## PLUMBING NOTES

- THE WORK COVERED CONSISTS OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO INSTALL, COMPLETE AND READY FOR CONTINUOUS OPERATION, THE PLUMBING SYSTEMS, APPARATUS AND EQUIPMENT FOR THIS PROJECT.
- ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THE PLUMBING SUB-CONTRACT.
  LABOR AND TESTING PERFORMED HEREIN SHALL BE IN COMPLETE ACCORDANCE WITH
  THE STATE BUILDING CODE, LOCAL FUEL GAS AND PLUMBING CODES, ALL LOCAL
  CODES AND REGULATIONS, NATIONAL FIRE PROTECTION ASSOCIATION, INSURANCE
  REGULATIONS AND REQUIREMENTS GOVERNING SUCH WORK.
- ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF ANY MATERIAL SHALL BE OBTAINED AS PART OF THE WORK OF THE SPECIFICATION INCLUDING ALL FEES OR EXPENSES INCURRED.
- 4. FOR PLUMBING SCHEDULES, REFER TO DRAWING POD.01.
- 5. FOR PLUMBING DETAILS, REFER TO DRAWINGS PO3.01.
- 6. ALL PRODUCTS USED AS PART OF THE POTABLE WATER SYSTEM WHERE THE INTENDED PURPOSE IS TO DELIVER OR CONVEY POTABLE WATER FOR HUMAN CONSUMPTION SHALL BE LEAD FREE AND CONFORM TO THE LATEST "LEAD FREE" LAW
- 7. WHERE WATER PIPING IS SHOWN DROPPING INTO PLUMBING CHASES WITH SIZES NOTED, THAT SIZE SHALL BE CARRIED FULL LENGTH THROUGH THE CHASE. REFER TO PLUMBING FIXTURE SCHEDULE ON THIS DRAWING FOR INDIVIDUAL FIXTURE CONNECTION SIZES.
- 8. UNLESS OTHERWISE NOTED, ALL HORIZONTAL DRAINAGE PIPING WHICH IS 3" OR LESS IN DIAMETER SHALL PITCH OF NOT LESS THAN 1/4" PER FOOT AND ALL HORIZONTAL DRAINAGE PIPING WHICH IS 4" OR LARGER IN DIAMETER SHALL PITCH OF NOT LESS THAN 1/8" PER FOOT.
- 9. ALL BELOW FLOOR PIPING THAT INTERSECTS A GRADE BEAM REQUIRES COORDINATION WITH STRUCTURAL.
- 10. PROVIDE ALL FLOOR CLEANOUTS WITH HUB AND SPIGOT; LEAD AND OAKUM JOINTS FROM CLEANOUT TO AND INCLUDING CONNECTION TO SANITARY OR STORM DRAIN.
- 11. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND HEIGHT OF ALL PLUMBING FIXTURES.
- 12. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB-CONTRACTOR OF CODE COMPLIANCE.
- 13. ALL FLOOR DRAINS SHALL BE PROVIDED WITH A TRAP PRIMER CONNECTION.
  CONTRACTOR SHALL PROVIDE ALL ASSOCIATED EQUIPMENT NECESSARY TO PROVIDE A COMPLETE SYSTEM.
- 14. PROVIDE CLEANOUTS AT ALL CHANGE OF DIRECTIONS FOR STORM AND SANITARY/WASTE PIPING.
- 15. PROVIDE DANDY CLEANOUTS AT ALL EXPOSED STORM AND SANITARY/WASTE PIPING 18 INCHES (APPROXIMATELY) ABOVE FINISHED FLOOR WHERE PIPING GOES BELOW FINISHED FLOOR/GRADE.
- 16. PROVIDE WALL CLEANOUTS WITH ACCESS PANELS AT ALL STORM AND SANITARY/WASTE PIPING WITHIN PIPE CHASES OR WALLS.
- 17. HANDICAPPED ACCESSIBLE FIXTURES SHALL BE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES AND THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD. WHERE THE TWO STANDARDS DIFFER, THE MORE STRINGENT SHALL APPLY
- 18. ALL INTERIOR BURIED DOMESTIC WATER PIPING, NON-POTABLE WATER PIPING, TEMPERED WATER PIPING OR AIR PIPING SHALL BE SOFT ROLLED "K" COPPER COIL AND BE PROTECTED WITH A HIGH DENSITY RUBBER INSULATION. FITTINGS SHALL NOT BE PERMITTED IN OR UNDER SLAB. PROVIDE SLAB PENETRATIONS WITH SLEEVE AND
- 19. RISER DIAGRAMS ARE SHOWN TO INDICATE PIPE SIZES ONLY AND ARE NOT INTENDED TO SHOW EVERY OFFSET OR FITTING. FOR FIXTURE CONNECTION SIZES, REFER TO PLUMBING FIXTURE SCHEDULE ON PLUMBING DRAWING POIL. IF ACCESS PARELS ARE REQUIRED; LOCATE BENEATH COUNTER TOPS IN AN ACCESSIBLE LOCATION WHICH SHALL NOT INTERFERE WITH OTHER PIPING. WHERE CONFLICTS IN PIPE SIZES OCCUR BETWEEN FLOOR PLANS AND RISER DIAGRAMS, THE LARGER PIPE SIZE SHALL PREVAIL.

## PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	ETR	LIGHT LINE INDICATES EXISTING PIPING TO REMAIN
//////////////////////////////////////	RE	REMOVE EXISTING PIPING
•	CTE	CONNECT TO EXISTING
	C&C	CUT & CAP
		BELOW FLOOR PIPING (INDICATED AS DOUBLE LINEWORK)
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RECIRCULATION
	S or W	SOIL OR WASTE
	٧	VENT
	RW	RAIN WATER CONDUCTOR
OFD	OFD	STORM WATER OVER FLOW DRAINAGE
	G	NATURAL GAS
PD	PD	PUMPED DISCHARGE
-	HTI / TMC	HEAT TRACE AND INSULATE
<del></del>	CONT	CONTINUATION
	UP	PIPE RISE OR UP
э	DP OR DN	PIPE DROP OR DOWN
<del></del>	TEE	PIPE TEE
→ ->>-	SOV	SHUT-OFF VALVE
₹		GAS COCK
A		SOLENOID VALVE
+0	VIV	VALVE IN VERTICAL
—————	CV	CHECK VALVE
	BVA	BALANCING VALVE ASSEMBLY
<del></del>	W & T	WASTE & TRAP
<del></del>	OED	OPEN END DRAIN WITH BACKWATER VALVE
	CO	CLEANOUT PLUG
	FCO	FLUSH FLOOR CLEANOUT
	GCO	GRADE CLEANOUT
<del></del> эі	DCO	DANDY CLEANOUT
		CAPPED PIPE
		ARROW INDICATES DIRECTION OF FLOW
.01		ARROW INDICATES DIRECTION OF SLOPE
——————		UNION
	WTS	WATERTIGHT SLEEVE
	TP	TRAP PRIMER
-+	НВ	HOSE BIBB
	WH	WALL HYDRANT
		DIAGRAM NO. & DWG. NO. REFERENCE
P-1	FD "1"	
9	FD "A"	FLOOR DRAIN & TYPE
0	RD "A"	ROOF DRAIN & TYPE
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
[WM]	WM	WATER METER
GM	GM	GAS METER
(0)	co	CARBON MONOXIDE DETECTOR
•	T	THERMOMETER
φ	PG	PRESSURE GAUGE WITH PETCOCK
<b>¾</b>	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
100		
Р	SA	SHOCK ABSORBER  VACUUM RELIEF VALVE

## PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	WH-1	WATER HEATER & NUMBER
	SS	SOIL STACK
	VS	VENT STACK
	VTR	VENT THRU ROOF
	INV	INVERT
	TMV	THERMOSTATIC MIXING VALVE
	TW	TEMPERED WATER (70°F)
	TYP	TYPICAL
	NTS	NOT TO SCALE
	AFF	ABOVE FINISHED FLOOR
	LPC	LIMIT OF PLUMBING CONTRACT
	GC	GENERAL CONTRACTOR
	FPC	FIRE PROTECTION CONTRACTOR
	PC	PLUMBING CONTRACTOR
	EC	ELECTRICAL CONTRACTOR
	HVAC	HVAC CONTRACTOR
	LPC	LIMIT OF PLUMBING CONTRACT
	WC	WATER CLOSET
	UR	URINAL
	LAV	LAVATORY
	MR	MOP RECEPTOR
	SHR	SHOWER
	DF	DRINKING FOUNTAIN
	SK	SINK
	F & I	FURNISH & INSTALL
	S=.01	SLOPE = 1/8" PER FOOT
	S=.02	SLOPE = 1/4" PER FOOT
	NO	NORMALLY OPEN
	NC	NORMALLY CLOSED
	F.F.E.	FINISHED FLOOR ELEVATION

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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Legend and General Notes

NO. REVISIONS D

DRAWN BY: RLB

DESIGNED BY: JL

CHECKED BY: JL

ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

SCALE

NONE

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P-0.1

ELECTRIC WATER HEATER SCHEDULE										
DESIGNATION	MANUFACTURER	MODEL	LOCATION	OCATION GALS.    RECOVERY   KW VOLTS   PHASE   HZ,   REVARKS   REV						
5DWH-1	5DWH-1 A.O. SMITH DRE-120-15 CHEMICAL BLDG 120 61 100 15 480 3 60 -									

MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

	CIRCULATING PUMP SCHEDULE								
DESIGNATION LOCATION WATER HEATER MODEL CAPACITY HEAD TYPE RPM HP VOLTS & REMARKS							REMARKS		
5.DWP-1 MECH ROOM 50WH-1 TACO 006B 2 6 INLINE 3250 1/40 115 1 SERVES 120' HW SYSTEM									

MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

SHOCK ABSORBER SCHEDULE							
PDI RATING SYMBOL	A	В	С	D	ε		
PRECISION PLUMBING PRODUCTS	SC-500	SC-750	SC-1000	SC-1250	SC-1500		
WATTS REGULATOR COMPANY	0750030	0750053	0750060	0750070	0750090		
WADE	5-P	10-P	20~P	50-P	75-P		

MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

	DRAIN SCHEDULE									
DESIGNATION	TYPE	MANUFACTURER	MODEL	OUTLET	STRAINER	REMARKS				
FD'A"	FD	J.R. SMITH	2005Y-A-P050	NO HUB	NICK-BRZ	FINISHED AREAS				
ED,B,	FD	J.R. SMITH	9700C-CF8M-NB	CAULK	NICK-BRZ	CLASSIFIED OR HAZARDOUS AREAS				
FD'C'	FD'C' FD J.R. SMITH 2005Y-B-P050 CAULK NICK-BRZ SHOWERS									
RD'A'	RD	ZURN	Z121	NO HUB	CAST IRON DOME	REPLACE DRAIN TO ACCOMMODATE NEW ROOF				

\* ALL FLOOR DRAINS SHALL BE PROVIDED WITH AUTOMATIC TRAP PRIMERS. REFER TO DETAIL FOR PIPING ARRANGEMENT.

MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE. STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

	PLUMBING FIXTURE SCHEDULE								
DESIGNATION	FIXTURE DESCRIPTION	WI	CO HW1	NNECTION S	SAN	V	NPW1	NPHW1	REMARKS
₩C-1	WATER CLOSET	1-	-	-	4"	2*		-	WALL HUNG - CARRIER SUPPORTED
UR-1	URINAL	3/4"	-	-	2*	2-	-	-	WALL HUNG - CARRIER SUPPORTED
LAV-1	LAVATORY	1/2"	1/2*	-	2"	2*	-	-	WALL HUNG - CARRIER SUPPORTED
DF-1	DRINKING FOUNTAIN	1/2"	-	-	1 1/2"	1 1/2"	-	-	WALL HUNG WITH BOTTLE FILLER - PROVIDE WITH 2 SPARE FILTERS FOR STOCK
SS-1	SERVICE SINK	1/2	1/2*	-	3*	2*	-	-	PROVIDE WITH VACUUM BREAKER ON FAUCET
SS-2	SERVICE SINK	1/2*	1/2*	-	3*	2*	-	-	PROVIDE WITH FOOT PEDALS AND VACUUM BREAKER ON FAUCET
KS-1	KITCHEN SINK	1/2	1/2*	-	-	-	-	-	-
SH-1	SHOWER	1/2	1/2*	-	2*	2*	-	-	-
SH-1A	SHOWER	1/2	1/2	-	2*	2*	-	-	2°FD WITH SQUARE TOP
HB-1	HOSE BIBB	1/2*	-	-	-	-	-	-	-
HB2	HOSE BIBB	1"	-	-	-	-	-	-	-
HB-3	HOSE BIBB	3/4"	-	-	-	-	-	-	DUAL TEMPERATURE — HOT AND COLD WALL FAUCET
EWU-1	EMERGENCY SHOWER/EYEWASH	-	-	1 1/4"	-	-	-	-	INTERIOR MOUNTED, CORROSION RESISTANT, EMERGENCY SHOWER/EYEWASH (COMBINATION UNIT) WITH HORN, STROBE AND FLOW SWITCH — DOOR CONTROL ROOM

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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Schedules

DRAWN BY: RLB DESIGNED BY:

CHECKED BY: RHB ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

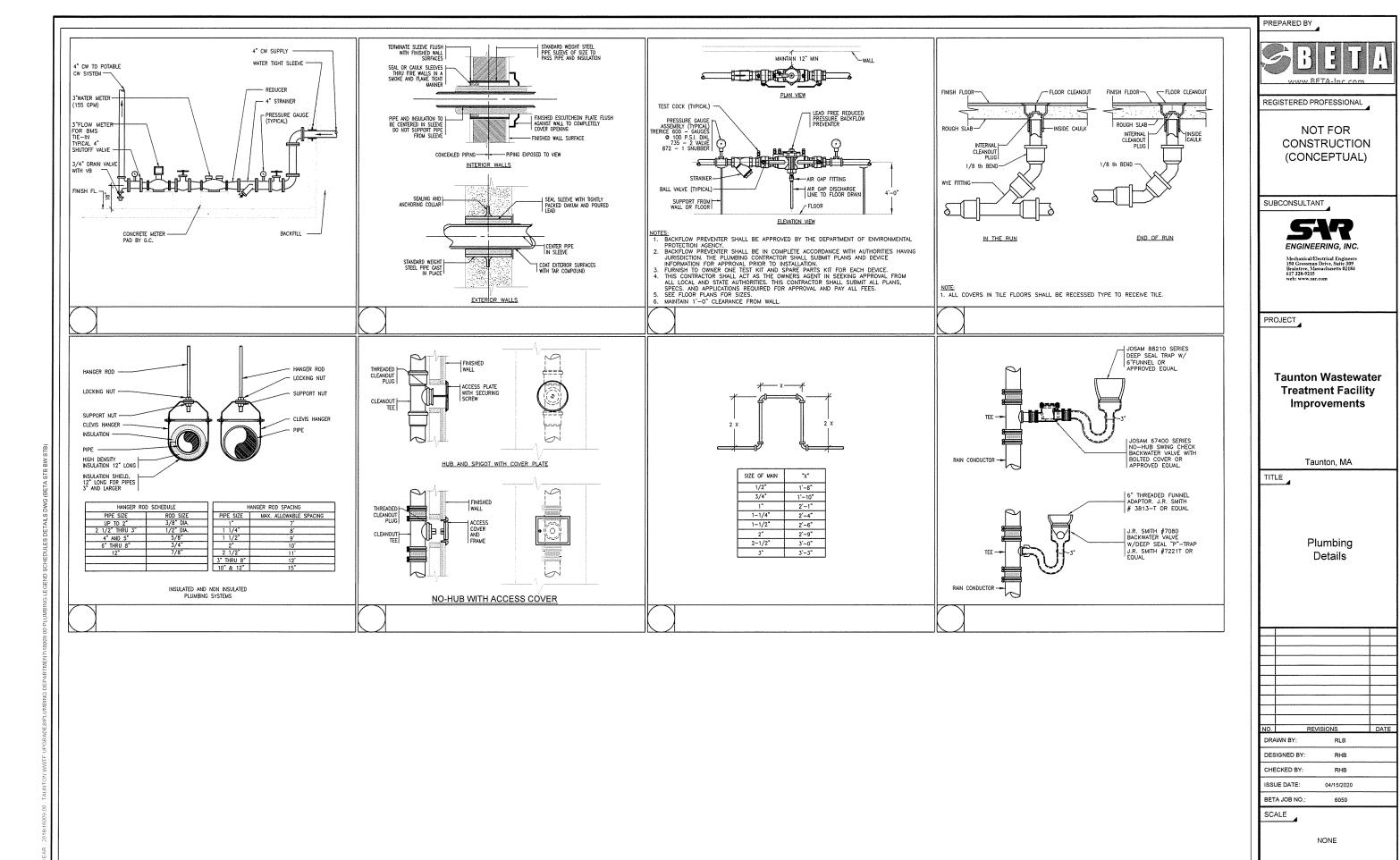
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NONE

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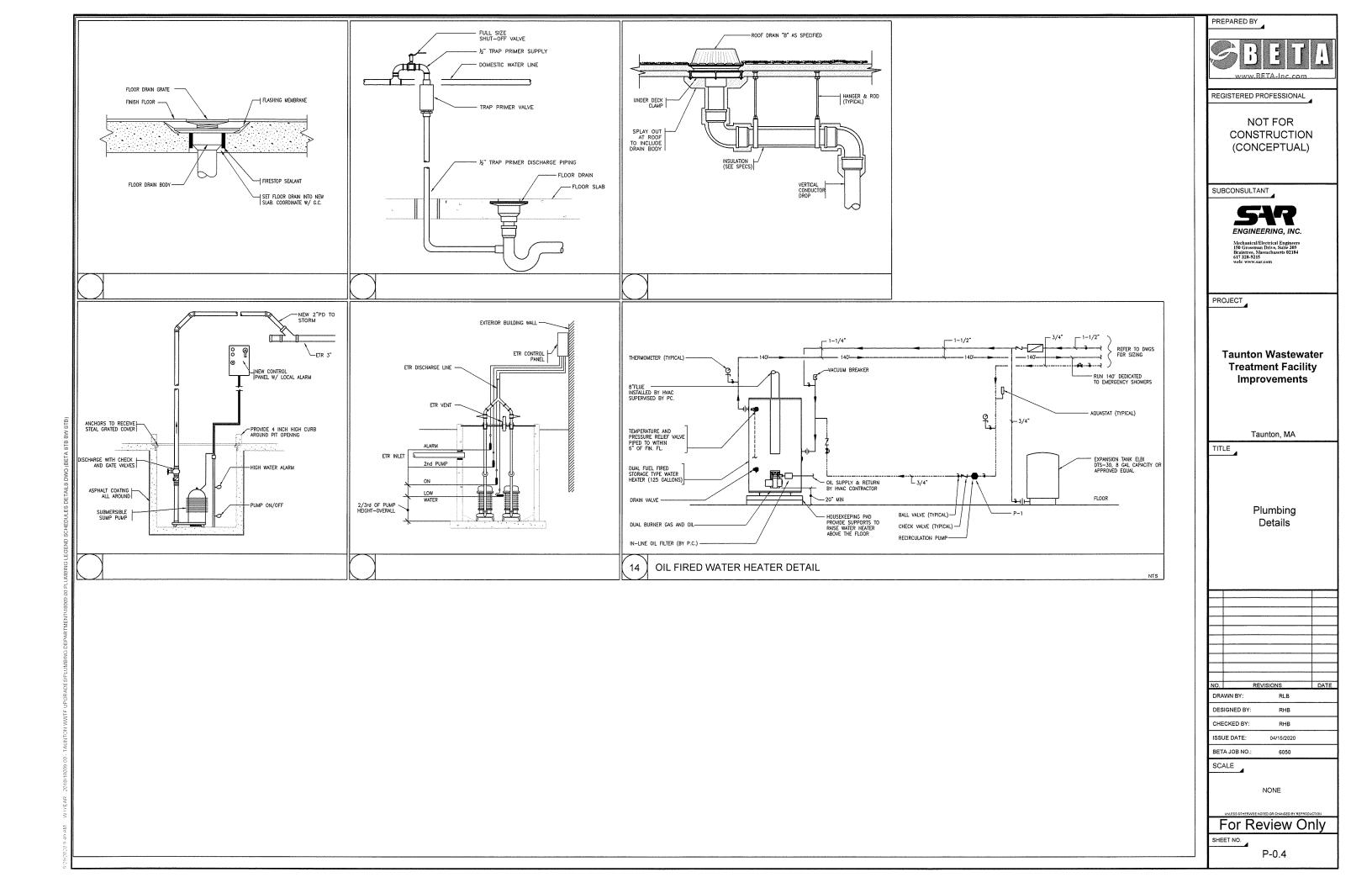
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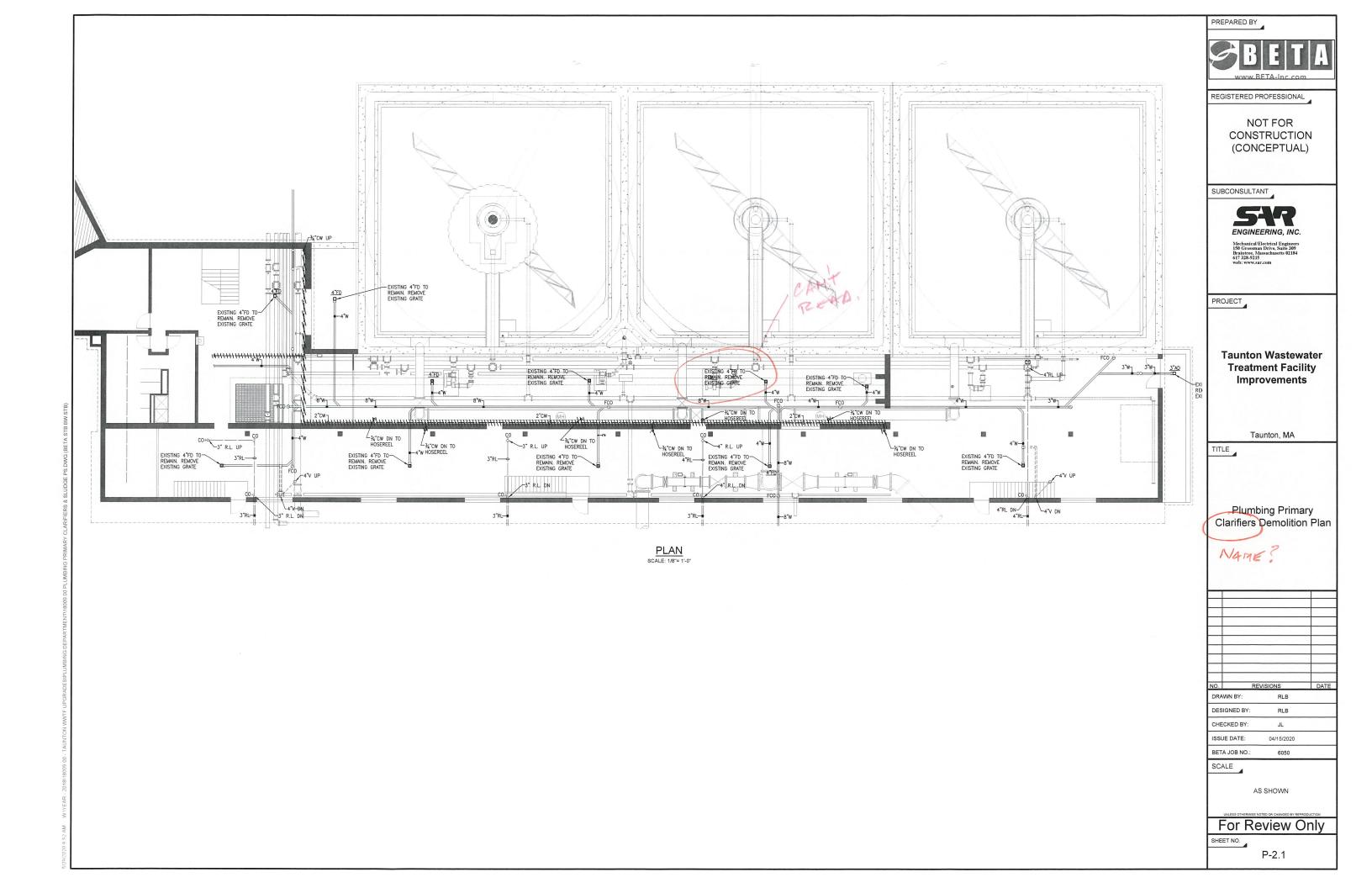


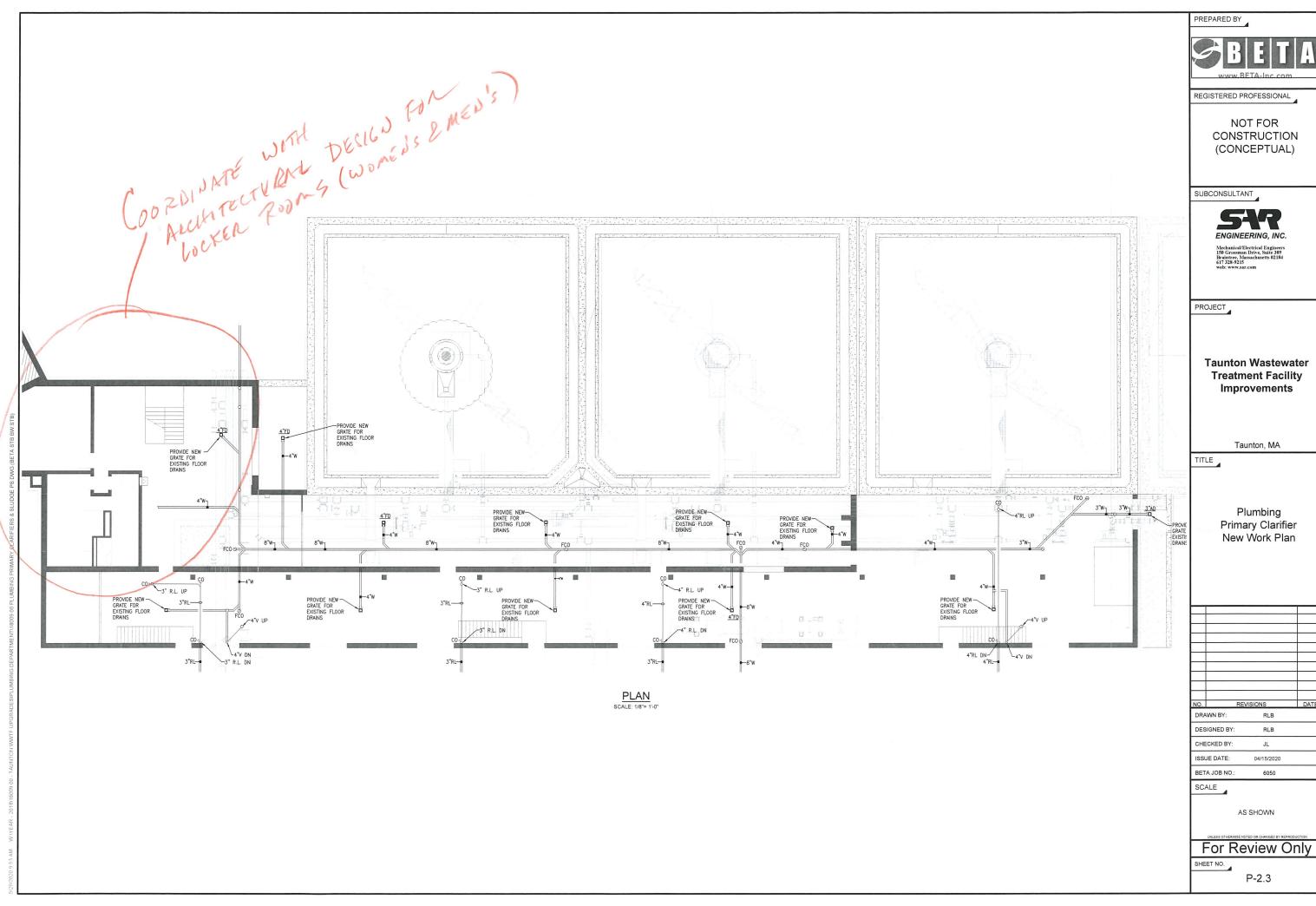
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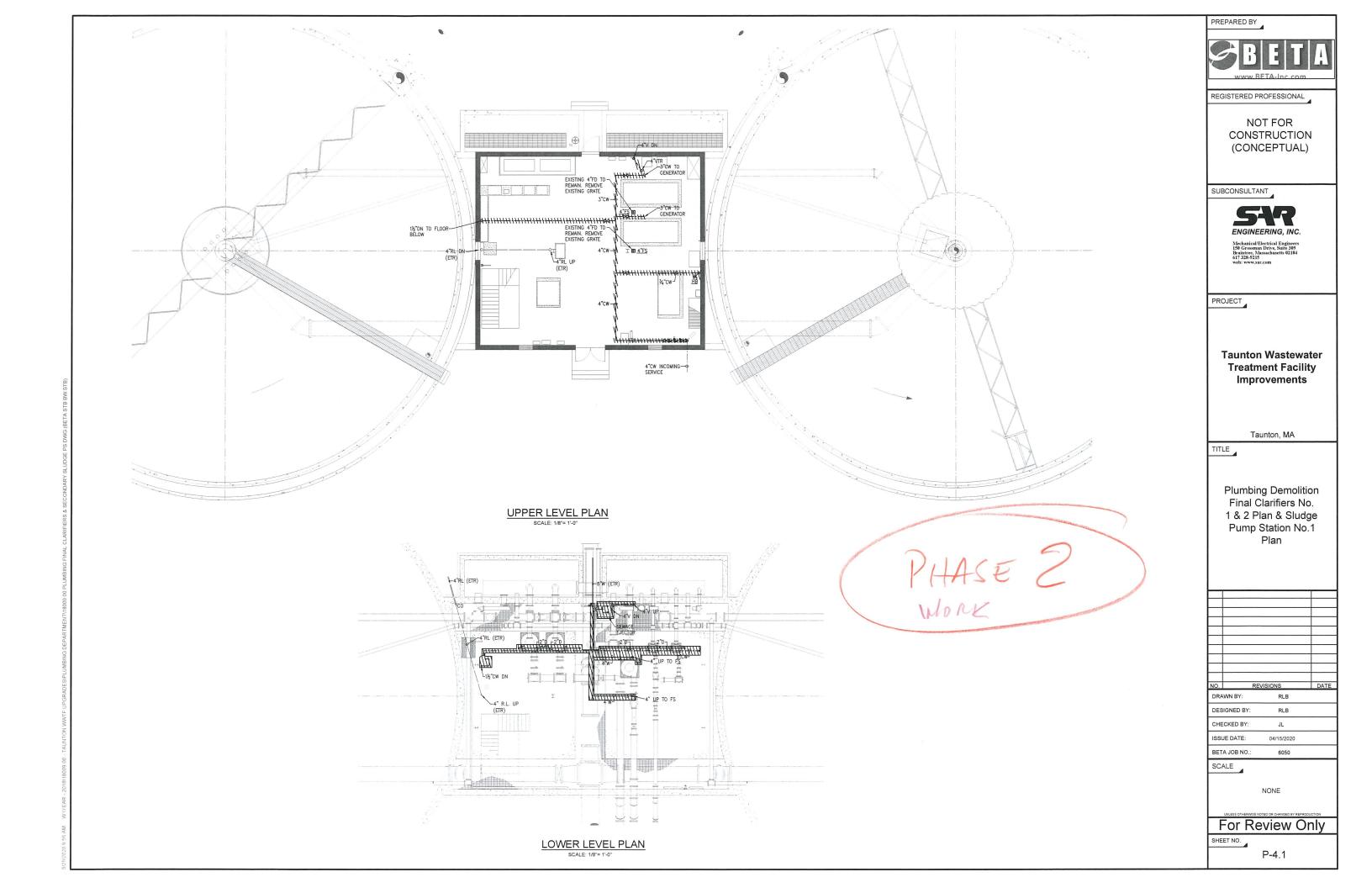
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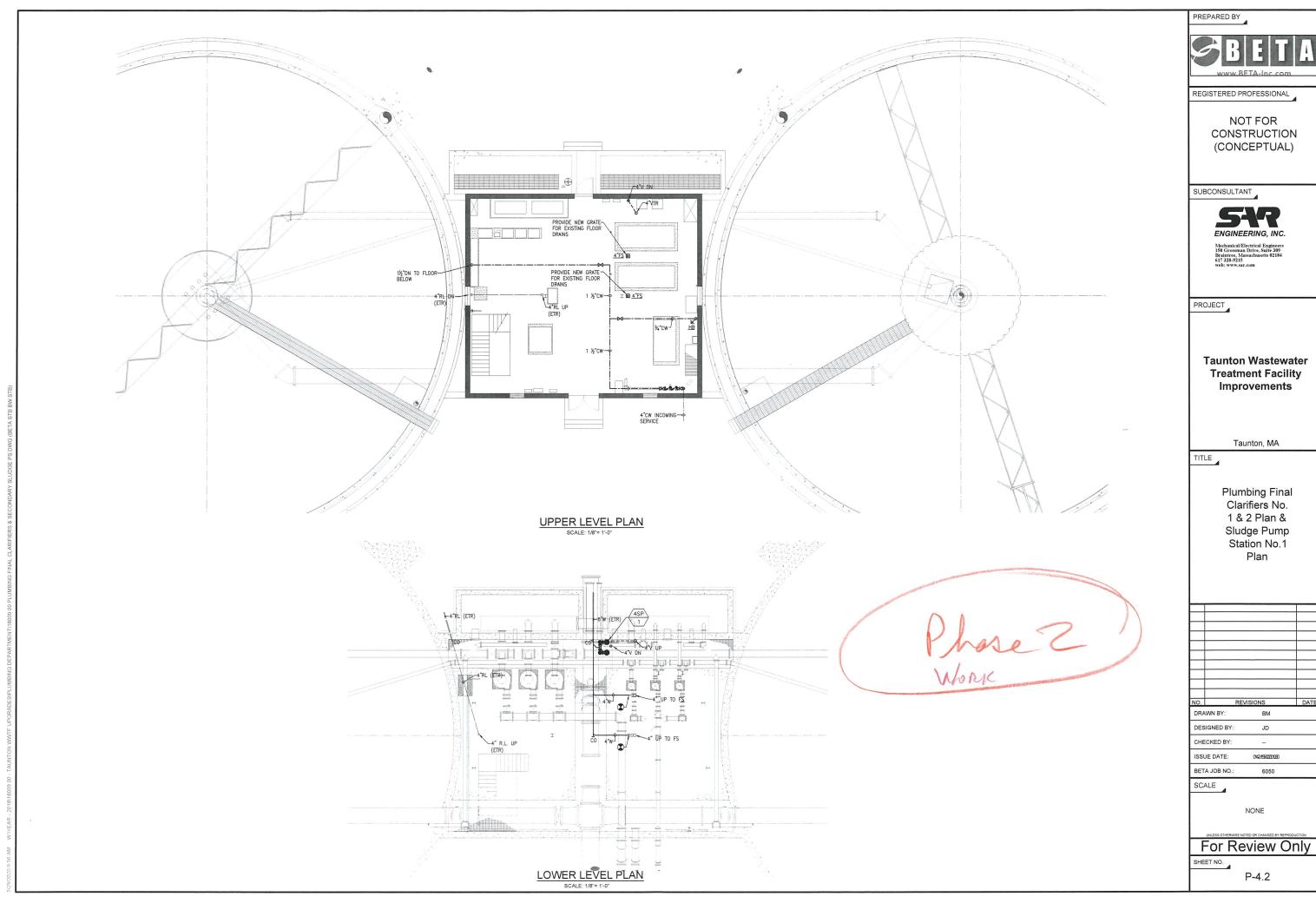
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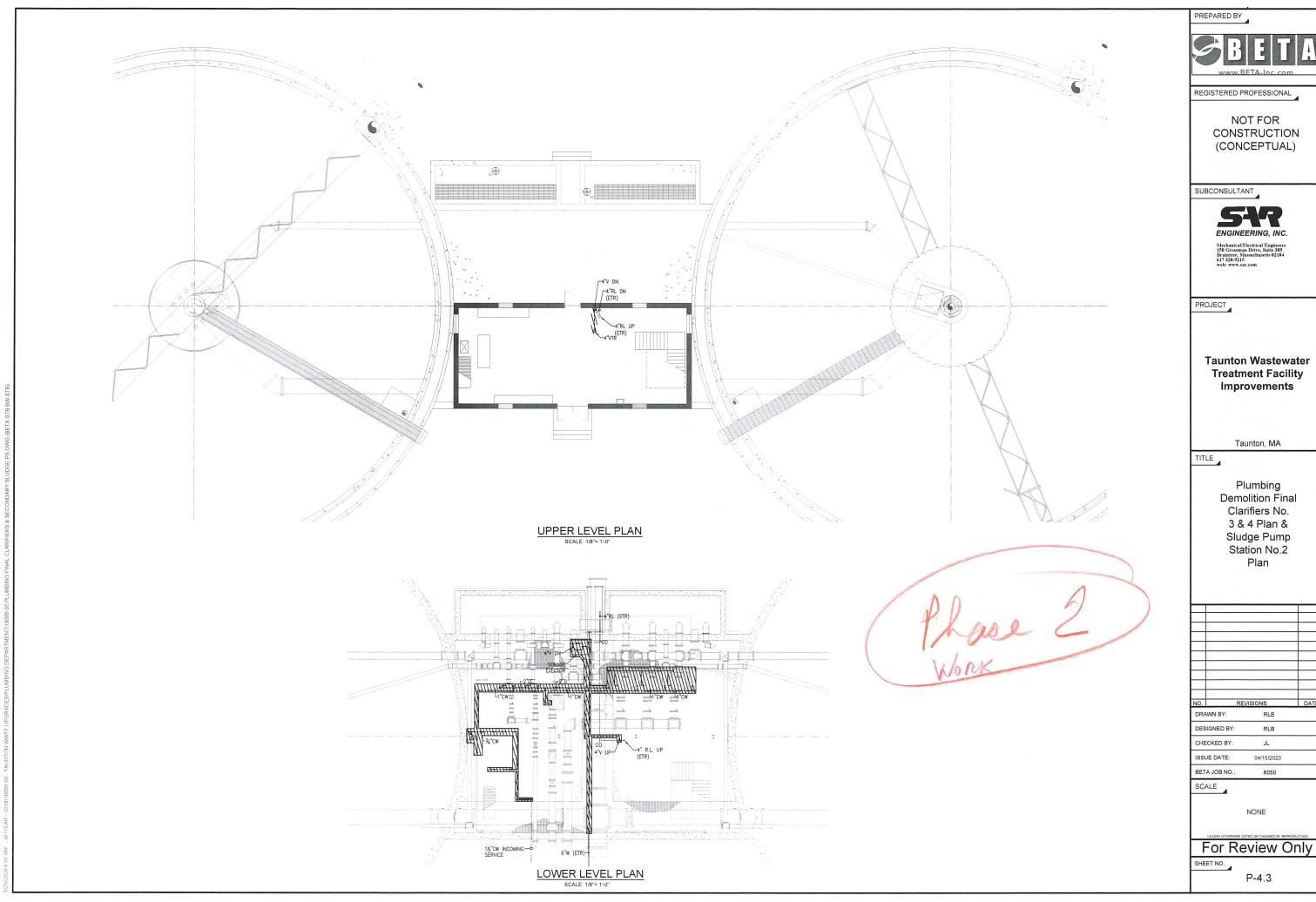




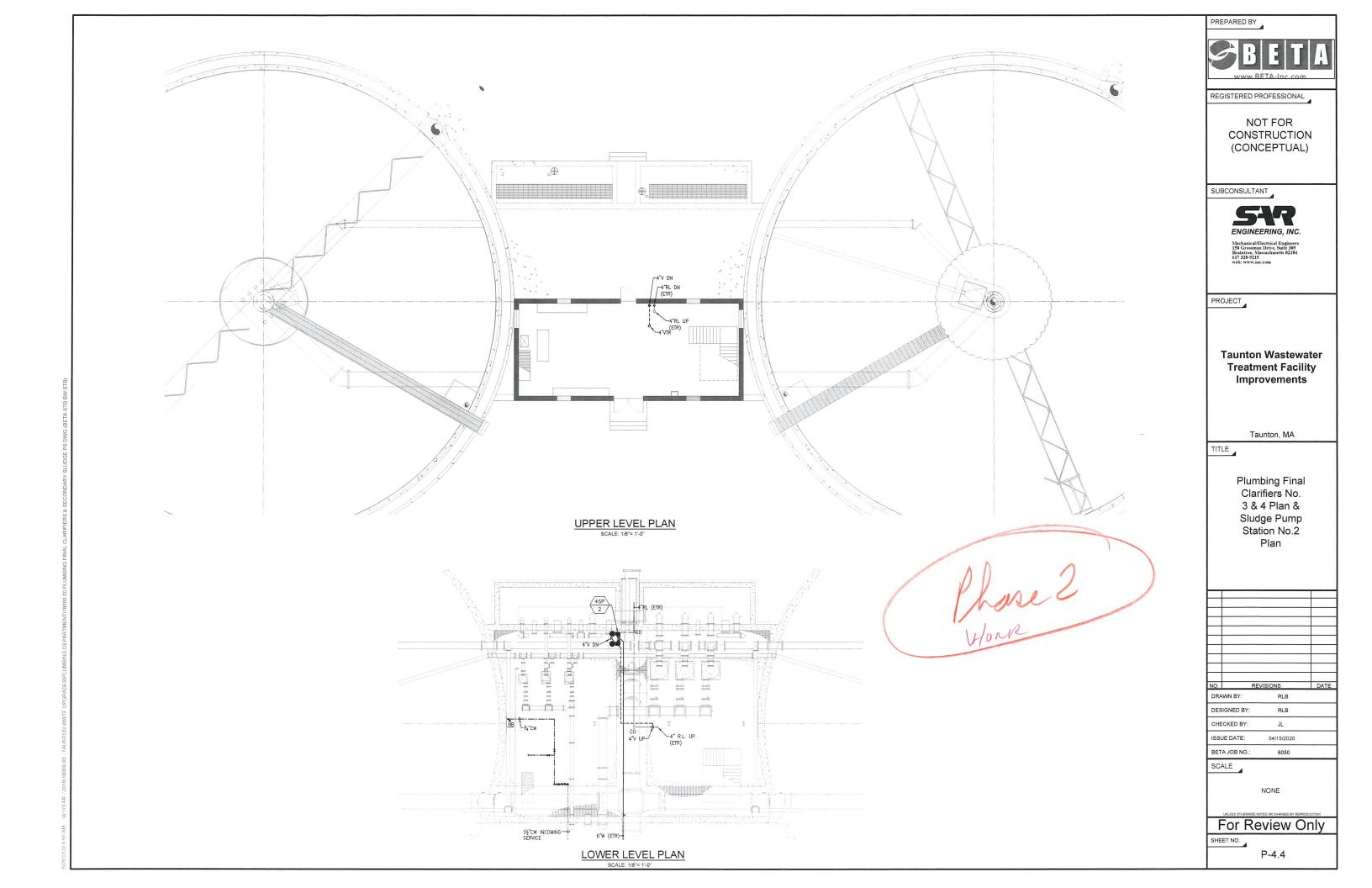


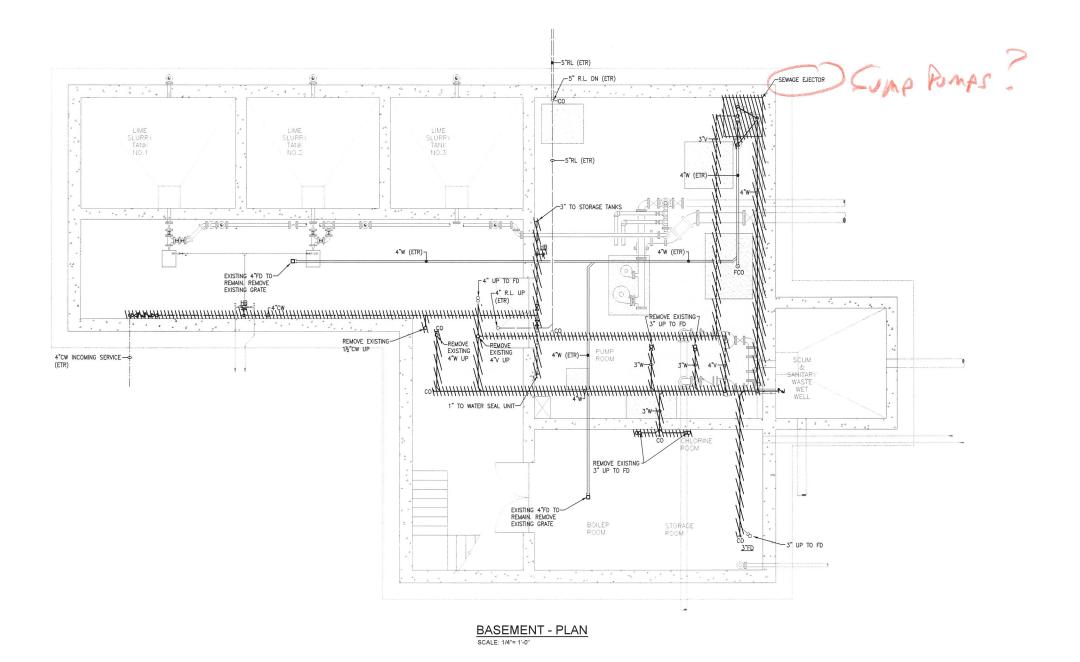


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DRA	AWN BY:	RLB	





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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Demolition Chemical Handling Building Basement Plan

NO.		REVISIO	NS	DATE
DRA	WN BY:		RLB	
DES	IGNED BY:		RLB	

BETA JOB NO.: SCALE

CHECKED BY: ISSUE DATE:

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04/15/2020

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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Demolition Chemical Handling Building First Floor Plan

NO.		REVISION	1S	DATE
DRA	WN BY:		RLB	
DES	IGNED BY:		RLB	

CHECKED BY: JL
ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

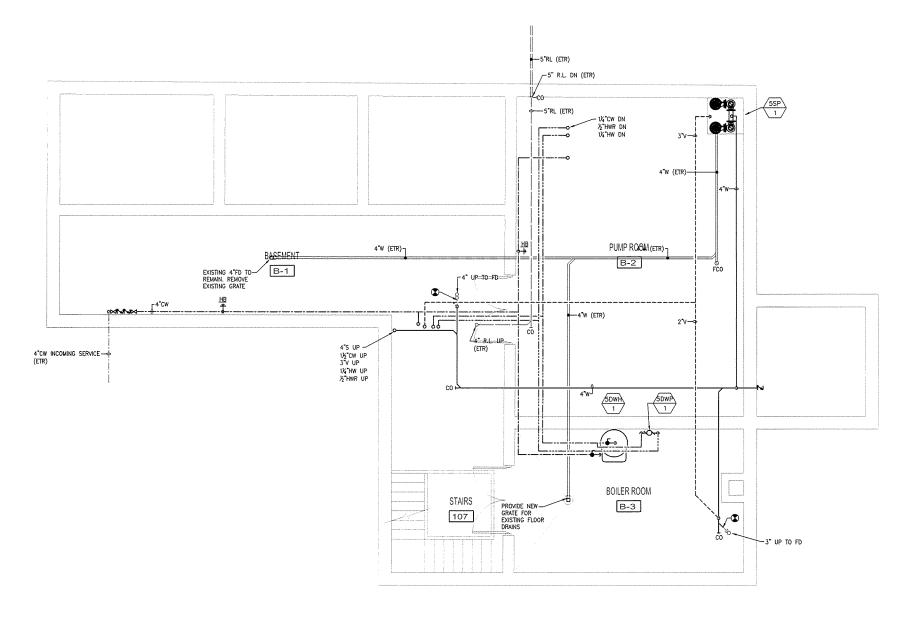
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BASEMENT - PLAN SCALE: 1/4"= 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Chemical Handling Building Basement Plan

NO.	RE	EVISIONS	DATE
DRA	WN BY:	RLB	
DES	IGNED BY:	RLB	
CHE	CKED BY:	JL	
ISSL	JE DATE:	04/15/2020	

BETA JOB NO.:

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6050

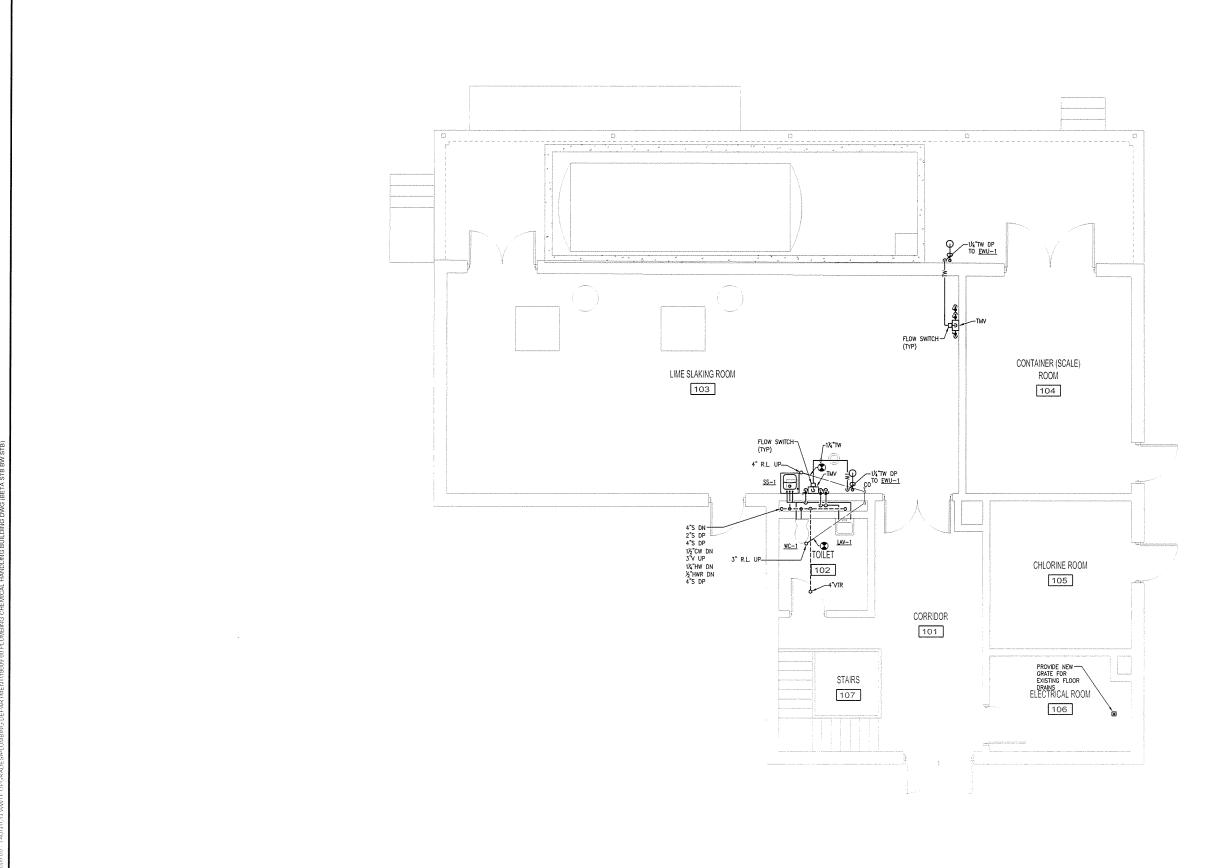
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FIRST FLOOR - PLAN
SCALE: 1/4"= 1'-0"

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SUBCONSULTANT



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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Chemical Handling Building First Floor Plan

١٥.		REVISIONS	3	DAT
DRA	WN BY:	1	RLB	
DES	IGNED BY:	1	RLB	
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ISSUE DATE: 04/15/2020
BETA JOB NO.: 6050

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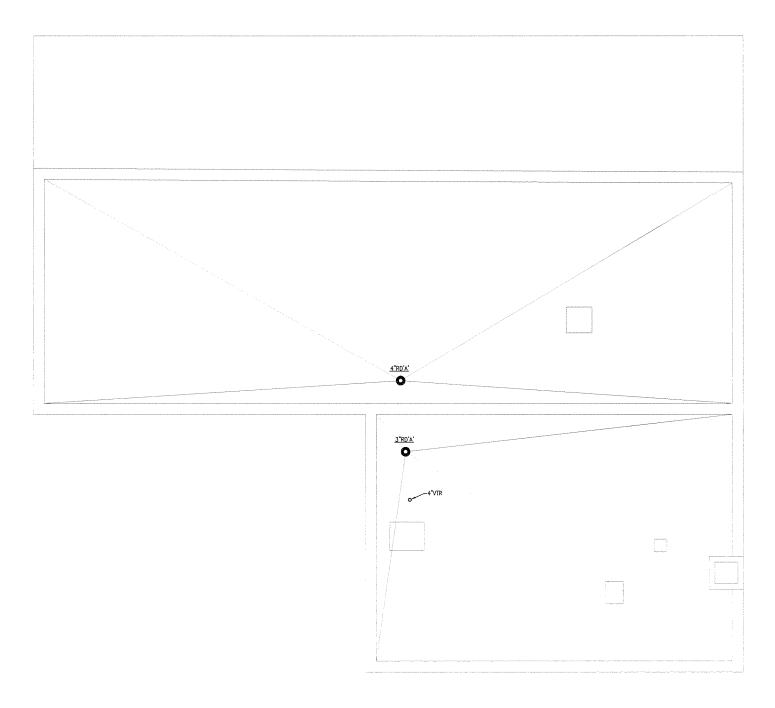
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5.4



ROOF - PLAN SCALE: 1/4"= 1'-0" PREPARED BY



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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Chemical Handling Building First Floor Plan

10.		REVISIONS		DAT
DRA	WN BY:	RLE	3	

 DRAWN BY:
 RLB

 DESIGNED BY:
 RLB

 CHECKED BY:
 JL

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BETA JOB NO.: 6050

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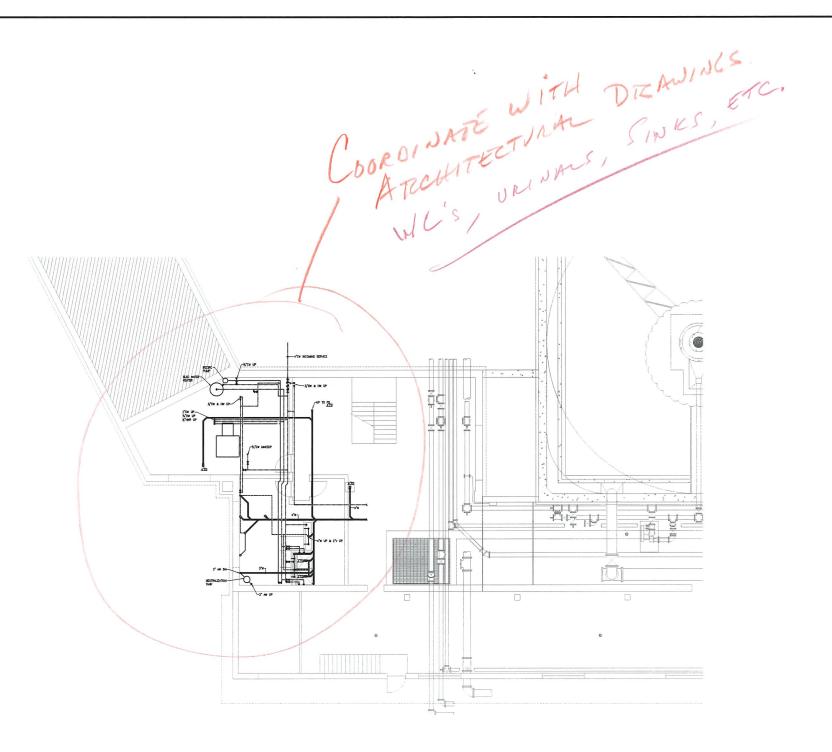
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BASEMENT FLOOR - PLAN SCALE: 1/8"= 1'-0"

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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Demolition Control & Admin. **Building Basement** Plan

DRAWN BY: RLB

DESIGNED BY: RLB CHECKED BY: JL ISSUE DATE: 04/15/2020

BETA JOB NO.:

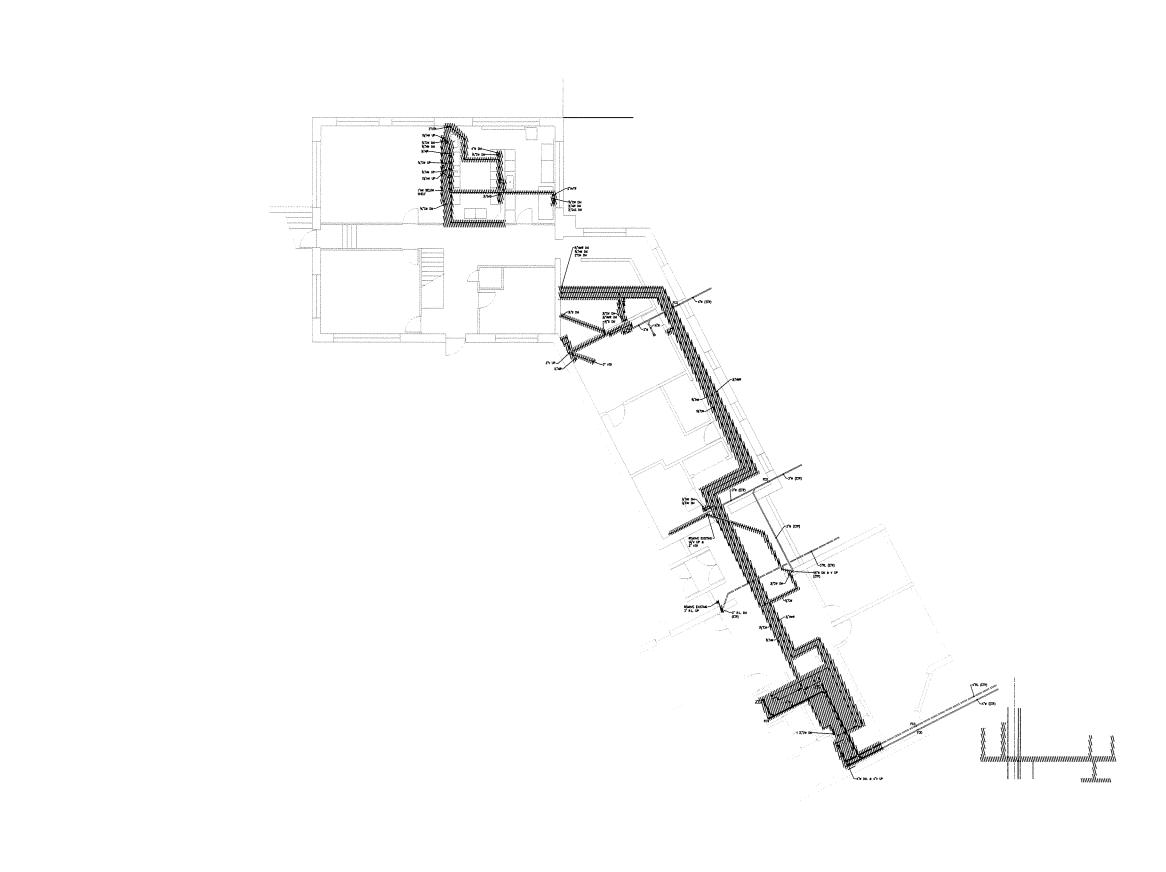
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FIRST FLOOR - PLAN
SCALE: 1/8"= 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Demolition Control & Admin. Building First Floor Plan

NO.	R	REVISIONS	DATE
DRA	WN BY:	RLB	
DES	IGNED BY:	RLB	
CHE	CKED BY:	JL	
ISSI	JE DATE:	04/15/2020	
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SCALE

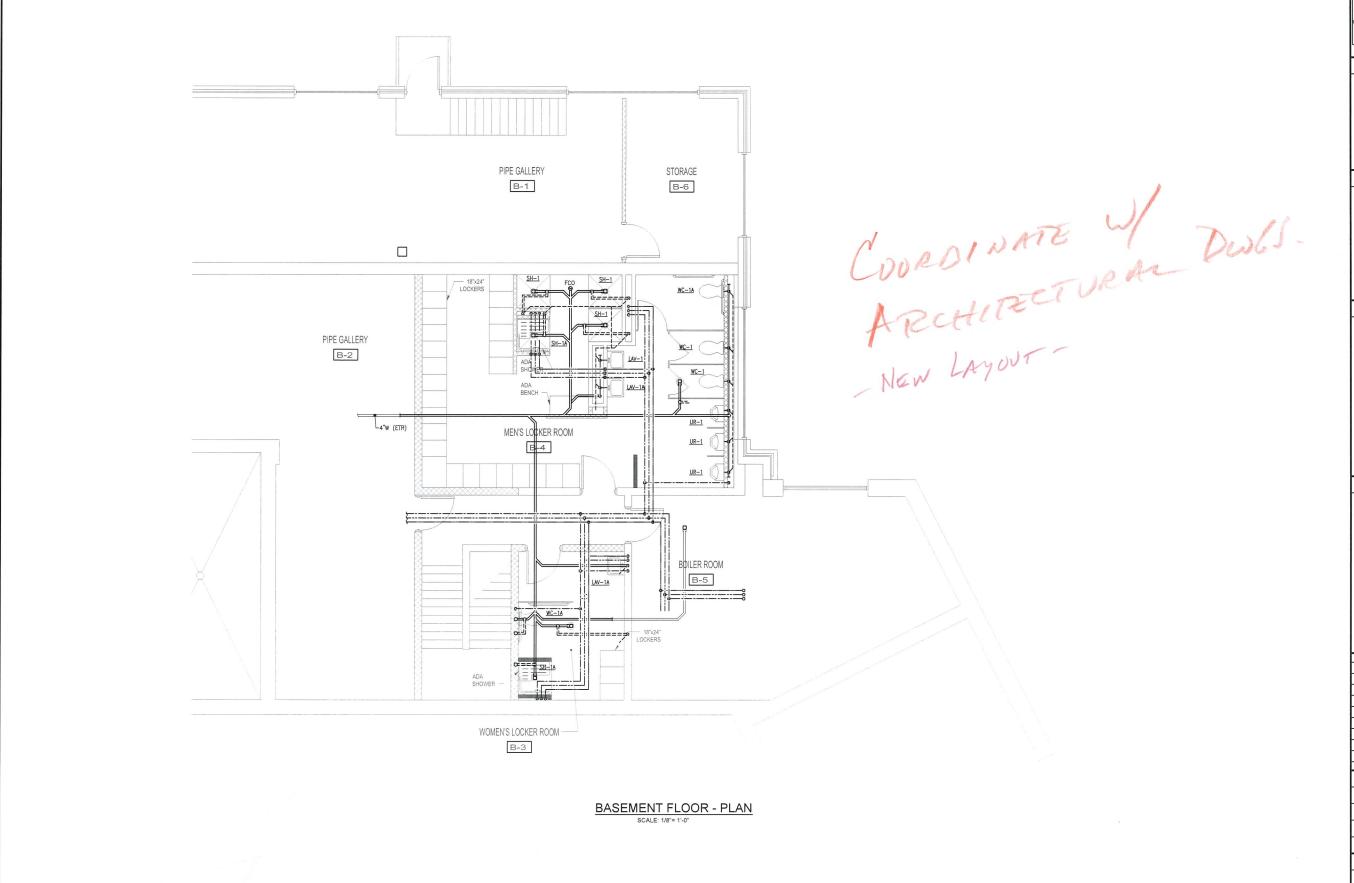
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PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Plumbing Control & Admin. Building Basement Plan

NO. REVISIONS DATE
DRAWN BY: RLB
DESIGNED BY: RLB

SCALE

ISSUE DATE:

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AS SHOWN

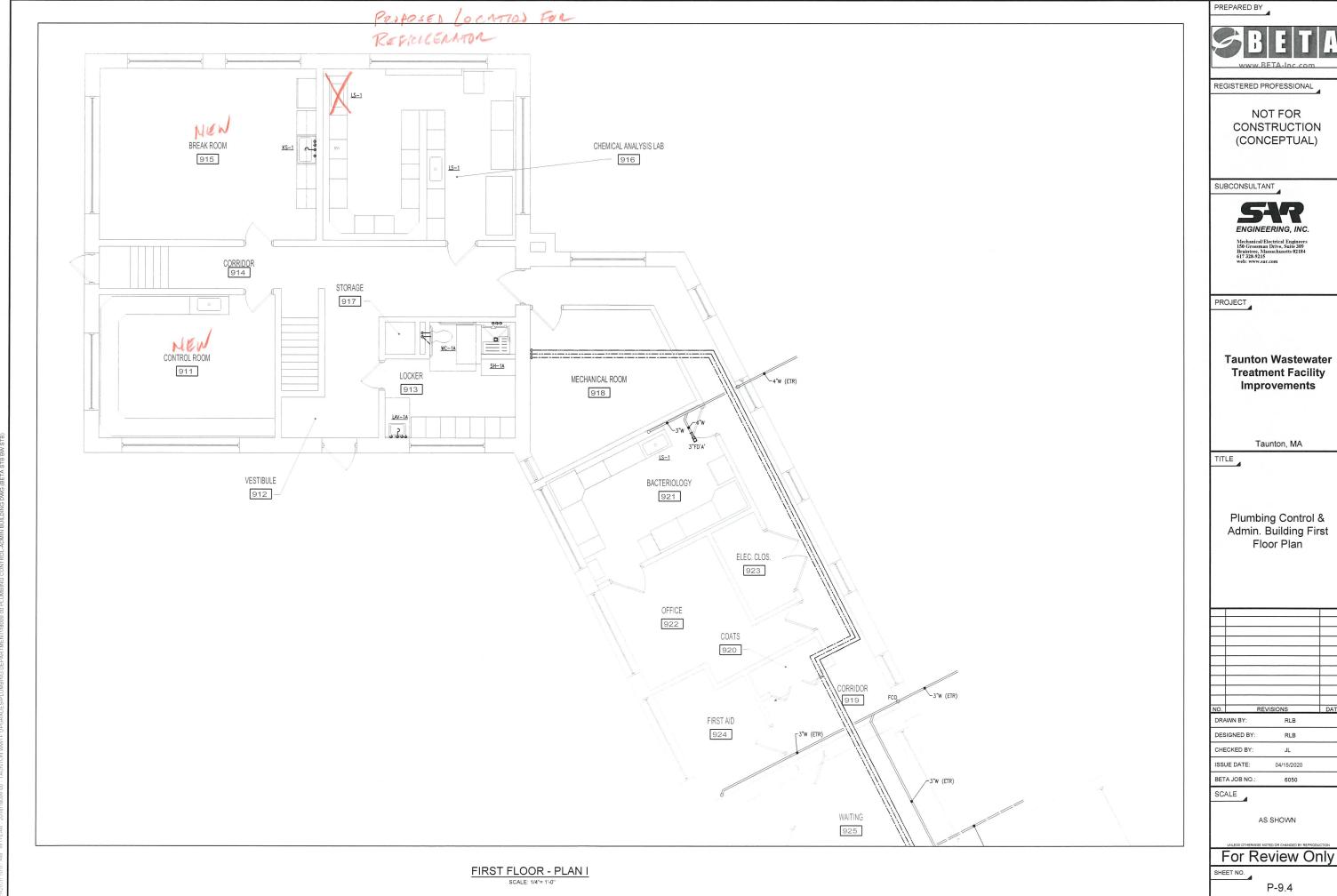
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P-9.3





**Taunton Wastewater Treatment Facility** 

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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Control & Admin. Building First Floor Plan

NO.	RE	VISIONS	DAT
DRA	AWN BY:	RLB	
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SCALE

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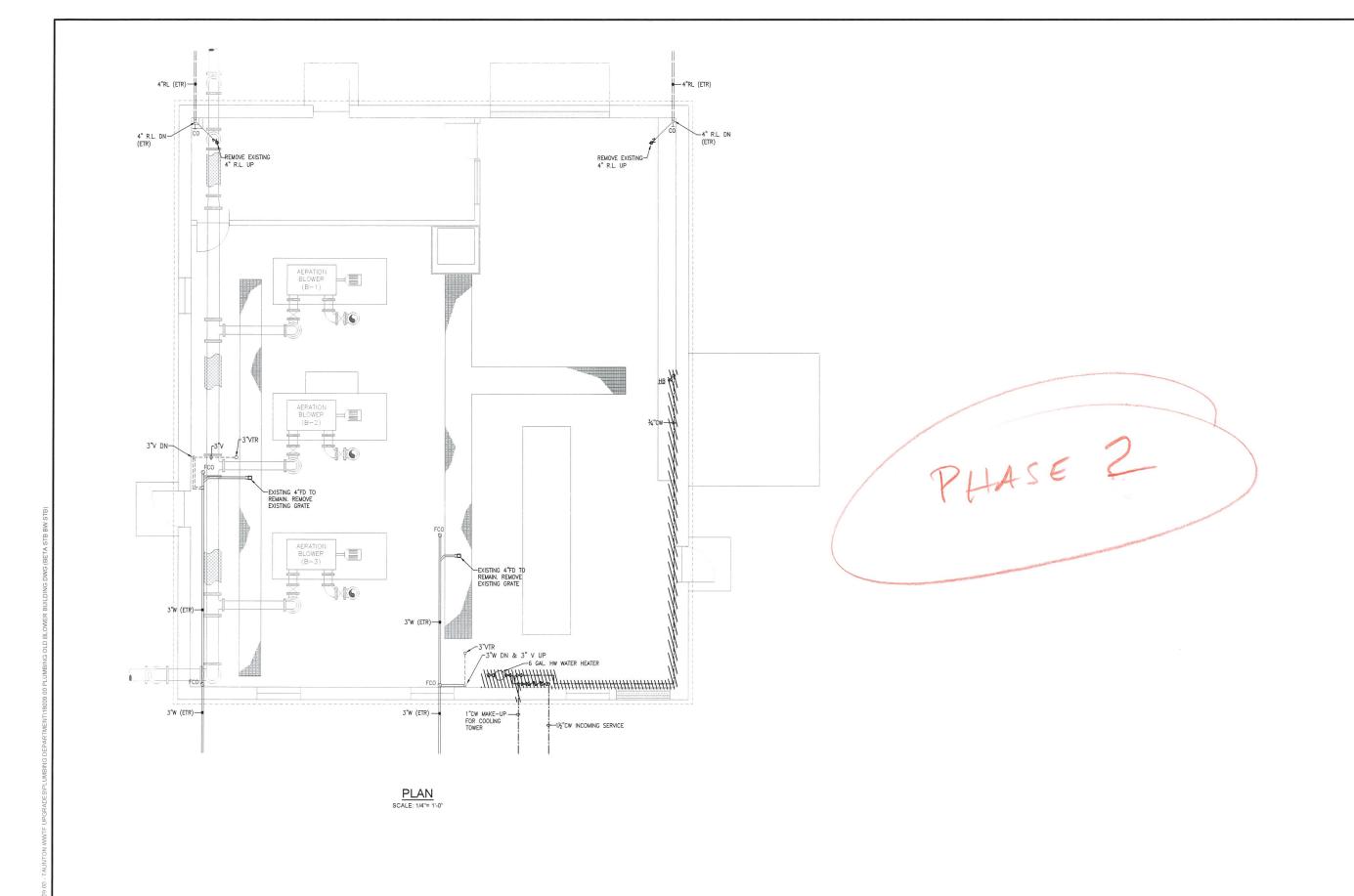
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SHEET NO.

P-9.5

FIRST FLOOR - PLAN I SCALE: 1/4"= 1'-0"



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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Demolition Old Blower Building Plan

10.	RI	EVISIONS	DAT
DRA	AWN BY:	RLB	
DES	SIGNED BY:	RLB	

CHECKED BY: ISSUE DATE: 04/15/2020 6050

BETA JOB NO.:

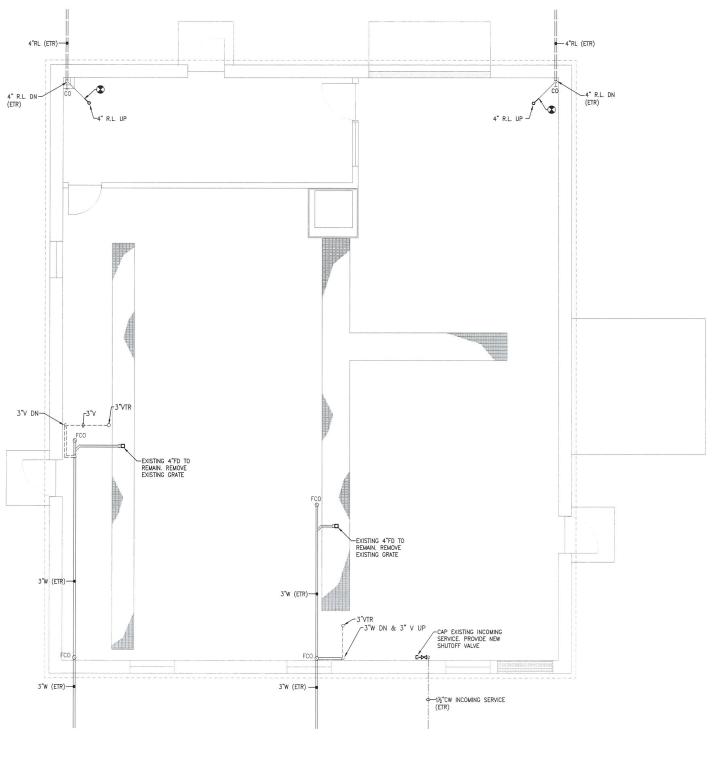
SCALE

AS SHOWN

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SHEET NO.

P-9.6



Phase 2

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

PREPARED BY



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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Plumbing Old Blower Building Plan

NO.	REVI	SIONS	DA
DRA	AWN BY:	RLB	
DES	SIGNED BY:	RLB	
CHE	ECKED BY:	JL	

BETA JOB NO. SCALE

ISSUE DATE:

AS SHOWN

04/15/2020

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SHEET NO.

P-9.7

4"RD'A" 4"RD'A" 0 0

Roof Replacement

Coof Charse I.

There should be P?

Here should be reconstant

Here should be correct.

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**Taunton Wastewater Treatment Facility Improvements** 

Taunton, MA

Plumbing Old Blower Building Roof Plan

NO.	REV.	ISIONS	DAT
DRA	AWN BY:	RLB	
DES	SIGNED BY:	RLB	
CHE	ECKED BY:	JL	

BETA JOB NO.:

ISSUE DATE:

SCALE

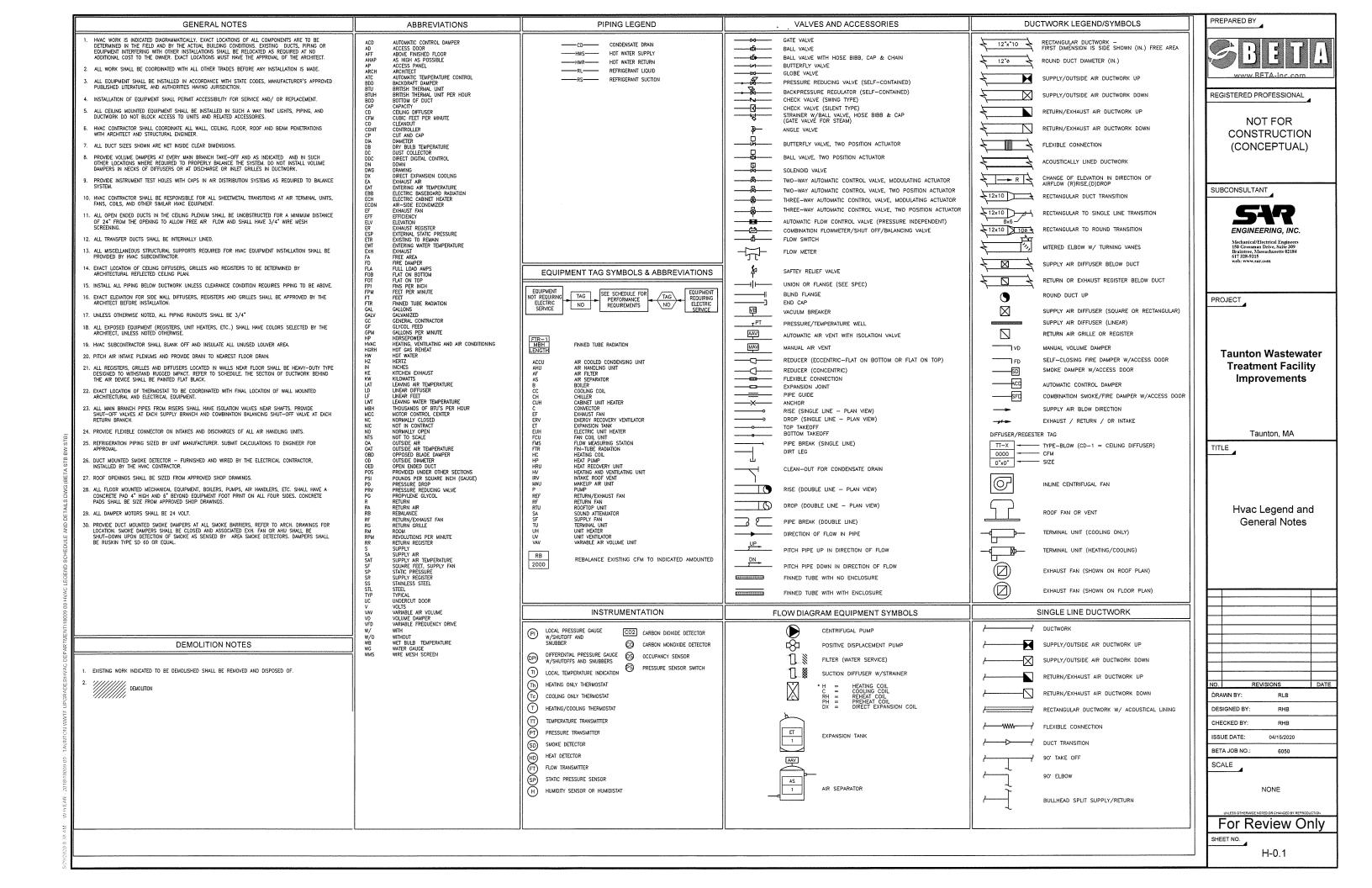
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04/15/2020

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P-9.8

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



EF	v	ENERGY RECOVERY UNIT SCHEDULE (PART 1)																																							
		SUPPLY AIR PERFORMANCE EXHAUST AIR NORMAL PERFORMANCE DX COOLING COIL															HOT WATER HEATING COIL ELECT						ECTRIC	RIC HEATER DATA				ELECTR	ICAL DA	TA											
TAG NO.	BUILDING	SUPPLY IN	MIN. OA IN CFM	ESP (IN WC)	TSP (IN WC)	FAN RPM	OPERATING POWER HP	MOTOR SIZE HP	EXH./RET. OUT CFM	E.S.P. IN (W.C.)	TOTAL SP IN (W.C.)	FAN RPM	OPERATING POWER HP	MOTOR SIZE HP	REFRIG TYPE	TOTAL MBH	SENSIBLE MBH	Rows	EAT (DB 'F)	EAT (WB 'F)	LAT (DB 'F)	LAT (WB 'F)	CAPACITY (MBH)	GPM	EAT (DB 'F)	LAT (DB 'F)	EWT (DB 'F)	LWT (DB 'F)	% GLYCOL	WPD (FT) (	APD IN WC)	KW	ENT. LVG	. AMPS	CONTROL	VF	PHASE	HZ MCA	моср	V PHA	SE HZ
2ERV-	1 PIPE GALLERY BUILDING	13,050	13,050	1.3	3.792	2227	(2) 7.13	(2) 7.5	13,050	1.3	3.218	2406	(2) 8.74	(2) 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	451.7	48.6	39.7	71.7	180	160	40% P.G.	10.7	0.06	N/A	N/A N/	A N/A	N/A	N/A	N/A I	N/A 48.2	2 60 4	180 3	60
2ERV-	PIPE GALLERY BUILDING	12,450	12,450	1.3	3.62	2151	(2) 6.43	(2) 7.5	12,450	1.3	3.095	2323	(2) 7.88	(2) 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	439.1	47.2	40.4	72.9	180	160	40% P.G.	10.2	0.057	N/A	N/A N/	A N/A	N/A	N/A	N/A I	N/A 48.2	2 60 4	180 3	60
4ERV-	FINAL CLARIFIER 1 & 2 PUMP STATION	9,560	9,560	1.3	2.926	2296	(2) 3.98	(2) 5	9,560	1.3	2.549	1931	(2) 4.549	(2) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	51.9 63.	5 -	SCR	480	3	60 28.8	35 4	180 3	60
4ERV-	FINAL CLARIFIER 3 & 4 PUMP STATION	7,500	7,500	1.3	3.428	1816	(1) 6.78	(1) 7.5	7,500	1.3	3.039	2013	(1) 9.12	(1) 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	47.7 62.	4 -	SCR	480	3	60 26.0	35 4	180 3	60
5ERV-	CHEMICAL HANDLING BUILDING	2,825	950	1.0	2.452	1662	(1) 1.76	(1) 3	950	1.0	1.606	1699	(1) 0.53	(1) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	67.7 108	5 -	SCR	480	3	60 12.	1 15 4	180 3	60
9ERV-	ADMINISTRATION BUILDING	3,200	3,200	1.5	3.408	1935	(1) 2.79	(1) 3	3,200	1.5	2.809	3297	(1) 3.41	(1) 5	R-410a	192.9	114.4	6	80.9	68.5	48.4	48.3	168.5	18.1	45.9	94.5	180	160	40% P.G.	1.3	0.133	N/A	N/A N/A	A N/A	N/A	N/A	N/A I	N/A 12.4	15	480 3	3 60
9ERV-	OLD BLOWER BUILDING	3,600	500	1.0	2.734	1876	(1) 2.48	(1) 3	3,600	1.0	1.441	1494	(1) 0.33	(1) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	25	70.8 92.	7 –	SCR	480	3	60 12.	1 15 4	180 3	60
																																				+					
																															1										

ERV	$\rightarrow$												ΕN	ERC	Y R	ECO	VEF	Υl	JNI	TS	СН	EDU	JLE	(PAF	RT 2)							
TAG	w	ENER INTER (	GY REC		SU	MMER DE					so	UND I	SUPF	LY FAN	AVE BAN	D				S	OUND	XHAUST POWER	NORMA BY OC	L FAN TAVE BA	ND		WEIGHT	SUPPLY	OUTDOOR	EXHAUST	MANUFACTURER	REMARKS
NO.		DOOR WB 'F	-	OOR RH%	-	WB F		OOR RH%	63 Hz	125 25 Hz H:	50 500 z Hz	1000 Hz	2000 40 Hz H	000 8000 Hz Hz	LWA	DBA	SONE	63 Hz	125 2 Hz	50 500 Hz Hz	1000 Hz	2000 40 Hz H	00 8000 Iz Hz	LWA	DBA	SONES	LBS	FILTER	FILTER	FILTER	MODEL NUMBER	
2ERV-1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	-	-   -	-   -	-	-	-   -	-	-	-	-	-	-   -	-	-	-   -	-	-	. –	5,157	-	-	-	GREENHECK RVE-120-74-30H	0234567
2ERV-2	7.4	5.3	46.7	50	90.8	76.2	80.7	50	-	-   -		-	-	-   -	-	-	-	-	-	-   -	-	-	-	-	-	-	5,157	-	-	-	GREENHECK RVE-120-74-30H	0234567
4ERV-1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	-		-   -	-	-	-   -	-	-	_	-	-	-   -	-	_	-   -	-	-	-	5,202	-	-	-	GREENHECK RVE-120-74-30H	0234667
4ERV-2	7.4	5.3	46.7	50	90.8	76.2	80.7	50	-	-   -	-   -	-	-	-   -	-	-	-	-	-	-   -	-	-	-   -	-	-	-	3,521	-	-	-	GREENHECK RVE-85-58-30H	0234567
5ERV-1	7.4	5.3	63.5	50	90.8	76.2	80.7	50	-	-   -	-	-	-		-	-	-	-	-	-   -	-	-		-	-	-	2,386	-	-	-	GREENHECK RVE-40-30-30L	0234567
9ERV-1	7.4	5.3	63.5	50	90.8	76.2	80.7	50	-	- -	-   -	-	-	-   -	-	-	-	-	-	- -	-		-   -	-	-	-	2,525	-	-	-	GREENHECK RVE-40-36-30H	0234567
9ERV-2	7.4	5.3	63.5	50	90.8	76.2	80.7	50	-	-   -	-	-	-	-   -	-	-	-	-	-	-   -	-		-		-	-	2,386	-	-	-	GREENHECK RVE-40-30-30L	0234567
									H	+	+		-																			

1 BASE RAILS 2 LOW LEAKAGE DAMPERS 3 RECIRC. DAMPER 4 FACTORY SUPPLY & EXHAUST FAN VFD 5 ENERGY BYPASS WHEEL DAMPER 6 FACTORY MOUNTED DISCONNECT 7 SINGLE POINT POWER CONNECTION

EF _				EX	HAUS	ST FA	N S	CHE	DUL	.E		
				SPEE	(RPM)		Е	LECTRIC	CAL DAT	ГА	MANUFACTURER	
TAG NO.	BUILDING	CFM	(IN WC)	FAN	MOTOR	DRIVE	HP	V	PH	HZ	& MODEL #	REMARKS
5EF-1	CHEMICAL HANDLING BUILDING	450	0.45	1353	1725	DIRECT	1/4	120	1	60	GREENHECK SE1-12-432-VG	

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Schedules

NO.	RE	VISIONS	DATE
DRA	AWN BY:	RLB	
DES	SIGNED BY:	RHB	
СНЕ	ECKED BY:	RHB	
ISSI	JE DATE:	04/15/2020	

SCALE

NONE

6050

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	BOILER SCHEDULE																	
TAG	2000	OUTPUT CAPACITY (NET IBR)	FIRING RATE	EFFIC	IENCY	OPERATING		1	WATER	?		EI	ECTRIC	CAL DAT	À	WEIGHT	MANUFACTURER	55
TAG NO.	BUILDING	мвн	OIL (GPH)	COMBUSTION	THERMAL	PRESSURE (PSIG)	EWT (°F)	LWT (°F)	GРМ	GLYČOL	WPD (FT)	мса	٧	PH	HZ	(LBS)	MODEL NUMBER	REMARKS
9B-1	ADMIN BUILDING	2506	20.7	88.4	88.4	_	180	160	300	40% P.G.	-	-	120	1	60	-	BURHAM MPC15	_

	PUMP SCHEDULE													
	ELECTRICAL DATA													
TAG NO.	BUILDING	SYSTEM SERVED	TYPE	GPM	HEAD (FT.)	GLYCOL	FLUID TEMP 'F	RPM	MOTOR HP	٧	PH	HZ	MANUFACTURER MODEL NUMBER	REMARKS
9HWP-1	ADMIN BUILDING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	-
9HWP-2	ADMIN BUILDING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	-

	FIR-1 ENGTH HOT WATER FIN-TUBE RADIATION SCHEDULE														
TAG NO.	BTU PER FT	AVG. WATER TEMP	GPM PER FT		PIPE SIZE (IN)	PIPE MTRL	FIN SIZE W X H	EN H	CLOSURE W	MOUNTING HEIGHT	FINS PER FOOT	FIN MTRL	ROWS	MANUFACTURER MODEL NUMBER	REMARKS
FTR-A	663	160	4.0	40 P.G.	3/4"	COPPER	4 1/4" X 4 1/4"	N/A	N/A	REFER TO ARCH.	48	ALUM.	1	RITTLING MODEL 3/4C-41x41-48	BARE ELEMENT GRILL BY OTHERS
FTR-B	663	160	4.0	40 P.G.	3/4"	COPPER	4 1/4" X 4 1/4"	14"	5 3/8"	REFER TO ARCH.	48	ALUM.	1	RITTLING MODEL 3/4C-42X42-48	ARCHITECTURAL GRILL 14 GAUGE COVER
FTR-C	663	160	4.0	40 P.G.	3/4"	COPPER	4 1/4" X 4 1/4"	14"	5 3/8"	REFER TO ARCH.	48	ALUM.	1	RITTLING MODEL 3/4C-41/41-48	ARCHITECTURAL GRILL 14 GAUGE COVER

1.	ARCH ENCLOSURE SLOP TOP.	
2	ALUMINUM ENCLOSURE PER SPEC	FICATIONS

			ET	EXPANSION TANK SCHEDULE									
			SYS TE	MP ('F)	SYS PRES	SS (PSIG)		TANK AIR					
TAG NO.	BUILDING	SERVICE	MIN	МАХ	МІМ	MAX	ACCEPTANCE VOLUME (GAL)	TANK AIR CHARGE (PSIG)	MANUFACTURER MODEL NUMBER	REMARKS			
9ET1	ADMIN BUILDING	-	40	75	15	150	_	-	-	-			

VRF HEAT PUMP (OUTDOOR UNIT) SCHEDULE											
	ACCU	OUTDOOR UNIT							MIN. EER	MIN. COP	REMARKS
TAG	BUILDING	MFG'R. & MODEL NO.	HEAT MBH	COOL MBH	ELEC. V/PH/HZ	No. OF ELEC. FEEDERS	МСА	мор	STRETCH	IECC	
9ACCU-1	ADMIN BUILDING	DAIKIN REYQ240XAYDA	270.0	240.0	480/3/60	2	21.1 + 21.1	25 + 25	-	-	



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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Schedules

DRAWN BY: RLB DESIGNED BY: RHB

CHECKED BY: RHB ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

SCALE

NONE

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SHEET NO.

					WAT	ER SIE	)E		E	LECTRIC	CAL DAT	ГА			
TAG NO.	SERVICE	СЕМ	мвн	GPM	% GLYCOL	WPD (FT)	EWT (°F)	LWT (°F)	HP	FLA	V	PH	HZ	MANUFACTURER MODEL NUMBER	REMARKS
ZUH-1	PIPE GALLERY BUILDING	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
2UH-2	PIPE GALLERY BUILDING	730	23.9	2.4	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-47	-
2UH-3	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
2UH-4	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
2UH-5	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	
2UH-6	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	_
2UH-7	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
2UH-8	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	_
2UH-9	PIPE GALLERY BUILDING	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
2UH-10	PIPE GALLERY BUILDING	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
2UH-11	PIPE GALLERY BUILDING	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
	200 11200														
								* -	-						

T. 0		CAPACITY		FAN I	DATA			
TAG NO.	BUILDING	kw	СГМ	v	PH	HZ	MANUFACTURER MODEL NUMBER	REMARKS
1EUH-1	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	=
1EUH-2	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	Ξ
1EUH-3	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	
1EUH-4	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	Ī.
4EUH-1	FINAL CLARIFIER 1 & 2 PUMP STATION	7.5	270	480	3	60	QMARK QWD07432	5
4EUH-2	FINAL CLARIFIER 1 & 2 PUMP STATION	7.5	270	480	3	60	QMARK QWD07432	=
4EUH-3	SLUDGE PUMP STATION NO.1	10	270	480	3	60	QMARK QWD10432	=
4EUH-4	SLUDGE PUMP STATION NO.1	10	270	480	3	60	QMARK QWD10432	=
4EUH-5	FINAL CLARIFIER 3 & 4 PUMP STATION	7.5	270	480	3	60	QMARK QWD07432	Ξ
4EUH-6	SLUDGE PUMP STATION NO.2	10	270	480	3	60	QMARK QWD10432	=
4EUH-7	SLUDGE PUMP STATION NO.2	10	270	480	3	60	QMARK QWD10432	
5EUH-1	CHEMICAL HANDLING BUILDING	12.5	480	480	3	60	QMARK QWD12432	=



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SUBCONSULTANT



Mechanical/Electrical Engineers 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Schedules

	1 111		
10.	REV	SIONS	DATE
DRA	AWN BY:	RLB	
DES	SIGNED BY:	RHB	

CHECKED BY: RHB

ISSUE DATE: 04/15/2020

ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

SCALE

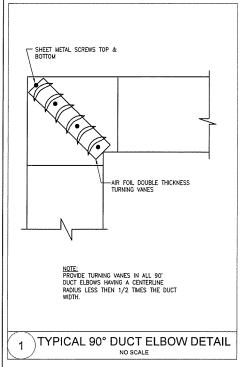
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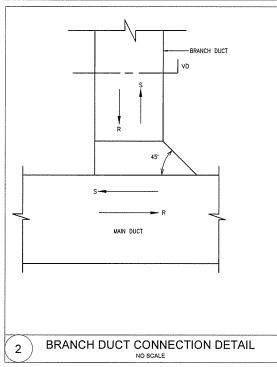
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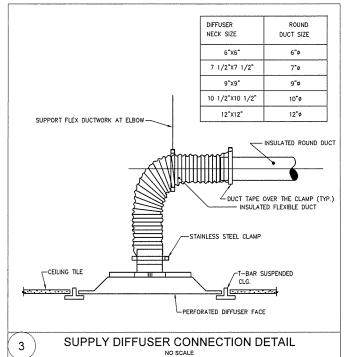
PHEET NO

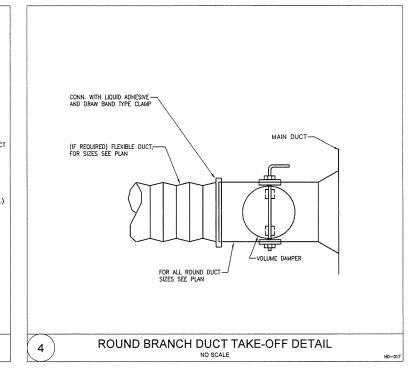
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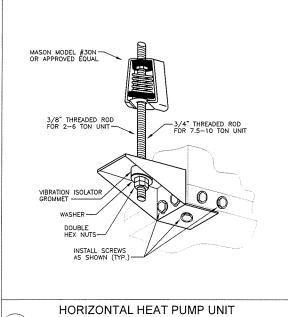
EAR - 2018/18009 00 - TAUNTON WWIF UPGRADESHIVAC DEPARTMENT/18009 00 HVAC LEGEND SCHEDULE AND DETAILS DWG (BETA STB BW/STB)

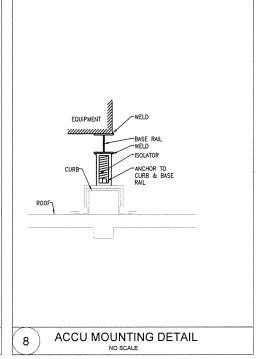












COMPLETELY SEAL & COVER-JOINT WITH OUTDOOR, UV RESISTANT SEALANT - S-SLIP CONNECTION - 10 GA. BENT PLATE STEEL FRAME - SS SHEETMETAL SCREW - ROOF MEMBRANE PREFABRICATED, INSULATED-CURB WITH WOOD NAILER (THYCURB OR EQUAL) EXTERIOR SIDE INTERIOR SIDE ROOF DECK - ACOUSTICAL LINING NOTE: APPLICABLE AT DUCT PENETRATIONS THROUGH EXTERIOR WALLS FROM HVAC-2,HVAC-3 & HVAC-5 ~ 10 GA. BENT PLATE STEEL FRAME TACK WELD CURB-TO DECK CONCRETE DECK ANCHOR CURB-HANGER KIT ASSEMBLY 5 6 DUCT PENETRATION THRU ROOF DETAIL DUCT PENETRATION AT EXTERIOR WALL DETAIL NO SCALE

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PROJECT

**Taunton Wastewater** Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Details

NO.	REVISIONS	DATE

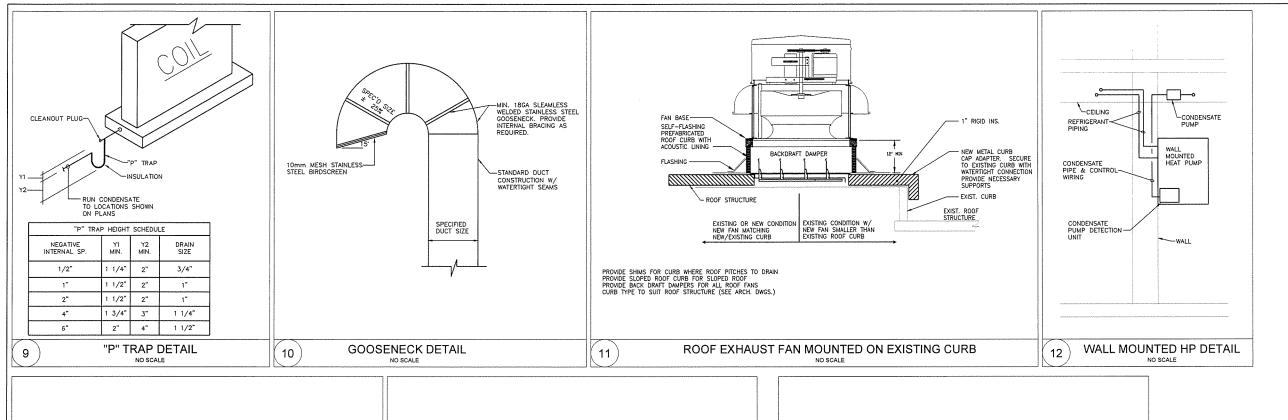
DRAWN BY: RLB DESIGNED BY RHB RHB CHECKED BY: ISSUE DATE: 04/15/2020 BETA JOB NO.: 6050

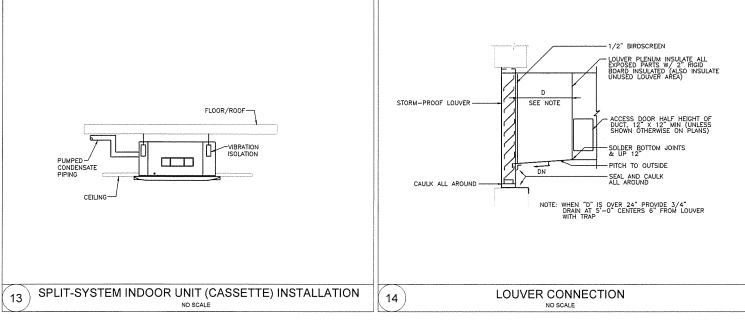
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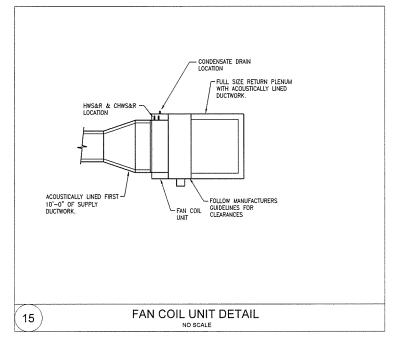
NONE

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SHEET NO.







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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Details

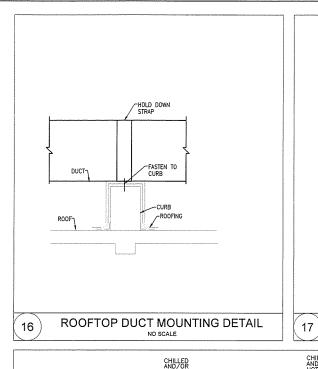
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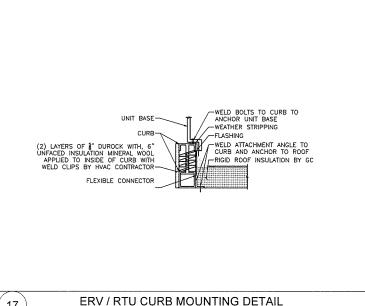
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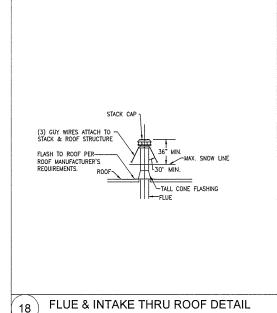
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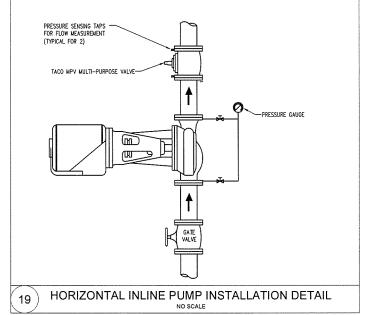
For Review Only

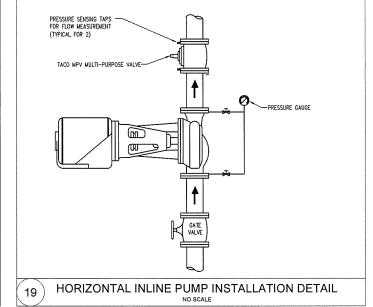
SHEET NO.

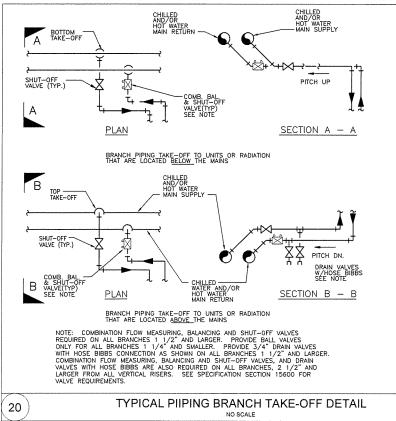


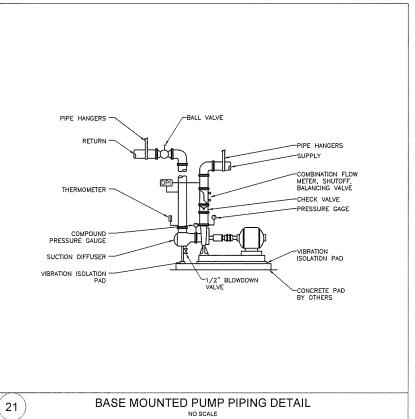


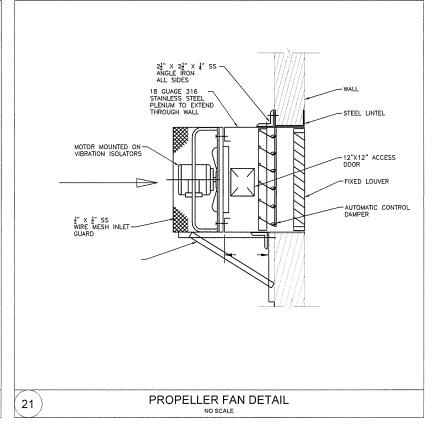












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Taunton, MA

TITLE

Hvac Details

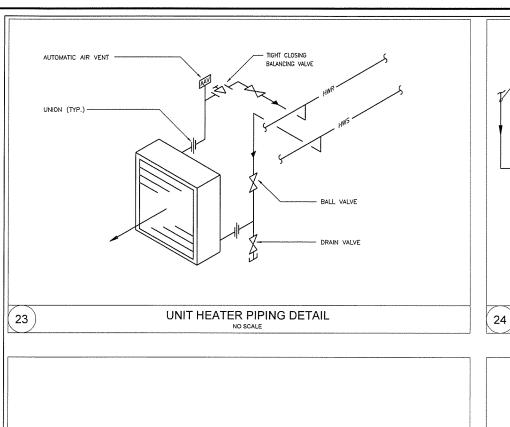
DRAWN BY: RLB DESIGNED BY RHB CHECKED BY:

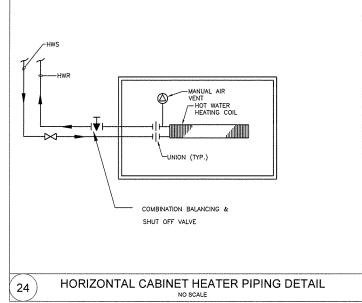
RHB ISSUE DATE: 04/15/2020 BETA JOB NO.: 6050

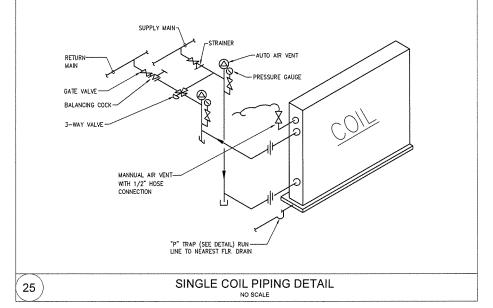
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For Review Only



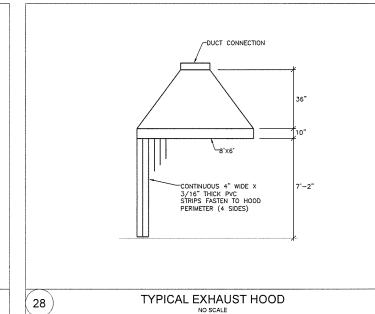




FOR PETCOCK 1/4" I.P.T.-CHECK VALVE-PUMP DISCHARGE LINE W/HOSE CONN. & CHAINED IN CAP. PUMP SUCTION J

CHEMICAL SHOT FEEDER PIPING DETAIL

NO SCALE





UNION (TYP.)-

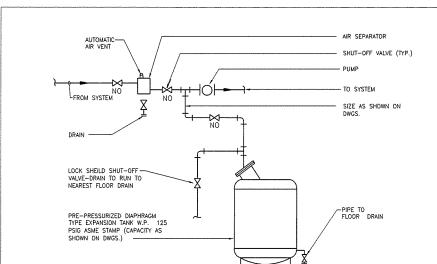
GATE VALVE

HWS (DOWNFEED)

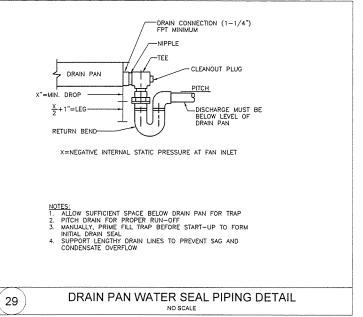
HWS (UPFEED)

30

[ 27 ]



TYPICAL DETAIL PIPING CONNECTIONS TO EXPANSION TANKS



-MANUAL AIR

VENT (UPFEED ONLY)

& SHUT-OFF VALVE

26

DRAIN VALVE (DOWNFEED ONLY)

-FACTORY WALL MOUNTED BRACKET —ELECTRIC UNIT HEATER (31) ELEC UNIT HEATER MOUNTING DETAIL

H-0.8

REGISTERED PROFESSIONAL

NOT FOR CONSTRUCTION (CONCEPTUAL)

SUBCONSULTANT

PREPARED BY



PROJECT

**Taunton Wastewater** Treatment Facility Improvements

Taunton, MA

TITLE

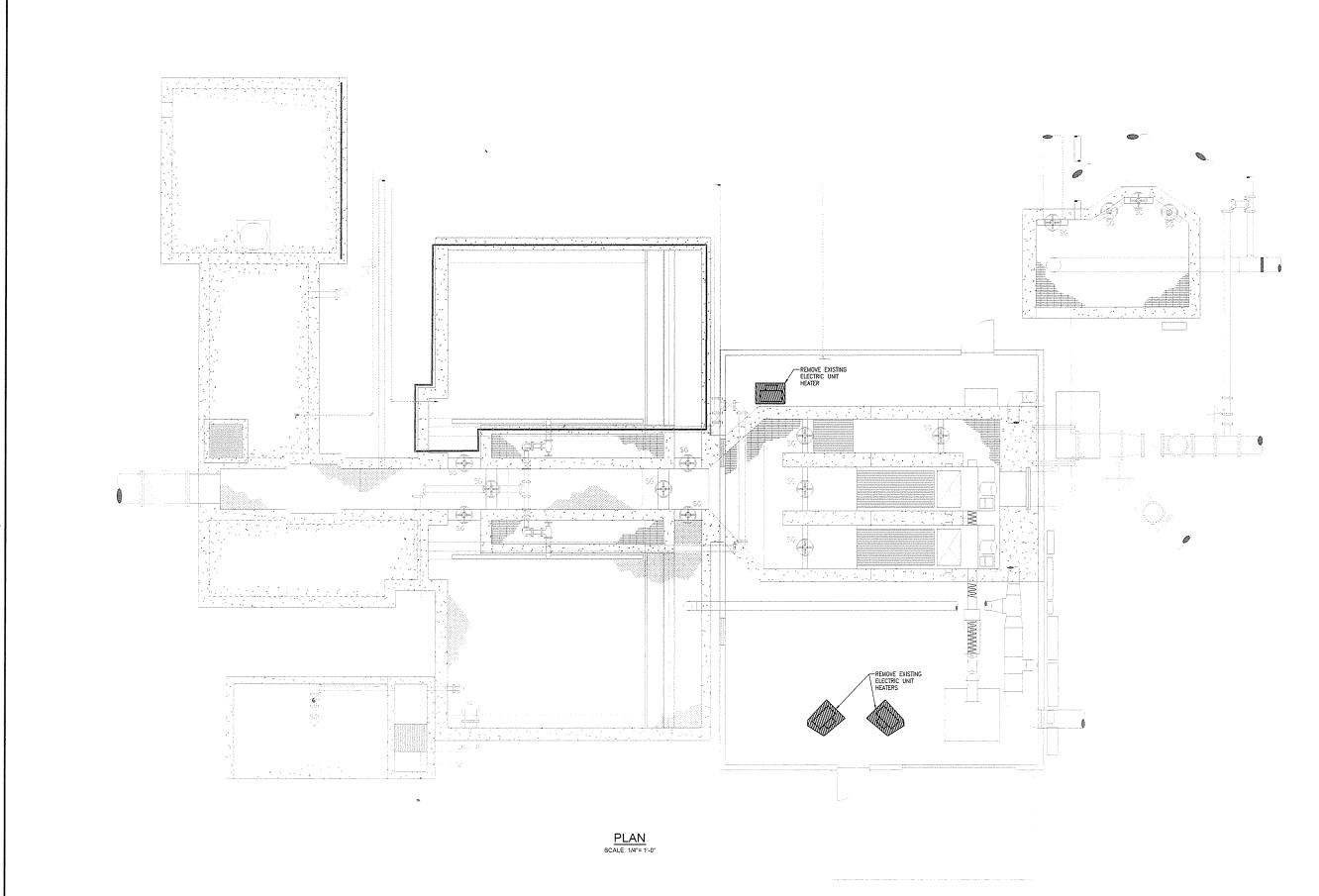
Hvac Details

DRAWN BY: RLB DESIGNED BY: CHECKED BY: RHB ISSUE DATE: 04/15/2020 BETA JOB NO. 6050 SCALE

For Review Only

NONE

SHEET NO.





REGISTERED PROFESSIONAL

NOT FOR CONSTRUCTION (CONCEPTUAL)

SUBCONSULTANT



Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Demolition Headworks Plan

NO.	RE'	VISIONS	DAT
DRA	WN BY:	RLB	
DES	IGNED BY:	RHB	
CHE	CKED BY:	RHB	
ISSI	JE DATE:	04/15/2020	

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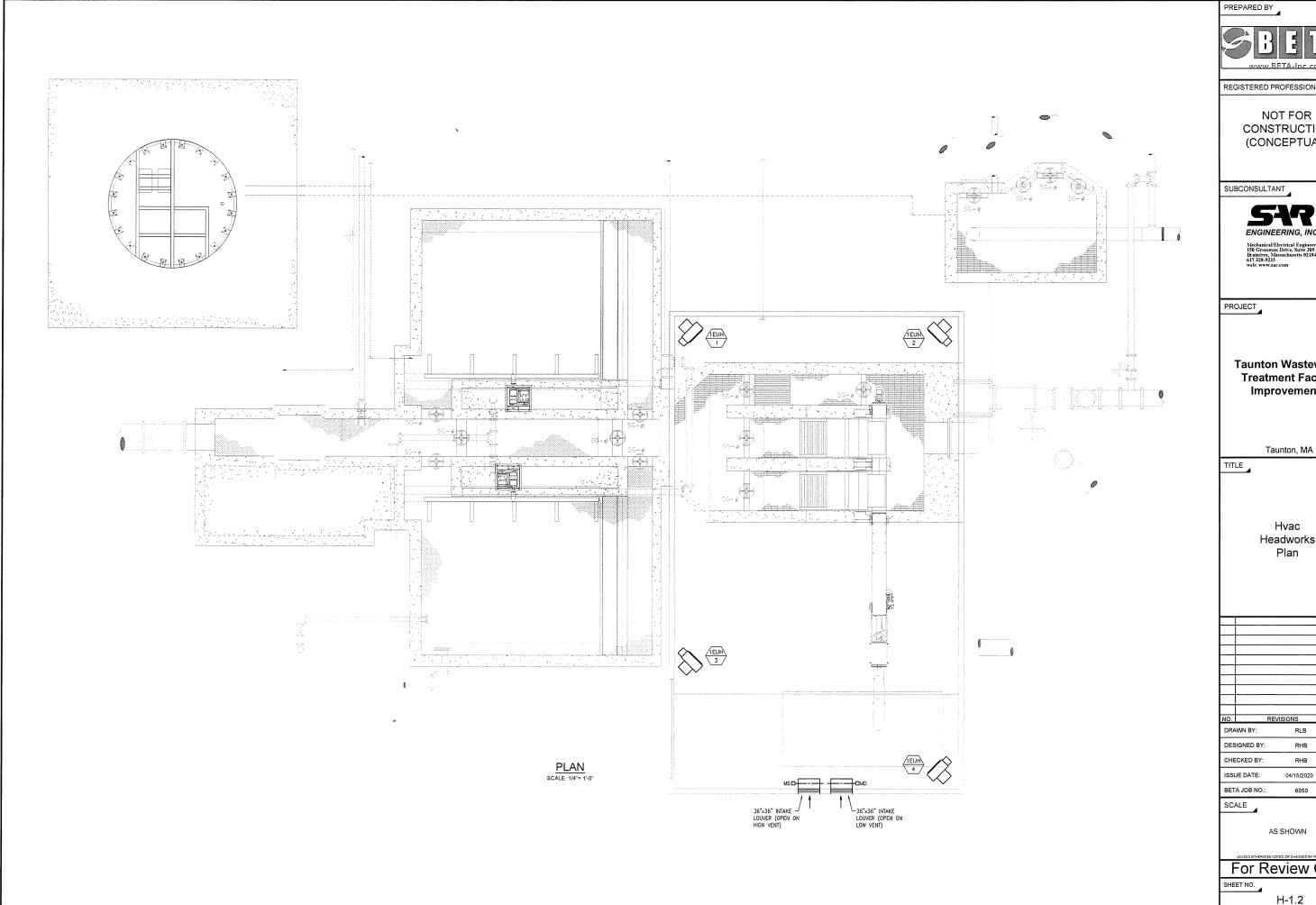
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**Taunton Wastewater Treatment Facility** Improvements

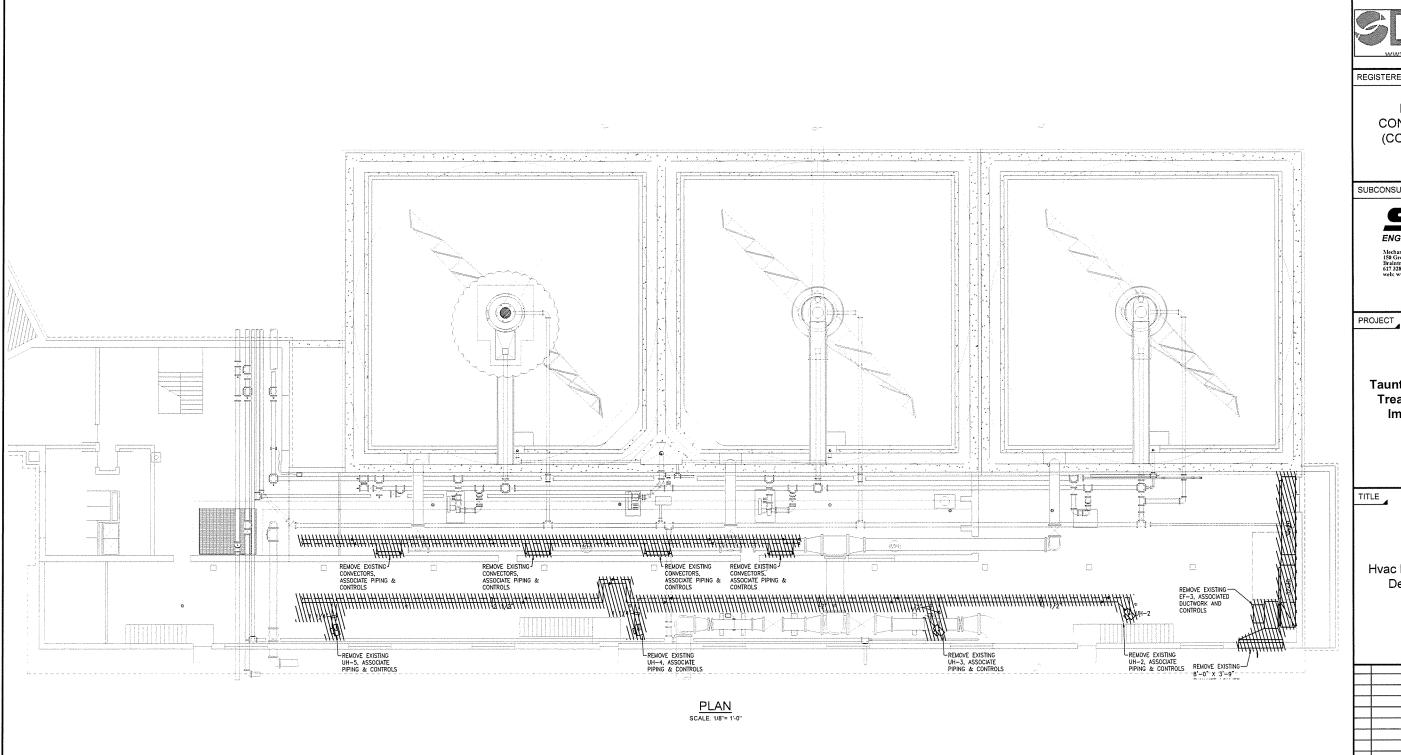
Hvac Headworks Plan

RHB 04/15/2020

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H-1.2





REGISTERED PROFESSIONAL

NOT FOR CONSTRUCTION (CONCEPTUAL)

SUBCONSULTANT



**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

GALLER Hvac Primary Glarifiers Demolition Plan

DRAWN BY: RLB

DESIGNED BY: CHECKED BY: RHB

ISSUE DATE: 04/15/2020

BETA JOB NO.

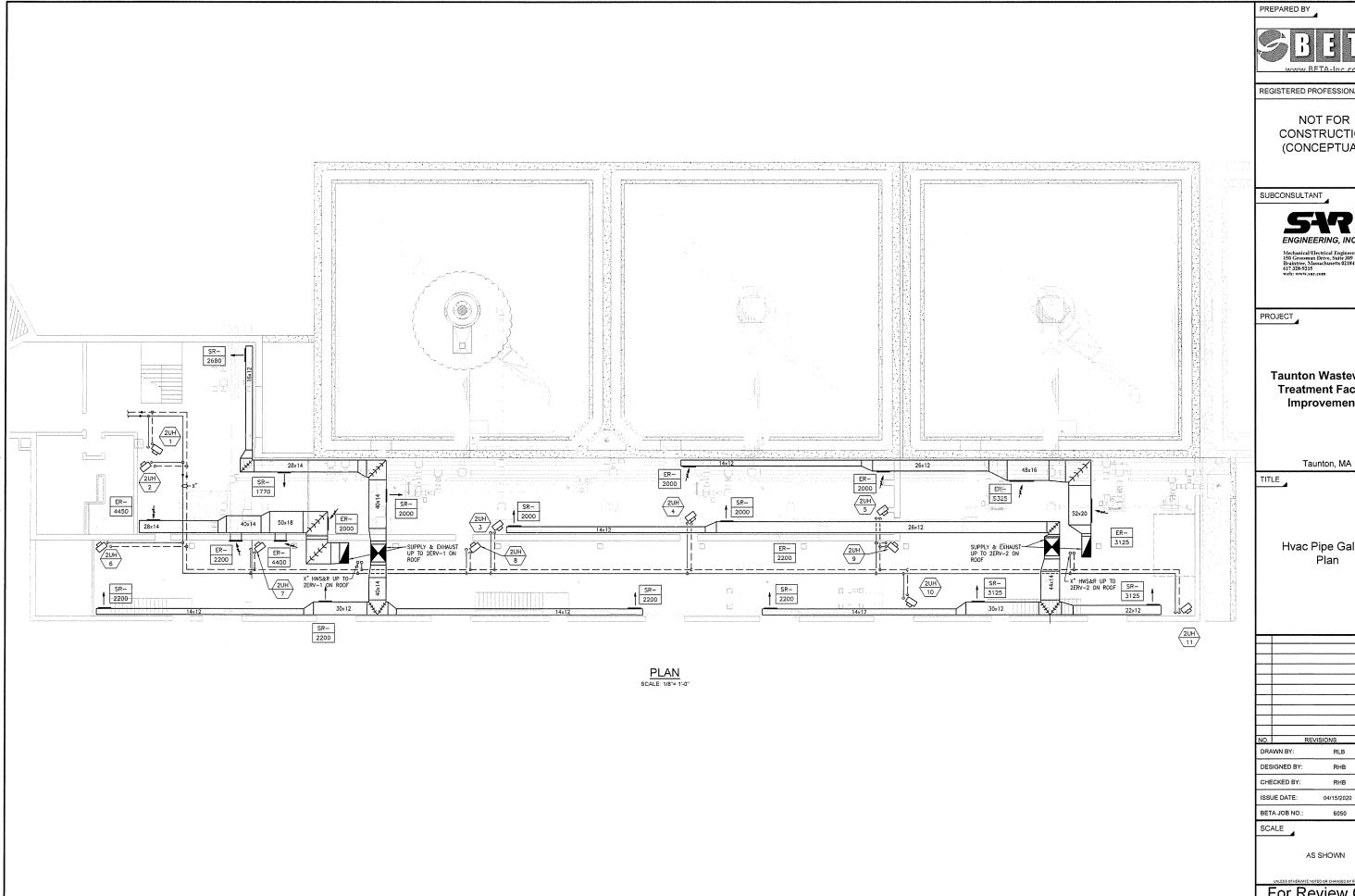
SCALE

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H-2.1



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**Taunton Wastewater Treatment Facility** Improvements

Hvac Pipe Gallery

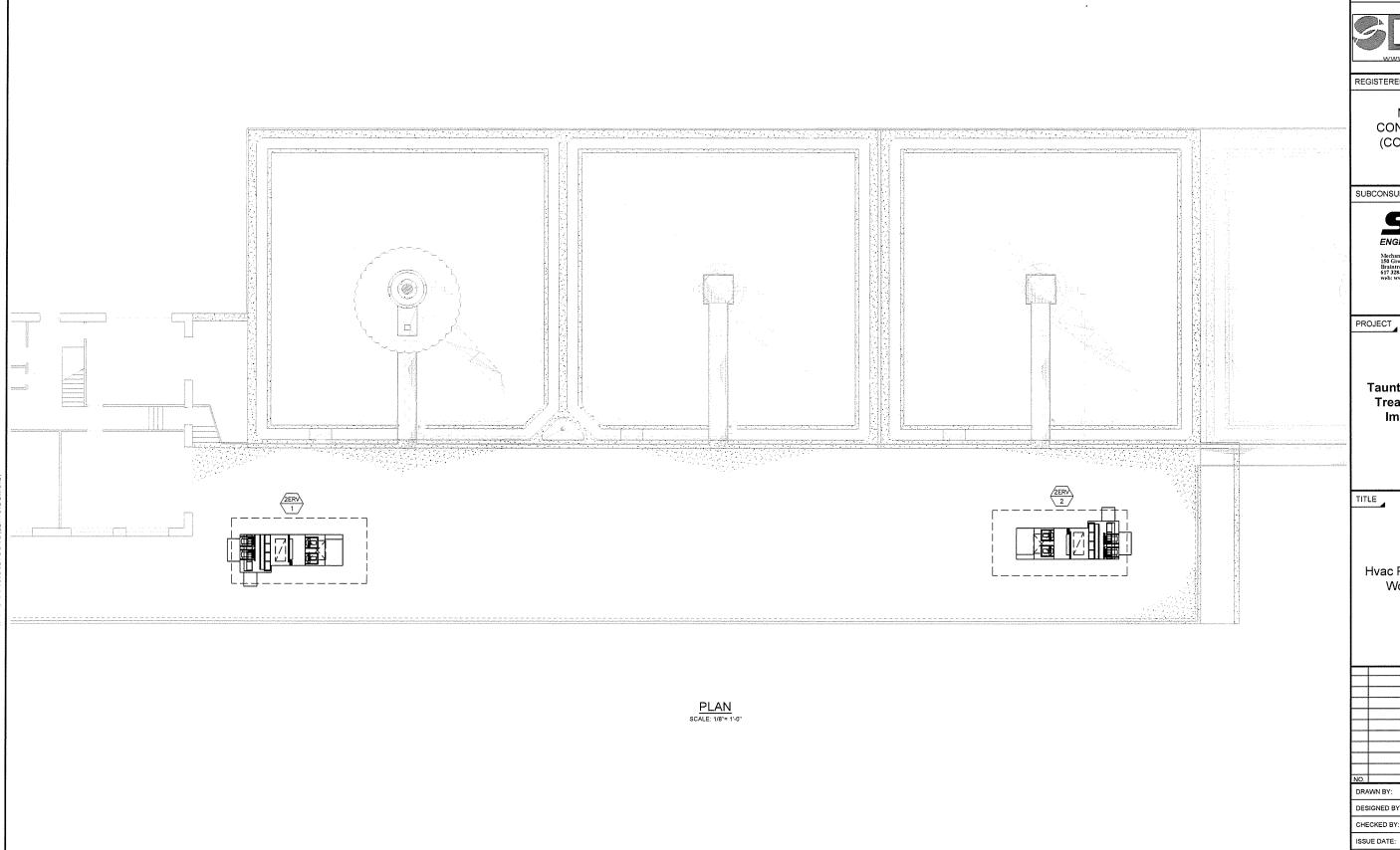
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H-2.2



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Taunton Wastewater Treatment Facility Improvements

Taunton, MA

Hvac Pipe Gallery New Work Roof Plan

DRAWN BY: RLB

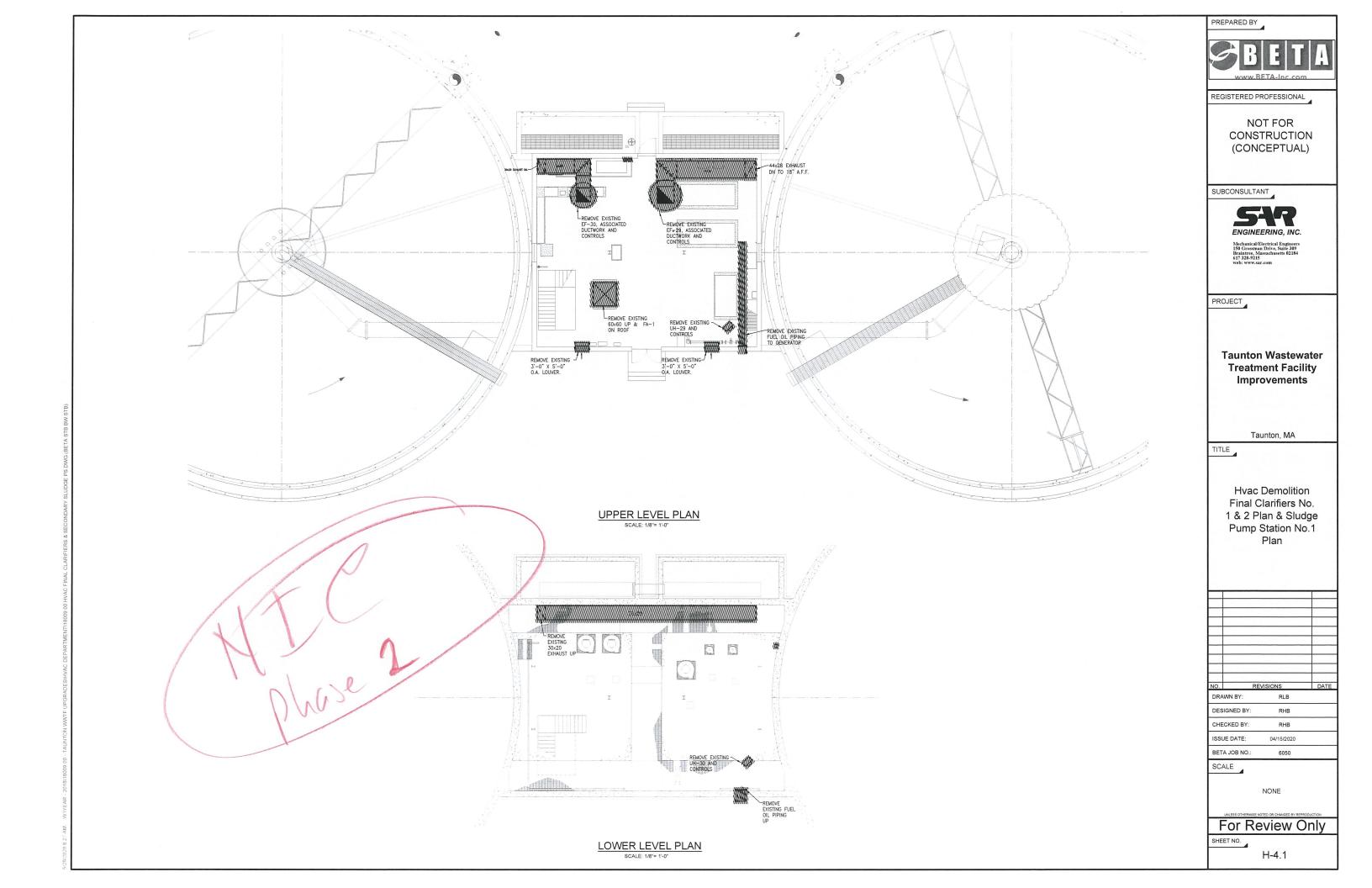
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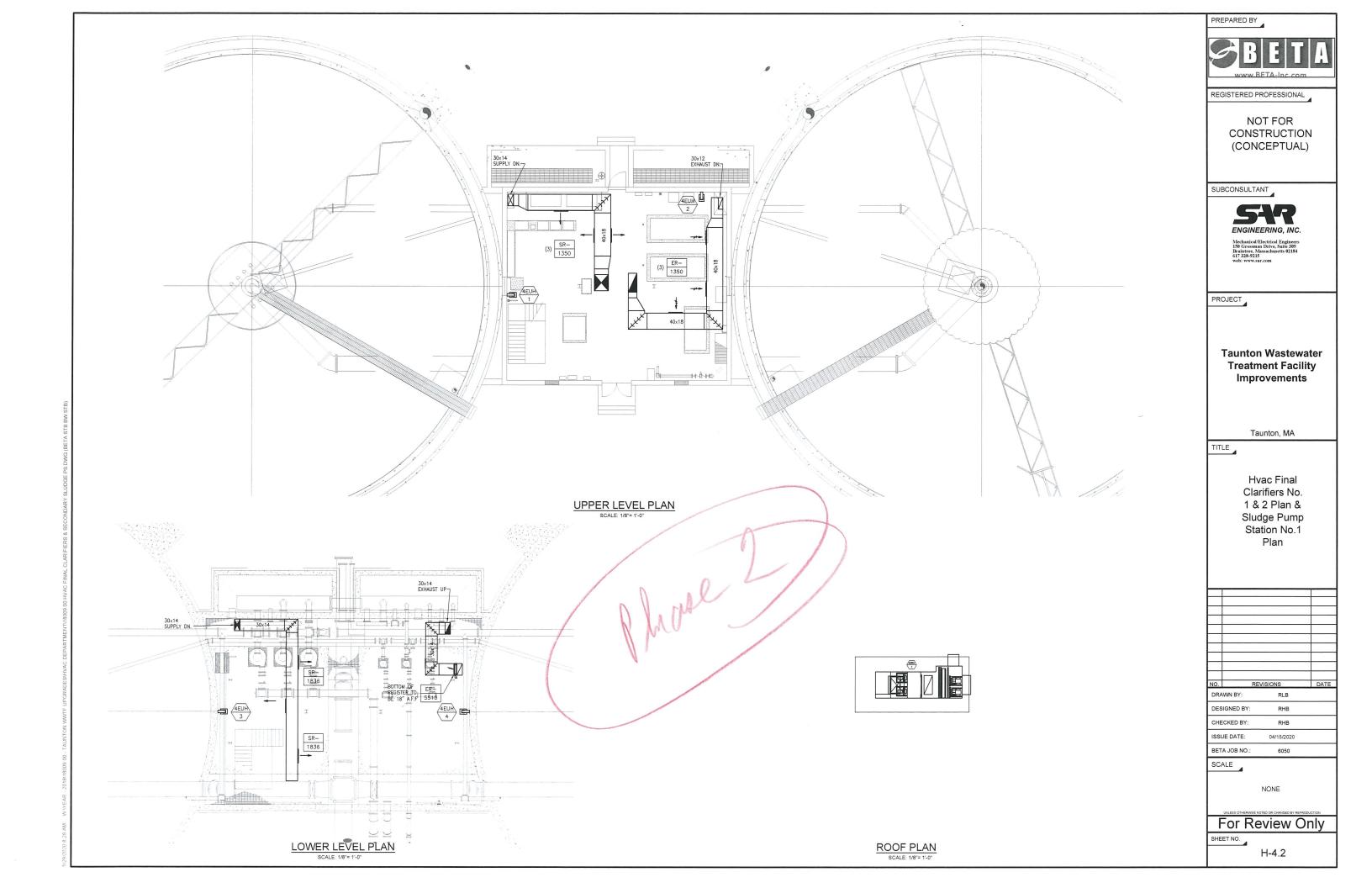
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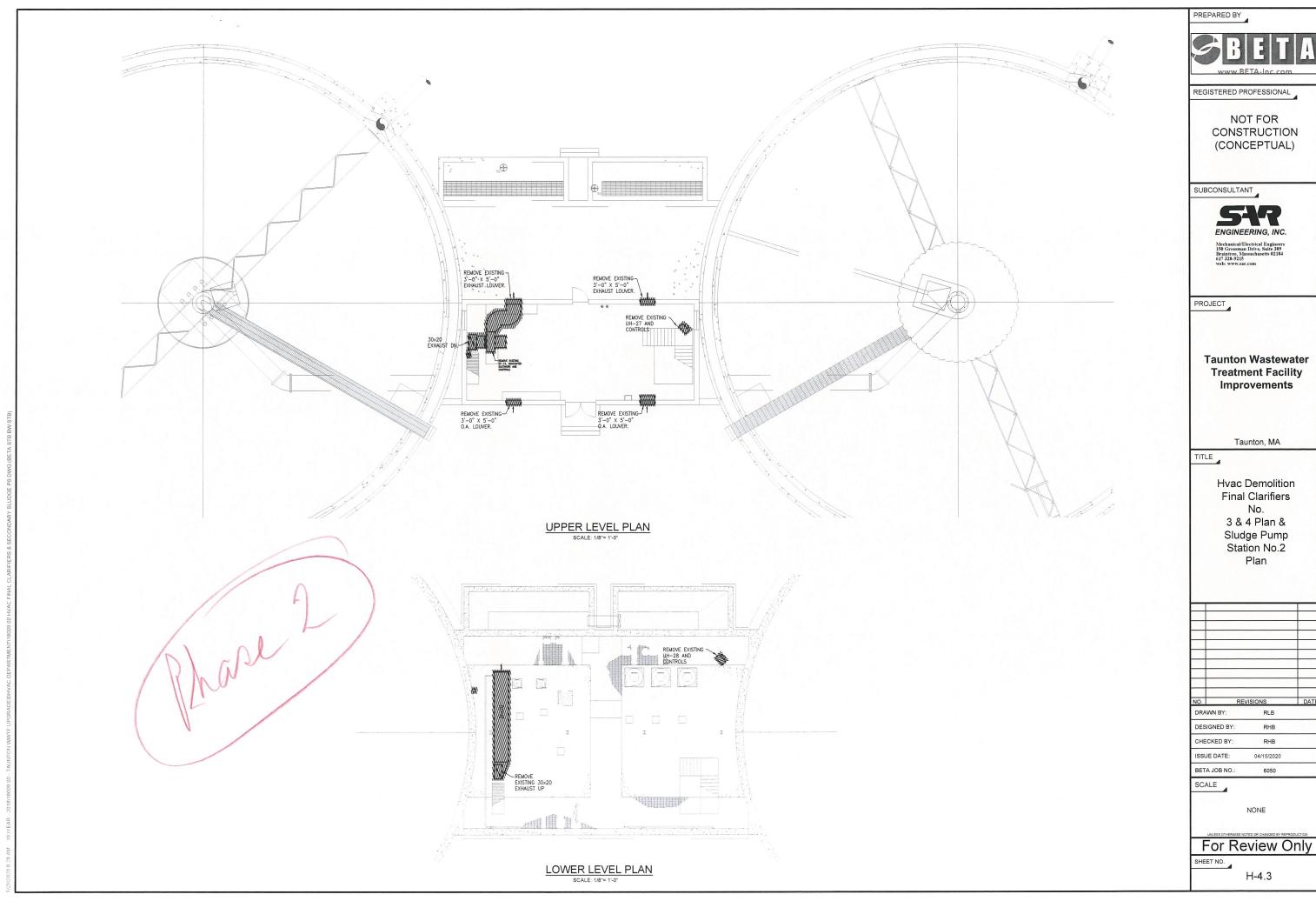
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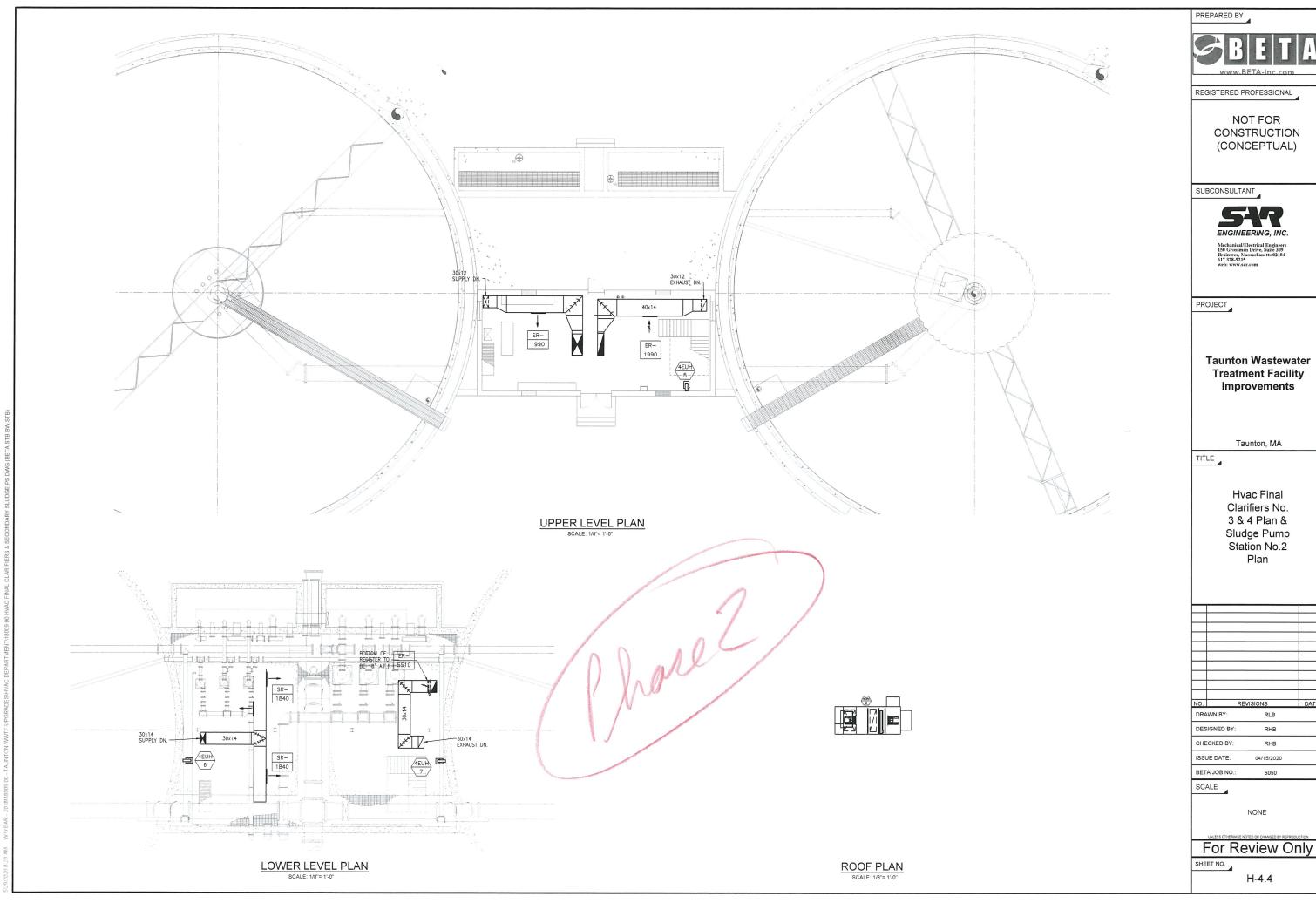
For Review Only

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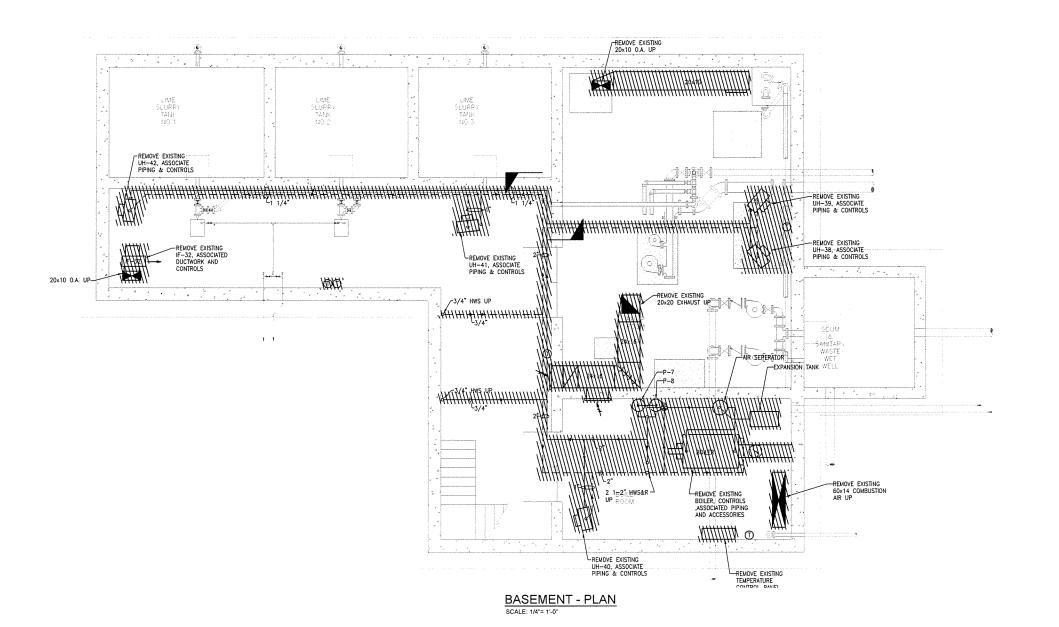








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REGISTERED PROFESSIONAL

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Demolition Chemical Handling Building Basement Plan

NO.	F	REVISIONS	DATE
DRA	WN BY:	RLB	
DES	IGNED BY:	RHB	

CHECKED BY: RHB ISSUE DATE: 04/15/2020 BETA JOB NO.: 6050

SCALE

AS SHOWN

For Review Only

SHEET NO.

FIRST FLOOR - PLAN

SCALE 1/4"= 1'-0"

PREPARED BY



REGISTERED PROFESSIONAL

NOT FOR CONSTRUCTION (CONCEPTUAL)

SUBCONSULTANT



Mechanical/Electrical Enginee 150 Grossman Drive, Suite 309 Braintree, Massachusetts 0218 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Demolition Chemical Handling Building First Floor Plan

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DESIGNED BY: RHB

CHECKED BY: RHB

ISSUE DATE: 04/15/2020

BETA JOB NO.: 6050

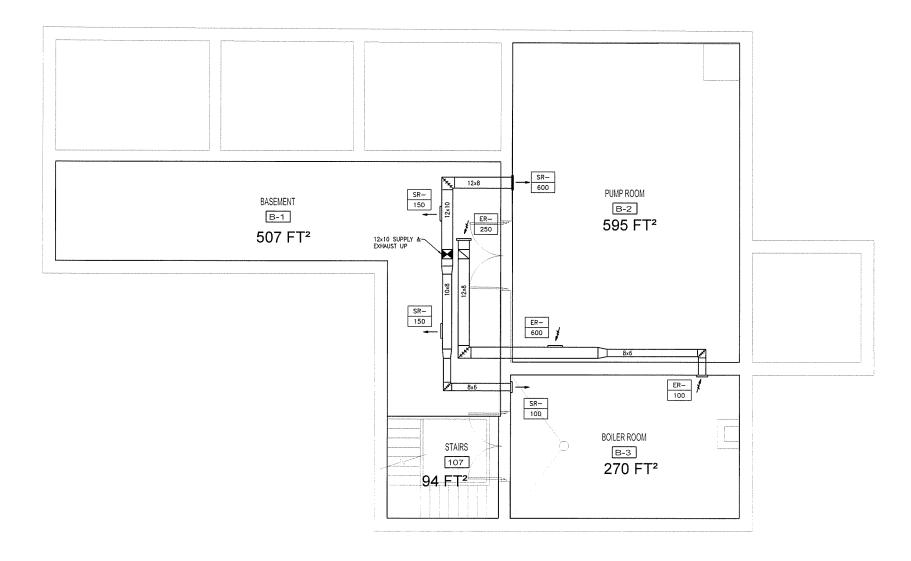
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For Review Only

AS SHOWN

ET NO



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

PREPARED BY



REGISTERED PROFESSIONAL

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Chemical Handling Building Basement Plan

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CHECKED BY: ISSUE DATE: 04/15/2020

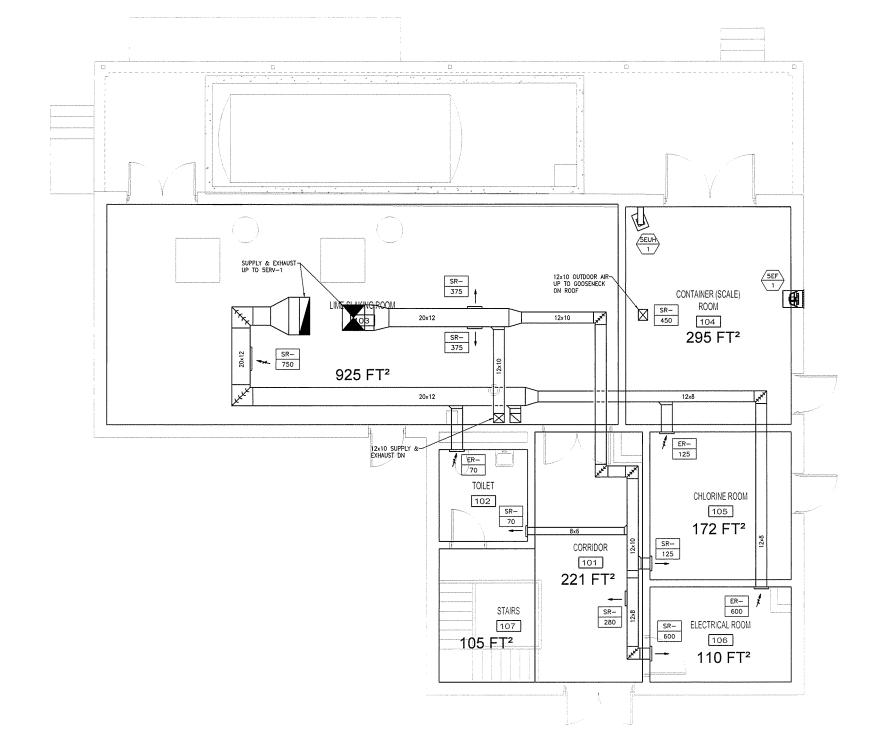
BETA JOB NO.: 6050

SCALE

AS SHOWN

For Review Only

SHEET NO.



FIRST FLOOR - PLAN

PREPARED BY



REGISTERED PROFESSIONAL

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SUBCONSULTANT



Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Chemical Handling Building First Floor Plan

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RA	WN BY:	RLB	

DESIGNED BY: RHB

CHECKED BY: RHB

ISSUE DATE: 04/15/2020

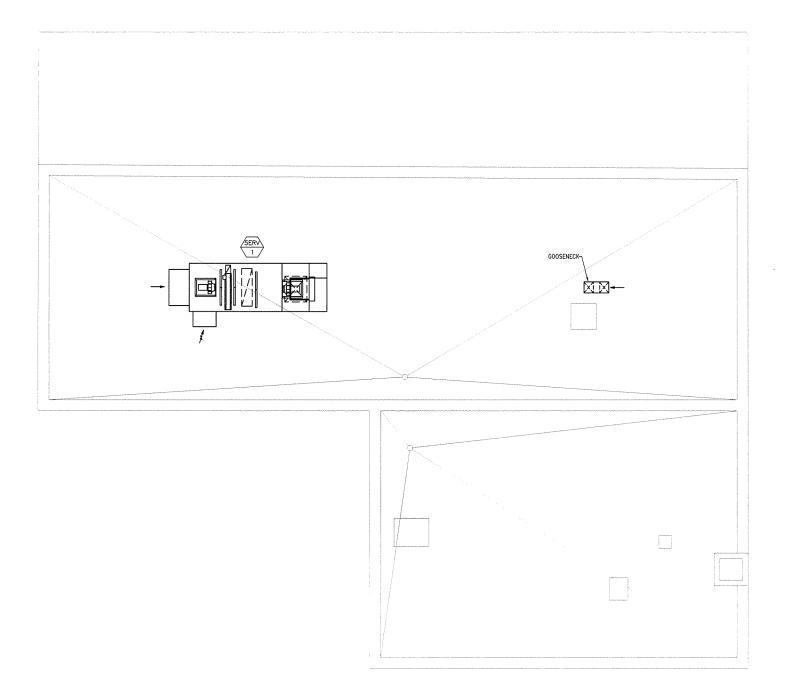
BETA JOB NO.: 6050

SCALE

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FIRST FLOOR - PLAN
SCALE: 1/4"= 1'-0"

PREPARED BY



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SUBCONSULTANT



Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 0218-117 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Chemical Handling Building Roof Plan

NO. REVISIONS DA
DRAWN BY: RLB

DESIGNED BY: RHB
CHECKED BY: RHB

ISSUE DATE: 04/15/2020

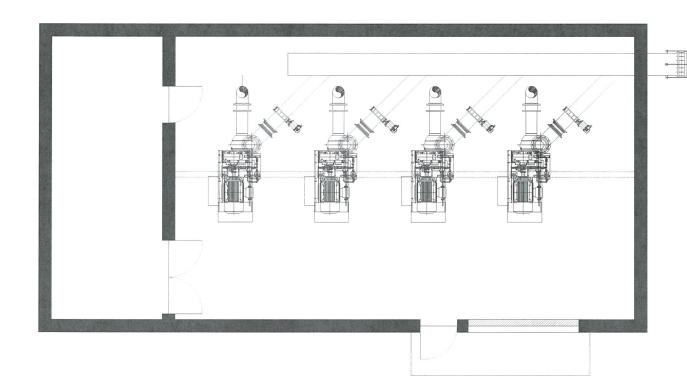
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SCALE

AS SHOWN

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SHEET NO.



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

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

Hvac Blower Building Power Plan

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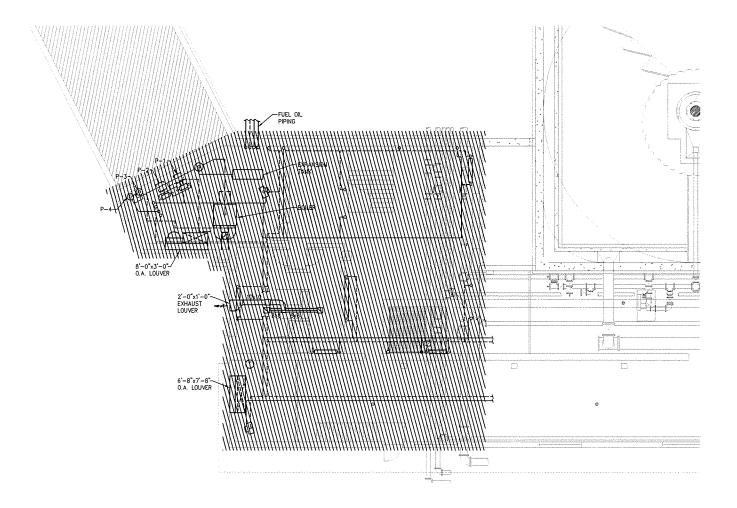
BETA JOB NO.: 6050

SCALE

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H-6.1



BASEMENT FLOOR - PLAN SCALE: 1/8"= 1'-0"

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SUBCONSULTANT



PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Demolition Control & Admin. **Building Basement** Plan

RLB

DRAWN BY: DESIGNED BY: RHB CHECKED BY: RHB ISSUE DATE: 04/15/2020 6050

BETA JOB NO.:

SCALE

AS SHOWN

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Is everything related ()
to HAV being demolvabel. FIRST FLOOR - PLAN

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Demolition Control & Admin. **Building First Floor** Plan

DRAWN BY RLB

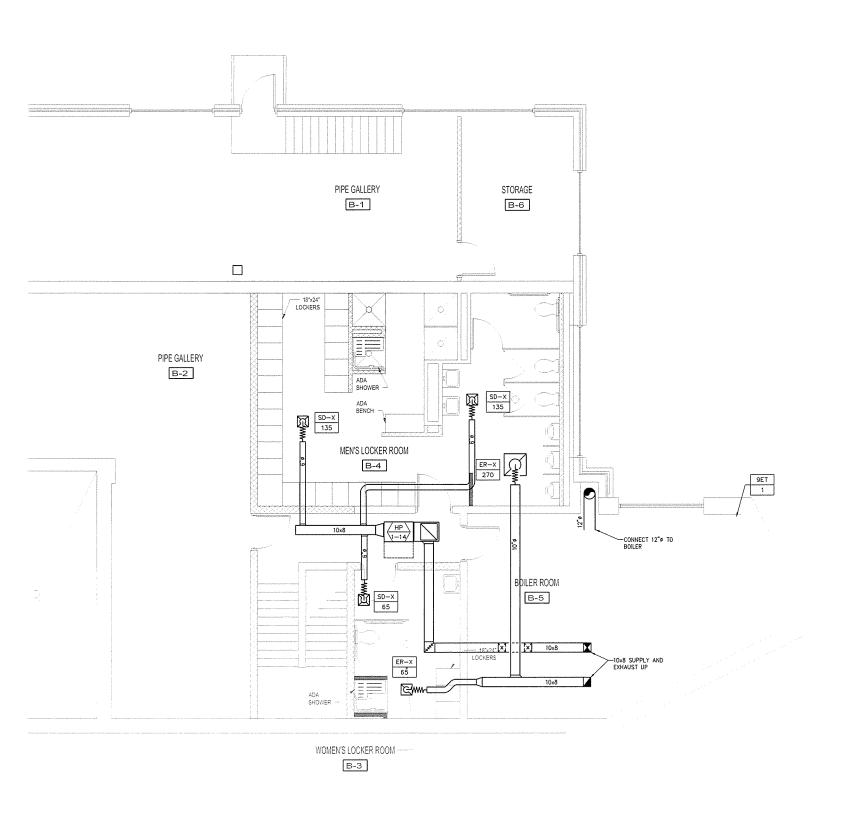
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BETA JOB NO.: 6050

SCALE

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BASEMENT FLOOR - PLAN SCALE: 1/8"= 1'-0"

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PRIMARY SLUDGE PUMP STATION

SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Control & Admin. Building Basement Ductwork Plan

DRAWN BY: RLB DESIGNED BY: CHECKED BY: RHB

04/15/2020

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SCALE

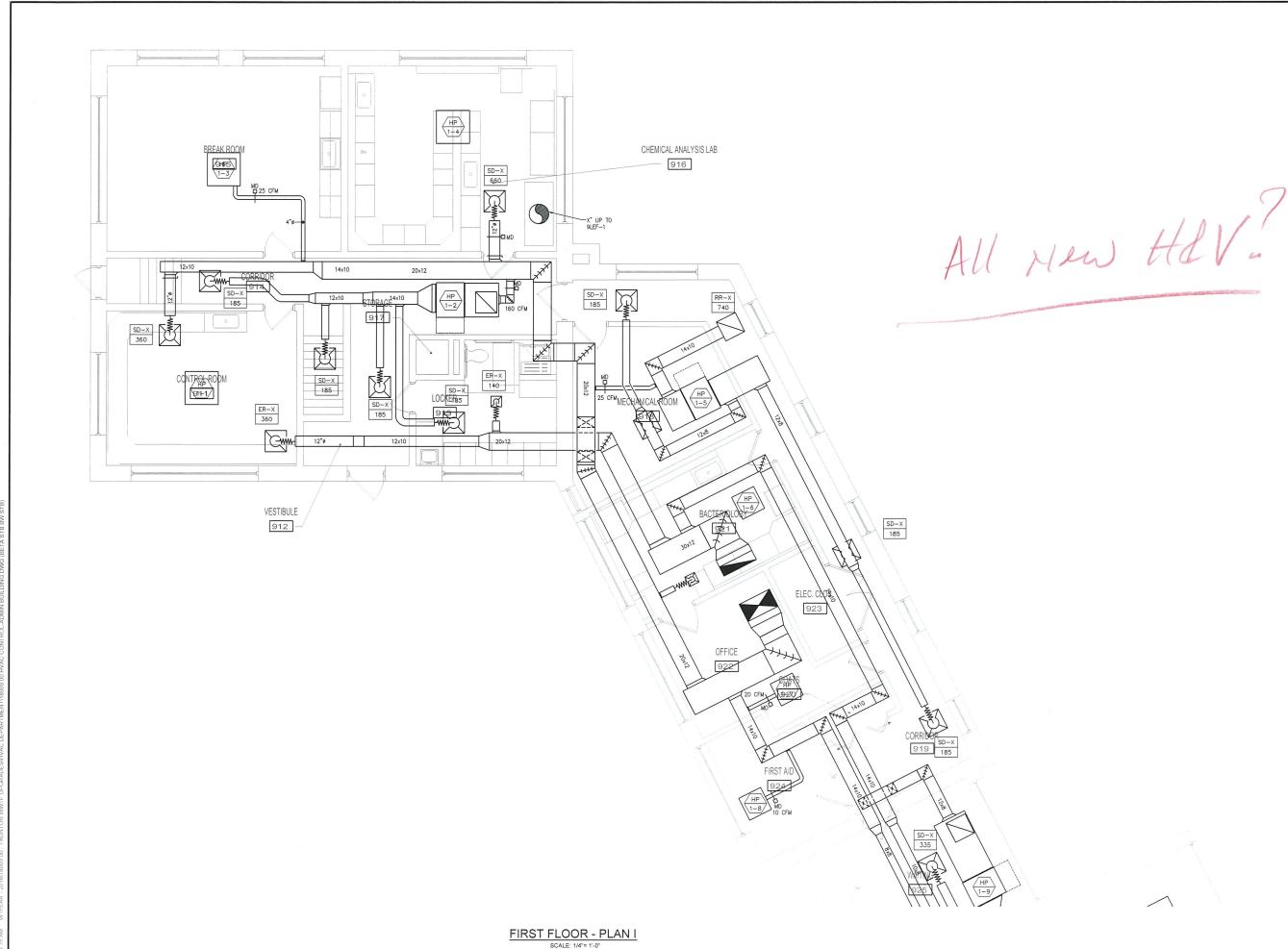
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BETA JOB NO.:

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SHEET NO.





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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Ductwork Part Plan

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SUBCONSULTANT



Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Ductwork Part Plan

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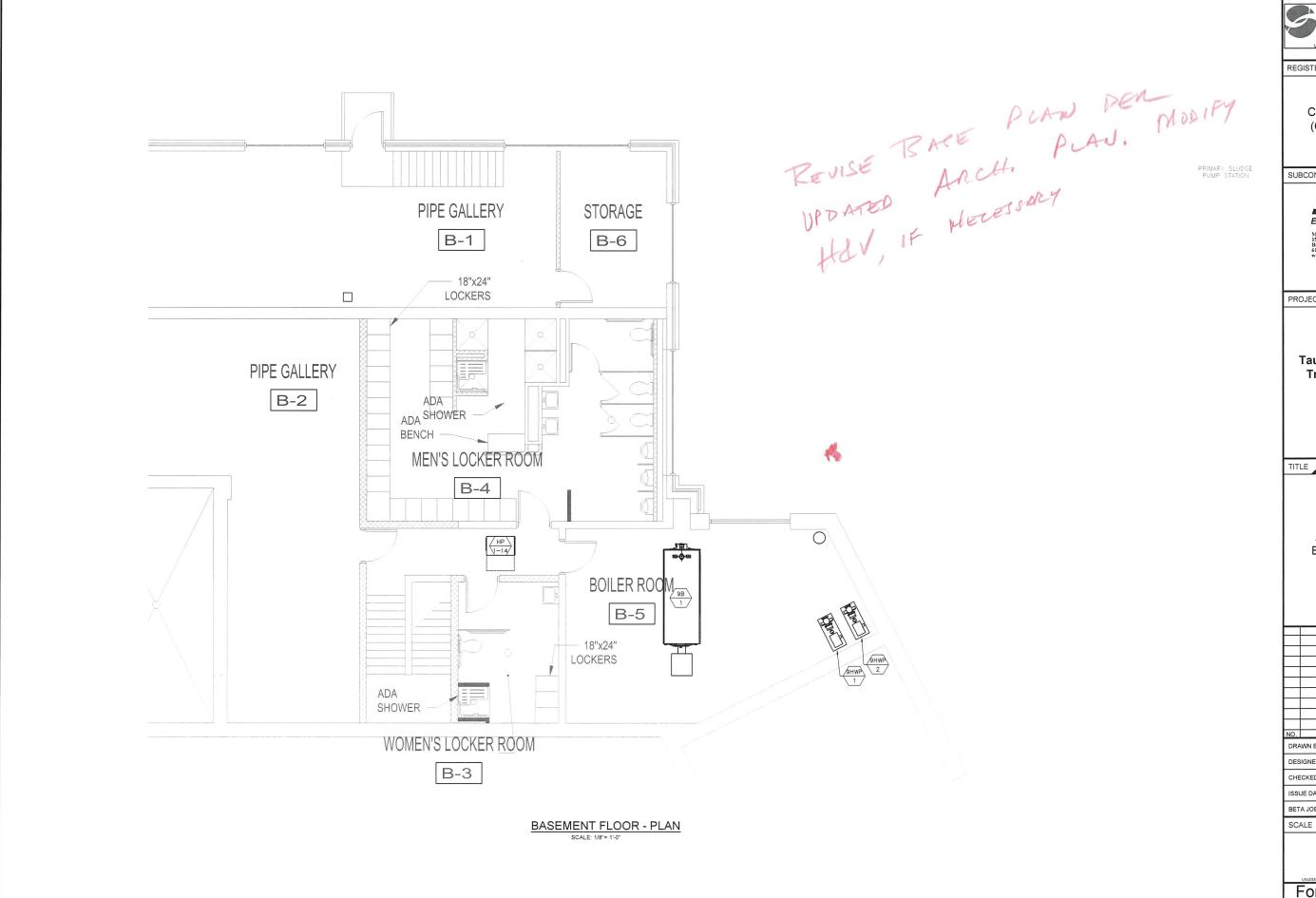
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H-9.5

FIRST FLOOR - PLAN I



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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

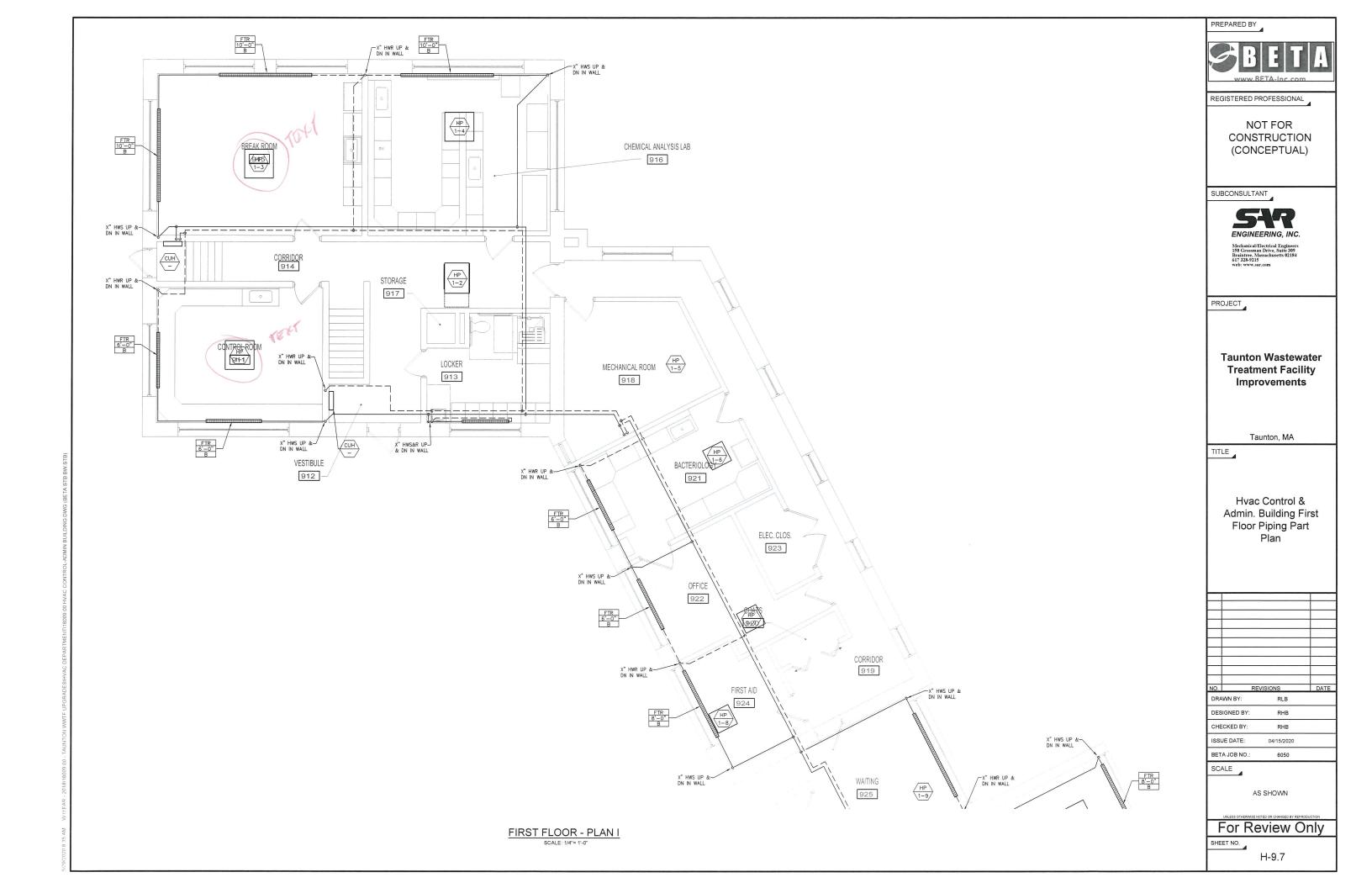
Hvac Control & Admin. Building **Basement Piping** Plan

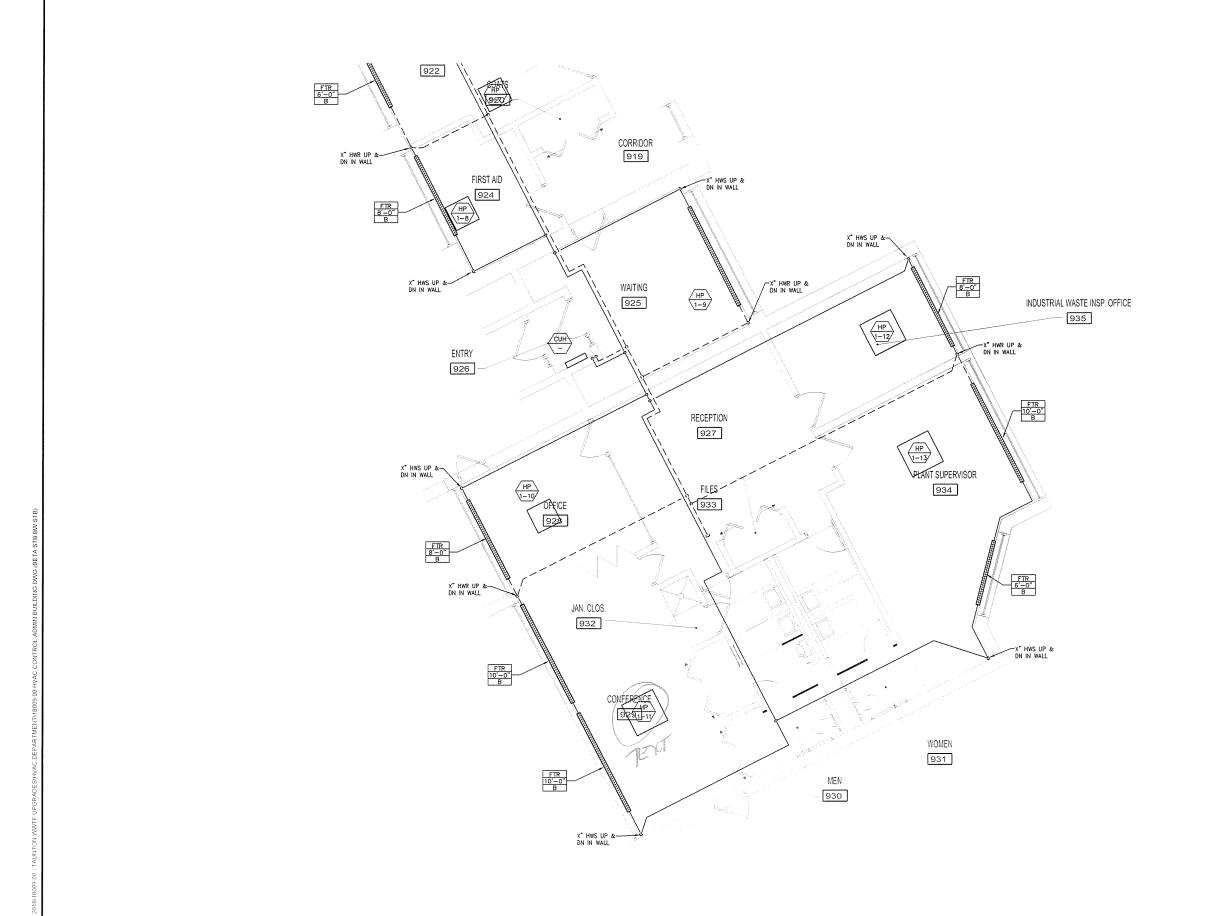
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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Piping Part Plan

10.		REVISIONS	DAT
DRA	WN BY:	RLB	
DES	IGNED BY	: RHB	
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BET	A JOB NO.	: 6050	
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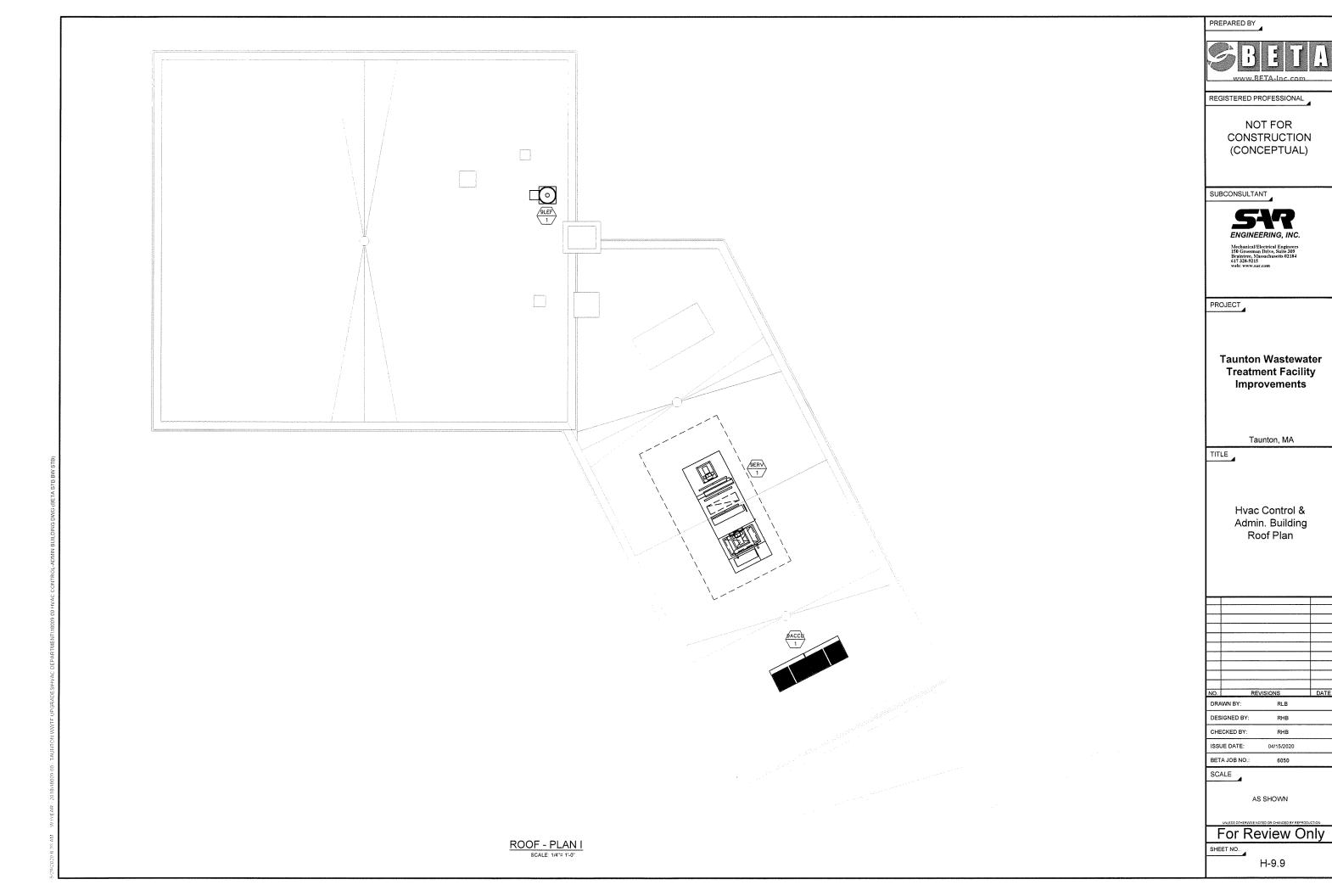
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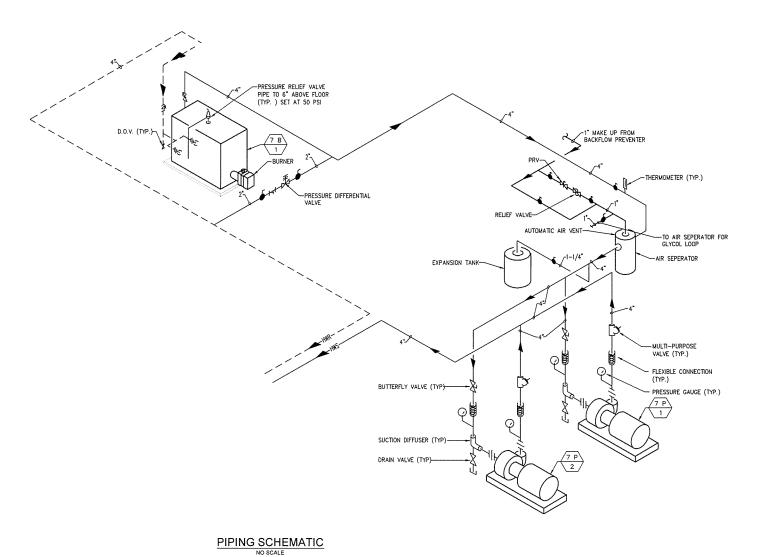
For Review Only

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H-9.8

FIRST FLOOR - PLAN I SCALE: 1/4"= 1'-0"







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PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

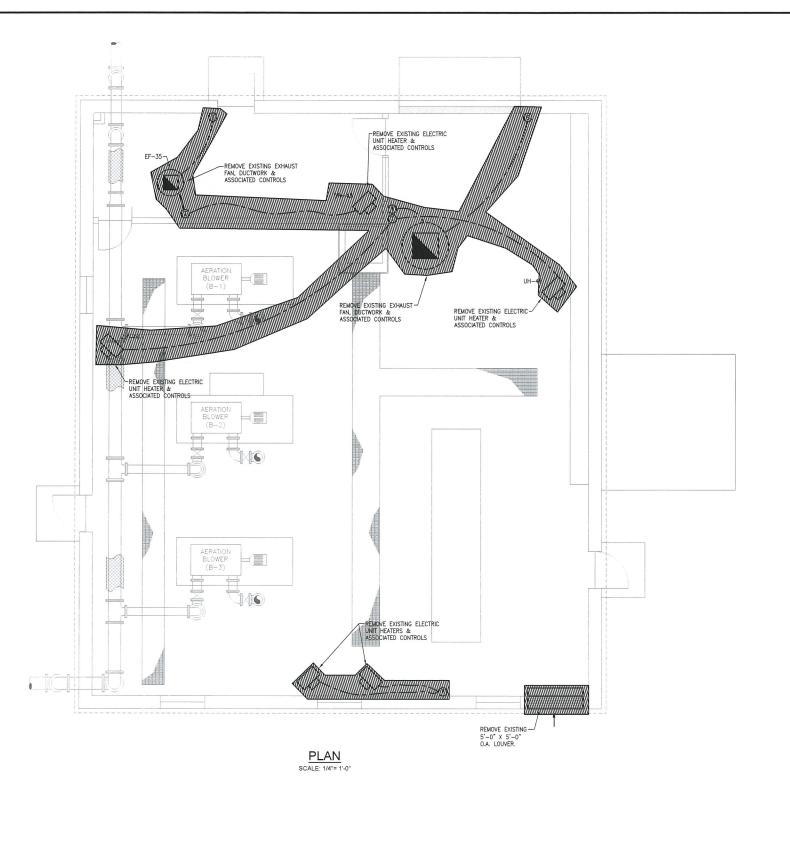
Hvac Control & Admin. Building Boiler Room Piping Schematic

NO.	RE	VISIONS	DATE
DRA	WN BY:	RLB	
DES	SIGNED BY:	RHB	
CHE	ECKED BY:	RHB	
ISSI	JE DATE:	04/15/2020	
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SUBCONSULTANT



Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215 web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Demolition Old Blower Building Plan

0.	RE	VISIONS	DAT
RAWN BY:		RLB	
ESIGNED BY:		RHB	
CHECKED BY:		RHB	
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BET	A JOB NO.:	6050	

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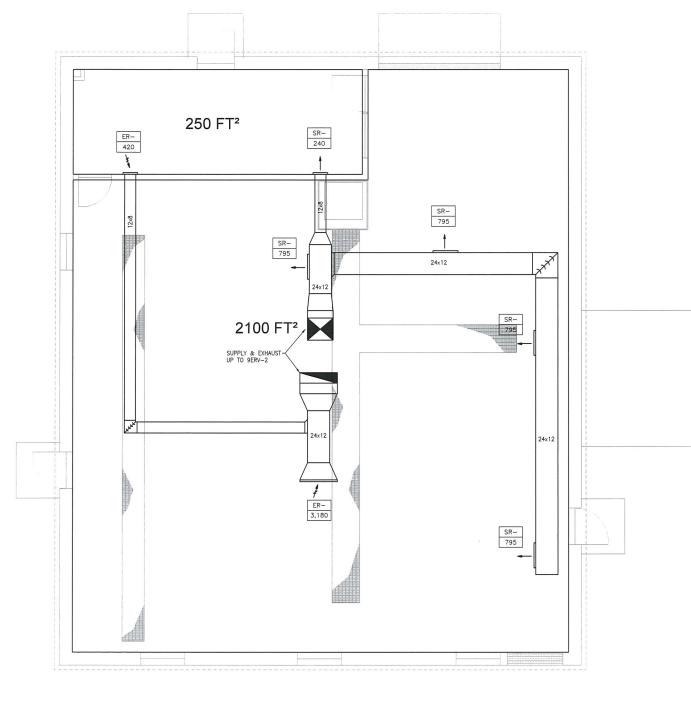
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SHEET NO.

H-9.11

.25 AM WIYEAR - 2018/18009 00 - TAUNTON WWTF UPGRADESNIYAC DEPARTMENT/18009 00 HVAC OLD BLOWER BUILDING DWC



Phase 2

PREPARED BY

BETA

REGISTERED PROFESSIONAL

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SUBCONSULTANT



Mechanical/Electrical Engin-150 Grossman Drive, Suite 3 Braintree, Massachusetts 02: 617 328-9215 web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Old Blower Building Plan

10.	RE	VISIONS	DAT
DRA	WN BY:	RLB	
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ISSUE DATE:		04/15/2020	
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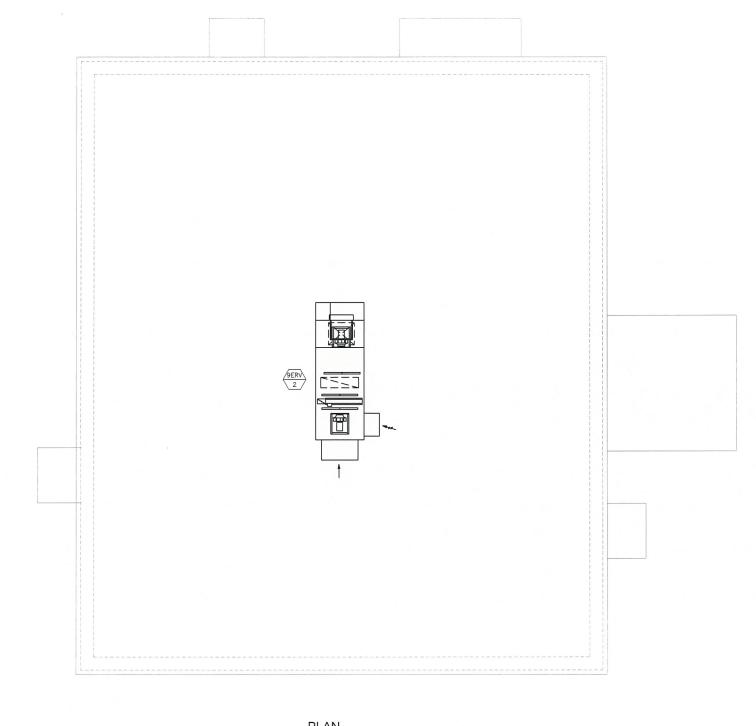
For Review Only

SHEET NO.

H-9.12

WINEAR - 2018/18/2009 00 - TAIINTON WAATE LIBGRADES/HVAC DEPARTMENTS

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



Phase 2

PREPARED BY



REGISTERED PROFESSIONAL

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SUBCONSULTANT



T50 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215 web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

Hvac Old Blower Building Roof Plan

10.	REVISIONS	DAT

 DRAWN BY:
 RLB

 DESIGNED BY:
 RHB

 CHECKED BY:
 RHB

 ISSUE DATE:
 04/15/2020

 BETA JOB NO.:
 6050

SCALE

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CHEET NO

H-9.13

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

### **ABBREVIATIONS**

AM AUTO-MANUAL

CONTROL PANEL DISSOLVED OXYGEN

ES EMERGENCY STOP

ETH ETHERNET

FR FOWARD-REVERSE HIGH

HOA HAND-OFF-AUTO

LR LOCAL-REMOTE MOTOR CONTROLLER (STARTER)

OPEN-AUTO-CLOSE

OPERATOR INTERFACE TERMINAL OXYGEN REDUCTION POTENTIAL

ORP OS OPERATOR STATION

HYDROGEN ION CONCENTRATION

PRESS PRESSURE

SS START-STOP TEMPERATURE

TURB TURBIDITY

VFD VARIABLE FREQUENCY DRIVE

BTE BIOLOGICAL TREATED EFFLUENT

FOUL AIR

FIL FILTRATE LS LIME SLURRY

РМ POLYMER

PRIMARY INFILIENT

PS PRIMARY SLUDGE

PTE PRIMARY TANK EFFLUENT RAS RETURN ACTIVATED SLUDGE

RSW RAW SEWAGE WATER

SAN SANITRAY WASTE

SC SCUM

SBS SODIUM BISULFITE

SHC SODIUM HYPOCHLORITE

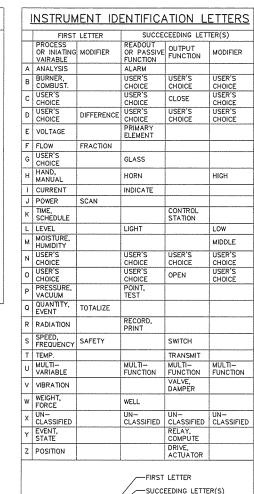
SSE SECONDARY SETTLED EFLUENT

STO SLUDGE THICKENER OVERFLOW

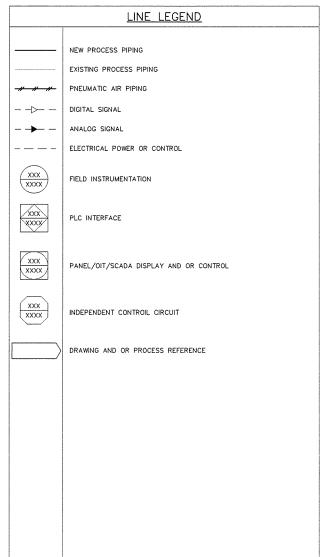
TREATED EFFLUENT WATER

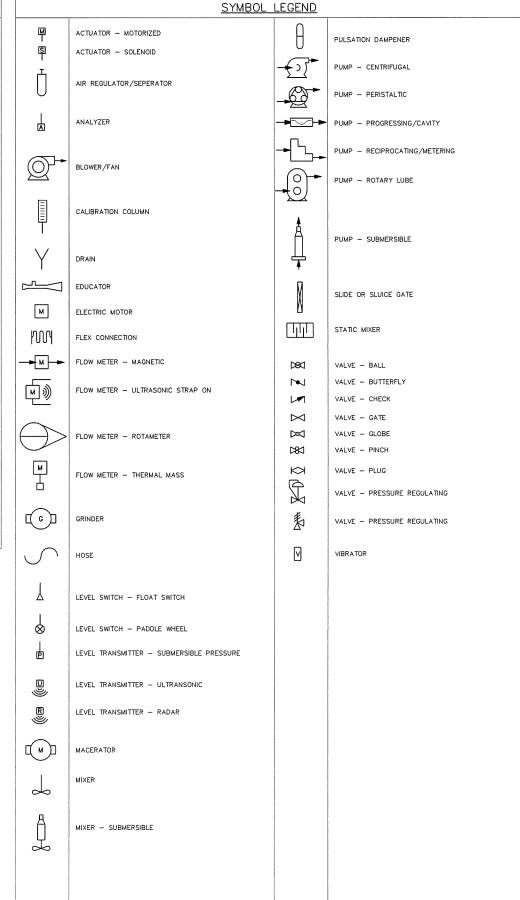
TS THICKENED SLUDGE

WAS WASTE ACTIVATED SLUDGE



(xxxx)







PROJECT

**Taunton Wastewater** Treatment Facility Improvements

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS LEGEND AND NOTES

).	F	REVISIONS	DATE
R/	WN BY:	RB	
ESIGNED BY:		MC	
HECKED BY:		МС	
SUE DATE:		04/15/2020	
ETA JOB NO.:		6050	

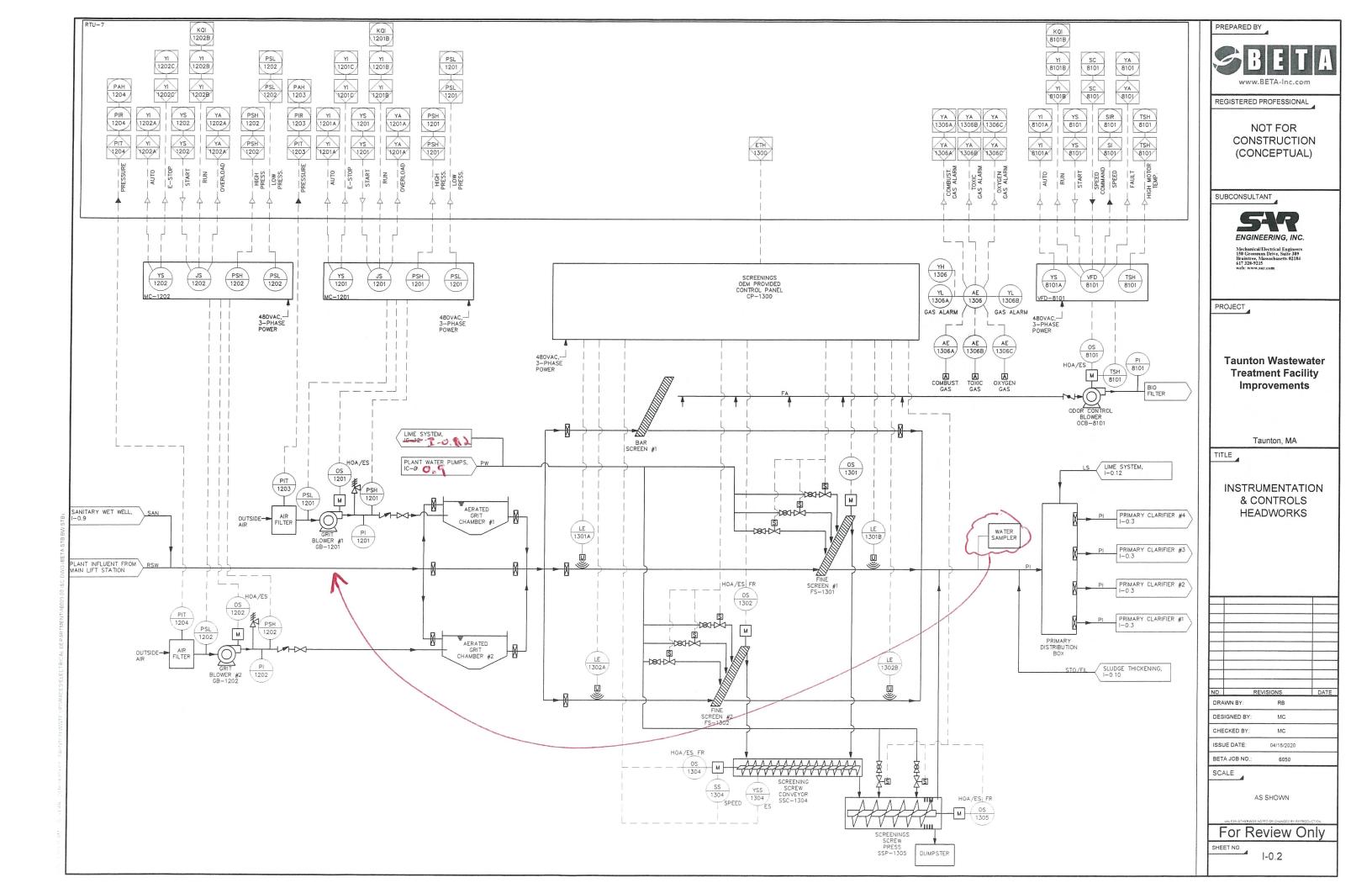
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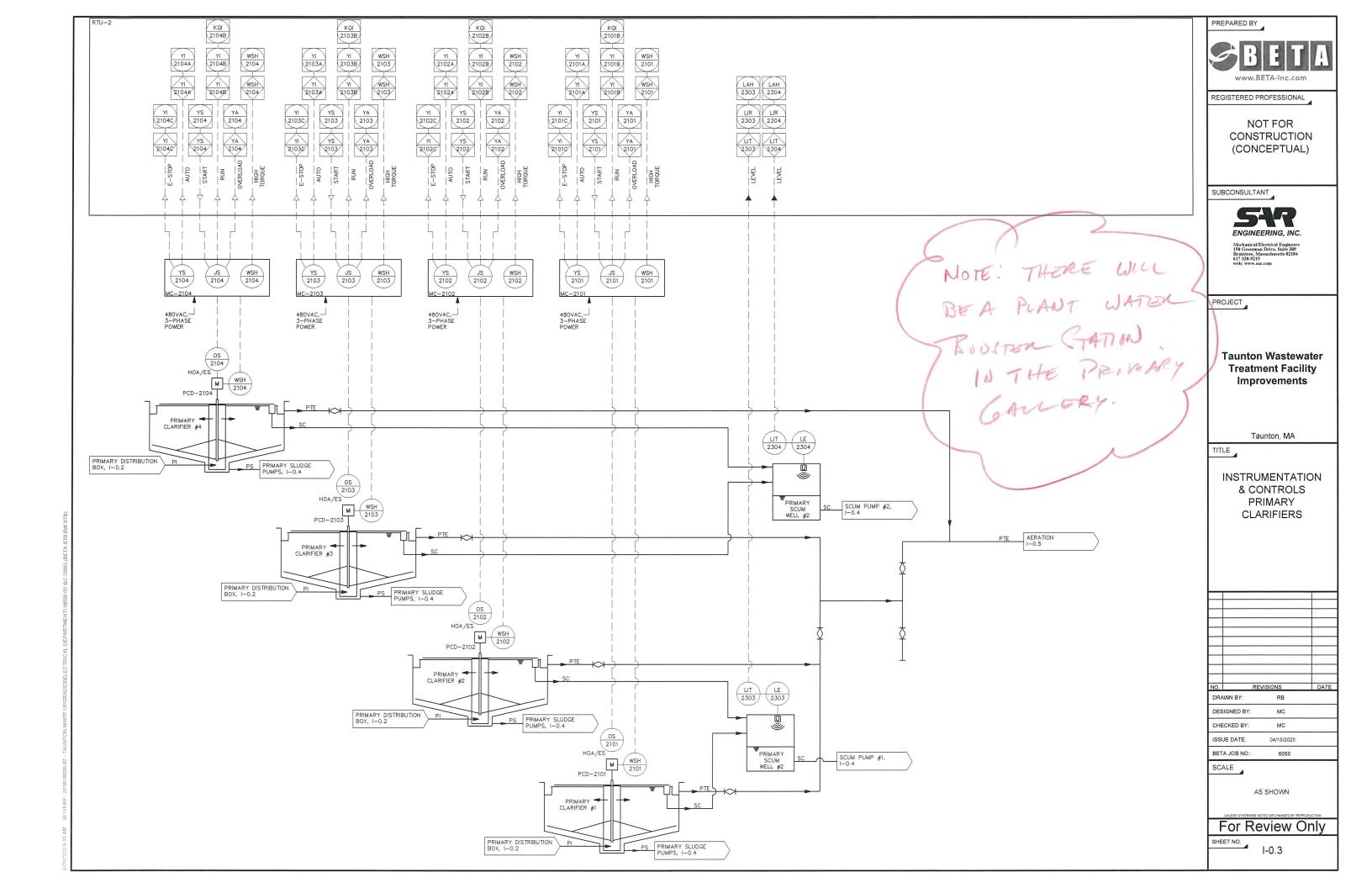
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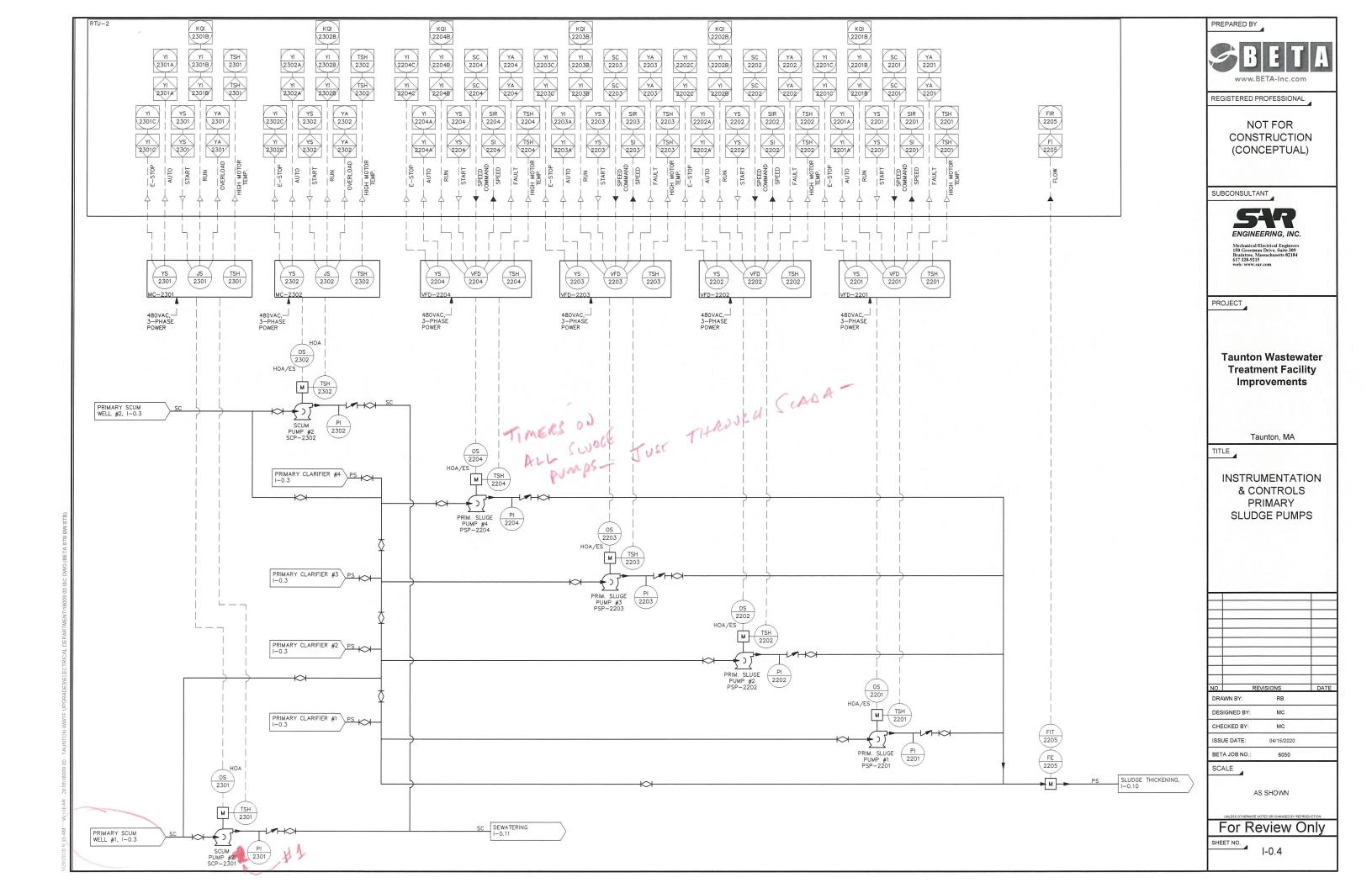
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SCALE

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SUBCONSULTANT



PROJECT

**Taunton Wastewater Treatment Facility** Improvements

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS **AERATION** 

D.	REVISIONS	DATE
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SCALE

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Mechanical/Electrical Engineer 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617 328-9215

PROJECT

Taunton Wastewater Treatment Facility Improvements

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS AERATION

٧٥.		REVISION	NS.	DAT
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CHECKED BY: MC

ISSUE DATE: 04/15/2020

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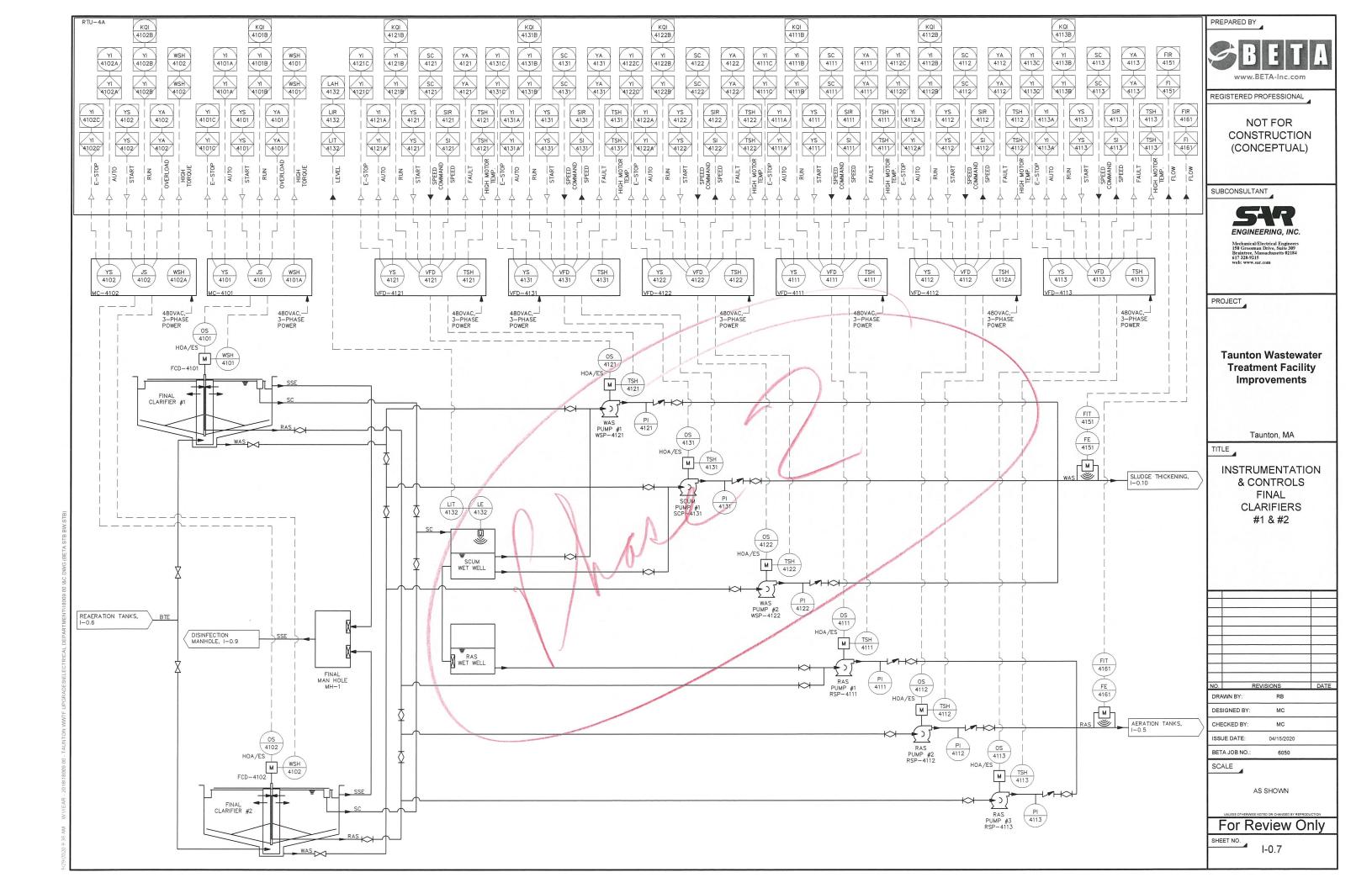
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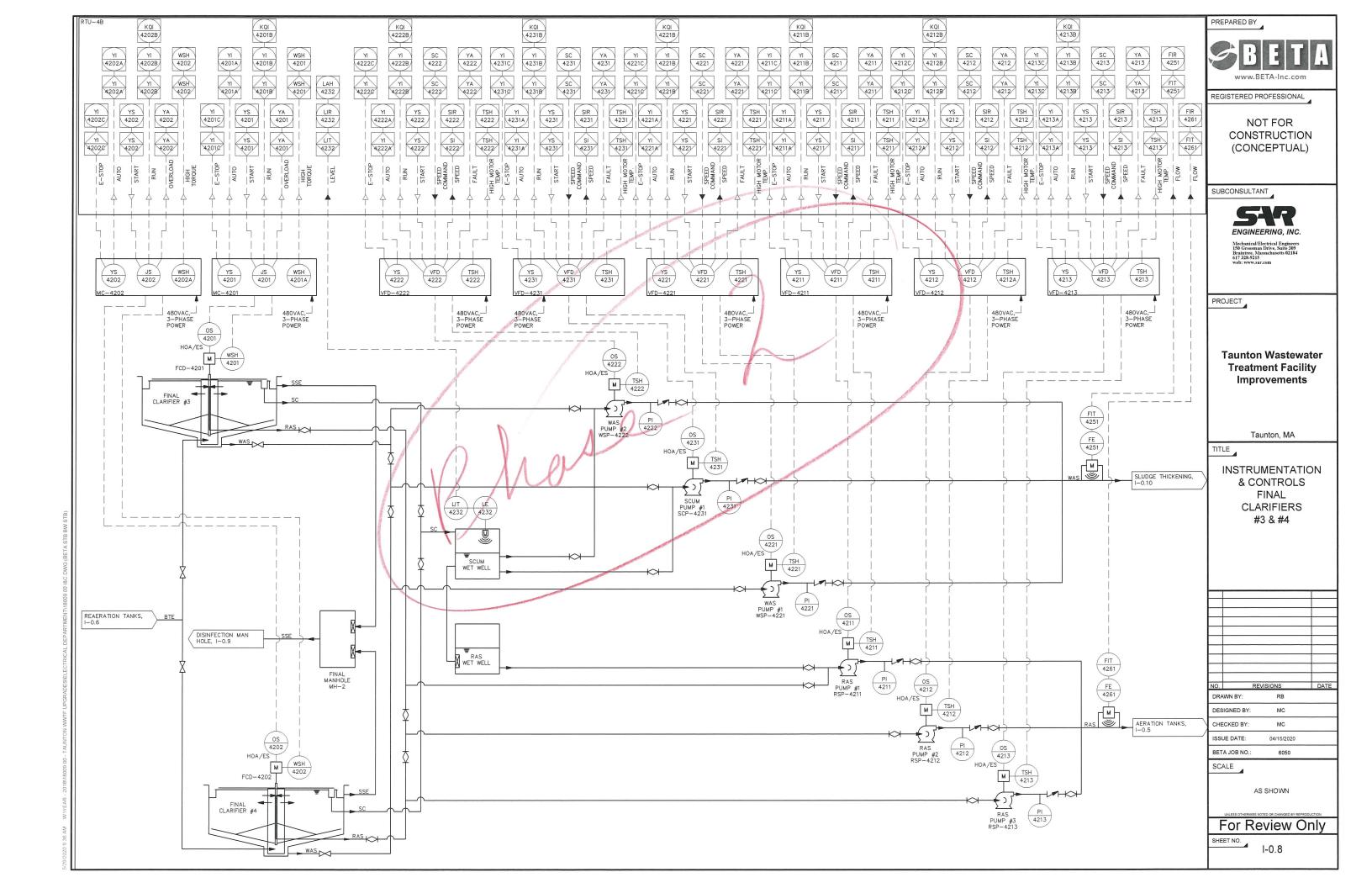
For Review Only

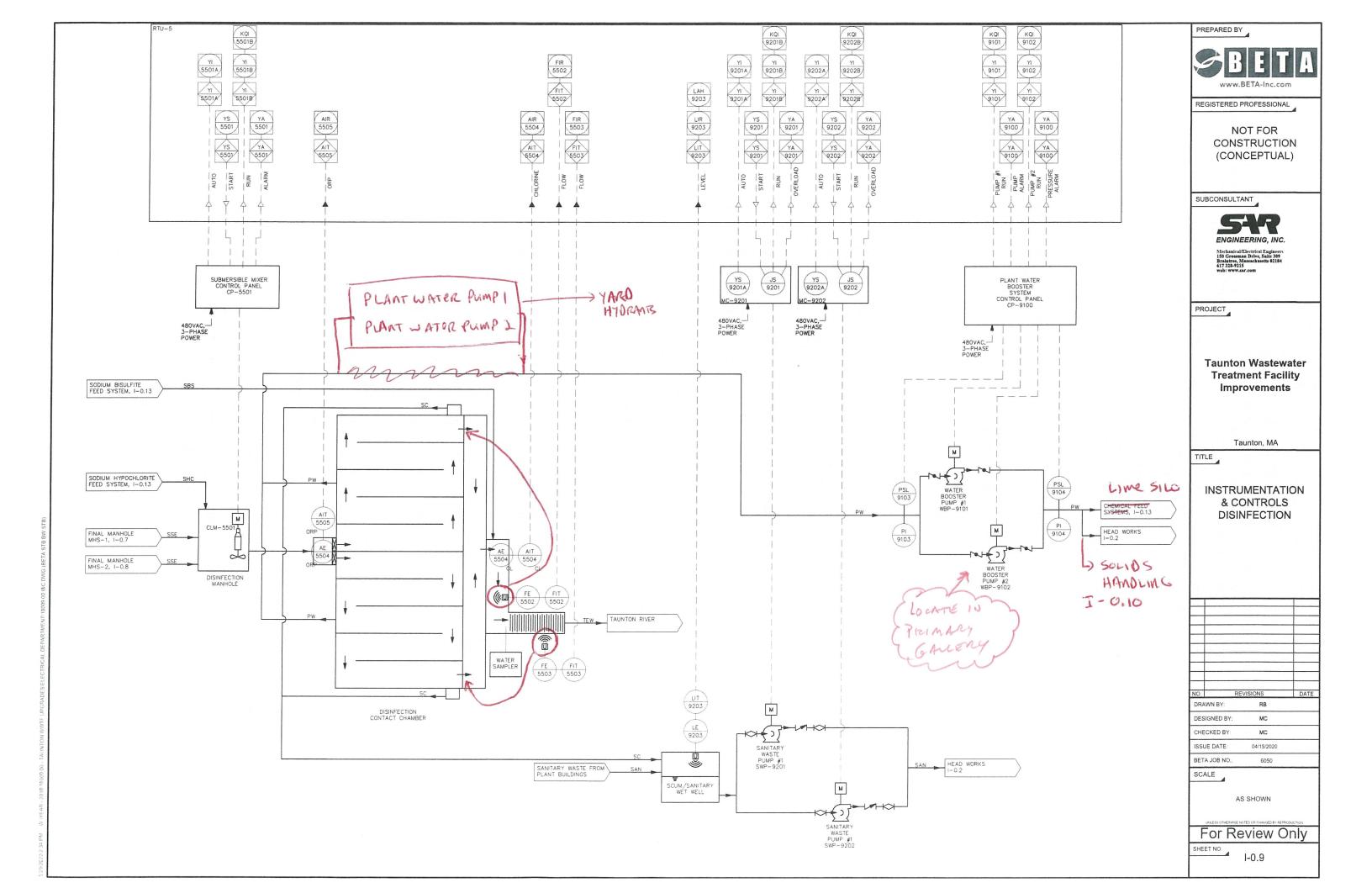
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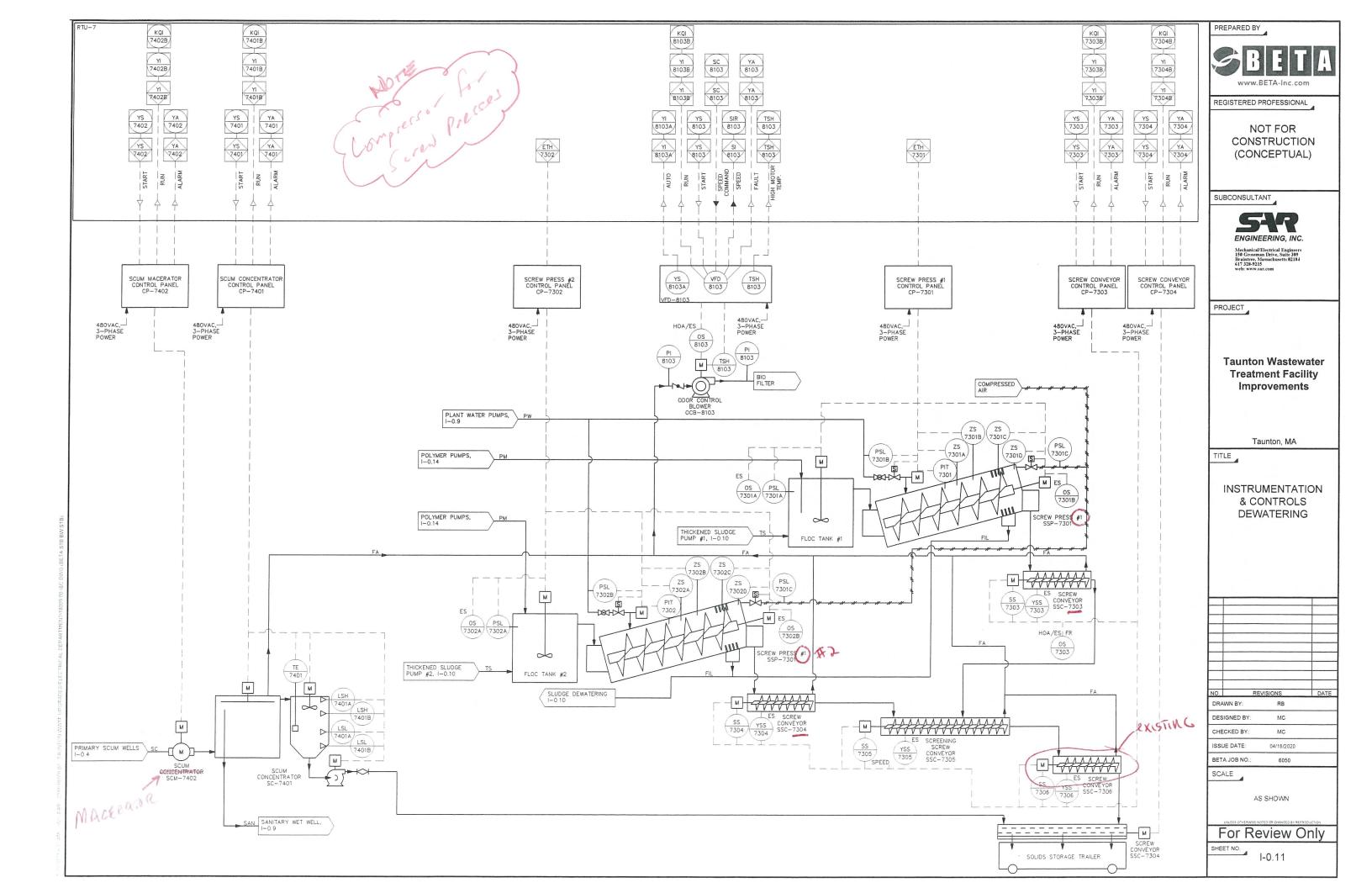
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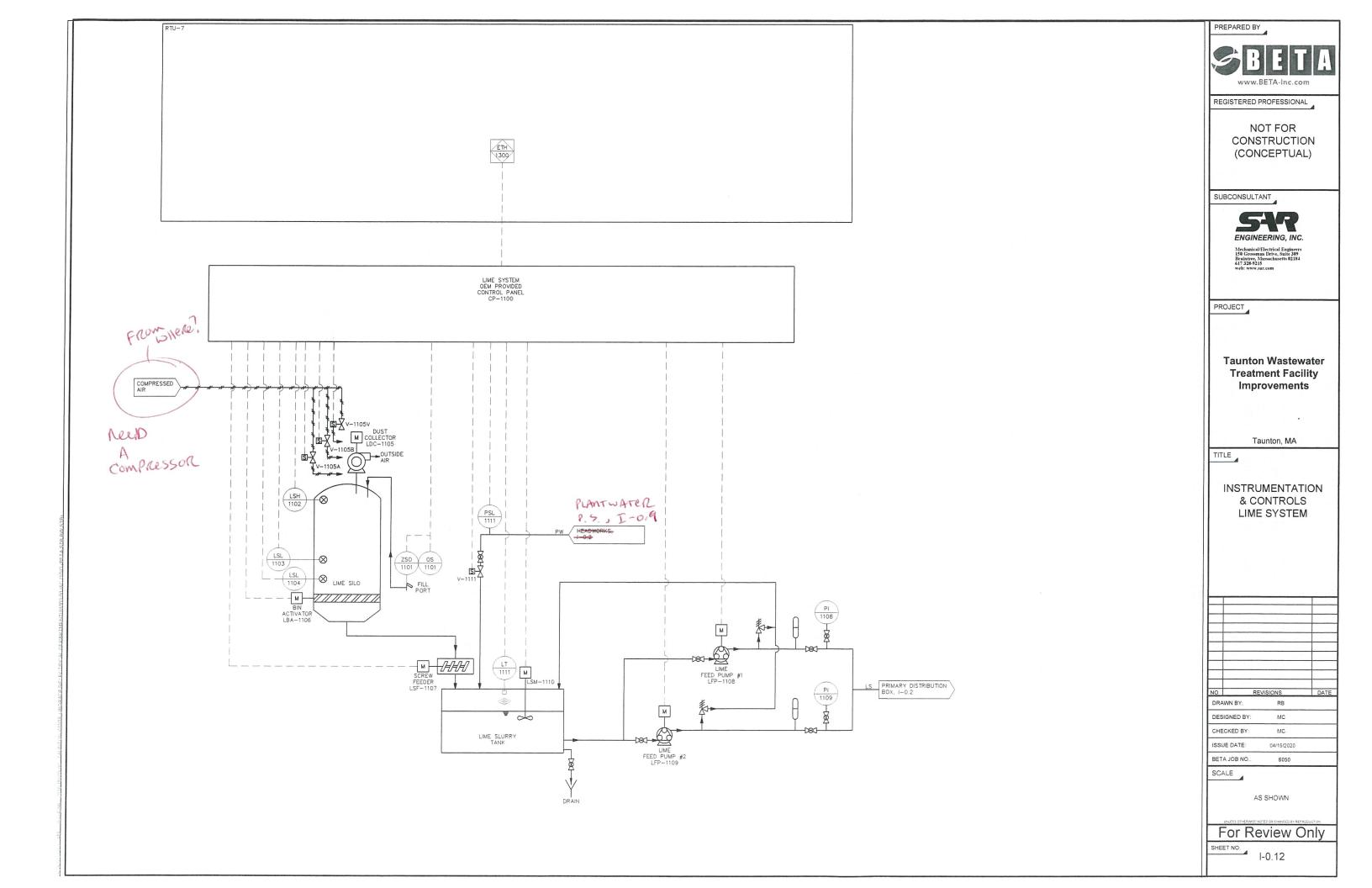
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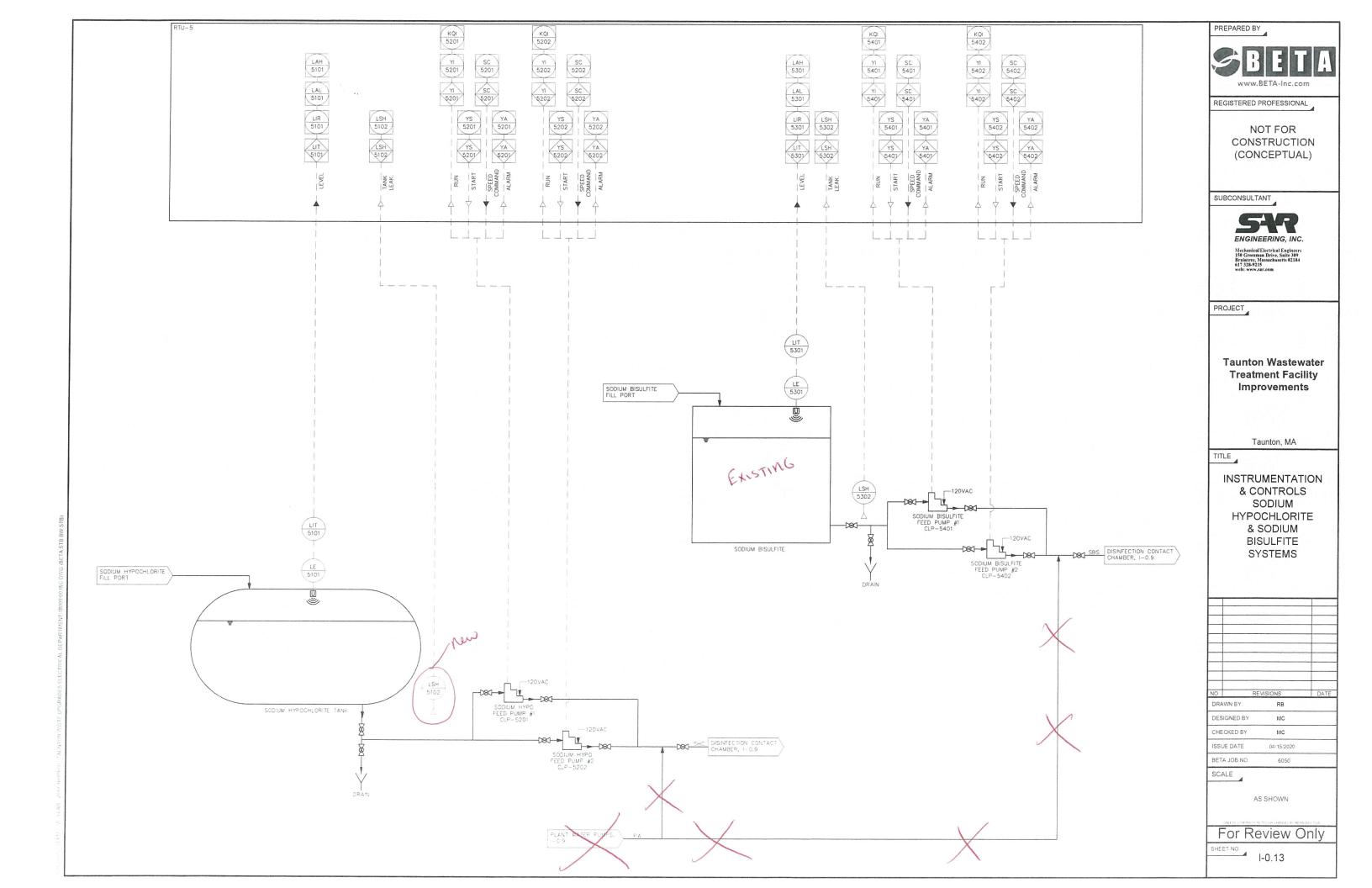


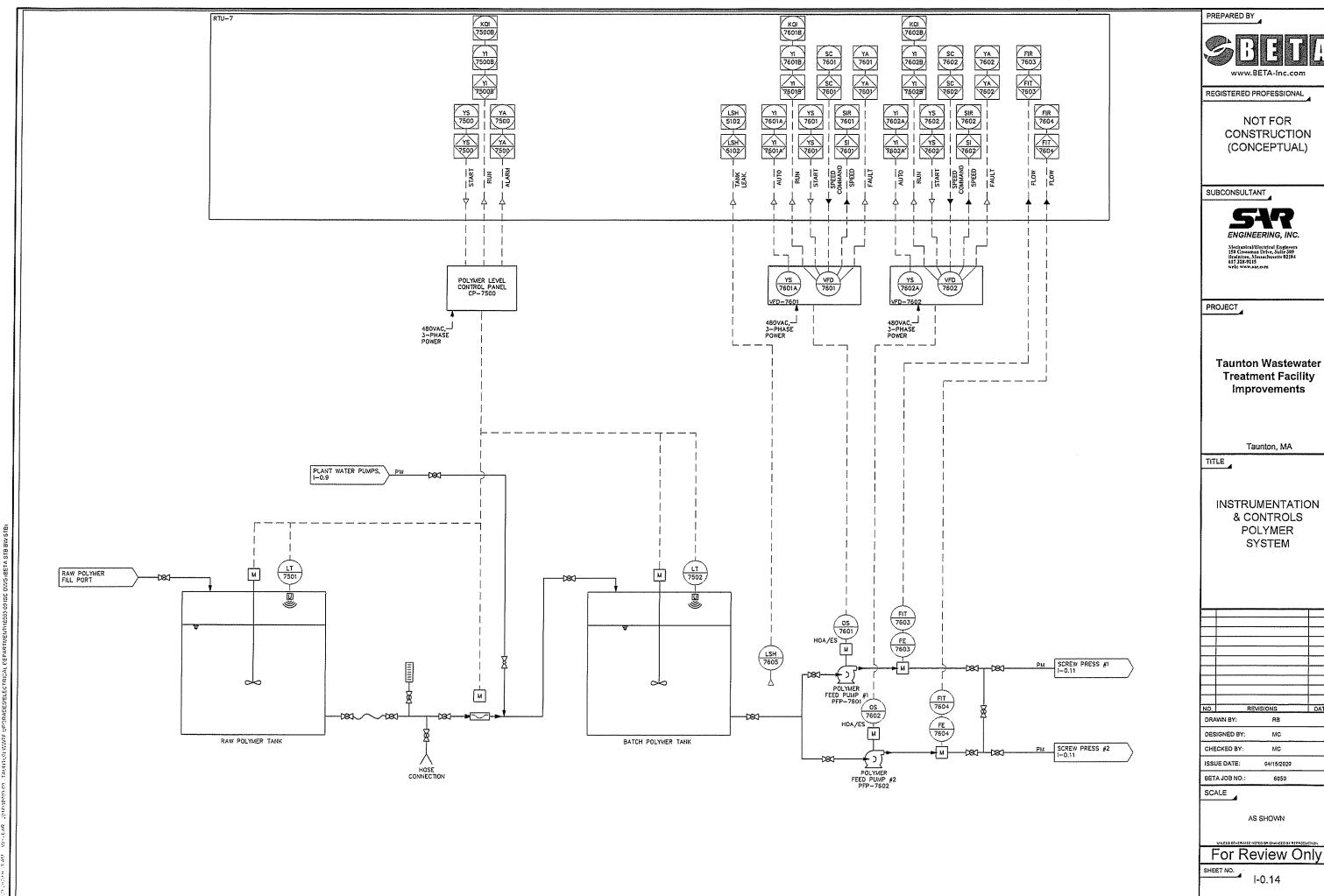


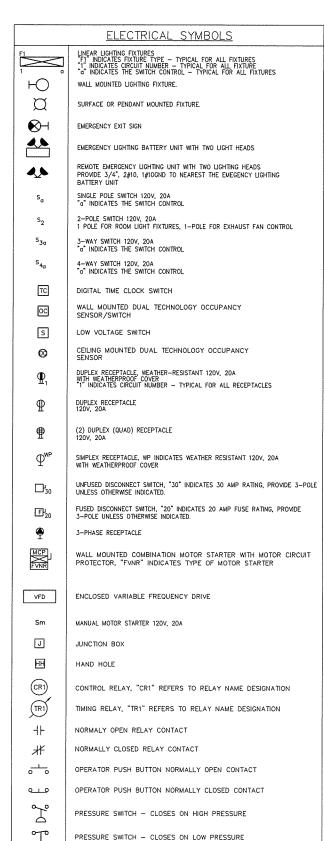








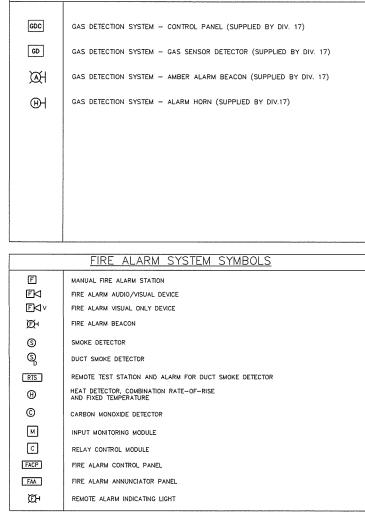




	ELECTRICAL SYMBOLS
	UNDERGROUND CONDUIT DUCT BANK
PP1(1)	HOMERUN DESIGNATION TO PANEL PP1 CIRCUIT #1, WITH THE FOLOWING CONDUIT/WIRES UNLESS OTHERWISE NOTED:  3/4"C WITH 2#12, 1#12GND FOR 20AMP SINGLE PHASE CIRCUITS.  3/4"C WITH 2#12, 1#12GND FOR 30AMP THREE PHASE CIRCUITS.  3/4"C WITH 2#10, 1#10GND FOR 30AMP SINGLE PHASE CIRCUITS.  3/4"C WITH 3#10, 1#10GND FOR 30AMP THREE PHASE CIRCUITS.  3/4"C WITH 3#8, 1#10GND FOR 40AMP & 50AMP SINGLE PHASE CIRCUITS.  3/4"C WITH 3#8, 1#10GND FOR 40AMP & 50AMP THREE PHASE CIRCUITS.
<del>-×-</del>	EYS TYPE CONDUIT SEAL
SPD	SURGE PROTECTION DEVICE
Ø	UTILITY POLE
\( \frac{20}{100} \)	MOLDED CASE CIRCUIT BREAKER, 3—POLE UNLESS OTHERWISE INDICATED, "20" INDICATES TRIP AMPERE RATING, "100" INDICATES FRAME SIZE, "GFCI" INDICATES CIRCUIT BREAKER TO HAVE GROUND FAULT CIRCUIT INTERRUPT
₽	ELECTRIC HAND HOLE (REFER TO SITE DETAILS)
0	3/4"ø X 10"-0" COPPER CLAD GROUND ROD
<u> </u>	BUILDING GROUNDING SYSTEM
10)	MOTOR, "10" INDICATES HORSEPOWER RATING
⟨xx⟩	CABLE/CONDUIT DESIGNATION, "XX" REFERS CABLE CONDUIT REFERENCE, REFER TO CABLE/CONDUIT SCHEDULES.
OS-XXXX YYY XX-XXXX	OPERATOR STATION (SUPPLIED BY OTHER DIV. 16), "XXXXX" REFERS TO TAGNAME ID, HOA REFERS TO THE "YYY" REFERS TO THE TYPE OF OPERATOR STATION UNLESS OTHERWISE NOTED INSTRUMENATION OR PROCESS EQUIPMENT (SUPPLIED BY OTHER DIVISIONS) "XX—XXXXX" REFERS TO TAGNAME ID
E	GENERATOR EMERGENCY STOP
0	OCCUPIED/UNOCCUPIED SELECTOR SWITCH. (SUPPLIED BY DIV. 16)
T	THERMOSTAT (SUPPLIED BY DIV. 15)
M	MOTOR OPERATEO DAMPER (SUPPLIED BY DIV. 15)
P1111	ELECTRIC UNIT HEATER, "X" INDICATES UNIT ELECTRIC COIL RATING (SUPPLIED BY DIV. 15)
CUH 1 P11-LP (21)	EQUIPMENT CIRCUIT NUMBER DESIGNATION TO PANEL PP1-LP CIRCUIT #21,

## GENERAL NOTES

- GENERAL CONTRACTOR TO PROVIDE CONCRETE HOUSEKEEPING PADS ON ALL FLOOR AND GRADE MOUNTED ELECTRICAL EQUIPMENT, EQUIPMENT INDICATED ON THE DRAWINGS IS THE MINIMUM REQUIREMENT FOR HOUSEKEEPING PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE ELECTRICAL CONTRACTORS MOUNTING METHODS, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL HOUSEKEEPING PAD SIZES AND
- ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
- BONDING JUMPERS, CONDUIT CLAMPS AND POINTS OF ATTACHMENT ARE NOT SHOWN ON DRAWINGS. SIZE BONDING JUMPERS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE POINTS OF ATTACHMENT OF THE GROUND CLAMPS SHALL BE ACCESSIBLE LOCATIONS.
- EQUIPMENT & CONDUIT INSTALLATIONS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
- CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G.
- SHALL BE USED UNLESS OTHERWISE NOTED.
- RECEPTACLES AND SWITCHES SHALL BE MOUNTED 45" ABOVE FINISHED FLOOR
- THE WIRING AND BLOCK DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL AND PROCESS EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON



**ELECTRICAL SYMBOLS** 

#10GND 3/4" CE AFF AFG AR ATS CR CP DRG. DWG EAN EC FTM FE FIT FS FT FVNR GND, GRD HOA нн J OR JB JPB LE LIT LL LS LT МС MCC MFR NTS OH OL PB PBE PBL

VFD

WSE

**ABBREVIATIONS** (2)1"C, 3#8, 2, 1-INCH CONDUITS EACH CONDUIT CONTAINING 3-#8 AWG WIRES AND 1-#10 GROUND CONDUCTOR EMPTY CONDUIT. NUMERAL DENOTES SIZE ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ALARM RELAY AUTOMATIC TRANSFER SWITCH CONTROL RELAY CONTROL PANEL DRAWING EXCEPT AS NOTED ELECTRICAL CONTRACTOR ELAPSED TIME METER FLOW ELEMENT FLOW INDICATOR TRANSMITTER FLOW SWITCH FLOW TRANSMITTER FULL VOLTAGE NON-REVERSING GROUNDING CONDUCTOR (EQUIPMENT) HAND-OFF-AUTOMATIC HANDHOLE JUNCTION BOX JOG PUSHBUTTON LEVEL ELEMENT LEVEL INDICATOR TRANSMITTER LOW LEVEL LEVEL SWITCH LEVEL TRANSMITTER MOTOR CONTROLLER (STARTER) MOTOR CONTROL CENTER MANHOLE MANUFACTURER NOT TO SCALE OVERHEAD MOTOR OVERLOAD HEATER PUSHBUTTON CONTROL STATION MOMENTARY CONTACT TYPE, STOP START PUSHBUTTON CONTROL STATION MAINTAINED EMERGENCY STOP TYPE, TWIST TO RELEASE PUSHBUTTON CONTROL STATION MOMENTARY
TYPE WITH LOCK-OUT DEVICE, STOP-START РВМ PUSHBUTTON CONTROL STATION MAINTAINED CONTACT TYPE, STOP START PIT PRESSURE INDICATOR TRANSMITTER PL PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK-OUT DEVICE, STOP PS PT PRESSURE TRANSMITTER RGS RIGID GALVANIZED STEEL RVNR REDUCED VOLTAGE NON-REVERSING SPD SURGE SUPPRESSOR DEVICE SOLENOID VALVE S/S SOFT STARTER TB TERMINAL BOX MOTOR TEMPERATURE DETECTOR TD TR TIMING RELAY TEMPERATURE SWITCH TSP TWISTED SHEILDED PAIR TSTW TWO SPEED TWO WINDING TYP TYPICAL UG UNDERGROUND UNO UNLESS OTHERWISE NOTED

VARIABLE FREQUENCY DRIVE

WATER PROOF

HIGH TORQUE SWITCH

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REGISTERED PROFESSIONAL

NOT FOR CONSTRUCTION (CONCEPTUAL)

SUBCONSULTANT

PREPARED BY



PROJECT

**Taunton Wastewater** Treatment Facility Improvements

Taunton, MA

TITLE

**ELECTRICAL** LEGEND AND NOTES

DRAWN BY DESIGNED BY МС

CHECKED BY: MC ISSUE DATE: 04/15/2020 BETA JOB NO. 6050

SCALE

For Review Only

SHEET NO.

## DEMOLITION NOTES

- UNLESS OTHERWISE NOTED. ALL EXISTING ELECTRICAL SYSTEMS (POWER, LIGHTING, LOW VOLTAGE, CONTROLS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OF SALVAGED. DISCONNECT AND DE-ENERGIZE THE EQUIPMENT. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES, CONDUIT, CABLING, BOXES, SUPPORTS, ETC, ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED. THE CONDUIT AND CABLING SHALL BE REMOVED BACK TO SOURCE.
- NO DEVICE OR EQUIPMENT INDICATED FOR DEMOLITION WILL BE REUSED OR SALVAGED UNLESS SPECIFICALLY NOTED AS SUCH. ALL EQUIPMENT REMOVED SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF, PRIOR TO REMOVAL OF EQUIPMENT COORDINATE WITH OWNER FOR ANY EQUIPMENT THE OWNER WILL KEEP.
- EXISTING EQUIPMENT INDICATED ON THE DEMOLITION PLANS ARE BASED ON SITE OBSERVATIONS AND IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL EQUIPMENT AND MATERIALS TO BE DISCONNECTED AND/OR REMOVED.