/4"C, MSC]	[CC3]	[3/4"C, 1-3C TYPE 1]	[CC5]	[3/4"C, 1-5C TYPE 1]
[A2]	[1"C, 2 TYPE 3]	[C2]	[3/4"C, 2#14, 1#14G]	[CC7]	[3/4"C, 1-7C TYPE 1]	[CC9]	[1"C, 1-9C TYPE 1]
[A3]	[1"C, 3 TYPE 3]	[C3]	[3/4"C, 3#14, 1#14G]	[CC12]	[1"C, 1-12C TYPE 1]	[CC19]	[1 1/2"C, 1-19C TYPE 1]
[A4]	[1"C, 4 TYPE 3]	[C4]	[3/4"C, 4#14, 1#14G]	[CC25]	[1 1/2"C, 1-25C TYPE 1]	[CC37]	[2"C, 1-37C TYPE 1]
[A5]	[1 1/4"C, 5 TYPE 3]	[C5]	[3/4"C, 5#14, 1#14G]	[CCC1]	[1-7C #12 TYPE 1]		
[A6]	[1 1/4"C, 6 TYPE 3]	[C6]	[3/4"C, 6#14, 1#14G]				
[A7]	[1 1/2"C, 7 TYPE 3]	[C7]	[3/4"C, 7#14, 1#14G]				
[A8]	[1 1/2"C, 8 TYPE 3]	[C8]	[3/4"C, 8#14, 1#14G]				
[A9]	[1 1/2"C, 9 TYPE 3]	[C9]	[3/4"C, 9#14, 1#14G]				
[A10]	[2"C, 10 TYPE 3]	[C10]	[3/4"C, 10#14, 1#14G]				
[A11]	[2"C, 11 TYPE 3]	[C11]	[3/4"C, 11#14, 1#14G]				
[A12]	[2"C, 12 TYPE 3]	[C12]	[3/4"C, 12#14, 1#14G]				
[A13]	[2"C, 13 TYPE 3]	[C13]	[3/4"C, 13#14, 1#14G]				
[A14]	[2"C, 14 TYPE 3]	[C14]	[3/4"C, 14#14, 1#14G]				
[A15]	[3/4"C, 1 TYPE 4]	[C15]	[3/4"C, 15#14, 1#14G]				
[A16]	[3/4"C, 2 TYPE 4]	[C16]	[3/4"C, 16#14, 1#14G]				
[A17]	[1"C, 3 TYPE 4]	[C17]	[3/4"C, 17#14, 1#14G]				
[A18]	[1 1/4"C, 4 TYPE 4]	[C18]	[3/4"C, 18#14, 1#14G]				
[A19]	[1 1/4"C, 5 TYPE 4]	[C19]	[3/4"C, 19#14, 1#14G]				
[A20]	[1 1/4"C, 6 TYPE 4]	[C20]	[1"C, 20#14, 1#14G]				
[A21]	[1 1/2"C, 7 TYPE 4]	[C21]	[1"C, 21#14, 1#14G]				
[A22]	[1 1/2"C, 8 TYPE 4]	[C22]	[1"C, 22#14, 1#14G]				
[A23]	[2"C, 9 TYPE 4]	[C23]	[1"C, 23#14, 1#14G]				
[A24]	[3/4"C, 1-4 pr. TYPE 5]	[C24]	[1"C, 24#14, 1#14G]				
[A25]	[1"C, 2-4 pr. TYPE 5]	[C25]	[1"C, 25#14, 1#14G]				
[A26]	[1"C, 1 TYPE 30]	[C30]	[1"C, 30#14, 1#14G]				
MULTICONDUCTOR CONTROL CABLE CIRCUIT CALLOUTS							

NOTES:

- FOR CABLE TYPES, SEE SPECIFICATIONS.
- CONDUIT SIZES ARE BASE ON THE AREA OF THW CONDUCTORS.
- SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
- WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".
- FOR METRIC CONDUIT SIZES USE THE FOLLOWING CONVERSION:
 1/2" = 16 mm 1/4" = 35 mm
 3/4" = 21 mm 1-1/2" = 41 mm
 1" = 27 mm 2" = 53 mm

ABBREVIATION	DESCRIPTION
A	AMPERE, AUTOMATIC
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
C	CONDUIT, CONTACTOR, CONDUCTOR, CLOSE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER, CABLE TRAY
DC	DIRECT CURRENT
DP	DISTRIBUTION PANEL
E	EMPTY
F, FU	FUSE
FREQ	FREQUENCY
G	GROUND
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HH	HANDHOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HS	HAND SWITCH
HZ	HERTZ
IC	INTERRUPTING CAPACITY
J, JB	JUNCTION BOX
KA	KILOAMPERES
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATTS
M	MAGNETIC CONTACTOR COIL, MOTOR, MANUAL
MCC	MOTOR CONTROL CENTER
MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT
NC	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOAD RELAY
PB	PULL BOX
RGS	RIGID GALVANIZED STEEL CONDUIT
SS	START STOP
SST	STAINLESS STEEL
SV	SOLENOID VALVE
SWBD	SWITCHBOARD
TYP	TYPICAL
V	VOLTAGE, VOLTS
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER

ABBREVIATIONS



JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

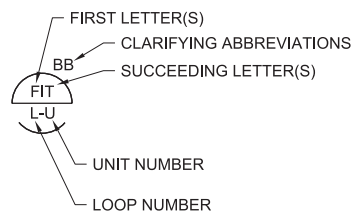
Jacobs
GENERAL
ELECTRICAL LEGEND
SHEET 2 OF 2

DATE	JUNE 2021
PROJ	D3389300
DWG	01-G-010
SHEET	10 of 101

BID DOCUMENTS

INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS



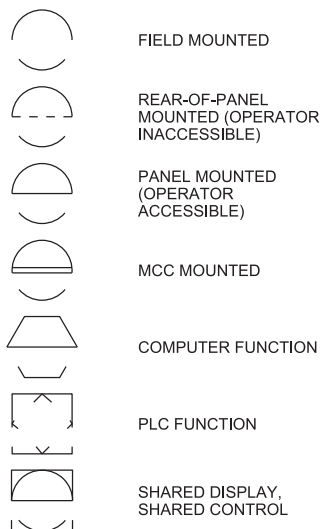
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
 (*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

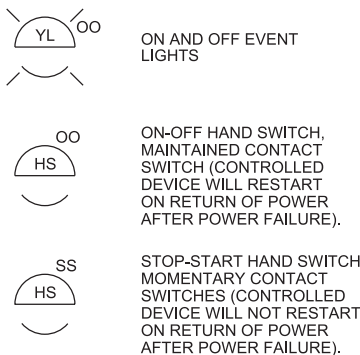
ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

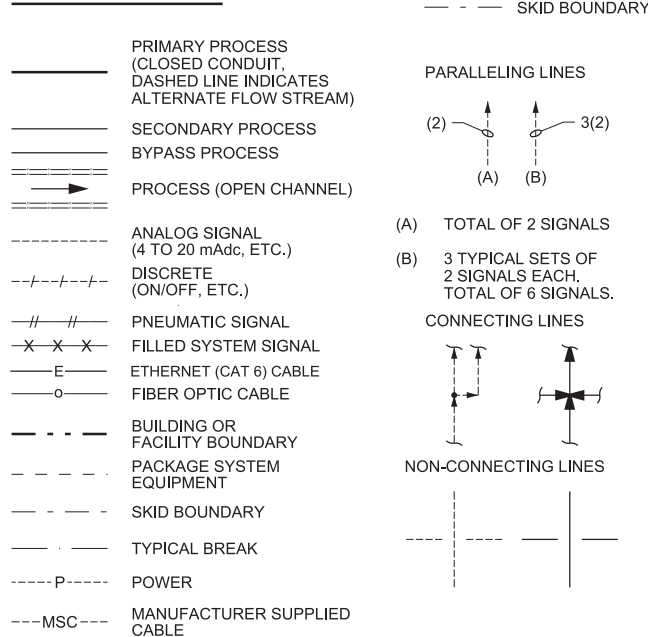
EXAMPLE

TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

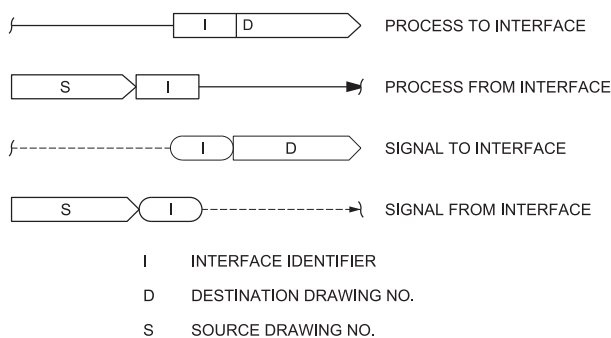
SPECIAL CASES



LINE LEGEND



INTERFACE SYMBOLS



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

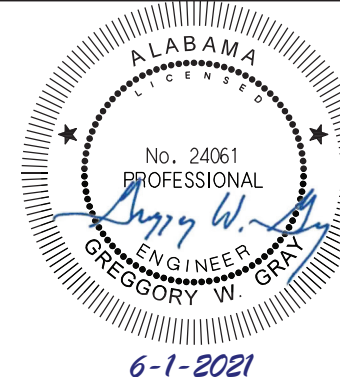
D	ARV	AIR RELEASE VALVE
	AVRV	AIR AND VACUUM RELEASE VALVE
	E	EJECTOR
	G	GATE
	M	MECHANICAL EQUIPMENT
	P	PUMP
	PCV	PRESSURE CONTROL VALVE
	PRV	PRESSURE RELIEF VALVE
	SV	SOLENOID VALVE
	T	TANK
	FCV	FLOW CONTROL VALVE
W		FACILITY IDENTIFICATION
X		LOOP NUMBER
Y		UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL ₂ etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL ₂	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X= PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL ₂	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
x	MULTIPLY
÷	DIVIDE
F(X)	CHARACTERIZED
X ⁿ	RAISED TO THE Nth POWER
√	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

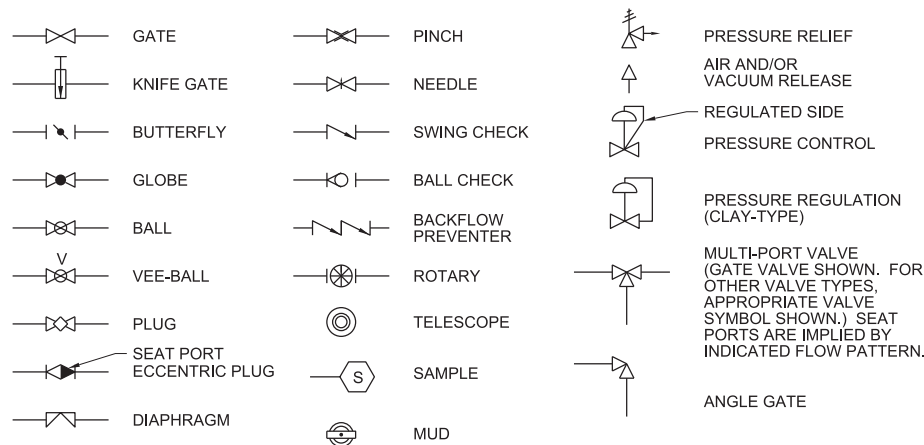
GENERAL NOTES

- COMPONENTS SHOWN WITH A DIAMOND (◆) ARE PART OF SECTION 40 90 01, PROCESS INSTRUMENTATION AND CONTROLS.
- COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (***) ARE TO BE PROVIDED UNDER DIVISION 26, ELECTRICAL.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.



G GRAY		N FREEMAN		J THORNTON		G GRAY	
BY	APVD	CHK	DR	NO.	DATE	NO.	DATE
JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA				GENERAL INSTRUMENTATION AND CONTROL LEGEND SHEET 1 OF 2			
NTS							
VERIFY SCALE							
BAR IS ONE INCH ON ORIGINAL DRAWING.							
DATE	JUNE 2021						
PROJ	D3389300						
DWG	01-G-011						
SHEET	11 of 101						

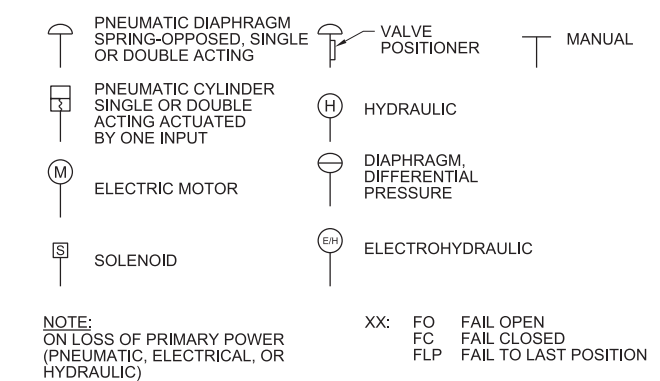
VALVE SYMBOLS



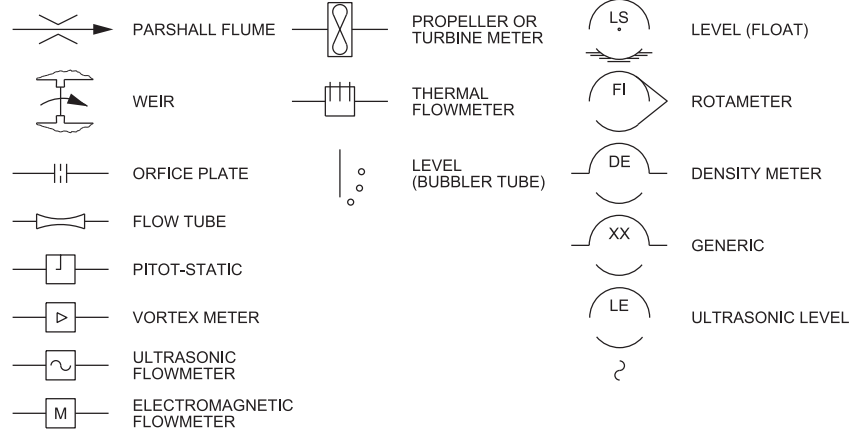
GATE SYMBOLS



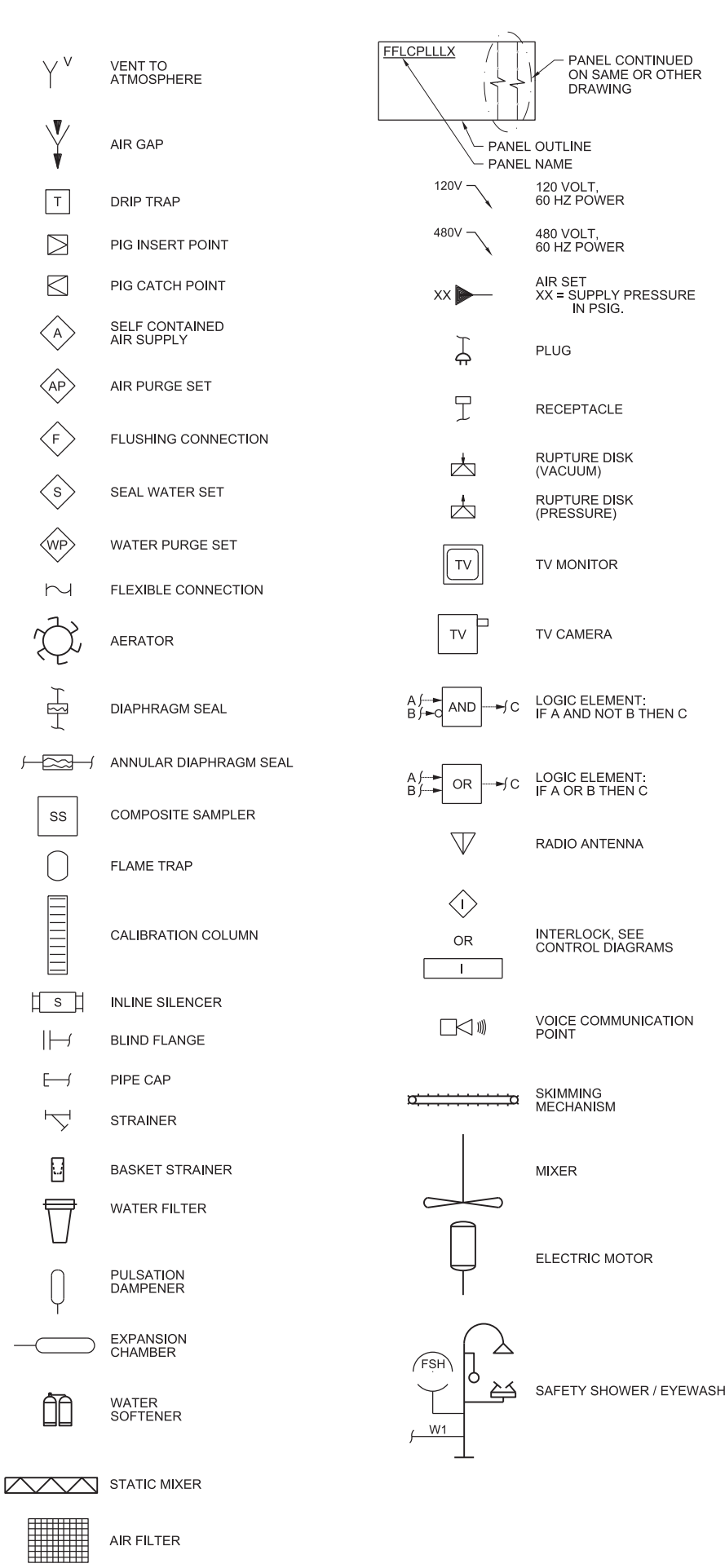
ACTUATOR SYMBOLS



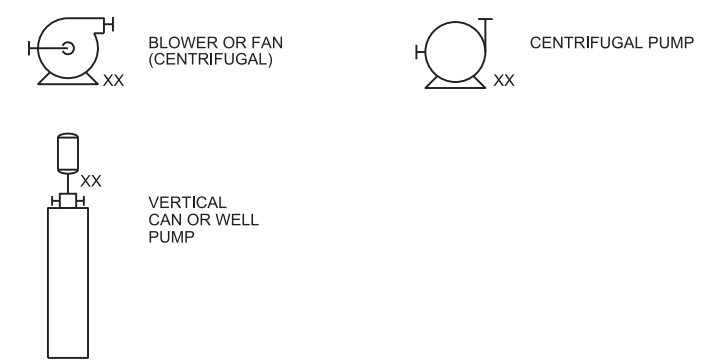
PRIMARY ELEMENT SYMBOLS



MISCELLANEOUS SYMBOLS

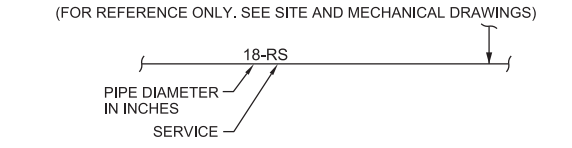


PUMP AND COMPRESSOR SYMBOLS



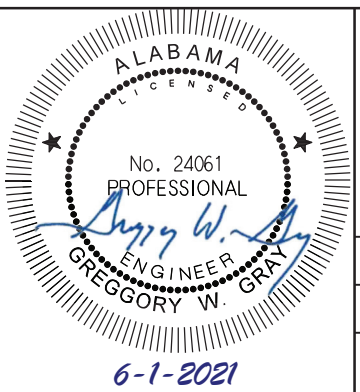
XX: AS ADJUSTABLE SPEED
 CS-1 CONSTANT SPEED (SINGLE SPEED)
 CS-2 CONSTANT SPEED (TWO SPEED)

LINE SIZE AND FLOW STREAM IDENTIFICATION

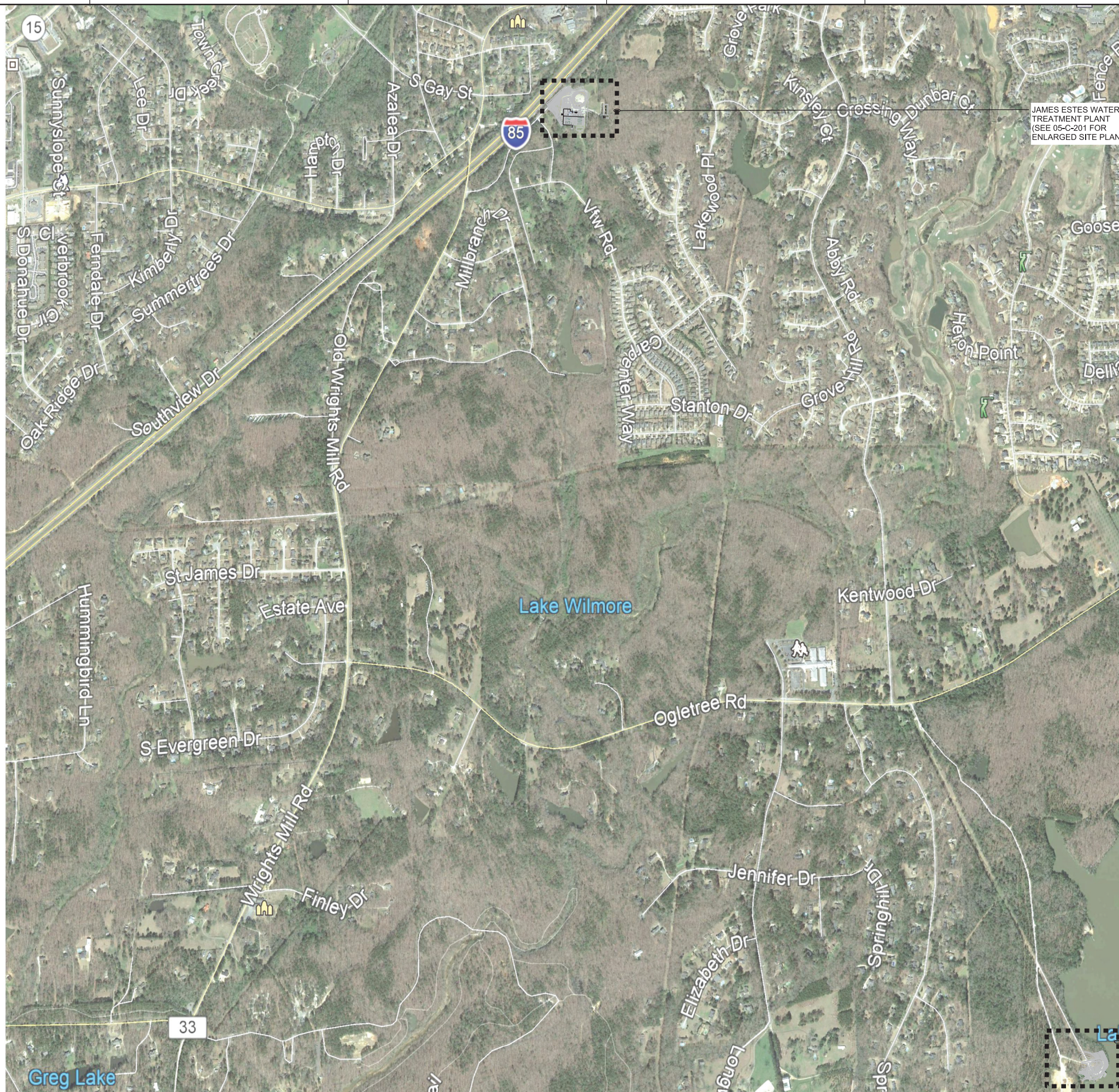


SERVICE

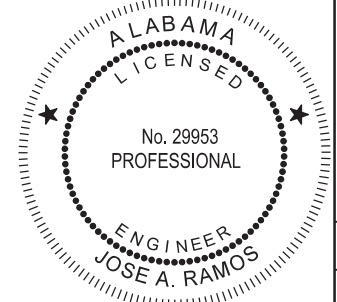
AHP	AIR, HIGH PRESSURE
BW	BACKWASH SUPPLY
CP	CARRIER PIPE
DR	DRAIN
LS	LIMESLURRY
NaOCl	BULK SODIUM HYPOCHLORITE
OF	OVERFLOW
PACS	POWDER ACTIVATED CARBON SLURRY
RECIRC	LIQUID LIME RECIRCULATION
RW	RAW WATER
S	SLUDGE/WASTE BASIN DISCHARGE
V	VENT, PROCESS
W2	NO. 2 (NON-POTABLE) WATER



JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA		NO.	DATE	DR	CHK	APVD	BY	APVD
				G GRAY	J THORNTON	N FREEMAN	G GRAY	G GRAY
 GENERAL INSTRUMENTATION AND CONTROL LEGEND SHEET 2 OF 2		NTS VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.						
		DATE	JUNE 2021					
		PROJ	D3389300					
		DWG	01-G-012					
SHEET	12 of 101							



JAMES ESTES WATER TREATMENT PLANT
(SEE 05-C-201 FOR ENLARGED SITE PLAN)



Digitally signed
by Jose A. Ramos
Date: 2021.05.28
08:44:17-04'00"



GENERAL SHEET NOTES

1. EXISTING CONDITIONS MAPPING SHOWN IS FROM GOOGLE EARTH IMAGERY. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THIS SHEET. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.

NO.	DATE	DR	CHK	APVD	BY	APVD
DSGN		O JOHN	O JOHN	J RAMOS	J RAMOS	J RAMOS

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
CIVIL
OVERALL SITE PLAN

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	05-C-101
SHEET	13 of 101

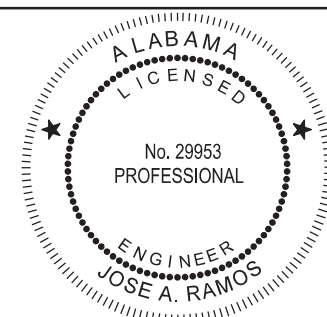


GENERAL NOTES

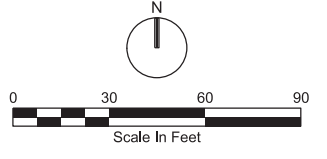
- EXISTING CONDITIONS MAPPING SHOWN IS FROM VARIOUS RECORD DRAWINGS FROM 1959 TO 2013. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- DEMOLISH EXISTING EQUIPMENT, PIPING, VALVES AND APPURTENANCES WHERE INDICATED.
- PROTECT AND REUSE NaOCl PIPE SUPPORT BRACKETS, REPLACE AND RESIZE CLAMPS AS NEEDED.

SHEET KEYNOTES

- EXISTING LINE IS BURIED FROM POINT INDICATED TO POST CHEMICAL MIXER.
- EXISTING LINE EXITS THROUGH BUILDING WALL TO UNDER CONCRETE WALKWAY AND RUNS UNDER CONCRETE WALKWAY IN TROUGH.
- DEMOLISH EXISTING LIME SILO, CONCRETE PAD AND 2" CARRIER PIPES AND FEED PIPES. EXISTING CARRIER PIPES ARE ABOVE GROUND, EXISTING DRAIN LINE AT SILO TO REMAIN FOR CONNECTION TO NEW DRAIN PIPING.
- DEMOLISH AND REPLACE EXISTING MOTOR FOR BACKWASH PUMP NUMBER 3.
- DEMOLISH EXISTING CARBON FEED BUILDING, EQUIPMENT, AND APPURTENANCES. CONTRACTOR SHALL BACKFILL DEMOLITION AREA WITH COMPACTED FILL AND RESTORE SURFACE WITH PERMANENT SEEDING (3123-115).
- DEMOLISH EXISTING CARBON CONTACT BASIN MIXERS, CUT AND REMOVE MOORING POLES AT BASIN FLOOR.



Digitally signed by
 Jose A. Ramos
 Date: 2021.05.28
 08:44:53-04'00'



NO.	DATE	DR	CHK	REVISION	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

Jacobs
 CIVIL
**EXISTING WTP SITE AND
 DEMOLITION PLAN**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	05-C-102
SHEET	14 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



DEMO, TYP
SEE NOTE 1

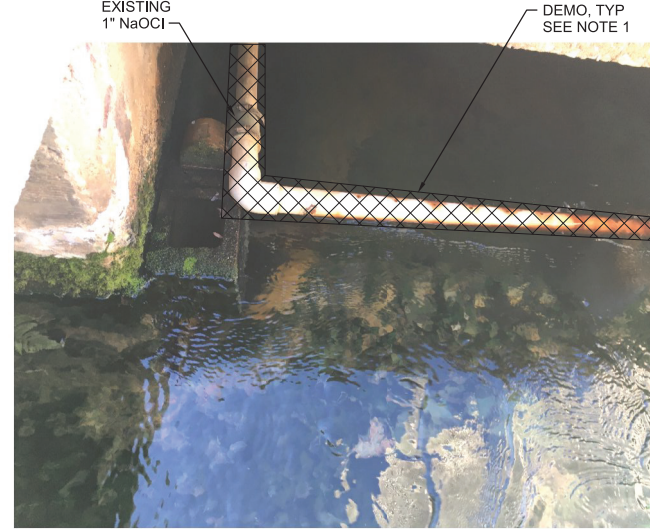
P1 PHOTO
NTS
05-C-102



EXISTING
1" NaOCl

DEMO, TYP
SEE NOTE 1

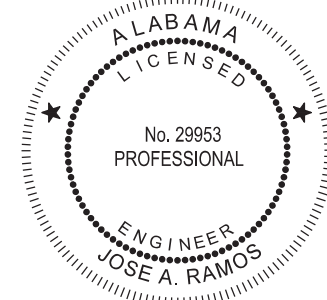
P2 PHOTO
NTS
05-C-102



EXISTING
1" NaOCl

DEMO, TYP
SEE NOTE 1

P3 PHOTO
NTS
05-C-102



Digitally signed by
Jose A. Ramos
Date: 2021.05.28
08:45:22-04'00'

NO.	DATE	DR	CHK	APVD	BY	APVD
		P WAID	O JOHN	J RAMOS	J RAMOS	J RAMOS



CARBON FEED
BUILDING

P4 PHOTO
NTS
05-C-102



CARBON FEED
BUILDING

P5 PHOTO
NTS
05-C-102



MOORING
POLE (TYP)
CARBON CONTACT
BASIN MIXER (TYP)

P6 PHOTO
NTS
05-C-102



TYPICAL OF BOTH
INFLUENT LINES

P7 PHOTO
NTS
05-C-102

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

JACOBS
CIVIL
WTP SITE DEMOLITION
PHOTOS

GENERAL NOTES

- DEMOLISH EXISTING PIPING AND VALVES WHERE INDICATED.
- PROTECT AND REUSE NaOCl PIPE SUPPORT BRACKETS. REPLACE AND RESIZE CLAMPS AS NEEDED.
- DEMOLISH EXISTING CARBON FEED BUILDING, EQUIPMENT, AND APPURTENANCES.
- DEMOLISH EXISTING CARBON CONTACT BASIN MIXERS. CUT AND REMOVE MOORING POLES AT BASIN FLOOR.

SHEET KEYNOTES

- PIPE PENETRATES WALL AND ENTERS BUILDING AT FLOOR.
- DEMOLISH EXISTING 24" DIP. SUPPORT REMAINING PIPE AS NECESSARY. TYPICAL OF BOTH INFLUENT LINES.

VERIFY SCALE

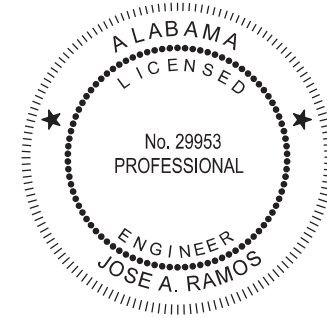
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE JUNE 2021

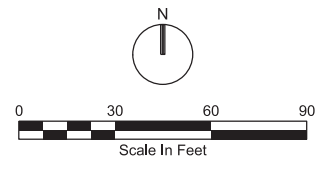
PROJ D3389300

DWG 05-C-103

SHEET 15 of 101



Digitally signed by
 Jose A. Ramos
 Date: 2021.05.28
 08:45:53-04'00'



GENERAL SHEET NOTES

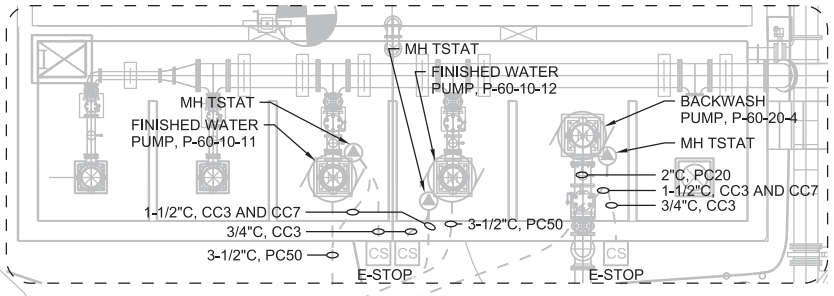
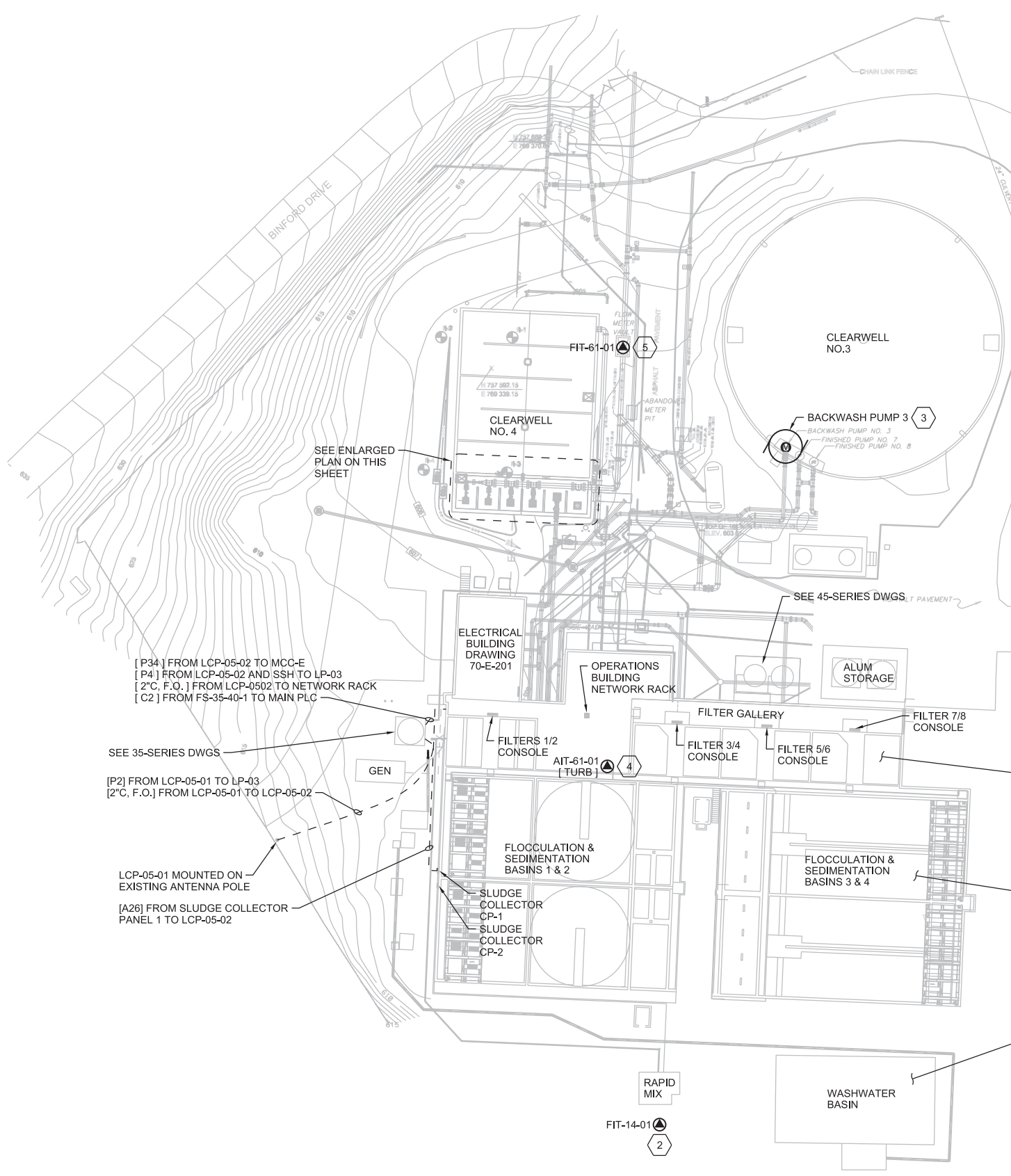
- EXISTING CONDITIONS MAPPING SHOWN IS FROM VARIOUS RECORD DRAWINGS FROM 1959 TO 2013. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- PROTECT AND REUSE NaOCl PIPE SUPPORT BRACKETS. REPLACE AND RESIZE CLAMPS AS NEEDED. EXCEPTION: REPLACE EXISTING NaOCl PIPE SUPPORTS UNDER CONCRETE WALKWAY IN FILTER TROUGHS IMMEDIATELY NORTH OF FLOCCULATION AND SEDIMENTATION BASINS. SEE DETAIL 4005-495C.

SHEET KEYNOTES

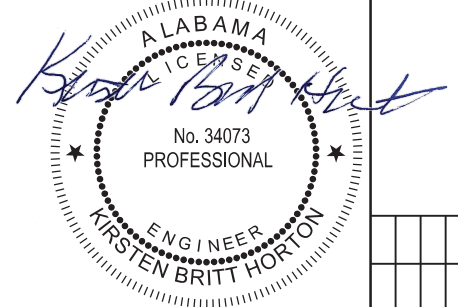
- SHALLOW BURY (APPROXIMATELY 6") TO AVOID EXISTING UTILITIES.
- FROM METER BOX (AT POINT INDICATED) TO POST MIXER, REMOVE EXISTING 1" NaOCl, PROTECT AND REUSE EXISTING CLAY CARRIER PIPE, AND FEED NEW 1/2" NaOCl TUBING THROUGH EXISTING CLAY CARRIER PIPE.
- TERMINATE PIPE AT RAPID MIX GRATING.

J RAMOS		J RAMOS		J RAMOS	
BY	APVD	CHK	APVD	DR	APVD
NO.	DATE	NO.	DATE	NO.	DATE
JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA					
Jacobs CIVIL WTP SITE AND YARD PIPE IMPROVEMENTS PLAN					
VERIFY SCALE					
BAR IS ONE INCH ON ORIGINAL DRAWING.					
DATE	JUNE 2021				
PROJ	D3389300				
DWG	05-C-201				
SHEET	16 of 101				

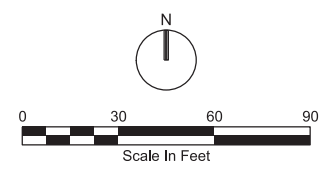
BID DOCUMENTS



EXISTING DUCT BANK TO ELECTRICAL BUILDING 1
ENLARGED PLAN
 1/8"=1'-0"



05-27-2021



- SHEET KEYNOTES**
- REUSE EXISTING CONDUIT BETWEEN PUMPS AND ELECTRICAL BUILDING. PROVIDE NEW CONDUCTOR AS SHOWN.
 - EXISTING RAW WATER FLOW METER IS BEING REPLACED. DISCONNECT EXISTING POWER AND SIGNAL CONDUCTORS AND PROTECT DURING CHANGE OUT. RECONNECT EXISTING CONDUCTORS ON NEW FLOW METER FIT-14-01.
 - EXISTING BACKWASH PUMP MOTOR TO BE REPLACED WITH INVERTER DUTY MOTOR. SEE SPECIFICATION 26 20 00 AC INDUCTION MOTORS.
 - EXISTING BACKWASH TURBIDITY METER IS BEING REPLACED. DISCONNECT EXISTING POWER AND CONTROL CONDUCTORS AND PROTECT DURING INSTRUMENT CHANGE OUT. RECONNECT TO NEW FLOW METER.
 - EXISTING FINISHED WATER FLOW METER IS BEING REPLACED. DISCONNECT EXISTING CONDUCTORS AND PROTECT DURING INSTRUMENT CHANGE OUT. RECONNECT TO NEW FLOW METER.

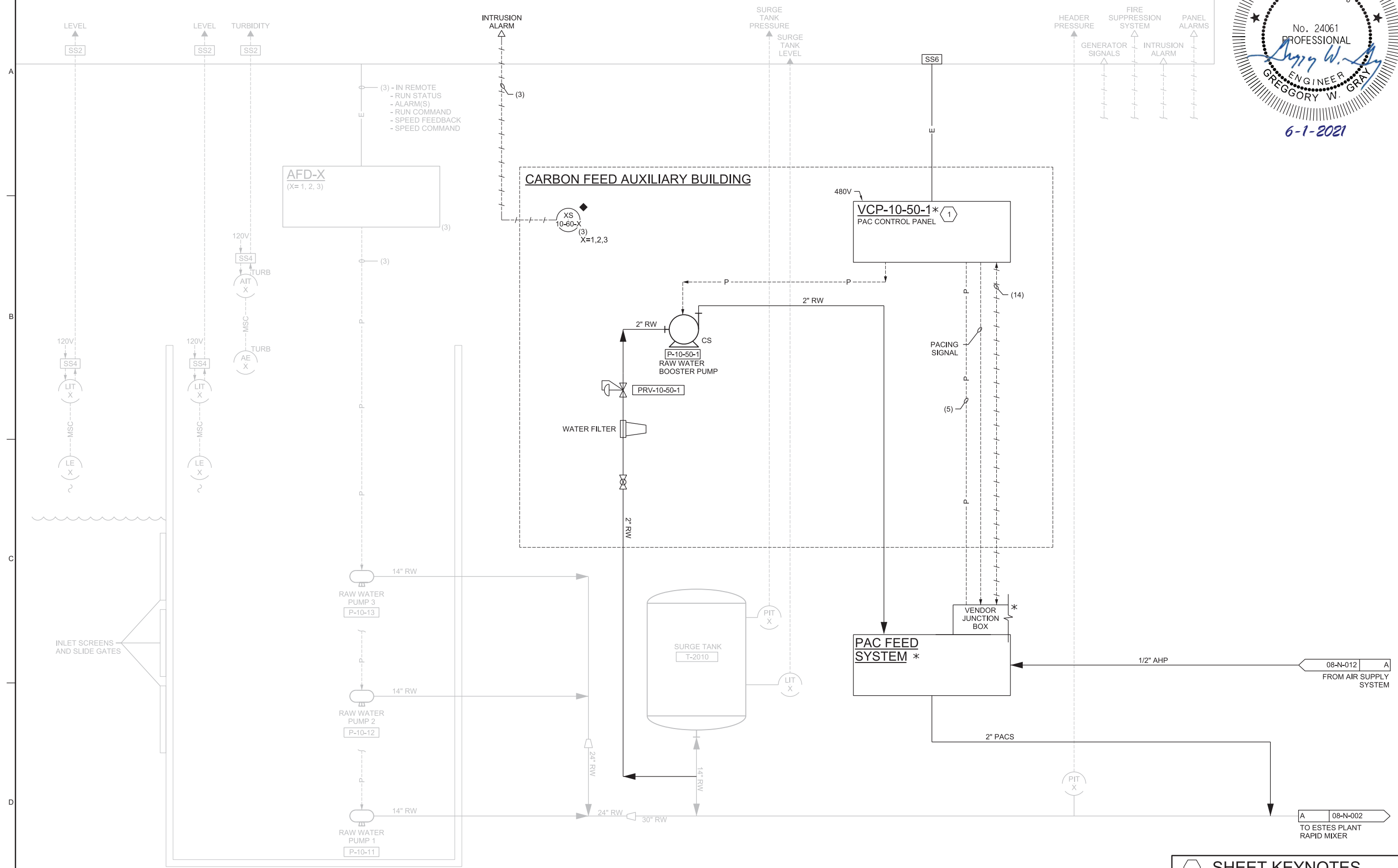
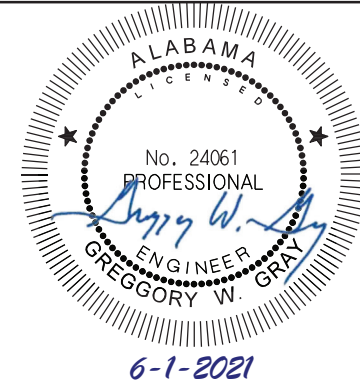
NO.	DATE	DR	CHK	REVISION	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

ELECTRICAL	
WTP SITE PLAN	
AS NOTED	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	05-E-201
SHEET	17 of 101

BID DOCUMENTS

RWPCP
RAW WATER PLC
CONTROL PANEL



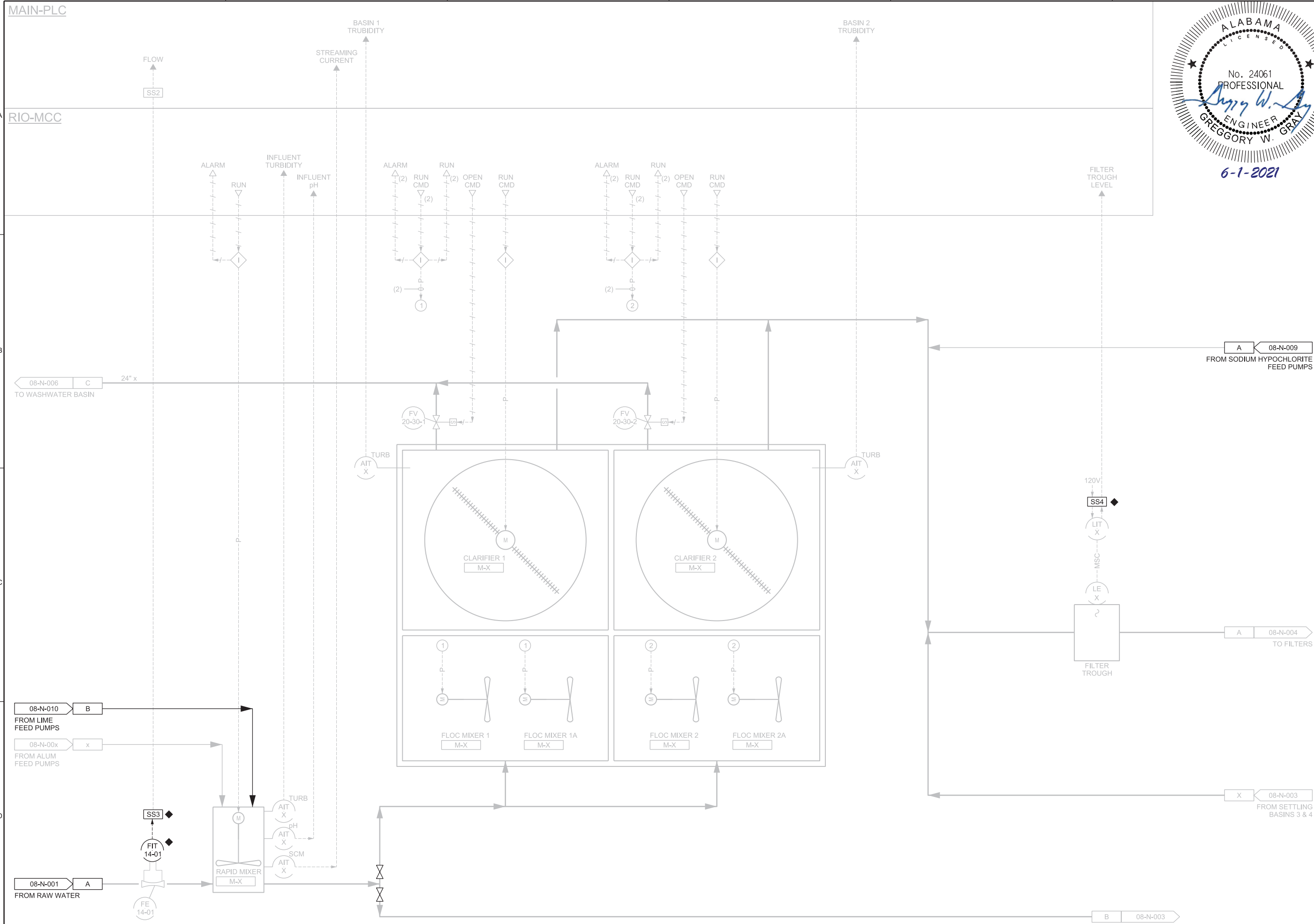
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
INSTRUMENTATION AND CONTROL
P&ID
**RAW WATER PUMP STATION
AND PAC FEED**

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-001
SHEET	18 of 101

SHEET KEYNOTES	
1.	PROVIDE POWER AND SIGNAL SURGE SUPPRESSION PER SPECIFICATIONS.

BID DOCUMENTS



NO.	DATE	DR	CHK	APVD	BY	APVD
		G GRAY	A PASTRANA	N FREEMAN		G GRAY

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

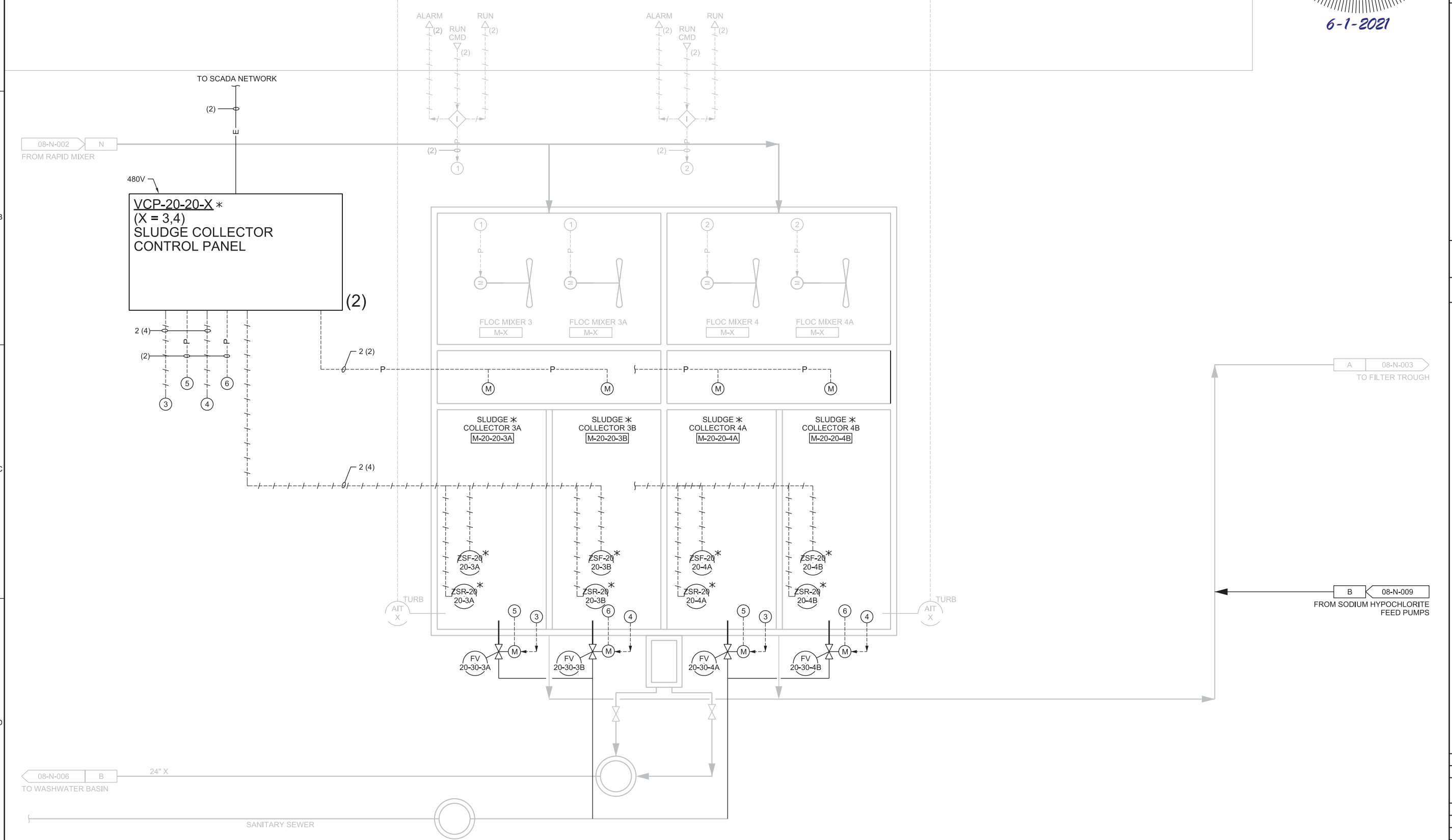
Jacobs
INSTRUMENTATION AND CONTROL
P&ID
RAPID MIX AND SETTLING
BASINS 1 & 2

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-002
SHEET	19 of 101

BID DOCUMENTS

MAIN-PLC

RIO-MCC



NO.	DATE	DR	CHK	REVISION	BY	APVD
		G GRAY	A PASTRANA			G GRAY
			N FREEMAN			

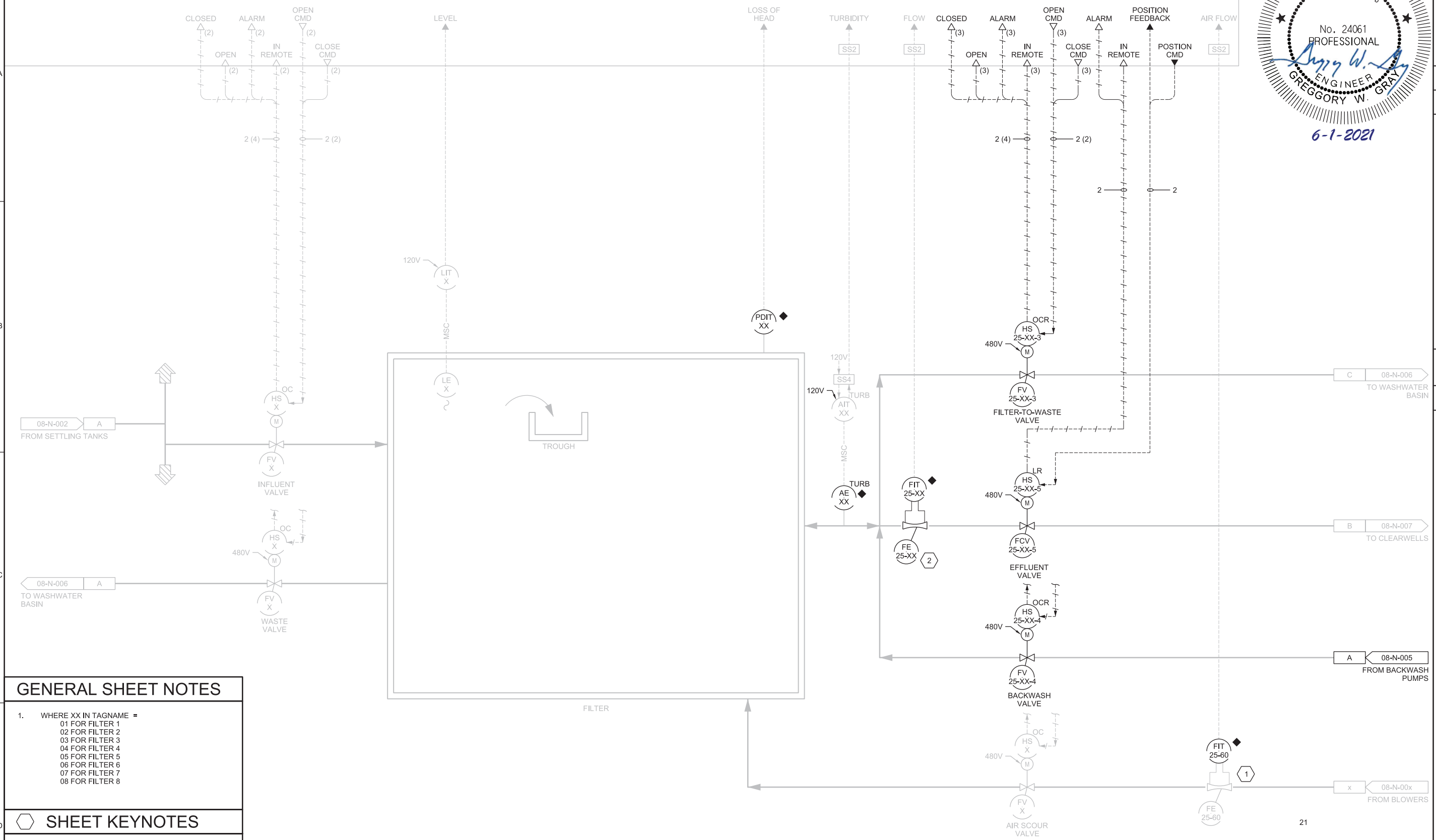
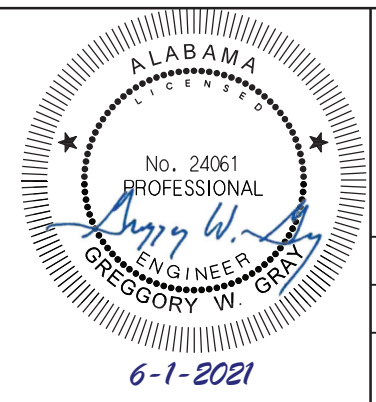
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
INSTRUMENTATION AND CONTROL
P&ID
BASINS 3 & 4

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-003
SHEET	20 of 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

FILTER CONSOLE



GENERAL SHEET NOTES

- WHERE XX IN TAGNAME =
 01 FOR FILTER 1
 02 FOR FILTER 2
 03 FOR FILTER 3
 04 FOR FILTER 4
 05 FOR FILTER 5
 06 FOR FILTER 6
 07 FOR FILTER 7
 08 FOR FILTER 8

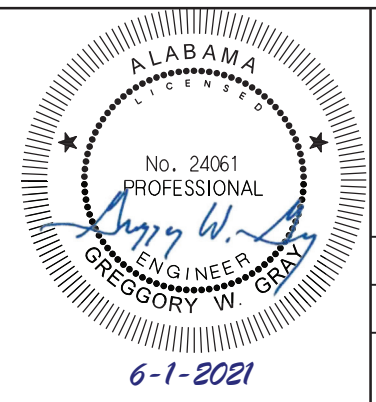
SHEET KEYNOTES

- ONE (1) COMMON AIR SCOUR FLOWMETER FOR ALL FILTERS.
- VENTURI TUBE (FE) PROVIDED BY GENERAL CONTRACTOR.

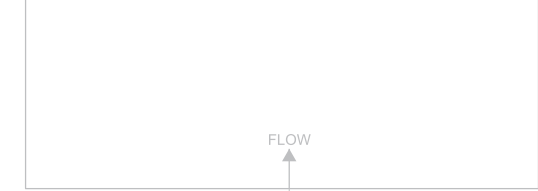
JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

INSTRUMENTATION AND CONTROL
 P&ID
 TYPICAL FILTER

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-004
SHEET	21 of 101



FILTER CONSOLES

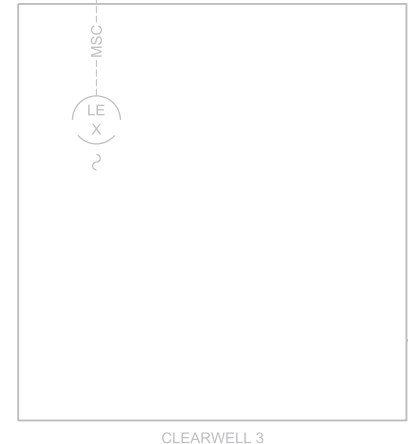


LEVEL (2)
SS2 (2)

120V SS4

LIT X

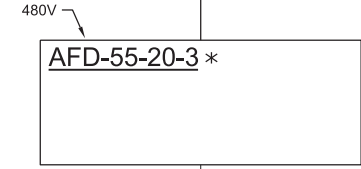
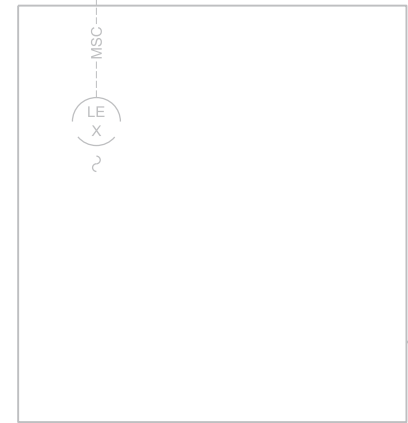
LE X



120V SS4

LIT X

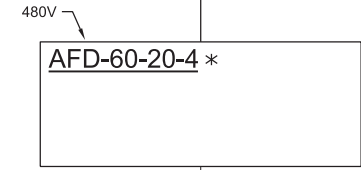
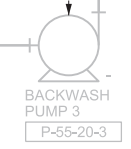
LE X



TO SCADA NETWORK

- (2) - IN REMOTE
- RUN STATUS
- ALARM(S)
- RUN COMMAND
- SPEED FEEDBACK
- SPEED COMMAND

(2)



120V FIT 61-10

FE 61-10

A 08-N-004 TO FILTERS

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

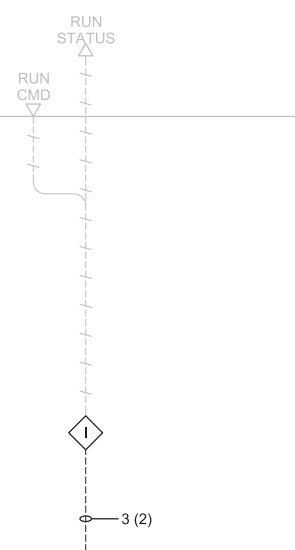
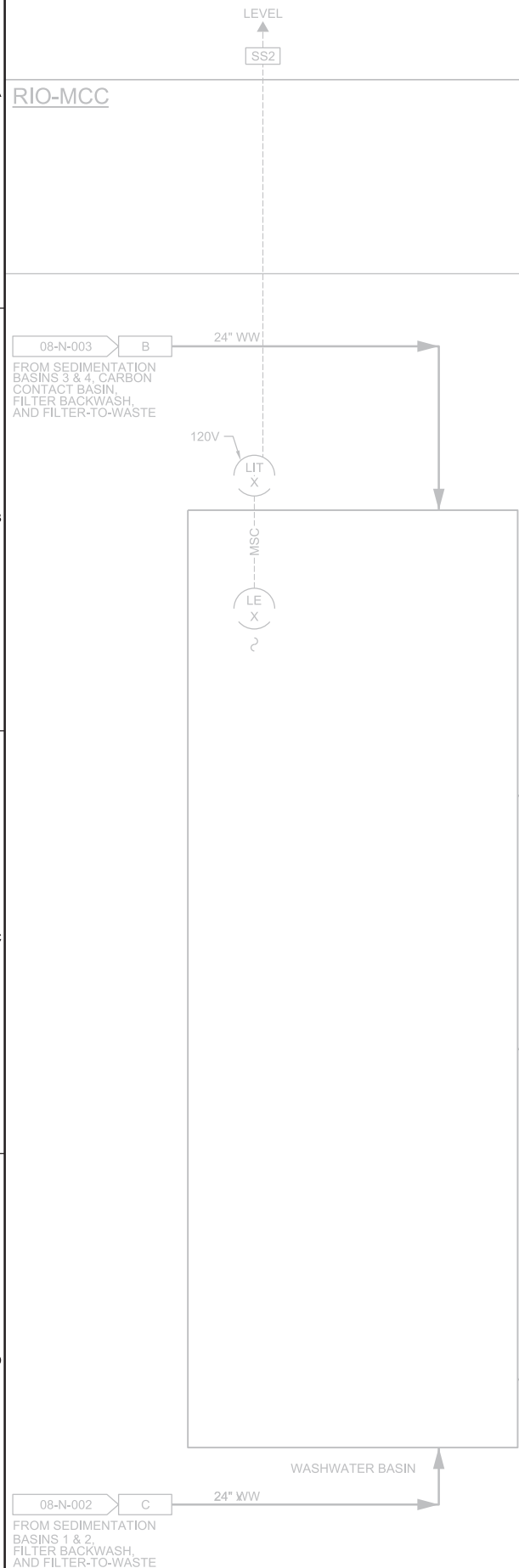
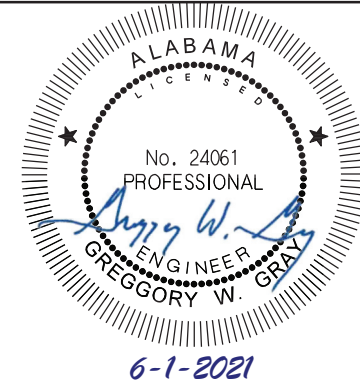
Jacobs
INSTRUMENTATION AND CONTROL
P&ID
BACKWASH PUMPS

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-005
SHEET	22 of 101

BID DOCUMENTS

MAIN-PLC

RIO-MCC



TO SANITARY SEWER

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

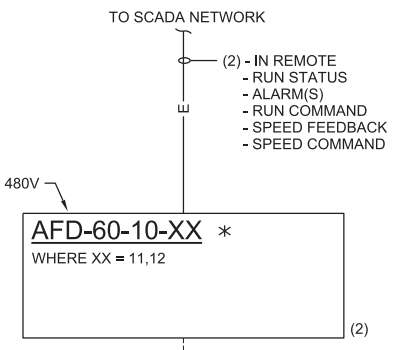
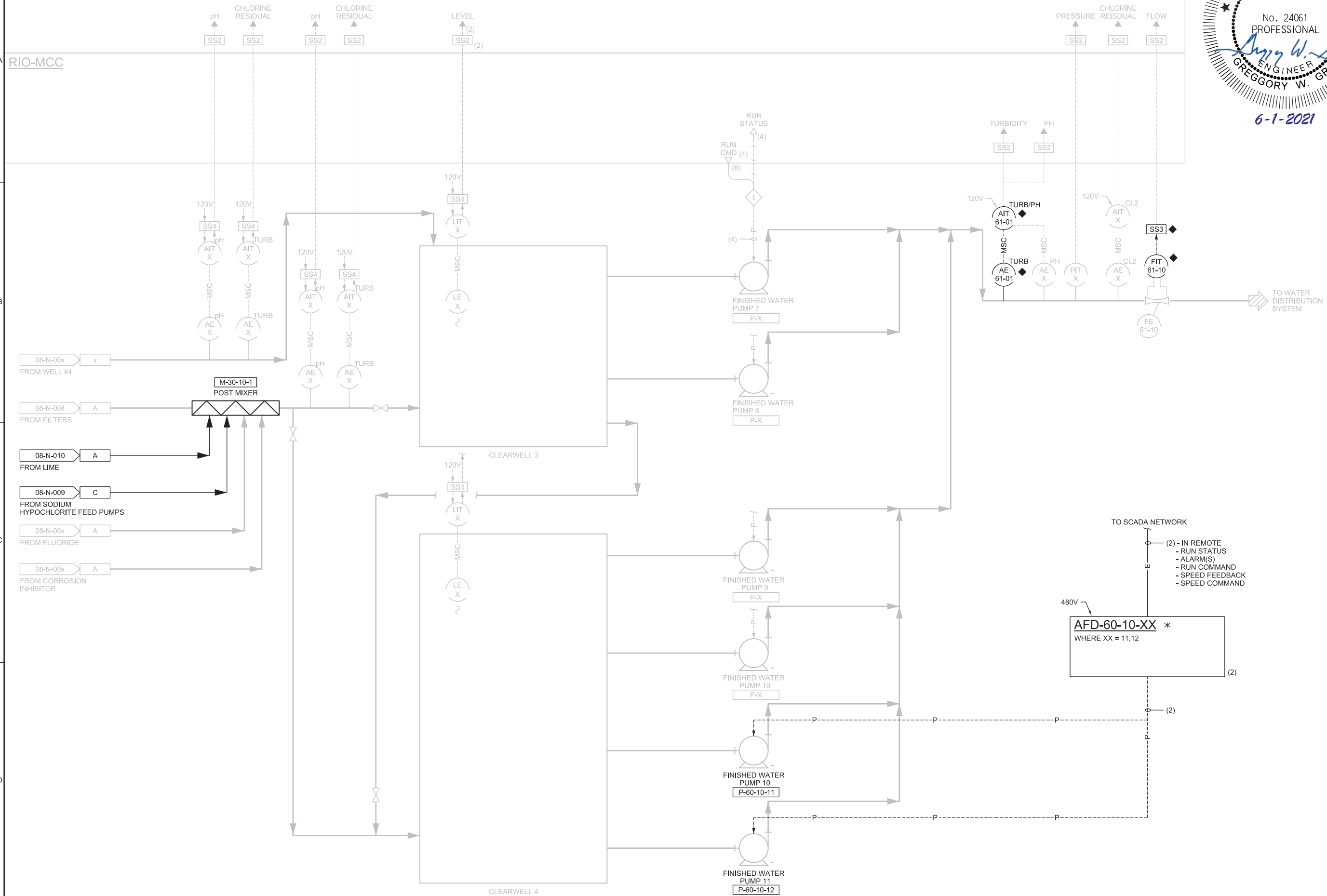
Jacobs
INSTRUMENTATION AND CONTROL
P&ID
WASHWATER BASIN
(WASTE) PUMPS

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-006
SHEET	23 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

MAIN-PLC

RIO-MCC



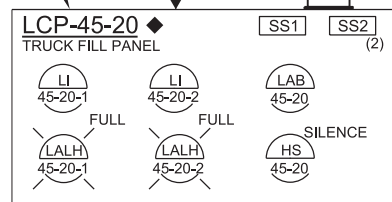
<p>JACOBS</p> <p>INSTRUMENTATION AND CONTROL</p> <p>P&ID</p> <p>FINISHED WATER PUMPS</p>				<p>JAMES ESTES WATER TREATMENT PLANT</p> <p>2020 IMPROVEMENTS</p> <p>WATER WORKS BOARD OF THE CITY OF</p> <p>AUBURN, ALABAMA</p>			
NO.	DATE	DR	CHK	REVISION	APVD	BY	APVD
		G GRAY	A PASTRANA		N FREEMAN		G GRAY
<p>REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.</p>							
<p>NTS</p> <p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING.</p>							
DATE	JUNE 2021						
PROJ	D3389300						
DWG	08-N-007						
SHEET	24 of 101						

MAIN PLC

LEVEL (RE-TRANSMIT)

(2)

120V



LEVEL

LEVEL

120V

LIT 45-20-1

120V

LIT 45-20-2

MSC

TRUCK DELIVERY

13" NaOCl

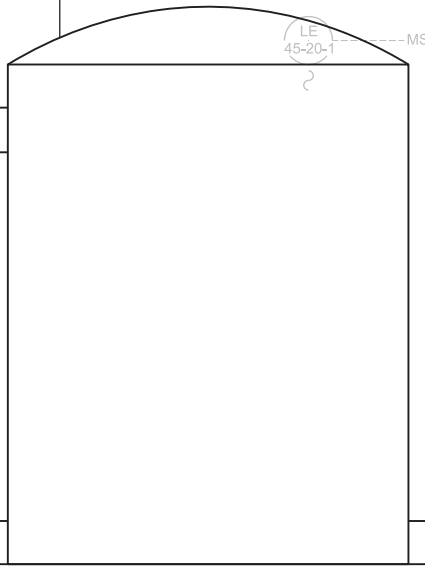
TRUCK DELIVERY

3" NaOCl

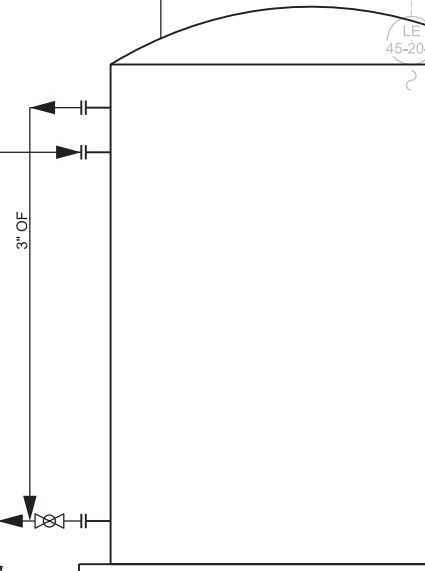
3" OF

3" DR

DR



T-45-20-1 SODIUM HYPOCHLORITE STORAGE TANK 1



T-45-20-2 SODIUM HYPOCHLORITE STORAGE TANK 2

3" OF

3" DR

DR

2" NaOCl

2" NaOCl

2" NaOCl

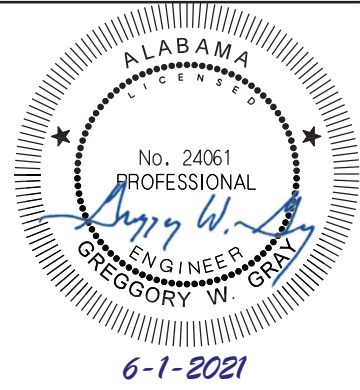
3/4" VENT

A 08-N-009 TO SODIUM HYPOCHLORITE FEED PUMPS

4" DR

DR

CHEMICAL CONTAINMENT



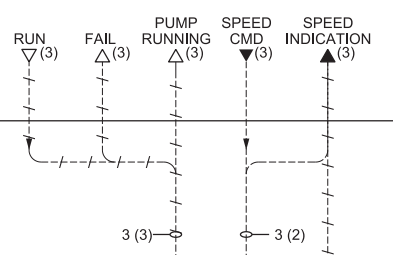
NO.	DATE	DR	CHK	REVISION	BY	APVD
		G GRAY	A PASTRANA			G GRAY
			N FREEMAN			

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

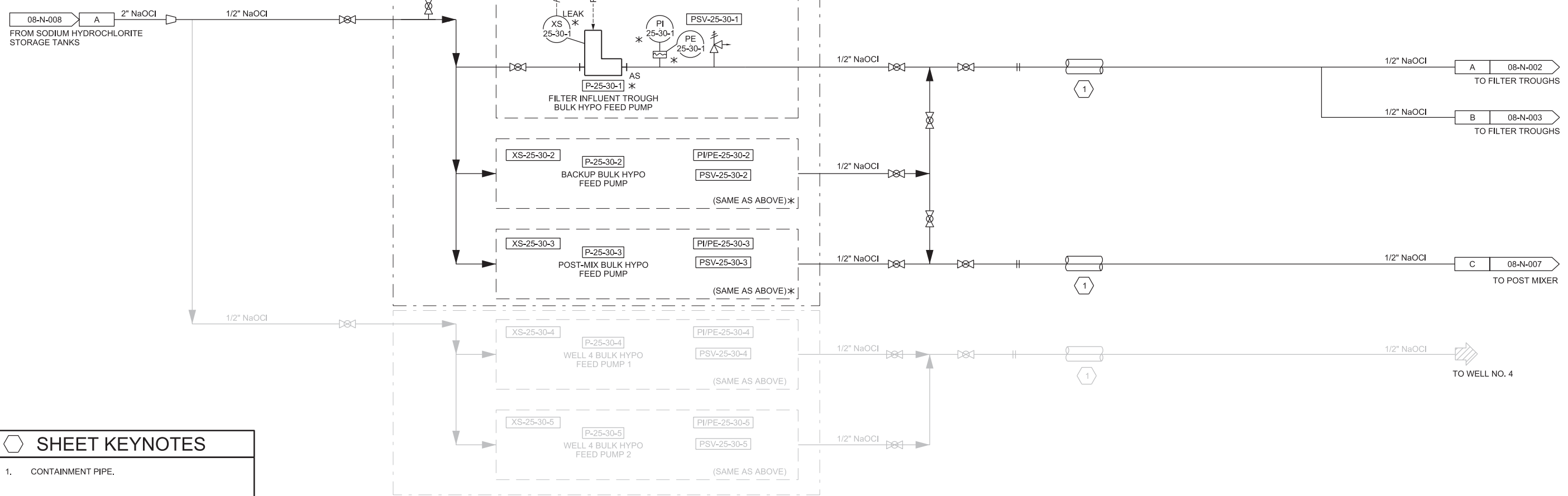
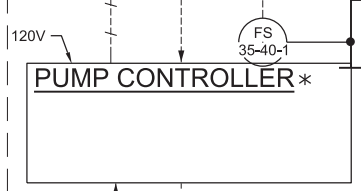
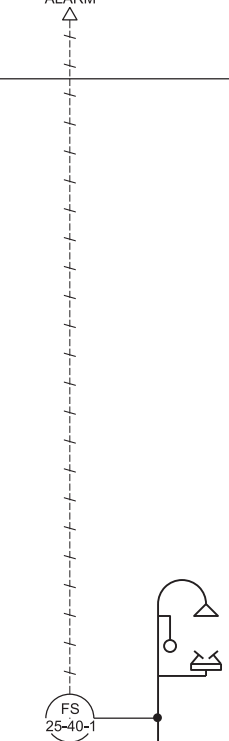
Jacobs
INSTRUMENTATION AND CONTROL
P&ID
SODIUM HYPOCHLORITE
STORAGE TANKS

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-008
SHEET	25 of 101

BID DOCUMENTS



EYEWASH FLOW ALARM



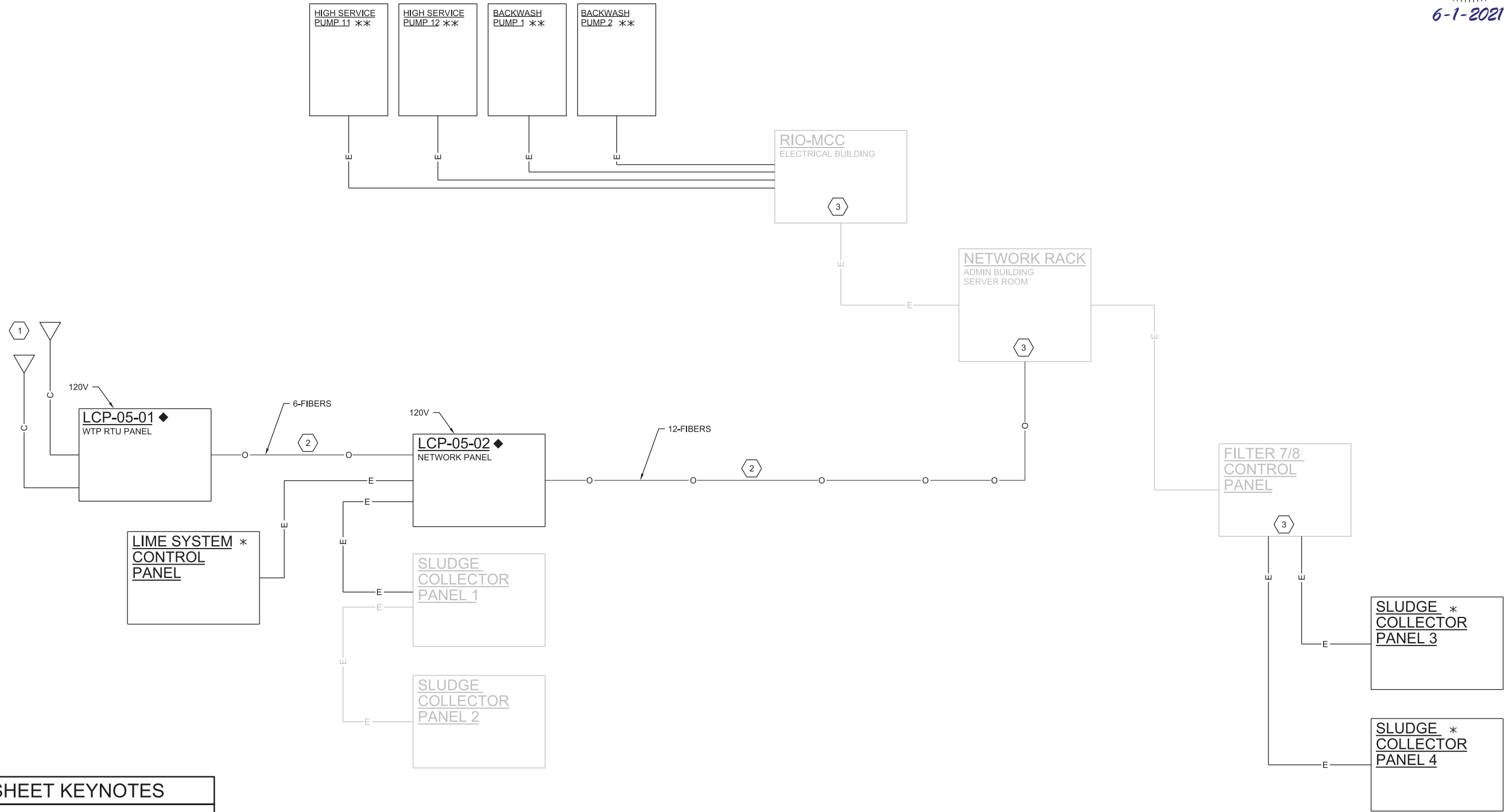
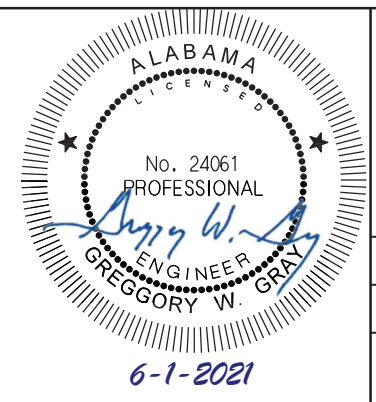
SHEET KEYNOTES	
1.	CONTAINMENT PIPE.

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
INSTRUMENTATION AND CONTROL
P&ID
SODIUM HYPOCHLORITE
FEED PUMPS

NTS	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-009
SHEET	26 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



- SHEET KEYNOTES**
- ANTENNAS, CABLES, APPURTENANCES BY PIC SUPPLIER. MOUNT TO EXISTING UTILITY POLE.
 - FIBER OPTIC CABLING AND CONNECTIONS BY PIC SUPPLIER.
 - PIC SUPPLIER SHALL ADD NEW OR MODIFY EXISTING NETWORKING EQUIPMENT AS NECESSARY TO ACCOMMODATE NEW NETWORK CONNECTION REQUIREMENTS.

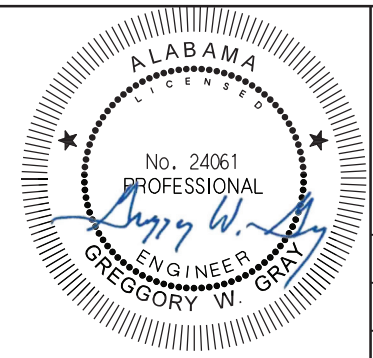
NO.	DATE	DR	CHK	APVD	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
INSTRUMENTATION AND CONTROL
NEW EQUIPMENT
NETWORK BLOCK DIAGRAM
FOR NEW EQUIPMENT

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-005
SHEET	28 of 101

BID DOCUMENTS



6-1-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD

G GRAY
N FREEMAN
A PASTRANA
DR

BY

G GRAY
APVD

© JACOBS 2021. ALL RIGHTS RESERVED.

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

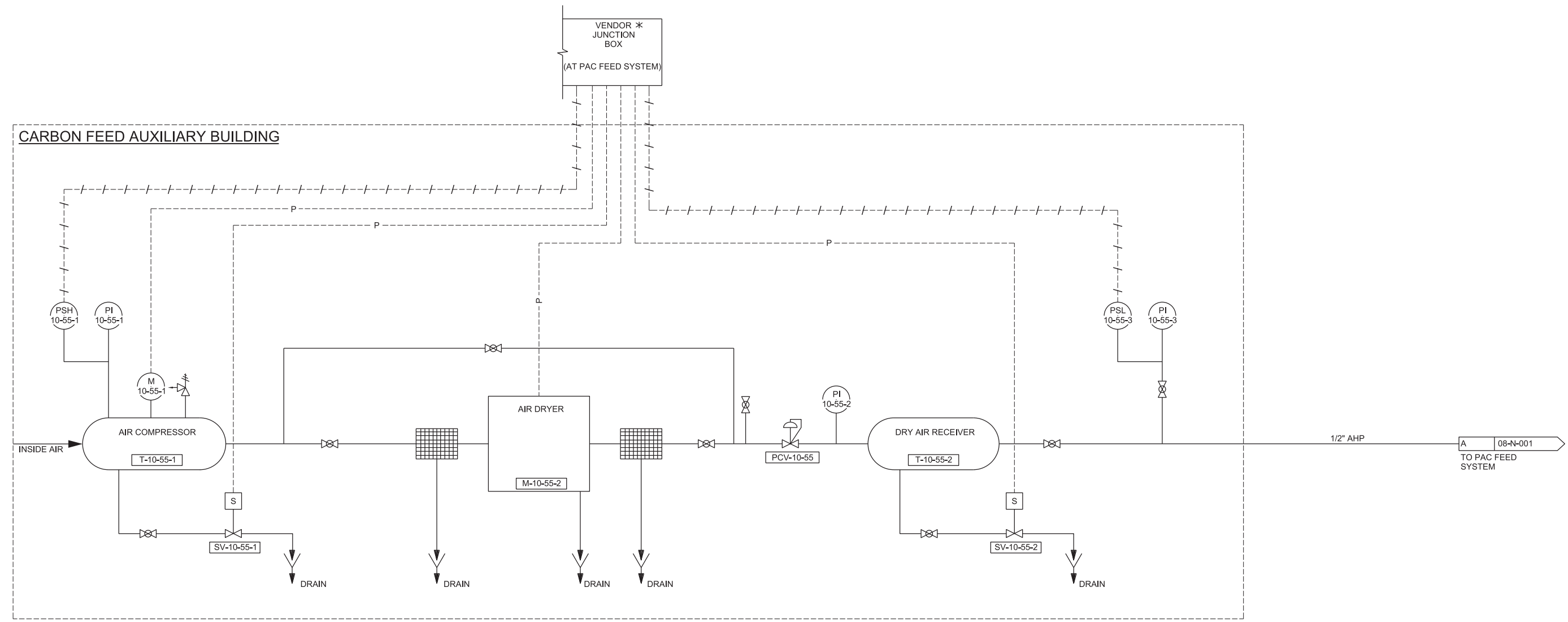
Jacobs

INSTRUMENTATION AND CONTROL
P&ID
RAW WATER PUMP STATION
AIR SUPPLY SYSTEM

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	08-N-012
SHEET	29 of 101

BID DOCUMENTS



VENDOR *
JUNCTION
BOX
(AT PAC FEED SYSTEM)

CARBON FEED AUXILIARY BUILDING

A
B
C
D

1

2

3

4

5

6

SHEET KEYNOTES

- (2) 4" CARRIER PIPE SCH 80 PVC FOR (2) 2" RW LINE UNDER LIMITS OF CONCRETE PAVEMENT.
- (1) 1 1/2" CARRIER PIPE SCH 80 PVC FOR (1) 1/2" AHP LINE UNDER LIMITS OF CONCRETE PAVEMENT.
- (1) 6" CARRIER PIPE SCH 80 PVC FOR (1) 3" DR LINE UNDER LIMITS OF CONCRETE PAVEMENT.

GENERAL SHEET NOTES

- EXISTING CONDITIONS MAPPING SHOWN IS FROM RECORD DRAWINGS FROM THE LAKE OGLETREE RAW WATER PUMP STATION PROJECT, DATED JULY, 2013. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
- SHALLOW BURY ALL PROPOSED PIPING AT APPROXIMATELY 30" DEPTH OF COVER. MAINTAIN MINIMUM 6" SEPARATION AT PIPE CROSSINGS.
- SEED ALL DISTURBED AREAS UNLESS OTHERWISE SHOWN.



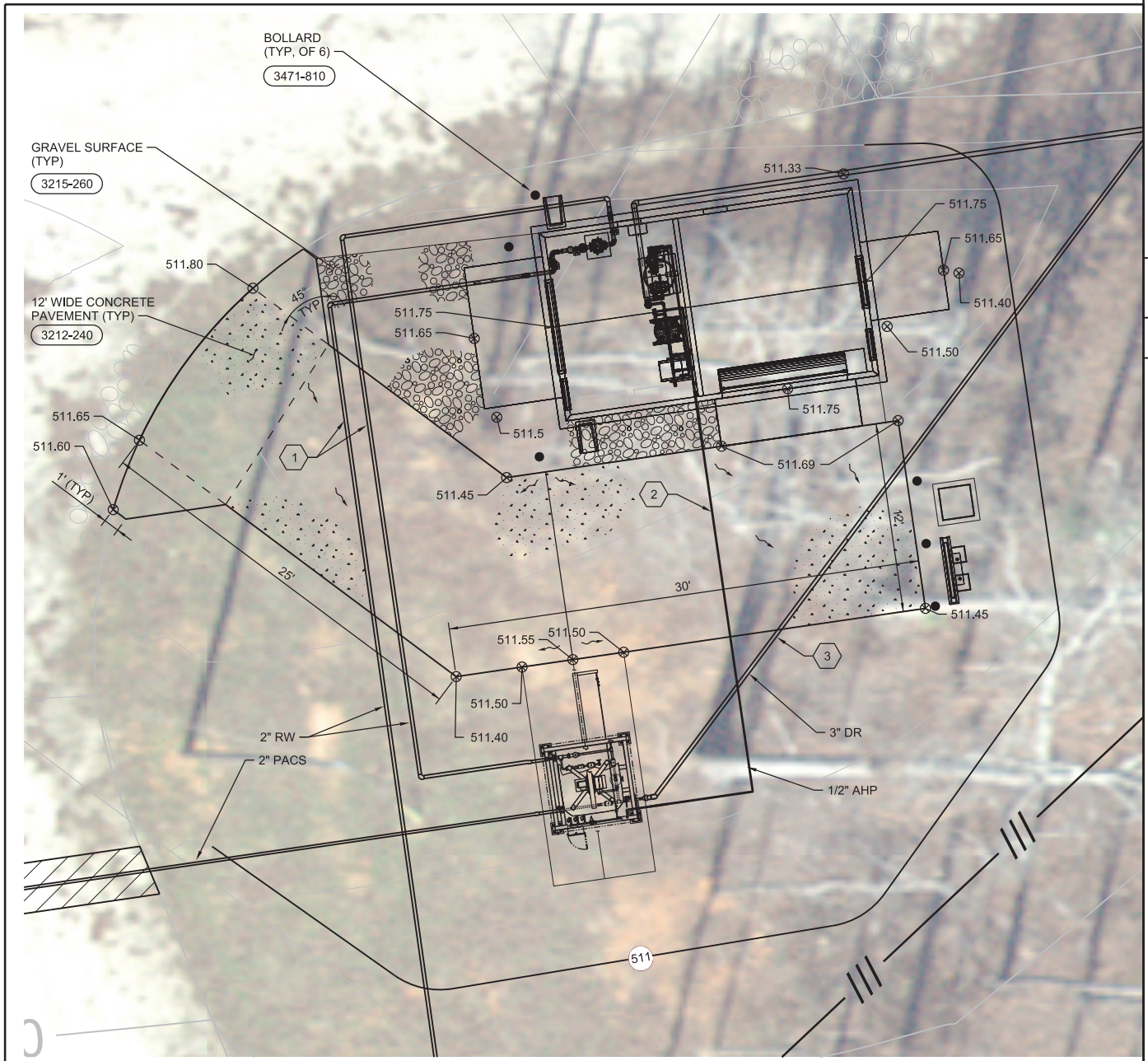
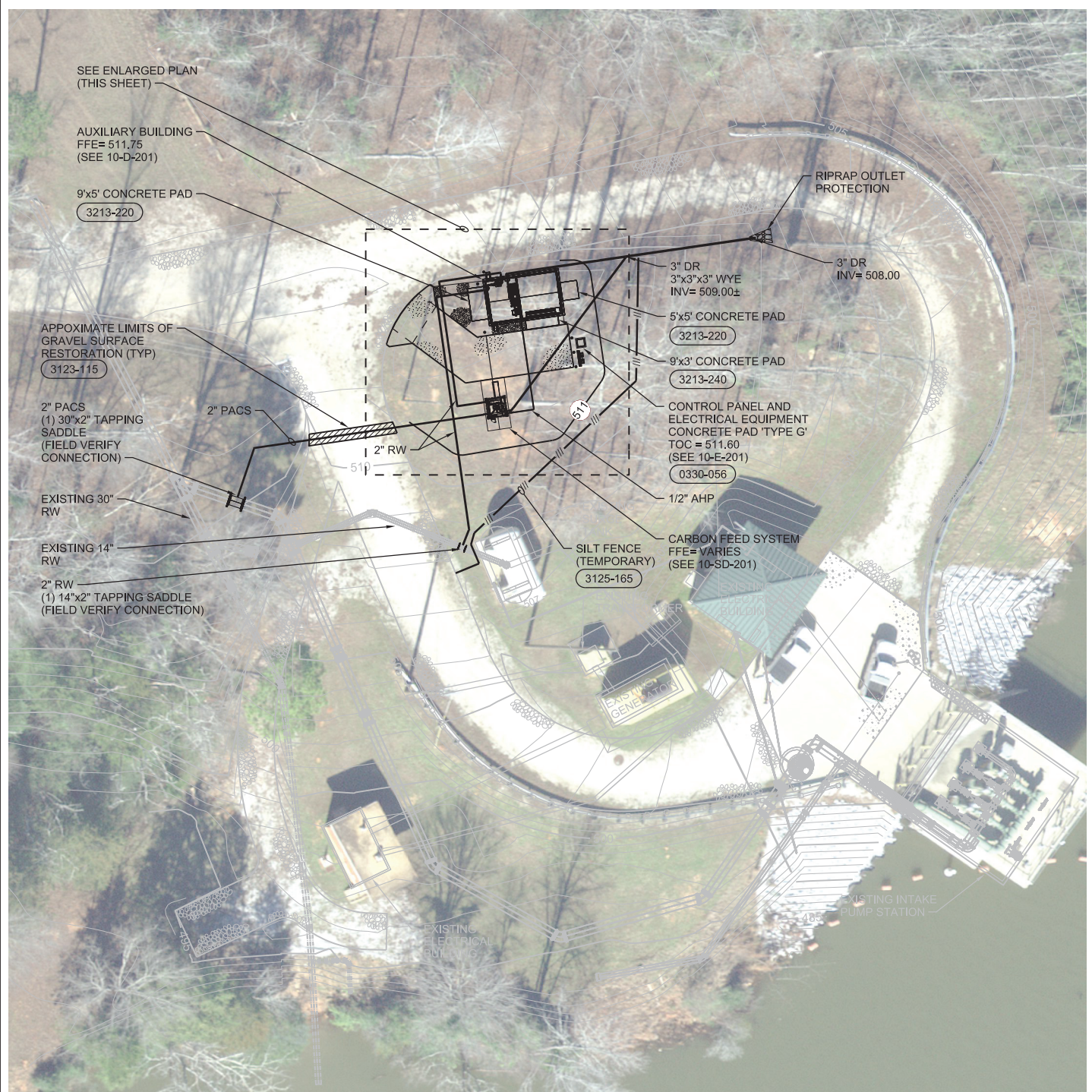
Digitally signed by
Jose A. Ramos
Date: 2021.05.28
08:46:27-04'00'

NO.	DATE	DSGN	DR	CHK	REVISION

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
CIVIL
RWPS SITE AND YARD PIPE
IMPROVEMENTS PLAN

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	10-C-201
SHEET	30 of 101



ENLARGED PLAN

BID DOCUMENTS

GENERAL NOTES:

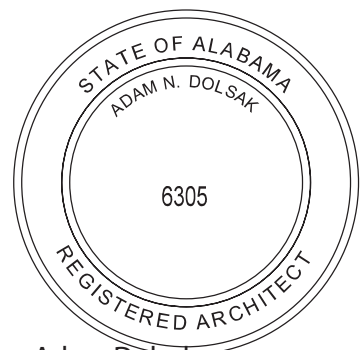
- FOR APPLICABLE CODES AND ARCHITECTURAL GENERAL NOTES, SEE SHEET 01-G-004
- FOR LOCATION OF CEILING MOUNTED LUMINAIRES, EMERGENCY LIGHTS, RECEPTACLES AND GROUNDING, SEE ELECTRICAL DRAWINGS
- FOR FINISH FLOOR ELEVATIONS AND GRADE AT EDGE OF STRUCTURE, SEE CIVIL DRAWINGS
- FOR DOOR AND LOUVER SCHEDULE, SEE SHEET 10-A-302
- REFER TO 13 34 23 FABRICATED STRUCTURES FOR PRECAST BUILDING INFORMATION

LEGEND

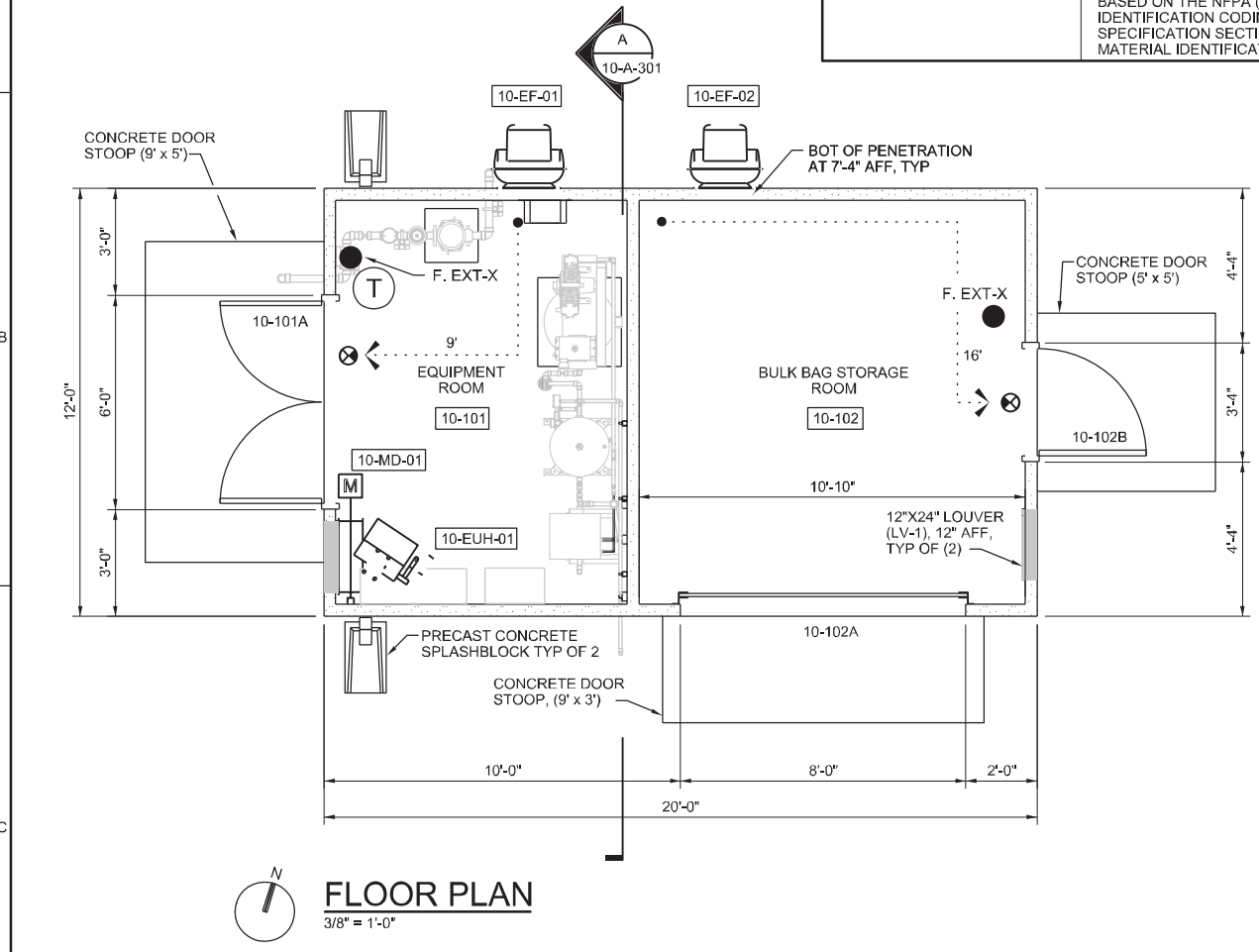
- X' TRAVEL DISTANCE (X = TOTAL DISTANCE TO EXIT IN FEET)
- EGRESS WIDTH (IN INCHES)
- F. EXT-X EXTINGUISHER W/ BRACKET X = "TYPE"
- EXIT LIGHT, ONE SIDED

HAZARDOUS MATERIAL INFORMATION: BULK BAGS OF ACTIVATED CARBON

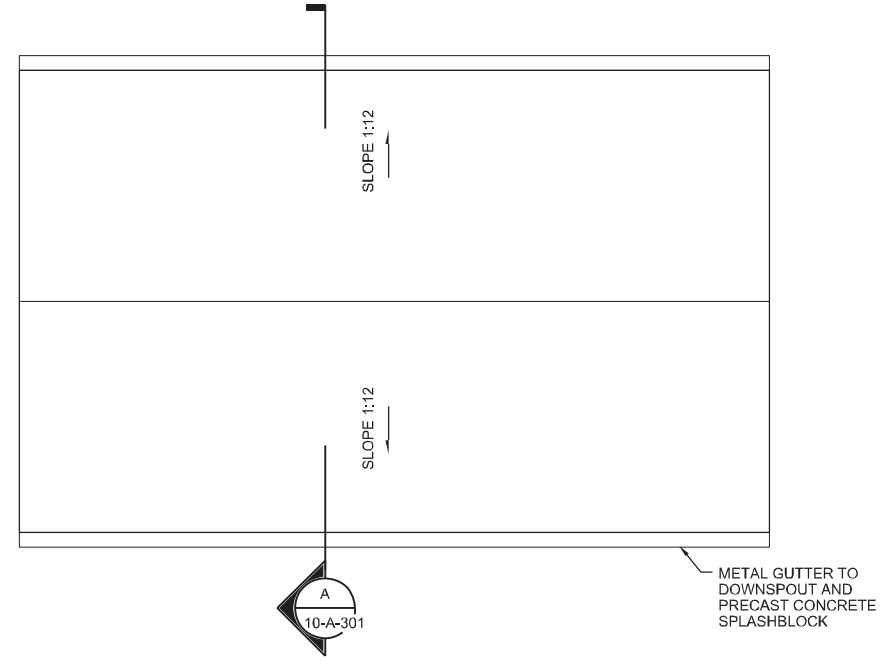
OCCUPANCY CLASSIFICATION	F2
HAZARD CATEGORY	HEALTH
BLUE - HEALTH	1 (IRRITANT)
RED - FLAMMABILITY	0
YELLOW - REACTIVITY	0
WHITE - SPECIAL	-
INCOMPATIBILITIES	STRONG OXIDIZING AND REDUCING AGENTS SUCH AS OZONE, LIQUID OXYGEN OR CHLORINE
INDOOR STORAGE	5,000 LB
EXTINGUISHING MEDIA	USE APPROPRIATE EXTINGUISHER FOR SURROUNDING FIRE, SEE SPECIFICATIONS
SIGNAGE:	HAZARD CATEGORY NUMBERS FOR HEALTH (BLUE), FLAMMABILITY (RED), REACTIVITY (YELLOW) AND SPECIAL (WHITE) HAZARDS ARE BASED ON THE NFPA (NATIONAL FIRE PROTECTION AGENCY) HAZARD IDENTIFICATION CODING SYSTEM DIAMOND SYMBOL. SEE SPECIFICATION SECTION 10 14 00 SIGNAGE FOR REQUIRED HAZARDOUS MATERIAL IDENTIFICATION.



Adam Dolsak
2021.06.02 11:46:35
-04'00'



FLOOR PLAN
3/8" = 1'-0"



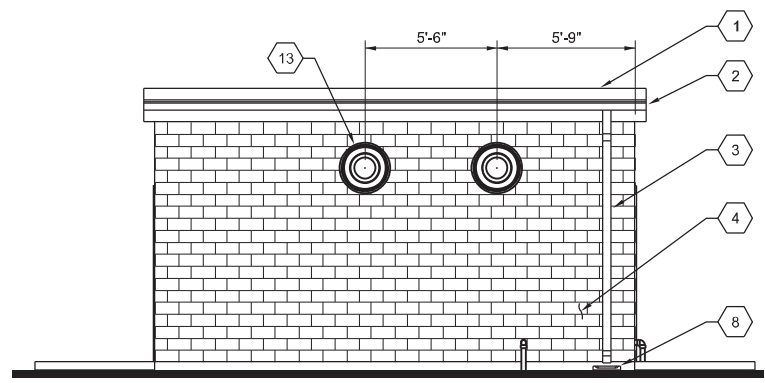
ROOF PLAN
3/8" = 1'-0"

CODE DATA

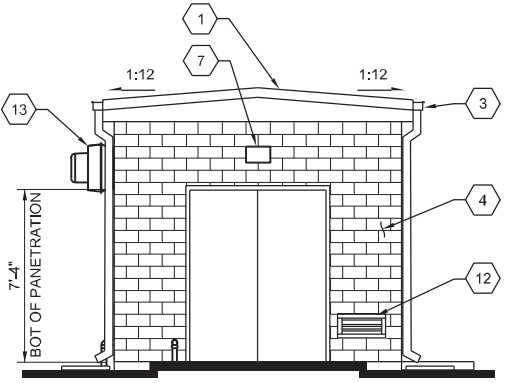
BUILDING: CARBON FEED BUILDING		FIRE PROTECTION		REQUIRED FIRE RESISTANT RATINGS		INSULATION REQUIREMENTS		ROOF DRAINAGE CALCULATION (PER SIDE)	
GENERAL INFORMATION		SPRINKLERS	NOT REQUIRED	BUILDING ELEMENTS (TABLE 601)		- 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)		RAINFALL INTENSITY (IN/HR) BASED ON RAINFALL AVERAGES IN AUBURN, AL 60 MIN. DURATION, 100 YEARS) 4 IN/HR	
USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)	LOW-HAZARD FACTORY INDUSTRIAL GROUP F2	FIRE EXTINGUISHERS	PROVIDED	STRUCTURAL FRAME	0 HR	- THIS BUILDING TO MEET REQUIREMENTS OF C402.1. EQUIPMENT BUILDING		ROOF AREA: 138 SF	
CONSTRUCTION CLASSIFICATION (CHAPTER 6)	TYPE VB (TABLE 601)	EXIT LIGHTING	PROVIDED	EXTERIOR BEARING WALLS	0 HR	1. A SEPARATE BUILDING WITH A FLOOR AREA LESS THEM 500 SF		LINEAR FEET OF GUTTER: 21	
OCCUPANCY / EGRESS INFORMATION		FIRE ALARM SYSTEM	NOT REQUIRED	INTERIOR BEARING WALLS	0 HR	2. INTENDED TO HOUSE ELECTRONIC EQUIPMENT WITH INSTALLED EQUIPMENT POWER TOTALING NOT LESS THAN 7 WATTS PER SF AND NOT INTENDED FOR HUMAN OCCUPANCY		MIN. GUTTER SIZE: 3" WIDE x 2.5 DEEP	
DESIGN OCCUPANCY (TABLE 1004.1.2)	300/240 = 1.2 = 2 PERSONS MAX	CHEMICALS	ACTIVATED CARBON	INTERIOR NON-BEARING WALLS	0 HR	3. HEATING SYSTEM CAPACITY NOT GREATER THAN 17,000 BTU AND A HEATING THERMOSTAT SET POINT THAT IS RESTRICTED TO NOT MORE THAN 50F		GUTTER SIZE PROVIDED: 5" WIDE x 4.5" DEEP	
ACTUAL NUMBER OF OCCUPANTS	TYPICALLY UNOCCUPIED	AREA AND HEIGHT LIMITATIONS		INTERIOR NON-BEARING WALLS	0 HR	4. AVERAGE WALL AND ROOF U-FACTOR LESS THAN 0.200 (CLIMATE ZONE 3A)		MIN. DOWNSPOUT AREA: 1.25 SQ IN	
EGRESS WIDTH BASED ON OCCUPANCY (TABLE 1008.1.1)	32"	MAXIMUM ALLOWABLE AREA (TABLE 506.2)	5500 SF	FLOOR CONSTRUCTION	0 HR	5. COMPLIES WITH THE ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE PROVISIONS FOR CLIMATE ZONE 1. THREE-YEAR AGED SOLAR REFLECTANCE OF 0.55 AND 3-YEAR AGED THERMAL EMITTANCE OF 0.75 OR A THREE-YEAR AGED SOLAR REFLECTANCE INDEX OF 64		MIN. DOWNSPOUT SIZE: 1.75" x 2.25" (PLAN RECTANGULAR)	
ALLOWABLE DEAD END LENGTH (TABLE 1018.4)	20 FT	ACTUAL AREA:	240 SF	ROOF CONSTRUCTION	0 HR			DOWNSPOUT SIZE PROVIDED: 4" x 4"	
NUMBER OF EXITS	2 REQUIRED, 2 PROVIDED	MAXIMUM ALLOWABLE STORIES (TABLE 504.4)	1	SHAFT ENCLOSURE (707.4)	N/A			NO. OF DOWNSPOUTS REQUIRED: 1	
ALLOWABLE COMMON PATH OF TRAVEL (1006.2.1)	GROUP F2: 75	ACTUAL NUMBER OF STORIES	1	STAIRWAY ENCLOSURE (1019.1)	N/A			NO. OF DOWNSPOUTS PROVIDED: 1	
MAX EXIT ACCESS TRAVEL DISTANCE ALLOWED (TABLE 1017.2)	300 FT	MAXIMUM ALLOWABLE HEIGHT (TABLE 503)	40 FT	CORRIDOR (TABLE 1016.1)	N/A				
		ACTUAL HEIGHT:	12' +/-	OCCUPANCY SEPARATION (302.3.2)	N/A				
				INCIDENTAL USE AREAS (302.1.1)	N/A				
				FIRE SEPARATION DISTANCE (TABLE 602)	NO RATING				
				DISTANCE FROM ADJACENT BUILDING OR PROPERTY LINE	> 60 FT				

JACOBS
ARCHITECTURAL
CARBON FEED BUILDING
FLOOR AND LIFE SAFETY PLAN
CODE DATA

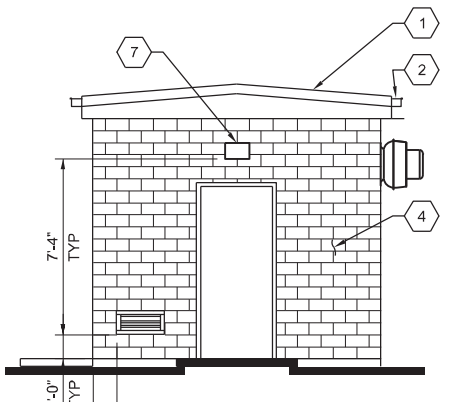
DATE	JUNE 2021
PROJ	D3389300
DWG	10-A-201
SHEET	31 of 101



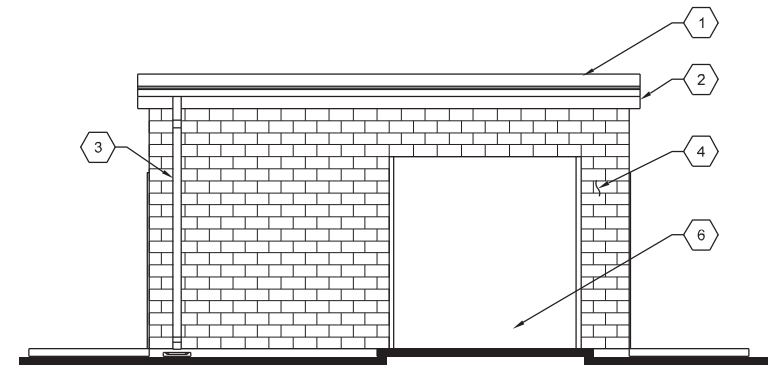
NORTH ELEVATION
1/4" = 1'-0"



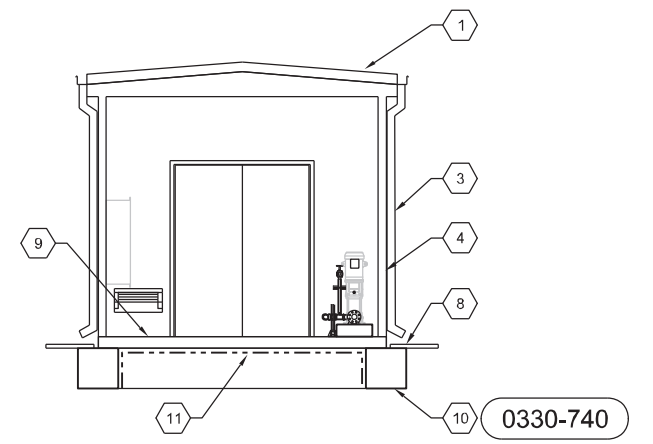
WEST ELEVATION
1/4" = 1'-0"



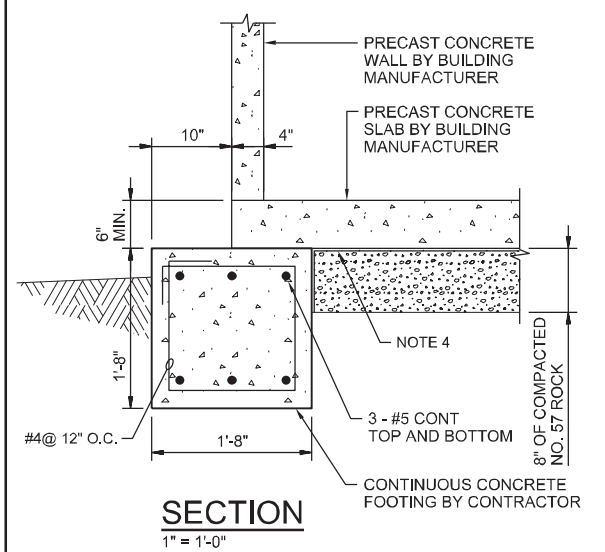
EAST ELEVATION
1/4" = 1'-0"



SOUTH ELEVATION
1/4" = 1'-0"



SECTION A
1/4" = 1'-0"



SECTION
1" = 1'-0"

GENERAL NOTES:

1. FOR PRE-FABRICATED PRECAST CONCRETE BUILDING DESCRIPTION AND DESIGN CRITERIA SEE SPECIFICATION SECTION 13 34 23
2. CONTRACTOR TO COORDINATE ALL OPENINGS IN THE PRE-CAST BUILDINGS FOR HVAC, VENTS, DOORS, CONDUITS, PIPING, SPECIAL EQUIPMENT AND ACCESSORIES, WITH THE PRE-FABRICATED BUILDING AS SHOWN ON THE DRAWINGS.
3. CONTRACTOR TO PREPARE A FULLY CONFINED, FLAT/LEVEL, COMPACTED, STONE BASE PAD TO THE PRE-FABRICATED BUILDING MANUFACTURERS SPECIFICATIONS AND INSTALL A CONTINUOUS STRIP FOOTING TO ANCHOR THE BUILDING AS SHOWN ON THE DRAWINGS.
4. PROVIDE MINIMUM 6 MIL. POLY VAPOR BARRIER. COORDINATE WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.

EQUIPMENT ENCLOSURE BASE DETAIL
NTS

0330-740

Adam Dolsak
2021.06.02
11:48:34 -04'00'



GENERAL NOTES

1. SEE GENERAL SHEETS FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES

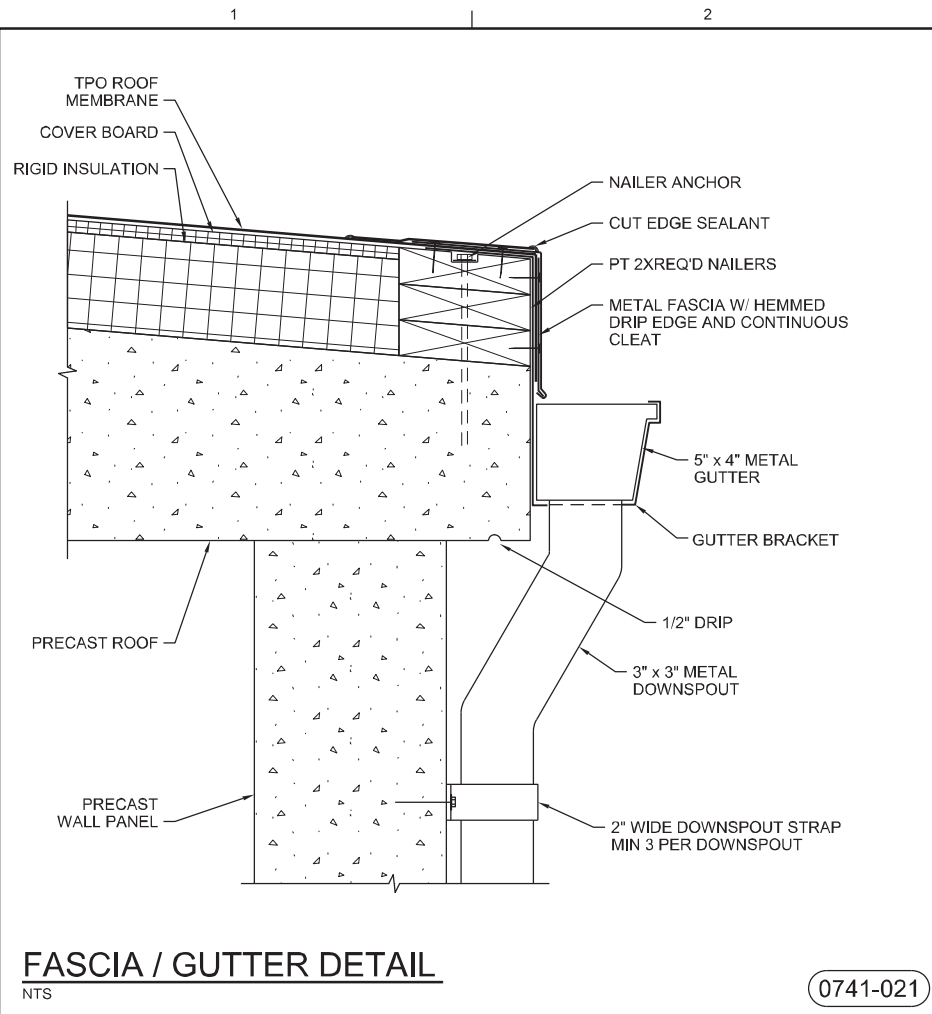
1. TPO ROOF MEMBRANE OVER 1/2" COVERBOARD OVER RIGID INSULATION OVER PRECAST CONCRETE ROOF DECK.
2. METAL FASCIA WITH DRIP EDGE
3. 5"X 5" METAL GUTTERS AND 4"X4" DOWNSPOUTS.
4. PRECAST CONCRETE WALL SYSTEM WITH SIMULATED SPLIT FACE BLOCK FINISH.
5. ALUMINUM DOOR AND FRAME.
6. 8' X 8' OVERHEAD COILING DOOR.
7. LIGHT FIXTURE, SEE ELECTRICAL
8. PRECAST SPLASH BLOCK.
9. PRECAST SLAB BY PRECAST BUILDING MANUFACTURER
10. CAST IN PLACE FOUNDATION BY GENERAL CONTRACTOR
11. UNDERSLAB VAPOR RETARDER.
12. ALUMINUM LOUVER - 10-LV1 (24"X12"), TYP
13. EXHAUST FAN, COORDINATE SIZE WITH HVAC DRAWINGS, TYP

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

JACOBS
ARCHITECTURAL
**CARBON FEED BUILDING
ELEVATIONS AND SECTION**

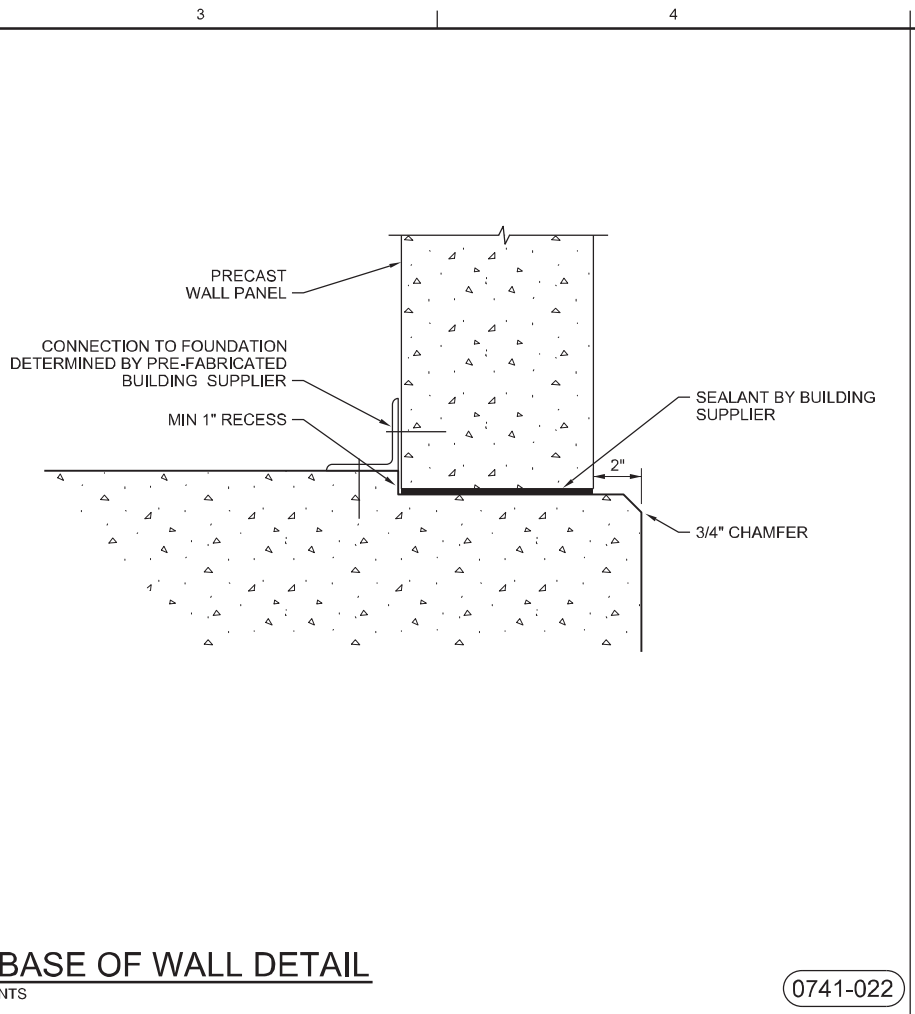
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	10-A-301
SHEET	32 of 101

BID DOCUMENTS



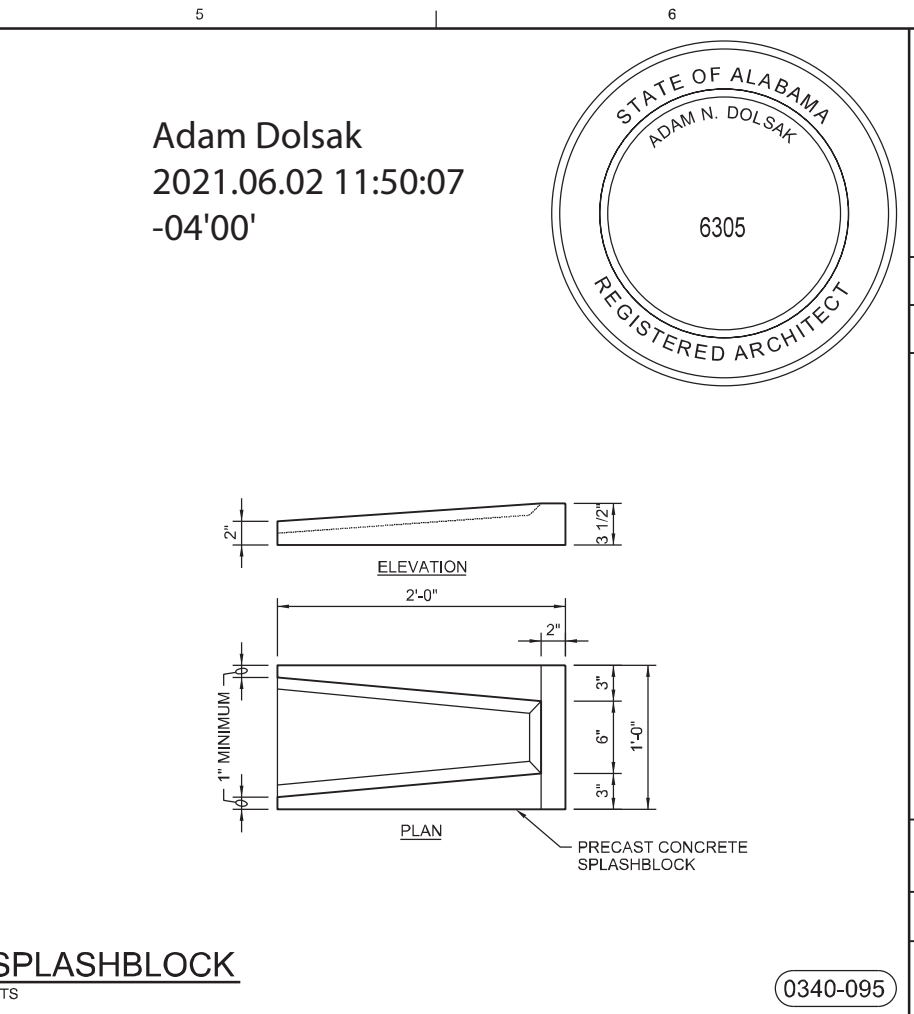
FASCIA / GUTTER DETAIL
NTS

0741-021



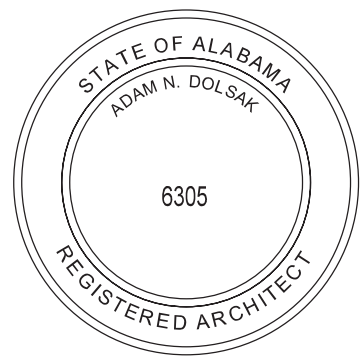
BASE OF WALL DETAIL
NTS

0741-022



SPLASHBLOCK
NTS

0340-095



Adam Dolsak
2021.06.02 11:50:07
-04'00'

OPENING SCHEDULE

NUMBER	SIZE		DOOR				FRAME				DETAILS				HARDWARE										LOUVER/GRILLE FREE AREA (SF)	FIRE PROTECTION RATING MINUTES	MISC/REMARKS	
	WIDTH	HEIGHT	CONSTR	TYPE	GLASS	FNSH	COL	MATL	TYPE	FNSH	COL	HEAD	JAMB	SILL	HINGE	LOCK	EXIT	CLSR	P-P	BOLT	STOP	K-PL	TSHD	W-S				MISC
BULK CARBON - 10																												
10-101A	(2) 3'-0"	7'-2"	STL	G/G	IG-DP	FCTY	O-1	STL	SD	FCTY	O-1	0811-005	0811-005	0871-002	H1	L5	-	C1	-	-	-	-	T1	W-3	M1	-	-	M1 TEXT : ELECTRICAL BUILDING
10-102A	8'-0"	10'-0"	STL	OHC	-	FCTY	O-1	STL	SD	FCTY	O-1	0833-002	0833-002	0833-002	-	-	-	C1	-	-	-	-	T1	W-3	M1	-	-	
10-102B	3'-0"	7'-2"	STL	G/G	IG-DP	FCTY	O-1	STL	SD	FCTY	O-1	0811-005	0811-005	0871-002	H1	L5	-	C1	-	-	-	-	T1	W-3	M1	-	-	M1 TEXT : ELECTRICAL BUILDING

ABBREVIATIONS:

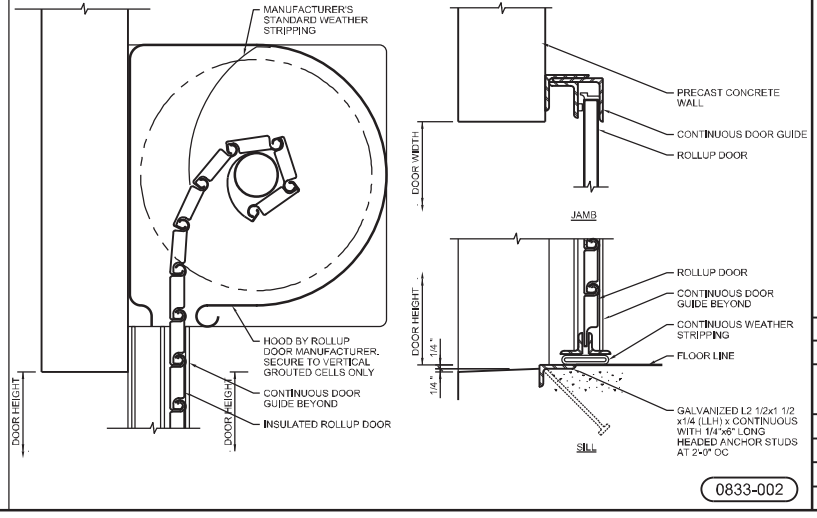
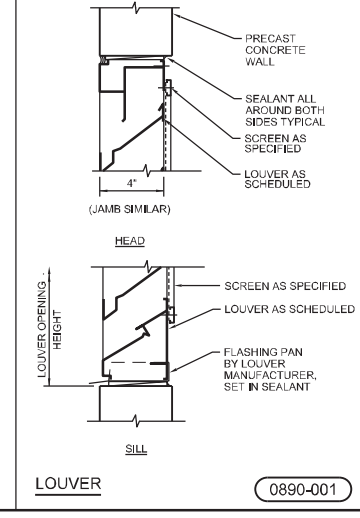
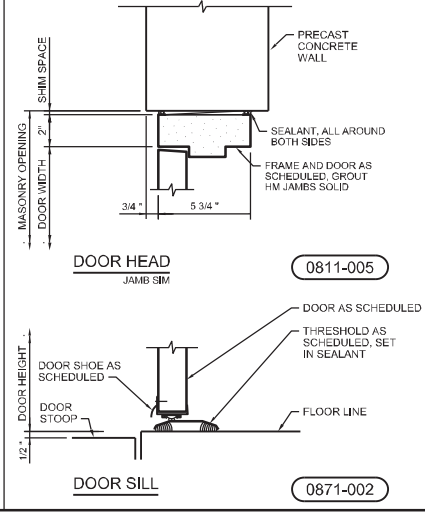
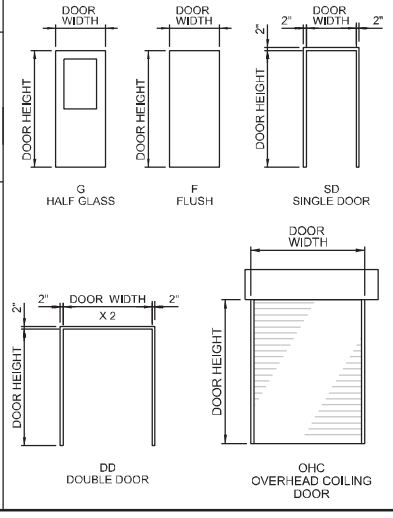
AL ALUMINUM	EXP EXPOSED STRUCTURE	KEY KEY GROUP	SIM SIMILAR
AS AS SELECTED	FCTY FACTORY	K-PL KICK PLATE	SLR SEALER
CLR CLEAR	FNSH FINISH	MH HOLLOW METAL	SOI SPRAY-ON INSULATION
CLSR CLOSER	FRP FIBERGLASS REINFORCED PLASTIC	MATL MATERIAL	SST STAINLESS STEEL
CMU CONCRETE MASONRY UNITS	FNSH FINISH	MET METAL	STL STEEL
COL COLOR	GWB GYPSUM BOARD	MS MANUFACTURER'S STANDARD	SUB FLSUBFLOOR
CONSTR CONSTRUCTION	GLZ GLAZING	OHC OVERHEAD COILING DOOR	TSHD THRESHOLD
CONC CONCRETE	HC HOLLOW CORE	PLWD PLYWOOD	WD WOOD
CRC CHEMICAL-RESISTANT COATINGS	HGT HEIGHT	P-P PUSH - PULL	W-S WEATHERSTRIPPING
EXIST EXISTING	HDNR HARDENER	PTN PARTITION	X OPEN

LOUVER SCHEDULE

OPENING NO.	LOUVER		DETAILS					
	WIDTH	HEIGHT	TYPE	FNSH	COL	HEAD	JAMB	SILL
10L-1	2'-0"	1'-0"	SP	FCTY	O-3	0890-001	SIM 0890-001	0890-001

SCHEDULE NOTES:

NO. 1 FOR DOOR DETAILS, SEE STANDARD DETAILS.
 NO. 2 LETTER-NUMBER CODES IN HARDWARE COLUMNS REFER TO ITEMS OF HARDWARE IN SPECIFICATION SECTION 08 71 00.
 NO. 3 NUMBERS IN "FNSH" COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 00 00.
 NO. 4 CODES IN "COL" COLUMN REFER TO COLOR LIST ON SHEET 099-A-603.
 NO. 5 LETTER CODES IN GLASS COLUMN REFER TO GLASS TYPE SPECIFIED IN SPECIFICATION SECTION 08 80 00.
 NO. 6 LETTER CODES IN LOUVER TYPE COLUMN REFER TO LOUVERS SPECIFIED IN SPECIFICATION SECTION 08 90 00.



Jacobs
ARCHITECTURAL
DETAILS

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE JUNE 2021
PROJ D3389300
DWG 10-A-302
SHEET 33 OF 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

GENERAL SHEET NOTES

- FOR ADDITIONAL INFORMATION, SEE GENERAL STRUCTURAL NOTES.
- DEAD LOADS
- SUPERIMPOSED CARBON TOWER WEIGHT
= 2950 LBS (EMPTY)
= 4950 LBS (LOADED W/ FULL BAG)

GENERAL SHEET NOTES

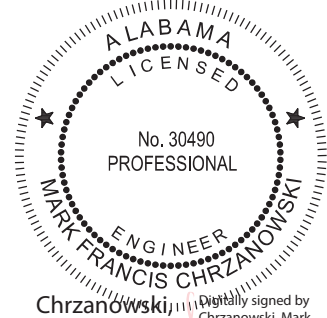
- SEISMIC DESIGN PARAMETER: LATERAL SEISMIC FORCE-RESISTING SYSTEM: OTHER ELEVATED SELF-SUPPORTING STRUCTURE (CARBON FEED TOWER)**
RESPONSE MODIFICATION FACTOR $R = 1.25$
SEISMIC RESPONSE COEFFICIENT $C_s = 0.143$
SEISMIC DESIGN SHEAR (ULTIMATE): $V = C_s \cdot W$
**ASSUMED FOR THE FOUNDATION SLAB DESIGN. SEISMIC FOR PRE-ENGINEERED CARBON FEED TOWER SHALL BE DETERMINED BY MANUFACTURER'S LICENSED STRUCTURAL ENGINEER.

GENERAL SHEET NOTES

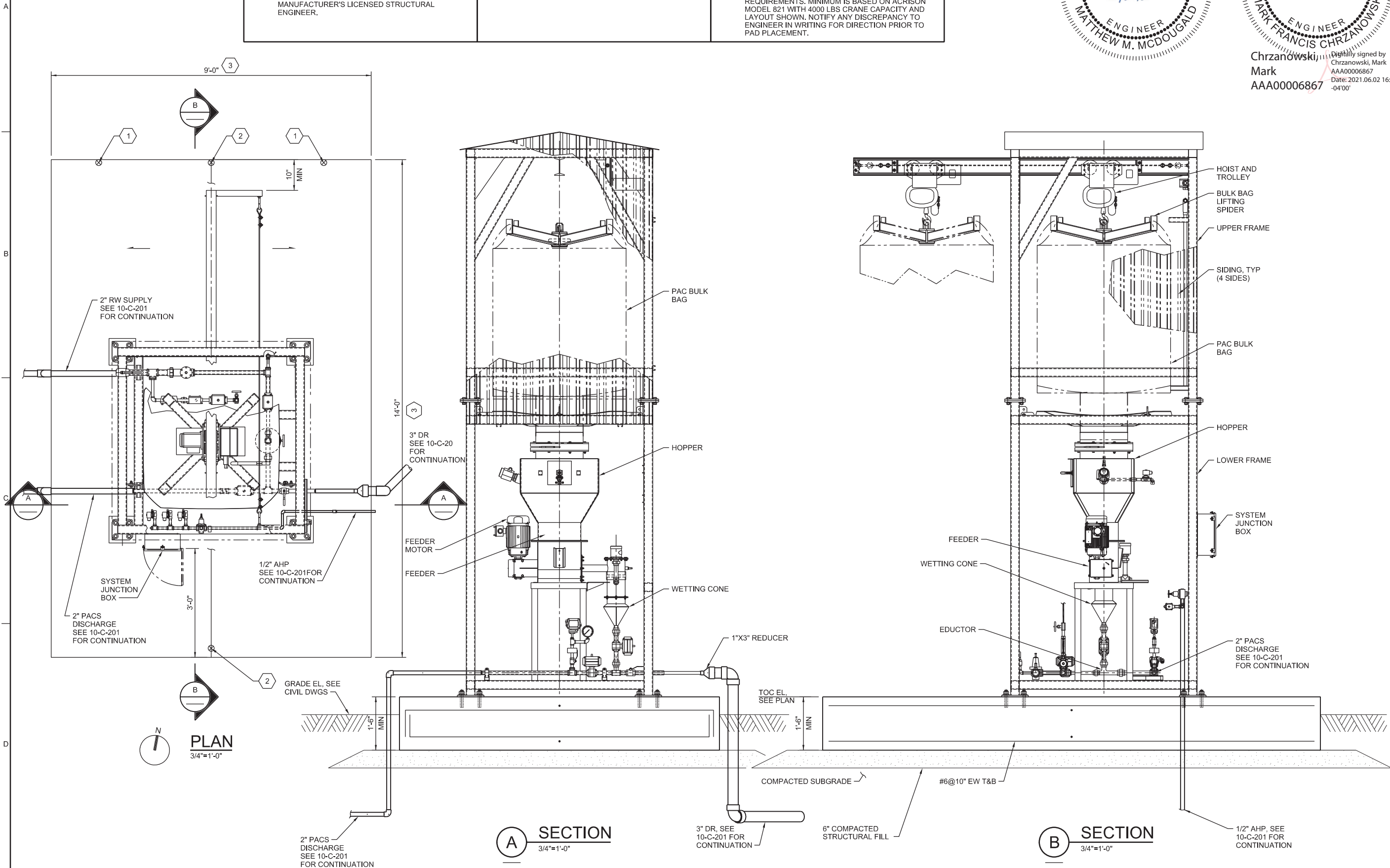
- SOIL DESIGN PARAMETER: REQUIRED GROSS ALLOWABLE SOIL BEARING PRESSURE 2000 PSF
- WIND PRESSURES SHALL BE DETERMINED BY EQUIPMENT MANUFACTURER'S LICENSED ENGINEER

SHEET KEYNOTES

- TOC LPT EL 511.45 ALONG EAST AND WEST EDGES.
- TOC HPT EL 511.50, ALONG SLAB ON GRADE CENTERLINE.
- PAD DIMENSIONS SHOWN ARE MINIMUM. COORDINATE FINAL PAD DIMENSION WITH APPROVED EQUIPMENT SHOP DRAWING, ANCHORAGE EDGE DISTANCE AND MNFR REQUIREMENTS. MINIMUM IS BASED ON ACRISON MODEL 821 WITH 4000 LBS CRANE CAPACITY AND LAYOUT SHOWN. NOTIFY ANY DISCREPANCY TO ENGINEER IN WRITING FOR DIRECTION PRIOR TO PAD PLACEMENT.



Chrzanowski, Mark
AAA00006867
Date: 2021.06.02 16:56:45 -04'00'



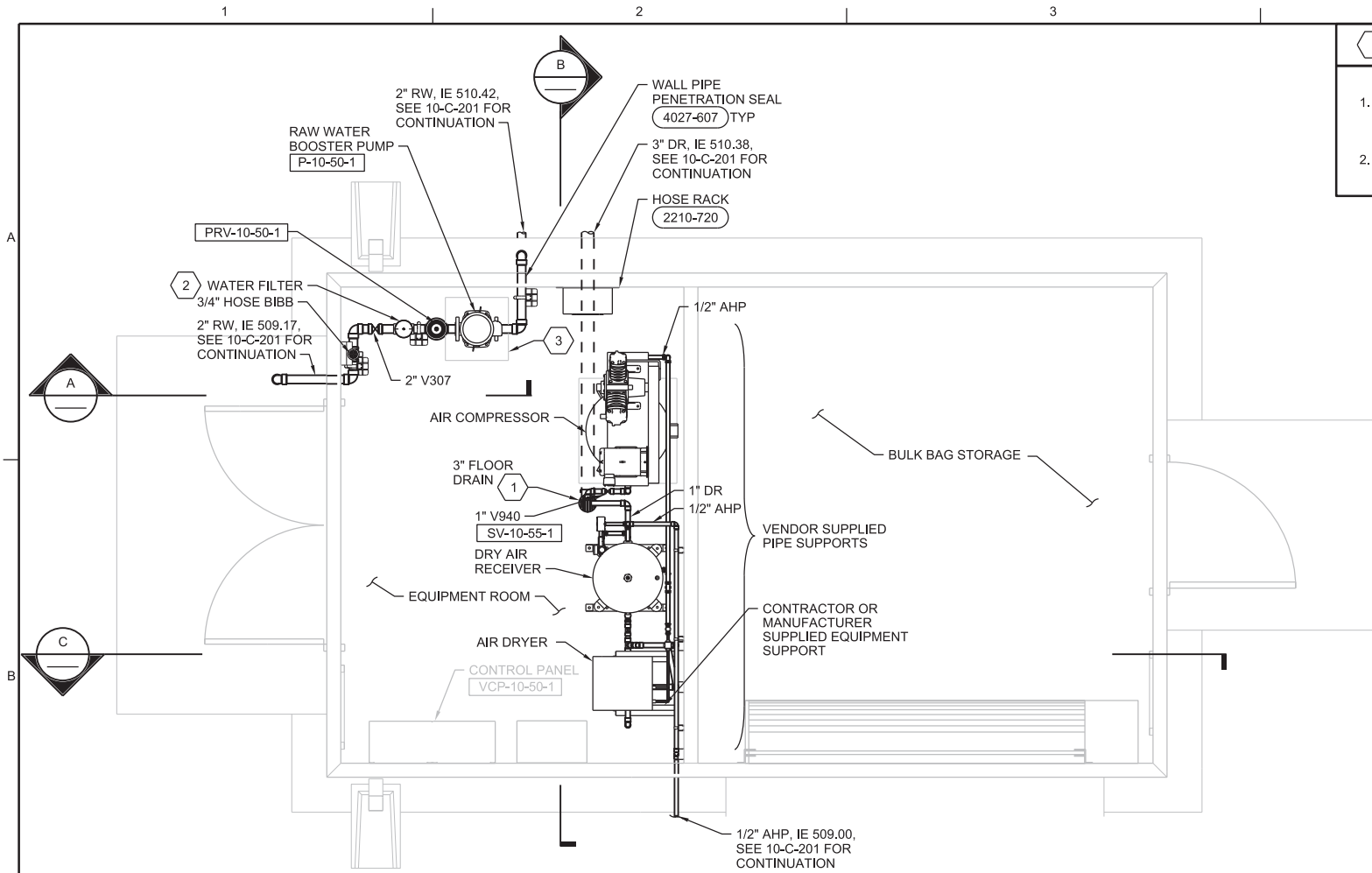
NO.	DATE	DR	CHK	BY	APVD
1		P WAD	J THORNTON	E MINCHEW	M MCDUGALD
2		G ADAMDEJAN	M CHRZANOWSKI	M CHRZANOWSKI	M CHRZANOWSKI

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

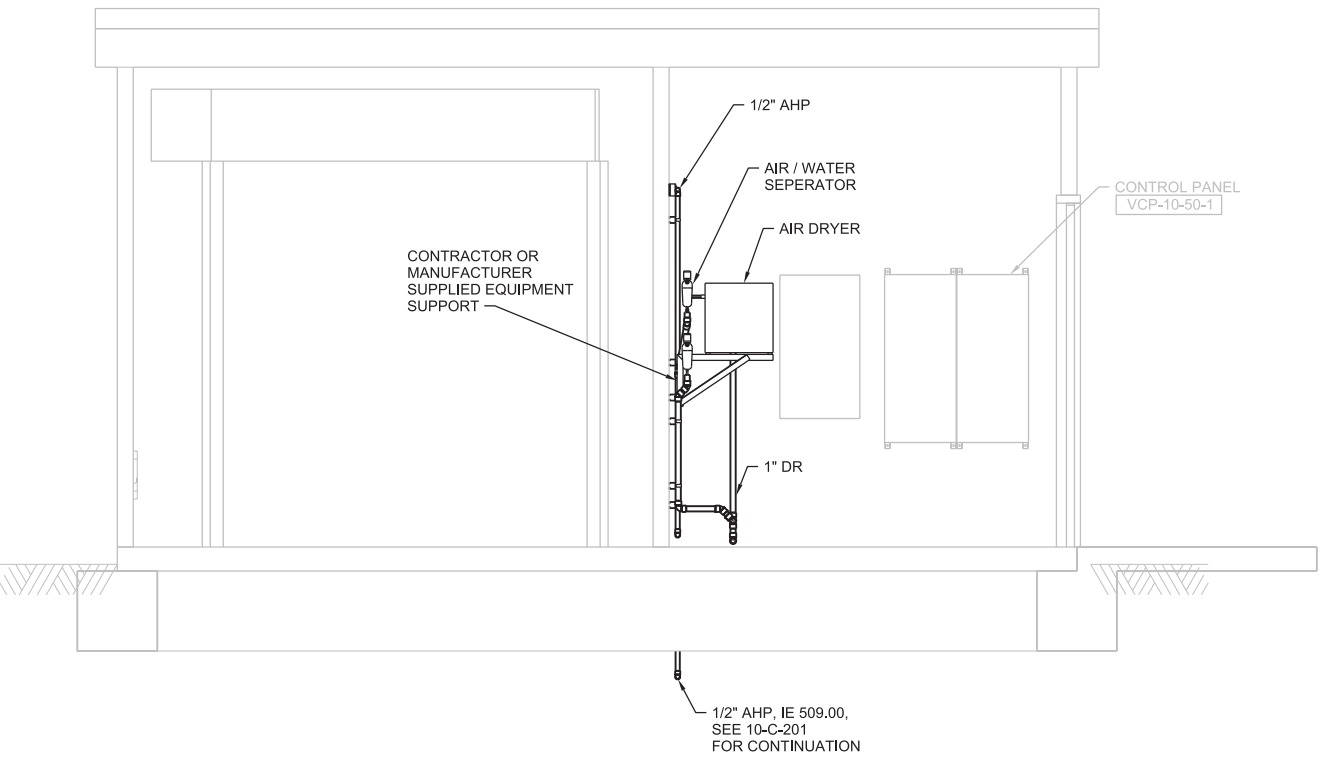
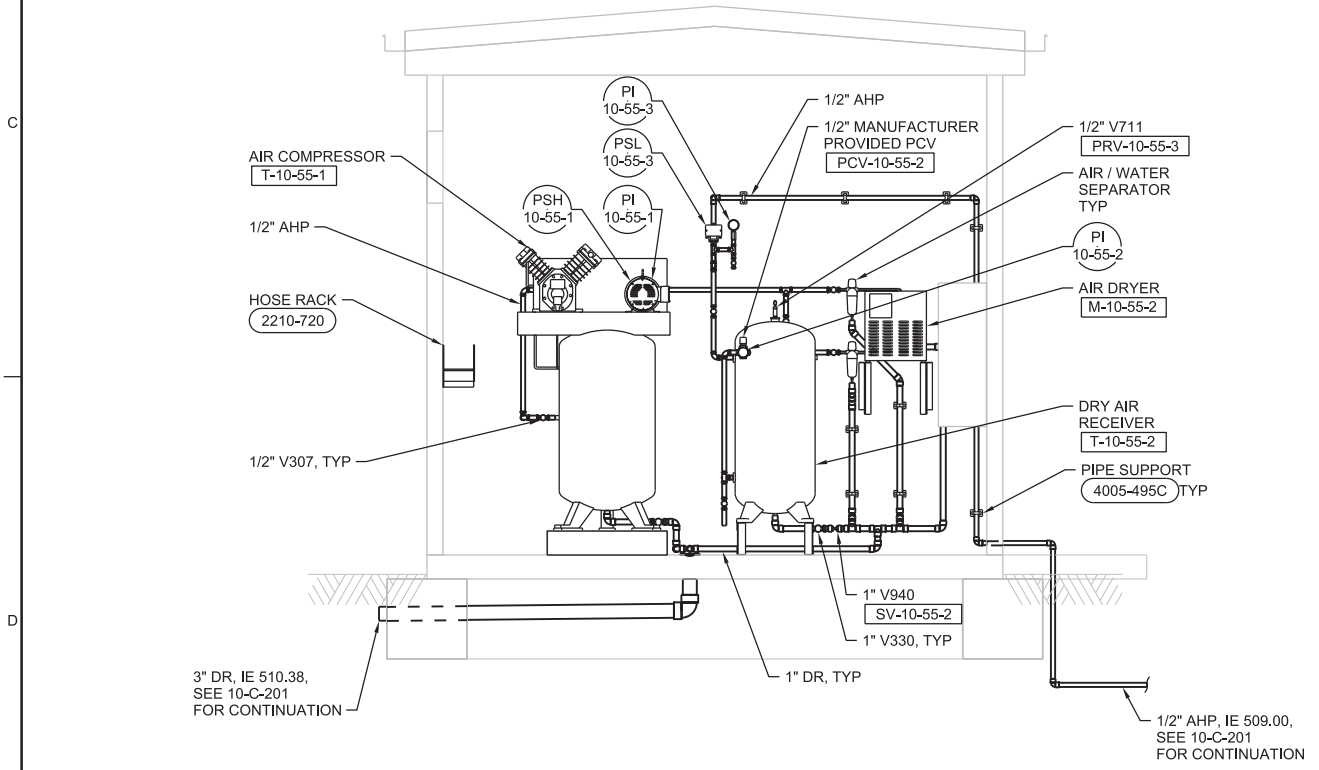
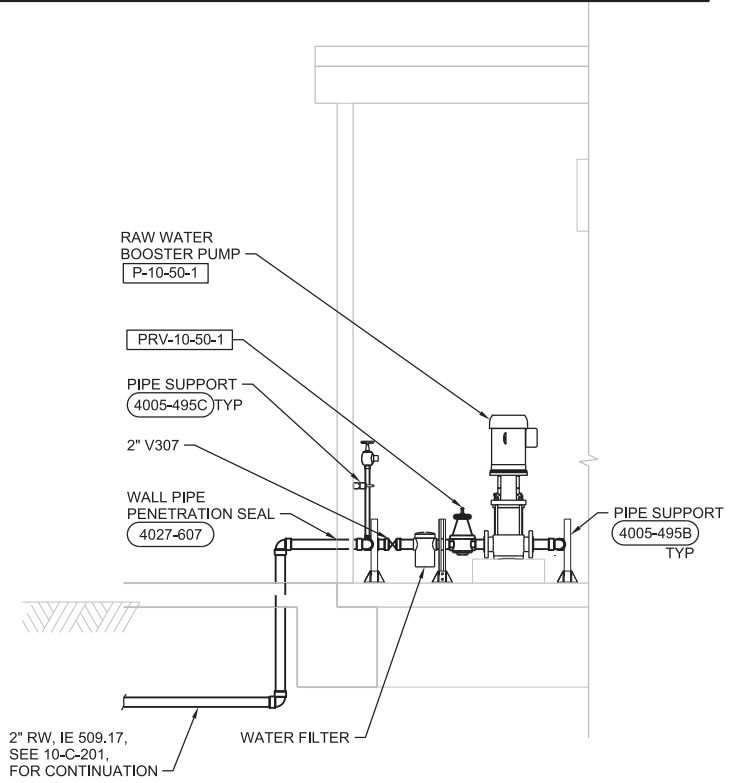
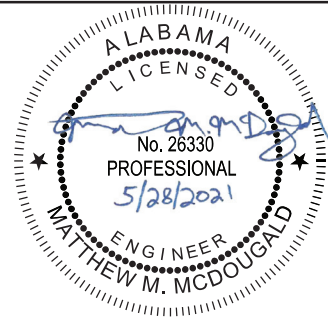
Jacobs
STRUCTURAL/PROCESS MECHANICAL
CARBON FEED
PLAN AND SECTIONS

DATE	JUNE 2021
PROJ	D3389300
DWG	10-SD-201
SHEET	34 of 101

BID DOCUMENTS



- SHEET KEYNOTES**
- PROVIDE 3" FLOOR DRAIN, ZURN Z507 OR EQUAL. DEPRESS AREA AROUND FLOOR DRAIN PER STANDARD DETAIL (0330-082).
 - PROVIDE 3/4" HOSE BIBB, WOODFORD MODEL 24. MOUNT 36" AFF.
 - CONCRETE EQUIPMENT PAD (0330-056) TYPE "E" EXCEPT PERIMETER ADHESIVE DOWEL SHALL BE #3 @ 12" OC WITH 4" EMBEDMENT DEPTH.

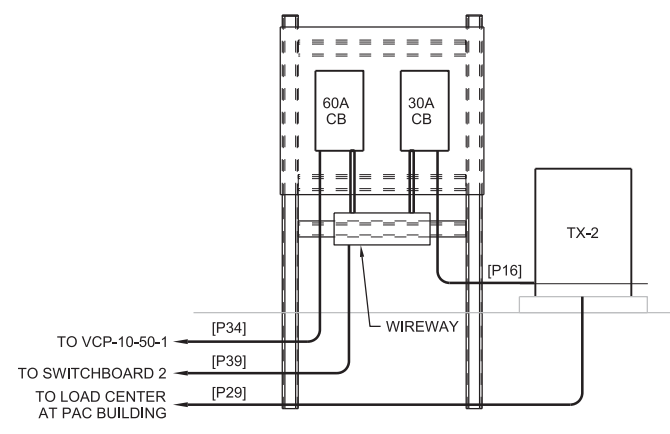
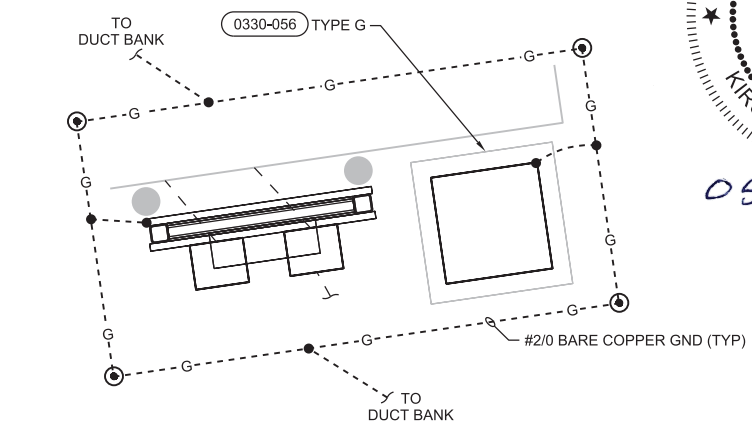
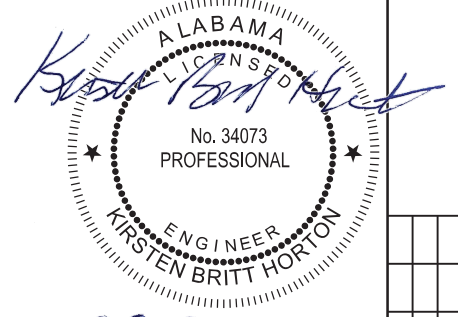


JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

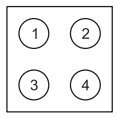
Jacobs
PROCESS MECHANICAL
CARBON FEED
AUXILIARY BUILDING
PLAN AND SECTIONS

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	10-D-201
SHEET	35 of 101

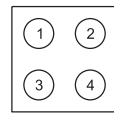
REUSE OF DOCUMENTS: THE DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
 MCDUGALD, M. MCDUGALD, E. MINCHEW, K.L. DIAZ, P. WAID, DSGN, NO. DATE, DR, REVISION, CHK, BY, APVD.



1 PLAN AND SECTION
NTS



- 1 = [1-1/4" C, [P39] FROM SWITCHBOARD 2 TO WIREWAY]
- 2 = [1" C, [A26] FROM VCP-10-50-1 TO RWPCP]
- 3 = [1" C, [SPARE]]
- 4 = [1" C, [C6] FROM XS-55-10-1, 2, 3 TO RWPCP]

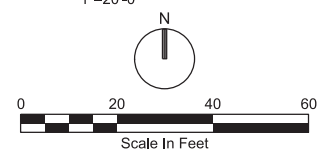


- 1 = [1" C, [P6] FROM VCP-10-50-1 TO PAC TJB]
- 2 = [1" C, [PV12] FROM VCP-10-50-1 TO PAC TJB]
- 3 = [1" C, [C30] FROM VCP-10-50-1 TO PAC TJB]
- 4 = [1" C, [P4] FROM LOAD CENTER TO PAC 10HT-3, 4]

A SECTION
NTS

B SECTION
NTS

SITE PLAN
1"=20'-0"

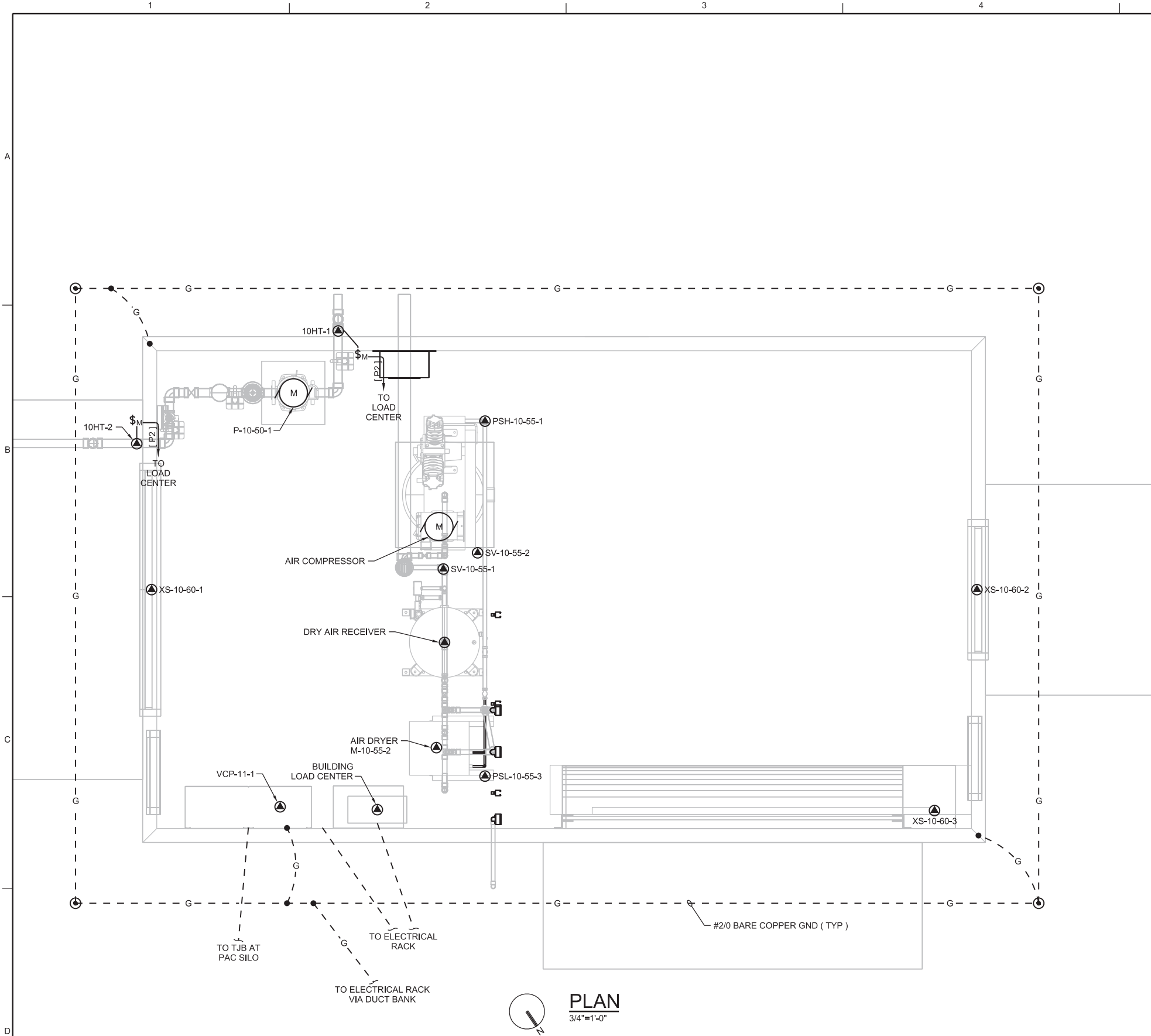


NO.	DATE	DR	CHK	REVISION	BY	APVD

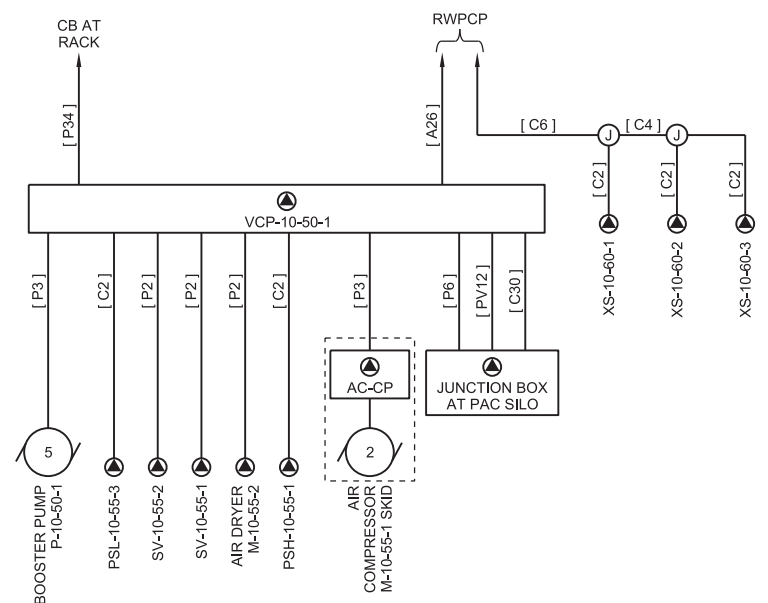
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
RWPS SITE PLAN

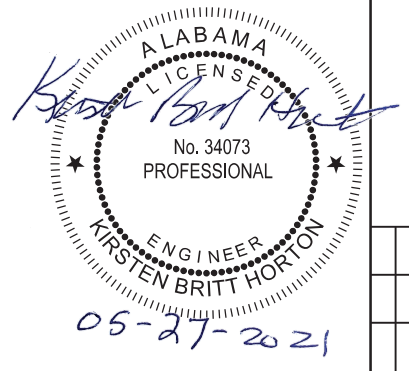
DATE	JUNE 2021
PROJ	D3389300
DWG	10-E-201
SHEET	36 of 101



PLAN
3/4"=1'-0"



RISER DIAGRAM
NTS



NO.	DATE	DR	REVISION	BY	APVD
		KB HORTON	CHK	KB HORTON	APVD
		AL PASTRANA	CHK	T HOMAYOONI	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
**CARBON FEED
AUXILIARY BUILDING
PLAN**

AS NOTED	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	10-E-202
SHEET	37 of 101

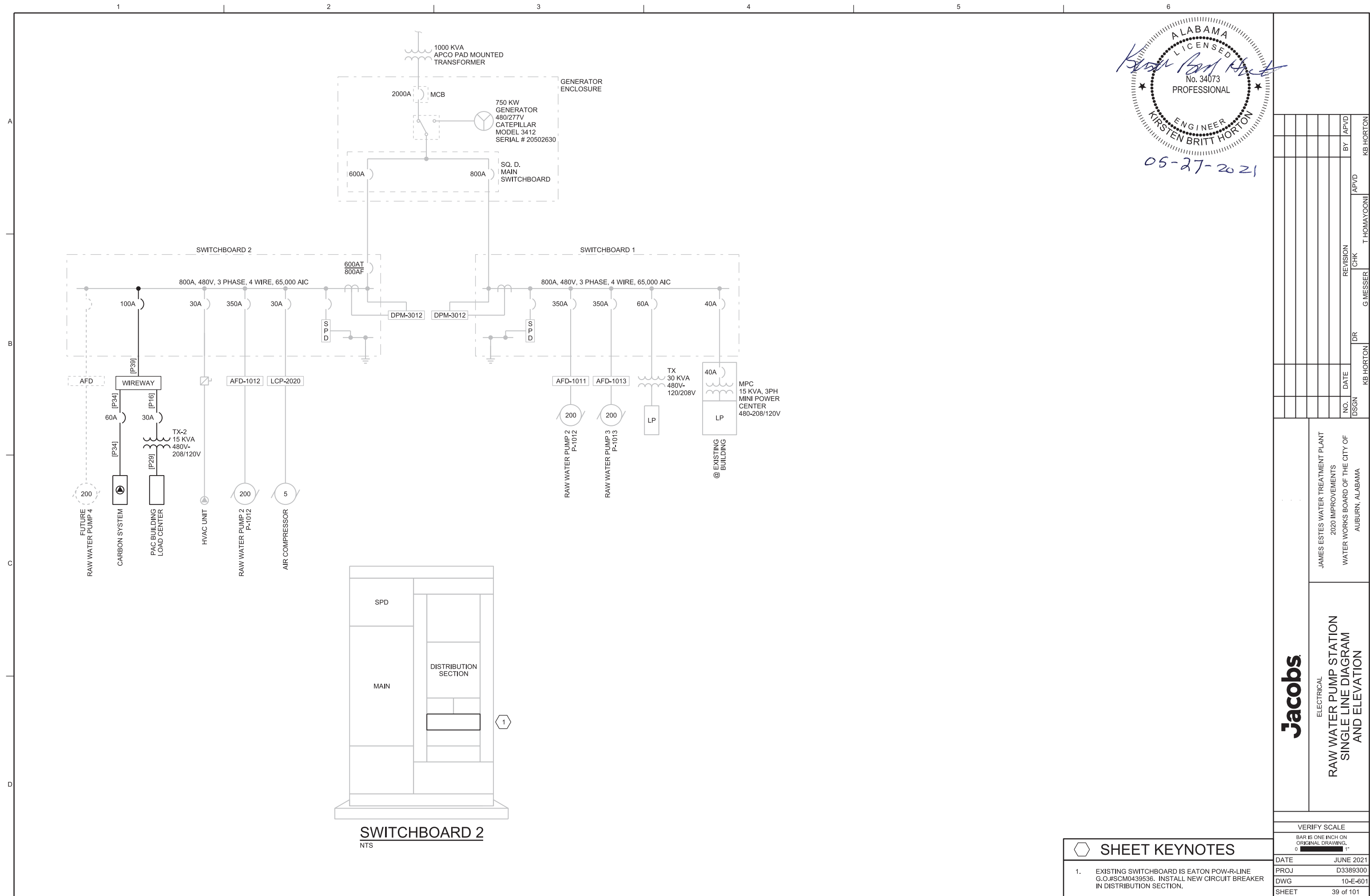
GENERAL SHEET NOTES

- LIGHTS, RECEPTACLES, EXHAUST FANS AND HEATERS ARE PROVIDED WITH BUILDING AND PREWIRED TO LOAD CENTER. LOAD CENTER IS PROVIDED WITH BUILDING. SEE SPECIFICATION 13 34 23 FABRICATED STRUCTURES.

BID DOCUMENTS

© JACOBS 2021. ALL RIGHTS RESERVED.

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.



ALABAMA
LICENSED
ENGINEER
KIRSTEN BRITT HORTON
No. 34073

Kirsten Britt Horton

05-27-2021

NO.	DATE	DR	CHK	REVISION

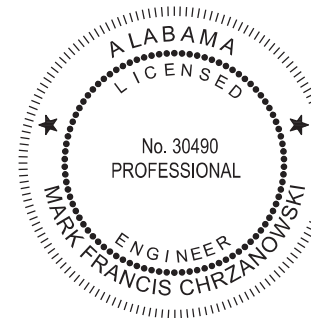
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
RAW WATER PUMP STATION
SINGLE LINE DIAGRAM
AND ELEVATION

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	10-E-601
SHEET	39 of 101

- SHEET KEYNOTES**
- EXISTING SWITCHBOARD IS EATON POW-R-LINE G.O.#SCM0439536. INSTALL NEW CIRCUIT BREAKER IN DISTRIBUTION SECTION.

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:43:48 -04'00'

GENERAL SHEET NOTES

- FOR ADDITIONAL INFORMATION, SEE STRUCTURAL GENERAL NOTES.
- PLAN IMAGE SHOWN IS FROM RECORD DRAWING 642-07, "MUNICIPAL WATER WORKS IMPROVEMENTS" (AUGUST 1980).
- ORIGINAL TEXT AND CALLOUTS ARE FOR INFORMATION ONLY. CONTRACTOR SHALL USE WITH CAUTION.
- CONTRACTOR SHALL WORK IN ONLY ONE BASIN AT A TIME WHILE THE OTHER BASINS REMAIN IN SERVICE AND FULLY FUNCTIONAL.

SHEET KEYNOTES

- REMOVE DEFECTIVE AREA AND REPAIR PER DETAIL 3, 5, AND 6 OF DWG 20-S-401 AND IN ACCORDANCE WITH SPECIFICATIONS.
- CONCRETE DETERIORATION AT TOP OF BOX WALL. SEE KEYNOTE 1.
- LEAKING PIPE PENETRATION AND WALLS AT SOUTH END OF FLOCCULATOR INFLUENT TROUGH. SEE 20-S-202 FOR ADDITIONAL INFORMATION.
- SPALLING AT TOP OF WALL. SEE KEYNOTE 1 FOR ADDITIONAL INFORMATION.
- SPALLS AT HANDRAILS. SEE KEYNOTE 1 FOR ADDITIONAL INFORMATION.
- DISREPAIRED JOINT SEALANT IN SLAB EXP JOINT. REMOVE SEALANT AND REPLACE PER DETAIL 1 AND 2 ON 20-S-401.
- CONCRETE DETERIORATION AT CJ. SEE KEYNOTE 1 FOR ADDITIONAL INFORMATION.
- ACTIVE LEAK IN BOTTOM OF TROUGH AT WALL CORNERS. REPAIR PER DETAIL 9/20-S-401.
- LEAKING CRACK. REPAIR PER DETAILS 7/20-S-401.
- CRACKS IN WALKWAY. REPAIR PER KEYNOTE 9, EXCEPT USE CHEMICAL RESIN FOR INJECTION.
- CONCRETE DETERIORATION AND ACTIVE LEAK, REPAIR PER KEYNOTES 1 AND 9.
- MULTIPLE CRACKS, MOSTLY CALCIFIED BUT NOT LEAKING. REPAIR PER KEYNOTE 9.
- CRACK IN CORNER. REPAIR PER KEYNOTE 9.
- REPLACE CMU WALL WITH NEW 10" CONCRETE WALL BELOW WALKWAY. SEE A/20-S-301, TYP.
- SPALLING AT BOTTOM EXTERIOR OF TROUGH. SEE KEYNOTE 1 FOR ADDITIONAL INFORMATION.
- DISREPAIRED OR MISSING WALL EXPANSION JOINT TREATMENT. REMOVE AND REPLACE PER 0315-239A. DO NOT DAMAGE EXISTING WATERSTOP, TYP. ALL WALL EXPANSION JOINT IN PROCESS TRAIN 1 THROUGH 4. REFER TO SHEET 20-S-601 FOR ADDITIONAL INFORMATION. SUBMIT LAYOUT OF LOCATION AND ESTIMATED QUANTITY FOR APPROVAL.
- FIBER REINFORCED CONC FILL. TYP BOTH BASINS
- SST C9x20 CHANNEL CENTERED ON COLLECTOR WHEEL CENTER LINE. COORDINATE WITH APPROVED COLLECTOR SUBMITTAL TYP FOR BEAM WITH ENDS FULLY EMBEDDED IN FRCF. SEE D/20-S-302 AND A/20-S-501.
- HOSELESS SLUDGE COLLECTOR WHEEL.
- BEAM CL TO MATCH COLLECTOR WHEEL CL COORDINATE WITH APPROVED COLLECTOR SUBMITTAL TYP.
- SST C9x20 CHANNEL WEST END CONNECTION TO WALL AND EAST END TO SLOPED SLAB PER DETAIL C/20-S-501.
- SST C9x20 CHANNEL END CONNECTION TO WALLS PER SECTION A/20-S-501 TYP.

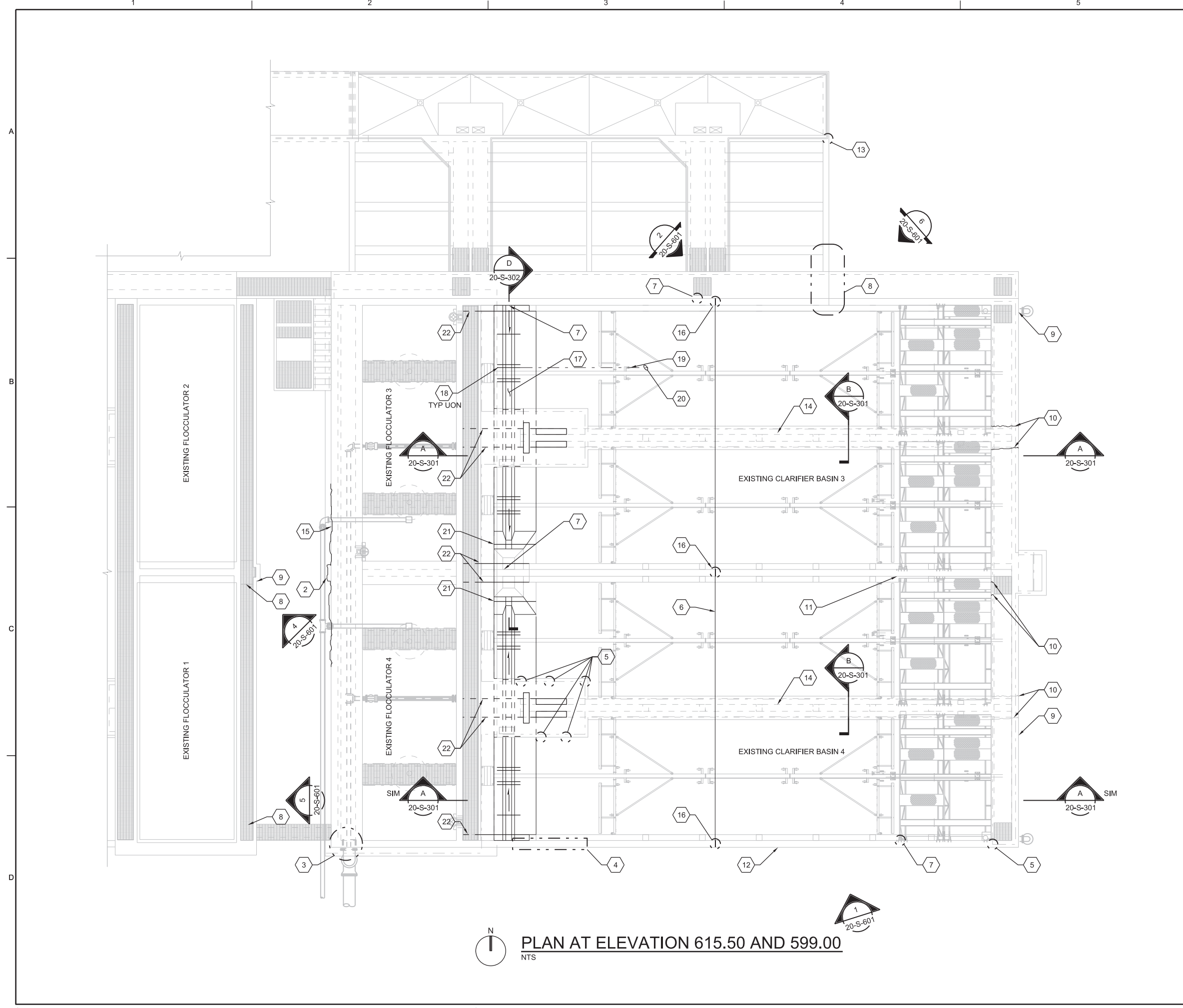
NO.	DATE	REVISION	CHK	DR	APVD
			J THORNTON	M CHRZANOWSKI	M CHRZANOWSKI
			G ADAMDEJAN		

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

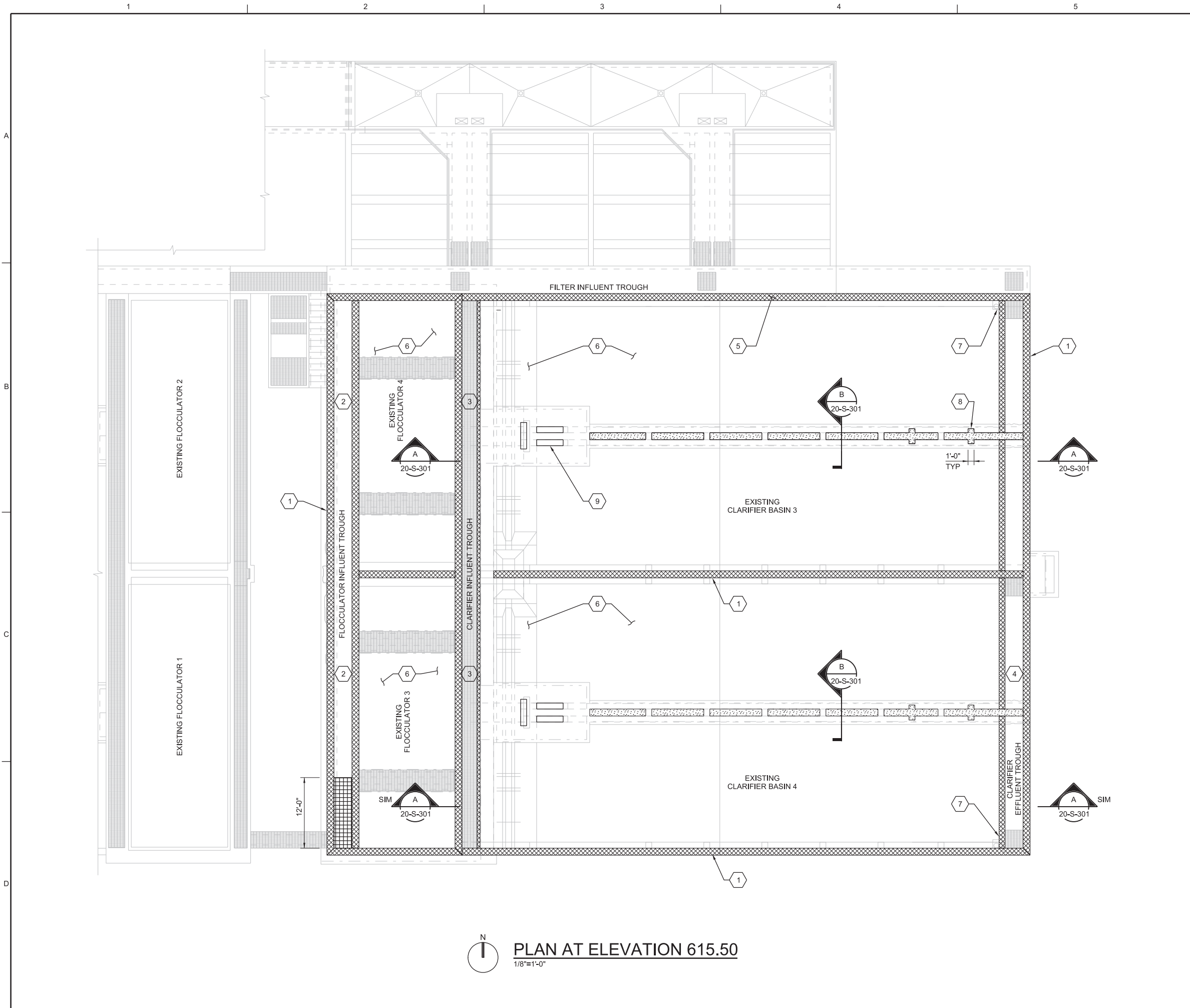
Jacobs
 STRUCTURAL
**FLOCCULATION/SEDIMENTATION
 BASINS 3 & 4
 PLAN**

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 20-S-201
SHEET 40 of 101

BID DOCUMENTS



PLAN AT ELEVATION 615.50 AND 599.00
 NTS



PLAN AT ELEVATION 615.50
1/8"=1'-0"



Chrzanowski, Mark
AAA00006867
Digitally signed by Chrzanowski, Mark
AAA00006867
Date: 2021.06.02
16:45:48 -04'00'

LEGEND

- EXTENT OF CMU WALL REMOVAL AND REPLACEMENT WITH NEW CONCRETE WALLS, SEE A/20-S-301.
- AREAS TO APPLY COATINGS, SEE SPEC SECTION 09 90 00.
- PREPARE AND LINE THIS AREA OF TOP AND INTERIOR SURFACES OF FLOCCULATOR INFLUENT TROUGH AND TOP AND FLOCCULATION - SIDE OF COMMON WALL, WITH REINFORCED WATERPROOFING LINING. LINING ON FLOCCULATION - SIDE OF COMMON WALL SHALL EXTEND DOWN TO BOTTOM OF TROUGH SLAB. SEE SECTION 09 90 00 FOR ADDITIONAL INFORMATION. FOR EXTERIOR SURFACES, SIDE OF TROUGH WALL AND UNDERSIDE OF SLAB, REFER TO KEYNOTE 2 THIS SHEET.

GENERAL SHEET NOTES

1. SEE 20-S-201 FOR ADDITIONAL INFORMATION.
2. UNLESS OTHERWISE NOTED, WALL COATINGS SHALL OVERLAP APPROXIMATELY 6" ONTO BOTTOM SLABS, UNLESS OTHERWISE NOTED, EXTEND INTERIOR WATERPROOFING COATING OVER TOP OF WALLS AND ONE-INCH DOWN EXTERIOR SIDE.

SHEET KEYNOTES

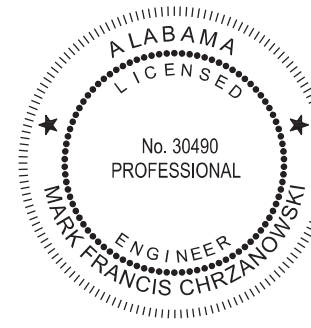
1. PROVIDE COATINGS ON EXISTING WALLS IN AREAS INDICATED WITH CROSS-HATCHED PATTERN, UNLESS OTHERWISE NOTED. PROVIDE WATERPROOFING LINING ON EXISTING WALLS IN AREAS INDICATED WITH HATCHED PATTERN. SEE LEGEND.
2. UNLESS OTHERWISE NOTED, PROVIDE WATERPROOFING COATING FOR INTERIOR OF FLOCCULATOR INFLUENT TROUGH, INCLUDING WALLS AND FLOOR SLAB, UNLESS OTHERWISE NOTED, INSIDE WALLS OF FLOCCULATOR BASINS SHALL ALSO BE COATED WITH WATERPROOFING COATING. EXTERIOR SURFACE OF INFLUENT TROUGH WALL AND UNDERSIDE OF INFLUENT TROUGH SLAB SHALL BE COATED WITH EXTERIOR PROTECTIVE COATING, AS NOTED IN LEGEND AND SHOWN ON PLAN. THE SOUTH END OF THE FLOCCULATOR INFLUENT CHANNEL SHALL BE LINED WITH REINFORCED WATERPROOFING LINING INSTEAD OF WATERPROOFING COATING.
3. PROVIDE WATERPROOFING COATING FOR INTERIOR AND EXTERIOR SURFACE OF CLARIFIER INFLUENT TROUGH, INCLUDING TOP OF WALLS AND UNDERSIDE OF TROUGH SLAB.
4. UNLESS OTHERWISE NOTED, PROVIDE WATERPROOFING COATING FOR INTERIOR AND EXTERIOR SURFACES OF CLARIFIER EFFLUENT TROUGH, INCLUDING TOP OF WALL AND UNDERSIDE OF TROUGH SLAB.
5. PROVIDE WATERPROOFING COATING FOR INTERIOR AND TOP SURFACES OF COMMON WALL BETWEEN FILTER INFLUENT TROUGH AND CLARIFIER BASIN.
6. UNLESS OTHERWISE NOTED, DO NOT COAT INTERIOR SLABS OR SLUDGE COLLECTION TROUGHS INSIDE FLOCCULATOR AND CLARIFIER BASINS.
7. CLEAN AND INSTALL NEW COATINGS ON BASIN OVERFLOW PIPES AND FLOCCULATOR SCUM COLLECTOR PIPES. REPLACE EXISTING FLANGE BOLTS WITH STAINLESS STEEL BOLTS. COATING AND SURFACE PREPARATION SHALL BE PER SPECIFICATION SECTION 09 90 00.
8. DEMOLISH EXISTING CMU PIER AND THICKEN NEW WALL BOTH SIDES AT CMU LOCATION TO FLUSH WITH VERTICAL LEG OF EXISTING ANGLE BEAM. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS. NOT ALL LOCATIONS ARE SHOWN, FIELD VERIFY CMU PIER LOCATION TYP.
9. REPAIR EXISTING SLAB OPENING PER 0330-141 AND IN LONGITUDINAL DIRECTION AND 0330-142 IN SHORT DIRECTION. TYP. 6 LOCATIONS.

NO.	DATE	DR	REVISION	CHK	BY	APVD

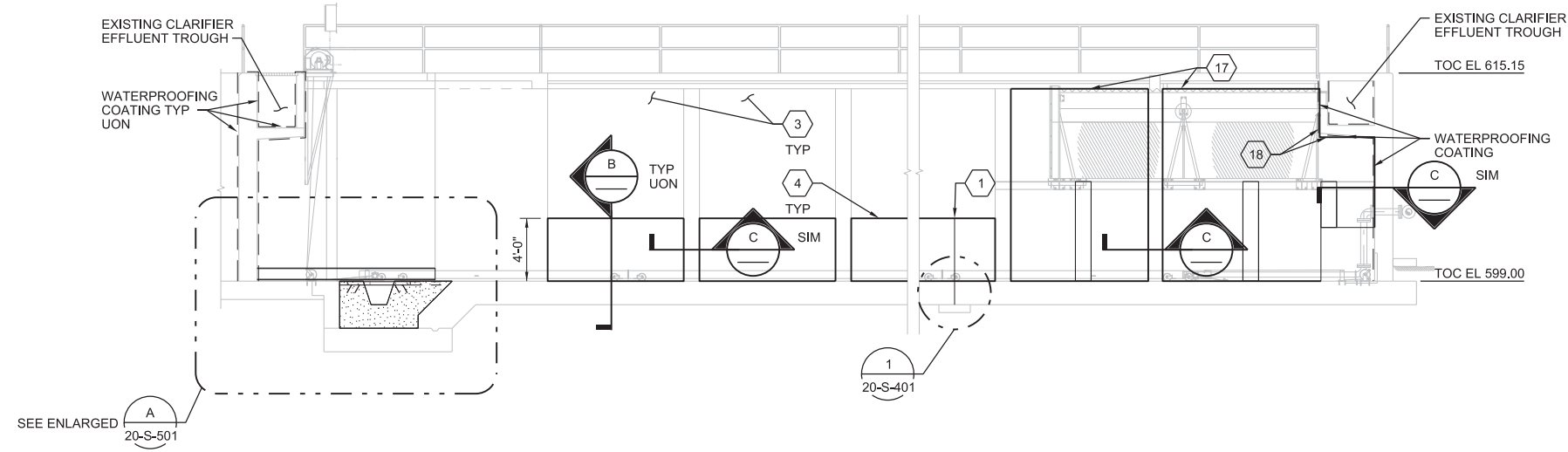
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
STRUCTURAL
**FLOCCULATION/SEDIMENTATION
BASINS 3 & 4
COATINGS NEW WALL PLAN**

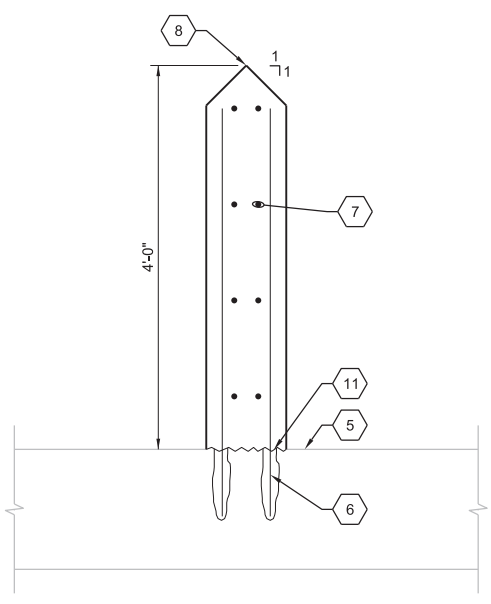
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 20-S-202
SHEET 41 of 101



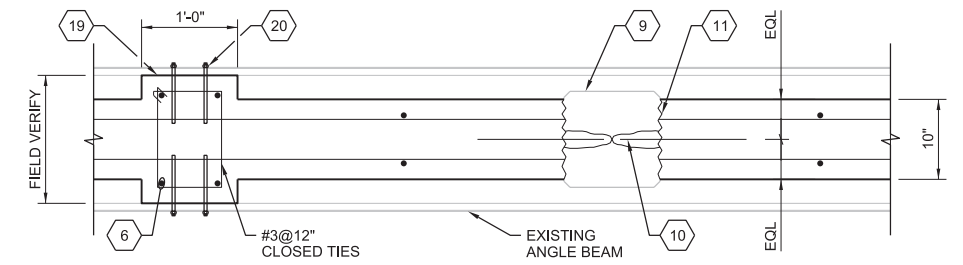
Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:47:24 -04'00'



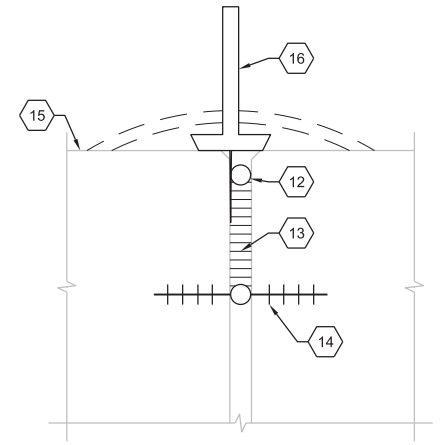
A SECTION
 3/16"=1'-0"
 20-S-201, 20-S-202



B SECTION
 1"=1'-0"
 20-S-201, 20-S-202



C SECTION
 1"=1'-0"



3 REPAIR - DETAILED EJ SECTION RECONSTRUCTION
 1 1/2"=1'-0"

GENERAL SHEET NOTE

1. SEE S-201 FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES

1. WALL EXPANSION JOINT PER 1/20-S-401.
2. NOT USED.
3. DEMOLISH EXISTING CMU WALL FULL HEIGHT AND UON REPLACE WITH 4'-0" HIGH CIP CONCRETE WALL. PREPARE AND PROTECT EXPOSED STEEL THAT WILL NOT BE ENCASED IN NEW CONCRETE WALLS IN PER 0330-143. EXISTING DOWELS THAT CAN BE ENCASED IN NEW CONSTRUCTION MAY BE REUSED IN LIEU OF DRILLING NEW DOWELS. PROVIDED EXISTING DOWELS ARE NOT DAMAGED BY DEMOLITION AND ARE SAME SIZE AND SPACING AS NEW POST-INSTALLED DOWELS.
4. NEW 10" CIP WALL.
5. EXISTING SLAB.
6. DRILL AND DOWEL #5@12" VERTICAL EACH FACE INTO EXISTING SLAB PER 0330-105.
7. #5@12" EF.
8. ROUND TOP EDGE WITH 3/4" RADIUS TOOL.
9. EXISTING CONCRETE WALL OR COLUMN.
10. DRILL AND DOWEL #5 x 3'-2" INTO EXISTING WALLS AND COLUMNS PER 0330-105 EXCEPT 6" EMBED. SPACING SHALL MATCH THAT OF HORIZONTAL BARS IN NEW WALLS EXCEPT ADJUST SO AS TO NOT DAMAGE EXISTING REINFORCEMENT IN WALLS AND COLUMNS. FIELD ADJUST LENGTH OF DOWELS AT EXPANSION JOINT PER 1/20-S-401. TYPICAL.
11. ROUGHEN EXISTING SLAB/COLUMN SURFACE TO FULL 1/4" AMPLITUDE. CLEAN AND SOAK PRIOR TO POURING CONCRETE.
12. OAKUM ROPE SATURATED WITH CHEMICAL RESIN.
13. CHEMICAL RESIN INJECTION.
14. EXISTING WATER STOP.
15. INTERIOR OF WALL (WATERSIDE).
16. INJECTION PORTING DEVICE.
17. EXTEND 10" WALL TO BOTTOM OF WALKWAY BEAM AT THE TWO BAYS SHOWN. DOWEL WALL INTO BEAM PER SECTION C/20-S-301. SEE KEYNOTE 3 FOR ADDITIONAL INFORMATION, TYP 4 LOCATIONS.
18. DO NOT DOWEL WALL REINFORCING INTO TROUGH WALL AND SLAB. NOTCH TROUGH WALL AND SLAB TO 1/2" DEPTH ALONG NEW WALL INTERFACE. CAST NEW WALL INTO NOTCH. INJECT JOINT WITH CHEMICAL RESIN AFTER NEW CONCRETE IS AT LEAST 28-DAYS OLD, TYP 2 LOCATIONS.
19. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS. TYP AT CONC/AL BEAM INTERFACE.
20. EXISTING BEAM. ATTACH TO EACH NEW COL W/ (2) 5/8" ADHESIVE ANCHORS SPACED @ 6" ON CENTERS, 6" MIN EMBEDMENT. TYP.

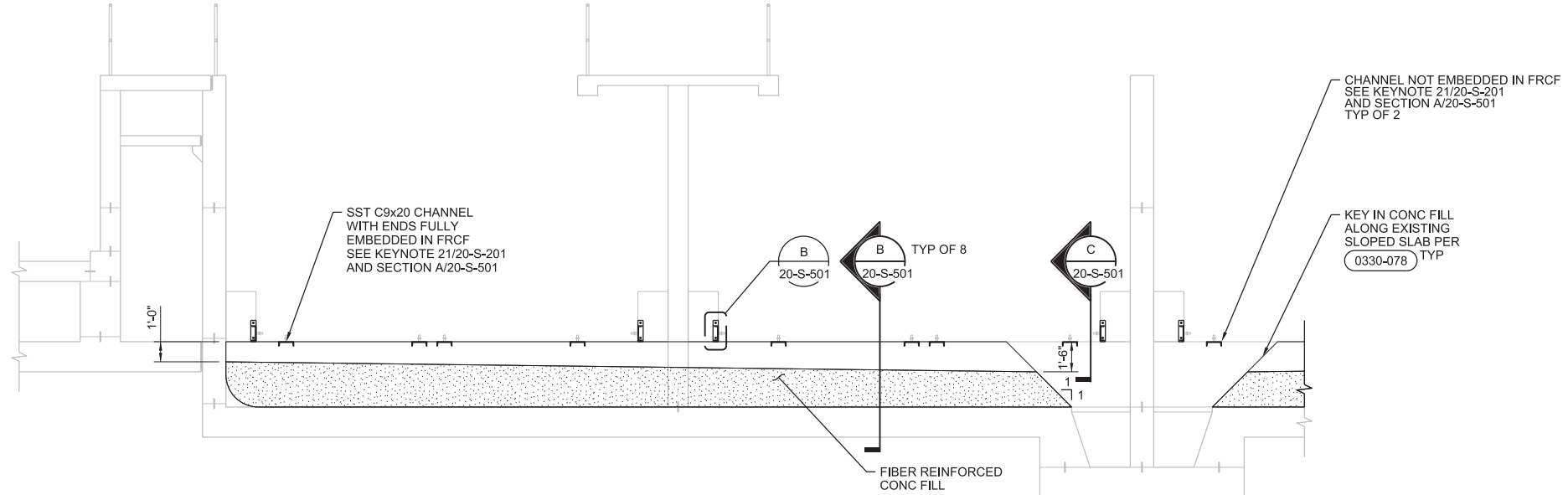
NO.	DATE	REVISION	BY	APVD
		CHK	J THORNTON	M CHRZANOWSKI
		DR	G ADAMDEJAN	M CHRZANOWSKI
		DSGN		

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

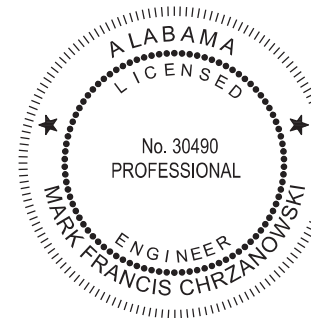
Jacobs
 STRUCTURAL
FLOCCULATION/SEDIMENTATION BASINS 3 & 4 SECTIONS AND DETAIL

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 20-S-301
SHEET: 42 of 101

BID DOCUMENTS



D SECTION
1/4"=1'-0"
20-S-101



Chrzanowski, Mark
AAA0000686
7
Digitally signed by Chrzanowski, Mark
AAA00006867
Date: 2021.06.02
16:48:11 -04'00'

GENERAL SHEET NOTE

- SEE S-201 FOR ADDITIONAL INFORMATION.
- CENTER C9 CHANNEL ON HOSELESS SLUDGE COLLECTOR WHEEL, COORDINATE LOCATION WITH APPROVED COLLECTOR SUBMITTAL.

NO.	DATE	DR	CHK	APVD	BY	APVD
		G ADANDEDJIAN	J THORNTON	M CHRZANOWSKI	M CHRZANOWSKI	M CHRZANOWSKI
		DSGN				

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
STRUCTURAL
**FLOCCULATION/SEDIMENTATION
BASINS 3 & 4
SECTIONS**

AS NOTED	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	20-S-302
SHEET	43 of 101

BID DOCUMENTS



Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:48:50 -04'00'

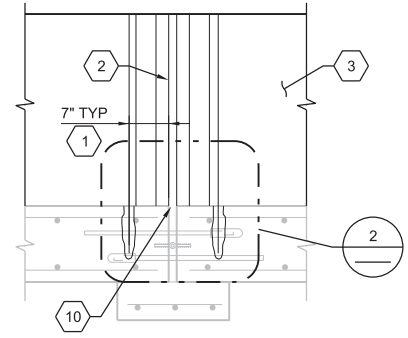
NO.	DATE	DR	CHK	BY
		J THORNTON	M CHRZANOWSKI	M CHRZANOWSKI
DSGN		G ADAMDEJAN		

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

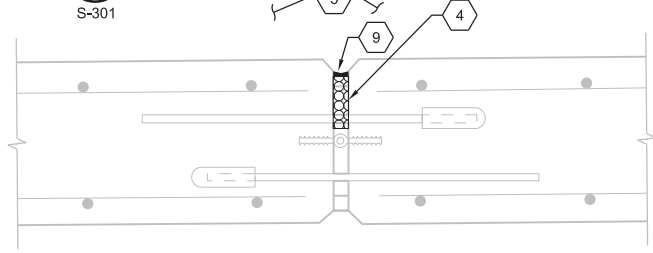
Jacobs
 STRUCTURAL
FLOCCULATION/SEDIMENTATION BASINS 3 & 4 DETAILS

AS NOTED
 VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 DATE: JUNE 2021
 PROJ: D3389300
 DWG: 20-S-401
 SHEET: 44 of 101

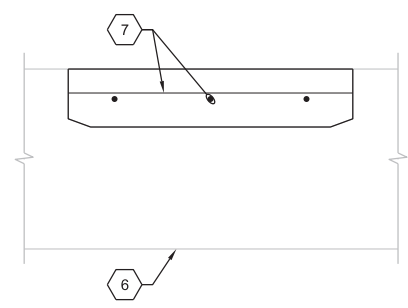
BID DOCUMENTS



1 EXPANSION JOINT DETAIL
 NTS
 S-301

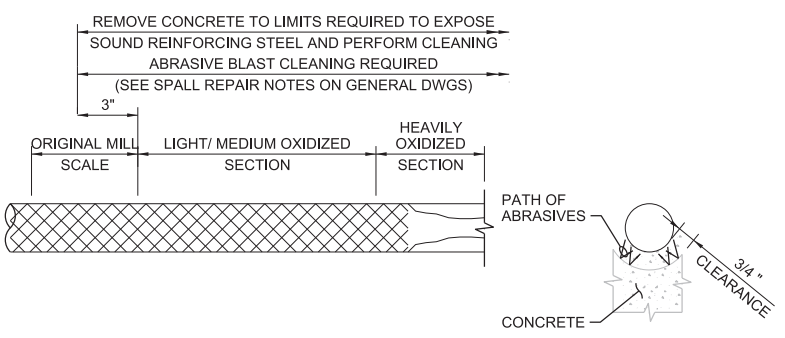


2 DETAIL
 NTS

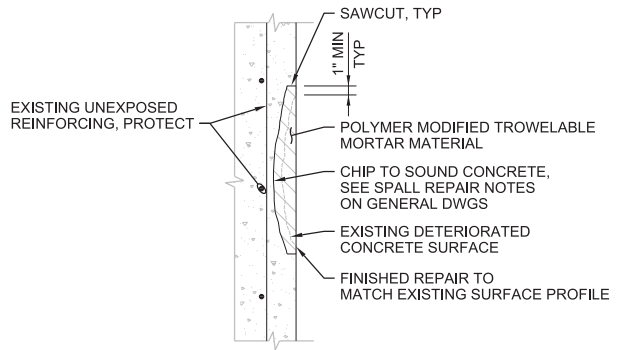


REINFORCING EXPOSED

3 CONCRETE RECONSTRUCTION DETAIL
 1 1/2"=1'-0"

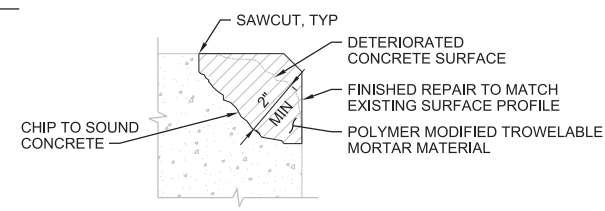


4 CLEANING OF REINFORCING STEEL
 NTS



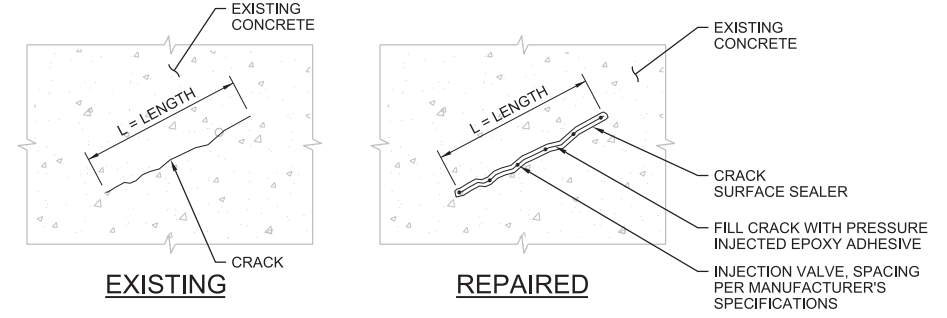
NO STEEL REINFORCING EXPOSED

5 CONCRETE WALL RECONSTRUCTION DETAIL
 1 1/2"=1'-0"

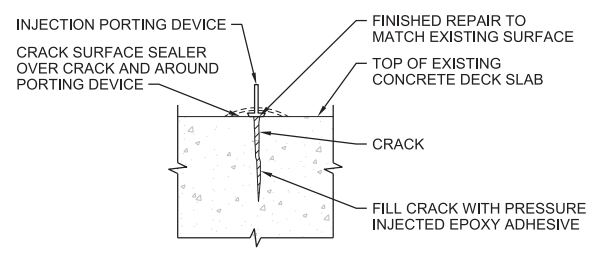


NO STEEL REINFORCING EXPOSED

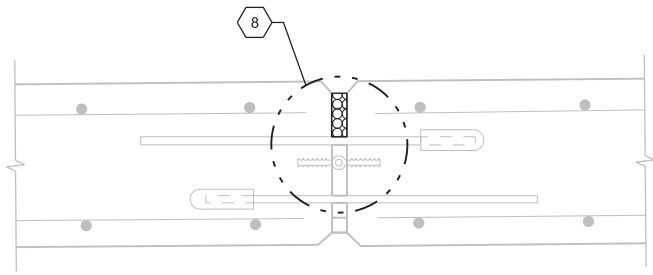
6 CONCRETE CORNER RECONSTRUCTION DETAIL
 3"=1'-0"



7 CRACK REPAIR DETAIL
 NTS



8 CRACK REPAIR DETAIL
 NTS



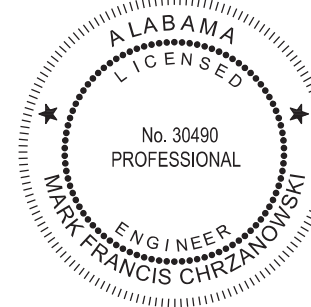
9 LEAKING VERTICAL WALL EXPANSION JOINT REPAIR DETAIL
 NTS
 S-301

GENERAL SHEET NOTE

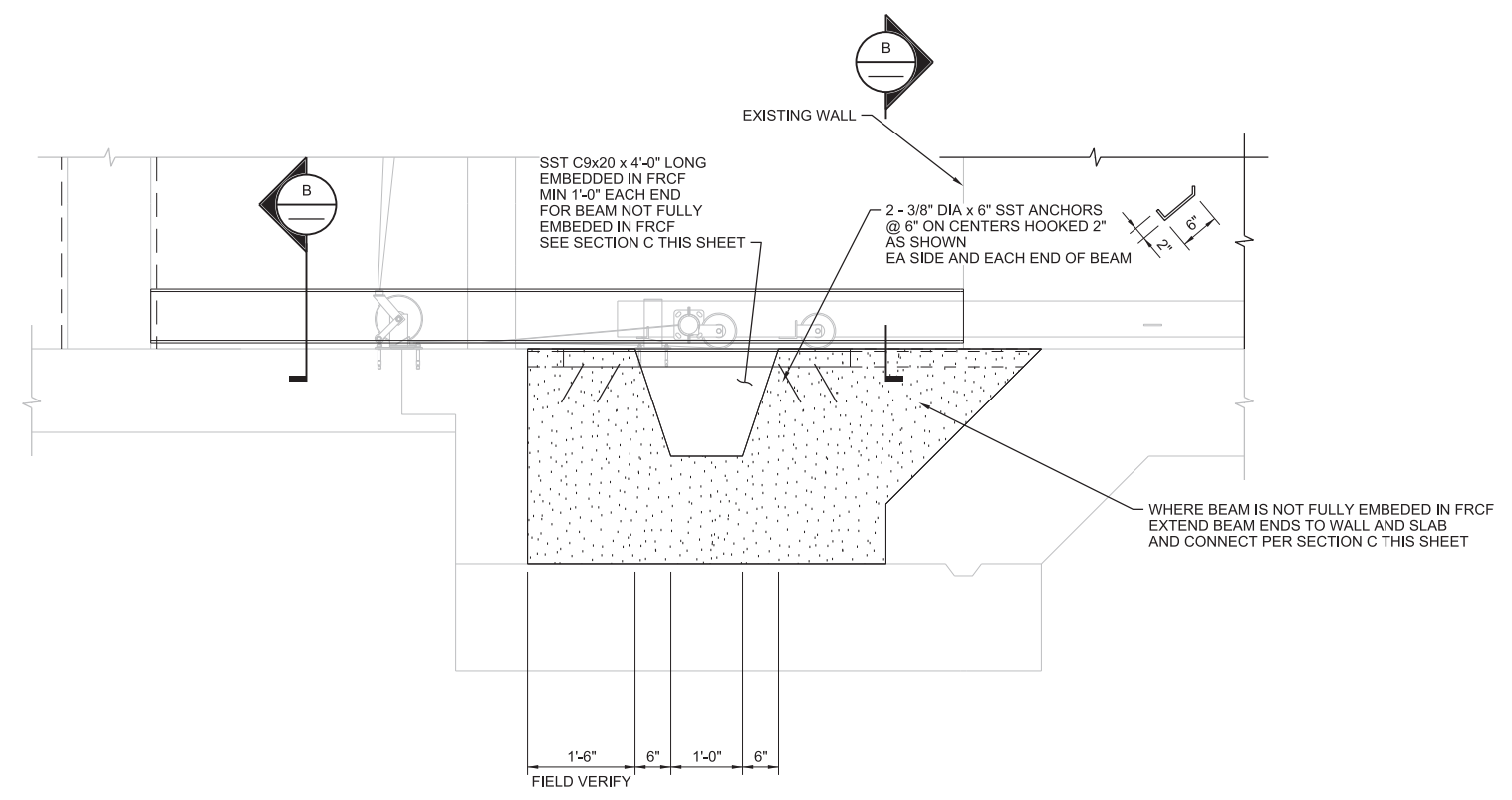
- 1. SEE S-201 FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES

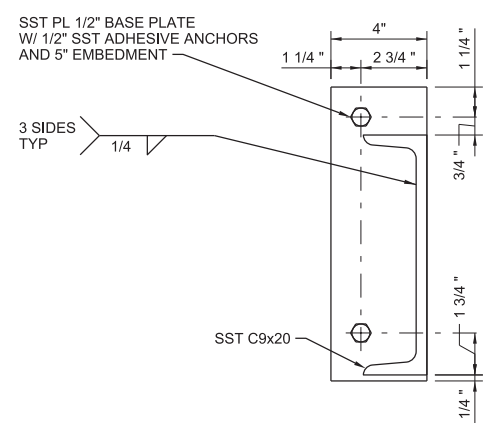
- PLACE WALL DOWELS 7" CLEAR FROM EXPANSION JOINT. DO NOT DAMAGE STEEL REINFORCEMENT OR SMOOTH DOWEL ASSEMBLIES EMBEDDED IN EXISTING SLAB.
- NEW WALL EXPANSION JOINT PER 0315-231
- NEW CONCRETE WALL.
- REMOVE AND REPLACE EXISTING PJF ABOVE EXISTING WATERSTOP. DO NOT DAMAGE EXISTING WATERSTOP.
- WALL NOT SHOWN FOR CLARITY.
- EXISTING CONCRETE MEMBER.
- CLEAN EXISTING REINFORCING PER DETAIL 4.
- LEAKING EXPANSION JOINT. REMOVE EXISTING JOINT SEALANT ABOVE WATERSTOP (WATERSIDE) AND REPAIR PER DETAIL 3/20-S-301. CONCRETE SPALL ALONG EXISTING WALL JOINT. REMOVE AND REPAIR DEFECTIVE AREAS.
- FILL TOP OF JOINT WITH POURABLE JOINT SEALANT. MAINTAIN SEALANT THICKNESS BETWEEN 1/4" MIN AND 1/2" MAX
- APPLY 2'-0" LONG STRIP OF HYDROPHILIC WATERSTOP ALONG BOTTOM FOOT OF NEW PVC WATERSTOP (EACH SIDE OF WATERSTOP). IN THE VERTICAL KNEEWALL EXPANSION JOINT. EXTEND THE REMAINING FOOT OF LENGTH OF EACH STRIP OF HYDROPHILIC WATERSTOP DOWN TO AND ALONG TOP OF EXISTING PVC WATERSTOP IN EXISTING BASE SLAB EXPANSION JOINT, TO COMPENSATE FOR DISCONTINUITY BETWEEN NEW AND EXISTING WATERSTOP.



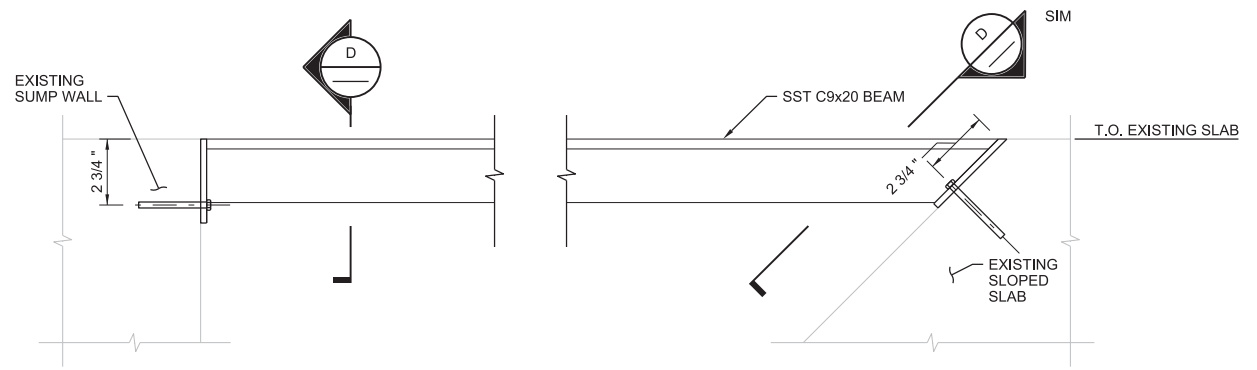
Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:49:22 -04'00'



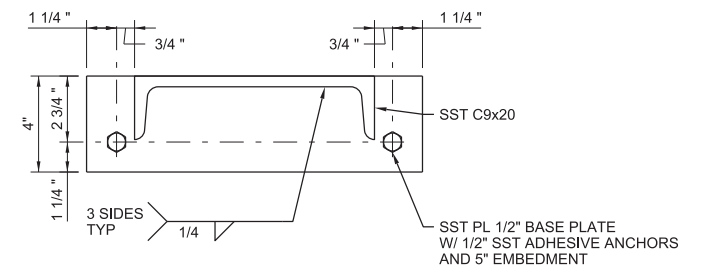
(A) ENLARGED SECTION
 3/4"=1'-0"
 20-S-301, 20-S-302



(B) SECTION
 3"=1'-0"
 20-S-302



(C) SECTION
 3"=1'-0"
 20-S-302



(D) SECTION
 3"=1'-0"

NO.	DATE	DR	CHK	REVISION	BY	APVD
		G. ADAMDEJIAN	J. THORNTON			M. CHRZANOWSKI
		DSGN	CHK			APVD

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

Jacobs
 STRUCTURAL
**FLOCCULATION/SEDIMENTATION
 BASINS 3 & 4
 ENLARGED SECTION AND DETAIL**

AS NOTED

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	20-S-501
SHEET	45 of 101

BID DOCUMENTS



1 PHOTO VIEW
NTS
S-201



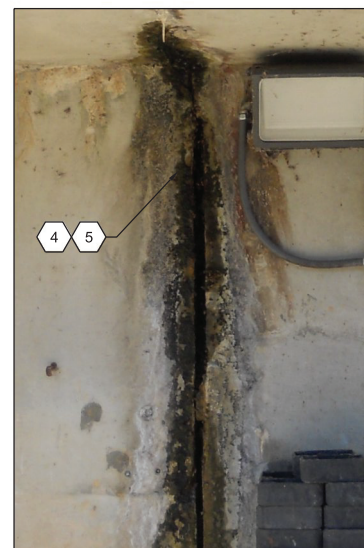
2 PHOTO VIEW
NTS
S-201



3 PHOTO VIEW
(WEST BASINS 1&2 EXTERIOR WALL)
NTS



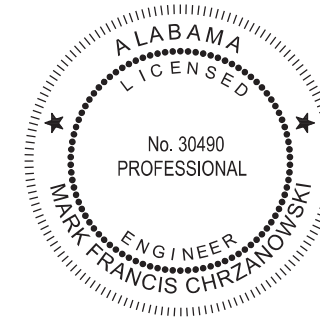
4 PHOTO VIEW
NTS
S-201



5 PHOTO VIEW
NTS
S-201



6 PHOTO VIEW
NTS
S-201



Chrzanowski, Mark
Digitally signed by Chrzanowski, Mark
Date: 2021.06.02 16:50:19 -0400

NO.	DATE	DR	CHK	APVD	BY	APVD
		G. ADAMDEDEJAN	J. THORNTON	M. CHRZANOWSKI	M. CHRZANOWSKI	M. CHRZANOWSKI
		DGN	CHK	APVD	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
STRUCTURAL
FLOCCULATION/SEDIMENTATION
BASINS 3 & 4
PHOTO VIEWS

GENERAL SHEET NOTE

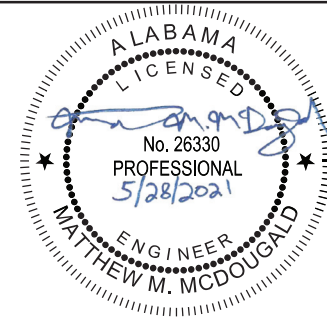
1. SEE S-201 FOR ADDITIONAL INFORMATION.

SHEET KEYNOTES

- WALL CRACKS WITH AND WITHOUT ACTIVE LEAKS. SEE KEYNOTE 12/20-S-201 FOR ADDITIONAL INFORMATION.
- CONCRETE DETERIORATION ALONG WALKWAY. SEE KEYNOTE 7/20-S-201 FOR ADDITIONAL INFORMATION.
- CONCRETE SPALL ALONG EXISTING WALL JOINT AT WEST WALL OF BASINS 1 AND 2. REMOVE AND REPAIR DEFECTIVE AREA.
- LEAKING EXPANSION JOINT. REMOVE EXISTING JOINT SEALANT ABOVE WATERSTOP (WATERSIDE) AND REPAIR PER DETAIL 3/20-S-301. CONCRETE SPALL ALONG EXISTING WALL JOINT. REMOVE AND REPAIR DEFECTIVE AREA.
- DISREPAIRED OR MISSING WALL EXPANSION JOINT TREATMENT. REMOVE AND REPLACE PER 0315-239A.
- ACTIVE LEAK IN BOTTOM OF TRENCH AT WALL CORNERS. REPAIR PER DETAIL 9/20-S-401.

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 20-S-601
SHEET 46 of 101

BID DOCUMENTS

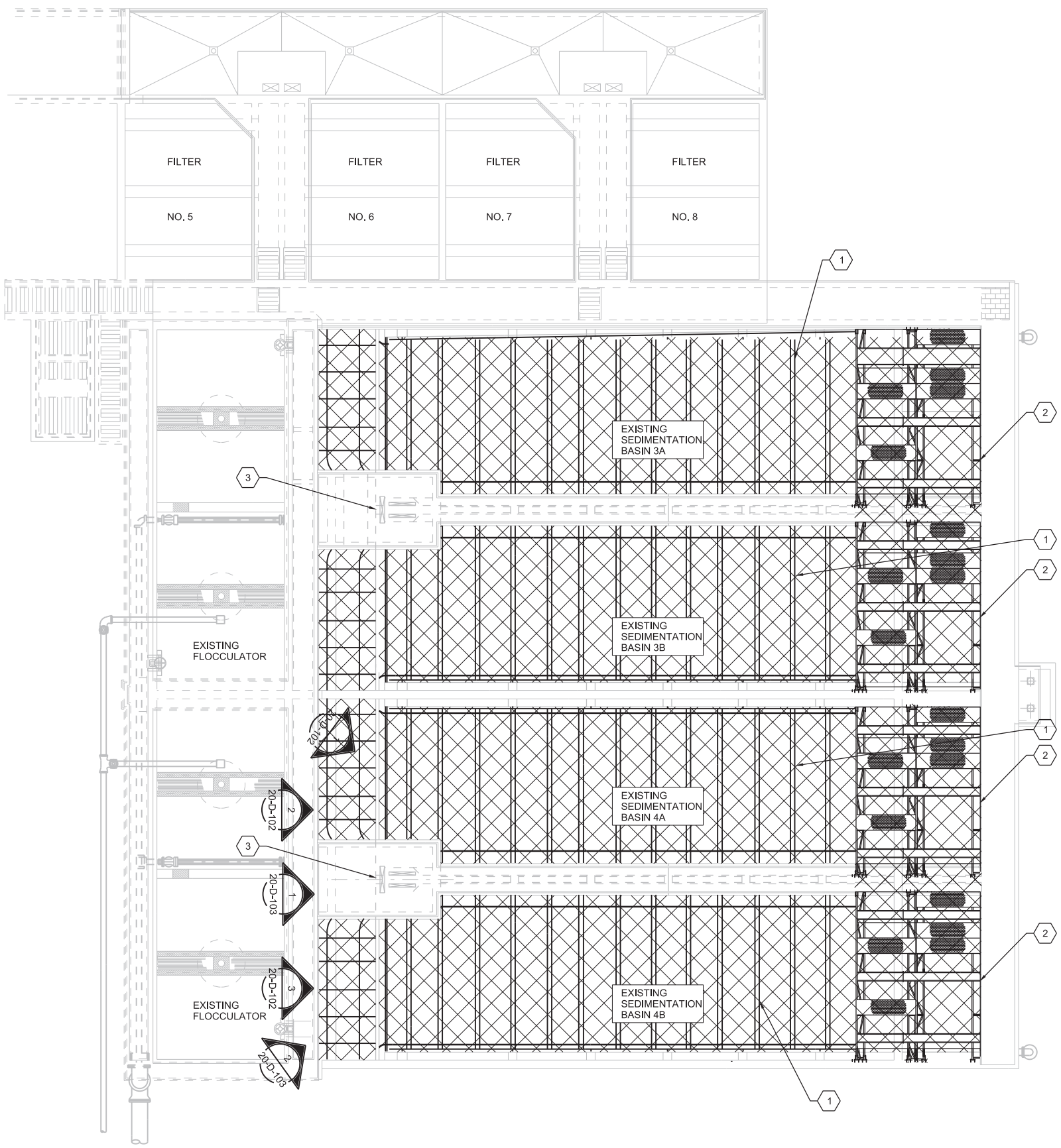


GENERAL NOTES

1. CONTRACTOR TO FIELD CONFIRM ALL MEASUREMENTS.

SHEET KEYNOTES

1. DEMOLISH EXISTING CHAIN AND FLIGHT SLUDGE COLLECTOR EQUIPMENT AND APPURTENANCES IN SEDIMENTATION BASINS 3 AND 4.
2. DEMOLISH EXISTING TUBE SETTLERS IN SEDIMENTATION BASINS 3 AND 4. EXISTING TO REMAIN. EXISTING SUPPORTS TO REMAIN.
3. DEMOLISH EXISTING SLUDGE VALVE ACTUATORS 3 AND 4 AND CONTROL PANEL.
4. EXISTING TUBE SETTLERS SUPPORTED BY CMU BLOCKS ON CMU DIVIDER WALL BETWEEN SUBBASINS IN SEDIMENTATION BASINS 3 AND 4.
5. DEMOLISH EXISTING SLUDGE COLLECTION DRIVES. REPAIR OPENINGS IN SLAB WHERE NECESSARY.



JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs

PROCESS MECHANICAL
FLOCCULATION/SEDIMENTATION
DEMOLITION PLAN

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	20-D-101
SHEET	47 of 101

BID DOCUMENTS

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

W. SHANNON DR. NO. DATE DSGN
K.L. DIAZ REVISION
E. MINICHEW APVD
M. MCDUGALD APVD

© JACOBS 2021. ALL RIGHTS RESERVED.



1 PHOTO DETAIL
NTS



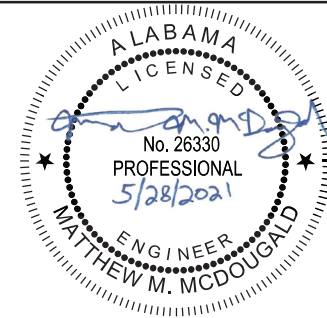
2 PHOTO DETAIL
NTS



3 PHOTO DETAIL
NTS

SHEET KEYNOTES

1. DEMOLISH EXISTING CHAIN AND FLIGHT SLUDGE COLLECTOR EQUIPMENT AND APPURTENANCES IN SEDIMENTATION BASINS 3 AND 4.
2. DEMOLISH EXISTING TUBE SETTLERS AND APPURTENANCES IN SEDIMENTATION BASINS 3 AND 4.
3. EXISTING TUBE SETTLERS SUPPORTED BY CMU BLOCKS ON CMU DIVIDER WALL BETWEEN SUBBASINS IN SEDIMENTATION BASINS 3 AND 4. SEE NOTE 8 ON DWG 20-S-202 FOR DEMOLITION OF CMU PIER. EXISTING TUBE SETTLER SUPPORTS TO BE ANCHORED TO NEW CAST-IN-PLACE WALL.



NO.	DATE	DR	REVISION	BY
			CHK	APVD
		W. SHANNON		E. MINCHEW
		DSGN		APVD
				M. MCDUGALD

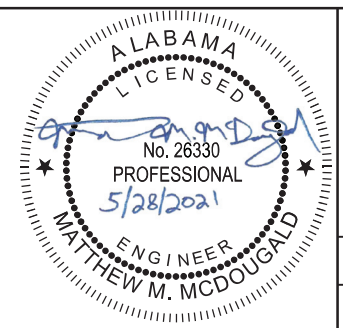
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
FLOCCULATION/SEDIMENTATION
DEMOLITION PHOTOS

DATE	JUNE 2021
PROJ	D3389300
DWG	20-D-102
SHEET	48 of 101

RE/USE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

BID DOCUMENTS



SHEET KEYNOTES	
1.	FIELD CUT TUBE SETTLERS FOR OVERFLOW PIPE.
2.	CORE DRILL WALL AND INSTALL NEW WALL PIPE, PER STANDARD DETAIL 4027-607.

GENERAL NOTES	
1.	CONTRACTOR TO FIELD CONFIRM ALL MEASUREMENTS AND ELEVATIONS.

NO.	DATE	DR	REVISION	BY

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

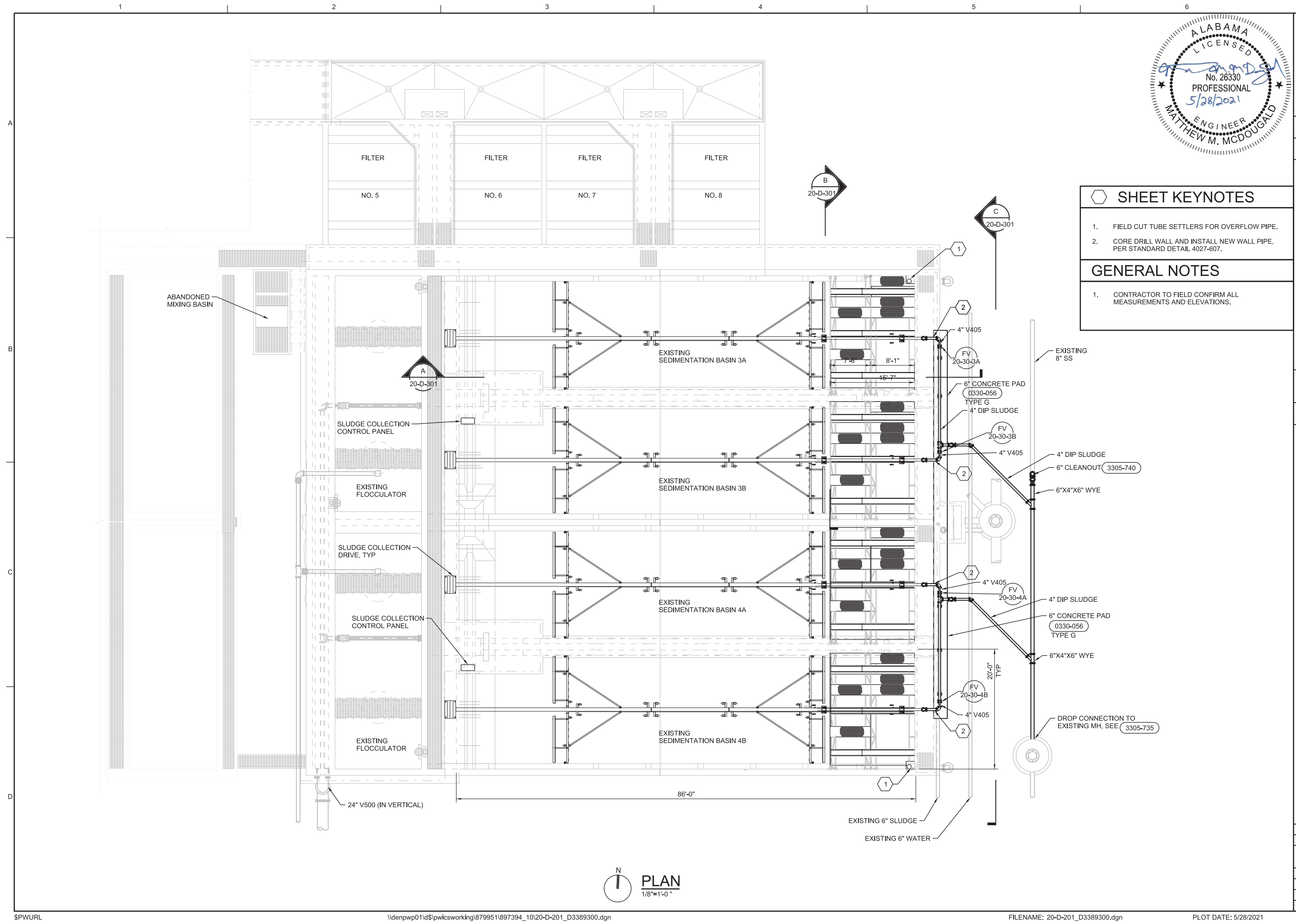
Jacobs
PROCESS MECHANICAL
**FLOCCULATION/SEDIMENTATION
PLAN**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	20-D-201
SHEET	50 of 101

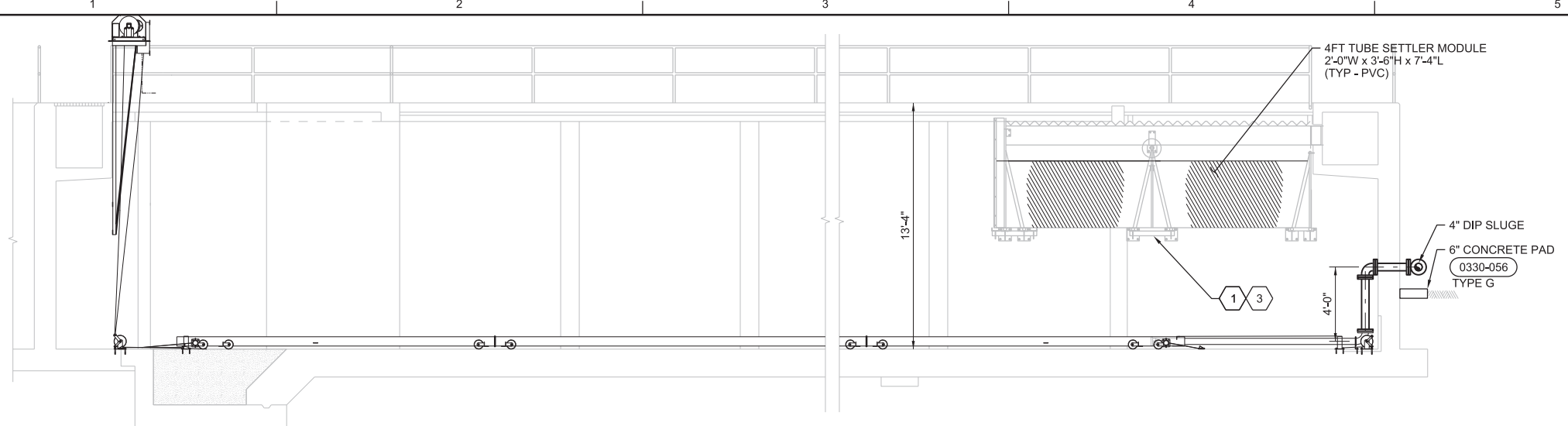
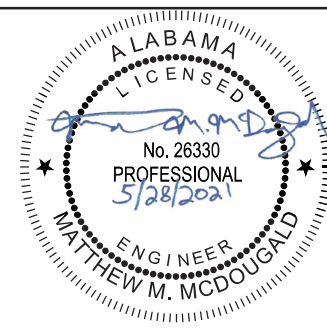
BID DOCUMENTS

© JACOBS 2021. ALL RIGHTS RESERVED.

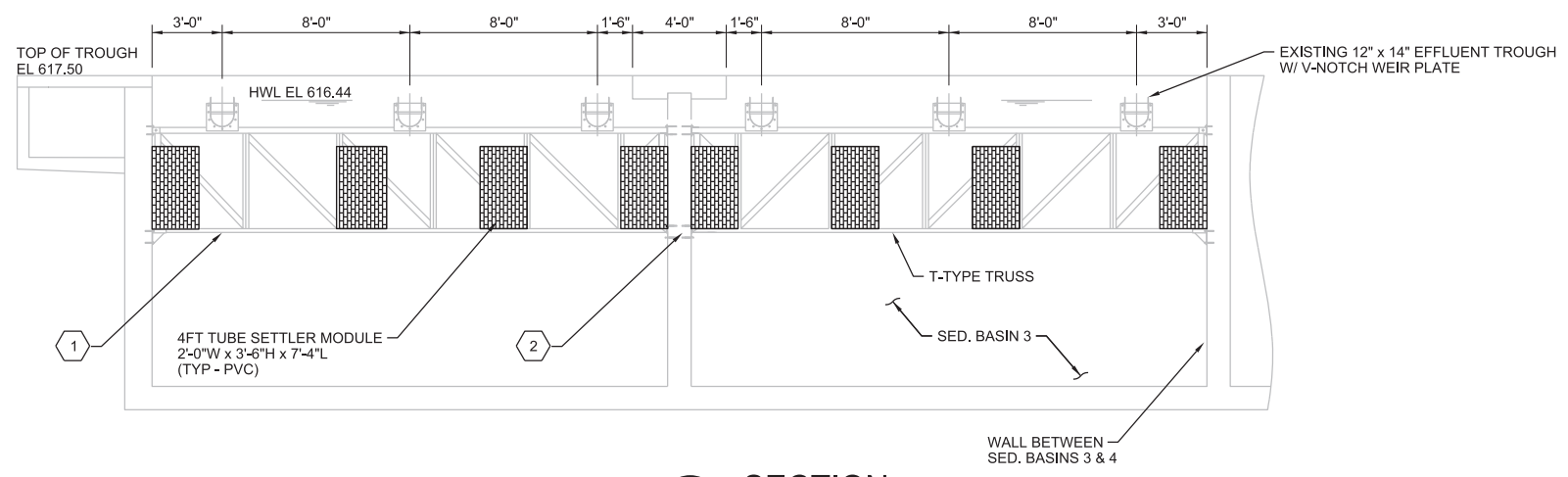
REUSE OF DOCUMENTS: THE DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.



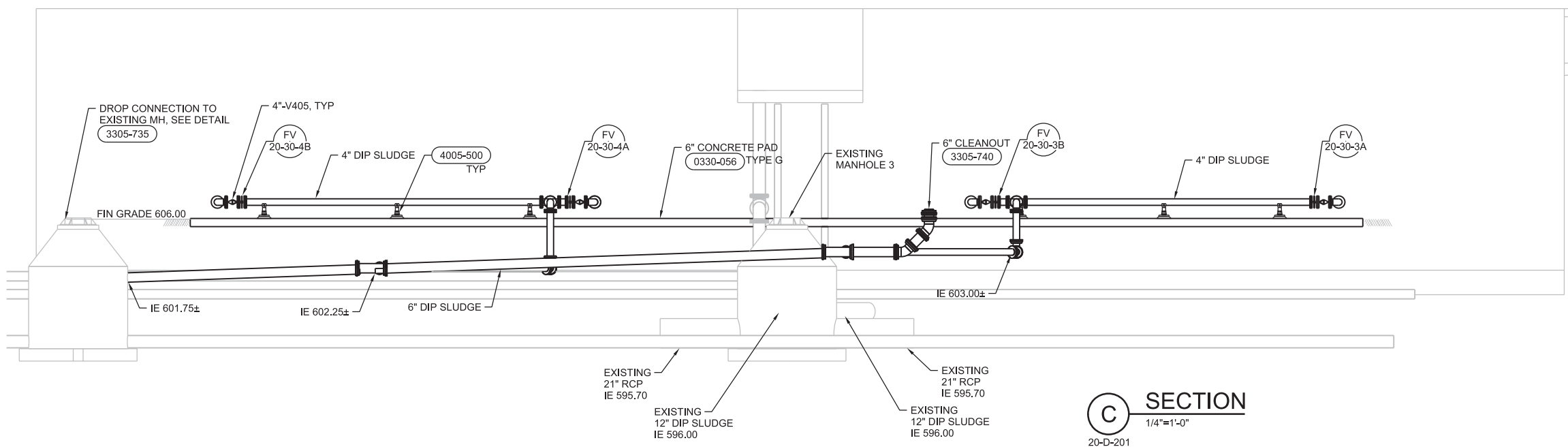
N
PLAN
1/8"=1'-0"



A SECTION
1/4"=1'-0"
20-D-201



B SECTION
1/4"=1'-0"
20-D-201



C SECTION
1/4"=1'-0"
20-D-201

GENERAL NOTES

- CONTRACTOR TO FIELD CONFIRM ALL MEASUREMENTS AND ELEVATIONS.

SHEET KEYNOTES

- EXISTING TUBE SETTLER SUPPORTS TO BE REUSED.
- MOUNT EXISTING TUBE SETTLER SUPPORTS TO NEW CONCRETE WALL BETWEEN SUB BASINS.
- FIELD CUT MODULES AT THE MIDDLE OF THE CENTER SUPPORT.

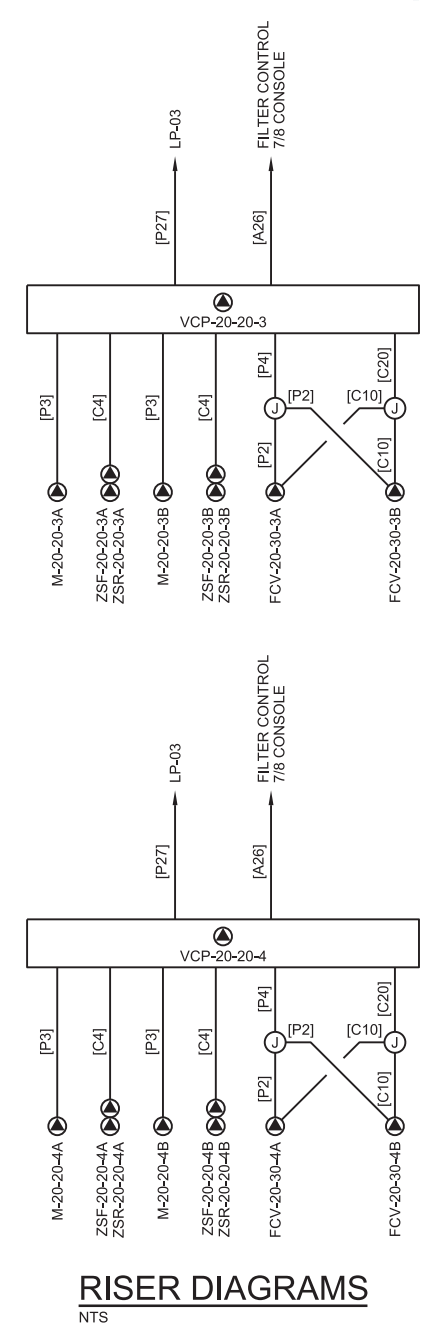
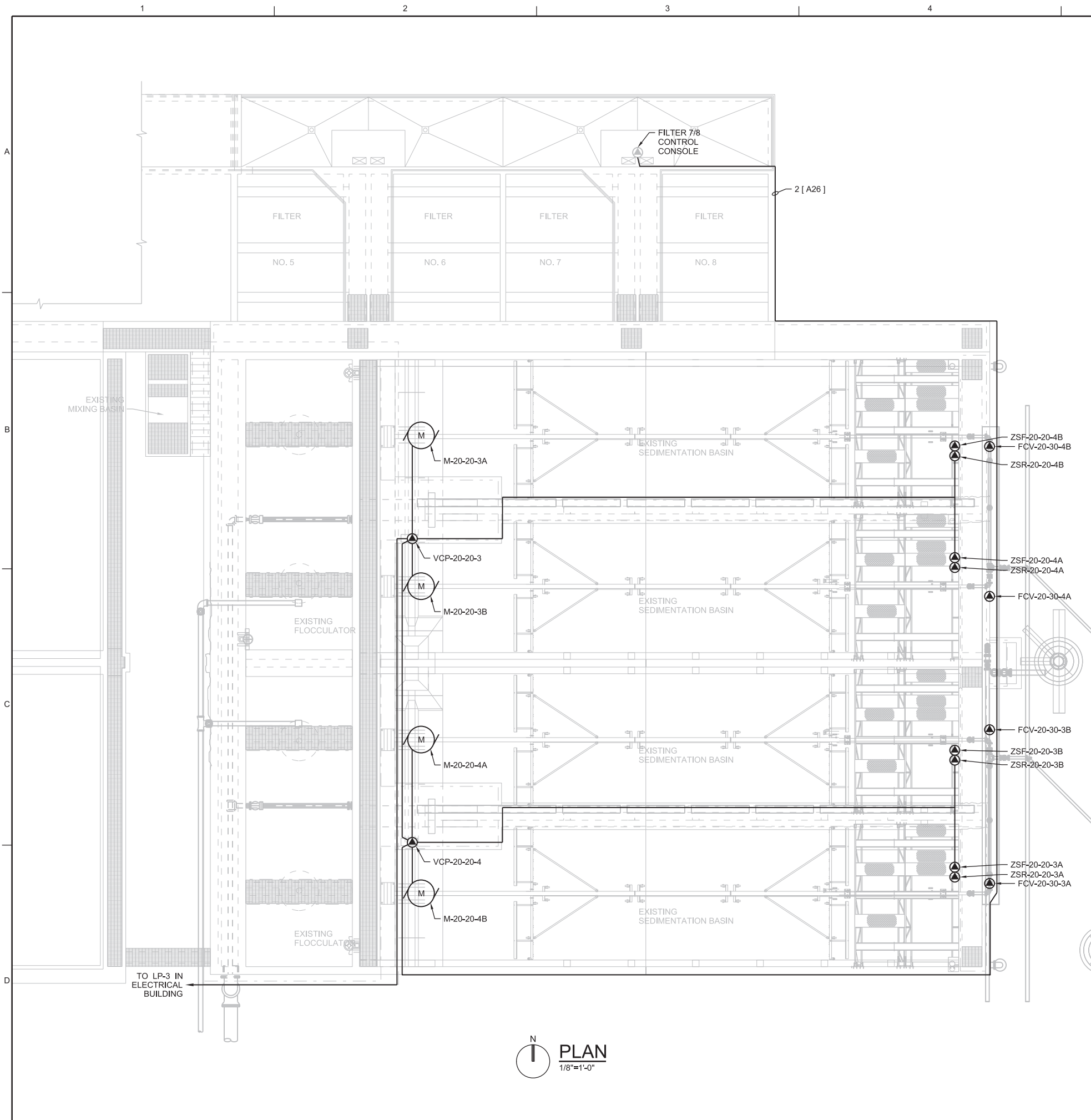
NO.	DATE	DR	REVISION	BY
		W SHANNON	CHK	M MCDUGALD
		E MINCHEW	APVD	
		KL DIAZ	CHK	

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
FLOCCULATION/SEDIMENTATION
SECTIONS

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	20-D-301
SHEET	51 of 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



RISER DIAGRAMS
NTS

ALABAMA
LICENSED
ENGINEER
KIRSTEN BRITT HORTON
No. 34073
PROFESSIONAL
Kirsten Britt Horton
05-27-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD

DESIGN	NO.	DATE	DR	CHK	REVISION	BY	APVD

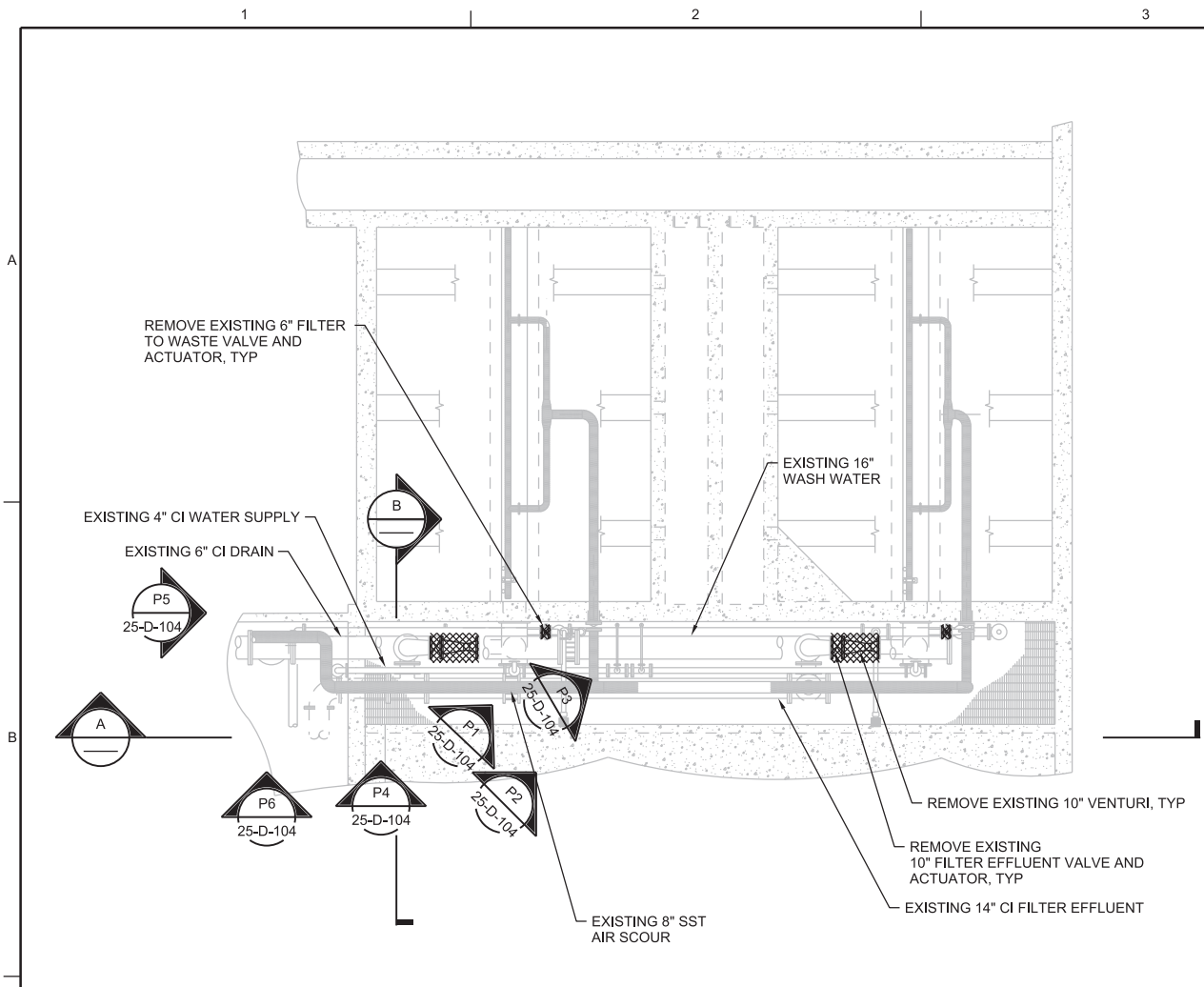
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
**FLOCCULATION/SEDIMENTATION
PLAN**

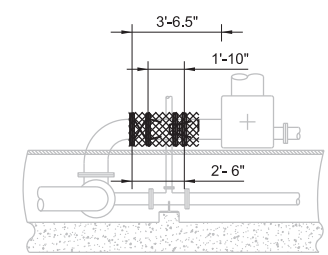
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 20-E-201
SHEET 52 of 101

- SHEET KEYNOTES**
- EXISTING SLUDGE COLLECTION SYSTEM 3 AND 4 ARE BEING DEMOLISHED. DEMOLISH ALL EXISTING CONDUIT ASSOCIATED WITH SLUDGE SYSTEM BEING REMOVED. SEE DEMOLISH DRAWINGS 20-D-101, 20-D-102 AND 20-D-103 FOR ADDITIONAL DETAILS.

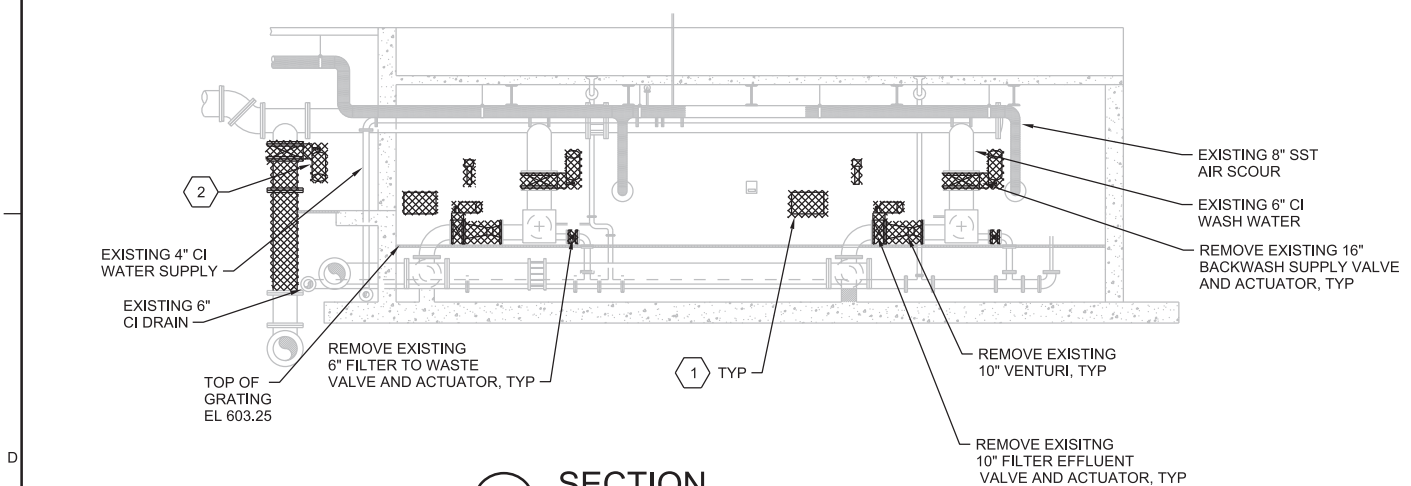
BID DOCUMENTS
REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2021. ALL RIGHTS RESERVED.



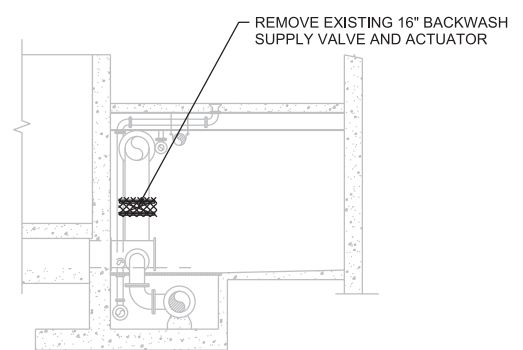
PLAN
3/16"=1'-0"



VENTURI REPLACEMENT DETAIL
NTS



A SECTION
3/16"=1'-0"



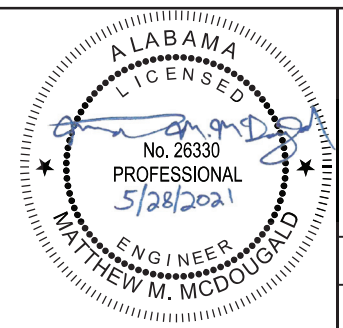
B SECTION
1/4"=1'-0"

GENERAL NOTES

- CONTRACTOR TO COORDINATE DEMOLITION AND CONSTRUCTION WITH THE OWNER. THE MAXIMUM NUMBER OF FILTERS TO BE OUT OF SERVICE FOR ANY EXTENDED PERIOD OF TIME WILL BE 2. SEE SPECIFICATION SECTION 01 31 13.
- CONTRACTOR TO PROVIDE TEMPORARY PIPE SUPPORTS AS NEEDED DURING DEMOLITION AND CONSTRUCTION.
- THE FOLLOWING ITEMS SHALL BE REMOVED AS PART OF THESE IMPROVEMENTS:
 - ALL VALVES INDICATED AS "TO BE REMOVED" ON DRAWINGS AS WELL AS THEIR ACTUATORS FOR FILTERS 1-8.
 - ALL HYDRAULIC ACTUATOR PIPING AND APPURTENANCES.
 - ALL DIFFERENTIAL PRESSURE INSTRUMENTS FOR FLOW AND HEADLOSS METERS AND FLOW CONTROL VALVES (FILTER 1-8) AND AIR SCOUR.

SHEET KEYNOTES

- DEMOLISH EXISTING FLOW AND HEADLOSS METERS, TURBIDIMETERS, ACTUATORS AND APPURTENANCES, ACTUATOR CONTROLS FOR AIR SCOUR LINE AND TURBIDIMETER CONTROLLER TO REMAIN.
- EXISTING BACKWASH SUPPLY VALVE TO BE ABANDONED IN PLACE. CONTRACTOR TO DEMOLISH VALVE ACTUATOR CONTROLS. EXISTING FLOW METER TO BE REMOVED AND REPLACED. EXISTING FLOW METER IS SHOWN IN P5 ON 25-D-104. NEW FLOW METER IS SHOWN ON 25-D-201.



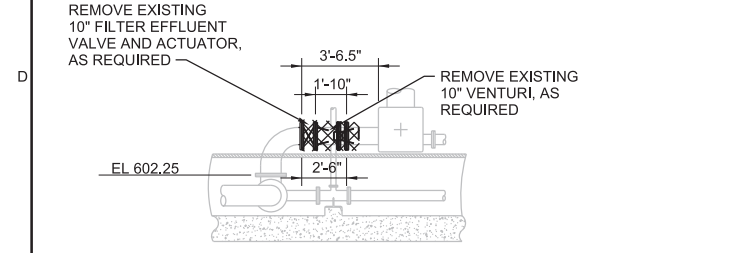
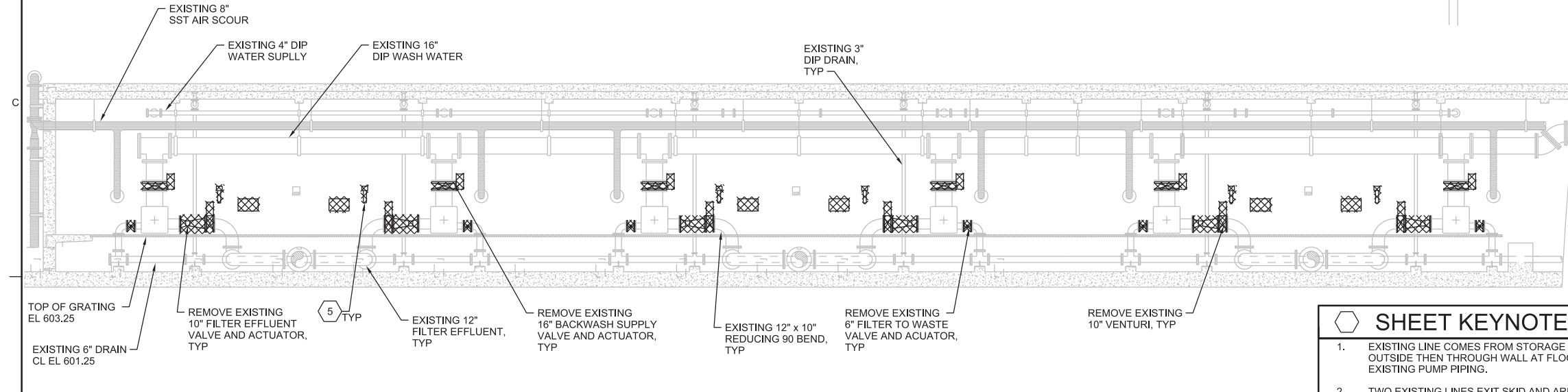
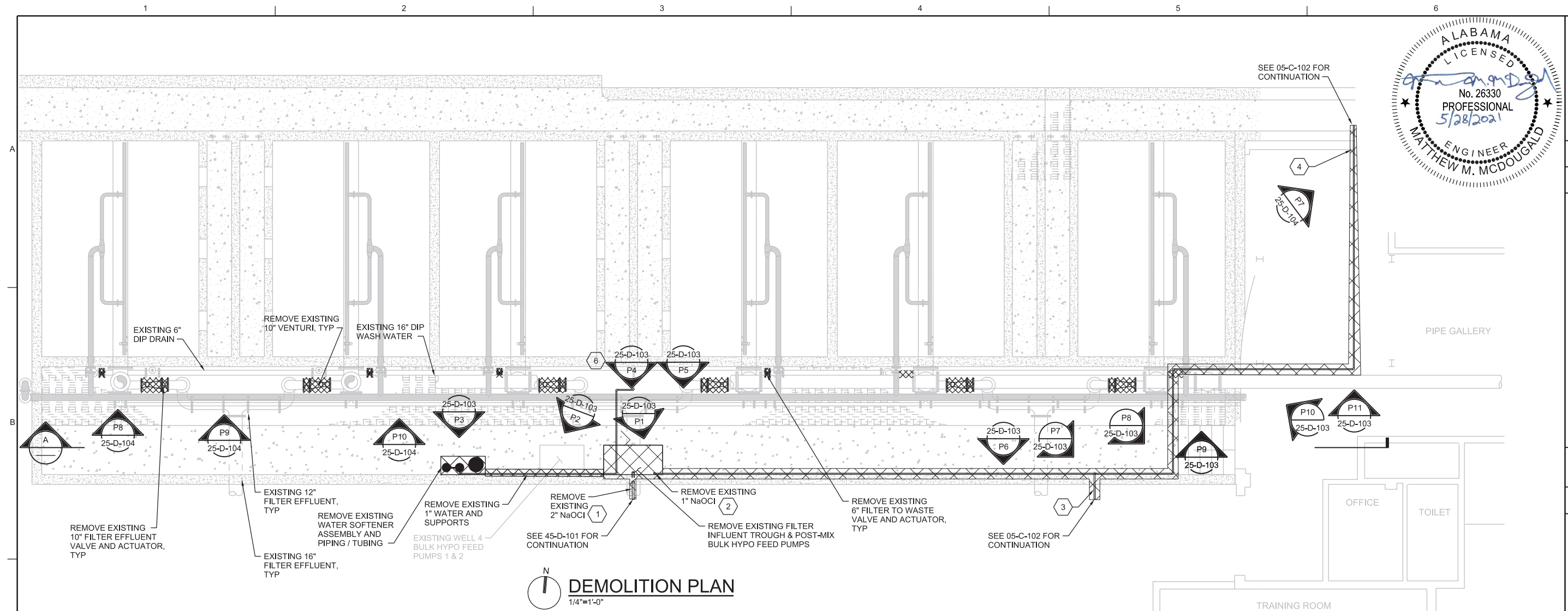
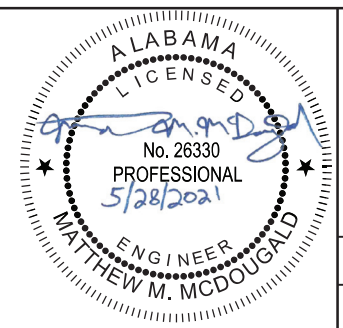
NO.	DATE	DR	REVISION	BY
		P WAID	CHK	APVD
				M MCDUGALD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
FILTERS 1 & 2
DEMOLITION PLAN

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	25-D-101
SHEET	53 of 101

BID DOCUMENTS



- SHEET KEYNOTES**
- EXISTING LINE COMES FROM STORAGE TANKS OUTSIDE THEN THROUGH WALL AT FLOOR INTO EXISTING PUMP PIPING.
 - TWO EXISTING LINES EXIT SKID AND ARE ROUTED UP AND THEN ALONG WALL JUST BELOW CEILING AT APPROXIMATELY 10 FEET FROM FLOOR.
 - EXISTING LOWER LINE GOES DOWN WALL AND THROUGH WALL AT FLOOR TO OUTSIDE.
 - EXISTING LINE EXITS THROUGH BUILDING WALL TO UNDER CONCRETE WALKWAY AND RUNS UNDER CONCRETE WALKWAY IN TROUGH.
 - DEMOLISH EXISTING FLOW AND HEADLOSS METERS, TURBIDIMETERS, ACTUATOR CONTROLS AND APPURTENANCES. ACTUATOR CONTROLS FOR AIR SCOUR LINE AND AIT TO REMAIN.
 - DEMOLISH EXISTING 1" WATER UP TO TEE.

- GENERAL NOTES**
- CONTRACTOR TO COORDINATE DEMOLITION AND CONSTRUCTION WITH THE OWNER. THE MAXIMUM NUMBER OF FILTERS TO BE OUT OF SERVICE FOR ANY EXTENDED PERIOD OF TIME WILL BE 2. SEE SPECIFICATION SECTION 01 31 13.
 - CONTRACTOR TO PROVIDE TEMPORARY PIPE SUPPORTS AS NEEDED DURING DEMOLITION AND CONSTRUCTION.
 - THE FOLLOWING ITEMS SHALL BE REMOVED AS PART OF THESE IMPROVEMENTS:
 - ALL VALVES INDICATED AS "TO BE REMOVED" ON DRAWINGS AS WELL AS THEIR ACTUATORS FOR FILTERS 1-8.
 - ALL HYDRAULIC ACTUATOR AIR PIPING AND APPURTENANCES.
 - ALL DIFFERENTIAL PRESSURE INSTRUMENTS FOR FLOW AND HEADLOSS METERS AND FLOW CONTROL VALVES (FILTER 1-8).
 - SODIUM HYPOCHLORITE (NaOCl) PUMPS, PIPING, AND VALVES WHERE INDICATED. REUSE CEILING AND WALL MOUNTED BRACKETS AND REPLACE AND RESIZE CLAMPS AS NEEDED.
 - WATER SOFTENERS ASSEMBLY AND 1" WATER AND ASSOCIATED CEILING AND WALL MOUNTED BRACKETS WHERE INDICATED.
 - CORE PIPE PENETRATIONS AS NEEDED AND INSTALL PER PROCESS MECHANICAL DRAWINGS.

JACOBS
PROCESS MECHANICAL
FILTERS 3-8 AND SODIUM HYPOCHLORITE
DEMOLITION PLAN

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

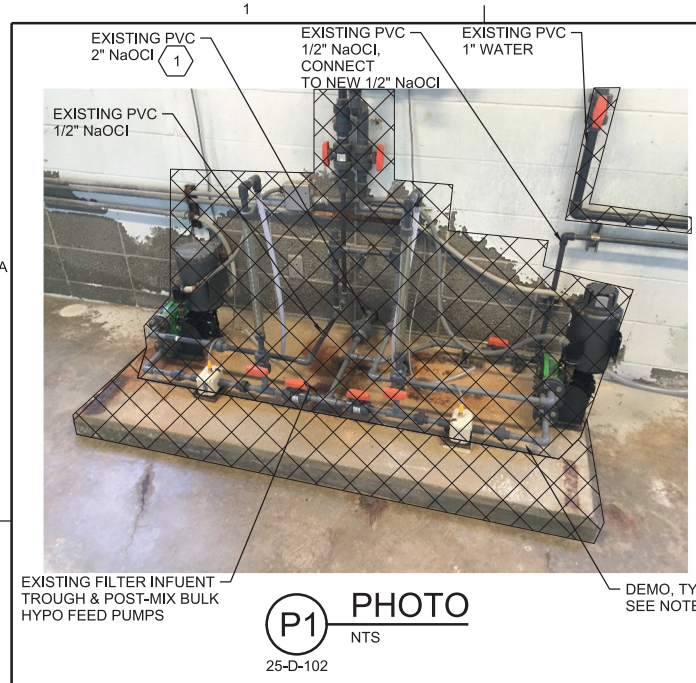
NO.	DATE	DR	REVISION	BY	APVD

DESIGN: P. WARD
CHECK: K. DIAZ
APPROVED: E. MINCHEW
DATE: 5/28/2021
BY: M. MCDUGALD

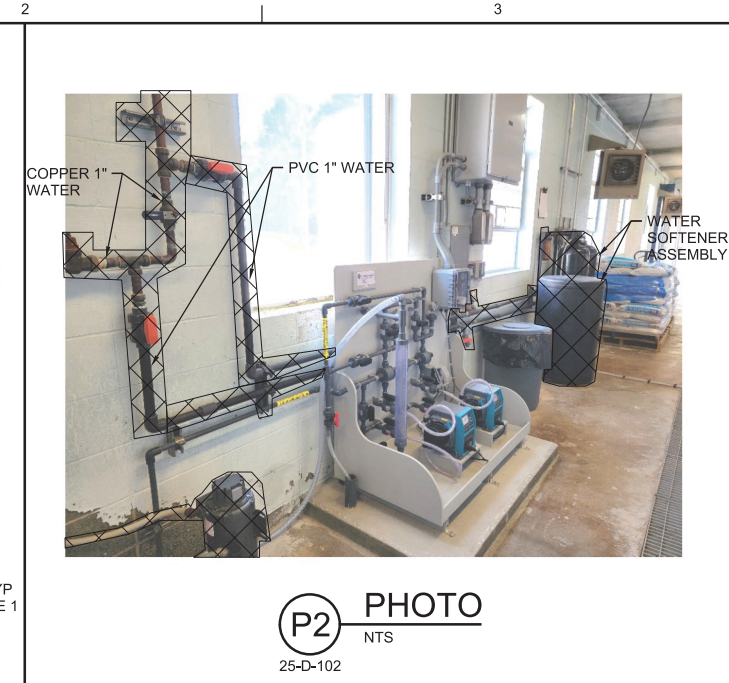
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 25-D-102
SHEET: 54 of 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2021. ALL RIGHTS RESERVED.



P1 PHOTO
NTS
25-D-102



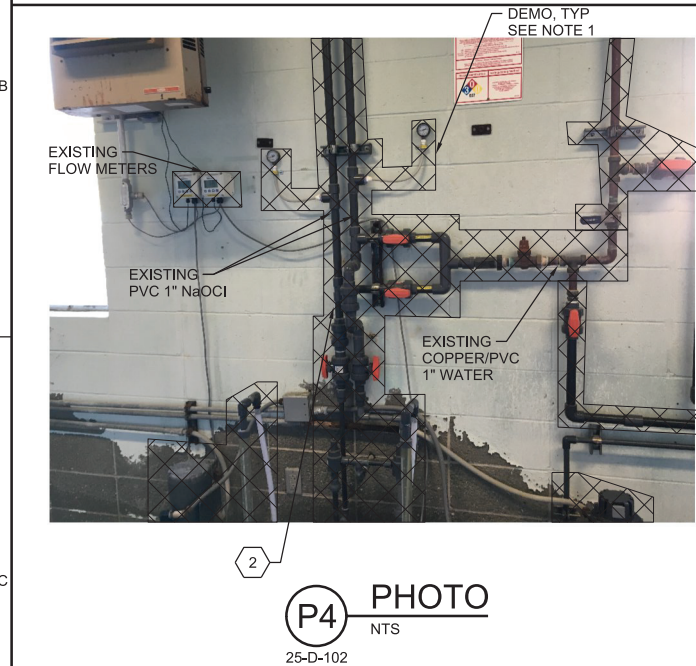
P2 PHOTO
NTS
25-D-102



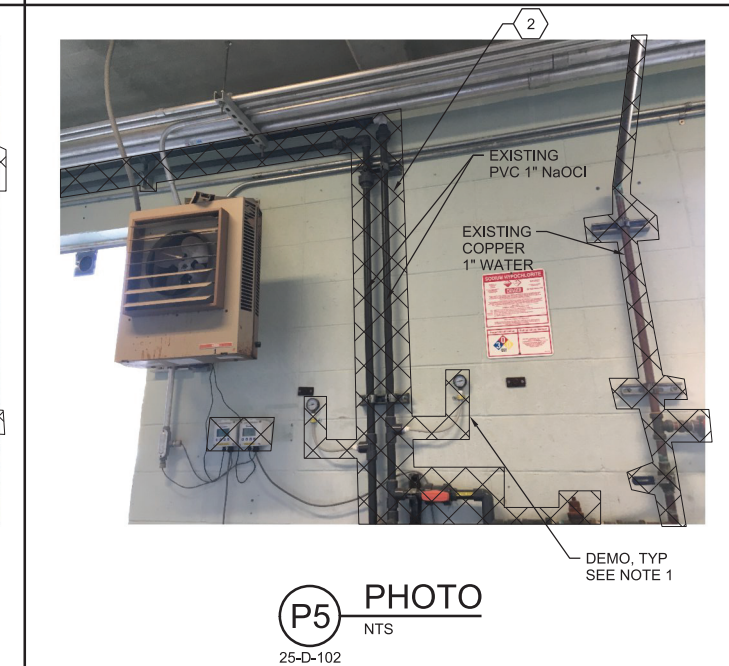
P3 PHOTO
NTS
25-D-102

ALABAMA LICENSED
No. 26330
PROFESSIONAL ENGINEER
5/28/2021
MATTHEW M. MCDUGALD

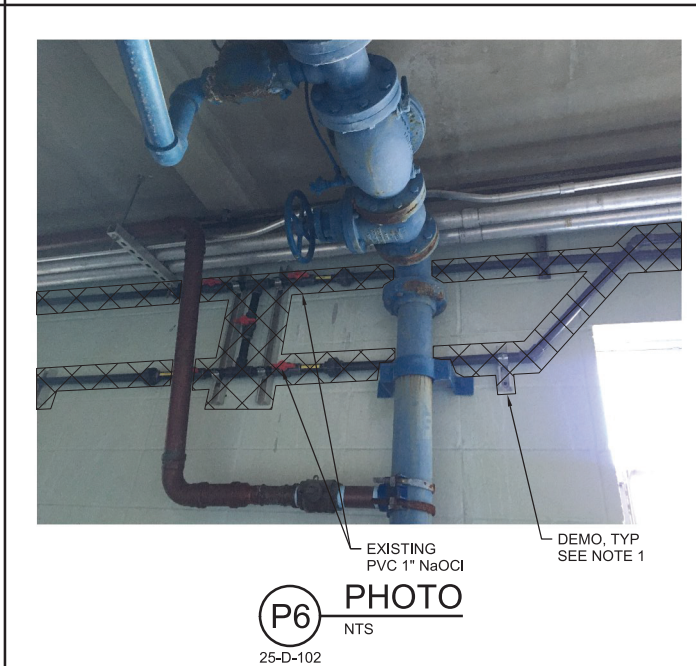
NO.	DATE	NO.	DATE
DR	P. WAID	CHK	APVD
MCDUGALD	E. MINCHEW	MCDUGALD	MCDUGALD



P4 PHOTO
NTS
25-D-102



P5 PHOTO
NTS
25-D-102



P6 PHOTO
NTS
25-D-102



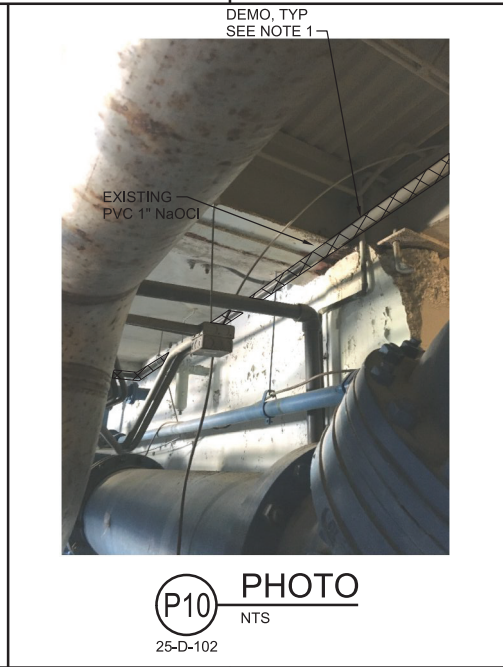
P7 PHOTO
NTS
25-D-102



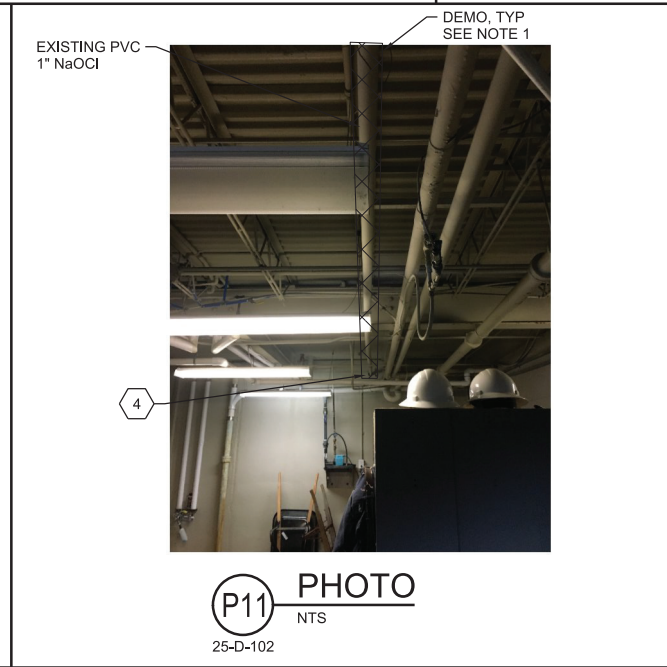
P8 PHOTO
NTS
25-D-102



P9 PHOTO
NTS
25-D-102



P10 PHOTO
NTS
25-D-102



P11 PHOTO
NTS
25-D-102

GENERAL NOTES

- DEMOLISH SODIUM HYPOCHLORITE (NaOCl) PUMPS, PIPING, AND VALVE WHERE INDICATED. REUSE CEILING AND WALL MOUNTED BRACKETS AND REPLACE AND RESIZE CLAMPS AS NEEDED.
- DEMOLISH WATER SOFTENER ASSEMBLY AND 1" WATER AND ASSOCIATED CEILING AND WALL MOUNTED BRACKETS WHERE INDICATED.
- CORE PIPE PENETRATIONS AS NEEDED AND INSTALL PER PROCESS MECHANICAL DRAWINGS.

SHEET KEYNOTES

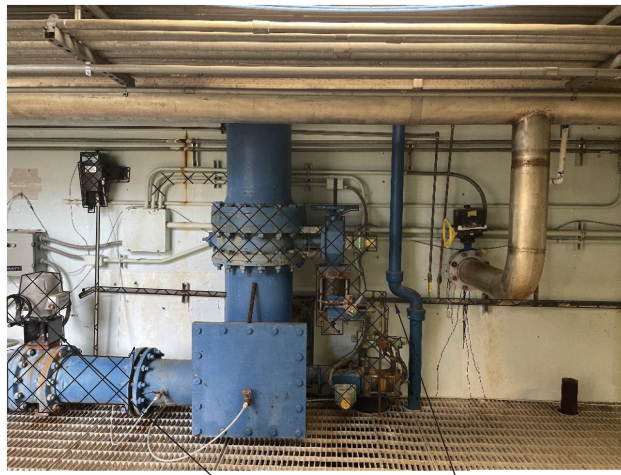
- EXISTING LINE COMES FROM STORAGE TANKS OUTSIDE THEN THROUGH WALL AT FLOOR INTO EXISTING PUMP PIPING.
- TWO EXISTING LINES EXIT SKID AND ARE ROUTED UP AND THEN ALONG WALL JUST BELOW CEILING AT APPROXIMATELY 10 FEET FROM FLOOR.
- EXISTING LOWER LINE GOES DOWN WALL AND THROUGH WALL AT FLOOR TO OUTSIDE.
- EXISTING LINE EXITS THROUGH BUILDING WALL TO UNDER CONCRETE. WALKWAY AND RUNS UNDER CONCRETE WALKWAY IN TROUGH.

JACOBS
PROCESS MECHANICAL
FILTERS 3-8 AND SODIUM HYPOCHLORITE DEMOLITION PHOTOS

NO.	DATE	NO.	DATE
DR	P. WAID	CHK	APVD
MCDUGALD	E. MINCHEW	MCDUGALD	MCDUGALD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 25-D-103
SHEET: 55 of 101



P1 PHOTO
NTS
25-D-101



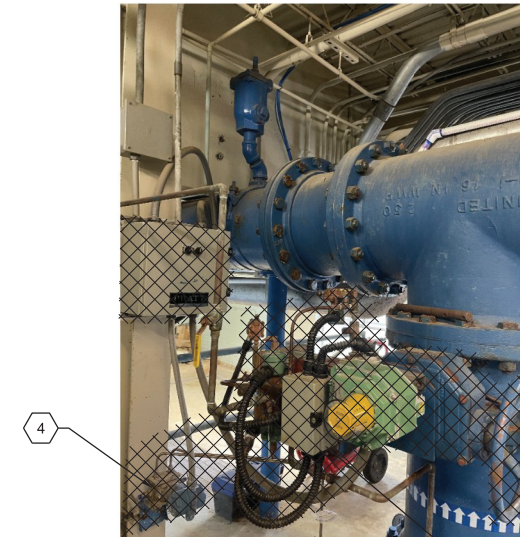
P2 PHOTO
NTS
25-D-101



P3 PHOTO
NTS
25-D-101



P4 PHOTO
NTS
25-D-101



P5 PHOTO
NTS
25-D-101



P6 PHOTO
NTS
25-D-101



P7 PHOTO
NTS
25-D-102



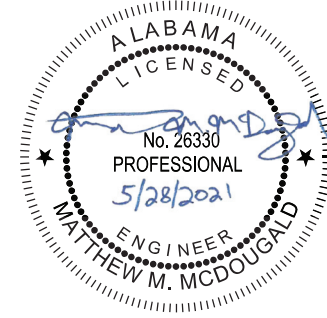
P8 PHOTO
NTS
25-D-102



P9 PHOTO
NTS
25-D-102



P9 PHOTO
NTS
25-D-102



- SHEET KEYNOTES**
- DEMOLISH EXISTING FLOW METERS, TURBIDIMETERS, ACTUATOR CONTROLS AND APPURTENANCES. TURBIDIMETER CONTROLLERS TO REMAIN EXCEPT WHERE NOTED FOR REMOVAL.
 - DEMOLISH HORIZONTAL 1" COPPER WATER LINE GOING TO EXISTING HYDRAULIC ACTUATORS AS SHOWN. WATER LINE IN THE VERTICAL SHALL BE DEMOLISHED TO THE HOSE BIB AND LINE CAPPED.
 - DEMOLISH 1" WATER LINE IN VERTICAL AND ADD 3/4" HOSE BIB.
 - WALL BRACKETS FOR FLOW AND HEADLOSS METERS AND STAINLESS STEEL PIPING TO THE METERS TO REMAIN. WALL BRACKETS SHALL BE RELOCATED.
 - CONTRACTOR SHALL DEMOLISH EXISTING 3/4" TAPS FOR PRESSURE PIPING ON FILTER EFFLUENT PIPE AND FILTER EFFLUENT BOX AND INSTALL NEW 3/4" TAPS FOR PRESSURE PIPING.
 - DEMOLISH EXISTING VERTICAL 16" BACKWASH SUPPLY LINE FROM FLOOR PIPE TO TEE.
 - REMOVE AN REPLACE EXISTING TURBIDIMETER AND TURBIDIMETER CONTROLLER.
 - REMOVE AND REPLACE EXISTING MUD LEG. EXISTING SST PIPING TO REMAIN. MUD LEG SHALL BE COMPATIBLE WITH EXISTING LEOPOLD FILTERS.

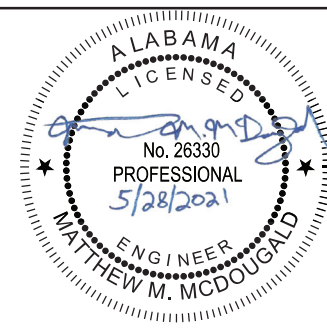
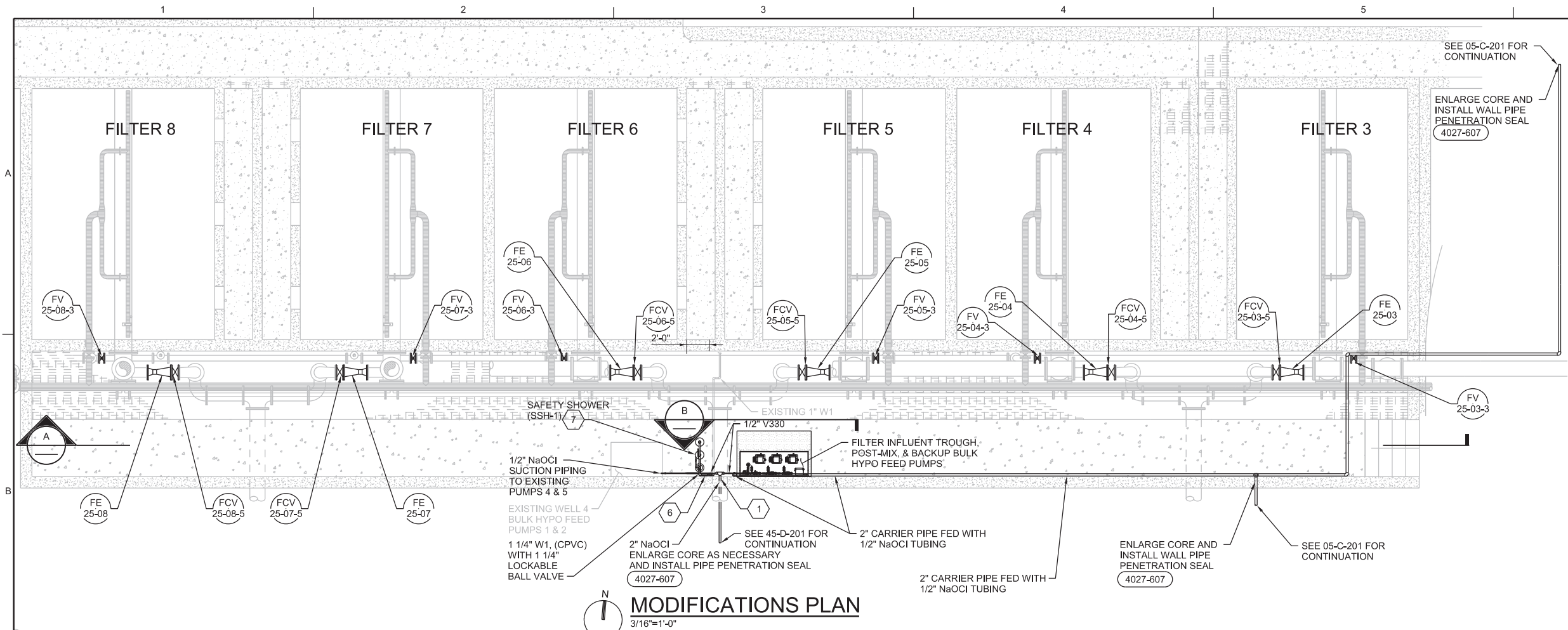
NO.	DATE	DR	REVISION	CHK	BY

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
FILTERS 1-8
DEMOLITION PHOTOS

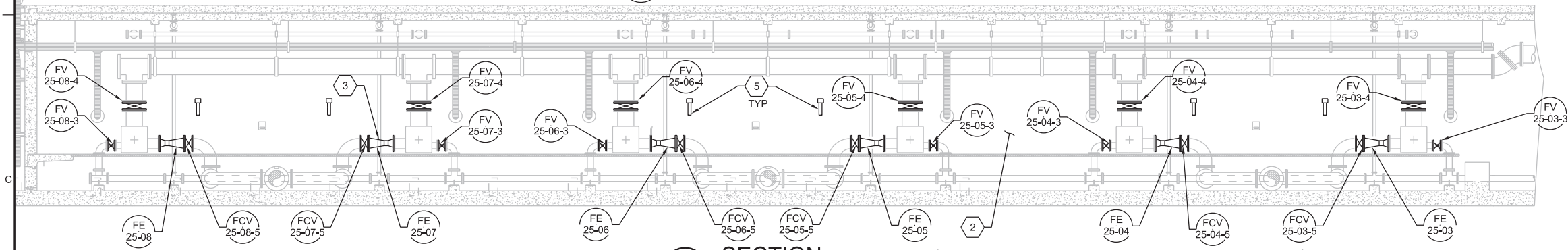
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 25-D-104
SHEET: 56 OF 101

BID DOCUMENTS
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
M. MCDUGALD
E. MINCHEW
K.L. DIAZ
P. WAID
APVD
CHK
DGN

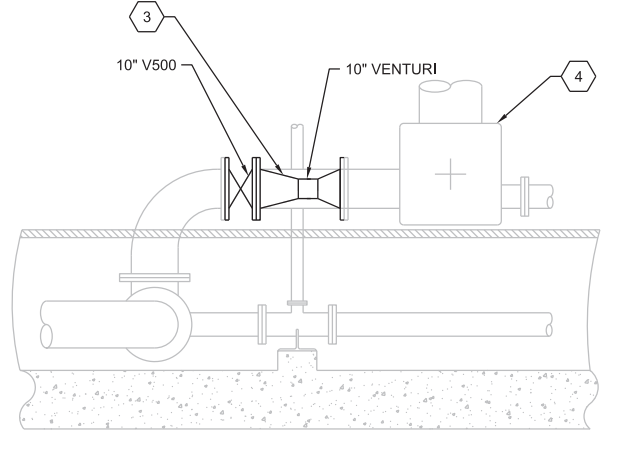


NO.	DATE	DR	CHK	BY	APVD
		P. WADE	KL DIAZ	E. MINCHEW	M. MCDUGALD

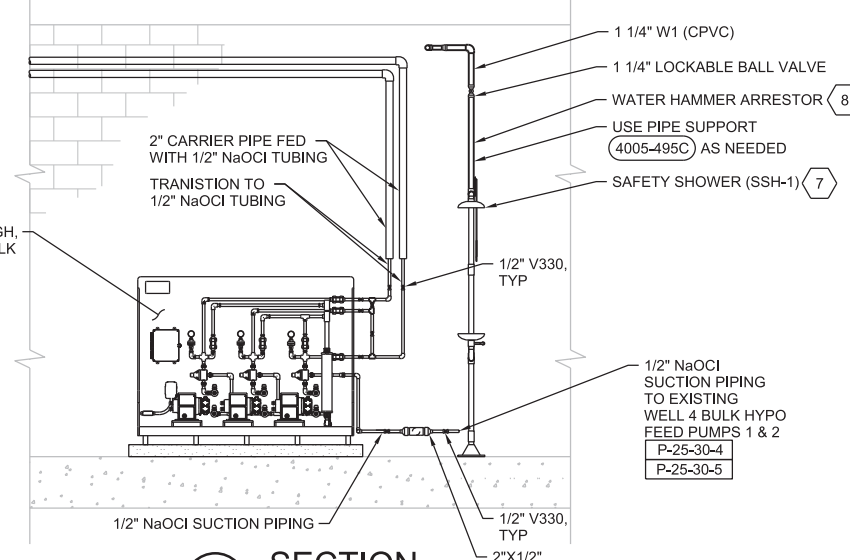
MODIFICATIONS PLAN
3/16"=1'-0"



SECTION A
3/16"=1'-0"



VENTURI REPLACEMENT DETAIL
NTS



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

GENERAL NOTES

- CONTRACTOR SHALL REPLACE VALVES AND APPURTENANCES AS REQUIRED. SEE DRAWING 25-D-102 FOR DEMOLITION PLAN AND COORDINATION NOTES.
- REUSE EXISTING NaOCl CEILING AND WALL MOUNTED PIPING BRACKETS AND REPLACE AND RESIZE CLAMPS AS NEEDED.

SHEET KEYNOTES

- CONTRACTOR TO CONNECT EXISTING 2" NaOCl TO NEW FILTER INFLUENT TROUGH, POST-MIX, & BACKUP BULK HYPO FEED PUMPS SKID AND EXISTING WELL 4 BULK HYPO FEED PUMPS 1 & 2 SKID AS NECESSARY.
- BLAST CLEAN AND RECOAT EXISTING PIPE AND WALLS IN ACCORDANCE WITH SPECIFICATION SECTION 09 90 00.
- NEW VENTURI FLOW METER AND FILTER EFFLUENT VALVE SHALL FIT LAY LENGTH OF EXISTING VENTURI FLOW METER AND FILTER EFFLUENT VALVE. CONTRACTOR TO FIELD VERIFY EXISTING LAY LENGTH BEFORE ORDERING MATERIALS.
- SANDBLAST AND REPAINT EXISTING FILTER EFFLUENT BOX.
- INSTALL NEW TURBIDIMETER, FLOW METER AND ACTUATOR CONTROLS.
- TIE INTO EXISTING POTABLE WATER (W1) COPPER PIPING. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING POTABLE WATER.
- SAFETY SHOWER (SSH1) TO BE HAWS 8300 CRP-8309CRP WITH VISUAL AND AUDIBLE ALARM MODEL 9001.
- WATER HAMMER ARRESTOR TO BE ZURN, 1700 SERIES #300.

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
**FILTERS 3-8 AND SODIUM HYPOCHLORITE
MODIFICATIONS PLAN**

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	25-D-102
SHEET	58 of 101

1

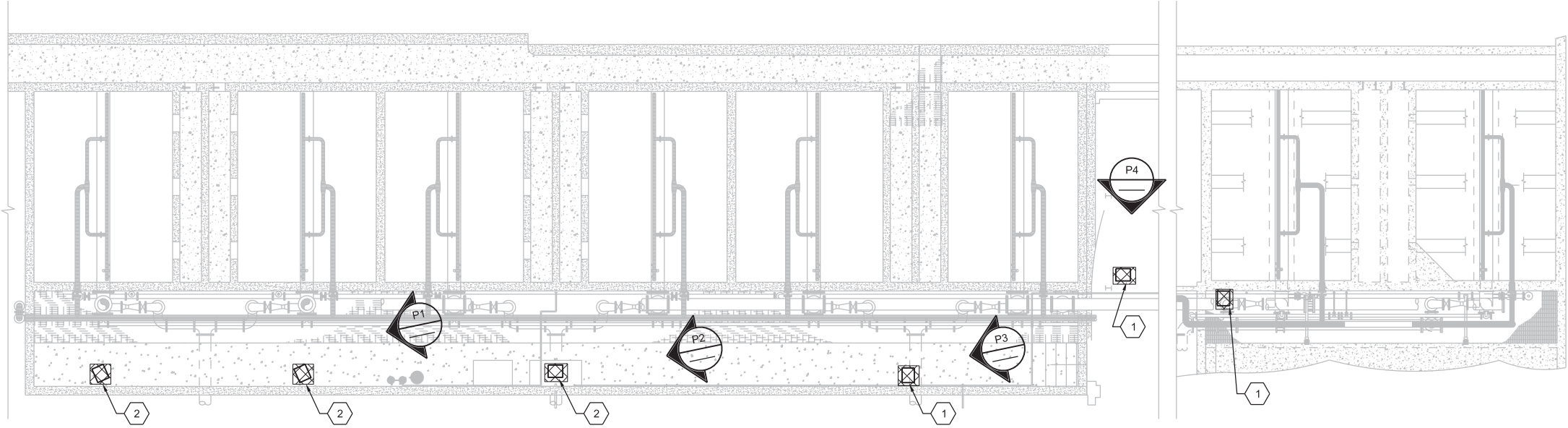
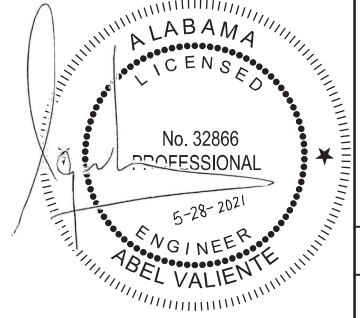
2

3

4

5

6



DEMOLITION PLAN
1/8"=1'-0"
N



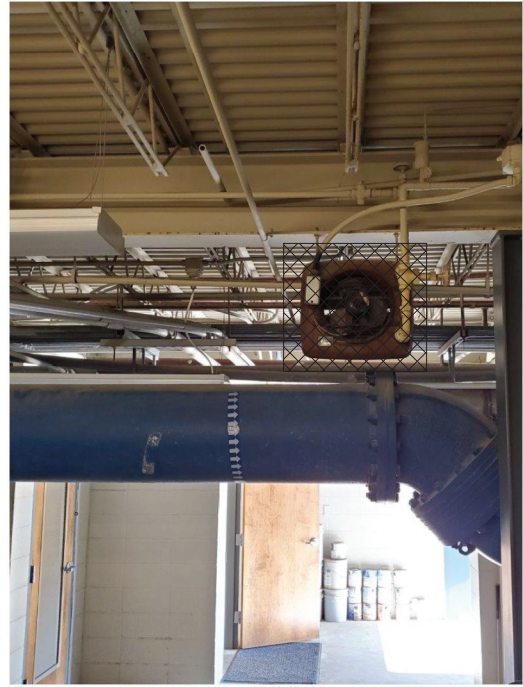
P1 PHOTO
NTS



P2 PHOTO
NTS



P3 PHOTO
NTS



P4 PHOTO
NTS

- SHEET KEYNOTES**
1. DEMOLISH SPACE HOT WATER HEATER AND ALL ASSOCIATED PIPING AND APPURTENANCES.
 2. DEMOLISH SPACE ELECTRIC HEATER AND ALL ASSOCIATED APPURTENANCES.

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

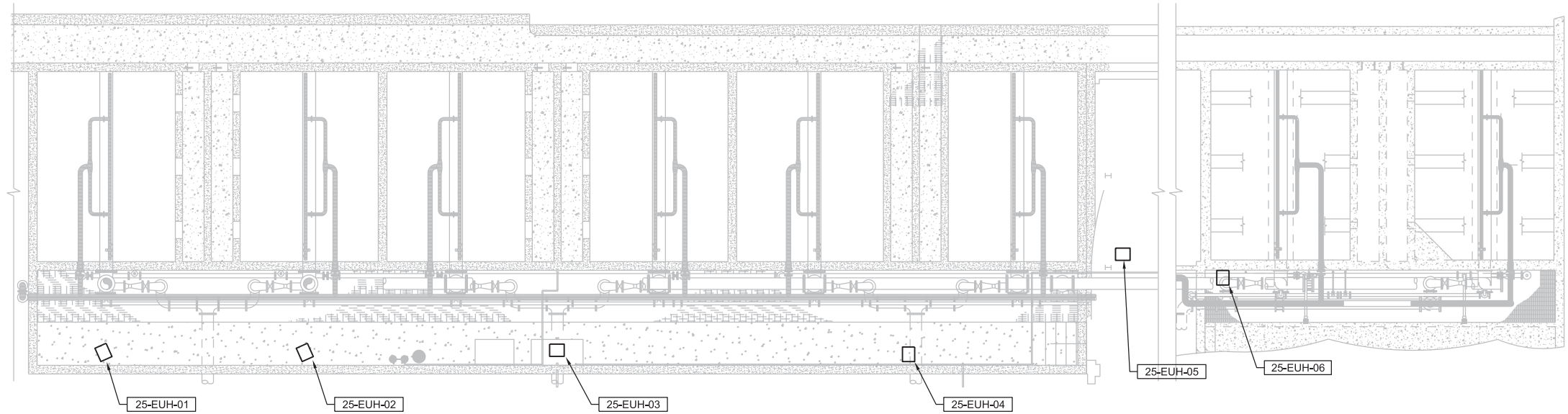
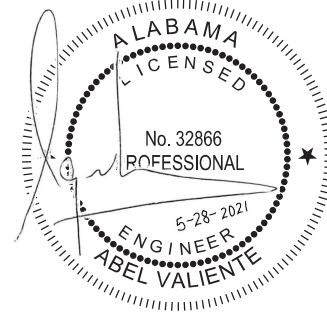
Jacobs
BUILDING MECHANICAL
FILTERS AND SODIUM HYPOCHLORITE
DEMOLITION PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	25-M-101
SHEET	59 of 101

BID DOCUMENTS

© JACOBS 2021. ALL RIGHTS RESERVED.



RENOVATION PLAN
1/8"=1'-0"

UNIT HEATERS 23 82 00

SYMBOL		25-EUH-01	25-EUH-02	25-EUH-03	25-EUH-04	25-EUH-05	25-EUH-06
LOCATION		FILTER GALLERY	FILTER GALLERY	FILTER GALLERY	FILTER GALLERY	FILTER GALLERY	FILTER GALLERY
TYPE		ELECTRIC, SUSPENDED	ELECTRIC, SUSPENDED	ELECTRIC, SUSPENDED	ELECTRIC, SUSPENDED	ELECTRIC, SUSPENDED	ELECTRIC, SUSPENDED
AIR SIDE DATA	SUPPLY AIRFLOW	CFM	530	530	530	530	530
	THROW	FEET	14	14	14	14	14
		AMP DRAW	9.5	9.5	9.5	9.5	9.5
	MOTOR	POWER	HP	1/40	1/40	1/40	1/40
		VOLT	460	460	460	460	460
FH		3	3	3	3	3	
ELECTRIC HEAT DATA	CAPACITY	KW	7.5	7.5	7.5	7.5	
	NUMBER OF STEPS	1	1	1	1	1	
	VOLT	460	460	460	460	460	
	FH	3	3	3	3	3	
UNIT ELECTRICAL DATA	VOLT	460	460	460	460	460	
	FH	3	3	3	3	3	
MOUNTING HEIGHT	MINIMUM	FEET	8	8	8	8	
	MAXIMUM	FEET	8	8	8	8	
DIMENSIONS	LENGTH	INCHES	20 1/4	20 1/4	20 1/4	20 1/4	
	WIDTH	INCHES	16 7/8	16 7/8	16 7/8	16 7/8	
	HEIGHT	INCHES	20 7/8	20 7/8	20 7/8	20 7/8	
	WEIGHT	LBS	52	52	52	52	
MANUFACTURER		MODINE	MODINE	MODINE	MODINE	MODINE	
MODEL NO.		HER75	HER75	HER75	HER75	HER75	
APPLICABLE REMARKS:		A THRU E	A THRU E	A THRU E	A THRU E	A THRU E	
ABBREVIATIONS:		NG: NATURAL GAS PG: PROPANE GAS NG/PG: DUAL FUEL, NATURAL AND PROPANE GAS					
REMARKS:		A: FACTORY INSTALLED MOTOR STARTER / HEATER CONTACTOR B: DISCONNECT, FACTORY INSTALLED, NEMA TYPE 4X C: WALL MOUNTING BRACKET D: UNIT MOUNTED THERMOSTAT E: HORIZONTAL AIRFLOW DISCHARGE					

NO.	DATE	REVISION	BY	APVD

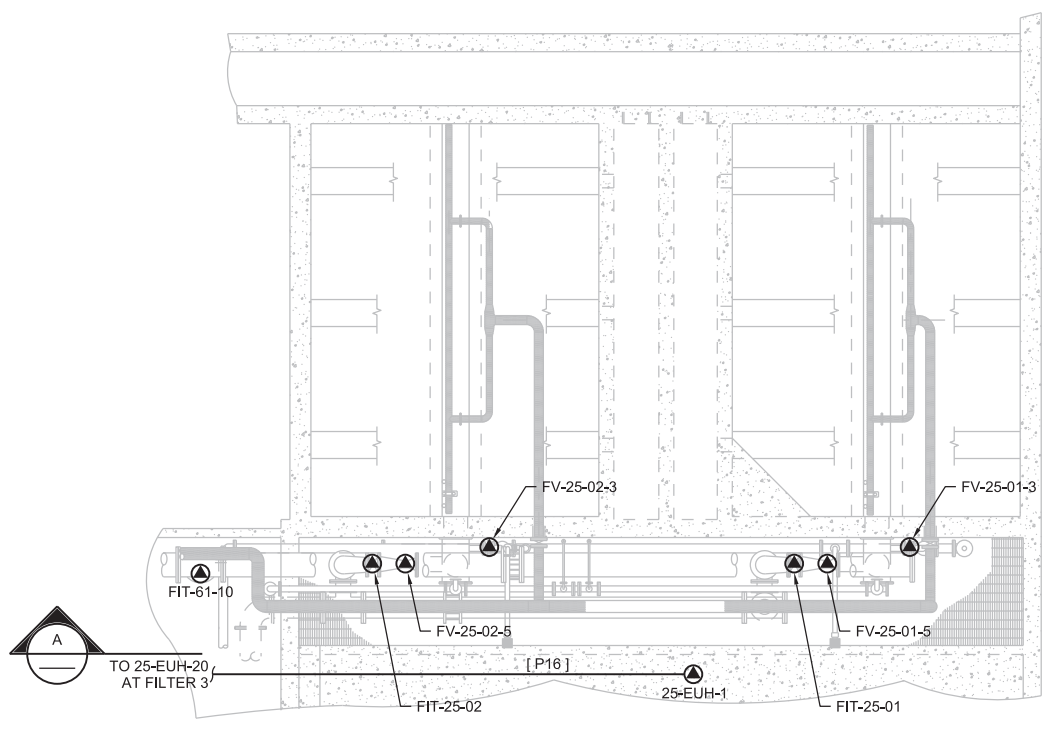
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
BUILDING MECHANICAL
**FILTERS AND SODIUM HYPOCHLORITE
RENOVATION PLAN**

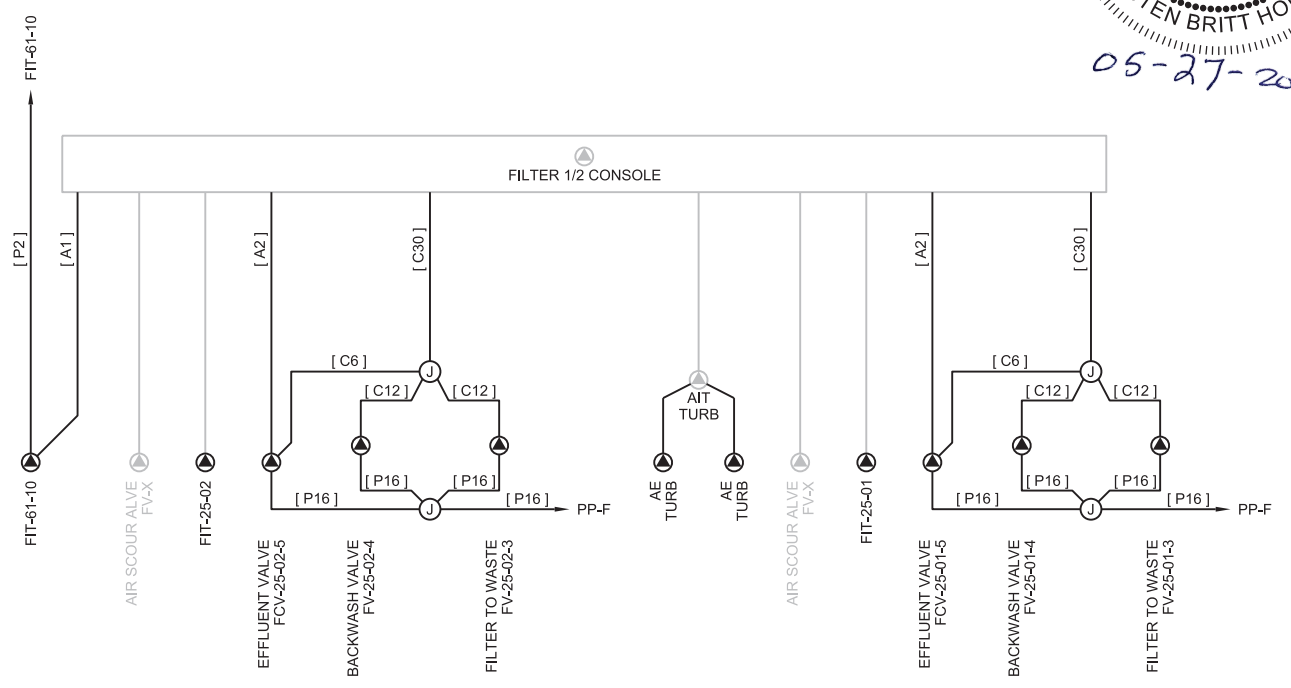
VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	25-M-201
SHEET	60 of 101

BID DOCUMENTS

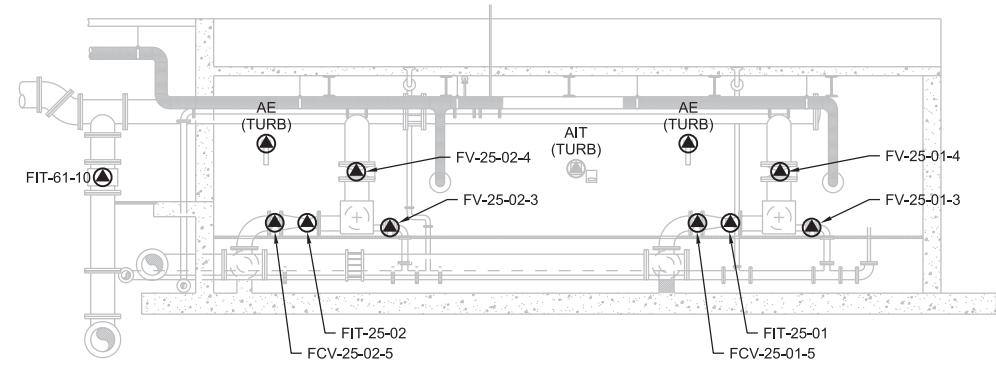
ALABAMA
LICENSED
No. 34073
PROFESSIONAL
ENGINEER
KIRSTEN BRITT HORTON
05-27-2021



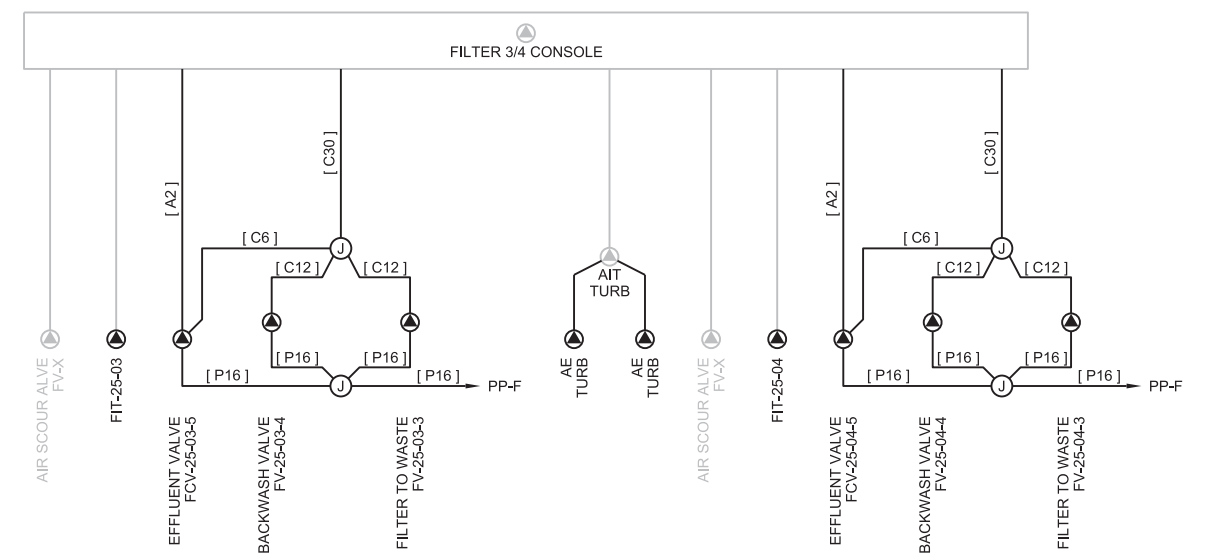
PLAN
3/16"=1'-0"



WIRING DIAGRAM
(FILTER 1 AND 2)



SECTION A
3/16"=1'-0"



WIRING DIAGRAM
(TYPICAL FILTER 3 / 4, FILTER 5 / 6, AND FILTER 7 / 8)

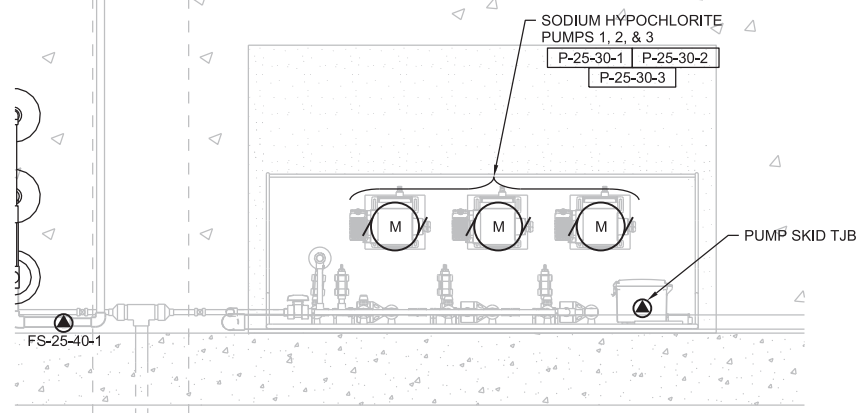
NO.	DATE	DR	CHK	REVISION	BY	APVD
		KB HORTON	AL PASTRANA	T HOMAYOONI		KB HORTON

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

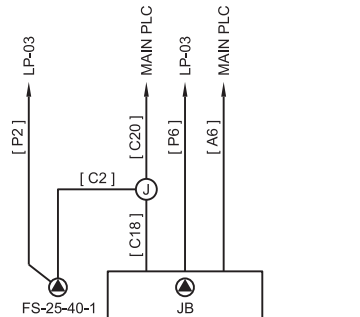
Jacobs
ELECTRICAL
**FILTERS 1 & 2
PLAN**

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 25-E-201
SHEET: 61 of 101

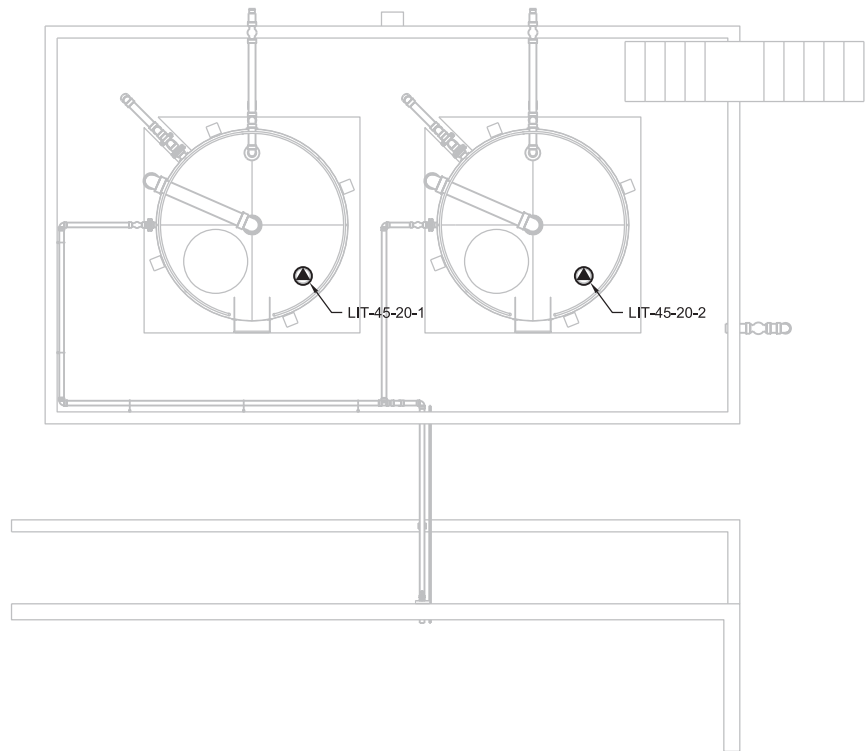
REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



ENLARGED PLAN
3/16"=1'-0"



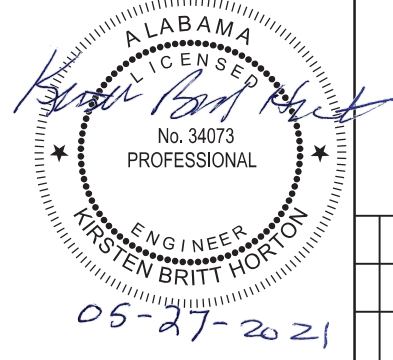
HYPO FEED PUMPS WIRING DIAGRAM
NTS



HYPO STORAGE TANKS WIRING DIAGRAM
NTS

PANEL: PP-7			LOCATION: FILTER GALLERY		
SERVICE VOLTAGE: 480			PHASE: 3 WIRE: 3		
TOTAL LOAD KVA: 69.0			BUS SIZE: 150 MAIN SIZE: 150A		
REMARKS: 50KAIC			NEUTRAL: NONE MOUNTING: SURFACE		
			TYPE: MCB		

LOAD IN KVA			CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA		
A	B	C						A	B	C
1.0			FILTER 1 VALVES	30/3	1 2	30/3	FILTER 5 VALVES	1.0		
	1.0				3 4				1.0	
		1.0			5 6					1.0
1.0			FILTER 2 VALVES	30/3	7 8	30/3	FILTER 6 VALVES	1.0		
	1.0				9 10				1.0	
		1.0			11 12					1.0
1.0			FILTER 3 VALVES	30/3	13 14	30/3	FILTER 7 VALVES	1.0		
	1.0				15 16				1.0	
		1.0			17 18					1.0
1.0			FILTER 4 VALVES	30/3	19 20	30/3	FILTER 8 VALVES	1.0		
	1.0				21 22				1.0	
		1.0			23 24					1.0
5.0			UNIT HEATERS 25-EUH-1 AND 25-EUH-2	30/3	25 26	20/3	SPARE			
	5.0				27 28					
		5.0			29 30					
5.0			UNIT HEATERS 25-EUH-3 AND 25-EUH-4	30/3	31 32	20/3	SPARE			
	5.0				33 34					
		5.0			35 36					
5.0			UNIT HEATERS 25-EUH-5 AND 25-EUH-6	30/3	37 38	30/3	SPARE			
	5.0				39 40					
		5.0			41 42					
19.0	19.0	19.0	TOTAL					4.0	4.0	4.0



NO.	DATE	DR	CHK	BY	APVD
		KB HORTON	AL PASTRANA	T HOMAYOONI	KB HORTON

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

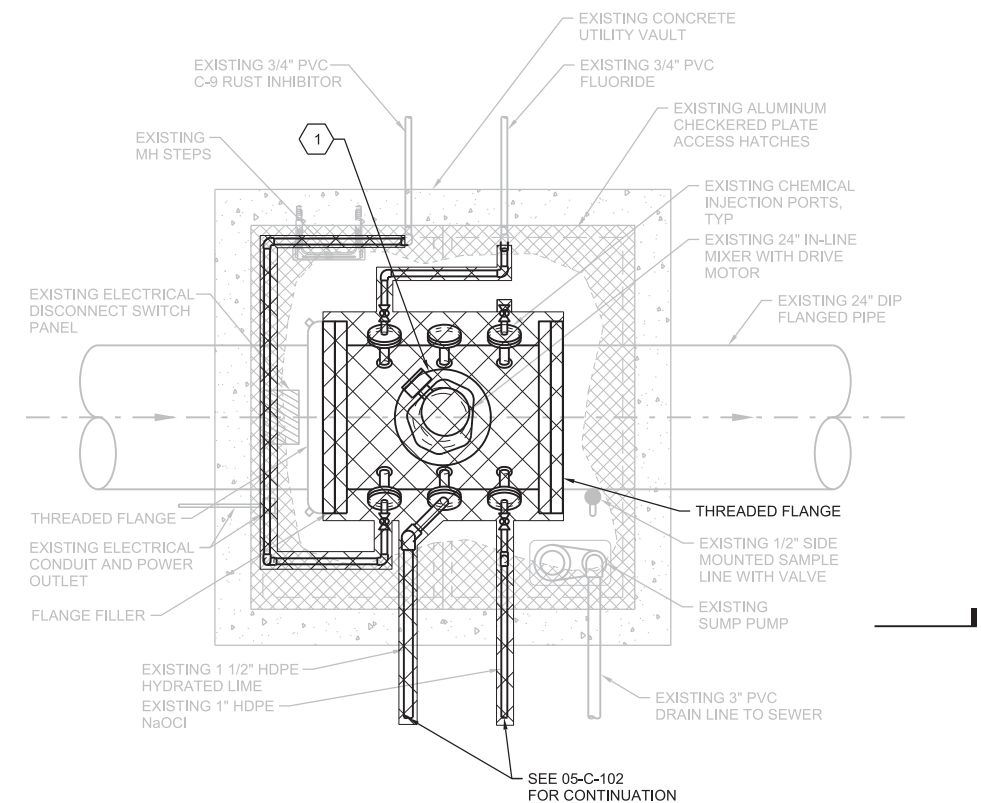
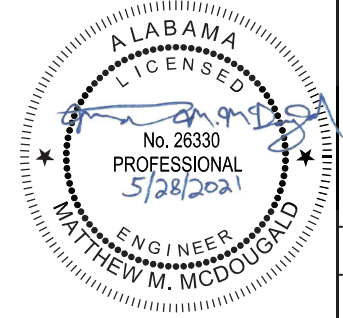
Jacobs
ELECTRICAL
SODIUM HYPOCHLORITE ENLARGED PLAN AND STORAGE TANKS PLAN

SHEET KEYNOTES

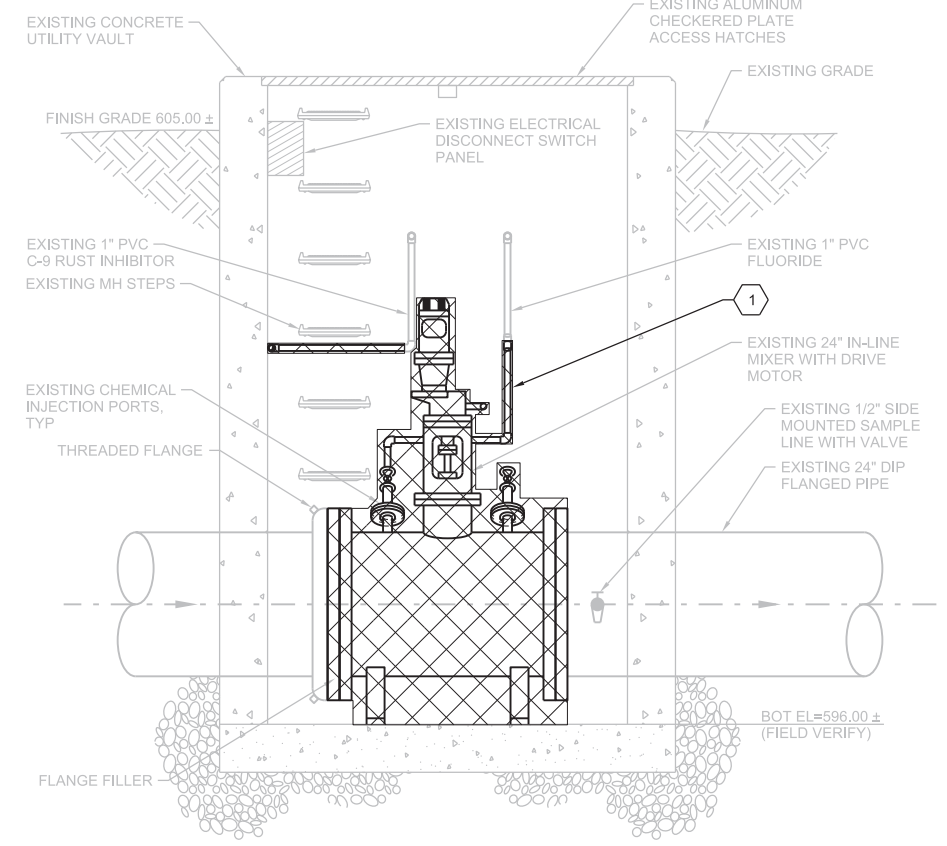
- EXISTING TANKS ARE BEING REPLACED. EXISTING LEVEL TRANSMITTERS TO BE REINSTALLED ON NEW TANKS. INTERCEPT EXISTING POWER CONDUIT AS IT EXITS THE GROUND. INSTALL JUNCTION BOX AND EXTEND CONDUIT AND CONDUCTORS TO RELOCATED TRANSMITTERS. INTERCEPT ANALOG SIGNALS AS THE CONDUIT EXITS THE GROUND. INSTALL JUNCTION BOX AND EXTEND CONDUIT AND WIRE TO RELOCATED TRANSMITTERS.
- SEE DRAWINGS 45-D-101 FOR DEMOLITION IN THE TANK AREA.

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 25-E-203
SHEET: 63 of 101

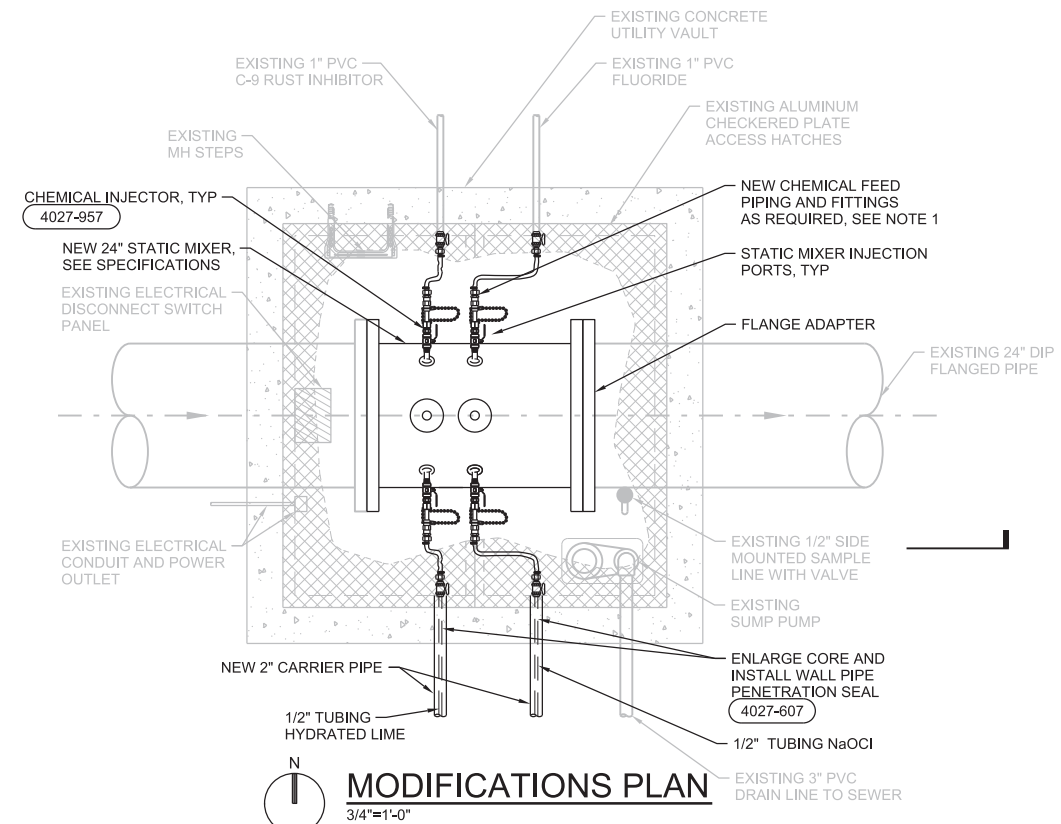
BID DOCUMENTS



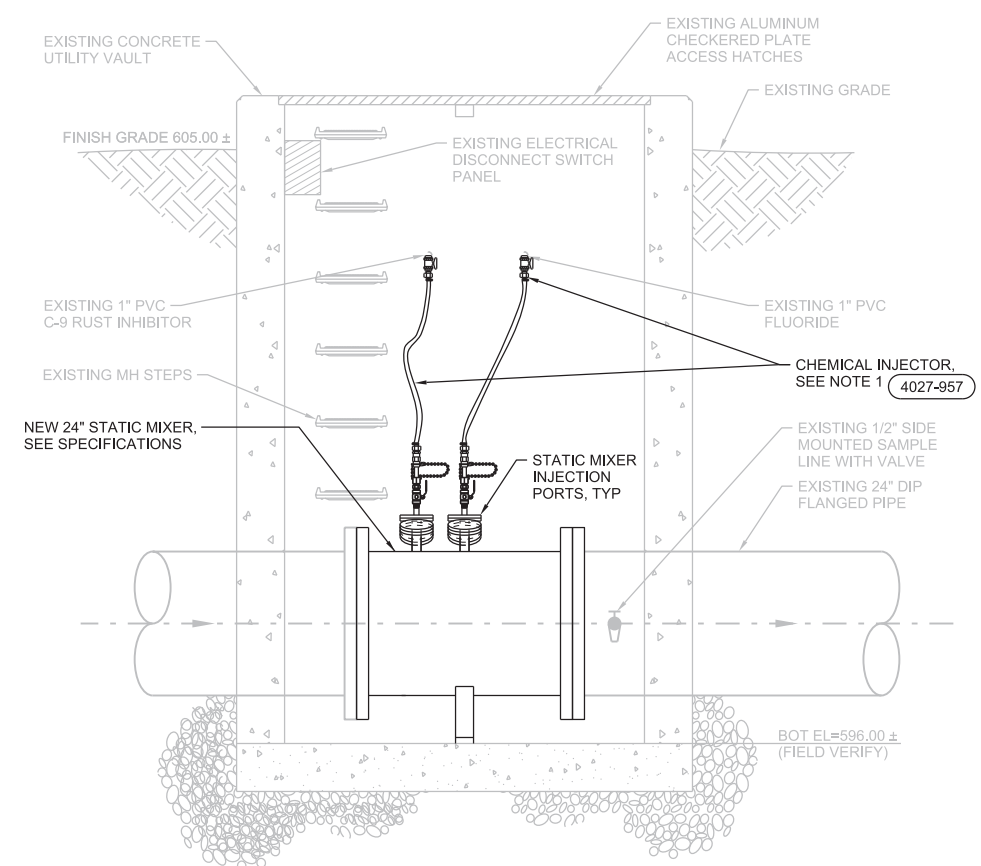
DEMOLITION PLAN
3/4"=1'-0"



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



MODIFICATIONS PLAN
3/4"=1'-0"



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

GENERAL NOTES

- IN VAULT, DEMOLISH EXISTING CHEMICAL FEED LINES AND INSTALL NEW CHEMICAL FEED LINES WITH PIPING AND TUBING SUPPORTS AS NEEDED TO CONNECT TO NEW STATIC MIXER.

SHEET KEYNOTES

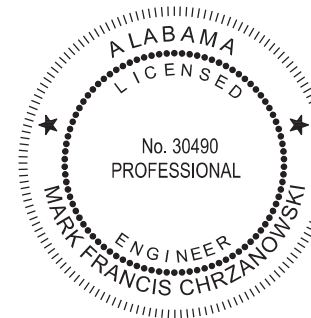
- DEMOLISH 24" IN-LINE MIXER AND DRIVE MOTOR.

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
**POST MIXER
DEMOLITION AND MODIFICATIONS
PLANS AND SECTIONS**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	30-D-201
SHEET	64 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

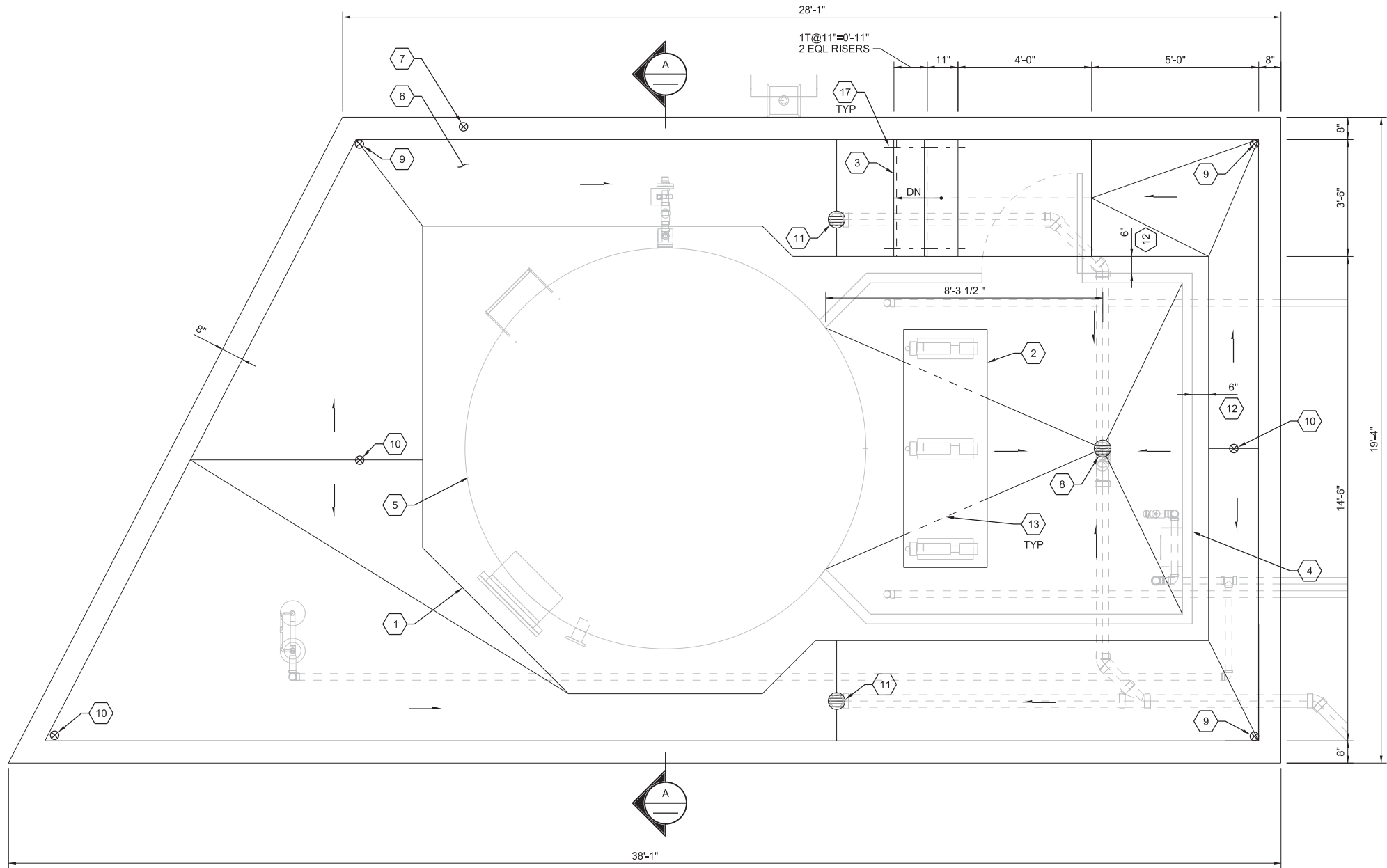


Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:51:04 -04'00'
 7

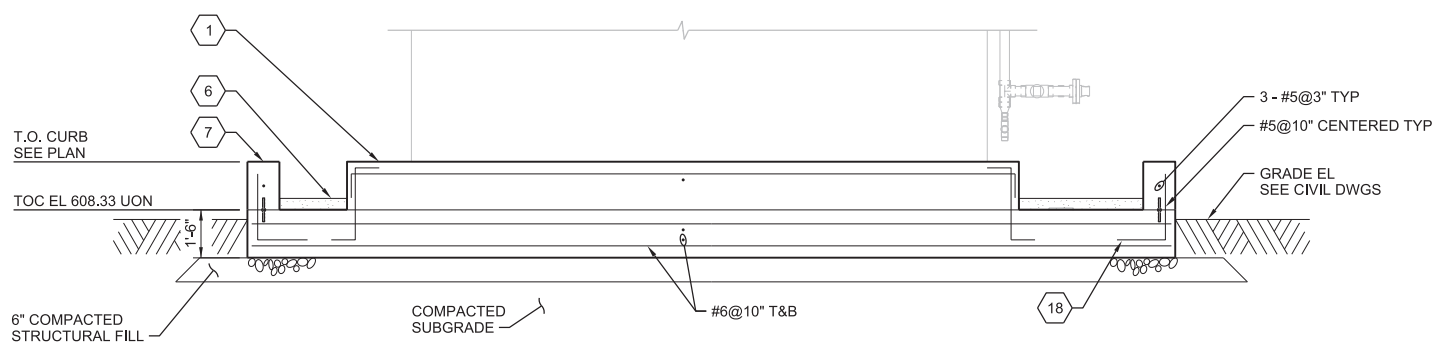
NO.	DATE	DR	CHK	REVISION

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

DATE	JUNE 2021
PROJ	D3389300
DWG	35-S-201
SHEET	65 of 101



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



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

GENERAL SHEET NOTES

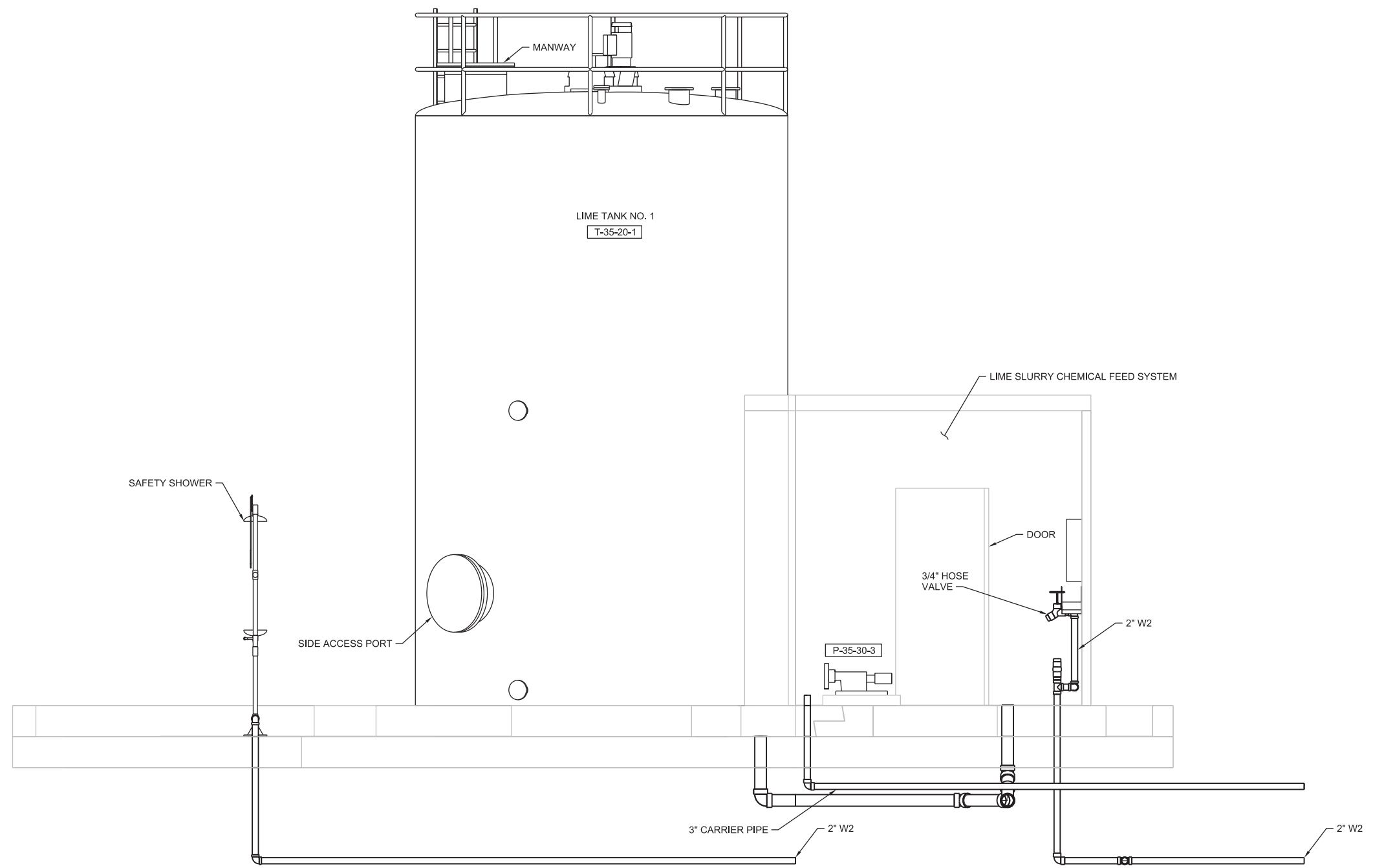
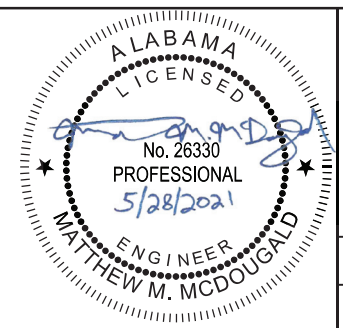
- FOR ADDITIONAL INFORMATION, SEE GENERAL STRUCTURAL NOTES.
- STRUCTURE SPECIFIC DESIGN CRITERIA (SERVICE LEVEL VALUES, UON):
 - A. DEAD LOAD: SELF WEIGHT
 - B. FLOOR LIVE LOADS: 300 PSF
 - C. WIND - SERVICE LEVEL VALUES: PRESSURES ON EQUIPMENT: AS DETERMINED BY EQUIPMENT, TANK AND ENCLOSURE MANUFACTURERS
 - D. EARTHQUAKE DESIGN PARAMETER - STRENGTH LEVEL VALUES:
 - E. FOUNDATION DESIGN CONSIDERATIONS: FOUNDATION LATERAL FORCE RESISTING SYSTEM: FLAT BOTTOM GROUND SUPPORTED TANK, REINFORCED CONCRETE, REINFORCED NON SLIDING BASE.
 R = 2.0
 CS = 0.0893
 V = 15.8 KIPS
 - F. TANK AND ENCLOSURE CRITERIA: AS DETERMINED BY MANUFACTURER(S)
 - G. SOIL DESIGN PARAMETER: REQUIRED GROSS ALLOWABLE SOIL BEARING PRESSURE 2000 PSF
- ENCASE PIPES BELOW FOUNDATION AND AREA EXTENDING A MINIMUM 2'-0" BEYOND LIMITS OF FOUNDATION. SEE DETAILS 0330-016 AND 0330-018. PIPE ENCASEMENTS ARE NOT SHOWN.

SHEET KEYNOTES

- TOC FILL LPT EL 608.23 AT FLOOR DRAIN. FLOOR DRAIN PER 0330-082. EXCEPT CONCRETE SLAB TO BE UNIFORMLY DEPRESSED BY 2" WITHIN DRAIN DEPRESSION AND TAPERED AWAY OUTSIDE OF DEPRESSION AREA SUCH THAT MIN 1 1/2" FRFC FILL THICKNESS IS MAINTAINED.
- PAD EDGE DIMENSIONS SHOWN IS MINIMUM. COORDINATE FINAL PAD DIMENSION WITH APPROVED EQUIPMENT ANCHORAGE EDGE DISTANCE REQUIREMENTS.
- DRAINAGE BLOCKOUT 0330-083.
- LIME STORAGE TANK DESIGN WEIGHT: 16.5 KIPS (EMPTY, SEE NOTE 16 THIS SHEET) 176.5 KIPS (FULL, SEE NOTE 16 THIS SHEET)
- PUMP ENCLOSURE DESIGN WEIGHT: 4.0 KIPS (REFER TO NOTE 16 THIS SHEET).
- PRIOR TO REBAR FABRICATION AND CONCRETE PLACEMENT, VERIFY WEIGHT FROM APPROVED EQUIPMENT SUBMITTAL DOES NOT EXCEED DESIGN WEIGHT LISTED IN NOTE 14 AND 15 ABOVE. OTHERWISE, NOTIFY ENGINEER IN WRITING FOR DIRECTION.
- AL RAILING W/ TYPE A ANCHORAGE PER DETAIL 0552-001.
- LAP SPLICE. TYP ALONG CURB.

SHEET KEYNOTES

- CONC TANK AND PUMP ENCLOSURE PAD 0330-058 SIM. TOC EL 609.33 @ TANK AREA. TOC EL VARIES AT ENCLOSURE AREA. SEE PLAN.
- CONC EQPT PAD 0330-056 TYPE 'E'.
- CONC STAIRS PER 0330-046 SIM. CONTRACTOR OPTION TO SUBSTITUTE W/ PRECAST STAIRS TYP.
- PUMP ENCLOSURE BY LIME SLURRY SYSTEM MNFR.
- LIME SLURRY TANK.
- FIBER REINFORCED CONC FILL.
- TOC EL 609.33.
- TOC LPT EL 609.23 AT FLOOR DRAIN. SEE 0330-082. TYP OF 2.
- TOC FILL HPT EL 608.47.
- TOC FILL HPT EL 608.58.



GENERAL SHEET NOTES

- ALL PIPES UNDER CONCRETE SLAB TO BE CONCRETE ENCASED. PIPE ENCASEMENT TO EXTEND 5' BEYOND CONCRETE SLAB EDGE. (ENCASEMENTS ARE NOT SHOWN FOR CLARITY.)

SHEET KEYNOTES

- LIME TANK, FILL LINE, AND PUMP BUILDING TO BE INSTALLED BY LIME SYSTEM MANUFACTURER. CONTRACTOR TO INSTALL SLAB AND PIPE CONNECTIONS.

NO.	DATE	DR	CHK	BY
		W SHANNON	KL DIAZ	M MCDUGALD
		DSGN	DR	APVD
			REVISION	APVD
			CHK	APVD
				BY
				APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
LIME FEED
SECTION

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	35-D-301
SHEET	67 of 101

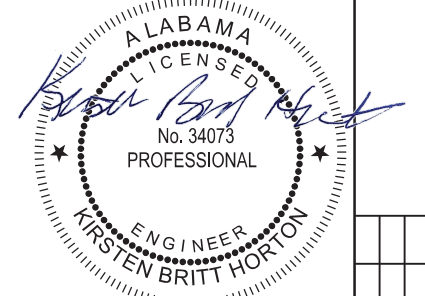
A SECTION
1/2"=1'-0"

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

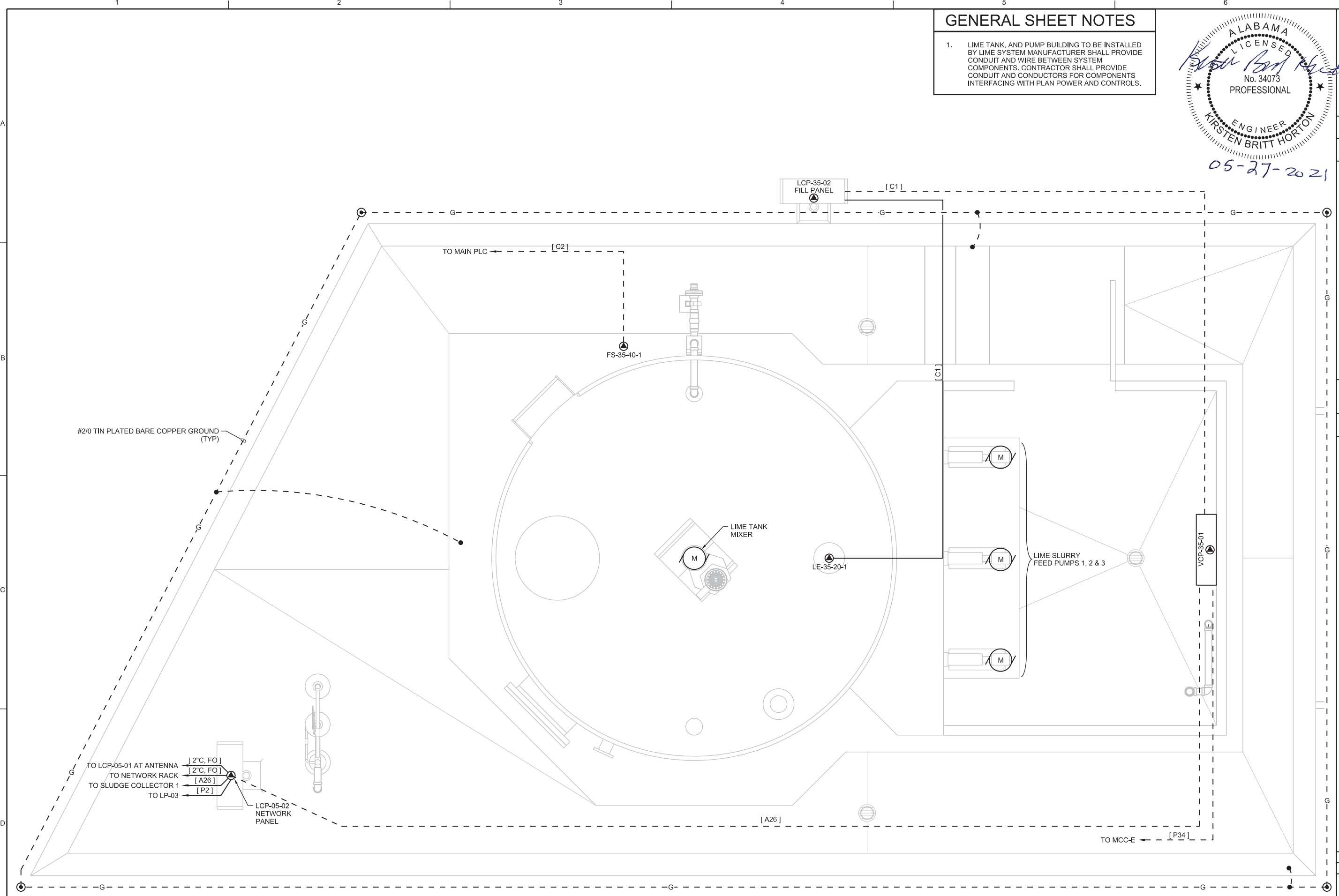
BID DOCUMENTS

GENERAL SHEET NOTES

- LIME TANK, AND PUMP BUILDING TO BE INSTALLED BY LIME SYSTEM MANUFACTURER SHALL PROVIDE CONDUIT AND WIRE BETWEEN SYSTEM COMPONENTS. CONTRACTOR SHALL PROVIDE CONDUIT AND CONDUCTORS FOR COMPONENTS INTERFACING WITH PLAN POWER AND CONTROLS.



05-27-2021



N
PLAN
3/4"=1'-0"

NO.	DATE	DR	CHK	REVISION	BY	APVD

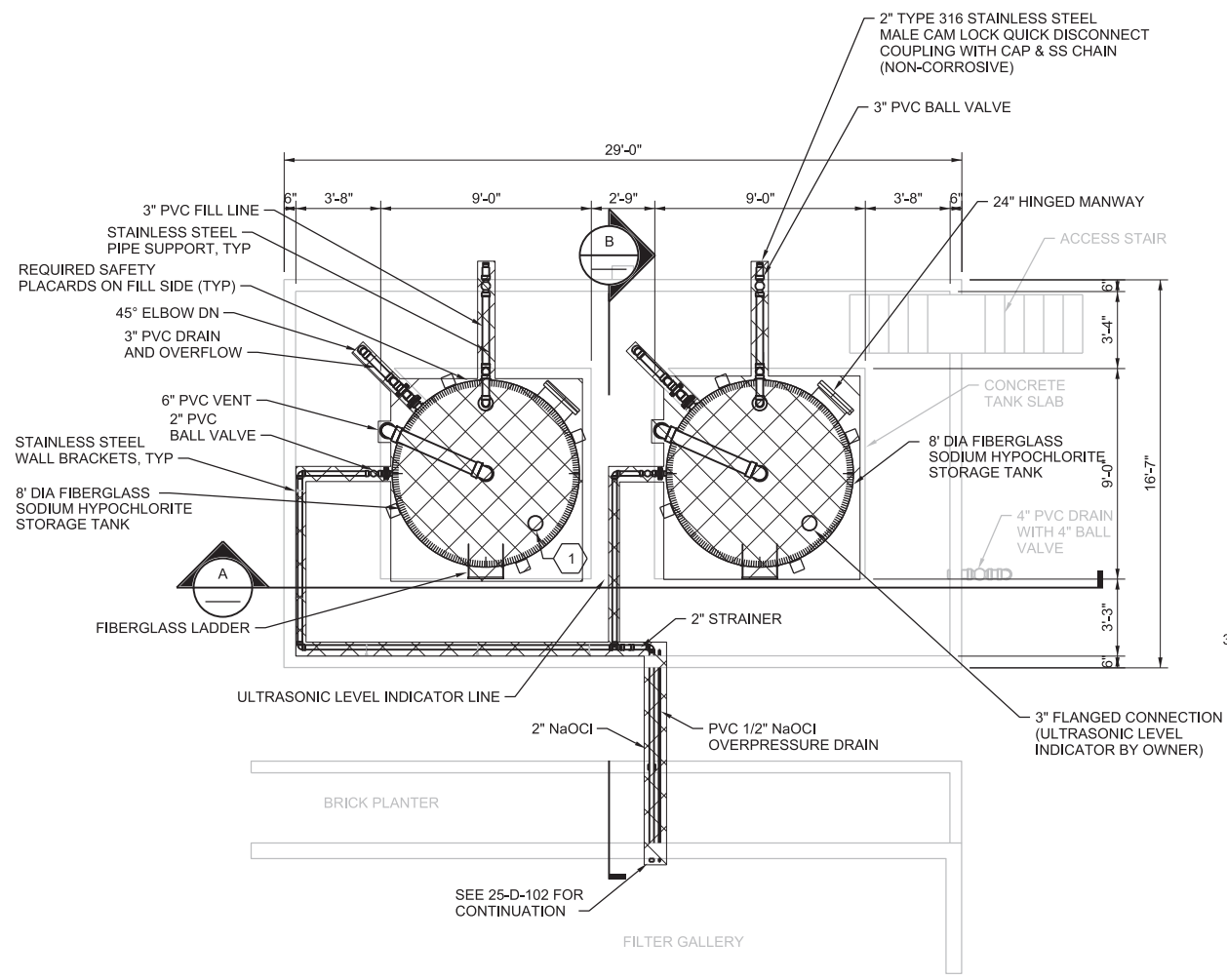
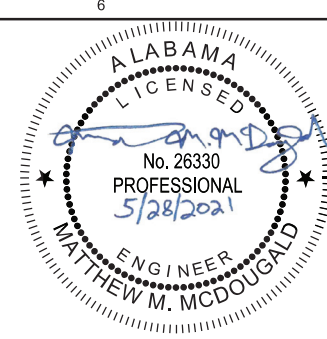
Jacobs
ELECTRICAL
LIME FEED PLAN

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

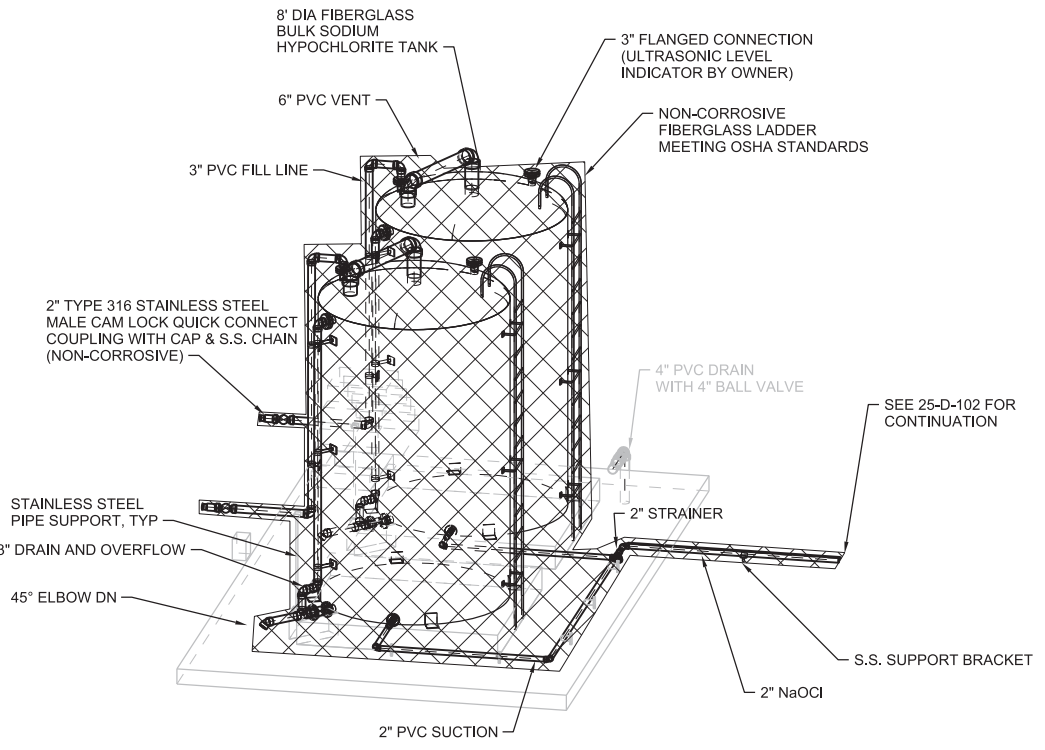
DATE	JUNE 2021
PROJ	D3389300
DWG	35-E-201
SHEET	68 of 101

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 35-E-201
SHEET: 68 of 101

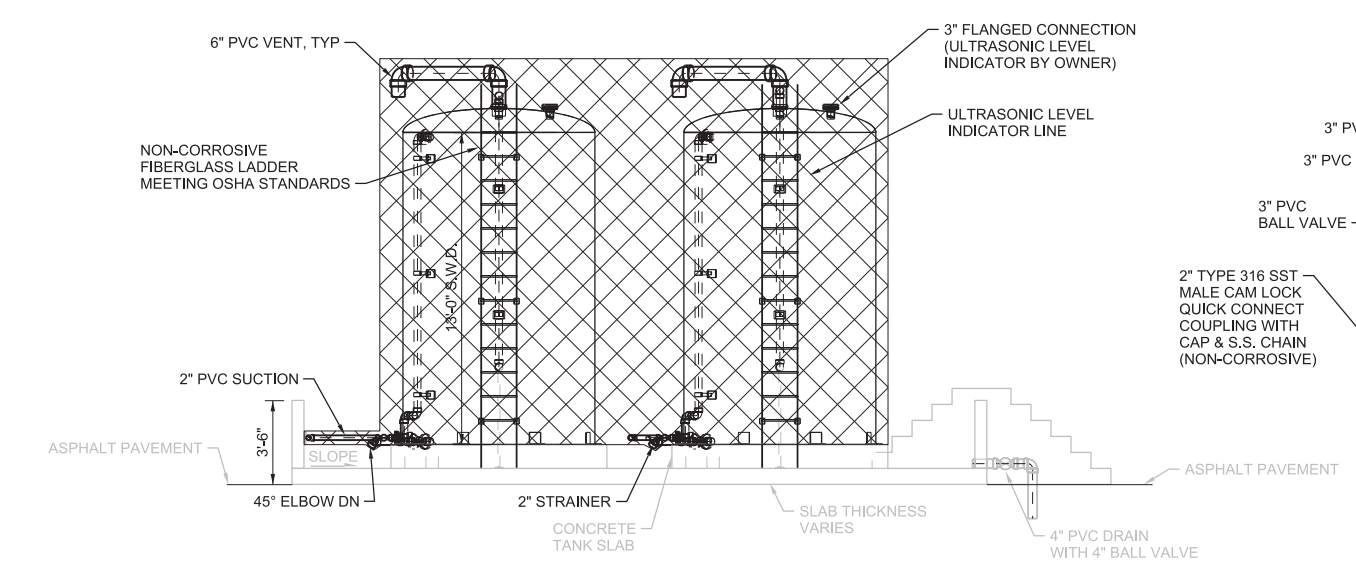
© JACOBS 2021. ALL RIGHTS RESERVED. REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.



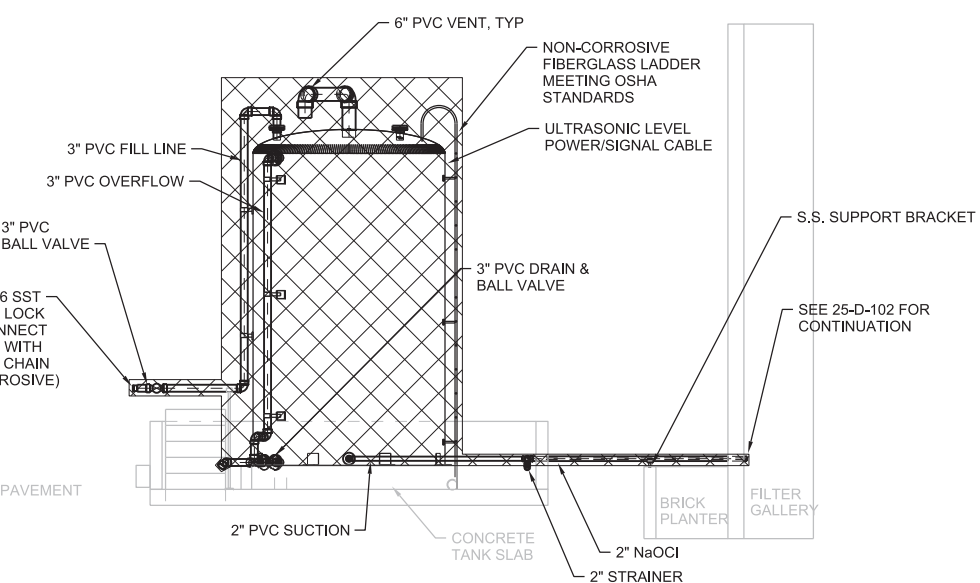
PLAN
1/4" = 1'-0"



NOTE: WALLS NOT SHOWN FOR CLARITY
ISOMETRIC VIEW
1/4" = 1'-0"



A SECTION
1/4" = 1'-0"



B SECTION
1/4" = 1'-0"

- GENERAL NOTES**
- DEMOLISH EXISTING EQUIPMENT, PIPING, VALVES, AND APPURTENANCES WHERE INDICATED.
 - PROTECT AND REUSE WALL AND FLOOR MOUNTED BRACKETS. REPLACE AND RESIZE CLAMPS AS NEEDED.
 - CONTRACTOR TO RESPONSIBLY DISPOSE OF ANY RESIDUAL CHEMICAL IN TANKS.
 - CUT THE FOUR EXISTING ANCHORS FLUSH WITH PAD.

SHEET KEYNOTES

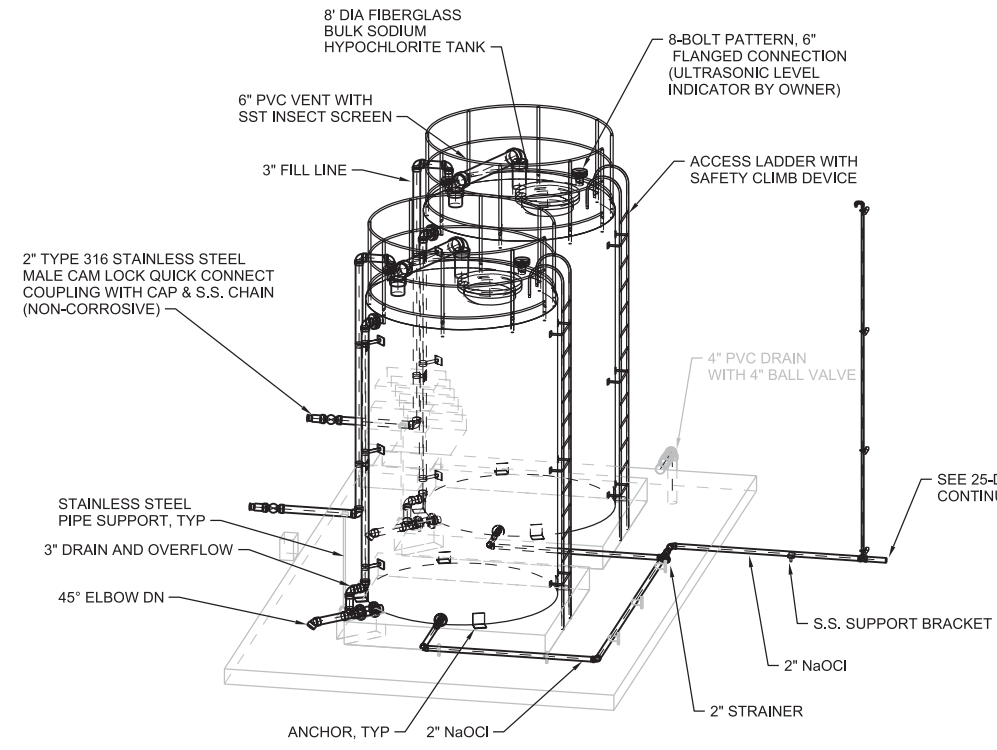
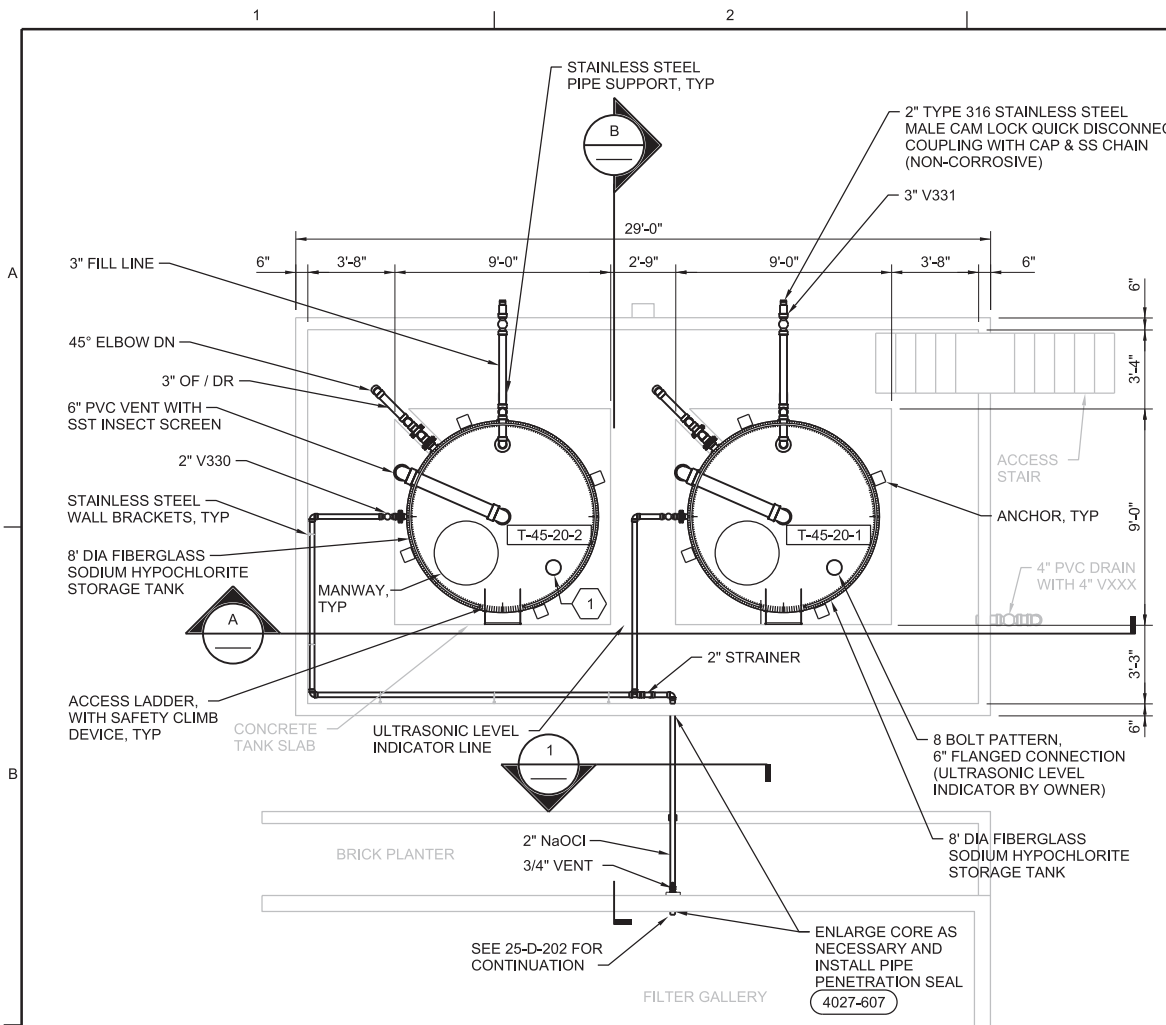
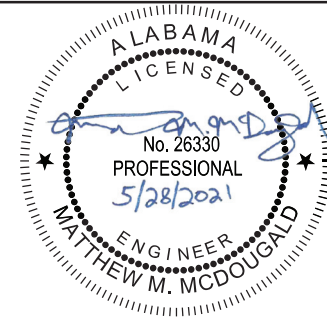
- PROTECT AND REINSTALL EXISTING ULTRASONIC LEVEL INDICATORS AND LINES.

NO.	DATE	DR	REVISION	BY

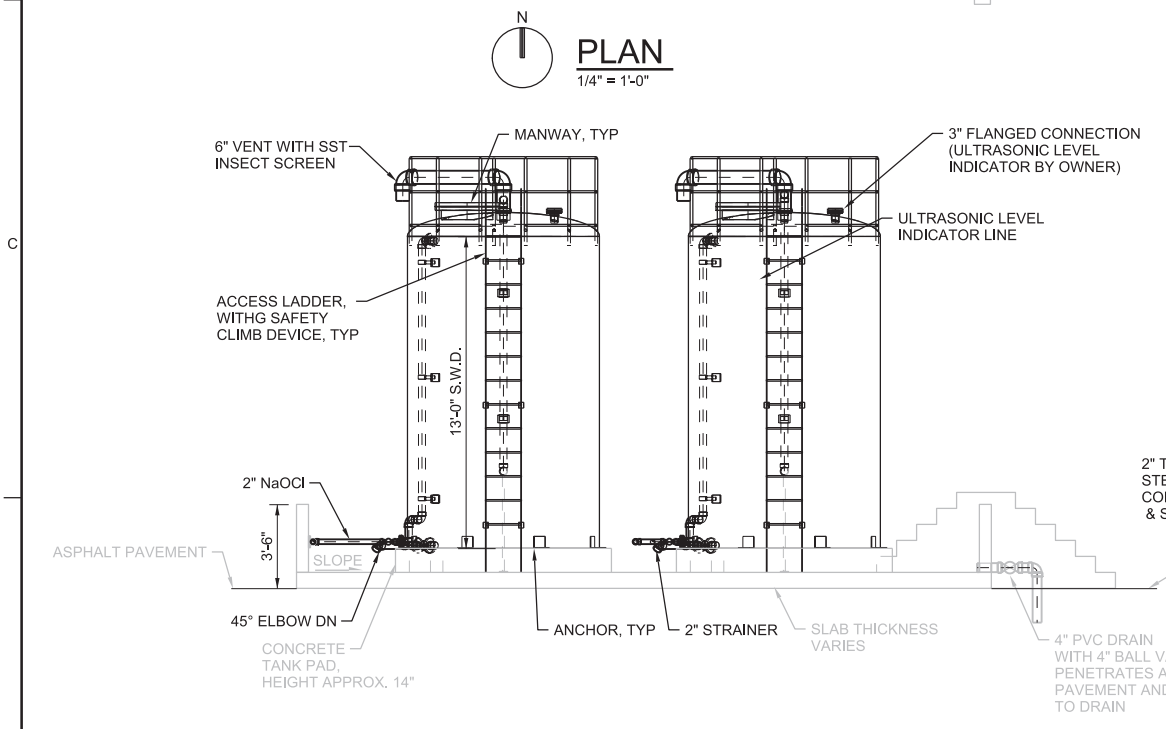
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
SODIUM HYPOCHLORITE TANKS
DEMOLITION PLAN
SECTIONS AND DETAILS

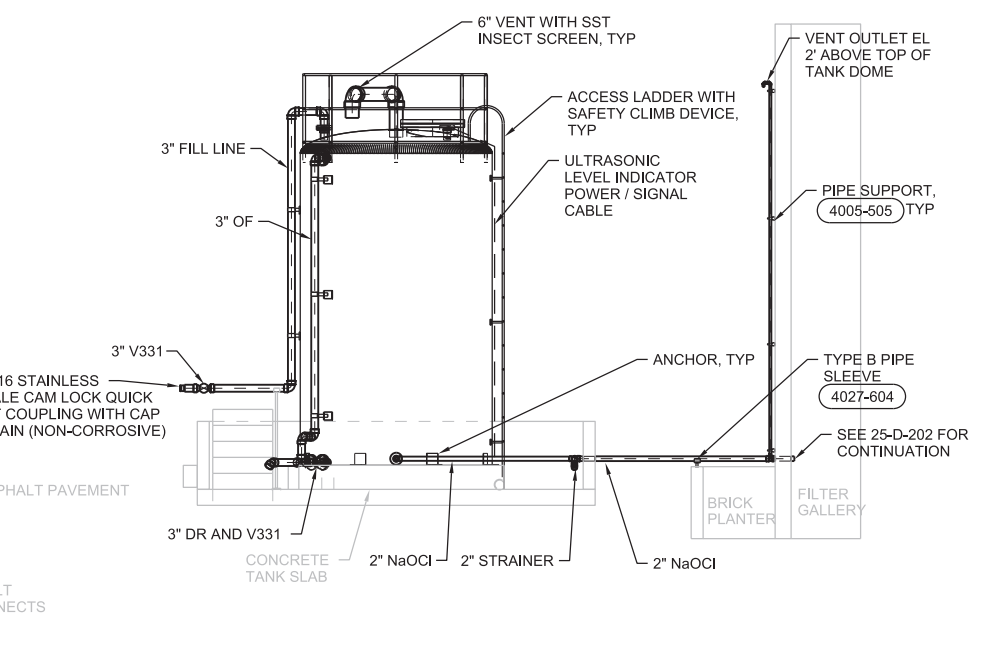
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 45-D-101
SHEET 69 of 101



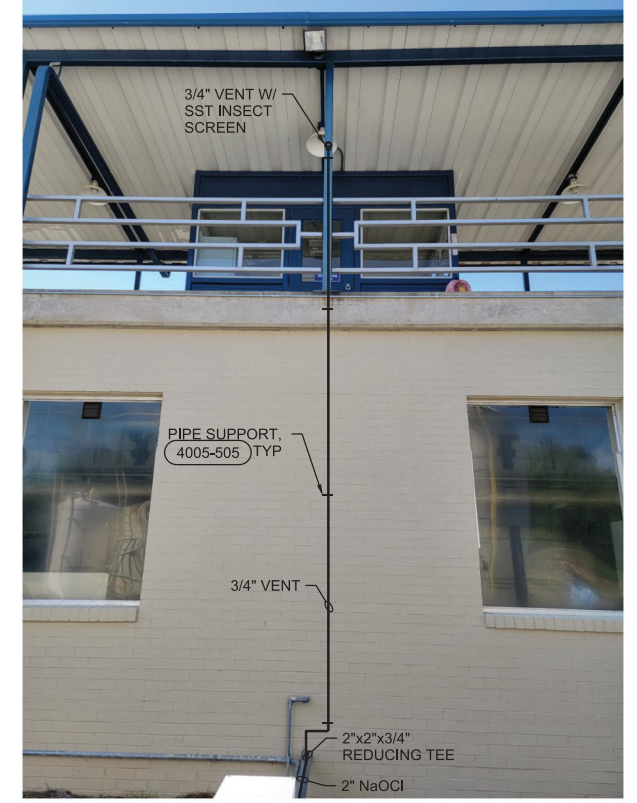
NOTE: WALLS NOT SHOWN FOR CLARITY
ISOMETRIC VIEW
 1/4"=1'-0"



A SECTION
 1/4"=1'-0"



B SECTION
 1/4"=1'-0"




1 SECTION
 NTS

GENERAL NOTES

1. CORE PIPE PENETRATIONS AS NEEDED.
2. PROTECT AND REUSE WALL AND FLOOR MOUNTED BRACKETS. REPLACE AND RESIZE CLAMPS AS NEEDED.

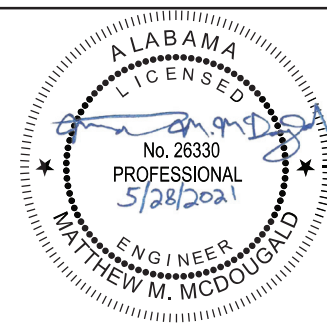
SHEET KEYNOTES

1. PROTECT AND REINSTALL EXISTING ULTRASONIC LEVEL INDICATORS AND LINES.

ALABAMA LICENSED No. 26330 PROFESSIONAL ENGINEER MATTHEW M. MCDUGALD					
NO.	DATE	DSGN	DR	CHK	BY
			P. WADE	KL DIAZ	E. MINICHEW
					M. MCDUGALD
JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA					
Jacobs PROCESS MECHANICAL SODIUM HYPOCHLORITE TANKS PLAN, SECTIONS AND DETAILS					
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 					
DATE	JUNE 2021				
PROJ	D3389300				
DWG	45-D-201				
SHEET	70 of 101				
BID DOCUMENTS					

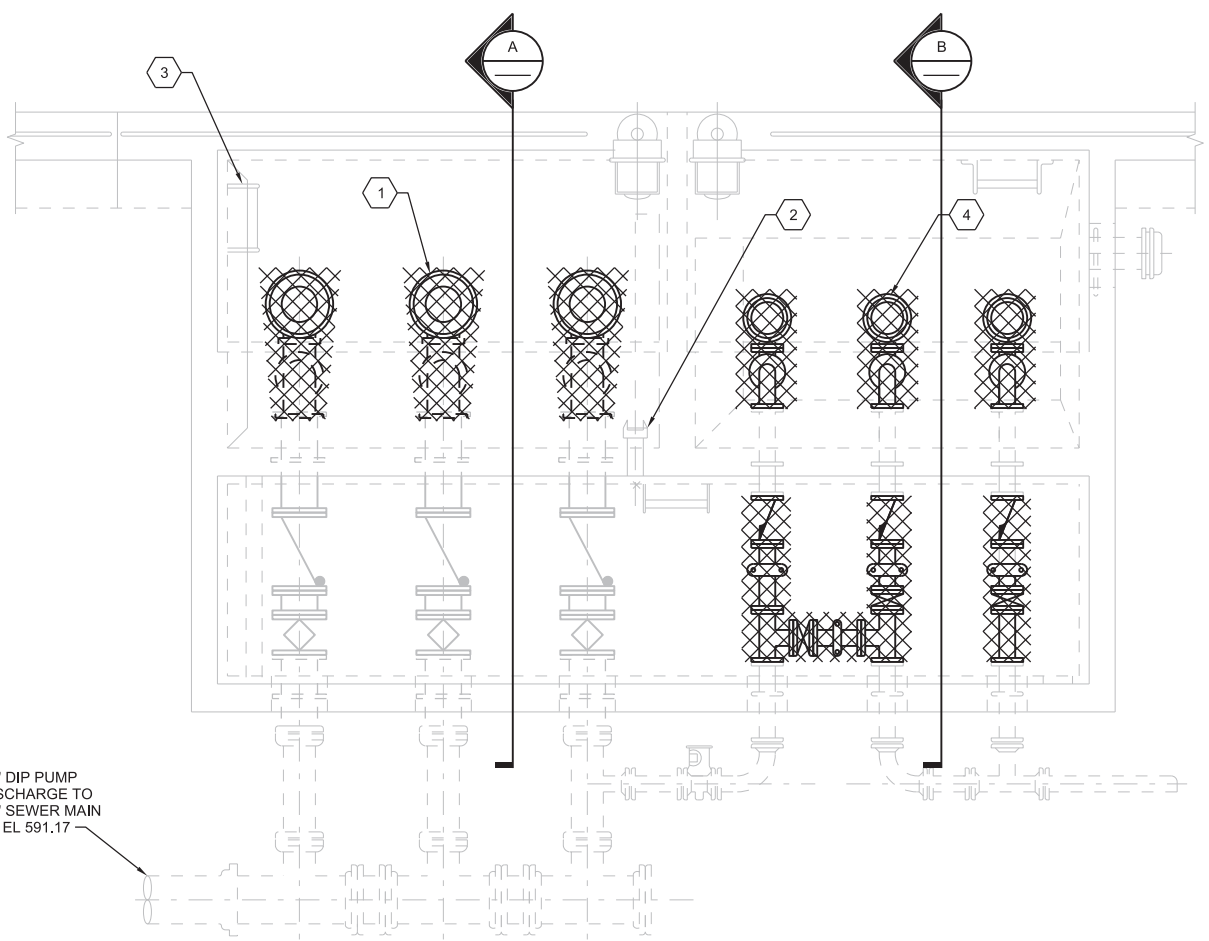
1 2 3 4 5 6

A
B
C
D

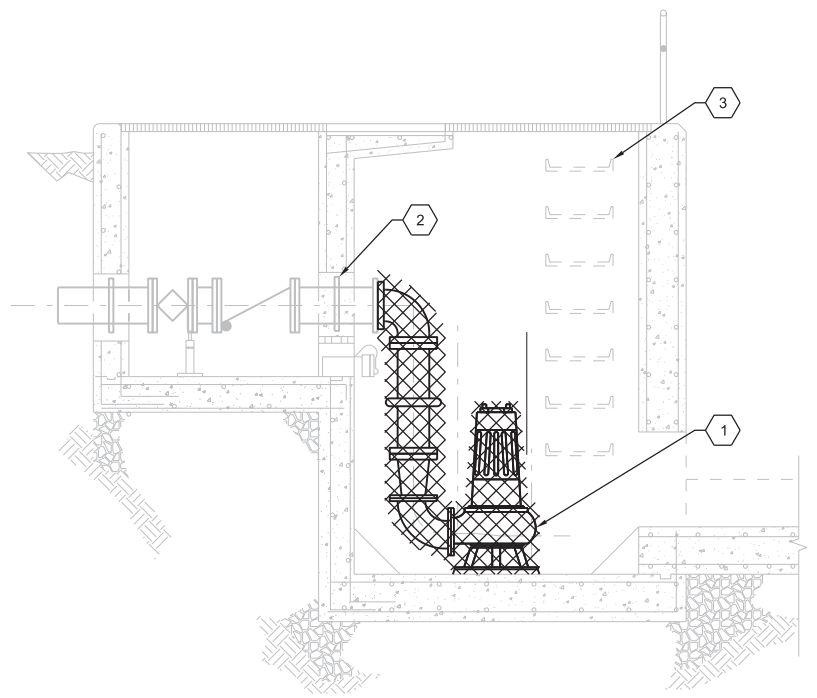


SHEET KEYNOTES	
1.	DEMOLISH EXISTING WASHWATER WASTE PUMPS, DISCHARGE PIPING, SUPPORTS, AND ANCHORS. SUPPORTS AND ANCHORS SHALL BE CUT FLUSH WITH THE SURFACE OF THE CONCRETE.
2.	PROTECT EXISTING WALL PIPE.
3.	PROTECT EXISTING MANHOLE STEPS.
4.	DEMOLISH ABANDONED SLUDGE PUMPS, PIPING, SUPPORTS AND ANCHORS. SUPPORTS AND ANCHORS SHALL BE CUT FLUSH WITH THE SURFACE OF THE CONCRETE.

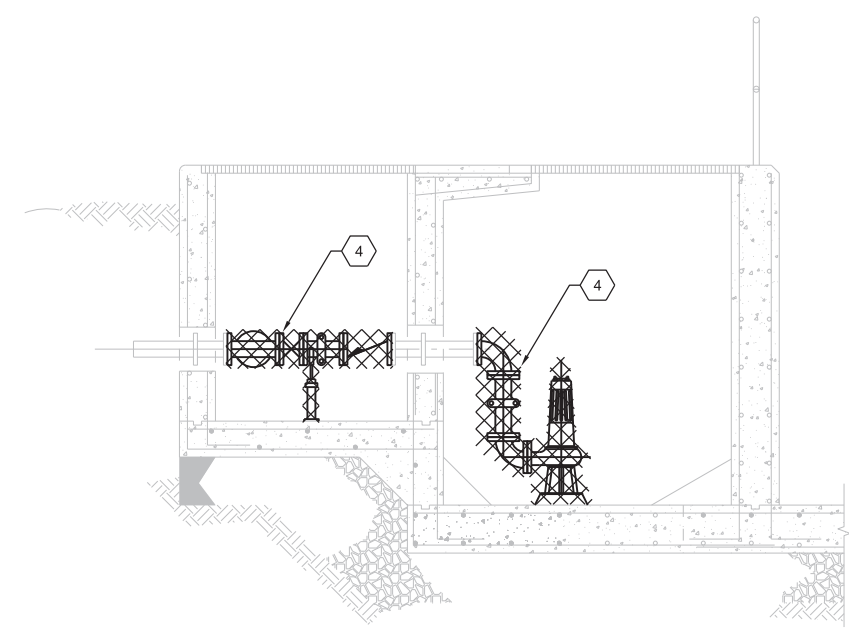
12" DIP PUMP DISCHARGE TO 14" SEWER MAIN CL. EL. 591.17



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



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



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

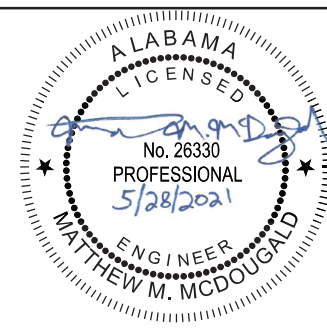
NO.	DATE	DR	REVISION	BY

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
**WASHWATER BASIN
DEMOLITION
PLANS AND SECTIONS**

DATE	JUNE 2021
PROJ	D3389300
DWG	65-D-101
SHEET	71 of 101

BID DOCUMENTS



GENERAL NOTES

1. INSTALL BLIND FLANGE ATT WALL PIPES.

NO.	DATE	DR	REVISION	BY
		W SHANNON	CHK	APVD
				E MINICHEW
				M MCDUGALD

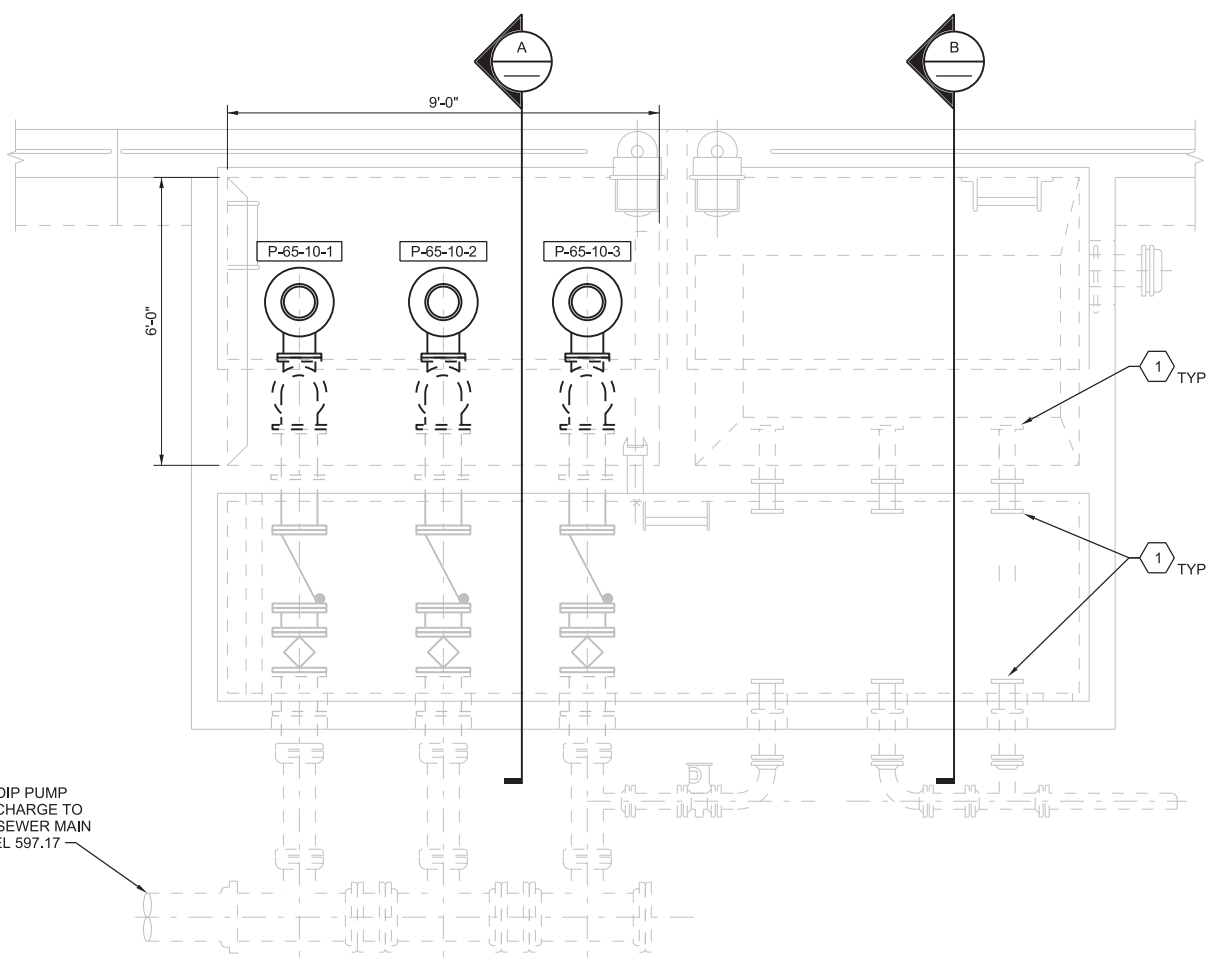
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
**WASHWATER BASIN
PLANS AND SECTIONS**

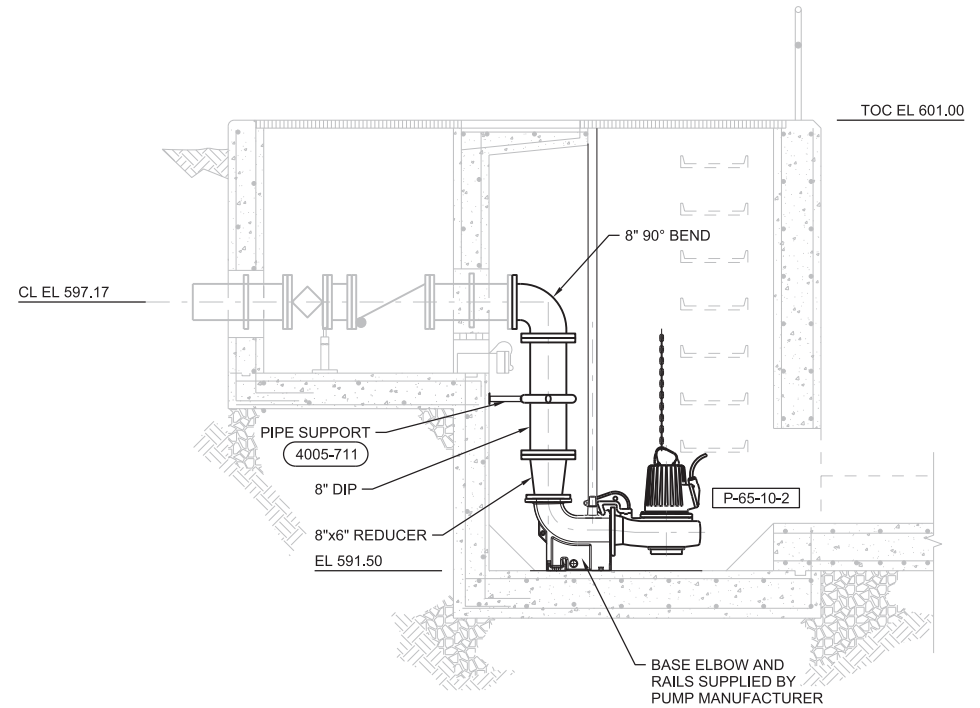
DATE	JUNE 2021
PROJ	D3389300
DWG	65-D-201
SHEET	72 of 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

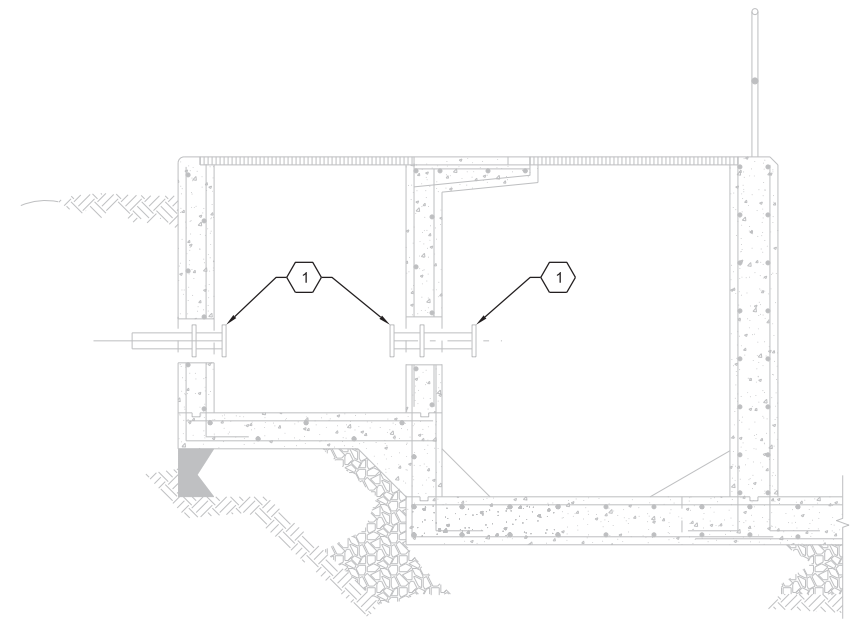
BID DOCUMENTS



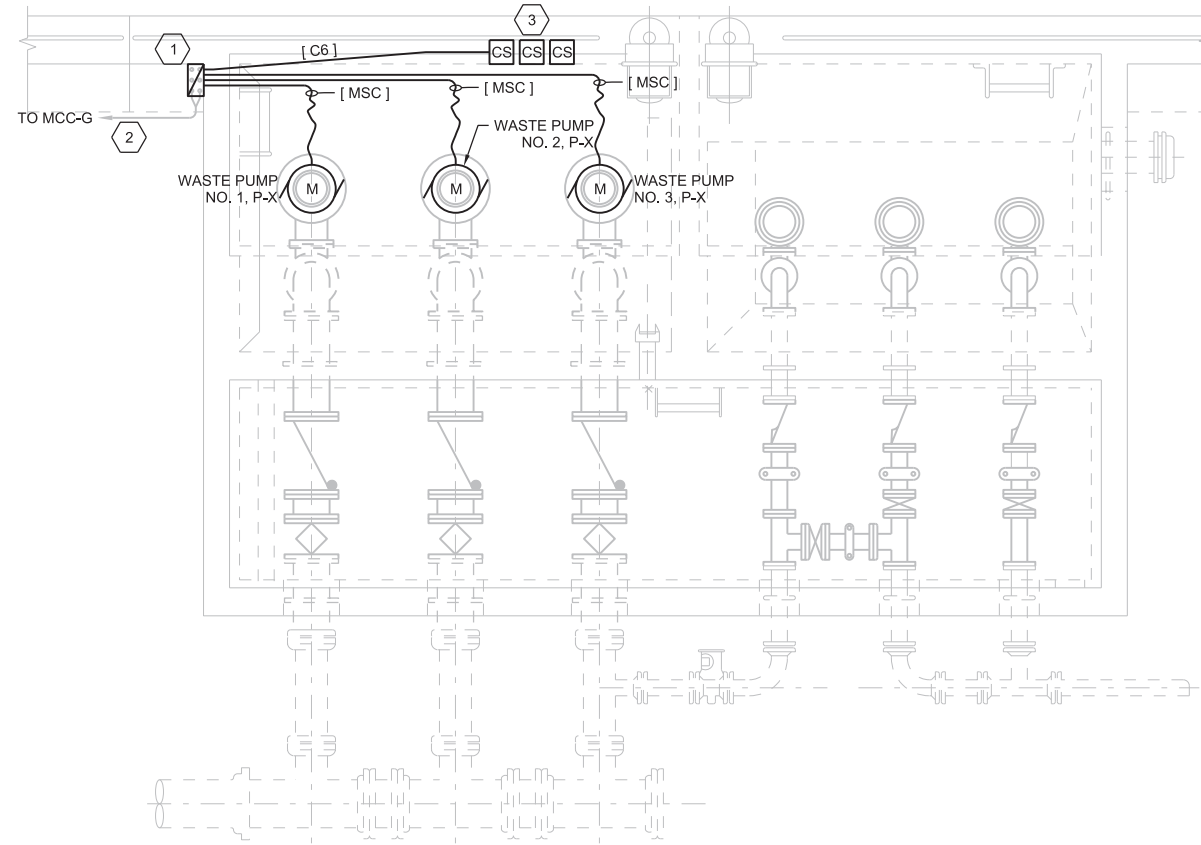
ENLARGED PLAN
1/2"=1'-0"



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



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



PLAN
1/2"=1'-0"

ALABAMA
LICENSED
Kirsten Britt Horton
No. 34073
PROFESSIONAL
ENGINEER
KIRSTEN BRITT HORTON
05-27-2021

NO.	DATE	DR	CHK	BY

JACOBS
ELECTRICAL
**WASHWATER BASIN
PLAN**

JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA	
DESIGNER	KB HORTON
CHECKER	AL PASTRANA
DATE	JUNE 2021
PROJECT	D3389300
DWG NO.	65-E-201
SHEET NO.	73 of 101

- SHEET KEYNOTES**
- REPLACE EXISTING JUNCTION BOX WITH NEW NEMA 4X 316 SST TERMINAL JUNCTION BOX. INTERCEPT EXISTING WASH WATER PUMP POWER CONDUCTORS AND CONTROL CONDUCTORS. AS NOTED
 - REUSE EXISTING POWER AND CONTROL WIRES BETWEEN MCC -G AND PULL BOX. PROVIDE NEW CONDUCTORS FROM PULL BOX TO PUMP AND CONTROL STATION. VERIFY SCALE
 - REPLACE EXISTING PUMP E-STOP PUSH BUTTONS WITH NEW E-STOP IN NEMA 4X ENCLOSURE.
- BAR IS ONE INCH ON ORIGINAL DRAWING.

© JACOBS 2021. ALL RIGHTS RESERVED.
 REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

1 2 3 4 5 6

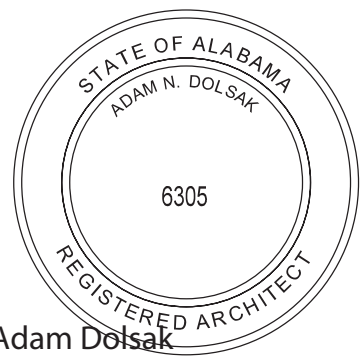
CODE DATA

SEE APPLICABLE CODES DRAWING 01-G-004

BUILDING: JAMES ESTES WATER TREATMENT PLANT

BUILDING CODE CRITERIA

CLASSIFICATION OF WORK (IEBC CHAPTER 6)	ALTERATION - LEVEL 2
CHANGE OF OCCUPANCY (IEBC CHAPTER 10)	NO CHANGE
ADDITIONS (IEBC)	NO
INSULATION ENTIRELY ABOVE ROOF DECK (IECC TABLE C402.1.3)	R-25CI
ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE (IECC TABLE C402.3)	THREE-YEAR AGED SOLAR REFLECTANCE - 0.55 THREE-YEAR AGED THERMAL EMITTANCE - 0.75 THREE-YEAR AGED SOLAR REFLECTANCE INDEX - 64



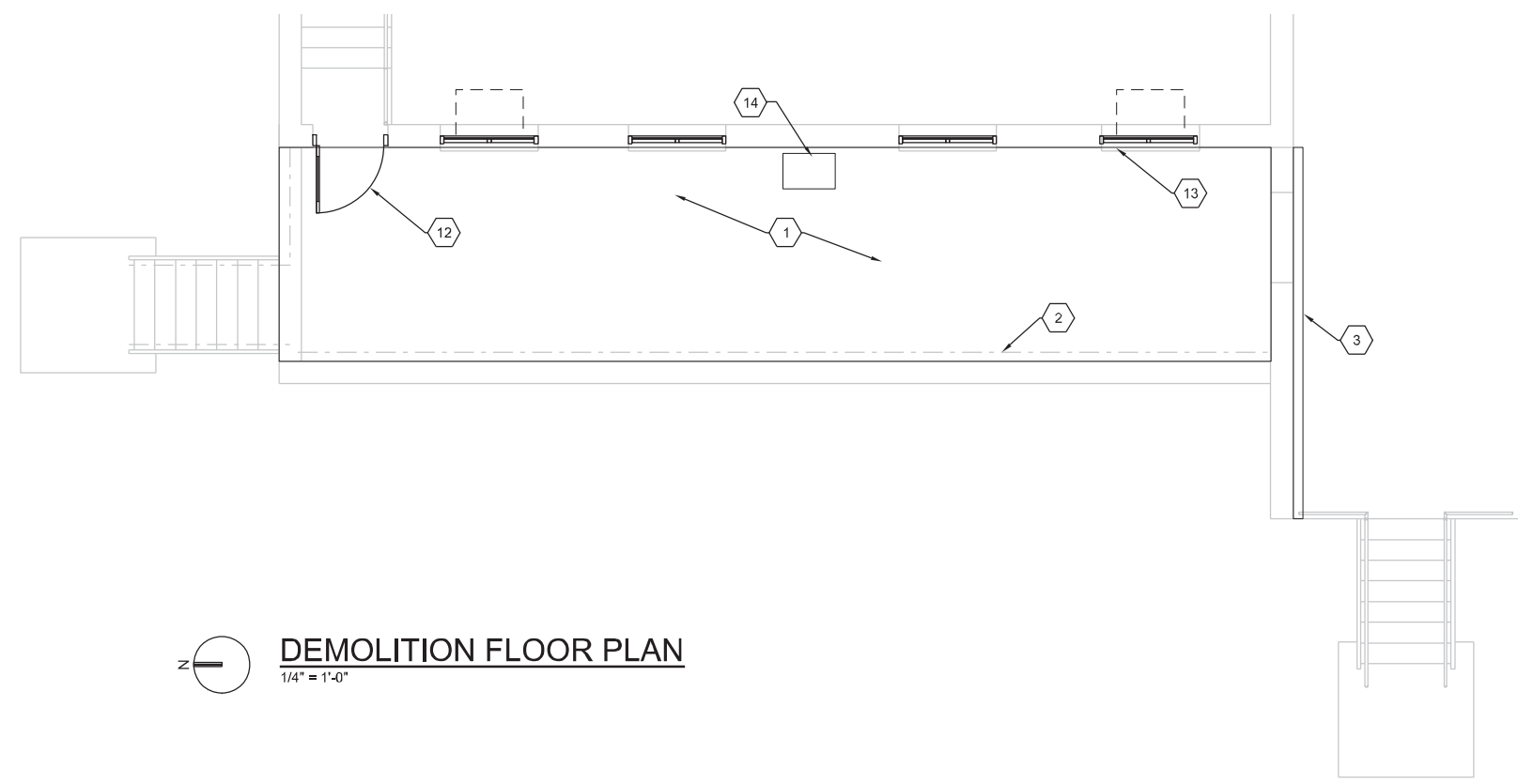
Adam Dolsak
2021.06.02 11:51:29 -04'00'

GENERAL NOTES

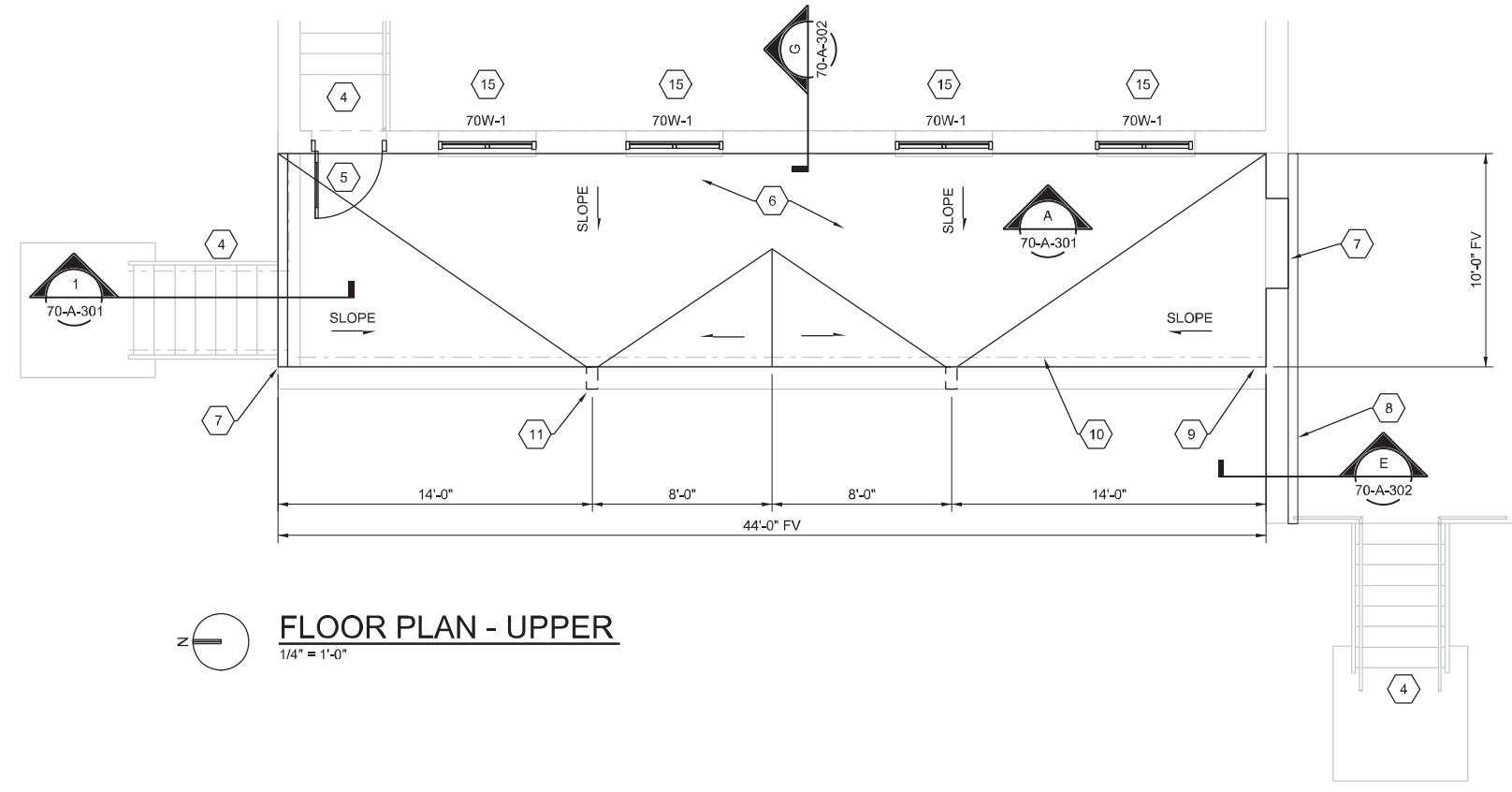
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, BRACING, CUTTING, FITTING AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO RESTORE WORK WHICH HAS BEEN CUT OR REMOVED FROM ITS ORIGINAL CONDITION THAT IS INDICATED TO REMAIN. ALL ADJACENT EXISTING WORK IN PLACE SHALL BE PROTECTED FROM DAMAGE DUE TO ANY NEW CONSTRUCTION AND / OR REPLACE / REPAIRED TO ORIGINAL CONDITION.
- EXISTING FINISHES TO REMAIN ARE TO BE MAINTAINED IN A GOOD AND CLEAN CONDITION.

SHEET KEYNOTES

- REMOVE EXISTING TILE AND MORTAR BED. GRIND DOWN PATCHED AREAS TO LEAVE A LEVEL SURFACE AT THE TOP OF THE STRUCTURAL SLAB. DO NOT DAMAGE THE EXISTING STRUCTURAL SLAB. REPAIR AS REQUIRED PER SPECIFICATION SECTION 03-01-33B REPAIR OF HORIZONTAL CONCRETE SURFACES. CLEAN CONCRETE SURFACE PER TRAFFIC COATING MANUFACTURERS REQUIREMENTS
- REMOVE AND RETAIN EXISTING GUARDRAIL FOR MODIFICATION AND RE-INSTALLATION
- REMOVE LOOSE BRICK AND MORTAR, PREPARE CONCRETE SURFACE PER TRAFFIC COATING MANUFACTURERS REQUIREMENTS
- EXISTING STAIR TO REMAIN
- NEW HOLLOW METAL DOOR, FRAME AND SILL
- NEW TRAFFIC COATING SYSTEM PROVIDE SLOPE TO DRAIN HOLES. USING TRAFFIC COATING MANUFACTURERS STANDARD SLOPING AND PATCHING MEMBRANE BASE LAYER
- FILL CRACKS WITH BACKER ROD AND SEALANT, SEAL WITH TRAFFIC COATING SYSTEM
- FILL CRACKS WITH BACKER ROD AND SEALANT, INFILL DEPRESSION WITH NON-SHRINK GROUT TO PROVIDE LEVEL SURFACE TO MATCH EXISTING CONCRETE DECK, SEAL WITH TRAFFIC COATING SYSTEM
- FILL EXISTING DRAIN HOLE WITH NON SHRINK GROUT, PAINT PER SPECIFICATION SECTION 09-90-00B, SYSTEM NO. 109
- EXISTING GUARDRAIL TO BE MODIFIED AND REMOUNTED TO CONCRETE WALL USING A SIDE MOUNT CONFIGURATION
- CORE DRILL LARGER HOLES AT EXISTING DRAIN HOLE LOCATIONS (2). PROVIDE 4" PVC PIPE INSERTS THROUGH WALL WITH PVC DOWN SPOUT NOZZLE ON EXTERIOR OF WALL
- REMOVE EXISTING DOOR, FRAME, AND SILL, PREPARE OPENING FOR NEW DOOR
- REMOVE EXISTING WINDOWS, EXHAUST FANS AND WITH FILLER PANELS, PREPARE OPENING FOR NEW WINDOWS
- REMOVE EXISTING CHLORINATOR AND PIPING CONNECTIONS, PATCH, SEAL AND PAINT TO MATCH EXISTING
- 70W-1: NEW FIXED ALUMINUM WINDOW WITH DOUBLE PANE INSULATING GLAZING VISION GLASS (IG-DP), FIELD VERIFY DIMENSIONS FOR EACH UNIT PRIOR TO FABRICATION



DEMOLITION FLOOR PLAN
1/4" = 1'-0"



FLOOR PLAN - UPPER
1/4" = 1'-0"

NO.	DATE	DR	REVISION	CHK	BY	APVD
W. HOLLINGSWORTH			B. NARAMORE		A. DOLSAK	

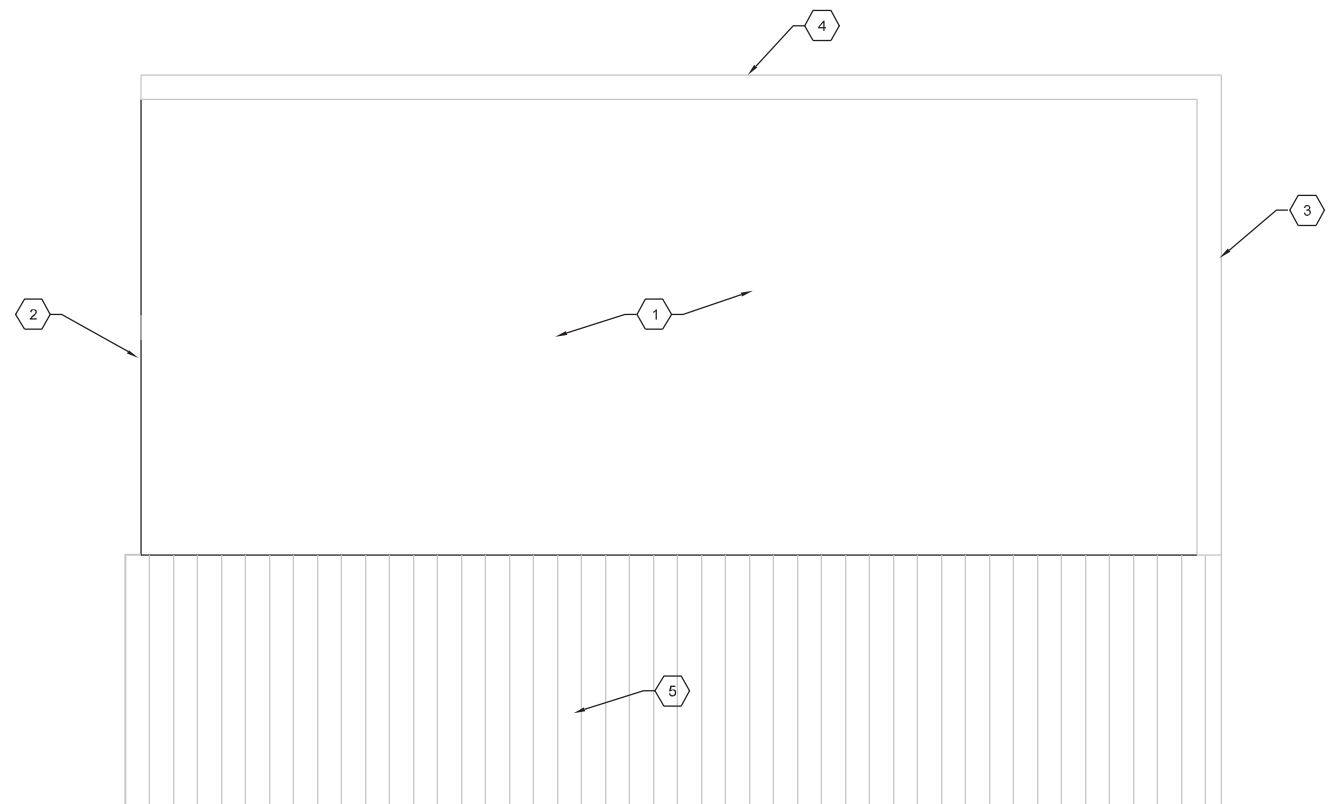
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ARCHITECTURAL
ELECTRICAL BUILDING
PLAN - UPPER

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	70-A-201
SHEET	74 of 101

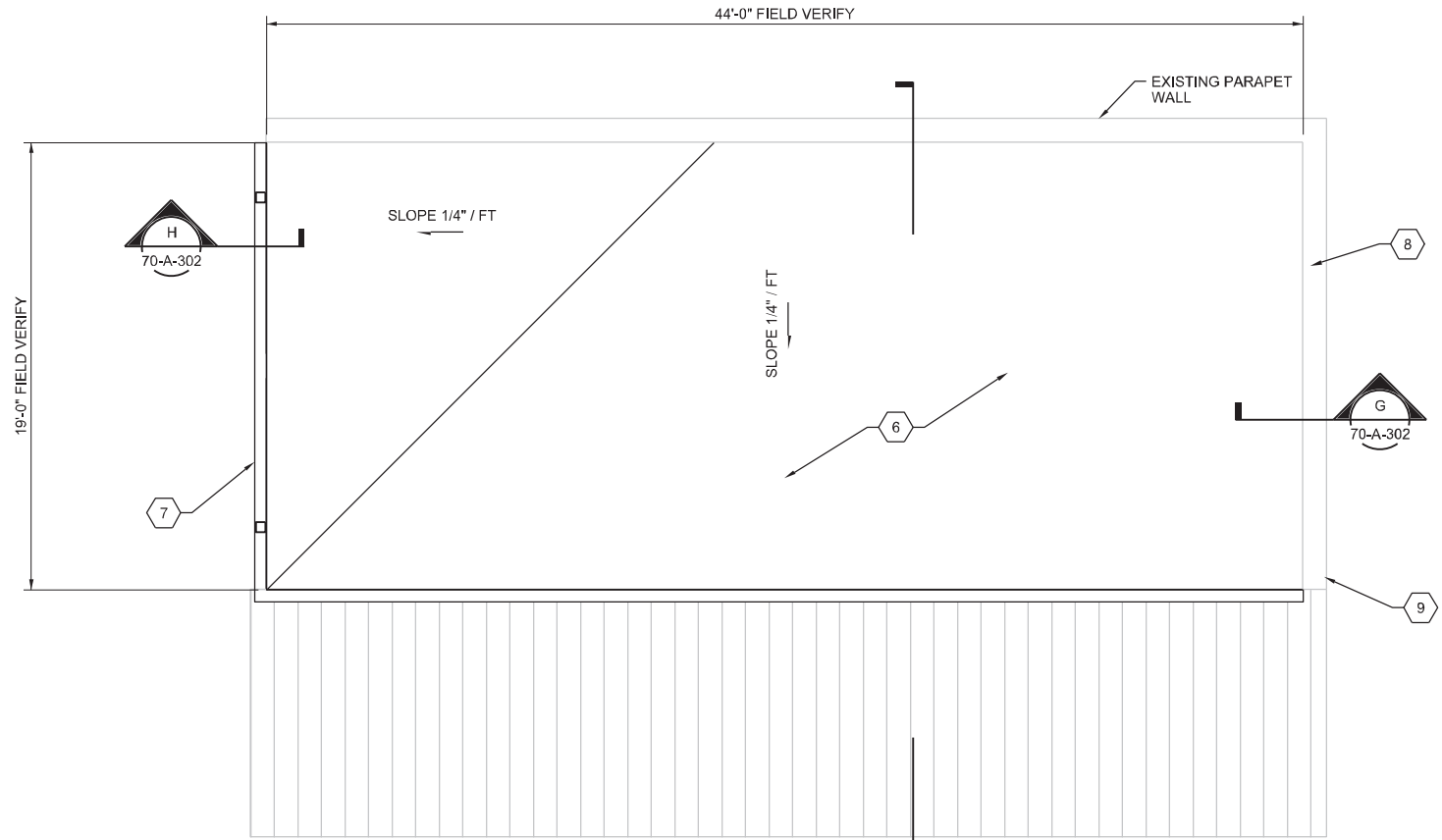
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

1 2 3 4 5 6



ROOF DOMOLITION PLAN

1/4" = 1'-0"



ROOF PLAN

1/4" = 1'-0"

GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, BRACING, CUTTING, FITTING AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO RESTORE WORK WHICH HAS BEEN CUT OR REMOVED FROM ITS ORIGINAL CONDITION THAT IS INDICATED TO REMAIN. ALL ADJACENT EXISTING WORK IN PLACE SHALL BE PROTECTED FROM DAMAGE DUE TO ANY NEW CONSTRUCTION AND / OR REPLACE / REPAIRED TO ORIGINAL CONDITION.
- EXISTING FINISHES TO REMAIN ARE TO BE MAINTAINED IN A GOOD AND CLEAN CONDITION.

ROOF DRAINAGE CALCULATIONS

RAINFALL INTENSITY (IN/HR) BASED ON RAINFALL AVERAGES IN AUBURN, ALABAMA (60 MIN DURATION, 100 YEARS): 10.1 IN/HR

ROOF AREA: 836 SF

LINEAR FEET OF GUTTER : 63 FT

MIN GUTTER SIZE: 4.5" WIDE X 3.5" DEEP

GUTTER SIZE PROPOSED: 6" WIDE X 5" DEEP

MINIMUM DOWNSPOUT AREA EACH: 3.48 SQ IN

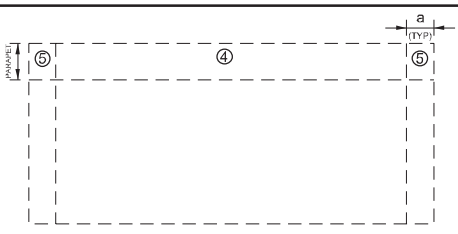
MINIMUM DOWNSPOUT SIZE 1.75 X 2.25 (PLAIN RECTANGULAR)

DOWNSPOUT SIZE PURPOSED: 4" X 4"

MINIMUM DOWNSPOUTS REQUIRED: 2

NUMBER OF DOWNSPOUTS PURPOSED: 2

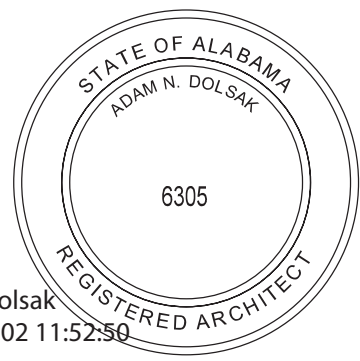
GROSS PARAPET SURFACE PRESSURES



PARAPET WIND PRESSURE DIAGRAM

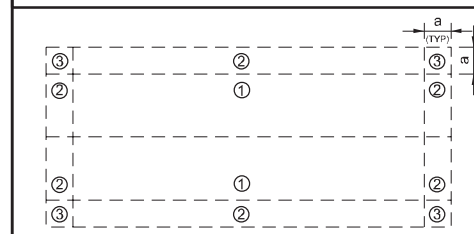
COMPONENTS AND CLADDING
a = 3'-0"

Area (FT ²)	Gross Parapet Surface Pressure (+, -) PSF				
	10	50	75	100	500
Negative zone 4	-54.3	-48.1	-46.5	-45.3	-38.9
Negative zone 5	-62.3	-52.7	-50.2	-48.5	-38.9
Positive zone 4	77.8	60.5	56.2	53.1	49.9
Positive zone 5	106.7	69.2	59.8	53.1	49.9



Adam Dolsak
2021.06.02 11:52:50
-04'00'

GROSS SURFACE PRESSURES



ROOF WIND PRESSURE DIAGRAM

COMPONENTS AND CLADDING
a = 3'-0"

Area (FT ²)	Gross Roof Surface Pressure (+, -) PSF				
	10	50	75	100	500
Negative Zone 1	-33.3	-31.4	-30.9	-30.5	-30.5
Negative Zone 2	-56.0	-42.1	-38.6	-36.2	-36.2
Negative Zone 3	-84.2	-50.6	-42.2	-36.2	-36.2
Positive All Zones	16.0	16.0	16.0	16.0	16.0

SHEET KEYNOTES

- REMOVE EXISTING ROOFING, INSULATION AND FLASHING.
- REMOVE EXISTING METAL COPING EXISTING WOOD BLOCKING.
- REMOVE EXISTING ROOF SCUPPER.
- EXISTING CONCRETE COPING TO REMAIN.
- EXISTING METAL ROOF, GUTTER AND DOWNSPOUTS TO REMAIN.
- NEW TPO ROOF SYSTEM OVER TAPERED INSULATION.
- NEW METAL GUTTER AND DOWN SPOUTS.
- FILL EXISTING SCUPPER HOLE WITH NON SHRINK GROUT. PAINT PER SPECIFICATION SECTION 09-90-00B, SYSTEM NO. 109.
- REPAIR DAMAGED CONCRETE COPING CAP PER SPECIFICATION SECTION 03-01-33 REPAIR OF HORIZONTAL CONCRETE SURFACES.

NO.	DATE	DR	CHK	REVISION

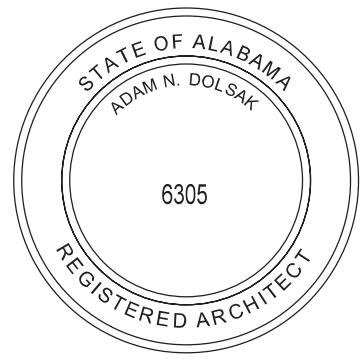
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

ARCHITECTURAL
**ELECTRICAL BUILDING
ROOF PLAN**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	70-A-202
SHEET	75 of 101

BID DOCUMENTS

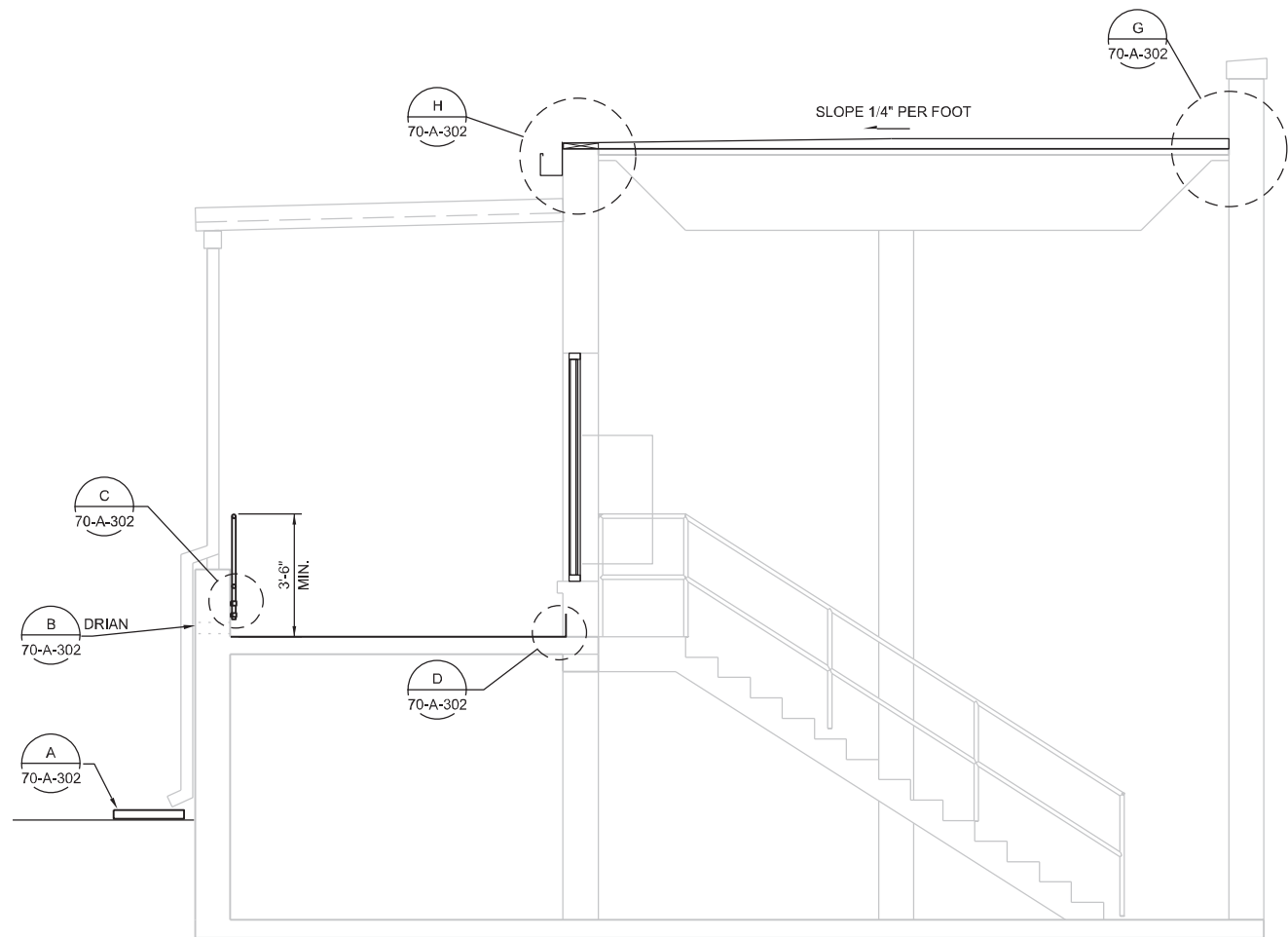
1 2 3 4 5 6



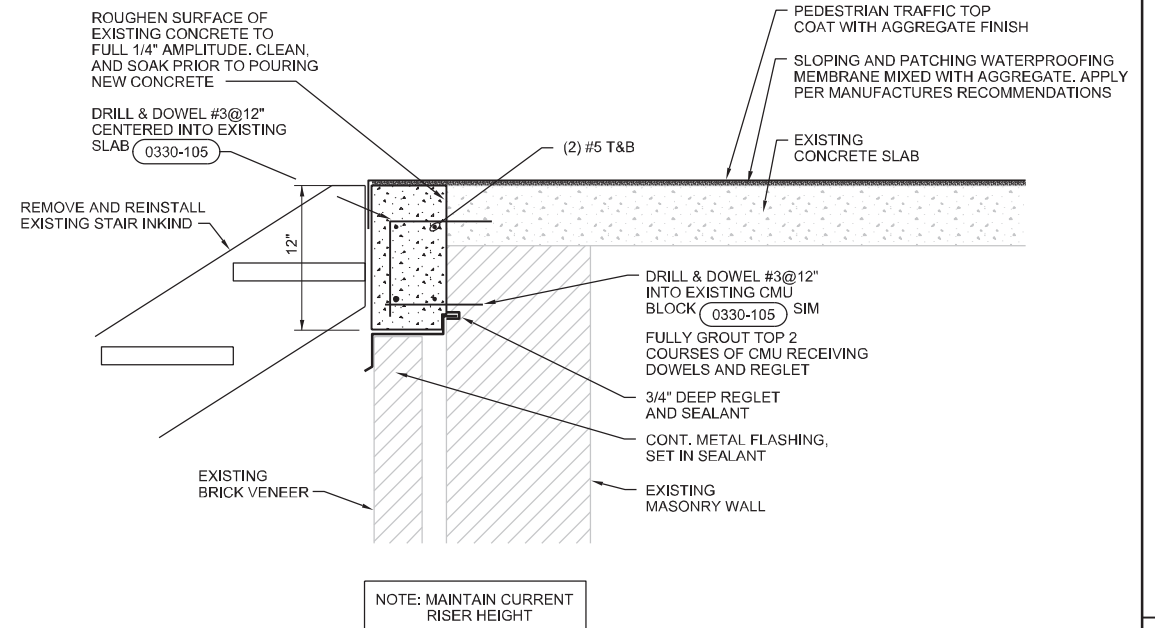
Adam Dolsak
2021.06.02 11:54:09
-04'00'



A ELEVATION
3/8" = 1'-0"
70-A-201



B BUILDING SECTION
3/8" = 1'-0"
70-A-201



NOTE: MAINTAIN CURRENT RISER HEIGHT

1 DETAIL
1 1/2" = 1'-0"
70-A-201

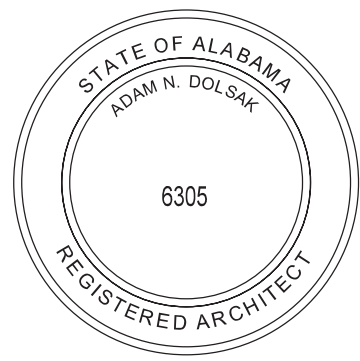
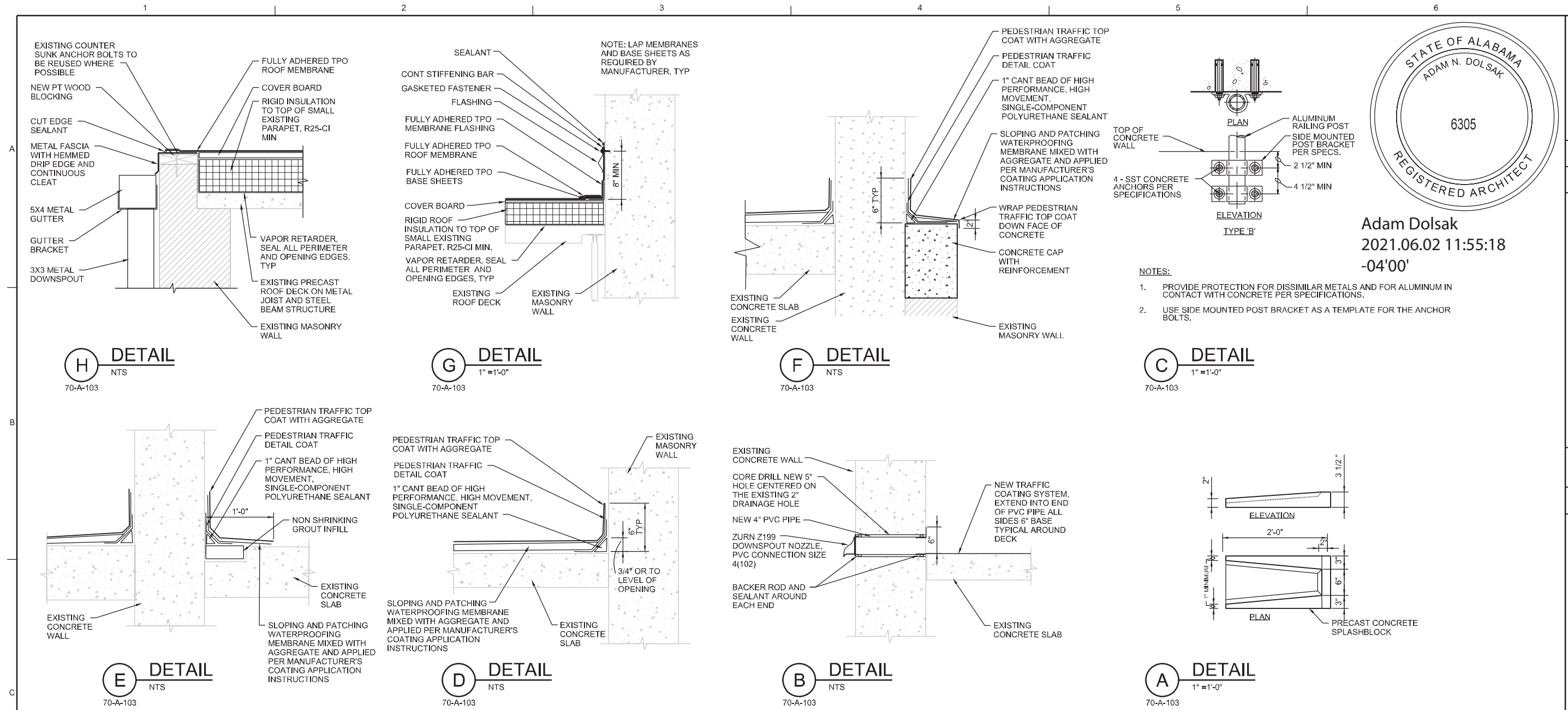
NO.	DATE	REVISION	BY
		CHK	APVD
		DR	APVD
		DSGN	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ARCHITECTURAL
ELECTRICAL BUILDING
BUILDING ELEVATION AND SECTION

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-A-301
SHEET	76 of 101

B NARAMOHRE A DOLSAK A DOLSAK A DOLSAK
 W HOLLINGSWORTH DR APVD
 REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. ©JACOBS 2021. ALL RIGHTS RESERVED.



Adam Dolsak
2021.06.02 11:55:18
-04'00'

- NOTES:
- PROVIDE PROTECTION FOR DISSIMILAR METALS AND FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATIONS.
 - USE SIDE MOUNTED POST BRACKET AS A TEMPLATE FOR THE ANCHOR BOLTS.

DOOR AND HARDWARE SCHEDULE

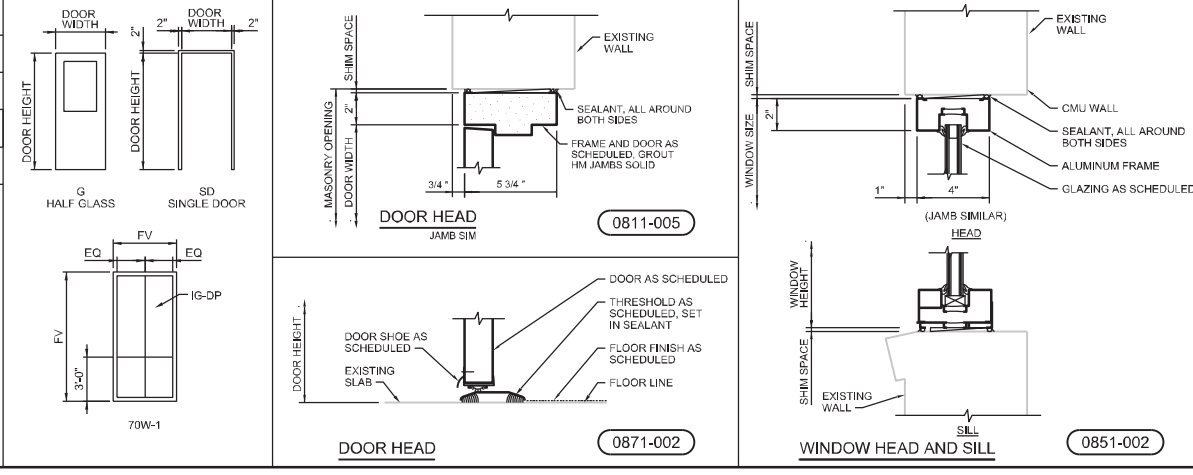
NUMBER	SIZE	OPENING										HARDWARE										LOUVER/GRILLE	FIRE PROTECTION RATING	MISC/REMARKS						
		WIDTH	HEIGHT	CONSTR	TYPE	GLASS	FNSH	COL	MATL	TYPE	FNSH	COL	HEAD	JAMB	SILL	HINGE	LOCK	EXIT	CLSR	P-P	BOLT				STOP	K-PL	TSHD	W-S	MISC	FREE AREA (SF)
ELECTRICAL BUILDING - 70																														
70-101A	3'-0"	7'-2"	STL	G/G	IG-DP	FCTY	O-1	STL	DD	FCTY	O-1	0811-005	-	0871-002	H1	L5	-	C1	-	-	-	-	-	-	T1	W-3	M1	-	-	M1 TEXT : ELECTRICAL BUILDING

WINDOW SCHEDULE

WINDOW NO.	TYPE	FRAME			DETAILS							
		WIDTH	HEIGHT	GLASS	MATL	FINISH	COL	HEAD	JAMB	SILL	MISC	
70W-1	FIXED	4'-4"	6'-4"	IG-DP	AL	FCTY	O-2	0851-002	SIM	0851-002	0851-002	

SCHEDULE NOTES:

- FOR DOOR DETAILS, SEE STANDARD DETAILS.
- LETTER-NUMBER CODES IN HARDWARE COLUMNS REFER TO ITEMS OF HARDWARE IN SPECIFICATION SECTION 08 71 00.
- NUMBERS IN "FNSH" COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09_90_00.
- CODES IN "COL" COLUMN REFER TO COLOR LIST ON SHEET 099-A-603.
- LETTER CODES IN GLASS COLUMN REFER TO GLASS TYPE SPECIFIED IN SPECIFICATION SECTION 08 80 00.
- LETTER CODES IN LOUVER TYPE COLUMN REFER TO LOUVERS SPECIFIED IN SPECIFICATION SECTION 08 90 00.



ABBREVIATIONS:

AL	ALUMINUM	KEY	KEY GROUP
AS	AS SELECTED	K-PL	KICK PLATE
CLR	CLEAR	MH	HOLLOW METAL
CLSR	CLOSER	MATL	MATERIAL
CMU	CONCRETE MASONRY UNITS	MET	METAL
COL	COLOR	MS	MANUFACTURER'S STANDARD
CONSTR	CONSTRUCTION	OHC	OVERHEAD COILING DOOR
CONC	CONCRETE	PLVWD	PLYWOOD
CRC	CHEMICAL-RESISTANT COATINGS	P-P	PUSH - PULL
EXIST	EXISTING	PTN	PARTITION
EXP	EXPOSED STRUCTURE	SIM	SIMILAR
FCTY	FACTORY	SLR	SEALER
FNSH	FINISH	SOI	SPRAY-ON INSULATION
FRP	FIBERGLASS REINFORCED PLASTIC	SST	STAINLESS STEEL
FINSH	FINISH	STL	STEEL
FWB	GYPNUM BOARD	SUB	FLSUBFLOOR
GLZ	GLAZING	TSHD	THRESHOLD
HC	HOLLOW CORE	WD	WOOD
HGT	HEIGHT	W-S	WEATHERSTRIPPING
HDNR	HARDENER	X	OPEN



ARCHITECTURAL
ELECTRICAL BUILDING
DETAILS AND OPENING SCHEDULE

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

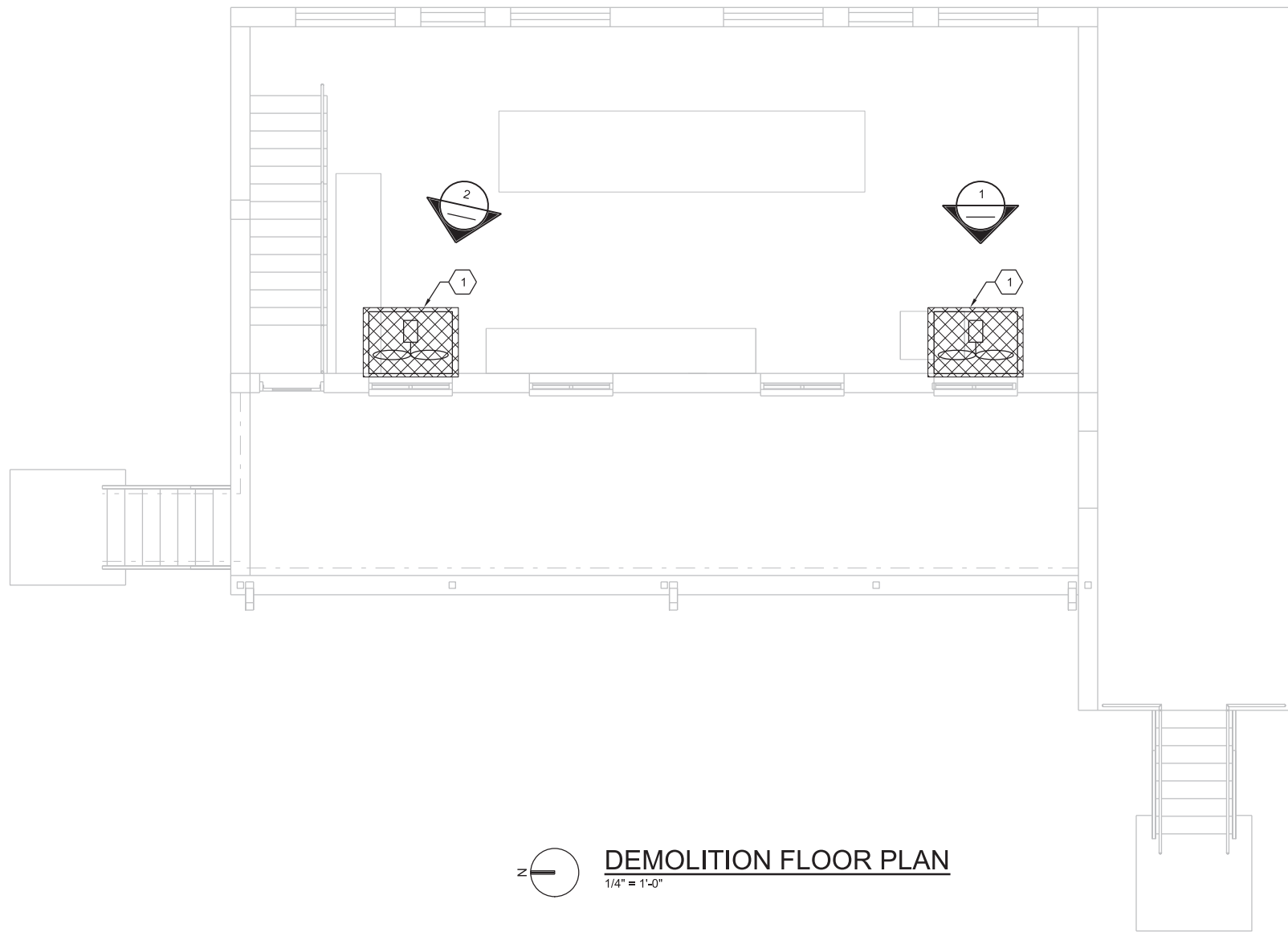
DATE	JUNE 2021
PROJ	D3389300
DWG	70-A-302
SHEET	77 of 101



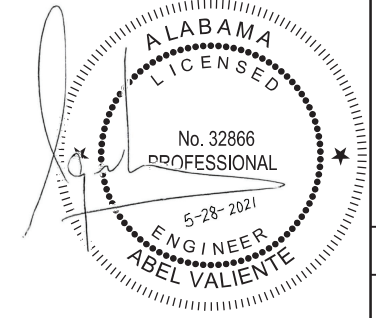
1 PHOTO
NTS



2 PHOTO
NTS



DEMOLITION FLOOR PLAN
1/4" = 1'-0"



SHEET KEYNOTES			
1.	DEMOLISH EXISTING WALL FAN AND ALL ASSOCIATED APPURTENANCES.	REVISION	CHK

NO.	DATE	DR	Y FITZGERALD	T PRICE	APVD	BY	APVD
							A VALIENTE

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
BUILDING MECHANICAL
**ELECTRICAL BUILDING
DEMOLITION
PLAN**

1/4" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 70-M-101
SHEET: 78 of 101

BID DOCUMENTS

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

1
2
3
4
5
6
A
B
C
D

SEQUENCE OF OPERATION

• DX SPLIT AIR CONDITIONING 70-AHU/ACCU-1 & 2

GENERAL:
 BOTH UNITS ARE SIZED APPROXIMATELY AT 75% OF THE SENSIBLE REQUIRED CAPACITY. THE SYSTEMS SHALL BE CONTROLLED VIA 7-DAY PROGRAMMABLE THERMOSTAT (ONE PER UNIT). SETPOINTS SHALL BE ADJUSTABLE BY THE USER AT THE THERMOSTAT AND SHALL BE PROGRAMMED SO LEAD AND LAG UNITS SETPOINTS ALTERNATE AS SHOWN BELOW TO EQUALIZE RUN TIME.

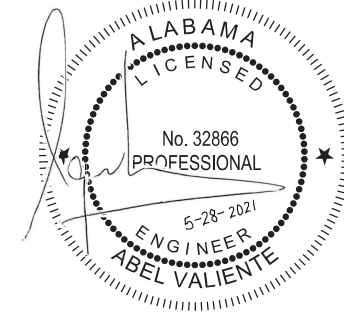
70-AHU/ACCU-1 & 2

SETPOINTS SCHEDULE:			
UNIT	SCHEDULE	COOLING F (ADJ)	HEATING F (ADJ)
70-AHU-1	MON-THU (12:00 PM)	77	55
	THU (12:01 PM)-SUN	82	50
70-AHU-2	MON-THU (12:00 PM)	82	50
	THU (12:01 PM)-SUN	77	55

OPERATION
COOLING MODE:
 UPON A RISE OF THE TEMPERATURE IN THE ELECTRICAL ROOM OVER THE FIRST TEMPERATURE SETPOINT 77 DEGREES F (ADJ), THE LEAD SYSTEM SUPPLY FAN SHALL START AND THE DX COOLING STAGES SHALL CYCLE TO MAINTAIN THE FIRST SPACE TEMPERATURE SETPOINT. UPON FURTHER RISE OF THE SPACE TEMPERATURE OVER THE SECOND TEMPERATURE SETPOINT 82 DEGREES F (ADJ) THE LAG SYSTEM SUPPLY FAN SHALL ENERGIZE AND THE DX COOLING SHALL CYCLE TO MAINTAIN THE SECOND TEMPERATURE SETPOINT. AS THE SPACE TEMPERATURE SETPOINTS ARE SATISFIED, THE SYSTEMS SUPPLY FANS SHALL STOP AND THE DX COOLING SHALL BE INHIBITED FROM OPERATING.

HEATING MODE:
 UPON A DROP OF THE TEMPERATURE IN THE ELECTRICAL ROOM BELOW THE FIRST TEMPERATURE SETPOINT 55 DEGREES F (ADJ), THE LEAD SYSTEM SUPPLY FAN AND HEATING MODE SHALL ENERGIZE TO MAINTAIN THE FIRST SPACE TEMPERATURE SETPOINT. UPON FURTHER DROP OF THE SPACE TEMPERATURE BELOW THE SECOND TEMPERATURE SETPOINT 50 DEGREES F (ADJ), THE LAG SYSTEM SUPPLY FAN AND THE HEATING MODE SHALL ENERGIZE TO MAINTAIN THE SECOND TEMPERATURE SETPOINT. AS THE SPACE TEMPERATURE SETPOINTS ARE SATISFIED, THE SYSTEMS SUPPLY FANS AND HEATING MODE SHALL BE DE-ENERGIZED.

SMOKE DETECTION SHUTDOWN
 ON A DETECTION OF PRODUCTS OF COMBUSTION BY THE DUCT MOUNTED SMOKE DETECTOR, THE SUPPLY FANS SHALL STOP.

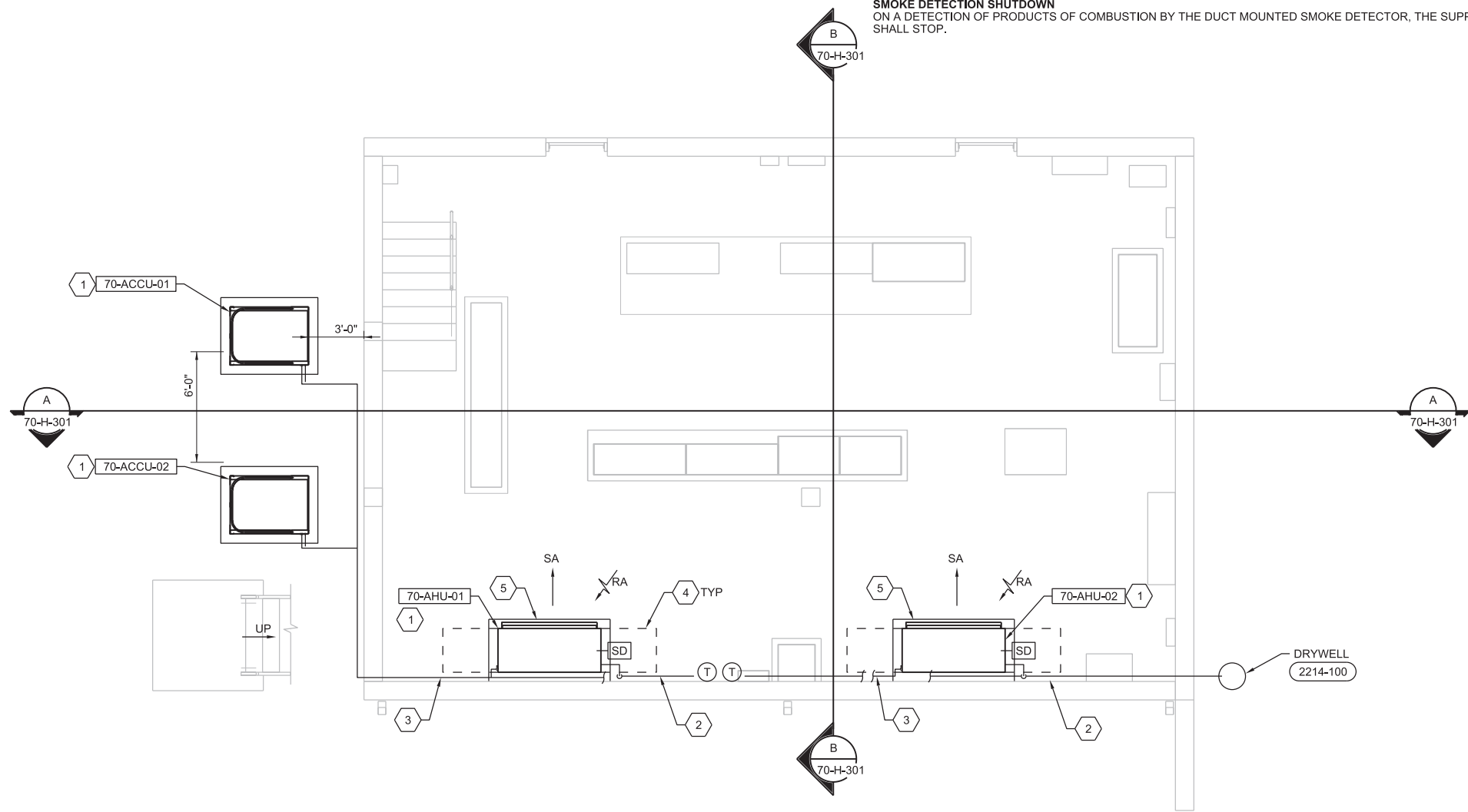


GENERAL SHEET NOTES

- LOCATE THERMOSTATS 5'-0" FEET ABOVE FINISHED FLOOR.
- DO NOT ROUTE REFRIGERANT AND CONDENSATE PIPING DIRECTLY ABOVE ELECTRICAL EQUIPMENT.
- MECHANICAL WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY REQUIREMENTS PRIOR TO COMMENCING WORK.
- FIELD VERIFY AIR HANDLER UNITS EXACT LOCATION SO THE AIRFLOW ISN'T BLOCK BY THE ELECTRICAL GEAR.

SHEET KEYNOTES

- PROVIDE EQUIPMENT CONCRETE PAD.
- CONDENSATE DRAIN FULL SIZE OF UNIT CONNECTION. PIPE WITH TRAP AND SLOPE 1/8" PER FOOT TO DRYWELL.
- REFRIGERANT PIPING
- MAINTENANCE CLEARANCE.
- PROVIDE STAINLESS STEEL DRAIN PAN WITH OVERFLOW SWITCH.



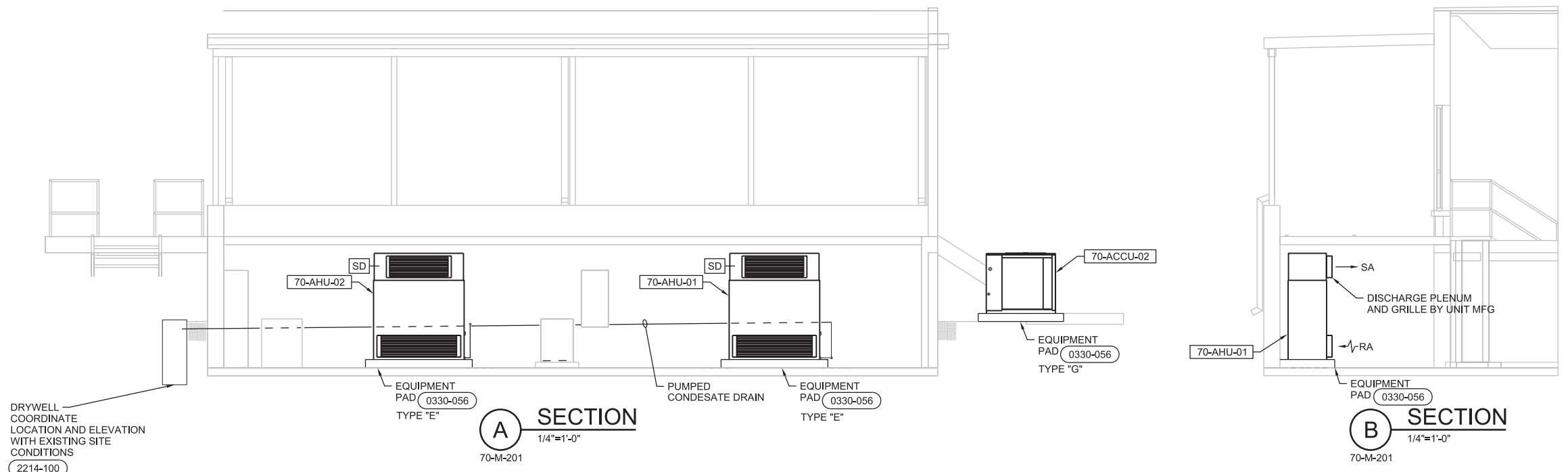
FLOOR PLAN - LOWER
 1/4" = 1'-0"

JACOBS
 BUILDING MECHANICAL
ELECTRICAL BUILDING RENOVATION PLAN

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

DATE	JUNE 2021
PROJ	D3389300
DWG	70-M-201
SHEET	79 of 101

BID DOCUMENTS



DRYWELL
COORDINATE
LOCATION AND ELEVATION
WITH EXISTING SITE
CONDITIONS
(2214-100)

SPLIT SYSTEM DX OUTDOOR UNITS		23 81 00																												
TAG	LOCATION	DX COOLING DATA			DX HEATING DATA			OUTDOOR FAN DATA				COMPRESSOR DATA				UNIT ELECTRICAL DATA				UNIT DIMENSIONS			MANUFACTURER	MODEL	APPLICABLE REMARKS					
		CAPACITY BTU/HR.	AMBIENT TEMP. DEG. F	EER @ ARI	CAPACITY BTU/HR.	COND. DEG. F	COP @ ARI	NO.	H.P. (EA)	VOLT	PH	CFM (TOTAL)	NO.	STEPS	RLA (EA)	LRA (EA)	VOLT.	PH.	# CONN	MCA (FUSE)	MOCF (FUSE)	VOLT				PH	INCHES			MAX. WEIGHT LBS
70-ACCU-01 & 02	OUTDOOR	124,449	94	12.6	71,000	17	2.3	1	1.0	460	3	9,800	2	1	7.8	52.0	460	3	1	20.0	25.0	460	3	52	40	50 3/4	435	TRANE	TWA120	A THRU G

REMARKS:
 A: FACTORY INSTALLED MOTOR CONTACTOR / STARTER
 B: DISCONNECT PER DIVISION 26 ELECTRICAL
 C: CONDENSER HAIL GUARDS
 D: 5 YEAR COMPRESSOR WARRANTY FOR EACH COMPRESSOR
 E: LOW-AMBIENT COOLING KIT
 F: COMPRESSOR CYCLE DELAY
 G: HOT GAS BYPASS ON LEAD COMPRESSOR

SPLIT SYSTEM DX INDOOR UNITS		23 81 00																									
TAG	LOCATION	FAN DATA			DX COOLING DATA				DX HEATING DATA			FAN MOTOR DATA			UNIT ELECTRICAL DATA				UNIT DIMENSIONS			MANUFACTURER	MODEL	APPLICABLE REMARKS			
		SUPPLY AIR CFM	OUTSIDE AIR CFM	EXTERNAL STATIC P IN W.G.	NET CAPACITY BTU/H	NET SENS. BTU/H	EAT DEG. F DB	AMBIENT TEMP. DEG. F WB	NET CAPACITY BTU/H	EAT DEG. F	AMBIENT TEMP. DEG. F	HP	VOLT	PH	#CONN	MCA A	MOCF (FUSE)	VOLT	PH	INCHES					MAX. WEIGHT LBS		
70-AHU-01 & 02	ELECTRICAL ROOM	4,000	0	0.25	124,449	102,212	78.3	65.1	94	71,000	54.4	17	2	460	3	1	11	15	460	3	25 1/2	63 1/2	54	393	TRANE	TWE120	A THRU I

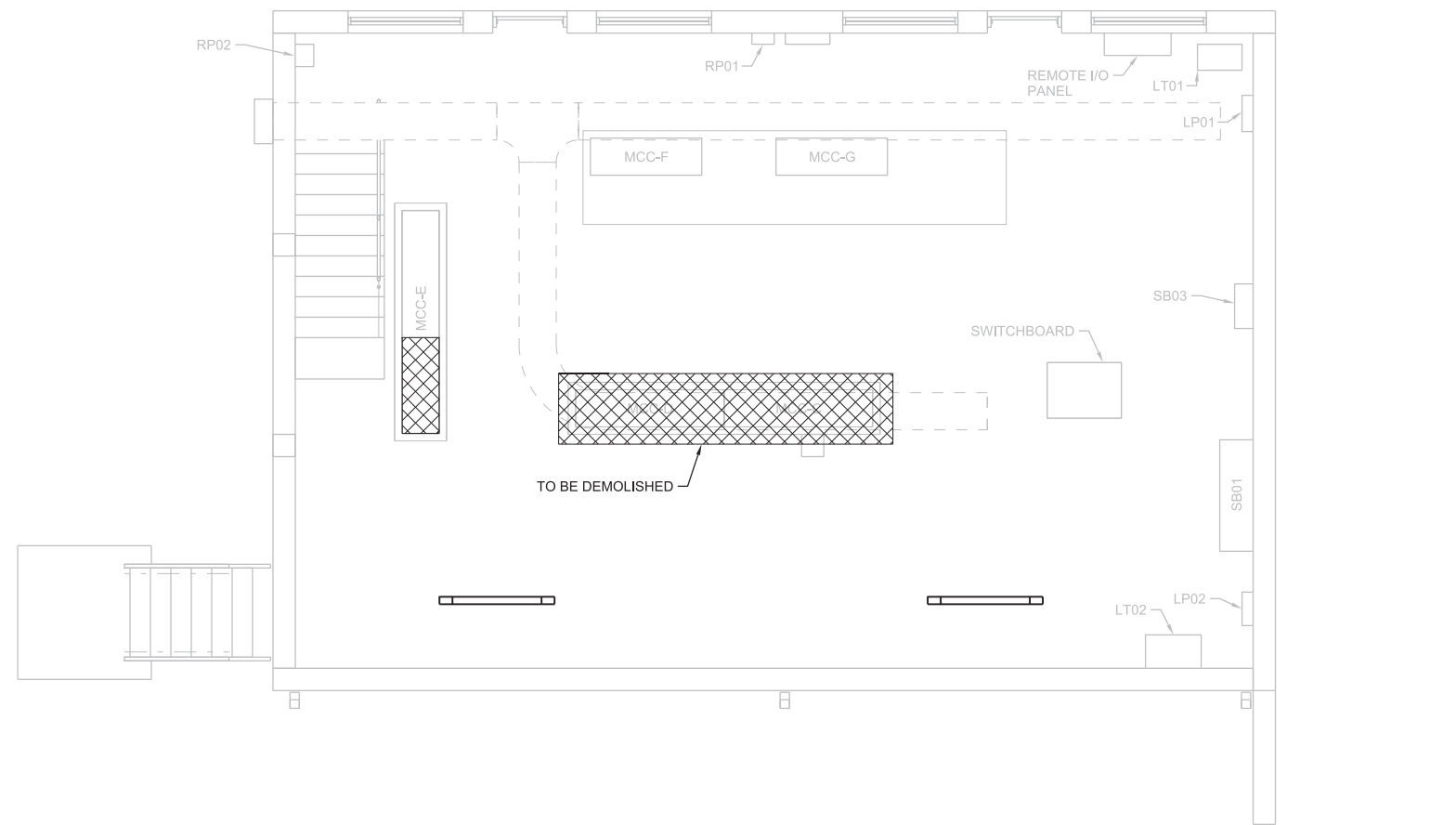
REMARKS:
 A: FACTORY INSTALLED MOTOR CONTACTOR / STARTER
 B: FACTORY INSTALLED HEATER CONTACTOR
 C: DUAL REFRIGERATION CIRCUITS
 D: RETURN-AIR GRILLE
 E: 7-DAY PROGRAMMABLE THERMOSTAT (ONE PER UNIT)
 F: 5 KW AUXILIARY HEAT
 G: AIR DISCHARGE PLENUM
 H: PROVIDE CONDENSATE PUMP
 I: PROVIDE OVERFLOW STAINLESS STEEL DRAIN PAN WITH OVERFLOW SWITCH

Jacobs
 BUILDING MECHANICAL
 ELECTRICAL BUILDING
 SECTIONS
 AND SCHEDULES

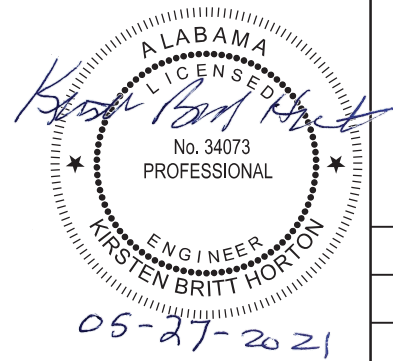
JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

NO.	DATE	DR	Y. FITZGERALD	CHK	REVISION	BY	APVD
							A VALIENTE

1/4"=1'-0"	
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-M-301
SHEET	80 of 101



DEMOLITION PLAN - LOWER
 1/4"=1'-0"

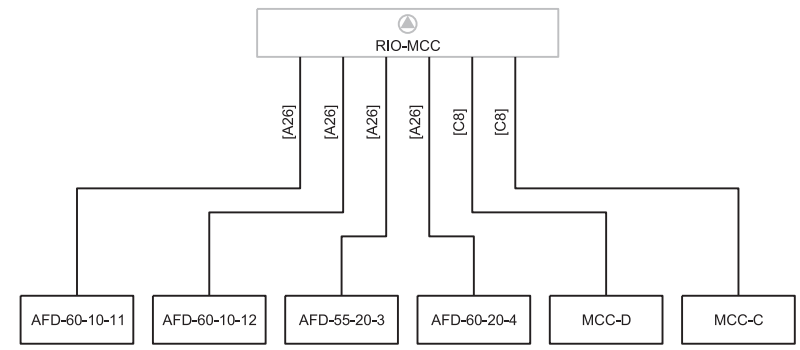
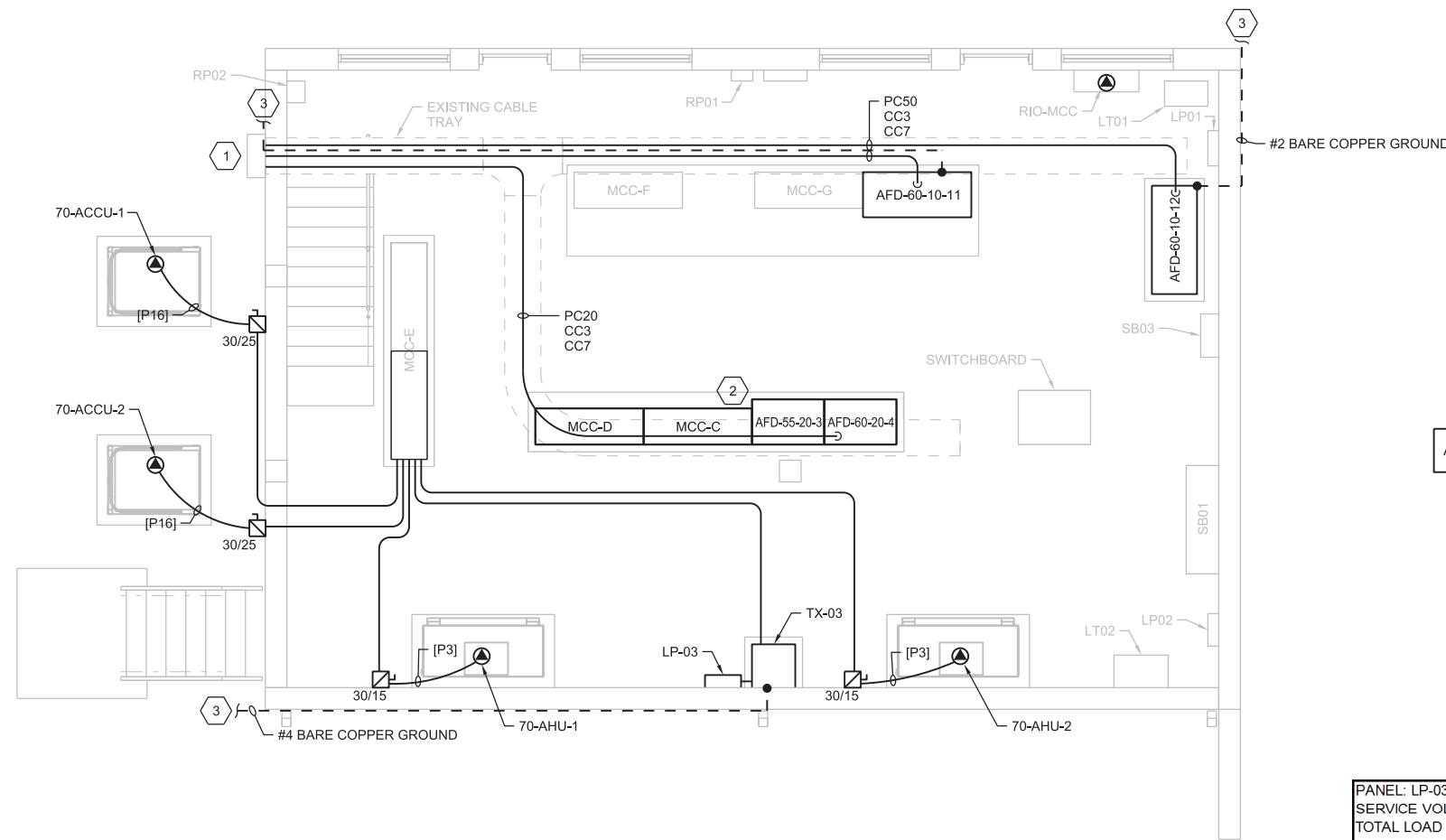


NO.	DATE	DR	CHK	REVISION	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

ELECTRICAL ELECTRICAL BUILDING DEMOLITION PLAN LOWER	
AS NOTED VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-101
SHEET	81 of 101

© JACOBS 2021. ALL RIGHTS RESERVED.
 REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.



RIO-MCC WIRING DIAGRAM
NTS

PANEL: LP-03
 SERVICE VOLTAGE: 208/120V
 TOTAL LOAD KVA: 6.1
 REMARKS: 10KAIC
 * EGF I CIRCUIT BREAKER

LOCATION: ELECTRICAL BUILDING
 PHASE: 3
 BUS SIZE: 100A
 NEUTRAL: FULL

WIRE: 1
 MAIN SIZE: 100A
 MOUNTING: SURFACE

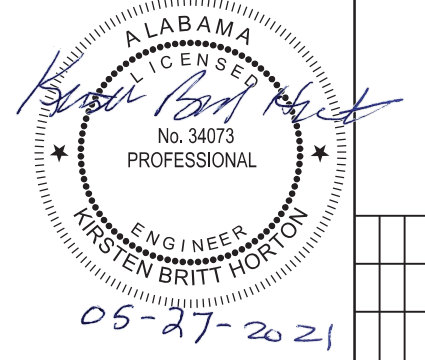
TYPE: MCB

LOAD IN KVA			CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA		
A	B	C							A	B	C
0.3			HYPO PUMP P-25-30-1	20/1	1	2	40/1	VCP-20-20-3	1.0		
	0.3		HYPO PUMP P-25-30-2	20/1	3	4	40/1	VCP-20-20-4		1.0	
		0.3	HYPO PUMP P-25-30-3	20/1	5	6	20/1	LCP-05-01 RTU PANEL			1.0
0.2			LIT-45-20	20/1	7	8	20/1	LCP-05-02 NETWORK PANEL	1.0		
	0.5		SSH/FS-25-40-1	20/1*	9	10	20/1	SPARE			
			SSH/FS-35-40-1	20/1*	11	12	20/1	SPARE			
			SPARE	20/1	13	14	20/1	SPARE			
			SPARE	20/1	15	16	20/1	SPARE			
			SPARE	20/1	17	18	20/1	SPARE			
			SPARE	20/1	19	20	20/1	SPARE			
			SPARE	20/1	21	22	20/1	SPARE			
			SPARE	20/1	23	24	20/1	SPARE			
0.5	0.8	0.8	TOTAL						2.0	1.0	1.0

PLAN - LOWER
1/4"=1'-0"

SHEET KEYNOTES

- PROVIDE NEW CONDUCTORS BETWEEN PUMP AREA AND VFDS. TRANSITION FROM CABLE TRAY TO EXISTING CONDUIT.
- CONNECT MCC-C, MCC-D AND MCC-E TO EXISTING GROUND GRID. REUSE GROUND WIRE FORM DELETE MCCS. EXTEND GROUND FROM GROUND GRID CONNECTION AT MCC-C TO AFD-55-20-1 AND AFD-55-20-2.
- CONNECT TO EXISTING GROUND GRID.

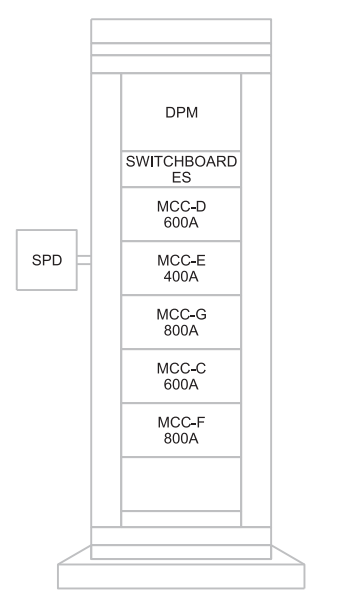
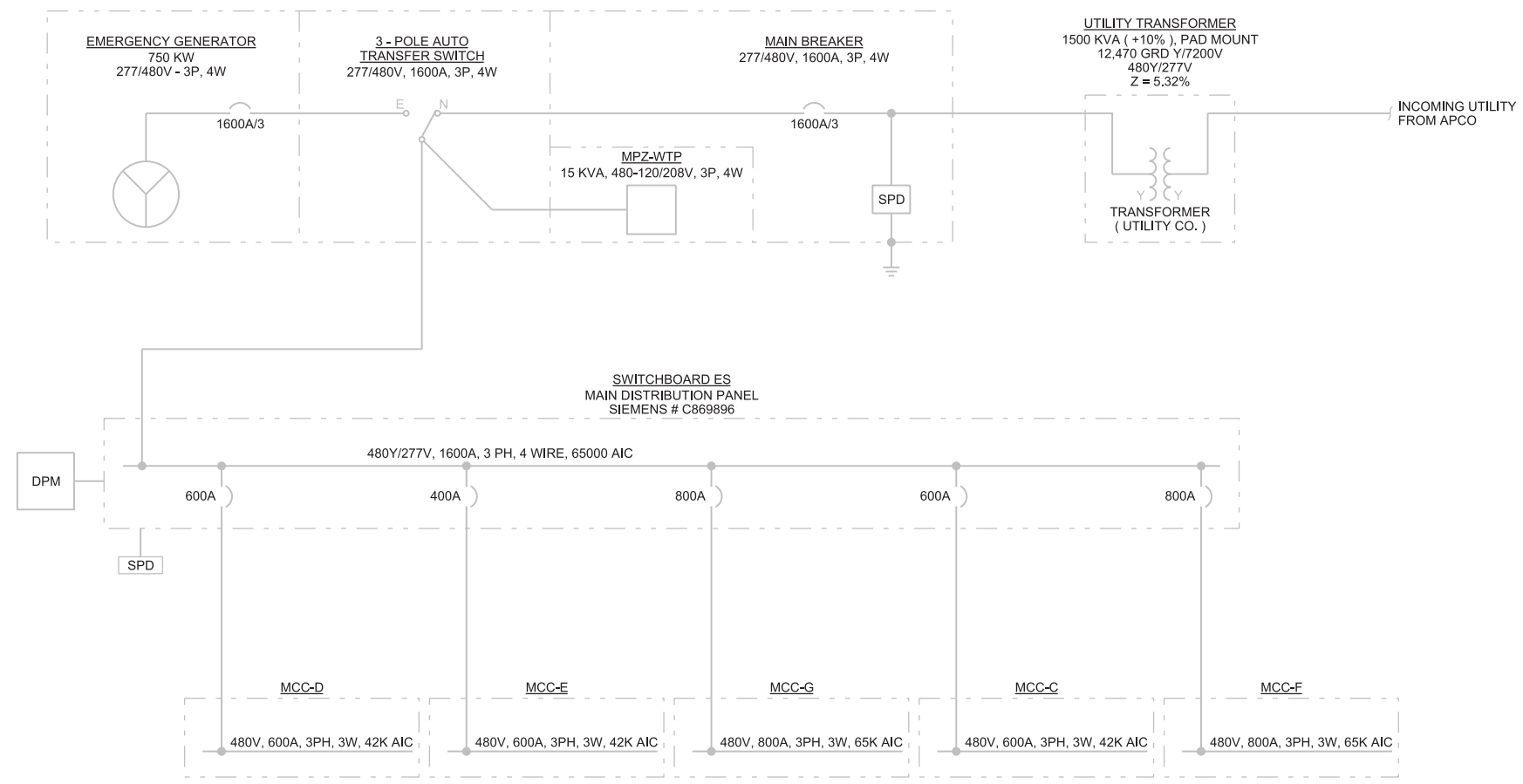


JACOBS
 ELECTRICAL
ELECTRICAL BUILDING PLAN LOWER

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 70-E-201
SHEET: 82 of 101

BID DOCUMENTS



SWITCHBOARD "ES"
NTS

ALABAMA
LICENSED
No. 34073
PROFESSIONAL
ENGINEER
KIRSTEN BRITT HORTON
05-27-2021

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
**OVERALL
SINGLE LINE DIAGRAM
AND ELEVATION**

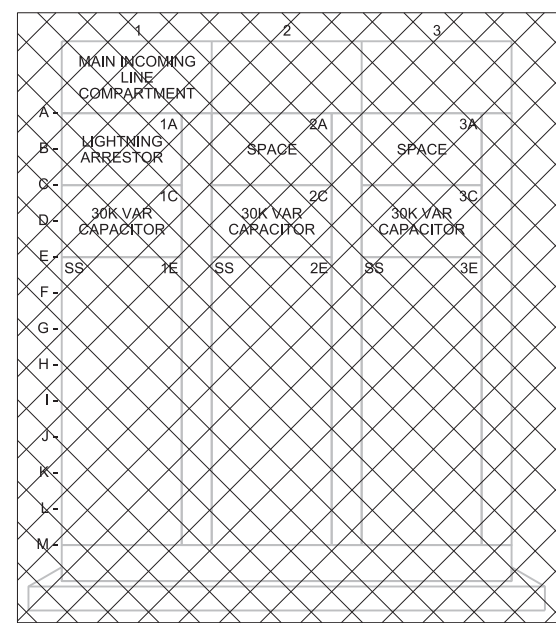
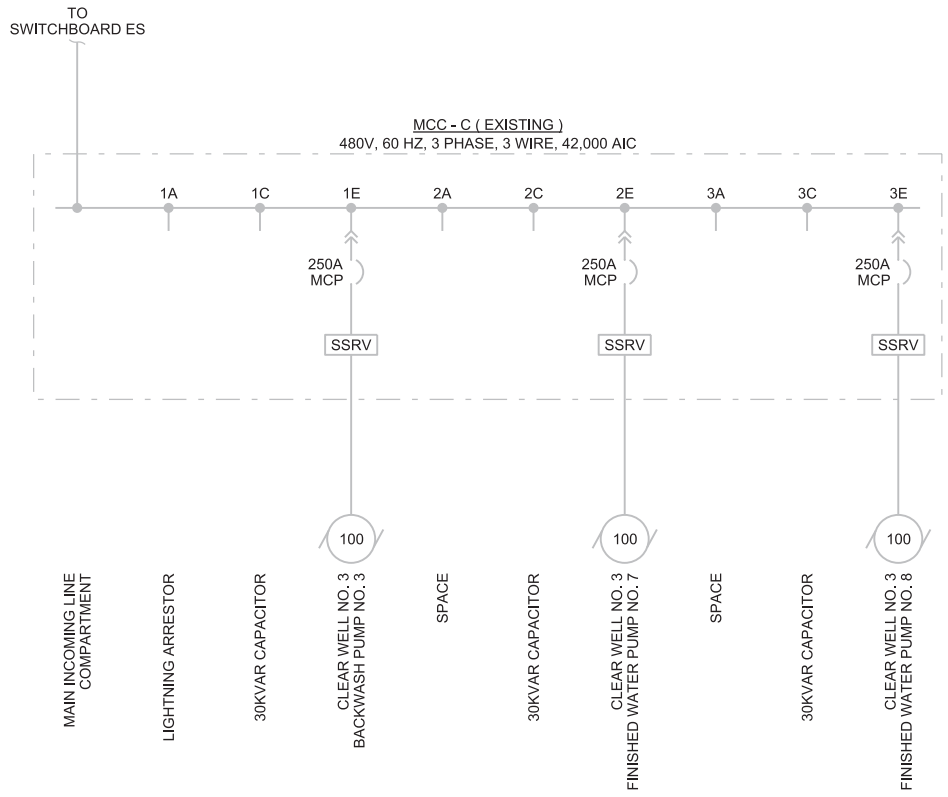
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-601
SHEET	83 of 101

T HOMAYOONI
G MESSER
CHK
DR
KB HORTON
APVD
BY
APVD
K B HORTON
© JACOBS 2021. ALL RIGHTS RESERVED.
RE/USE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

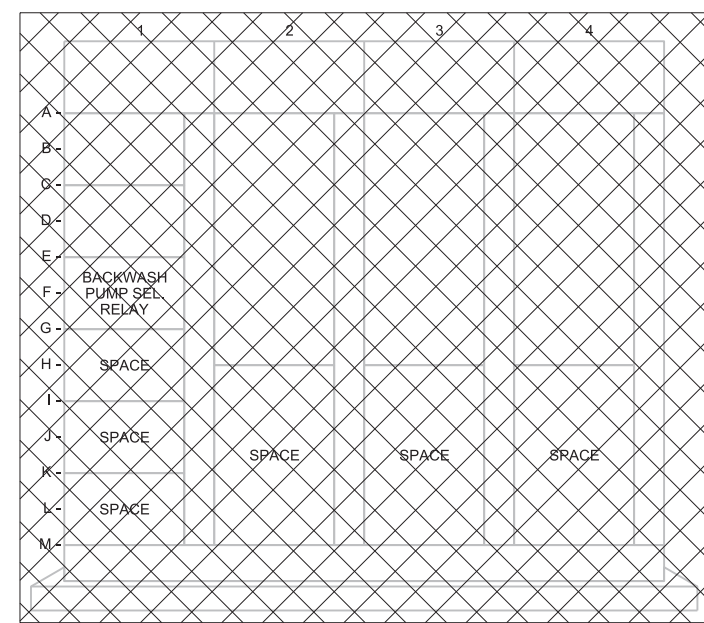
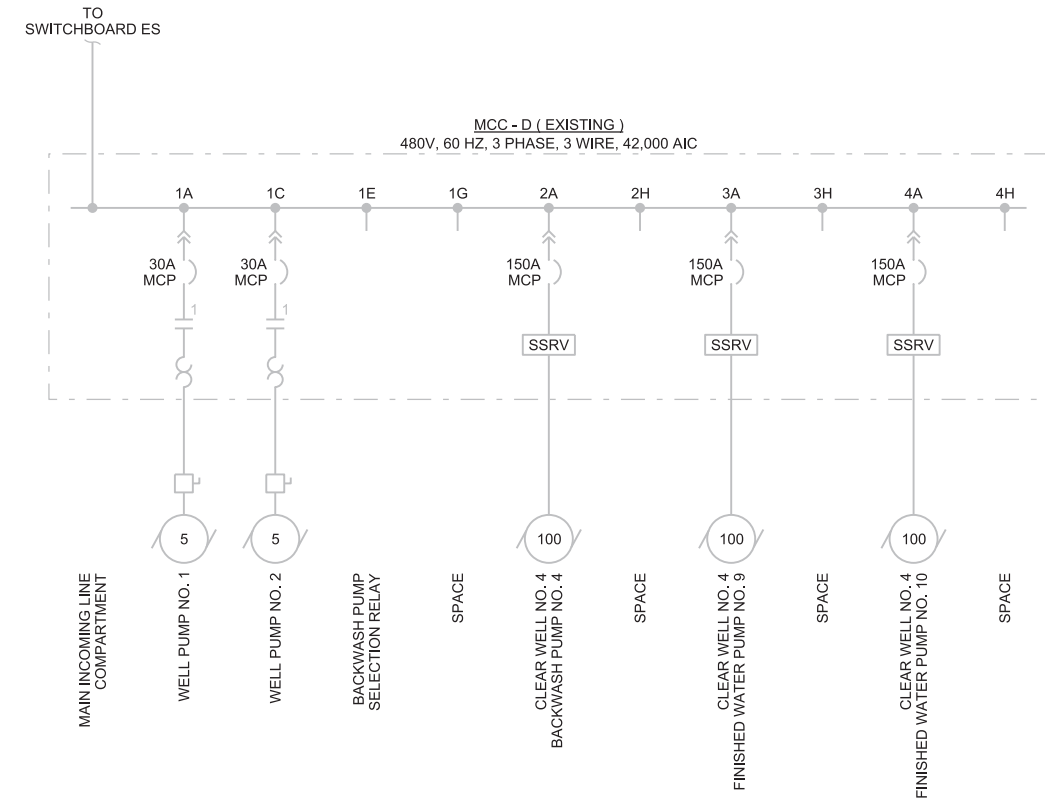
BID DOCUMENTS

1 2 3 4 5 6

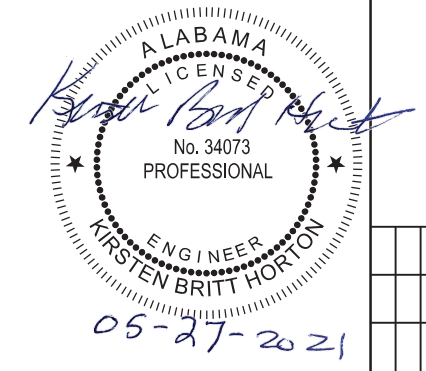
A
B
C
D



MCC-C ELEVATION
NTS



MCC-D ELEVATION
NTS



JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

JACOBS
ELECTRICAL
**EXISTING MCC-C AND MCC-D
SINGLE LINE DIAGRAM
AND ELEVATION**

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-602
SHEET	84 of 101

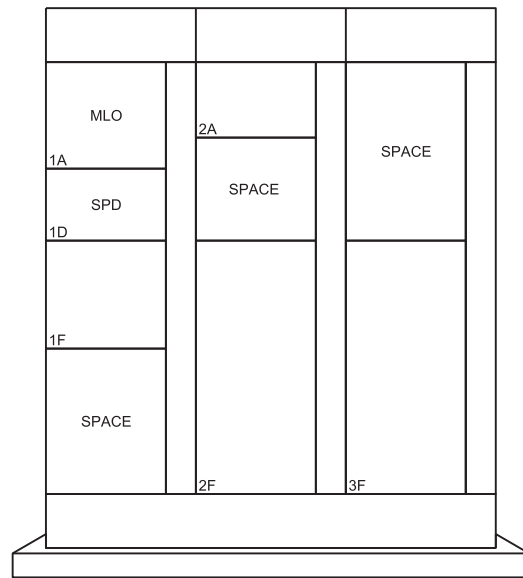
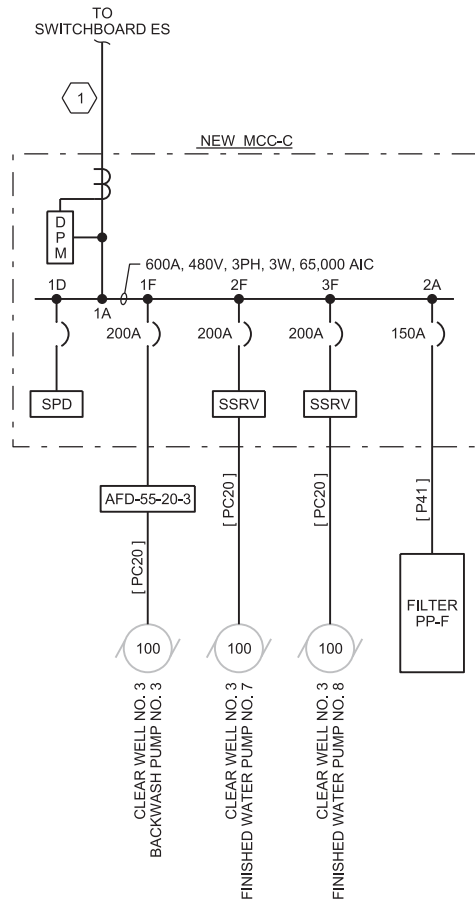
GENERAL SHEET NOTES

- EXISTING MCC-C AND MCC-D TO BE REPLACED.

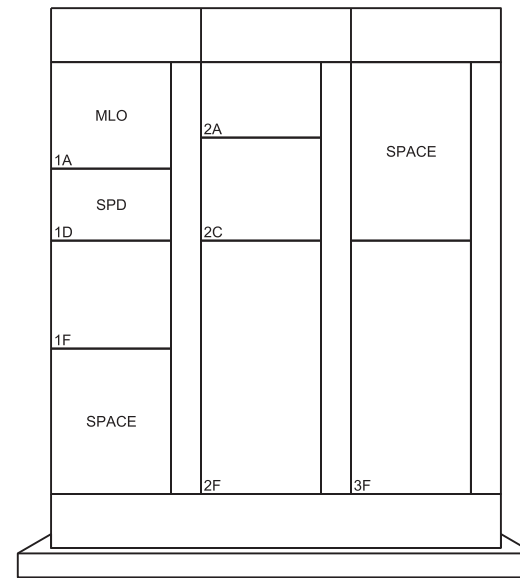
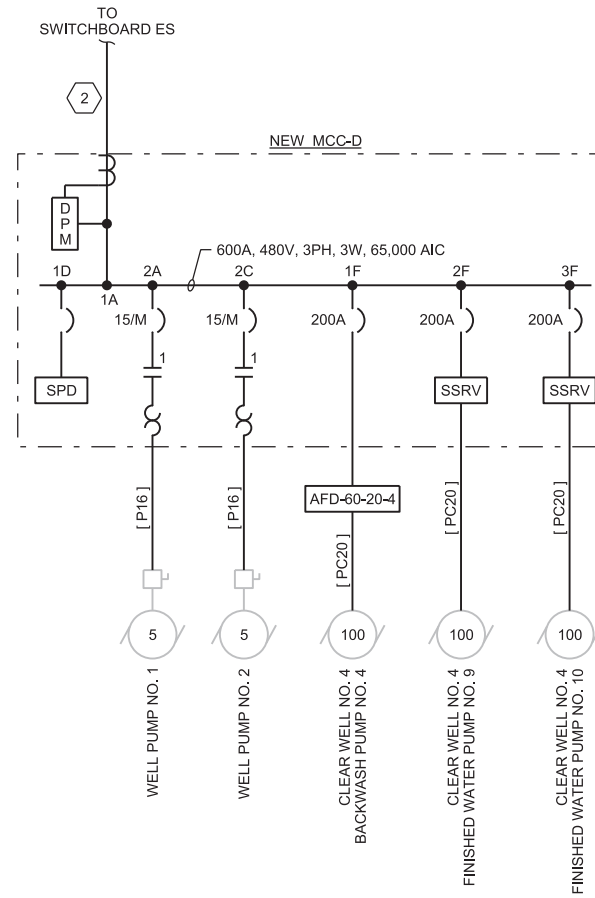
BID DOCUMENTS

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2021. ALL RIGHTS RESERVED.



MCC-C ELEVATION
3/4" = 1'-0"



MCC-D ELEVATION
3/4" = 1'-0"

ALABAMA
LICENSED
ENGINEER
KIRSTEN BRITT HORTON
No. 34073
05-27-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD
		KB HORTON	G MESSER			KB HORTON
		DSGN	T HOMAYOONI			APVD

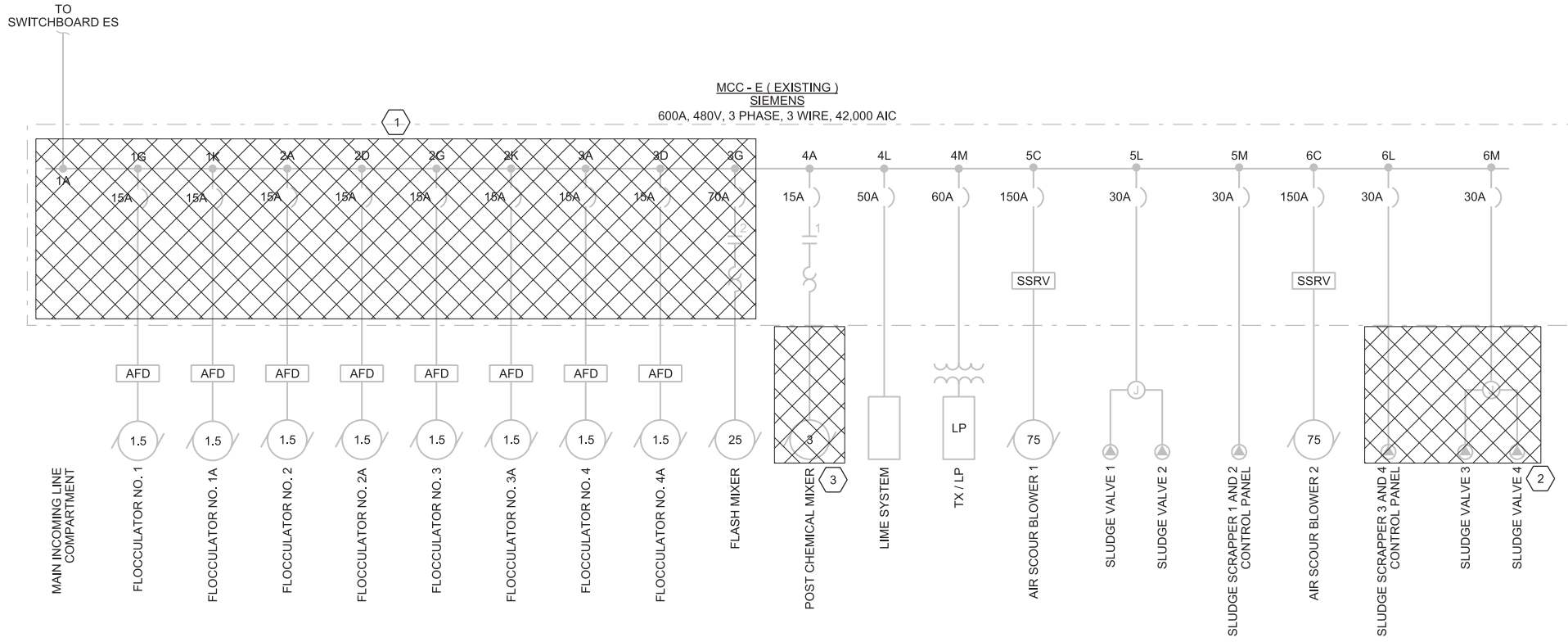
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
**NEW MCC-C AND MCC-D
SINGLE LINE DIAGRAM
AND ELEVATION**

SHEET KEYNOTES	
1.	REUSE EXISTING CABLE BETWEEN SWITCHBOARD-ES AND MCC-C. EXISTING CONDUCTORS ROUTE IN EXISTING CABLE TRAY.
2.	REUSE EXISTING CONDUIT AND CONDUCTORS BETWEEN SWITCHBOARD-ES AND MCC-D.

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-603
SHEET	85 of 101

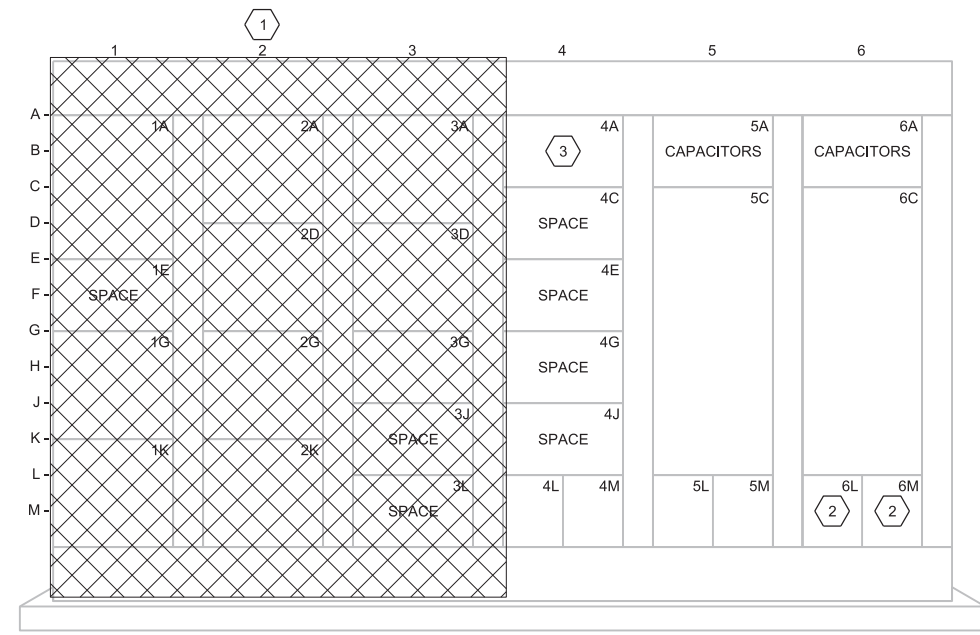
BID DOCUMENTS



ALABAMA
LICENSED
No. 34073
PROFESSIONAL
ENGINEER
KIRSTEN BRITT HORTON
Kirsten Britt Horton
05-27-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD

T. HOMAYOONI
G. MESSER
K.B. HORTON
K.B. HORTON



- SHEET KEYNOTES**
- REPLACE EXISTING FIRST THREE SECTIONS ON MCC AS SHOWN. SEE DRAWING 70-E-605 FOR NEW SECTION DETAILS.
 - SLUDGE SYSTEM FOR BASINS 3 AND 4 ARE BEING REPLACED. DISCONNECT AND REMOVE EXISTING CONDUCTORS. MARK CIRCUIT BREAKER IN MCC AS SPARE.
 - POST FLASH MIXER IS BEING REMOVED. DISCONNECT AND REMOVE CONDUCTORS. MARK STARTER AS SPARE.
 - EXISTING CONDUIT AND CONDUCTORS BETWEEN MCC-E AND FLOCCULATORS TO BE REUSED. DISCONNECT AND PROTECT DURING MCC MODIFICATIONS.

JACOBS
ELECTRICAL
MCC-E
SINGLE LINE DIAGRAM
AND ELEVATION

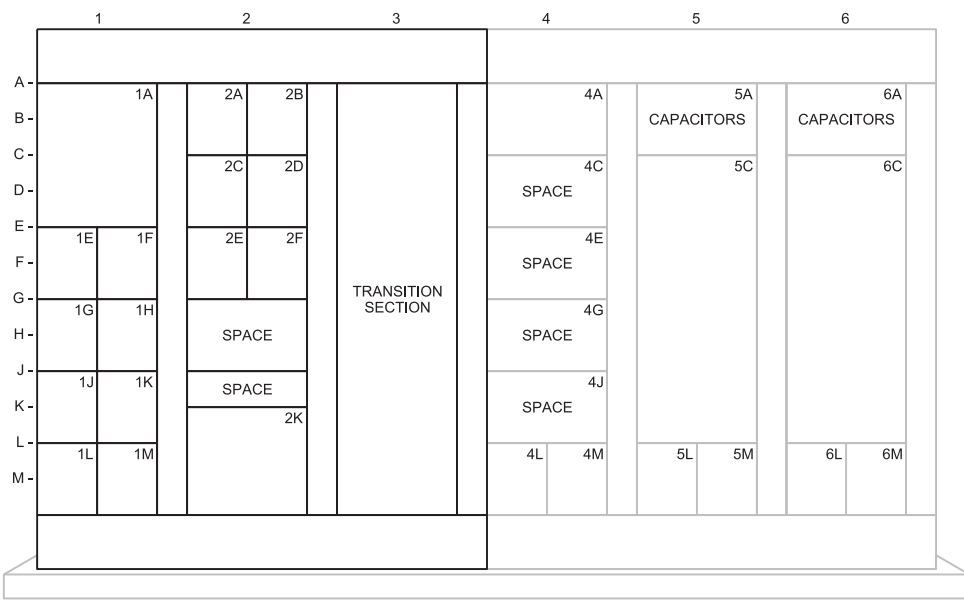
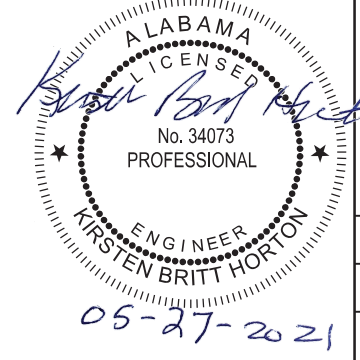
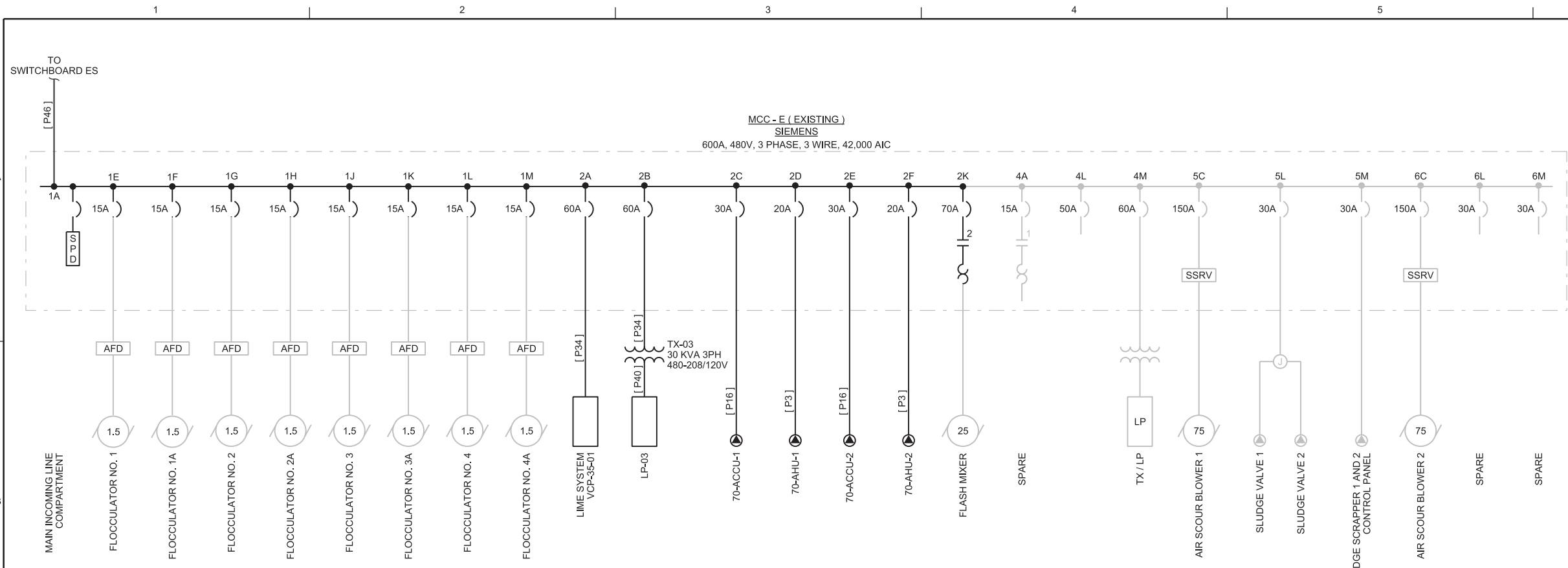
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-604
SHEET	86 of 101

BID DOCUMENTS



REVISED MCC-E ELEVATION
NTS

- SHEET KEYNOTES**
- REUSE EXISTING CONDUIT AND CONDUCTORS BETWEEN SWITCHBOARD-ES AND MCC-D.
 - EXISTING CONDUIT AND CONDUCTORS BETWEEN MCC-E AND FLOCCULATORS TO BE REUSED. DISCONNECT AND PROTECT DURING MCC MODIFICATIONS. RECONNECT TO NEW MCC SECTIONS.
 - EXISTING CONDUIT AND CONDUCTORS BETWEEN FLASH MIX TO BE REUSED. DISCONNECT AND PROTECT CONDUCTORS DURING MCC MODIFICATIONS AND RECONNECT TO NEW MCC SECTIONS.

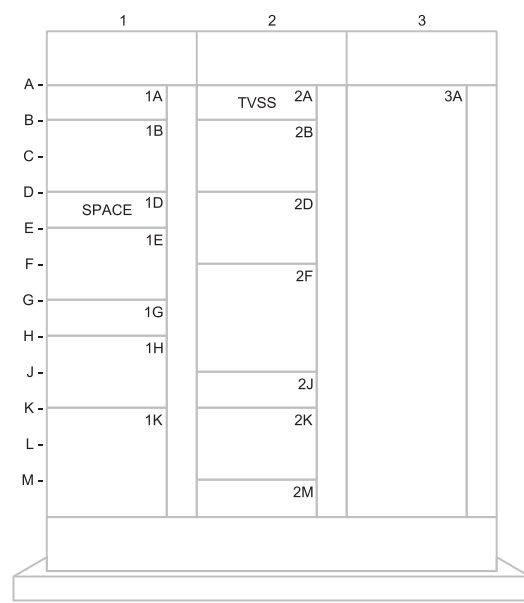
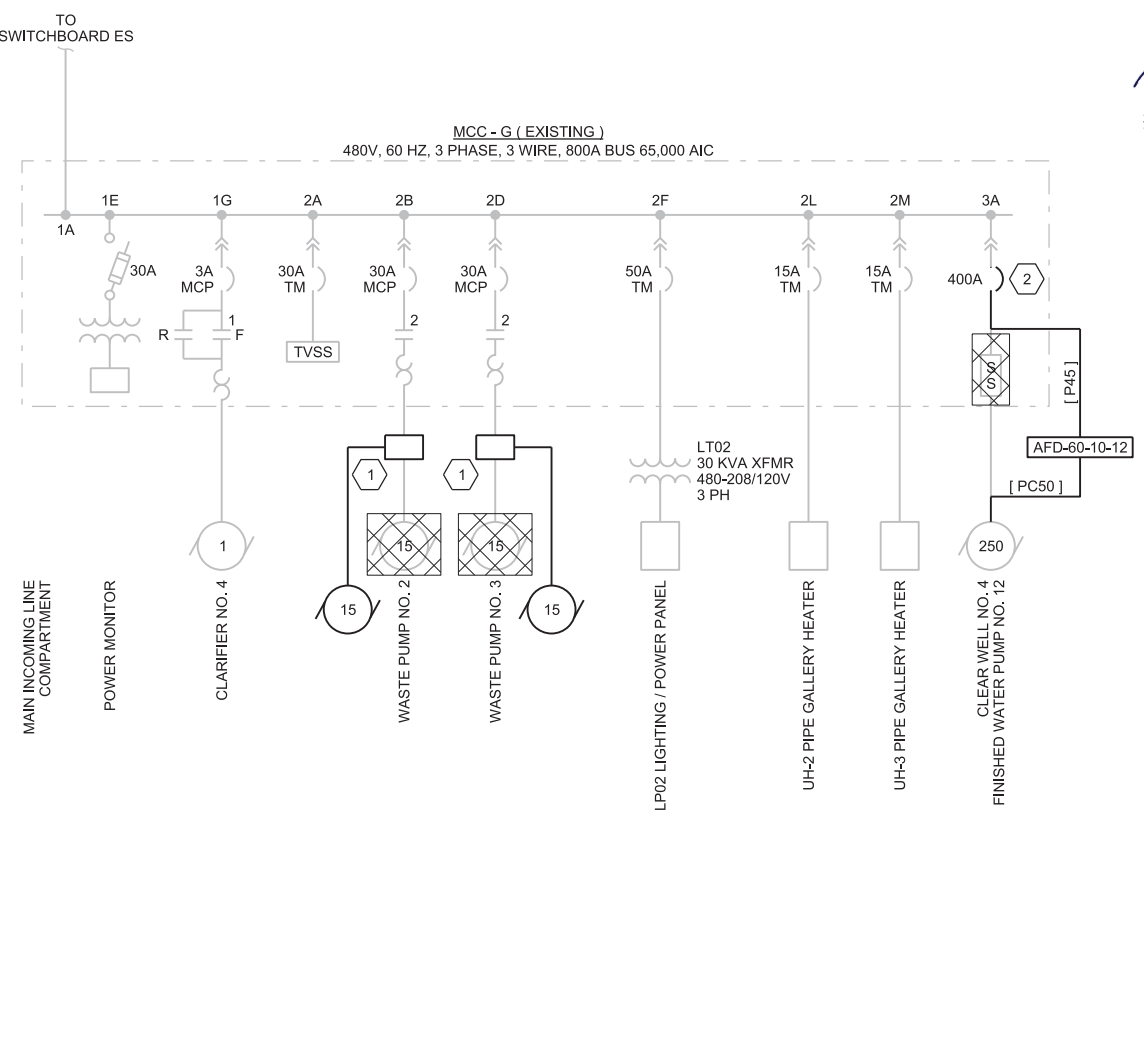
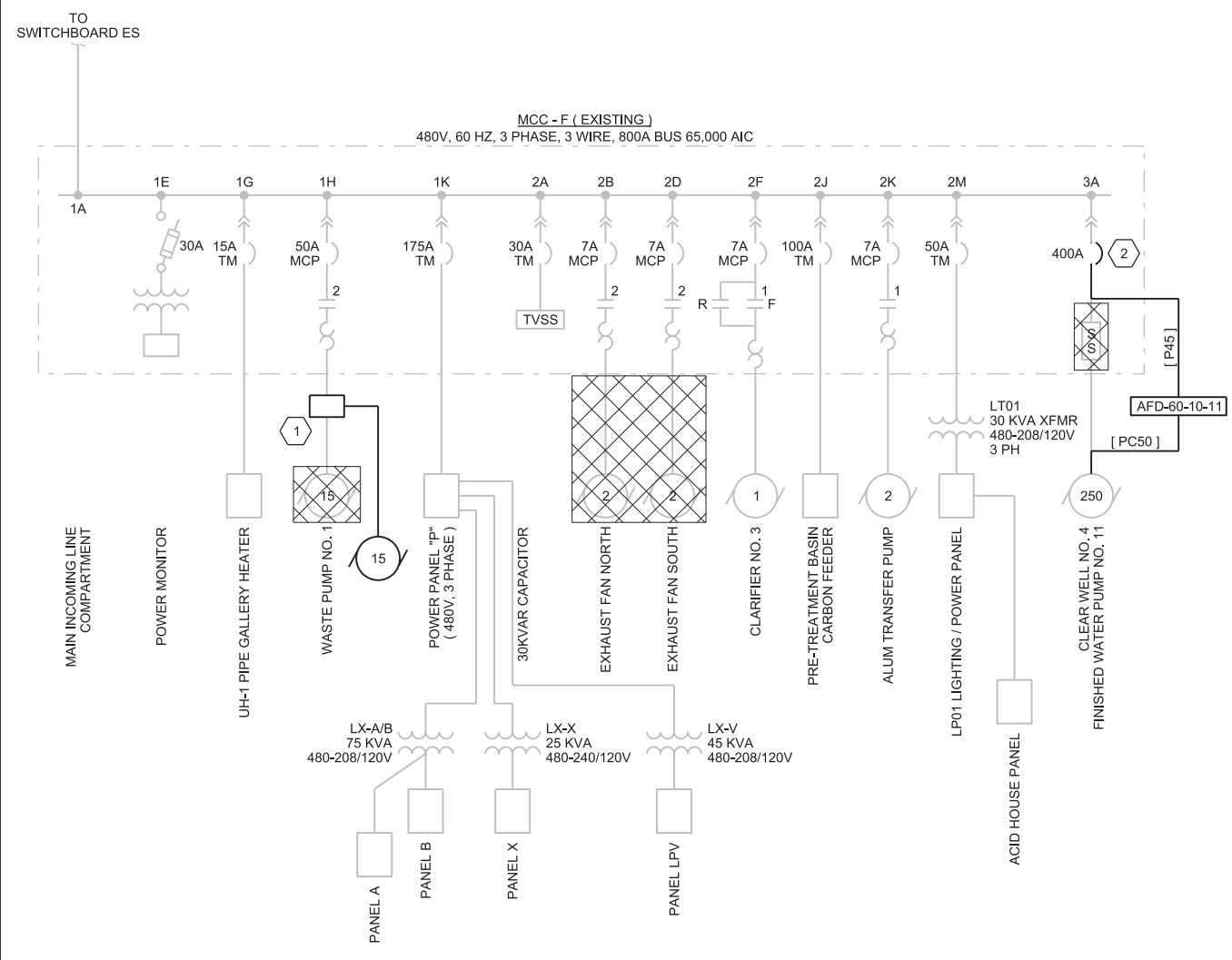
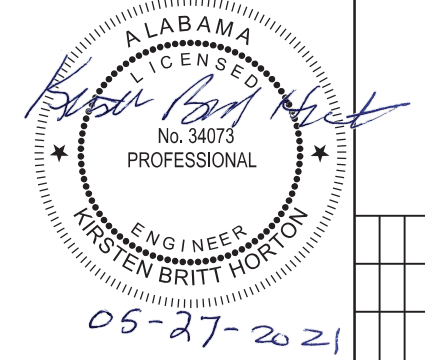
NO.	DATE	DR	CHK	REVISION

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

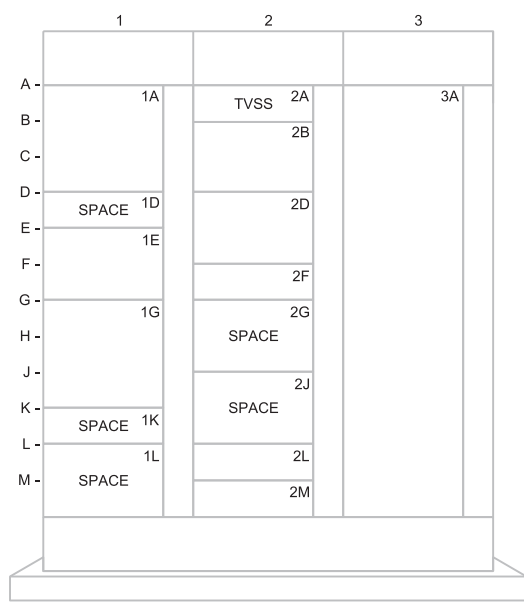
Jacobs
ELECTRICAL
**REVISED MCC-E
SINGLE LINE DIAGRAM
AND ELEVATION**

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE JUNE 2021
PROJ D3389300
DWG 70-E-605
SHEET 87 of 101

BID DOCUMENTS
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2021. ALL RIGHTS RESERVED.



MCC-F ELEVATION
NTS



MCC-G ELEVATION
NTS

- SHEET KEYNOTES**
- INTERCEPT CABLES ARE EXISTING PULL BOX. REPLACE PULL BOX WITH NEW TJB AND PROVIDE NEW CONDUCTORS FROM TJB TO MOTOR. SEE DRAWING 65-E-201 FOR ADDITIONAL DETAILS.
 - EXISTING ALLEN BRADLEY CENTERLINE 2100 MCC. REMOVE EXISTING SOLID STATE STARTER AND INSTALL FEEDER BREAKER FOR STANDALONE AFD.

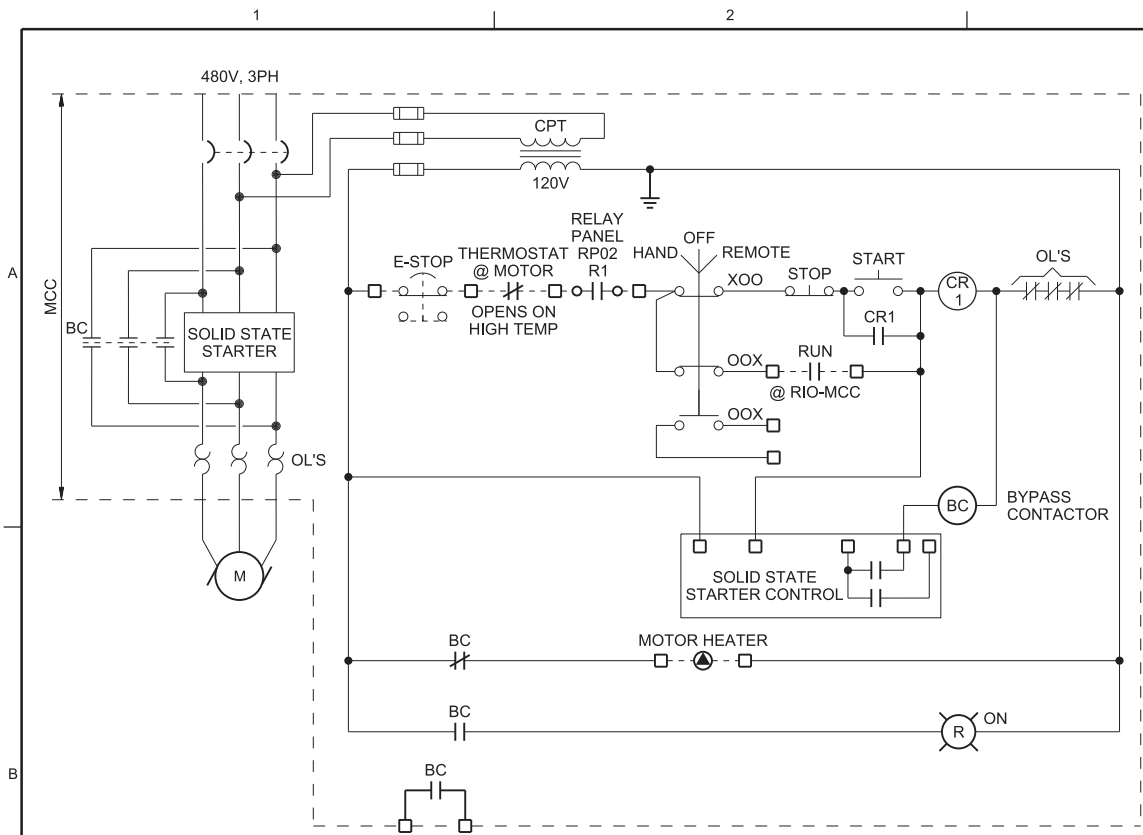
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-606
SHEET	88 of 101

Jacobs
ELECTRICAL
EXISTING MCC-F AND MCC-G SINGLE LINE DIAGRAM AND ELEVATION

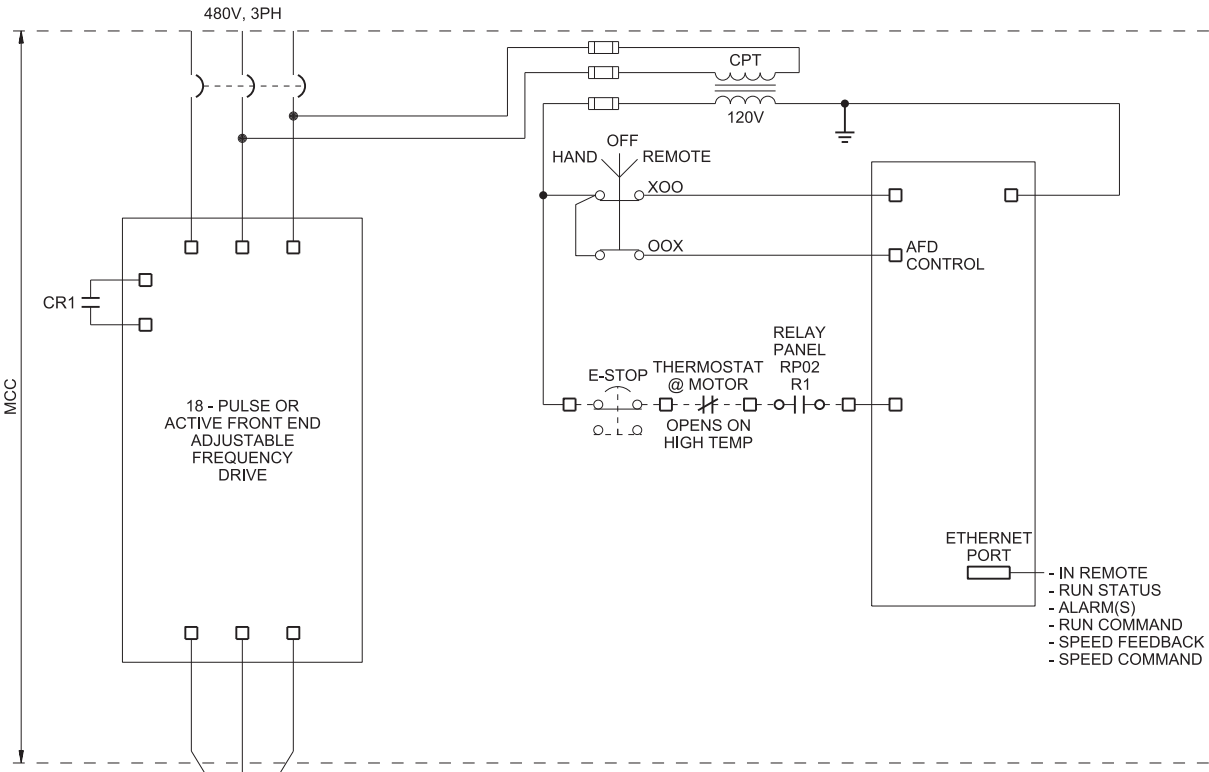
JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA

NO.	DATE	REVISION	CHK	APVD

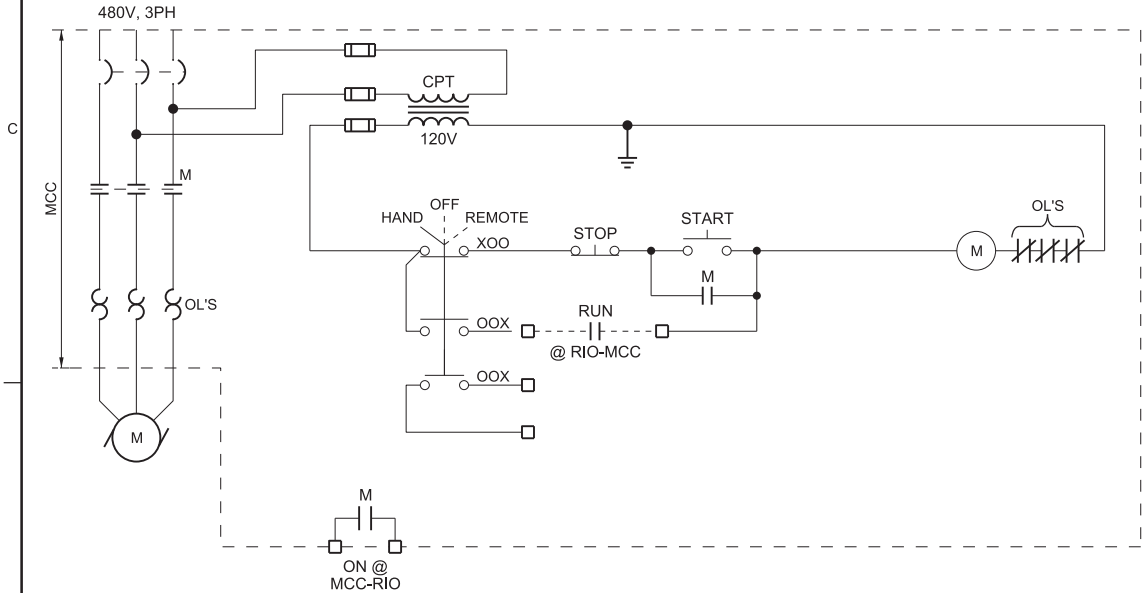
REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



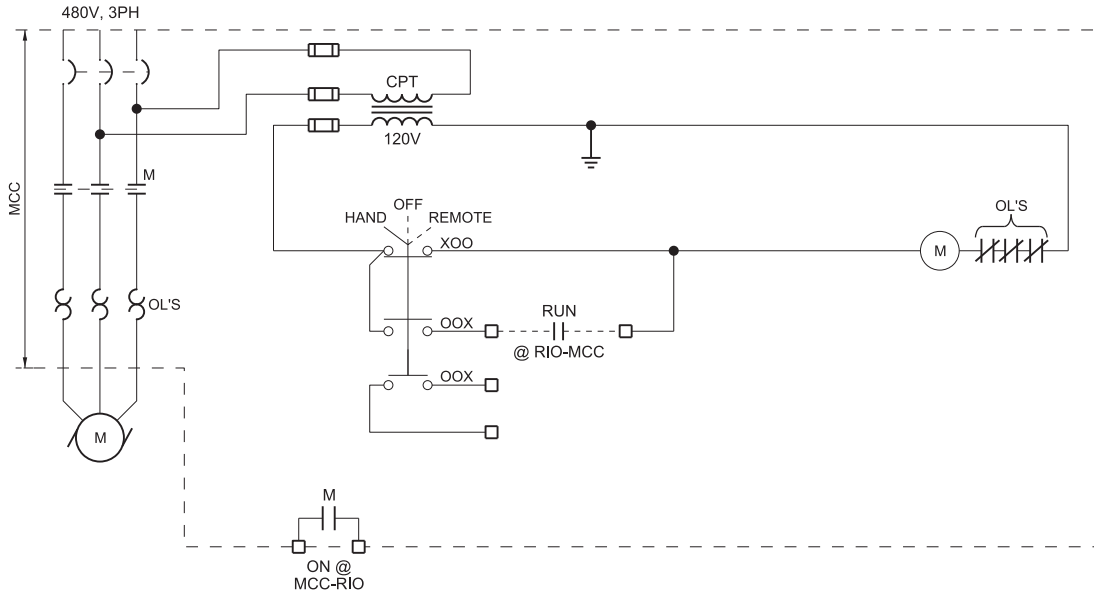
FINISHED WATER PUMP 7
FINISHED WATER PUMP 8
FINISHED WATER PUMP 9
FINISHED WATER PUMP 10
 NTS



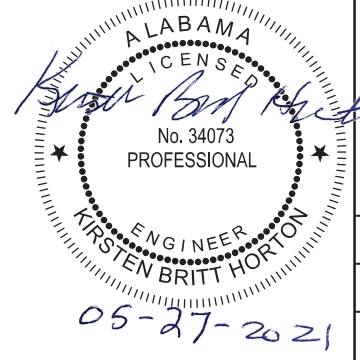
FINISHED WATER PUMP 11
FINISHED WATER PUMP 12
BACKWASH PUMP 3
BACKWASH PUMP 4
 NTS



WELL PUMP 1
WELL PUMP 2



FLASH MIXER

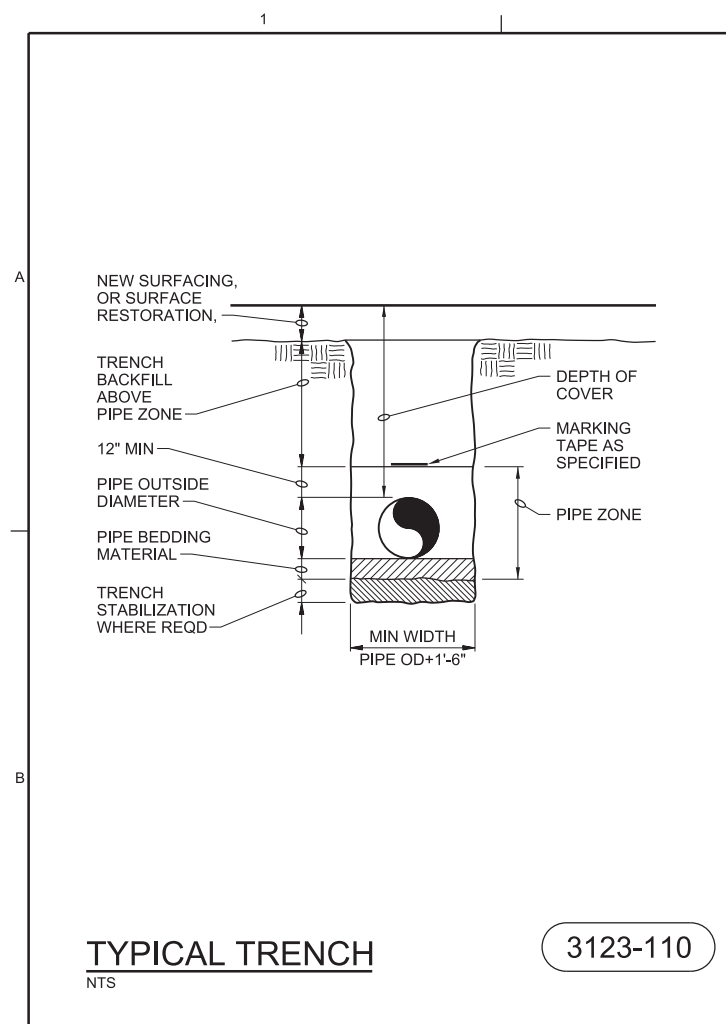


NO.	DATE	DR	CHK	REVISION	BY	APVD
		KB HORTON	G MESSER			KB HORTON
		DSGN	T HOMAYOONI			

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

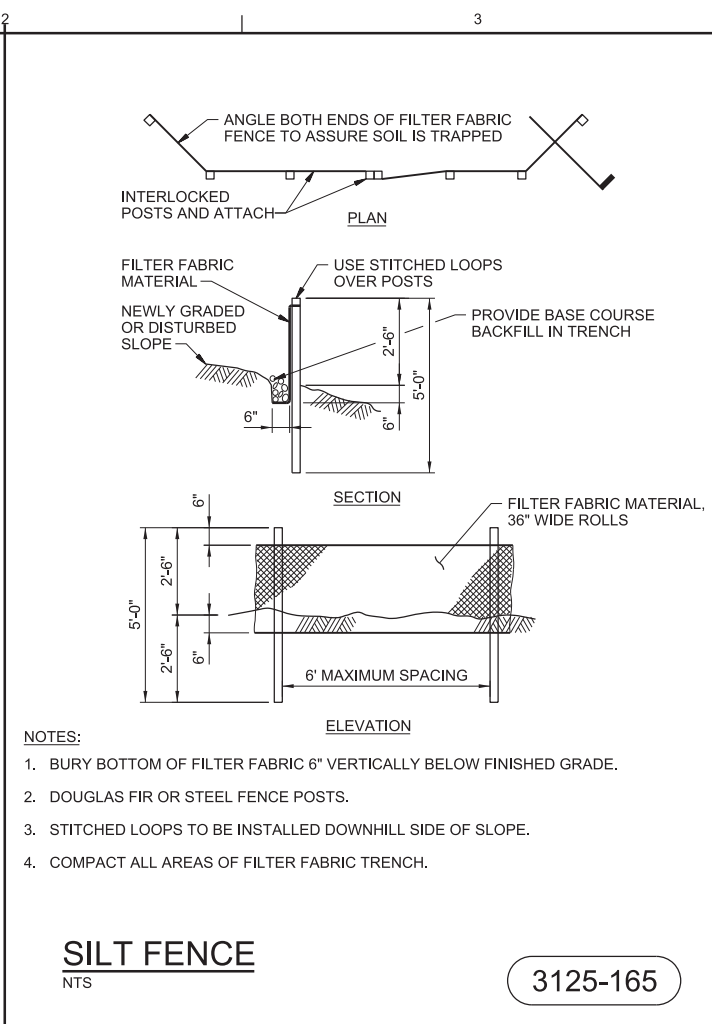
Jacobs
 ELECTRICAL
MOTOR CONTROL DIAGRAMS

DATE	JUNE 2021
PROJ	D3389300
DWG	70-E-607
SHEET	89 of 101



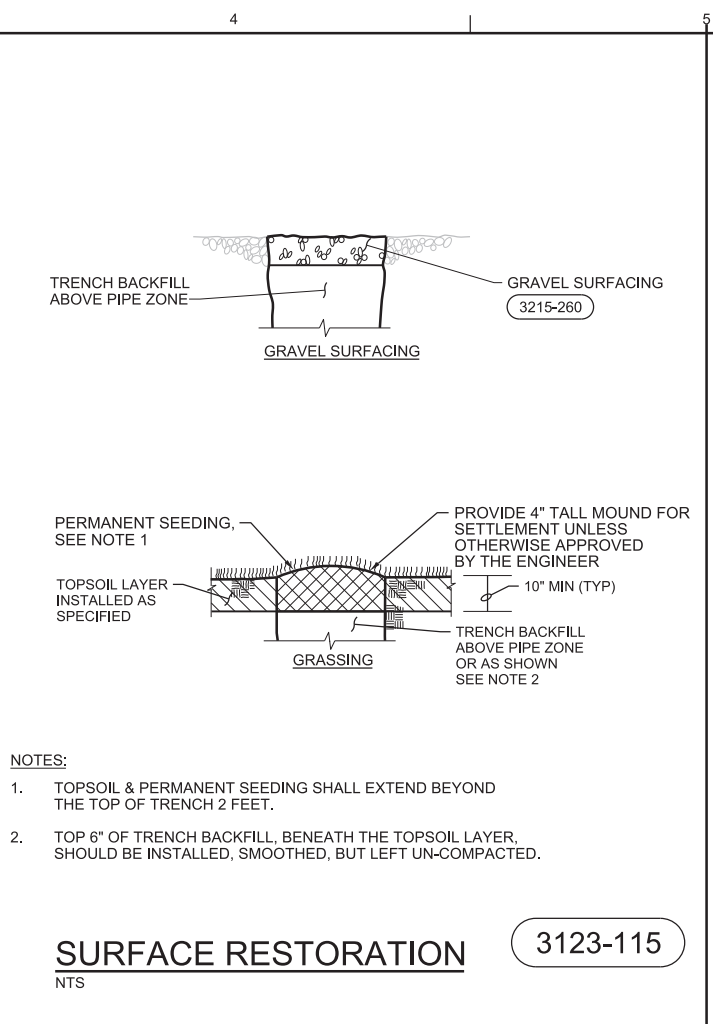
TYPICAL TRENCH

3123-110



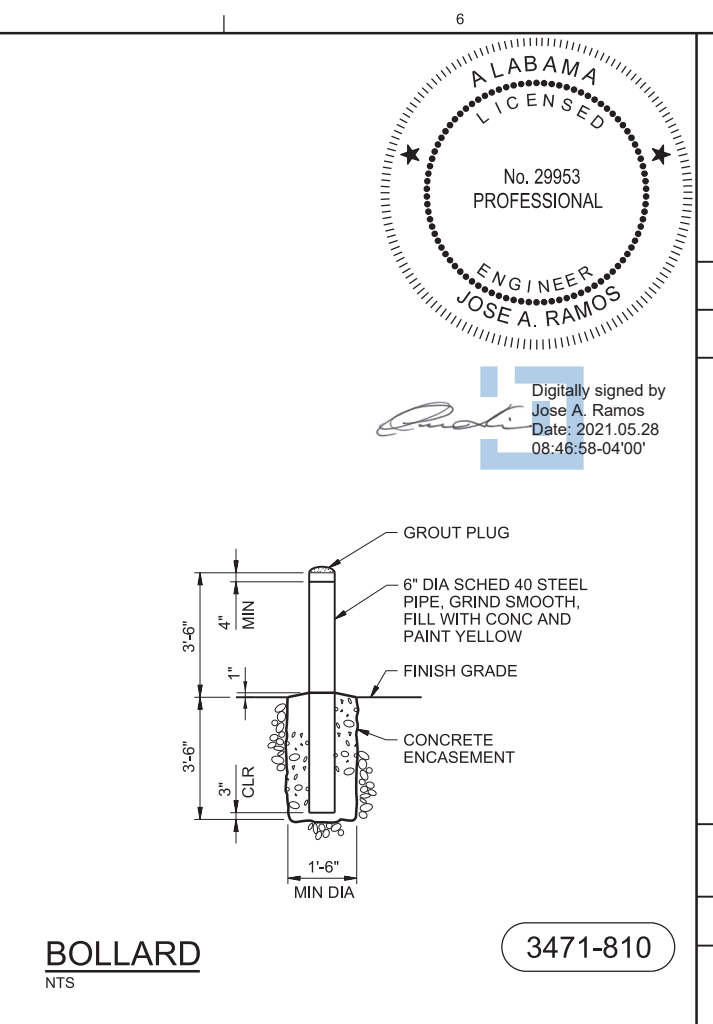
SILT FENCE

3125-165



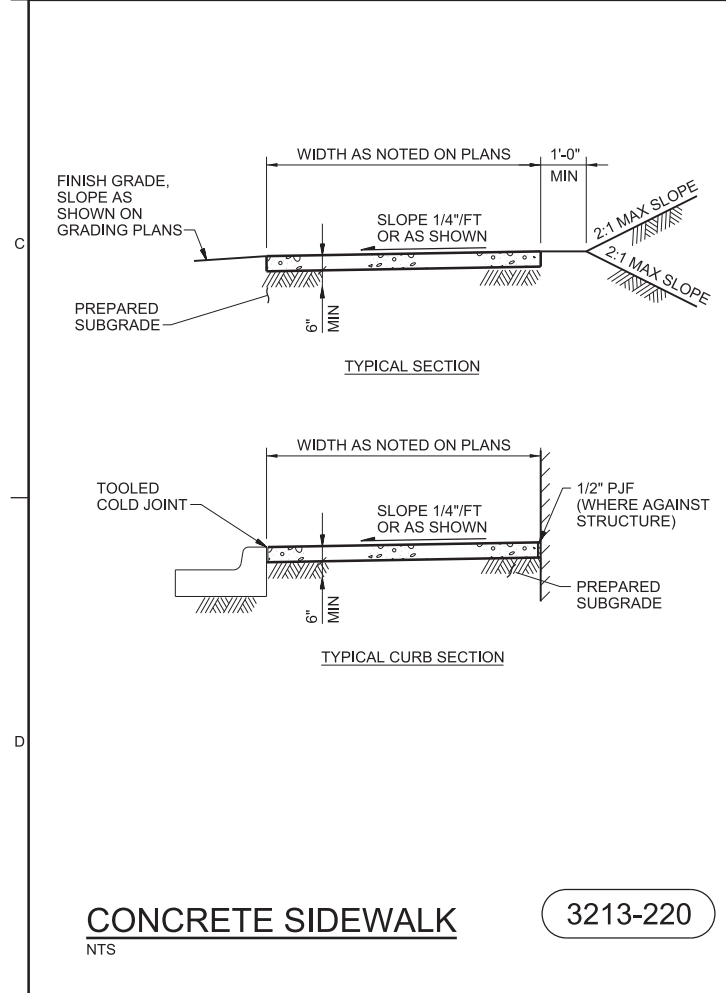
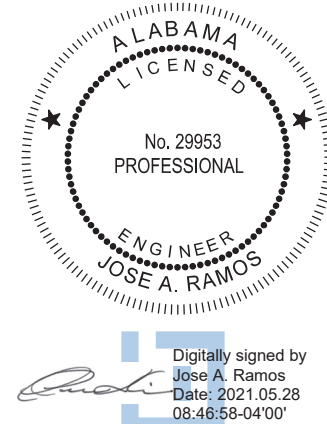
SURFACE RESTORATION

3123-115



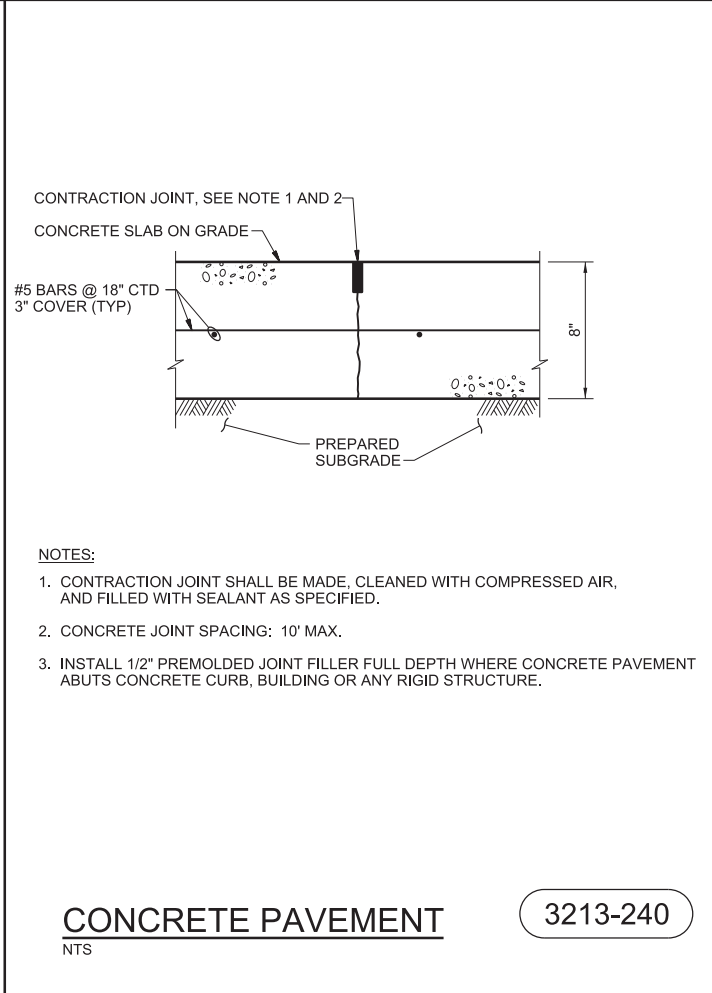
BOLLARD

3471-810



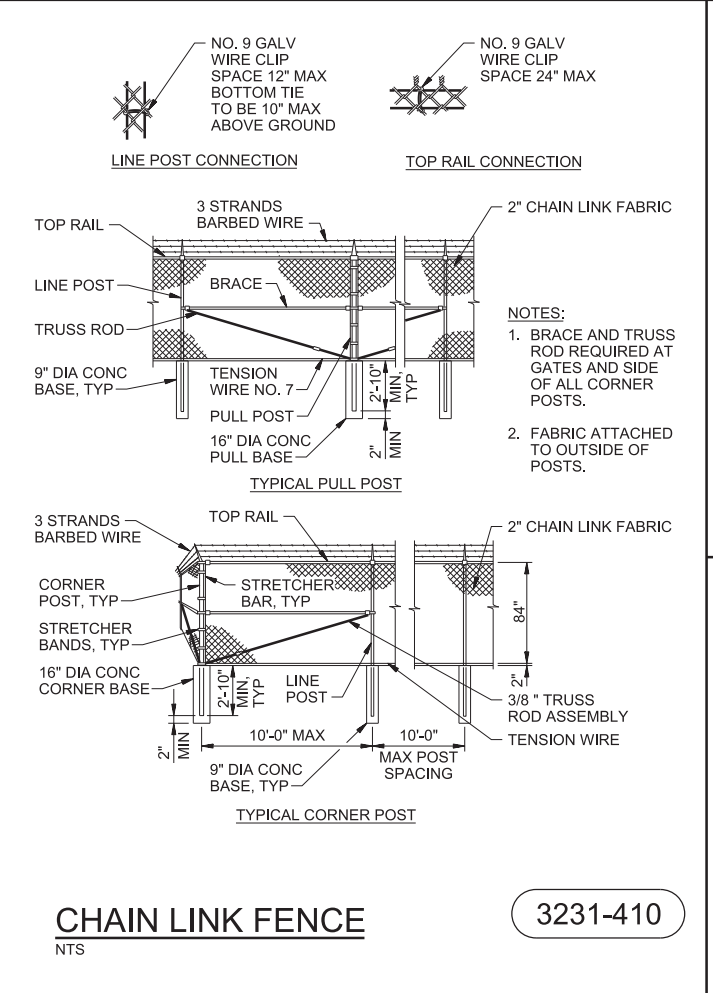
CONCRETE SIDEWALK

3213-220



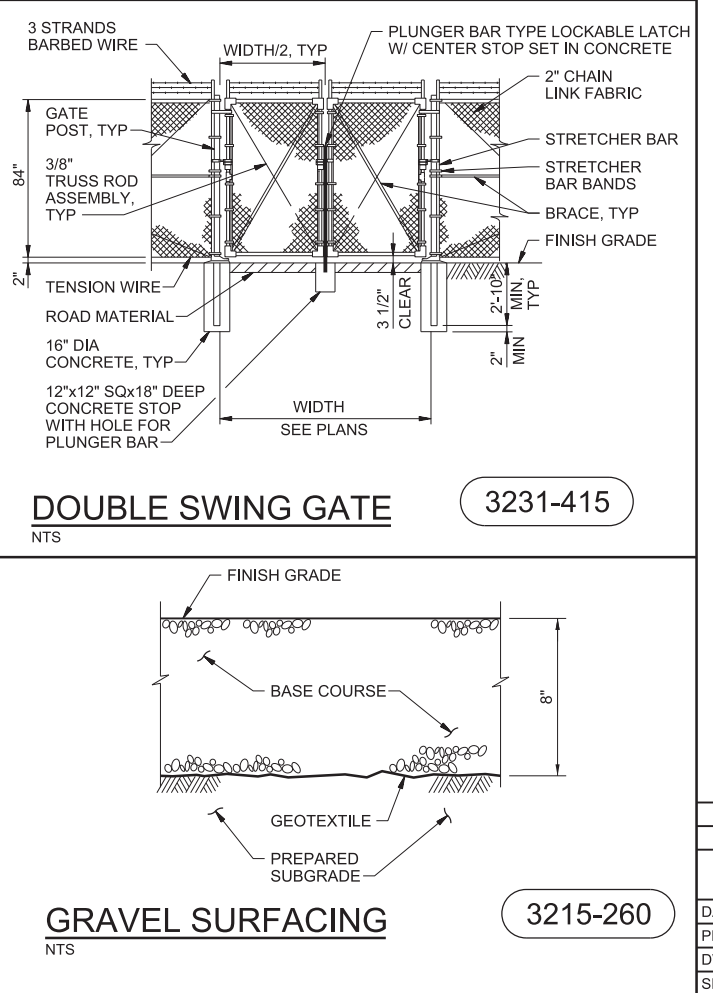
CONCRETE PAVEMENT

3213-240



CHAIN LINK FENCE

3231-410



GRAVEL SURFACING

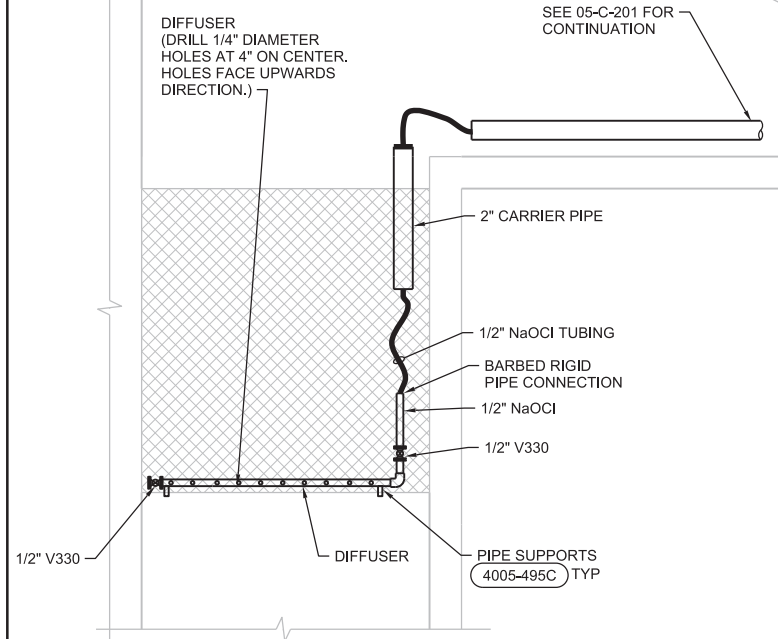
3215-260

J RAMOS		J RAMOS		J RAMOS	
BY	APVD	REVISION	CHK	APVD	APVD
NO.	DATE	NO.	DATE	NO.	DATE
JAMES ESTES WATER TREATMENT PLANT 2020 IMPROVEMENTS WATER WORKS BOARD OF THE CITY OF AUBURN, ALABAMA					
Jacobs CIVIL STANDARD DETAILS					
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.					
DATE	JUNE 2021				
PROJ	D3389300				
DWG	99-C-501				
SHEET	90 of 101				



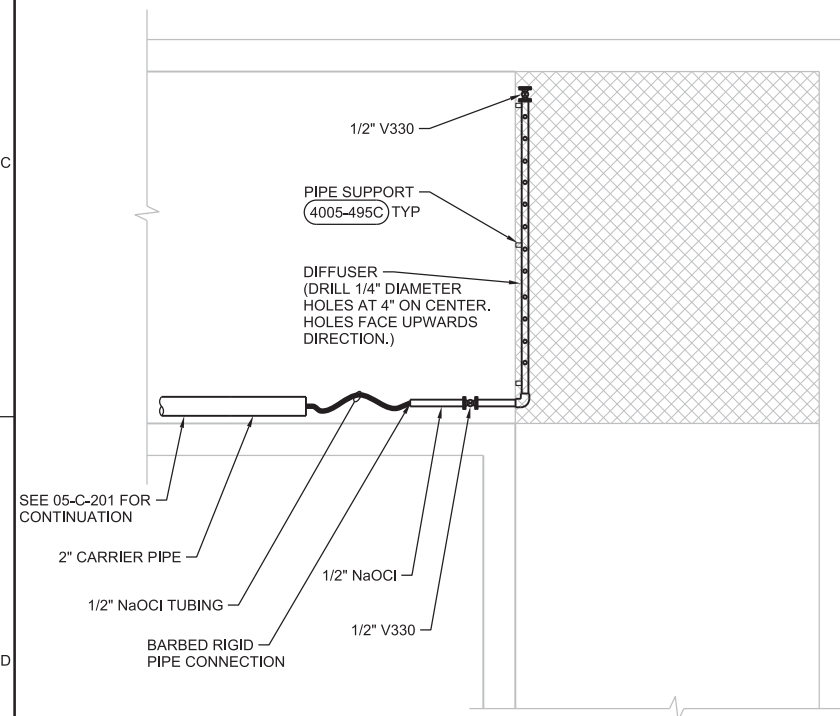
TYPICAL OF BOTH INFLUENT LINES
MEGAFLANGE, RESTRAINED FLANGE ADAPTOR BY EBBA IRON OR APPROVED EQUAL, TYP
24" V500

1 PHOTO DETAIL
NTS
05-C-201

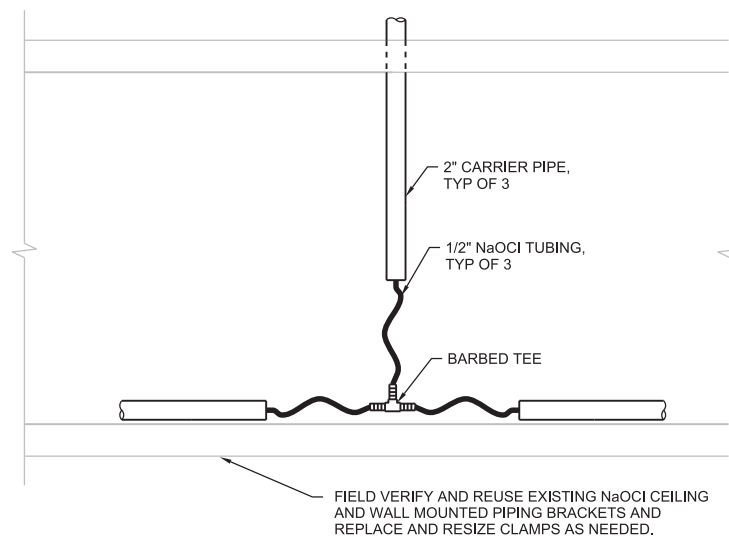


2 DETAIL (PLAN VIEW)
1"=1'-0"
05-C-201

NOTE:
1. FIELD VERIFY EXISTING DIMENSIONS.

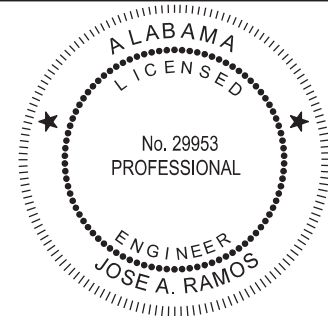


3 DETAIL (PLAN VIEW)
1"=1'-0"
05-C-201

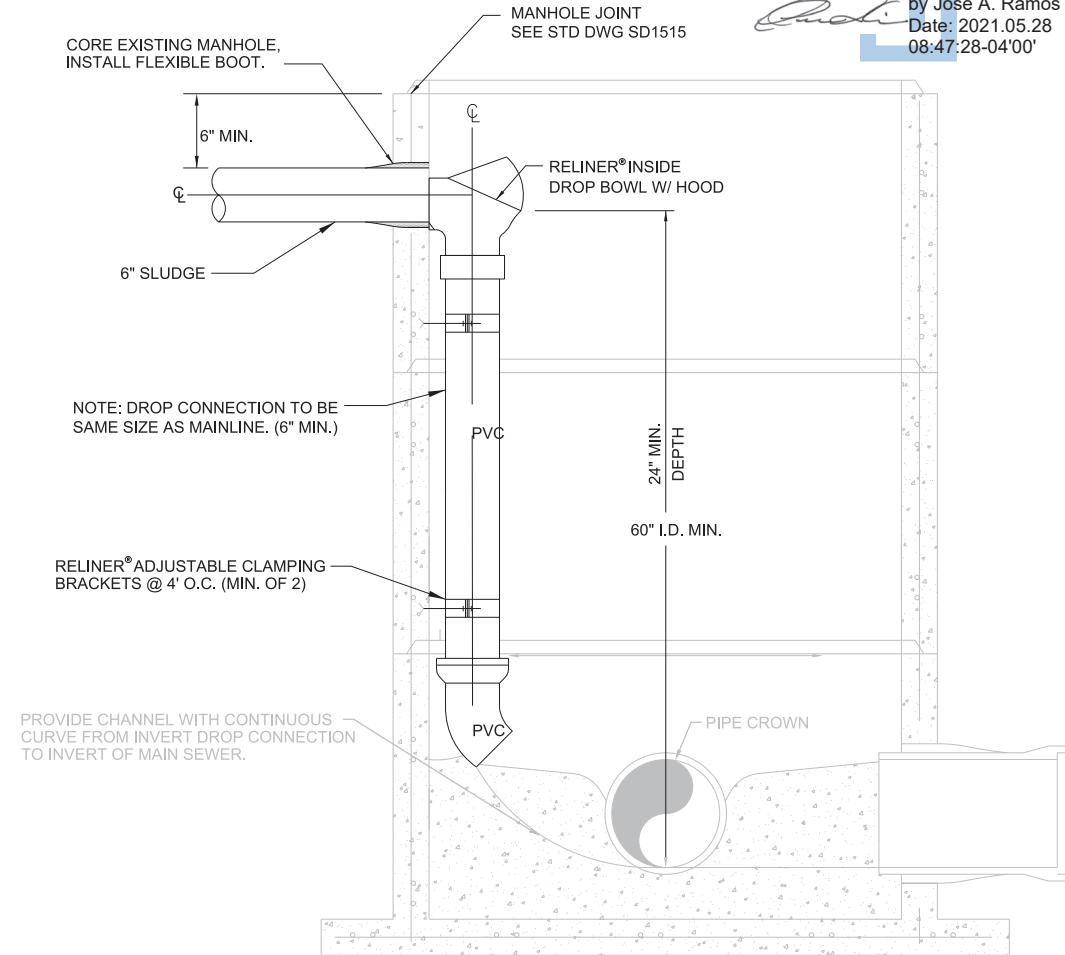


4 DETAIL (PLAN VIEW)
1"=1'-0"
05-C-201

NOTE:
1. FIELD VERIFY EXISTING DIMENSIONS.



Digitally signed by Jose A. Ramos
Date: 2021.05.28 08:47:28-04'00'



NOTES:

1. INTERIOR DROP TO BE USED IN NEW MANHOLES WHERE WHERE INCOMING SEWER IS 2' ABOVE MANHOLE INVERT.
2. PVC SHALL BE SCHEDULE 40.
3. SOLVENT WELD JOINTS ON ALL INSIDE PIPING AND FITTINGS.
4. CONNECTION FROM RELINER INSIDE DROP BOWL TO DROP PIPE PER MANUFACTURER'S RECOMMENDATION.
5. BOTTOM 45 DEGREE BEND TO BE AT 45 DEGREES WITH RESPECT TO THE DOWNSTREAM FLOW.
6. NO CORING SHALL BE ALLOWED WITHIN 6" OF A MANHOLE JOINT.

MAIN SEWER DROP (INSIDE) DETAIL

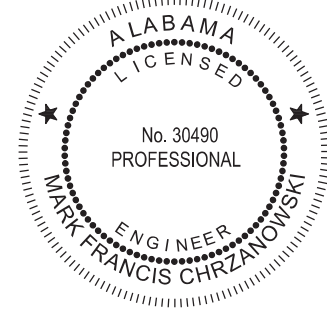
3305-735

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
CIVIL
DETAILS

VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	99-C-502
SHEET	91 of 101

BID DOCUMENTS



Chrzanowski, Mark
AAA00006867
Digitally signed by Chrzanowski, Mark
AAA00006867
Date: 2021.06.02 16:52:07 -0400

NO.	DATE	DR	CHK	APVD	BY	APVD	M. CHRZANOWSKI
							J. THORNTON
							M. CHRZANOWSKI
							G. ADAMDEJIAN

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs

STRUCTURAL
STANDARD DETAILS

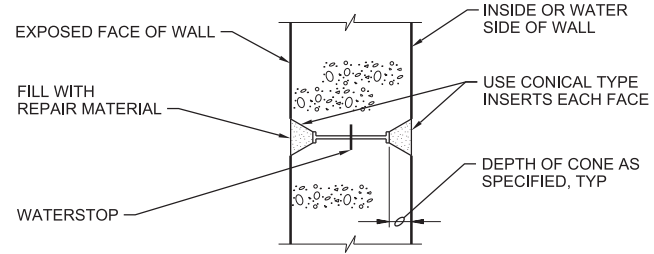
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	99-S-501
SHEET	92 of 101

BID DOCUMENTS

© JACOBS 2021. ALL RIGHTS RESERVED.

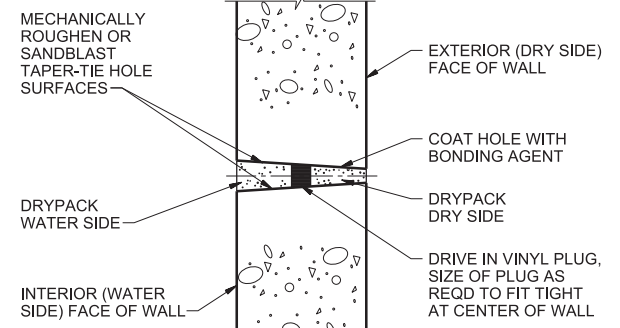
THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.



NOTE:
THE SPACING OF FORM TIES ON EXPOSED PORTIONS OF WALLS SHALL BE APPROXIMATELY EQUAL HORIZONTALLY AND VERTICALLY AND SHALL BE UNIFORM IN EACH DIRECTION.

FORM SNAP-TIE HOLE
NTS

0310-051



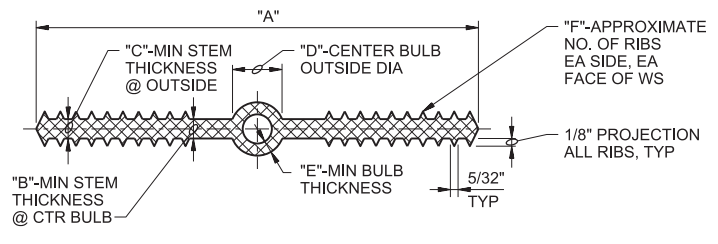
NOTE:
MINIMUM HOLE DIAMETER AT EXTERIOR FACE = 1". TAPER HOLE SO THAT MINIMUM HOLE DIAMETER AT INTERIOR FACE = 1 1/4"

CONSTRUCTION STEPS:

- SANDBLAST OR MECHANICALLY ROUGHEN WITH ELECTRIC EQUIPMENT.
- DRIVE IN VINYL PLUG.
- COAT HOLE ON DRY SIDE OF PLUG AND WHILE BONDING AGENT IS TACKY, DRYPACK.
- COAT HOLE ON WATER SIDE OF PLUG AND WHILE BONDING AGENT IS TACKY, DRYPACK.
- USE CATEGORY II, NON-SHRINK GROUT AS SPECIFIED.

ALTERNATE FORM TIE-THROUGH BOLT
NTS

0310-052



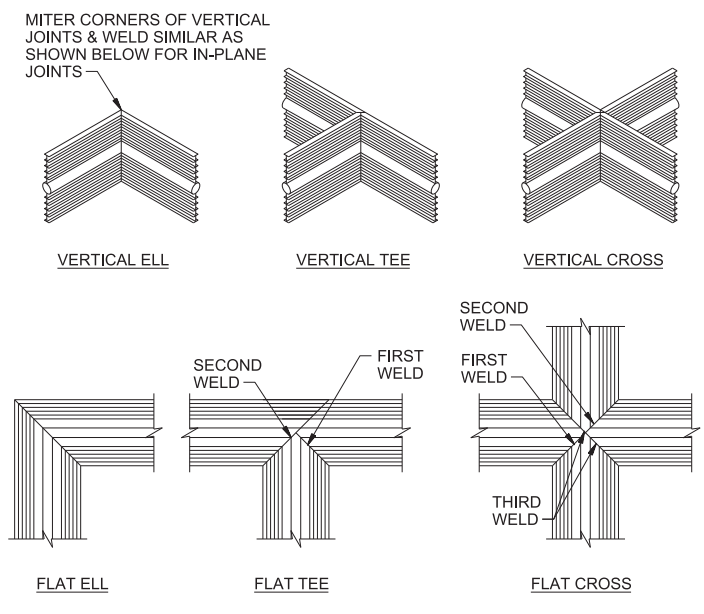
SIZE	"A"	"B"	"C"	"D"	"E"	"F"
4"x3/16"	4"	3/16"	3/16"	3/4"	1/4"	4
6"x3/8"	6"	3/8"	3/8"	7/8"	1/4"	6
9"x3/8"	9"	3/8"	3/8"	1"	1/4"	8

NOTES:

- NON-ROUND CENTER BULBS SHALL HAVE A MINIMUM OUTSIDE DIMENSION OF 'D'.
- SEE SPLICE DETAIL (0315-011)
- BULB TYPE WATERSTOP SHOWN IS REQUIRED FOR EXPANSION AND CONTROL JOINTS. SIMILAR WATERSTOPS WITHOUT CENTER BULB MAY BE SUBSTITUTED AT CONSTRUCTION JOINTS.
- USE 6 INCH WATERSTOPS IN ALL CONSTRUCTION JOINTS UNLESS SPECIFICALLY SHOWN OTHERWISE.

PLASTIC WATERSTOP
NTS

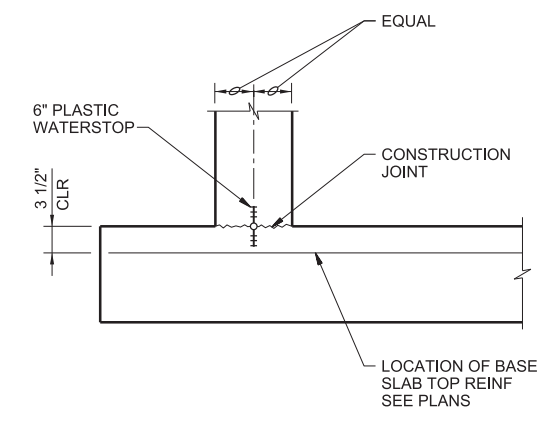
0315-001



NOTE:
ALL WELDS SHALL BE PER WATERSTOP MANUFACTURER'S RECOMMENDATIONS.

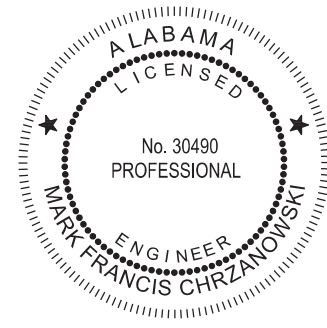
WATERSTOP JOINTS
NTS

0315-011



WALL BASE CONSTRUCTION JOINT
NTS

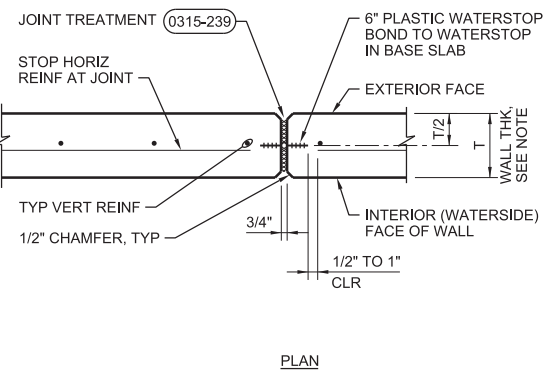
0315-154



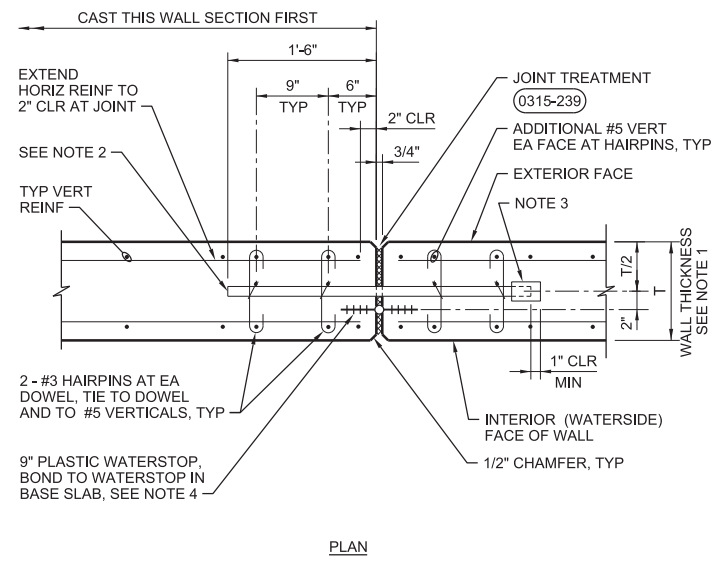
Chrzanowski, Mark
 AAA00006867
 Digitally signed by Chrzanowski, Mark
 Date: 2021.06.02 16:52:38 -04'00'

NO.	DATE	REVISION	CHK	BY	APVD

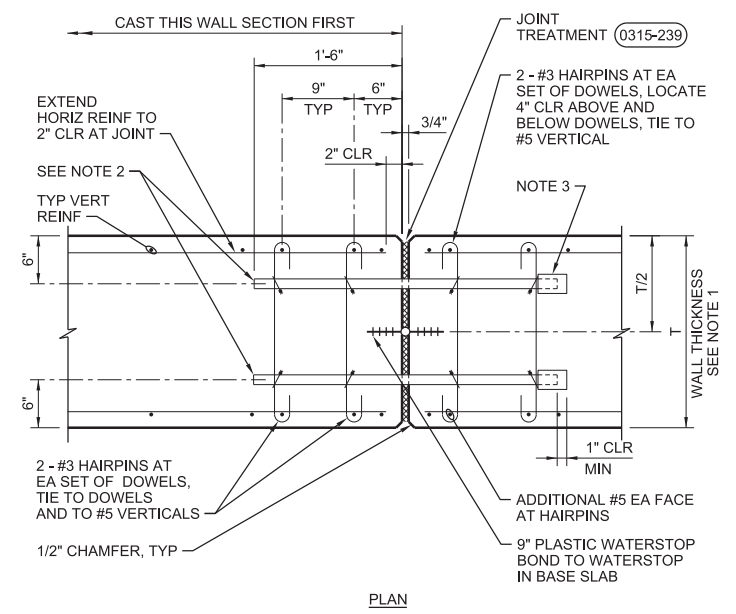
J THORNTON
 M CHRZANOWSKI
 G ADAMDEDIAN
 DR
 APVD
 M CHRZANOWSKI



NOTE:
 FOR WALLS LESS THAN 10" THICK



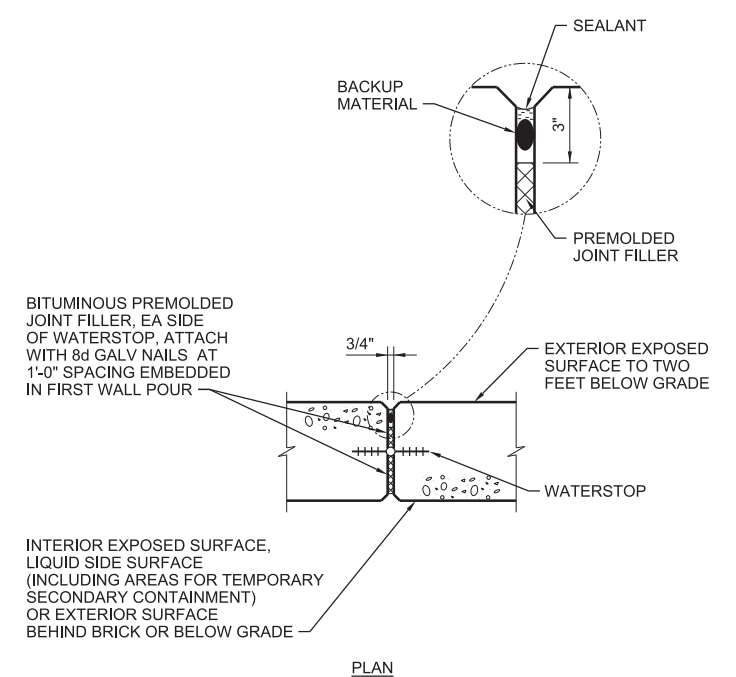
- NOTES:
- FOR WALLS WITH THICKNESS OF 10" THRU 24". FOR 10" WALLS LOCATE DOWELS 4" FROM FACE OF WALL INSTEAD OF T/2 INDICATED.
 - 1" DIA x 3'-0" SMOOTH COATED BAR DOWELS. LOCATE AT 1'-0" MAX FROM TOP AND 2'-0" FROM BOTTOM OF WALL AND AT 2'-0" MAX SPACING. ALIGN AND TIE-IN-PLACE TO REINFORCEMENT. COATING SHALL CONSIST OF A CORROSION RESISTANT COATING PLUS A LUBRICANT COATING AS SPECIFIED.
 - 1" ID x 2" PLASTIC CAP WITH 1" POLYSTYRENE BETWEEN END OF DOWEL AND END CAP. TAPE TO BAR FOR WATERTIGHT SEAL.
 - BEND VERTICAL JOINT WATERSTOP OVER TO CENTERLINE OF WALL IN BOTTOM 2'-0" OF WALL, AND SPLICE TO WATERSTOP IN WALL BASE CONSTRUCTION JOINT. SEE (0315-012)



- NOTES:
- FOR WALLS GREATER THAN 24" THICK.
 - 1" DIA x 3'-0" SMOOTH COATED STEEL BAR DOWELS. LOCATE AT 1'-0" MAX FROM TOP AND BOTTOM OF WALL AND AT 2'-0" MAX SPACING. ALIGN AND TIE IN PLACE TO REINFORCEMENT. COATING SHALL CONSIST OF A CORROSION RESISTANT COATING PLUS A LUBRICANT COATING AS SPECIFIED.
 - 1" ID x 2" PLASTIC EXP CAP WITH 1" POLYSTYRENE BETWEEN END OF DOWEL AND END OF CAP. TAPE TO BAR FOR WATERTIGHT SEAL.

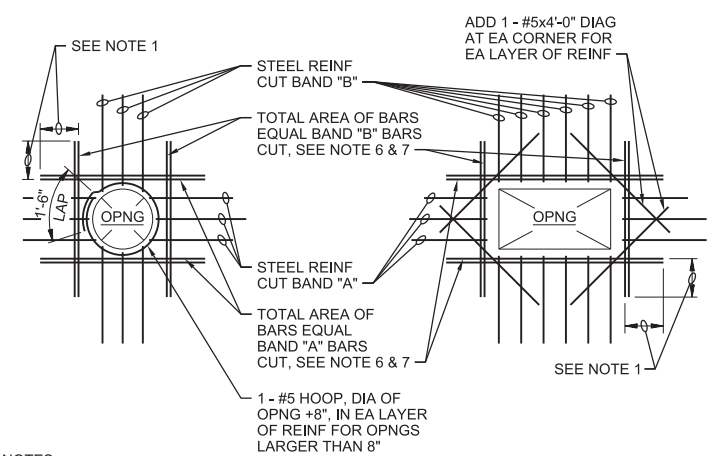
WALL VERTICAL EXPANSION JOINT

0315-231



WALL EXPANSION JOINT TREATMENT

0315-239A



- NOTES:
- PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
 - TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OF BELOW GRADE AND HYDRAULIC STRUCTURES AND ALL STRUCTURAL CONCRETE SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 - DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
 - PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE), INCLUDING DOWELS AND CORNER BARS, TYPICAL.
 - FOR OPENINGS LARGER THAN 8'-0", REINFORCE SAME AS FOR 8'-0" OPENINGS.
 - SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER. LOCATE HALF OF TOTAL AREA ON EACH SIDE OF OPENING.
 - AT OPENINGS WITHIN 12" OF AN INTERSECTING WALL OR SLAB, PROVIDE ONLY THE EXTRA REINFORCEMENT WHICH WILL FIT, AT THE BAR SPACING IN NOTE 6.

OPENING REINFORCEMENT

0330-001

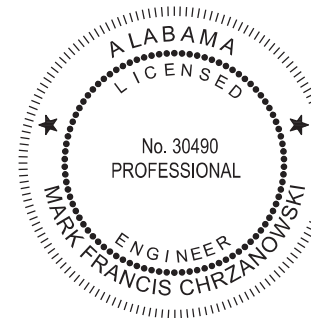
JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

STRUCTURAL
 STANDARD DETAILS

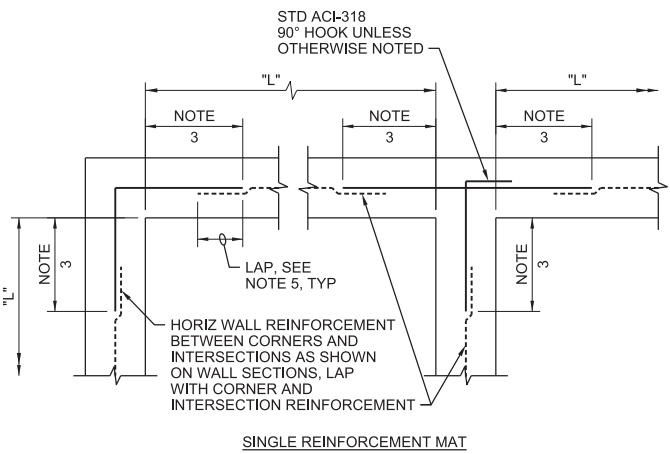
AS NOTED
 VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE: JUNE 2021
 PROJ: D3389300
 DWG: 99-S-502
 SHEET: 93 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

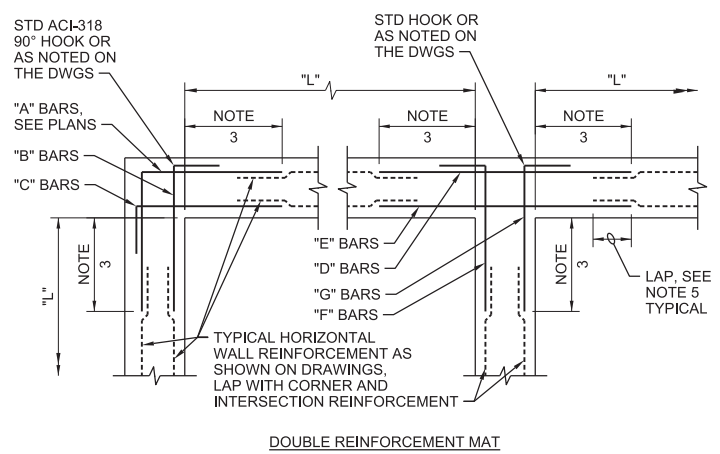


Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 17:04:29 -04'00'



TYPICAL WALL CORNER AND INTERSECTION REINFORCING
 NTS

DETAIL 1 OF 3
 0330-003



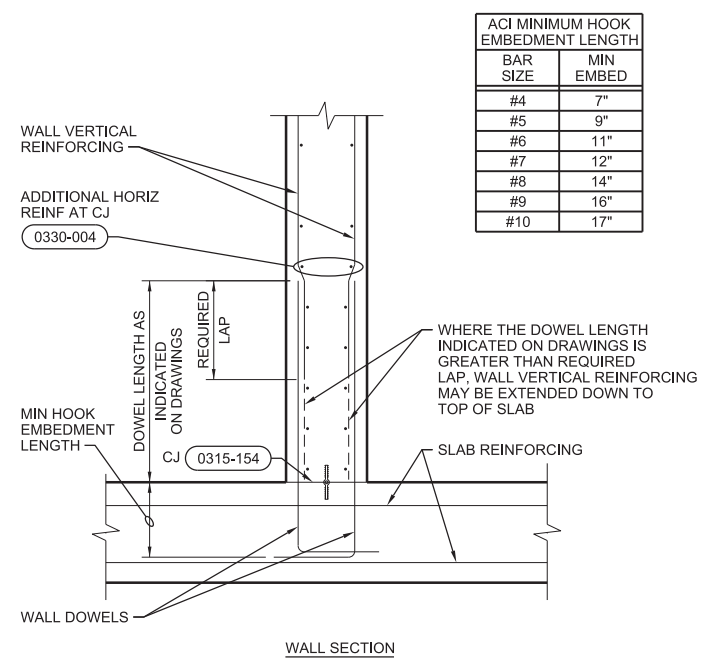
TYPICAL WALL CORNER AND INTERSECTION REINFORCING
 NTS

DETAIL 2 OF 3
 0330-003

- NOTES:**
1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCEMENT LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCEMENT AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
 2. WHERE THE CORNER OR INTERSECTION REINFORCEMENT SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCEMENT SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCEMENT BETWEEN THE CORNERS OR INTERSECTIONS.
 3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF L/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN A LAP LENGTH.
 4. L = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
 5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCEMENT BARS BEING SPLICED.
 6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND "F" AND "G" BARS ARE THE SAME SIZE AND SPACING.

TYPICAL WALL CORNER AND INTERSECTION REINFORCING
 NTS

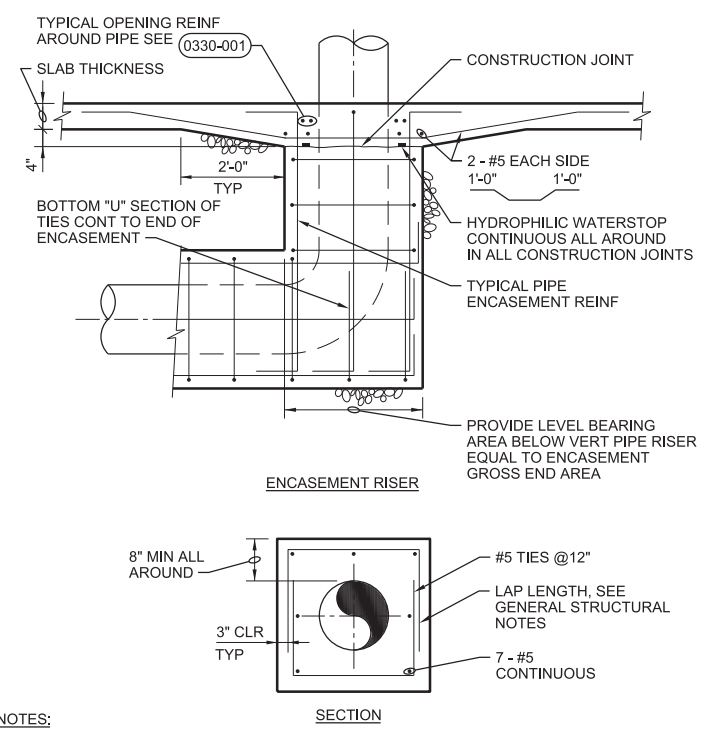
DETAIL 3 OF 3
 0330-003



BAR SIZE	MIN EMBED
#4	7"
#5	9"
#6	11"
#7	12"
#8	14"
#9	16"
#10	17"

VERTICAL WALL REINFORCING / DOWEL PLACEMENT
 NTS

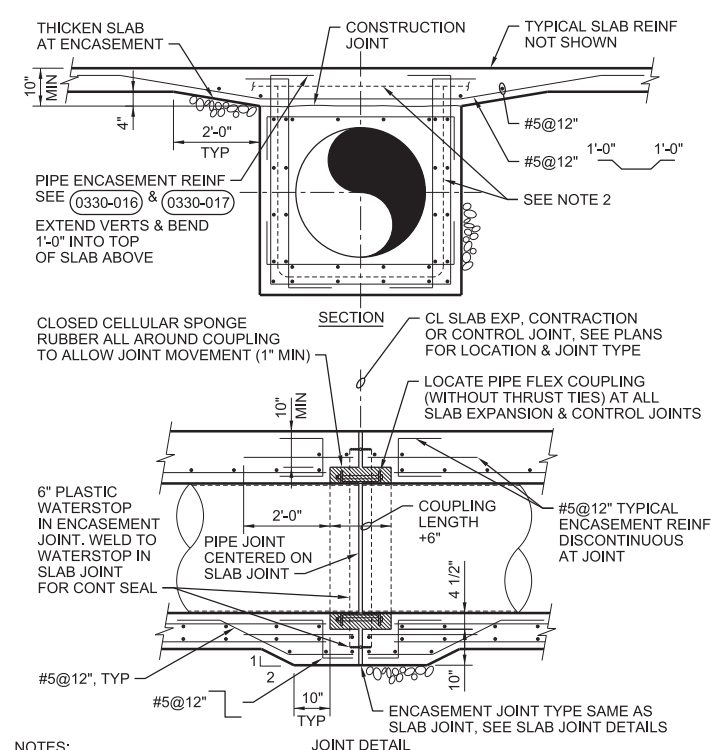
0330-005



- NOTES:**
1. SECTION APPLIES TO PIPES W/ DIAMETERS 18" AND SMALLER. FOR 20" DIAMETER PIPES AND LARGER, SEE 0330-017
 2. WHEN PIPE ENCASEMENT IS CLOSER THAN 4" TO SLAB ABOVE, TIE SLAB & ENCASEMENT TOGETHER. SEE 0330-018
 3. EXTEND PIPE ENCASEMENT 5'-0" MIN BEYOND EDGE OF BASE SLAB.

PIPE ENCASEMENT
 NTS

0330-016



- NOTES:**
1. TIE PIPE ENCASEMENT TO SLAB AS SHOWN WHEN DISTANCE BETWEEN PIPE ENCASEMENT AND BOTTOM OF SLAB IS LESS THAN 4".
 2. 6" PLASTIC WS IN ENCASEMENT JOINTS. WELD TO WS IN SLAB JOINTS.

PIPE ENCASEMENT
 NTS

0330-018

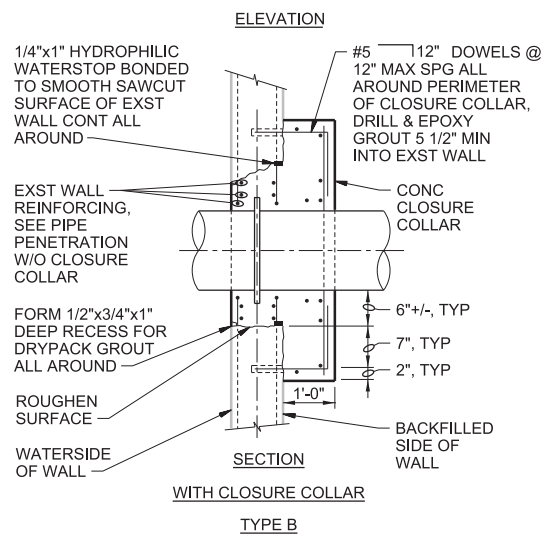
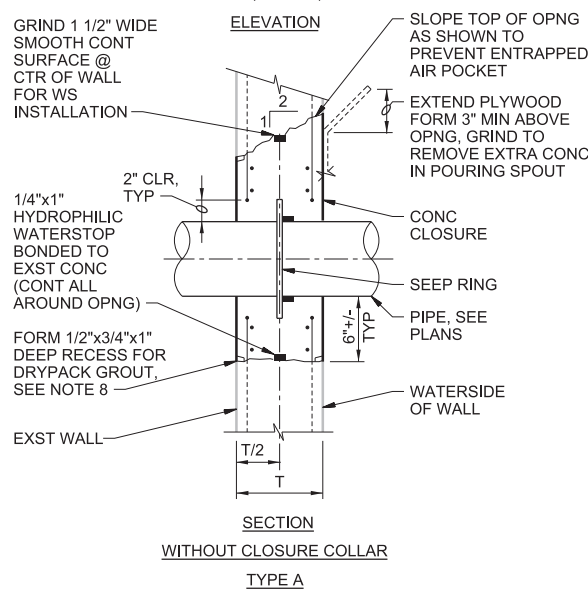
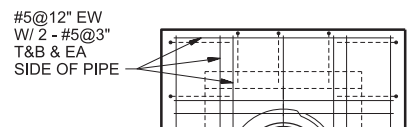
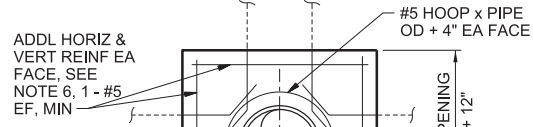
NO.	DATE	DR	CHK	REVISION	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

Jacobs
 STRUCTURAL
 STANDARD DETAILS

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 99-S-503
SHEET: 94 of 101

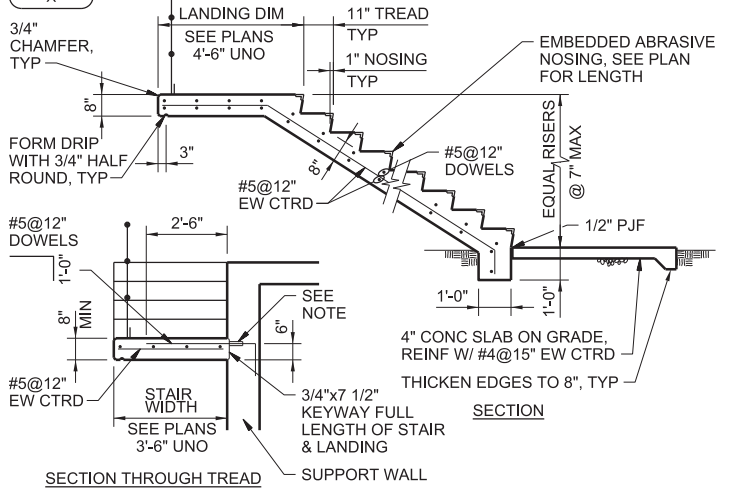
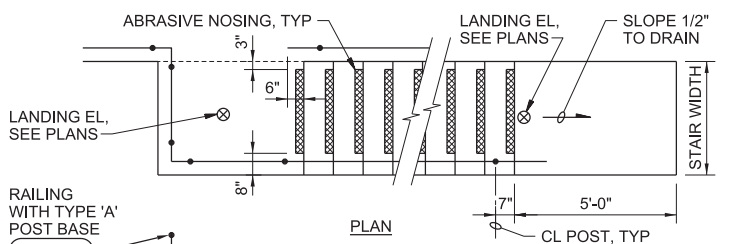
BID DOCUMENTS



- NOTES:**
1. SAW-CUT 1-INCH DEEP x PIPE OD + 12" SQUARE SCORE LINE ON EACH FACE OF WALL. (VERIFY DEPTH OF CUT TO CLEAR REINFORCING.) (INCREASE HEIGHT AS NOTED AT TOP ON WATERSIDE FACE FOR POURING.)
 2. CHIP TO REMOVE THE CONCRETE WITHIN THE SCORE LINE, WHILE PRESERVING THE EXISTING WALL REINFORCING.
 3. CUT EXISTING REINFORCING AT CENTER OF OPENING AND BEND TO CLEAR PIPE.
 4. GRIND 1 1/2" WIDE x CONT SMOOTH SURFACE ALL AROUND THE OPENING AT CENTER OF WALL. CLEAN SURFACES AND BOND CONTINUOUS HYDROPHILIC WATERSTOP IN PLACE.
 5. INSTALL WALL PIPE. (COAT CONCRETE ENCASED PORTION OF PIPE WITH SPECIFIED COATING SYSTEM.)
 6. INSTALL ADDITIONAL REINFORCING EACH FACE, EACH SIDE, ABOVE AND BELOW PIPE. HORIZONTAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF HORIZONTAL REINFORCING CUT. VERTICAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF VERTICAL REINFORCING CUT.
 7. SOAK CONCRETE SURFACES AND WITHIN 15-MINUTES CAST CONCRETE CLOSURE. (CONCRETE CLOSURE MUST BE CAST BEFORE HYDROPHILIC WATERSTOP EXPANDS.) FORM GROOVE ON ALL SIDES OF OPENING EXCEPT AT TOP ON THE POUR SIDE.
 8. CLEAN SURFACES OF FORMED GROOVE WITH POWER WIRE BRUSH OR SANDBLASTING AND DRY-PACK WITH NON-SHRINK GROUT AFTER NEW CONCRETE MIN 28-DAYS OLD.

PIPE PENETRATION - EXISTING WALL
NTS

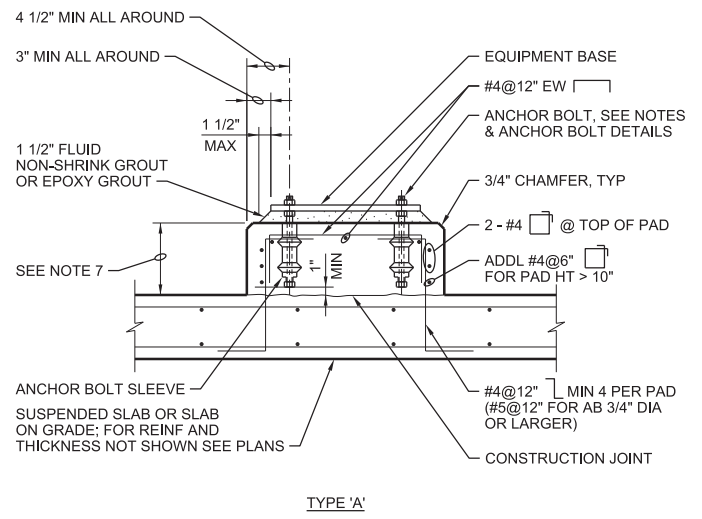
0330-022



NOTE:
CONTRACTOR'S OPTION TO USE THREADED REINFORCEMENT WITH MECHANICAL THREADED CONNECTIONS FOR FORMING.

CONCRETE STAIR - CANTILEVERED
NTS

0330-046

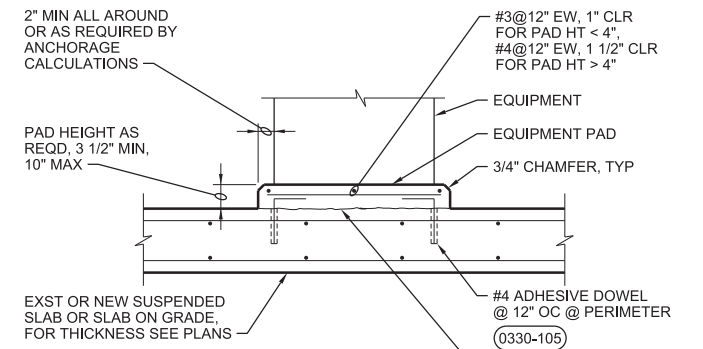


GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 4 OF 4.

DETAIL 1 OF 4

CONCRETE EQUIPMENT PAD - TYPE 'A'
NTS

0330-056



NOTES:

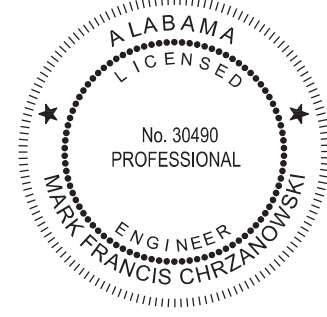
1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 3 1/2" HIGH, UNLESS NOTED OTHERWISE.

GENERAL NOTE:
FOR GENERAL NOTES SEE DETAIL 4 OF 4.

DETAIL 2 OF 4

CONCRETE EQUIPMENT PAD - TYPE 'E'
NTS

0330-056



Chrzanowski, Mark
AAA00006867
Date: 2021.06.02
16:53:21 -0400

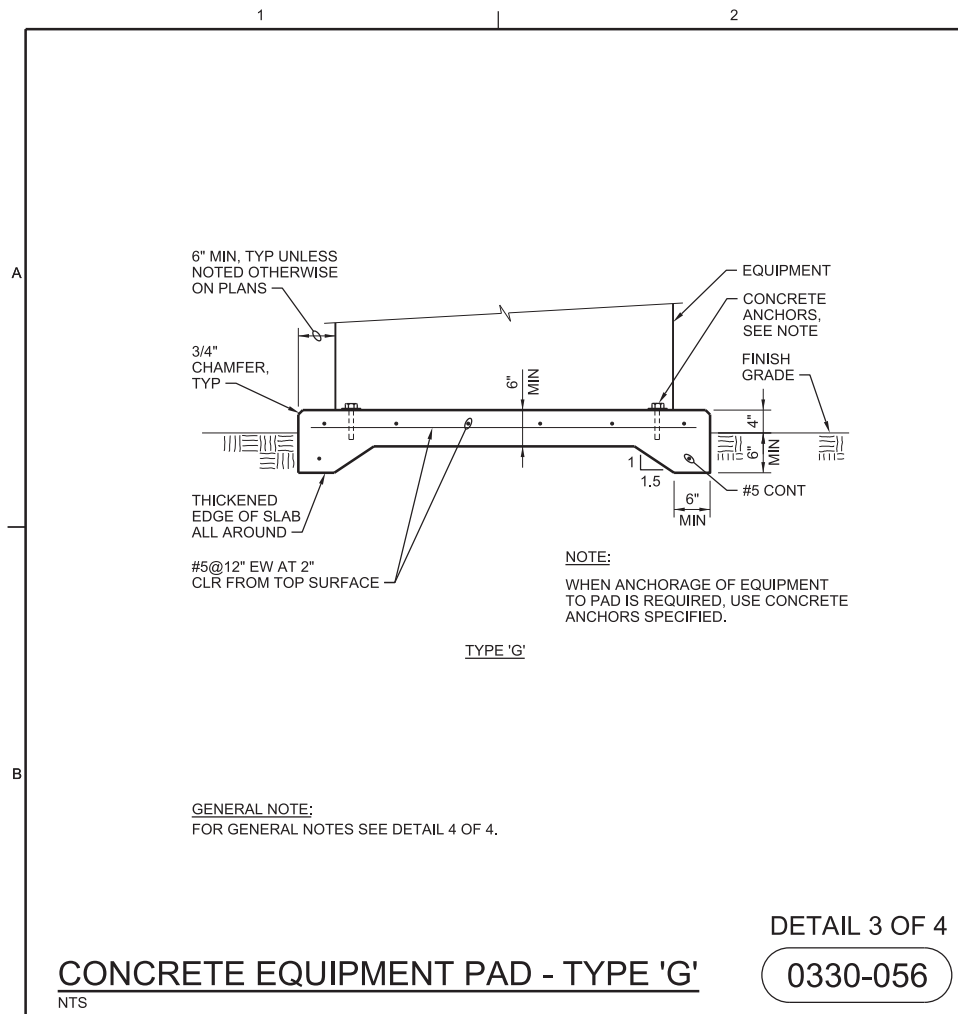
NO.	DATE	DR	CHK	REVISION

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

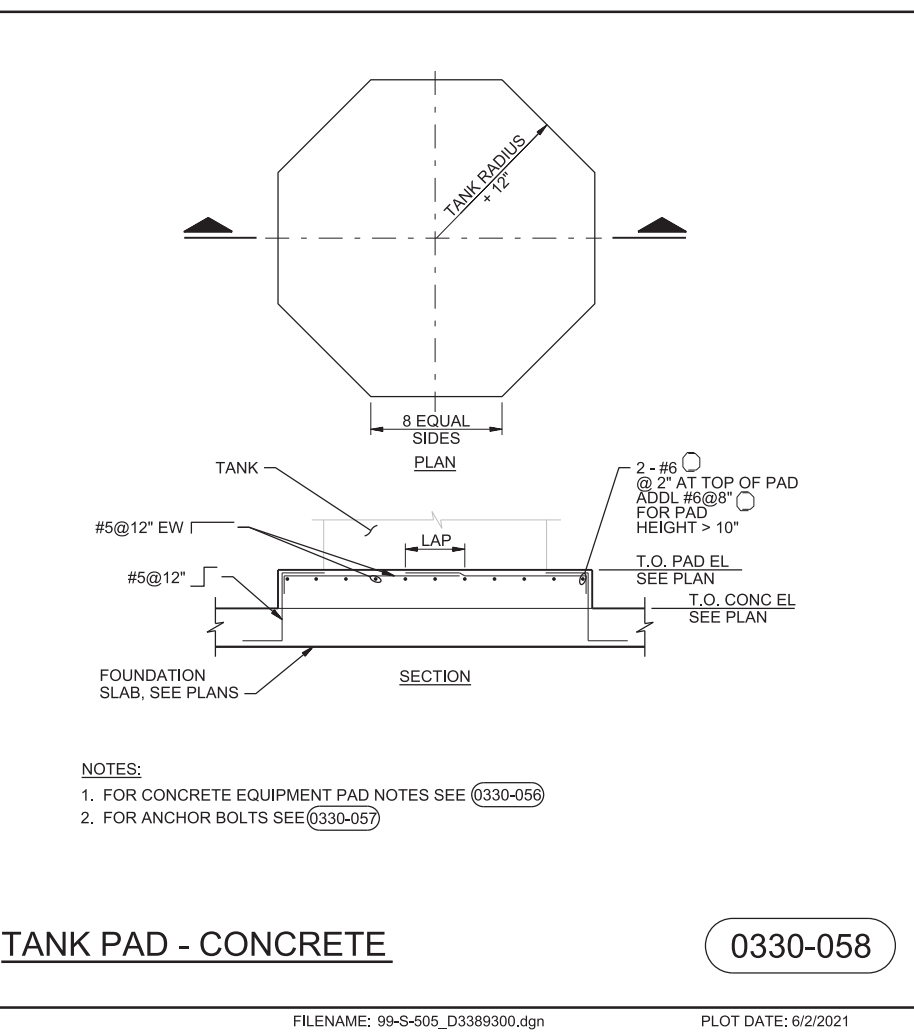
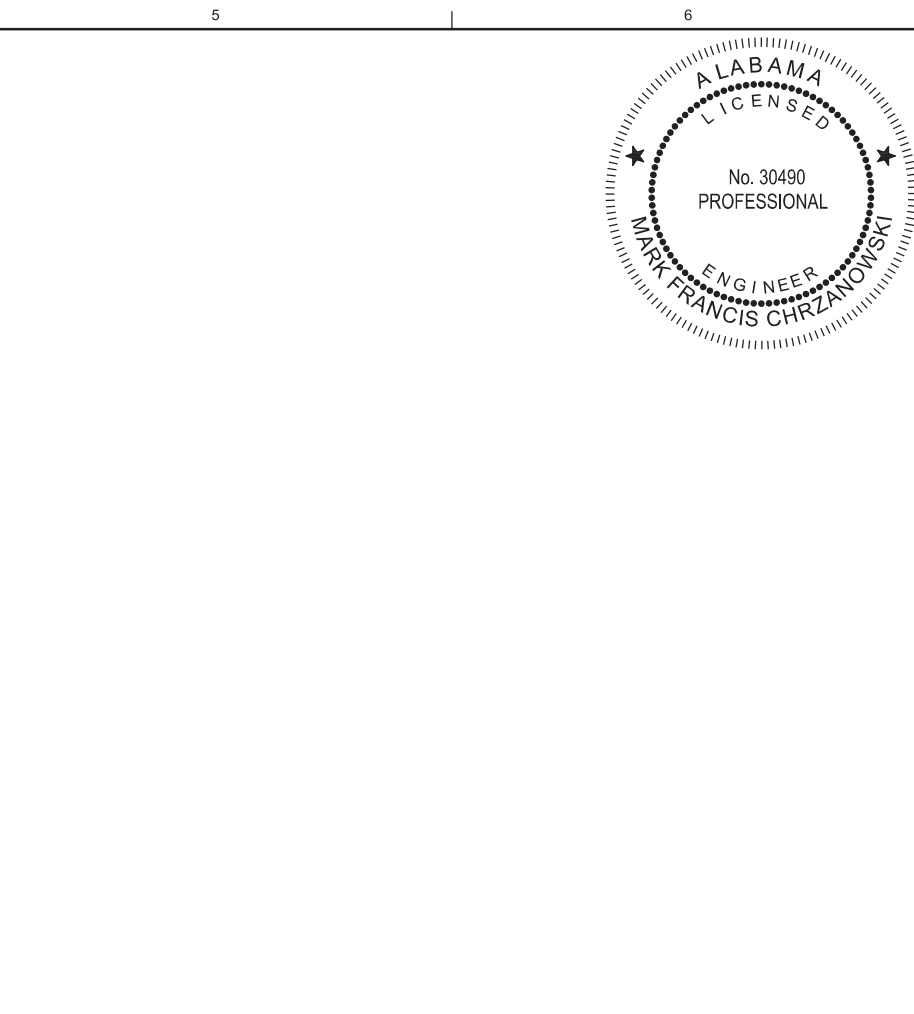
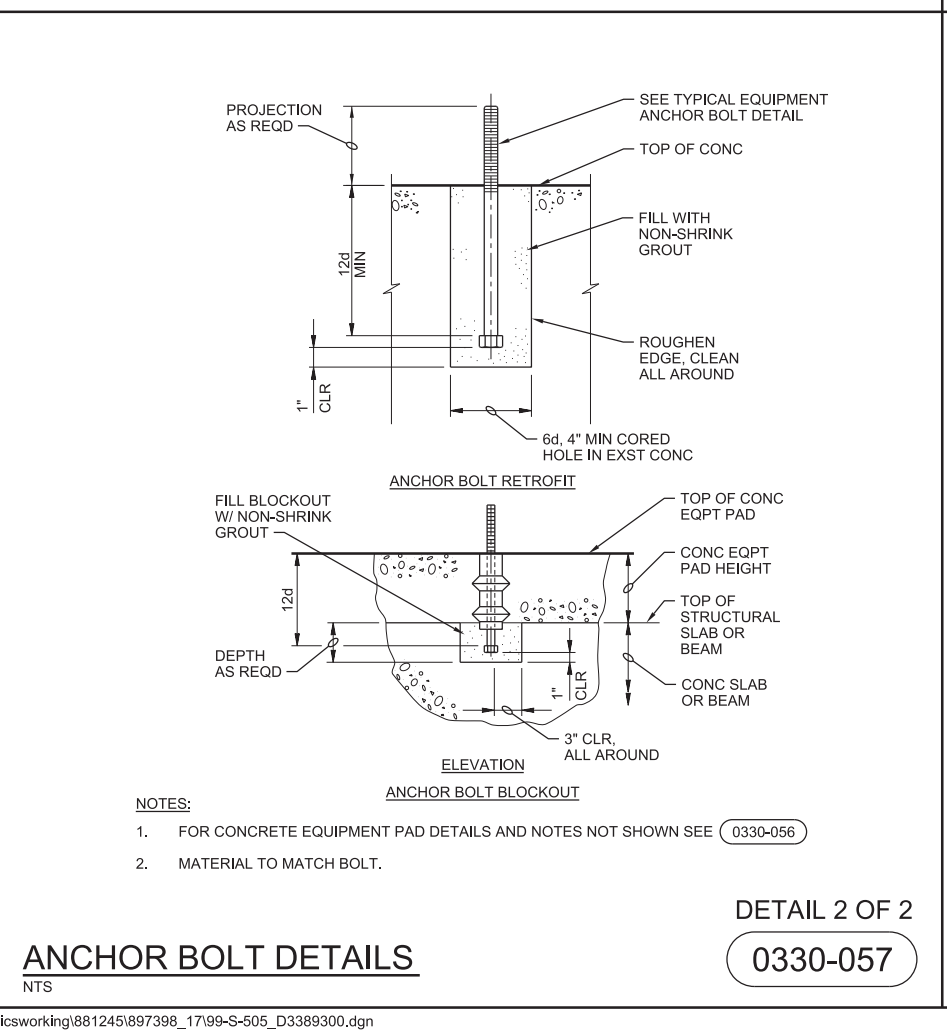
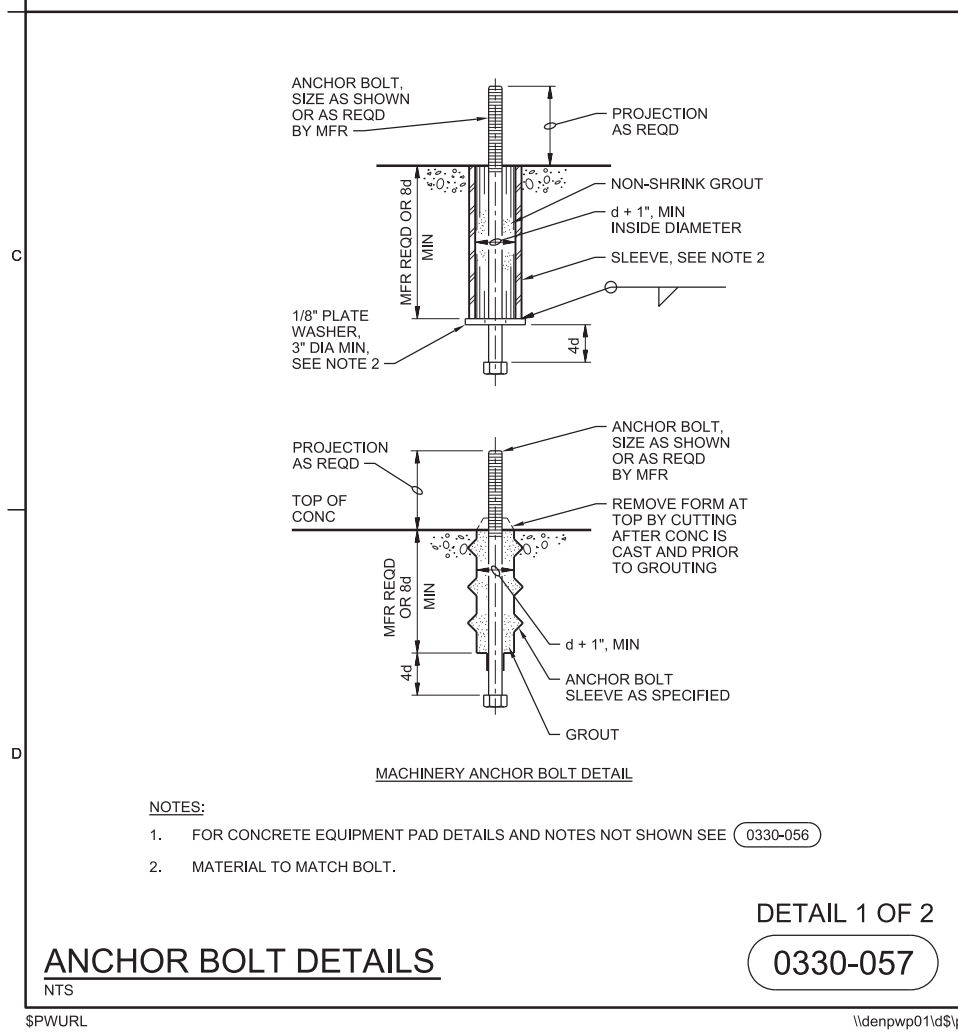
Jacobs
STRUCTURAL
STANDARD DETAILS

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 99-S-504
SHEET: 95 of 101

BID DOCUMENTS



- NOTES:**
- PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
 - THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
 - ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE MINIMUM ANCHOR BOLT MOVEMENT OF 1/2" IN ALL HORIZONTAL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER.
 - ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER BOLTS ARE ALIGNED. SEE 0330-057.
 - EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
 - WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. WEDGES OR SHIMS SHALL BE REMOVED AFTER GROUT IS SET AND PACK VOID WITH GROUT.
 - HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE 'B' EQUIPMENT PAD WITH BLOCKOUT.
 - TYPE 'D' PAD SHALL BE USED ONLY WHERE SPECIFICALLY INDICATED. PLACE THE SURROUNDING FLOOR SLAB AFTER THE EQUIPMENT PAD.
 - AT CONTRACTOR'S OPTION, CONCRETE ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS FOR EQUIPMENT ANCHOR BOLTS LESS THAN 3/4" DIAMETER WHEN APPROVED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. ANCHORS SHALL BE INSTALLED WITH 4" MINIMUM EDGE DISTANCE IN EACH DIRECTION.

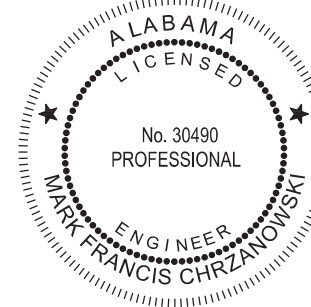


Chrzanowski, Mark		Digitally signed by Chrzanowski, Mark AA00006867 Date: 2021.06.02 16:53:59 -0400	
NO.	DATE	REVISION	BY
DSGN		CHK	APVD
G ADAMDEJAN		J THORNTON	M CHRZANOWSKI

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
STRUCTURAL
STANDARD DETAILS

AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE: JUNE 2021
PROJ: D3389300
DWG: 99-S-505
SHEET: 96 of 101



Chrzanowski, Mark
AAA00006867
Date: 2021.06.02 16:54:34 -04'00'

© JACOBS 2021. ALL RIGHTS RESERVED.

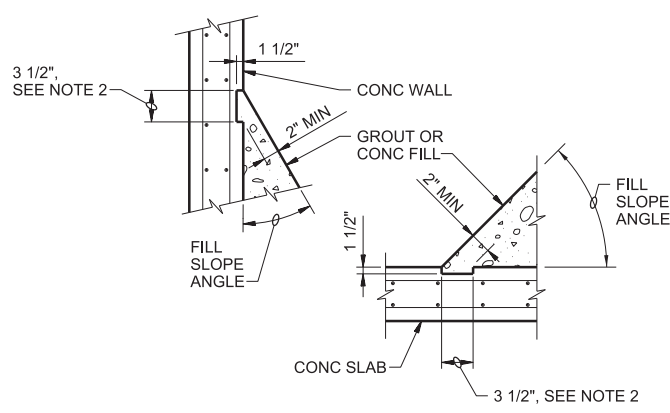
THE DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

BID DOCUMENTS

NO.	DATE	REVISION	CHK	BY	APVD

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

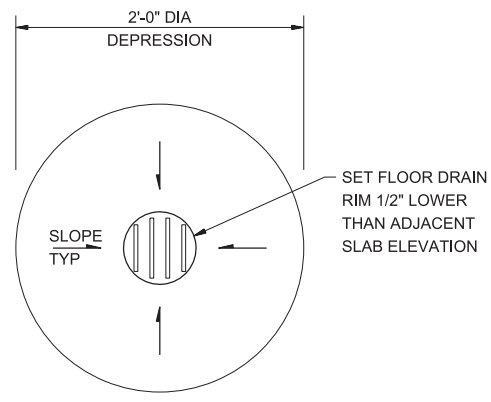
JACOBS STRUCTURAL STANDARD DETAILS	AS NOTED
	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE	JUNE 2021
PROJ	D3389300
DWG	99-S-505A
SHEET	96A of 101



- NOTES:**
1. PROVIDE KEY FOR ALL FILL WHERE FILL SLOPE ANGLE TO WALL OR SLAB IS LESS THAN 45 DEGREES.
 2. LENGTHEN 3 1/2" BLOCKOUT AS REQUIRED TO MAINTAIN 2" MINIMUM THICKNESS OF GROUT OR CONCRETE FILL.

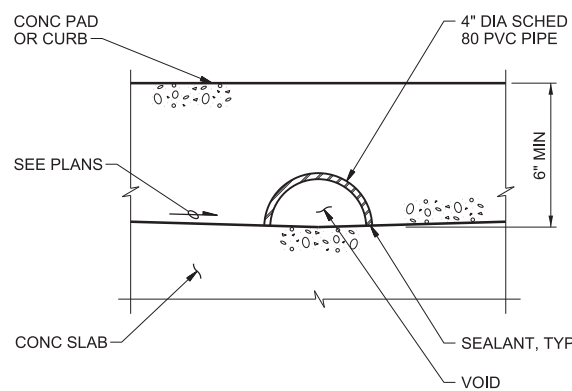
CONCRETE OR GROUT FILL KEY
NTS

0330-078



FLOOR DRAIN
NTS

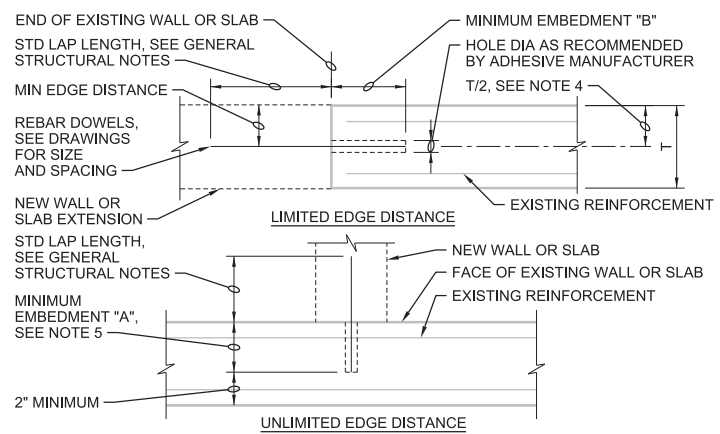
0330-082



- NOTE:**
ANCHOR IN PLACE WITH SST STRAPPING AND ADHESIVE ANCHORS AS REQUIRED.

DRAINAGE BLOCKOUT
NTS

0330-083

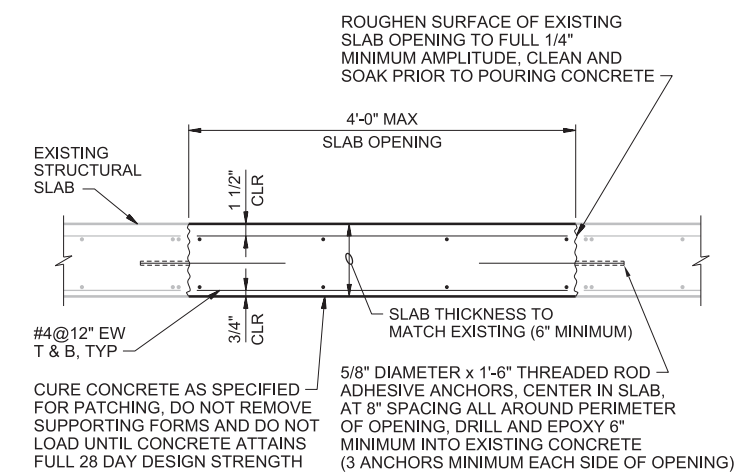


DOWEL SIZE	MINIMUM EDGE DISTANCE	MINIMUM EMBEDMENT "A"	MINIMUM EMBEDMENT "B"
#3	2 1/2"	5"	8"
#4	3 1/2"	7"	11"
#5	4"	8"	13"
#6	5"	10 1/2"	16"
#7	6"	12 1/2"	20"
#8	7"	14"	22"
#9	7 1/2"	15"	24"

- NOTES:**
1. CONFORM TO REQUIREMENTS OF SPECIFICATION SECTION 03 63 00, CONCRETE DOWELING.
 2. FOLLOW ADHESIVE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
 3. USE MINIMUM EMBEDMENTS SHOWN, EXCEPT USE MANUFACTURER'S MINIMUM RECOMMENDED EMBEDMENT IF GREATER.
 4. LOCATE DOWELS CENTERED IN WALL OR SLAB UNLESS OTHERWISE NOTED ON DRAWINGS. WHERE 2 ROWS OF DOWELS INDICATED, STAGGER SPACING & LOCATE ALTERNATING DOWELS AT MINIMUM EDGE DISTANCE FROM OPPOSITE FACES.
 5. PROVIDE MINIMUM EMBEDMENT "A" SHOWN IN TABLE UNLESS SHORTER EMBEDMENT DEPTH IS CALLED OUT ON DRAWINGS.

ADHESIVE DOWEL
NTS

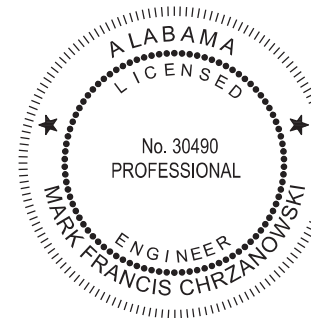
0330-105



CURE CONCRETE AS SPECIFIED FOR PATCHING, DO NOT REMOVE SUPPORTING FORMS AND DO NOT LOAD UNTIL CONCRETE ATTAINS FULL 28 DAY DESIGN STRENGTH

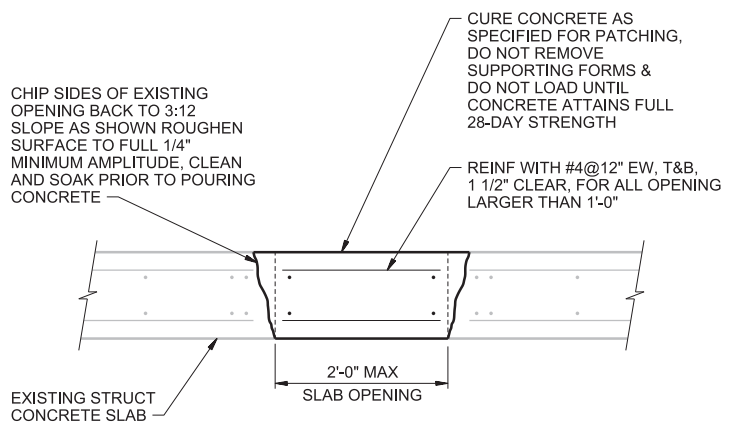
EXISTING SLAB OPENING REPAIR
NTS

0330-141



Chrzanowski, Mark
 Digitally signed by Chrzanowski, Mark
 AAA00006867
 Date: 2021.06.02 16:55:10 -04'00'

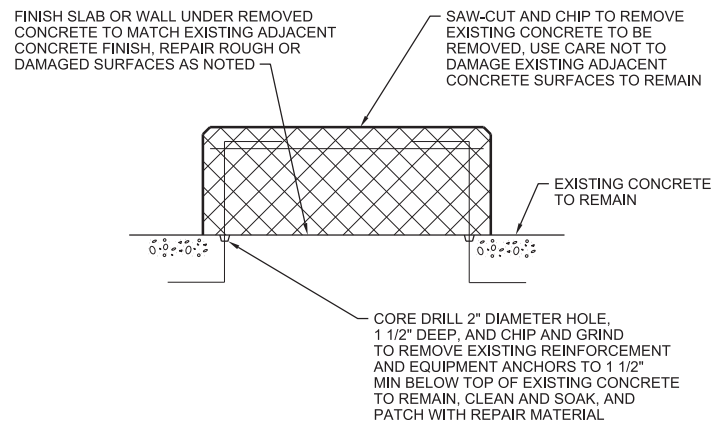
NO.	DATE	DR	CHK	BY	APVD
		J THORNTON	M CHRZANOWSKI	M CHRZANOWSKI	M CHRZANOWSKI
DSGN		G ADAMDEJAN			



NOTE:
 FOR REPAIR OF LARGER SLAB OPENINGS SEE 0330-141

EXISTING SLAB OPENING REPAIR
 NTS

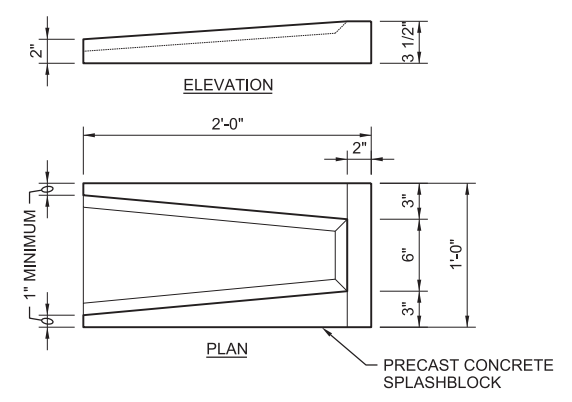
0330-142



- NOTES:
1. REMOVE CONCRETE OUT TO SOUND CONCRETE.
 2. IF CHIPPING INTO THE SURFACE OF THE EXISTING SLAB OR WALL TO REMAIN IS REQUIRED, MAKE EDGES PERPENDICULAR TO THE SURFACE. DO NOT FEATHER EDGES.
 3. FILL DEFECTIVE AREA WITH AN APPROVED PREPACKAGED REPAIR MATERIAL TO MATCH APPEARANCE OF ADJACENT CONCRETE SURFACES.
 4. USE APPROVED BONDING AGENT ON SURFACES TO BE PATCHED PRIOR TO PLACING REPAIR MATERIAL.
 5. DEMONSTRATE METHODS FOR REPAIR USING ACTUAL MATERIALS, METHODS, AND CURING PROCEDURES REQUIRED BY MATERIAL MANUFACTURERS. CONSULT WITH BONDING AGENT MANUFACTURER AND REPAIR MATERIAL MANUFACTURER ON TECHNIQUES.

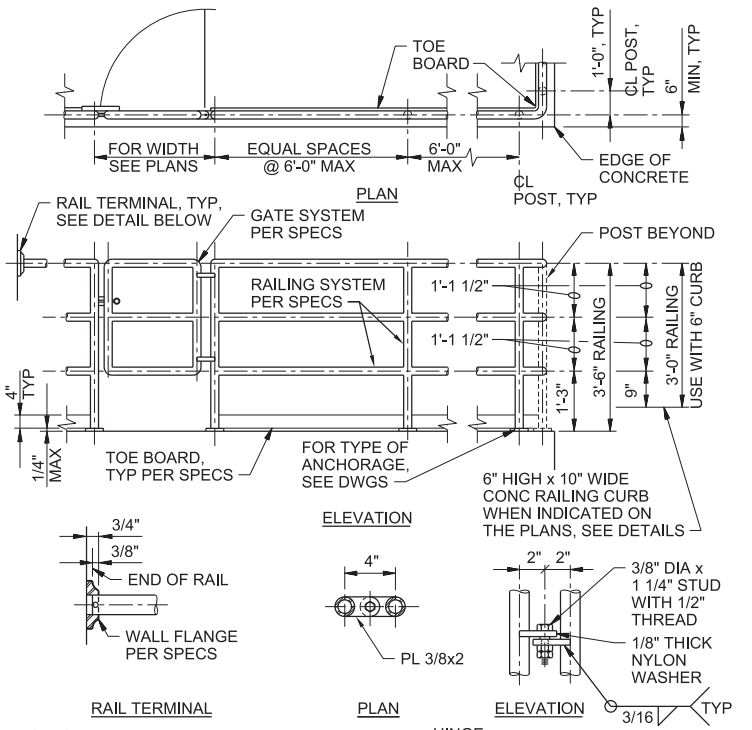
CONCRETE DEMOLITION
 NTS

0330-143



SPLASHBLOCK
 NTS

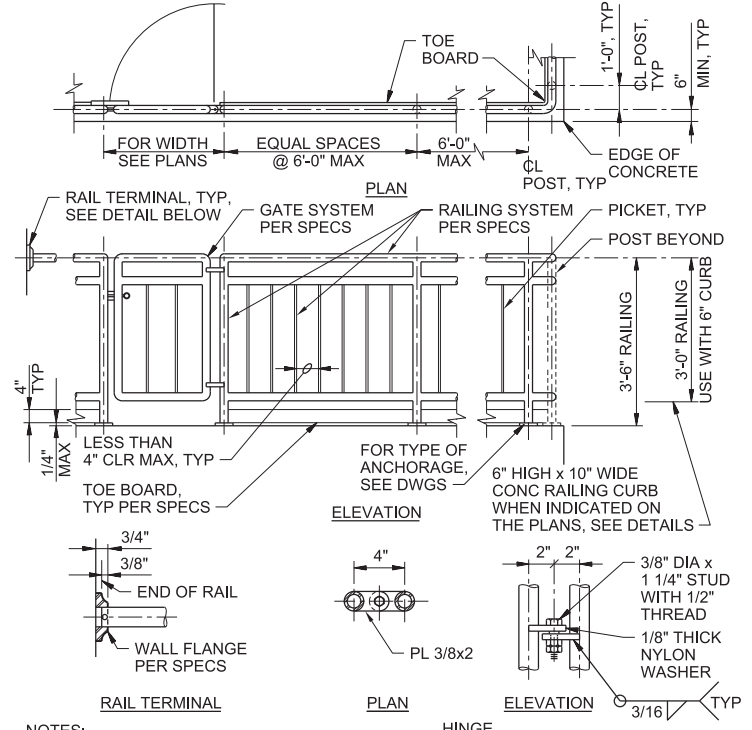
0340-095



- NOTES:
1. FASTEN RAIL TO WALL FLANGE PER MANUFACTURER'S RECOMMENDATIONS.
 2. WALL FLANGE TO BE MOUNTED TO WALL WITH (2) 3/8" DIA SST WEDGE ANCHORS.
 3. AT CONTRACTOR'S OPTION FABRICATE HINGES OR PROVIDE OTHER HINGES PER SPECIFICATIONS. ANODIZE FINISH AFTER ALL WELDING PER SPECIFICATIONS.

RAILING - 3 RAIL - ALUMINUM
 NTS

DETAIL 1 OF 2
 0552-001



- NOTES:
1. FASTEN RAIL TO WALL FLANGE PER MANUFACTURER'S RECOMMENDATIONS.
 2. WALL FLANGE TO BE MOUNTED TO WALL WITH (2) 3/8" DIA SST WEDGE ANCHORS.
 3. AT CONTRACTOR'S OPTION FABRICATE HINGES OR PROVIDE OTHER HINGES PER SPECIFICATIONS. ANODIZE FINISH AFTER ALL WELDING PER SPECIFICATIONS.

RAILING - PICKET - ALUMINUM
 NTS

DETAIL 2 OF 2
 0552-001

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

Jacobs
 STRUCTURAL
 STANDARD DETAILS

AS NOTED

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	99-S-505B
SHEET	96B of 101

1

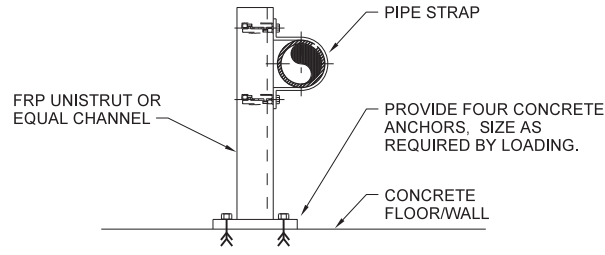
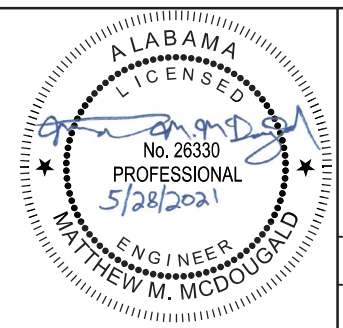
2

3

4

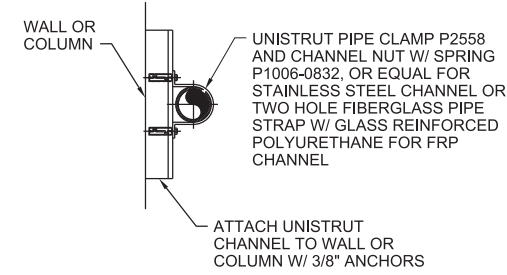
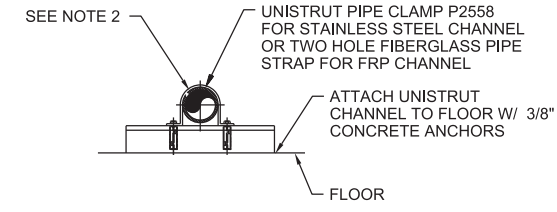
5

6



PIPE SUPPORT
NTS

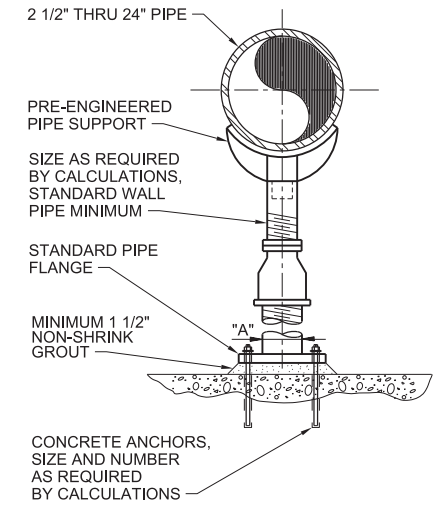
4005-495B



- NOTES:**
1. FOR MATERIALS OF CONSTRUCTION SEE SPECIFICATIONS SECTION 40 05 15.
 2. FOR PVC PIPE USE UNICUSHION BETWEEN PIPE AND CLAMP.
 3. TIGHTEN CLAMP SNUG TO PIPE.
 4. ALL METAL UNISTRUT SHALL INCLUDE PVC END CAPS ON BOTH ENDS.

PIPE SUPPORT
NTS

4005-495C

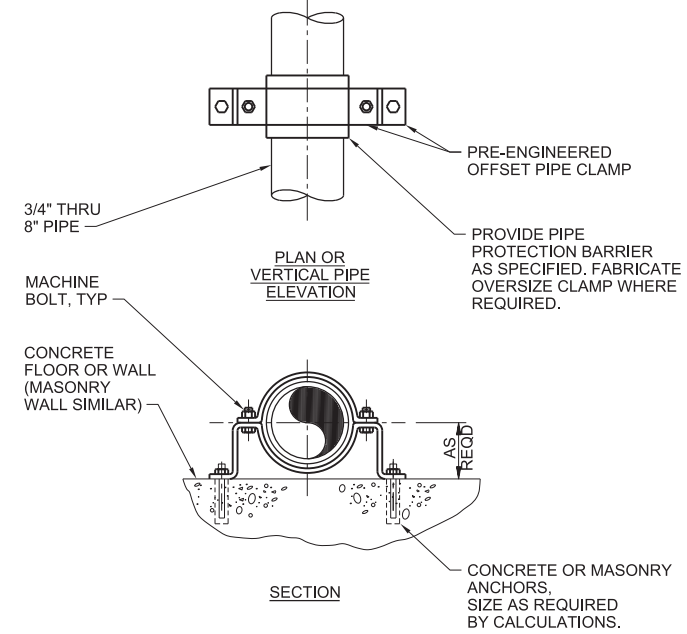


PIPE SIZE	"A" MINIMUM NOMINAL PIPE SIZE
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	4"
16"	4"
20"	6"
24"	6"

NOTE:
SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

PIPE SUPPORT
SADDLE SUPPORT PEDESTAL TYPE - ADJUSTABLE

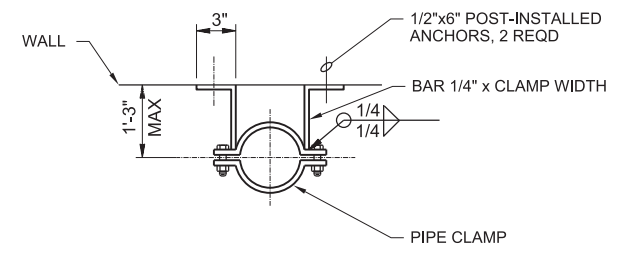
NTS
4005-500



- NOTES:**
1. ONLY FOR VERTICAL OR FLOOR MOUNTED PIPES.
 2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

PIPE SUPPORT - WALL MOUNTED

NTS
4005-505



- NOTES:**
1. HOT DIP GALVANIZE AFTER FABRICATION.

TYPE B SWAY BRACE

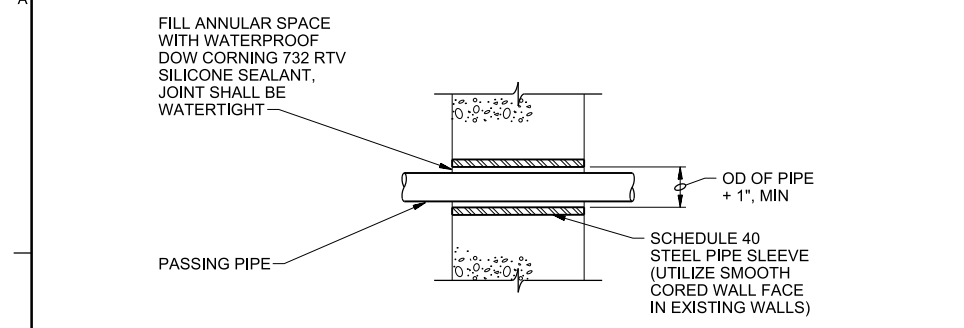
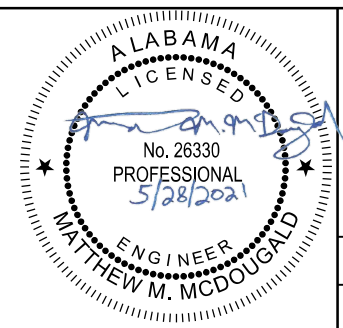
NTS
4005-711

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
PROCESS MECHANICAL
STANDARD DETAILS

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	99-D-501
SHEET	97 of 101

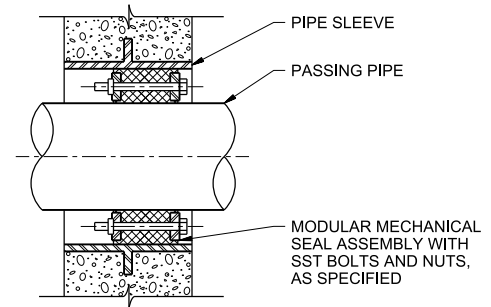
BID DOCUMENTS



NOTES:
 1. DO NOT USE WHERE SUBJECT TO HYDROSTATIC PRESSURE. PAINT ENTIRE SLEEVE AS SPECIFIED.

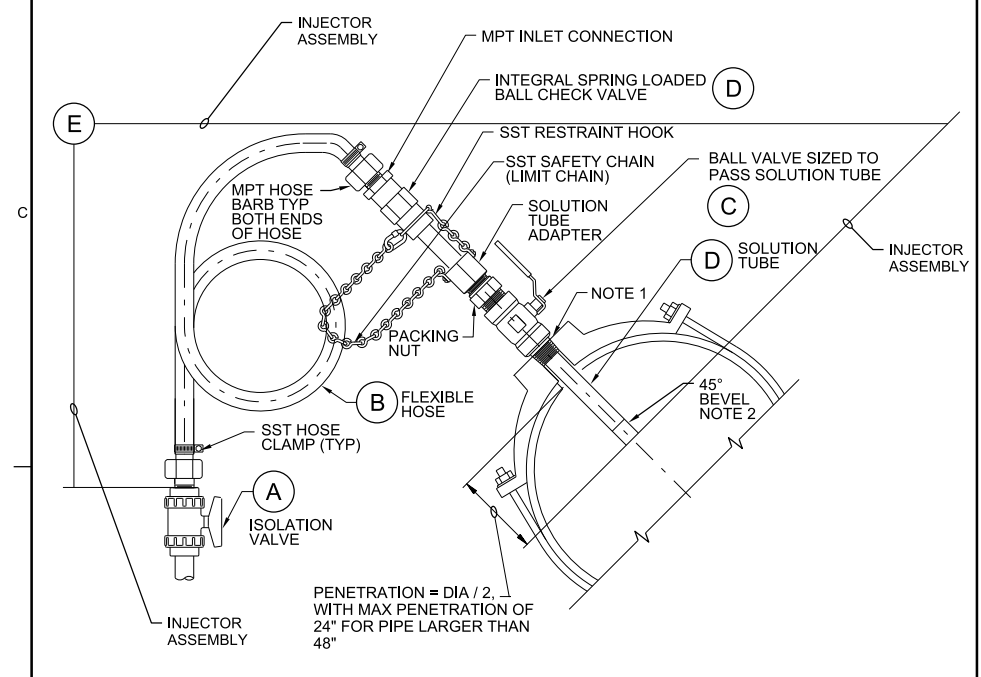
TYPE B PIPE SLEEVE
 NTS

4027-604



WALL PIPE PENETRATION SEAL
 NTS

4027-607



SPECIFIC NOTES:
 1. ORIENT BEVEL SO IT FACES FLOW DIRECTION. SEE VENDOR'S RECOMMENDATIONS.

GENERAL NOTES:
 I SEE CHEMICAL INJECTION SCHEDULES ON DETAIL 4027-957C
 II DETAIL SUITABLE FOR FEED PUMP MAX RELIEF PRESSURE OF 150 PSIG, MAIN LINE PRESSURE 100 PSIG OR LESS, AND FEED LINE 1\"/>

CHEMICAL INJECTOR, RETRACTABLE, FLEXIBLE HOSE
 NTS

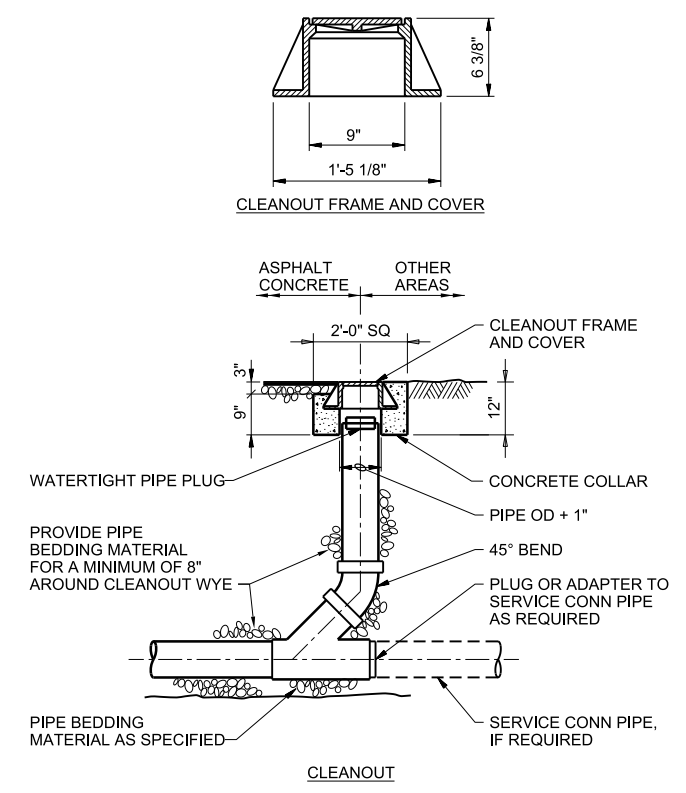
4027-957A

SCHEDULE 1 - CHEMICAL INJECTOR DEFAULT COMPONENTS		
COMPONENT MARK	COMPONENT DESCRIPTION	MODEL / MATERIALS
(A)	ISOLATION VALVE	1/2" V335 (CPVC)
(B)	FLEXIBLE HOSE	1/2" BRAID-REINFORCED PVC, 250 PSI RATED
(C)	SOLUTION TUBE ISOLATION VALVE	3/4" V307 (SST)
(D)	SOLUTION TUBE AND INTEGRAL SPRING LOADED BALL CHECK VALVE WITH TEFLON BALL	PVC 0.25" BORE SIZE, NOTE 2
(E)	INJECTOR ASSEMBLY INCLUDES (B)(C)(D) AND ANCILLARIES	SAF-T-FLO EB146; OR EQUAL

NOTE:
 1. COMPONENTS SUITABLE FOR CONCENTRATIONS LISTED UP TO 100°F.
 2. BORE SIZE MUST BE SUITABLE FOR NEEDS OF SUPPLIED MIXER.

CHEMICAL INJECTOR, RETRACTABLE
 NTS

4027-957C



EXTERIOR CLEANOUT
 NTS

3305-740

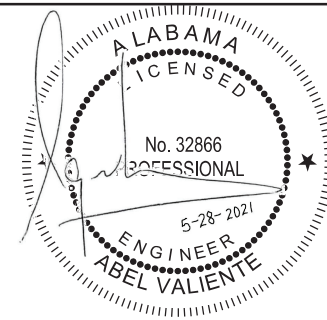
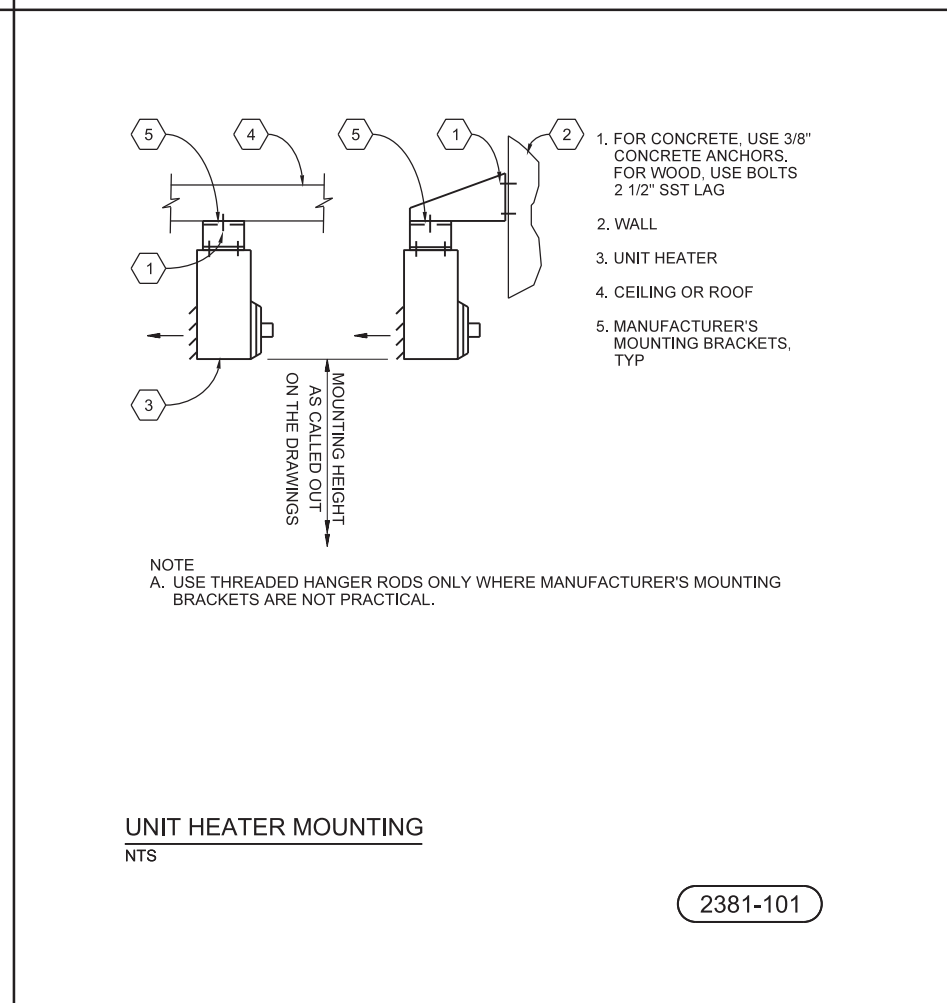
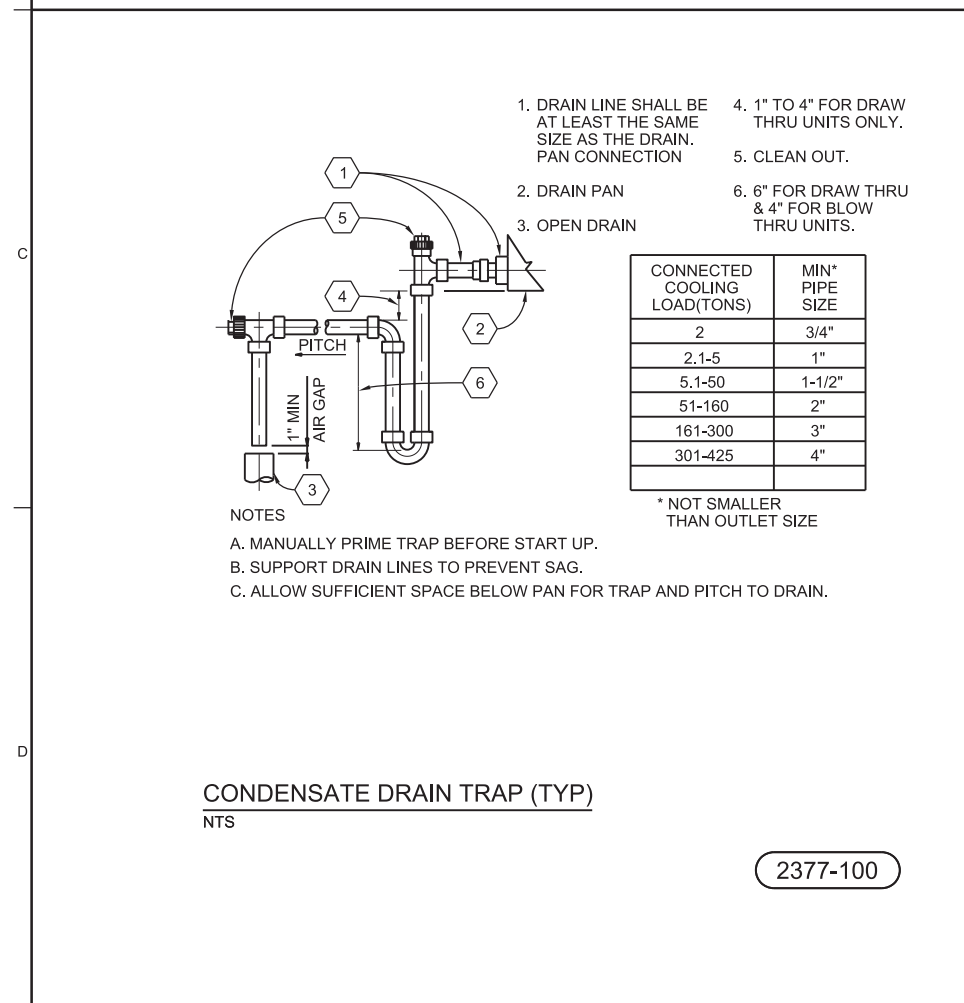
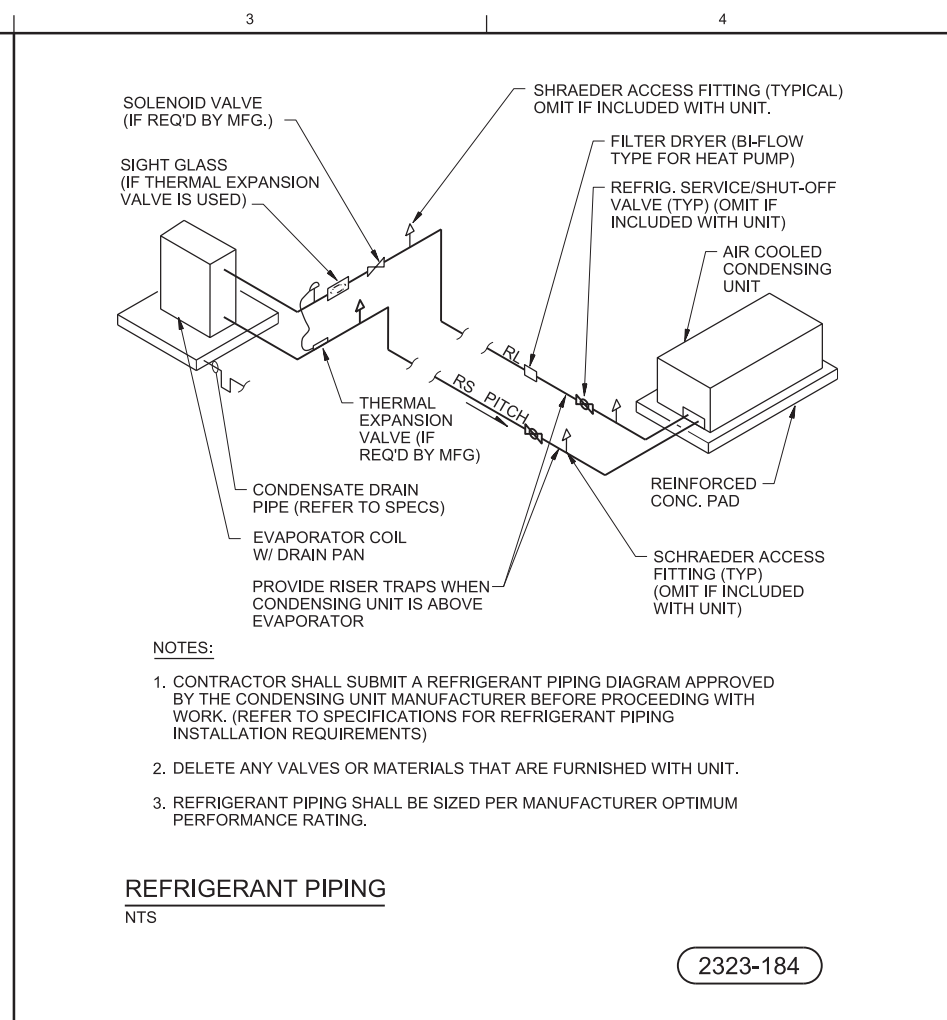
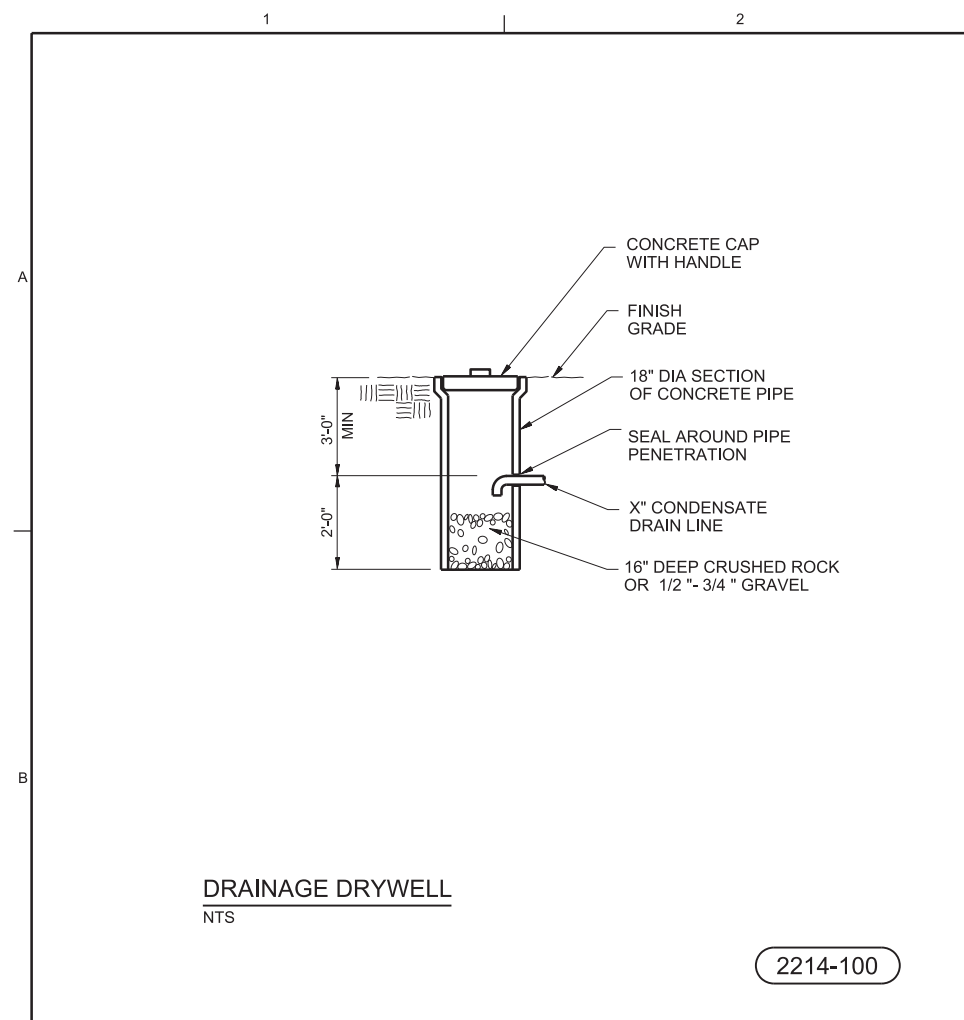
NO.	DATE	DR	CHK	BY	APVD
		W SHANNON		E MINICHEW	M MCDUGALD
		DSGN		REVISION	

JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

Jacobs
 PROCESS MECHANICAL
 STANDARD DETAILS

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	99-D-502
SHEET	98 of 101

REUSE OF DOCUMENTS: THE DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.



NO.	DATE	DR	Y. FITZGERALD	T. PRICE	BY	APVD	APVD

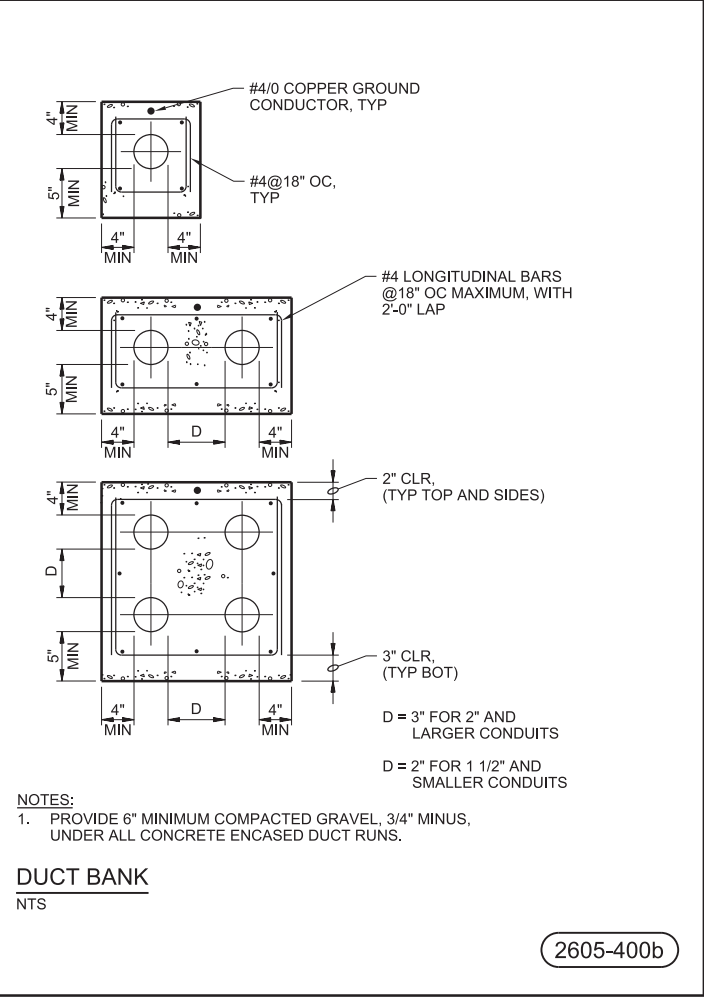
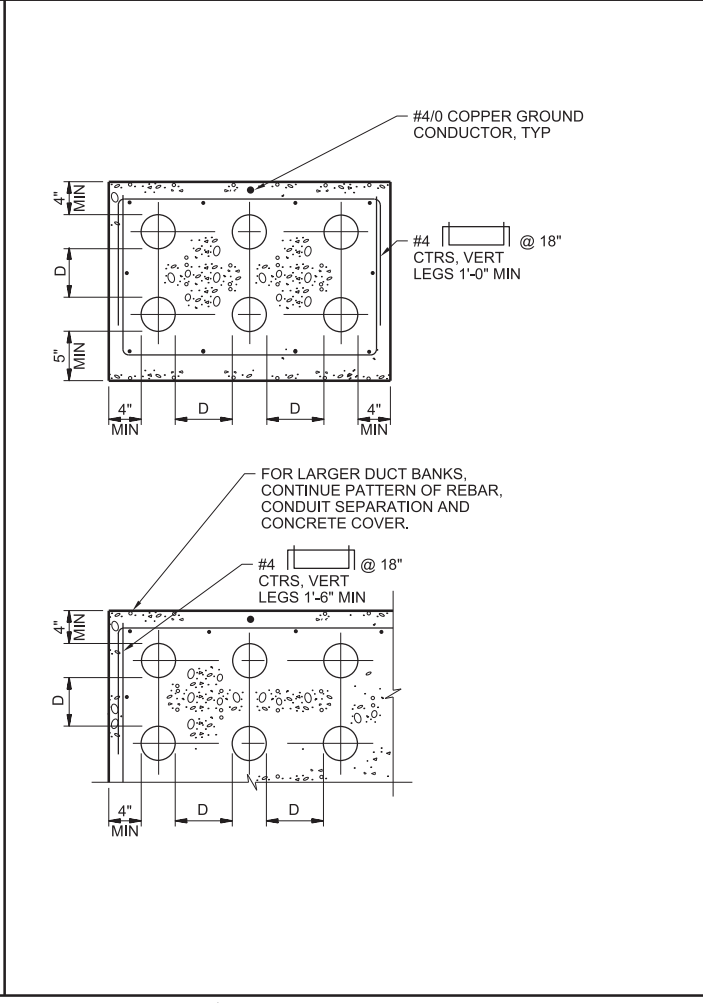
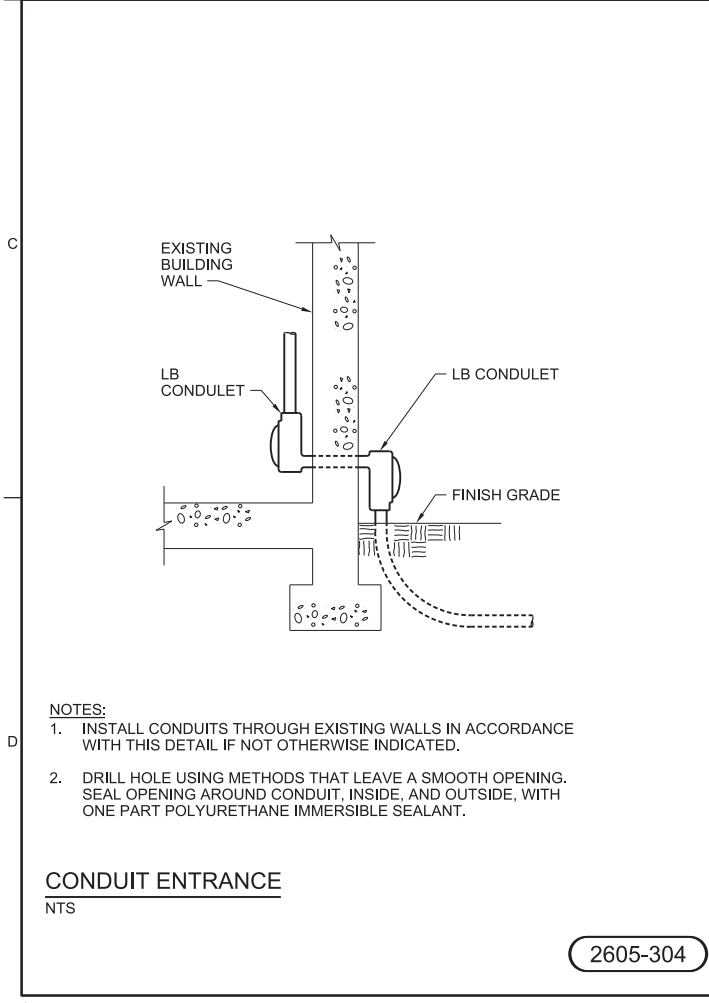
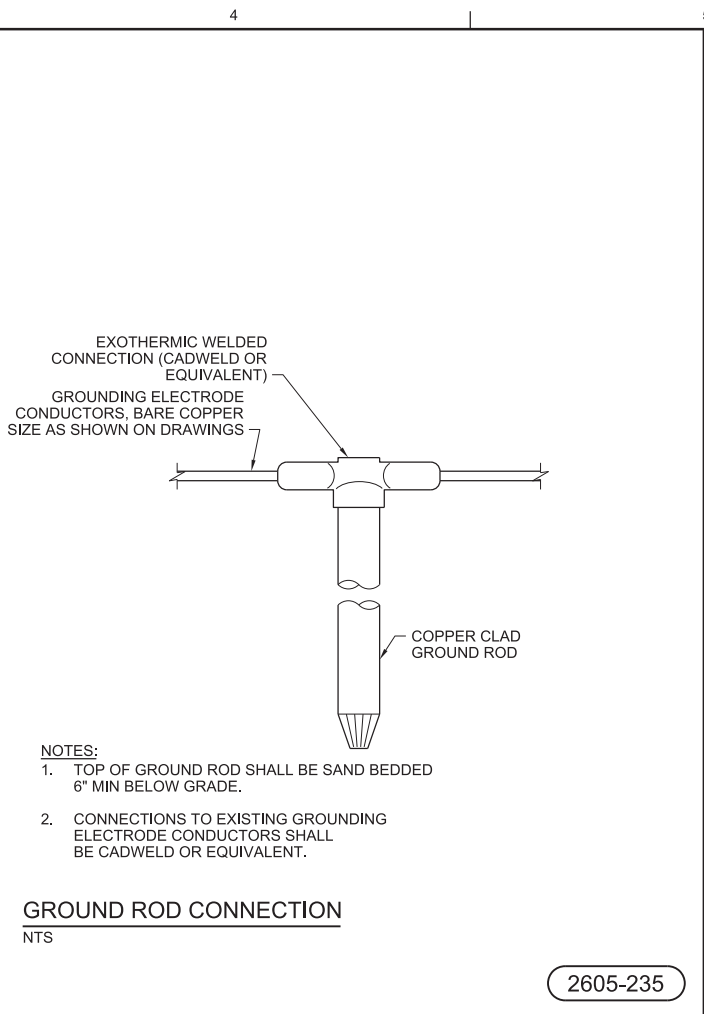
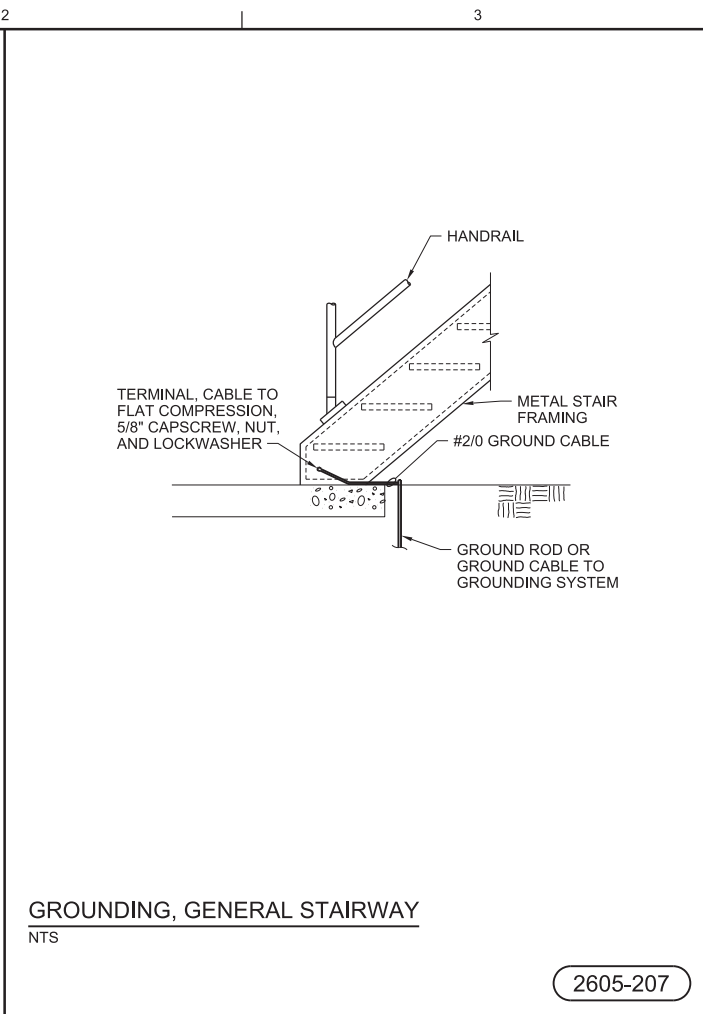
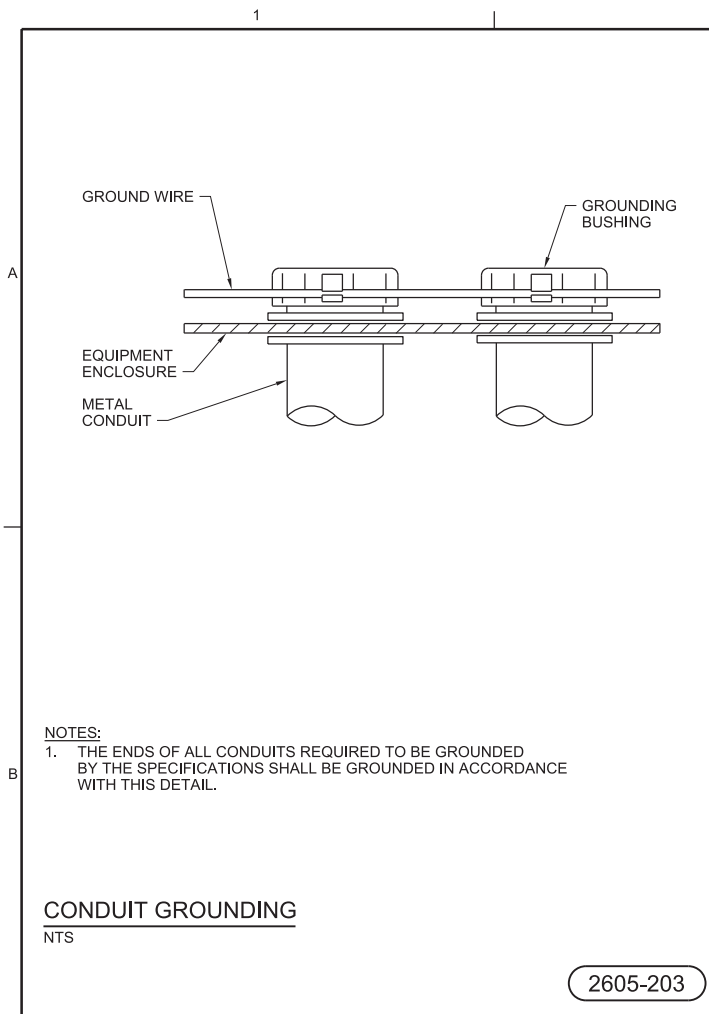
A VALIENTE
A VALIENTE

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
BUILDING MECHANICAL
STANDARD DETAILS

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	99-M-501
SHEET	99 of 101



05-27-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD

T. HOMAYOONI
 G. MESSER
 KB. HORTON
 KB. HORTON

Jacobs
 ELECTRICAL
STANDARD DETAILS

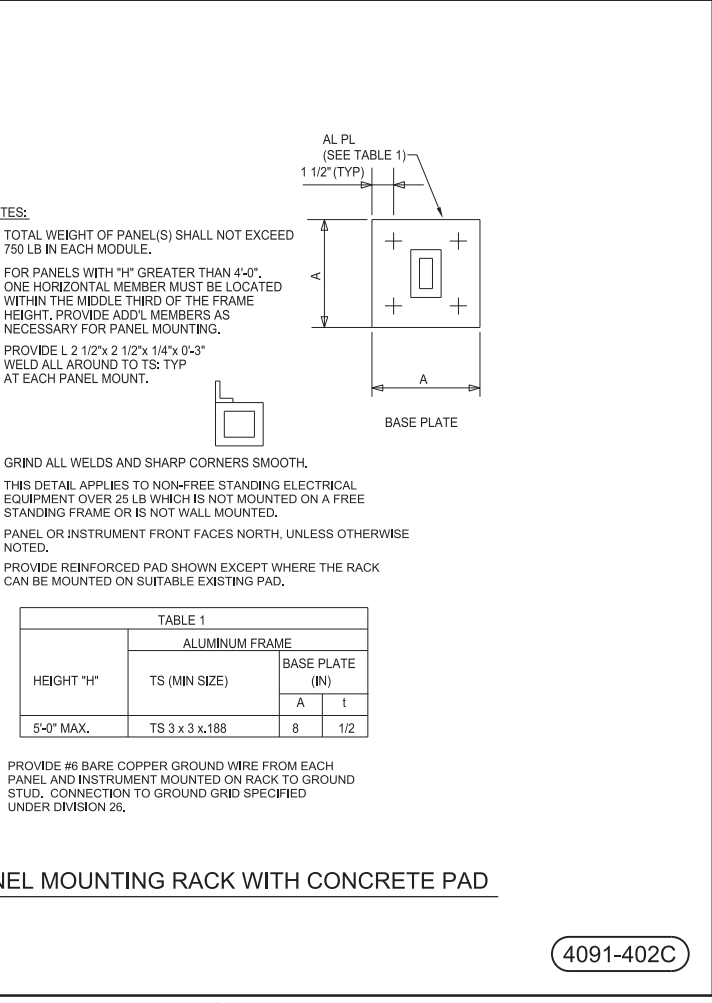
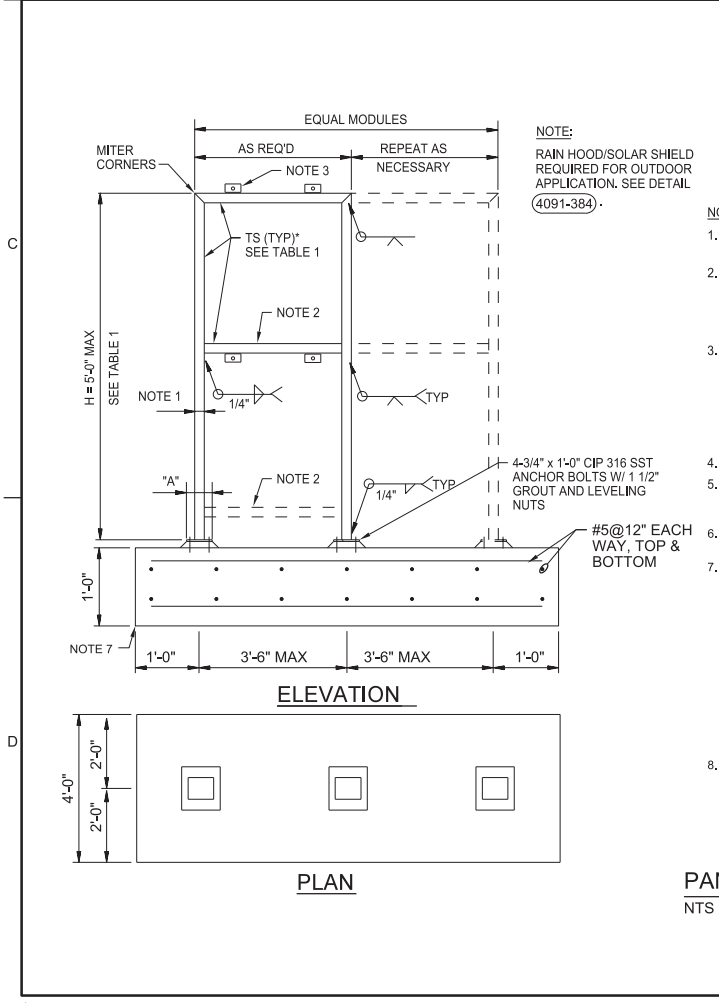
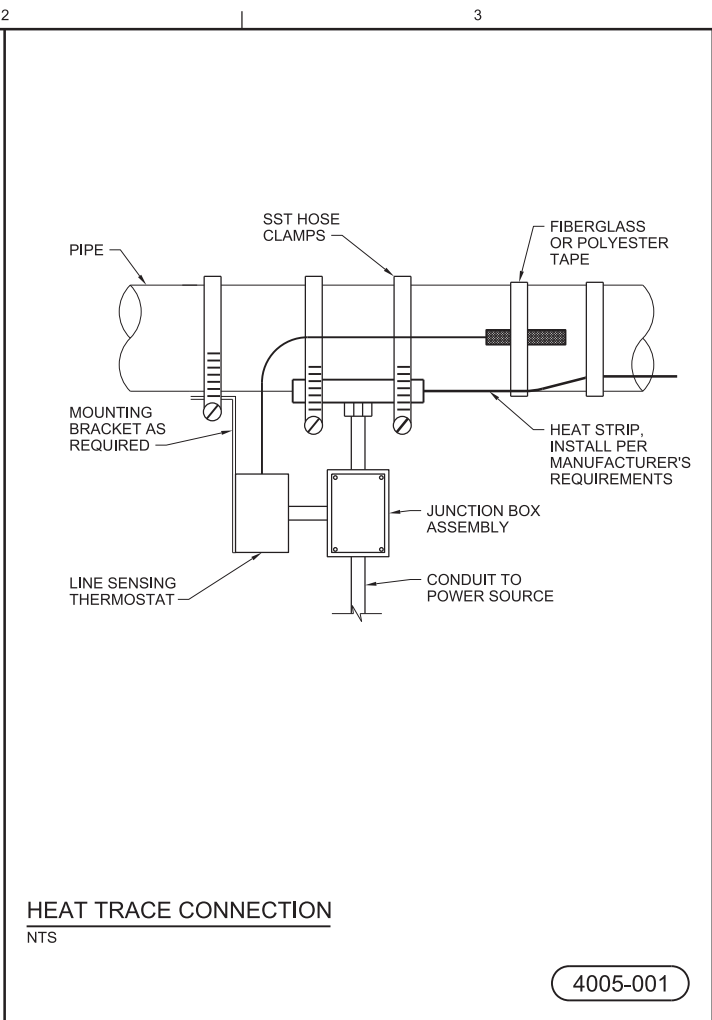
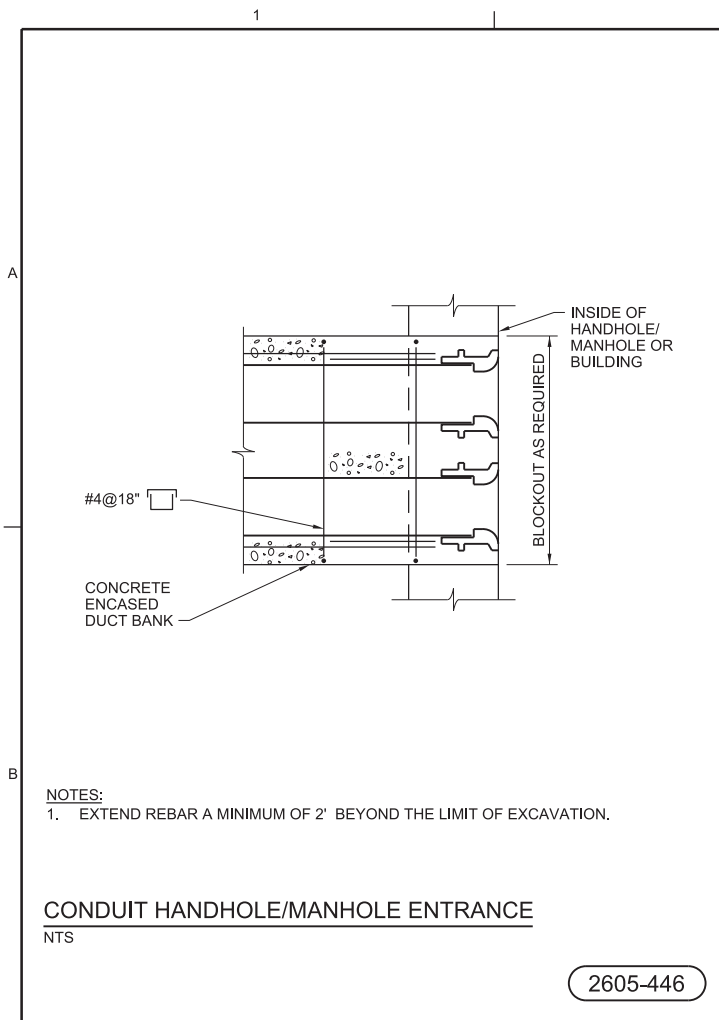
JAMES ESTES WATER TREATMENT PLANT
 2020 IMPROVEMENTS
 WATER WORKS BOARD OF THE CITY OF
 AUBURN, ALABAMA

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE	JUNE 2021
PROJ	D3389300
DWG	99-E-501
SHEET	100 of 101

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. © JACOBS 2021. ALL RIGHTS RESERVED.

BID DOCUMENTS



ALABAMA LICENSED ENGINEER
KIRSTEN BRITT HORTON
No. 34073
05-27-2021

NO.	DATE	DR	CHK	REVISION	BY	APVD
		KB HORTON	G MESSER			KB HORTON
			T HOMAYOONI			

JAMES ESTES WATER TREATMENT PLANT
2020 IMPROVEMENTS
WATER WORKS BOARD OF THE CITY OF
AUBURN, ALABAMA

Jacobs
ELECTRICAL
STANDARD DETAILS

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	JUNE 2021
PROJ	D3389300
DWG	99-E-502
SHEET	101 of 101