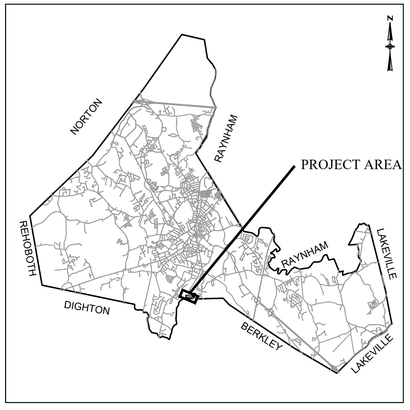
City of Taunton, Massachusetts

Wastewater Treatment Facility Improvements
Phase I



LOCATION MAP
NOT TO SCALE

LOCUS MAP
NOT TO SCALE

Mayor
Shaunna O'Connell

Department of Public Works
Frederic J. Cornaglia - Commissioner
Anthony Abreau - Assistant Commissioner

City Engineer
Michael Patneaude, P.E.

City Council
Deborah Carr
Donald L. Cleary
Chris Coute
Gerald Croteau
Phillip Duarte
John M. McCaul
Jeff Postell
David W. Pottier
Barry Sanders

Contract S-2021-1
CWSRF No. 4605

Issue Date:
July 2, 2021

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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INDEX OF DRAWINGS

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Sheet Index I

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Sheet Index II

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LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CURB OR BERM (TYPE AS NOTED)
EOP	EOP	EDGE OF PAVEMENT
CB	CB	CATCH BASIN (OR GUTTER INLET, LEACHING BASIN, DROP INLET, CATCH BASIN CURB INLET)
EHH	EHH	ELECTRIC HANDHOLE (NUMBER AS NOTED)
E	EMH	ELECTRIC MANHOLE
T	TMH	TELEPHONE MANHOLE
W	WMH	WATER MANHOLE
S	SMH	SEWER MANHOLE
D	DMH	DRAINAGE MANHOLE
GG	GG	GAS GATE
WG	WG	WATER GATE
CS	CS	CURB STOP
HYD.	HYD	HYDRANT
FA	FAB	FIRE ALARM BOX
LP		STREET LIGHT POLE
UP	UP	UTILITY POLE
UPL	UPL	UTILITY POLE w/ LIGHT
		SIGN
GUY	GUY	GUY POLE
12" RCP D	10'-12" RCP	DRAIN PIPE (SIZE AS NOTED)
8" VC S	10'-8" PVC	SEWER MAIN (SIZE AS NOTED)
E	10'-8" PVC	ELECTRIC DUCT
4" HP G	10'-4" HP	GAS MAIN (SIZE AS NOTED)
8" CI W	10'-8" DI	WATER MAIN (SIZE AS NOTED)
T	10'-8" PVC	TELEPHONE DUCT (SIZE AS NOTED)
EOH	OHW	OVERHEAD WIRE
		WOOD GUARD RAIL STEEL BEAM GUARD, WOOD OR STEEL POSTS (TYPE AS NOTED)
		STEEL GUARD RAIL, STEEL POSTS (TYPE NOTED)
		STONE WALL
		RETAINING WALL (TYPE NOTED)
℄		PROPERTY LINE
		EASEMENT LINE (TYPE NOTED)
	2+00	CONSTRUCTION BASELINE
N00°00'00"E 000.00'		SURVEY LINE
		WHEELCHAIR RAMP
		HEDGE/SHRUBS
x x x	x x x	FENCE (SIZE AND TYPE AS NOTED)
WF-1		EDGE OF WETLAND W/ FLAGGED NUMBER
		EDGE OF RIVER/STREAM LINE
		100-FT. WETLAND BUFFER LIMIT
		100-FT. RIVER FRONT LIMIT
		200-FT. RIVER FRONT LIMIT
		WOODED AREA / LIMIT OF CLEARING
x 00.0	x 00.00	SPOT GRADE
		SAW CUT LINE
	TP-1	TEST PIT
	B-1	BORING
ECB	ECB	EROSION CONTROL BARRIER/COMPOST FILTER TUBES
5	5	CONTOUR - MAJOR
4	4	CONTOUR - MINOR

ABBREVIATIONS

GENERAL

ABAN.	ABANDON
ADJ.	ADJUST
ALT.	ALTERATION
APPROX.	APPROXIMATE
B	BASELINE
B.B.	BITUMINOUS BERM
B.C.	BITUMINOUS CURB
BD OR BND	BOUND
BLDG	BUILDING
B.O.	BY OTHERS
CC	CONCRETE CURB
CEM	CEMENT
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
DWY	DRIVEWAY
EOP	EDGE OF PAVEMENT
EL.	ELEVATION
ESMT.	EASEMENT
EXIST.	EXISTING
FDN.	FOUNDATION
GRAN.	GRANITE
GC	GRANITE CURB
HOR.	HORIZONTAL
IP	IRON PIPE
JCT	JUNCTION
LP	LOW POINT
O.C.	ON CENTER
PERM.	PERMANENT
PROP.	PROPOSED
PVMT.	PAVEMENT
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STOCKPILE
REM.	REMOVE
REMOD.	REMODEL
RET.	RETAIN
RT.	RIGHT
SDWK	SIDEWALK
SHT.	SHEET
STA.	STATION
TEMP.	TEMPORARY
TOW	TOP OF WALL
TYP.	TYPICAL
VAR.	VARIABLE
VERT.	VERTICAL
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP

UTILITIES

ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
CS	CORRUGATED STEEL PIPE
DI	DUCTILE IRON PIPE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FM	FORCE MAIN
GIP	GALVANIZED IRON PIPE
GG	GAS GATE
HDW	HEADWALL
HYD.	HYDRANT
INV.	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
PVC	POLY-VINYL-CHLORIDE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
SD	SUBDRAIN
SMH	SEWER MANHOLE
TSV&B	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE
UPL	UTILITY POLE w/ LIGHT
UPT	UTILITY POLE w/ TRANSFORMER
VC	VITRIFIED CLAY
WI	WROUGHT IRON
WG	WATER GATE
WM	WATER METER/WATER MAIN

FLOW STREAM IDENTIFICATION

A	AIR
BFA	BIOFILTER AIR
BTE	BIOLOGICAL TREATMENT TANK EFFLUENT
CLS	CHLORINE SOLUTION
CW	CITY WATER
D	DRAIN
FCE	FINAL CLARIFIER EFFLUENT
FL	FILTRATE
FS	FOAM SPRAY
G	NATURAL GAS
HE	HEADWORKS EFFLUENT
IR	INTERNAL RECYCLE (BIOLOGICAL TREATMENT)
LS	LIME SLURRY
ML	MIXED LIQUOR
OF	OVERFLOW
PA	PROCESS AIR
PE	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
PMR	POLYMER
PS	PRIMARY SLUDGE
PW	PLANT WATER
RAS	RETURN ACTIVATED SLUDGE
SAXE	SECONDARY ANOXIC TANK EFFLUENT
SB	SODIUM BISULFITE
SS	SANITARY SEWER
SFM	SEWER FORCE MAIN
SC	SCUM
SCR	SCREENINGS
SSE	SECONDARY STAGE AFFLUENT
SH	SODIUM HYPOCHLORITE
SHX	SODIUM HYDROXIDE
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE

MECHANICAL EQUIPMENT

BL	BLOWER
BS	BAR SCREEN
CP	CONTROL PANEL
GC	GRIT CLASSIFIER
GP	GRIT PUMP
GSC	GRIT SCREW CONVEYOR
IP	IN-PLANT PUMP
LE	LEVEL ELEMENT
MIX	MIXER
P	PUMP
RSP	RETURN SLUDGE PUMP
SC	SCREENINGS CONVEYOR
SG	SLUICE GATE
SIL	SILENCER
SP	SEPTAGE PUMP
ST	STORAGE TANK
WSP	WASTE SLUDGE PUMP

SYMBOLS

VALVES, GATES & ACTUATORS*

- BALL CHECK VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DIAPHRAGM VALVE
- END CAP
- GATE VALVE
- GLOBE VALVE
- KNIFE GATE VALVE
- MANUAL OPERATOR
- MOTOR ACTUATOR
- PINCH VALVE
- PLUG VALVE
- SLIDE GATE
- SLUICE GATE
- SOLENOID ACTUATOR
- V-PORT BALL VALVE
- BACK PRESSURE VALVE
- PRESSURE RELIEF VALVE
- PRESSURE VALVE
- REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP
- VACUUM RELIEF VALVE
- HYDRANT

MECHANICAL EQUIPMENT*

- CENTRIFUGAL PUMP
- SUBMERSIBLE PUMP
- METERING PUMP
- PLUNGER PUMP
- SUBMERSIBLE AXIAL FLOW PUMP
- TURBINE PUMP
- DOUBLE DISC PUMP
- CENTRIFUGAL BLOWER
- POSITIVE DISPLACEMENT BLOWER
- MEMBRANE PUMP
- SURFACE AERATOR
- PERISTALTIC PUMP

MISCELLANEOUS*

- SAMPLE PORT
- WEIR FLOW
- MIXER
- CALIBRATION CHAMBER
- PULSATION DAMPENER
- SUBMERSIBLE MIXER
- ANALOG ELEMENT WITH DESCRIPTION
- STATIC MIXER
- PRESSURE SWITCH
- HOSE CONNECTION
- DRAIN
- TANK VENT
- FLOW SIGHT TUBE
- STRAINER
- DIFFUSED AERATION
- PRESSURE INDICATOR WITH DIAPHRAGM
- REDUCING COUPLING
- PRESSURE GAUGE
- FLOAT TYPE LEVEL SENSOR
- ELECTRONIC STROKE COUNTER
- LIMIT SWITCH
- LEVEL ELEMENT
- ROTOMETER
- PROCESS FLOW
- FLOWMETER
- FOAM SPRAY NOZZLE

*NOTE:
ALL EXISTING FLOW STREAMS, VALVES, GATES, ACTUATORS, AND EQUIPMENT SHOWN LIGHT ON DRAWINGS, ALL NEW FLOW STREAMS, VALVES, GATES, ACTUATORS, AND EQUIPMENT SHOWN DARK ON DRAWINGS.

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SCALE

NONE

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GENERAL CIVIL NOTES

1. SURVEY INFORMATION:

   –TOPOGRAPHIC SURVEY COMPLETED BY LIGHTHOUSE LAND SURVEYING LLC IN NOVEMBER, 2018. PROPERTY LINES AND ABUTTING OWNER INFORMATION OBTAINED FROM THE "OFFICE OF GEOGRAPHIC INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS, MASSIT". IT IS NOT INTENDED TO REFLECT THAT A TITLE SEARCH WAS PERFORMED.

   – VERTICAL DATUM: TAUNTON CITY BASE
   – HORIZONTAL DATUM: MASSACHUSETTS STATE PLANE – MAINLAND ZONE NAD83

2. THE LOCATION, SIZE, AND MATERIAL OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES AND/OR UTILITIES SHOWN ON THESE PLANS ARE FROM THE BEST SOURCES AVAILABLE AT PRESENT AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES, UTILITIES OR STRUCTURES ARE SHOWN. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR IN FIELD.

3. EXISTING UTILITIES DEPICTED ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY ALL UTILITY COMPANIES (PUBLIC AND PRIVATE). IN ADDITION, "DIG SAFE" MUST BE CONTACTED AT 1(800)–322–4844.

4. EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED AND SUPPORTED AT ALL TIMES BY THE CONTRACTOR. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO INTERFERE AS LITTLE AS POSSIBLE WITH EXISTING UTILITIES. PAYMENT FOR PROVIDING SAID PROTECTION AND SUPPORTS SHALL BE CONSIDERED A PART OF AND PAID FOR UNDER THE APPROPRIATE ITEMS UNLESS OTHERWISE INDICATED AND/OR DIRECTED BY THE OWNER. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION BY REASON OF DELAY AND/OR INCONVENIENCE IN ADAPTING HIS OPERATIONS ACCORDINGLY.

5. ALL DIMENSIONS AND JOB RELATED CONDITIONS ARE TO BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES FOUND ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER AND PROPERLY RESOLVED BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. CONTINUATION WITH OTHER ASPECTS OF THE WORK SHALL PROCEED WITHOUT DELAY OR CAUSE FOR CLAIM.

6. IF TRENCH DEWATERING IS REQUIRED, DISCHARGE OF FINES OR SEDIMENTS TO CATCH BASINS, WETLANDS, PONDS OR THE OCEAN IS NOT PERMITTED. CONTRACTOR IS RESPONSIBLE FOR DESIGNING, OPERATING AND MAINTAINING DEWATERING SYSTEMS AND SEDIMENT REMOVAL SYSTEMS. DESIGN SHALL BE COMPLETED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL CIVIL ENGINEER REGISTERED IN MASSACHUSETTS. TREATMENT SYSTEM SHALL INCLUDE FILTRATION, SETTLING BASINS, SEDIMENTATION TANKS OR OTHER APPROVED METHOD. DISCHARGE LOCATION TO BE PROTECTED AGAINST EROSION AND SCOURING.

7. WHERE EXISTING MATERIALS ARE ENCOUNTERED WHICH, IN THE OPINION OF THE OWNER/ENGINEER ARE UNSUITABLE FOR BEDDING, BACKFILLING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SUITABLE BANK–RUN GRAVEL, CRUSHED STONE AND/OR SELECTED BORROW, AS DIRECTED BY THE OWNER/ENGINEER AND PAID FOR UNDER THE APPROPRIATE BID ITEMS.

8. ALL GRASSED AREAS DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS. FINAL RESTORATION SHALL BE EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION AS DETERMINED SOLELY BY THE OWNER/ENGINEER.

9. WORK PERFORMED BY THE CONTRACTOR SHALL NOT INTERFERE WITH WASTEWATER FLOWS THROUGH THE WASTEWATER TREATMENT FACILITY. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EQUIPMENT, PIPING, FITTINGS AND APPURTENANCES NECESSARY TO COMPLETE THIS CONTRACT. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY UNIT BYPASS–LINES UNTIL THE MODIFICATIONS AND CONSTRUCTION ARE COMPLETE.

10. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE INDICATED LIMITS OF WORK AS SHOWN IN THE CONTRACT DRAWINGS. ALL SURFACES DAMAGED OUTSIDE THE INDICATED LIMITS SHALL BE REPLACED IN KIND AT CONTRACTOR'S EXPENSE.

11. CONTRACTOR IS RESPONSIBLE FOR THE LEGAL AND PROPER DISPOSAL OF ALL DEMOLITION MATERIAL ACCORDING TO THE LAWS OF THE MUNICIPALITY IN WHICH THE WORK IS BEING DONE AND THE COMMONWEALTH OF MASSACHUSETTS. ALL DEMOLITION MATERIAL INCLUDING PUMPS, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE CLEANED IN ACCORDANCE WITH MADEP REQUIREMENTS AND DISPOSED OF ACCORDINGLY. ONCE CLEANED, DEMOLITION MATERIALS SHALL NOT BE CONSIDERED SPECIAL WASTE.

12. GENERAL CONTRACTOR SHALL COORDINATE WITH THEIR ELECTRICAL SUBCONTRACTOR AND DEFINE THE SCOPE OF WORK IDENTIFIED IN DIVISION 16, TO BE COMPLETED BY THE GC.

YARD PIPING NOTES

1. CONTRACTOR SHALL CONDUCT TEST PITS AS SHOWN AND AT ALL LOCATIONS WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING AND STRUCTURES TO FIELD VERIFY THE EXACT SIZE, MATERIAL, LOCATION, INVERT ELEVATION AND ALIGNMENT (VERTICAL AND HORIZONTAL) OF EXISTING UNDERGROUND PIPES AND STRUCTURES.

2. THE CONTRACTOR SHALL CONDUCT TEST PITS, AS REQUIRED, IN ORDER TO ASCERTAIN THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES.

3. WHERE PIPING IS TO BE CONNECTED TO EXISTING PIPING OR STRUCTURES, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE (REQUIRED AS A RESULT OF CUTTING THE EXISTING PIPE BACK) TO COMPLETE THE CONNECTION AS REQUIRED.

4. PIPE REPAIR CLAMPS SHALL BE MADE OF STAINLESS STEEL AND PROVIDED WITH TYPE 304 STAINLESS STEEL BOLTS AND NUTS.

5. ALL PIPING SHALL BE PROVIDED WITH FLEXIBLE CONNECTIONS WHERE EXITING OR ENTERING STRUCTURES AND BUILDINGS. FLEXIBLE CONNECTIONS SHALL BE COORDINATED WITH PIPE MANUFACTURER AND APPROVED BY THE ENGINEER.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, MAINTAIN AND REPAIR ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (STRAW WATTLES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED OR SUSPENDED SOLIDS HAVE SETTLED.

2. MAINTENANCE AND CONTROL OF SEDIMENTATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS", WITH ALL SOIL CONSERVATION SERVICE, AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

4. WASTE PRODUCTS, INCLUDING STUMPS AND CLEARED VEGETATION SHALL BE DISPOSED AT AN APPROVED LANDFILL.

5. SEDIMENTATION BARRIERS SHALL BE MAINTAINED IN GOOD REPAIR UNTIL ALL DISTURBED AREAS HAVE BEEN FULLY STABILIZED WITH VEGETATION.

6. AT NO TIME SHALL SEDIMENTS BE DEPOSITED IN A WETLAND OR WATER BODY.

7. SEDIMENT CONTROLS SHALL BE INSPECTED AFTER EVERY RAIN EVENT AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.

8. VEGETATIVE PRACTICES ON DISTURBED SOILS SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER THE LAST ACTIVITY.

9. ALL PROJECT AREA CATCH BASINS IN PAVED OR OTHERWISE IMPERVIOUS AREAS SHALL BE PROTECTED WITH FILTER FABRIC INSERTS (SEE CATCH BASIN EROSION CONTROL PROTECTION DETAIL) FOR THE DURATION OF THE PROJECT.

TREE PRESERVATION NOTES

1. PRIOR TO CONSTRUCTION, DETERMINE REQUIRED CLEARANCES FOR CONSTRUCTION OPERATIONS AND PRUNE TREES ACCORDINGLY.

2. BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.

3. ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.

4. STRIP, SCREEN AND SEPARATELY STOCKPILE TOPSOIL PRIOR TO EXCAVATING IN UNPAVED AREAS. FOLLOWING CONSTRUCTION AND BACKFILL OPERATIONS IN UNPAVED AREAS, PLACE TOPSOIL BACK IN THE APPROPRIATE LOCATIONS WITHOUT COMPACTION AND VERTICALLY MULCH ROOT SYSTEM. NO AMENDMENTS SHALL BE ADDED.

5. IMMEDIATELY FOLLOWING BACKFILL OPERATIONS, PROVIDE DEEP WATERING OF THE ROOT SYSTEM, APPLICATION OF FERTILIZER, AND VERTICAL MULCHING.

6. MAINTAIN STORAGE OF EQUIPMENT AND MATERIALS AWAY FROM TREES A DISTANCE AT LEAST TWO (2) TIMES THE DISTANCE OF THE RADIUS OF THE TREE CANOPY.

FRESHWATER WETLANDS NOTES

1. WORK IN THE RESOURCE AREAS SHALL BE IN STRICT ACCORDANCE WITH THE ORDER OF CONDITIONS BY THE CITY OF TAUNTON CONSERVATION COMMISSION AND OTHER APPLICABLE PERMIT CONDITIONS INCLUDING THE 401 WATER QUALITY CERTIFICATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE–CONSTRUCTION MEETING WITH ALL SUB–CONTRACTORS AND A REPRESENTATIVE OF THE CONSERVATION COMMISSION. THE PURPOSE OF THE MEETING SHALL BE TO REVIEW THE SEQUENCE OF EVENTS AND WETLAND PROTECTION AND RESTORATION MEASURES MADE PART OF ANY ORDER OF CONDITIONS. DEWATERING PLANS INCLUDING DETAILED SEQUENCE OF EVENTS ARE TO BE SUBMITTED TO THE CONSERVATION COMMISSION, IN WRITING, FOR PRIOR APPROVAL.

2. PRIOR TO THE COMMENCEMENT OF ANY ACTIVITY, THE CONTRACTOR SHALL INSTALL A SILTATION BARRIER AT THE LIMIT OF WORK. THE BARRIER SHALL CONSIST OF STRAW WATTLES STAKED END TO END AND/OR SILT FENCE THAT HAS BEEN FIRMLY TRENCHED.

3. THE CONSERVATION COMMISSION SHALL BE NOTIFIED ONCE THE EROSION CONTROL BARRIER IS INSTALLED TO APPROVE THE LOCATION AND INSTALLATION OF THE BARRIER.

4. WITHIN THE LIMIT OF WORK, TREES, SHRUBS AND BRUSH ARE TO BE REMOVED. ALL SLASH AND BRUSH REMOVED SHALL BE DISPOSED OF OFF SITE, AT AN APPROVED LANDFILL. EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS AND OTHER REFUSE SHALL BE DISCARDED OFF–SITE IN AN APPROVED LANDFILL.

5. WHEN WORKING WITHIN RESOURCE AREAS, STOCKPILE EXISTING HYDRIC SOILS IN A SEPARATE STOCK PILE AND REPLACE AFTER THE SEWER LINE AND STRUCTURES ARE INSTALLED. SOILS TO BE REMOVED SHALL BE STOCKPILED IN A NEAR–BY LOCATION AND KEPT MOIST. TEMPORARY STOCK PILES OF SOIL SHALL BE STORED ON GEO–TEXTILE FABRIC WHICH WILL ALLOW WATER TO PERCOLATE INTO THE GROUND. THE GEO–TEXTILE FABRIC WILL ALSO SERVE AS A BARRIER TO FURTHER DISTURBANCE TO THE WETLAND WHEN THE CONTRACTOR RE–USES AND REPLACES THE SOIL. STOCKPILED SOILS SHALL BE KEPT MOIST OR COVERED WITH ADDITIONAL GEO–TEXTILE FABRIC UNTIL IT IS BACKFILLED OR REMOVED.

6. EXCESS SOIL SHALL BE STOCKPILED OUTSIDE OF ALL BUFFER AND RESOURCE AREAS.

7. THE STRAW WATTLE/SILTFENCE LINE ILLUSTRATED ON THESE PLANS, TO BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION, SHALL SERVE AS THE STRICT LIMITS OF DISTURBANCE FOR WETLAND AREA. NO ALTERATIONS, INCLUDING VEGETATIVE CLEARING OR SURFACE DISTURBANCE, SHALL OCCUR BEYOND THIS STRAW WATTLE/SILT FENCE LINE.

8. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. AREAS OUTSIDE OF THESE LIMITS SHALL REMAIN UNDISTURBED IN A NATURAL CONDITION.

9. SOIL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE INITIATION OF PROJECT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE CONTROLS DURING CONSTRUCTION. SEE SOIL EROSION AND SEDIMENT CONTROL NOTES.

10. DISTURBED AREAS SHALL BE RETURNED TO PRE–CONSTRUCTION GRADES, CONSISTENT WITH THAT OF THE ADJACENT WETLANDS. ANY DISTURBED WETLAND AREAS SHALL BE RE–SEEDED WITH NEW ENGLAND WETLAND MIX. ANY DISTURBED WETLAND BUFFER ZONES SHALL BE RE–SEEDED WITH NEW ENGLAND CONSERVATION MIX UNLESS OTHERWISE NOTED. THE SEEDS SHALL BE HAND–SOWN AND GENTLY WORKED INTO THE BARE SOILS. SEE CONSTRUCTION DETAIL SHEETS FOR STREAM CROSSING RESTORATION.

11. ALL DEBRIS, EXCESS STOCKPILED SOILS, BRUSH, ETC. SHALL BE REMOVED FROM THE WETLAND AREAS AND BUFFER ZONES FOLLOWING CONSTRUCTION ACTIVITIES.

12. THE CONTRACTOR SHALL PROVIDE A REPORT TO THE CONSERVATION COMMISSION ONCE ALL RESTORATION ACTIVITIES HAVE BEEN COMPLETED. THE REPORT SHALL INCLUDE A DESCRIPTION OF THE RESTORATION EFFORTS TO DATE AND RECOMMENDATIONS TO IMPROVE DISTURBED WETLAND AREAS AS NEEDED.

13. THE CONTRACTOR SHALL REVIEW THE RESTORED WETLAND AREAS AT THE END OF THE FIRST GROWING SEASON FOLLOWING CONSTRUCTION. IF THE SEED MIX HAS NOT GERMINATED, OR VEGETATION HAS NOT BEGUN TO RE–ESTABLISH THE CONTRACTOR SHALL PROVIDE THE COMMISSION WITH A WRITTEN PLAN TO RE–ESTABLISH THE VEGETATIVE COVER WITHIN THE DISTURBED WETLAND AREAS. THE CONTRACTOR SHALL INSPECT THE WETLAND RESTORATION AREA AT LEAST ONCE A YEAR UNTIL THE COMMISSION AGREES THAT ALL RESTORATION ACTIVITIES HAVE BEEN SUCCESSFULLY COMPLETED OR ISSUES A CERTIFICATE OF COMPLIANCE.

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SCALE

NONE

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G-1.4

LEGEND

- EXISTING BUILDING
- PROPOSED STRUCTURE
- FUTURE STRUCTURE
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

WEST WATER STREET

BOULDER

BLOWER & ELEC. BLDG. (NEW)

BIOLOGICAL TREATMENT REACTOR (FUTURE)

LIME SILO (NEW)

GRIT CHAMBERS

HEADWORKS BLDG. (NEW)

PRIMARY DISTRIBUTION BOX

PRIMARY CLARIFIER NO.4 (NEW)

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

SECONDARY ANOXIC TANK NO.1 (FUTURE)

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

SODIUM HYPOCHLORITE TANK (NEW)

CHEMICAL HANDLING BUILDING

FINAL CLARIFIER NO.1

FINAL CLARIFIER NO.2

SECONDARY SLUDGE PUMP STATION NO.1

OLD BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

NEW TANK

CHLORINE CONTACT TANK

NEW TANK

SLUDGE THICKENER NO.1

SLUDGE THICKENER NO.2

SOLIDS HANDLING BUILDING

BIOFILTER

OPERATIONS/ ADMIN. BUILDING

TAUNTON RIVER

TAUNTON RIVER

PROCESS AREAS	
0	GENERAL / SITE WORK
1	HEADWORKS
2	PRIMARY CLARIFICATION / SLUDGE PUMPING
3	BIOLOGICAL TREATMENT TANKS - (FUTURE CONTRACT)
4	FINAL CLARIFIERS / SECONDARY SLUDGE PUMPING - (FUTURE CONTRACT)
5	DISINFECTION / DECHLORINATION
6	BLOWERS
7	SOLIDS HANDLING
8	ODOR CONTROL
9	NON-PROCESS BUILDINGS

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Process Areas Key Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

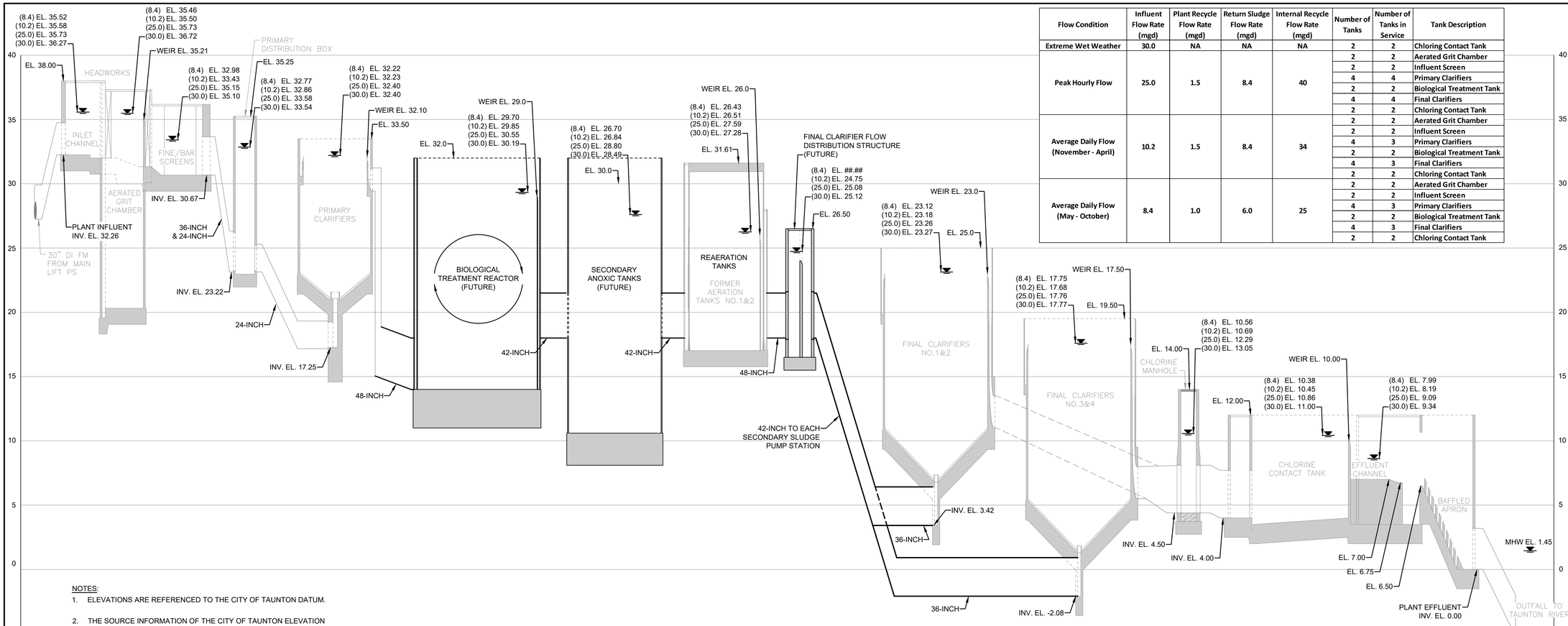
SCALE

40 0 40 80
SCALE IN FEET: 1"=40'

SHEET NO.

G-1.5

Flow Condition	Influent Flow Rate (mgd)	Plant Recycle Flow Rate (mgd)	Return Sludge Flow Rate (mgd)	Internal Recycle Flow Rate (mgd)	Number of Tanks	Number of Tanks in Service	Tank Description
Extreme Wet Weather	30.0	NA	NA	NA	2	2	Chloring Contact Tank
Peak Hourly Flow	25.0	1.5	8.4	40	2	2	Aerated Grit Chamber
					2	2	Influent Screen
					4	4	Primary Clarifiers
					2	2	Biological Treatment Tank
					4	4	Final Clarifiers
					2	2	Chloring Contact Tank
Average Daily Flow (November - April)	10.2	1.5	8.4	34	2	2	Aerated Grit Chamber
					2	2	Influent Screen
					4	3	Primary Clarifiers
					2	2	Biological Treatment Tank
					4	3	Final Clarifiers
					2	2	Chloring Contact Tank
Average Daily Flow (May - October)	8.4	1.0	6.0	25	2	2	Aerated Grit Chamber
					2	2	Influent Screen
					4	3	Primary Clarifiers
					2	2	Biological Treatment Tank
					4	3	Final Clarifiers
					2	2	Chloring Contact Tank

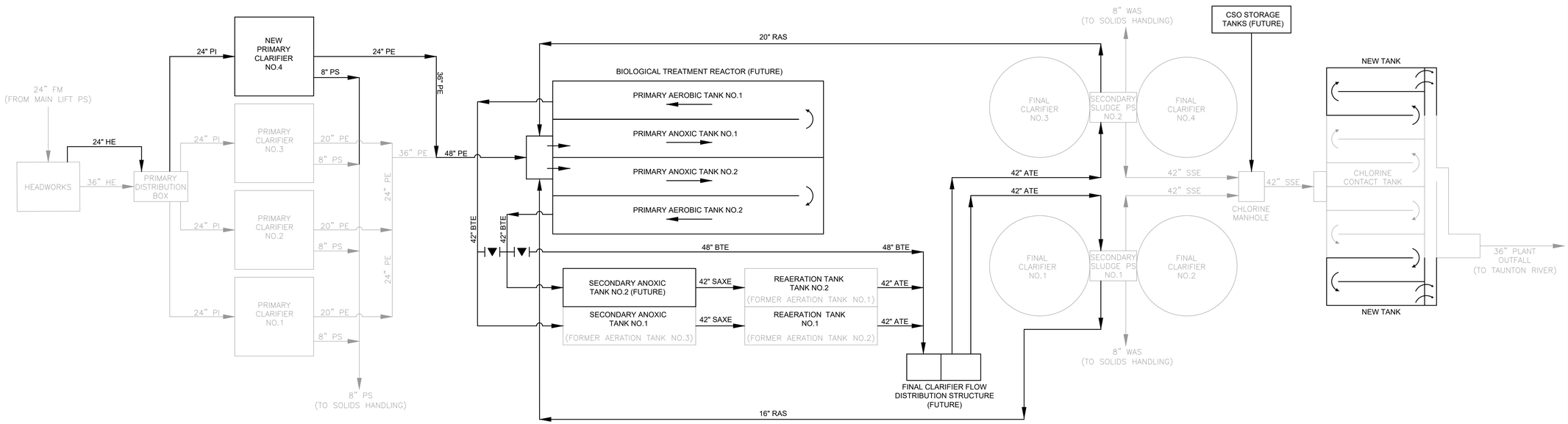


NOTES:

1. ELEVATIONS ARE REFERENCED TO THE CITY OF TAUNTON DATUM.
2. THE SOURCE INFORMATION OF THE CITY OF TAUNTON ELEVATION DATA DEPICTED ON THE PLANS IS "CITY OF TAUNTON MASSACHUSETTS, WASTEWATER TREATMENT FACILITY ADDITIONS AND IMPROVEMENTS, EPA CONTRACT NUMBER C250302-01, 1975" & "CITY OF TAUNTON MASSACHUSETTS WASTEWATER TREATMENT FACILITY UPGRADE AND MODIFICATIONS, MARCH 1999, PROJECT NO. BRP-CWSRF202" ELEVATIONS REFER TO TOP OF CONCRETE FOR ALL STRUCTURES.

Hydraulic Profile: Proposed

SCALE: VERT 1" = 4'
(PHASE 1 & 2 IMPROVEMENTS SHOWN)



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JOSEPH FEDERICO, JR.
No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Proposed Facilities Hydraulic Profile

NO.	REVISIONS	DATE

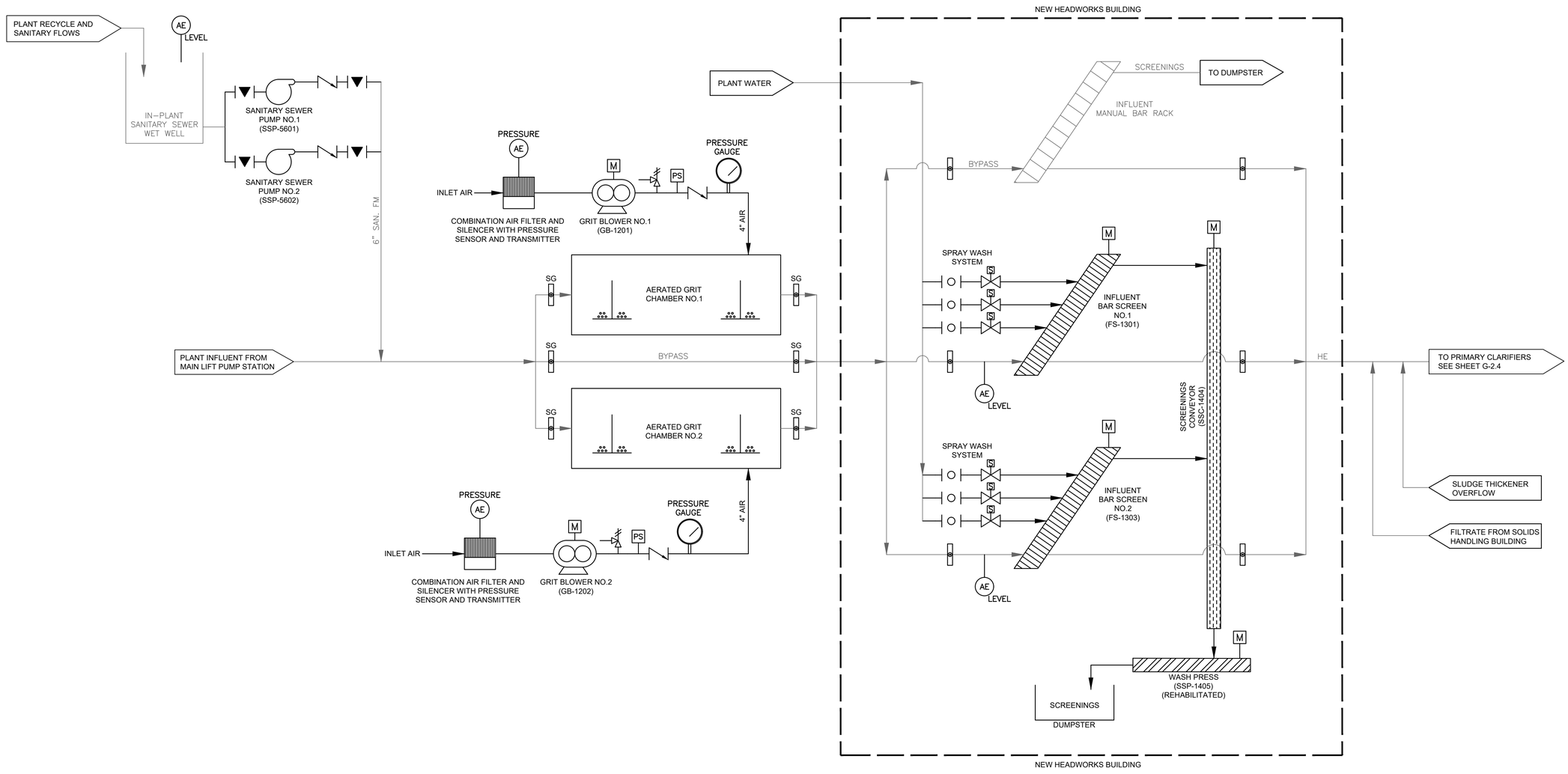
DRAWN BY:	BM
DESIGNED BY:	JD
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

G-2.1



NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Process Flow Diagram Headworks

NO.	REVISIONS	DATE

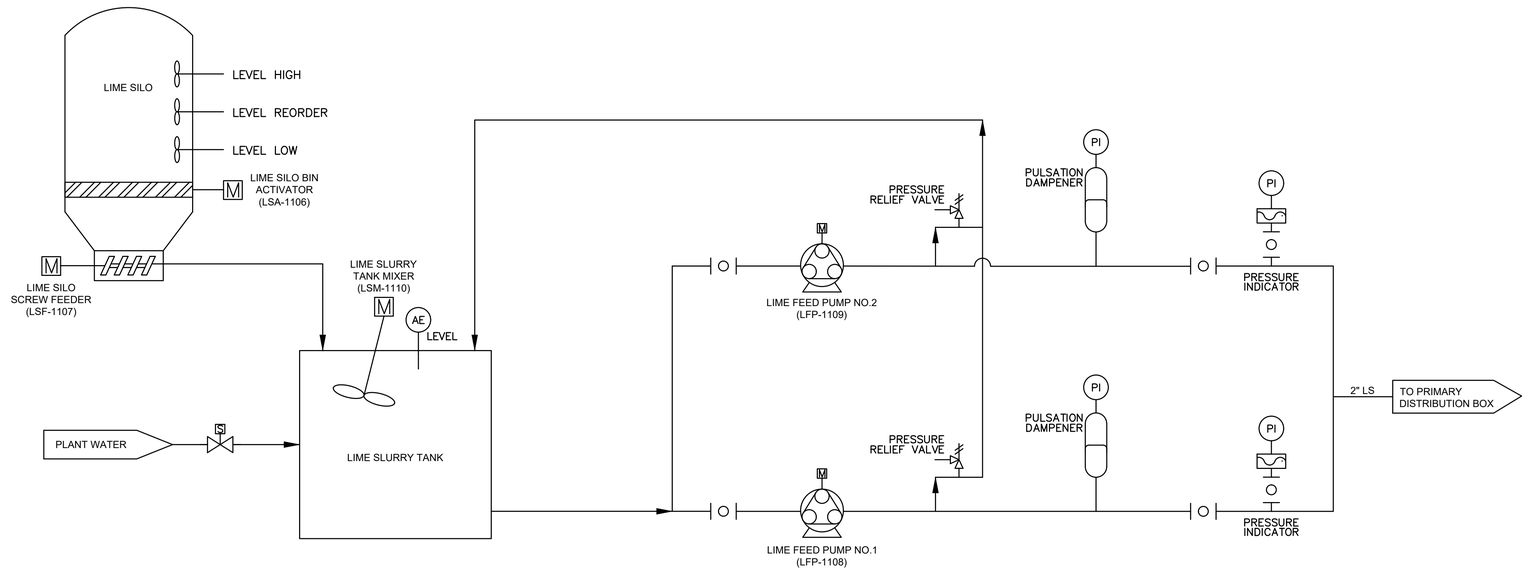
DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-2.2



NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Process Flow Diagram
Lime Silo

NO.	REVISIONS	DATE

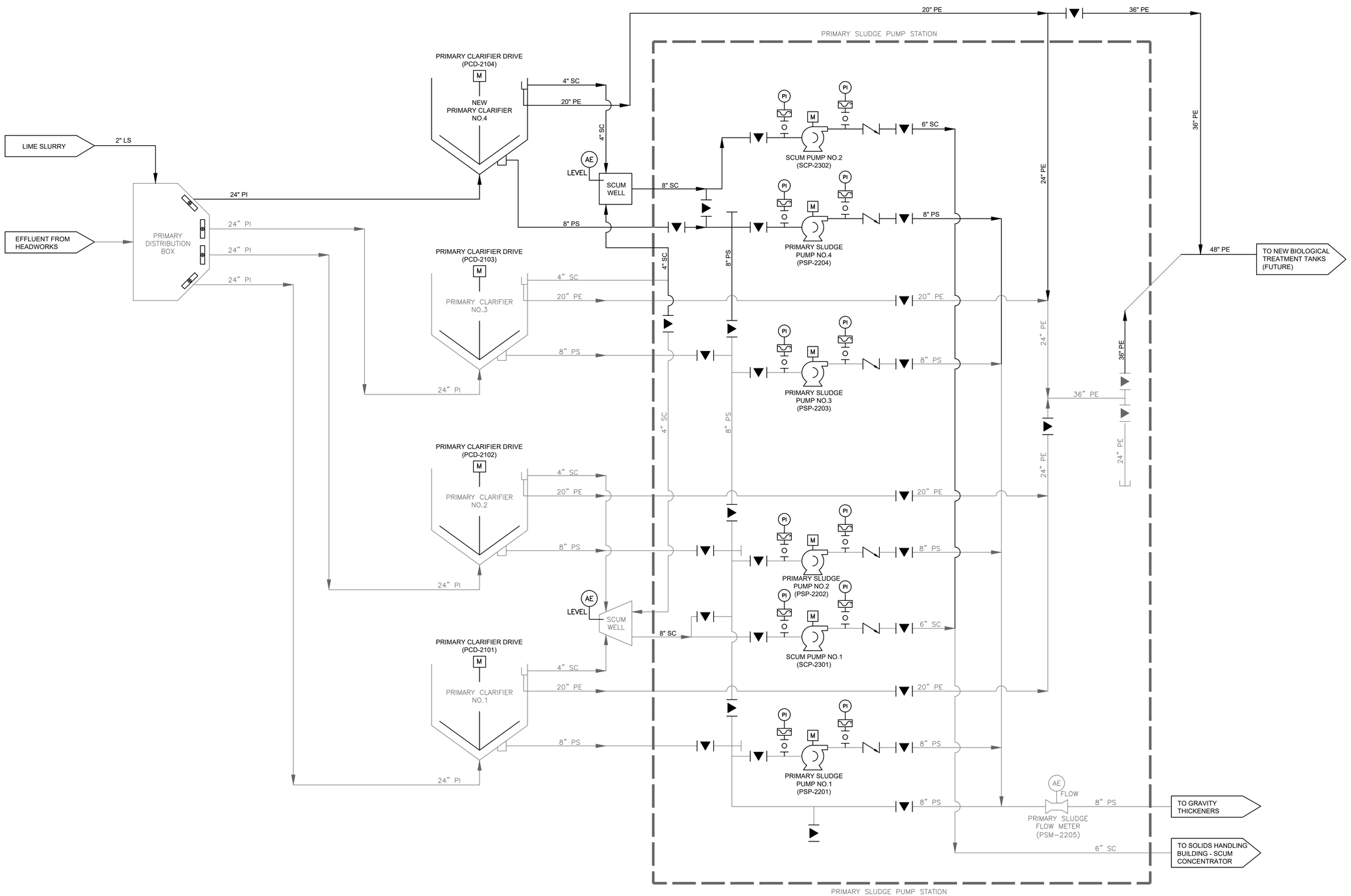
DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-2.3



NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Process Flow Diagram
Primary Tanks

NO.	REVISIONS	DATE

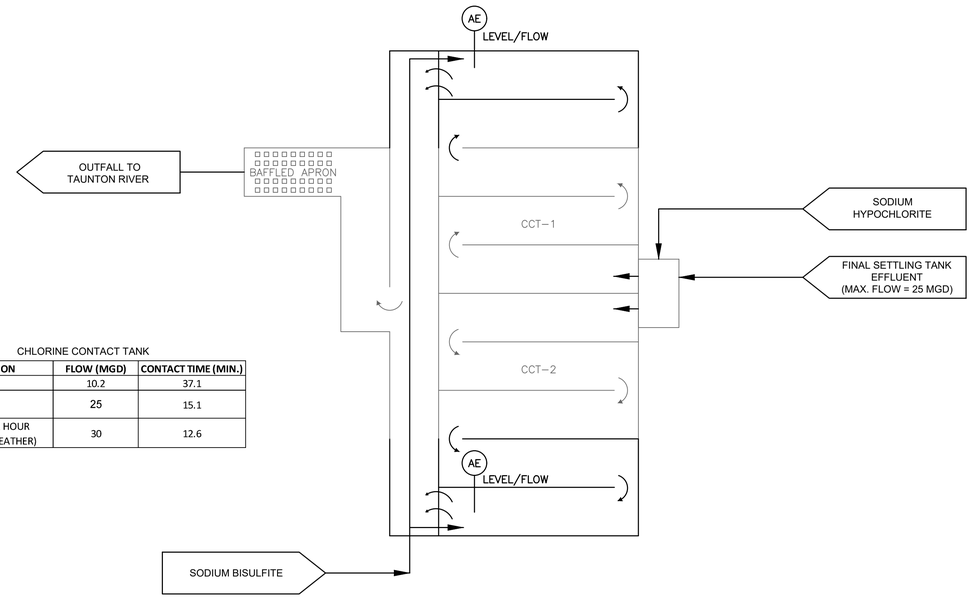
DRAWN BY:	BM
DESIGNED BY:	SR
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-2.4



CHLORINE CONTACT TANK

CONDITION	FLOW (MGD)	CONTACT TIME (MIN.)
AVERAGE DAY	10.2	37.1
PEAK HOUR	25	15.1
MAXIMUM PEAK HOUR (FUTURE WET WEATHER)	30	12.6

NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Process Flow Diagram
Chlorine Contact Tank

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	JD
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-2.5

LEGEND

EXISTING BUILDING

EXISTING PAVEMENT

WEST WATER STREET

SLUDGE LANDFILL

PROJECT BENCHMARK
SPK UP
ELEV=22.82' (NAVD88)
ELEV=21.02' (TAUNTON CITY BASE)

PROJECT BENCHMARK
XCUT FRONT BONNET BOLT
ELEV=21.08' (NAVD88)
ELEV=19.28' (TAUNTON CITY BASE)

WF #09
WF #010
WF #011
WF #012
WF #013
WF #014
WF #015
WF #016
WF #017
WF #018
WF #019
WF #020
WF #021
WF #022
WF #023

DENSE TREES

FLOW METER CHAMBER NO.1

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

TRANSFORMER PAD

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

MANHOLE STRUCTURE NO.2

MANHOLE STRUCTURE NO.3

LIME SILO

CHEMICAL HANDLING BUILDING

GRIT CHAMBERS

HEADWORKS BUILDING

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

PRIMARY DISTRIBUTION BOX

SLUDGE THICKENER NO.2

SLUDGE THICKENER NO.1

SOLIDS HANDLING BUILDING

ABAN. DECANT TANK

OPERATIONS/ ADMIN. BUILDING

FINAL CLARIFIER NO.1

SECONDARY SLUDGE PUMP STATION NO.1

FINAL CLARIFIER NO.2

MANHOLE STRUCTURE NO.1

BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

CHLORINE MANHOLE

CHLORINE CONTACT TANK

FLOW METER CHAMBER NO.2

APPROX. EXIST. OUTFALL LOCATION

CONTRUCTION STAGING AREA (BY OTHERS)

BIOFILTER

100' RIVER BUFFER

100-YR FLOODPLAIN

TAUNTON RIVER

GRAVEL ACCESS ROAD

DRAINAGE SWALE

OIL FILL

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Existing Site Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80

SCALE IN FEET: 1"=40'

SHEET NO.

C-1.1

7/2/2021 10:16 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF SITE PLAN - EXIST.DWG (BETA STD BW.CTB)

LEGEND

BH–8 HISTORIC BORINGS DRILLED BY AMERICAN DRILLING & BORING CO., INC FROM AUGUST 19, 1971 TO AUGUST 21, 1971

B-1 BORINGS OBSERVED BY BETA GROUP, INC. FROM FEBRUARY 4, 2019 TO FEBRUARY 5, 2019

GZ-4 (OW) BORINGS OBSERVED BY GZA AND DRILLED BY NORTHERN DRILL SERVICE FROM SEPTEMBER 23, 2019 TO SEPTEMBER 30, 2019

WEST WATER STREET

SLUDGE LANDFILL

PROJECT BENCHMARK
SPK UP
ELEV=22.82' (NAVD88)
ELEV=21.02' (TAUNTON CITY BASE)

PROJECT BENCHMARK
BOLT FRONT BONNET BOLT
ELEV=21.08' (NAVD88)
ELEV=19.28' (TAUNTON CITY BASE)

WF #09
WF #010
WF #011
WF #012
WF #013
WF #014
WF #015
WF #016
WF #017
WF #018
WF #019
WF #020
WF #021
WF #022
WF #023

B-1
B-2
B-3
GZ-4 (OW)
GZ-5 (OW)
GZ-6 (OW)
GZ-1 (OW)
GZ-2 (OW)
GZ-3 (OW)
GZ-7 (OW)
GZ-8 (OW)
GZ-9
GZ-10

FLOW METER CHAMBER NO.2
MANHOLE STRUCTURE NO.2
MANHOLE STRUCTURE NO.3
AERATION TANK NO.3
AERATION TANK NO.2
AERATION TANK NO.1
TRANSFORMER PAD
FINAL CLARIFIER NO.3
FINAL CLARIFIER NO.4
SECONDARY SLUDGE PUMP STATION NO.2
LIME SILO
CHEMICAL HANDLING BUILDING
GRIT CHAMBERS
HEADWORKS BUILDING
PRIMARY CLARIFIER NO.3
PRIMARY CLARIFIER NO.2
PRIMARY CLARIFIER NO.1
PRIMARY SLUDGE PUMP STATION
PRIMARY DISTRIBUTION BOX
SLUDGE THICKENER NO.2
SLUDGE THICKENER NO.1
SOLIDS HANDLING BUILDING
ABAN. DECANT TANK
CONTRUCTION STAGING AREA (BY OTHERS)
BIOFILTER
OPERATIONS/ ADMIN. BUILDING
FINAL CLARIFIER NO.1
FINAL CLARIFIER NO.2
SECONDARY SLUDGE PUMP STATION NO.1
MANHOLE STRUCTURE NO.1
BLOWER BUILDING
AERATION TANK NO.4
AERATION TANK NO.5
AERATION TANK NO.6
CHLORINE MANHOLE
CHLORINE CONTACT TANK
FLOW METER CHAMBER NO.2
APPROX. EXIST. OUTFALL LOCATION

100' RIVER BUFFER
100-YR FLOODPLAIN
TAUNTON RIVER

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Boring Location Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80
SCALE IN FEET: 1"=40'

SHEET NO.

C-1.2

WEST WATER STREET

SLUDGE LANDFILL

FLOW METER CHAMBER NO.1

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

GRIT CHAMBERS

HEADWORKS BUILDING

PRIMARY DISTRIBUTION BOX

SLUDGE THICKENER NO.2

SLUDGE THICKENER NO.1

SOLIDS HANDLING BUILDING

DECANT TANK

CONTRUCTION STAGING AREA (BY OTHERS)

BIOFILTER

OPERATIONS/ ADMIN. BUILDING

TRANSFORMER PAD

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

FINAL CLARIFIER NO.1

SECONDARY SLUDGE PUMP STATION NO.1

FINAL CLARIFIER NO.2

MANHOLE STRUCTURE NO.1

MANHOLE STRUCTURE NO.2

MANHOLE STRUCTURE NO.3

LIME SILO

CHEMICAL HANDLING BUILDING

CHLORINE MANHOLE

BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

CHLORINE CONTACT TANK

FLOW METER CHAMBER NO.2

APPROX. EXIST. OUTFALL LOCATION

TAUNTON RIVER

TAUNTON RIVER

PROJECT BENCHMARK SPK LP ELEV=22.82' (NAVD88) ELEV=21.02' (TAUNTON CITY BASE)

PROJECT BENCHMARK ICUT FRONT BONNET BOLT ELEV=21.08' (NAVD88) ELEV=19.28' (TAUNTON CITY BASE)

DENSE TREES

GRAVEL ACCESS ROAD

DRAINAGE SWALE

OIL FILL

J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF YARD PIPING - EXIST DWG (BETA STD BW.CTB)

7/2/2021 10:16 AM

PREPARED BY

BETA

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Existing Yard Piping

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80

SCALE IN FEET: 1"=40'

SHEET NO.

C-1.3

PLANT COORDINATE DATA			
DESCRIPTION	LOCATION	COORDINATES	ELEVATION
BENCHMARK	UTILITY POLE SPIKE	N 2779536.01, E 765815.13	21.02
BENCHMARK	HYDRANT BONNET BOLT	N 2779571.66, E 765897.89	19.28
GRIT CHAMBER NO.1	NORTHEAST CORNER SOUTHEAST CORNER	N 2779365.42, E 765620.25 N 2779390.25, E 765616.14	
LIME SILO FOUNDATION	SEE STRUCTURAL DRAWINGS	–	
PRIMARY CLARIFIER 1	CENTER OF TANK	N 2779255.79, E 765701.68	
PRIMARY CLARIFIER 2	CENTER OF TANK	N 2779311.57, E 765710.71	
PRIMARY CLARIFIER 3	CENTER OF TANK	N 2779369.32, E 765720.06	
PRIMARY CLARIFIER 4	SEE STRUCTURAL DRAWINGS	–	
AERATION TANK NO.1	SOUTHWEST CORNER SOUTHEAST CORNER	N 2779321.46, E 765833.64 N 2779302.85, E 765949.32	
AERATION TANK NO.3	NORTHEAST CORNER SOUTHEAST CORNER	N 2779413.29, E 765965.50 N 2779389.42, E 765961.76	
BLOWER BUILDING FOUNDATION	SEE STRUCTURAL DRAWINGS	–	
FINAL CLARIFIER NO.1	CENTER OF TANK	N 2779203.71, E 765866.65	
FINAL CLARIFIER NO.2	CENTER OF TANK	N 2779178.96, E 766021.68	
FINAL CLARIFIER NO.3	CENTER OF TANK	N 2779328.33, E 766112.97	
FINAL CLARIFIER NO.4	CENTER OF TANK	N 2779303.10, E 766267.93	
AERATION TANK NO.4	NORTHWEST CORNER SOUTHWEST CORNER	N 2779205.40, E 766178.14 N 2779063.02, E 766155.49	
AERATION TANK NO.6	NORTHWEST CORNER SOUTHWEST CORNER	N 2779188.50, E 766281.83 N 2779047.62, E 766259.35	
CHLORINE CONTACT TANK INFLUENT	NORTHWEST CORNER NORTHEAST CORNER	N 2779118.03, E 766389.45 N 2779115.64, E 766404.59	

LEGEND

- EXISTING BUILDING
- PROPOSED STRUCTURE
- FUTURE STRUCTURE
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

NOTE:
PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LAYOUT OF ALL STRUCTURES BY COORDINATES AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

WEST WATER STREET

WET WEATHER FLOW FROM OLD MAIN LIFT PUMP STATION (FUTURE)

PROJECT BENCHMARK
CUT FRONT BONNET BOLT
ELEV=21.08' (NAVD88)
ELEV=19.28' (TAUNTON CITY BASE)

PROJECT BENCHMARK
SPK UP
ELEV=22.82' (NAVD88)
ELEV=21.02' (TAUNTON CITY BASE)

SLUDGE LANDFILL

APPROX. LIMITS OF SLUDGE LANDFILL CAP

BLOWER & ELEC. BLDG. (NEW)

BIOLOGICAL TREATMENT REACTOR (FUTURE)

LIME SILO (NEW)

SECONDARY ANOXIC TANK NO.1 (FUTURE)

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

PRIMARY CLARIFIER NO.4 (NEW)

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

GRIT CHAMBERS

HEADWORKS BLDG. (NEW)

PRIMARY DISTRIBUTION BOX

FLOW SPLIT STRUCTURE (FUTURE)

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

SODIUM HYPOCHLORITE TANK (NEW)

100 YEAR FLOOD

200' RIVERFRONT AREA

CHEMICAL HANDLING BUILDING

FINAL CLARIFIER NO.1

FINAL CLARIFIER NO.2

SECONDARY SLUDGE PUMP STATION NO.1

CHLORINE MANHOLE

100' INLAND BANK BUFFER

OLD BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

NEW TANK EXTENSION

CHLORINE CONTACT TANK

NEW TANK EXTENSION

SOLIDS HANDLING BUILDING

SLUDGE THICKENER NO.2

SLUDGE THICKENER NO.1

OPERATIONS/ ADMIN. BUILDING

CONSTRUCTION STAGING AREA (BY OTHERS)

BIOFILTER

CSO STORAGE FACILITY (1 MG CAPACITY) (FUTURE)

EFFLUENT PUMP STATION (TO GROUNDWATER DISCHARGE) (FUTURE)

TAUNTON RIVER

DENSE TREES

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Proposed Site Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80
SCALE IN FEET: 1"=40'

SHEET NO.

C-1.4

LEGEND

- EXISTING BUILDING
- PROPOSED STRUCTURE
- FUTURE STRUCTURE
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

WEST WATER STREET

WET WEATHER FLOW FROM OLD MAIN LIFT PUMP STATION (FUTURE)

WETLAND FLAGS (TYP.)

EROSION CONTROL BARRIER

APPROX. LIMITS OF SLUDGE LANDFILL CAP

BLOWER & ELEC. BLDG. (NEW)

BIOLOGICAL TREATMENT REACTOR (FUTURE)

PROVIDE CATCH BASIN EROSION CONTROL

SECONDARY ANOXIC TANK NO.1 (FUTURE)

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

PRIMARY CLARIFIER NO.4 (NEW)

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

LIME SILO (NEW)

GRIT CHAMBERS

HEADWORKS BLDG. (NEW)

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

FINAL CLARIFIER NO.1

FINAL CLARIFIER NO.2

SECONDARY SLUDGE PUMP STATION NO.1

SLUDGE THICKENER NO.2

SLUDGE THICKENER NO.1

SOLIDS HANDLING BUILDING

OPERATIONS/ ADMIN. BUILDING

CSO STORAGE FACILITY (1 MG CAPACITY) (FUTURE)

OLD BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

CHLORINE MANHOLE

NEW TANK

CHLORINE CONTACT TANK

NEW TANK

CHEMICAL HANDLING BUILDING

SODIUM HYPOCHLORITE TANK (NEW)

CONSTRUCTION STAGING AREA (BY OTHERS)

BIOFILTER

200' RIVERFRONT AREA

100' INLAND BANK BUFFER

100 YEAR FLOOD

EFFLUENT PUMP STATION (TO GROUNDWATER DISCHARGE) (FUTURE)

TAUNTON RIVER

DENSE TREES

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Erosion Control Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80
SCALE IN FEET: 1"=40'

SHEET NO.

C-1.5

7/2/2021 10:17 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF PROP SITE PLAN - ALT.1.DWG (BETA STD BW.CTB)

LEGEND

EXISTING BUILDING

EXISTING PAVEMENT

DEMO

WEST WATER STREET

BOULDER

CANOPY

#821

PROJECT BENCHMARK
SPK UP
ELEV=22.82' (NAVD88)
ELEV=21.02' (TAUNTON CITY BASE)

PROJECT BENCHMARK
#CUT FRONT BONNET BOLT
ELEV=21.08' (NAVD88)
ELEV=19.28' (TAUNTON CITY BASE)

WF #019
WF #018
WF #017
WF #016
WF #015
WF #014
WF #013
WF #012
WF #011
WF #010
WF #009
WF #008
WF #007

R & D CLF

SAW CUT PAVEMENT

CLEAR & GRUB

LIMIT OF CLEARING (TYP.)

R & D SHRUBBERY

R & D ABAN. SEPTAGE STRUCTURE

REMOVE & STOCKPILE FLAGPOLE AND WWTF SIGN

REMOVE & STOCKPILE LIGHT POST

R & D METAL COVER & STRUCTURE (SEE YARD PIPING)

R & D REMAINING SECTION OF CONCRETE RETAINING WALL

SECTION OF CONCRETE RETAINING WALL TO BE REMOVED BY OTHERS PRIOR TO CONSTRUCTION (TYP. EACH END)

SAW CUT PAVEMENT

R & D SEWER FM AIR BLOW OFF ACCESS BOX

R & D PAVEMENT

SAW CUT PAVEMENT

R & D CONCRETE CURBING

R & D CONC. CURBING

R & D LIGHT POST

REFER TO HEADWORKS MECHANICAL AND STRUCTURAL SHEETS FOR DEMOLITION LIMITS

SAW CUT PAVEMENT

R & D CONC. WALKWAY

FLOW METER CHAMBER NO.1

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

TRANSFORMER PAD

MANHOLE STRUCTURE NO.2

MANHOLE STRUCTURE NO.3

R & D SHRUBS

PIPE & BOLLARDS TO REMAIN

GRIT CHAMBERS

R & D BOLLARD (TYP. OF 2)

R & D HEADWORKS BUILDING. SEE STRUCTURAL SHEETS

R & D SHRUB

R & D INFLUENT SAMPLER HUT & PAD

PRIMARY DISTRIBUTION BOX

REMOVE AND STOCKPILE "NO PARKING" SIGN

R & D PAVEMENT

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

SAW CUT PAVEMENT

SAW CUT PAVEMENT

R & D LIME SILO & FOUNDATION

R & D WALKWAY

CHEMICAL HANDLING BUILDING

FINAL CLARIFIER NO.1

SECONDARY SLUDGE PUMP STATION NO.1

FINAL CLARIFIER NO.2

BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

CHLORINE MANHOLE

CHLORINE CONTACT TANK

R & D HOIST BEAM SUPPORT TRUSSES & CONC. FOOTINGS

SLUDGE THICKENER NO.1

SLUDGE THICKENER NO.2

SOLIDS HANDLING BUILDING

OPERATIONS/ ADMIN. BUILDING

MANHOLE STRUCTURE NO.1

ABAN. DECANT TANK

CONTRUCTION STAGING AREA (BY OTHERS)

BIOFILTER

CLEAR & GRUB

R & D FRP HUTS. SEE MECHANICAL SHEETS

FLOW METER CHAMBER NO.2

APPROX. EXIST. OUTFALL LOCATION

100' RIVER BUFFER

100-YR FLOODPLAIN

TAUNTON RIVER

DENSE TREES

GRAVEL ACCESS ROAD

DRAINAGE SWALE

OIL FILL

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

WWTF Site Demolition Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
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ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

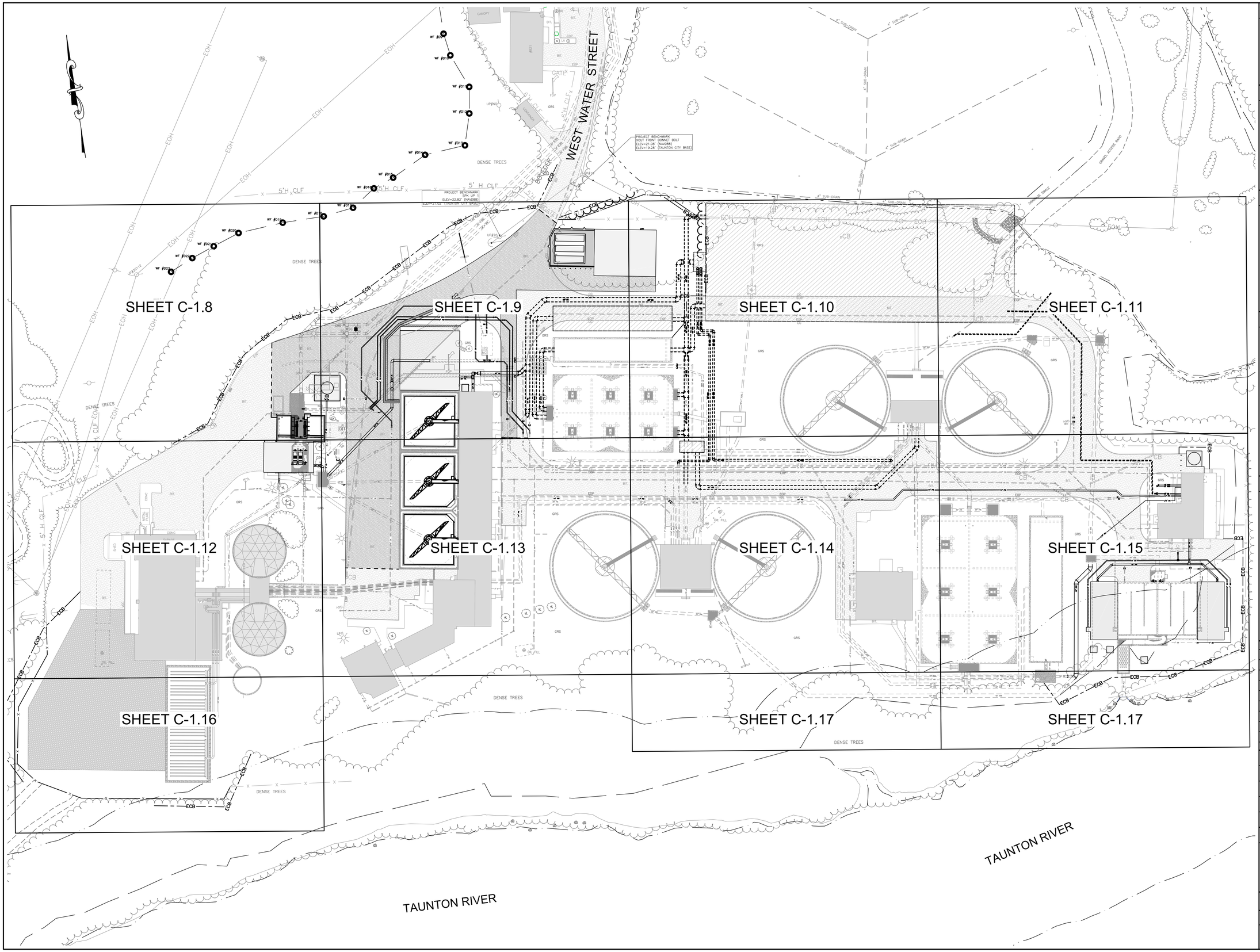
40 0 40 80

SCALE IN FEET: 1"=40'

SHEET NO.

C-1.6

7/2/2021 10:17 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF SITE PLAN - DEMO.DWG (BETA STD BW.CTB)



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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan Index

NO.	REVISIONS	DATE

DRAWN BY:	BM
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CHECKED BY:	SR
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BETA JOB NO.:	6050

SCALE

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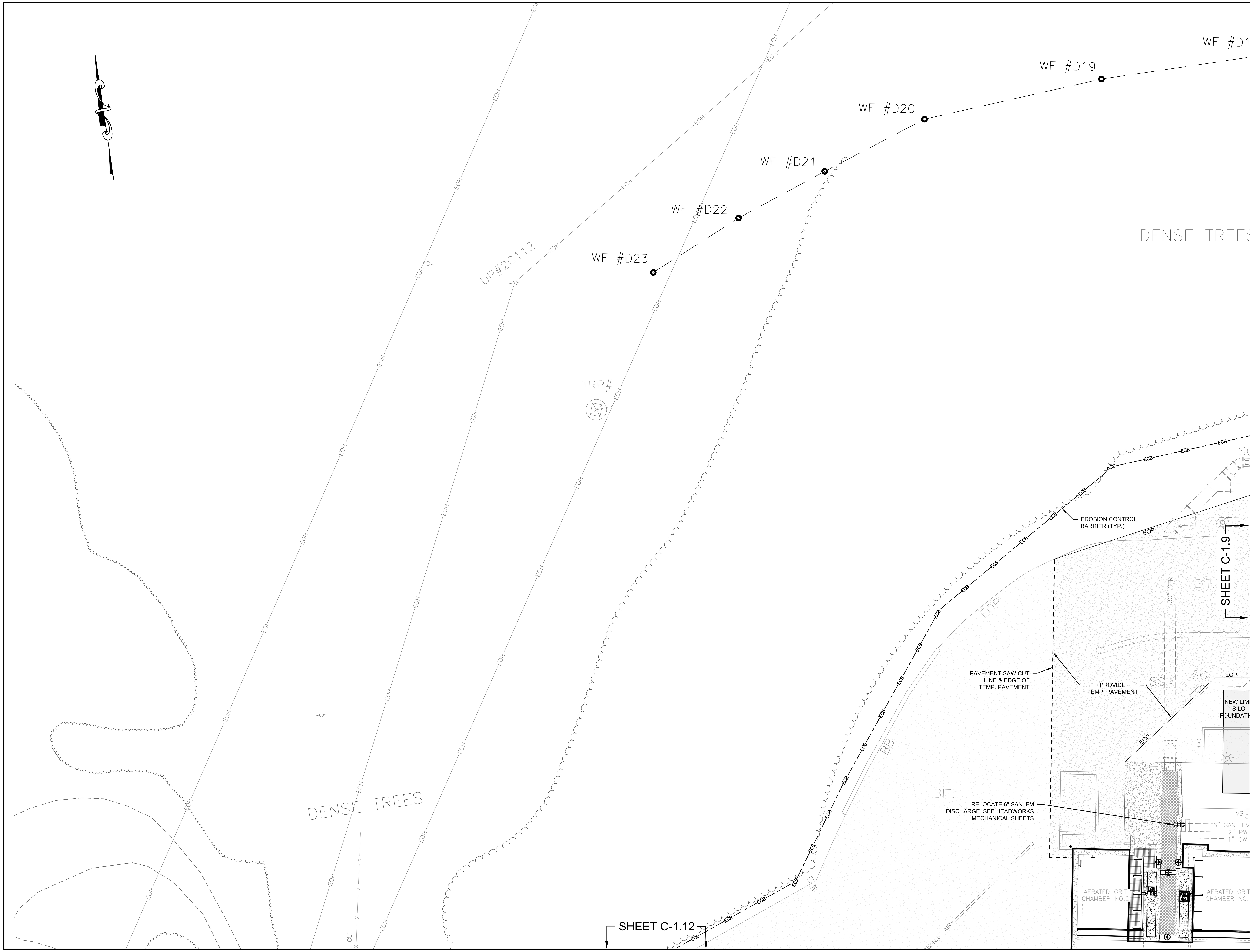
SCALE IN FEET: 1"=40'

SHEET NO.

C-1.7



7/2/2021 10:17 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF YARD PIPING - PROP.DWG (BETA STD BW.CTB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan I

NO.	REVISIONS	DATE

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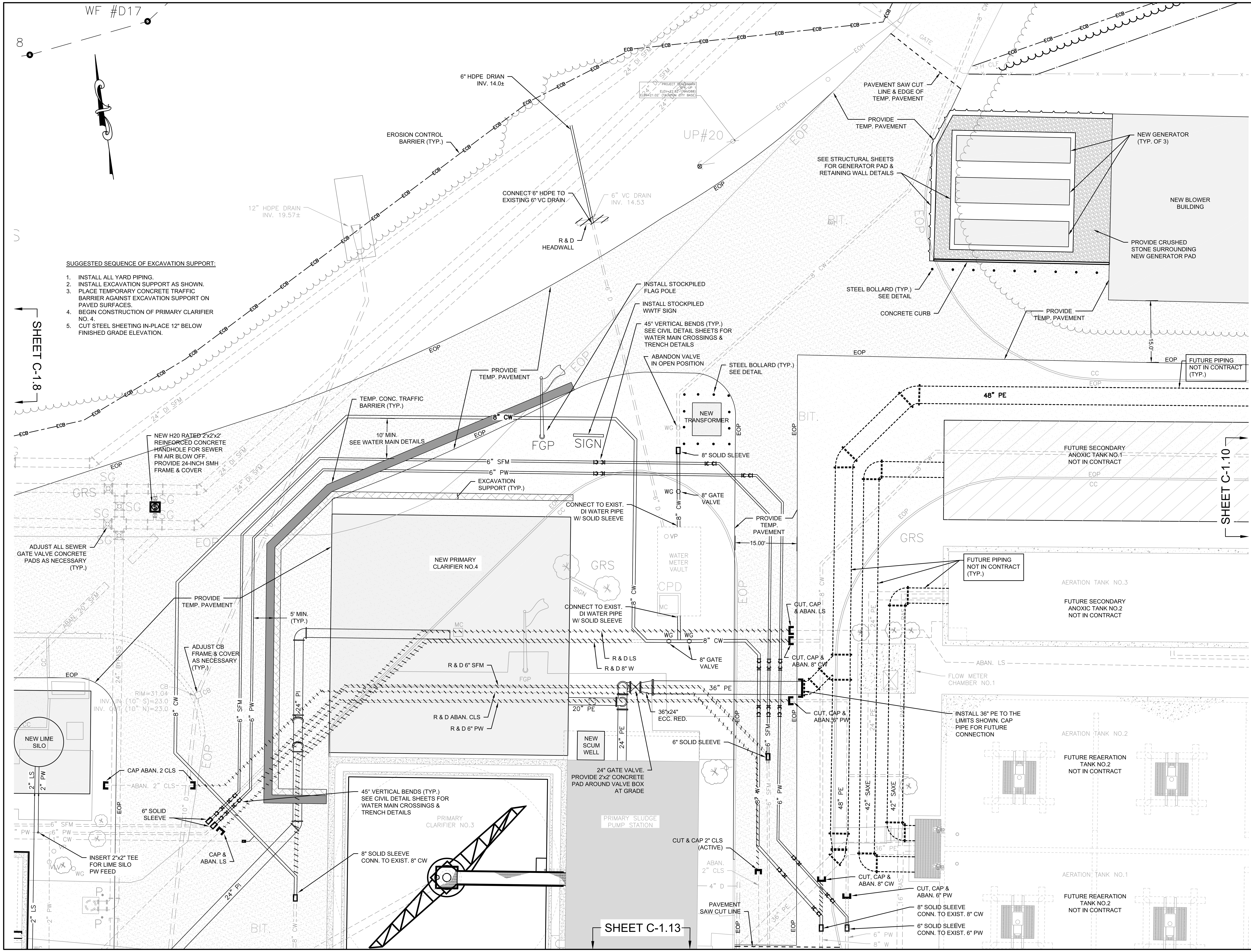
SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

C-1.8



WF #D17
6" HDPE DRIAN INV. 14.0±
EROSION CONTROL BARRIER (TYP.)
CONNECT 6" HDPE TO EXISTING 6" VC DRAIN
6" VC DRAIN INV. 14.53
12" HDPE DRAIN INV. 19.57±
R & D HEADWALL
UP#20
PAVEMENT SAW CUT LINE & EDGE OF TEMP. PAVEMENT
PROVIDE TEMP. PAVEMENT
SEE STRUCTURAL SHEETS FOR GENERATOR PAD & RETAINING WALL DETAILS
NEW GENERATOR (TYP. OF 3)
NEW BLOWER BUILDING
PROVIDE CRUSHED STONE SURROUNDING NEW GENERATOR PAD
STEEL BOLLARD (TYP.) SEE DETAIL
CONCRETE CURB
PROVIDE TEMP. PAVEMENT
SUGGESTED SEQUENCE OF EXCAVATION SUPPORT:
1. INSTALL ALL YARD PIPING.
2. INSTALL EXCAVATION SUPPORT AS SHOWN.
3. PLACE TEMPORARY CONCRETE TRAFFIC BARRIER AGAINST EXCAVATION SUPPORT ON PAVED SURFACES.
4. BEGIN CONSTRUCTION OF PRIMARY CLARIFIER NO. 4.
5. CUT STEEL SHEETING IN-PLACE 12" BELOW FINISHED GRADE ELEVATION.
SHEET C-1.8
INSTALL STOCKPILED FLAG POLE
INSTALL STOCKPILED WWTF SIGN
45° VERTICAL BENDS (TYP.) SEE CIVIL DETAIL SHEETS FOR WATER MAIN CROSSINGS & TRENCH DETAILS
ABANDON VALVE IN OPEN POSITION
STEEL BOLLARD (TYP.) SEE DETAIL
FUTURE PIPING NOT IN CONTRACT (TYP.)
48" PE
PROVIDE TEMP. PAVEMENT
TEMP. CONC. TRAFFIC BARRIER (TYP.)
10' MIN. SEE WATER MAIN DETAILS
8" CW
FGP
SIGN
NEW TRANSFORMER
8" SOLID SLEEVE
FUTURE SECONDARY ANOXIC TANK NO.1 NOT IN CONTRACT
SHEET C-1.10
NEW H20 RATED 2'x2'x2' REINFORCED CONCRETE HANDHOLE FOR SEWER FM AIR BLOW OFF. PROVIDE 24-INCH SMH FRAME & COVER
6" SFM
6" PW
EXCAVATION SUPPORT (TYP.)
CONNECT TO EXIST. DI WATER PIPE W/ SOLID SLEEVE
8" GATE VALVE
PROVIDE TEMP. PAVEMENT
15.00'
ADJUST ALL SEWER GATE VALVE CONCRETE PADS AS NECESSARY (TYP.)
NEW PRIMARY CLARIFIER NO.4
WATER METER VAULT
FUTURE PIPING NOT IN CONTRACT (TYP.)
AERATION TANK NO.3
FUTURE SECONDARY ANOXIC TANK NO.2 NOT IN CONTRACT
PROVIDE TEMP. PAVEMENT
5' MIN. (TYP.)
CONNECT TO EXIST. DI WATER PIPE W/ SOLID SLEEVE
CUT, CAP & ABAN. LS
ADJUST CB FRAME & COVER AS NECESSARY (TYP.)
R & D LS
R & D 8" W
8" GATE VALVE
CUT, CAP & ABAN. 8" CW
ABAN. LS
FLOW METER CHAMBER NO.1
R & D 6" SFM
36" PE
CB RIM=31.04 INV. IN (10" S)=23.0 INV. OUT (10" N)=23.0
R & D ABAN. CLS
R & D 6" PW
20" PE
36"x24" ECC. RED.
CUT, CAP & ABAN. 6" PW
INSTALL 36" PE TO THE LIMITS SHOWN. CAP PIPE FOR FUTURE CONNECTION
NEW LIME SILO
NEW SCUM WELL
6" SOLID SLEEVE
AERATION TANK NO.2
FUTURE REAERATION TANK NO.2 NOT IN CONTRACT
CAP ABAN. 2 CLS
24" GATE VALVE. PROVIDE 2'x2' CONCRETE PAD AROUND VALVE BOX AT GRADE
6" SOLID SLEEVE
45° VERTICAL BENDS (TYP.) SEE CIVIL DETAIL SHEETS FOR WATER MAIN CROSSINGS & TRENCH DETAILS
PRIMARY CLARIFIER NO.3
PRIMARY SLUDGE PUMP STATION
48" PE
42" SAXE
CUT & CAP 2" CLS (ACTIVE)
INSERT 2"x2" TEE FOR LIME SILO PW FEED
CAP & ABAN. LS
8" SOLID SLEEVE CONN. TO EXIST. 8" CW
24" PI
CUT, CAP & ABAN. 8" CW
AERATION TANK NO.1
CUT, CAP & ABAN. 6" PW
8" SOLID SLEEVE CONN. TO EXIST. 8" CW
FUTURE REAERATION TANK NO.2 NOT IN CONTRACT
PAVEMENT SAW CUT LINE
6" SOLID SLEEVE CONN. TO EXIST. 6" PW
SHEET C-1.13

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan II

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SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

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SHEET NO.

C-1.9

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TEMP. CONSTRUCTION FENCE

EXIST. UTILITY POLE & ASSOCIATED OVERHEAD WIRING TO BE RELOCATED PRIOR TO CONSTRUCTION. BY OTHERS.

BLOWER BUILDING ROOF DRAIN LEADER DISCHARGE. PROVIDE SPLASH BLOCK

NEW BLOWER BUILDING

PROVIDE TEMP. PAVEMENT

15.0'

EOP

FUTURE PIPING NOT IN CONTRACT (TYP.)

48" PE

42" BTE

EROSION CONTROL BARRIER (TYP.)

LIMIT OF PAVEMENT REMOVAL

FUTURE SECONDARY ANOXIC TANK NO.1 NOT IN CONTRACT

FUTURE SECONDARY ANOXIC TANK NO.2 NOT IN CONTRACT

AERATION TANK NO.3

AERATION TANK NO.2

FUTURE REAERATION TANK NO.2 NOT IN CONTRACT

AERATION TANK NO.1

FUTURE REAERATION TANK NO.2 NOT IN CONTRACT

16" RAS

20" RAS

48" ATE/BTE

30" ATE

42" ATE

10" AIR

ABAN. LS

18"x11" ELEC.

TRANSFORMER & PAD

WWTF MAIN ELECTRICAL SERVICE

FUTURE BIOLOGICAL TREATMENT TANK NOT IN CONTRACT

EXIST. UTILITY POLE & ASSOCIATED OVERHEAD WIRING TO BE RELOCATED PRIOR TO CONSTRUCTION. BY OTHERS.

4" SUB-DRAIN

SLUDGE LANDFILL

APPROX. LIMITS OF SLUDGE LANDFILL CAP

EXIST. UTILITY POLE & ASSOCIATED OVERHEAD WIRING TO BE RELOCATED PRIOR TO CONSTRUCTION. BY OTHERS.

ELECTRIC MANHOLE

FINAL CLARIFIER NO.3

SECONDARY SLUDGE PUMP STATION NO.2

30" SSE

4" CW

8" WAS

ABAN. 14" WAS

20" RAS

2" PW

4" SS

8" CW

BIT.

CC

EOP

EOH

GRS

CB

RD

SHEET C-1.9

SHEET C-1.11

SHEET C-1.14

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan III

NO.	REVISIONS	DATE

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SCALE

10 0 10 20

SCALE IN FEET: 1"=10'

SHEET NO.

C-1.10

7/2/2021 10:17 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF YARD PIPING - PROP.DWG (BETA STD BW CTB)

DRAIN

SLUDGE LANDFILL

EOH

GRAVEL ACCESS ROAD

FUTURE BIOLOGICAL TREATMENT TANK NOT IN CONTRACT

HEADWALL
INV. IN (12")=11.80

HEADWALL
INV. OUT (12")=13.0

12" D

HEADWALL
INV. OUT (12")=11.50

APPROX. LIMITS OF SLUDGE LANDFILL CAP

CB
RIM=17.70
INV. IN (12" S)=13.30
INV. OUT (12" N)=13.30

CB
RIM=17.70
INV. IN (8" SW)=14.00
INV. OUT (12" N)=13.50

EOP BIT.

8" FS

8" CW

EOP CC

SHEET C-1.10

FUTURE PIPING NOT IN CONTRACT

6" D

30" SSE

42" SSE

MANHOLE STRUCTURE NO.2
T.O.C.=18.5
INV. IN (30" SW)=5.50
INV. IN (30" W)=5.50
INV. OUT (42" E)=5.50

GRS

MANHOLE STRUCTURE NO.2
T.O.C.=18.0
INV. IN (42" W)=5.50
INV. OUT (42" S)=5.50

FINAL CLARIFIER NO.4

BIT.

FUTURE PIPING NOT IN CONTRACT

CUT, CAP, & ABAN. 8" CW

CUT & CAP 8" CW

HYD.

2" CLS

SHEET C-1.15

J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\WWTF YARD PIPING - PROP.DWG (BETA STD BW.CTB)

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JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan IV

NO.	REVISIONS	DATE

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BETA JOB NO.:	6050

SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

SHEET NO.

C-1.11

SHEET C-1.8

NEW HEADWORKS BUILDING

EXIST ELEC. PANELS TO REMAIN. CONTRACTOR TO PROTECT & SUPPORT ALL PANELS THROUGHOUT CONSTRUCTION

16" BFA CONN. TO HEADWORKS ODOR CONTROL BLOWER SUCTION FLANGE

CB

24" HE

36" HE

WALKWAY

HYD.

HEADWORKS BUILDING ODOR CONTROL BLOWER

6" CW

PRIMARY DISTRIBUTION BOX

GRS

18" DRAIN

18" CI OVERFLOW

4" CW

6" AIR

16" BFA

SLUDGE THICKENER NO.2

SHEET C-1.13

SOLIDS HANDLING BUILDING ODOR CONTROL BLOWER

SOLIDS HANDLING BUILDING

18" BFA

SLUDGE THICKENERS ODOR CONTROL BLOWER

SLUDGE THICKENER NO.1

BIOFILTER

SHEET C-1.16

CONC

METAL PLATE

BIT.

CC

GARAGE

SHED

VGC

OIL TANK

OIL FILL

5' H CLF

EOH

EROSION CONTROL BARRIER (TYP.)

GRAVEL CONSTRUCTION STAGING AREA BY OTHERS

CONTRACTOR TO PROTECT EXISTING OIL TANK HAND HOLE THROUGHOUT CONSTRUCTION

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan V

NO.	REVISIONS	DATE

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SCALE

10 0 10 20

SCALE IN FEET: 1"=10'

SHEET NO.

C-1.12

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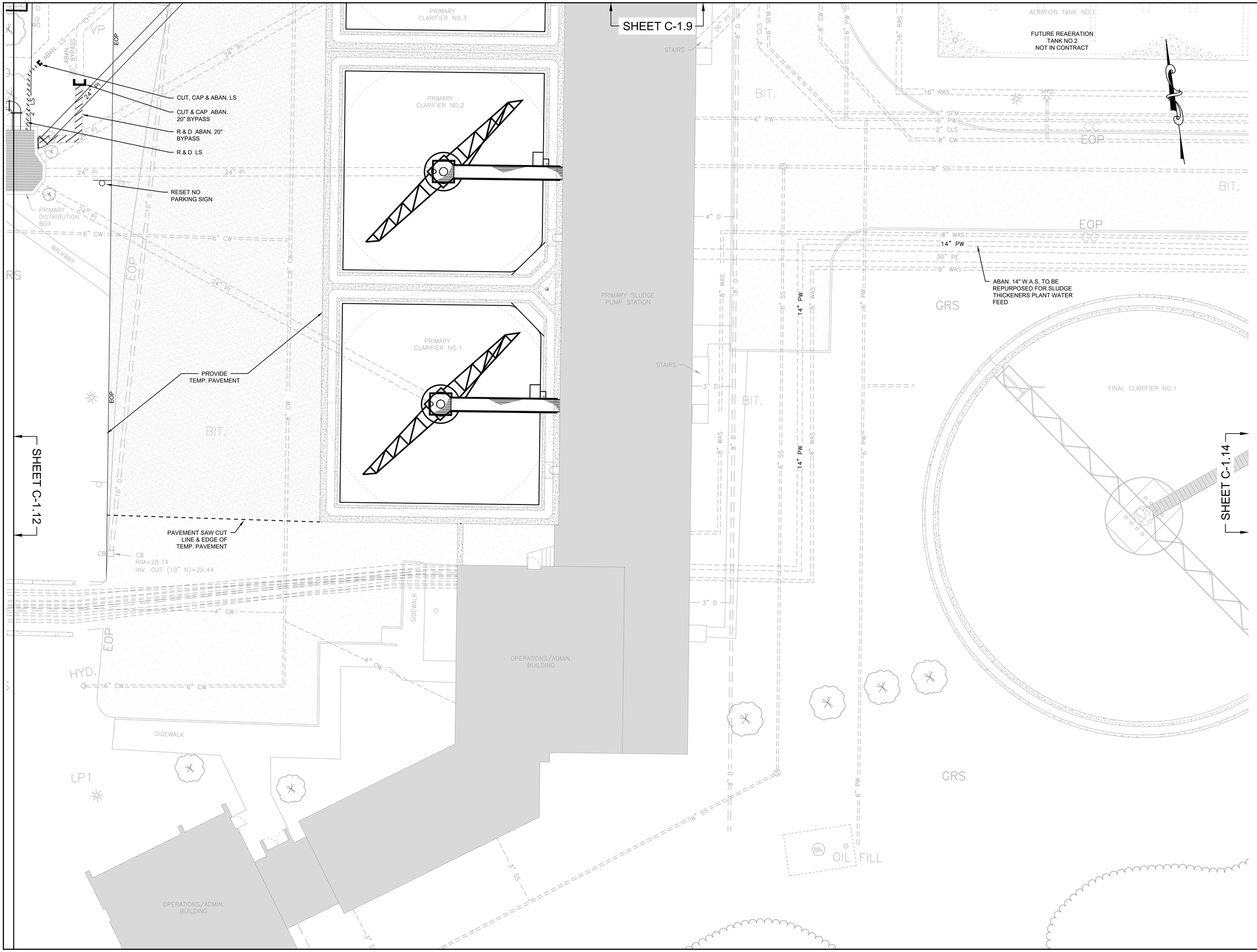

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JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan VI

NO.	REVISIONS	DATE

DRAWN BY:	BM
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CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

SHEET NO.

C-1.13

AERATION TANK NO.1

FUTURE REAERATION TANK NO.2 NOT IN CONTRACT

FUTURE FLOW SLIT STRUCTURE. NOT IN CONTRACT

FUTURE PIPING NOT IN CONTRACT (TYP.)

GRS

SHEET C-1.10

FINAL CLARIFIER NO.3

ABAN. LS

ABAN. LS

10" AIR

16" RAS

20" RAS

20" RAS

6" SFM

6" PW

2" CLS

8" CW

8" W

8" SS

CC

EOP

BIT.

42" ATE

42" ATE

FUTURE PIPING NOT IN CONTRACT (TYP.)

2" CLS

6" SFM

6" PW

8" CW

8" SS

BIT.

4" CW

2" PW

16" RAS

42" ATE

33"x46"

14" PW

CUT & CAP ABAN. 14" W.A.S.

14" PW

CONN. TO EXIST. 14" PIPE

8" WAS

14" PW

30" PE

8" WAS

EOP

CC

8" WAS

14" PW

30" PE

ABAN. 14" W.A.S. TO BE REPURPOSED FOR SLUDGE THICKENERS PLANT WATER FEED

CAP 14" PW

CUT & CAP ABAN. 14" WAS

OIL

OIL FILL

OIL

4" CW

8" WAS

2" PW

14" RAS

16" RAS

42" ATE

2" CLS

10" AIR

20" RAS

30" PE

AERATION TANK NO.4

1" W

SHEET C-1.15

SHEET C-1.13

FINAL CLARIFIER NO.2

SECONDARY SLUDGE PUMP STATION NO.1

FINAL CLARIFIER NO.1

6" SS

8" D

BLOWER BUILDING

30" SSE

30" SSE

30" SSE

MANHOLE STRUCTURE NO.1
T.O.C.=23.0
INV. IN (30" W)=11.0
INV. IN (30" NE)=11.0
INV. IN (30" S)=11.0
INV. OUT (42" SE)=11.08

STUB

42" SSE

6" D

GRS

12" AIR

30" SSE

20" RAS

30" PE

8" D

BIT.

AERATION TANK NO.4

SHEET C-1.17

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan VII

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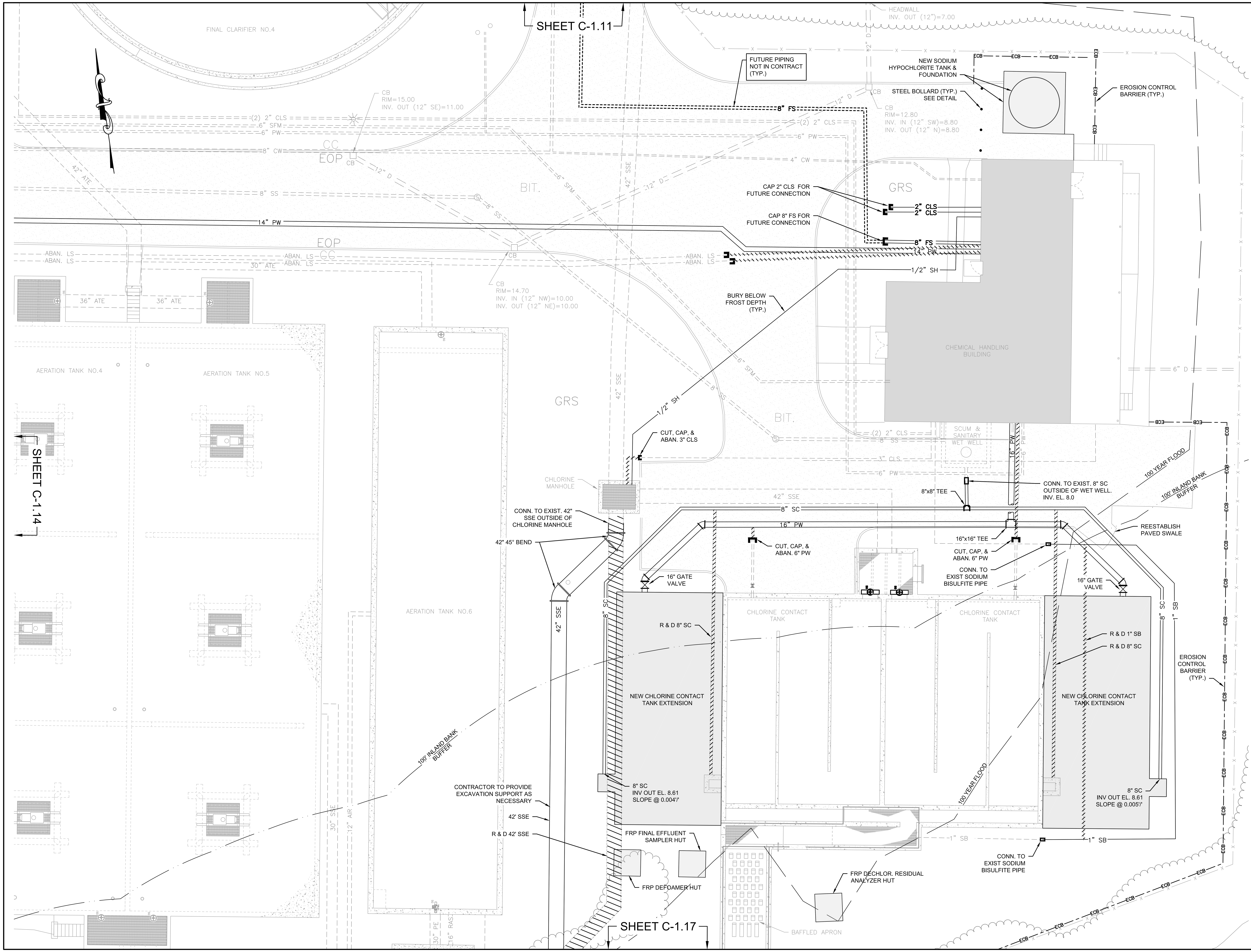
SCALE

10 0 10 20

SCALE IN FEET: 1"=10'

SHEET NO.

C-1.14


SHEET C-1.11
FINAL CLARIFIER NO.4
HEADWALL
INV. OUT (12")=7.00
FUTURE PIPING
NOT IN CONTRACT
(TYP.)
NEW SODIUM
HYPOCHLORITE TANK &
FOUNDATION
STEEL BOLLARD (TYP.)
SEE DETAIL
EROSION CONTROL
BARRIER (TYP.)
CB
RIM=15.00
INV. OUT (12" SE)=11.00
CB
RIM=12.80
INV. IN (12" SW)=8.80
INV. OUT (12" N)=8.80
(2) 2" CLS
6" SFM
6" PW
8" CW
8" FS
4" CW
CC
EOP
BIT.
GRS
8" SS
14" PW
CAP 2" CLS FOR
FUTURE CONNECTION
CAP 8" FS FOR
FUTURE CONNECTION
2" CLS
2" CLS
8" FS
ABAN. LS
30" ATE
36" ATE
1/2" SH
CB
RIM=14.70
INV. IN (12" NW)=10.00
INV. OUT (12" NE)=10.00
BURY BELOW
FROST DEPTH
(TYP.)
CHEMICAL HANDLING
BUILDING
6" D
AERATION TANK NO.4
AERATION TANK NO.5
AERATION TANK NO.6
42" SSE
CUT, CAP, &
ABAN. 3" CLS
SCUM &
SANITARY
WET WELL
3" CLS
CHLORINE
MANHOLE
CONN. TO EXIST. 8" SC
OUTSIDE OF WET WELL.
INV. EL. 8.0
8"x8" TEE
8" SC
16" PW
100 YEAR FLOOD
100' INLAND BANK
BUFFER
SHEET C-1.14
CONN. TO EXIST. 42"
SSE OUTSIDE OF
CHLORINE MANHOLE
42" 45° BEND
CUT, CAP, &
ABAN. 6" PW
16"x16" TEE
CUT, CAP, &
ABAN. 6" PW
CONN. TO
EXIST SODIUM
BISULFITE PIPE
REESTABLISH
PAVED SWALE
16" GATE
VALVE
16" GATE
VALVE
CHLORINE CONTACT
TANK
CHLORINE CONTACT
TANK
R & D 8" SC
R & D 1" SB
R & D 8" SC
1" SB
NEW CHLORINE CONTACT
TANK EXTENSION
NEW CHLORINE CONTACT
TANK EXTENSION
EROSION
CONTROL
BARRIER
(TYP.)
8" SC
INV OUT EL. 8.61
SLOPE @ 0.004'/'
8" SC
INV OUT EL. 8.61
SLOPE @ 0.005'/'
CONTRACTOR TO PROVIDE
EXCAVATION SUPPORT AS
NECESSARY
42' SSE
R & D 42' SSE
FRP FINAL EFFLUENT
SAMPLER HUT
FRP DEFOAMER HUT
FRP DECHLOR. RESIDUAL
ANALYZER HUT
CONN. TO
EXIST SODIUM
BISULFITE PIPE
30" SSE
12" AIR
30" PE
16" RAS
BAFFLED APRON
SHEET C-1.17
ECB

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30853
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan VIII

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

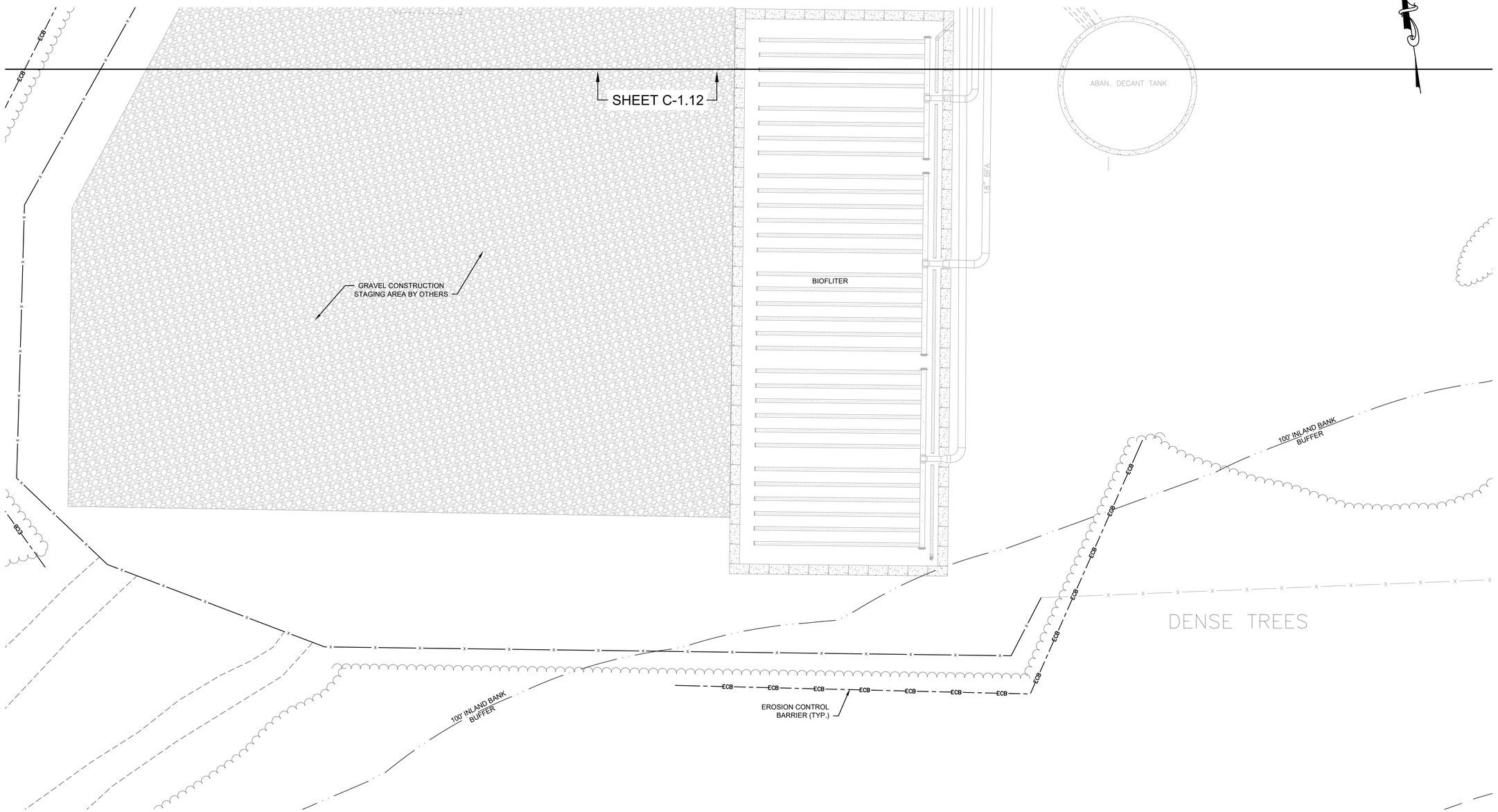
SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

C-1.15



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan IX

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

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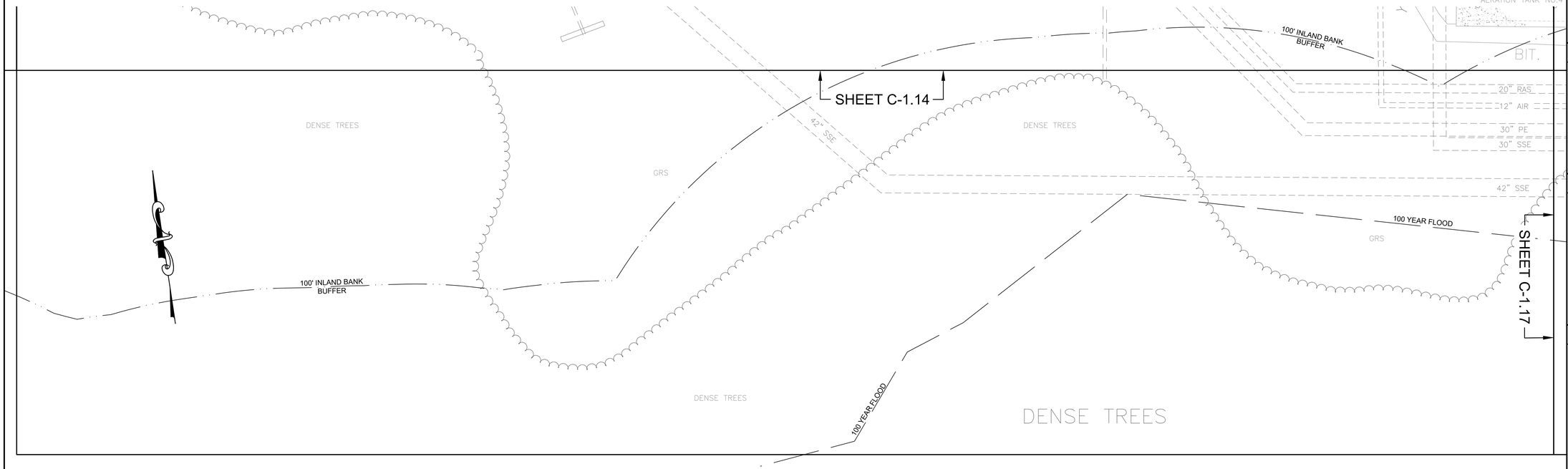
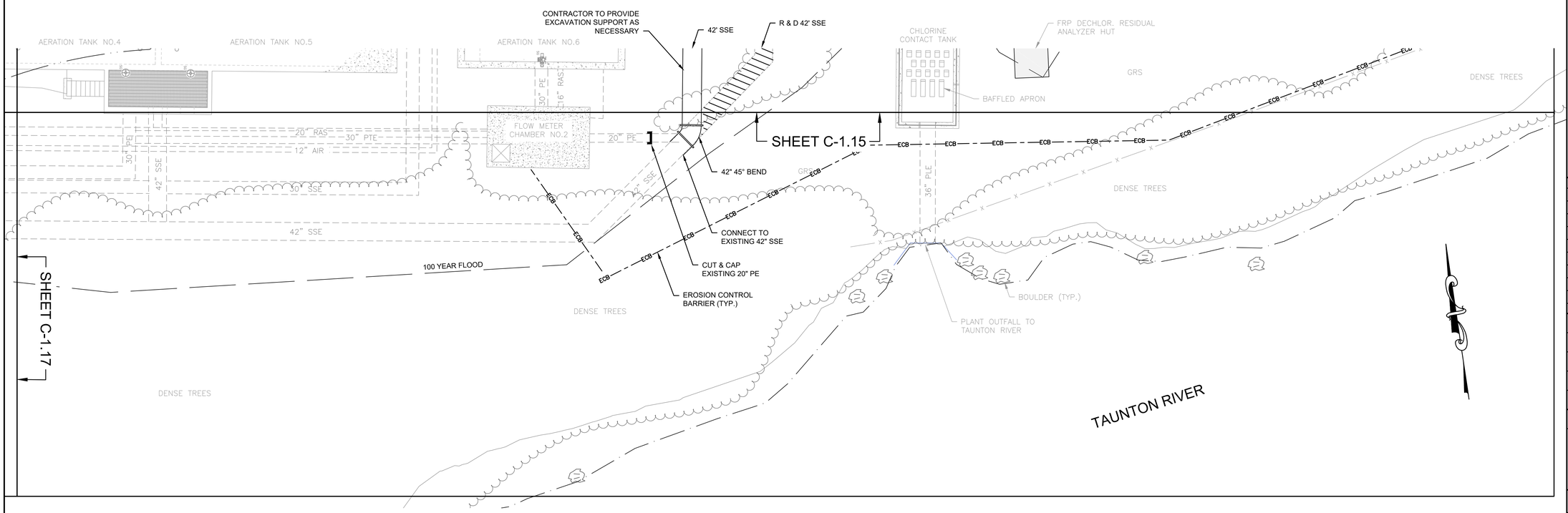
SCALE IN FEET: 1"=10'

SHEET NO.

C-1.16





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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Site & Yard Piping Plan X

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

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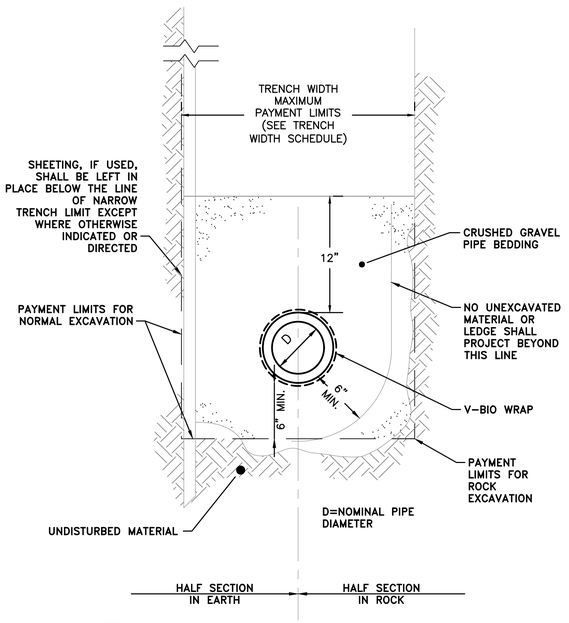
SCALE IN FEET: 1"=10'

SHEET NO.

C-1.17

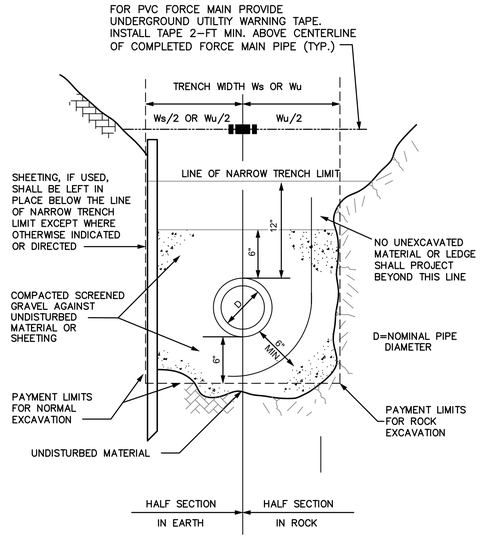


NOTES:

1. FOR LOCATIONS WHERE WATER MAINS DO NOT MAINTAIN 10-FOOT HORIZONTAL SEPARATION FROM SEWER FM'S OR PROCESS PIPING, BACKFILL WATER MAIN IN ACCORDANCE WITH CONTROLLED DESNITY BACKFILL OF DUCTILE IRON WATER PIPE DETAIL THIS SHEET

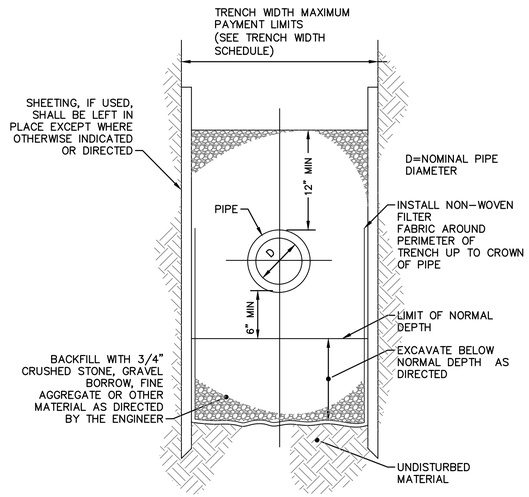
WATER MAIN TRENCH SECTION

SCALE: NOT TO SCALE



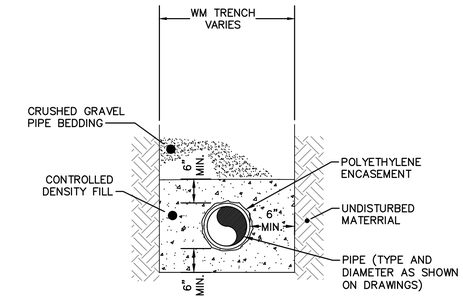
FORCE MAIN TRENCH SECTION (FOR DI AND PVC PIPE)

SCALE: NOT TO SCALE



TRENCH SECTION (WHERE UNSUITABLE MATERIAL EXISTS BELOW NORMAL DEPTH)

SCALE: NOT TO SCALE

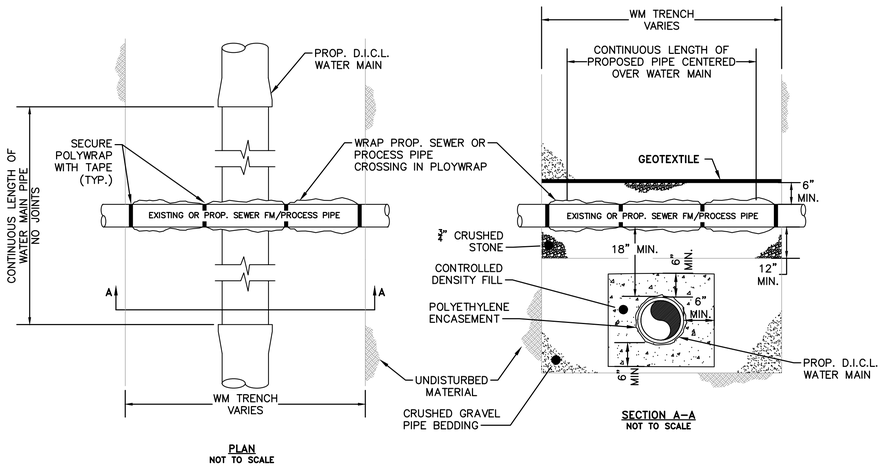


NOTES

1. * ALL D.I,C.L. WATER PIPE THAT IS BACKFILLED WITH CONTROLLED DENSITY FILL, MUST BE ENCASED WITH 8-MIL LLD POLYETHYLENE IN ACCORDANCE ANSI/AWWA C105/A2.5, METHOD OF INSTALLATION.
2. THE PIPE SHALL BE PROPERLY SECURED AND SUPPORTED TO PREVENT DISPLACEMENT DURING THE POURING OF CONTROLLED DENSITY FILL,

CONTROLLED DESITY BACKFILL OF DUCTILE IRON WATER PIPE

SCALE: NOT TO SCALE

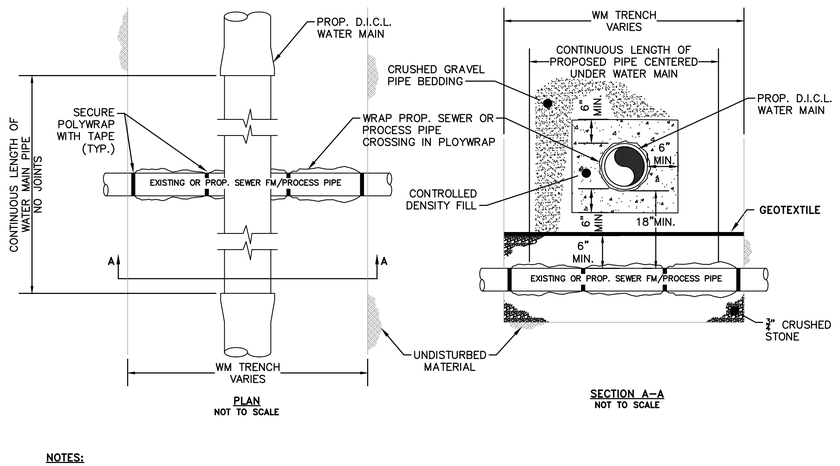


NOTES:

1. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER FM OR PROCESS PIPE AS POSSIBLE.
2. WATER MAINS CROSSING UNDER SEWER OR PROCESS PIPING SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN INVERT OF THE SEWER FM OR PROCESS PIPE AND CROWN OF THE WATER MAIN.
3. ALL D.I,C.L. WATER PIPE THAT IS BACKFILLED WITH CONTROLLED DENSITY FILL, MUST BE ENCASED WITH 8-MIL LLD POLYETHYLENE IN ACCORDANCE ANSI/AWWA C105/A2.5, METHOD OF INSTALLATION.
4. THE PIPE SHALL BE PROPERLY SECURED AND SUPPORTED TO PREVENT DISPLACEMENT DURING THE POURING OF CONTROLLED DENSITY FILL,

WATER MAIN CROSSING UNDER SEWER FORCE MAINS & PROCESS PIPING

SCALE: NOT TO SCALE



NOTES:

1. WATER MAINS SHALL CROSS OVER SEWER FM'S & PROCESS PIPING AS MUCH AS POSSIBLE.
2. WHEN A WATER MAIN CROSSES UNDER A SEWER FM OR PROCESS PIPE, SEE DETAIL "WATER MAIN CROSSING UNDER SEWER FORCE MAINS & PROCESS PIPING" ON THIS SHEET.
3. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER FM OR PROCESS PIPE AS POSSIBLE.
4. WATER MAINS CROSSING OVER SEWER OR PROCESS PIPING SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN INVERT OF WATER MAIN AND CROWN OF SEWER FM OR PROCESS PIPE.
5. ALL D.I,C.L. WATER PIPE THAT IS BACKFILLED WITH CONTROLLED DENSITY FILL, MUST BE ENCASED WITH 8-MIL LLD POLYETHYLENE IN ACCORDANCE ANSI/AWWA C105/A2.5, METHOD OF INSTALLATION.
6. THE PIPE SHALL BE PROPERLY SECURED AND SUPPORTED TO PREVENT DISPLACEMENT DURING THE POURING OF CONTROLLED DENSITY FILL,

WATER MAIN CROSSING OVER SEWER FORCE MAINS & PROCESS PIPING

SCALE: NOT TO SCALE

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS JOSEPH FEDERICO, JR. No. 30663 REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Civil Details I

NO.	REVISIONS	DATE

DRAWN BY:	BM
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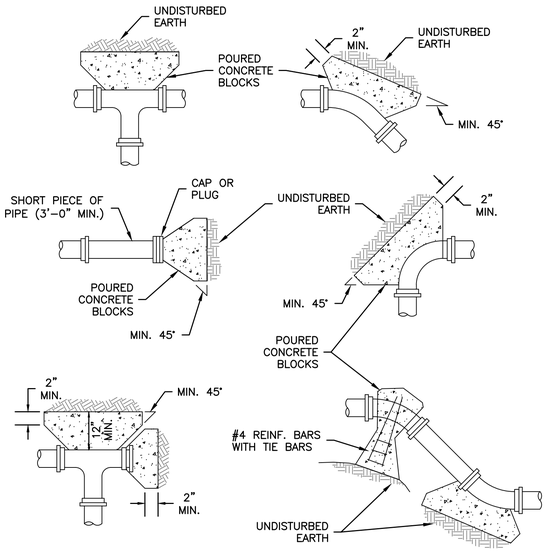
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

CD-1



PLAN VIEWS

NOTES:

1. SPECIFIC THRUST BLOCK DESIGN SHALL CONFORM TO AWWA GUIDELINES.
2. PLACE 4 MIL. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).
3. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
4. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
5. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

TYPICAL THRUST BLOCK DETAIL

SCALE: NOT TO SCALE

NOMINAL PIPE SIZE (INCHES)	REQUIRED BEARING AREA (SQ FT)			
	TEES & CAPS	45 DEG.	22.5 DEG.	11.25 DEG.
6	2.8	2.1	1.1	0.5
8	4.7	3.6	1.8	0.9

THRUST BLOCK BEARING FOR WATER MAIN & SEWER MAIN

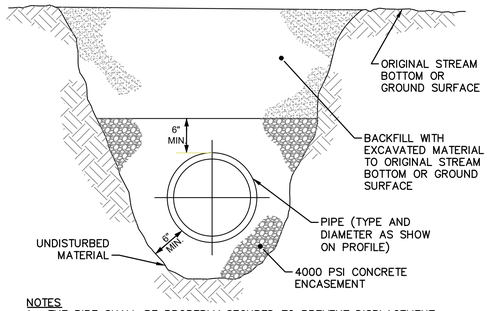
SCALE: NOT TO SCALE

6-INCH POLYETHYLENE ENCASED D.I.C.L. PIPE								
HORIZONTAL BEND			VERTICAL UP BEND			VERTICAL DOWN BEND		
1/32 BEND	1/16 BEND	1/8 BEND	1/32 BEND	1/16 BEND	1/8 BEND	1/32 BEND	1/16 BEND	1/8 BEND
1.6 FT	3.2 FT	6.8 FT	1.6 FT	3.2 FT	6.8 FT	6 FT	12 FT	25 FT
DEAD END CAP			6"X6" TEE					
44 FT			5 FT					

8-INCH POLYETHYLENE ENCASED D.I.C.L. PIPE								
HORIZONTAL BEND			VERTICAL UP BEND			VERTICAL DOWN BEND		
1/32 BEND	1/16 BEND	1/8 BEND	1/32 BEND	1/16 BEND	1/8 BEND	1/32 BEND	1/16 BEND	1/8 BEND
2.1 FT	4.2 FT	8.8 FT	2.1 FT	4.2 FT	8.8 FT	7.8 FT	15.7 FT	32.6 FT
DEAD END CAP			8"X8" TEE					
58 FT			40 FT					

RESTRAINED JOINT LENGTHS FOR DUCTILE IRON WATER MAIN

SCALE: NOT TO SCALE



NOTES

1. THE PIPE SHALL BE PROPERLY SECURED TO PREVENT DISPLACEMENT DURING THE POURING OF CONCRETE ENCASEMENT.
2. LIMIT OF CONCRETE ENCASEMENT SHALL BE SHOWN ON THE PROFILE OR AS DIRECTED.

CONCRETE ENCASEMENT DETAIL

SCALE: NOT TO SCALE

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JOSEPH FEDERICO, JR.
No. 30663
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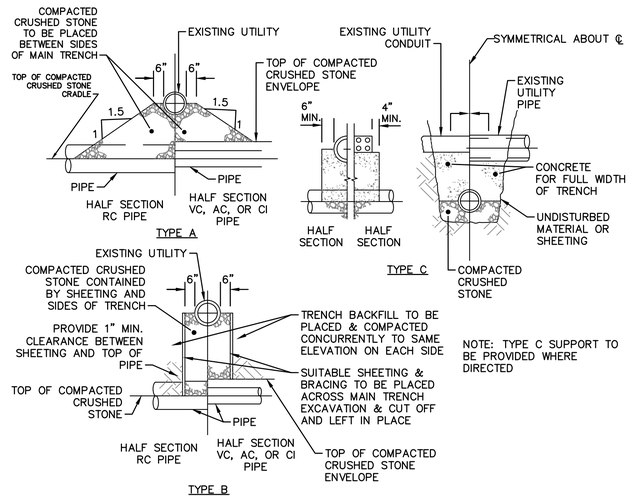
SUBCONSULTANT

PROJECT

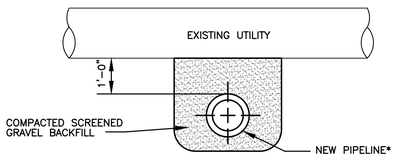
Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA



TYPICAL SUPPORTS FOR UTILITIES

SCALE: NOT TO SCALE

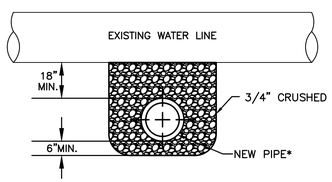


* ONE FULL LENGTH OF PIPE CENTERED UNDER EXISTING PIPE OTHER THAN SEWERS

NOTE: DETAIL APPLICABLE FOR PIPE SECTIONS EXPOSED DURING CONSTRUCTION

TRENCH SECTION AT EXISTING UTILITIES

SCALE: NOT TO SCALE

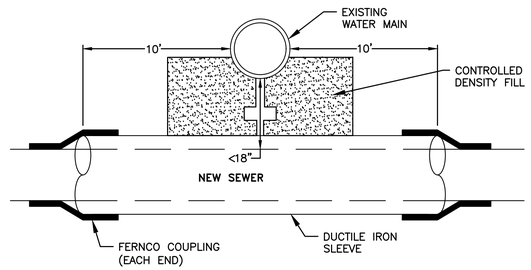


* ONE FULL LENGTH OF PIPE CENTERED UNDER EXISTING PIPE

NOTE: DETAIL APPLICABLE FOR PIPE SECTIONS EXPOSED DURING CONSTRUCTION

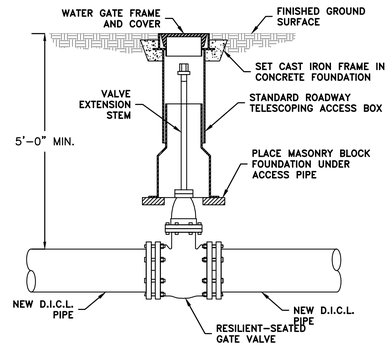
TYPICAL SECTION AT EXISTING WATER

SCALE: NOT TO SCALE



DUCTILE IRON SLEEVE

SCALE: NOT TO SCALE



NOTES:

1. ALL EXCAVATION, BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE CITY OF EAST PROVIDENCE REQUIREMENTS.
2. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF FOUR (4) INCHES. BRAND NAME EJ GROUP (FORMERLY LEBARON FOUNDRY CO.) OR EQUAL.

GATE VALVE

SCALE: NOT TO SCALE

TITLE

Civil Details II

NO.	REVISIONS	DATE

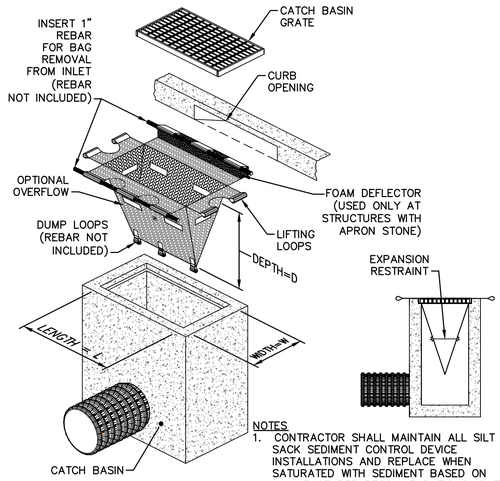
DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

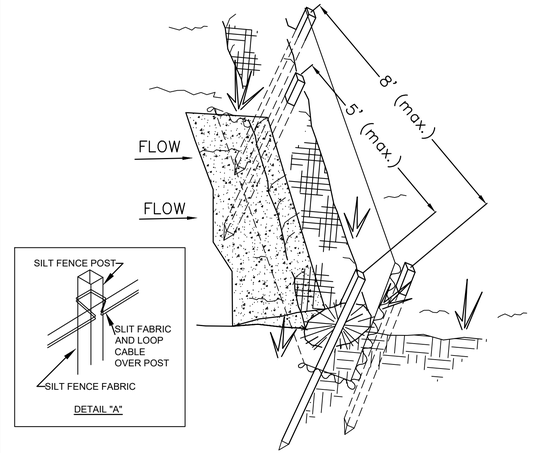
CD-2



NOTES
1. CONTRACTOR SHALL MAINTAIN ALL SILT SACK SEDIMENT CONTROL DEVICE INSTALLATIONS AND REPLACE WHEN SATURATED WITH SEDIMENT BASED ON MANUFACTURER RECOMMENDATIONS. SILT SACK SHALL BE INSPECTED AFTER EVERY RAIN EVENT BUT NO LONGER THAN EVERY TWO WEEKS.
2. SILT SACK SHALL BE DOUBLE NEEDLE SEWN POLYPROPLYENE GEOTEXTILE FABRIC AND RATED FOR HIGH FLOW UNLESS OTHERWISE DIRECTED.
3. CONTRACTOR SHALL PROVIDE CURB OPENING DEFLECTOR AT ALL CATCH BASINS AS NECESSARY.

TYPICAL CATCH BASIN EROSION CONTROL PROTECTION

SCALE: NOT TO SCALE



NOTES

1. STRAW WATTLES SHALL BE INSTALLED IN SHALLOW TRENCHES, DUG 3 TO 4–INCHES DEEP, PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT WATTLES.

2. STRAW WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THOUGH THE WATTLES. THE FIRST STAKE IN EACH WATTLE SHALL BE ANGLED TOWARDS PREVIOUSLY LAID WATTLE TO FORCE WATTLES TOGETHER. ANCHOR STRAW WATTLES WITH A MINIMUM OF 5 STAKES PER WATTLE, INSTALLED "TIGHT" AGAINST SILT FENCE.

3. SILT FENCE TO BE INSTALLED A MIN. OF 6–INCHES DEEP, WITH A 6–INCH LIP TOED INTO SEDIMENT TO PREVENT MIGRATION BENEATH SILT FENCE.

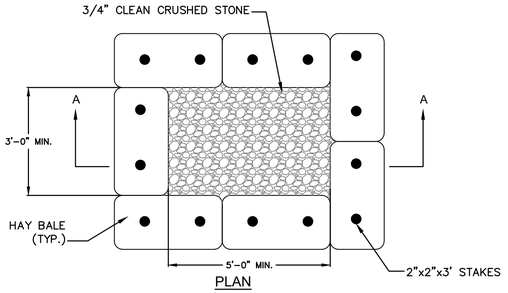
4. EXCAVATED SOILS SHALL BE THOROUGHLY COMPACTED ONCE COMPLETE WITH THE INSTALLATION OF EROSION CONTROL DEVICES.

5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED WITHOUT FURTHER COMPENSATION TO CONTRACTOR.

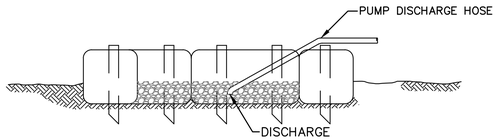
6. STRAW WATTLES AND SILT FENCE SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL–NESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

TYPICAL STRAW WATTLE FOR EROSION CONTROL

SCALE: NOT TO SCALE

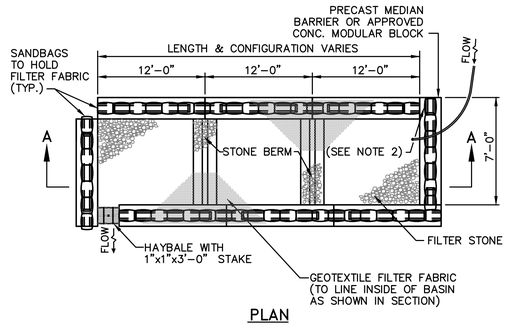


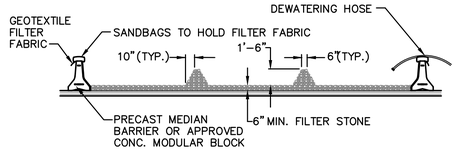
NOTE: ALL DEWATERING DISCHARGES SHALL BE THROUGH SEDIMENT CONTROL TRAPS, CONTRACTOR SHALL MAINTAIN AND CLEAN TRAP AS REQUIRED.



SEDIMENT CONTROL TRAP OPTION

SCALE: NOT TO SCALE





NOTS:
1. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS AND/OR BLOCKS

TYPICAL DEWATERING STILLING BASIN OPTION

SCALE: NOT TO SCALE

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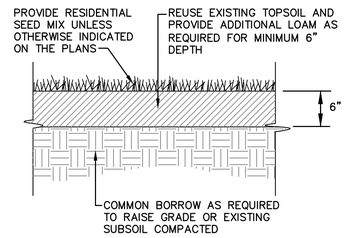
PROJECT

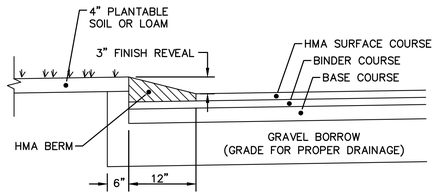
Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA



LOAM AND SEED DETAIL

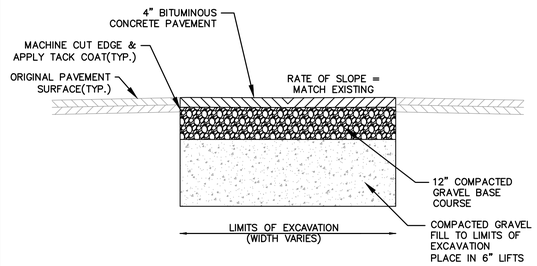
NOT TO SCALE



NOTES:
1. HMA BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION ON THE BINDER COURSE.

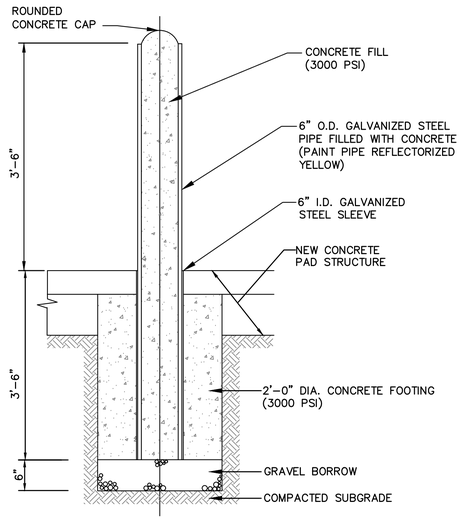
BITUMINOUS CONCRETE BERM

SCALE: NOT TO SCALE



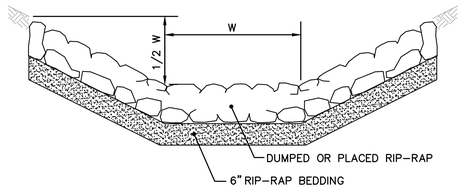
TYPICAL TEMPORARY PAVEMENT

SCALE: NOT TO SCALE



CONCRETE–FILLED STEEL BOLLARD

SCALE: NOT TO SCALE



NOTES:
1. SLOPES MAY VARY TO SUIT CONDITIONS AS PER PLANS OR ENGINEER.
2. RIP–RAP AND BEDDING SIZE MAY VARY. SEE CONTRACT DOCUMENTS.

RIP–RAP DITCH

SCALE: NOT TO SCALE

TITLE

Civil Details III

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

CD-3

ROOM FINISHES

LOCATION	ROOM NO.	ROOM NAME	FLOORS MAT. 1 CONCRETE	2 LIQUID HARDENER	3 RESINOUS FLOORING	4 CERAMIC TILE	5 EXISTING	BASES MAT. 1 VINYL BASE	2 CERAMIC TILE BASE	3 RESINOUS BASE	WALLS MAT. 1 CONCRETE	2 C.M.U.	3 FRP	4 GYPSUM BOARD	5 CERAMIC TILE	6 EXISTING PAINTED CONCRETE OR C.M.U.	7 EXISTING PAINTED GYPSUM BOARD	P PAINT	CEILINGS MAT. 1 ACOUST. TILE - TYPE A	2 ACOUST. TILE - TYPE B	3 GYPSUM BOARD	4 STEEL OR CONCRETE	5 EXISTING PAINTED CONCRETE OR STEEL	6 EX. ACOUST. TILE	P PAINT	MTG S SUSPENDED	MTG E EXPOSED STRUCTURE	HT.	REMARKS
SPS1	400	BASEMENT					5									6		P					5	6	P		E		
	401	PUMP ROOM					5									6		P					5		P		E		
SPS2	410	BASEMENT					5									6		P					5		P		E		
	411	PUMP ROOM					5									6		P					5		P		E		
CHB	501	BASEMENT					5									6		P					5		P		E		
	502	PUMP ROOM					5									6		P					5		P		E		
	503	BOILER ROOM					5									6		P					5		P		E		
	511	CORRIDOR					5									6		P					5		P		E		
	512	TOILET					5									6		P					5		P		E		
	513	LIME SLAKING ROOM					5									6		P					5		P		E		
	514	CONTAINER (SCALE) ROOM					5									6		P					5		P		E		
	515	CHLORINE ROOM					5									6		P					5		P		E		
	516	ELECTRICAL ROOM					5									6		P					5		P		E		
	517	STAIRS					5									6		P					5		P		E		
PBB	600	BLOWER	1									2						P				4			P		E		
	601	ELECTRICAL ROOM	1									2						P				4			P		E		
SHB	701	FIRST AID & OFFICE					5									6		P						6		S			
	702	LUNCH ROOM					5									6		P						6		S			
	703	HEAT TREATMENT ROOM					5									6		P					5		P		E		
	704	PASSAGE					5									6		P						6		S			
	705	STAIRS					5									6		P						6					
	706	CLOSET					5									6		P						6		S			
	707	MECHANICAL ROOM					5									6		P					5		P		E		
	108	MOTOR CONTROL CENTER ROOM					5									6		P					5		P		E		
	109	PARTS STORAGE					5									6		P					5		P		E		
	710	REPAIR SHOP					5									6		P					5		P		E		
	711	MACHINE SHOP					5									6		P					5		P		E		
	712	CHEMICAL STORAGE					5									6		P					5		P		E		
	713	HOPPER BAY					5									6		P					5		P		E		
	714	GARAGE					5									6		P					5		P		E		
	721	CONTROL ROOM					5									6		P						6		S			
	722	LOCKER ROOM					5									6		P						6		S			
	723	LAUNDRY					5									6		P						6		S			
	724	UPPER REACTOR AREA					5									6		P					5		P		E		
	725	FILTER ROOM					5									6		P					5		P		E		
STO	800	STORAGE					5									6		P					5		P		E		
	801	STORAGE					5									6		P					5		P		E		
OPS	901	PIPE GALLERY					5																				E		NO FINISH WORK IN THIS ROOM
	902	PIPE GALLERY					5																				E		NO FINISH WORK IN THIS ROOM
	903	WOMEN'S LOCKER ROOM				4						2			5	6		P		2						S		9'-0"	WAINSCOT 4'-0" HIGH
	904	MEN'S LOCKER ROOM				4						2			5	6		P		2						S		9'-0"	WAINSCOT 4'-0" HIGH
	905	BOILER ROOM					5																				E		NO FINISH WORK IN THIS ROOM
	911	CONTROL ROOM			3					3						6	7	P	1							S		9'-4"	
	912	VESTIBULE					5									6	7	P								S		9'-4"	
	913	LOCKER ROOM				4									5	6	7	P		2						S		9'-4"	WAINSCOT 4'-0" HIGH
	914	CORRIDOR					5									6	7	P	1							S		9'-4"	
	915	BREAK ROOM			3					3						6	7	P	1							S		9'-4"	
	916	CHEMICAL ANALYSIS LAB					5									6	7	P	1							S		9'-4"	
	917	STORAGE					5									6	7	P	1							S		9'-4"	
	918	MECHANICAL ROOM					5									6	7	P					5		P		E		
	919	CORRIDOR					5									6	7	P	1							S		9'-4"	
	920	COATS					5									6	7	P	1							S		9'-4"	
	921	BACTERIOLOGY					5									6	7	P	1							S		9'-4"	PATCH FLOOR IN AREAS OF CABINET REMOVAL
	922	OFFICE					5									6	7	P	1							S		9'-4"	
	923	ELECTRICAL CLOSET					5									6	7	P	1				5		P		E		
	924	FIRST AID					5									6	7	P	1							S		9'-4"	
	925	WAITING					5									6	7	P	1							S		9'-4"	
	926	ENTRY					5												1				5			S			
	927	RECEPTION					5									6	7	P	1							S		9'-4"	
	928	OFFICE					5									6	7	P	1							S		9'-4"	
	929	CONFERENCE					5									6	7	P	1							S		9'-4"	
	930	MEN'S ROOM				4									5	6	7	P		2						S		9'-4"	WAINSCOT 4'-0" HIGH
	931	WOMEN'S ROOM				4									5	6	7	P		2						S		9'-4"	WAINSCOT 4'-0" HIGH
	932	JANITOR CLOSET				4										6	7	P		2			5		P		E		
	933	FILES					5									6	7	P	1				5		P		E		
	934	PLANT SUPERVISOR					5									6	7	P	1							S		9'-4"	
	935	INDUSTRIAL WASTE INSP. OFFICE					5									6	7	P	1							S		9'-4"	

DOORS AND FRAMES

LOCATION	DOOR NO.	DOOR SIZE W	H	T	DOOR MAT.	DOOR TYPE	GLASS	LOUVER W	H	BOT.	FRAME MAT.	FRAME TYPE	FRAME DETAILS JAMB	HEAD	SILL	FIRE RATING LAB	CON	HARDWARE SET NO.	KEYSIDE ROOM NO.	REMARKS	LINTEL
PBB	600	3'-0"	7'-0"	1-3/4"	STL	C	TEMPERED	-	-	-	STL	III	3	4,5	14	-	-	1	EXTERIOR	-	L-2
	600A	10'-0"	10'-8"	-	STL	E	TEMPERED	-	-	-	STL	V	8	-	-	-	-	-	-	INSULATED STEEL SECTIONAL DOOR (MOTOR OPERATED)	L-1
	601	2'-3'-0"	7'-0"	1-3/4"	STL	B	TEMPERED	-	-	-	STL	II	1	2	-	-	-	6	-	-	L-4
	601A	3'-0"	7'-0"	1-3/4"	STL	B	TEMPERED	-	-	-	STL	I	1	2	-	-	-	2	-	-	L-4
SHB	701	3'-0"	7'-0"	1-3/4"	STL	B	TEMPERED	-	-	-	STL	I	1	2	-	-	-	5	-	-	L-3
	703	3'-0"	7'-0"	1-3/4"	STL	C	TEMPERED	-	-	-	STL	III	1	2	14	-	-	1	-	-	-
	703A	-	-	-	-	-	TEMPERED	-	-	-	STL	-	1	2	-	-	-	-	-	STEEL FRAMING WITH GLAZING	L-3
	711	2-3'-0"	7'-0"	1-3/4"	STL	B	TEMPERED	-	-	-	STL	II	1	2	-	-	-	6	-	-	L-3
	714C	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	3 SIM.	5	14	-	-	1	EXTERIOR	-	-
	725	3'-0"	7'-8"	1-3/4"	STL	A	-	-	-	-	STL	III	3 SIM.	4, 5	14	-	-	1	EXTERIOR	-	-
	725A	9'-4"±	10'-6"±	-	STL	E	TEMPERED	-	-	-	STL	V	7	-	-	-	-	-	-	INSULATED STEEL SECTIONAL DOOR (MOTOR OPERATED)	-
OPS	902	3'-0"	7'-0"	1-3/4"	STL	C	TEMPERED	-	-	-	STL	I	1	2	-	-	-	3	-	-	L-3
	902A	10'-0"	10'-0"	-	ALUM	F	-	-	-	-	STL	V	6	-	-	-	-	-	-	INSULATED ALUMINUM COILING DOOR (MOTOR OPERATED)	-
	903	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	15	-	-	4	-	-	L-3
	904	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	15	-	-	3	-	-	L-3
	904A	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	15	-	-	3	-	-	L-3
	911	3'-0"	7'-0"	1-3/4"	STL	C	TEMPERED	-	-	-	STL	I	1	2	13	-	-	5	914	-	-
	913	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	13	-	-	4	914	-	-
	915	3'-0"	7'-0"	1-3/4"	STL	C	TEMPERED	-	-	-	STL	I	1	2	13	-	-	5	914	-	-
	925	3'-0"	7'-8"	1-3/4"	ALUM	D	TEMPERED	-	-	-	ALUM	IV	9, 10, 12	11	14	-	-	7	-	EXIT HARDWARE BY DOOR MANUFACTURER	-
	926	3'-0"	7'-8"	1-3/4"	ALUM	D	TEMPERED	-	-	-	ALUM	IV	9, 10, 12	11	14	-	-	7	EXTERIOR	EXIT HARDWARE BY DOOR MANUFACTURER	-
	930	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	15	-	-	3	-	-	-
	931	3'-0"	7'-0"	1-3/4"	STL	A	-	-	-	-	STL	I	1	2	15	-	-	3	-	-	-

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. PAINT ALL NEW WORK AND ALL EXISTING PREVIOUSLY PAINTED SURFACES INCLUDING STEEL DOORS, PIPING, CONDUITS, DUCTWORK, EQUIPMENT, ETC.

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS REGISTERED ARCHITECT STEVEN V. RUSTEN No. 052019 HARRSBURG PA

SUBCONSULTANT

GHD

GHD Inc.
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Hyannis MA 02601 USA
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Schedules

NO.	REVISIONS	DATE

DRAWN BY: K. HANLIN
DESIGNED BY: K. HANLIN
CHECKED BY: E. RUSTEN
ISSUE DATE: 7/2/2021
BETA JOB NO.: 6050

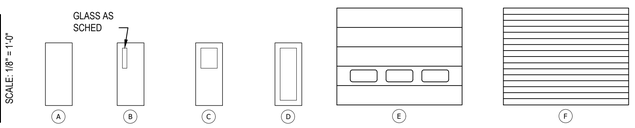
SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

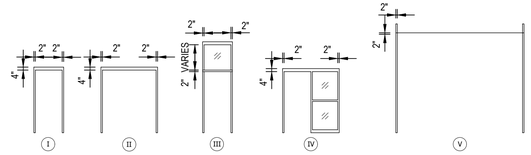
SHEET NO.

A-0.1

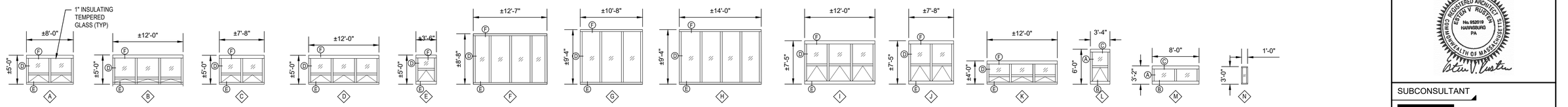
DOOR TYPES
SCALE: 1/8" = 1'-0"



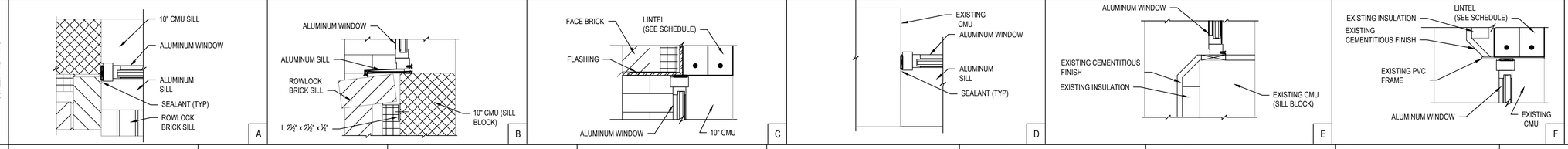
FRAME TYPES
SCALE: 1/8" = 1'-0"



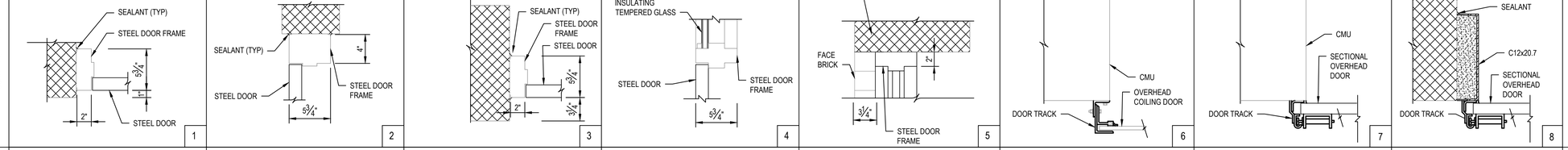
WINDOW TYPES
SCALE: 1/8" = 1'-0"

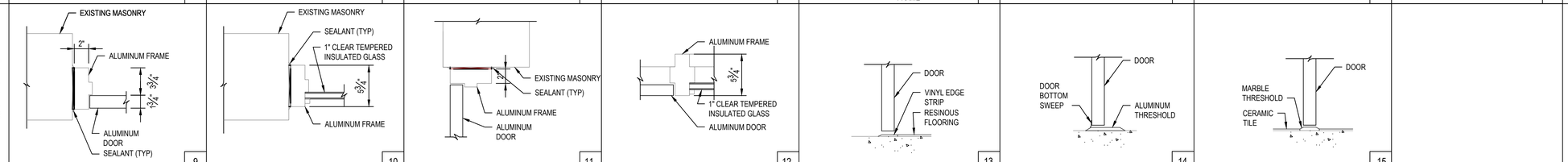


WINDOW DETAILS
SCALE: 1 1/2" = 1'-0"

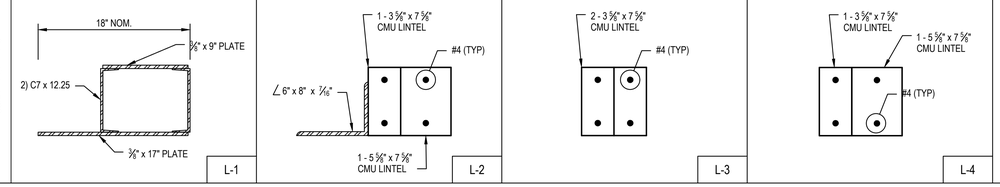


FRAME DETAILS
SCALE: 1 1/2" = 1'-0"





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



PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
STEVEN V RUSTEN
No. 052019
HARRISBURG
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SUBCONSULTANT

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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Details

NO.	REVISIONS	DATE

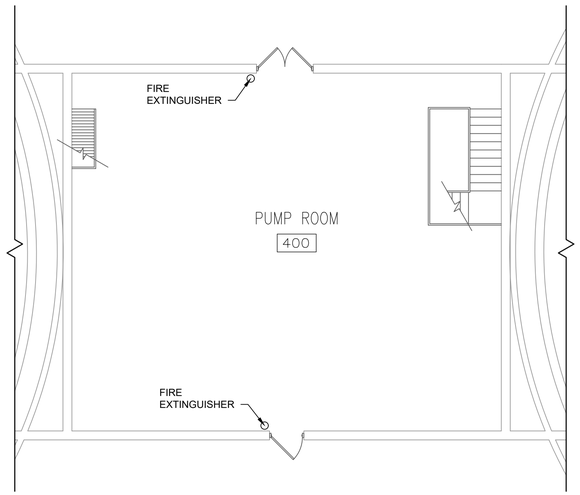
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

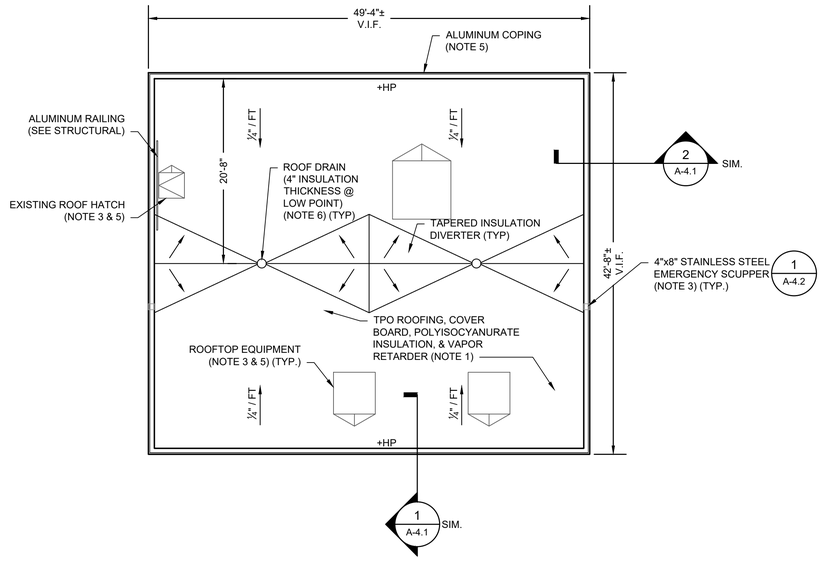
SHEET NO.

A-0.2



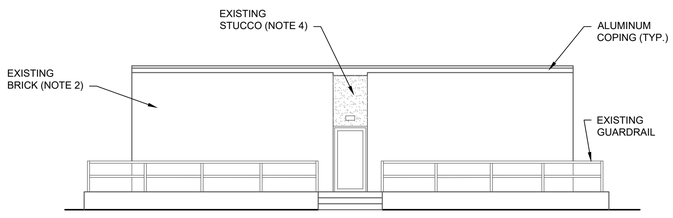
FIRST FLOOR PLAN

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



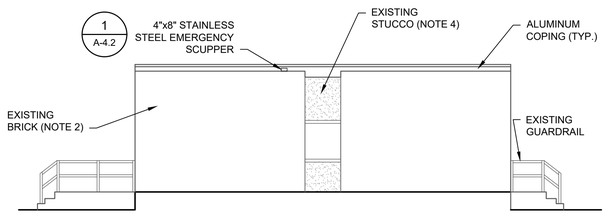
ROOF PLAN

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



SOUTH ELEVATION

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

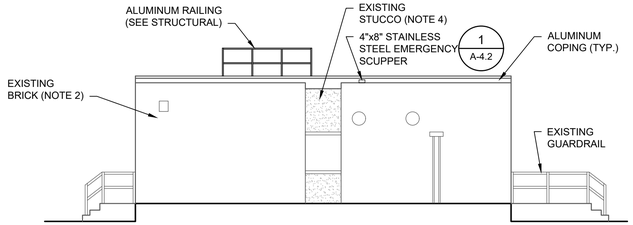


EAST ELEVATION

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

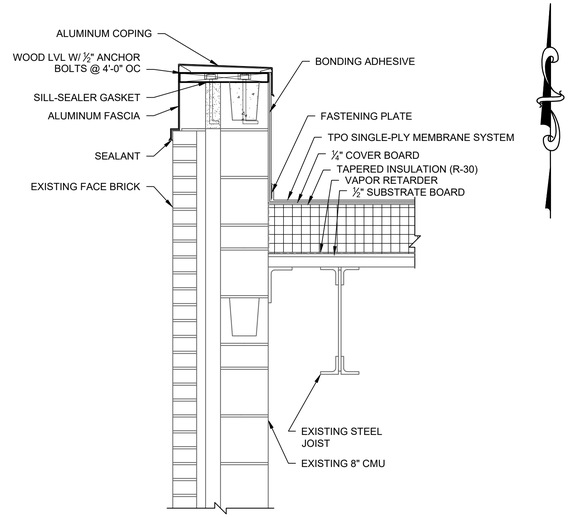
NORTH ELEVATION

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



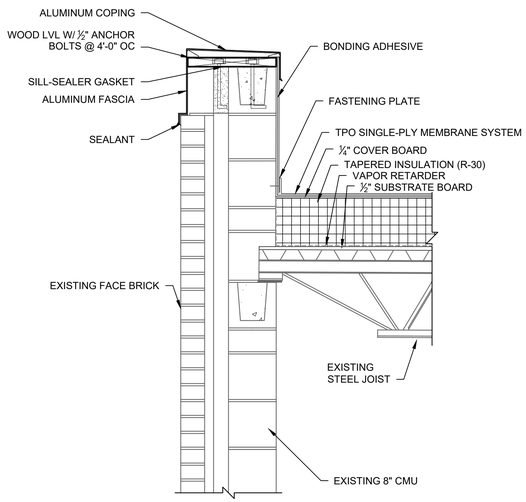
WEST ELEVATION

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



1 / A-4.1 ROOF DETAIL

SCALE: 1"=1'-0"



2 / A-4.1 ROOF DETAIL

SCALE: 1"=1'-0"

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT CONCRETE SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT WHEN RAISING CURB HEIGHTS FOR NEW INSULATION THICKNESS.
2. CLEAN EXISTING BRICK. REPAIR AND REPOINT AS NECESSARY.
3. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND WARRANTY REQUIREMENTS.
4. CLEAN EXISTING STUCCO AND REPAIR AS NECESSARY
5. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
6. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

CODE ANALYSIS

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 1

Work consists of the replacement of existing roof system, and repair and cleaning of existing brick and stucco.

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
No. 052018
STEVEN V. RUSTEN
HARRISBURG
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Pump Station 1
Plans and Elevations

NO.	REVISIONS	DATE

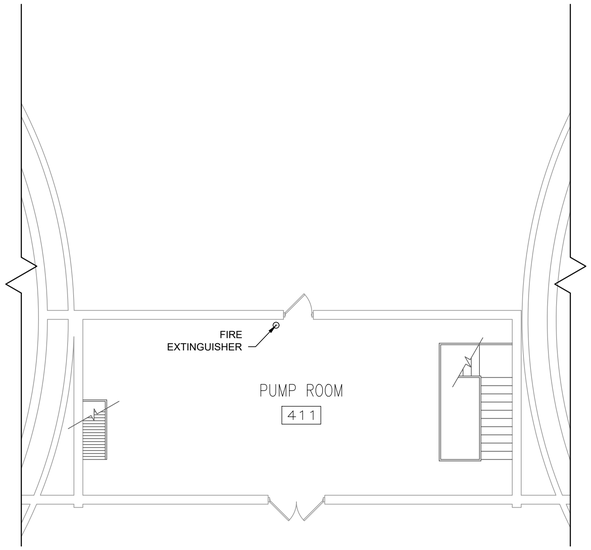
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

8 0 8 16
SCALE IN FEET: 1"=8'

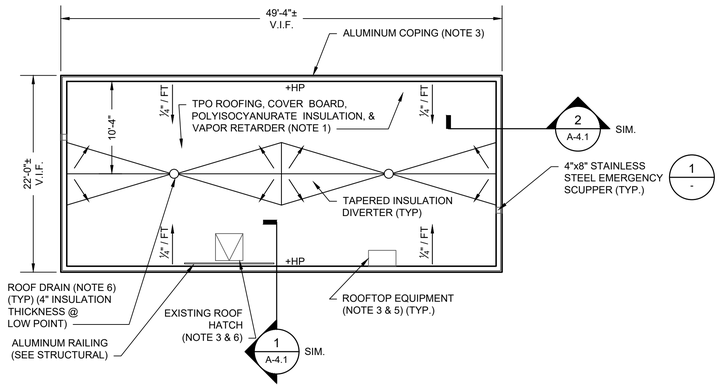
SHEET NO.

A-4.1



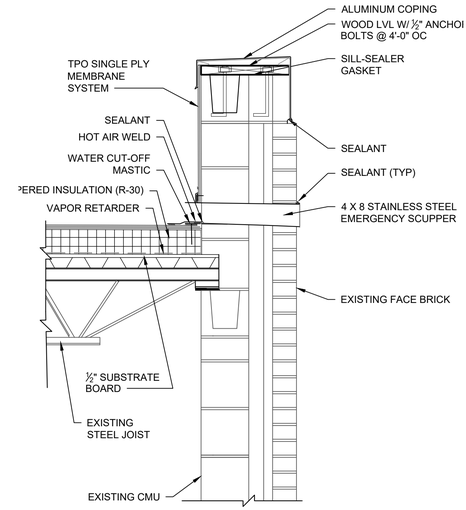
FIRST FLOOR PLAN

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



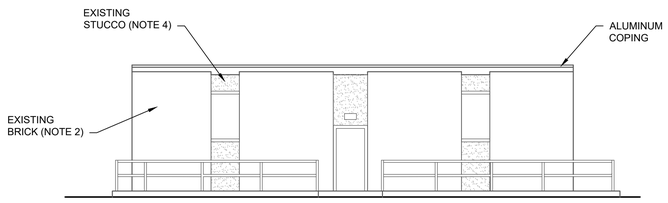
ROOF PLAN

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



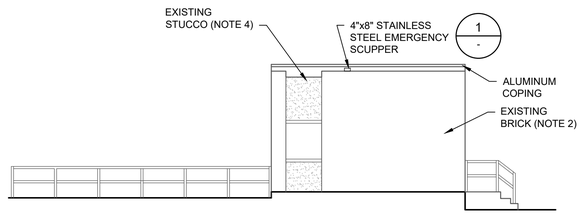
1 / A-4.1 SCUPPER DETAIL

SCALE: 1"=1'-0"



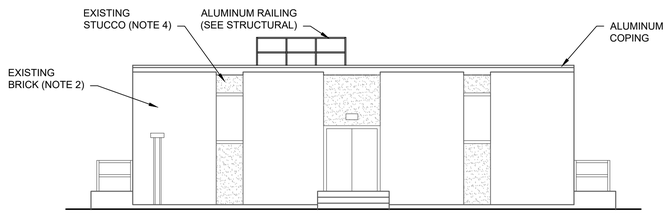
NORTH ELEVATION

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



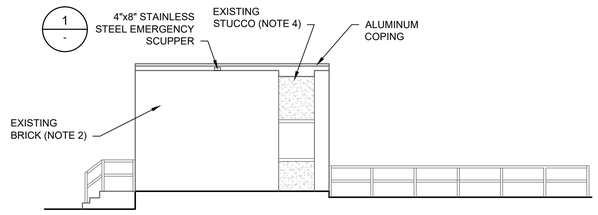
WEST ELEVATION

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



SOUTH ELEVATION

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



EAST ELEVATION

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

CODE ANALYSIS

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 1

Work consists of the replacement of existing roof system, and repair and cleaning of existing brick and stucco.

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT CONCRETE SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT WHEN RAISING CURB HEIGHTS FOR NEW INSULATION THICKNESS.
2. CLEAN EXISTING BRICK. REPAIR AND REPOINT AS NECESSARY.
3. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND WARRANTY REQUIREMENTS.
4. CLEAN EXISTING STUCCO AND REPAIR AS NECESSARY
5. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
6. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
STEVEN V RUSTEN
No. 052018
HARRSBURG
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Pump Station 2
Plans and Elevations

NO.	REVISIONS	DATE

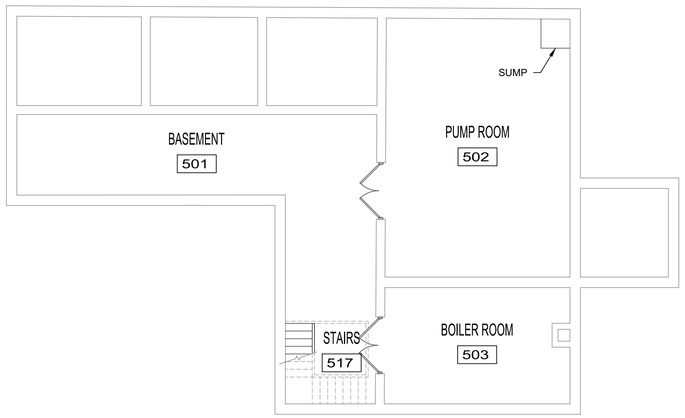
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

8 0 8 16
SCALE IN FEET: 1"=8'

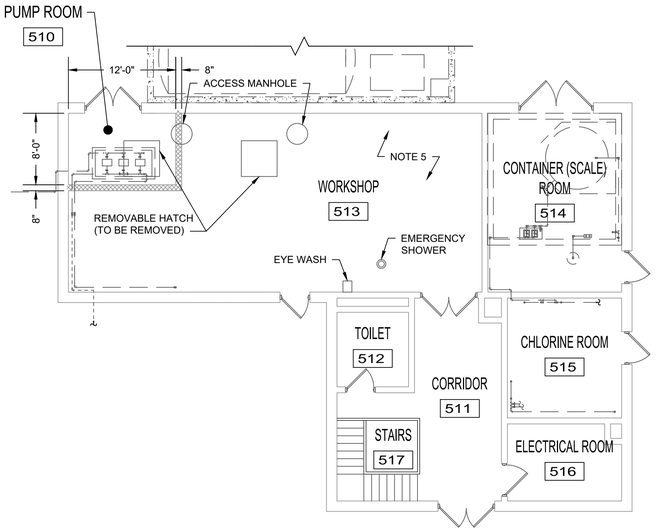
SHEET NO.

A-4.2



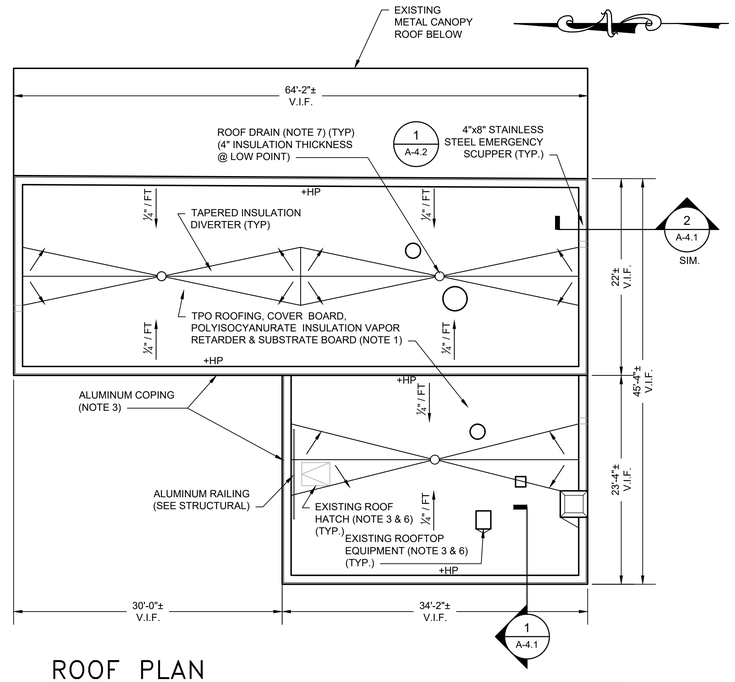
BASEMENT PLAN

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



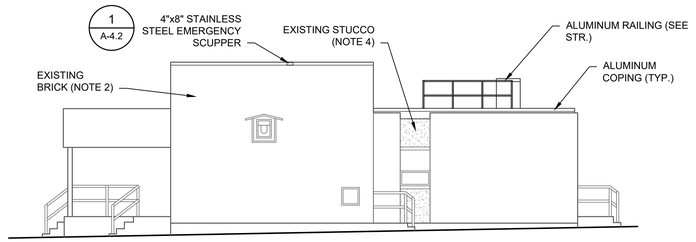
FIRST FLOOR PLAN

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

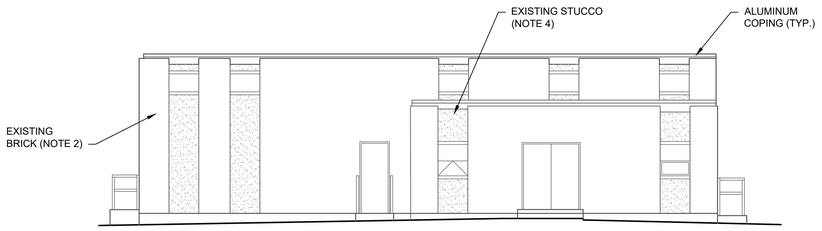


ROOF PLAN

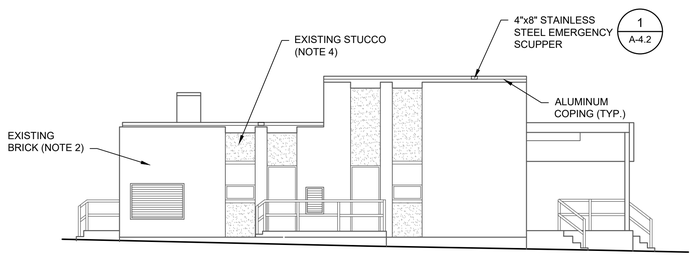
SCALE: 1/8"=1'-0"



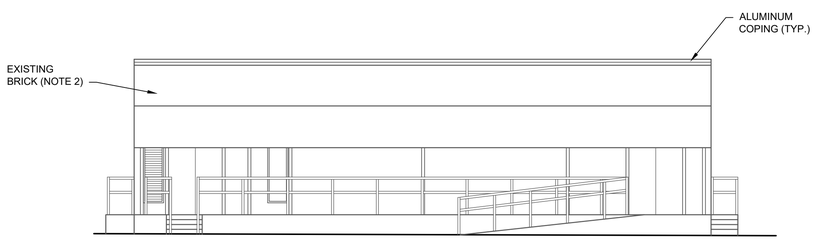
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

ELEVATIONS

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

CODE ANALYSIS

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 2

Work consists of the replacement of existing roof system and repair and cleaning of existing brick and stucco. Walls will be added, adding a pump room.

Building Area: 1980 SF
Work Area: 110 SF, 6%

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT WHEN RAISING CURB HEIGHTS FOR NEW INSULATION THICKNESS.
2. CLEAN EXISTING BRICK. REPAIR AND REPOINT AS NECESSARY.
3. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.
4. CLEAN EXISTING STUCCO WITH APPROPRIATE CLEANING METHOD. REPAIR AND PAINT ANY DAMAGED AREAS.
5. WORKSHOP 513 TO BE CLEANED AND PREPARED FOR PAINTING. REMOVE ANY LIME OR OTHER CHEMICAL BUILDUP ON FLOORS, WALLS AND CEILING.
6. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
7. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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STEVEN V RUSTEN
No. 052019
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chemical Handling Building
Plans and Elevations

NO.	REVISIONS	DATE

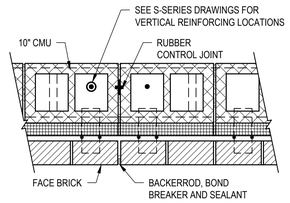
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

8 0 8 16
SCALE IN FEET: 1"=8'

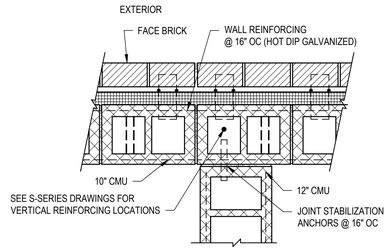
SHEET NO.

A-5.1



NOTE: BLOCK CONTROL JOINT MAY BE OFFSET FROM BRICK CONTROL JOINT TO COINCIDE WITH BLOCK JOINTS.

1 CONTROL JOINT
1 / A-6.1 SCALE: 1"=1'-0"



2 JOINT STABILIZATION ANCHOR
2 / A-6.1 SCALE: 1"=1'-0"

CODE ANALYSIS

2015 INTERNATIONAL BUILDING CODE

USE:	U (UTILITY OCCUPANCY)	
CONSTRUCTION TYPE:	II B	
BUILDING AREA:	PERMITTED (TABLE 506.2)	8500 SF
	PROVIDED	2440 SF
BUILDING HEIGHT:	PERMITTED (TABLE 504.3)	2 STORY
	PROVIDED	1 STORY
AUTOMATIC SPRINKLER SYSTEM (SECTION 903):		NOT REQUIRED
ACCESSIBILITY (SECTION 1103.2.9):		NOT APPLICABLE
PLUMBING FIXTURES:		NOT REQUIRED

2018 INTERNATIONAL ENERGY CONSERVATION CODE

ZONE 5A

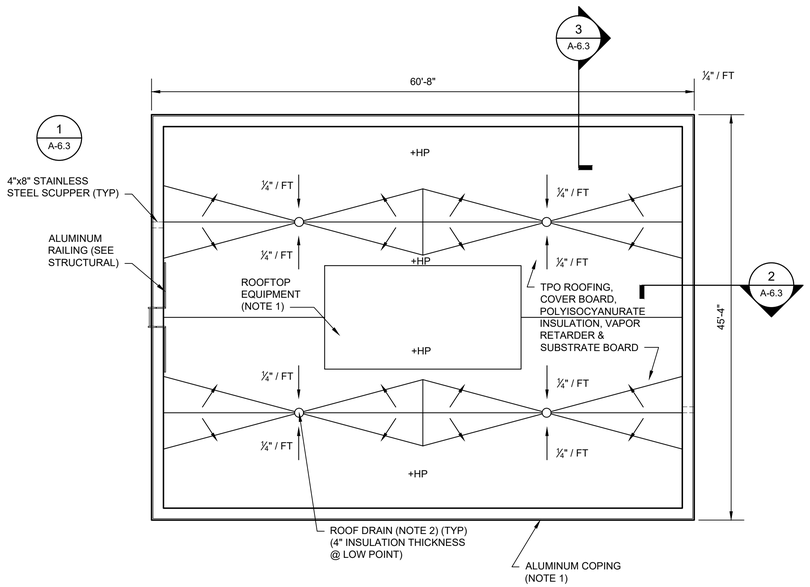
	REQUIRED	PROVIDED
SLAB	R-10	R-10
ROOF	R-30	R-30
WALLS	R-11.4	R-12
OPAQUE DOOR		
SWINGING	U-0.37	U-0.10
NON-SWINGING	R-4.75	R-17.4
WINDOWS	U-0.38	U-0.10

GENERAL NOTES

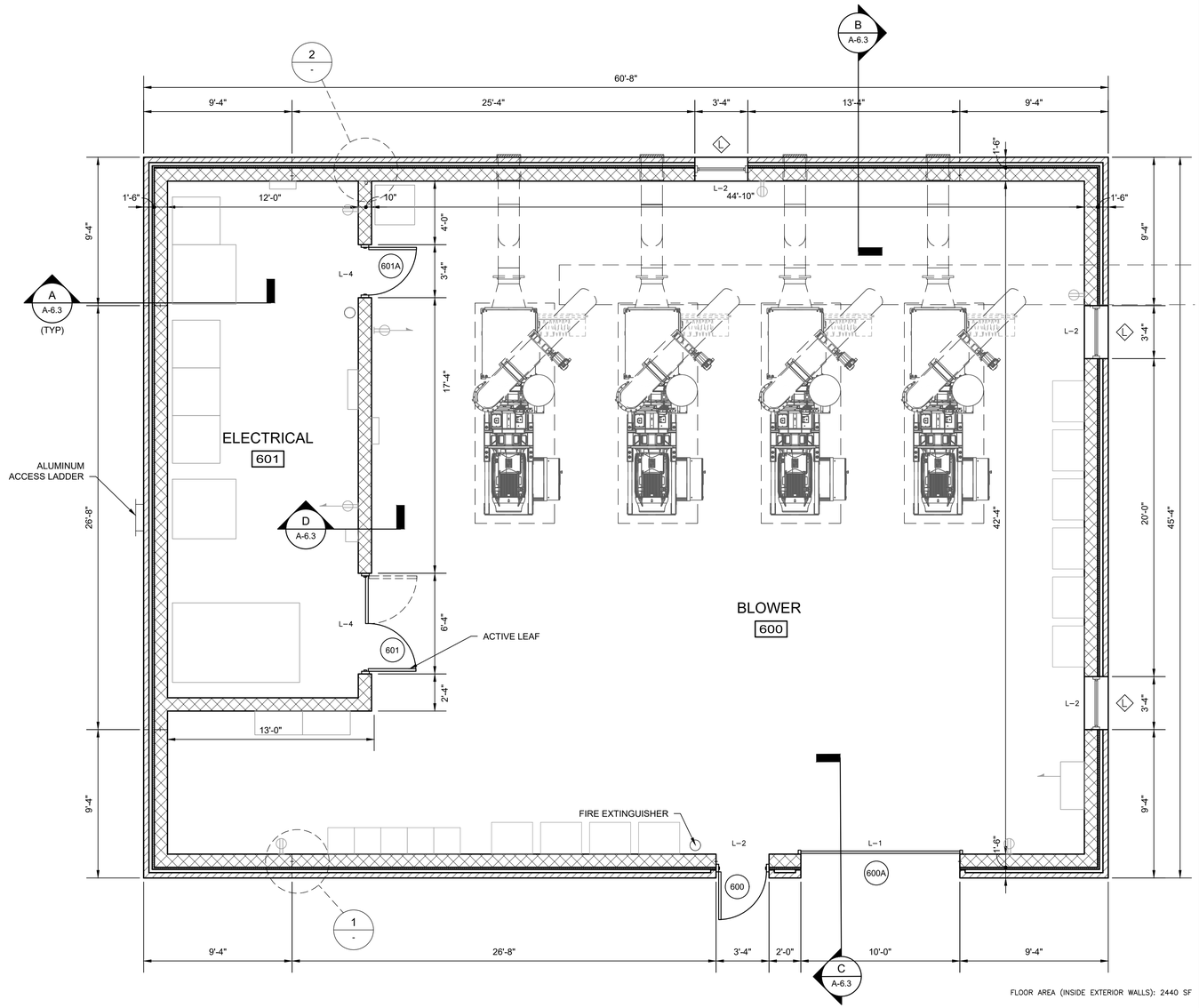
1. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
2. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.



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



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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS REGISTERED ARCHITECT STEVEN V RUSTEN No. 052018 HARRSBURG PA

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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Proposed Blower Building Plans

NO.	REVISIONS	DATE

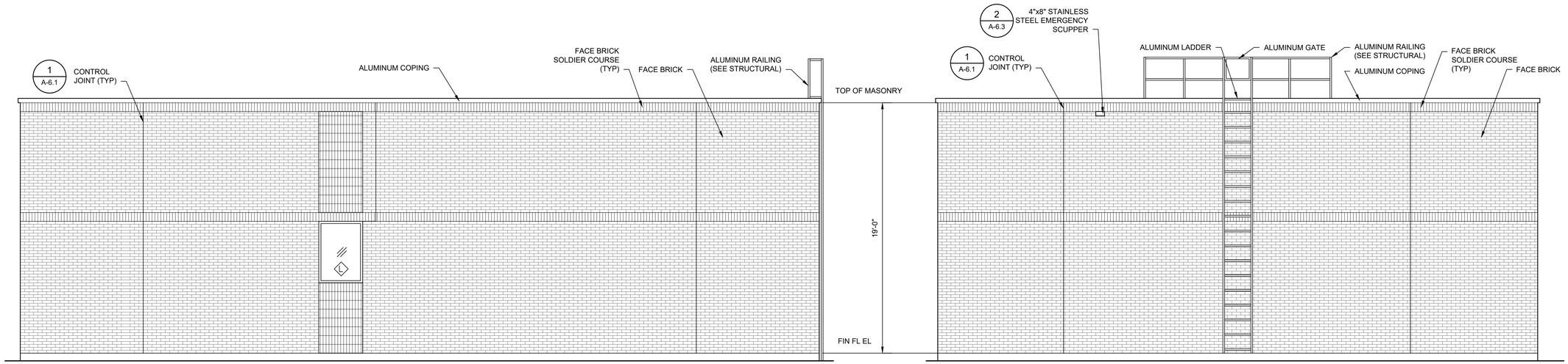
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'
8 0 8 16
SCALE IN FEET: 1"=8'

SHEET NO.

A-6.1

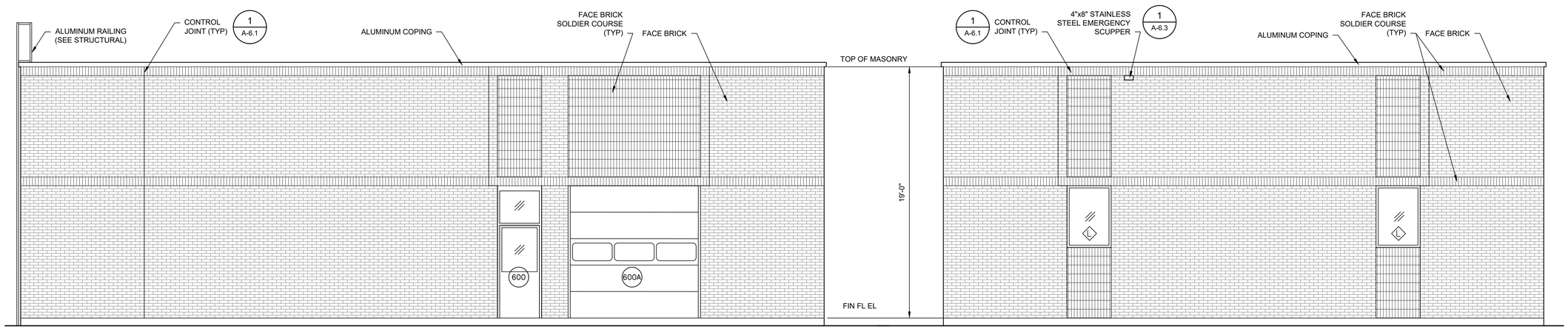


NORTH ELEVATION

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

WEST ELEVATION

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



SOUTH ELEVATION

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

EAST ELEVATION

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
STEVEN V RUSTEN
No. 052019
HARRSBURG
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Proposed Blower Building Elevations

NO.	REVISIONS	DATE

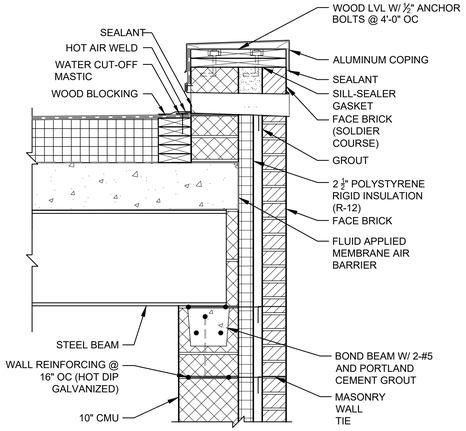
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'
8 0 8 16
SCALE IN FEET: 1"=8'

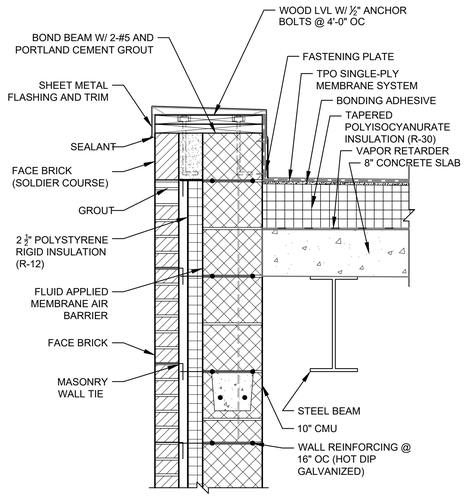
SHEET NO.

A-6.2



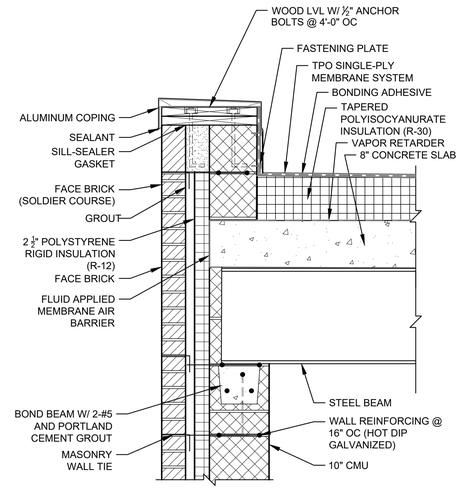
SCUPPER DETAIL 1

SCALE: 1"= 1'-0"



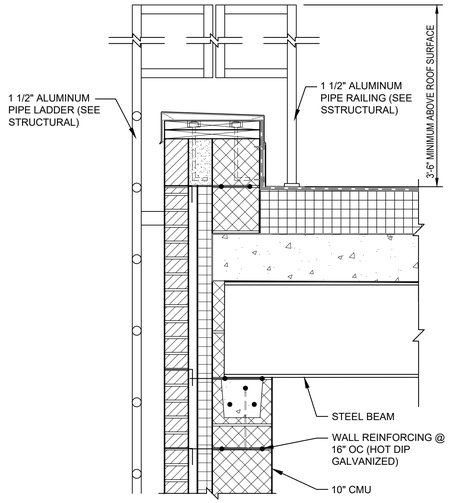
EAVE DETAIL 2

SCALE: 1"= 1'-0"



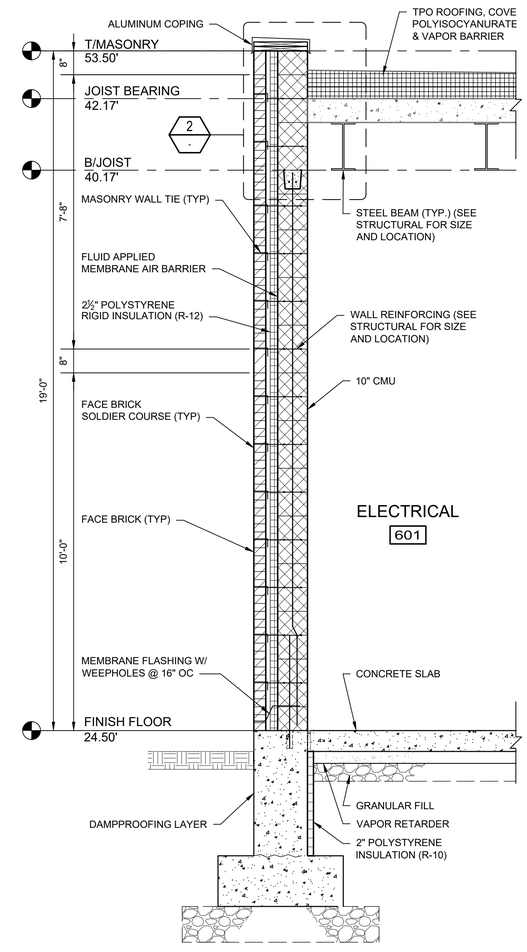
EAVE DETAIL 3

SCALE: 1"= 1'-0"



LADDER DETAIL 4

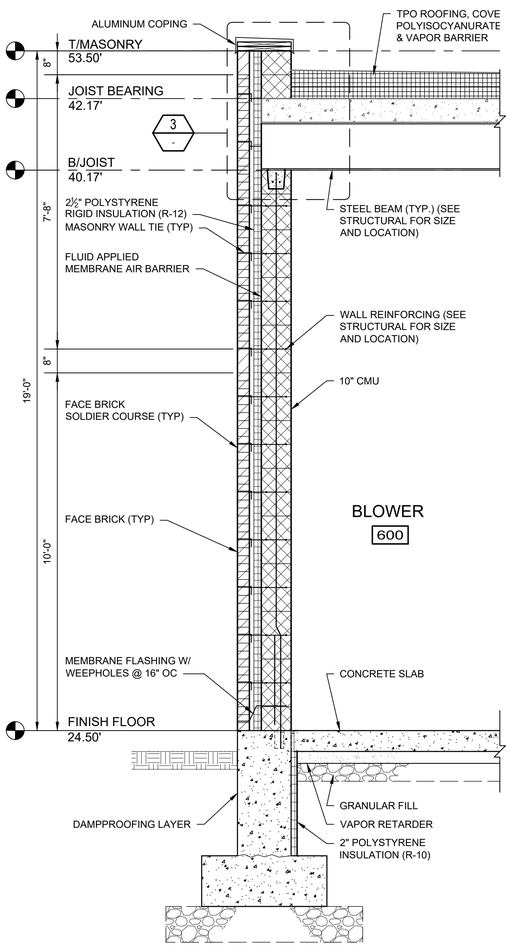
SCALE: 1"= 1'-0"



SECTION A

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

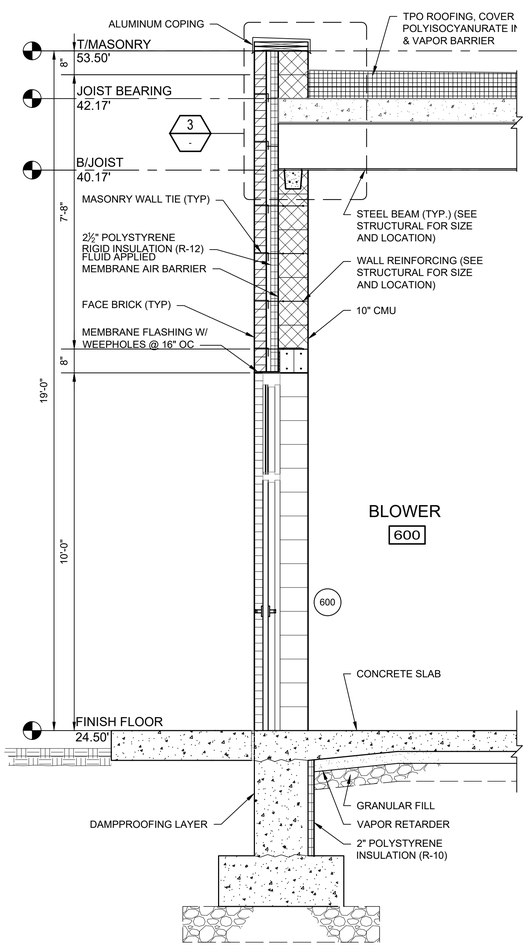
A-6.1



SECTION B

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

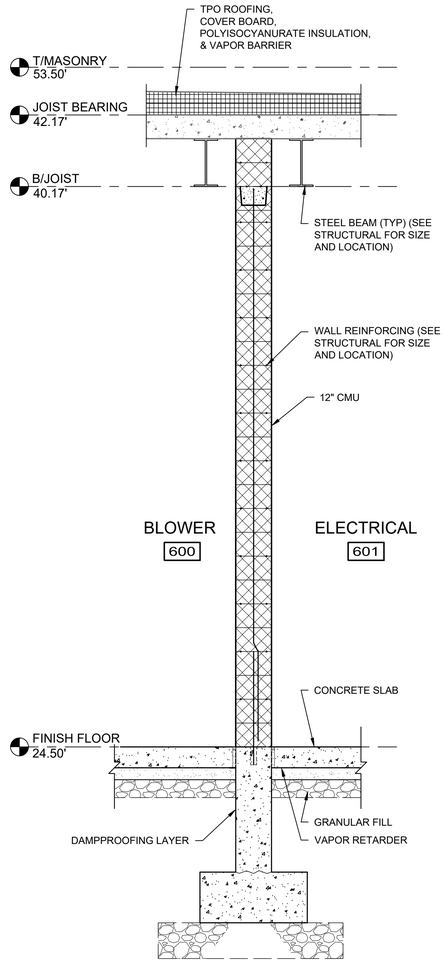
A-6.1



SECTION C

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

A-6.1



SECTION D

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

A-6.1

PREPARED BY

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REGISTERED PROFESSIONAL

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REGISTERED ARCHITECT
STEVEN V. RUSTEN
No. 052018
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Proposed Blower Building Wall Sections

NO.	REVISIONS	DATE

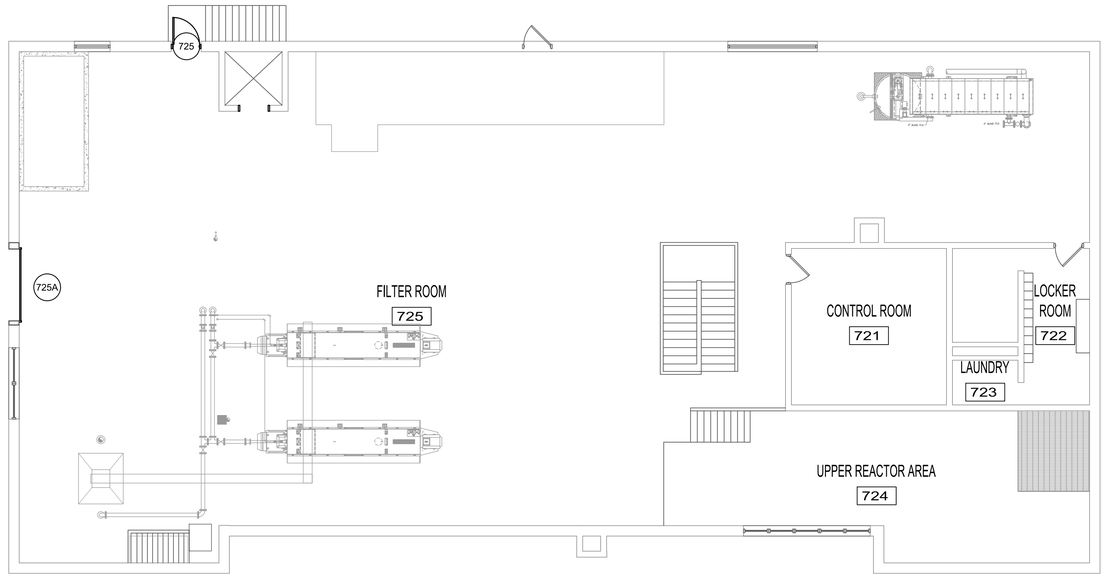
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 2 4
SCALE IN FEET: 1"=2'

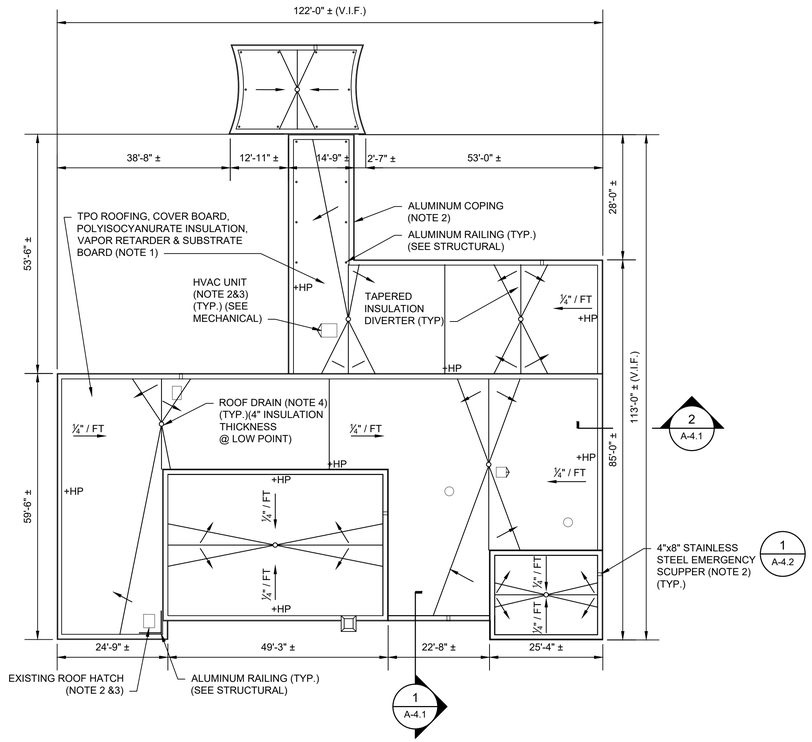
SHEET NO.

A-6.3



SECOND FLOOR PLAN

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



ROOF PLAN

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

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT WHEN RAISING CURB HEIGHTS FOR NEW INSULATION THICKNESS.
2. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.
3. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
4. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

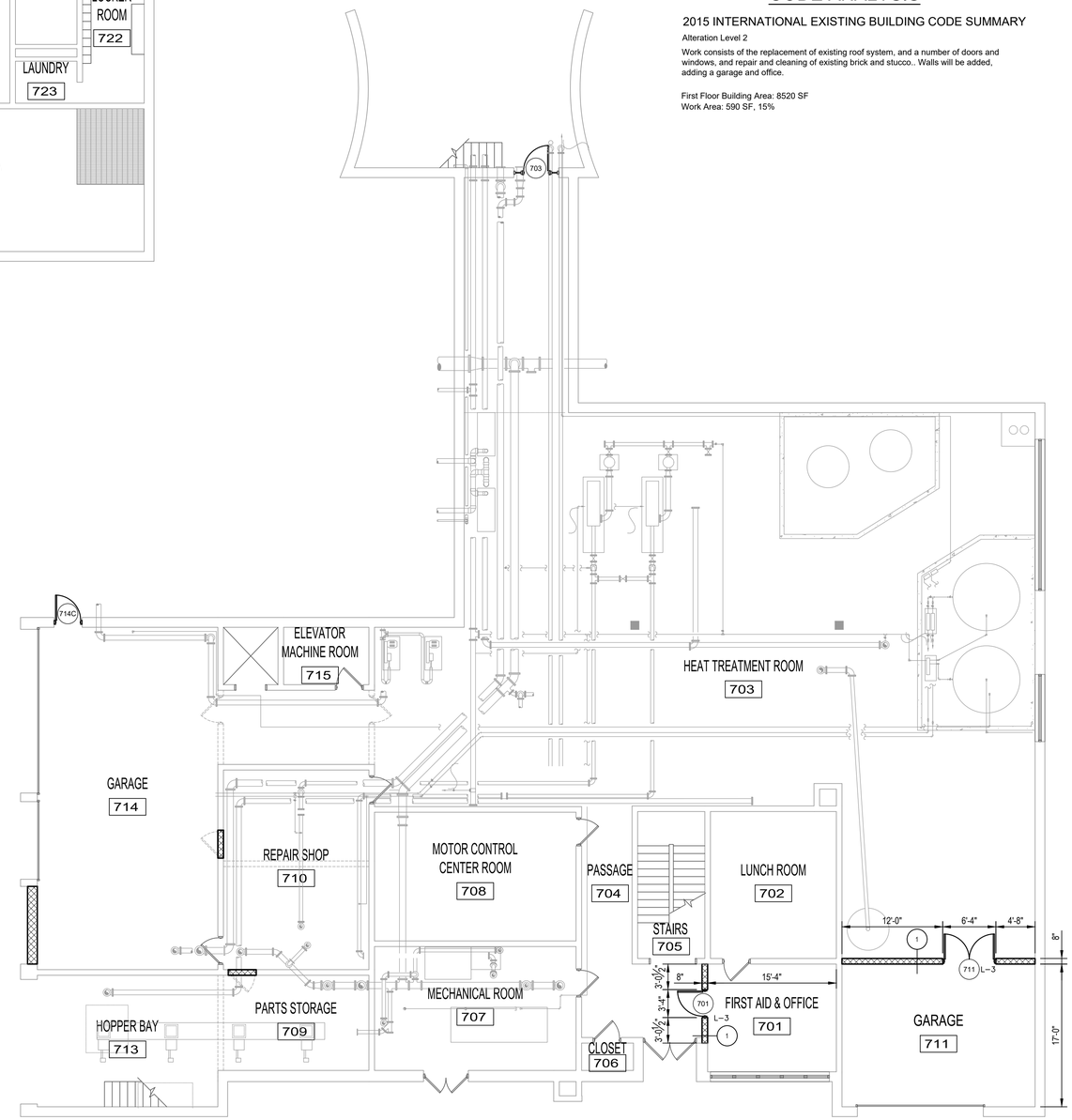
CODE ANALYSIS

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 2

Work consists of the replacement of existing roof system, and a number of doors and windows, and repair and cleaning of existing brick and stucco.. Walls will be added, adding a garage and office.

First Floor Building Area: 8520 SF
Work Area: 590 SF, 15%



FIRST FLOOR PLAN

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

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
STEVEN V RUSTEN
No. 052019
REGISTERED ARCHITECT
HARRSBURG PA

SUBCONSULTANT

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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Solids Handling Building Plans

NO.	REVISIONS	DATE

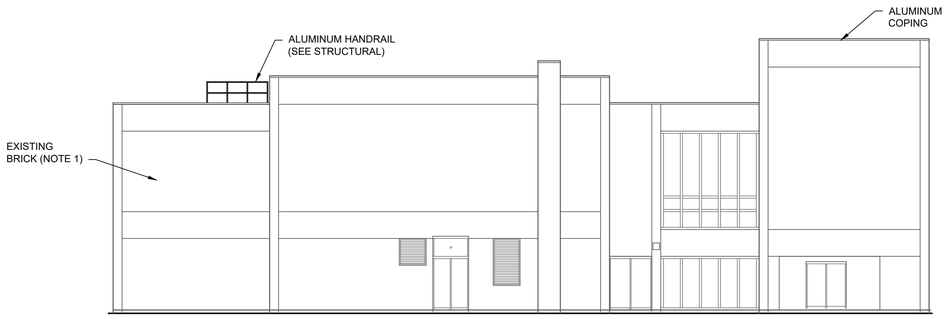
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

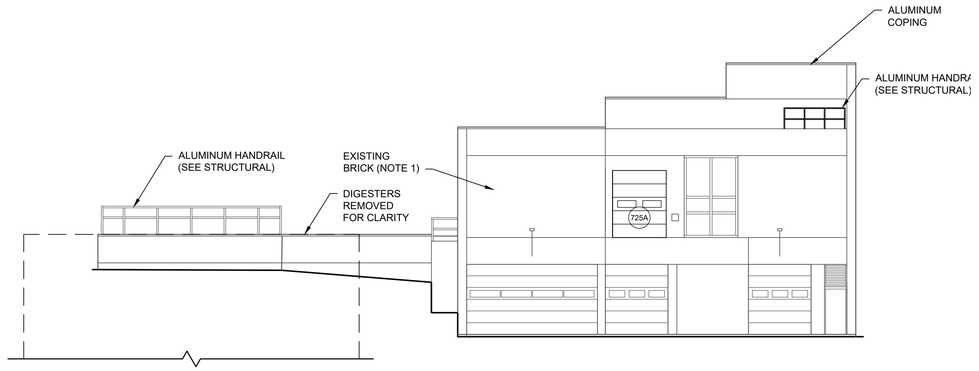
16 0 16 32
SCALE IN FEET: 1"=16'
8 0 8 16
SCALE IN FEET: 1"=8'

SHEET NO.

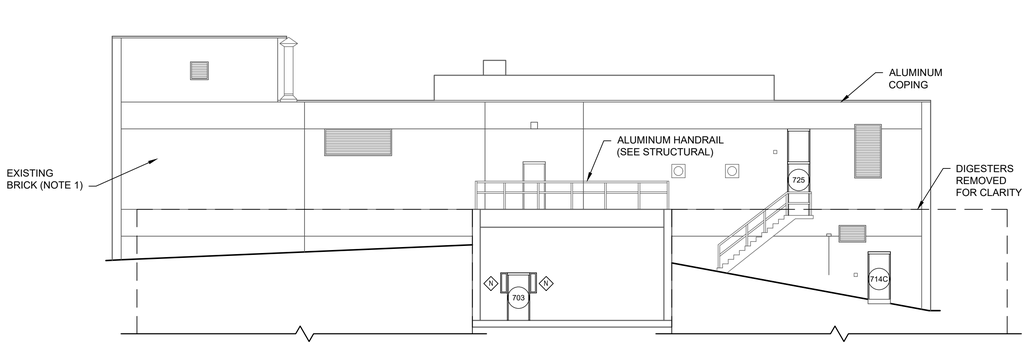
A-7.1



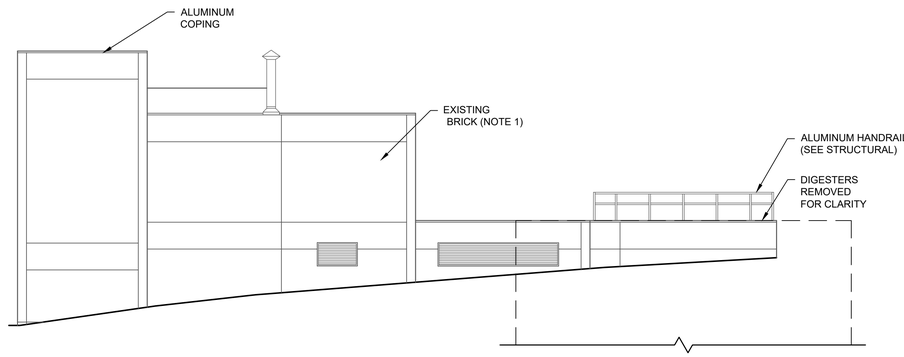
SOUTH ELEVATION



WEST ELEVATION



NORTH ELEVATION



EAST ELEVATION

ELEVATIONS

SCALE: 3/32"=1'-0"

NOTES

1. CLEAN EXISTING BRICK. REPAIR AND REPOINT AS NECESSARY.

PREPARED BY

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www.BETA-Inc.com

REGISTERED PROFESSIONAL

REGISTERED ARCHITECT
STEVEN V RUSTEN
No. 052018
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COMMONWEALTH OF MASSACHUSETTS

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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Solids Handling Building Elevations

NO.	REVISIONS	DATE

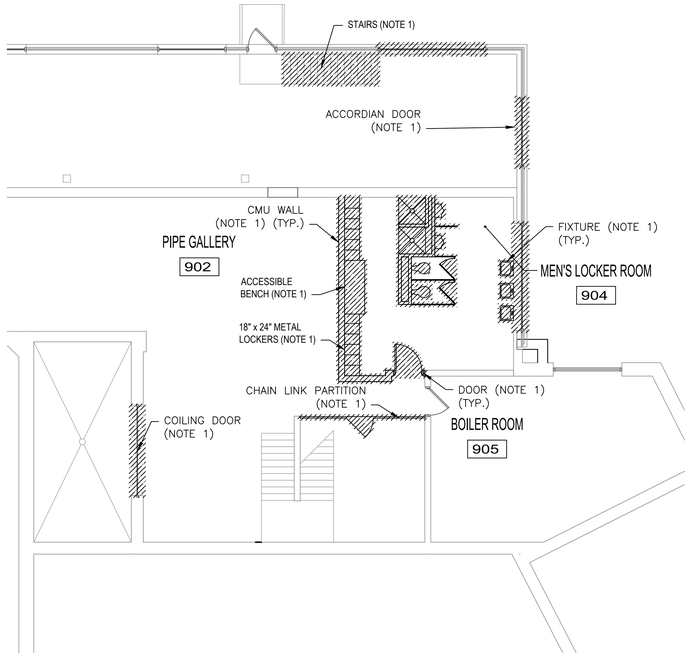
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

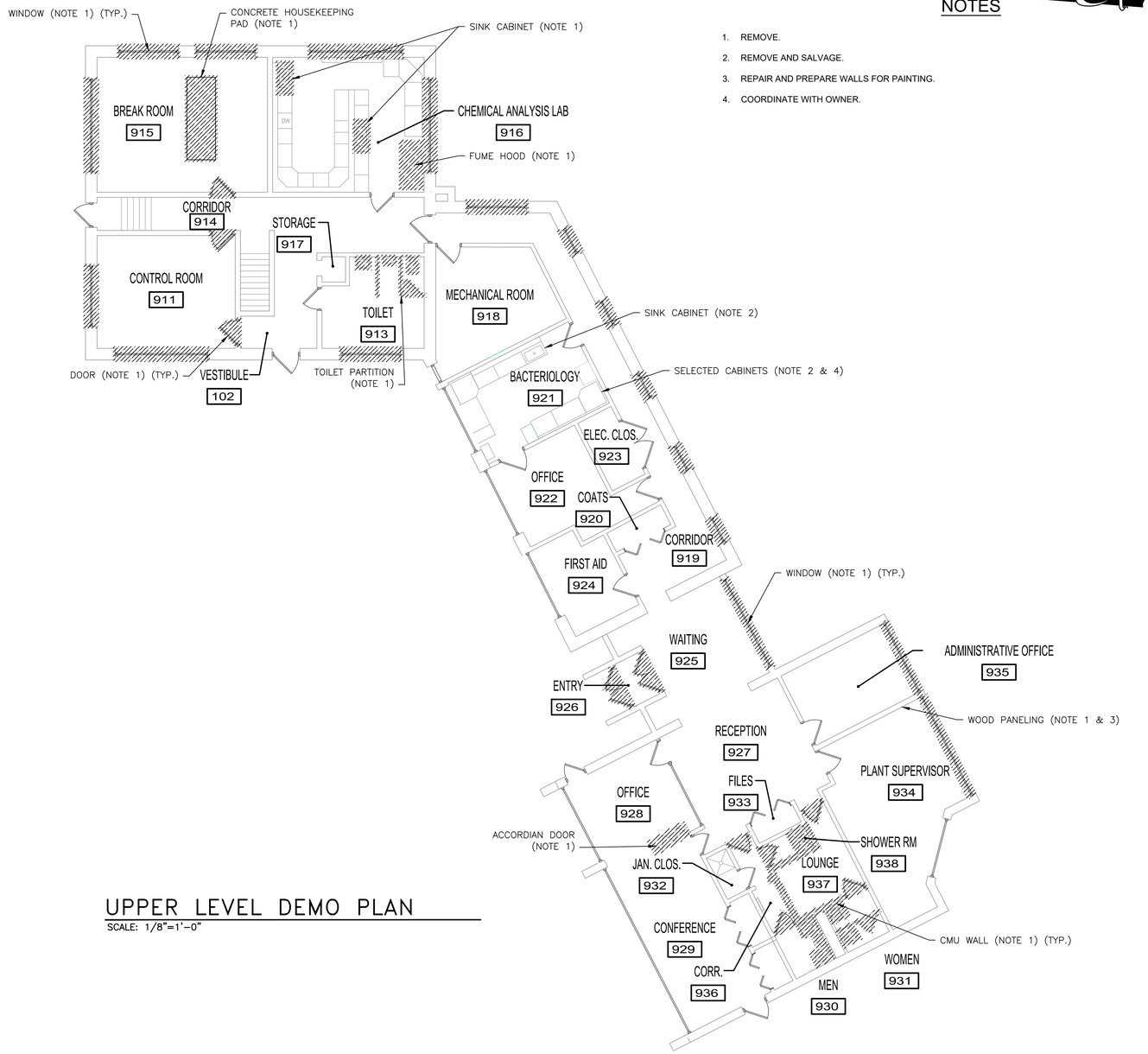
SHEET NO.

A-7.2



LOWER LEVEL DEMO PLAN

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



UPPER LEVEL DEMO PLAN

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

NOTES

1. REMOVE.
2. REMOVE AND SALVAGE.
3. REPAIR AND PREPARE WALLS FOR PAINTING.
4. COORDINATE WITH OWNER.

PREPARED BY

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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Operations Building Demolition Plans

NO.	REVISIONS	DATE

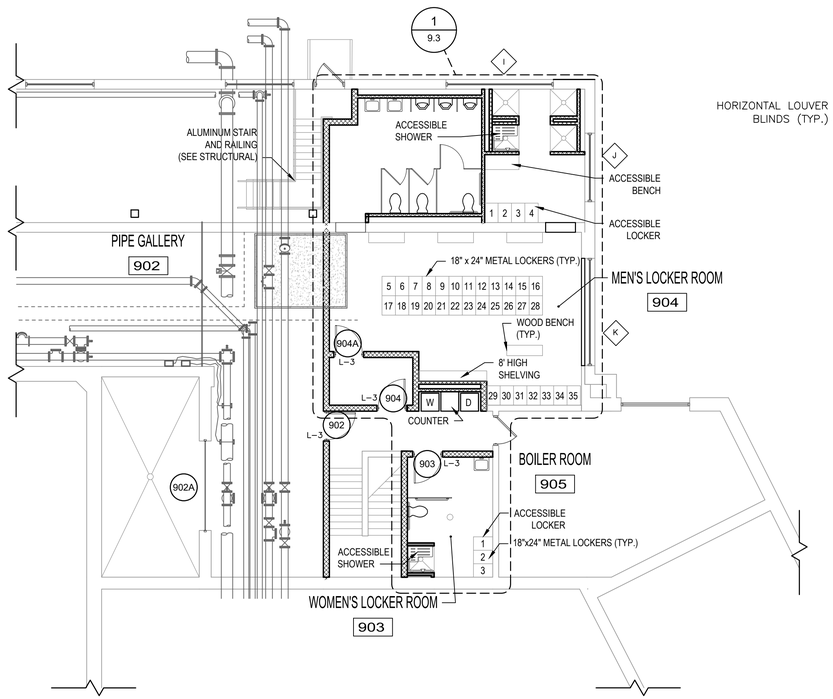
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

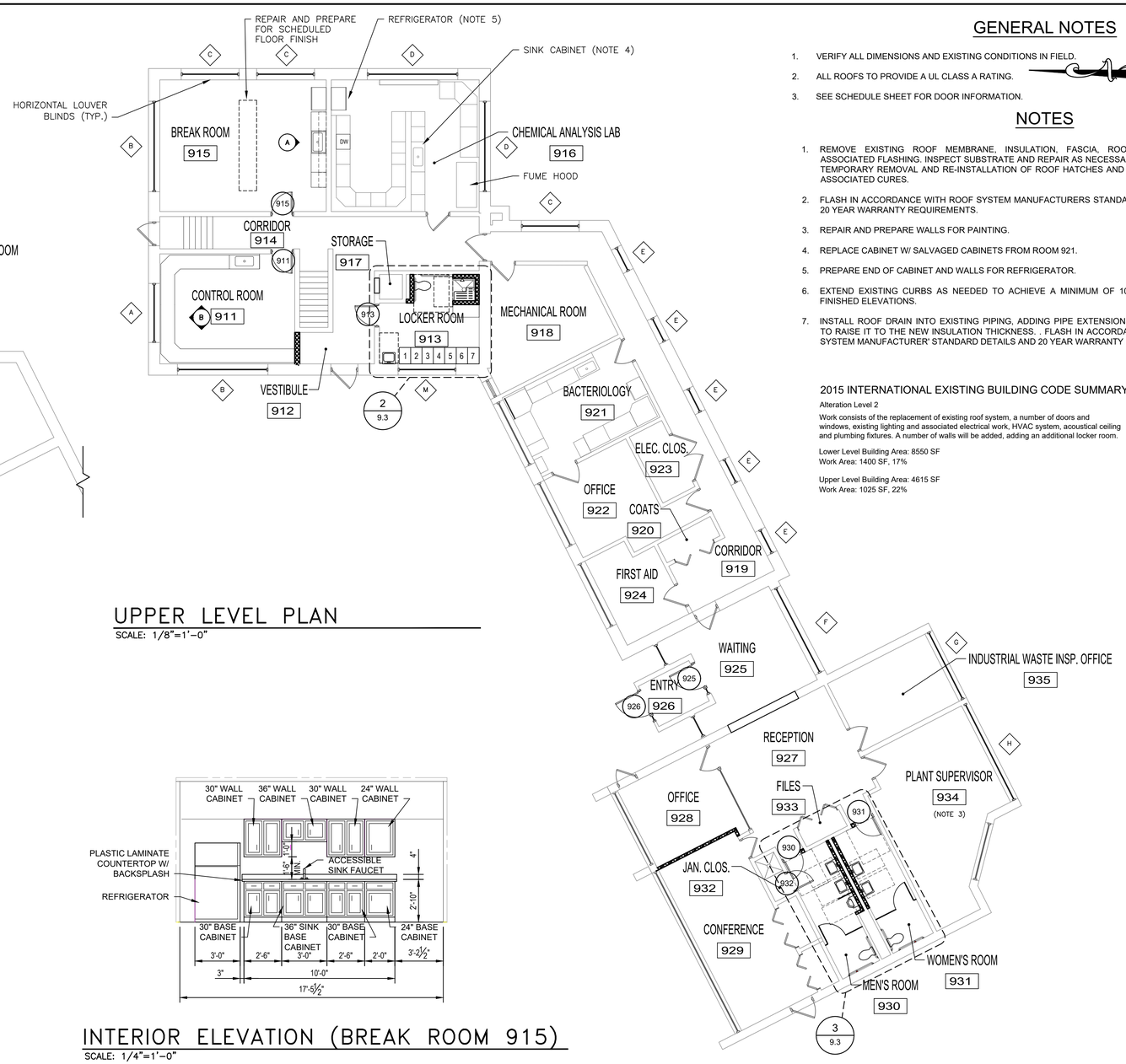
SHEET NO.

A-9.1



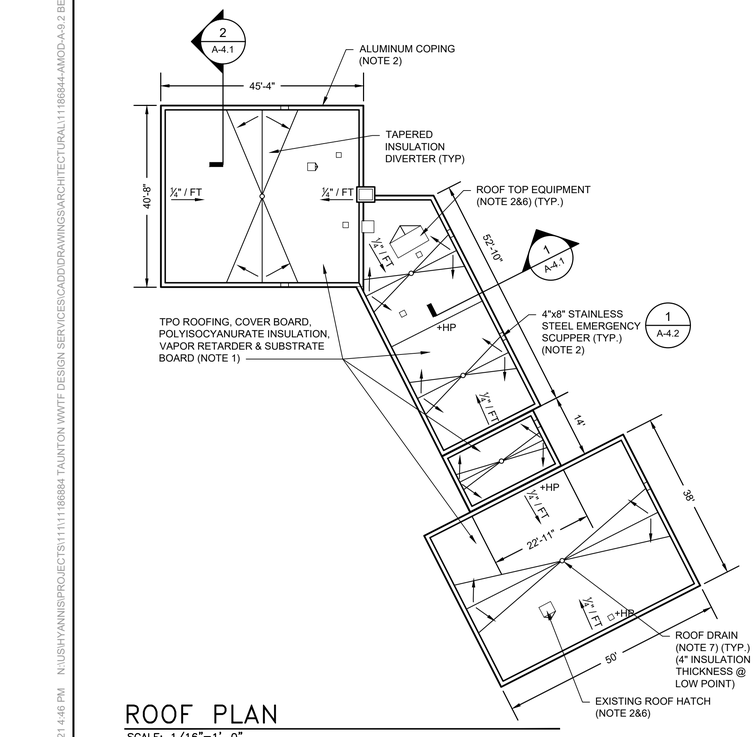
LOWER LEVEL PLAN

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



UPPER LEVEL PLAN

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

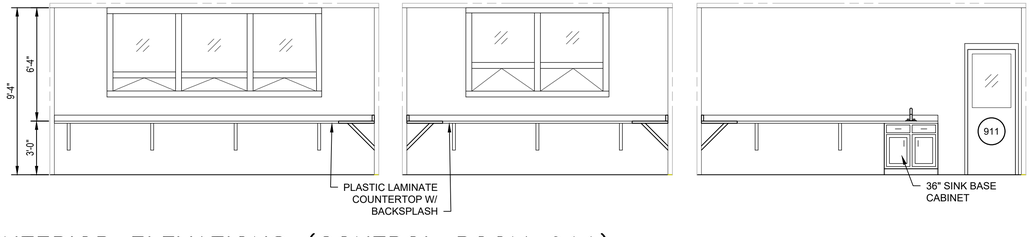


ROOF PLAN

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

INTERIOR ELEVATION (BREAK ROOM 915)

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



INTERIOR ELEVATIONS (CONTROL ROOM 911)

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

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT AND ASSOCIATED CURES.
2. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.
3. REPAIR AND PREPARE WALLS FOR PAINTING.
4. REPLACE CABINET W/ SALVAGED CABINETS FROM ROOM 921.
5. PREPARE END OF CABINET AND WALLS FOR REFRIGERATOR.
6. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
7. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 2

Work consists of the replacement of existing roof system, a number of doors and windows, existing lighting and associated electrical work, HVAC system, acoustical ceiling and plumbing fixtures. A number of walls will be added, adding an additional locker room.

Lower Level Building Area: 8550 SF
Work Area: 1400 SF, 17%

Upper Level Building Area: 4615 SF
Work Area: 1025 SF, 22%

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Operations Building Plans

NO.	REVISIONS	DATE

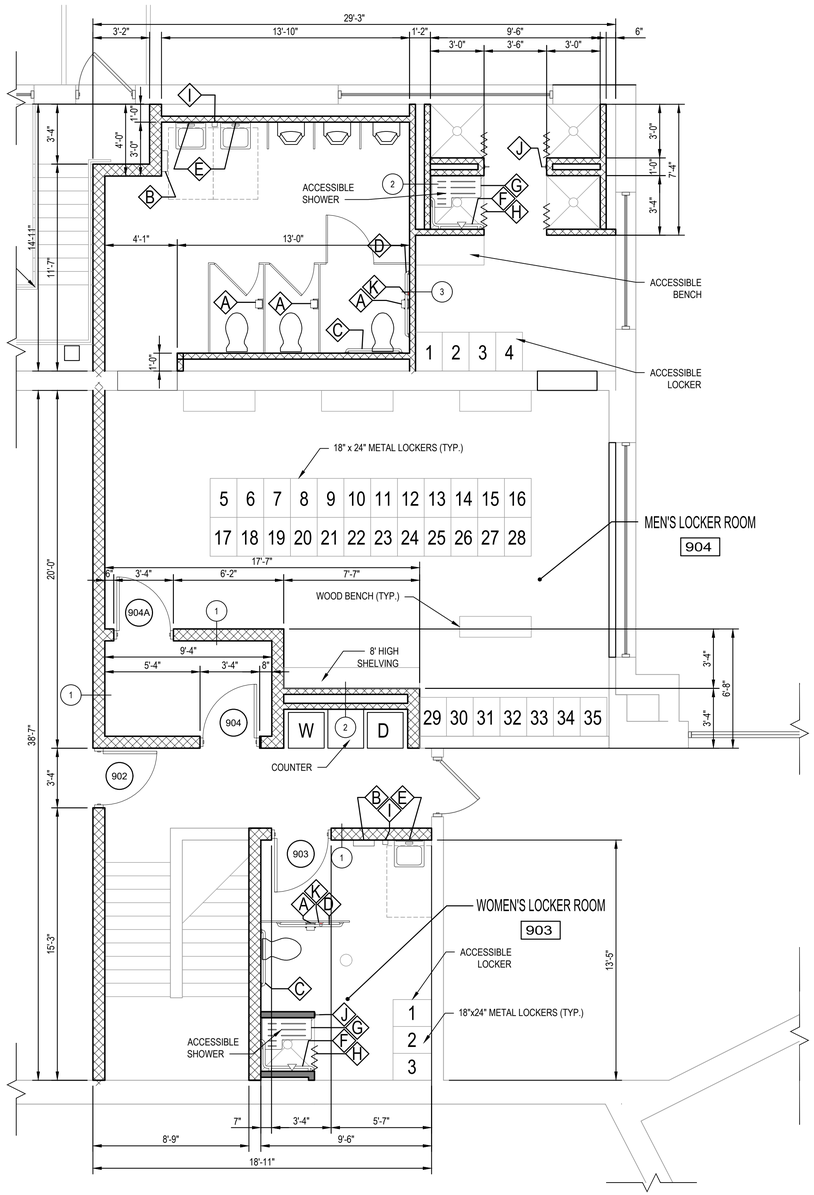
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

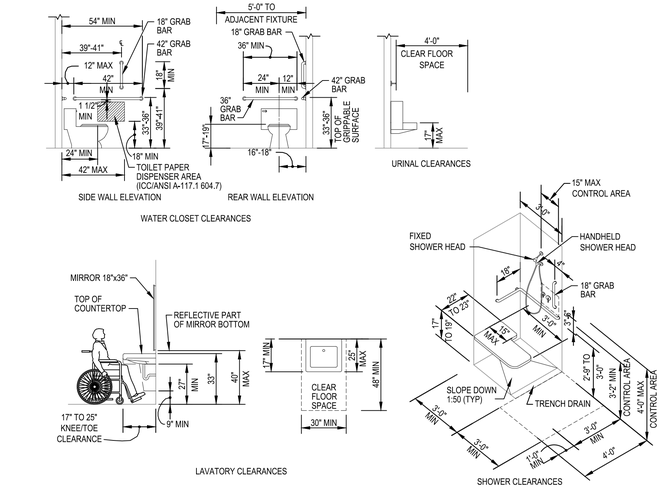
AS SHOWN

SHEET NO.

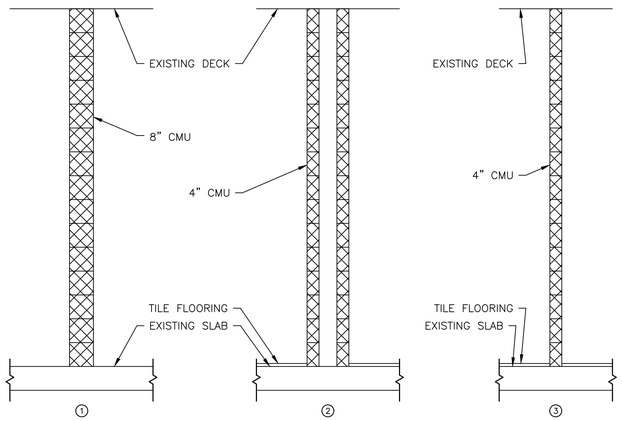
A-9.2



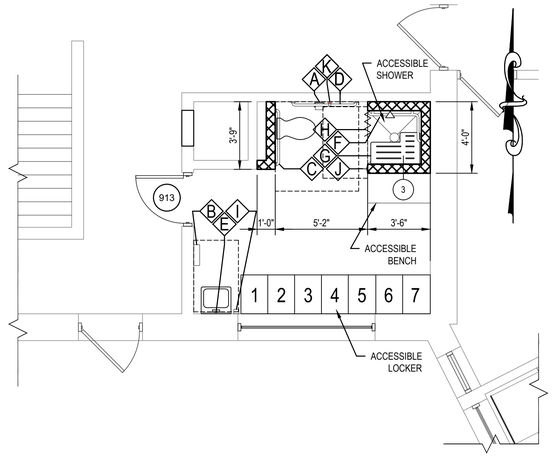
ENLARGED LOCKER ROOM PLAN
SCALE: 1/4"=1'-0"



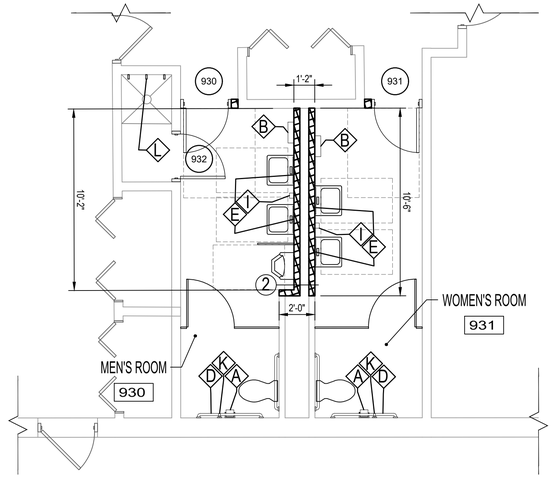
DETAILS
SCALE: 1/4"=1'-0"



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



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



ITEM NO.	DESCRIPTION	BOBRICK MODEL NUMBER	MOUNTING HEIGHT [MOUNT IN ACCORDANCE WITH ICC/ANSI A117.1 (2010)]
A	TOILET TISSUE HOLDER	B-2740	24" TO CENTER
B	COMBINATION TOWEL & WASTE RECEPTOR	B-3944	48" MAX. TO DISPENSER
C	36" GRAB BAR	B-6806	33"-36"
D	42" GRAB BAR	B-6806	33"-36"
E	MIRROR 24"x36"	B-165	40" TO BOTTOM OF REFLECTIVE SURFACE
F	L-SHAPED GRAB BAR	B-6861	33"-36"
G	FOLDING SEAT	B-5181	18"
H	SHOWER CURTAIN, ROD, CURTAIN HOOKS	B-6047, 204-2, 204-1	-
I	SOAP DISPENSER	B-2112	48" MAX TO DISPENSER
J	TOWEL PIN	B-677	46" - 48"
K	18" VERTICAL GRAB BAR	B-6806	39" - 41" TO BOTTOM
L	MOP AND BROOM HOLDER	B-223 X 24	-

TOILET ACCESSORY SCHEDULE
NO SCALE

PREPARED BY
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Operations Building Enlarged Plans

NO.	REVISIONS	DATE

DRAWN BY: K. HANLIN
DESIGNED BY: K. HANLIN
CHECKED BY: E. RUSTEN
ISSUE DATE: 7/2/2021
BETA JOB NO.: 6050

SCALE

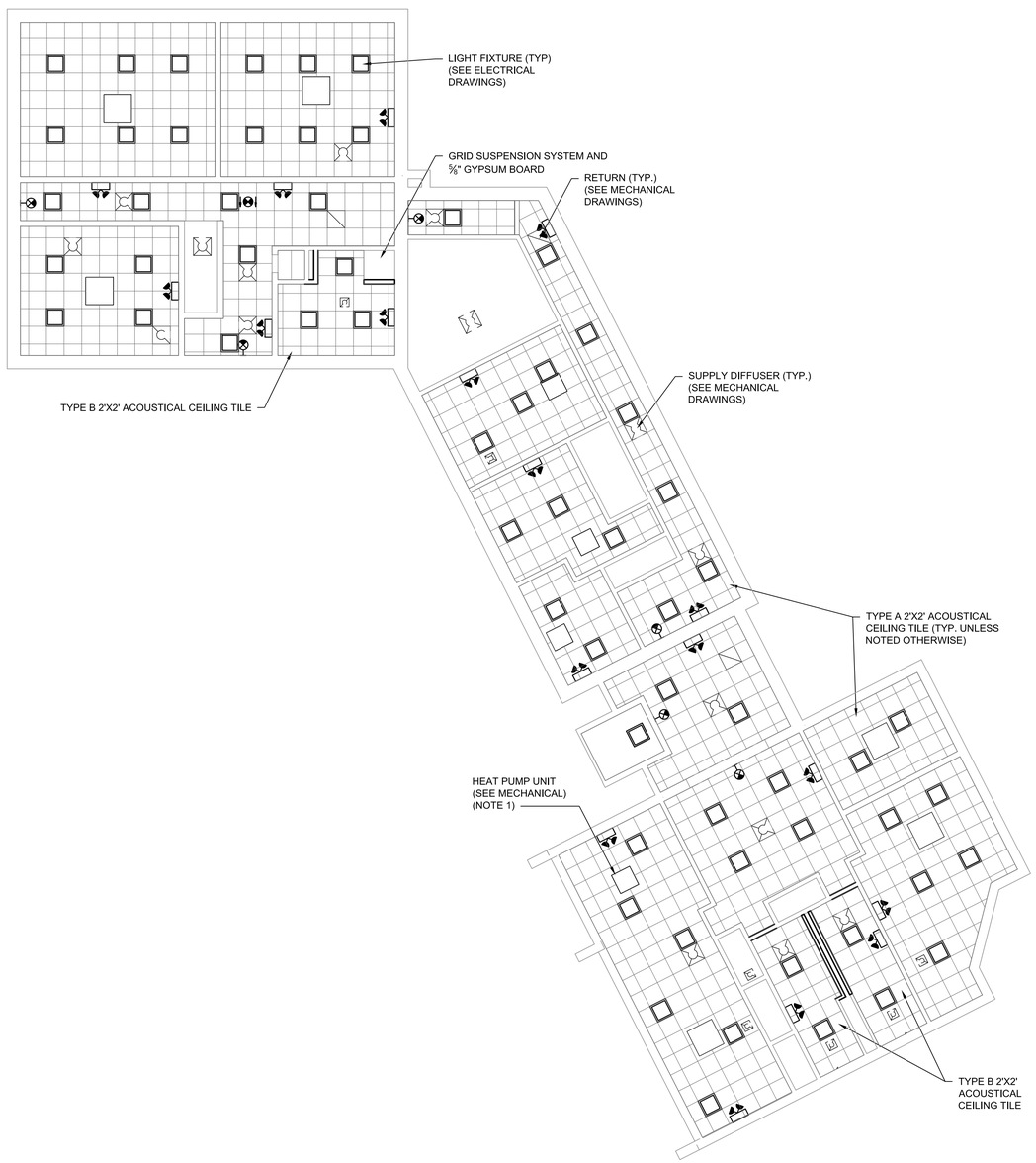
AS SHOWN

SHEET NO.

A-9.3

LOWER LEVEL REFLECTED CEILING PLAN

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



UPPER LEVEL REFLECTED CEILING PLAN

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

NOTES

1. COORDINATE CEILING GRID WITH HVAC.

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Operations Building
Reflected Ceiling Plans

NO.	REVISIONS	DATE

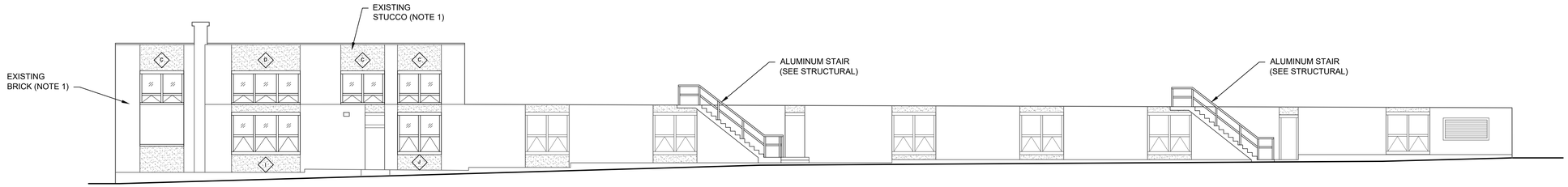
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

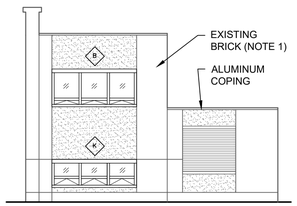
4 0 4 8
SCALE IN FEET: 1"=4'

SHEET NO.

A-9.4

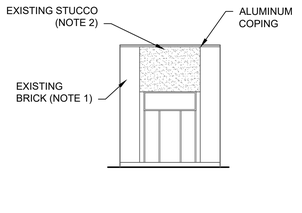


ELEVATION 1
SCALE: 3/32"=1'-0"

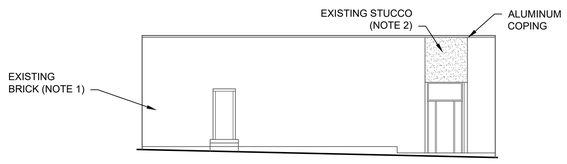


ELEVATION 2
SCALE: 3/32"=1'-0"

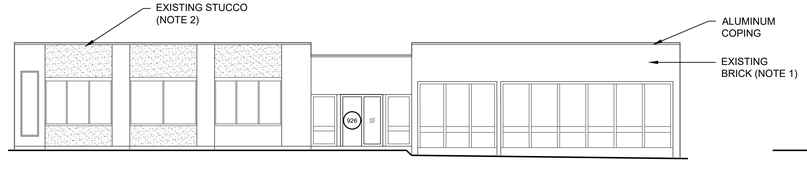
ELEVATION 3
SCALE: 3/32"=1'-0"



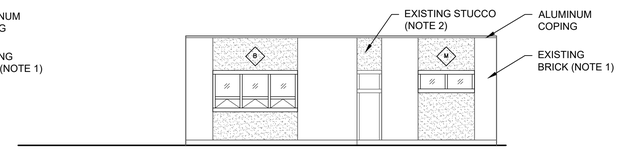
ELEVATION 4
SCALE: 3/32"=1'-0"



ELEVATION 5
SCALE: 3/32"=1'-0"

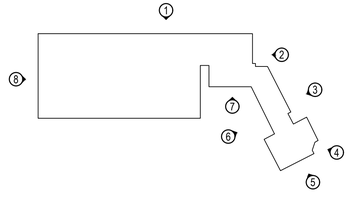


ELEVATION 6
SCALE: 3/32"=1'-0"



ELEVATION 7
SCALE: 3/32"=1'-0"

ELEVATION 8
SCALE: 3/32"=1'-0"



KEY PLAN
SCALE: NTS

NOTES

1. CLEAN EXISTING BRICK AND REPAIR AND REPOINT AS NECESSARY.
2. CLEAN EXISTING STUCCO AND REPAIR AS NECESSARY.

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
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No. 052018
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Operations Building Elevations

NO.	REVISIONS	DATE

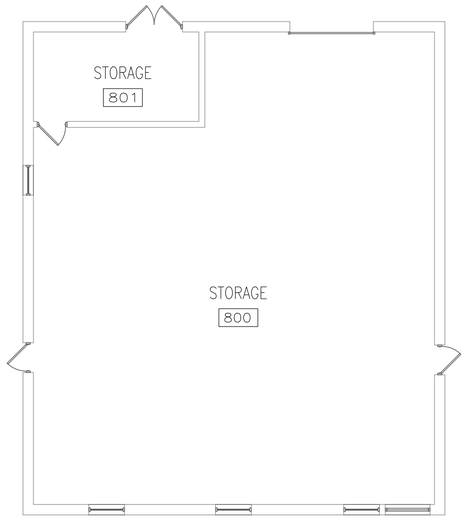
DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

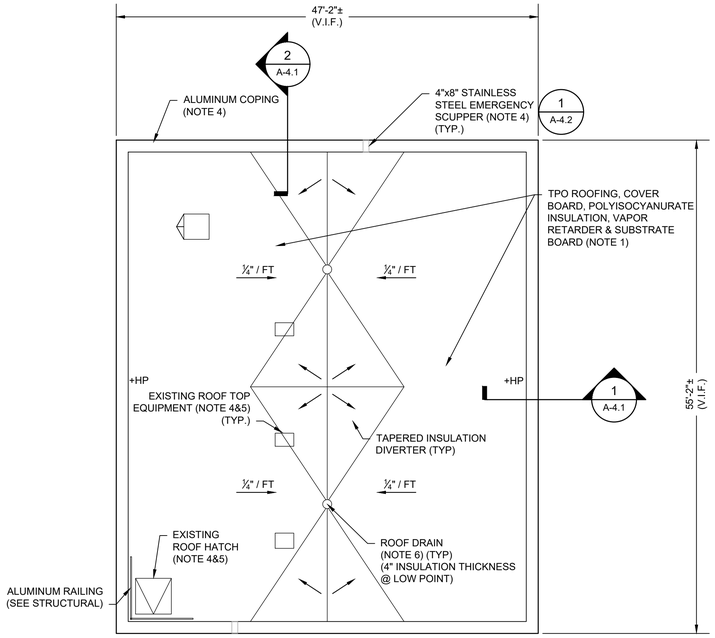
SHEET NO.

A-9.5



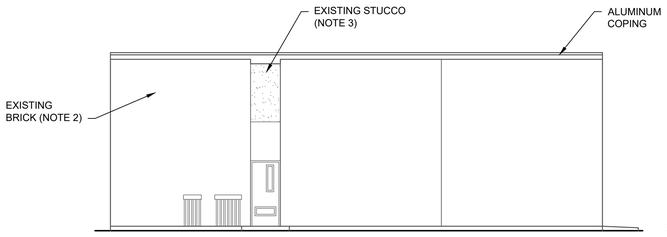
LOWER LEVEL PLAN

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

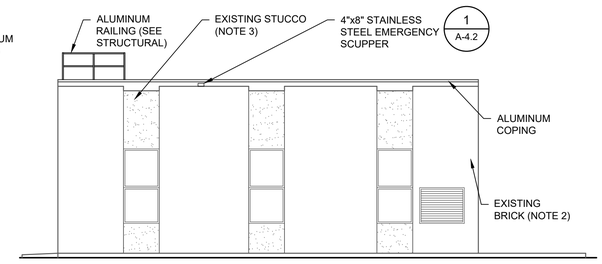


ROOF PLAN

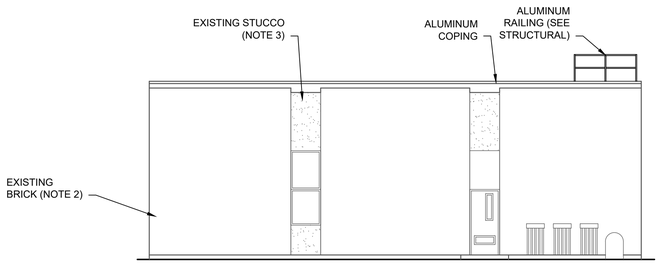
SCALE: 1/8"=1'-0"



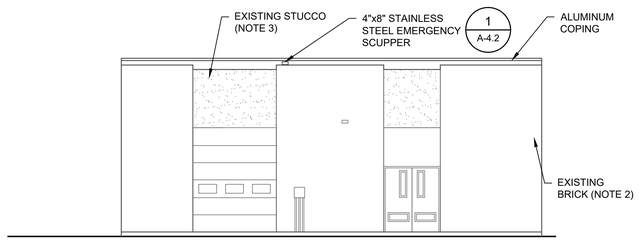
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION

ELEVATIONS

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

CODE ANALYSIS

2015 INTERNATIONAL EXISTING BUILDING CODE SUMMARY

Alteration Level 1

Work consists of the replacement of existing roof system, and repair and cleaning of existing brick and stucco.

GENERAL NOTES

1. VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN FIELD.
2. ALL ROOFS TO PROVIDE A UL CLASS A RATING.
3. SEE SCHEDULE SHEET FOR DOOR INFORMATION.

NOTES

1. REMOVE EXISTING ROOF MEMBRANE, INSULATION, FASCIA, ROOF DRAINS AND ASSOCIATED FLASHING. INSPECT SUBSTRATE AND REPAIR AS NECESSARY. COORDINATE TEMPORARY REMOVAL AND RE-INSTALLATION OF ROOF HATCHES AND EQUIPMENT.
2. CLEAN EXISTING BRICK. REPAIR AND REPOINT AS NECESSARY.
3. CLEAN EXISTING STUCCO AND REPAIR AS NECESSARY
4. FLASH IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.
5. EXTEND EXISTING CURBS AS NEEDED TO ACHIEVE A MINIMUM OF 10 INCHES ABOVE FINISHED ELEVATIONS.
6. INSTALL ROOF DRAIN INTO EXISTING PIPING, ADDING PIPE EXTENSIONS IF NECESSARY TO RAISE IT TO THE NEW INSULATION THICKNESS. FLASH IN ACCORDANCE WITH MANUFACTURERS' STANDARD DETAILS AND 20 YEAR WARRANTY REQUIREMENTS.

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
REGISTERED ARCHITECT
STEVEN V. RUSTEN
No. 052018
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GHD REF: 11186884

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Storage Building
Plans and Elevations

NO.	REVISIONS	DATE

DRAWN BY:	K. HANLIN
DESIGNED BY:	K. HANLIN
CHECKED BY:	E. RUSTEN
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

4 0 4 8

SCALE IN FEET: 1"=4'

SHEET NO.

A-9.6

GENERAL STRUCTURAL NOTES:

1. STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE, 9TH EDITION.
2. SPECIFICATIONS ARE PART OF THE CONSTRUCTION DOCUMENTS AND MUST BE USED IN CONJUNCTION WITH THE DRAWINGS.
3. VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK OR FABRICATING MATERIALS. NOTIFY THE ENGINEER OF DISCREPANCIES BEFORE PROCEEDING WITH ANY PHASE OF WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING DIG SAFE PRIOR TO THE START OF ANY EXCAVATION OR SITE WORK.
5. DO NOT SCALE FROM THESE DRAWINGS. REFER TO LABELED DIMENSIONS ONLY.
6. DETAILS LABELED "TYPICAL DETAILS" ON DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY ENGINEER OF CONFLICTS REGARDING APPLICABILITY OF TYPICAL DETAILS.
7. COORDINATE THE WORK OF THESE DRAWINGS WITH OTHER TRADES. DIMENSIONS AND QUANTITIES OF RELATED WORK ARE PROVIDED FOR GENERAL GUIDANCE AND SHALL BE CONFIRMED.
8. DO NOT LOAD SLABS ON GRADE OR SUPPORTED SLAB WITH ERECTION CRANES OR ERECTION EQUIPMENT. THE SLABS HAVE NOT BEEN DESIGNED FOR CRANE LOADS AND WILL REQUIRE AN INCREASE IN THICKNESS AND/OR REINFORCEMENT. CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL ON PROPOSED CRANE SUPPORT PLAN FOR SLABS PRIOR TO COMMENCING WORK.
9. DO NOT STORE OR STACK CONSTRUCTION MATERIALS ON POURED OR ERECTED FLOORS/WALLS/ROOFS IN EXCESS OF 80 PERCENT OF LIVE LOAD. GENERAL CONTRACTOR WILL ENSURE THAT ALL SUB-CONTRACTORS ARE INFORMED OF LOADING RESTRICTIONS. AVOID IMPACT WHEN PLACING MATERIALS ON POURED OR ERECTED FLOORS OR ROOFS.
10. OPENINGS IN SLABS AND WALLS LESS THAN 12" MAXIMUM DIMENSION ARE GENERALLY NOT SHOWN ON STRUCTURAL DRAWINGS. OPENINGS SHOWN ON DRAWINGS SHALL NOT BE REVISED WITHOUT PRIOR WRITTEN APPROVAL.
11. THE CONTRACTOR SHALL SHORE, BRACE, SHEETPILE, OR OTHERWISE SUPPORT THE STRUCTURE AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY AT ALL TIMES. SHORING DESIGN, IF REQUIRED, SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED, AND MAINTAINED BY THE CONTRACTOR TO SAFELY SUPPORT ALL DEAD LOADS CARRIED BY THE STRUCTURAL WORK BEING SHORED, AND ANY CONSTRUCTION LIVE LOADS.
12. IF TEMPORARY SHORING IS REQUIRED, NEW STRUCTURAL SYSTEMS SHALL BE COMPLETELY INSTALLED AND CAPABLE OF SUPPORTING DESIGN LOADS BEFORE SHORES ARE REMOVED. SHORES SHALL BE RELEASED GRADUALLY.
13. THE CONTRACT STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURES, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION, INCLUDING BRACING, TEMPORARY SHORING, BUILDING SHORING, FORMS AND SCAFFOLDING, SHORING OF RETAINING WALLS AND OTHER TEMPORARY SUPPORTS AS REQUIRED. COMPLY WITH APPLICABLE REQUIREMENTS OF OSHA AND OTHER GOVERNING BODIES HAVING JURISDICTION AT THE SITE.
14. BACKFILLING AND COMPACTING ADJACENT TO THE STRUCTURE WALLS SHALL NOT BE PERMITTED UNTIL ALL THE CONCRETE HAS REACHED THE FULL STRUCTURAL CAPACITY.
15. USE OF EXCAVATED MATERIAL SHALL NOT BE PERMITTED FOR USE OF BACKFILLING ADJACENT TO STRUCTURE. BACKFILL SHALL CONSIST OF A CLEAN GRAVEL (SEE SPECIFICATIONS).

FOUNDATIONS:

1. ALL FOOTINGS, BASE SLABS, AND SLABS ON GRADE SHALL BEAR ON NATURALLY DEPOSITED GLACIAL OUTWASH OR COMPACTED STRUCTURAL FILL FOR AN ALLOWABLE BEARING PRESSURE OF 4000 PSF IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED NOVEMBER 2019 BY GZA GEOENVIRONMENTAL INC.
2. SEE THE SPECIFICATIONS FOR ALL RELATED CONSTRUCTION REQUIREMENTS.
3. ALL UNSUITABLE MATERIAL WITHIN FOUNDATIONS AND SLABS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
4. NO RESPONSIBILITY IS ASSUMED BY THE ENGINEER FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS PRESENTED WITHIN THE CONTRACT DOCUMENTS. SUBSURFACE INVESTIGATIONS REFLECT THE CONDITIONS AT THE TIME THEY WERE PERFORMED. SUPPLEMENTAL INVESTIGATIONS SHALL BE PERFORMED BY THE CONTRACTOR AS REQUIRED TO COMPLETE THE WORK.
5. FOUNDATIONS MAY BE ALTERED TO SUIT EXISTING CONDITIONS AS DIRECTED BY THE ENGINEER.
6. PROVIDE TEMPORARY OR PERMANENT SUPPORTS AS REQUIRED TO PROTECT EXISTING AND NEWLY COMPLETED STRUCTURES AND UTILITIES.
7. CARRY OUT CONTINUOUS CONTROL OF SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SUCH THAT FOUNDATION WORK IS DONE IN DRY AND ON UNDISTURBED SUB-GRADE MATERIAL.
8. ALL CONCRETE SURFACES SHALL BE FORMED. DO NOT FORM AGAINST EXCAVATIONS WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
9. NO FOUNDATION CONCRETE SHALL BE PLACED ON FROZEN SUB-GRADE MATERIAL.
10. PLACE BACKFILL BEHIND WALLS ON BOTH SIDES SIMULTANEOUSLY.
11. SLABS ON GRADE AND TANKS SHALL BE PLACED ON 12" OF COMPACTED STRUCTURAL FILL.

CONCRETE:

1. CONCRETE WORK SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 350) AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).
2. UNLESS NOTED OTHERWISE, CONCRETE SHALL BE AS FOLLOWS:

		MAX. WATER CEMENT RATIO
FOOTINGS, BASE SLABS,	5000 P.S.I (NORMAL WEIGHT)	0.40
TANK WALLS, & RETAINING WALLS:	5000 P.S.I. (NORMAL WEIGHT)	0.40
HOUSEKEEPING:	5000 P.S.I. (NORMAL WEIGHT)	0.40
SLAB-ON-GRADE:	5000 P.S.I. (NORMAL WEIGHT)	0.45
SUPPORT WALLS & GRATING SUPPORT COLUMNS:	5000 P.S.I. (NORMAL WEIGHT)	0.45

3. CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR ENTRAINED.
4. PROVIDE VAPOR BARRIER UNDER INTERIOR SLABS CAST ON GRADE.
5. CONSTRUCTION JOINTS SHOWN ON THE DRAWINGS ARE MANDATORY.
6. SIZE OF CONCRETE PLACEMENTS, UNLESS NOTED OTHERWISE, SHALL CONFORM TO ACI GUIDELINES AND RECOMMENDATIONS.

REINFORCEMENT:

1. REINFORCEMENT SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 350), ACI DETAILING MANUAL (SP-66), CRSI MANUAL OF STANDARD PRACTICE (MSP), AND THE STRUCTURAL WELDING CODE-REINFORCING STEEL (AWS D1).
2. STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
4. PROVIDE SUPPLEMENTAL BARS AND ACCESSORIES AS REQUIRED TO HOLD REINFORCEMENT SECURELY IN POSITION.
5. MINIMUM CONCRETE PROTECTIVE COVER, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:

FOOTINGS & BASE SLAB - BOTTOMS:	3 INCHES
FOOTINGS & BASE SLAB - SIDES AND TOPS:	2 INCHES
WALLS:	2 INCHES
SLABS ON GRADE:	1 INCH TOP/1½" BOTTOM

6. ALL CONTINUOUS REINFORCEMENT SHALL BE EXTENDED AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.
7. LAPS SHALL BE CLASS B TENSION LAP SPLICES, UNLESS NOTED OTHERWISE.
8. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
9. WELDED WIRE FABRIC SHALL LAP 8" OR 1-1/2 SPACES, WHICHEVER IS LARGER, AND SHALL BE WIRED TOGETHER.

DESIGN LOADS:

LIVE LOADS:
- LIME SILO: SEE SHEET S-1.2
- PREFAB HEADWORKS BUILDING: SEE SHEET S-1.4
- HYPOCHLORITE TANK: SEE SHEET S-5.4
- BLOWER BUILDING
  - ROOF = 20 PSF (ROOF LIVE LOAD)
  - 5.0 KIP (MAX EQUIPMENT LOAD)
  - SLAB ON GRADE = 250 PSF

SNOW LOADS:	
GROUND SNOW LOAD (Pg)	30.0 P.S.F.
FLAT ROOF SNOW LOAD (Pf)	23.1 P.S.F.
WIND LOADS:	
BASIC WIND SPEED	145 MPH
RISK CATEGORY	CATEGORY III
WIND EXPOSURE CATEGORY	CATEGORY B
SEISMIC:	
IMPORTANCE FACTOR (Ie)	1.25 (CATEGORY III)
DESIGN FACTOR Ss	0.183
DESIGN FACTOR S1	0.062
SITE CLASSIFICATION	D
SPECTRAL RESPONSE SDs	0.195
SPECTRAL RESPONSE SD1	0.099
SEISMIC DESIGN CATEGORY	B
MASONRY SHEAR BEARING WALL:	
DESIGN BASE SHEAR	80 KIP
RESPONSE COEFFICIENT Cs	0.122
RESPONSE MOD FACTOR R	2.0

STRUCTURAL STEEL:

1. WORK SHALL CONFORM TO SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AND THE STRUCTURAL WELDING CODE.
2. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION" (AISC) AND, WHERE REQUIRED, DESIGNED IN ACCORDANCE WITH THE CITED REFERENCES.
3. STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:

UNLESS NOTED OTHERWISE:	ASTM A992 GRADE 50 (FY = 50 K.S.I.)
CHANNELS, ANGLES, PLATES:	ASTM A36 (FY = 36 K.S.I.)
HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B (FY = 40 K.S.I.)
ANCHOR BOLTS:	ASTM F1554
HIGH STRENGTH BOLTS:	ASTM A325

4. BOLTED CONNECTIONS SHALL BE MADE WITH A325-N HIGH STRENGTH BOLTS, DIAMETER AS SHOWN IN RESPECTIVE DETAILS.
5. WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS USING FILLER METAL CONFORMING TO E70XX.
6. PROVIDE STIFFENERS WHERE SHOWN ON DRAWINGS.
7. PROVIDE TEMPORARY ERECTION BRACING AND SUPPORTS TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL CONCRETE HAS ATTAINED 75% OF SPECIFIED CONCRETE STRENGTH.
8. FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL.
9. STRUCTURAL STEEL ENCASED IN MASONRY OR CONCRETE SHALL BE COVERED WITH MASTIC.
10. STRUCTURAL STEEL MEMBERS AND CONNECTIONS EXPOSED TO THE WEATHER SHALL BE HOT-DIPPED GALVANIZED.

MASONRY CONSTRUCTION:

1. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530).
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-90.
3. MORTAR SHALL CONFORM TO ASTM C-270, TYPE M. MASONRY CEMENT IS NOT PERMITTED FOR SHEAR WALLS.
4. GROUT SHALL CONFORM TO ASTM C-476 2,000 P.S.I.
5. PRIOR TO GROUTING CELLS, BARS AND CELLS MUST BE INSPECTED BY THE TESTING AGENCY.
6. THE BASE OF EACH CELL IN WHICH A BAR IS PLACED MUST HAVE A CLEAN OUT HOLE.
7. SUBMIT SHOP DRAWINGS SHOWING ALL UNITS, REINFORCING, LINTELS, ETC. FOR REVIEW AND APPROVAL.
8. PROVIDE AND INSTALL LINTELS FOR ALL OPENINGS AS SHOWN ON THE DRAWINGS.
9. MASONRY BLOCK CELLS CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID. FILLING CELLS WITH MORTAR IS UNACCEPTABLE. DO NOT DROP MORTAR IN CELLS TO BE GROUTED.
10. REINFORCING SHALL BE SECURELY HELD IN POSITION USING "REBAR POSITIONERS".

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Structural Notes (1 of 2)

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

SG-1

SUBMITTALS, TESTING, AND INSPECTIONS:

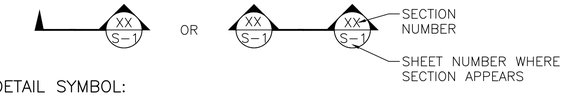
1. SUBMITTALS AND TESTING SHALL BE AS REQUIRED BY THE MASSACHUSETTS STATE BUILDING CODE AND THESE FOLLOWING REQUIREMENTS.
2. THE CONTRACTOR SHALL PROVIDE FOR AN INDEPENDENT TESTING AGENCY TO PERFORM REQUIRED TESTING.
3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE TESTING AGENCY AND THE ENGINEERS OF RECORD ACCORDINGLY.
4. NOTIFY THE ENGINEER OF RECORD PRIOR TO FOUNDATION EXCAVATION.
5. NOTIFY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO FIRST CONCRETE PLACEMENT.
6. SUBMITTALS INCLUDE BUT NOT LIMITED TO:
   DEWATERING
   BORROW MATERIAL
   CONCRETE MIX DESIGN
   STEEL REINFORCING
   ACCESSORIES
   STRUCTURAL STEEL/COLD FORMED METAL
7. TESTS/INSPECTIONS INCLUDES BUT NOT LIMITED TO:
   EARTHWORK
   CONCRETE STRENGTH
   REINFORCING STEEL INSTALLATION
   CONCRETE PLACEMENT AND CURING
   STEEL BOLTING
8. THE CONTRACTOR SHALL KEEP COMPLETE AND ORGANIZED RECORDS OF ALL TESTS AND INSPECTIONS AND PROVIDE THEM TO THE ENGINEER SO THAT THE FINAL AFFIDAVIT CAN BE PREPARED. A BINDER SHALL BE MAINTAINED AT THE JOBSITE AT ALL TIMES FOR THE ENGINEER'S INSPECTION.
9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN ADVANCE, BEFORE CONCEALING ANY WORK THAT WILL REQUIRE OBSERVATION NEEDED TO PREPARE THE FINAL AFFIDAVIT.

LIST OF ABBREVIATIONS:

ARCH.	– ARCHITECTURAL	(LLH)	– LONG LEG HORIZONTAL
ADD'L	– ADDITIONAL	(LLV)	– LONG LEG VERTICAL
APPROX.	– APPROXIMATE	LOC.'S	– LOCATIONS
BRG.	– BEARING	MAX.	– MAXIMUM
B.O.	– BOTTOM OF	MIN.	– MINIMUM
C–C	– CENTER TO CENTER	MISC.	– MISCELLANEOUS
℄	– CENTERLINE	N.F.	– NEAR FACE
C.I.P.	– CAST IN PLACE	N.S.	– NEAR SIDE
CONC.	– CONCRETE	N.T.S.	– NOT TO SCALE
CONST.	– CONSTRUCTION	NO.	– NUMBER
CONT.	– CONTINUOUS	O.C.	– ON CENTER
C.Y.	– CUBIC YARD	O.D.	– OUTSIDE DIAMETER
d	– DEEP	O.F.	– OUTSIDE FACE
DET.	– DETAIL	PERIM.	– PERIMETER
DTL.	– DETAIL	PL	– PLATE
DIA.	– DIAMETER	PVC	– POLYVINYL CHLORIDE
DWG.	– DRAWING	P.S.F.	– POUNDS PER SQUARE FOOT
EA.	– EACH	P.S.I.	– POUNDS PER SQUARE INCH
EL.	– ELEVATION	RAD.	– RADIUS
ELEV.	– ELEVATION	REINF.	– REINFORCING
EMBED.	– EMBEDMENT	REQ'D	– REQUIRED
E.F.	– EACH FACE	SECT.	– SECTION
E.S.	– EACH SIDE	SCH.	– SCHEDULE
E.W.	– EACH WAY	S.F.	– SQUARE FOOT
EXIST.	– EXISTING	SHT.	– SHEET
EXP.	– EXPANSION	SIM.	– SIMILAR
FIN.	– FINISH	SP.	– SPACES
F.O.	– FACE OF	S.S.	– STAINLESS STEEL
FT.	– FEET/FOOT	STD.	– STANDARD
FTG.	– FOOTING	STL.	– STEEL
GA.	– GAUGE	SYM.	– SYMMETRIC
GALV.	– GALVANIZED	t	– THICK
GC	– GENERAL CONTRACTOR	T&B	– TOP AND BOTTOM
h	– HIGH	T.O.	– TOP OF
HORIZ.	– HORIZONTAL	TO.S.	– TOP OF SLAB
H.A.	– HIGH POINT	T.O.W.	– TOP OF WALL
I.F.	– INSIDE FACE	TYP.	– TYPICAL
IN.	– INCH	U.N.O.	– UNLESS NOTED OTHERWISE
I.D.	– INSIDE DIAMETER	VERT.	– VERTICAL
INFO.	– INFORMATION	W.W.F.	– WELDED WIRE FABRIC
INV.	– INVERT	w	– WIDE
JT.	– JOINT	w/	– WITH
K.S.I.	– KIPS PER SQUARE INCH	ø	– DIAMETER
LG.	– LONG		

SECTION AND DETAIL DESIGNATIONS:

SECTION CUT SYMBOL:



DETAIL SYMBOL:

STAY–IN–PLACE FORM NOTES:

1. FOR 2" S.I.P. FORM, SET BOTTOM OF FORM 1" BELOW ELEVATION SHOWN IN DRAWINGS, FOR 3" S.I.P. FOR, SET BOTTOM OF FORM 1½" BELOW ELEVATIONS.
2. FORM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPERATE END CLOSURE PIECES WILL NOT BE ALLOWED.
3. SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP OF FLANGE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
4. ALL MAIN STEEL REINFORCEMENT IN THE LOWER MAT SHALL BE CENTERED OVER THE VALLEY OF THE S.I.P. FORM.
5. CONTRACTOR SHALL DESIGN AND DETAIL ALL ELEMENTS OF THE FORMING SYSTEM AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
6. IN CASES WHERE STANDARD 2" OR 3" DEEP S.I.P. FORMS DO NOT SATISFY DESIGN REQUIREMENTS AN ALTERNATIVE FORMING SYSTEM CONSISTING OF DEEPER S.I.P. FORMS OR REMOVABLE FORM SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE DESIGN THICKNESS OF THE SLAB SHALL NOT CHANGE.

PENETRATION SCHEDULE:

PENETRATION NUMBER	PENETRATION TYPE (SEE S–X)	PENETRATION LOCATION	CENTERLINE ELEVATION	PIPE DESCRIPTION	PIPE MATERIAL	NOMINAL SIZE (IN)
P–1.1	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	HEADWORKS EFFLUENT CHANNEL	31.67	PRIMARY INFLUENT	DUCTILE IRON	24
P–1.2	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY DISTRIBUTION BOX	31.63	PRIMARY INFLUENT	DUCTILE IRON	24
P–1.3	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY DISTRIBUTION BOX	24.70	PRIMARY INFLUENT	DUCTILE IRON	24
P–1.4	WALL SLEEVE	PRIMARY DISTRIBUTION BOX	33.75	LIME SLURRY	PVC	2
P–2.1	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY CLARIFIER NO. 4	18.25	PRIMARY INFLUENT	DUCTILE IRON	24
P–2.2	WALL SLEEVE	PRIMARY CLARIFIER NO. 4	28.50	PRIMARY SCUM	DUCTILE IRON	4
P–2.3	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY CLARIFIER NO. 4	30.33	PRIMARY EFFLUENT	DUCTILE IRON	20
P–2.4	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY CLARIFIER NO. 4	18.39	PRIMARY SLUDGE	DUCTILE IRON	8
P–2.5	WALL SLEEVE	NEW SCUM WELL	28.50	PRIMARY SCUM	DUCTILE IRON	4
P–2.6	WALL SLEEVE	NEW SCUM WELL	28.50	PRIMARY SCUM	DUCTILE IRON	4
P–2.7	WALL SLEEVE	PRIMARY SLUDGE PUMP STATION (NORTH WALL)	28.50	PRIMARY SCUM	DUCTILE IRON	4
P–2.8	FLUSH FLANGE x FLUSH FLANGE WALL PIPE	PRIMARY SLUDGE PUMP STATION (NORTH WALL)	18.00	PRIMARY SCUM	DUCTILE IRON	8
P–2.9	WALL SLEEVE	PRIMARY SLUDGE PUMP STATION (NORTH WALL)	18.00	PRIMARY SLUDGE	DUCTILE IRON	8
P–2.10	WALL SLEEVE	PRIMARY SLUDGE PUMP STATION (NORTH WALL)	27.17	PRIMARY EFFLUENT	DUCTILE IRON	20
P–2.11	WALL SLEEVE	PRIMARY SLUDGE PUMP ROOF (NORTHWEST CORNER)	33.50	PLANT WATER	GALVANIZED STEEL	2
P–5.1	WALL SLEEVE	CHLORINE CONTACT TANK (NORTH WALL)	7.67	PLANT WATER	DUCTILE IRON	16
P–5.2	WALL SLEEVE	CHLORINE CONTACT TANK (NORTH WALL)	7.67	PLANT WATER	DUCTILE IRON	16
P–5.3	WALL SLEEVE	CHLORINE CONTACT TANK (WEST WALL)	10.25	SCUM TROUGH	DUCTILE IRON	10
P–5.4	WALL SLEEVE	CHLORINE CONTACT TANK (WEST WALL)	8.95	SCUM	DUCTILE IRON	8
P–5.5	WALL SLEEVE	CHLORINE CONTACT TANK (EAST WALL)	10.25	SCUM TROUGH	DUCTILE IRON	10
P–5.6	WALL SLEEVE	CHLORINE CONTACT TANK (EAST WALL)	8.95	SCUM	DUCTILE IRON	8
P–5.7	WALL SLEEVE	CHLORINE MANHOLE	9.00	SODIUM HYPOCHLORITE	PVC	3/4
P–5.8	WALL SLEEVE	CHEMICAL HANDLING BLDG (SOUTH WALL)	7.67	PLANT WATER	DUCTILE IRON	16
P–5.9	WALL SLEEVE	CHEMICAL HANDLING BLDG (WEST WALL)	8.00	PLANT WATER	DUCTILE IRON	14
P–5.10	WALL SLEEVE	CHEMICAL HANDLING BLDG (WEST WALL)	9.50	SODIUM HYPOCHLORITE	PVC	3/4
P–5.11	WALL SLEEVE	CHEMICAL HANDLING BLDG (NORTH WALL)	15.00	SODIUM HYPOCHLORITE	PVC	1
P–5.12	WALL SLEEVE	CHEMICAL HANDLING BLDG (WEST WALL)	4.53	PLANT WATER	DUCTILE IRON	14
P–6.1*	WALL SLEEVE	BLOWER BUILDING (NORTH WALL)	37.00	AIR INTAKE	SS SCHEDULE 10S	18
P–6.2*	WALL SLEEVE	BLOWER BUILDING (NORTH WALL)	37.00	AIR INTAKE	SS SCHEDULE 10S	18
P–6.3*	WALL SLEEVE	BLOWER BUILDING (NORTH WALL)	37.00	AIR INTAKE	SS SCHEDULE 10S	18
P–6.4*	WALL SLEEVE	BLOWER BUILDING (EAST WALL)	37.00	DISCHARGE HEADER	SS SCHEDULE 10S	30

* PENETRATIONS ASSUME BLOWER EQUIPMENT TO BE NEXTURBO GTB–T20–XY. IF ALTERNATE EQUIPMENT IS USED, SIZE AND LOCATION OF PENETRATIONS WILL VARY AND NEED TO BE COORDINATED WITH MANUFACTURER.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Structural Notes (2 of 2)

NO.	REVISIONS	DATE

DRAWN BY: BN
DESIGNED BY: BN
CHECKED BY: TMW
ISSUE DATE: 7/2/2021
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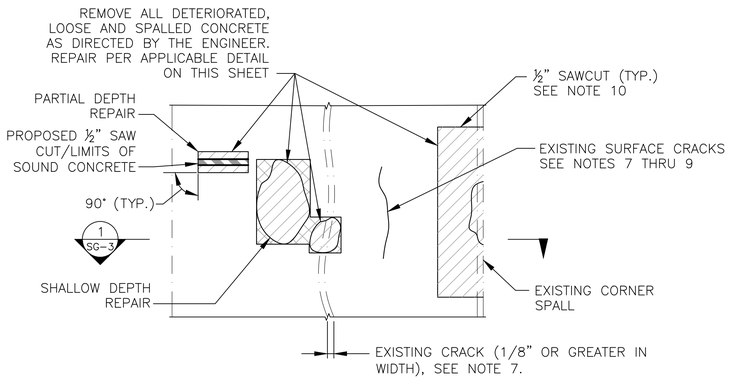
SCALE

AS SHOWN

SHEET NO.

SG-2



GENERAL ELEVATION

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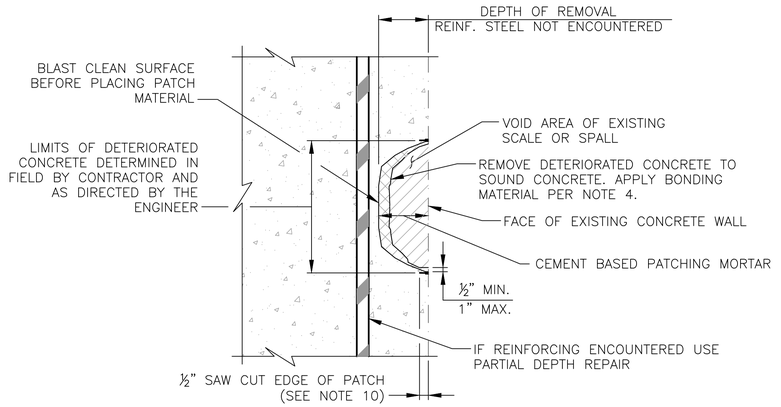
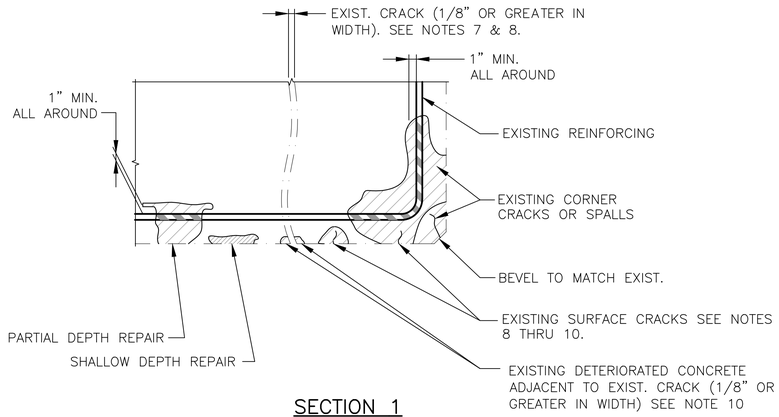


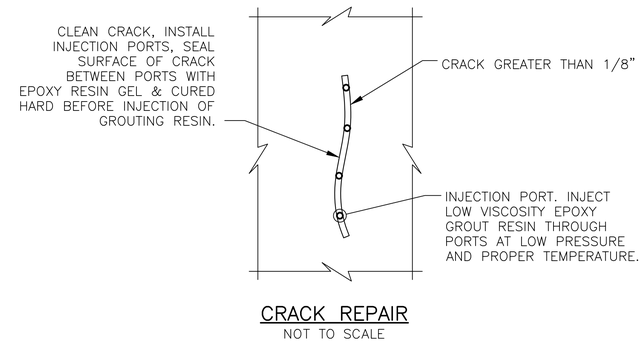
SHALLOW DEPTH REPAIR DETAIL

NOT TO SCALE



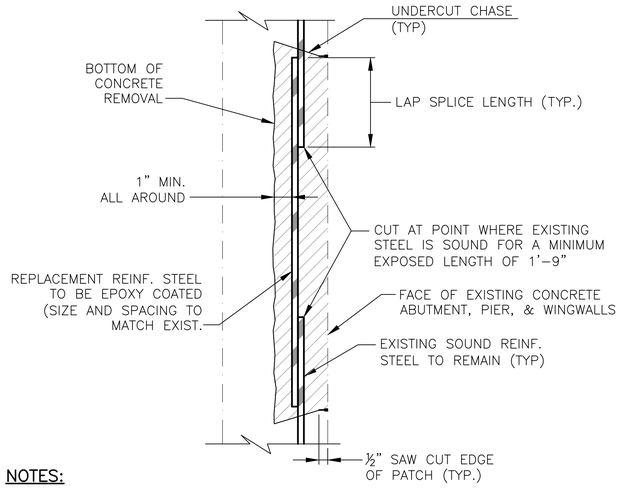
SECTION 1

NOT TO SCALE



CRACK REPAIR

NOT TO SCALE

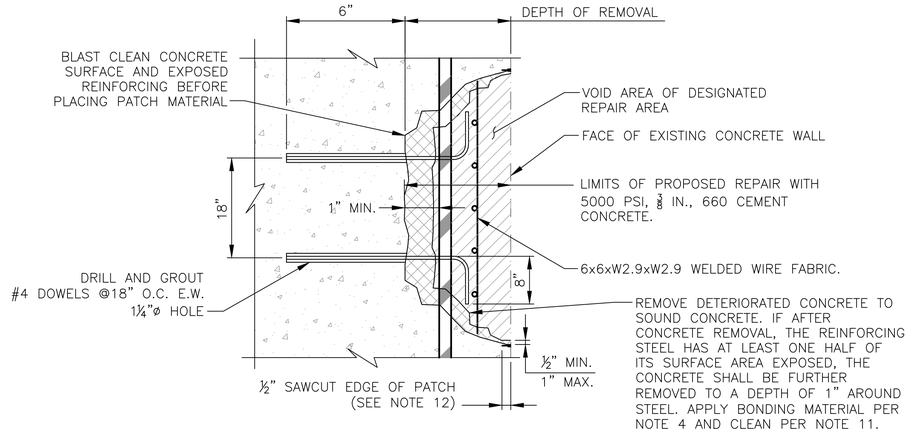


NOTES:

1. THIS DETAIL SHALL BE USED IF THE CONTRACTOR DAMAGES EXISTING REINFORCING TO THE EXTENT THAT THE REINFORCING REQUIRES REPLACEMENT, OR EXISTING STEEL REINFORCING EXHIBITS SECTION LOSS > 15%.

REINFORCING REPLACEMENT DETAIL

NOT TO SCALE



PARTIAL DEPTH REPAIR DETAIL

NOT TO SCALE

CONCRETE REPAIR NOTES:

1. THE ACTUAL LOCATIONS AND EXTENT OF VARIOUS TYPES OF CONCRETE REPAIR WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ALL AREAS DETERMINED NECESSARY AS DIRECTED BY THE ENGINEER AFTER THE CONTRACTOR HAS SOUNDED AND MARKED OUT ALL REPAIR AREAS.

2. IF DURING REMOVAL OF DETERIORATED CONCRETE, THE CONTRACTOR DAMAGES EXISTING REINFORCEMENT TO THE EXTENT REQUIRING REPLACEMENT, ANY ADDITIONAL CONCRETE REMOVAL, PATCHING MATERIAL, CLEANING EXISTING REINFORCING STEEL, AND FURNISHING AND INSTALLING REPLACEMENT REINFORCING STEEL SHALL BE AT THE CONTRACTOR'S EXPENSE, AND INSTALLED ACCORDING TO REINFORCING REPLACEMENT DETAIL ON THIS SHEET.

3. REINFORCEMENT, INCLUDING WELDED WIRE FABRIC, USED TO REPLACE EXISTING DETERIORATED REINFORCING STEEL (SECTION LOSS OF 15% OR MORE OF THE ORIGINAL CROSS SECTION, AS CONFIRMED BY THE ENGINEER) SHALL BE EPOXY COATED. COST OF REPLACEMENT SHALL BE INCLUDED AS PART OF THE CONCRETE REPAIR WORK.

4. IMMEDIATELY PRIOR TO PLACING NEW PATCHING MORTAR AGAINST EXISTING CONCRETE, CLEAN EXISTING SURFACES BY ABRASIVE BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER CONTAINING NO DETERGENTS OR BOND INHIBITING CHEMICALS AND APPLY APPROVED BONDING COMPOUND IMMEDIATELY PRIOR TO PLACING CONCRETE.

5. ALL EXISTING SURFACES THAT WILL HAVE NEW CONCRETE CAST AGAINST IT MUST BE ROUGHENED TO A MINIMUM AMPLITUDE OF ¼ INCH.

6. CONCRETE REPAIR WORK INCLUDES REMOVING ALL DETERIORATED, LOOSE, SPALLED, POPCORNED AND MAP CRACKED CONCRETE. CONCRETE WHICH HAS SPALLED OR OTHERWISE DETERIORATED ADJACENT TO SURFACE CRACK SHALL BE REPAIRED.

7. CRACKS THAT ARE 1/8" OR GREATER IN WIDTH SHALL BE REPAIRED BY EPOXY INJECTION CRACK REPAIR.

8. CRACKS THAT ARE LESS THAN 1/8" IN WIDTH SHALL NOT BE REPAIRED UNLESS DIRECTED BY THE ENGINEER.

9. WHERE PATCHING AND EPOXY INJECTION WORK ARE ADJACENT, EPOXY INJECTION SHALL BE PERFORMED BEFORE PATCHING.

10. ALL DETERIORATED AREAS SHALL BE DELINEATED BY A ½" SAWCUT. THE COST OF SAWCUTTING SHALL BE INCIDENTAL TO THE CONCRETE REPAIR WORK.

11. ALL EXPOSED STEEL SHALL BE THOROUGHLY BLAST CLEANED TO A WHITE METAL FINISH AND COATED WITH EPOXY IN ACCORDANCE WITH ASTM D3963. BLAST CLEANING AND EPOXY SHALL BE INCLUDED IN THE RESPECTIVE CONCRETE REPAIR ITEM.

12. ALL SURFACES SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH. NO ADDITIONAL MATERIAL SHALL BE ADDED TO CONCRETE.

13. COST OF DRILLING AND GROUTING DOWELS FOR PARTIAL DEPTH REPAIRS SHALL BE CONSIDERED INCIDENTAL TO CONCRETE REHABILITATION.

LEGEND:

- DETERIORATED CONCRETE TO BE REMOVED.
- REINFORCING STEEL.
- ADDITIONAL CONCRETE TO BE REMOVED.

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Concrete Repair Details

NO.	REVISIONS	DATE

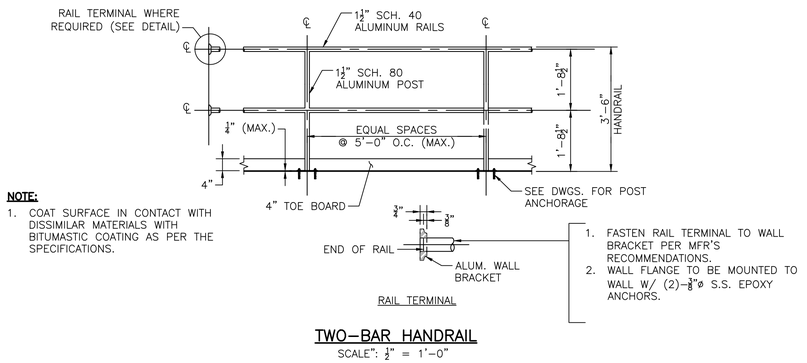
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

SG-3

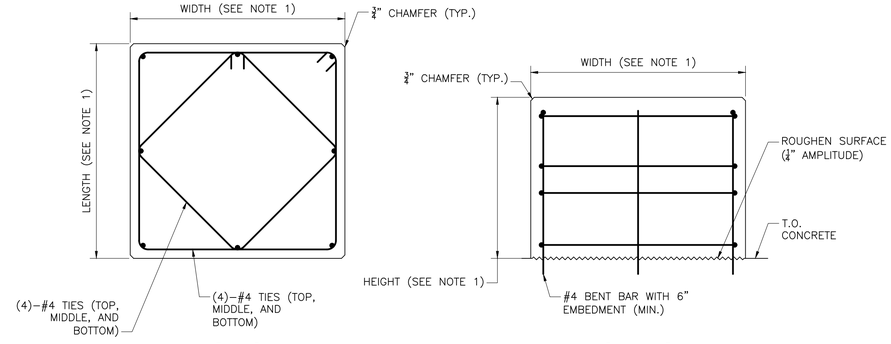


NOTE:

1. COAT SURFACE IN CONTACT WITH DISSIMILAR MATERIALS WITH BITUMASTIC COATING AS PER THE SPECIFICATIONS.

TWO-BAR HANDRAIL

SCALE": ½" = 1'-0"

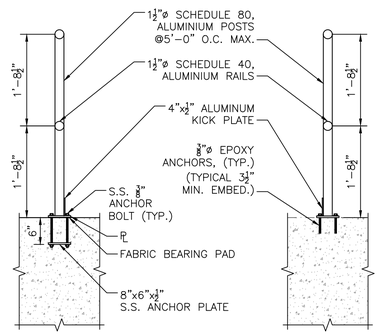


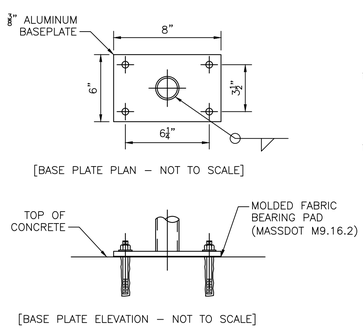
NOTES:

1. HEIGHT AND WIDTH OF EQUIPMENT PEDESTAL TO BE PROVIDED BY EQUIPMENT MANUFACTURER.

EQUIPMENT PEDESTAL

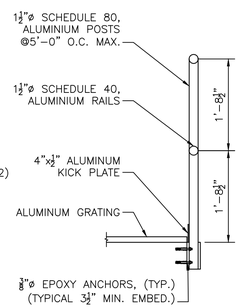
NOT TO SCALE

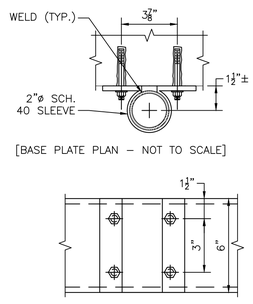




TOP MOUNTED HANDRAIL DETAIL – CONCRETE

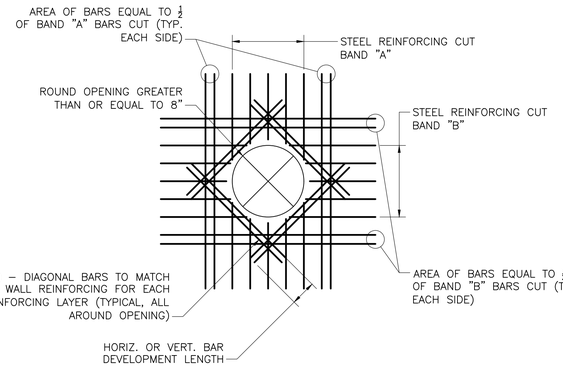
SCALE": ¾" = 1'-0"



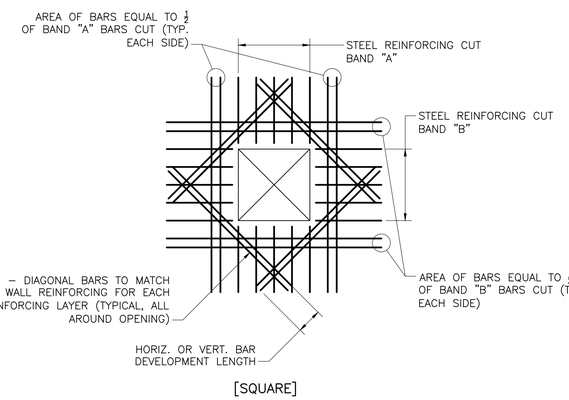


FACE MOUNTED HANDRAIL DETAIL

SCALE": ¾" = 1'-0"



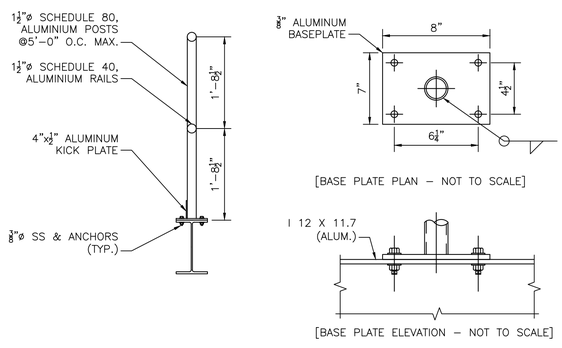
[ROUND]



[SQUARE]

TYPICAL PENETRATION DETAIL

NOT TO SCALE

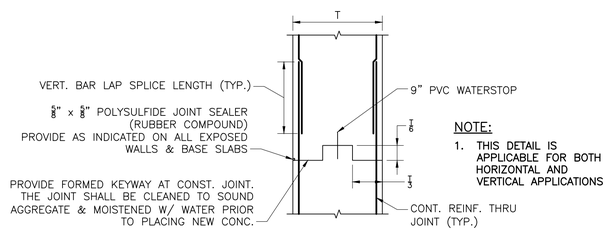


TOP MOUNTED HANDRAIL DETAIL – I-BEAM

SCALE": ¾" = 1'-0"

NOTE:

1. CUT GRATING AS REQUIRED FOR POST BASE PLATE LOCATIONS.



NOTE:

1. THIS DETAIL IS APPLICABLE FOR BOTH HORIZONTAL AND VERTICAL APPLICATIONS

TYPICAL CONST. JOINT / PVC WATERSTOP DETAIL

SCALE: ½" = 1'-0"

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Miscellaneous Details

NO.	REVISIONS	DATE

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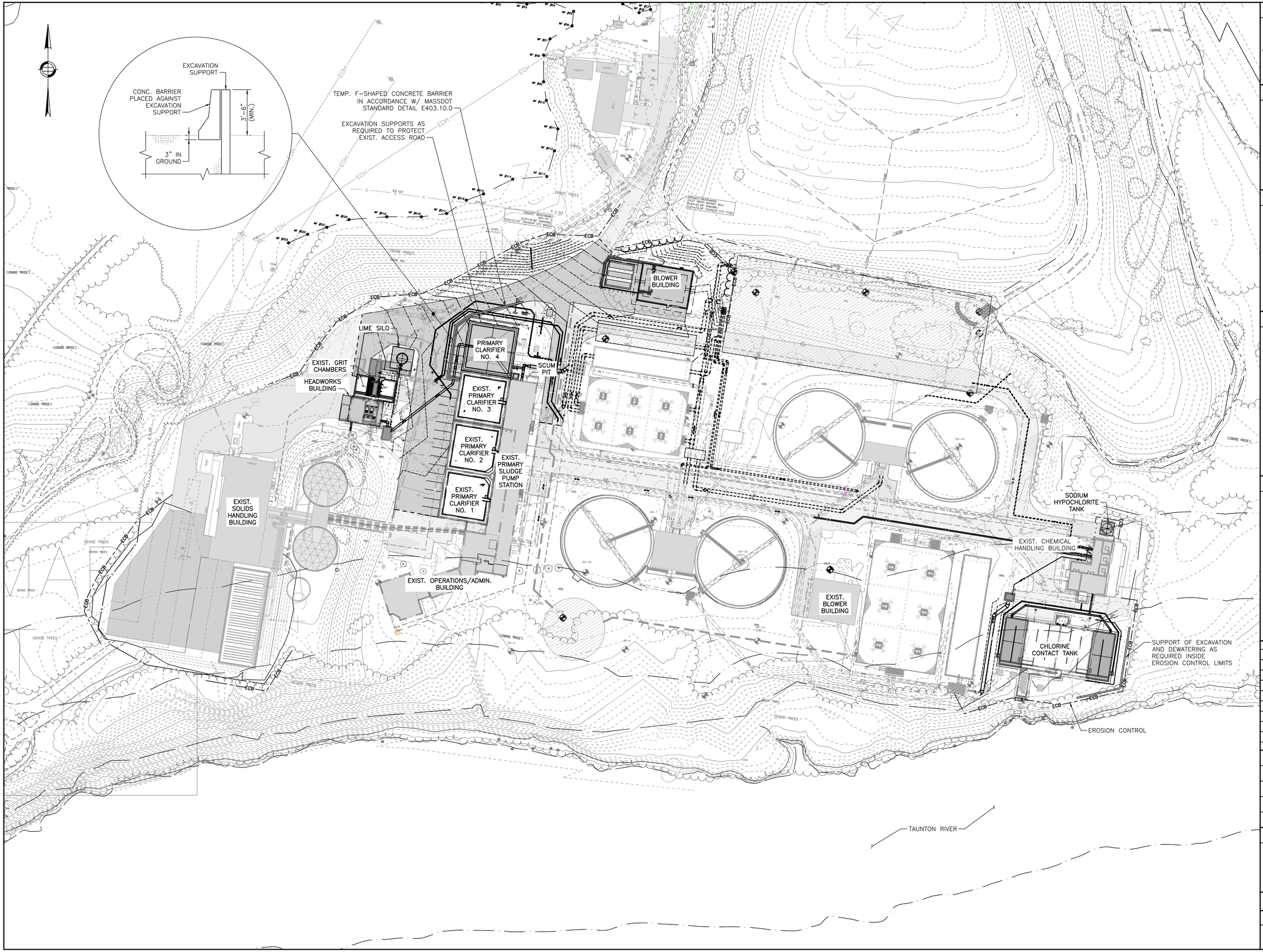
SCALE

AS SHOWN

SHEET NO.

SG-4



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Phase 1 Site Plan

NO.	REVISIONS	DATE

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DESIGNED BY:	BN
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SCALE

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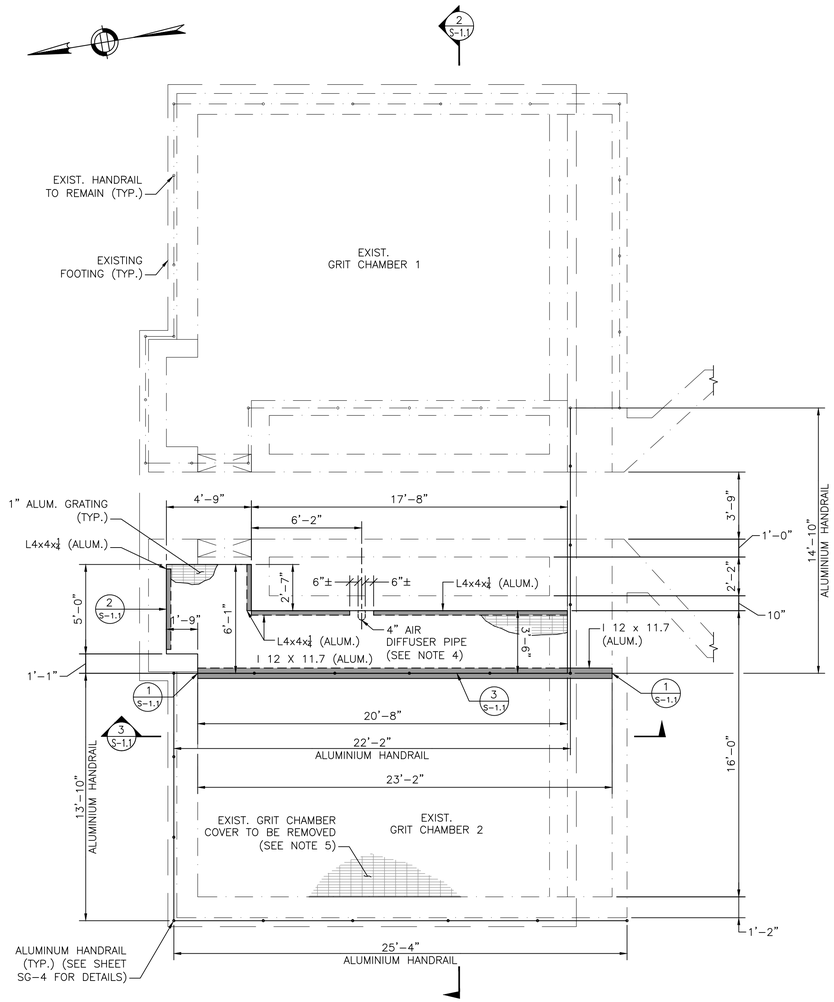
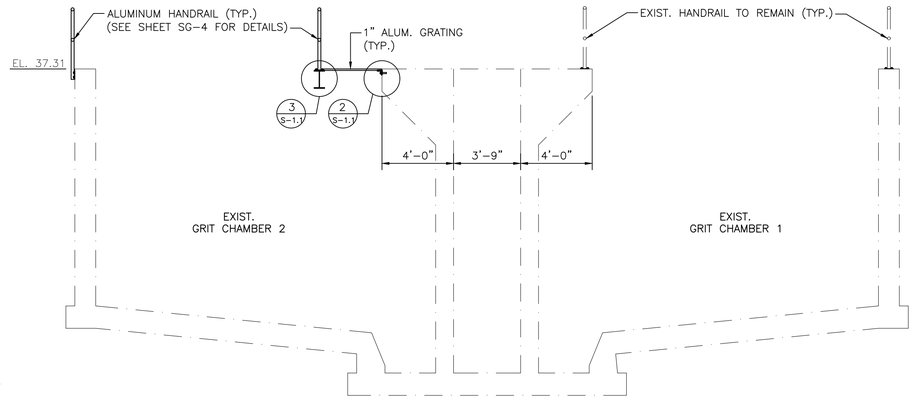
SHEET NO.

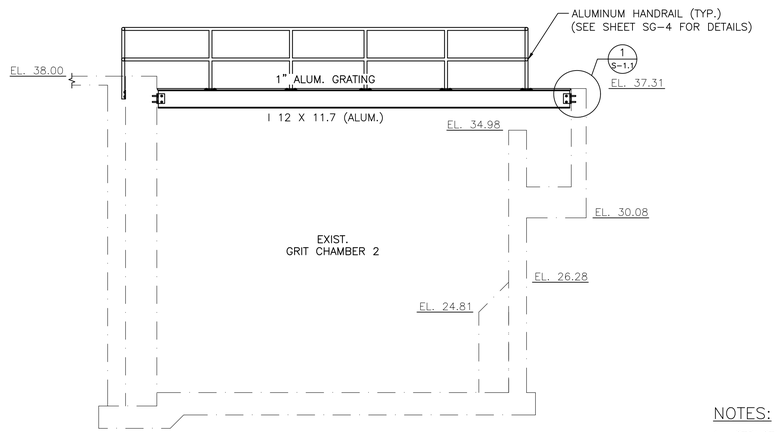
SG-5



FRAMING PLAN
SCALE: ¼" = 1'-0"



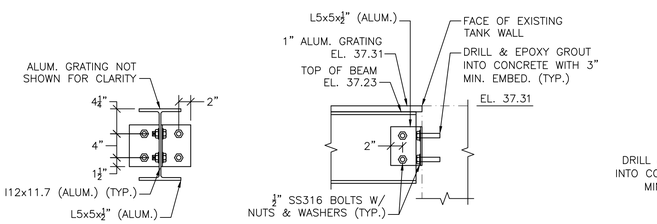
SECTION
SCALE: ¼" = 1'-0"



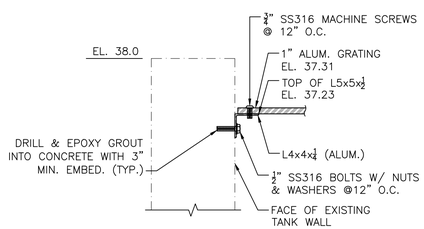
SECTION
SCALE: ¼" = 1'-0"

NOTES:

1. STRUCTURAL ALUMINUM TO CONFIRM TO ALLOY 6061-T6. DETAIL AND FABRICATE IN CONFORMANCE WITH THE 2015 ALUMINUM DESIGN MANUAL.
2. PROVIDE ¾" DIAMETER TYPE 316 STAINLESS STEEL BOLTS FOR BOLTED CONNECTIONS. PROVIDE ⅞" DIAMETER HOLES UNLESS OTHERWISE INDICATED. PROVIDE PLATE WASHERS BOTH OUTER PLIES WITH OVERSIZE OR SLOTTED HOLES WHERE INDICATED.
3. EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.
4. SEE MECHANICAL SHEETS FOR ALL PIPING DETAILS.
5. SEE MECHANICAL SHEETS FOR DETAILS ON GRIT CHAMBER COVER DEMOLITION.



DETAIL
SCALE: 1" = 1'-0"



DETAIL
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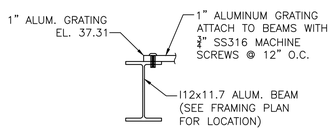

DETAIL
SCALE: 1" = 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Grit Chamber Grating Support

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
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SCALE

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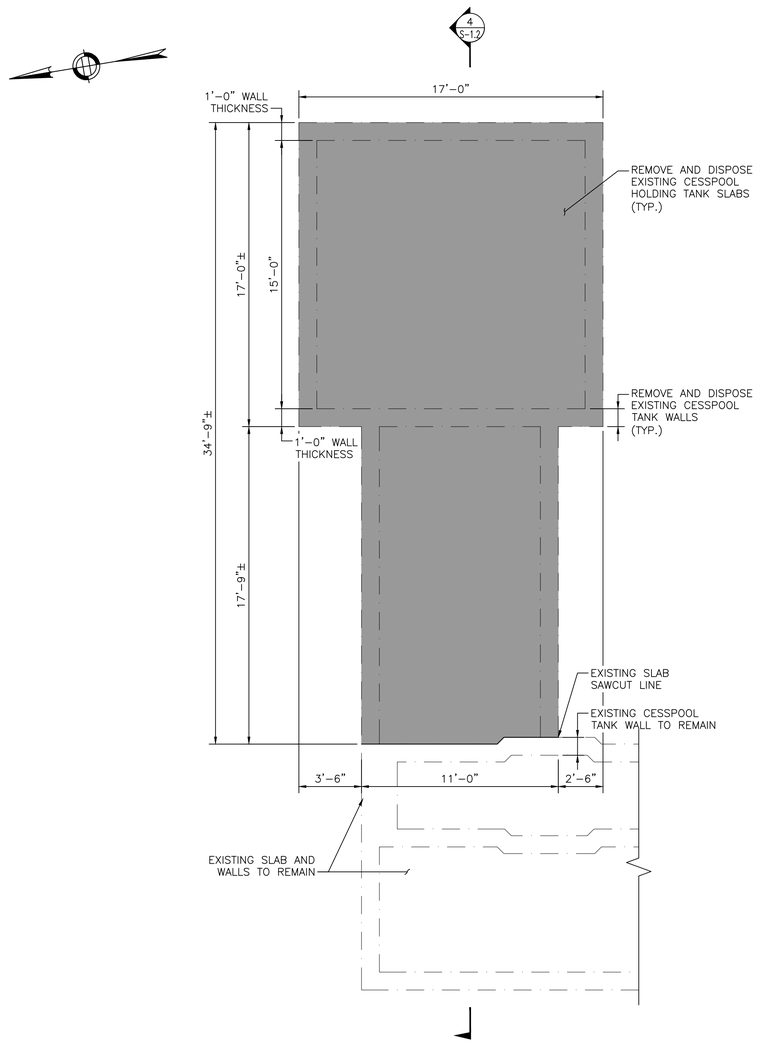
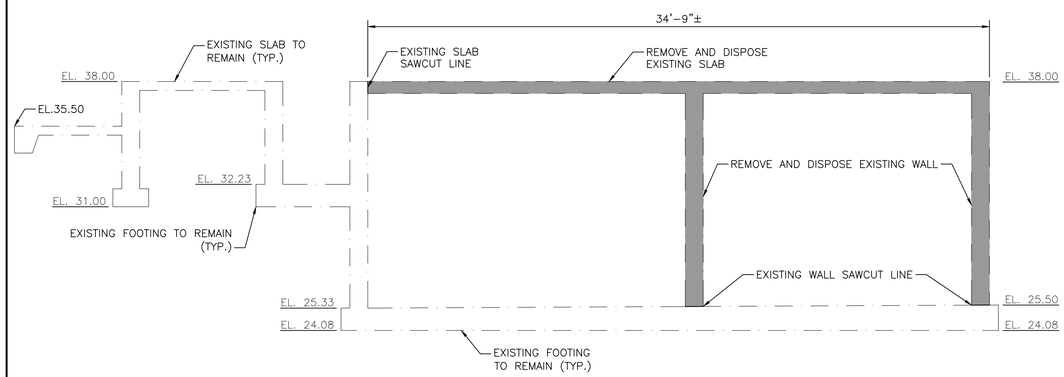
SHEET NO.

S-1.1



DEMOLITION PLAN

SCALE: ¼" = 1'-0"



SECTION

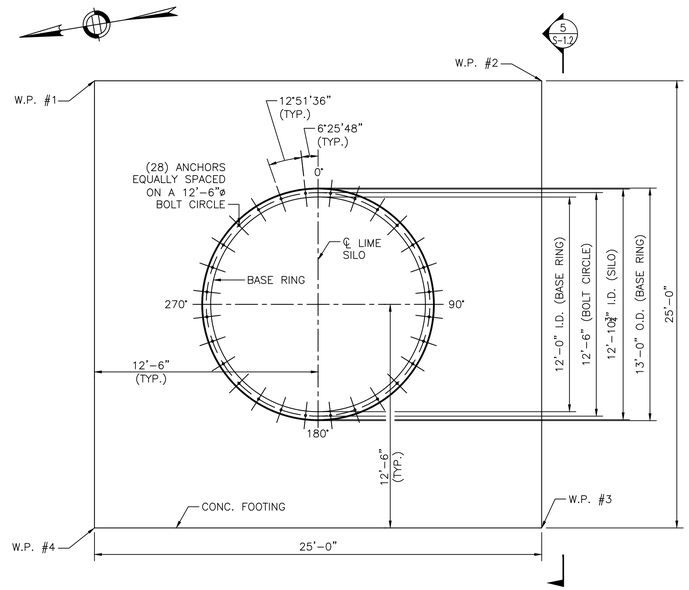
SCALE: ¼" = 1'-0" (4 / S-1.2)

TABLE 1 – BASE REACTIONS	
DEAD LOAD:	38,000 LBS
LIVE LOAD:	314,000 LBS
WIND LOADING:	
OVERTURNING:	1,798,000 FT-LBS
SHEAR:	58,000 LBS
SEISMIC LOADING:	
OVERTURNING:	1,160,000 FT-LBS
SHEAR:	39,000 LBS
ANCHOR BOLT:	
NUMBER OF BOLTS:	28 EA
LOAD PER BOLT:	20.2 KIPS

NOTES:

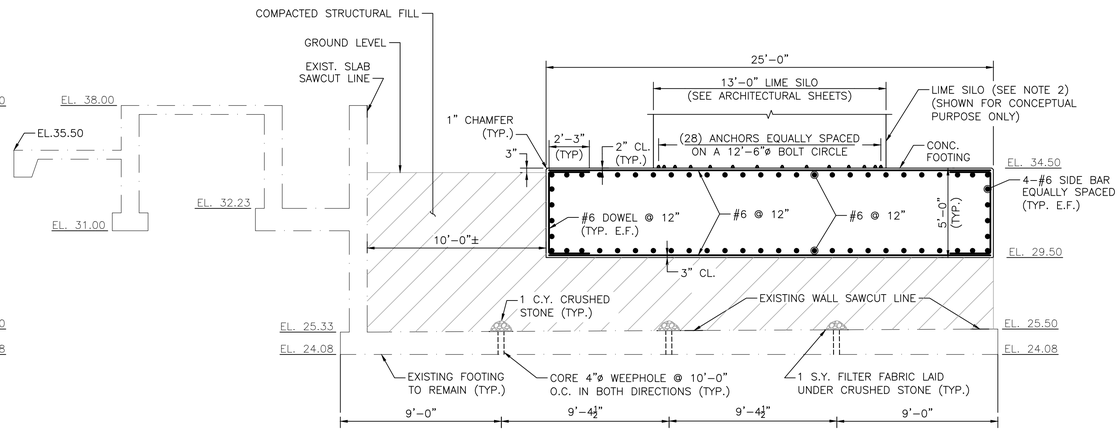
1. FOOTING SHOWN IS BASED ON THE DESIGN VALUES SHOWN IN TABLE 1 AND MAY NOT REPRESENT ACTUAL LIME SILO.
2. LIME SILO TO BE PROVIDED BY THE CONTRACTOR. IF SILO LOADING IS GREATER THAN THE VALUES PROVIDED IN TABLE 1, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AN ALTERNATE FOOTING DESIGN PERFORMED BY A MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER.
3. ▭ DENOTES AREA TO BE DEMOLISHED

	NORTHING	EASTING
W.P. #1	33353122.44	9187696.25
W.P. #2	33352826.47	9187647.22
W.P. #3	33352875.51	9187351.25
W.P. #4	33353171.47	9187400.29



FOOTING PLAN

SCALE: ¼" = 1'-0"



SECTION

SCALE: ¼" = 1'-0" (5 / S-1.2)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Lime Silo

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
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SCALE

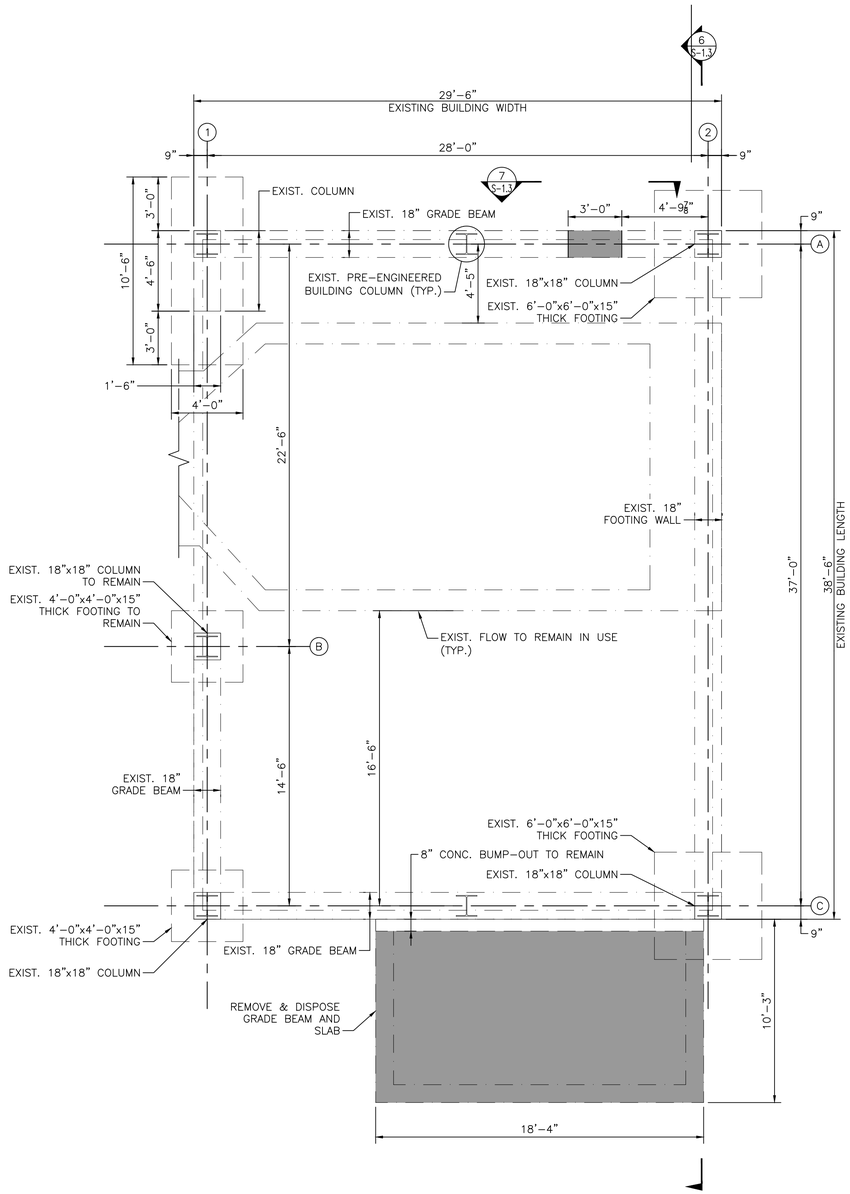
AS SHOWN

SHEET NO.

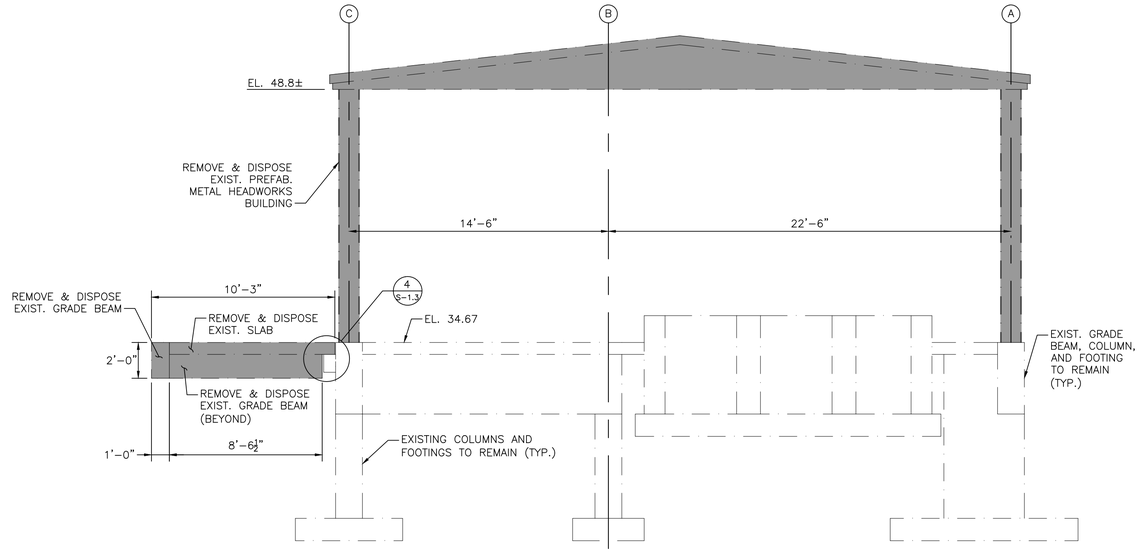
S-1.2

NOTES:

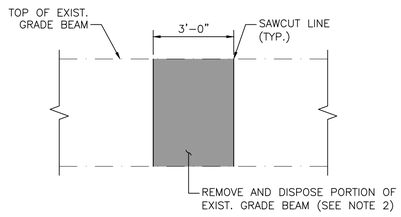
1. ▭ INDICATES AREA TO BE DEMOLISHED.
2. REMOVAL OF EXISTING GRADE BEAM SHALL BE DONE WITH HAND CHIPPER, SO AS TO NOT DISTURB EXISTING COLUMNS AND FOOTINGS. ANY DAMAGE TO THE EXISTING COLUMNS AND FOOTING, DONE AS PART OF THIS DEMOLITION, SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.



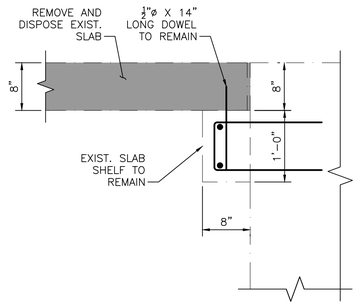
EXISTING FOUNDATION LAYOUT
SCALE: 1/4" = 1'-0"



SECTION
SCALE: 1/4" = 1'-0" 6 S-1.3



SECTION
SCALE: 3/8" = 1'-0" 7 S-1.3



DETAIL
SCALE: 1" = 1'-0" 4 S-1.3

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Existing Headworks Building Demolition

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
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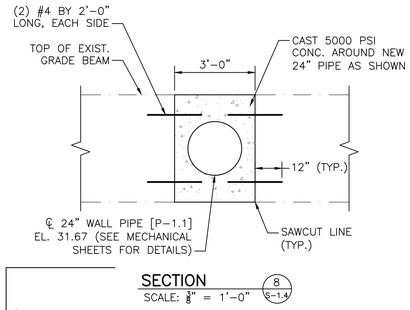
SCALE

AS SHOWN

SHEET NO.

S-1.3

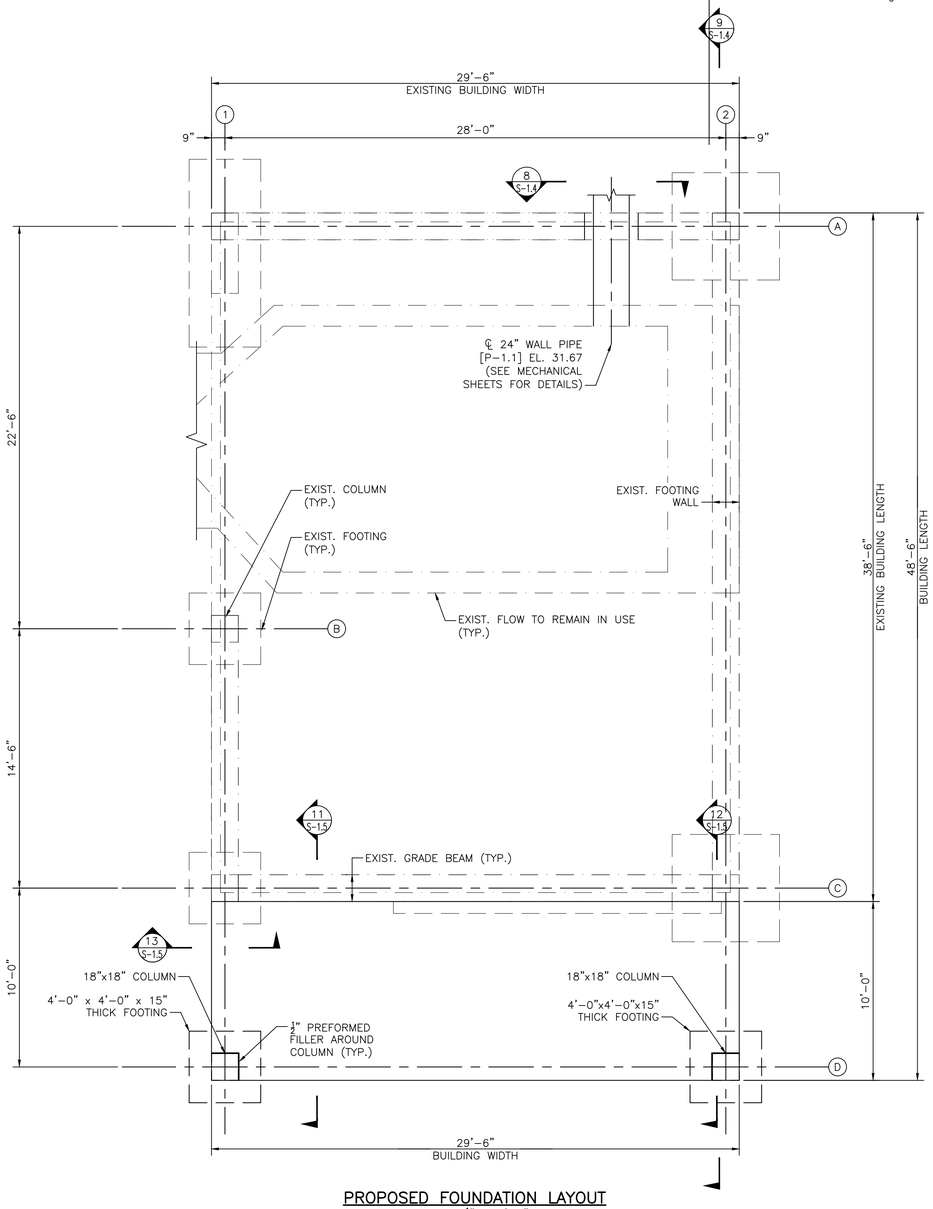


SECTION
SCALE: ⅜" = 1'-0" (8 / S-1.4)

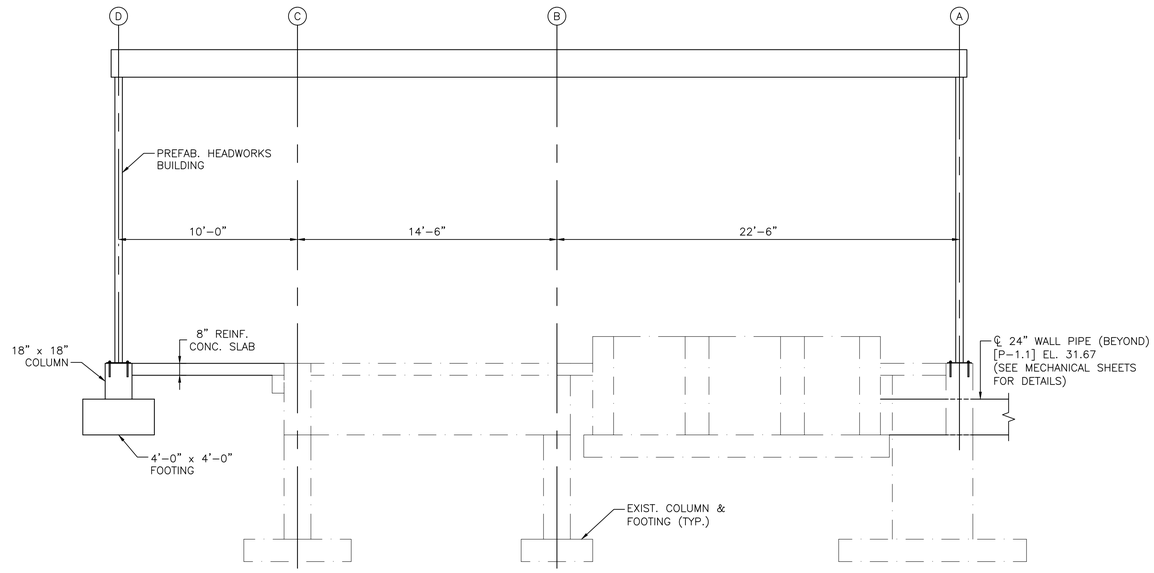
TABLE 2 – FOOTING DESIGN LOADS	
BEARING LOADS VERT: HORIZ:	 6.83 K 1.80 K
DESIGN LOADS VERT: HORIZ:	 4.75 K ; –0.3 (UPLIFT) 3.00 K ; –1.5 (LEEWARD)

NOTES:

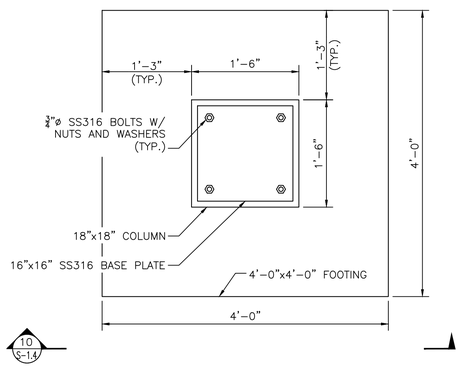
1. FOOTING SIZE IS BASED ON VALUES IN TABLE 2.
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE PREFABRICATED BUILDING. IF ACTUAL REACTIONS IN THE LAYOUT PROVIDED ARE GREATER THAN THE VALUES SHOWN IN TABLE 2, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AN ALTERNATE FOOTING DESIGN PERFORMED BY A MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER.
3. THE SURFACE OF THE PREVIOUSLY CAST CONCRETE SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
4. CONTRACTOR TO CONFIRM EXIST. COLUMN/SUPPORT SPACING PRIOR TO ORDERING NEW PREFAB METAL BUILDING.



PROPOSED FOUNDATION LAYOUT
SCALE: ¼" = 1'-0"

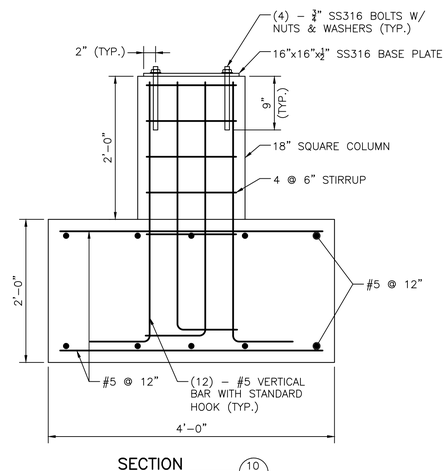


SECTION
SCALE: ¼" = 1'-0" (9 / S-1.4)



10 S-1.4

NEW FOOTING PLAN
SCALE: 1" = 1'-0"



SECTION
SCALE: 1" = 1'-0" (10 / S-1.4)

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Prefabricated Headworks Building

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

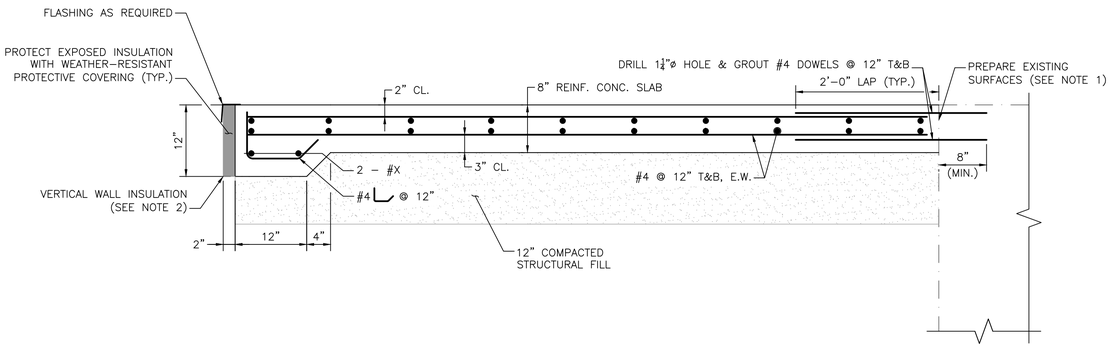
AS SHOWN

SHEET NO.

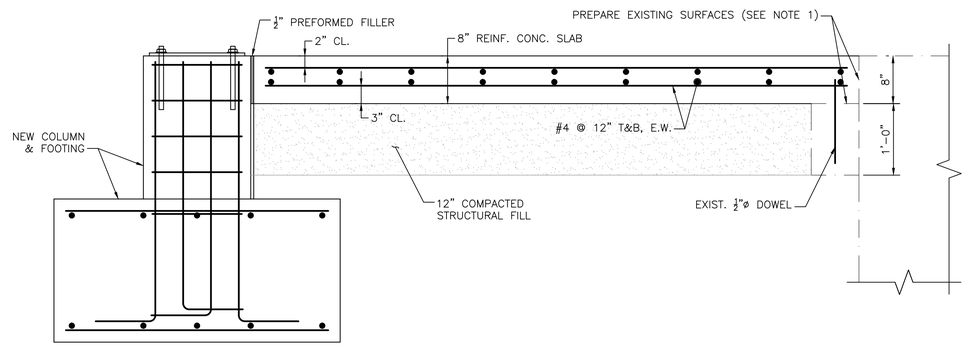
S-1.4

NOTES:

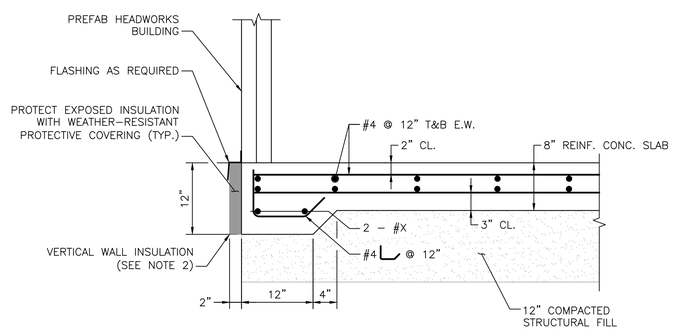
1. THE SURFACE OF THE PREVIOUSLY CAST CONCRETE SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
2. VERTICAL WALL INSULATION TO HAVE A MINIMUM THICKNESS OF 2" CONFORM TO ASTM C578 TYPE II WITH MINIMUM R-VALUE OF 6.4.



SECTION 11 S-1.4
SCALE: 1" = 1'-0"



SECTION 12 S-1.4
SCALE: 1" = 1'-0"



SECTION 13 S-1.4
SCALE: 1" = 1'-0"

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
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No. 47367
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Prefabricated Headworks Building Details

NO.	REVISIONS	DATE

DRAWN BY:	BN
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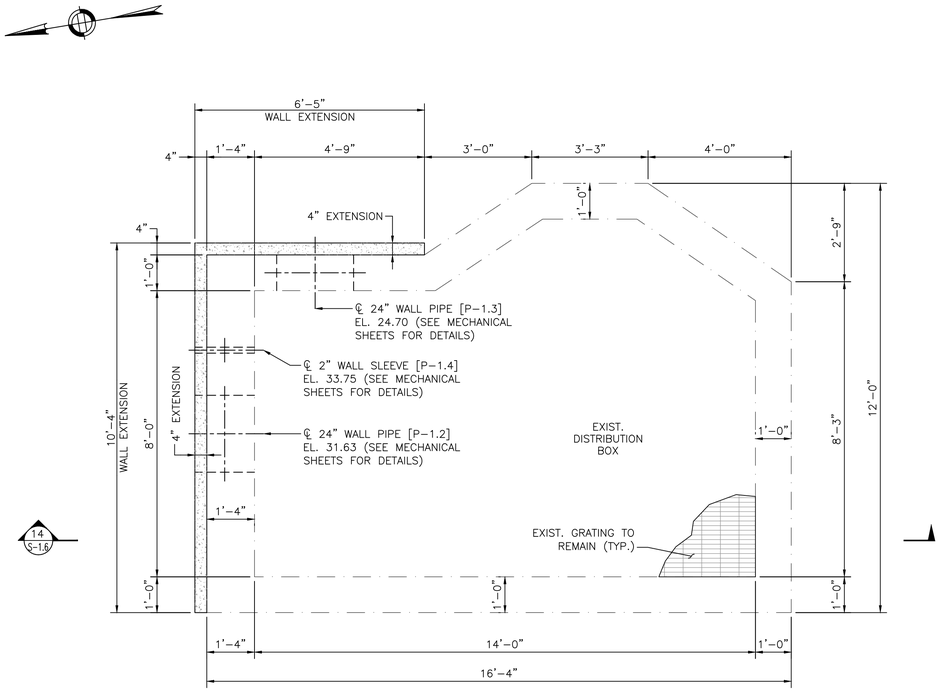
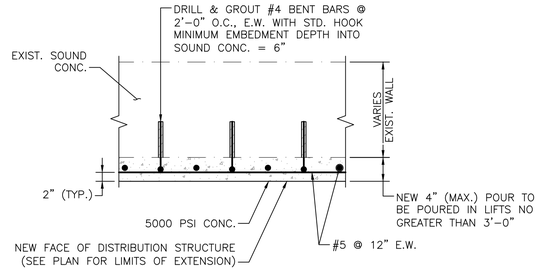
SCALE

AS SHOWN

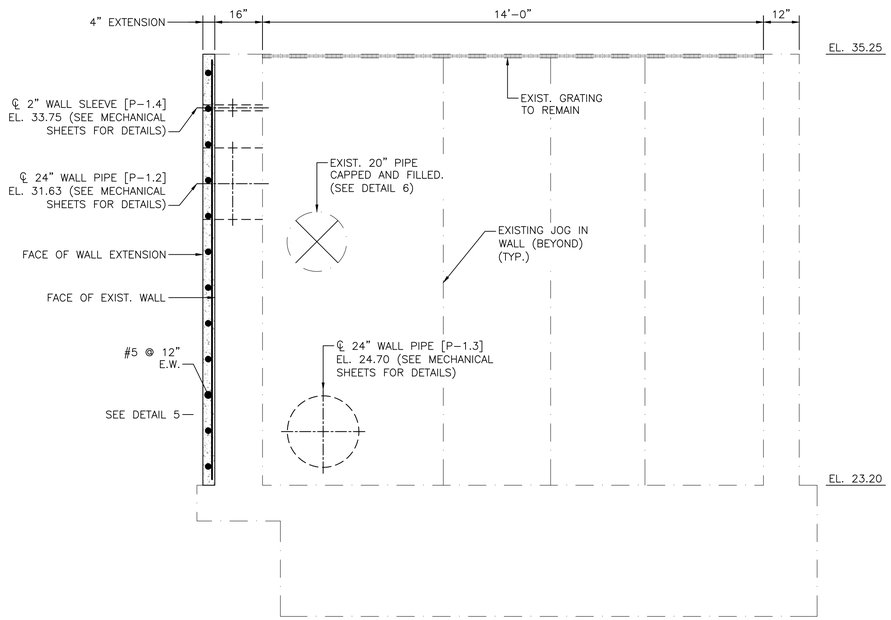
SHEET NO. S-1.5



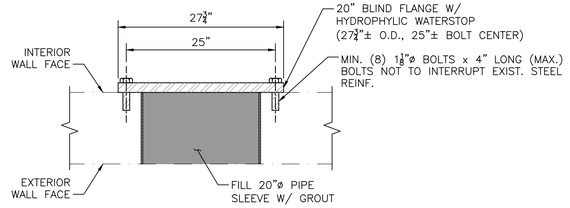
PLAN
SCALE: $\frac{1}{2}$" = 1'-0"



DETAIL
SCALE: 1" = 1'-0"
5
S-1.6



SECTION
SCALE: $\frac{1}{2}$" = 1'-0"
14
S-1.6



DETAIL
SCALE: 1" = 1'-0"
6
S-1.6

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Distribution Box

NO.	REVISIONS	DATE

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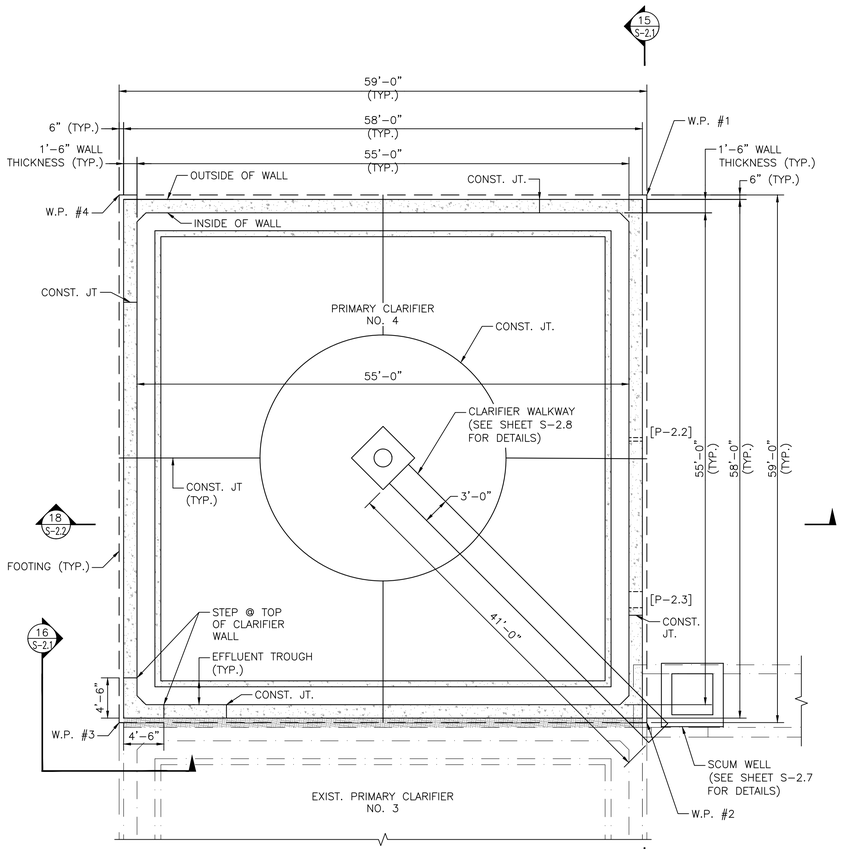
SCALE

AS SHOWN

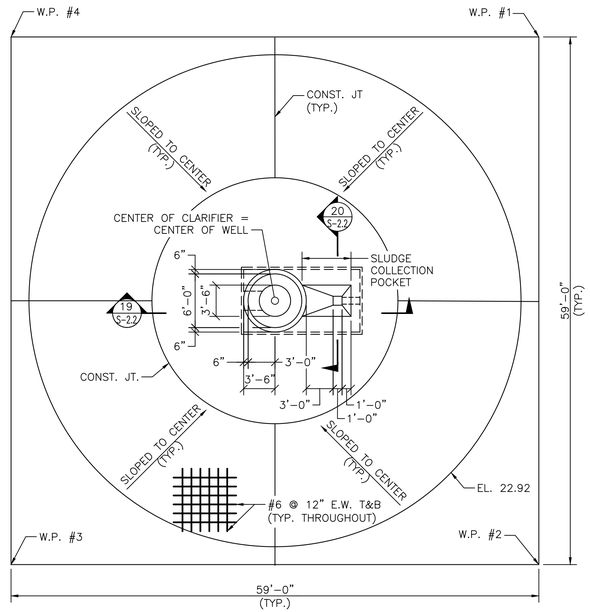
SHEET NO.

S-1.6



GENERAL PLAN

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



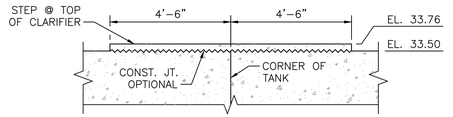
FOOTING PLAN

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

NOTES:

1. SEE MECHANICAL SHEETS FOR EQUIPMENT DETAILS

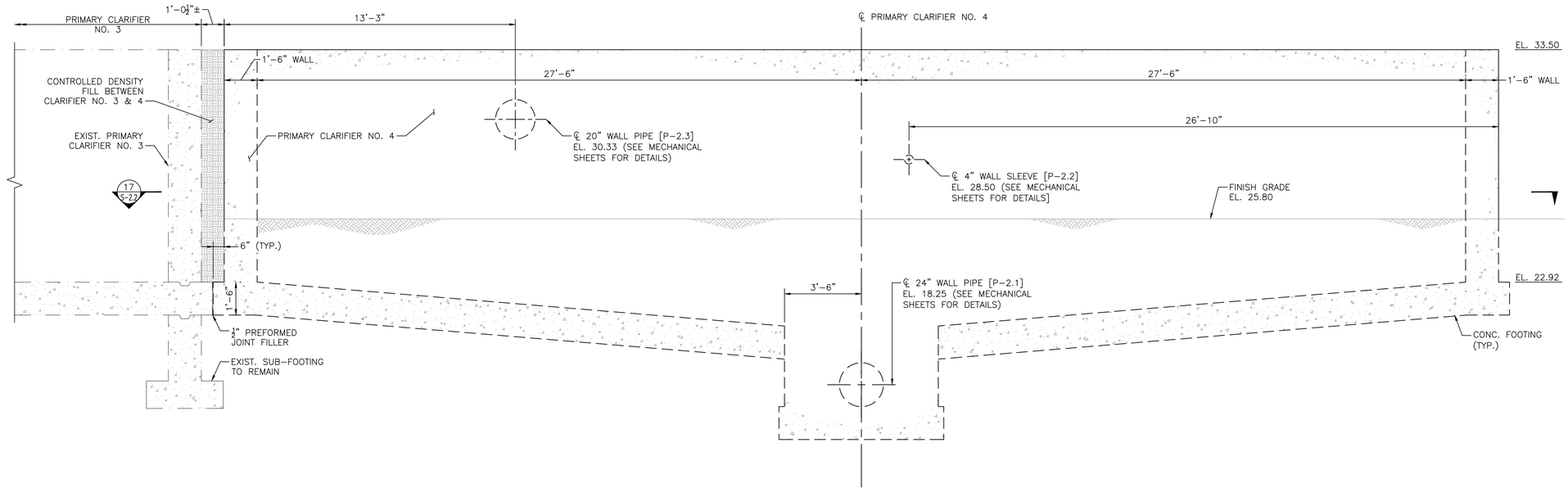
	NORTHING	EASTING
W.P. #1	33353424.08	9189159.93
W.P. #2	33352725.18	9189046.79
W.P. #3	33352838.31	9188347.89
W.P. #4	33353537.22	9188461.03



SECTION

16 S-2.1

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



SECTION

15 S-2.1

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Clarifier Plans and Elevations

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
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ISSUE DATE:	7/2/2021
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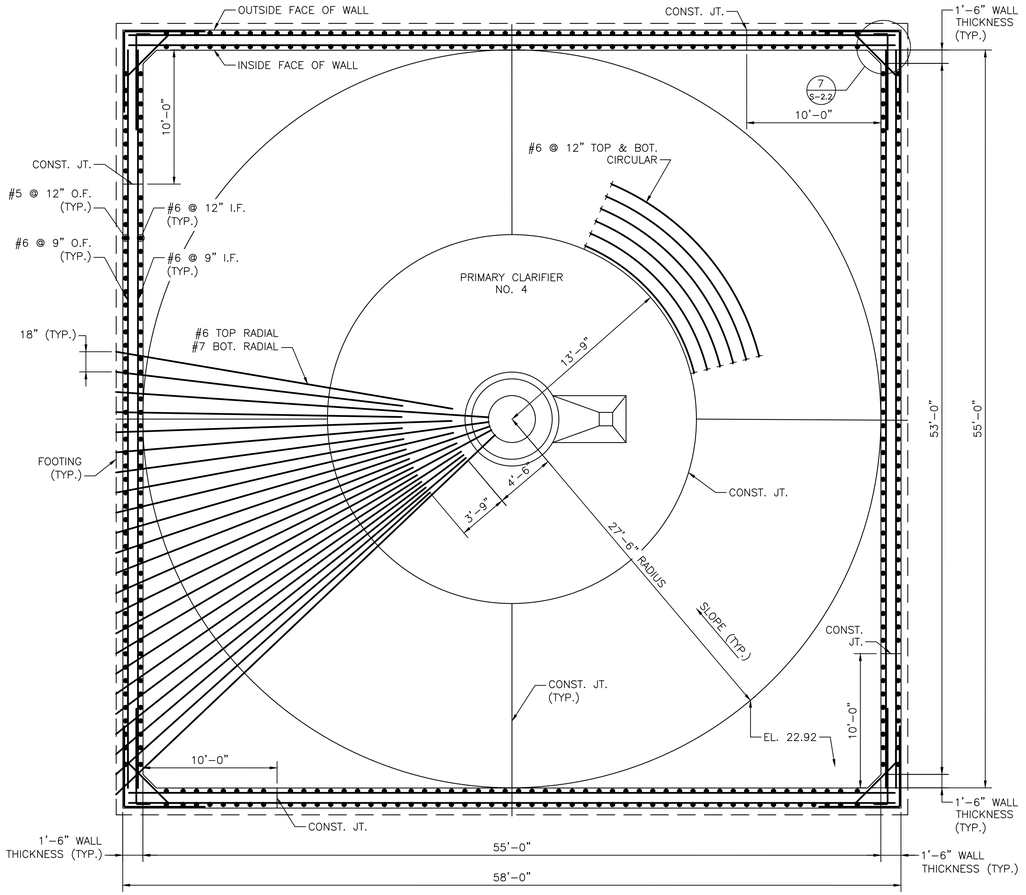
SCALE

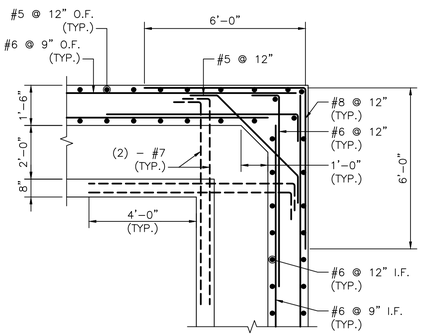
AS SHOWN

SHEET NO.

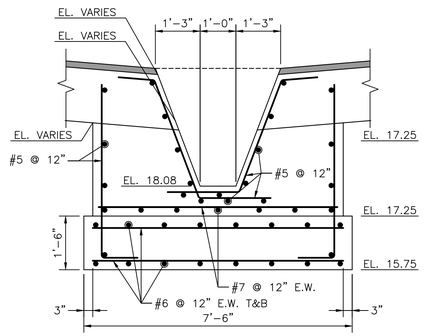
S-2.1



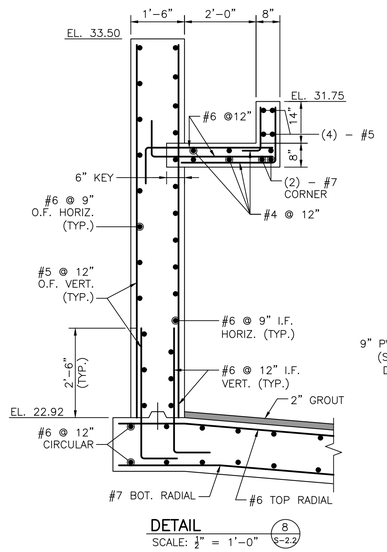
SECTION
SCALE: 1/8" = 1'-0" (17 S-2.1)



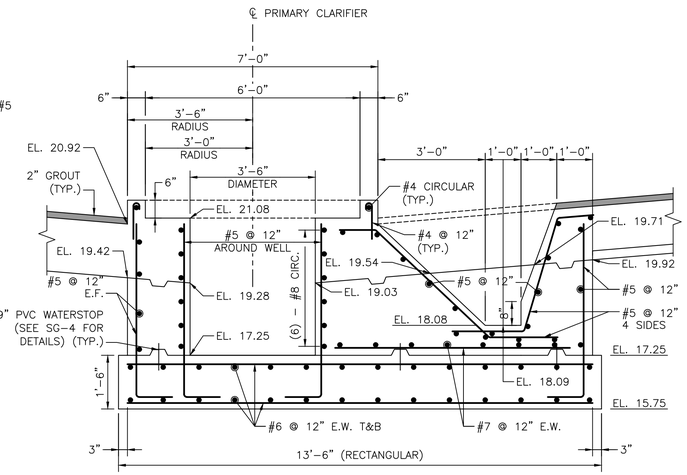
DETAIL
SCALE: 3/8" = 1'-0" (7 S-2.2)



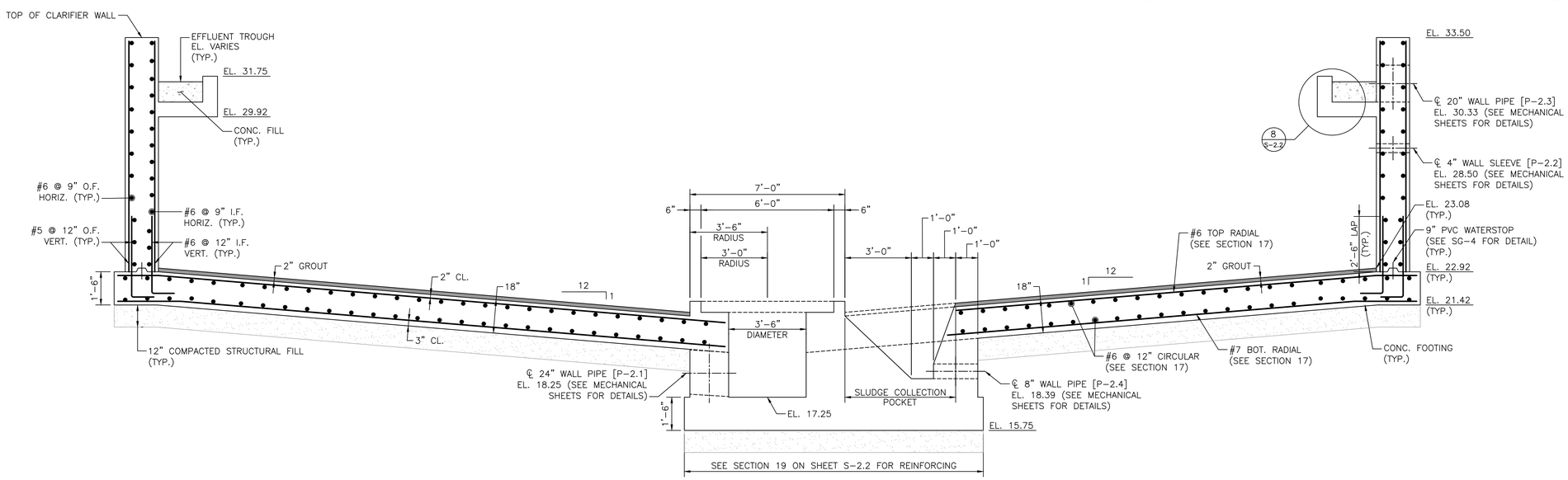
SECTION
SCALE: 1/2" = 1'-0" (20 S-2.1)



DETAIL
SCALE: 1/2" = 1'-0" (8 S-2.2)



SECTION
SCALE: 1/2" = 1'-0" (19 S-2.2)



SECTION
SCALE: 3/8" = 1'-0" (18 S-2.1)

7/2/2021 11:46 AM N:\6000S\6050 - TAUNTON WWTP\DRAWING FILES\PLANSET\PHASE 1\6050_SR2.2 - P1.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Clarifier Sections

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

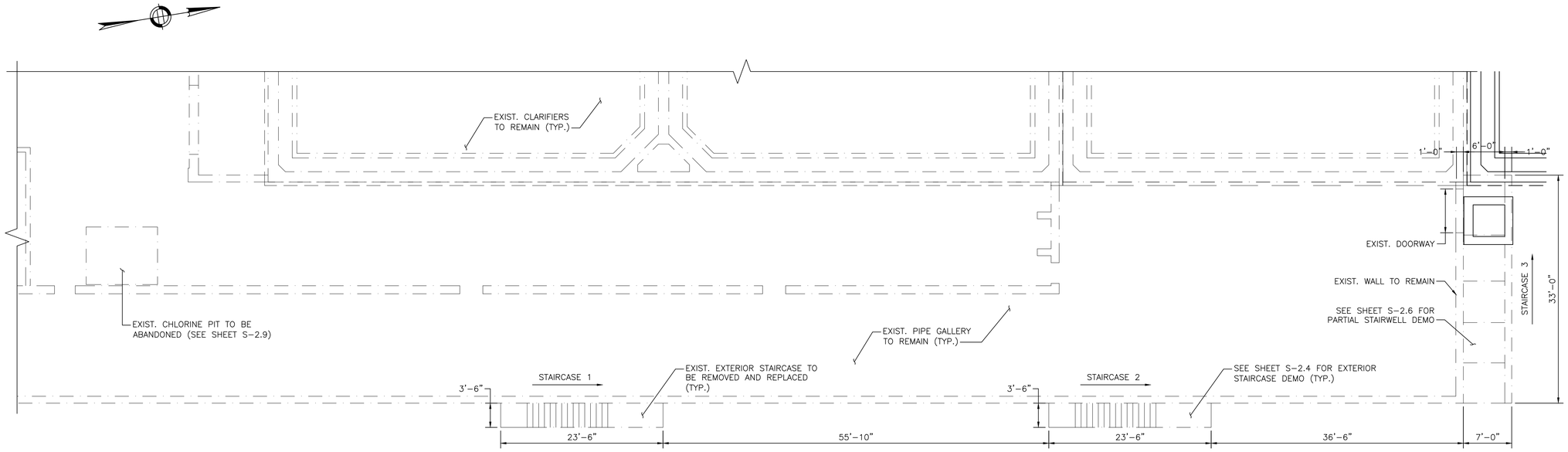
AS SHOWN

SHEET NO.

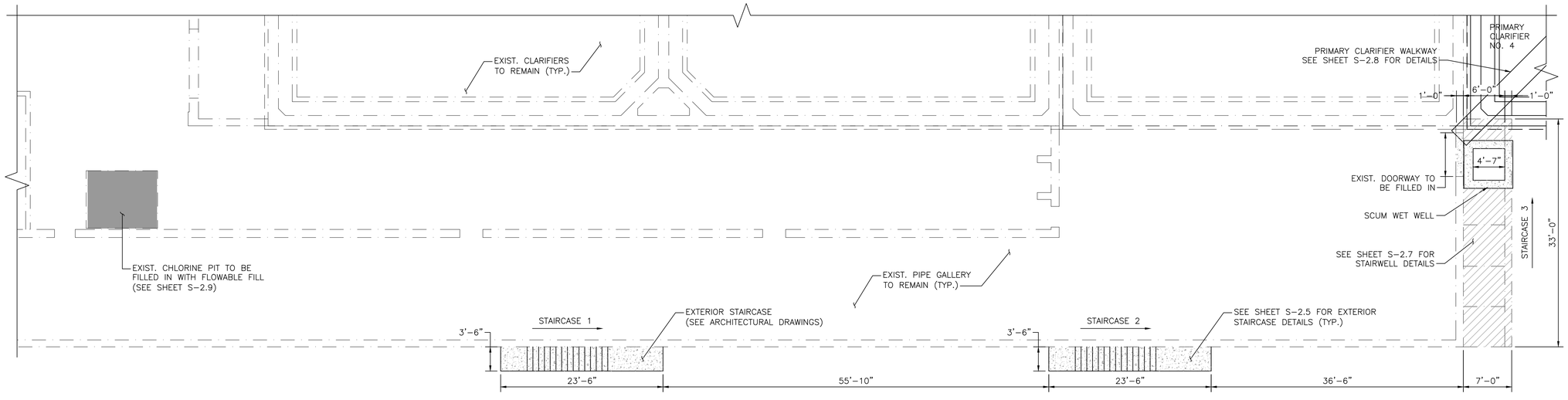
S-2.2

NOTES:

1. SEE ARCHITECTURAL SHEETS FOR METAL STAIRCASE DETAILS



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



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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Plan

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
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BETA JOB NO.:	6050

SCALE

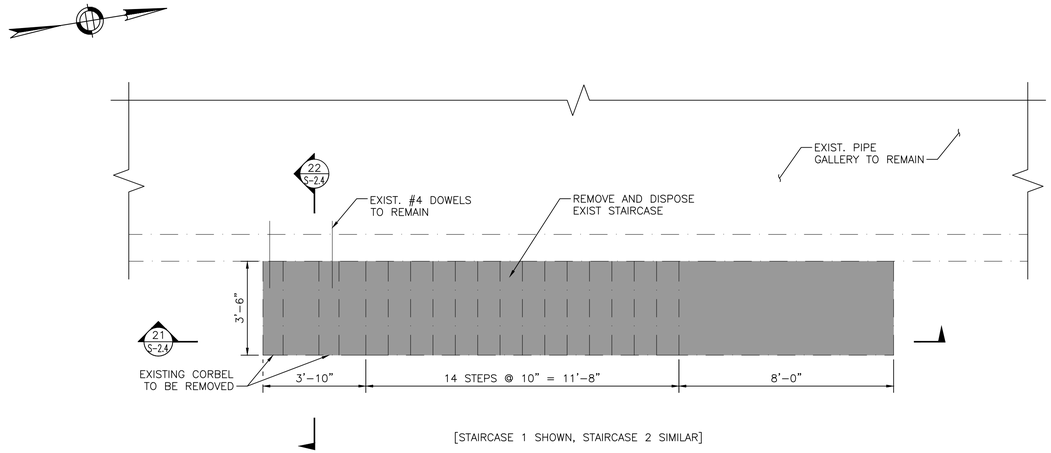
AS SHOWN

SHEET NO.

S-2.3

NOTES:

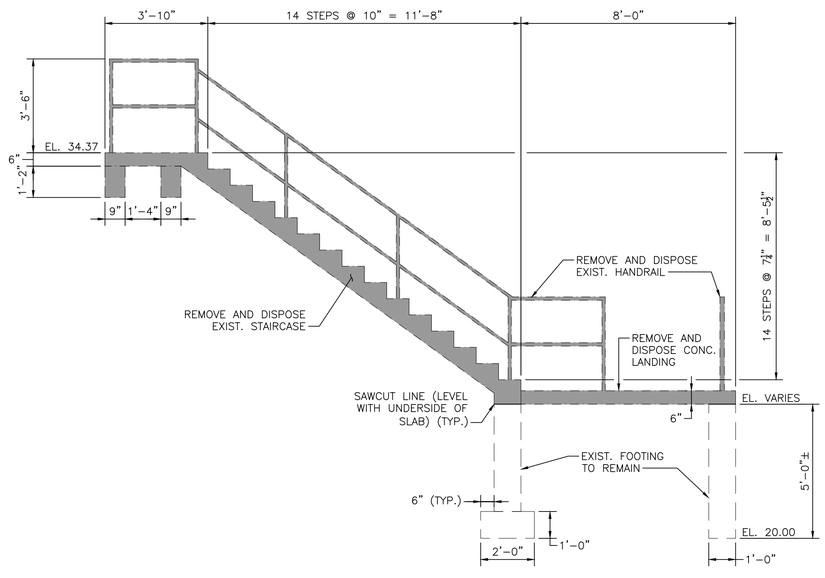
1. ▭ DENOTES AREA TO BE DEMOLISHED



[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

STAIRCASE 1 AND 2 DEMOLITION PLAN

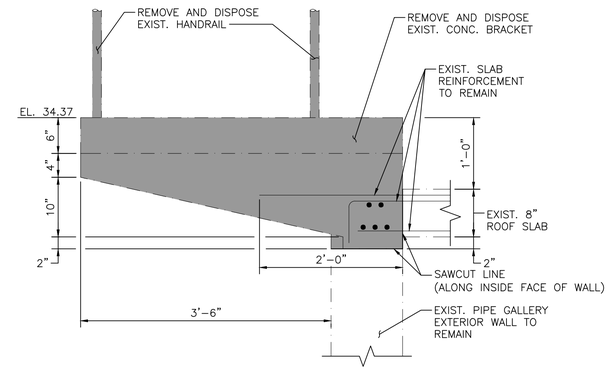
SCALE: 3/8" = 1'-0"



[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

SECTION 21 S-2.4

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



[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

SECTION 22 S-2.4

SCALE: 1" = 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Exterior Staircase Demo

NO.	REVISIONS	DATE

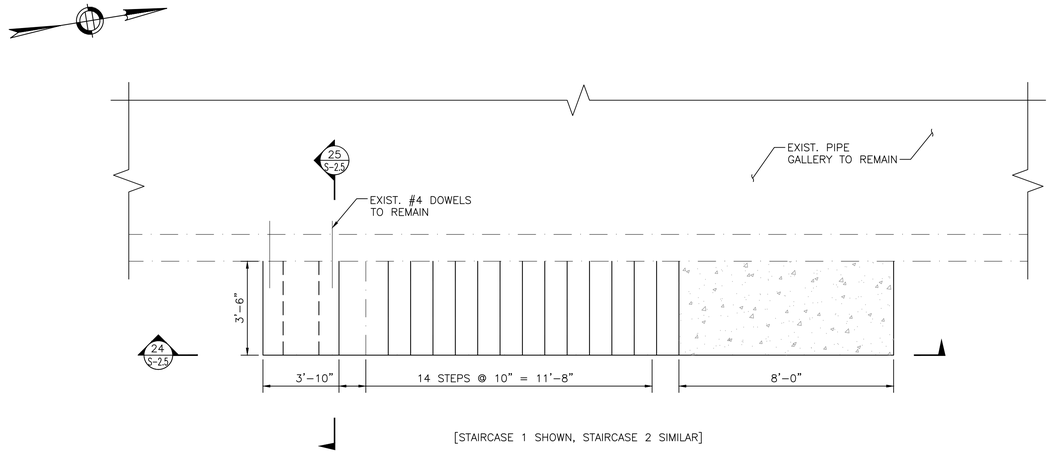
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

S-2.4



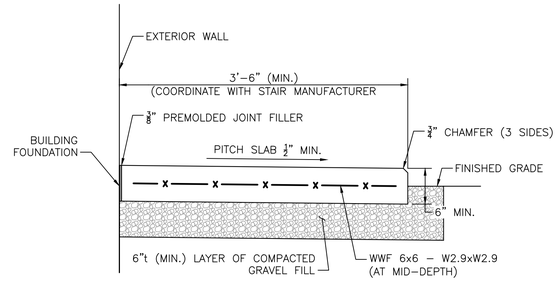
[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

STAIRCASE 1 AND 2 PLAN

SCALE: $\frac{3}{8}$" = 1'-0"

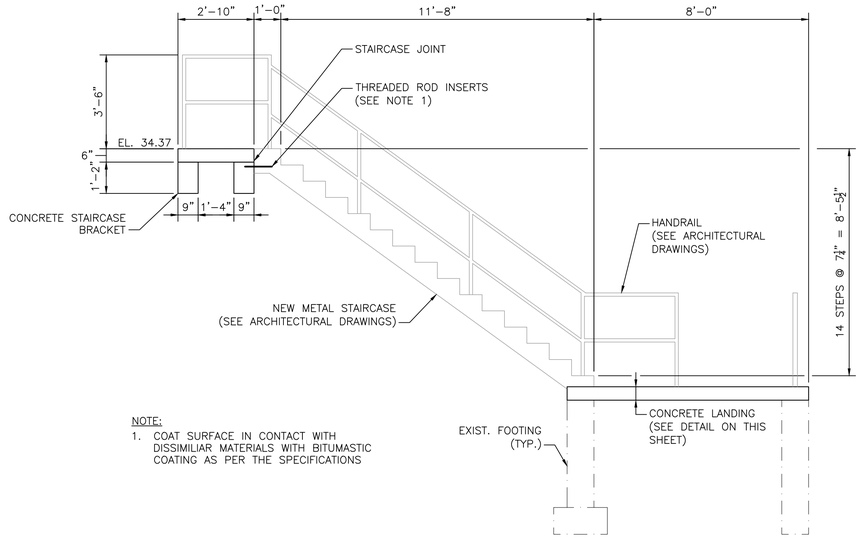
NOTES:

1. PROVIDE THREADED ROD INSERTS AS REQUIRED FOR STAIRCASE ANCHORAGE. SIZE, LOCATION, AND SPACING OF INSERTS SHALL BE PER STAIRCASE MANUFACTURER'S RECOMMENDATION.



CONCRETE LANDING DETAIL

NOT TO SCALE

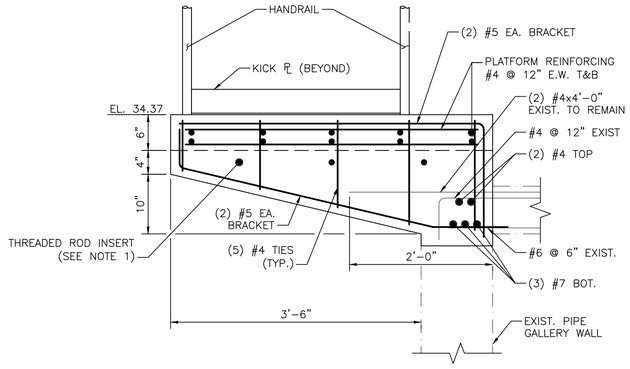


NOTE:
1. COAT SURFACE IN CONTACT WITH DISSIMILIAR MATERIALS WITH BITUMASTIC COATING AS PER THE SPECIFICATIONS

[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

SECTION

SCALE: $\frac{3}{8}$" = 1'-0" (24 / S-2.5)



[STAIRCASE 1 SHOWN, STAIRCASE 2 SIMILAR]

SECTION

SCALE: 1" = 1'-0" (25 / S-2.5)

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Exterior Staircase

NO.	REVISIONS	DATE

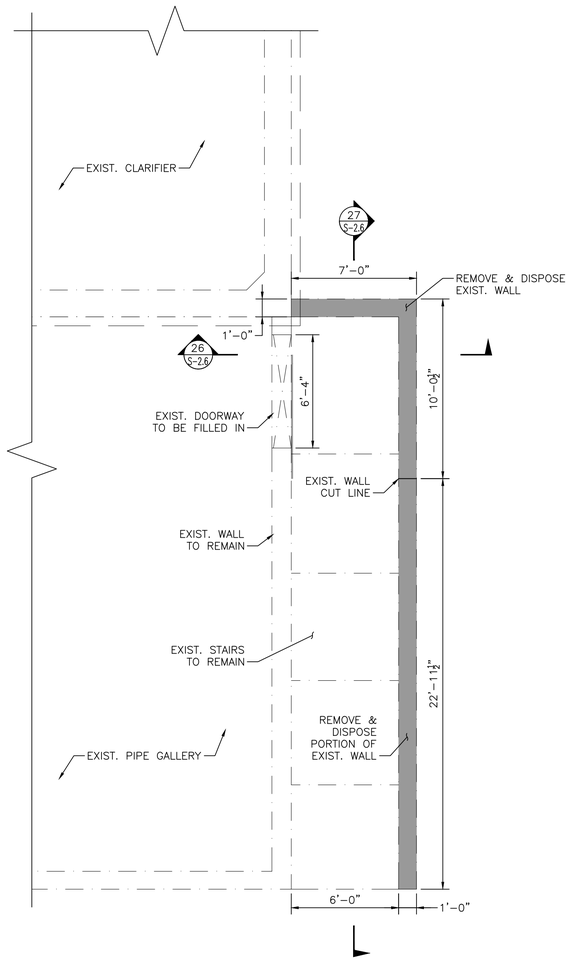
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

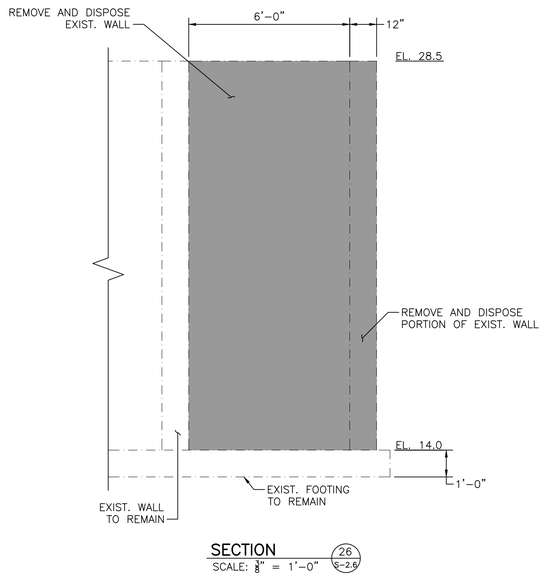
S-2.5



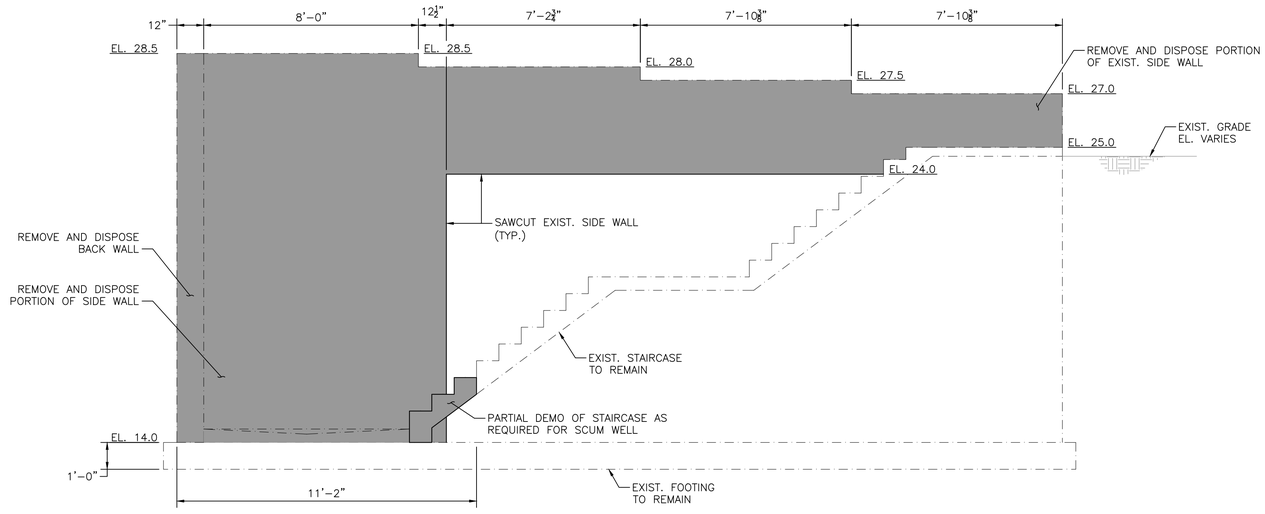
STAIRCASE 3 DEMOLITION PLAN
SCALE: ¼" = 1'-0"

NOTES:

1. WORK PERFORMED ON THIS SHEET SHALL BE PERFORMED BEFORE EXCAVATION FOR CONSTRUCTION OF PRIMARY CLARIFIER NO. 4.
2. ▭ DENOTES AREA TO BE DEMOLISHED



SECTION
SCALE: ⅜" = 1'-0" (26 S-2.6)



SECTION
SCALE: ⅜" = 1'-0" (27 S-2.6)

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Stairwell Demo

NO.	REVISIONS	DATE

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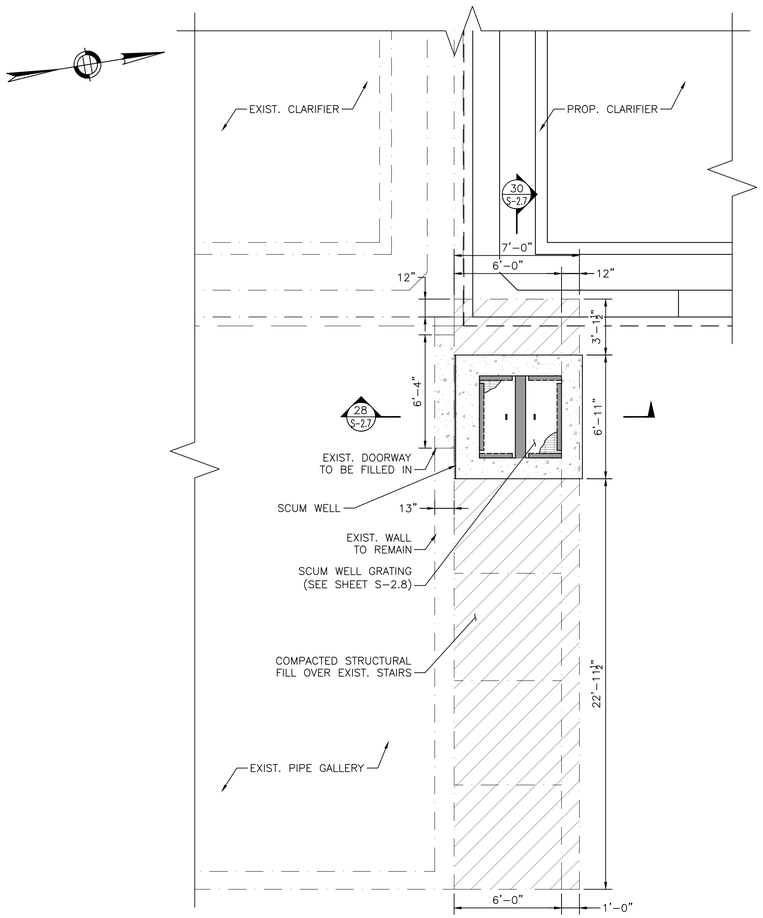
SCALE

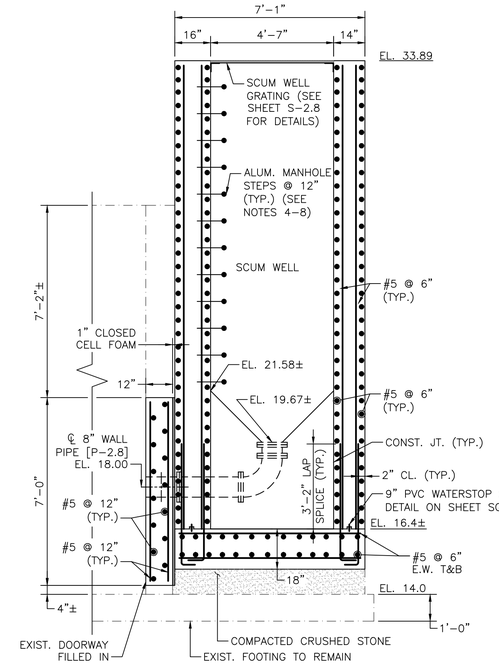
AS SHOWN

SHEET NO.

S-2.6



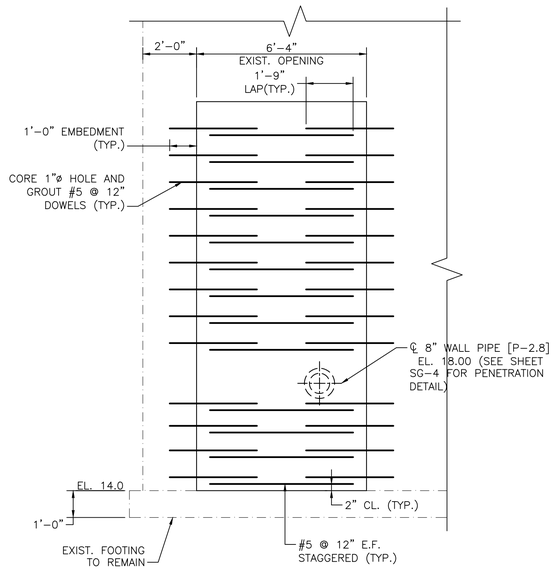
STAIRCASE 3 PLAN
SCALE: ¼" = 1'-0"



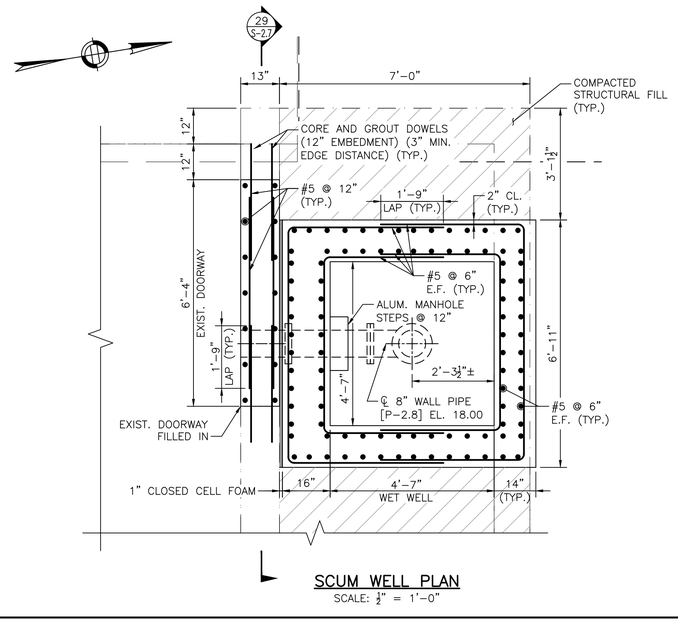
SECTION
SCALE: ⅜" = 1'-0"
28 / S-2.7

NOTES:

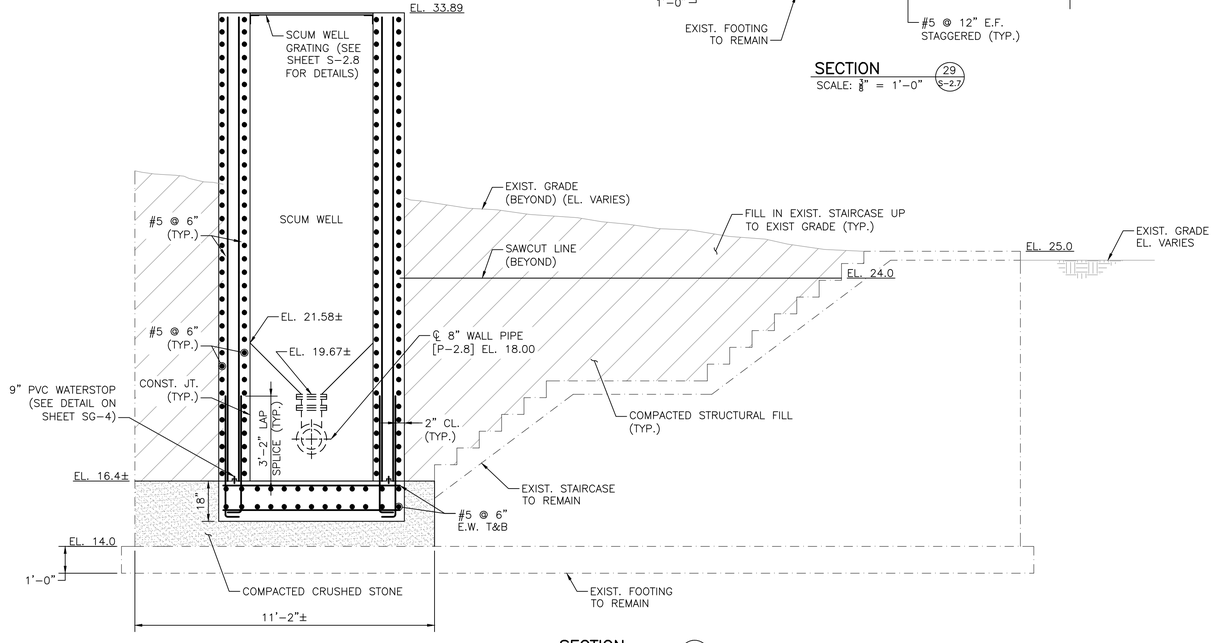
1. WORK ON THIS SHEET SHALL BE PERFORMED BEFORE EXCAVATION FOR CONSTRUCTION OF PRIMARY CLARIFIER NO. 4.
2. SEE MECHANICAL SHEETS FOR EQUIPMENT DETAILS.
3. HORIZONTAL OR VERTICAL JOINTS ARE NOT ANTICIPATED. IF WALL JOINTS ARE REQUIRED SEE DETAIL ON SHEET SG-4. WALL JOINTS SHALL ONLY BE INSTALLED PER APPROVAL OF THE ENGINEER. NO ADDITIONAL COST SHALL BE PAID FOR WALL JOINTS.
4. ALUMINUM SCUM WELL STEPS TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
5. CAST INTO WALLS TO FORM A CONTINUOUS LADDER WITH A DISTANCE OF TWELVE INCHES (12) BETWEEN STEPS.
6. MANHOLE STAIRS TO BE ALUMINUM DROP-FRONT TYPE.
7. MANHOLE STAIRS TO BE STOCK NO. 12653B MADE BY ALUMINUM COMPANY OF AMERICA, PITTSBURGH, PA OR STOCK NO. F-14-2-B MADE BY NEW JERSEY ALUMINUM CO., NEW BRUNSWICK, NJ OR AN ACCEPTABLE EQUIVALENT PRODUCT.
8. BEFORE THE STEPS ARE BUILT INTO THE MASONRY AND AFTER THOROUGH CLEANING, THOSE PARTS OF ALUMINUM STEPS WHICH WILL BE EMBEDDED SHALL BE GIVEN A PROTECTIVE COATING OF AN ACCEPTABLE, HEAVY-BODIED, BITUMINOUS MATERIAL. THE CLEANING SHALL BE DONE BY SUITABLE MEANS AND WITH SUITABLE CLEANING AGENTS TO ENSURE THAT THE SURFACES TO BE COATED ARE FREE FROM ALL FOREIGN MATTER SUCH AS DIRT, OIL, AND GREASE. THE STEPS SHALL BE THOROUGHLY RINSED AND DRIED BEFORE THE COATING IS APPLIED AND THE COATING SHALL HAVE BECOME THOROUGHLY DRY BEFORE THE STEPS ARE BUILT INTO THE MASONRY.



SECTION
SCALE: ⅜" = 1'-0"
29 / S-2.7



SCUM WELL PLAN
SCALE: ½" = 1'-0"



SECTION
SCALE: ⅜" = 1'-0"
30 / S-2.7

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COMMONWEALTH OF MASSACHUSETTS
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Stairwell

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
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ISSUE DATE:	7/2/2021
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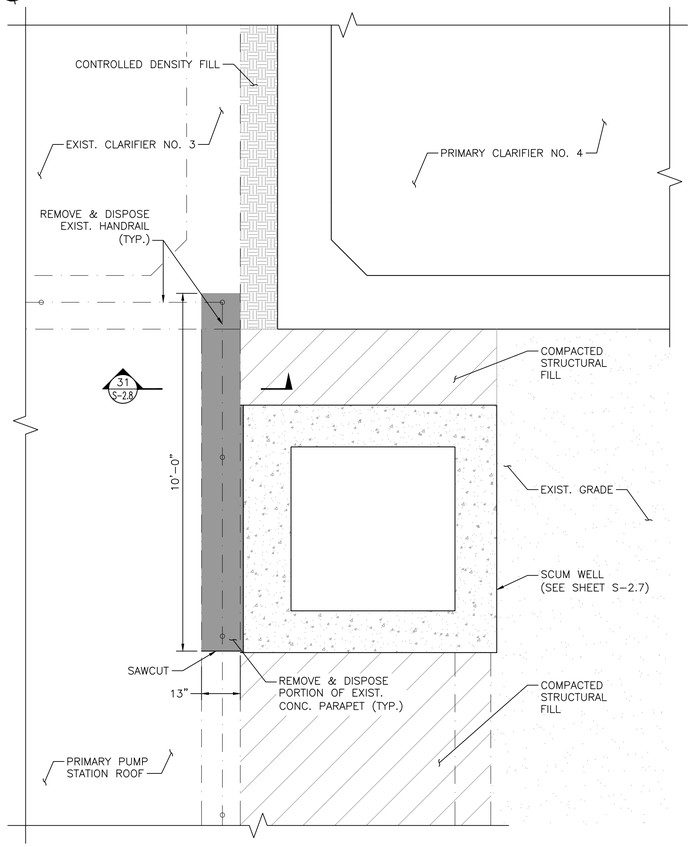
SCALE

AS SHOWN

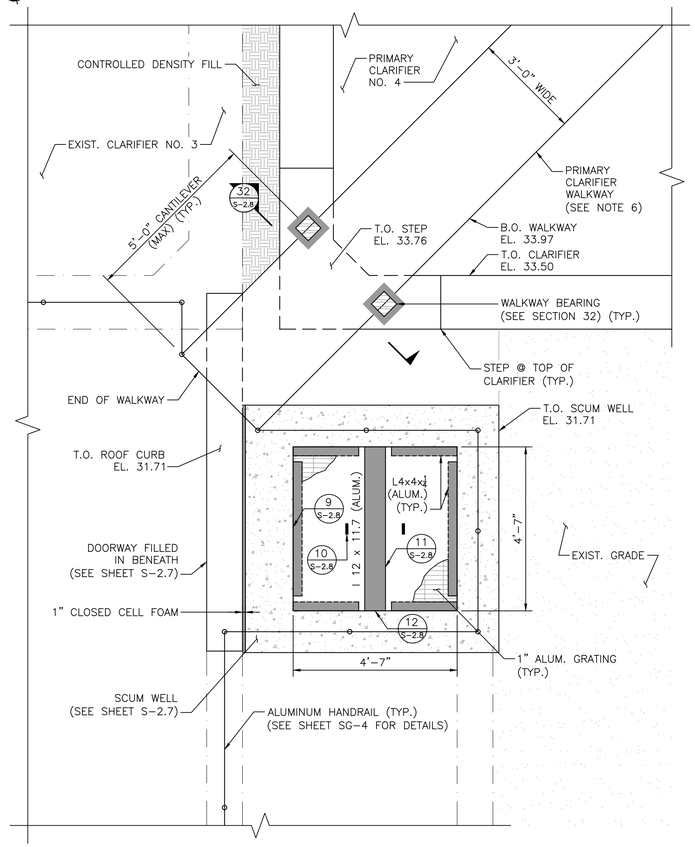
SHEET NO.

S-2.7



WALKWAY DEMOLITION PLAN

SCALE: $\frac{1}{2}$" = 1'–0"

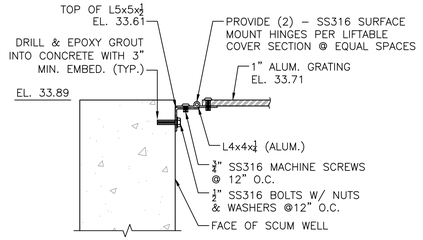


WALKWAY PLAN

SCALE: $\frac{1}{2}$" = 1'–0"

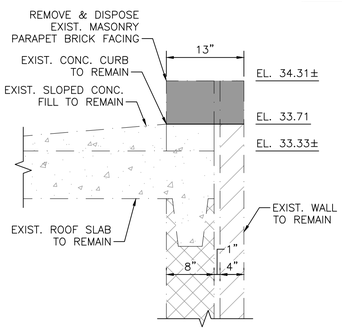
NOTES:

1. STRUCTURAL ALUMINUM TO CONFIRM TO ALLOY 6061–T6. DETAIL AND FABRICATE IN CONFORMANCE WITH THE 2015 ALUMINUM DESIGN MANUAL.
2. PROVIDE $\frac{1}{2}$" DIAMETER TYPE 316 STAINLESS STEEL BOLTS FOR BOLTED CONNECTIONS. PROVIDE $\frac{9}{16}$" DIAMETER HOLES UNLESS OTHERWISE INDICATED. PROVIDE PLATE WASHERS BOTH OUTER PLIES WITH OVERSIZE OR SLOTTED HOLES WHERE INDICATED.
3. EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.
4. HINGE DETAIL SHOWN IN DETAIL 10 ON SHEET S–2.8 IS SUGGESTED. CONTRACTOR MAY PROPOSE AN ALTERNATE DETAIL WHICH SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CONSTRUCTION FOR APPROVAL.
5. U–BOLT "HANDLES" SHALL BE LOCATED AT THE CENTERLINE OF PLATE, 9" FROM THE END OF PLATE.
6. GROUT PAD, BEARING PLATE, SLIDE PLATE, AND ANCHOR BOLT SIZE & LOCATION TO BE COORDINATED WITH PREFABRICATED BRIDGE MANUFACTURER PRIOR TO INSTALLATION.

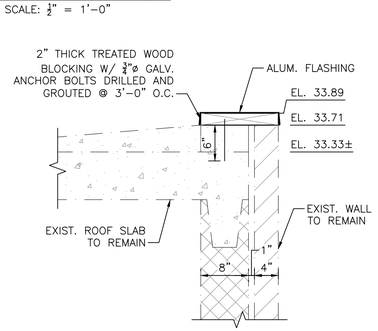


DETAIL

SCALE: 1" = 1'–0" (9 S-2.8)



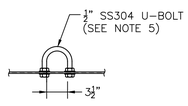
[EXIST./DEMO]



[NEW]

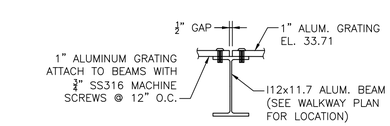
SECTION

SCALE: 1" = 1'–0" (31 S-2.8)



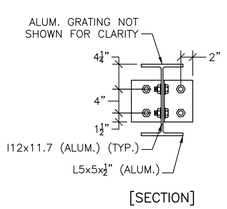
DETAIL

SCALE: 1" = 1'–0" (10 S-2.8)

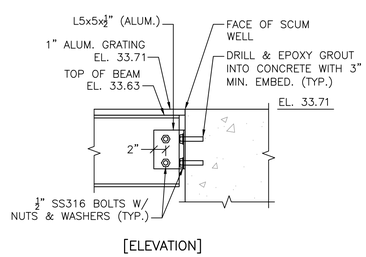


DETAIL

SCALE: 1" = 1'–0" (11 S-2.8)



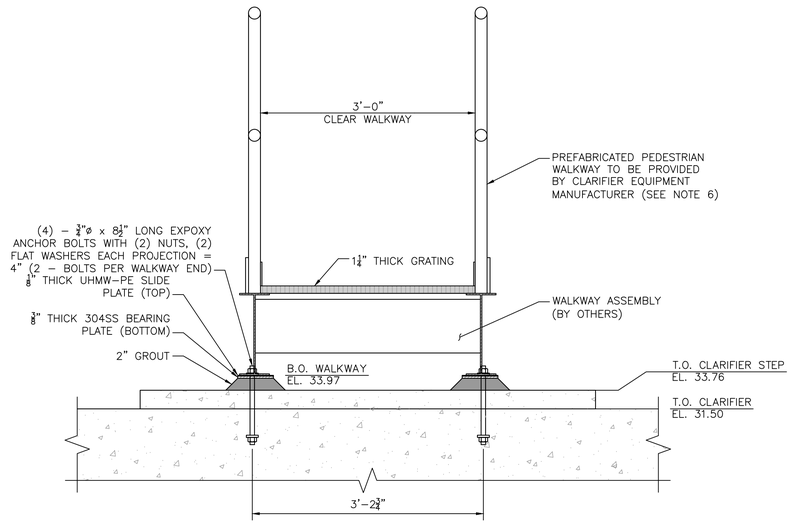
[SECTION]



[ELEVATION]

DETAIL

SCALE: 1" = 1'–0" (12 S-2.8)



SECTION

SCALE: 1" = 1'–0" (32 S-2.8)

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Walkway

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

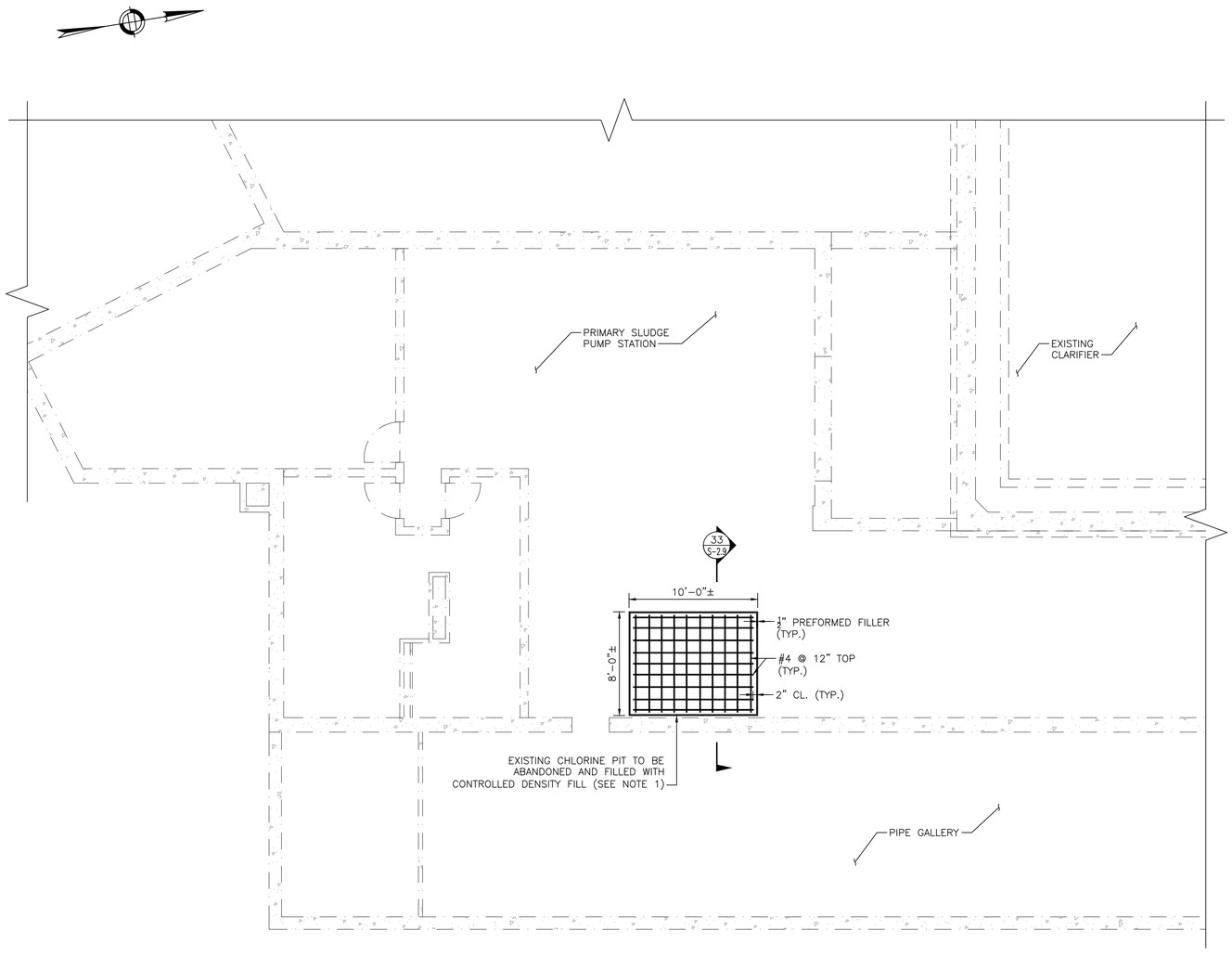
AS SHOWN

SHEET NO.

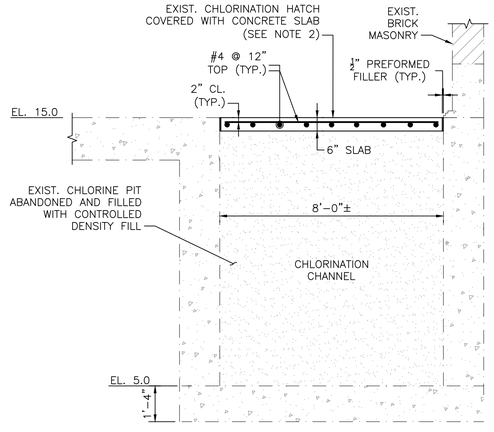
S-2.8

NOTES:

1. SEE SPECIFICATIONS FOR CONTROL DENSITY FILL MATERIAL REQUIREMENTS.
2. 6" TOP SLAB TO BE 5000 PSI CONCRETE AND SHALL RECEIVE A TOP SURFACE FINISH TO MATCH THE ADJACENT FLOOR SLAB.



PRIMARY SLUDGE PUMP STATION – BASEMENT PLAN
SCALE: 3/16" = 1'-0"



SECTION
SCALE: 3/8" = 1'-0" (3.3 / S-2.9)

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
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No. 47367
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Primary Sludge Pump Station Chlorine Pit

NO.	REVISIONS	DATE

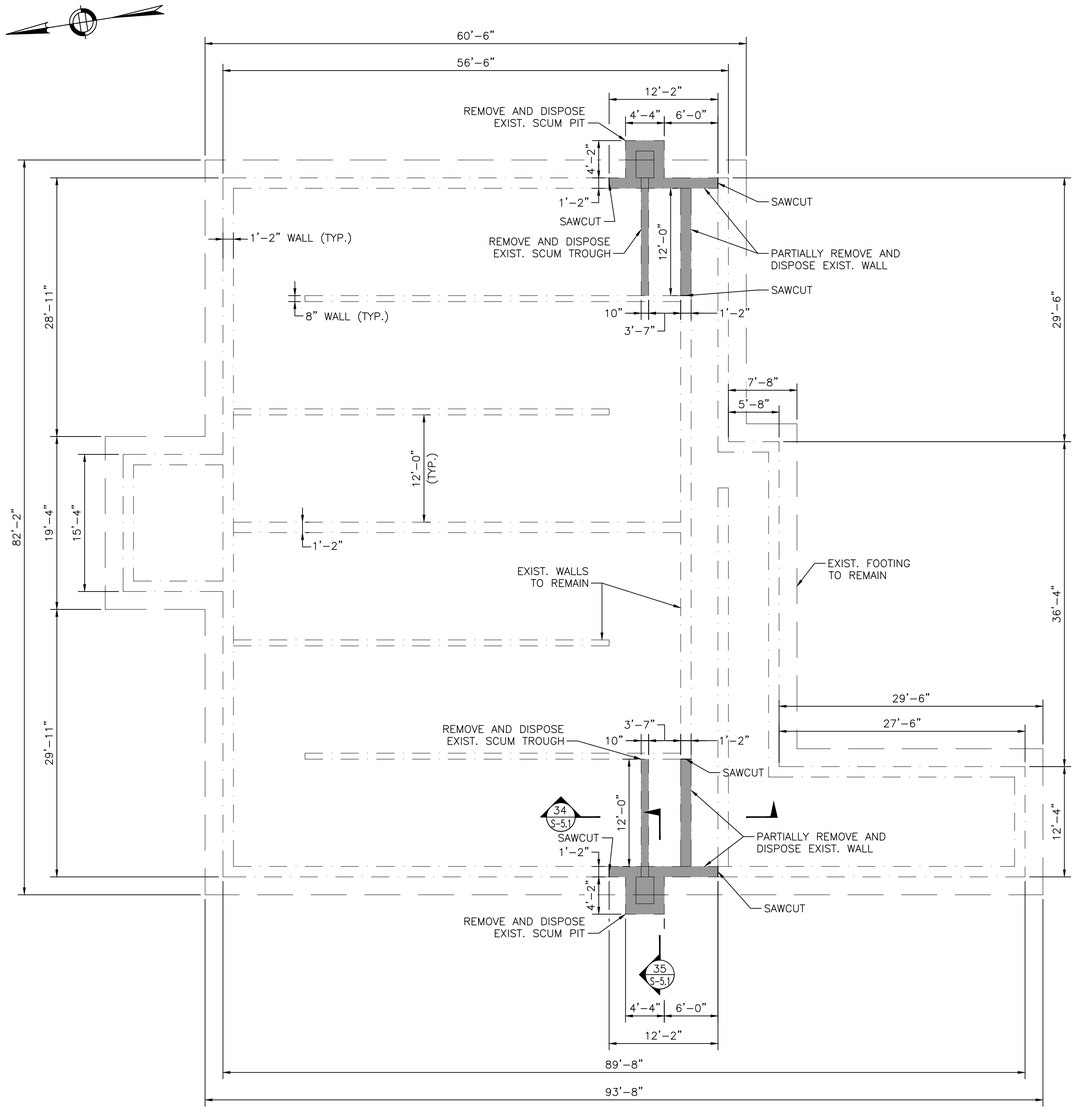
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

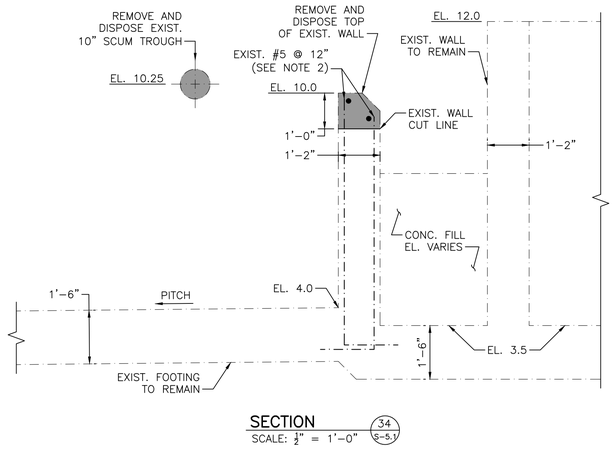
S-2.9



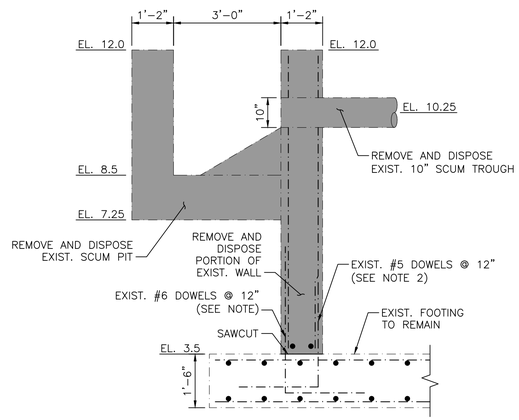
DEMOLITION PLAN
SCALE: $\frac{1}{8}$" = 1'–0"

NOTES:

1. ▭ DENOTES AREA TO BE DEMOLISHED.
2. EXIST. REBAR AT DEMO CUT LINE TO BE CUT, BURNT BACK AND HOLES TO BE FILLED WITH NON–SHRINK GROUT.



SECTION
SCALE: $\frac{1}{2}$" = 1'–0"
34 S-5.1



SECTION
SCALE: $\frac{1}{2}$" = 1'–0"
35 S-5.1

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
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No. 47367
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Chlorine Contact Tank Demo

NO.	REVISIONS	DATE

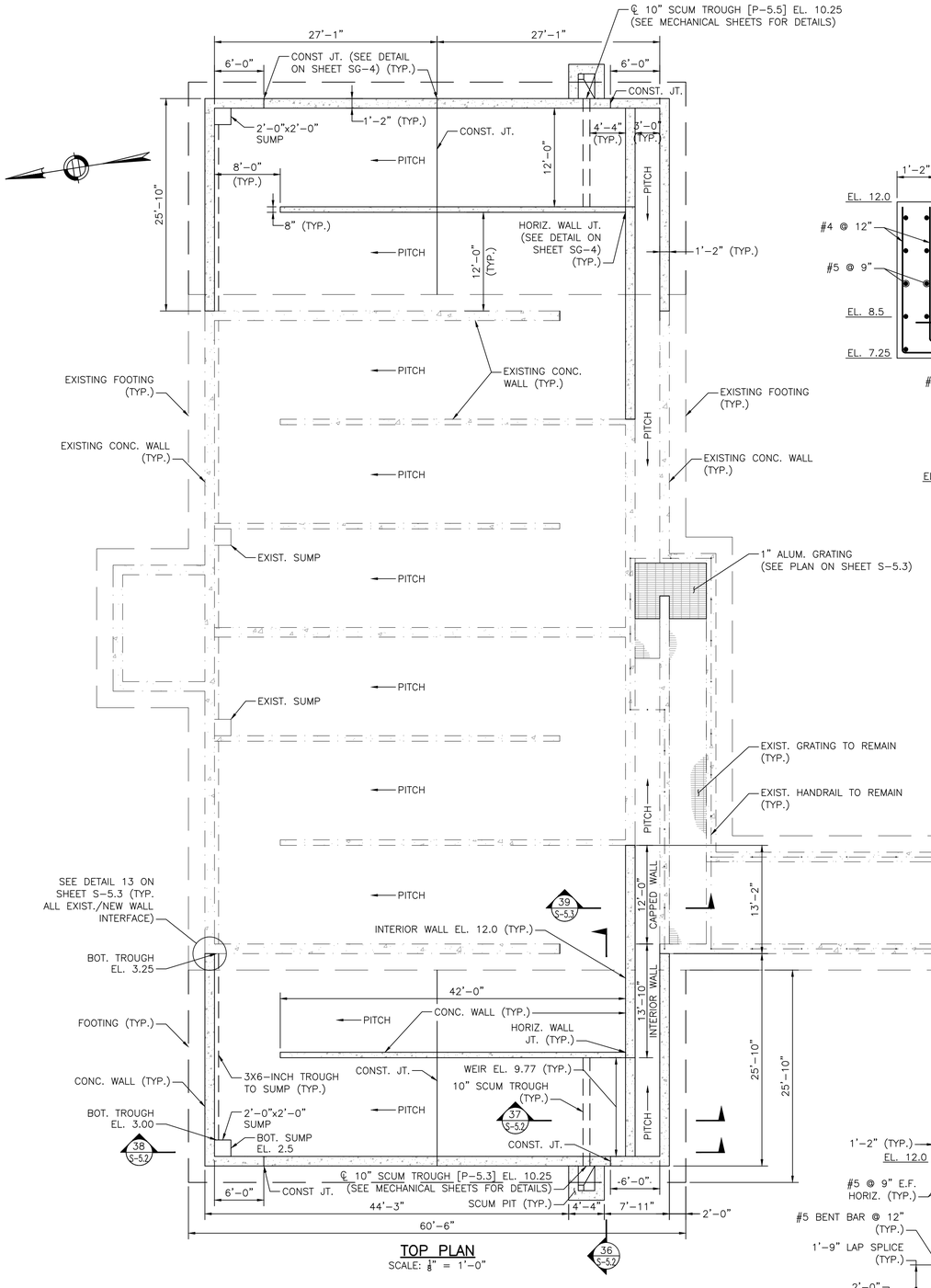
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

S-5.1



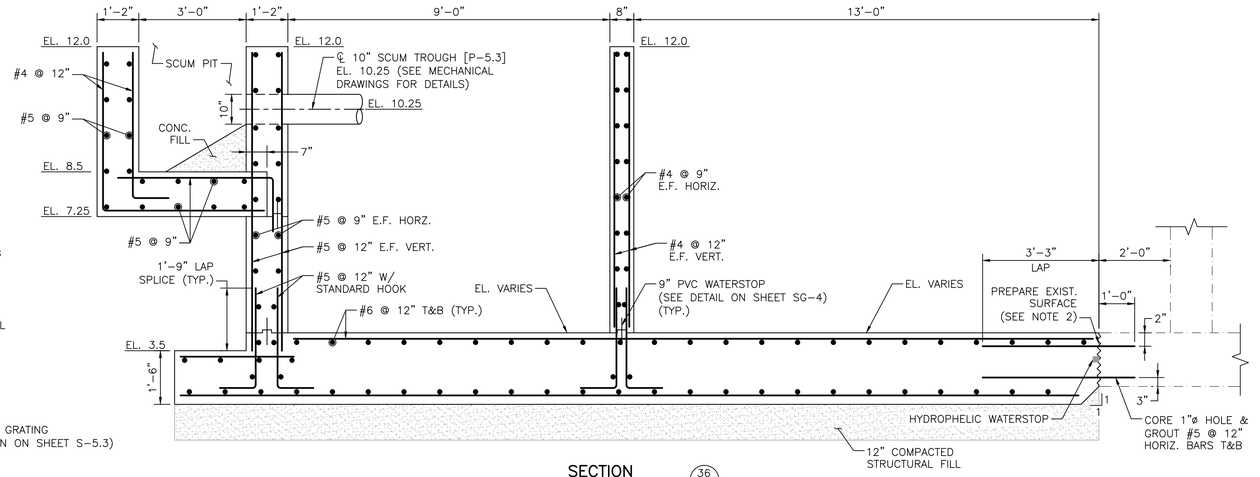
TOP PLAN

SCALE: $\frac{1}{8}$" = 1'-0"

36 S-5.2

NOTES:

1. SECTION TAKEN AT WESTERN TANK EXTENSION, EASTERN EXTENSION MIRRORED.
2. THE SURFACE OF THE EXIST CONCRETE WALL SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.



SECTION

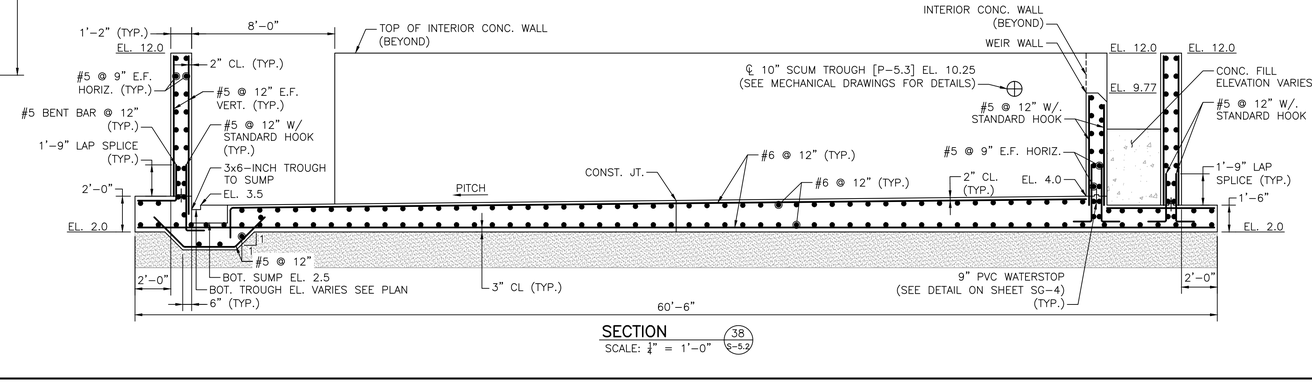
SCALE: $\frac{1}{2}$" = 1'-0"

36 S-5.2

SECTION

SCALE: $\frac{1}{2}$" = 1'-0"

37 S-5.2



SECTION

SCALE: $\frac{1}{4}$" = 1'-0"

38 S-5.2

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TODD M. WARZECKI
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Chlorine Contact Tank

NO.	REVISIONS	DATE

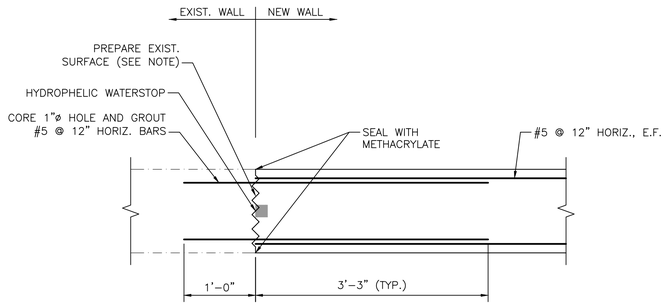
DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

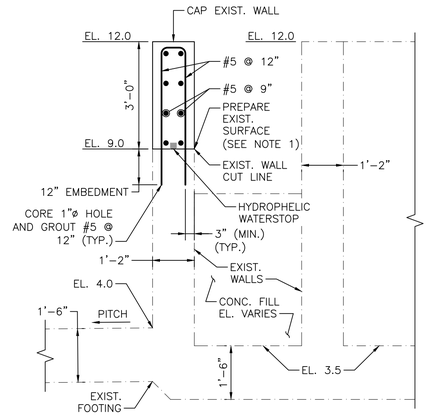
SHEET NO.

S-5.2



NOTE:
DETAIL TYPICAL AT ALL EXIST./NEW WALL INTERFACE.

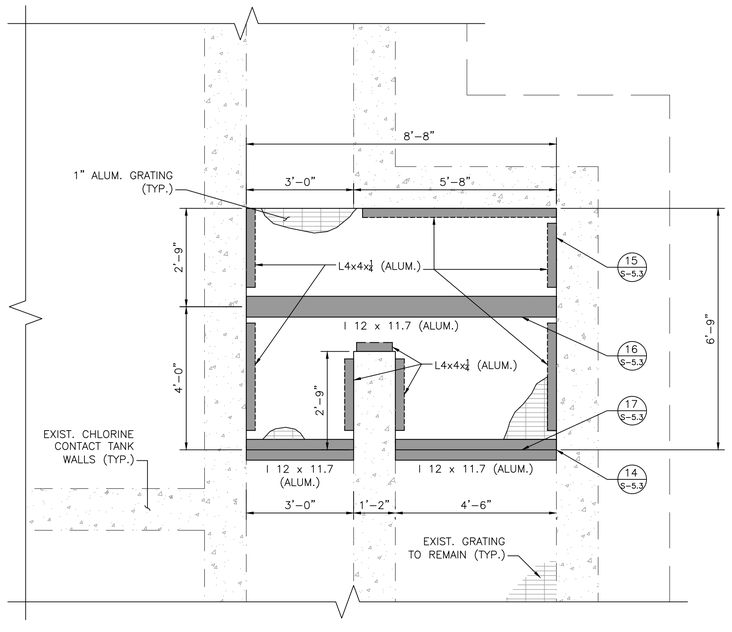
DETAIL 13 S-5.3
SCALE: 1" = 1'-0"



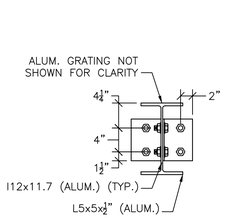
SECTION 39 S-5.2
SCALE: 1/2" = 1'-0"

NOTES:

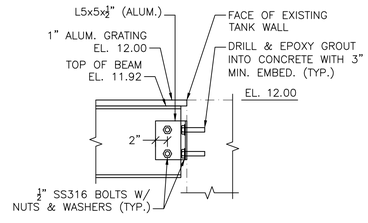
1. THE SURFACE OF THE EXIST CONCRETE WALL SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
2. STRUCTURAL ALUMINUM TO CONFIRM TO ALLOY 6061-T6. DETAIL AND FABRICATE IN CONFORMANCE WITH THE 2015 ALUMINUM DESIGN MANUAL.
3. PROVIDE 1/2" DIAMETER TYPE 316 STAINLESS STEEL BOLTS FOR BOLTED CONNECTIONS. PROVIDE 9/16" DIAMETER HOLES UNLESS OTHERWISE INDICATED. PROVIDE PLATE WASHERS BOTH OUTER PLIES WITH OVERSIZE OR SLOTTED HOLES WHERE INDICATED.
4. EXISTING REINFORCEMENT NOT SHOWN FOR CLARITY.



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

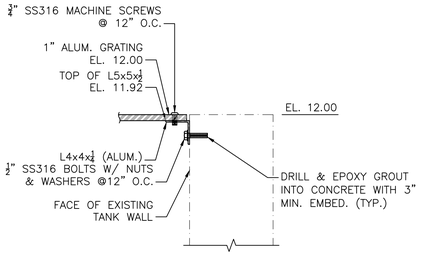


[SECTION]

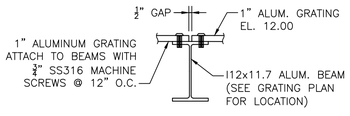


[ELEVATION]

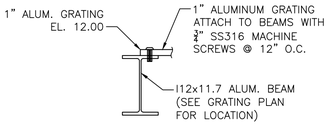
DETAIL 14 S-5.3
SCALE: 1" = 1'-0"



DETAIL 15 S-5.3
SCALE: 1" = 1'-0"



DETAIL 16 S-5.3
SCALE: 1" = 1'-0"



DETAIL 17 S-5.3
SCALE: 1" = 1'-0"

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
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No. 47367
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SUBCONSULTANT

PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1
TAUNTON, MA

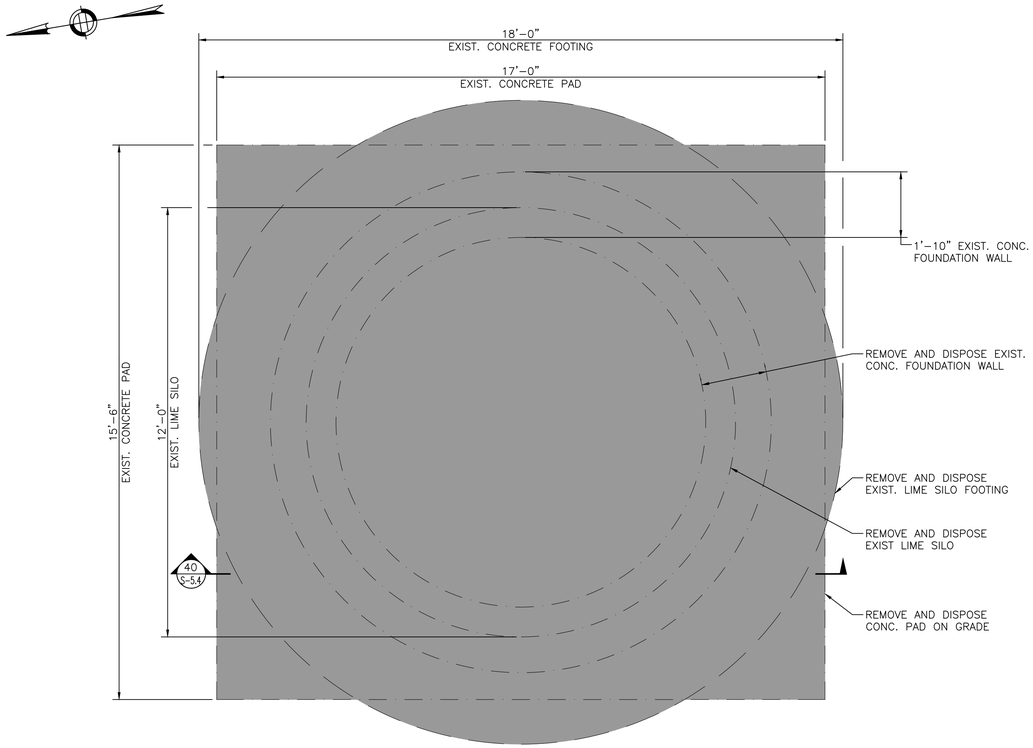
TITLE
Chlorine Contact Tank Details

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE
AS SHOWN

SHEET NO.
S-5.3



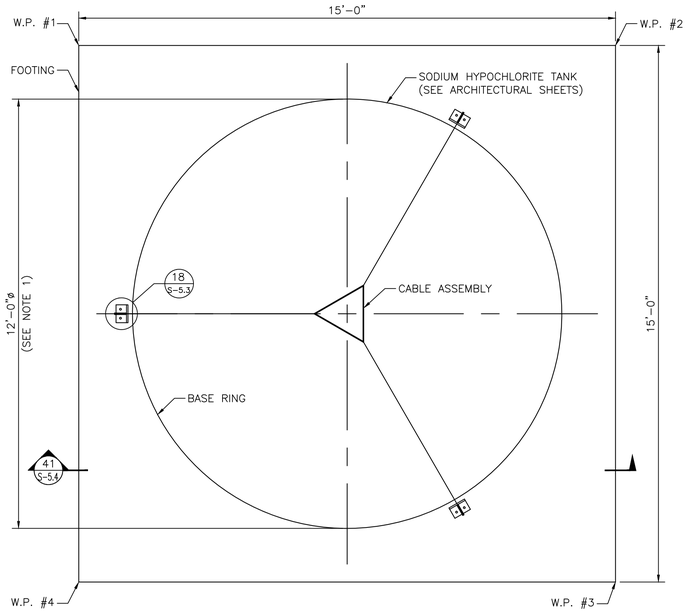
DEMOLITION PLAN

SCALE: $\frac{1}{2}$" = 1'-0"

TABLE 3 – BASE REACTIONS	
DEAD LOAD:	5.4 KIPS
LIVE LOAD:	93.0 KIPS

NOTES:

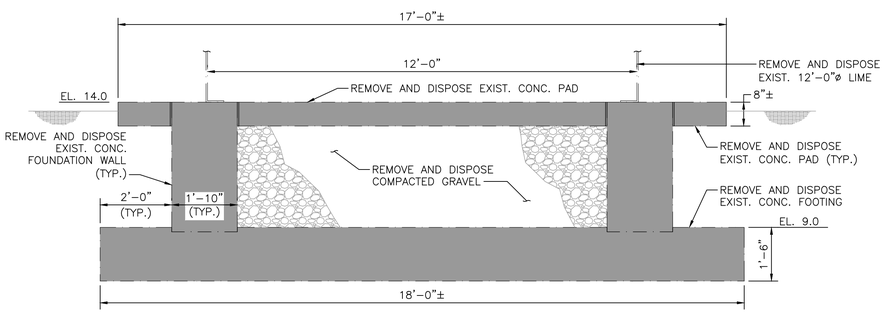
1. FOOTING SHOWN IS BASED ON THE DESIGN VALUES SHOWN IN TABLE 3 AND MAY NOT REPRESENT ACTUAL HYPOCHLORITE TANK.
2. SODIUM HYPOCHLORITE TANK TO BE PROVIDED BY THE CONTRACTOR. IF TANK LOADING IS GREATER THAN THE VALUES PROVIDED IN TABLE 1, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AN ALTERNATE FOOTING DESIGN PERFORMED BY A MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER.
3. ▭ DENOTES AREA TO BE DEMOLISHED



FOOTING PLAN

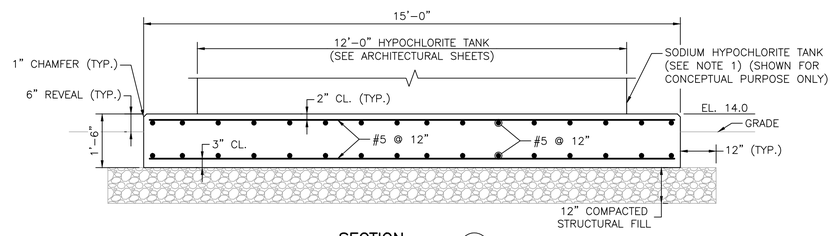
SCALE: $\frac{1}{2}$" = 1'-0"

HYPOCHLORITE TANK FOOTING		
	NORTHING	EASTING
W.P. #1	33350697.25	9197486.06
W.P. #2	33350519.75	9197456.15
W.P. #3	33350549.66	9197278.66
W.P. #4	33350727.16	9197308.57



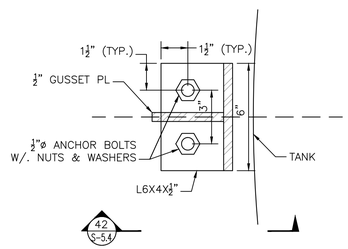
SECTION

SCALE: $\frac{1}{2}$" = 1'-0" (40 S-5.4)



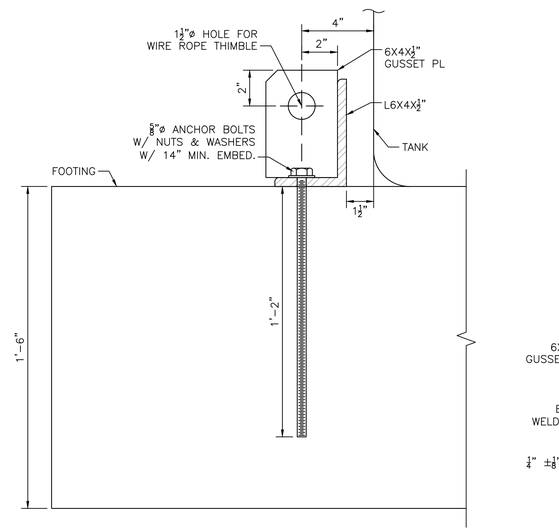
SECTION

SCALE: $\frac{1}{2}$" = 1'-0" (41 S-5.4)



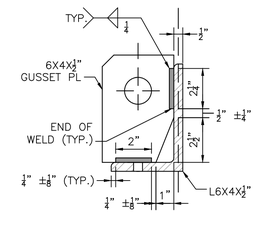
DETAIL

SCALE: 3" = 1'-0" (18 S-5.4)



SECTION

SCALE: 3" = 1'-0" (42 S-5.4)



CLIP DETAIL

SCALE: 3" = 1'-0"

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Sodium Hypochlorite Tank

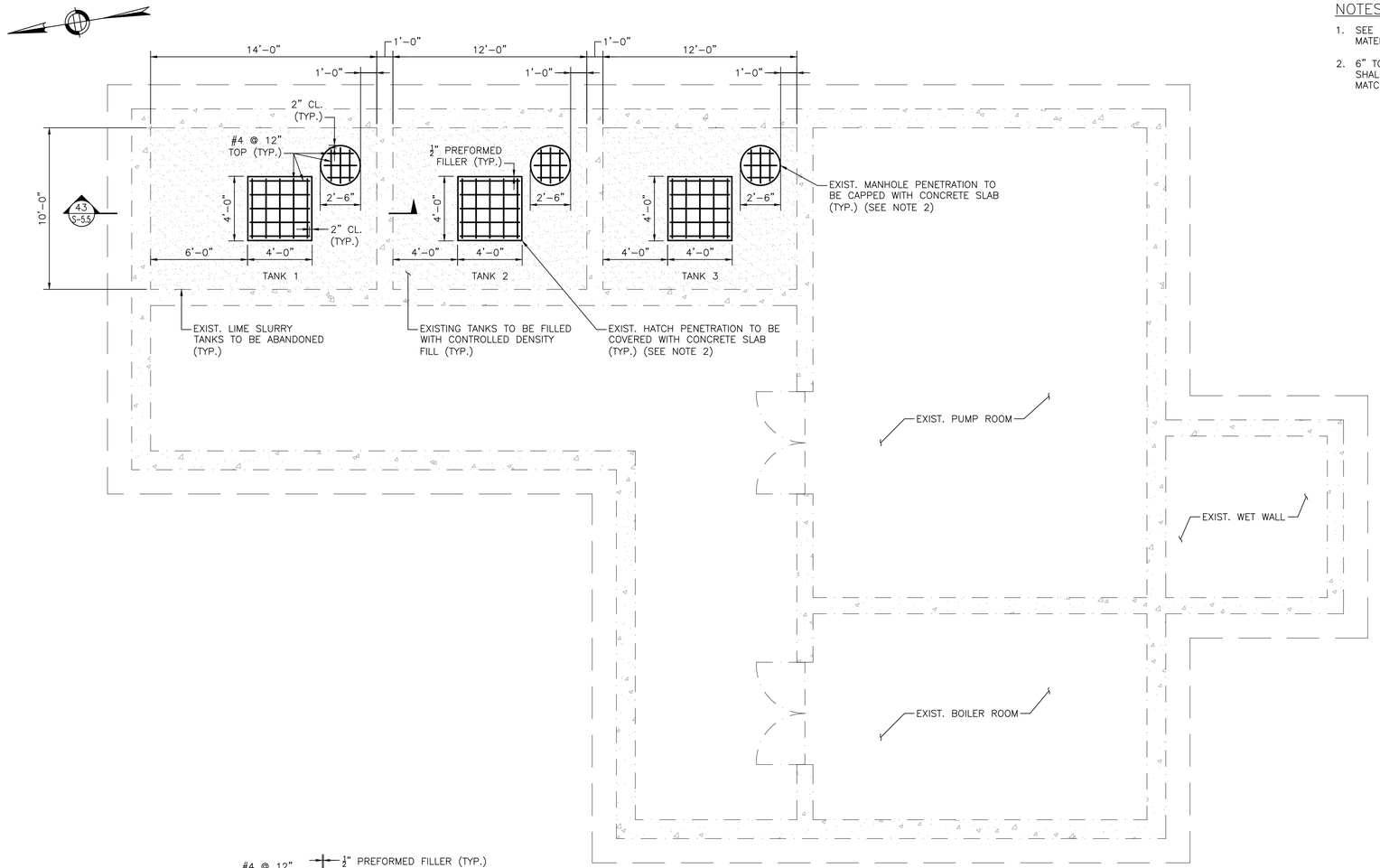
NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

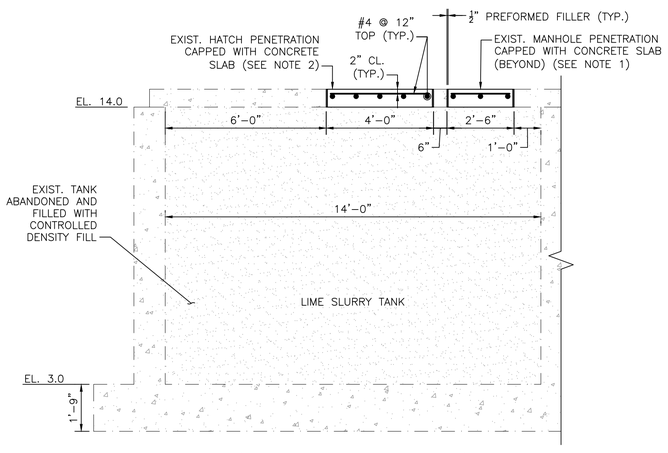
SHEET NO. S-5.4



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

NOTES:

1. SEE SPECIFICATIONS FOR CONTROL DENSITY FILL MATERIAL REQUIREMENTS.
2. 6" TOP SLAB TO BE 5000 PSI CONCRETE AND SHALL RECEIVE A TOP SURFACE FINISH TO MATCH THE ADJACENT FLOOR SLAB.



[TANK 1 SHOWN, TANKS 2 & 3 SIMILAR]

SECTION (4/3 S-5.5)
SCALE: 3/8" = 1'-0"

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Chemical Handling Building

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

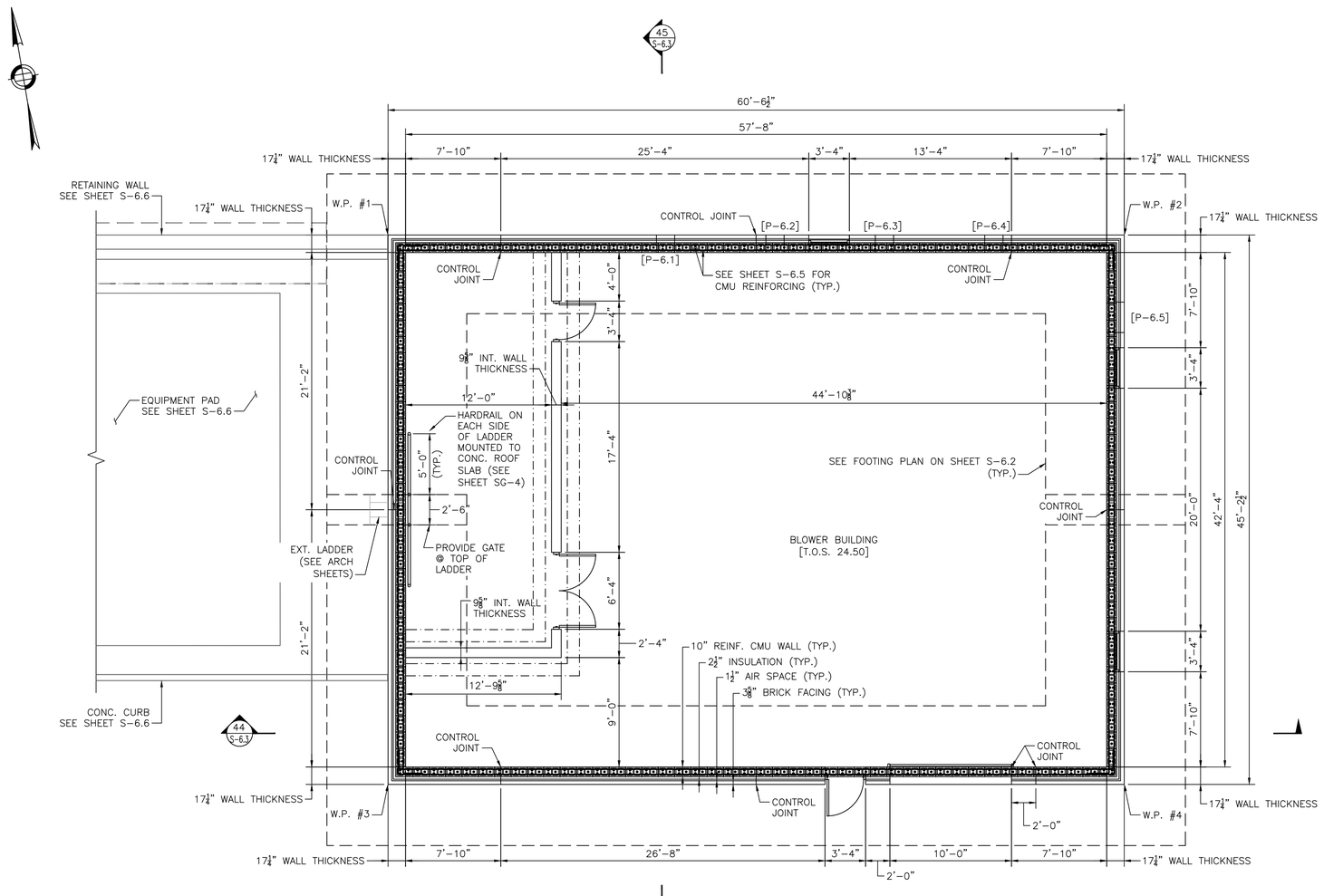
SHEET NO.

S-5.5

	NORTHING	EASTING
W.P. #1	33354347.86	9190888.52
W.P. #2	33354225.11	9191604.57
W.P. #3	33353813.16	9190796.86
W.P. #4	33353690.41	9191512.92

NOTES:

1. SEE MECHANICAL SHEETS FOR EQUIPMENT LOCATIONS.
2. SEE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR EXTERIOR LADDER ACCESS LOCATION.
4. LOCATION OF CMU CONTROL JOINTS SHOWN IS RECOMMENDED. CONTROL JOINTS SHALL BE IN ACCORDANCE WITH NCMA TEK 10–2C–CONTROL JOINTS FOR MASONRY WALLS.
5. CMU CONTROL JOINTS SHALL BE COORDINATED WITH MASON AND BRICK CONTROL JOINTS. ADEQUATE SPACING SHALL BE PROVIDED BETWEEN CMU AND BRICK CONTROL JOINTS.
6. CMU CONTROL JOINTS SHALL HAVE A MAX SPACING OF 25'–0".



GENERAL BUILDING PLAN

SCALE: 3/16" = 1'–0"

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Blower Building General Plan

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

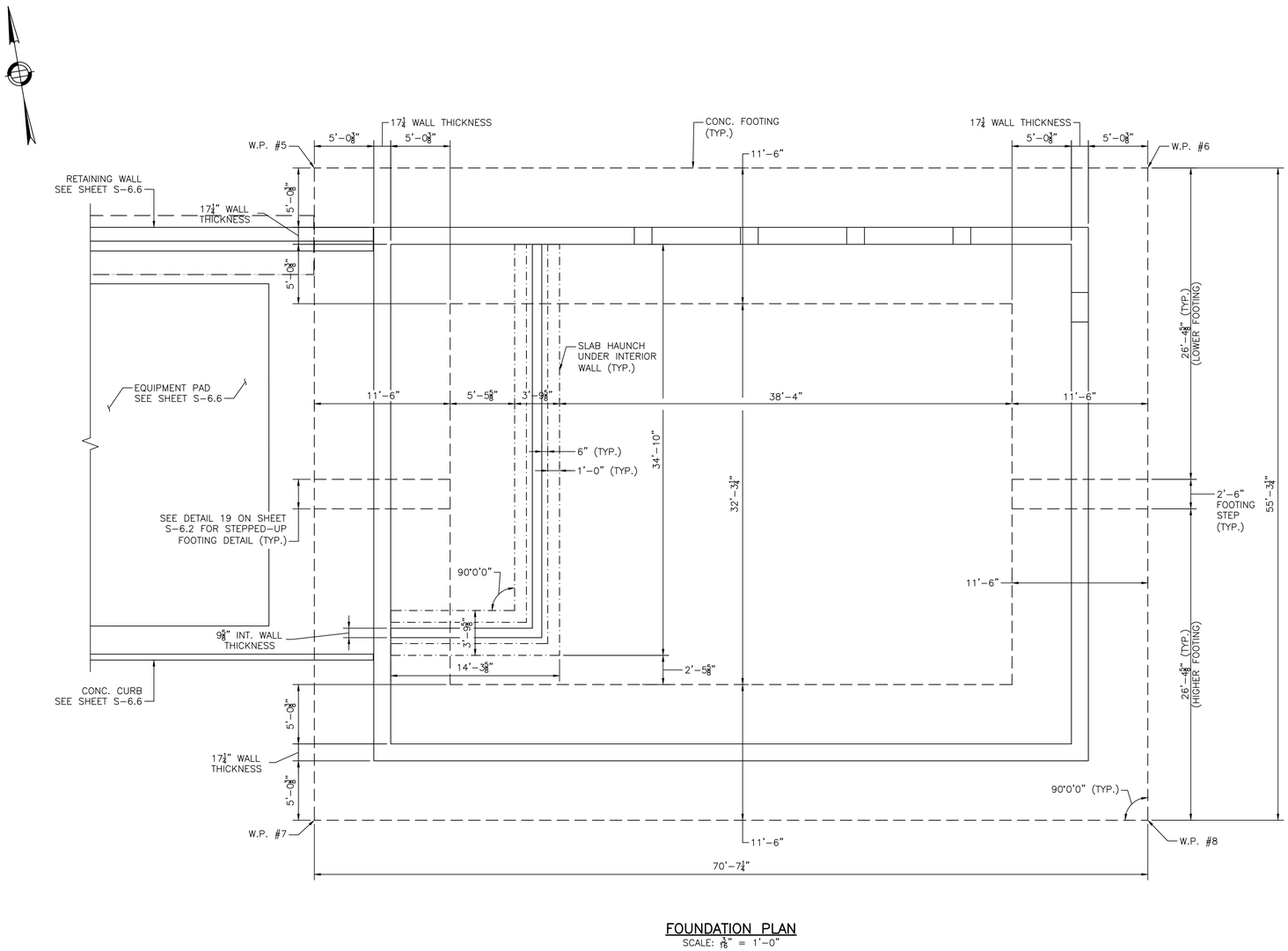
SHEET NO.

S-6.1

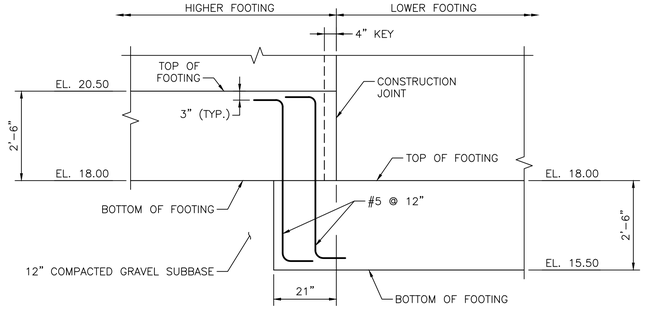
	NORTHING	EASTING
W.P. #5	33354417.56	9190839.21
W.P. #6	33354274.42	9191674.28
W.P. #7	33353763.85	9190727.15
W.P. #8	33353620.70	9191562.22

NOTES:

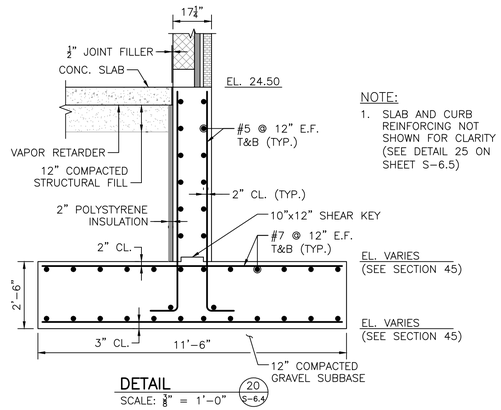
1. ALL CONCRETE SHALL BE f'c = 4000 P.S.I.
2. ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.
3. INTERIOR AND EXTERIOR WALLS ARE SHOWN AS A VISUAL AID IN LOCATING FOUNDATION STEM WALLS AND SLAB HAUNCHES.



FOUNDATION PLAN
SCALE: 1/16" = 1'-0"



DETAIL (19 / S-6.2)
SCALE: 1/2" = 1'-0"



NOTE:
1. SLAB AND CURB REINFORCING NOT SHOWN FOR CLARITY (SEE DETAIL 25 ON SHEET S-6.5)

DETAIL (20 / S-6.4)
SCALE: 3/8" = 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Blower Building Foundation Plan

NO.	REVISIONS	DATE

DRAWN BY:	BN
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BETA JOB NO.:	6050

SCALE

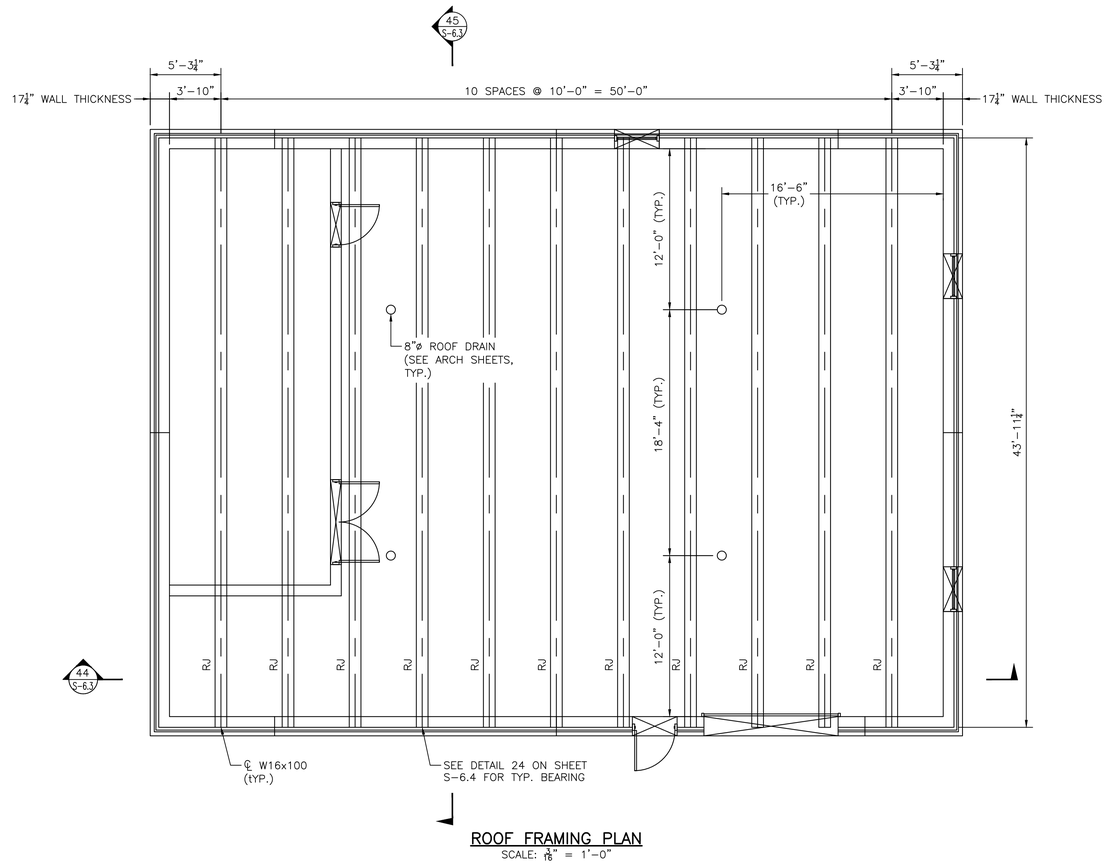
AS SHOWN

SHEET NO.

S-6.2

NOTES:

1. RJ = W16x100 (ROOF JOIST)



ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Blower Building Framing Plan

NO.	REVISIONS	DATE

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CHECKED BY:	TMW
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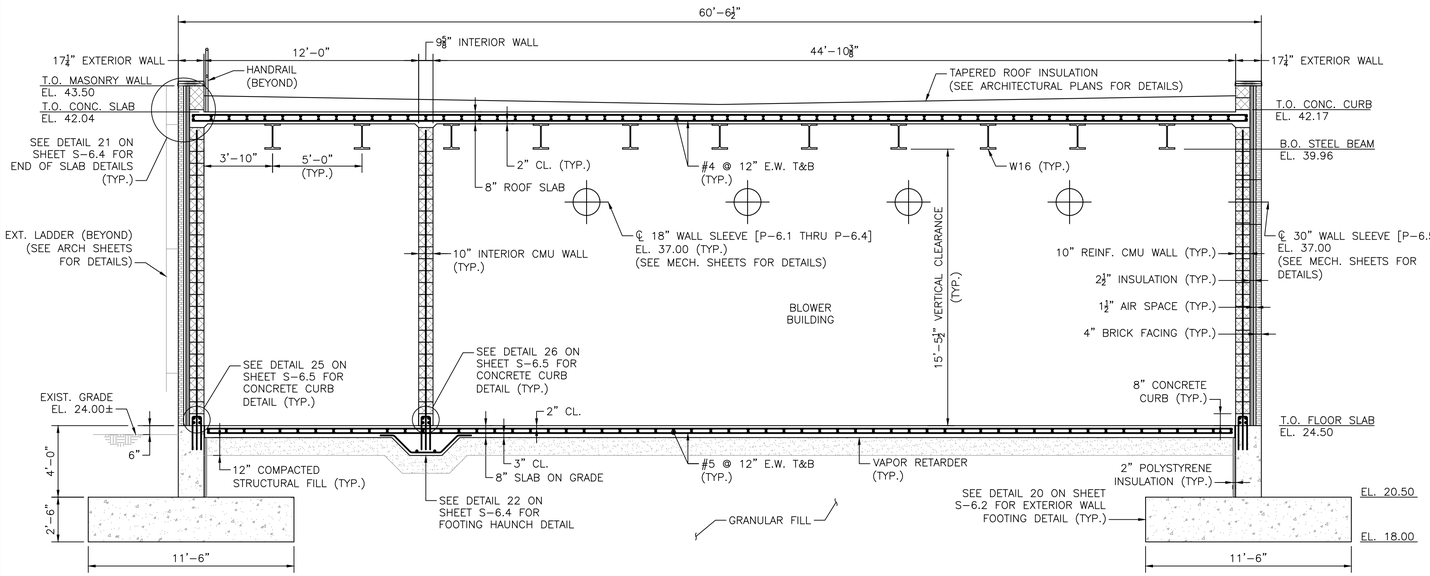
BETA JOB NO.:	6050

SCALE

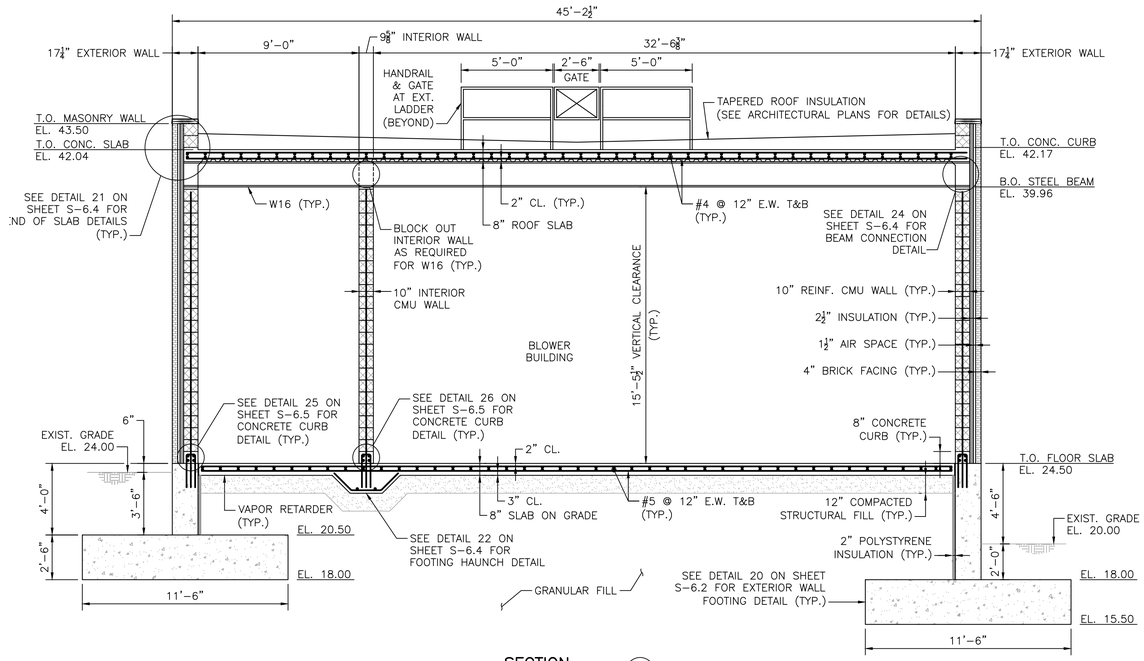
AS SHOWN

SHEET NO.

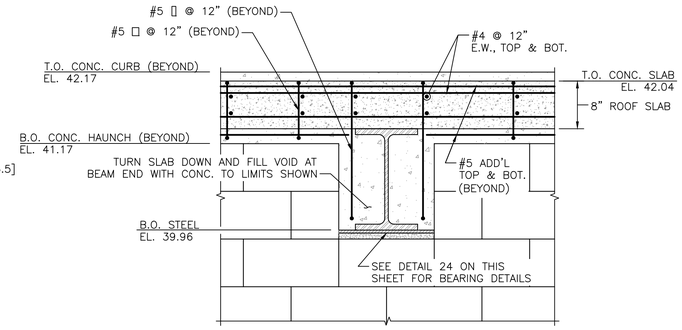
S-6.3



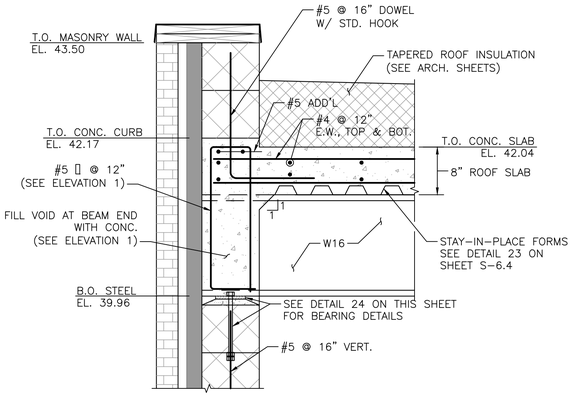
SECTION (44 / S-6.4)
SCALE: ¼" = 1'-0"



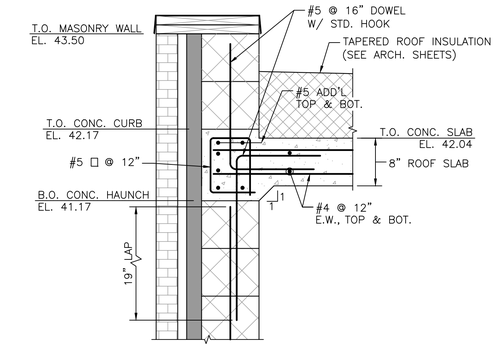
SECTION (45 / S-6.4)
SCALE: ¼" = 1'-0"



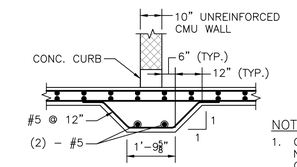
[ELEVATION 1]



[AT STEEL BEAM]

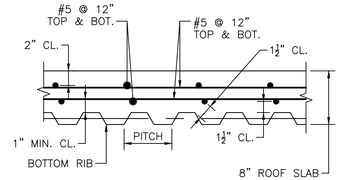


[BETWEEN BEAMS]



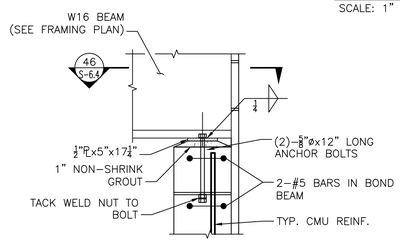
NOTE:
1. CURB REINFORCING NOT SHOWN FOR CLARITY

DETAIL (22 / S-6.4)
SCALE: ⅜" = 1'-0"

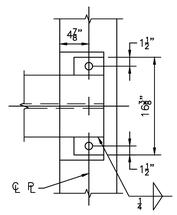


DETAIL (23 / S-6.4)
SCALE: 1" = 1'-0"

DETAIL (21 / S-6.4)
SCALE: 1" = 1'-0"



ELEVATION



SECTION 46

DETAIL (24 / S-6.4)
SCALE: 1" = 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Blower Building Sections and Details

NO.	REVISIONS	DATE

DRAWN BY:	BN
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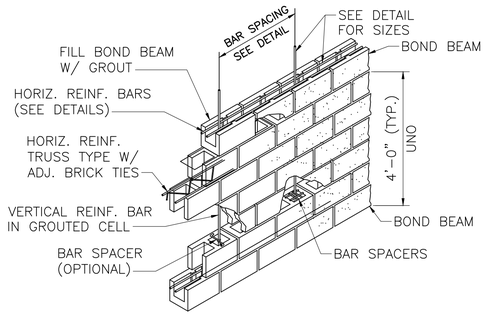
SCALE

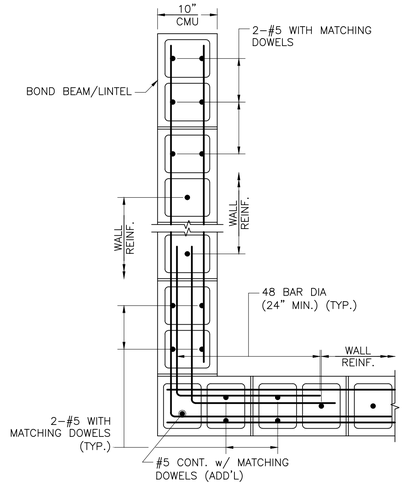
AS SHOWN

SHEET NO.

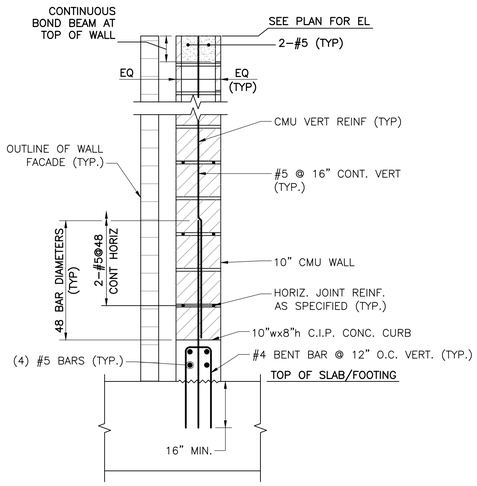
S-6.4



CMU WALL CONSTRUCTION
SCALE: NOT TO SCALE



TYPICAL CMU WALL CORNER AND AT END
NOT TO SCALE

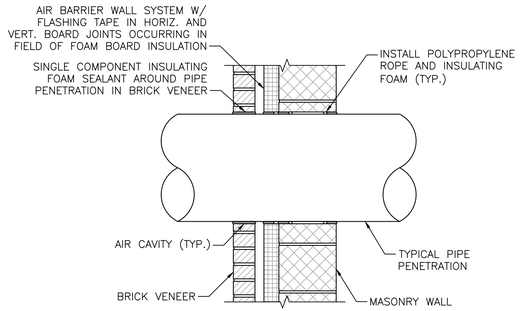


NOTE:
CMU EXTERIOR CONDITION SHOWN, CMU INTERIOR CONDITION SIMILAR

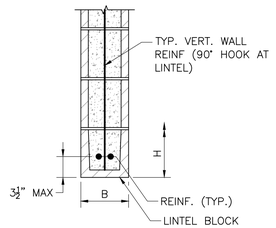
TYPICAL CMU WALL REINFORCING
SCALE: ¾" = 1'-0"

CMU MASONRY NOTES:

1. f'm = 2000 P.S.I. (MIN.)
2. CMU MASONRY DETAILS, ELEVATIONS AND NOTES ON THIS SHEET APPLY TO ALL CMU EXTERIOR AND INTERIOR WALLS U.N.O. (WALLS CONSIST OF A SINGLE CMU WYTHE AND ONE BRICK WYTHE)
3. FULLY GROUT ALL CELLS AND COURSES WITH VERTICAL OR HORIZONTAL REINFORCING. PROVIDE 2" MINIMUM CLEAR COVER TO THE REINFORCING (U.N.O.).
4. ALL HORIZONTAL REINFORCING, EXCEPT IN THE LINTELS, SHALL BE PLACED IN A CMU BOND BEAM BLOCK. PROVIDE GALVANIZED METAL LATH IN THE HORIZONTAL JOINT BELOW THE BLOCK TO RETAIN THE GROUT.
5. PROVIDE A CONTINUOUS BOND BEAM WITH 2-#5 CONTINUOUS HORIZONTAL BARS AT THE TOP OF ALL WALLS.
6. REINFORCING LAP SPLICE LENGTH = 48 BAR DIAMETERS (24" MINIMUM).
7. PROVIDE HORIZONTAL JOINT REINFORCING AS NEEDED.
8. REINFORCING BARS TO EXTEND 12 BAR DIAMETERS BUT NOT LESS THAN 12" BEYOND BEND U.N.O.
9. FOR PLAN LOCATION OF MASONRY WALLS AND OTHER MASONRY DETAILS, SEE ARCHITECTURAL DRAWINGS.
10. FOR LOCATION AND SIZE OF MASONRY WALL OPENINGS, SEE ARCHITECTURAL DRAWINGS.



MASONRY PENETRATION DETAIL
SCALE: 1" = 1'-0"

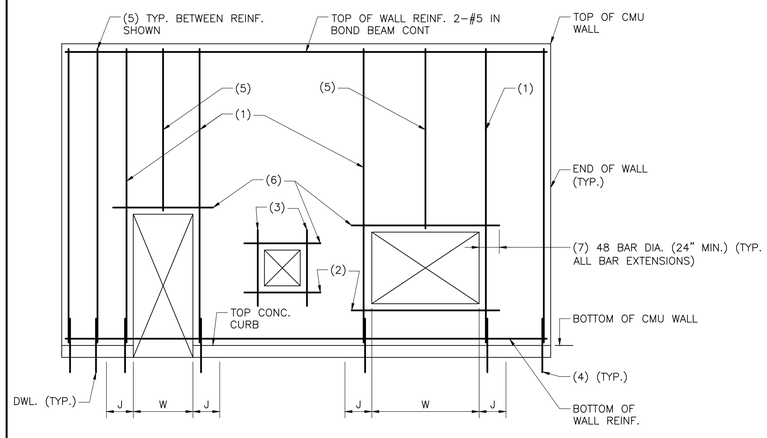


MARK/LOCATION	W	B	H	REINF.
L1	≤ 3'-0"	WIDTH OF CMU WALL	8"	2-#5 BOT.
L2	> 3'-0" BUT < 10'-0"	WIDTH OF CMU WALL	16"	2-#5 BOT.

NOTES:

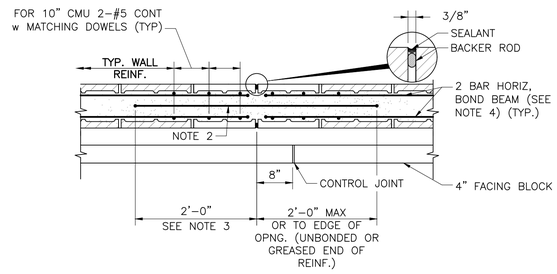
1. PROVIDE 8" MINIMUM BEARING AT EACH SIDE OF CLEAR SPAN.
2. FULLY GROUT CMU OVER DEPTH "H" TO ENDS OF BEARING.
3. MAY CONSIST OF FULLY GROUTED H=16" CMU LINTEL BLOCK OR H = 8" CMU LINTEL BLOCK PLUS 8" CMU BLOCK(S), FULLY GROUTED.

TYPICAL CMU LINTEL
NOT TO SCALE



LEGEND
(1) SEE TYPICAL CMU WALL OPENING DETAIL THIS SHEET.
(2) SILL BARS, 2-#5 IN BOND BEAM.
(3) 1-#5 EACH SIDE.
(4) SEE TYPICAL CMU WALL CORNER AND END DETAIL THIS SHEET.
(5) BETWEEN BARS SHOWN, PROVIDE TYPICAL WALL REINFORCING PER TYPICAL CMU WALL REINFORCING DETAIL ON THIS SHEET.
(6) SEE TYPICAL CMU LINTEL DETAIL ON THIS SHEET, AND ARCHITECTURAL DRAWINGS.
(7) IF FULL LENGTH IS NOT AVAILABLE, EXTEND AS FAR AS POSSIBLE, HOOK 90°, THEN EXTEND, BEYOND BEND, REMAINDER OF LENGTH REQUIRED (BUT NOT LESS THAN 12")

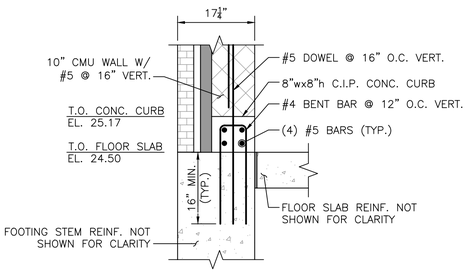
TYPICAL CMU WALL ELEVATION
NOT TO SCALE



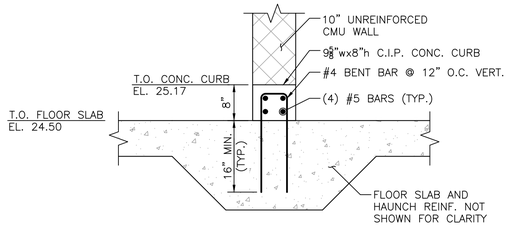
NOTES:

1. TERMINATE HORIZ. REINFORCEMENT WITH A STANDARD HOOK TWO INCHES FROM CONTROL JOINTS.
2. PROVIDE SMOOTH DOWEL IDENTICAL TO HORIZONTAL BAR DIAMETER ACROSS THE JOINT AT HORIZONTAL BAR LOCATIONS. PREVENT BOND BETWEEN BAR AND GROUT ON ONE SIDE OF JOINT WITH PLASTIC SLEEVE OR GREASE. CAP ALL DOWELS TO ALLOW ONE INCH OF MOVEMENT.
3. PROVIDE STD. HOOK ON SIDE WITH BOND IF 2'-0" LENGTH IS NOT POSSIBLE.
4. CONTINUE HORIZ REINF THROUGH MCJ @ BEAM BEARING, DECK BEARING, T.O.W. BOND BEAMS AND LINTEL REINF. SMOOTH DOWEL BAR NOT REQUIRED.

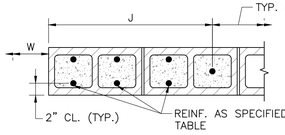
MASONRY CONTROL JOINT (MCJ)
SCALE: ¾" = 1'-0"



DETAIL
SCALE: ¾" = 1'-0" (25 / S-6.4)



DETAIL
SCALE: ¾" = 1'-0" (26 / S-6.4)



W	JAMB WIDTH, J	VERTICAL REINF.
≤ 3'-4"	1'-6"	2-#5 @ 16" O.C. E.F.
> 3'-4" BUT ≤ 6'-8"	2'-0"	2-#5 @ 8" O.C. E.F.
> 6'-8" BUT ≤ 12'-0"	2'-8"	2-#5 @ 8" O.C. E.F.

TYPICAL CMU WALL OPENING
NOT TO SCALE

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PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1
TAUNTON, MA

TITLE
Masonry Details

NO.	REVISIONS	DATE

DRAWN BY: BN
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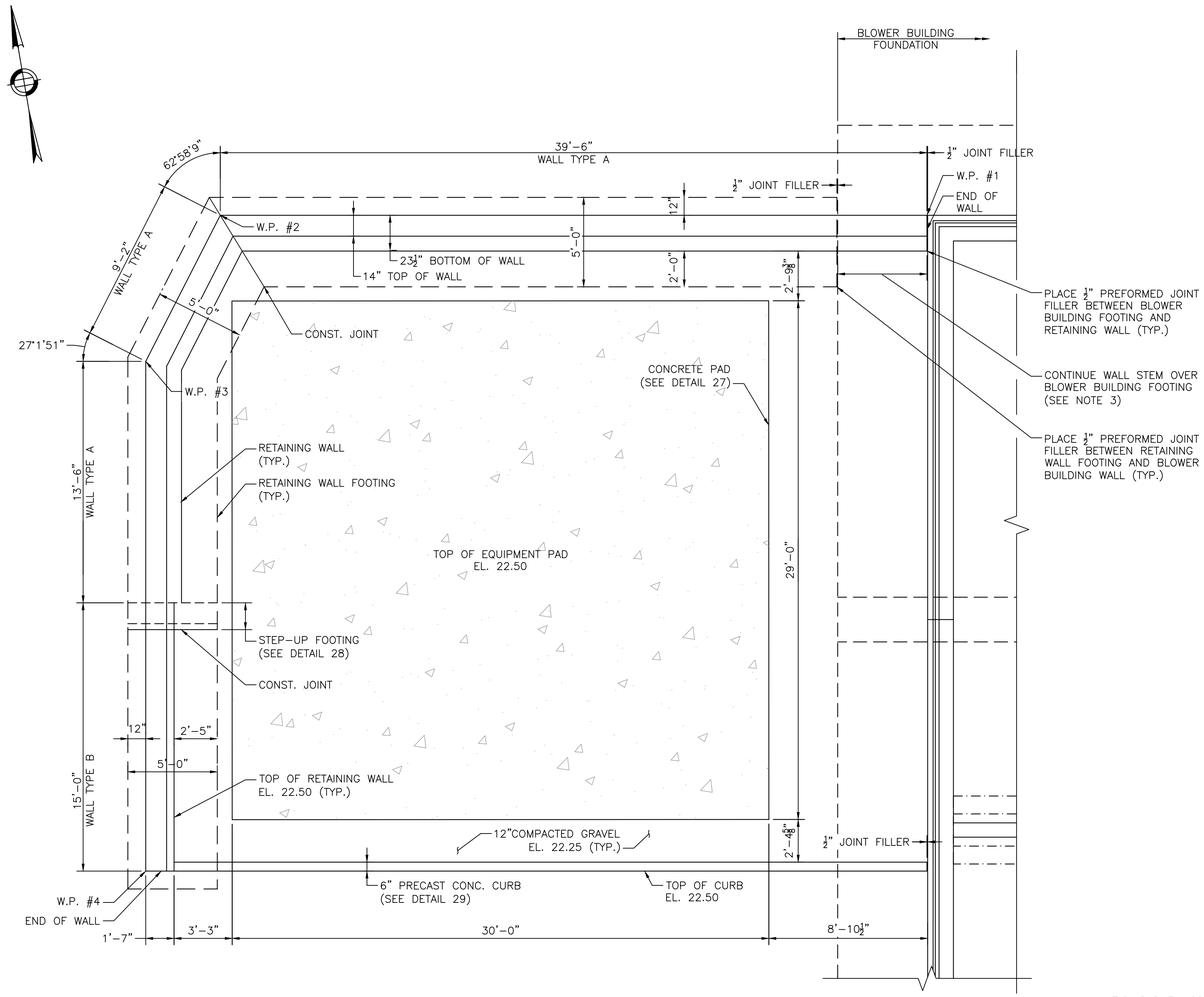
SCALE
AS SHOWN

SHEET NO.
S-6.5

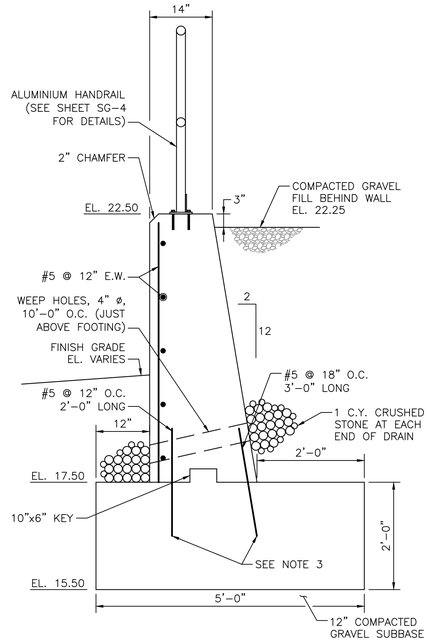


RETAINING WALL PLAN
SCALE: ¼" = 1'–0"

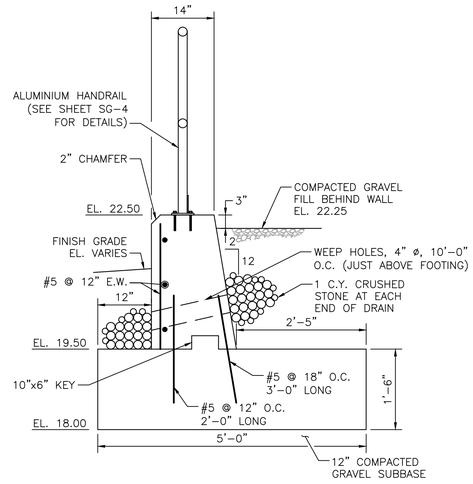
	NORTHING	EASTING
W.P. #1	33354347.94	9190888.03
W.P. #2	33354428.03	9190420.84
W.P. #3	33354339.88	9190355.00
W.P. #4	33354002.80	9190297.22

NOTES:

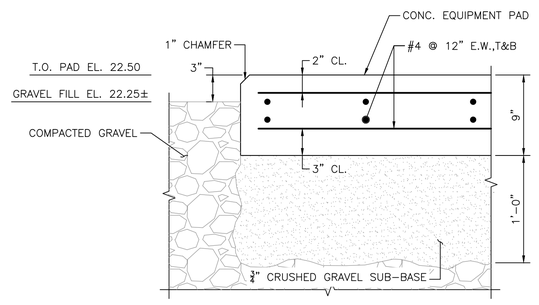
1. ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.
2. SEE MECHANICAL SHEETS FOR EQUIPMENT LOCATIONS.
3. OMIT VERTICAL #5 x 2'–0" LONG AND #5 x 3'–0" LONG OVER BUILDING FOUNDATION FOOTING.



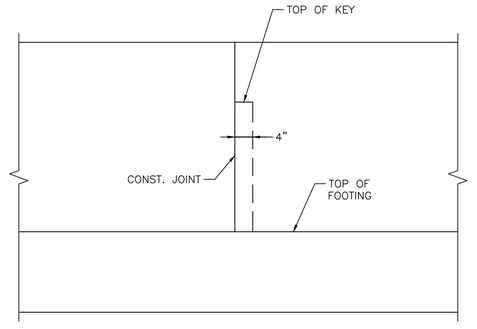
TYPICAL SECTION – WALL TYPE A
SCALE: ¾" = 1'–0"



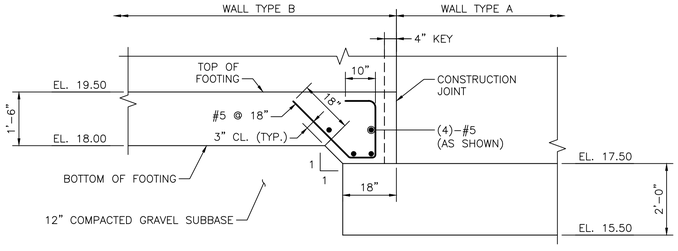
TYPICAL SECTION – WALL TYPE B
SCALE: ¾" = 1'–0"



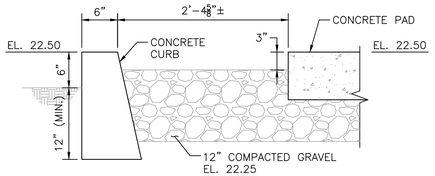
DETAIL (27) S-6.6
SCALE: 1½" = 1'–0"



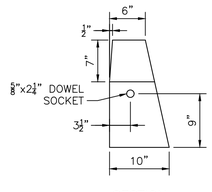
ELEVATION



DETAIL (28) S-6.6
SCALE: ½" = 1'–0"

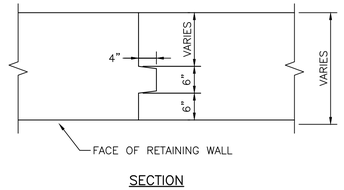


ELEVATION



SECTION

DETAIL (29) S-6.6
SCALE: 1" = 1'–0"



SECTION

CONSTRUCTION JOINT DETAIL
SCALE: ¾" = 1'–0"

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

TAUNTON, MA

TITLE

Retaining Wall and Equipment Pad

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

S-6.6

PIPE SCHEDULE

FLOW STREAM	ABBREVIATION	LOCATION	SIZE	MATERIAL	SCHEDULE/CLASS	LINING	JOINT TYPE	INSULATION	SPEC SECTION
BIOFILTER AIR	BFA	ABOVE GRADE	ALL	FRP	N/A	NONE	FLANGED	NONE	11961
		ALL	ALL	HDPE	DR17	NONE	BUTT FUSED	NONE	2620
CITY WATER	CW	BELOW GRADE	≤ 3"	COPPER	TYPE K	NONE	SOLDERED	NONE	11961
			> 3"	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
DRAIN	D	BELOW GRADE	ALL	PVC	SDR 35	NONE	PUSH ON	NONE	2625
INTERNAL RECYCLE	IR	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
LIME SLURRY	LS	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	NONE	11961
				HDPE	SDR 11	NONE	BUTT FUSED	NONE	2620
PLANT WATER	PW	INDOOR	≤ 3"	COPPER	TYPE K	NONE	SOLDERED	NONE	11961
		ALL	> 3"	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
POLYMER	PO	INDOOR	ALL	PVC	SCH 40	NONE	SOLVENT WELD	NONE	11961
PRIMARY EFFLUENT	PE	BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
PRIMARY INFLUENT	PI	BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
PRIMARY SLUDGE	PS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	11961
PROCESS AIR	PA	ALL	ALL	STAINLESS STEEL	SCH 10S	NONE	WELDED	NONE	15066
RETURN ACTIVATED SLUDGE	RAS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	2618
SANITARY FORCE MAIN	SFM	BELOW GRADE	ALL	PVC	SDR 21	NONE	PUSH ON	NONE	2625
SANITARY SEWER	SS	BELOW GRADE	ALL	PVC	SDR 35	NONE	PUSH ON	NONE	2622
SCUM	SC	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
SECONDARY EFFLUENT	SE	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
SODIUM BISULFITE	SB	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	INSUL. & HEAT TRACE	11961
SODIUM HYPOCHLORITE	SH	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	NONE	11961
				HDPE	SDR 11	NONE	BUTT FUSED	NONE	2620
THICKENED SLUDGE	TS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	11961
WASTE ACTIVATED SLUDGE	WAS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	2618

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Pipe Schedule

NO.	REVISIONS	DATE

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ISSUE DATE:	7/2/2021
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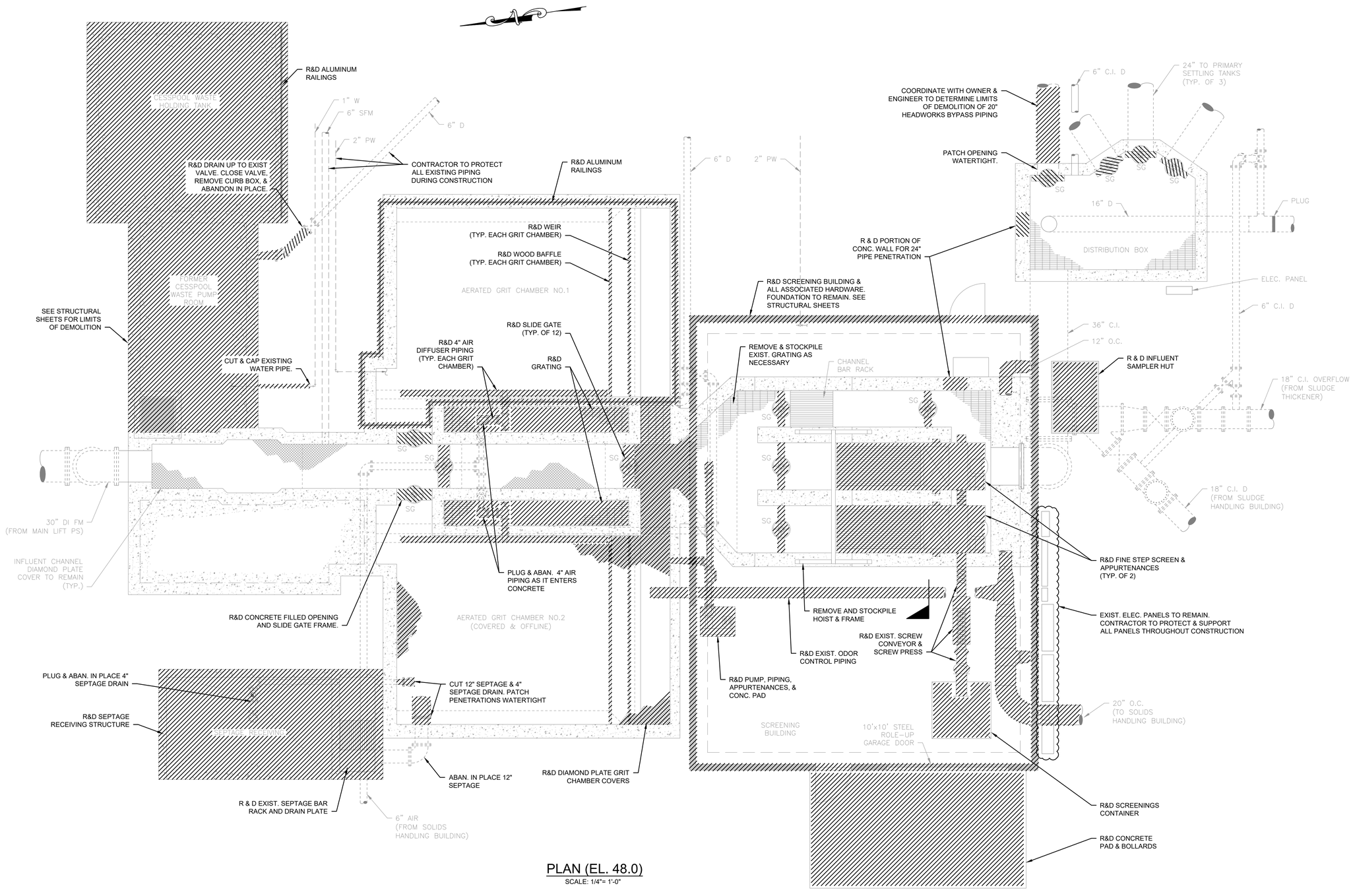
SCALE

NONE

SHEET NO.

M-0.1



PLAN (EL. 48.0)

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

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Headworks Demolition Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
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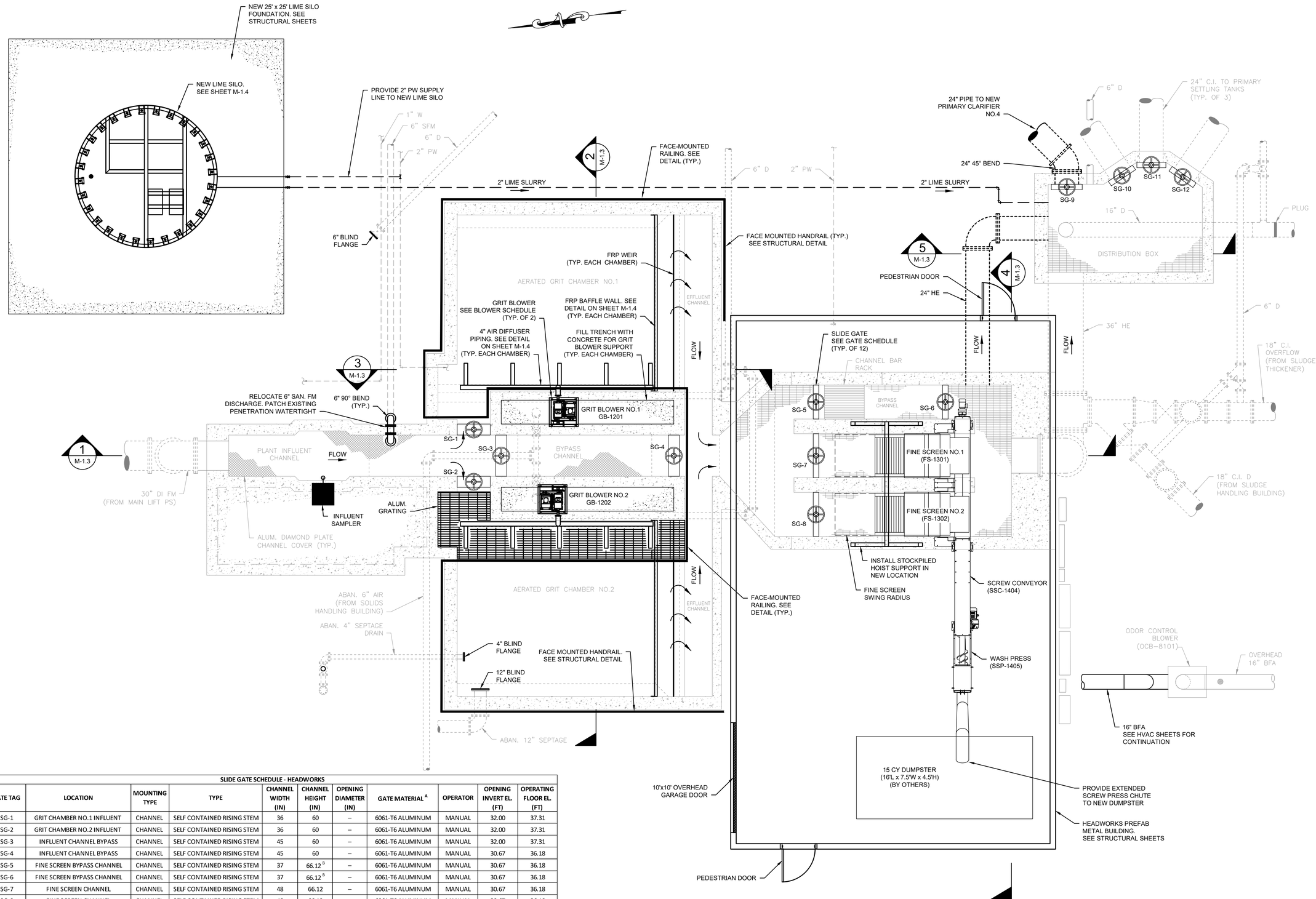
SCALE

AS SHOWN

SHEET NO.

M-1.1



PLAN (EL. 48.0)

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

SLIDE GATE SCHEDULE - HEADWORKS

GATE TAG	LOCATION	MOUNTING TYPE	TYPE	CHANNEL WIDTH (IN)	CHANNEL HEIGHT (IN)	OPENING DIAMETER (IN)	GATE MATERIAL [A]	OPERATOR	OPENING INVERT EL. (FT)	OPERATING FLOOR EL. (FT)
SG-1	GRIT CHAMBER NO.1 INFLUENT	CHANNEL	SELF CONTAINED RISING STEM	36	60	–	6061-T6 ALUMINUM	MANUAL	32.00	37.31
SG-2	GRIT CHAMBER NO.2 INFLUENT	CHANNEL	SELF CONTAINED RISING STEM	36	60	–	6061-T6 ALUMINUM	MANUAL	32.00	37.31
SG-3	INFLUENT CHANNEL BYPASS	CHANNEL	SELF CONTAINED RISING STEM	45	60	–	6061-T6 ALUMINUM	MANUAL	32.00	37.31
SG-4	INFLUENT CHANNEL BYPASS	CHANNEL	SELF CONTAINED RISING STEM	45	60	–	6061-T6 ALUMINUM	MANUAL	30.67	36.18
SG-5	FINE SCREEN BYPASS CHANNEL	CHANNEL	SELF CONTAINED RISING STEM	37	66.12 [B]	–	6061-T6 ALUMINUM	MANUAL	30.67	36.18
SG-6	FINE SCREEN BYPASS CHANNEL	CHANNEL	SELF CONTAINED RISING STEM	37	66.12 [B]	–	6061-T6 ALUMINUM	MANUAL	30.67	36.18
SG-7	FINE SCREEN CHANNEL	CHANNEL	SELF CONTAINED RISING STEM	48	66.12	–	6061-T6 ALUMINUM	MANUAL	30.67	36.18
SG-8	FINE SCREEN CHANNEL	CHANNEL	SELF CONTAINED RISING STEM	48	66.12	–	6061-T6 ALUMINUM	MANUAL	30.67	36.18
SG-9	PRIMARY DISTRIBUTION BOX	WALL	SELF CONTAINED RISING STEM	–	–	24	6061-T6 ALUMINUM	MANUAL	23.70	35.25
SG-10	PRIMARY DISTRIBUTION BOX	WALL	SELF CONTAINED RISING STEM	–	–	24	6061-T6 ALUMINUM	MANUAL	23.70	35.25
SG-11	PRIMARY DISTRIBUTION BOX	WALL	SELF CONTAINED RISING STEM	–	–	24	6061-T6 ALUMINUM	MANUAL	23.70	35.25
SG-12	PRIMARY DISTRIBUTION BOX	WALL	SELF CONTAINED RISING STEM	–	–	24	6061-T6 ALUMINUM	MANUAL	23.70	35.25

[A] FRP SLIDE GATES WILL BE CONSIDERED PROVIDED THEY MEET PERFORMANCE SPECIFICATIONS

[B] SET TOP OF GATE AT EL. 34.7 TO PROVIDE 18-INCHES OF FREEBOARD

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Taunton, MA

TITLE

Headworks Plan

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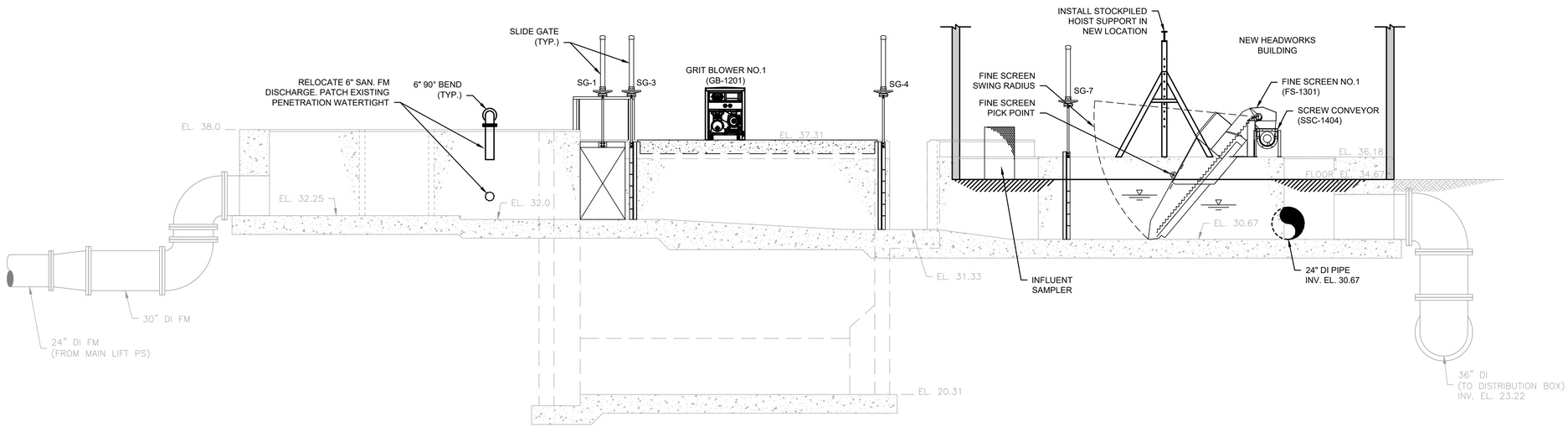
SCALE

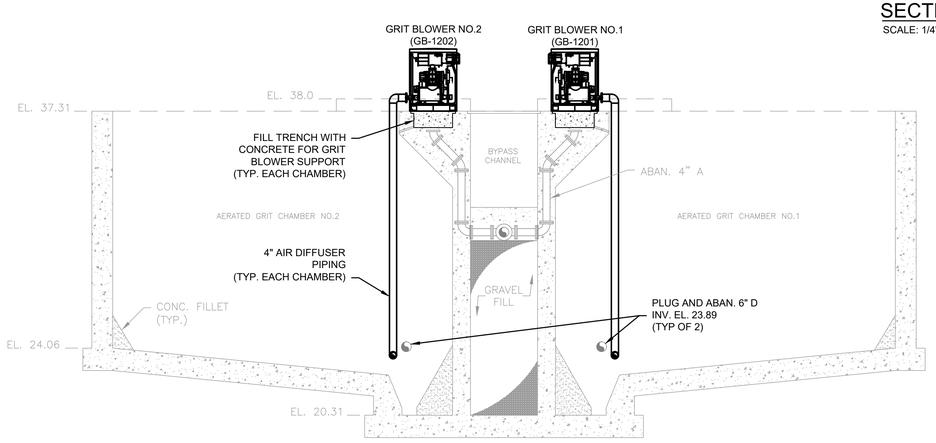
AS SHOWN

SHEET NO.

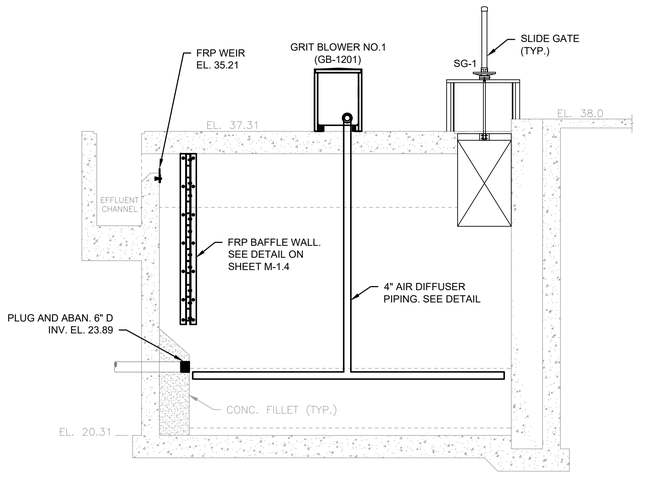
M-1.2



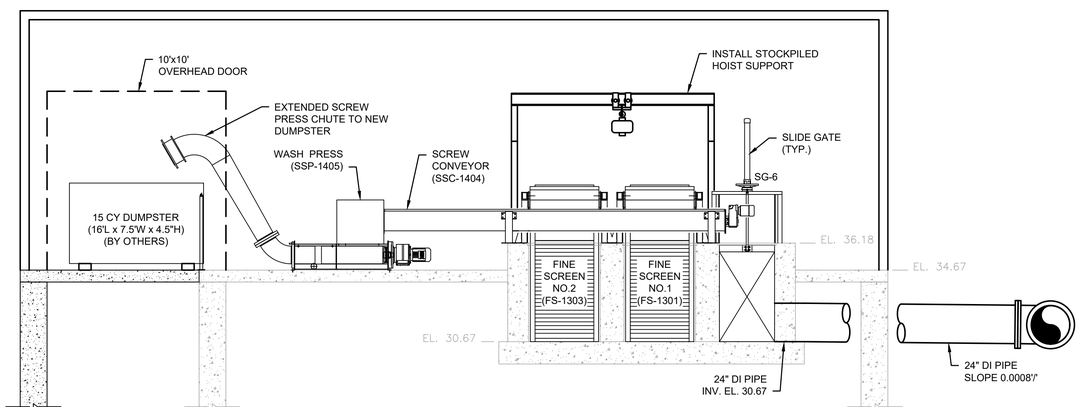
SECTION 1
SCALE: 1/4"= 1'-0"
M-1.2



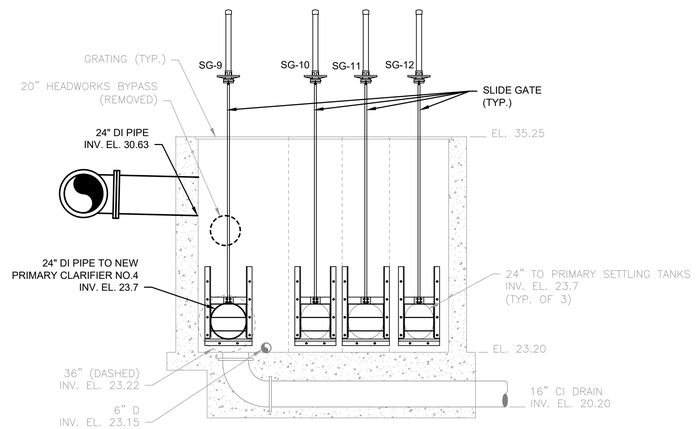
SECTION 2
SCALE: 1/4"= 1'-0"
M-1.2



SECTION 3
SCALE: 1/4"= 1'-0"
M-1.2



SECTION 4
SCALE: 1/4"= 1'-0"
M-1.2



SECTION 5
SCALE: 1/4"= 1'-0"
M-1.2

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Headworks Sections

NO.	REVISIONS	DATE

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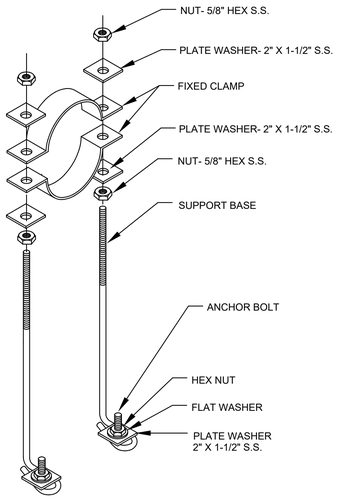
SCALE

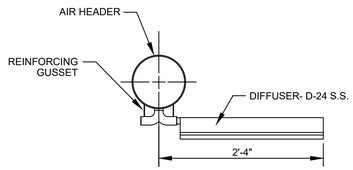
AS SHOWN

SHEET NO.

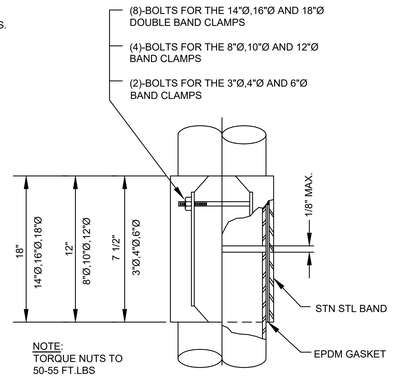
M-1.3



SIMPLE SUPPORT

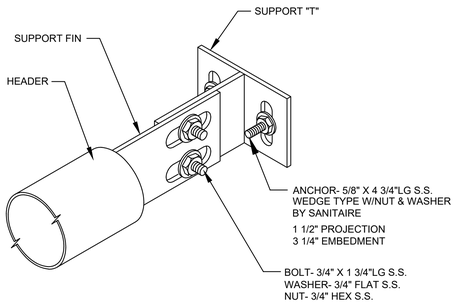


DIFFUSER BAND

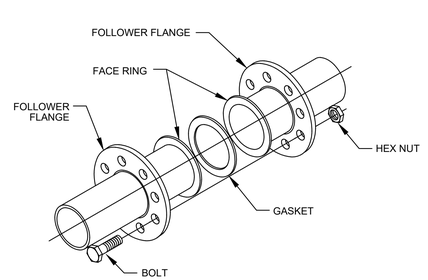


NOTE:
TORQUE NUTS TO 50-55 FT.LBS

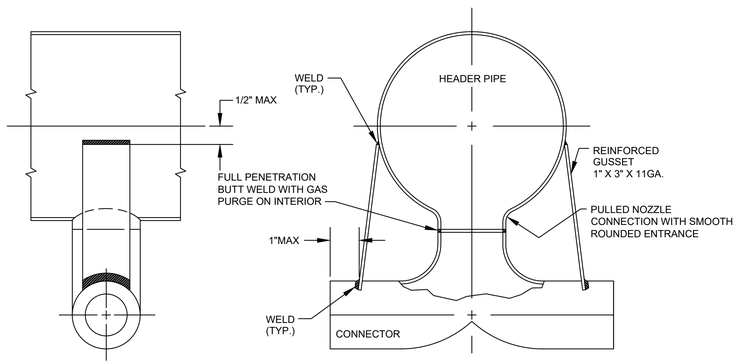
CLAMP COUPLING

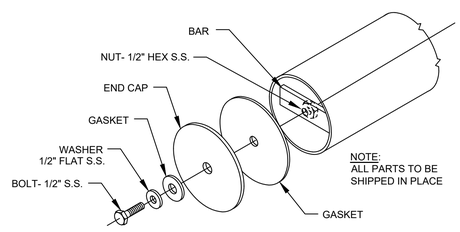


WALL MOUNT FIXED SUPPORT



SANITAIRE FLANGE

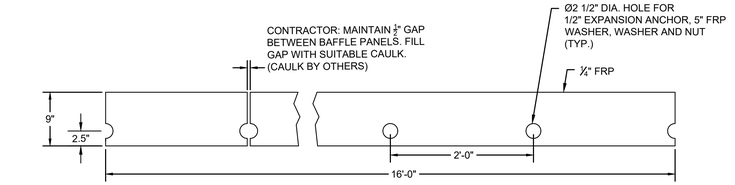




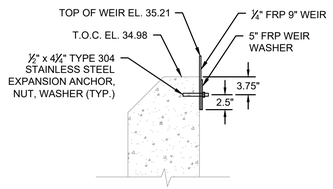
REMOVABLE END CAP

GRIT CHAMBER COARSE BUBBLE DIFFUSER

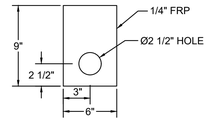
SCALE: NOT TO SCALE



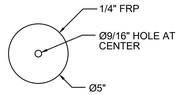
WEIR PANEL



SECTION VIEW



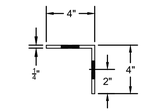
WEIR SPLICE PLATE



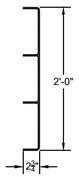
WEIR WASHER

GRIT CHAMBER EFFLUENT WEIR

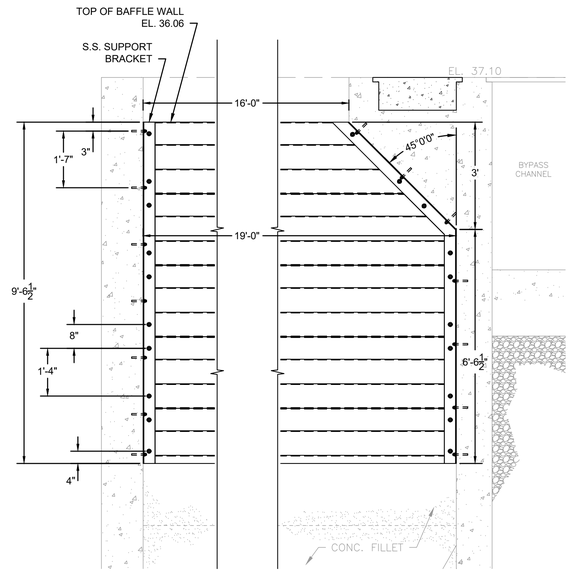
SCALE: NOT TO SCALE



S.S. SUPPORT BRACKET END VIEW
SCALE: NTS



TYPICAL FRP BAFFLE PANEL CROSS SECTION
SCALE: NTS



WALL SECTION VIEW
SCALE: 1/2" = 1'

GRIT CHAMBER BAFFLE WALL

SCALE: AS SHOWN

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Headworks Details

NO.	REVISIONS	DATE

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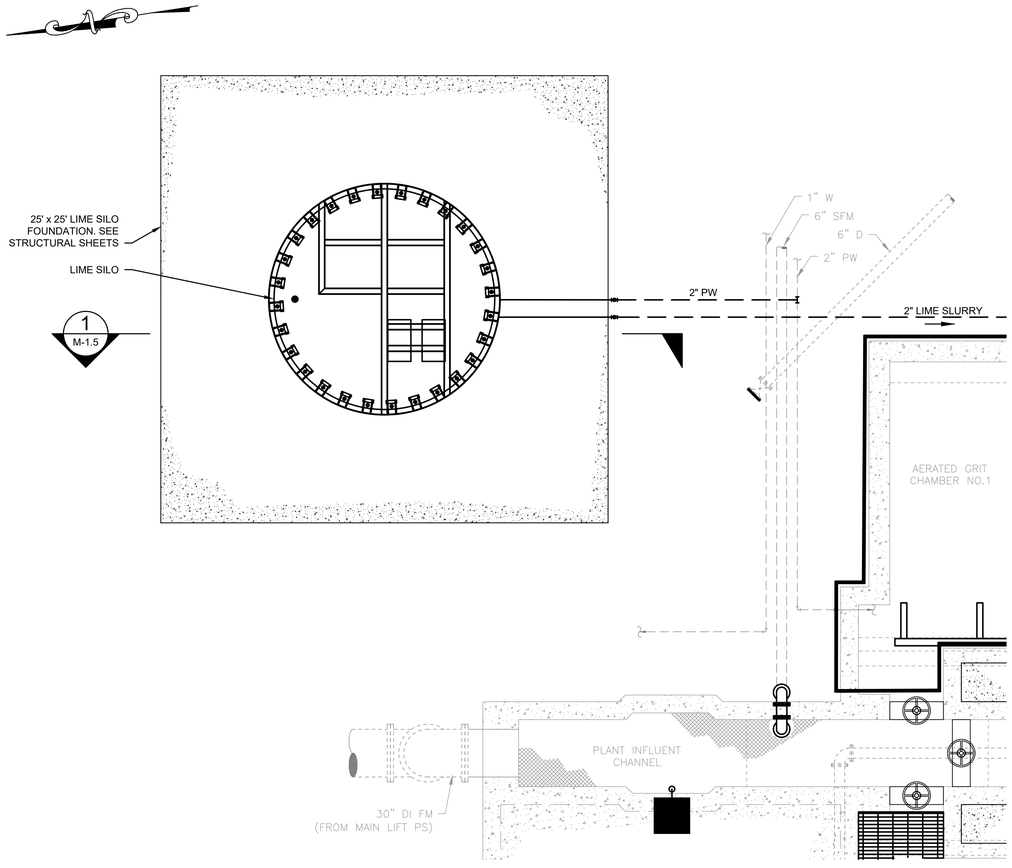
SCALE

AS SHOWN

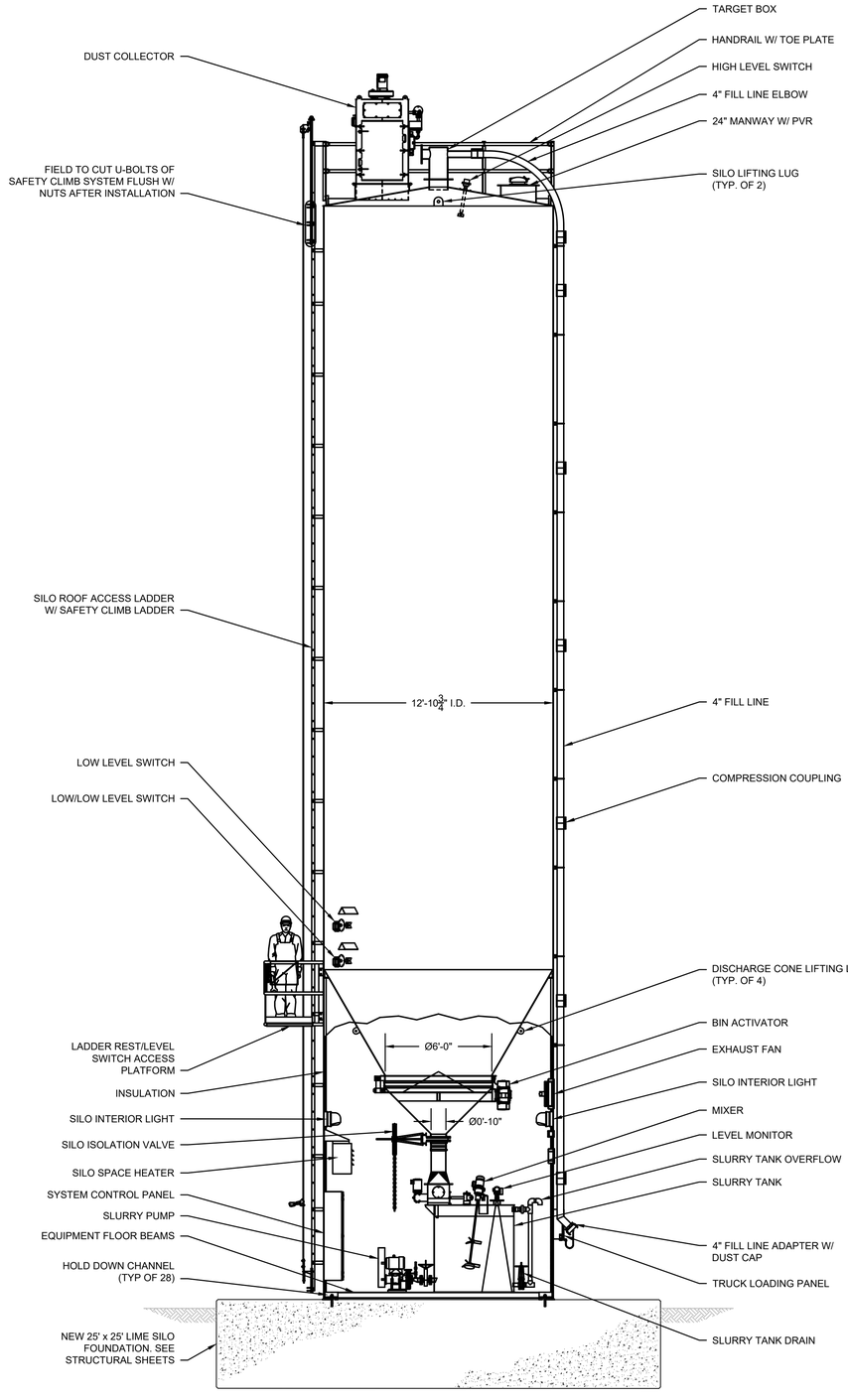
SHEET NO.

M-1.4



PLAN (EL. 48.0)

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



SECTION 1 M-1.5

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Lime Silo Plan & Section

NO.	REVISIONS	DATE

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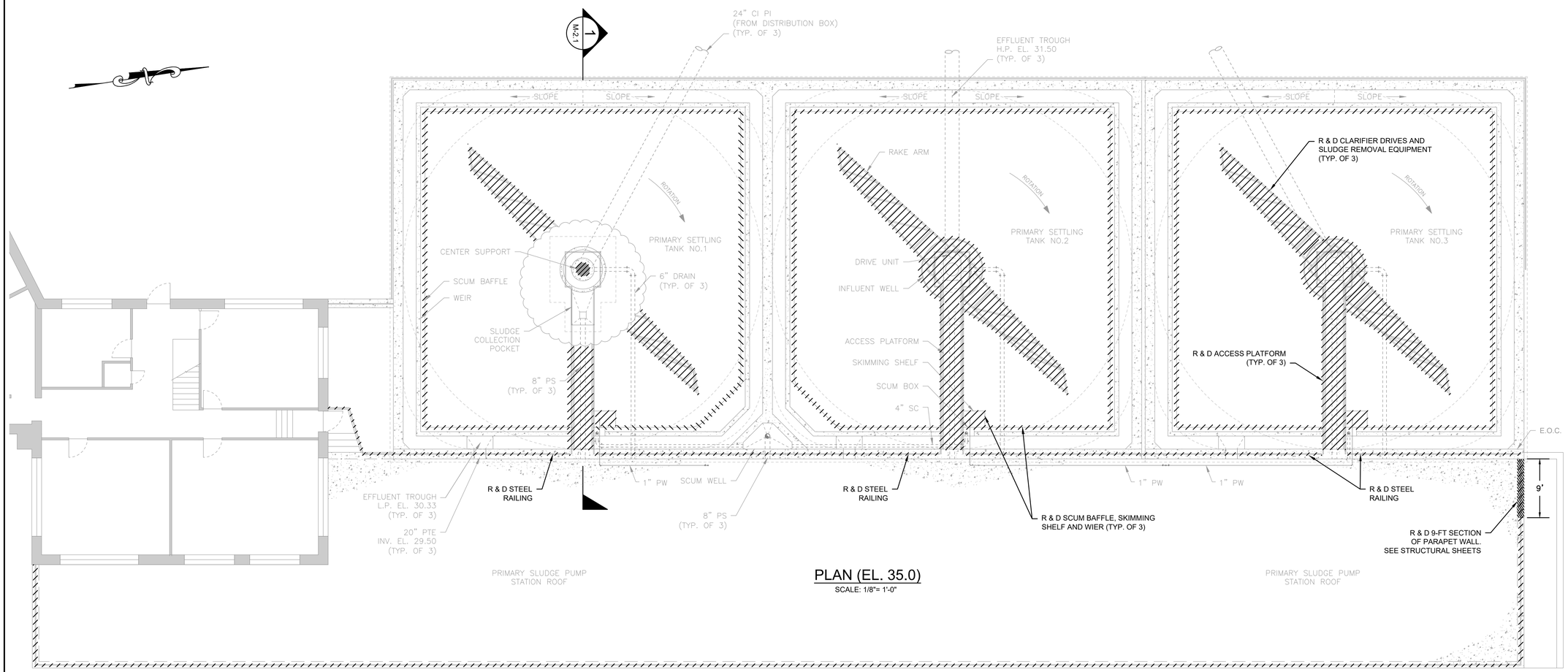
SCALE

AS SHOWN

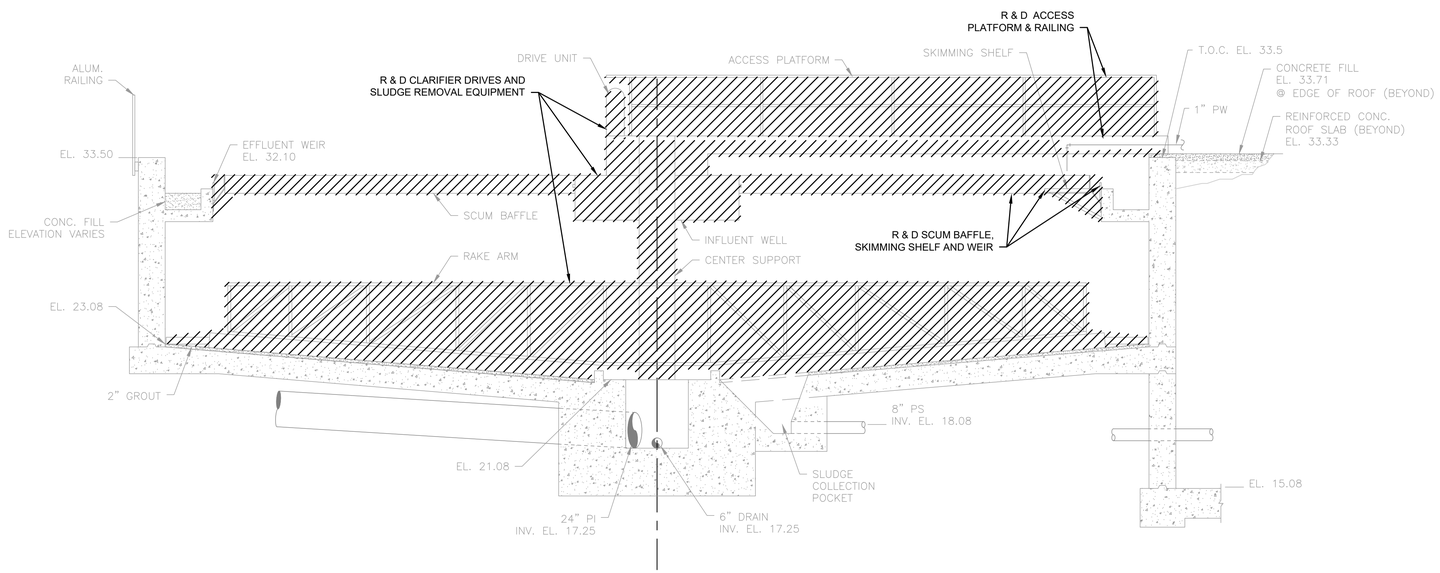
SHEET NO.

M-1.5



PLAN (EL. 35.0)

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



SECTION 1 / M-2.1

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Clarifiers
Demolition Plan & Section

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	JD
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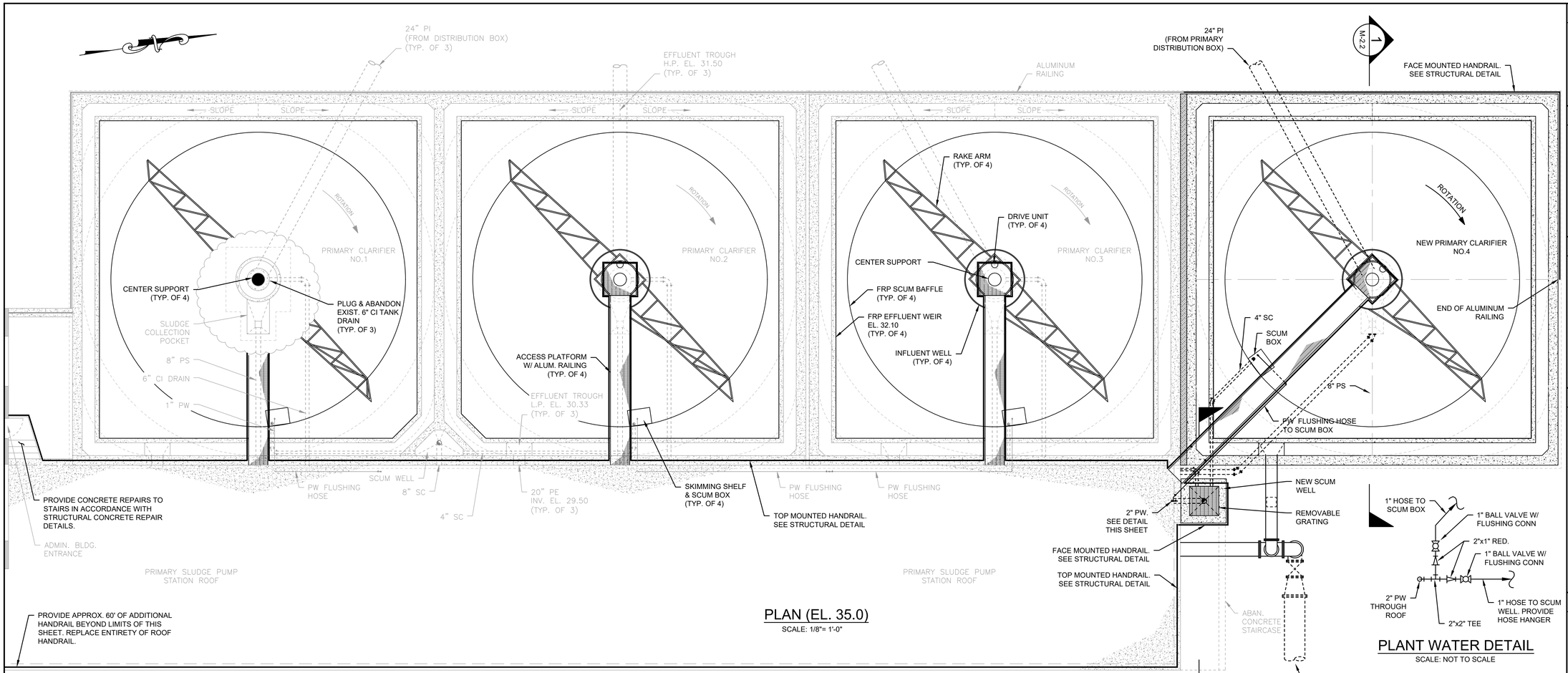
SCALE

AS SHOWN

SHEET NO.

M-2.1

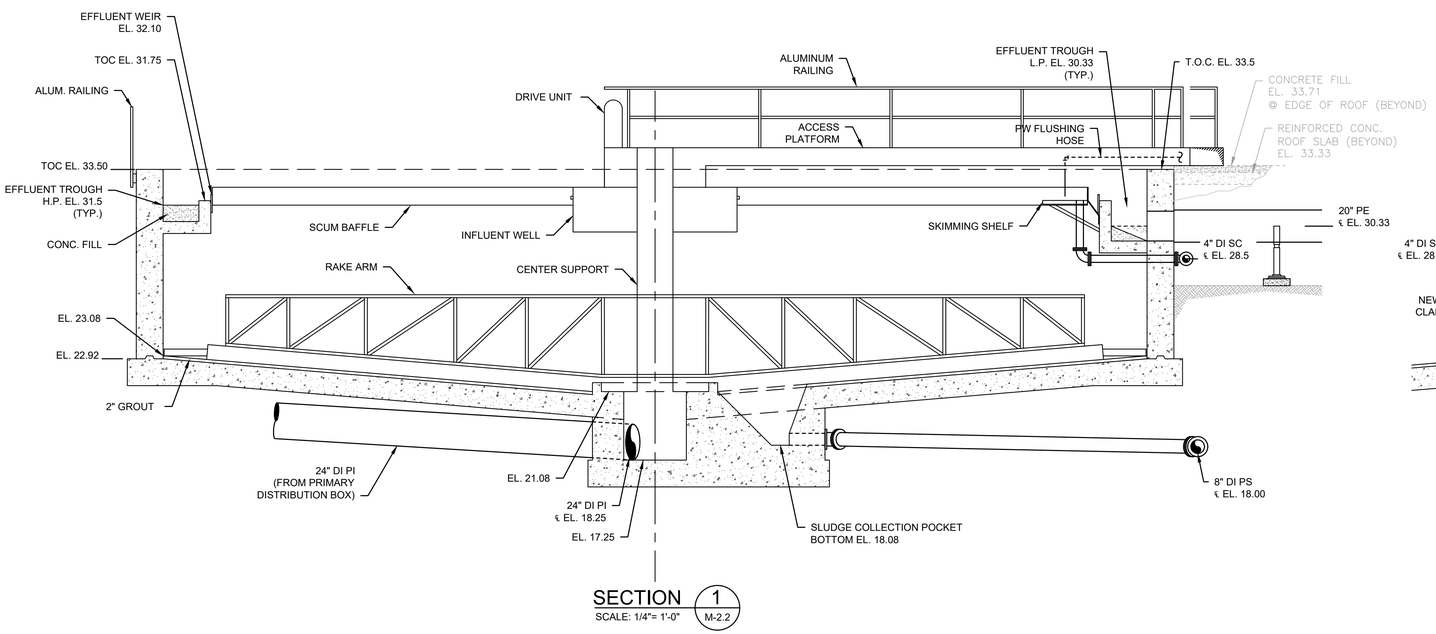


PLAN (EL. 35.0)

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

PLANT WATER DETAIL

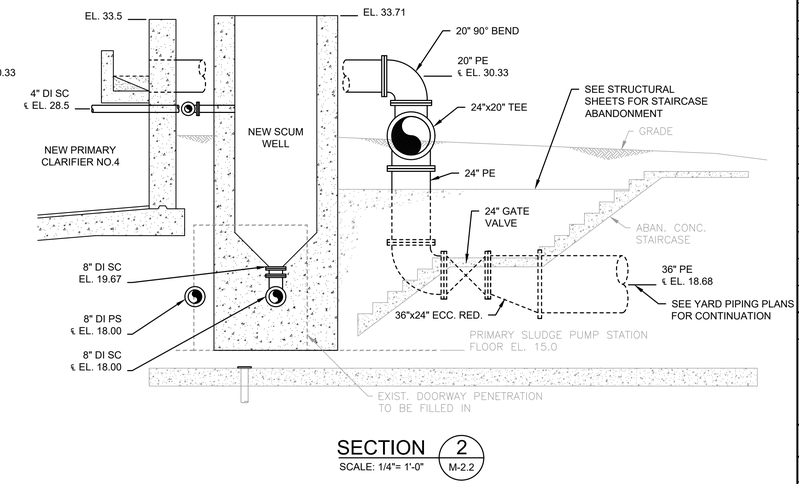
SCALE: NOT TO SCALE



SECTION 1

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

M-2.2



SECTION 2

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

M-2.2

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Clarifiers Plan & Section

NO.	REVISIONS	DATE

DRAWN BY:	BM
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ISSUE DATE:	7/2/2021
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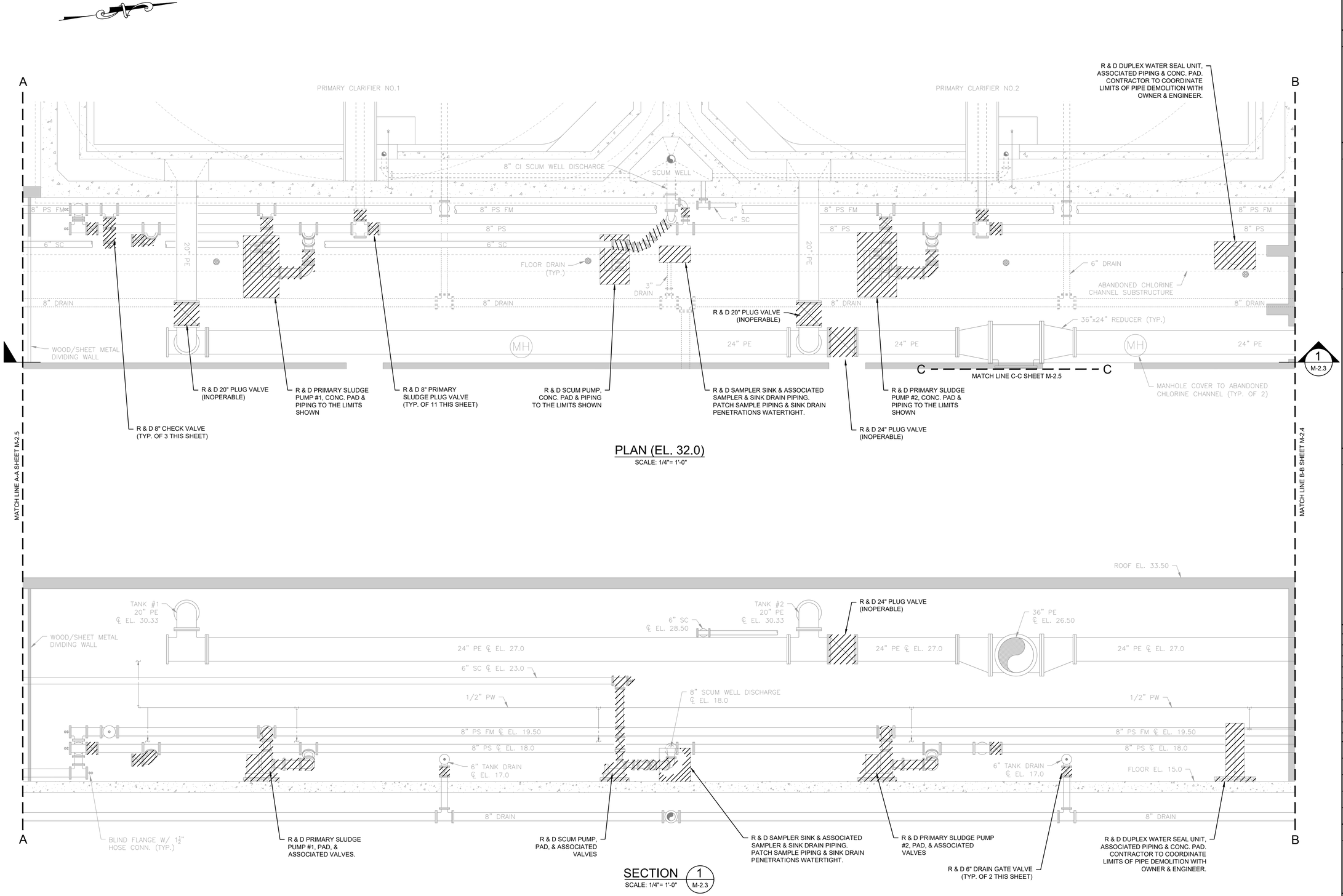
SCALE

AS SHOWN

SHEET NO.

M-2.2



PLAN (EL. 32.0)
SCALE: 1/4"= 1'-0"

SECTION 1 / M-2.3
SCALE: 1/4"= 1'-0"

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Demolition Plans & Sections I

NO.	REVISIONS	DATE

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DESIGNED BY:	JD
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ISSUE DATE:	7/2/2021
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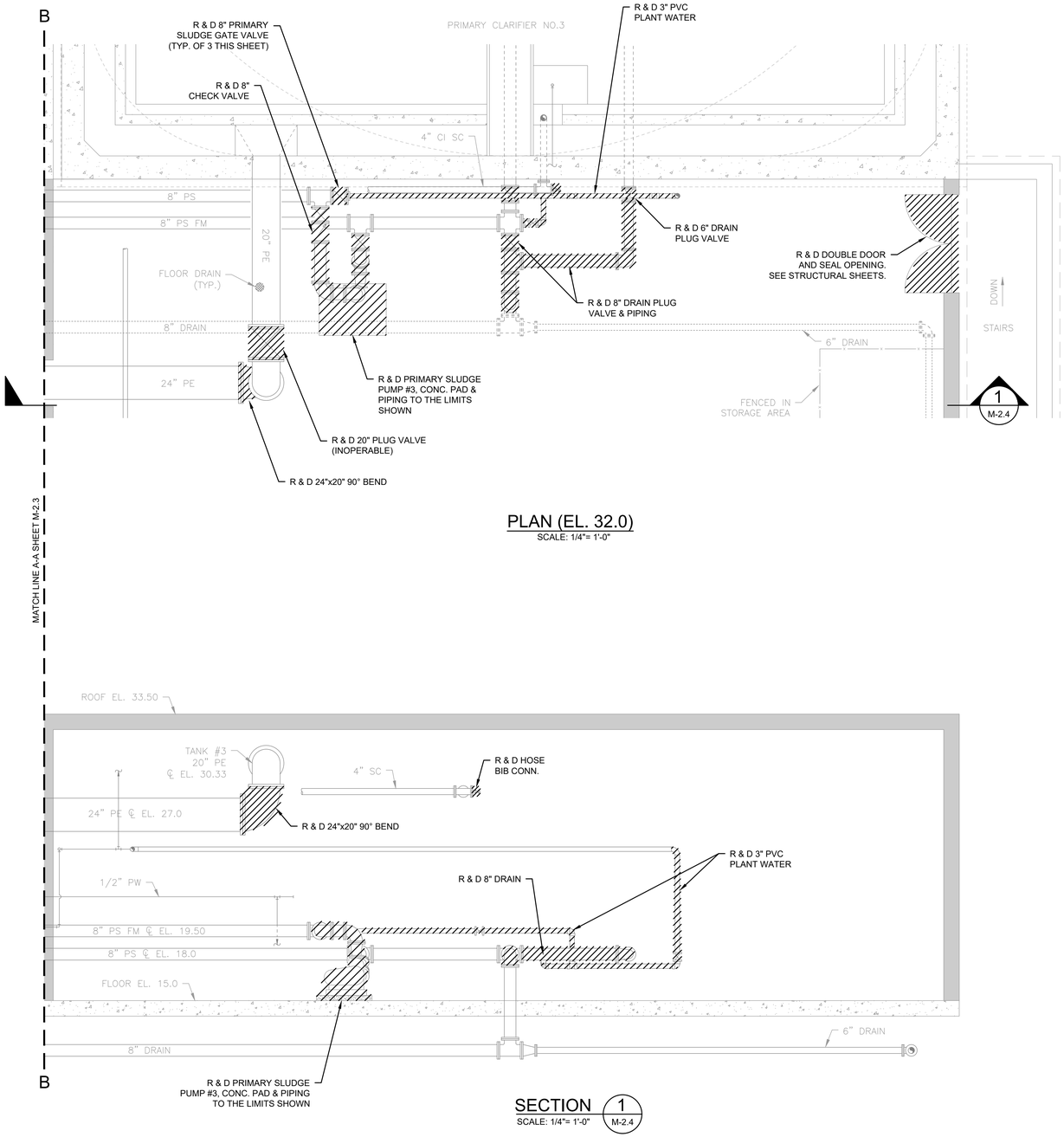
SCALE

AS SHOWN

SHEET NO.

M-2.3



PLAN (EL. 32.0)
SCALE: 1/4"= 1'-0"

SECTION 1 / M-2.4
SCALE: 1/4"= 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Demolition Plans & Sections II

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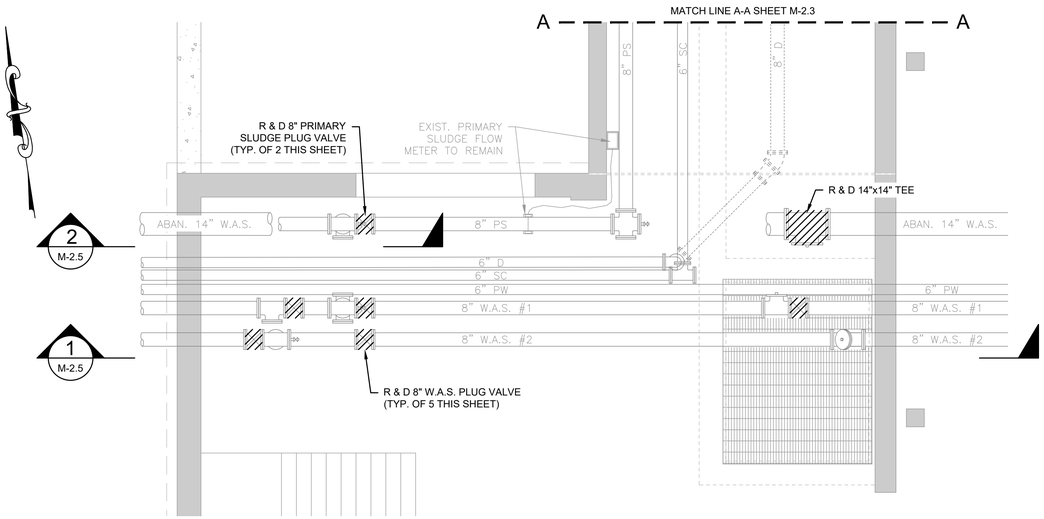
BETA JOB NO.:	6050

SCALE

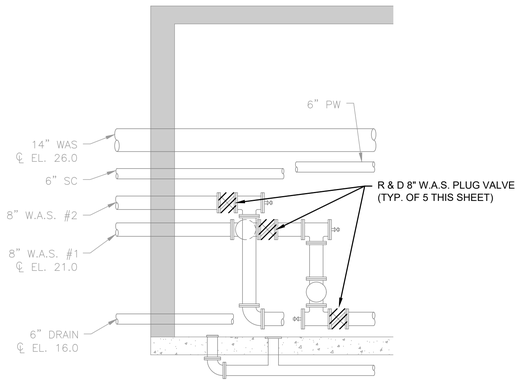
AS SHOWN

SHEET NO.

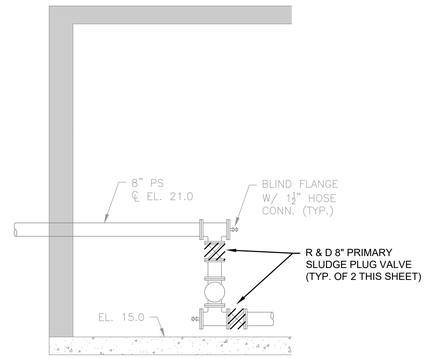
M-2.4



PLAN (EL. 32.0)
SCALE: 1/4"= 1'-0"



SECTION 1
SCALE: 1/4"= 1'-0"
M-2.5



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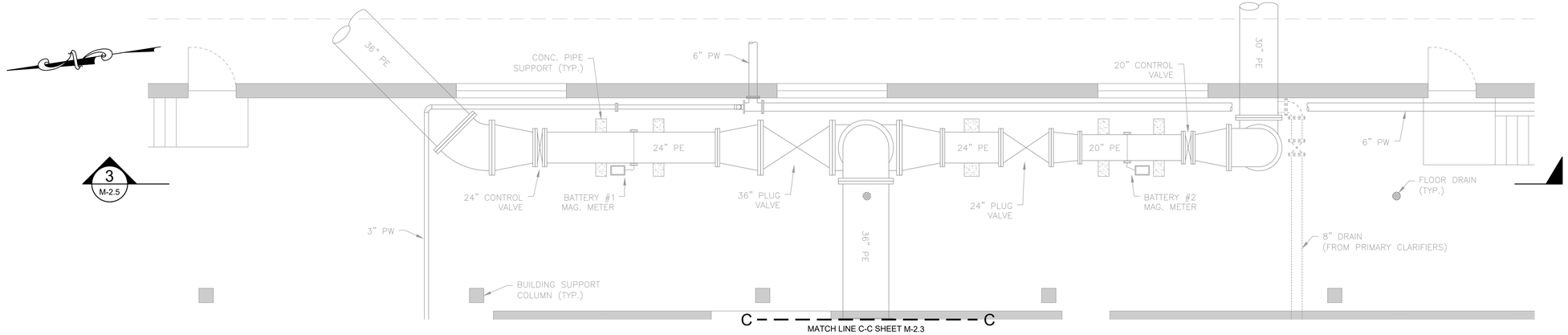
M-2.5



PLAN (EL. 32.0)
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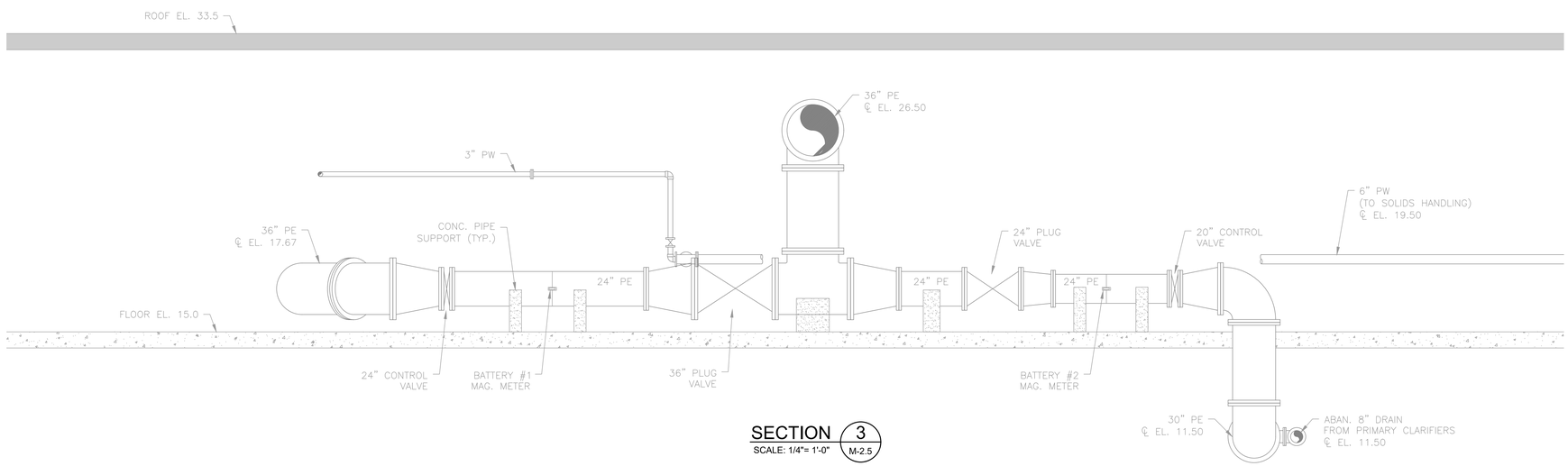

SECTION 3
SCALE: 1/4"= 1'-0"
M-2.5

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Demolition Plans & Sections III

NO.	REVISIONS	DATE

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DESIGNED BY:	JD
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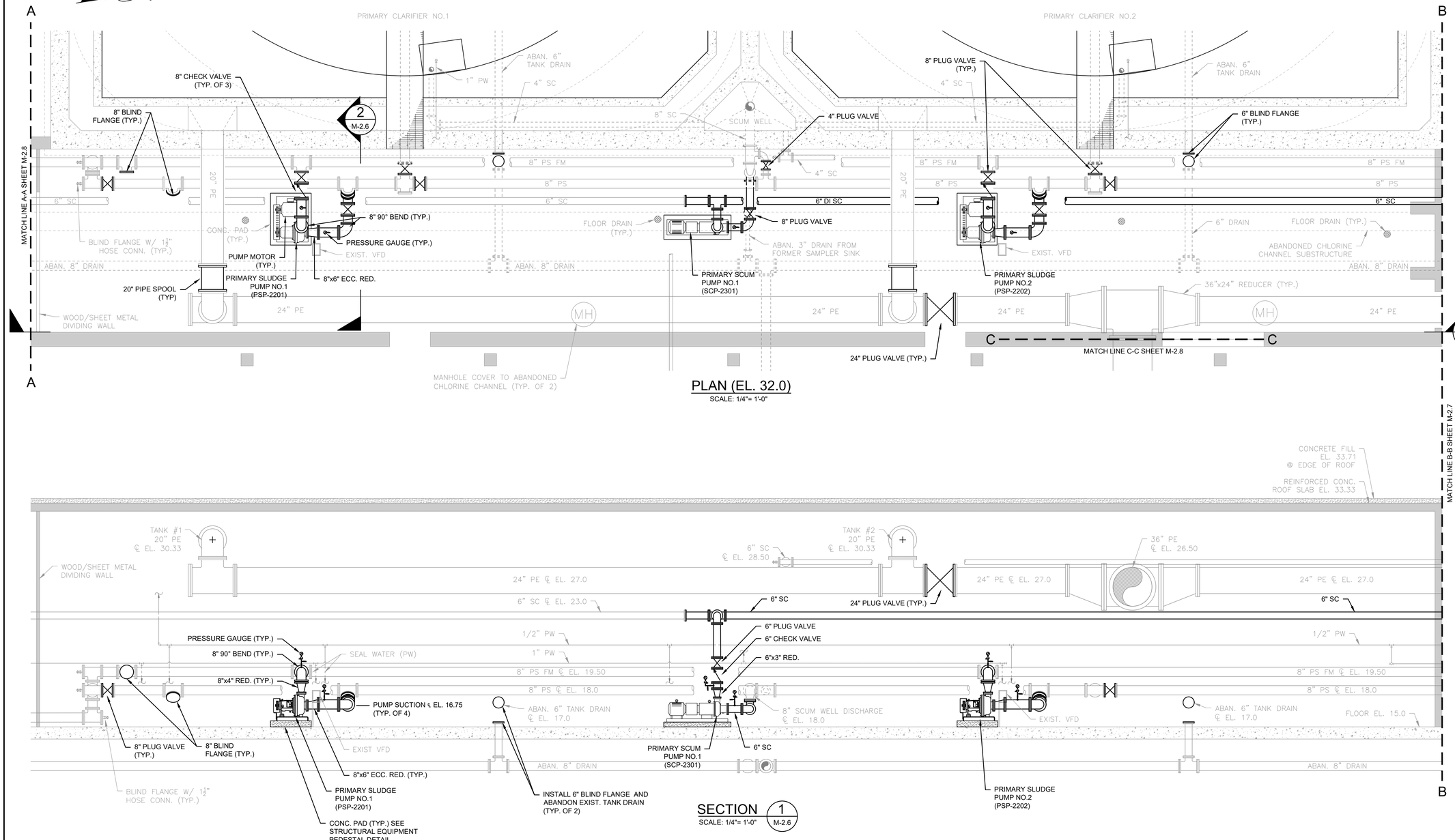
SCALE

AS SHOWN

SHEET NO.

M-2.5



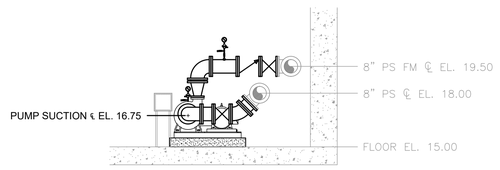
PLAN (EL. 32.0)

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

SECTION 1

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

M-2.6



SECTION 2

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

M-2.6

J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\PRIMARY CLARIFIERS & SLUDGE PS - PROP. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Plans & Sections I

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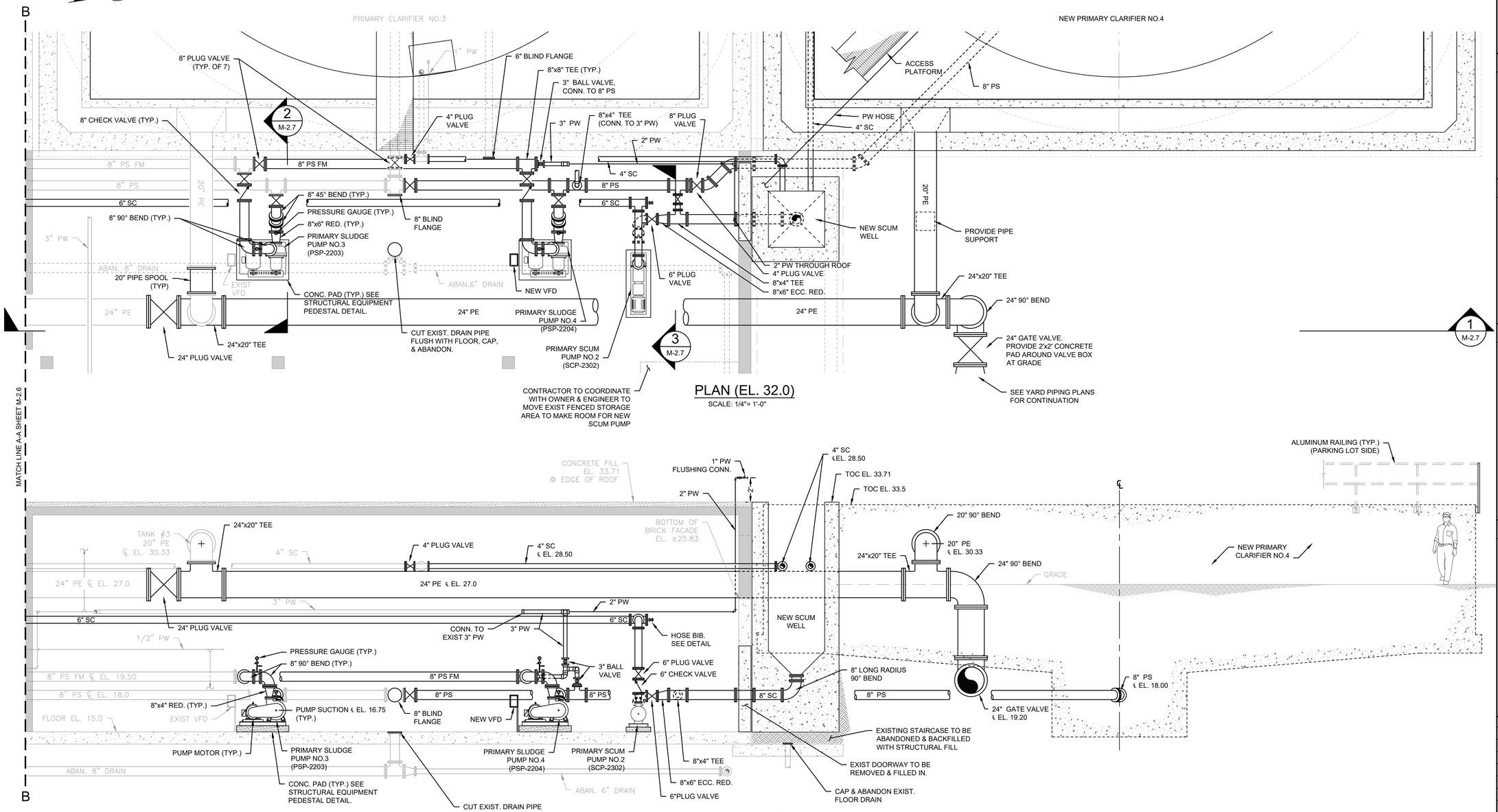
SHEET NO.

M-2.6

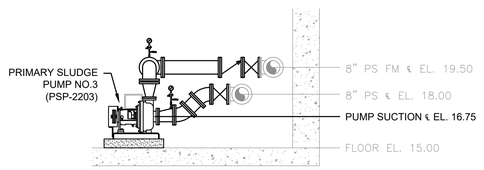


PLAN (EL. 32.0)

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

SECTION 1

SCALE: 1/4"= 1'-0" (M-2.7)



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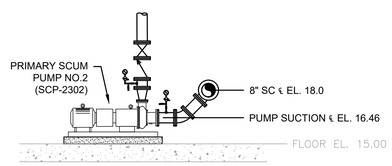

SECTION 3

SCALE: 1/4"= 1'-0" (M-2.7)

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Plans & Sections II

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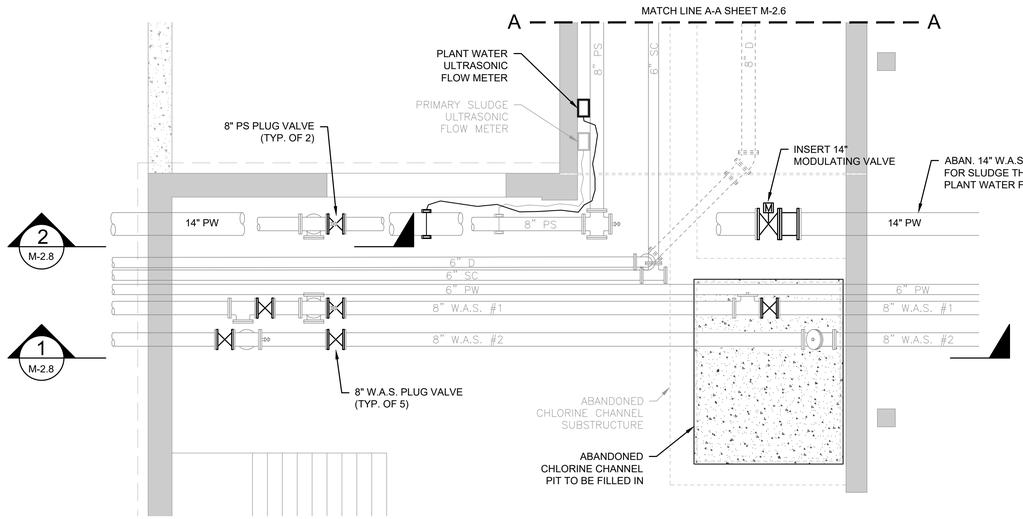
SCALE

AS SHOWN

SHEET NO.

M-2.7



PLAN (EL. 32.0)

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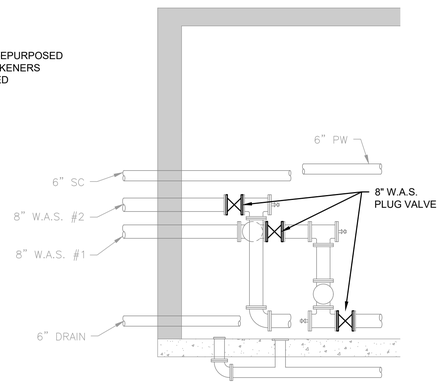
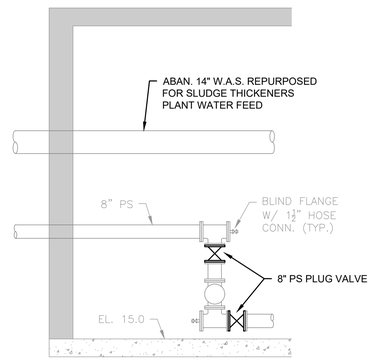


SECTION 1

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

M-2.8



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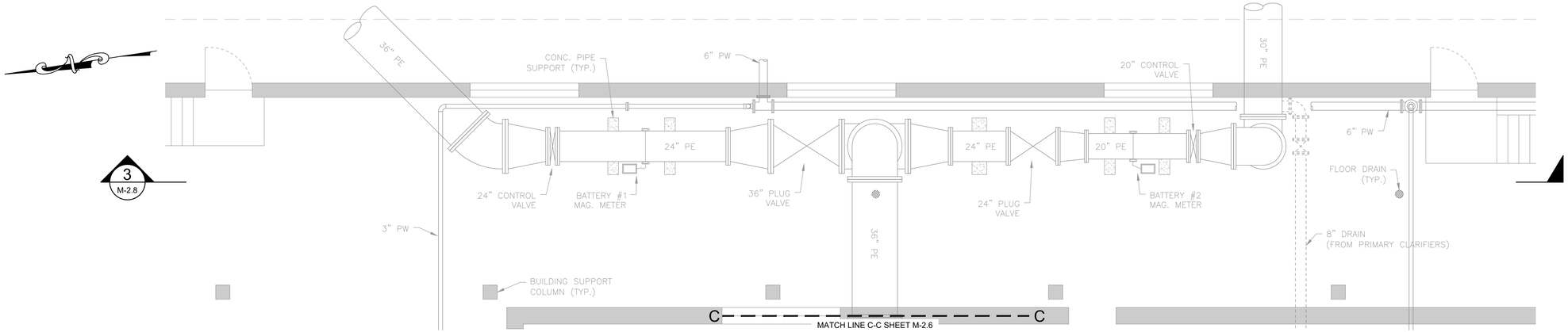

PLAN (EL. 32.0)

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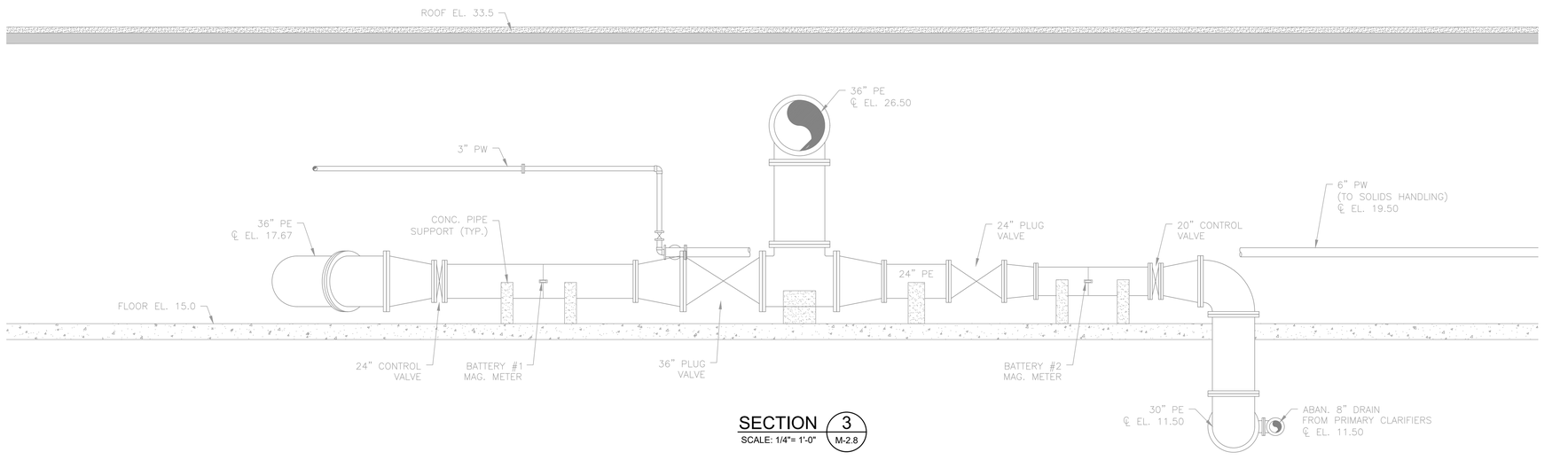

SECTION 3

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

M-2.8

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Primary Sludge Pump Station Plans & Sections III

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SCALE

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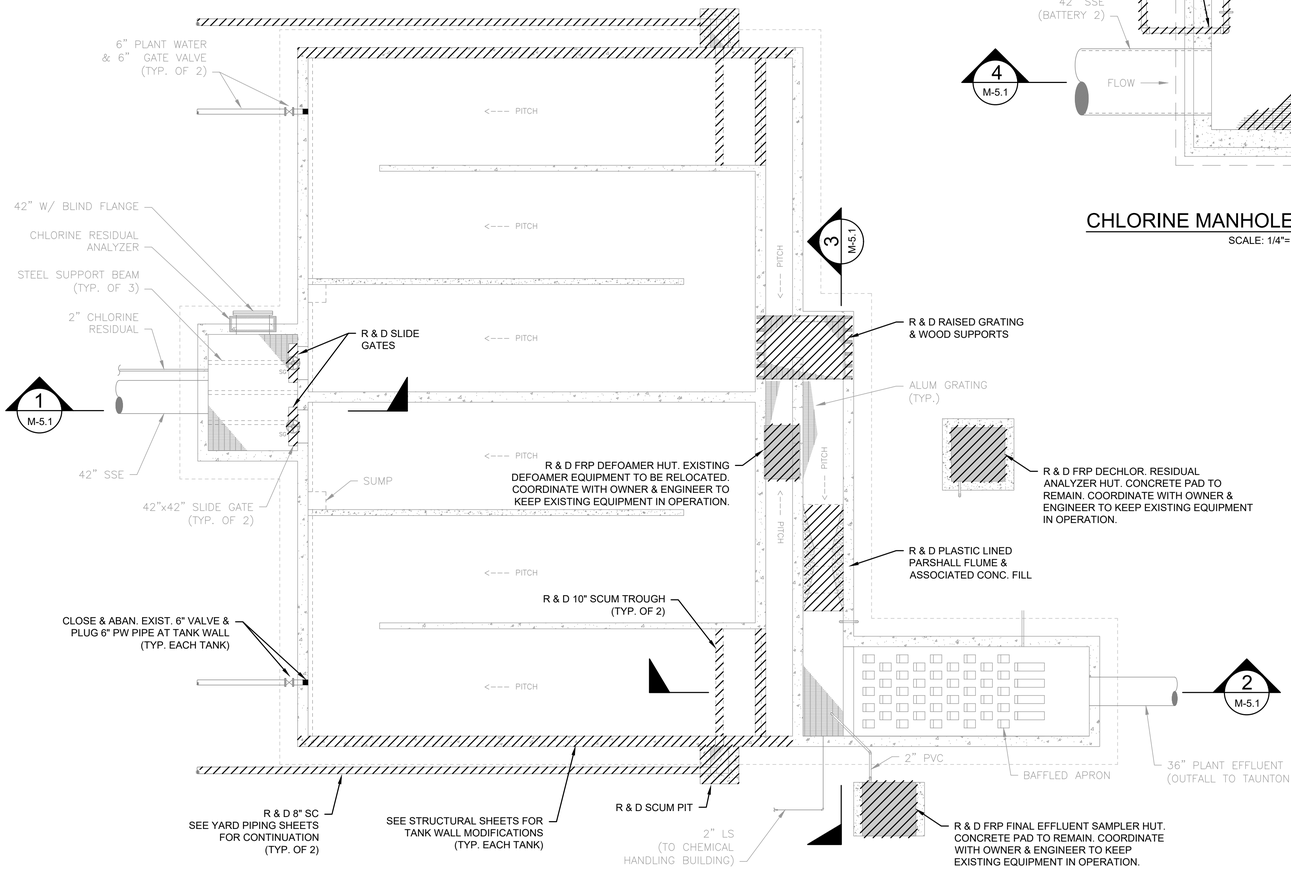
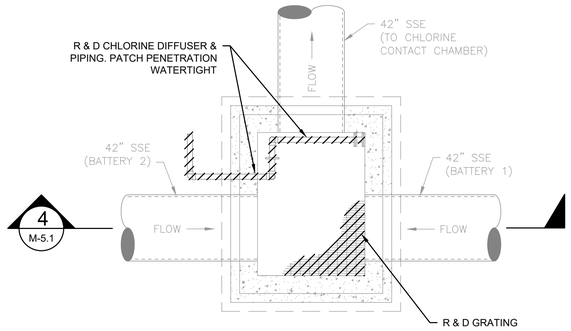
SHEET NO.

M-2.8



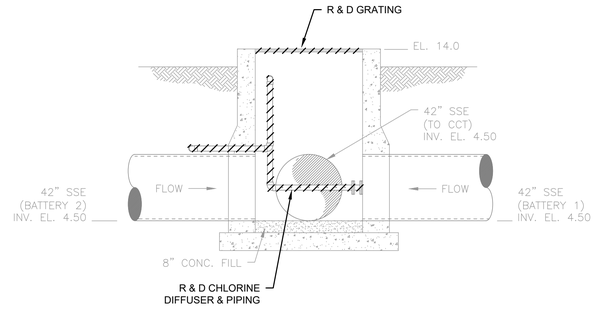
CHLORINE CONTACT TANK - PLAN (EL.15.0)

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



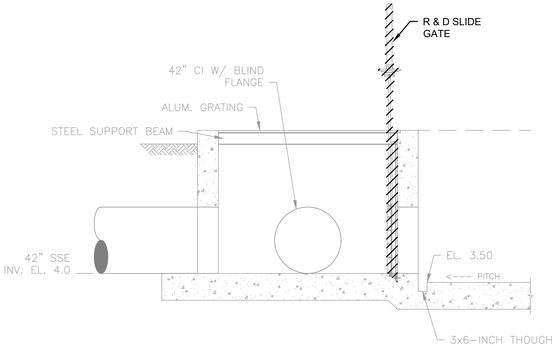
CHLORINE MANHOLE - PLAN (EL. 15.0)

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



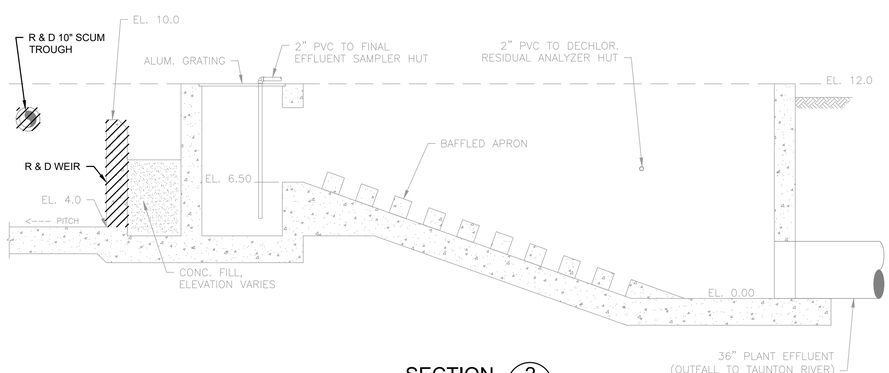
SECTION 4 / M-5.1

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



SECTION 1 / M-5.1

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



SECTION 2 / M-5.1

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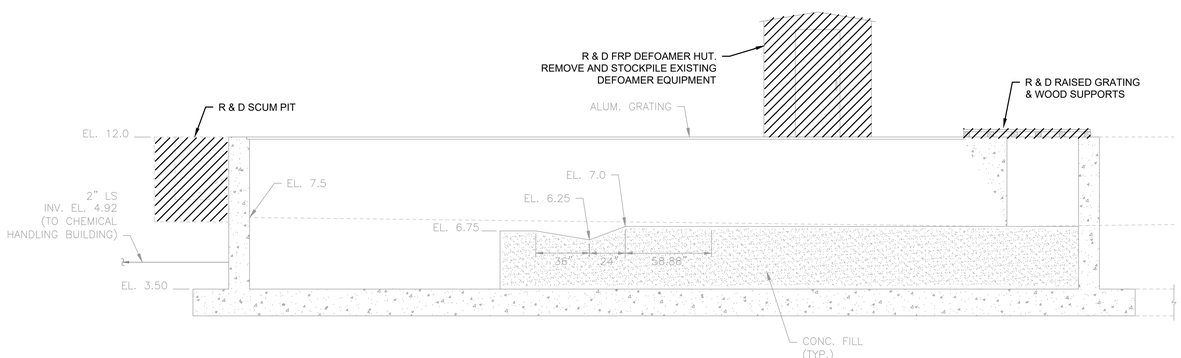

SECTION 3 / M-5.1

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

7/2/2021 10:35 AM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\PHASE 1\CHLORINE CONTACT CHAMBER - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chlorine Contact Tank & Manhole Demolition Plan & Sections

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SCALE

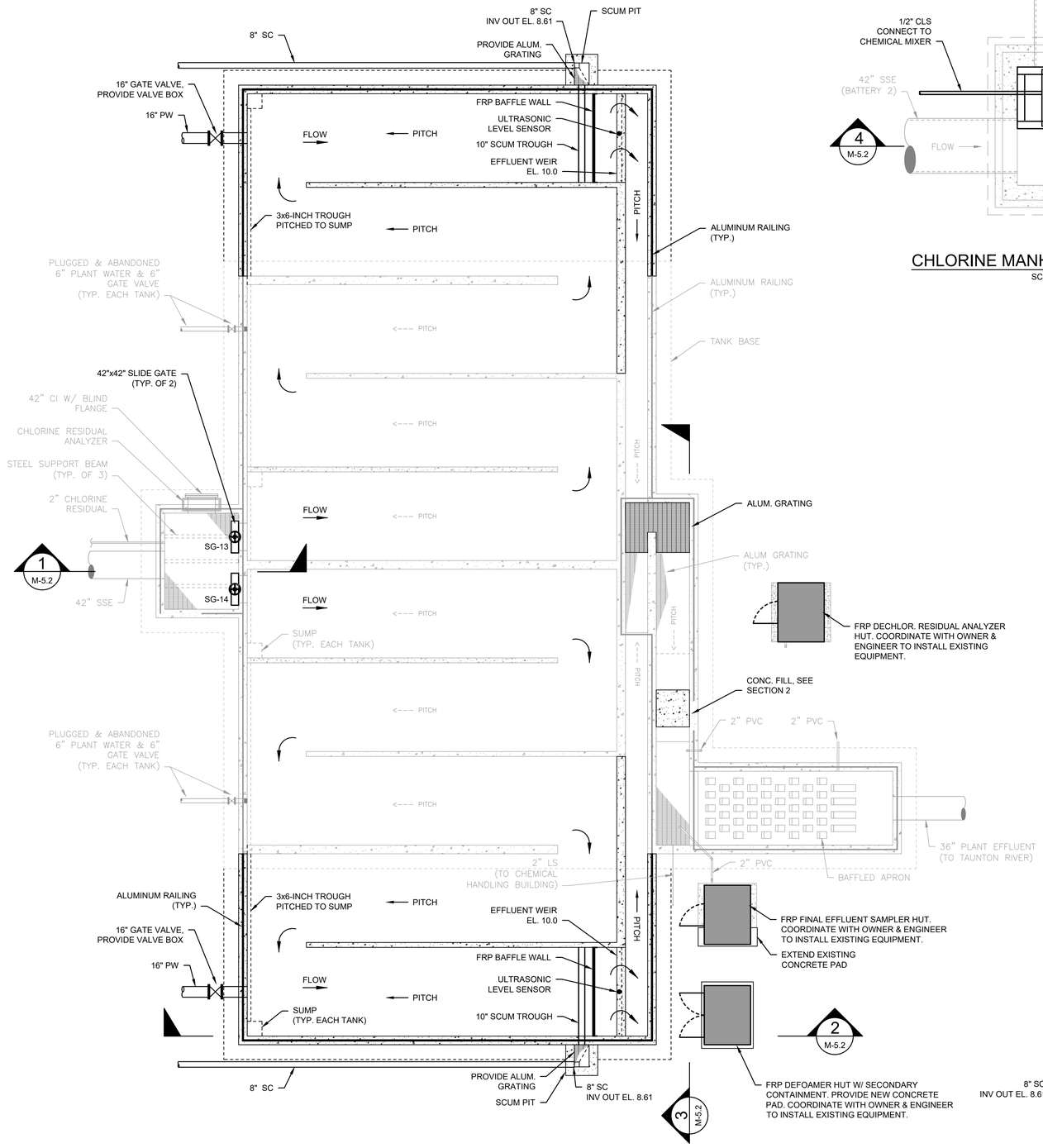
AS SHOWN

SHEET NO.

M-5.1

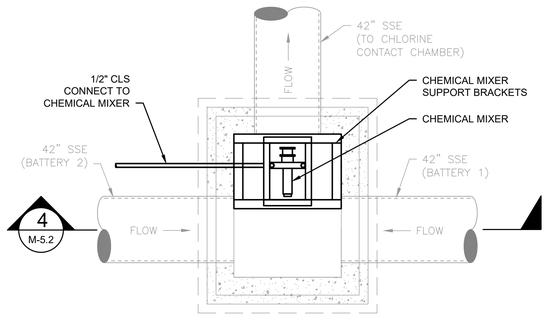
SLIDE GATE SCHEDULE - CHLORINE CONTACT TANK										
GATE TAG	LOCATION	MOUNTING TYPE	TYPE	OPENING WIDTH (IN)	OPENING HEIGHT (IN)	OPENING DIAMETER (IN)	GATE MATERIAL [A]	OPERATOR	OPENING INVERT EL. (FT)	OPERATING FLOOR EL. (FT)
SG-13	CHLORINE CONTACT TANK INFLUENT	WALL	SELF CONTAINED RISING STEM	42	42	–	6061-T6 ALUMINUM	MANUAL	4.00	12.00
SG-14	CHLORINE CONTACT TANK INFLUENT	WALL	SELF CONTAINED RISING STEM	42	42	–	6061-T6 ALUMINUM	MANUAL	4.00	12.00

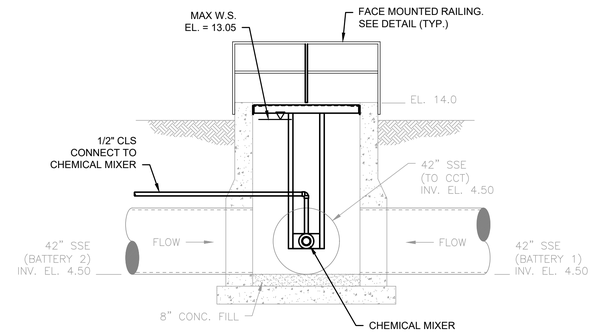
[A] FRP SLIDE GATES WILL BE CONSIDERED PROVIDED THEY MEET PERFORMANCE SPECIFICATIONS



CHLORINE CONTACT TANK - PLAN (EL. 15.0)

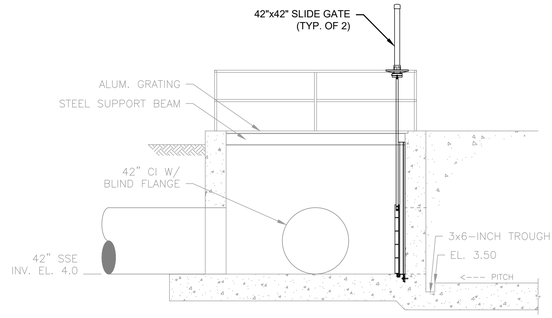
SCALE: 1/8"= 1'-0"





SECTION 4 / M-5.2

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



SECTION 1 / M-5.2

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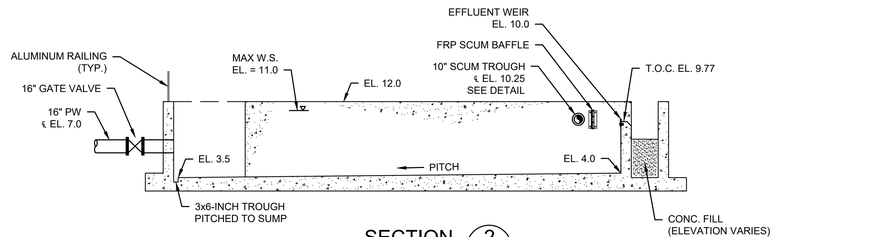

SECTION 2 / M-5.2

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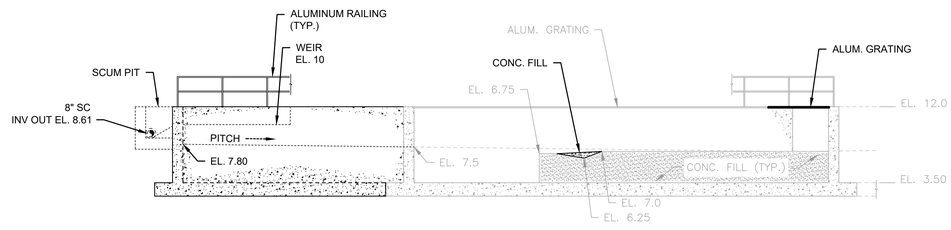

SECTION 3 / M-5.2

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

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JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chlorine Contact Tank & Manhole Plan & Sections

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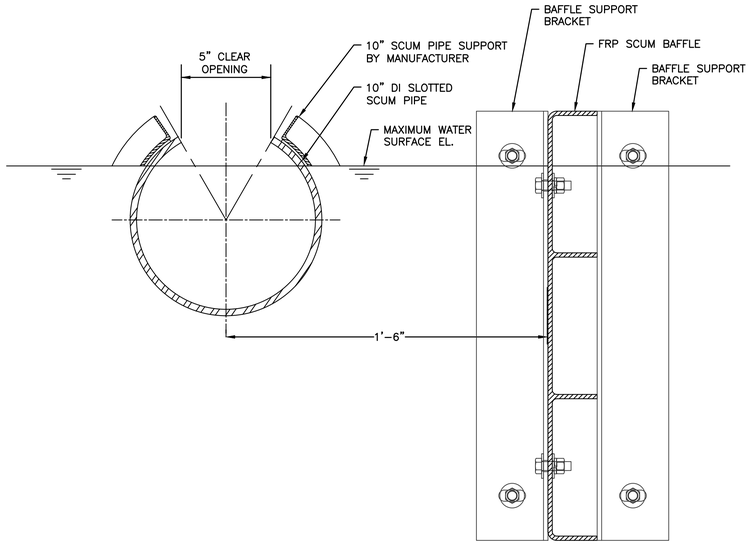
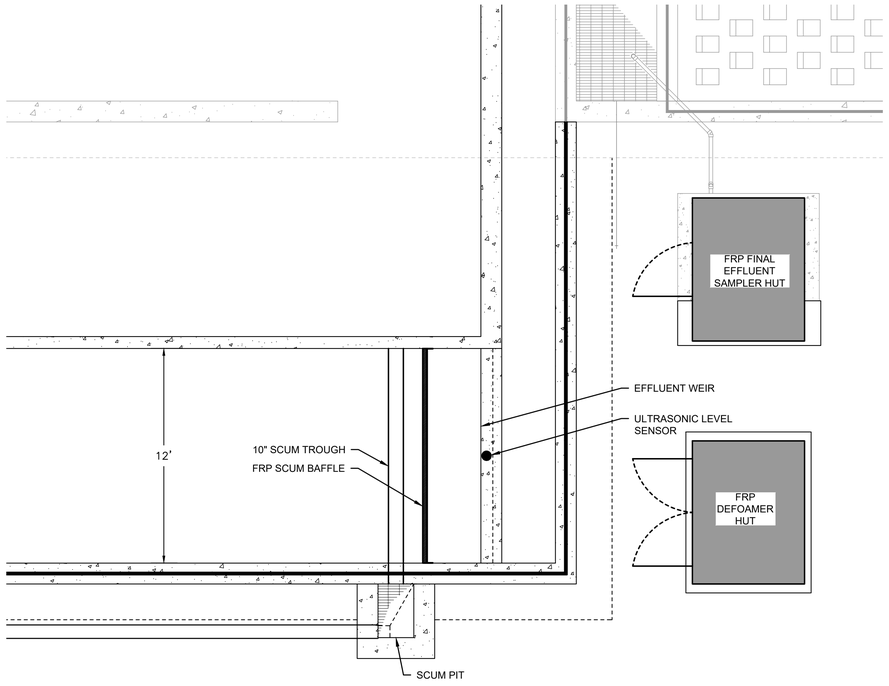
M-5.2



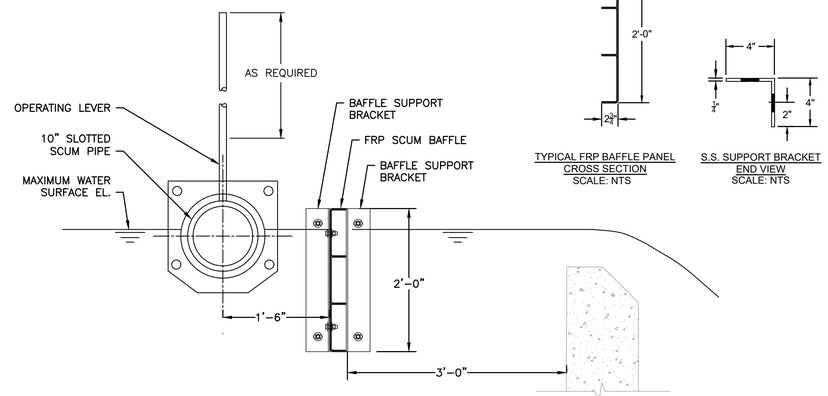
SCUM PIPE DETAIL

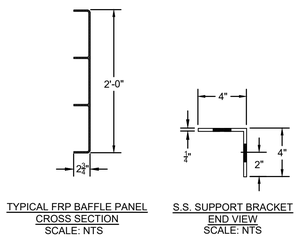
SCALE: 3"= 1'-0"



PLAN

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



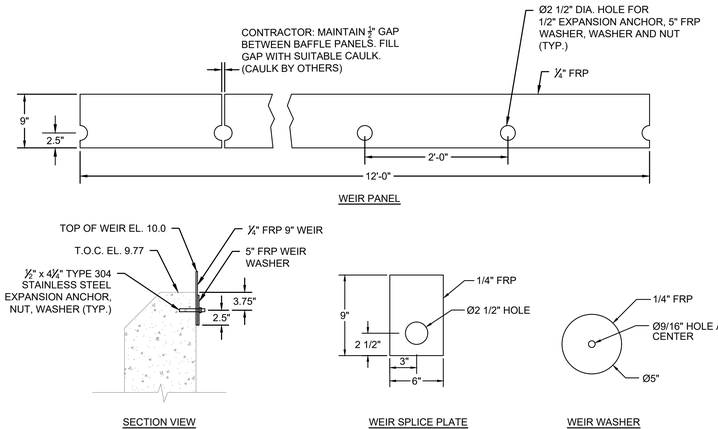


TYPICAL FRP BAFFLE PANEL CROSS SECTION
SCALE: NTS

S.S. SUPPORT BRACKET END VIEW
SCALE: NTS

SCUM BAFFLE DETAIL

SCALE: NTS



WEIR PANEL

SECTION VIEW

WEIR SPLICE PLATE

WEIR WASHER

CHLORINE CONTACT CHAMBER EFFLUENT WEIR

SCALE: NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chlorine Contact Tank Details

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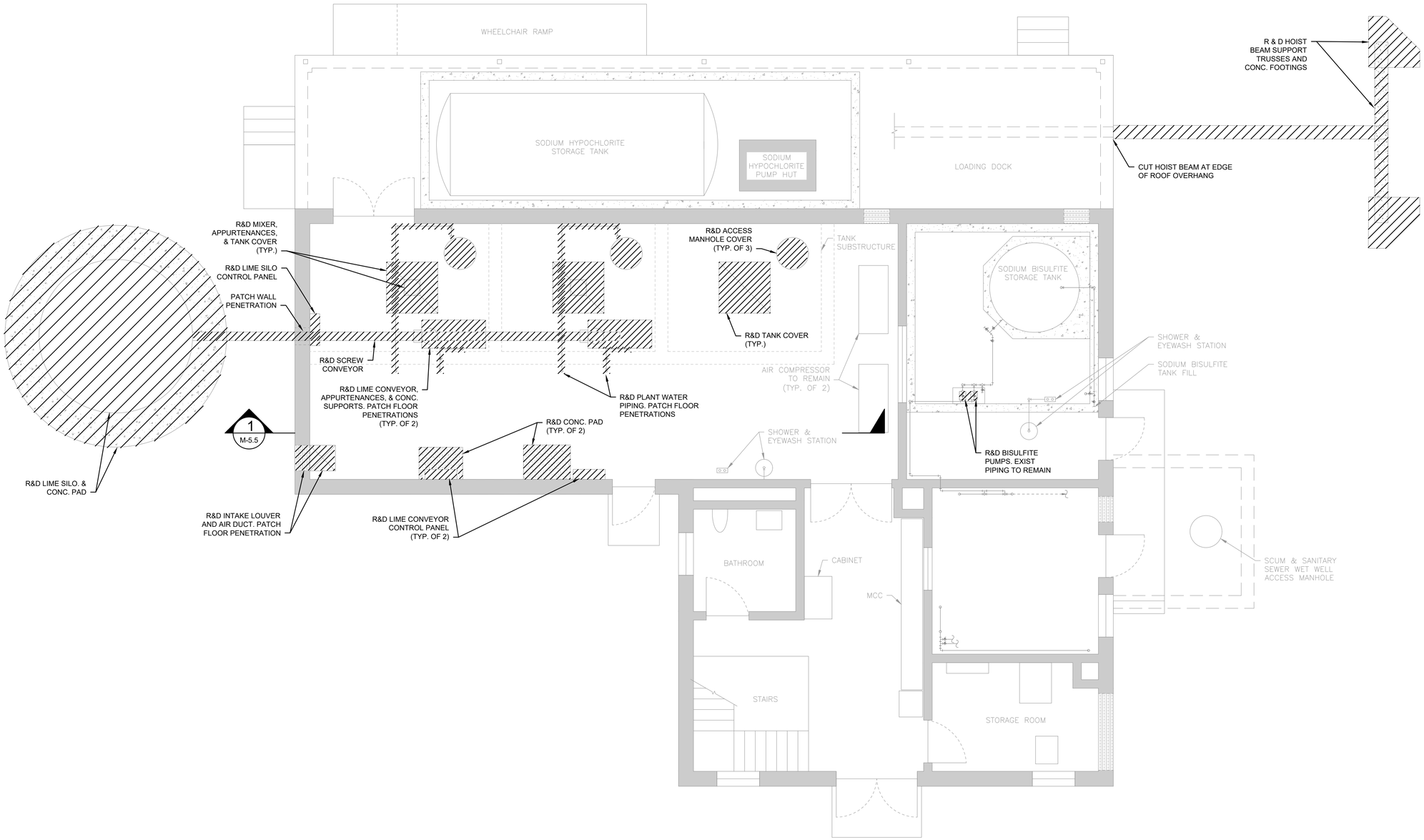
M-5.3



FIRST FLOOR - PLAN (EL. 24.0)

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

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chemical Handling Building Demolition Plan

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SCALE

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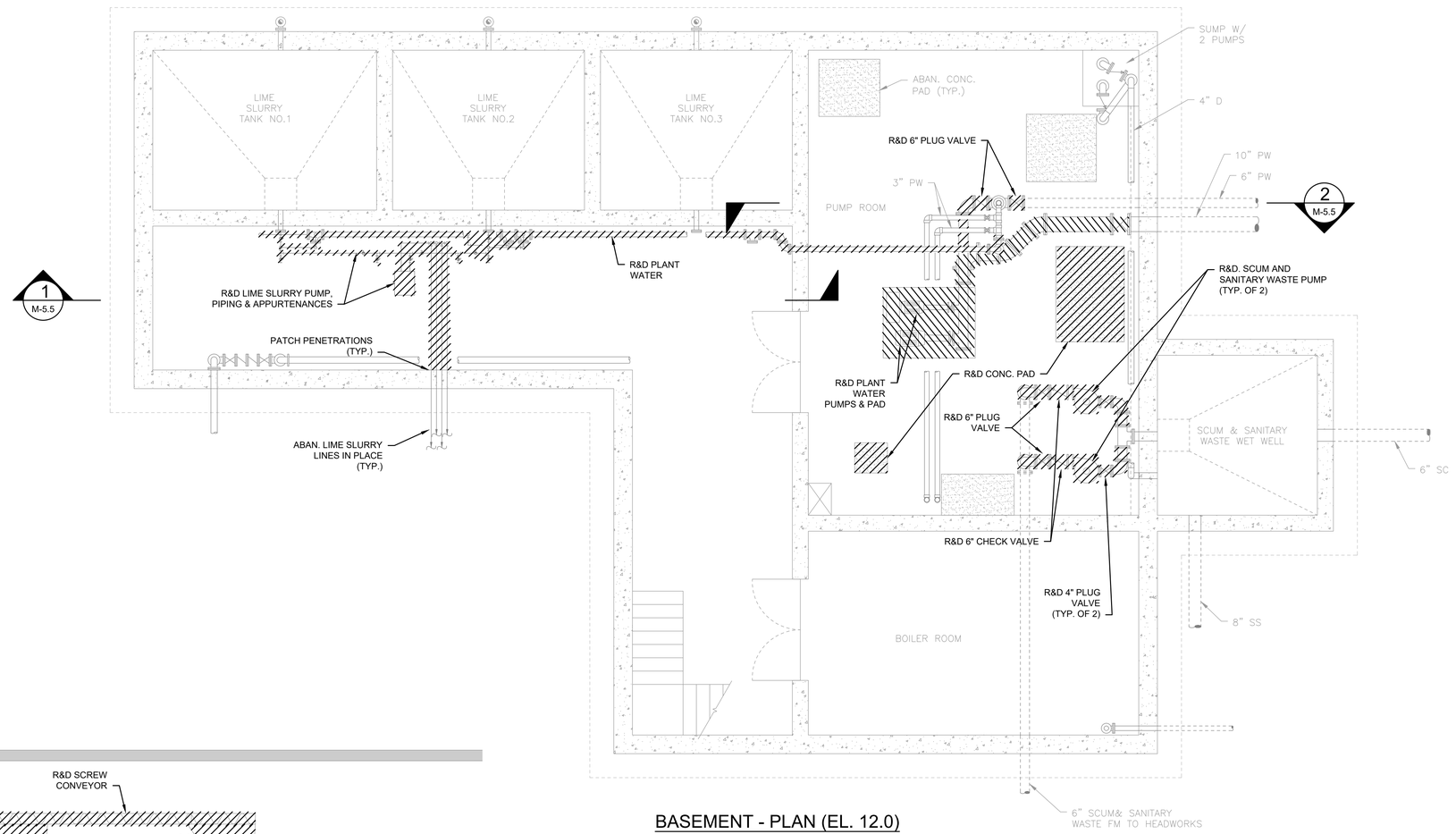
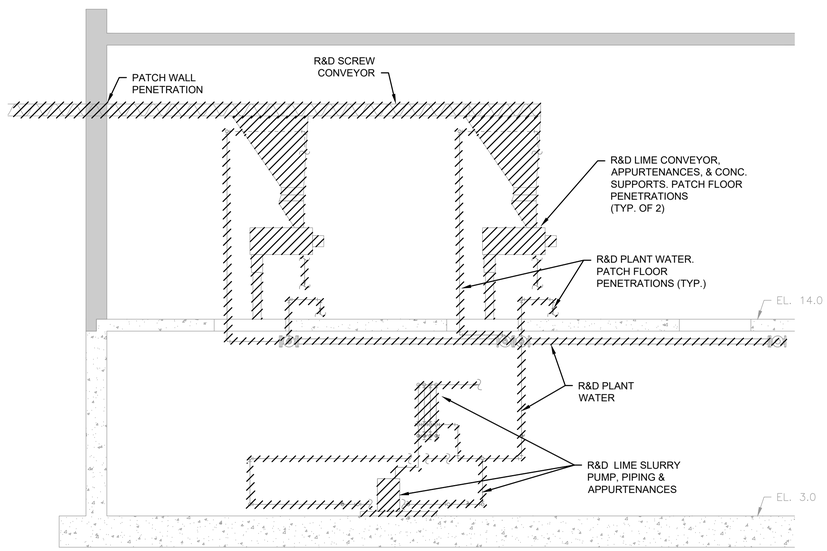
SHEET NO.

M-5.4



BASEMENT - PLAN (EL. 12.0)

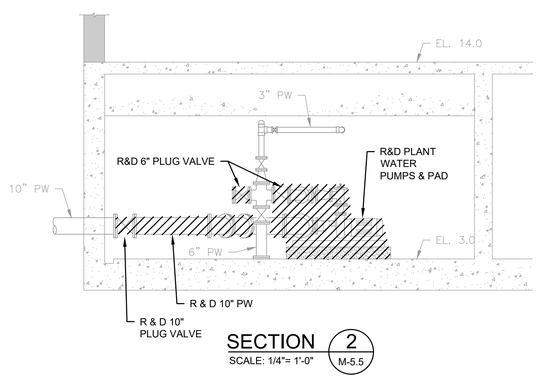
SCALE: 1/4"= 1'-0"



SECTION 1

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

M-5.4



SECTION 2

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

M-5.5

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

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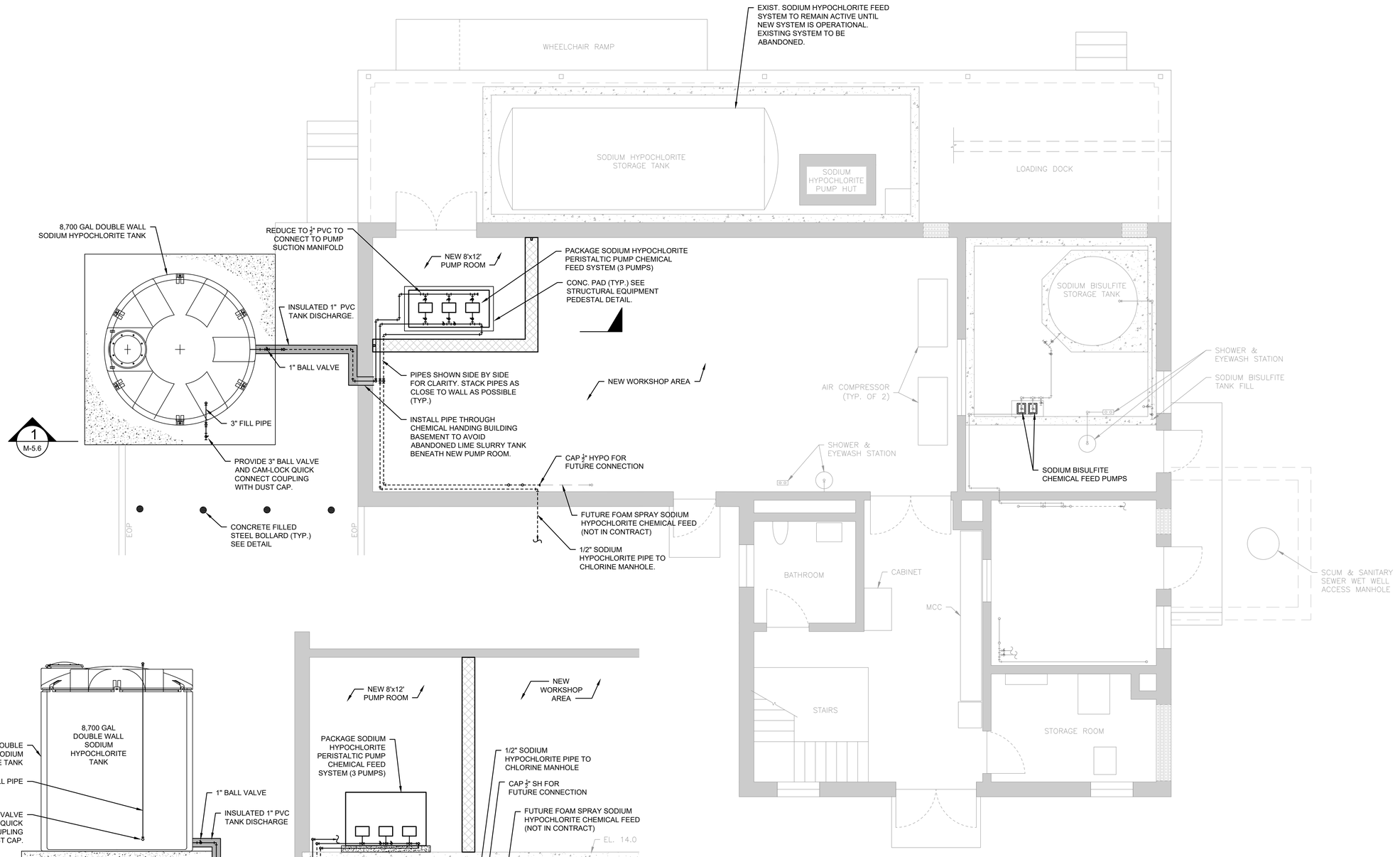
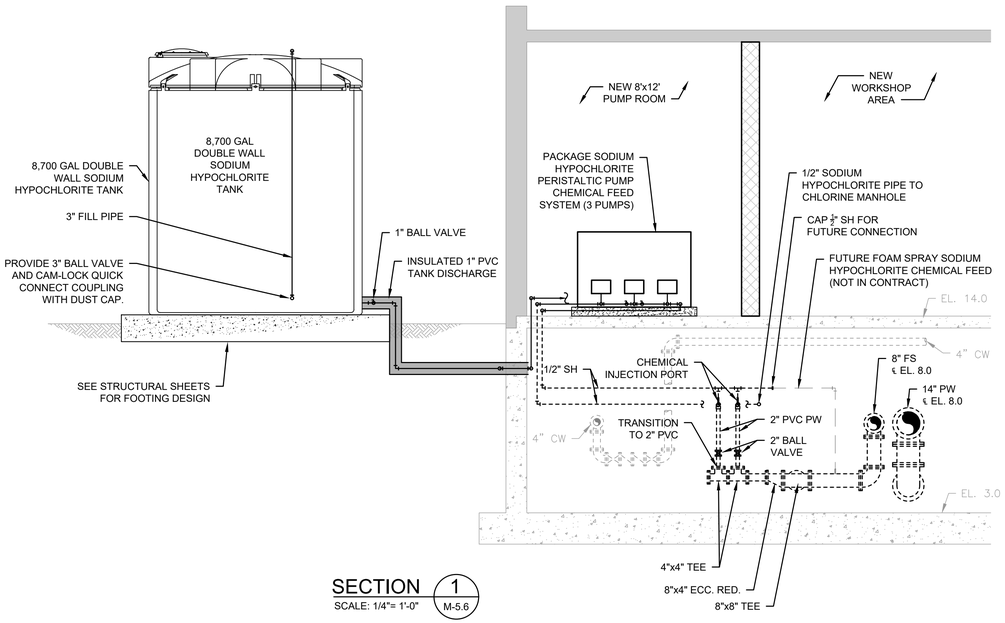
M-5.5





SECTION 1 / M-5.6
SCALE: 1/4"= 1'-0"

FIRST FLOOR - PLAN (EL. 24.0)
SCALE: 1/4"= 1'-0"

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PROJECT

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Taunton, MA

TITLE

Chemical Handling Building Plan

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SCALE

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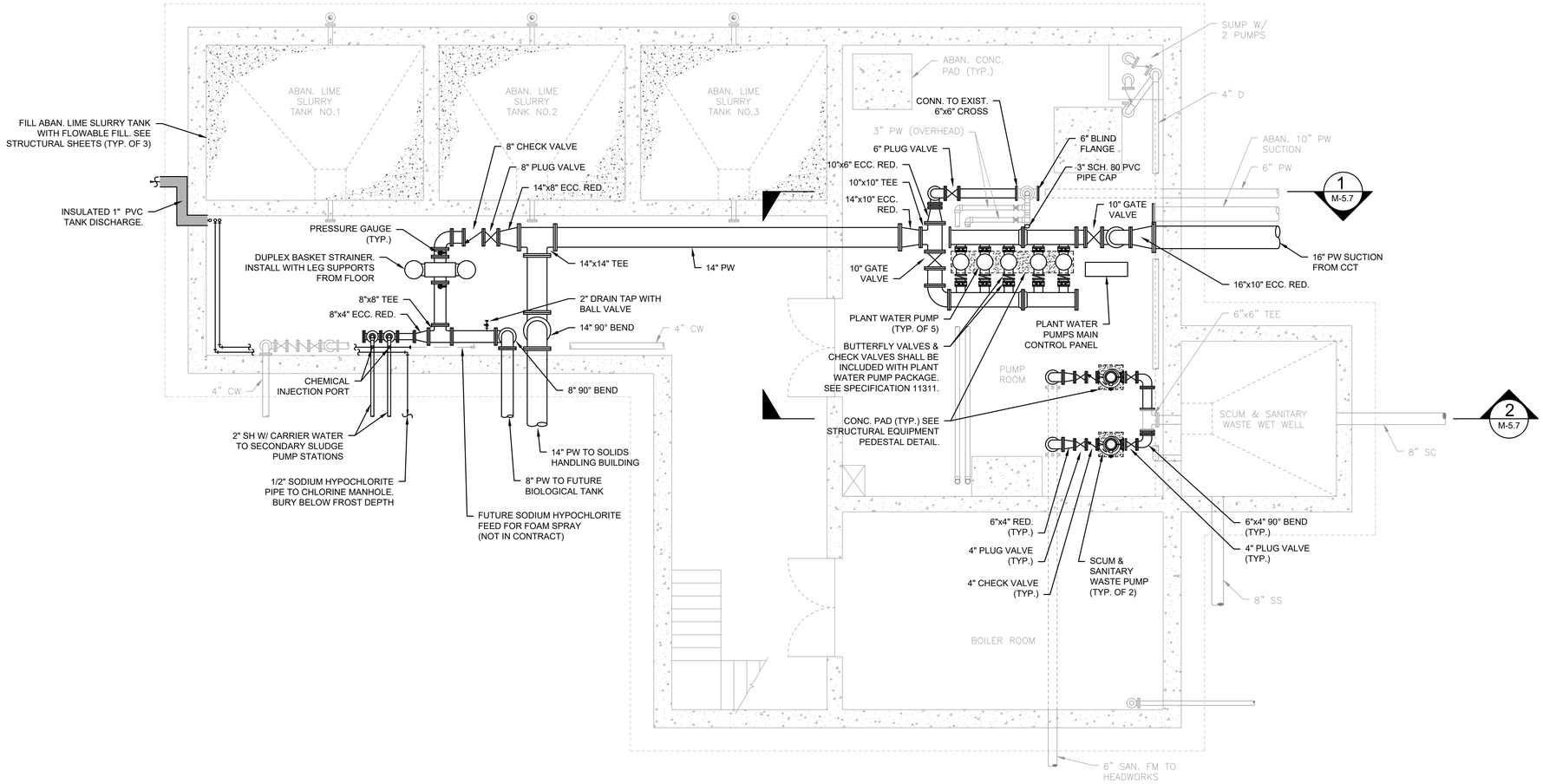
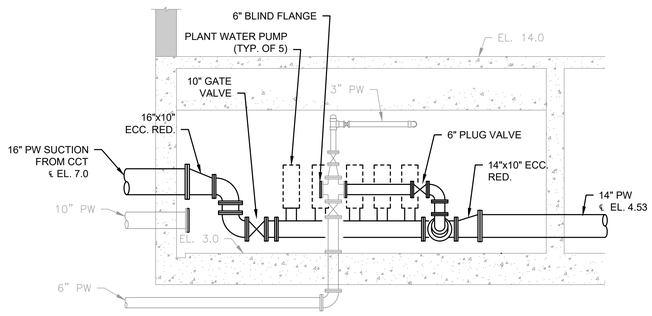
M-5.6



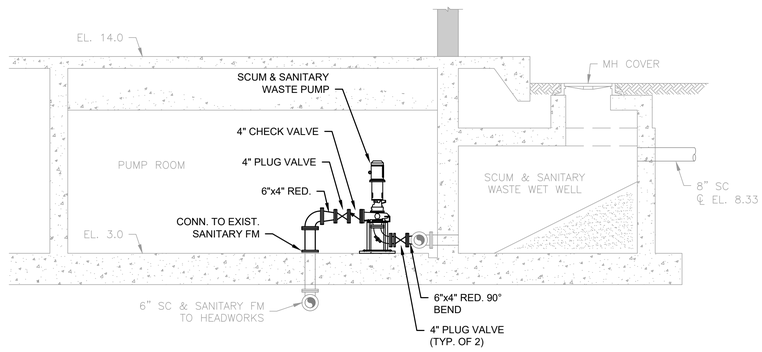
BASEMENT - PLAN (EL. 12.0)

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



SECTION 1

SCALE: 1/4"= 1'-0" (M-5.7)



SECTION 2

SCALE: 1/4"= 1'-0" (M-5.7)

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30853
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Chemical Handling Building Plan & Sections

NO.	REVISIONS	DATE

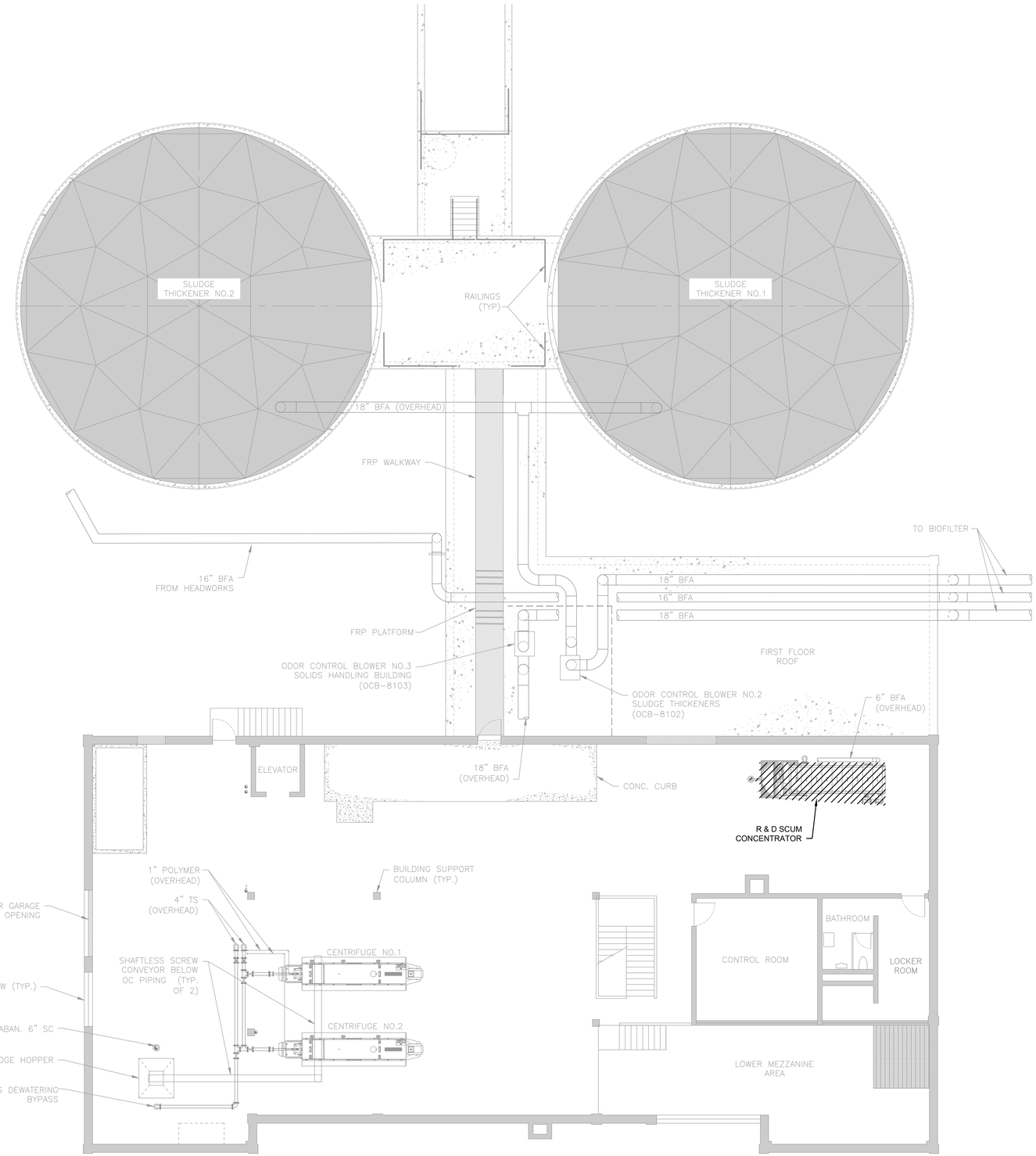
DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

M-5.7



SECOND FLOOR - PLAN (EL. 65.0)

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

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

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SCALE

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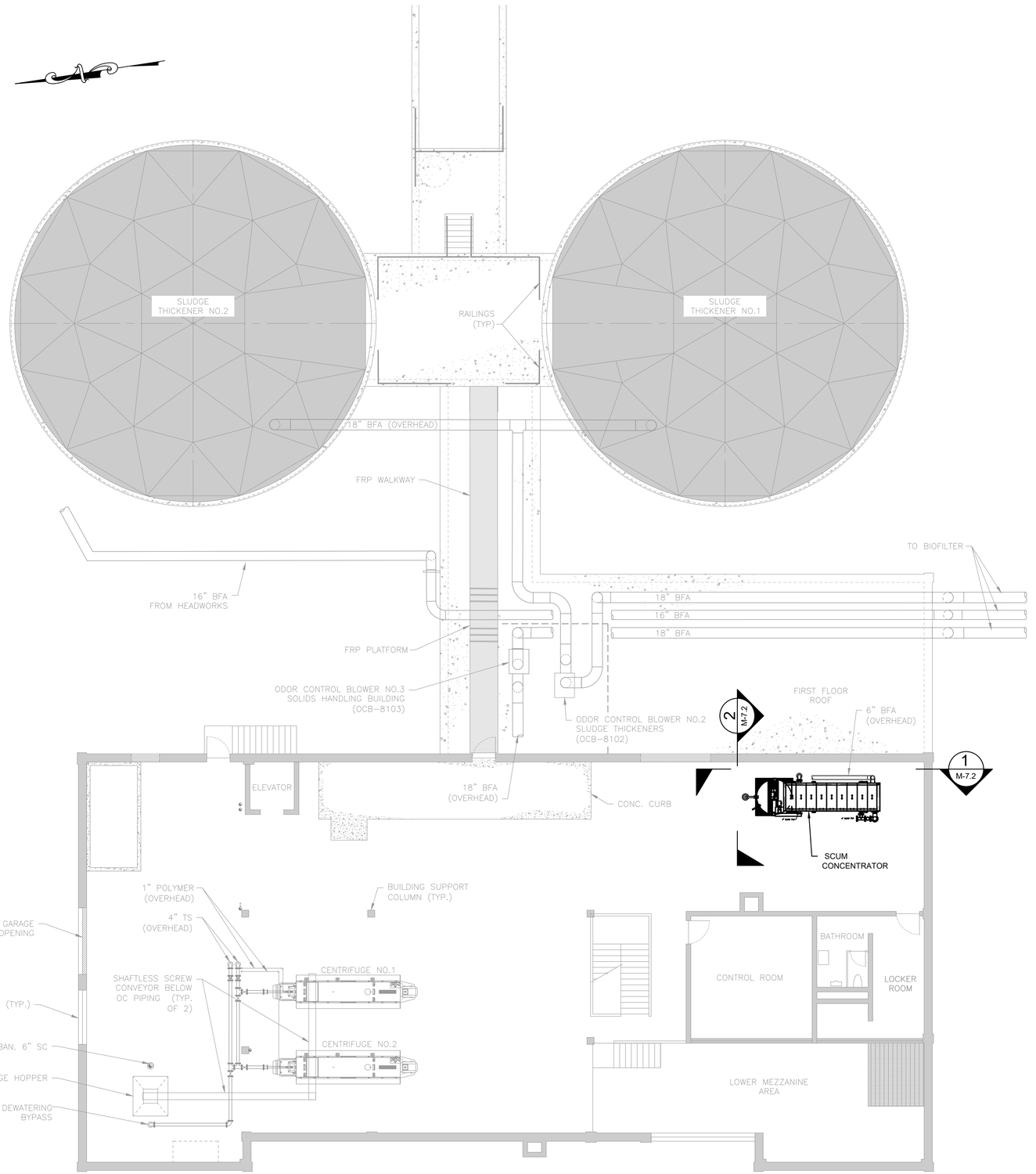
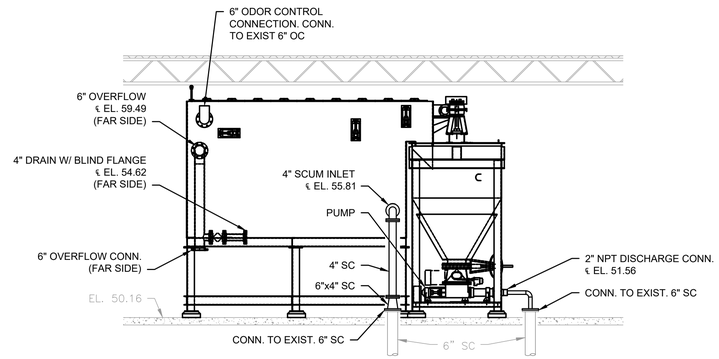
SHEET NO.

M-7.1



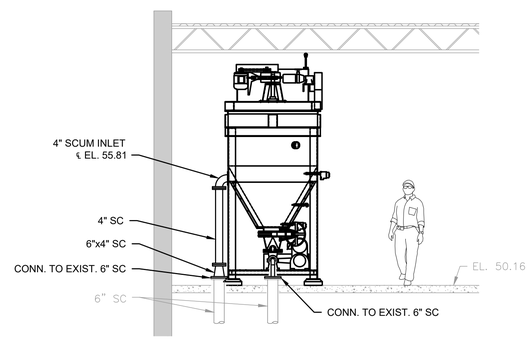
SECOND FLOOR - PLAN (EL. 65.0)

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



SECTION 1 M-7.2

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



SECTION 2 M-7.2

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

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COMMONWEALTH OF MASSACHUSETTS JOSEPH FEDERICO, JR. No. 39663 REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Solids Handling Building Plans & Sections

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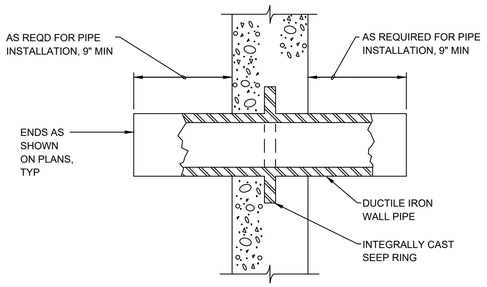
SCALE

AS SHOWN

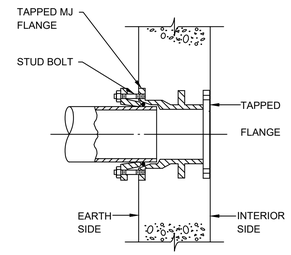
SHEET NO.

M-7.2



PExPE DUCTILE IRON WALL PIPE 401

SCALE: NOT TO SCALE



MJxFLUSH FLG D.I. WALL PIPE 402

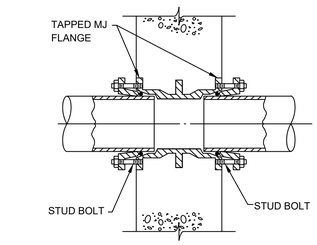
SCALE: NOT TO SCALE

MJxFLG D.I. WALL PIPE 403

SCALE: NOT TO SCALE

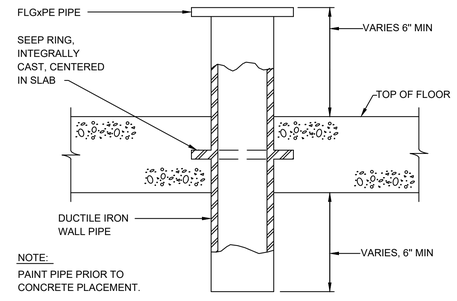
MJxPE D.I. WALL PIPE 404

SCALE: NOT TO SCALE



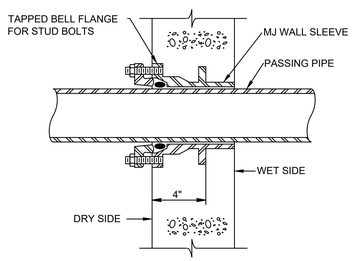
MJxMJ D.I. WALL PIPE 405

SCALE: NOT TO SCALE



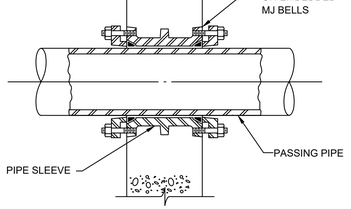
FLGxPE FLOOR PIPE 406

SCALE: NOT TO SCALE



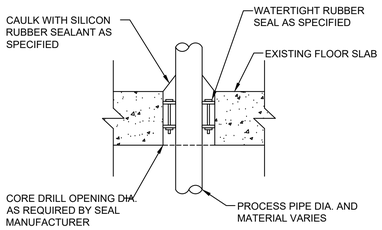
MJxPE WALL SLEEVE 408

SCALE: NOT TO SCALE



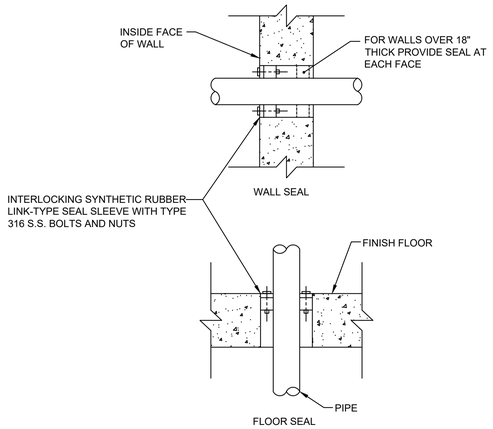
MJxMJ PIPE SLEEVE 407

SCALE: NOT TO SCALE



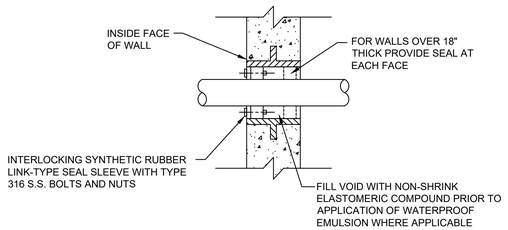
FLOOR PENETRATION FOR CORED HOLES IN WET AREAS 409

SCALE: NOT TO SCALE



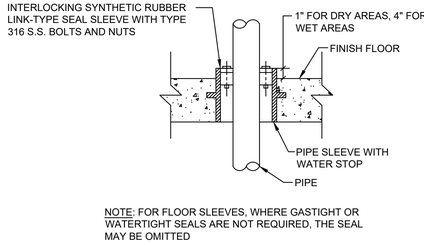
PENETRATION FOR CORED HOLES IN EXISTING WALLS OR FLOOR PENETRATIONS IN DRY AREAS 410

SCALE: NOT TO SCALE



WALL SLEEVE/NEW CONCRETE 411

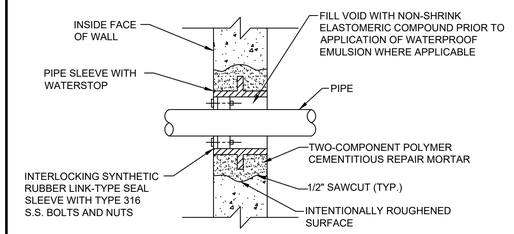
SCALE: NOT TO SCALE



NOTE: FOR FLOOR SLEEVES, WHERE GASTIGHT OR WATERTIGHT SEALS ARE NOT REQUIRED, THE SEAL MAY BE OMITTED

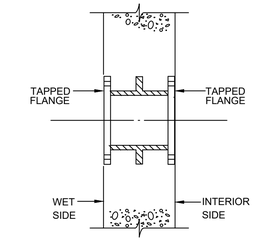
FLOOR SLEEVE/NEW CONCRETE 412

SCALE: NOT TO SCALE



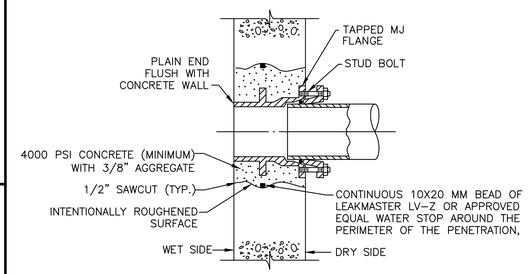
WALL SLEEVE/EXISTING WALL 413

SCALE: NOT TO SCALE



FLUSH FLGxFLUSH FLG D.I. WALL PIPE 414

SCALE: NOT TO SCALE



EXPANSION OF CORED HOLES/EXISTING WALLS 415

SCALE: NOT TO SCALE

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JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Mechanical Details I

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SCALE

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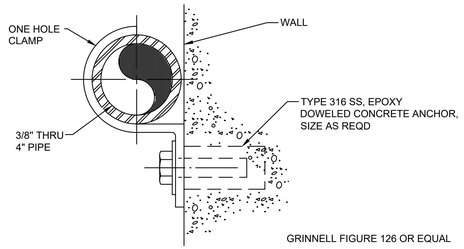
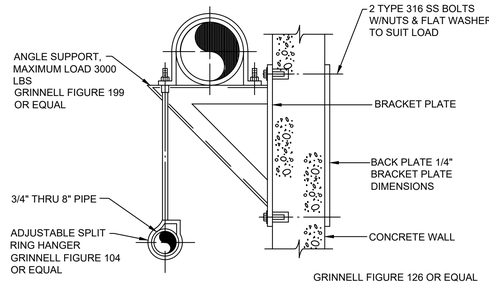
SHEET NO.

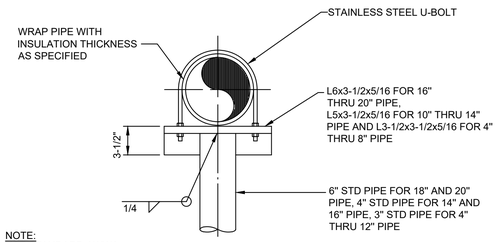
MD-1



PIPE SUPPORT 416
SCALE: NOT TO SCALE

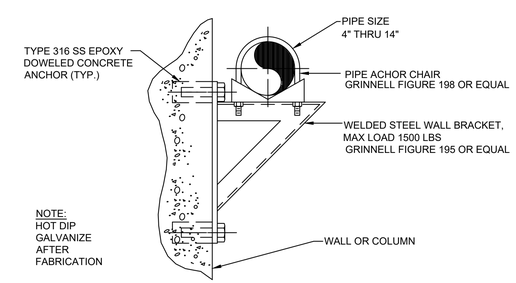


PIPE SUPPORT 417
SCALE: NOT TO SCALE

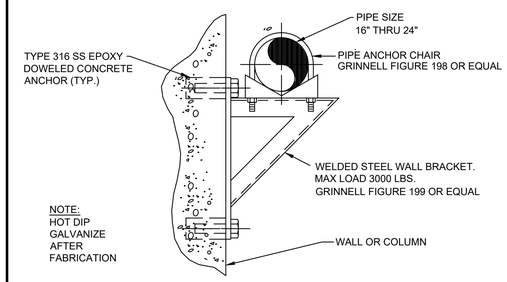


NOTE:
USE STANDARD AWWA RING FLANGE FOR BASE.

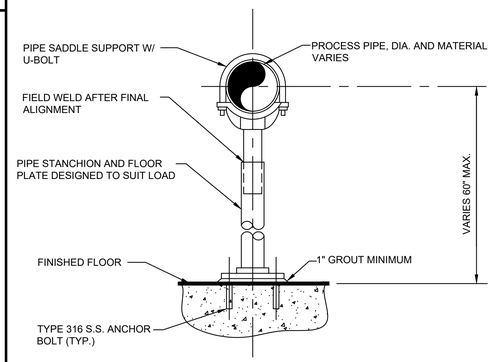
PIPE SUPPORT 418
SCALE: NOT TO SCALE



PIPE SUPPORT–MEDIUM 419
SCALE: NOT TO SCALE



PIPE SUPPORT–HEAVY 420
SCALE: NOT TO SCALE

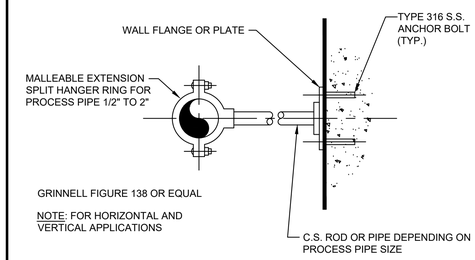


NOTES: 1. PROVIDE HALF-ROUND RIGID INSULATION WAND INSULATION SHIELD FOR INSULATED PIPING.

2. PROVIDE NEOPRENE ISOLATION PAD UNDER SUPPORT FOOT FOR ISOLATED PIPING OR WHEN SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.

GRINNELL FIGURE 259 OR EQUAL

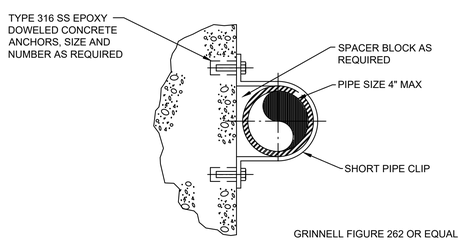
FLOOR PIPE SUPPORT 421
SCALE: NOT TO SCALE



GRINNELL FIGURE 138 OR EQUAL

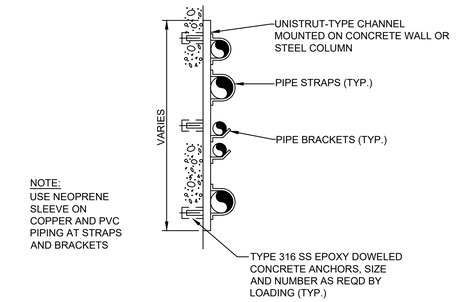
NOTE: FOR HORIZONTAL AND VERTICAL APPLICATIONS

WALL PIPE SUPPORT 422
SCALE: NOT TO SCALE



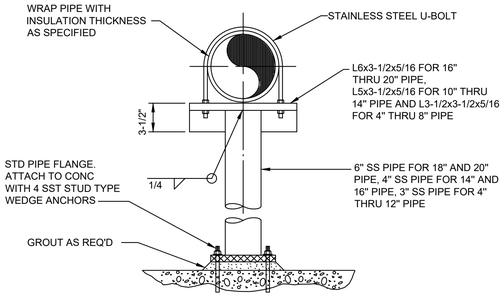
GRINNELL FIGURE 262 OR EQUAL

VERTICAL PIPE SUPPORT 423
SCALE: NOT TO SCALE

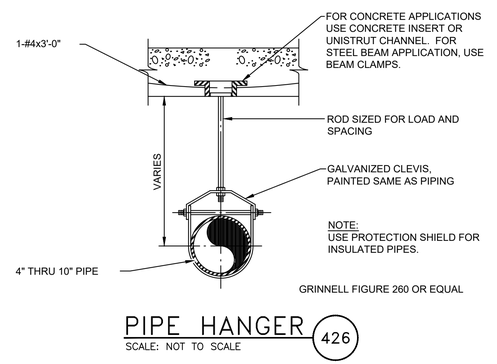


NOTE:
USE NEOPRENE SLEEVE ON COPPER AND PVC PIPING AT STRAPS AND BRACKETS

STACKED PIPE WALL SYSTEM 424
SCALE: NOT TO SCALE

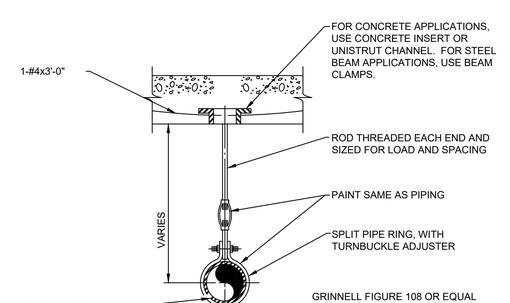


S.S. PIPE SUPPORT (SUBMERGED) 425
SCALE: NOT TO SCALE



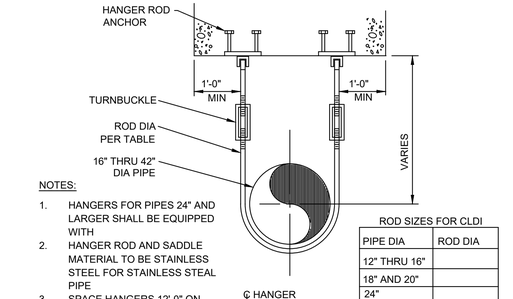
GRINNELL FIGURE 260 OR EQUAL

PIPE HANGER 426
SCALE: NOT TO SCALE



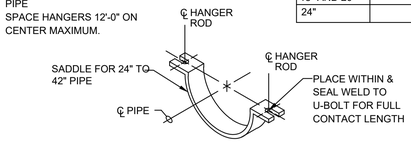
GRINNELL FIGURE 108 OR EQUAL

PIPE HANGER 427
SCALE: NOT TO SCALE

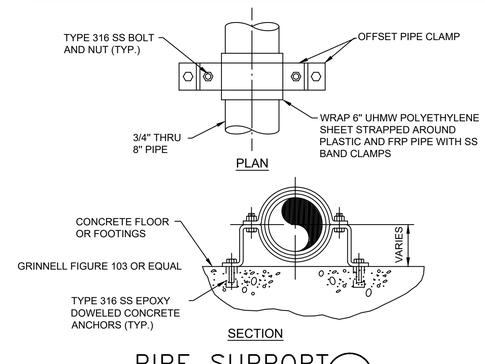


NOTES:
1. HANGERS FOR PIPES 24" AND LARGER SHALL BE EQUIPPED WITH
2. HANGER ROD AND SADDLE MATERIAL TO BE STAINLESS STEEL FOR STAINLESS STEAL PIPE
3. SPACE HANGERS 12'-0" ON CENTER MAXIMUM.

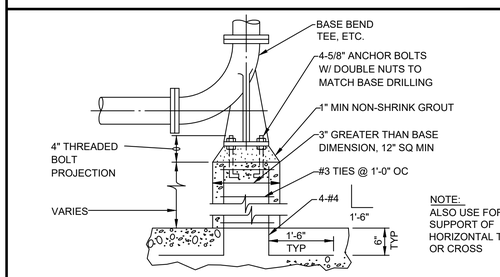
ROD SIZES FOR CLDI	
PIPE DIA	ROD DIA
12" THRU 16"	
18" AND 20"	
24"	



PIPE HANGER 428
SCALE: NOT TO SCALE

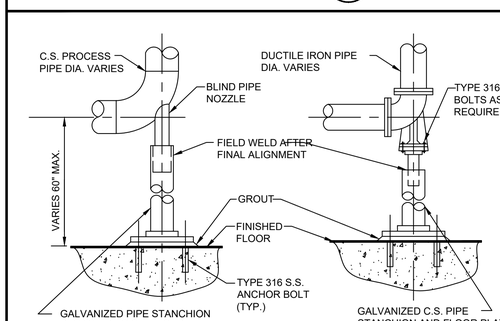


PIPE SUPPORT 429
SCALE: NOT TO SCALE



NOTE:
ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS

BASE BEND 430
SCALE: NOT TO SCALE



FLOOR PIPE SADDLE 431
SCALE: NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDRICO, JR.
No. 39663
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Mechanical Details II

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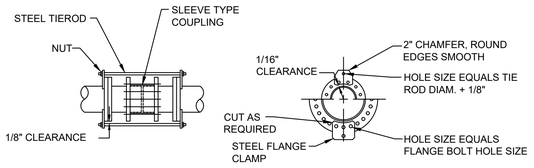
SHEET NO.

MD-2

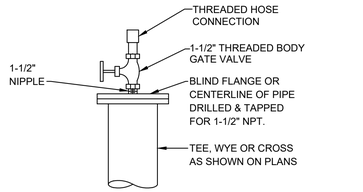


NOTE: TIERODS SHALL BE EQUALLY SPACED AROUND PIPE.

	TIERODS		FLANGE CLAMP			
PIPE SIZE	NO.	DIA.	THICKNESS	NO. OF FLANGE BOLTS PER CLAMP	"A"	"B"
6"	2	1/2"	1/2"	2	2"	7-3/4"
8"	2	5/8"	1/2"	2	2"	8-5/8"
10"	2	3/4"	1/2"	2	2"	7-3/4"
12"	2	1"	1/2"	2	2"	8-1/2"
14"	2	1-1/8"	3/4"	2	2"	9"
16"	2	1-1/4"	7/8"	2	2"	12-1/4"
18"	2	1-3/8"	7/8"	3	2-1/2"	13"
20"	2	1-3/8"	1"	3	2-1/2"	8"
24"	3	1-3/8"	1"	2	2-1/2"	8-3/4"
30"	4	1-3/4"	1"	2	2-1/2"	12-1/4"
36"	4	1-3/4"	1-1/4"	3	2-1/2"	8-1/2"
42"	6	1-3/4"	1-1/4"	2	2-1/2"	12-3/4"
48"	6	1-3/4"	1-1/4"	3	2-1/2"	12-1/2"
	8			3		

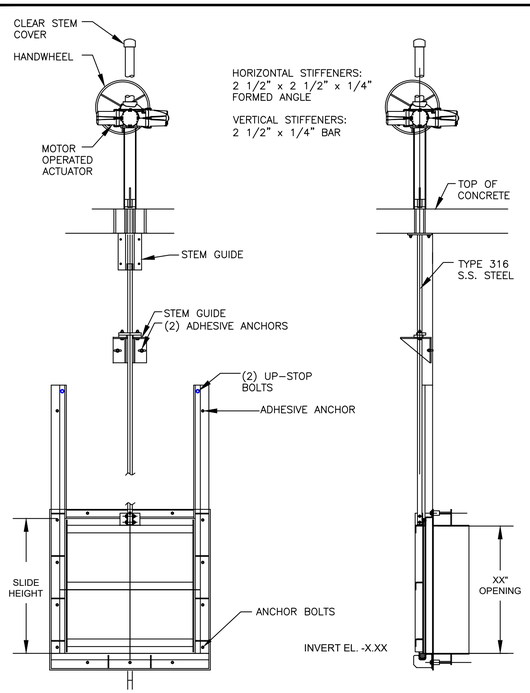
SLEEVE COUPLING RESTRAINT (150 PSI FLANGE CLAMP ASSEMBLY) 432

SCALE: NOT TO SCALE



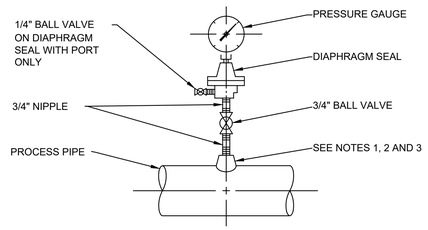
FLUSHING CONNECTION 433

SCALE: NOT TO SCALE

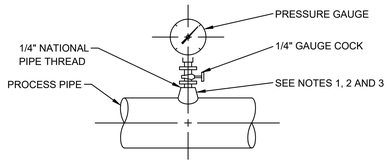


SLIDE GATE

SCALE: NOT TO SCALE



DIAPHRAGM PRESSURE GAUGE



PRESSURE GAUGE

NOTES:

1. FOR STEEL, GALVANIZED STEEL, AND PVC 2 1/2" AND SMALLER USE A BUSHING IN A TEE.
2. FOR DUCTILE IRON AND FIBERGLASS REINFORCED PLASTIC PIPE, ALL SIZES, USE PIPE SADDLE WITH BUSHING.
3. FOR STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
4. PROVIDE SNUBBER FOR POSITIVE DISPLACEMENT PUMP INSTALLATIONS.

PRESSURE GAUGE MOUNTING DETAILS 434

SCALE: NOT TO SCALE

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Mechanical Details III

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	SR
ISSUE DATE:	7/2/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

MD-3

GENERAL NOTES

1. HVAC WORK IS INDICATED DIAGRAMMATICALLY. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS. EXISTING DUCTS, PIPING OR EQUIPMENT INTERFERING WITH OTHER INSTALLATIONS SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. EXACT LOCATIONS MUST HAVE THE APPROVAL OF THE ARCHITECT.
2. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE ANY INSTALLATION IS MADE.
3. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH STATE CODES, MANUFACTURER'S APPROVED PUBLISHED LITERATURE, AND AUTHORITIES HAVING JURISDICTION.
4. INSTALLATION OF EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/ OR REPLACEMENT.
5. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A WAY THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO UNITS AND RELATED ACCESSORIES.
6. HVAC CONTRACTOR SHALL COORDINATE ALL WALL, CEILING, FLOOR, ROOF AND BEAM PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER.
7. ALL DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
8. PROVIDE VOLUME DAMPERS AT EVERY MAIN BRANCH TAKE-OFF AND AS INDICATED AND IN SUCH OTHER LOCATIONS WHERE REQUIRED TO PROPERLY BALANCE THE SYSTEM. DO NOT INSTALL VOLUME DAMPERS IN NECKS OF DIFFUSERS OR AT DISCHARGE OR INLET GRILLES IN DUCTWORK.
9. PROVIDE INSTRUMENT TEST HOLES WITH CAPS IN AIR DISTRIBUTION SYSTEMS AS REQUIRED TO BALANCE SYSTEM.
10. HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHEETMETAL TRANSITIONS AT AIR TERMINAL UNITS, FANS, COILS, AND OTHER SIMILAR HVAC EQUIPMENT.
11. ALL OPEN ENDED DUCTS IN THE CEILING PLENUM SHALL BE UNOBSTRUCTED FOR A MINIMUM DISTANCE OF 24" FROM THE OPENING TO ALLOW FREE AIR FLOW AND SHALL HAVE 3/4" WIRE MESH SCREENING.
12. ALL TRANSFER DUCTS SHALL BE INTERNALLY LINED.
13. ALL MISCELLANEOUS STRUCTURAL SUPPORTS REQUIRED FOR HVAC EQUIPMENT INSTALLATION SHALL BE PROVIDED BY HVAC SUBCONTRACTOR.
14. EXACT LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS TO BE DETERMINED BY ARCHITECTURAL REFLECTED CEILING PLAN.
15. INSTALL ALL PIPING BELOW DUCTWORK UNLESS CLEARANCE CONDITION REQUIRES PIPING TO BE ABOVE.
16. EXACT ELEVATION FOR SIDE WALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION.
17. UNLESS OTHERWISE NOTED, ALL PIPING RUNOUTS SHALL BE 3/4"
18. ALL EXPOSED EQUIPMENT (REGISTERS, UNIT HEATERS, ETC..) SHALL HAVE COLORS SELECTED BY THE ARCHITECT, UNLESS NOTED OTHERWISE.
19. HVAC SUBCONTRACTOR SHALL BLANK OFF AND INSULATE ALL UNUSED LOUVER AREA.
20. PITCH AIR INTAKE PLENUMS AND PROVIDE DRAIN TO NEAREST FLOOR DRAIN.
21. ALL REGISTERS, GRILLES AND DIFFUSERS LOCATED IN WALLS NEAR FLOOR SHALL BE HEAVY-DUTY TYPE DESIGNED TO WITHSTAND RUGGED IMPACT. REFER TO SCHEDULE. THE SECTION OF DUCTWORK BEHIND THE AIR DEVICE SHALL BE PAINTED FLAT BLACK.
22. EXACT LOCATION OF THERMOSTAT TO BE COORDINATED WITH FINAL LOCATION OF WALL MOUNTED ARCHITECTURAL AND ELECTRICAL EQUIPMENT.
23. ALL MAIN BRANCH PIPES FROM RISERS SHALL HAVE ISOLATION VALVES NEAR SHAFTS. PROVIDE SHUT-OFF VALVES AT EACH SUPPLY BRANCH AND COMBINATION BALANCING SHUT-OFF VALVE AT EACH RETURN BRANCH.
24. PROVIDE FLEXIBLE CONNECTOR ON INTAKES AND DISCHARGES OF ALL AIR HANDLING UNITS.
25. REFRIGERATION PIPING SIZED BY UNIT MANUFACTURER. SUBMIT CALCULATIONS TO ENGINEER FOR APPROVAL.
26. DUCT MOUNTED SMOKE DETECTOR – FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR, INSTALLED BY THE HVAC CONTRACTOR.
27. ROOF OPENINGS SHALL BE SIZED FROM APPROVED SHOP DRAWINGS.
28. ALL FLOOR MOUNTED MECHANICAL EQUIPMENT, BOILERS, PUMPS, AIR HANDLERS, ETC. SHALL HAVE A CONCRETE PAD 4" HIGH AND 6" BEYOND EQUIPMENT FOOT PRINT ON ALL FOUR SIDES. CONCRETE PADS SHALL BE SIZE FROM APPROVED SHOP DRAWINGS. CONCRETE PADS BY G.C.
29. ALL DAMPER MOTORS SHALL BE 24 VOLT.
30. PROVIDE DUCT MOUNTED SMOKE DAMPERS AT ALL SMOKE BARRIERS, REFER TO ARCH. DRAWINGS FOR LOCATION. SMOKE DAMPERS SHALL BE CLOSED AND ASSOCIATED EXH. FAN OR AHU SHALL BE SHUT-DOWN UPON DETECTION OF SMOKE AS SENSED BY AREA SMOKE DETECTORS. DAMPERS SHALL BE RUSKIN TYPE SD 60 OR EQUAL.

DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, ALL EXISTING HVAC SYSTEMS WITHIN HATCH MARKS (HOT WATER SUPPLY, HOT WATER RETURN, SUPPLY DUCTWORK, EXHAUST DUCTWORK, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OR SALVAGED. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED.
2. NO PIPING, DUCTWORK 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.
3. 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.

ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHAP	AS HIGH AS POSSIBLE
AP	ACCESS PANEL
ARCH	ARCHITECT
ATC	AUTOMATIC TEMPERATURE CONTROL
BDD	BACKDRAFT DAMPER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BOD	BOTTOM OF DUCT
CAP	CAPACITY
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CONT	CONTROLLER
CP	CUT AND CAP
DIA	DIAMETER
DB	DRY BULB TEMPERATURE
DC	DUST COLLECTOR
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION COOLING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD RADIATION
ECH	ELECTRIC CABINET HEATER
ECON	AIR-SIDE ECONOMIZER
EF	EXHAUST FAN
EFF	EFFICIENCY
ELV	ELEVATION
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FA	FREE AREA
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FT	FEET
FTR	FINNED TUBE RADIATION
GAL	GALLONS
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GF	GLYCOL FEED
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HGRH	HOT GAS REHEAT
HW	HOT WATER
HZ	HERTZ
IN	INCHES
KE	KITCHEN EXHAUST
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LINEAR DIFFUSER
LF	LINEAR FEET
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU'S PER HOUR
MCC	MOTOR CONTROL CENTER
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
POS	PROVIDED UNDER OTHER SECTIONS
PSI	POUNDS PER SQUARE INCH (GAUGE)
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PG	PROPYLENE GLYCOL
R	RETURN
RA	RETURN AIR
RB	REBALANCE
RF	RETURN/EXHAUST FAN
RG	RETURN GRILLE
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
S	SUPPLY
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SF	SQUARE FEET, SUPPLY FAN
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
STL	STEEL
TYP	TYPICAL
UC	UNDERCUT DOOR
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

PIPING LEGEND

CD	CONDENSATE DRAIN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

EQUIPMENT TAG SYMBOLS & ABBREVIATIONS

EQUIPMENT NOT REQUIRING ELECTRIC SERVICE — TAG NO — SEE SCHEDULE FOR PERFORMANCE REQUIREMENTS — TAG NO — EQUIPMENT REQUIRING ELECTRIC SERVICE

FTR-1 / MBH / LENGTH — FINNED TUBE RADIATION

ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
AF	AIR FILTER
AS	AIR SEPARATOR
B	BOILER
CC	COOLING COIL
CH	CHILLER
CUH	CABINET UNIT HEATER
C	CONVECTOR
EF	EXHAUST FAN
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
FCU	FAN COIL UNIT
FMS	FLOW MEASURING STATION
FTR	FIN-TUBE RADIATION
HC	HEATING COIL
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HV	HEATING AND VENTILATING UNIT
IRV	INTAKE ROOF VENT
MAU	MAKEUP AIR UNIT
P	PUMP
REF	RETURN/EXHAUST FAN
RF	RETURN FAN
RTU	ROOFTOP UNIT
SA	SOUND ATTENUATOR
SF	SUPPLY FAN
TU	TERMINAL UNIT
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME UNIT

RB / 2000 — REBALANCE EXISTING CFM TO INDICATED AMOUNTED

INSTRUMENTATION

PI	LOCAL PRESSURE GAUGE W/SHUTOFF AND SNUBBER
DPI	DIFFERENTIAL PRESSURE GAUGE W/SHUTOFFS AND SNUBBERS
TI	LOCAL TEMPERATURE INDICATION
Th	HEATING ONLY THERMOSTAT
Tc	COOLING ONLY THERMOSTAT
T	HEATING/COOLING THERMOSTAT
TT	TEMPERATURE TRANSMITTER
PT	PRESSURE TRANSMITTER
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
FT	FLOW TRANSMITTER
SP	STATIC PRESSURE SENSOR
H	HUMIDITY SENSOR OR HUMIDISTAT
CO2	CARBON DIOXIDE DETECTOR
CO	CARBON MONOXIDE DETECTOR
OS	OCCUPANCY SENSOR
PS	PRESSURE SENSOR SWITCH

VALVES AND ACCESSORIES

- GATE VALVE
- BALL VALVE
- BALL VALVE WITH HOSE BIBB, CAP & CHAIN
- BUTTERFLY VALVE
- GLOBE VALVE
- PRESSURE REDUCING VALVE (SELF-CONTAINED)
- BACKPRESSURE REGULATOR (SELF-CONTAINED)
- CHECK VALVE (SWING TYPE)
- CHECK VALVE (SILENT TYPE)
- STRAINER W/BALL VALVE, HOSE BIBB & CAP (GATE VALVE FOR STEAM)
- ANGLE VALVE
- BUTTERFLY VALVE, TWO POSITION ACTUATOR
- BALL VALVE, TWO POSITION ACTUATOR
- SOLENOID VALVE
- TWO-WAY AUTOMATIC CONTROL VALVE, MODULATING ACTUATOR
- TWO-WAY AUTOMATIC CONTROL VALVE, TWO POSITION ACTUATOR
- THREE-WAY AUTOMATIC CONTROL VALVE, MODULATING ACTUATOR
- THREE-WAY AUTOMATIC CONTROL VALVE, TWO POSITION ACTUATOR
- AUTOMATIC FLOW CONTROL VALVE (PRESSURE INDEPENDENT)
- COMBINATION FLOWMETER/SHUT OFF/BALANCING VALVE
- FLOW SWITCH
- FLOW METER
- SAFTEY RELIEF VALVE
- UNION OR FLANGE (SEE SPEC)
- BLIND FLANGE
- END CAP
- VB — VACUUM BREAKER
- PT — PRESSURE/TEMPERATURE WELL
- AAV — AUTOMATIC AIR VENT WITH ISOLATION VALVE
- MAV — MANUAL AIR VENT
- REDUCER (ECCENTRIC-FLAT ON BOTTOM OR FLAT ON TOP)
- REDUCER (CONCENTRIC)
- FLEXIBLE CONNECTION
- EXPANSION JOINT
- PIPE GUIDE
- ANCHOR
- RISE (SINGLE LINE – PLAN VIEW)
- DROP (SINGLE LINE – PLAN VIEW)
- TOP TAKEOFF / BOTTOM TAKEOFF
- PIPE BREAK (SINGLE LINE)
- DIRT LEG
- CLEAN-OUT FOR CONDENSATE DRAIN
- RISE (DOUBLE LINE – PLAN VIEW)
- DROP (DOUBLE LINE – PLAN VIEW)
- PIPE BREAK (DOUBLE LINE)
- DIRECTION OF FLOW IN PIPE
- UP — PITCH PIPE UP IN DIRECTION OF FLOW
- DN — PITCH PIPE DOWN IN DIRECTION OF FLOW
- FINNED TUBE WITH NO ENCLOSURE
- FINNED TUBE WITH WITH ENCLOSURE

FLOW DIAGRAM EQUIPMENT SYMBOLS

- CENTRIFUGAL PUMP
- POSITIVE DISPLACEMENT PUMP
- FILTER (WATER SERVICE)
- SUCTION DIFFUSER W/STRAINER
- C — * H = HEATING COIL; C = COOLING COIL; RH = REHEAT COIL; PH = PREHEAT COIL; DX = DIRECT EXPANSION COIL
- ET / 1 — EXPANSION TANK
- AAV / AS / 1 — AIR SEPARATOR

DUCTWORK LEGEND/SYMBOLS

- 12"x"10 — RECTANGULAR DUCTWORK – FIRST DIMENSION IS SIDE SHOWN (IN.) FREE AREA
- 12"ø — ROUND DUCT DIAMETER (IN.)
- SUPPLY/OUTSIDE AIR DUCTWORK UP
- SUPPLY/OUTSIDE AIR DUCTWORK DOWN
- RETURN/EXHAUST AIR DUCTWORK UP
- RETURN/EXHAUST AIR DUCTWORK DOWN
- FLEXIBLE CONNECTION
- ACOUSTICALLY LINED DUCTWORK
- R — CHANGE OF ELEVATION IN DIRECTION OF AIRFLOW (R)RISE,(D)DROP
- 12x10 — RECTANGULAR DUCT TRANSITION
- 12x10 / 8x6 — RECTANGULAR TO SINGLE LINE TRANSITION
- 12x10 / 10ø — RECTANGULAR TO ROUND TRANSITION
- MITERED ELBOW W/ TURNING VANES
- SUPPLY AIR DIFFUSER BELOW DUCT
- RETURN OR EXHAUST REGISTER BELOW DUCT
- ROUND DUCT UP
- SUPPLY AIR DIFFUSER (SQUARE OR RECTANGULAR)
- SUPPLY AIR DIFFUSER (LINEAR)
- RETURN AIR GRILLE OR REGISTER
- VD — MANUAL VOLUME DAMPER
- FD — SELF-CLOSING FIRE DAMPER W/ACCESS DOOR
- SD — SMOKE DAMPER W/ACCESS DOOR
- ACD — AUTOMATIC CONTROL DAMPER
- SFD — COMBINATION SMOKE/FIRE DAMPER W/ACCESS DOOR
- SUPPLY AIR BLOW DIRECTION
- EXHAUST / RETURN / OR INTAKE

DIFFUSER/REGESTER TAG

TT-X	TYPE-BLOW (CD-1 = CEILING DIFFUSER)
0000	CFM
0"x0"	SIZE

- INLINE CENTRIFUGAL FAN
- ROOF FAN OR VENT
- TERMINAL UNIT (COOLING ONLY)
- TERMINAL UNIT (HEATING/COOLING)
- EXHAUST FAN (SHOWN ON ROOF PLAN)
- EXHAUST FAN (SHOWN ON FLOOR PLAN)

SINGLE LINE DUCTWORK

- DUCTWORK
- SUPPLY/OUTSIDE AIR DUCTWORK UP
- SUPPLY/OUTSIDE AIR DUCTWORK DOWN
- RETURN/EXHAUST AIR DUCTWORK UP
- RETURN/EXHAUST AIR DUCTWORK DOWN
- RECTANGULAR DUCTWORK W/ ACOUSTICAL LINING
- FLEXIBLE CONNECTION
- DUCT TRANSITION
- 90° TAKE OFF
- 90° ELBOW
- BULLHEAD SPLIT SUPPLY/RETURN

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Legend and General Notes

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

H-0.1

ENERGY RECOVERY UNIT SCHEDULE (PART 1)

ERV –

TAG NO.	BUILDING	SUPPLY AIR PERFORMANCE							EXHAUST AIR NORMAL PERFORMANCE							DX COOLING COIL								HOT WATER HEATING COIL								ELECTRIC HEATER DATA								ELECTRICAL DATA					
		SUPPLY IN CFM	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. °F	LVG. °F	AMPS	CONTROL	V	PHASE	HZ	MCA	MOCP	V	PHASE	HZ
2ERV–1	PIPE GALLERY BUILDING	11,343	11,343	1.0	3.016	1961	(2) 4.88	(2) 5	11,343	0.65	2.226	2055	(2) 5.43	(2) 7.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	415.1	44.6	41.6	75.4	180	160	40% P.G.	9.1	0.051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35.7	45	480	3	60
2ERV–2	PIPE GALLERY BUILDING	13,505	13,505	1.0	3.099	2050	(2) 4.94	(2) 5	13,505	1.0	2.528	1588	(2) 2.77	(2) 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	765.1	85.5	41.2	95.6	180	160	40% P.G.	7.5	0.474	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	29.8	35	480	3	60
5ERV–1	CHEMICAL HANDLING BUILDING	2,825	950	1.5	3.126	2820	(1) 2.36	(1) 5	950	1.0	1.606	1699	(1) 0.53	(1) 5	R–410a	68.3	60.9	4	76.0	63.6	56.3	5.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20	67.7	90.1	–	SCR	480	3	60	23.9	30	480	3	60
6ERV–1	BLOWER BUILDING	6,000	6,000	1.0	3.388	2039	(1) 5.5	(1) 7.5	6,000	1.0	2.329	2089	(1) 5.64	(1) 7.5	R–410a	339.8	205.3	6	80.4	68.0	49.3	49.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40	48.0	69.0	–	SCR	480	3	60	76.6	90	480	3	60
7ERV–1	SOLID HANDLING BLDG. 1ST FLOOR	13,500	13,500	1.5	3.76	2265	(2) 7.46	(2) 7.5	13,500	1.5	3.282	2465	(2) 9.39	(2) 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	787.9	84.7	46.7	100.6	180	160	40% P.G.	9.4	0.144	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	48.2	60	480	3	60
7ERV–2	SOLID HANDLING BLDG. 1ST FLOOR	11,900	11,900	1.5	3.385	2120	(2) 6.29	(2) 7.5	11,900	1.5	3.006	2252	(2) 7.18	(2) 7.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	717.6	77.2	48.8	104.5	180	160	40% P.G.	7.9	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	41.9	50	480	3	60
7ERV–3	SOLID HANDLING BLDG. 2ND FLOOR	9,100	9,100	0.90	2.7	2197	(2) 3.52	(2) 5	9,100	0.60	2.521	2342	(2) 4.24	(2) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	343.6	37.0	53.1	87.9	180	160	40% P.G.	6.2	0.037	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	28.7	35	480	3	60
7ERV–4	SOLID HANDLING BLDG. 2ND FLOOR	9,100	9,100	0.90	2.7	2197	(2) 3.52	(2) 5	9,100	0.60	2.521	2342	(2) 4.24	(2) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	343.6	37.0	53.1	87.9	180	160	40% P.G.	6.2	0.037	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	28.7	35	480	3	60
9ERV–1	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	N/A	N/A	N/A	N/A	N/A	12.4	15	480	3	60

ENERGY RECOVERY UNIT SCHEDULE (PART 2)

ERV –

TAG NO.	ENERGY RECOVERY WHEEL PERFORMANCE WINTER CONDITIONS DESIGN OUTDOOR DB °F	WB °F	INDOOR DB °F	RH%	SUMMER CONDITIONS DESIGN OUTDOOR DB °F	WB °F	INDOOR DB °F	RH%	WEIGHT LBS	SUPPLY FILTER	OUTDOOR FILTER	MANUFACTURER MODEL NUMBER	REMARKS
2ERV–1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	5,379	MERV–6	MERV–8	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧⑨⑩
2ERV–2	7.4	5.3	46.7	50	90.8	76.2	80.7	50	7,604	MERV–6	MERV–8	GREENHECK RVE–180–81–30H	①②③④⑤⑥⑦⑧⑨⑩
5ERV–1	7.4	5.3	63.5	50	90.8	76.2	80.7	50	3,108	MERV–6	MERV–8	GREENHECK RVE–40–30–30L–5D	①②③④⑤⑥ ⑧⑨⑩⑪
6ERV–1	7.4	5.3	63.5	50	90.8	76.2	80.7	50	4,949	MERV–6	MERV–8	GREENHECK RVE–85–52–30H–30D	①②③④⑤⑥⑦⑧⑨⑩⑪
7ERV–1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	5,307	MERV–6	MERV–8	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧ ⑩ ⑫
7ERV–2	7.4	5.3	48.8	50	90.8	76.2	80.2	50	5,259	MERV–6	MERV–8	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧ ⑩ ⑫
7ERV–3	7.4	5.3	53.1	50	90.8	76.2	79.2	50	5,089	MERV–6	MERV–8	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧ ⑩ ⑫
7ERV–4	7.4	5.3	53.1	50	90.8	76.2	79.2	50	5,089	MERV–6	MERV–8	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧ ⑩ ⑫
9ERV–1	7.4	5.3	63.5	50	90.8	76.2	80.7	50	2,525	MERV–6	MERV–8	GREENHECK RVE–40–36–30H	①②③④⑤⑥⑦⑧⑨⑩

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 ⑧ COORDINATE SUPPLY & EXHAUST BOTTOM DISCHARGE WITH FLOOR PLANS
⑨ INSTALLED OUTDOORS ⑩ AIR FLOW STATIONS ⑪ TWO POINT POWER CONNECTION (ONE FOR UNIT AND ONE FOR ELECTRIC HEAT)
⑫ INSTALLED INDOORS

EXHAUST FAN SCHEDULE

EF –

TAG NO.	BUILDING	CFM	ESP (IN WC)	SPEED (RPM) FAN	SPEED (RPM) MOTOR	DRIVE	ELECTRICAL DATA HP	V	PH	HZ	MANUFACTURER & MODEL #	REMARKS
5EF–1	CHEMICAL HANDLING BUILDING	450	0.45	1353	1725	DIRECT	1/4	120	1	60	GREENHECK SE1–12–432–VG	
5EF–2	CHEMICAL HANDLING BUILDING	125	0.45	1014	1350	DIRECT	1/4	120	1	60	GREENHECK AER–E20C–605–VG	
9LEF–1	ADMIN BUILDING LAB EXHAUST	660	2.50	3687	3600	DIRECT	1.5	480	3	60	GREENHECK VEKTOR–H–9	

MAKE-UP AIR UNIT SCHEDULE

MUA –

TAG NO.	LOCATION	SUPPLY BLOWER OA CFM	TSP (IN WC)	ESP (IN WC)	FAN BHP	FAN HP	HEATING COIL CAPACITY (MBH)	GPM	EAT (DB °F)	LAT (DB °F)	EWT (DB °F)	LWT (DB °F)	% GLYCOL	WPD (FT)	ELECTRICAL DATA FLA	MOP	V	PH	HZ	WEIGHT LBS	MANUFACTURER MODEL NUMBER	REMARKS
7MUA–1	SOLID HANDLING BLDG. 1ST FLOOR	4,000	1.71	1.4	3.29	5	372.7	32.6	7	83	180	160	40% P.G.	13	7.6	20	480	3	60	–	GREENHECK LFC–85–FC–50	①②③④⑤⑥

① BASE RAILS ② FACTORY MOUNTED DISCONNECT ③ SINGLE POINT POWER CONNECTION ④ VFD RATED MOTOR ⑤ INSTALLED INDOORS ⑥ AIR FLOW STATION

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PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1
Taunton, MA

TITLE
Hvac Schedules

NO.	REVISIONS	DATE

DRAWN BY: RLB
DESIGNED BY: RHB
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SCALE
NONE

SHEET NO.
H-0.2

B BOILER SCHEDULE

TAG NO.	BUILDING	OUTPUT CAPACITY (NET IBR) MBH	FIRING RATE OIL (GPH)	EFFICIENCY COMBUSTION	EFFICIENCY THERMAL	OPERATING PRESSURE (PSIG)	WATER EWT (°F)	WATER LWT (°F)	WATER GPM	WATER % GLYCOL	WATER WPD (FT)	ELECTRICAL DATA MCA	ELECTRICAL DATA V	ELECTRICAL DATA PH	ELECTRICAL DATA HZ	WEIGHT (LBS)	MANUFACTURER MODEL NUMBER	REMARKS
7B-1	SLUDGE HANDLING	2506	20.7	88.4	88.4	–	180	160	300	40% P.G.	–	2	208	1	60	–	BURHAM MPC15	POWER FLAME C3-O
9B-1	ADMIN BUILDING	2020	19.2	88.4	88.4	–	180	160	250	40% P.G.	–	2	208	1	60	–	BURHAM MPC15	POWER FLAME C3-O

P PUMP SCHEDULE

TAG NO.	BUILDING	SYSTEM SERVED	TYPE	GPM	HEAD (FT.)	GLYCOL	FLUID TEMP °F	RPM	ELECTRICAL DATA MOTOR HP	ELECTRICAL DATA V	ELECTRICAL DATA PH	ELECTRICAL DATA HZ	MANUFACTURER MODEL NUMBER	REMARKS
7HWP-1	SLUDGE HANDLING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	1
7HWP-2	SLUDGE HANDLING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	1
9HWP-1	ADMIN BUILDING	H.W.	END	300	50	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	1
9HWP-2	ADMIN BUILDING	H.W.	END	300	50	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	1

1 VFD RATED MOTOR

ET EXPANSION TANK SCHEDULE

TAG NO.	BUILDING	SERVICE	SYS TEMP (°F) MIN	SYS TEMP (°F) MAX	SYS PRESS (PSIG) MIN	SYS PRESS (PSIG) MAX	TANK ACCEPTANCE VOLUME (GAL)	TANK AIR CHARGE (PSIG)	MANUFACTURER MODEL NUMBER	REMARKS
7ET-1	SLUDGE HANDLING	H.W.	50	180	15	150	61	12	TACO CBX-425	–
9ET-1	ADMIN BUILDING	–	40	75	15	150	43	40	TACO CBX-300	–

VRF HEAT PUMP (OUTDOOR UNIT) SCHEDULE

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

VRF (INDOOR UNIT) SCHEDULE

HP TAG	AREA SERVED	FAN COIL UNIT MFG'R. & MODEL NO.	TYPE UNIT	HEAT MBH	COOL MBH	CFM	ELEC. V/PH/HZ	MCA	MOP	BYPASS BOX	OUTDOOR UNIT	REMARKS
9HP-1	911 CONTROL RM.	DAIKIN FXFQ48TVJU	CEILING CASSETTE	53.9	48.01	1,218	208/1/60	1.8	15	BS-1-1	ACCU-2	–
9HP-2	914 CORRIDOR	DAIKIN FXSQ24TAVJU	DUCTED	26.95	23.98	742	208/1/60	1.8	15	BS-1-1	ACCU-2	–
9HP-3	915 BREAK RM.	DAIKIN FXFQ48TVJU	CEILING CASSETTE	48.01	48.01	1,218	208/1/60	1.8	15	BS-1-1	ACCU-2	–
9HP-4	916 CHEM LAB	DAIKIN FXFQ24TVJU	CEILING CASSETTE	26.98	23.98	777	208/1/60	0.7	15	BS-1-1	ACCU-2	–
9HP-5	919 CORRIDOR	DAIKIN FXSQ24TAVJU	DUCTED	26.65	23.98	742	208/1/60	1.8	15	BS-1-2	ACCU-2	–
9HP-6	921 BACTERIOLOGY	DAIKIN FXZQ15TAVJU	CEILING CASSETTE	17.05	15.01	405	208/1/60	0.4	15	BS-1-2	ACCU-2	–
9HP-7	922 OFFICE	DAIKIN FXZQ12TAVJU	CEILING CASSETTE	13.64	11.94	353	208/1/60	0.4	15	BS-1-2	ACCU-2	–
9HP-8	924 FIRST AID	DAIKIN FXZQ09TAVJU	CEILING CASSETTE	10.57	9.55	317	208/1/60	0.3	15	BS-1-2	ACCU-2	–
9HP-9	925 WAITING	DAIKIN FXSQ30TAVJU	DUCTED	34.12	29.99	812	208/1/60	1.8	15	BS-1-3	ACCU-2	–
9HP-10	928 OFFICE	DAIKIN FXZQ15TAVJU	CEILING CASSETTE	17.05	15.01	405	208/1/60	0.4	15	BS-1-3	ACCU-2	–
9HP-11	929 CONFERENCE	DAIKIN FXFQ36TVJU	CEILING CASSETTE	39.98	36.0	1,165	208/1/60	1.5	15	BS-1-3	ACCU-2	–
9HP-12	935 IND. WASTE OFFICE	DAIKIN FXFQ24TVJU	CEILING CASSETTE	26.89	23.98	777	208/1/60	0.7	15	BS-1-3	ACCU-2	–
9HP-13	934 PLANT SUPER	DAIKIN FXFQ36TVJU	CEILING CASSETTE	39.98	36.0	1,165	208/1/60	1.5	15	BS-1-3	ACCU-2	–
9HP-14	LOWER LEVEL LOCKER RMS.	DAIKIN FXSQ24TAVJU	DUCTED	26.95	23.98	600	208/1/60	1.8	15	BS-1-4	ACCU-2	–

VRF BRANCH SELECTOR SCHEDULE

BS TAG	BRANCH SELECTOR BOX MFG'R. & MODEL NO.	PORTS	ELEC. V/PH/HZ	MCA	MOP	OUTDOOR UNIT	REMARKS
9BS-1-1	DAIKIN BS4Q54TVJ	4	208/1/60	0.4	15	ACCU-1	–
9BS-1-2	DAIKIN BS4Q54TVJ	4	208/1/60	0.4	15	ACCU-1	–
9BS-1-3	DAIKIN BS8Q54TVJ	8	208/1/60	0.4	15	ACCU-1	–
9BS-1-4	DAIKIN BS4Q54TVJ	4	208/1/60	0.4	15	ACCU-1	–

FTR-1 LENGTH GPM HOT WATER FIN-TUBE RADIATION SCHEDULE

TAG NO.	BTU PER FT	AVG. WATER TEMP	GPM PER LENGTH	% GLYCOL	PIPE SIZE (IN)	PIPE MTRL	FIN SIZE W X H	ENCLOSURE H	ENCLOSURE 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-4JX4J-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-4JX4J-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-4JX4J-48	ARCHITECTURAL GRILL 14 GAUGE COVER

1. ARCH ENCLOSURE SLOP TOP.
2. ALUMINUM ENCLOSURE PER SPECIFICATIONS

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Schedules

NO.	REVISIONS	DATE

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DESIGNED BY: RHB
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SCALE

NONE

SHEET NO.

H-0.3

HOT WATER UNIT HEATER HEATER SCHEDULE

TAG NO.	SERVICE	CFM	MBH	WATER SIDE					ELECTRICAL DATA					MANUFACTURER MODEL NUMBER	REMARKS
				GPM	% GLYCOL	WPD (FT)	EWT (°F)	LWT (°F)	HP	FLA	V	PH	HZ		
2UH-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	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
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	-
7UH-1	SOLID HANDLING BLDG. 1ST FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-2	SOLID HANDLING BLDG. 1ST FLOOR	730	23.9	2.4	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-47	-
7UH-3	SOLID HANDLING BLDG. 1ST FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-4	SOLID HANDLING BLDG. 1ST FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-5	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-6	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-7	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-8	SOLID HANDLING BLDG. 2ND FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-9	SOLID HANDLING BLDG. 2ND FLOOR	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
7UH-10	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-11	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-12	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-13	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-14	SOLID HANDLING BLDG. 2ND FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-15	SOLID HANDLING BLDG. 2ND FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-
7UH-16	SOLID HANDLING BLDG. 2ND FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-17	SOLID HANDLING BLDG. 1ST FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-
7UH-18	SOLID HANDLING BLDG. 1ST FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-

CABINET UNIT HEATER SCHEDULE

TAG NO.	SERVICE	CFM	MBH	WATER SIDE					ELECTRICAL DATA				MANUFACTURER MODEL NUMBER	REMARKS
				GPM	% GLYCOL	WPD (FT)	EWT (°F)	LWT (°F)	HP	V	PH	HZ		
7CUH-1	SOLID HANDLING BLDG. 1ST FLOOR	300	12.5	1.5	40 P.G.	0.4	130	113.2	1/60	120	1	60	RITTLING MODEL RFRC-420	2 ROW COIL
9CUH-1	ADMIN BUILDING	300	12.5	1.5	40 P.G.	0.4	130	113.2	1/60	120	1	60	RITTLING MODEL RF-220	FLOOR MOUNTED 2 ROW COIL
9CUH-2	ADMIN BUILDING	300	12.5	1.5	40 P.G.	0.4	130	113.2	1/60	120	1	60	RITTLING MODEL RF-220	FLOOR MOUNTED 2 ROW COIL
9CUH-3	ADMIN BUILDING	300	12.5	1.5	40 P.G.	0.4	130	113.2	1/60	120	1	60	RITTLING MODEL RF-220	FLOOR MOUNTED 2 ROW COIL

CONVECTOR SCHEDULE

TAG NO.	LOCATION	TOTAL MBH	EAT °F	WATER				CABINET			MANUFACTURER MODEL NUMBER	REMARKS
				GPM	% GLYCOL	EWT (°F)	LWT (°F)	LENGTH	HEIGHT	DEPTH		
9C-1	SEE PLANS	4.8	65	0.6	40 P.G.	130	100	40	32	6	RITTLING MODEL SL	WALL

ELECTRIC UNIT HEATER SCHEDULE

TAG NO.	BUILDING	CAPACITY	FAN DATA				MANUFACTURER MODEL NUMBER	REMARKS
		KW	CFM	V	PH	HZ		
1EUH-1	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	EXPLOSION PROOF
1EUH-2	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	EXPLOSION PROOF
1EUH-3	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	EXPLOSION PROOF
1EUH-4	HEADWORKS BUILDING	20	2,330	480	3	60	QMARK GUX20004832	EXPLOSION PROOF
5EUH-1	CHEMICAL HANDLING BUILDING	12.5	480	480	3	60	QMARK QWD12432	- -
5EUH-2	CHEMICAL HANDLING BUILDING	3.0	480	480	3	60	QMARK QWD03432	- -

DIFFUSER, REGISTER & GRILLE SCHEDULE

TAG NO.	MODULE SIZE (IN)	ROUND APAPTER SIZE (IN)	FLEX DUCT SIZE (IN)	SQUARE DUCT SIZE (IN)	SERVICE	CFM RANGE		MAX. NC LEVEL	MANUFACTURER & MODEL NO.	REMARKS
						MIN	MAX			
SD-1	12x12	6"	6"	N/A	SUPPLY	60	120	22	NAILOR RNS3	
SD-2	24x24	6"	6"	N/A	SUPPLY	60	120	22	NAILOR RNS3	
SD-3	24x24	8"	8"	N/A	SUPPLY	125	210	22	NAILOR RNS3	
SD-4	24x24	10"	10"	N/A	SUPPLY	215	325	22	NAILOR RNS3	
SD-5	24x24	12"	12"	N/A	SUPPLY	330	500	22	NAILOR RNS3	
SD-6	24x24	15"	15"	N/A	SUPPLY	500	740	22	NAILOR RNS3	
SR-1	20x12	N/A	N/A	N/A	SUPPLY	500	1800	40	NAILOR 45DL	
SR-2	30x12	N/A	N/A	N/A	SUPPLY	1800	2400	40	NAILOR 45DL	
SR-3	50x12	N/A	N/A	N/A	SUPPLY	2500	3810	40	NAILOR 45DL	
SR-4	70x12	N/A	N/A	N/A	SUPPLY	3800	5000	40	NAILOR 45DL	
SR-5	6x6	N/A	N/A	N/A	SUPPLY	50	140	25	NAILOR 61DH	
SR-6	10x6	N/A	N/A	N/A	SUPPLY	140	245	25	NAILOR 61DH	
SR-7	14x6	N/A	N/A	N/A	SUPPLY	245	400	25	NAILOR 61DH	
SR-8	18x10	N/A	N/A	N/A	SUPPLY	400	790	25	NAILOR 61DH	
SR-9	20x12	N/A	N/A	N/A	SUPPLY	500	1800	40	NAILOR 45DL-0	
SR-10	30x12	N/A	N/A	N/A	SUPPLY	1800	2400	40	NAILOR 45DL-0	
SR-11	50x12	N/A	N/A	N/A	SUPPLY	2500	3810	40	NAILOR 45DL-0	
SR-12	70x12	N/A	N/A	N/A	SUPPLY	3800	5000	40	NAILOR 45DL-0	
ER-1	18x12	N/A	N/A	N/A	EXHAUST	500	1000	40	NAILOR 6755H-HD	
ER-2	30x12	N/A	N/A	N/A	EXHAUST	1000	1600	40	NAILOR 6755H-HD	
ER-3	42x12	N/A	N/A	N/A	EXHAUST	1600	2500	40	NAILOR 6755H-HD	
ER-4	50x12	N/A	N/A	N/A	EXHAUST	2500	3200	40	NAILOR 6755H-HD	
ER-5	50x18	N/A	N/A	N/A	EXHAUST	3200	4800	40	NAILOR 6755H-HD	
ER-6	36x18	N/A	N/A	N/A	EXHAUST	1600	2500	40	NAILOR 6755H-HD	
ER-7	30x24	N/A	N/A	N/A	EXHAUST	2500	2800	40	NAILOR 6755H-HD	
ER-8	42x30	N/A	N/A	N/A	EXHAUST	2800	4400	40	NAILOR 6755H-HD	
ER-9	6x6	N/A	N/A	N/A	EXHAUST	50	140	25	NAILOR 6145H	
ER-10	10x6	N/A	N/A	N/A	EXHAUST	140	245	25	NAILOR 6145H	
ER-11	14x6	N/A	N/A	N/A	EXHAUST	245	400	25	NAILOR 6145H	
ER-12	18x10	N/A	N/A	N/A	EXHAUST	400	790	25	NAILOR 6145H	
ER-13	18x12	N/A	N/A	N/A	EXHAUST	500	1000	40	NAILOR 6755H-HD	
ER-14	30x12	N/A	N/A	N/A	EXHAUST	1000	1600	40	NAILOR 6755H-HD	
ER-15	36x18	N/A	N/A	N/A	EXHAUST	1600	2500	40	NAILOR 6755H-HD	
ER-16	30x24	N/A	N/A	N/A	EXHAUST	2500	2800	40	NAILOR 6755H-HD	
ER-17	42x30	N/A	N/A	N/A	EXHAUST	2800	4400	40	NAILOR 6755H-HD	
EG-1	12x12	6"	6"	N/A	EXHAUST	60	120	22	NAILOR 6145H	
EG-2	12x12	8"	8"	N/A	EXHAUST	125	210	22	NAILOR 6145H	
EG-3	24x24	10"	10"	N/A	EXHAUST	215	325	22	NAILOR 6145H	
EG-4	24x24	12"	12"	N/A	EXHAUST	330	500	22	NAILOR 6145H	
RR-1	24x24	N/A	N/A	22x22	RETURN	500	1900	22	NAILOR 6145H	

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Schedules

NO.	REVISIONS	DATE

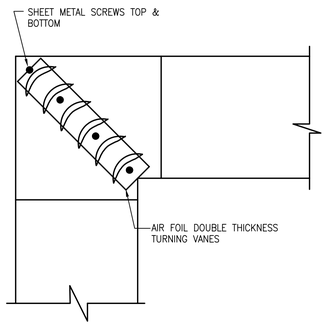
DRAWN BY: RLB
DESIGNED BY: RHB
CHECKED BY: RHB
ISSUE DATE: 7/2/21
BETA JOB NO.: 6050

SCALE

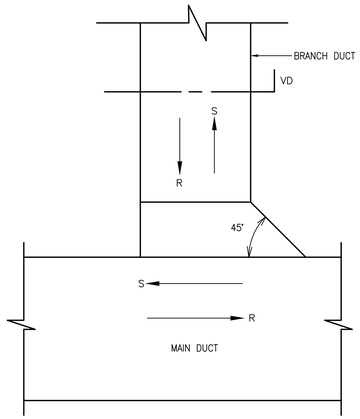
NONE

SHEET NO.

H-0.4

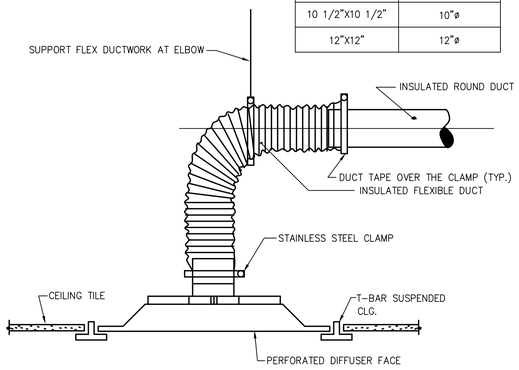


1 TYPICAL 90° DUCT ELBOW DETAIL
NO SCALE

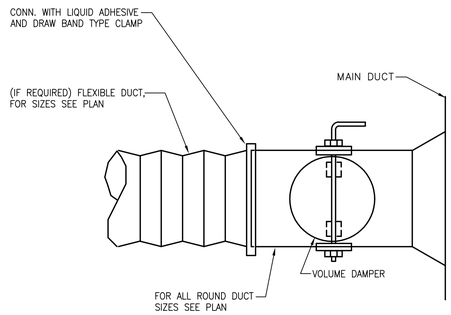


2 BRANCH DUCT CONNECTION DETAIL
NO SCALE

DIFFUSER NECK SIZE	ROUND DUCT SIZE
6"X6"	6"ø
7 1/2"X7 1/2"	7"ø
9"X9"	9"ø
10 1/2"X10 1/2"	10"ø
12"X12"	12"ø

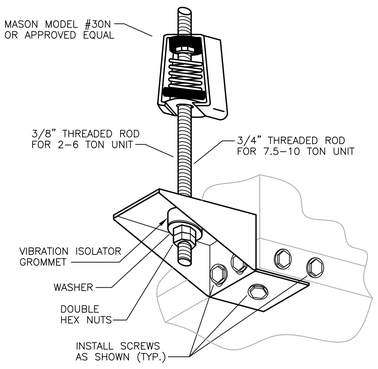


3 SUPPLY DIFFUSER CONNECTION DETAIL
NO SCALE

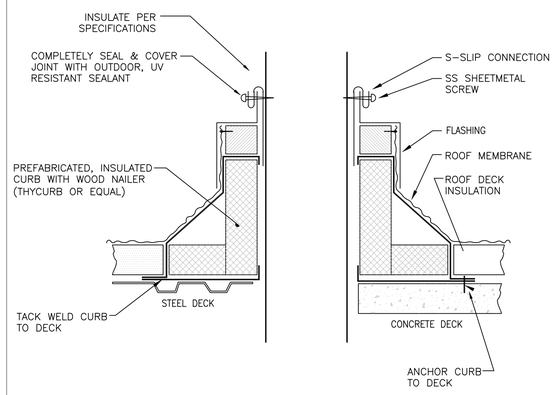


4 ROUND BRANCH DUCT TAKE-OFF DETAIL
NO SCALE

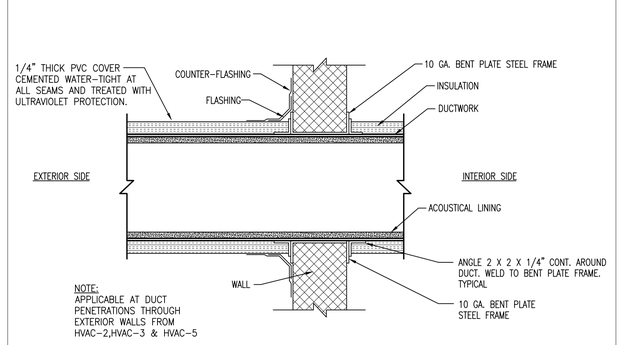
HD-017



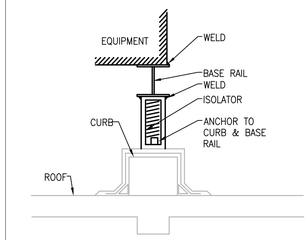
5 HORIZONTAL HEAT PUMP UNIT HANGER KIT ASSEMBLY
NO SCALE



6 DUCT PENETRATION THRU ROOF DETAIL
NO SCALE



7 DUCT PENETRATION AT EXTERIOR WALL DETAIL
NO SCALE



8 ACCU MOUNTING DETAIL
NO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Details

NO.	REVISIONS	DATE

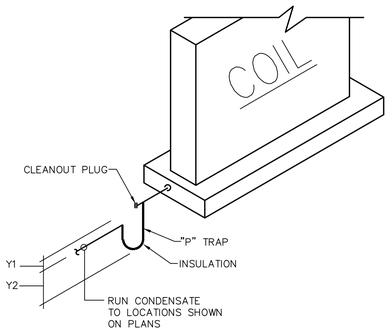
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

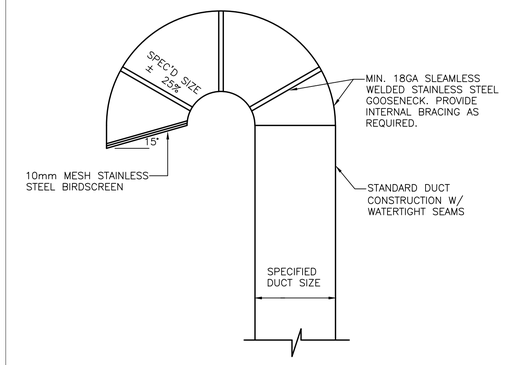
SHEET NO.

H-0.5

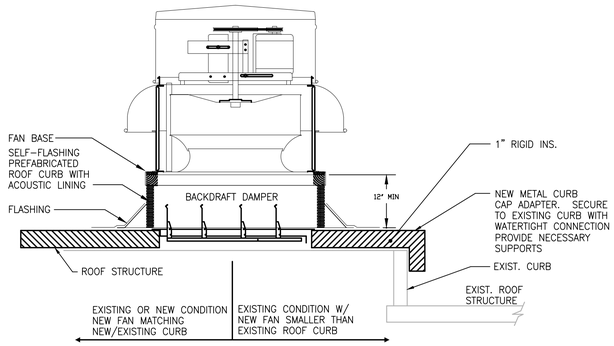


"P" TRAP HEIGHT SCHEDULE			
NEGATIVE INTERNAL SP.	Y1 MIN.	Y2 MIN.	DRAIN SIZE
1/2"	1 1/4"	2"	3/4"
1"	1 1/2"	2"	1"
2"	1 1/2"	2"	1"
4"	1 3/4"	3"	1 1/4"
6"	2"	4"	1 1/2"

9 "P" TRAP DETAIL
NO SCALE

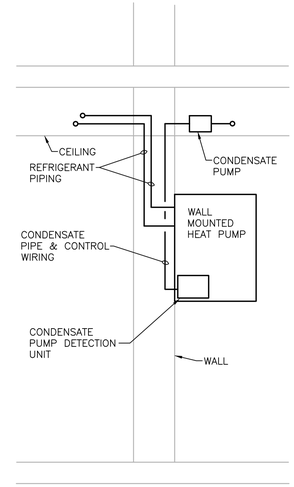


10 GOOSENECK DETAIL
NO SCALE

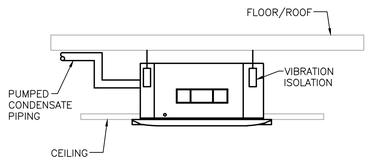


PROVIDE SHIMS FOR CURB WHERE ROOF PITCHES TO DRAIN
PROVIDE SLOPED ROOF CURB FOR SLOPED ROOF
PROVIDE BACK DRAFT DAMPERS FOR ALL ROOF FANS
CURB TYPE TO SUIT ROOF STRUCTURE (SEE ARCH. DWGS.)

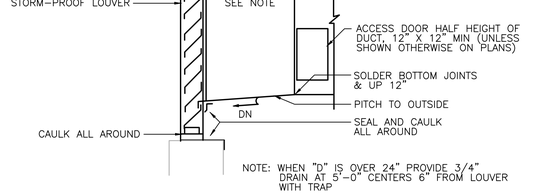
11 ROOF EXHAUST FAN MOUNTED ON EXISTING CURB
NO SCALE



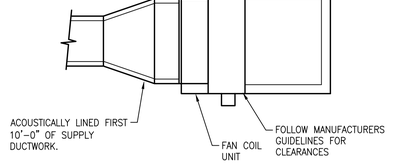
12 WALL MOUNTED HP DETAIL
NO SCALE



13 SPLIT-SYSTEM INDOOR UNIT (CASSETTE) INSTALLATION
NO SCALE



14 LOUVER CONNECTION
NO SCALE



15 FAN COIL UNIT DETAIL
NO SCALE

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PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE
Hvac Details

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
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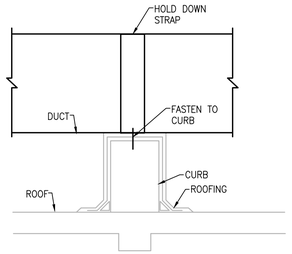
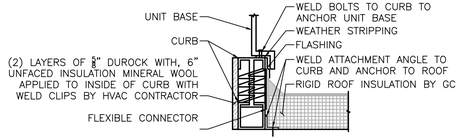
SCALE
NONE

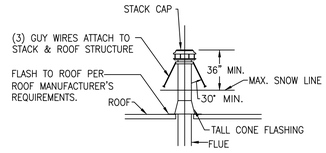
SHEET NO.
H-0.6



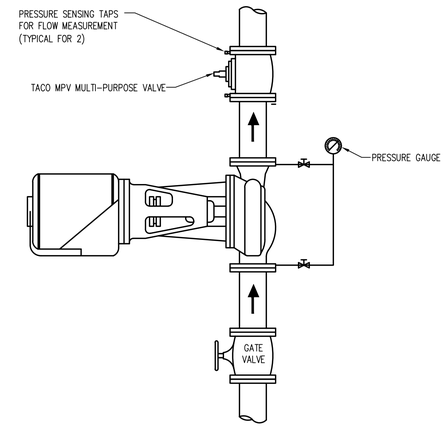
16 ROOFTOP DUCT MOUNTING DETAIL
NO SCALE



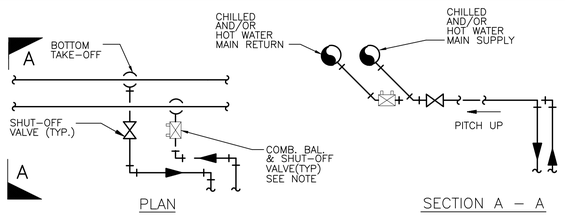
17 ERV / RTU CURB MOUNTING DETAIL
NO SCALE



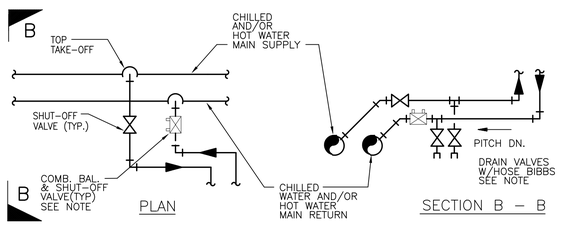
18 FLUE & INTAKE THRU ROOF DETAIL
NO SCALE



19 HORIZONTAL INLINE PUMP INSTALLATION DETAIL
NO SCALE



BRANCH PIPING TAKE-OFF TO UNITS OR RADIATION THAT ARE LOCATED BELOW THE MAINS

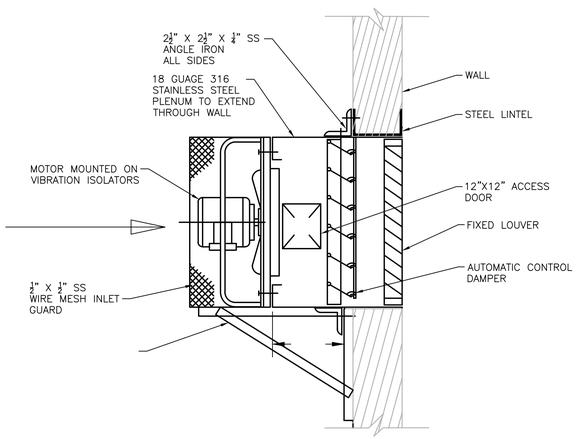


BRANCH PIPING TAKE-OFF TO UNITS OR RADIATION THAT ARE LOCATED ABOVE THE MAINS

NOTE: COMBINATION FLOW MEASURING, BALANCING AND SHUT-OFF VALVES REQUIRED ON ALL BRANCHES 1 1/2" AND LARGER. PROVIDE BALL VALVES ONLY FOR ALL BRANCHES 1 1/4" AND SMALLER. PROVIDE 3/4" DRAIN VALVES WITH HOSE BIBBS CONNECTION AS SHOWN ON ALL BRANCHES 1 1/2" AND LARGER. COMBINATION FLOW MEASURING, BALANCING AND SHUT-OFF VALVES, AND DRAIN VALVES WITH HOSE BIBBS ARE ALSO REQUIRED ON ALL BRANCHES, 2 1/2" AND LARGER FROM ALL VERTICAL RISERS. SEE SPECIFICATION SECTION 15600 FOR VALVE REQUIREMENTS.

20 TYPICAL PIIPING BRANCH TAKE-OFF DETAIL
NO SCALE

21 BASE MOUNTED PUMP PIPING DETAIL
NO SCALE



21 PROPELLER FAN DETAIL
NO SCALE

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PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1
Taunton, MA

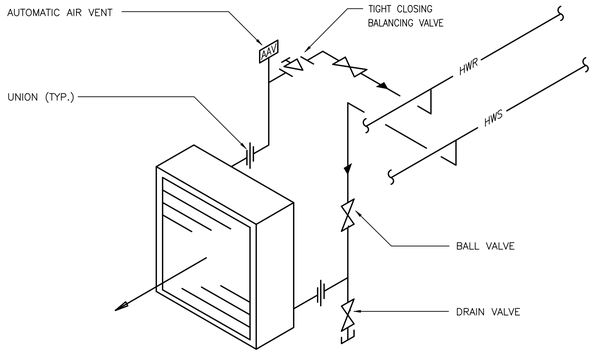
TITLE
Hvac Details

NO.	REVISIONS	DATE

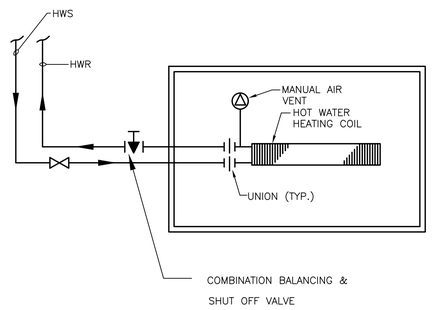
DRAWN BY: RLB
DESIGNED BY: RHB
CHECKED BY: RHB
ISSUE DATE: 7/2/21
BETA JOB NO.: 6050

SCALE
NONE

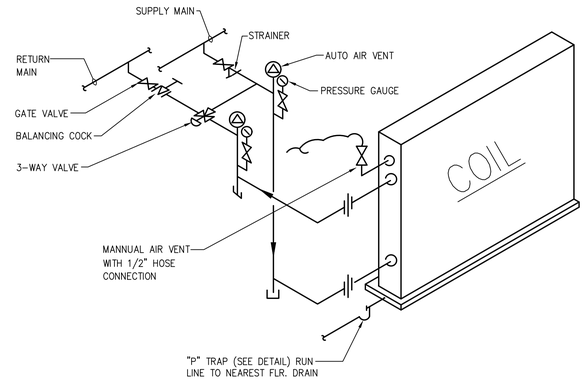
SHEET NO.
H-0.7



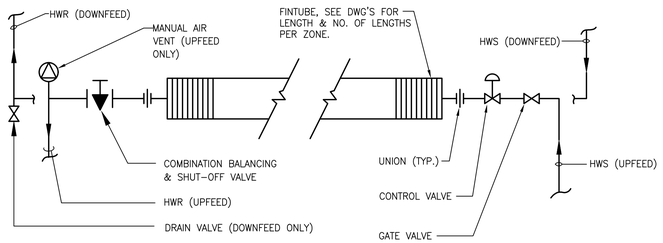
23 UNIT HEATER PIPING DETAIL
NO SCALE



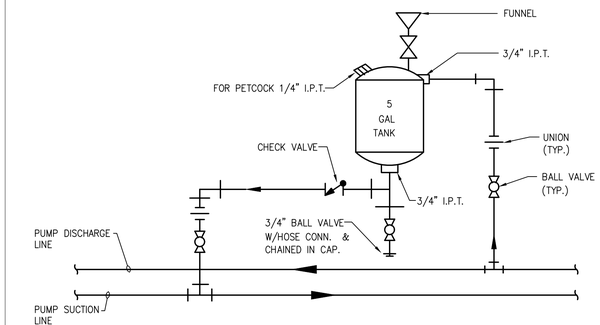
24 HORIZONTAL CABINET HEATER PIPING DETAIL
NO SCALE



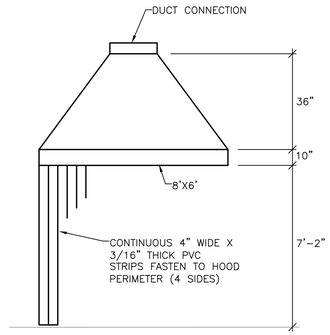
25 SINGLE COIL PIPING DETAIL
NO SCALE



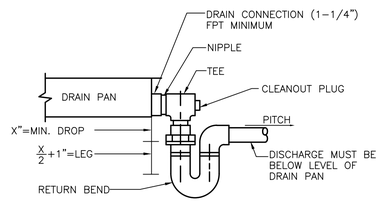
26 HOT WATER FINTUBE RADIATION ZONE PIPING DETAIL
NO SCALE



27 CHEMICAL SHOT FEEDER PIPING DETAIL
NO SCALE

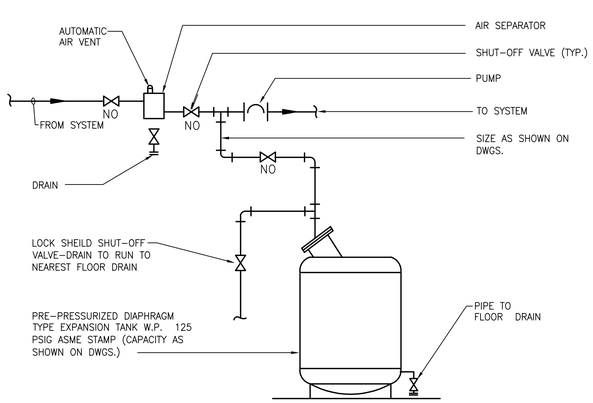


28 TYPICAL EXHAUST HOOD
NO SCALE

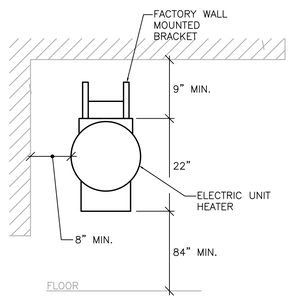


NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP
2. PITCH DRAIN FOR PROPER RUN-OFF
3. MANUALLY, PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW

29 DRAIN PAN WATER SEAL PIPING DETAIL
NO SCALE



30 TYPICAL DETAIL PIPING CONNECTIONS TO EXPANSION TANKS
NO SCALE



31 ELEC UNIT HEATER MOUNTING DETAIL
NO SCALE

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Details

NO.	REVISIONS	DATE

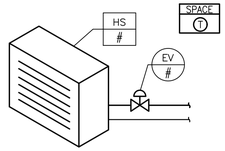
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

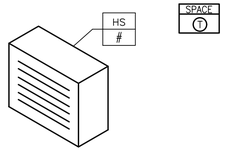
NONE

SHEET NO.

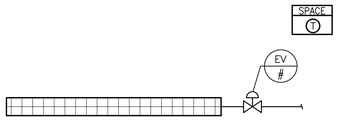
H-0.8



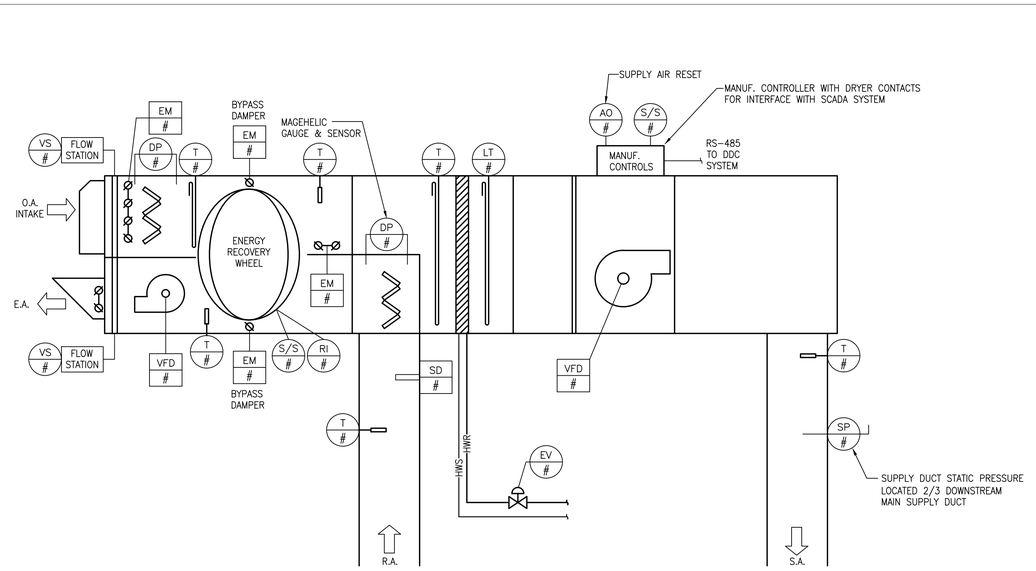
1 TYPICAL UNIT HEATER CONTROL DIAGRAM
NO SCALE



2 TYPICAL ELECTRIC CABINET & UNIT HEATER CONTROL DIAGRAM
NO SCALE



3 TYPICAL BASEBOARD HEAT CONTROL DIAGRAM
NO SCALE



8 TYPICAL ENERGY RECOVERY UNIT CONTROL DIAGRAM
NO SCALE

CONTROLS LEGEND

- SPACE T O # — WALL MOUNTED SPACE TEMPERATURE THERMOSTAT AND/OR OCCUPANCY OVER-RIDE BUTTON
- T # — WATER TEMPERATURE SENSOR/THERMOSTAT
- FS # — DIFFERENTIAL PRESSURE FLOW SENSOR (AIR) PADDLE FLOW SENSOR (WATER)
- DP # — FILTER DIFFERENTIAL SENSOR
- VS # — VELOCITY TRANDUCER
- AO # — ANALOG OUTPUT FROM EMS
- EV # — ELECTRONIC VALVE ACTUATOR
- EM # — ELECTRONIC DAMPER MOTOR ACTUATOR
- T # — DUCT MOUNTED TEMPERATURE SENSOR/THERMOSTAT
- H # — DUCT MOUNTED RELATIVE HUMIDITY SENSOR
- LT # — DUCT MOUNTED LOW TEMP. FREEZE THERMOSTAT
- T # — DUCT MOUNTED AVERAGING THERMOSTAT
- EM # — ELECTRONIC MOTORIZED DAMPER ACTUATOR
- HOA # — HAND-AUTO-OFF STARTER
- SD # — DUCT SMOKE DETECTOR (FURNISHED BY OTHERS)
- OC # — OCCUPANCY SENSOR (COORDINATE W/ ELECTRICAL)
- AL # — ALARM (DIGITAL AND ANALOG)
- SM # — KITCHEN HOOD SMOKE SENSOR
- VS # — VELOCITY SENSOR
- CO_2 # — CO_2 SENSOR
- CO — CO SENSOR
- S/S # — START-STOP
- SC # — SPEED CONTROL
- RI # — RELAY INPUT

ASC	APPLICATION SPECIFIC CONTROLLER
BC	BUILDING CONTROLLER
CAC	CUSTOM APPLICATION CONTROLLER
DDCFP	DDC FIELD PANEL
	CONNECT NEW TO EXISTING

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Details

NO.	REVISIONS	DATE

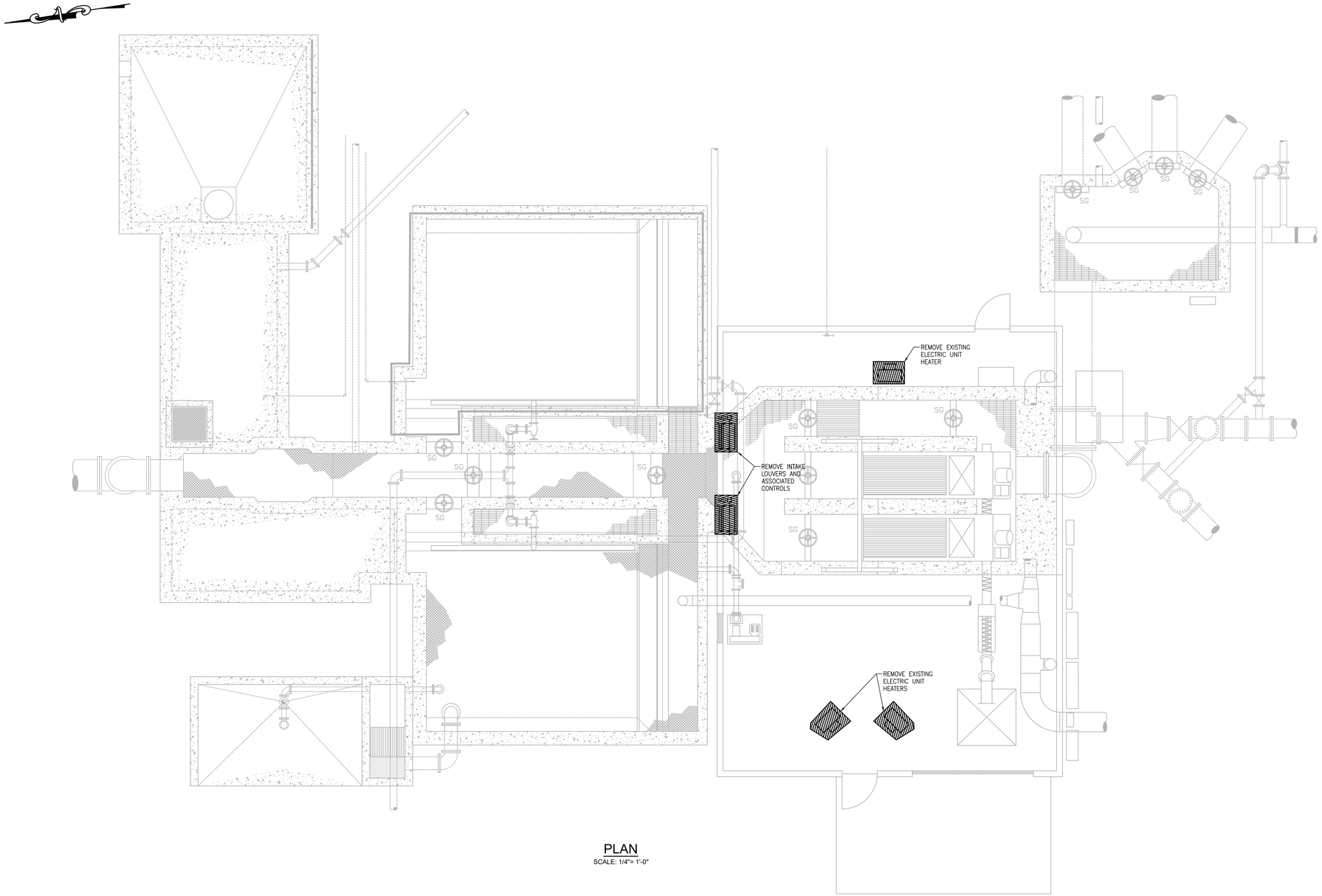
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

H-0.9



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition Headworks Plan

NO.	REVISIONS	DATE

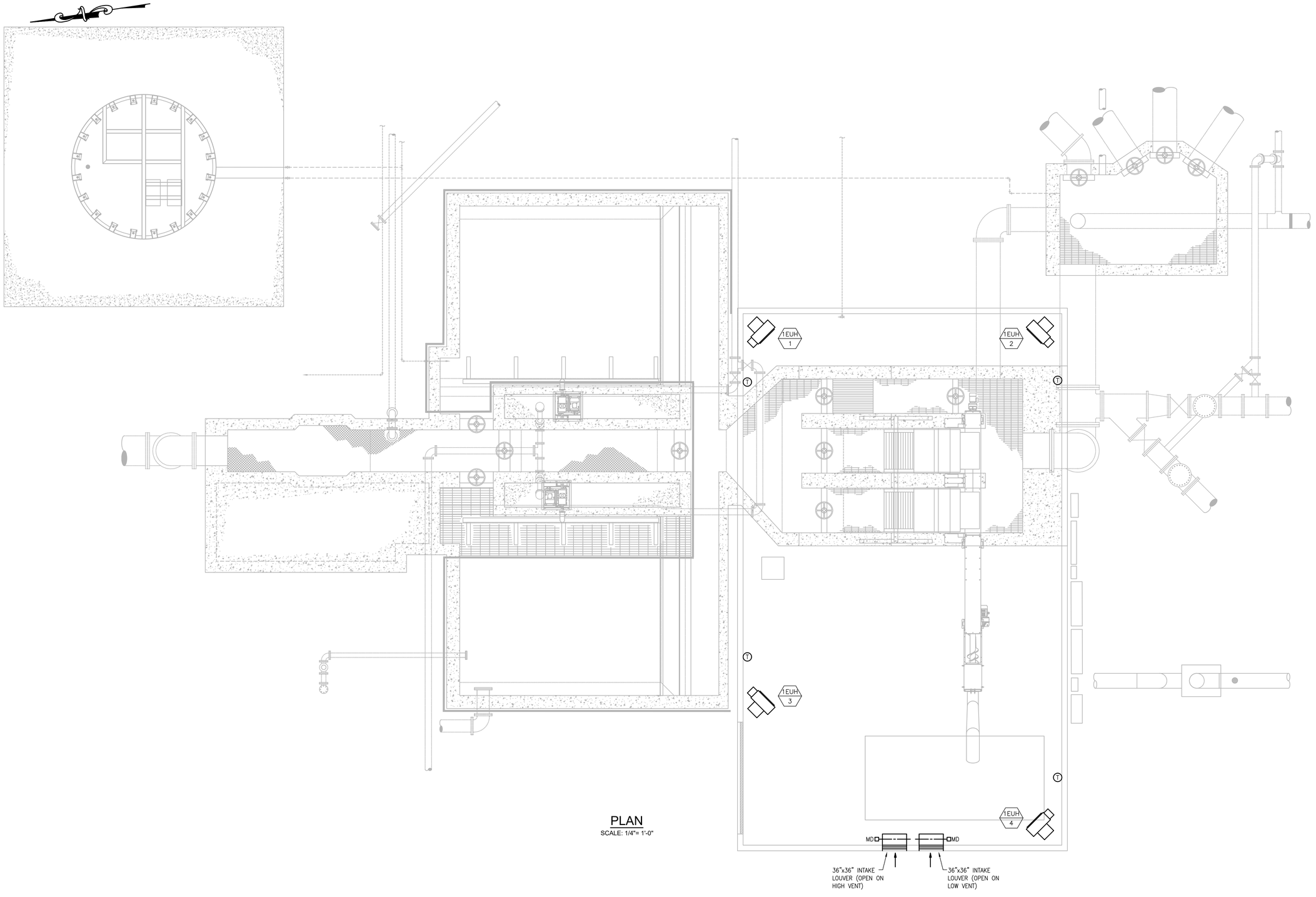
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-1.1



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac
Headworks
Plan

NO.	REVISIONS	DATE

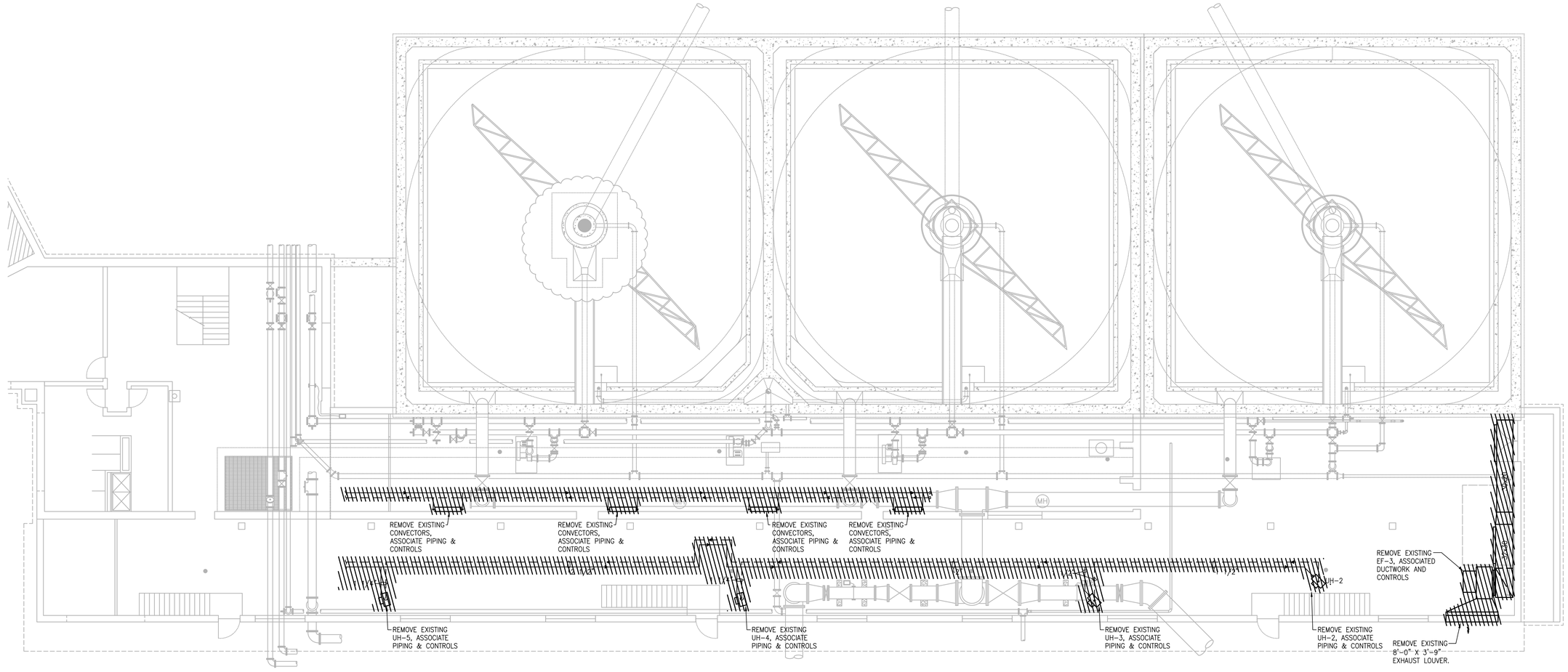
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-1.2



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Primary Clarifiers Demolition Plan

NO.	REVISIONS	DATE

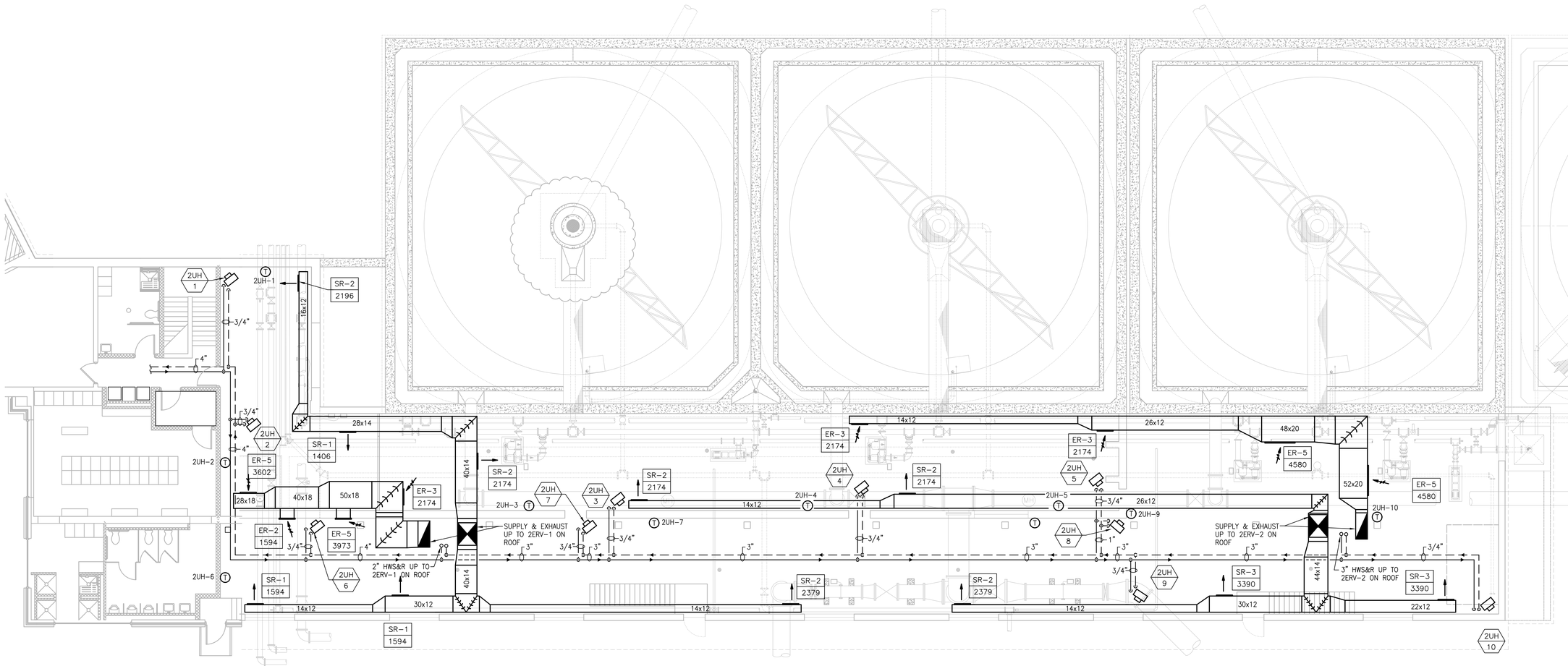
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-2.1



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Pipe Gallery Plan

NO.	REVISIONS	DATE

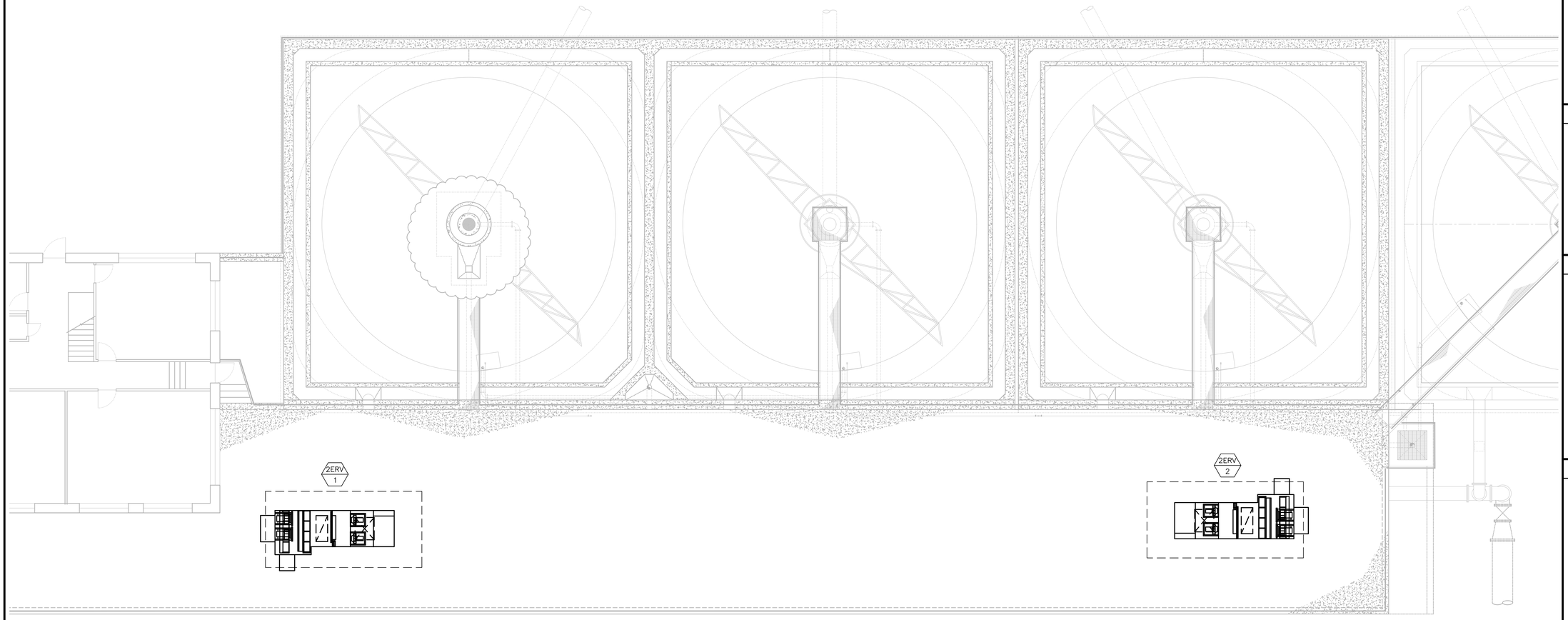
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-2.2



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Pipe Gallery New Work Roof Plan

NO.	REVISIONS	DATE

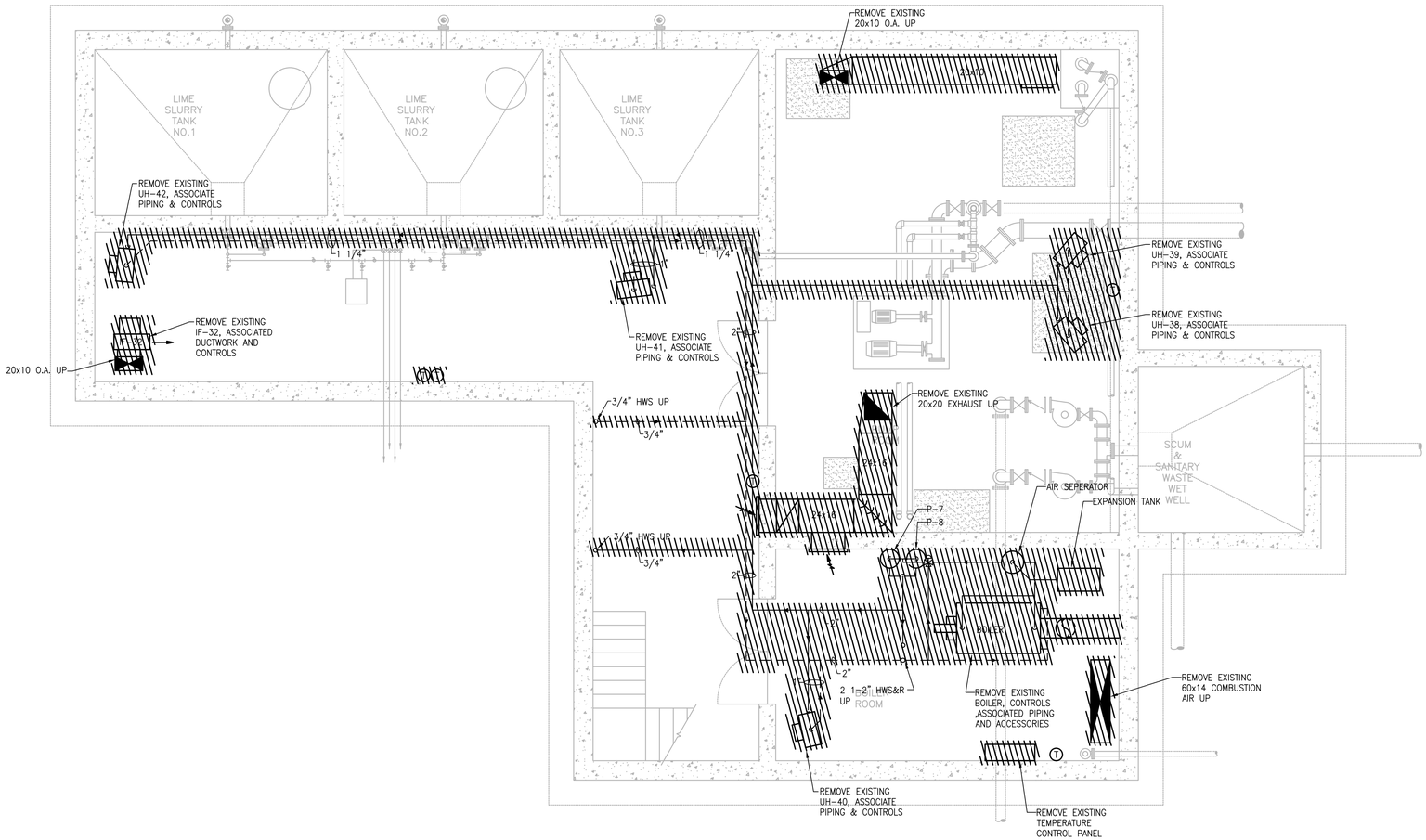
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-2.3



BASEMENT - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition
Chemical Handling
Building
Basement Plan

NO.	REVISIONS	DATE

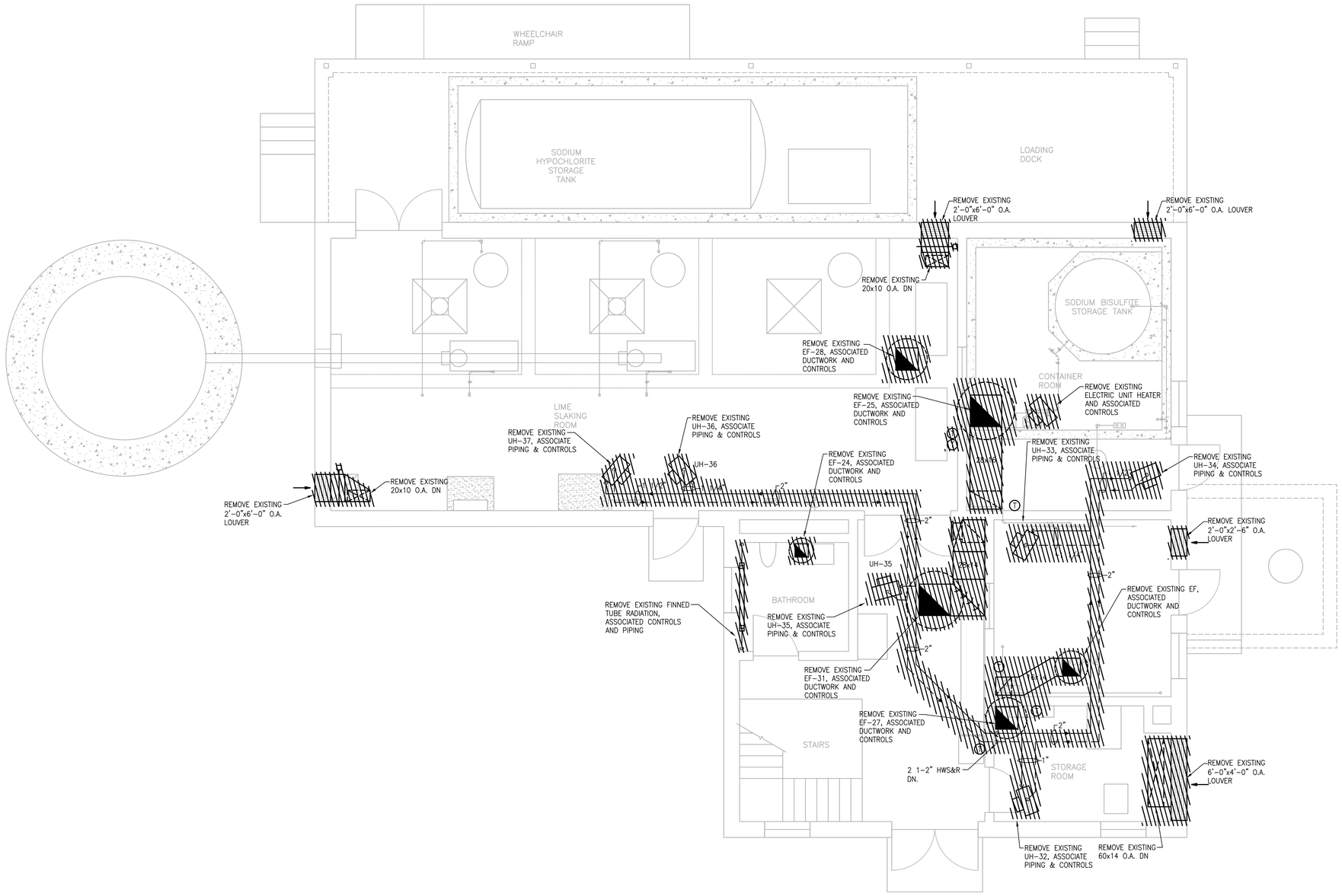
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-5.1



FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition Chemical Handling Building First Floor Plan

NO.	REVISIONS	DATE

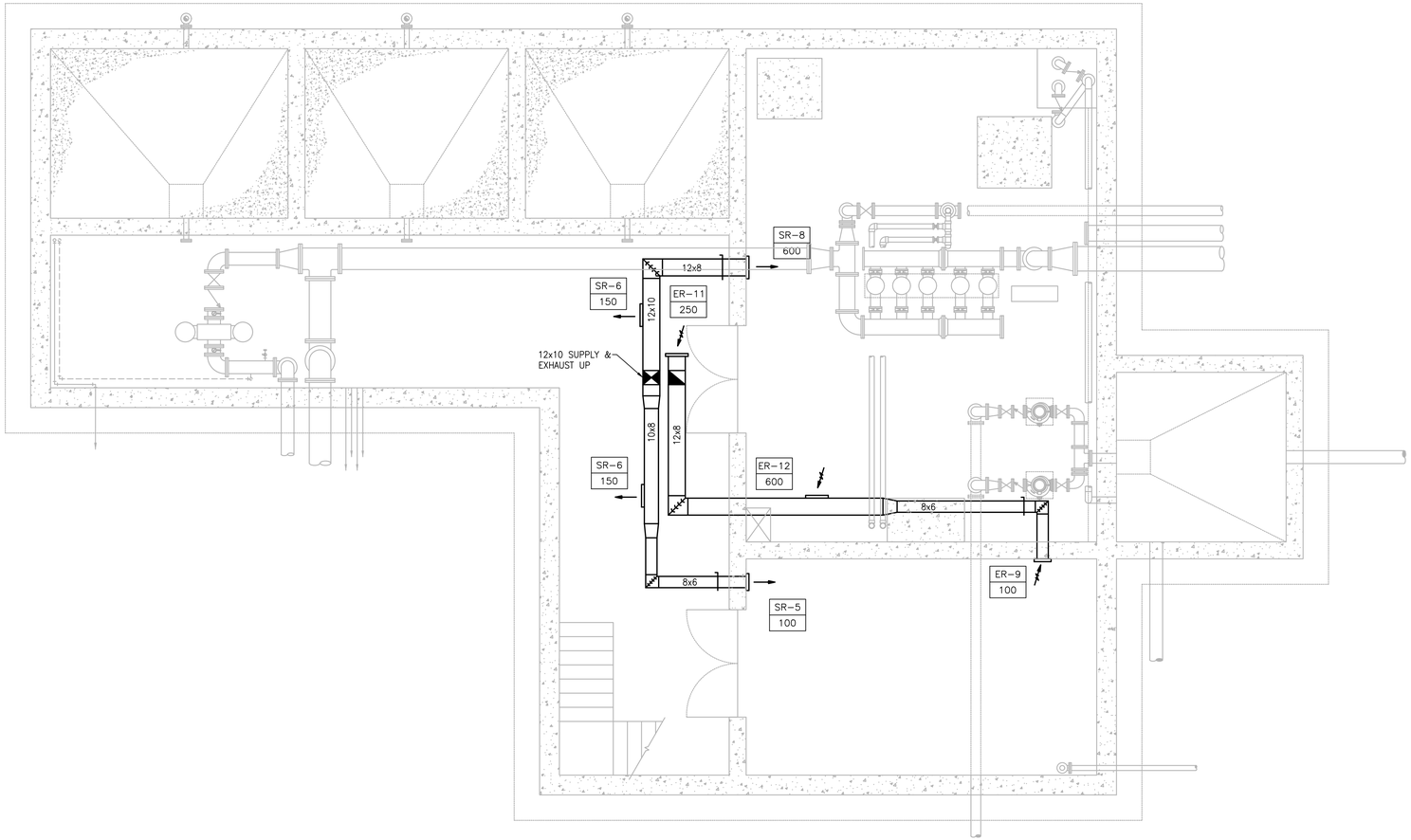
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-5.2



BASEMENT - PLAN

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

PREPARED BY

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SUBCONSULTANT

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Chemical Handling Building Basement Plan

NO.	REVISIONS	DATE

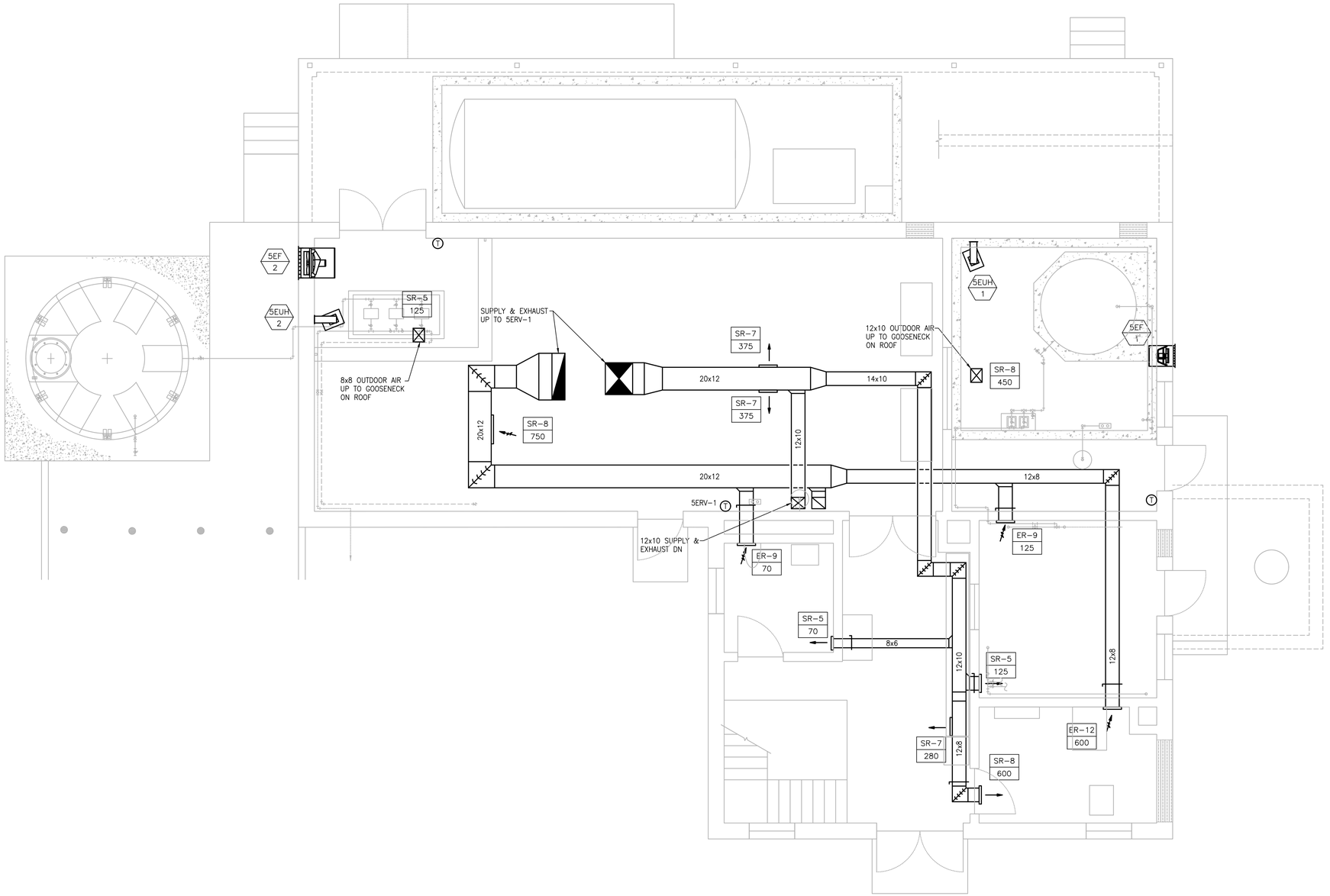
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-5.3



FIRST FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Chemical Handling Building First Floor Plan

NO.	REVISIONS	DATE

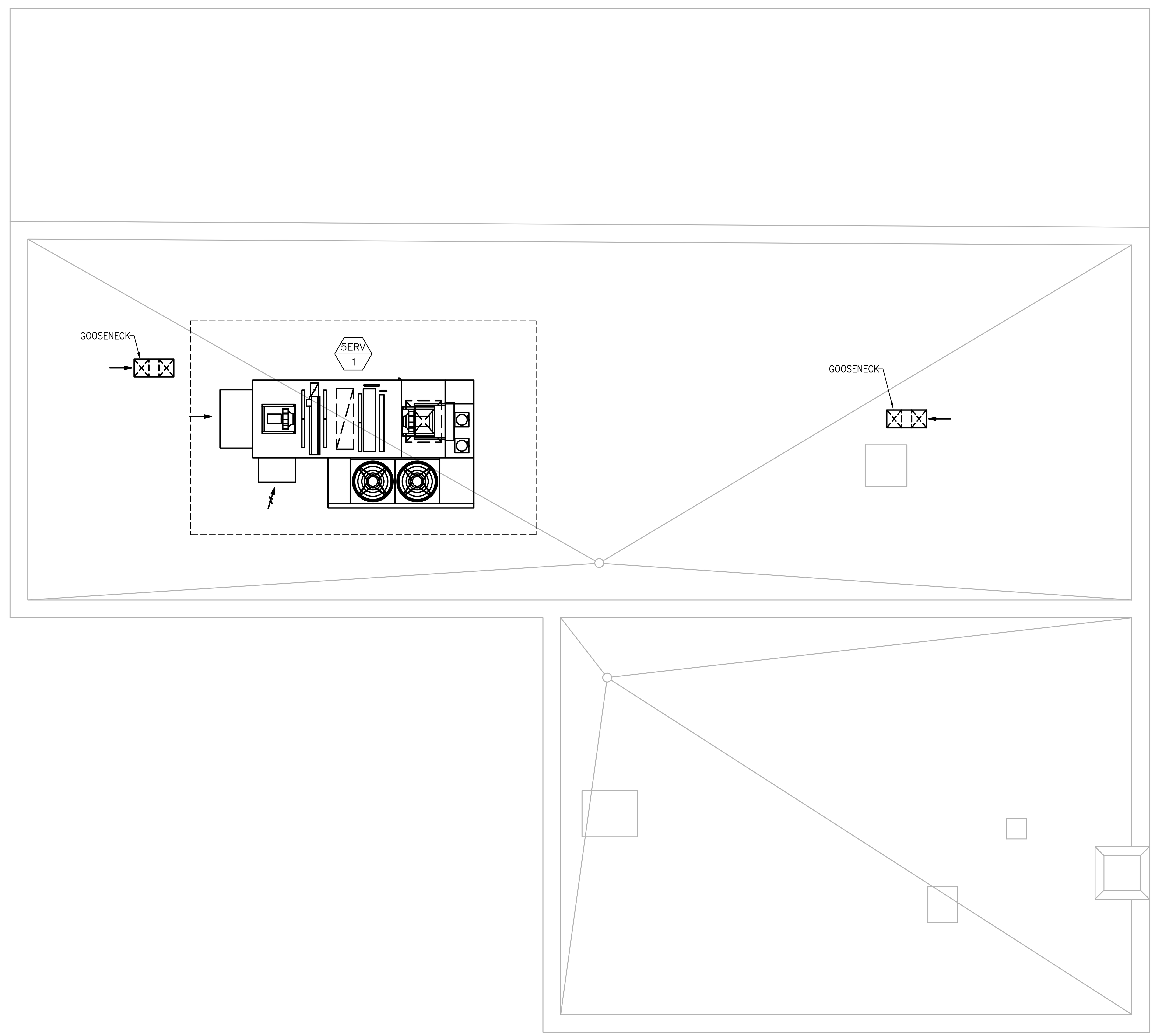
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-5.4



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Chemical Handling Building Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

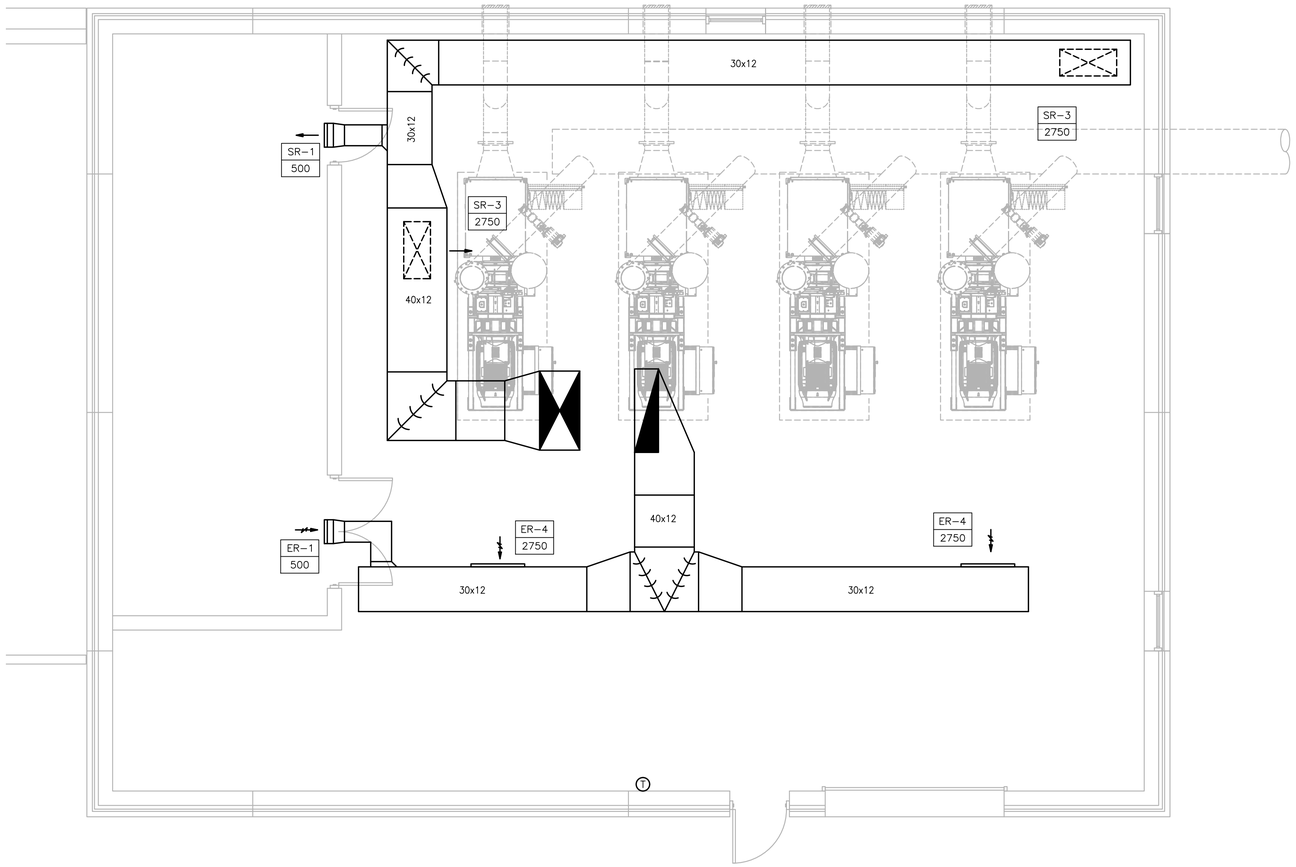
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-5.5



PLAN

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

PREPARED BY

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Braintree, Massachusetts 02184
617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Blower Building Plan

NO.	REVISIONS	DATE

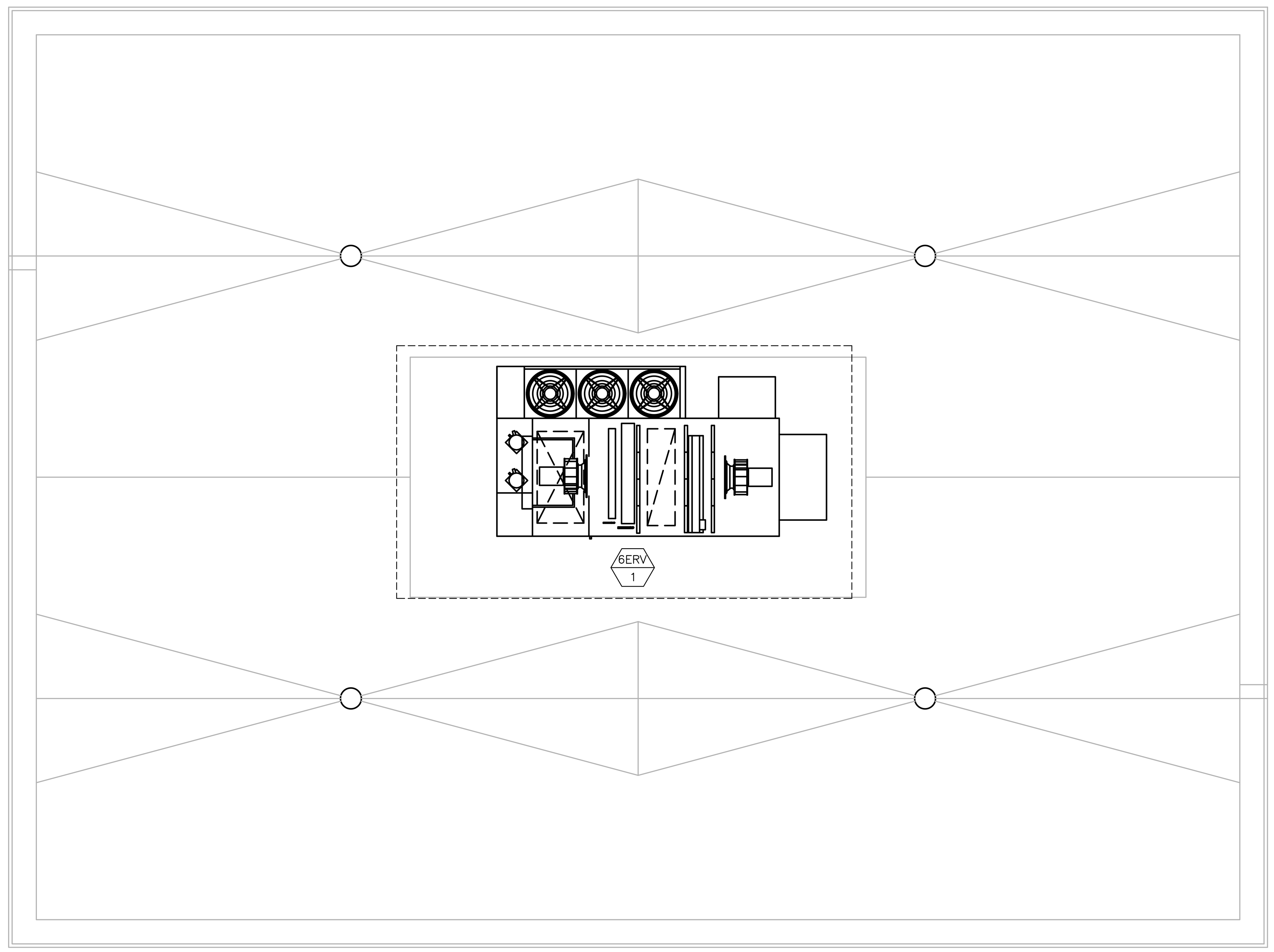
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-6.1



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

PREPARED BY

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SUBCONSULTANT

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Mechanical/Electrical Engineers
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Braintree, Massachusetts 02184
617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Blower Building Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

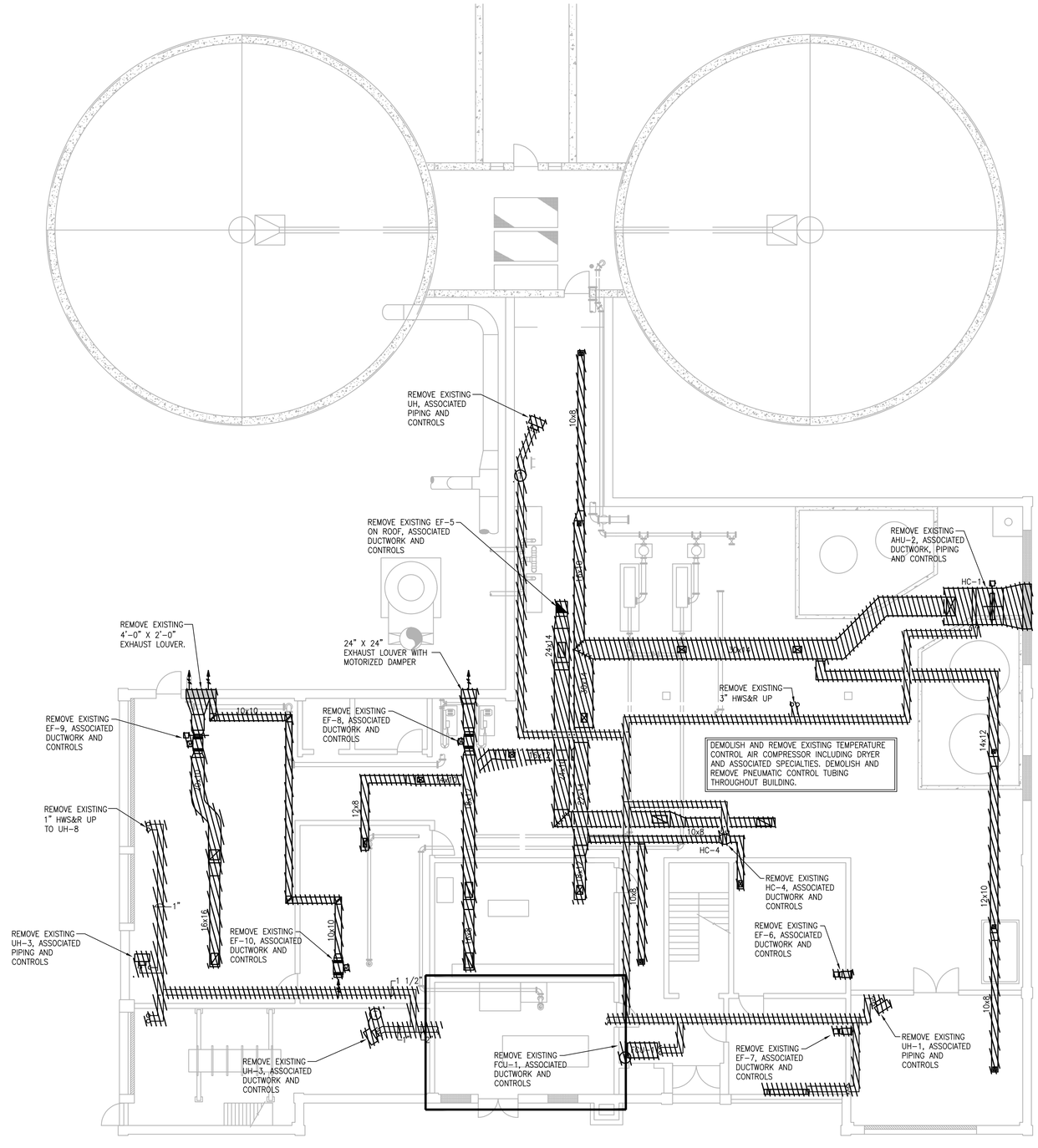
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

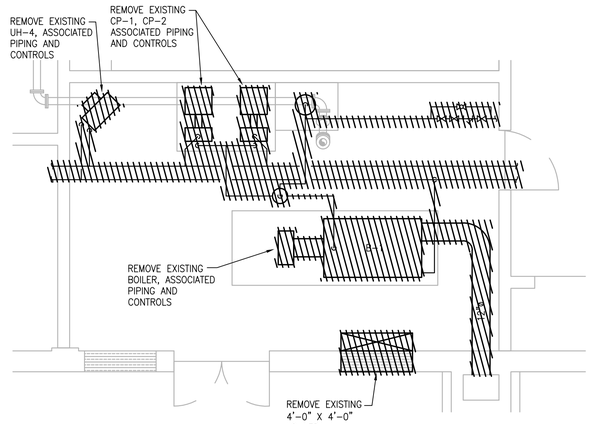
SHEET NO.

H-6.2



FIRST FLOOR - PLAN

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



BOILER ROOM PART PLAN

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

PREPARED BY

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MECHANICAL
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demoltion Solids Handling Building First Floor Plan

NO.	REVISIONS	DATE

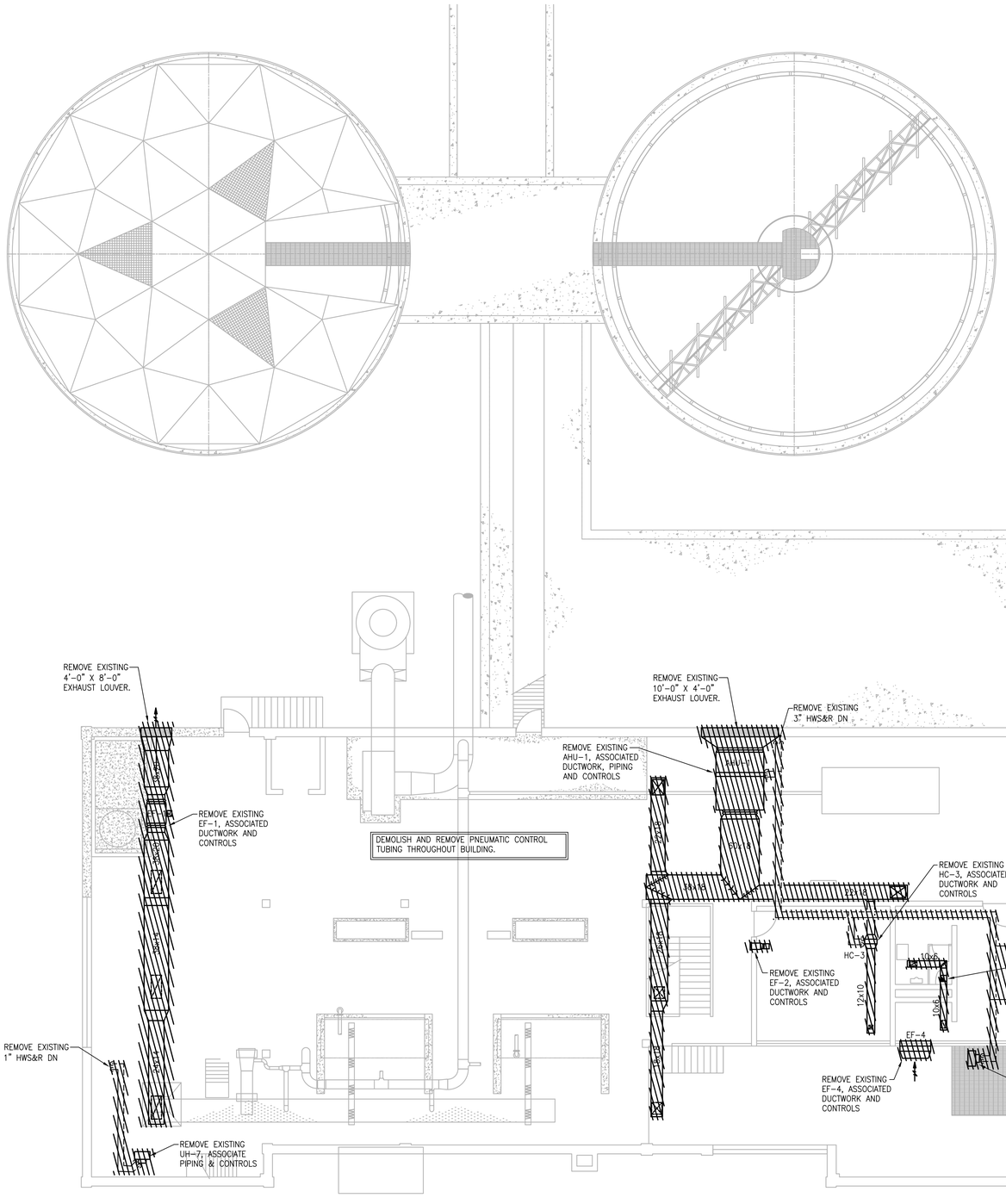
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.1



SECOND FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition Solids Handling Building Second Floor Plan

NO.	REVISIONS	DATE

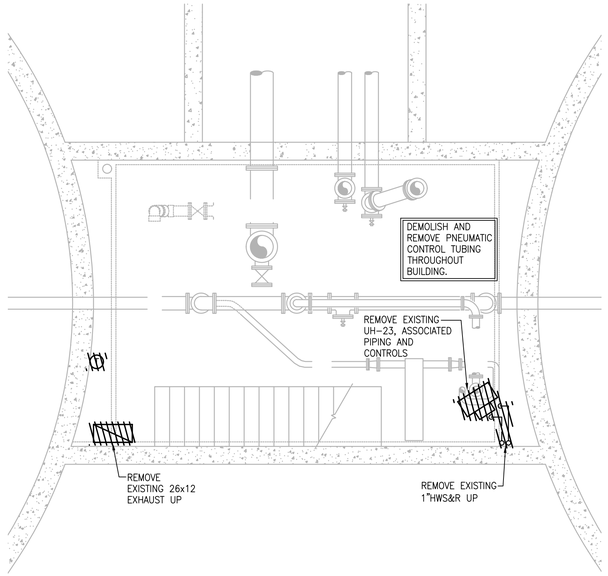
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

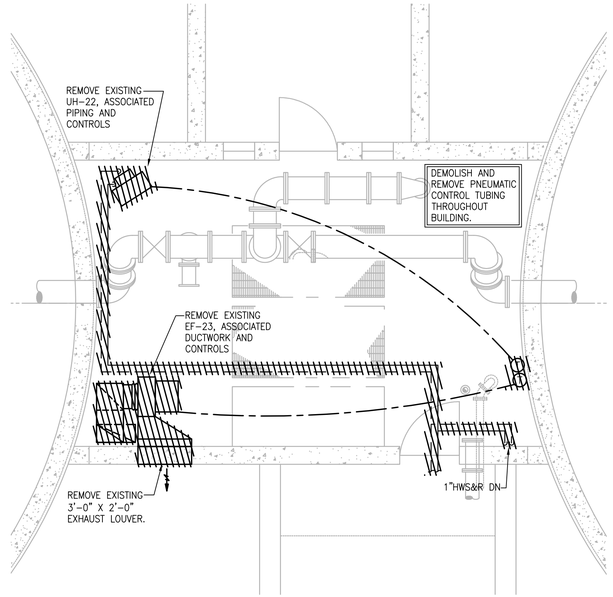
SHEET NO.

H-7.2



LOWER LEVEL - PLAN

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



UPPER LEVEL - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition
Solids Handling
Building
Plans

NO.	REVISIONS	DATE

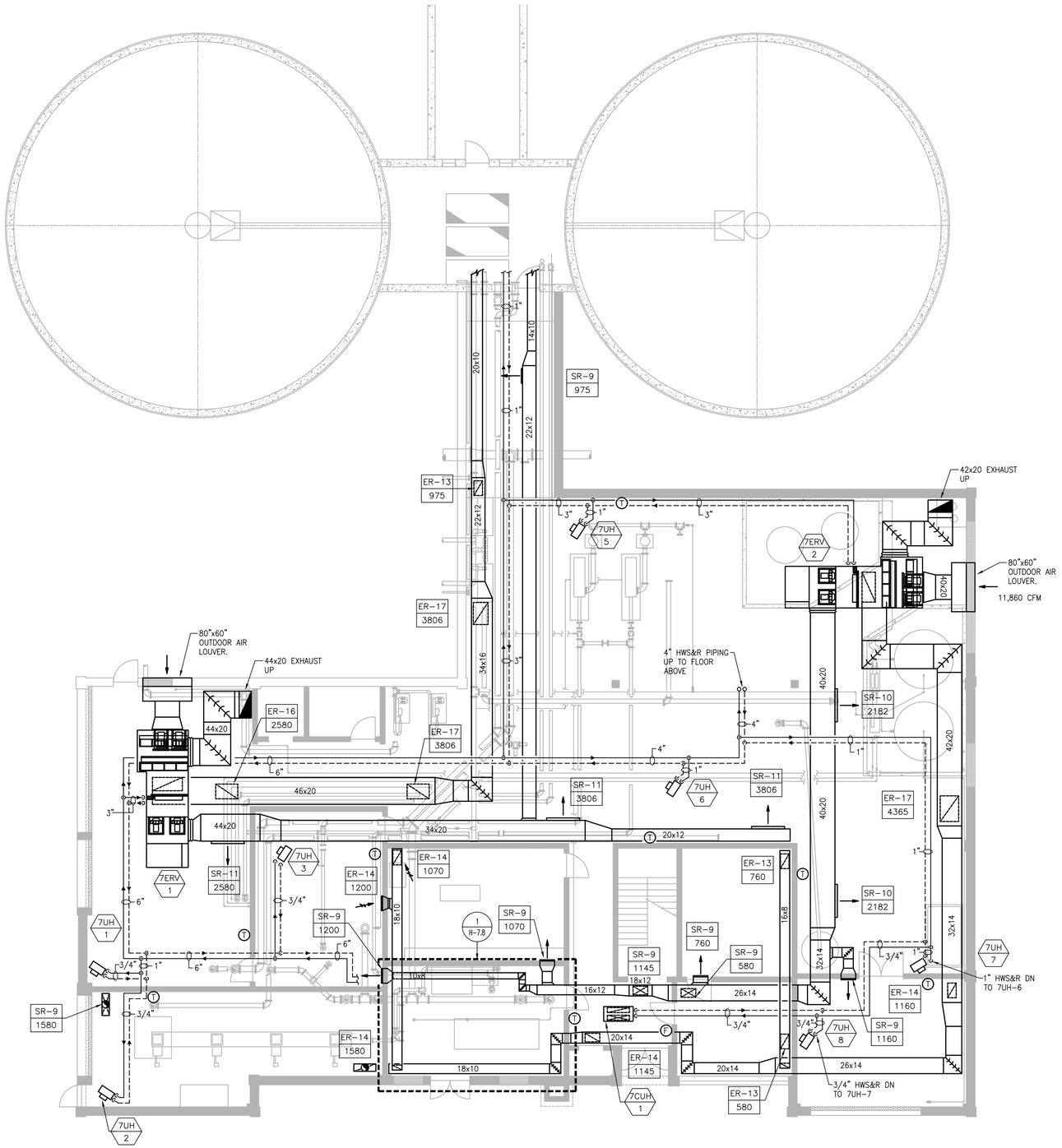
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.3



FIRST FLOOR - PLAN

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

PREPARED BY

BETA
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COMMONWEALTH OF MASSACHUSETTS

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
First Floor Plan

NO.	REVISIONS	DATE

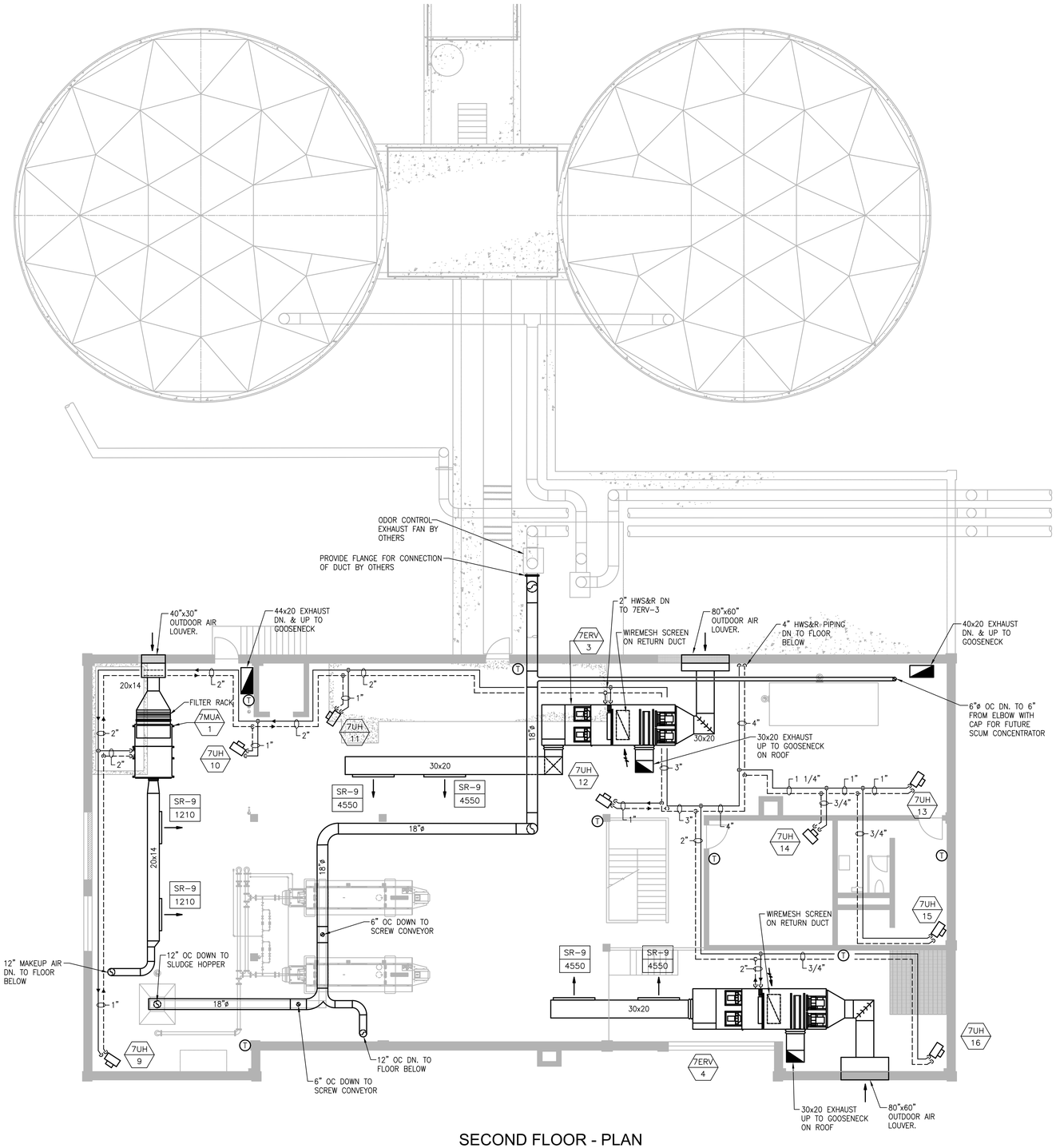
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.4



SECOND FLOOR - PLAN

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

6/30/2021 9:49 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1.DWG (BETA STB BW.STB)

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

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ROBERT H. BOHN
MECHANICAL
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac New Work
Solids Handling Building
Second Floor Plan

NO.	REVISIONS	DATE

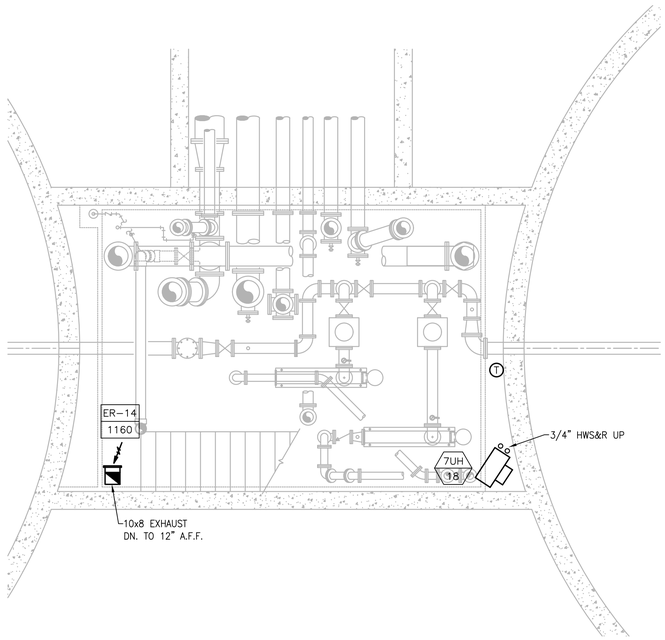
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

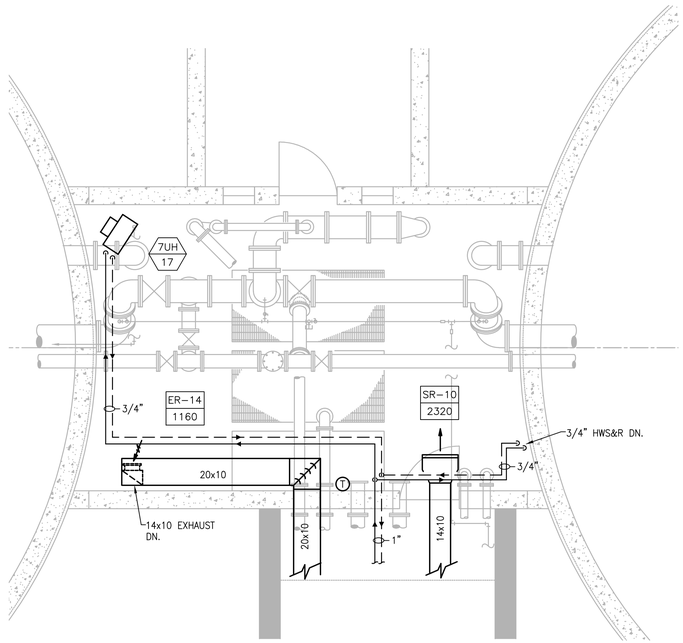
SHEET NO.

H-7.5



LOWER LEVEL - PLAN

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



UPPER LEVEL - PLAN

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

PREPARED BY

BETA
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
Plans

NO.	REVISIONS	DATE

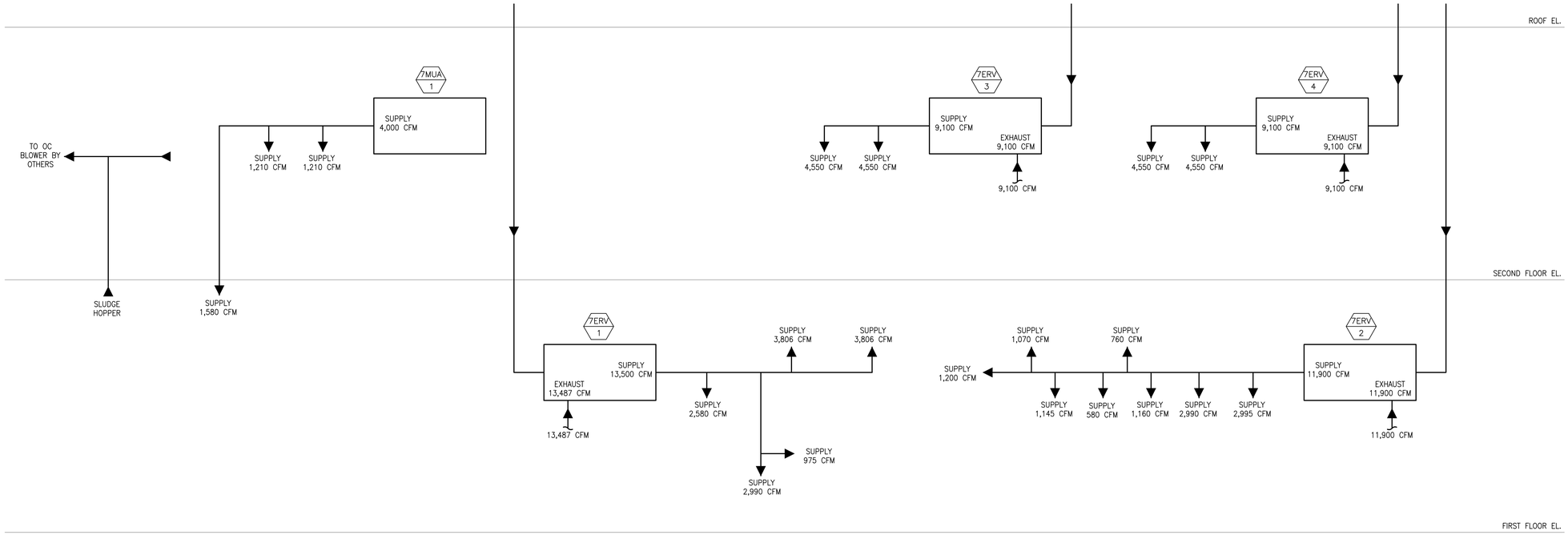
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.6



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Solids Handling Building Air Flow Diagram

NO.	REVISIONS	DATE

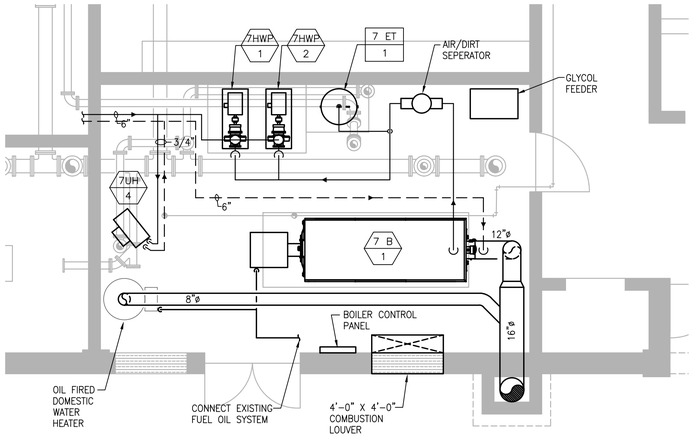
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

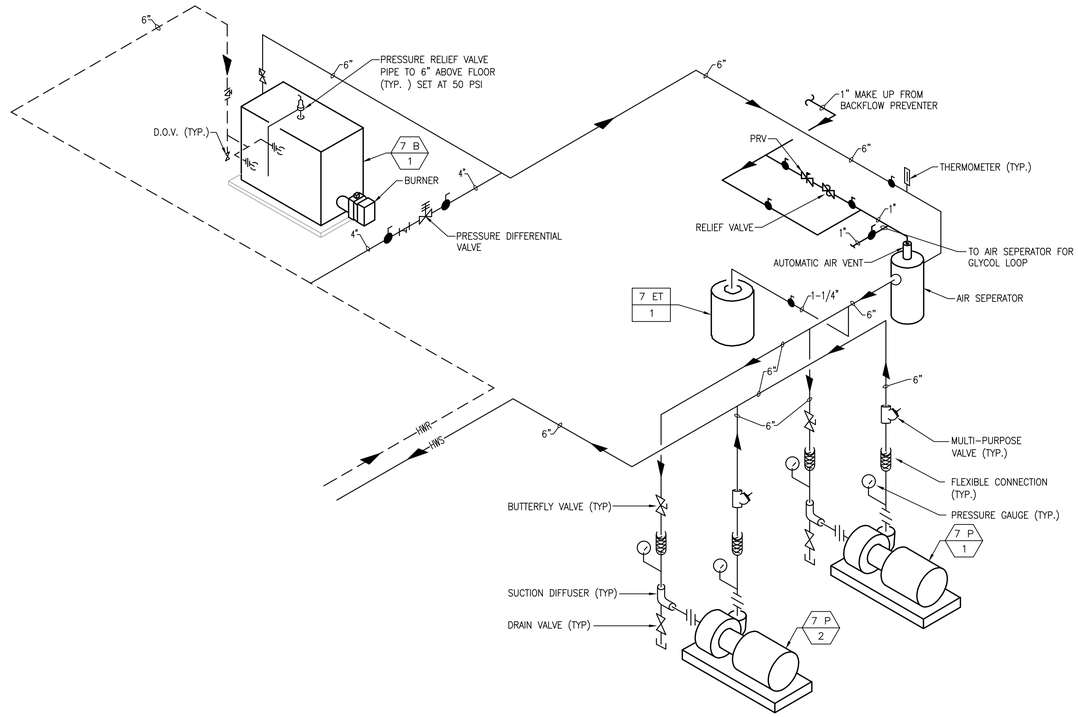
SHEET NO.

H-7.7



BOILER ROOM PART PLAN

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



PIPING SCHEMATIC

NO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac New Work
Solids Handling Building
Boiler Room
Part Plan

NO.	REVISIONS	DATE

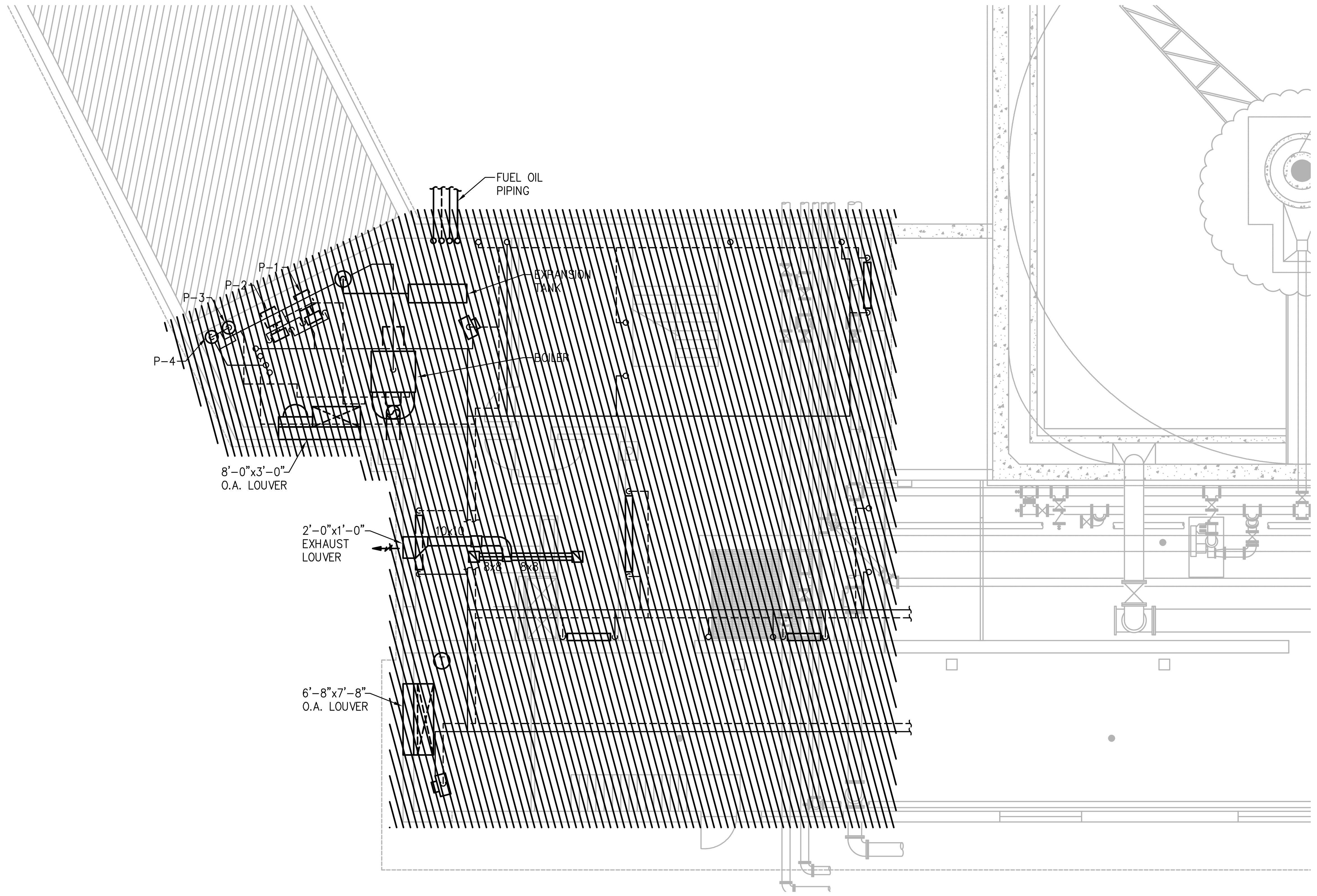
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.8



BASEMENT FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Demolition Control & Admin. Building Basement Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

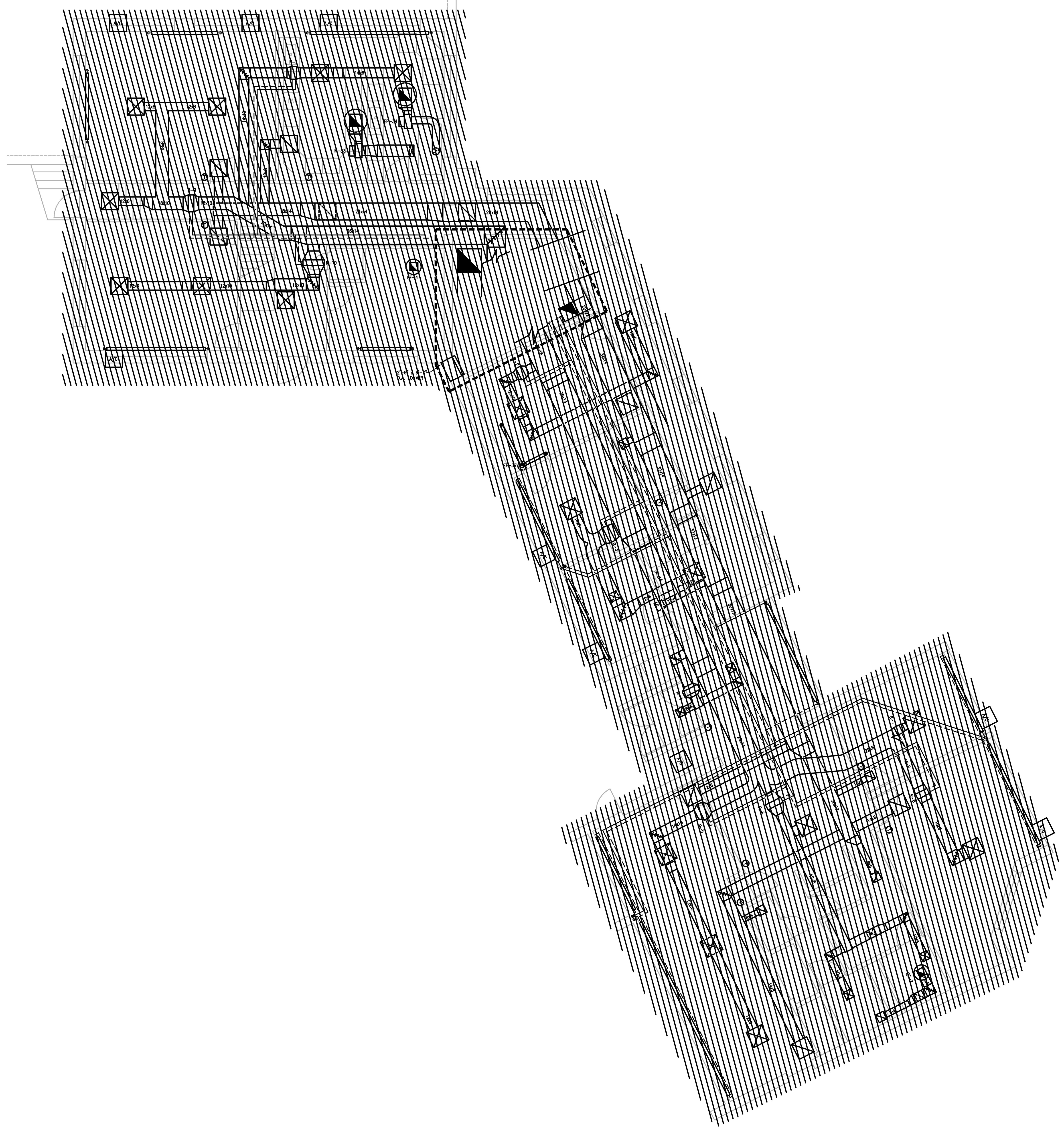
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-9.1



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

PREPARED BY
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PROJECT
Taunton Wastewater Treatment Facility Improvements Phase 1
Taunton, MA

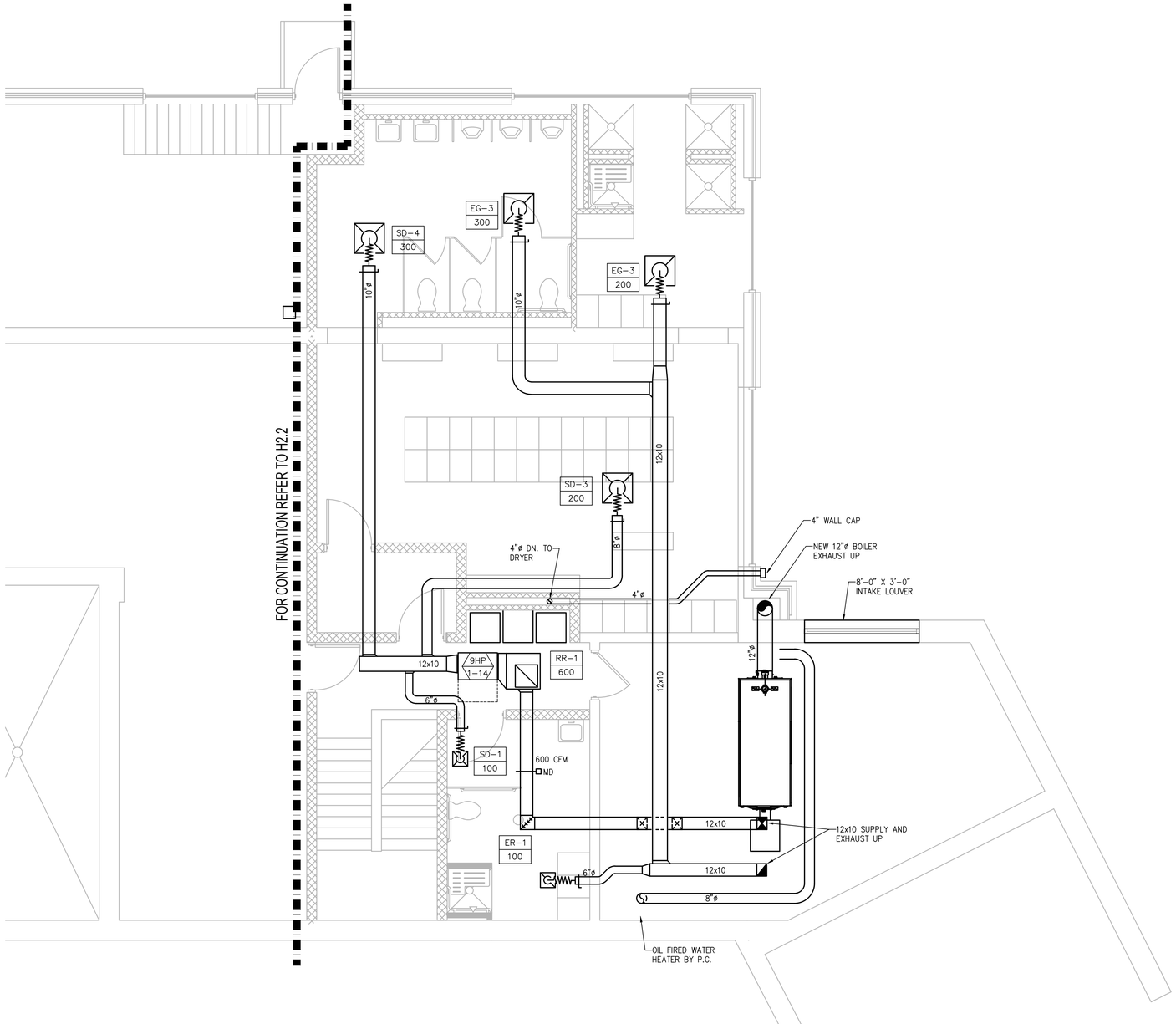
TITLE
Hvac Demolition Control & Admin. Building First Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE
AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.
H-9.2



BASEMENT FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building Basement Ductwork Plan

NO.	REVISIONS	DATE

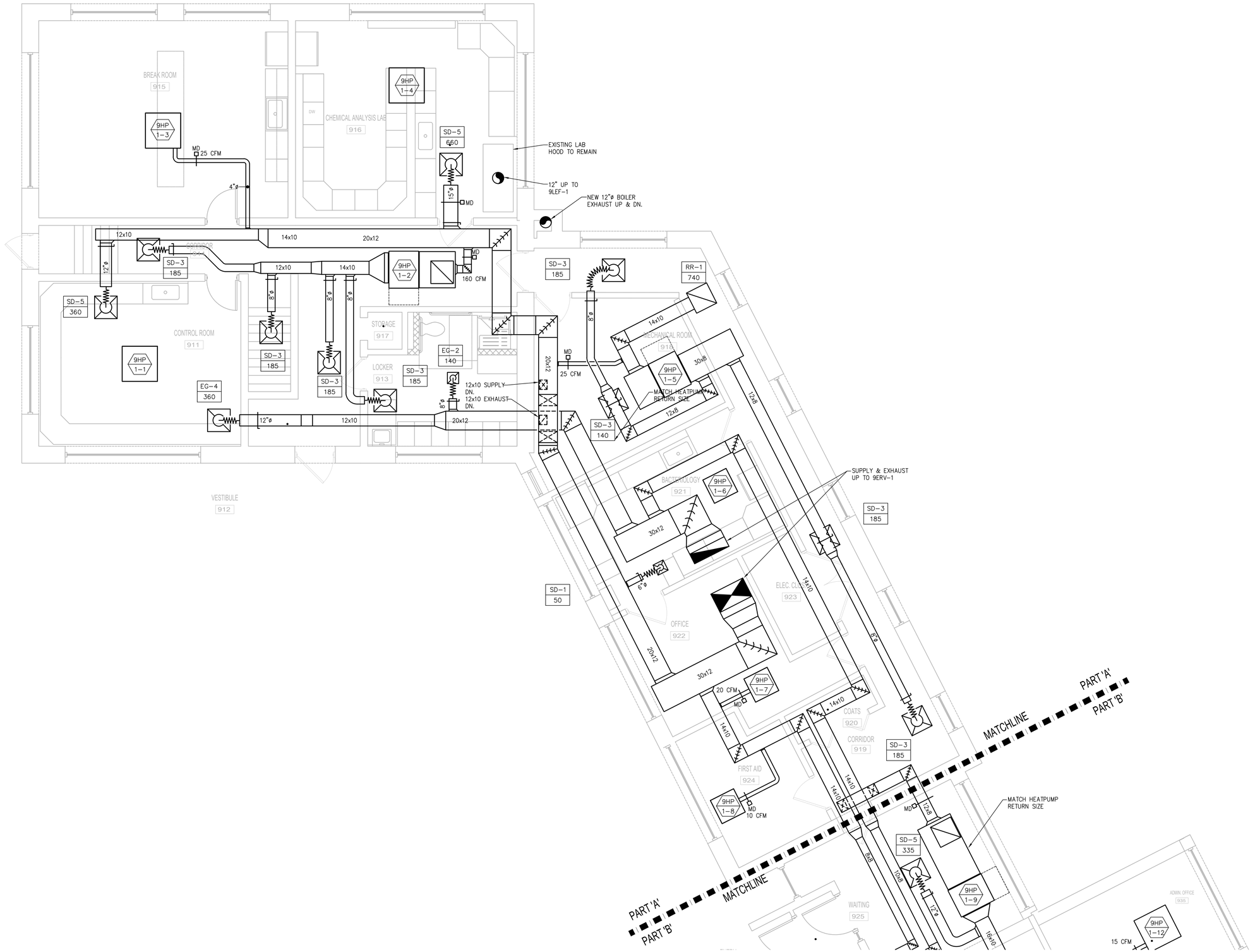
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.3



FIRST FLOOR - PLAN I

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

6/30/2021 10:01 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1\18009.00-HVAC CONTROL-ADMIN BUILDING-PHASE 1.DWG (BETA STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Ductwork Part Plan

NO.	REVISIONS	DATE

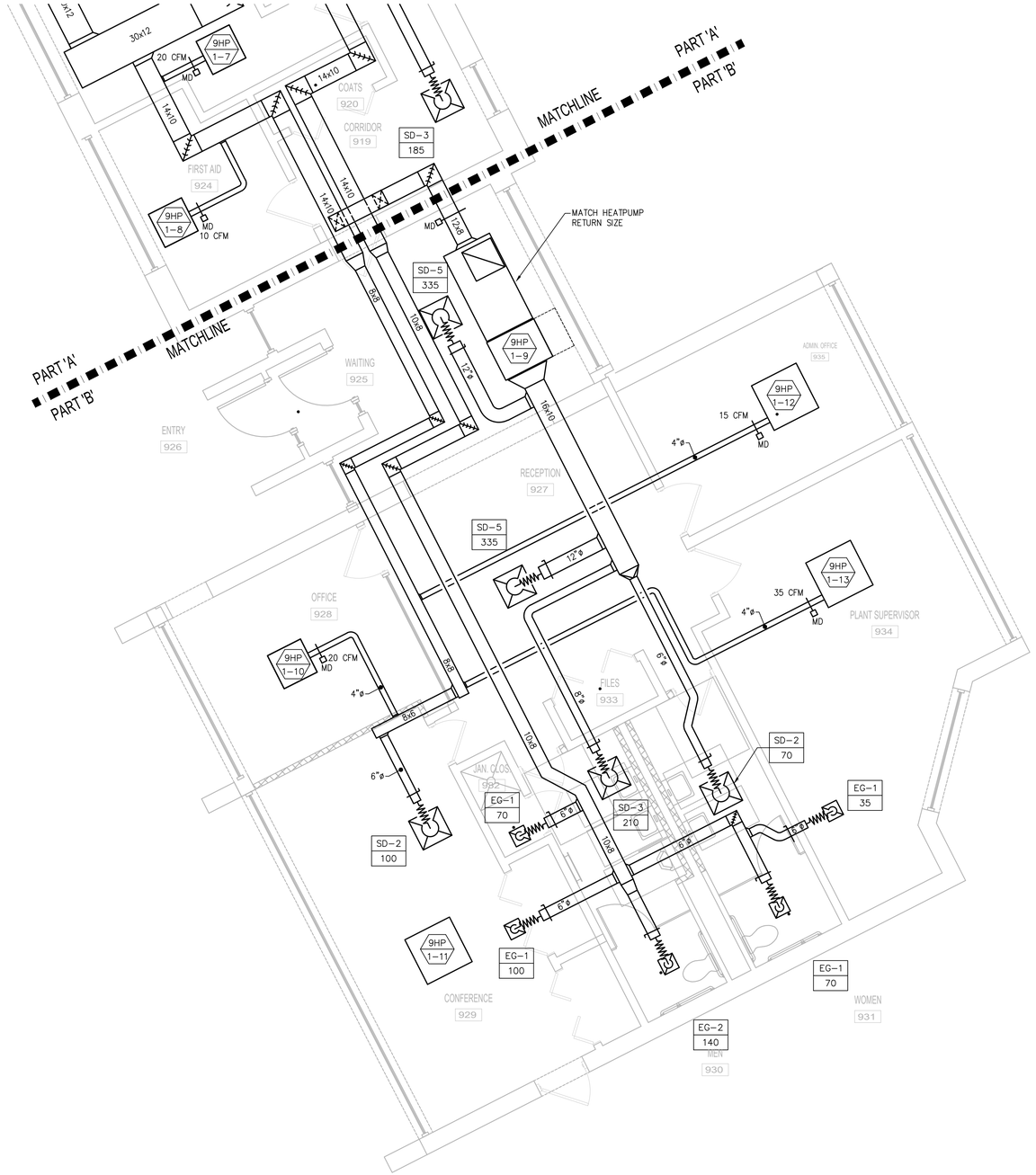
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.4



FIRST FLOOR - PLAN I

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

8/30/2021 10:01 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1\18009.00 HVAC CONTROL-ADMIN BUILDING-PHASE 1.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Ductwork Part Plan

NO.	REVISIONS	DATE

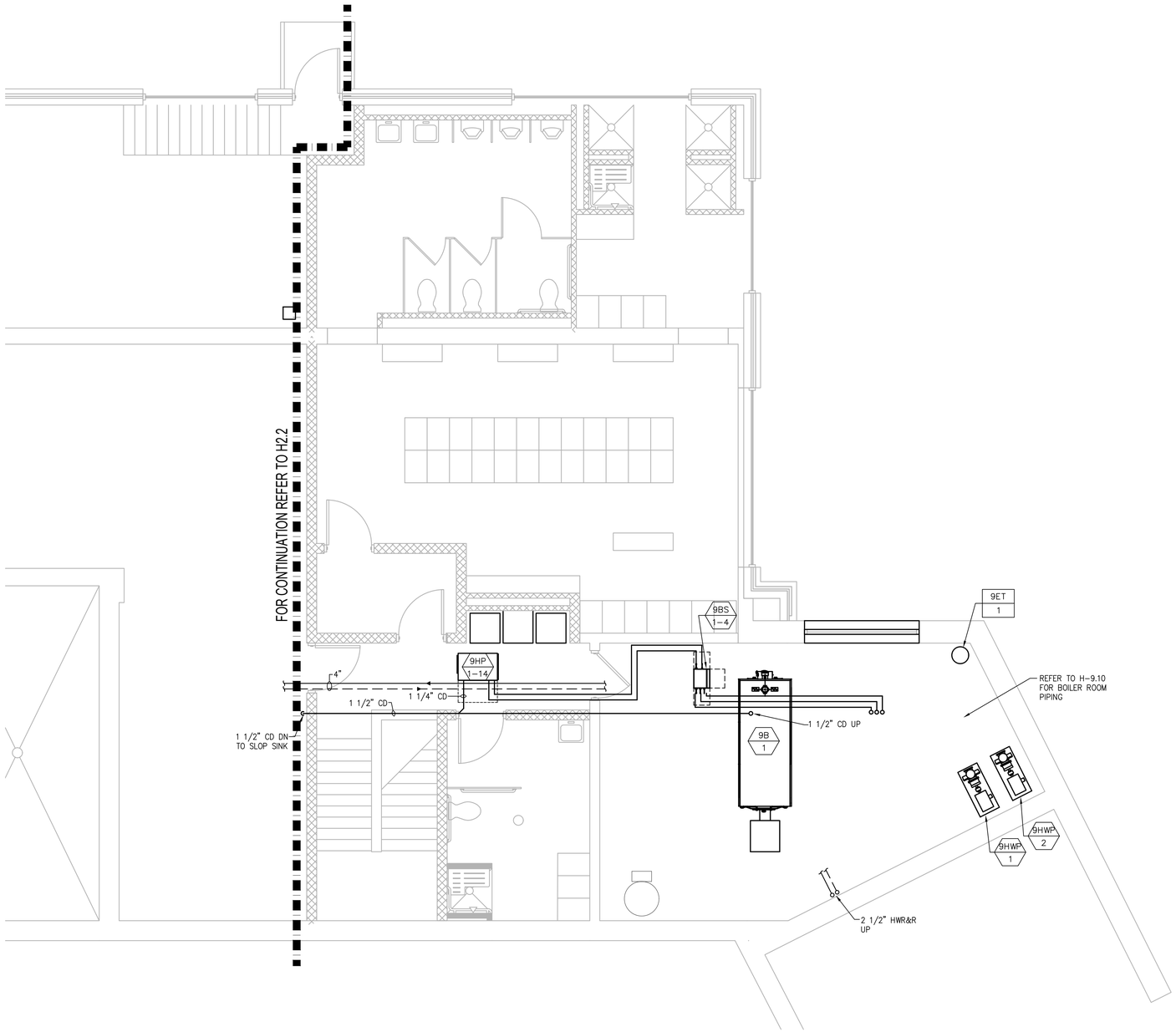
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.5



BASEMENT FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building Basement Piping Plan

NO.	REVISIONS	DATE

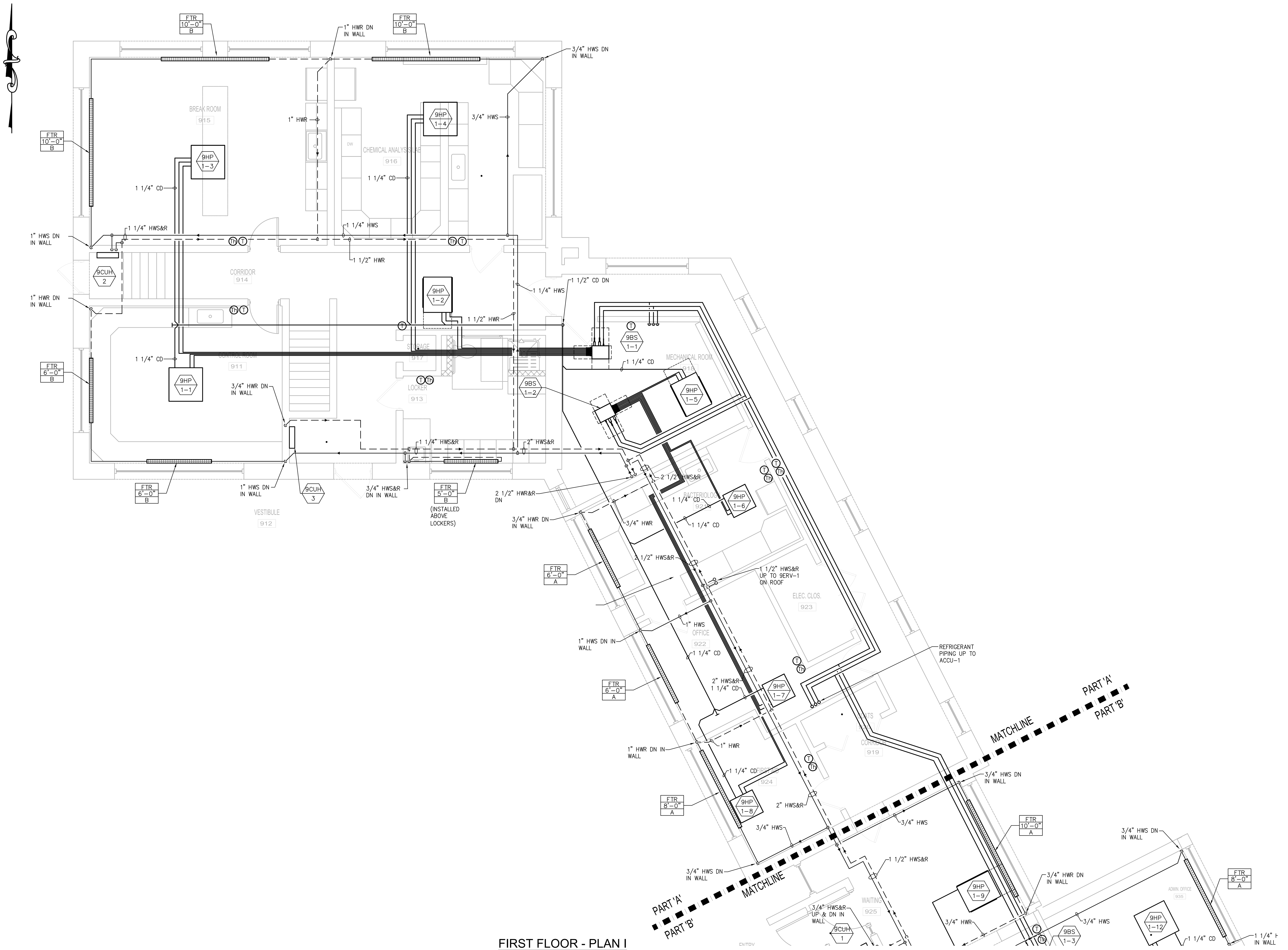
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.6



FIRST FLOOR - PLAN I

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Piping Part Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

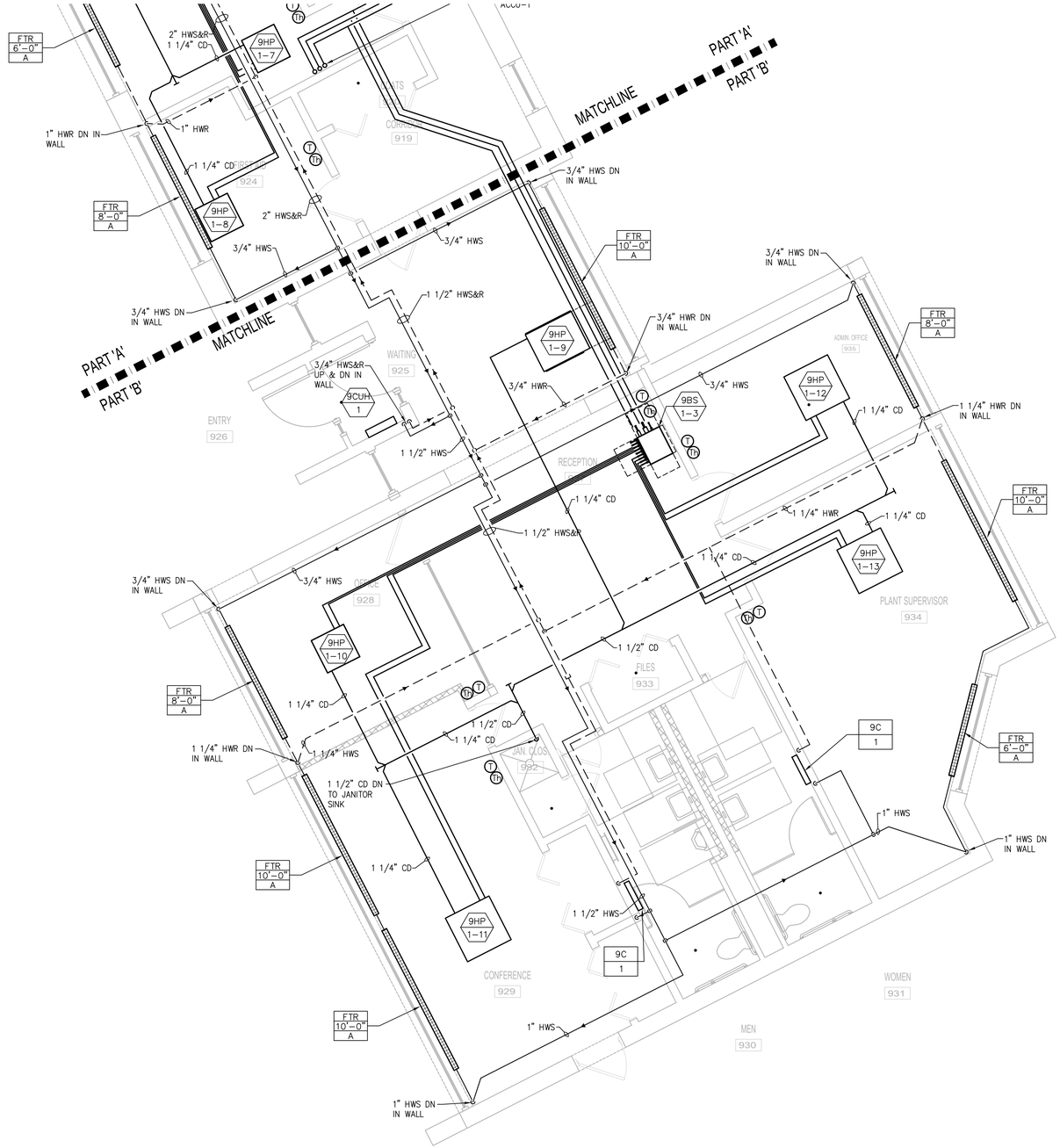
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-9.7



FIRST FLOOR - PLAN I

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building First Floor Piping Part Plan

NO.	REVISIONS	DATE

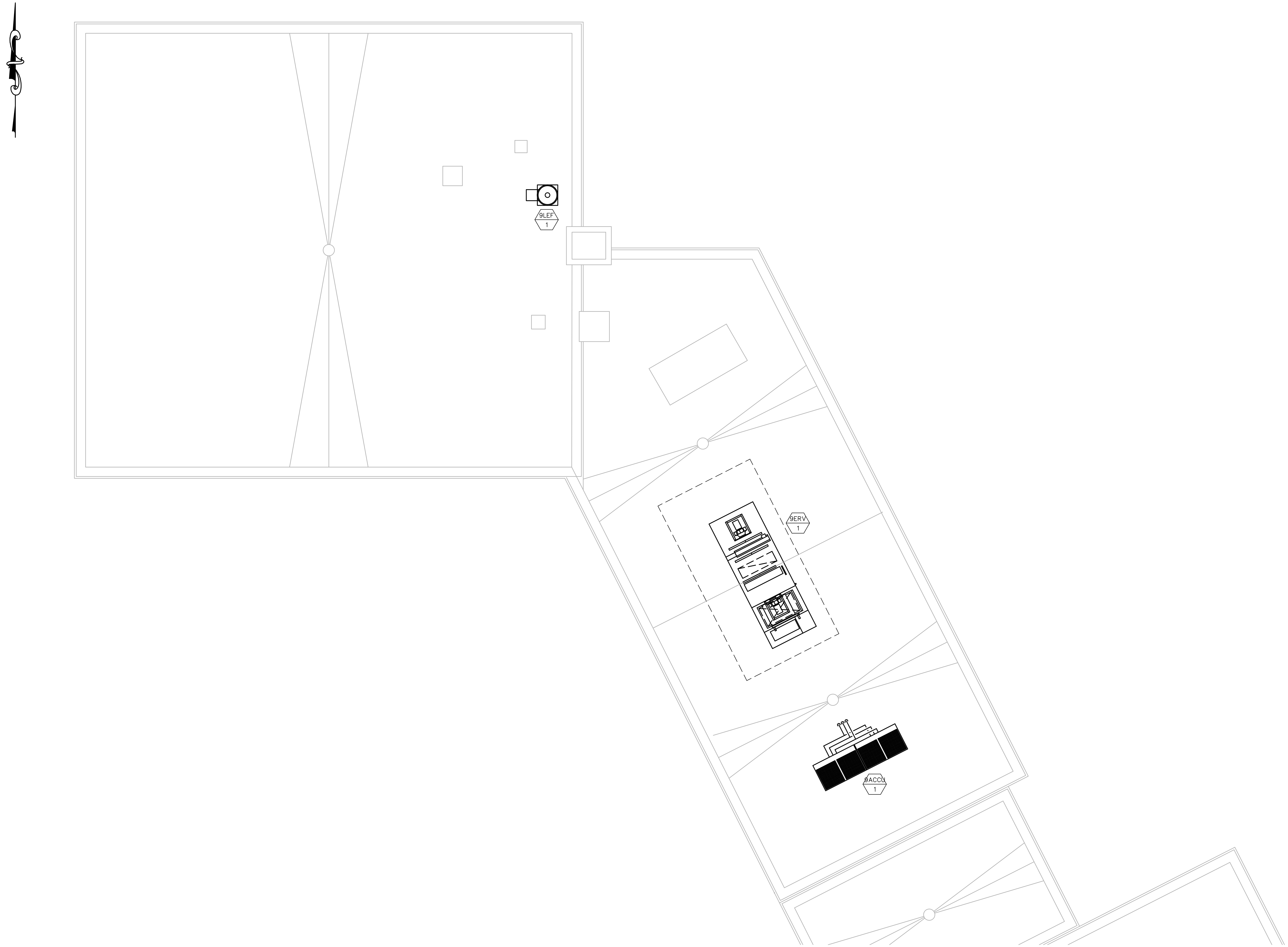
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.8



ROOF - PLAN I

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

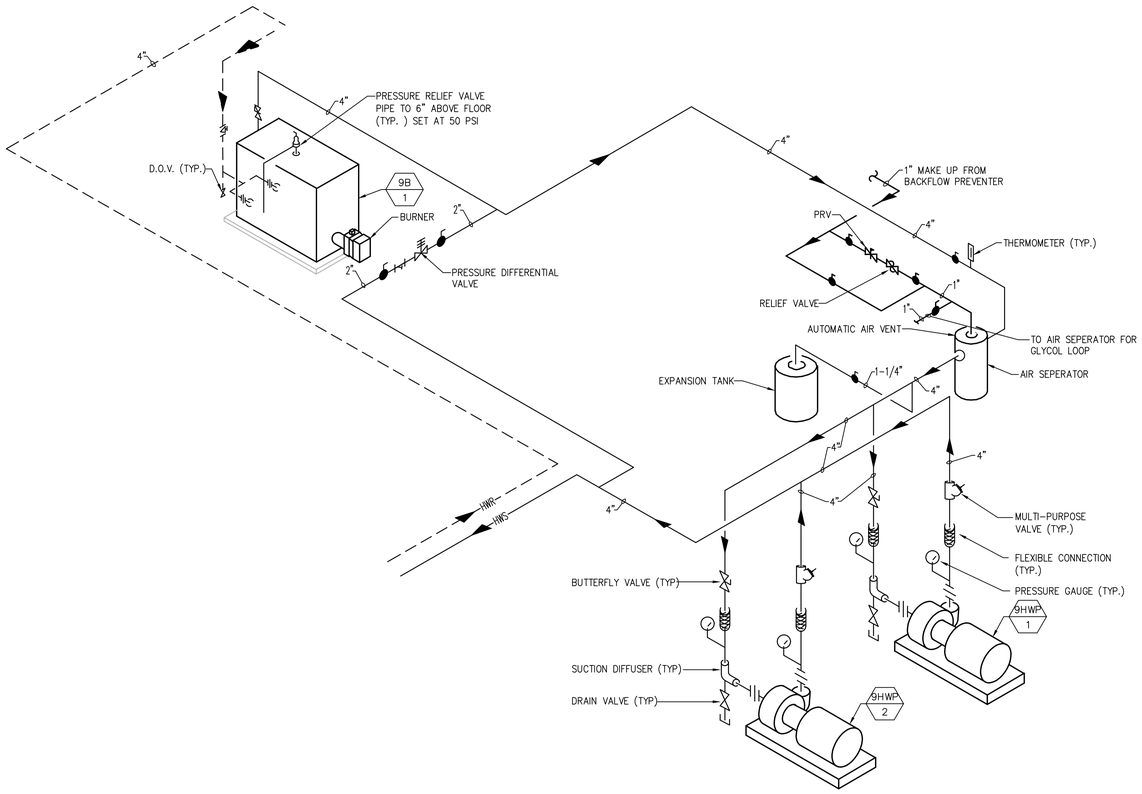
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-9.9



PIPING SCHEMATIC
NO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Hvac Control & Admin. Building Boiler Room Piping Schematic

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-9.10

PLUMBING NOTES

1. 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.
2. 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.
3. 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 P00.01.
5. FOR PLUMBING DETAILS, REFER TO DRAWINGS P03.01.
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 FIRE STOPPING.

PLUMBING DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, ALL EXISTING PLUMBING SYSTEMS WITHIN HATCH MARKS (COLD WATER, HOT WATER, HOT WATER RETURN, SANITARY, RAIN LEADERS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OR SALVAGED. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED.
2. NO PIPING 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.
3. 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.

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
NPCW	NPCW	NON-POTABLE COLD WATER
NPHW	NPHW	NON-POTABLE HOT WATER
	S or W	SOIL OR WASTE
AW	AW	ACID WASTE
KW	KW	KITCHEN WASTE
	V	VENT
AV	AV	ACID VENT
GTV	GTV	GAS TRAIN VENT
	RW	RAIN WATER CONDUCTOR
OFD	OFD	STORM WATER OVER FLOW DRAINAGE
G	G	NATURAL GAS
	HTI / TMC	HEAT TRACE AND INSULATE
	CONT	CONTINUATION
	UP	PIPE RISE OR UP
	DN	PIPE DROP OR DOWN
	TEE	PIPE TEE
	SOV	SHUT-OFF VALVE
		GAS COCK
	PRV	PRESSURE REDUCING VALVE
	CV	CHECK VALVE
	BVA	BALANCING VALVE ASSEMBLY
	W & T	WASTE & TRAP
	CO	CLEANOUT PLUG
	FCO	FLUSH FLOOR CLEANOUT
	DCO	DANDY CLEANOUT
		CAPPED PIPE
		ARROW INDICATES DIRECTION OF FLOW
.01		ARROW INDICATES DIRECTION OF SLOPE
		UNION
	PA	PIPE ANCHORS
	PGD	PIPE GUIDES
	HB	HOSE BIBB
	WH	WALL HYDRANT
1 / P-1		DIAGRAM NO. & DWG. NO. REFERENCE
	FD "A"	FLOOR DRAIN & TYPE
	RD "A"	ROOF DRAIN & TYPE
	OED	OPEN END DRAIN (WITH CHECK VALVE)
	BFP/RPZ	BACKFLOW PREVENTER/REDUCED PRESSURE ZONE ASSY
WM	WM	WATER METER
	T	THERMOMETER
	PG	PRESSURE GAUGE WITH PETCOCK
	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
	SA	SHOCK ABSORBER WITH SHUT-OFF VALVE
		VACUUM RELIEF VALVE
	DGT	DUAL-OUTLET GAS TURRET
	MGV	MASTER GAS VALVE CABINET

PLUMBING LEGEND

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 Phase 1

Taunton, MA

TITLE

Plumbing Legend and General Notes

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	JL
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

P-0.1

OIL FIRED WATER HEATER SCHEDULE

DESIGNATION	MANUFACTURER	MODEL	LOCATION	GALS.	RECOVERY		GPH #2 FUEL OIL	OIL CONN. SIZE	FLUE CONN. SIZE	REMARKS
					G.P.H.	△ TEMP °F				
9DWH-1	AO SMITH	COF-199*	ADMIN BLDG	86	191	100	1.42	1/2"	8"	-

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

ELECTRIC WATER HEATER SCHEDULE

DESIGNATION	MANUFACTURER	MODEL	LOCATION	GALS.	RECOVERY		KW	VOLTS	PHASE	HZ.	REMARKS
					G.P.H.	△ TEMP °F					
5DWH-1	A.O. SMITH	DRE-120-15	CHEMICAL BLDG	120	61	100	15	480	3	60	-
9DWH-2	A.O. SMITH	ENT-30	ADMIN BLDG	30	48	100	4.5	208	1	60	SERVICES LAB SYSTEMS

* 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 SERVED	MODEL	CAPACITY (GPM)	HEAD (FEET)	TYPE	ELECTRICAL REQUIREMENTS				REMARKS
							RPM	HP	VOLTS	Φ	
5.DWP-1	MECH ROOM	5DWH-1	TACO 006B	2	6	INLINE	3250	1/40	115	1	SERVES 120° HW SYSTEM
9.DWP-1	ADMIN BLDG	5DWH-1	TACO 006B	2	6	INLINE	3250	1/40	115	1	SERVES 120° HW SYSTEM
9.DWP-2	ADMIN BLDG	5DWH-1	TACO 006B	2	6	INLINE	3250	1/40	115	1	SERVES 120° HW LAB 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.

PLUMBING FIXTURE SCHEDULE

DESIGNATION	FIXTURE DESCRIPTION	CONNECTION SIZE							REMARKS
		W1	HW1	BLW	SAN	V	NPW1	NPHW1	
WC-1	WATER CLOSET	1"	-	-	4"	2"	-	-	WALL HUNG - CARRIER SUPPORTED
WC-1A	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
LAV-1A	LAVATORY	1/2"	1/2"	-	2"	2"	-	-	WALL HUNG - CARRIER SUPPORTED
KS-1	KITCHEN SINK	1/2"	1/2"	-	2"	2"	-	-	DROP IN
SS-1	JANITOR SINK	1/2"	1/2"	-	3"	2"	-	-	FAUCET SHALL HAVE INTEGRAL CHECK VALVES
SH-1	SHOWER	1/2"	1/2"	-	3"	2"	-	-	-
SH-1A	SHOWER	1/2"	1/2"	-	3"	2"	-	-	-
HB	HOSE BIBB	1/2"	-	-	-	-	-	-	-
EWU-1	EMERGENCY SHOWER/EYEWASH	-	-	1 1/4"	-	-	-	-	INTERIOR MOUNTED, CORROSION RESISTANT, EMERGENCY SHOWER/EYEWASH (COMBINATION UNIT) WITH HORN, STROBE AND FLOW SWITCH
EWU-2	EMERGENCY SHOWER/EYEWASH	-	-	1 1/4"	-	-	-	-	EXTERIOR MOUNTED, CORROSION RESISTANT, EMERGENCY SHOWER/EYEWASH (COMBINATION UNIT) WITH HORN, STROBE AND FLOW SWITCH

SUMP PUMP SCHEDULE

DESIGNATION	LOCATION	MODEL	CAPACITY (GPM)	HEAD (FEET)	TYPE	ELECTRICAL REQUIREMENTS				REMARKS
						RPM	HP	VOLTS	Φ	
5SP-1	CHEMICAL HANDLING UNITS	WEIL 2443	20	40	DUPLEX SUBMERSIBLE	1750	1/2	480	3	AUTOMATIC WITH FLOAT

SHOCK ABSORBER SCHEDULE

PDI RATING SYMBOL	A	B	C	D	E
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.

** PROVIDE WITH SHUT-OFF VALVE.

DRAIN SCHEDULE

DESIGNATION	TYPE	MANUFACTURER	MODEL	OUTLET	STRAINER	REMARKS
FD'A'	FD	J.R. SMITH	2005Y-A-P050	NO HUB	NICK-BRZ	FINISHED AREAS
FD'B'	FD	J.R. SMITH	9700C-CF8M-NB	CAULK	NICK-BRZ	CLASSIFIED OR HAZARDOUS AREAS
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.

PREPARED BY

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REGISTERED PROFESSIONAL

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Schedules

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

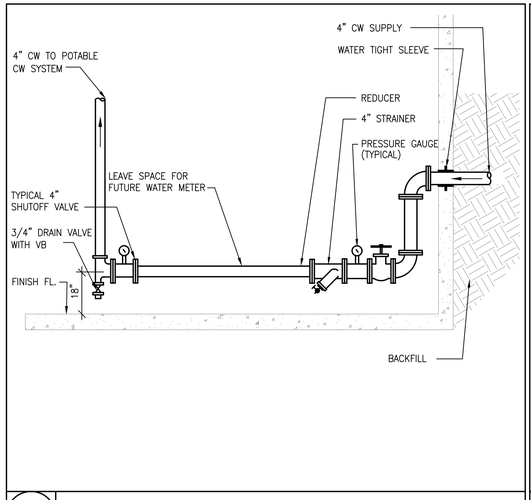
SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

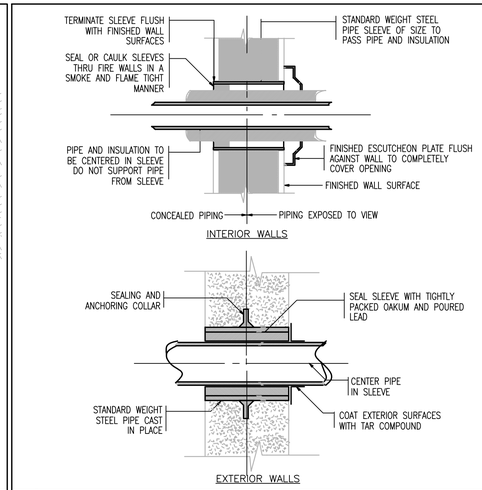
SHEET NO.

P-0.2



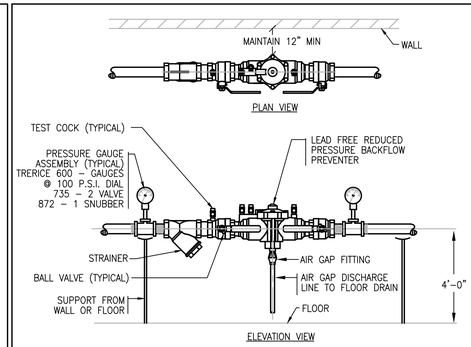
1 DOMESTIC WATER METER DETAIL

NTS



2 PIPING SLEEVE DETAIL

NTS

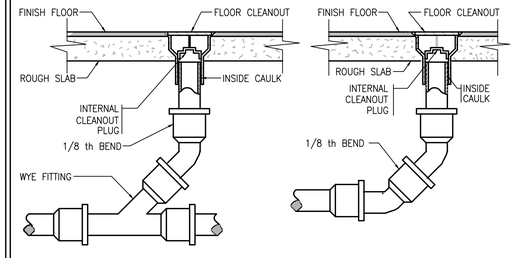


NOTES:

1. BACKFLOW PREVENTER SHALL BE APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY.
2. BACKFLOW PREVENTER SHALL BE IN COMPLETE ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION. THE PLUMBING CONTRACTOR SHALL SUBMIT PLANS AND DEVICE INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
3. FURNISH TO OWNER ONE TEST KIT AND SPARE PARTS KIT FOR EACH DEVICE.
4. THIS CONTRACTOR SHALL ACT AS THE OWNERS AGENT IN SEEKING APPROVAL FROM ALL LOCAL AND STATE AUTHORITIES. THIS CONTRACTOR SHALL SUBMIT ALL PLANS, SPECS. AND APPLICATIONS REQUIRED FOR APPROVAL AND PAY ALL FEES.
5. SEE FLOOR PLANS FOR SIZES.
6. MAINTAIN 1'–0" CLEARANCE FROM WALL.

3 RPZ BACKFLOW PREVENTER DETAIL

NTS

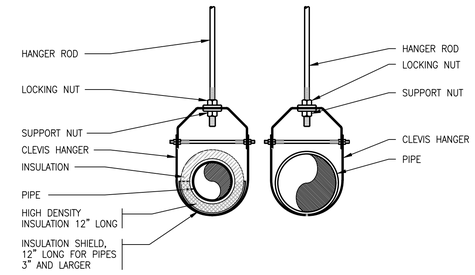


NOTE:

1. ALL COVERS IN TILE FLOORS SHALL BE RECESSED TYPE TO RECEIVE TILE.

4 FLOOR CLEANOUT DETAIL

NTS



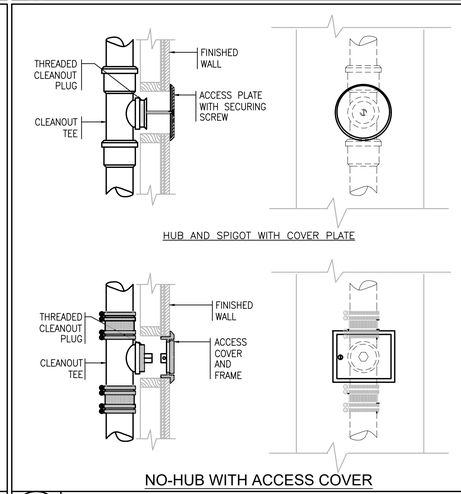
HANGER ROD SCHEDULE	
PIPE SIZE	ROD SIZE
UP TO 2"	3/8" DIA.
2 1/2" THRU 3"	1/2" DIA.
4" AND 5"	5/8"
6" THRU 8"	3/4"
12"	7/8"

HANGER ROD SPACING	
PIPE SIZE	MAX. ALLOWABLE SPACING
1"	7'
1 1/4"	8'
1 1/2"	9'
2"	10'
2 1/2"	11'
3" THRU 8"	12'
10" & 12"	15"

INSULATED AND NON INSULATED PLUMBING SYSTEMS

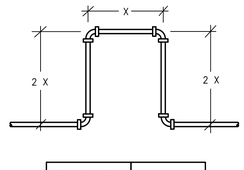
5 CLEVIS PIPE HANGER DETAIL

NTS



6 WALL CLEANOUTS DETAIL

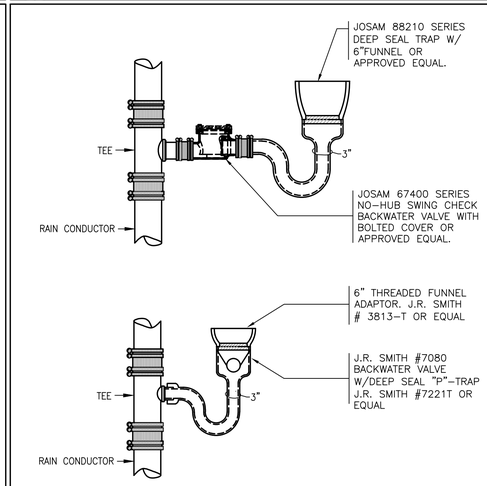
NTS



SIZE OF MAIN	"X"
1/2"	1'–8"
3/4"	1'–10"
1"	2'–1"
1–1/4"	2'–4"
1–1/2"	2'–6"
2"	2'–9"
2–1/2"	3'–0"
3"	3'–3"

7 EXPANSION LOOP DETAIL

NTS



8 OPEN END DRAIN DETAIL

NTS

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Details

NO.	REVISIONS	DATE

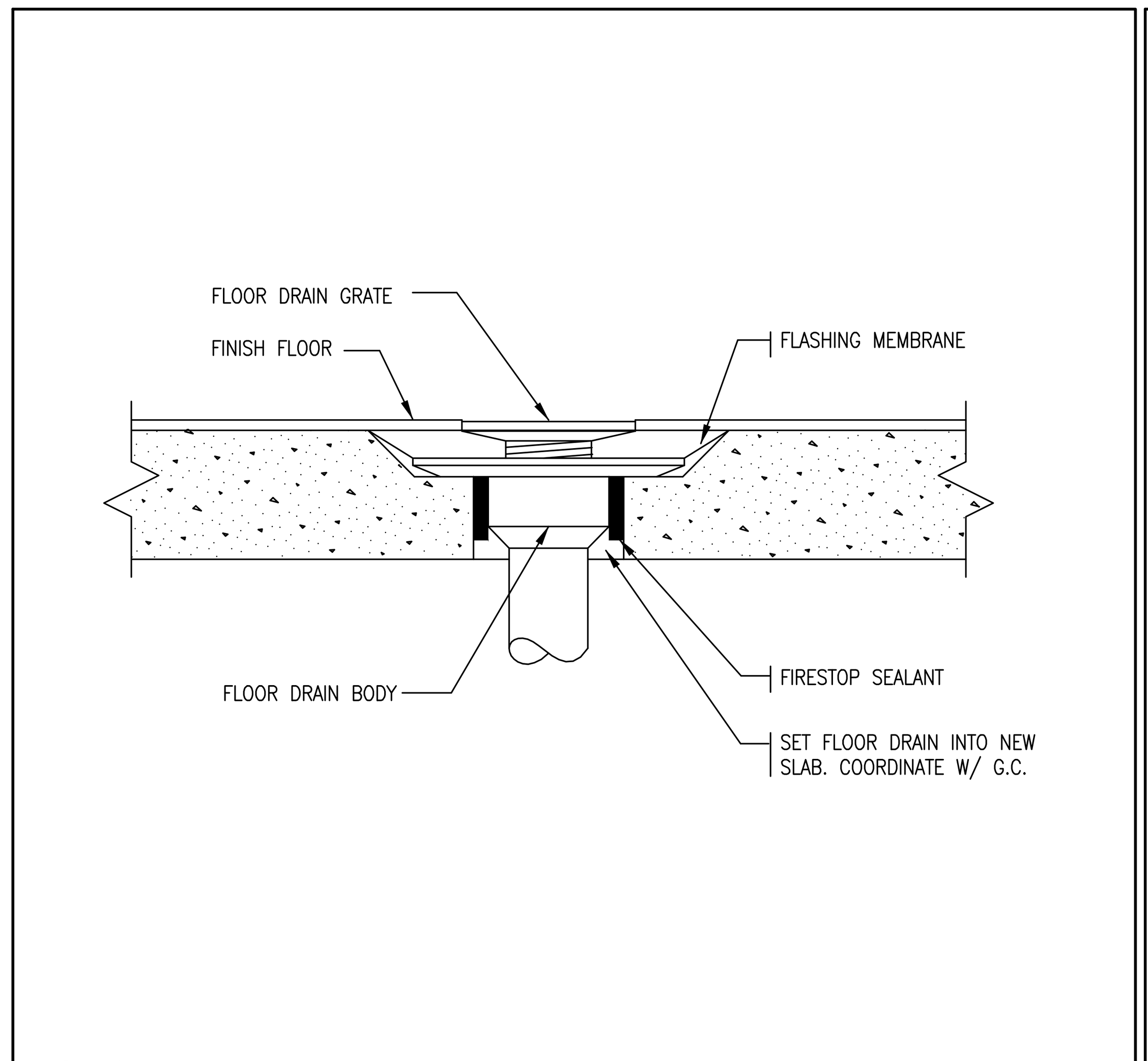
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

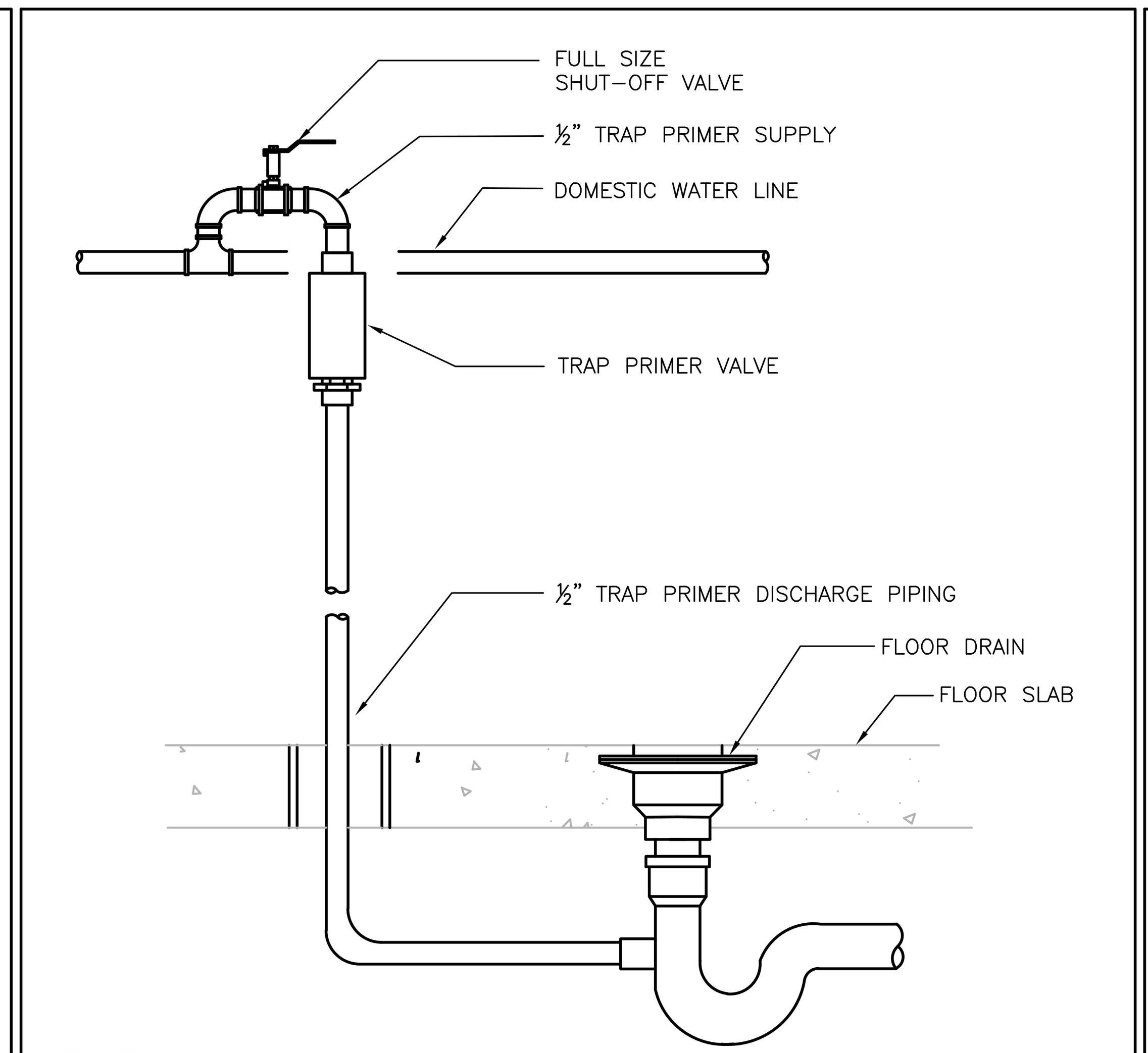
NONE

SHEET NO.

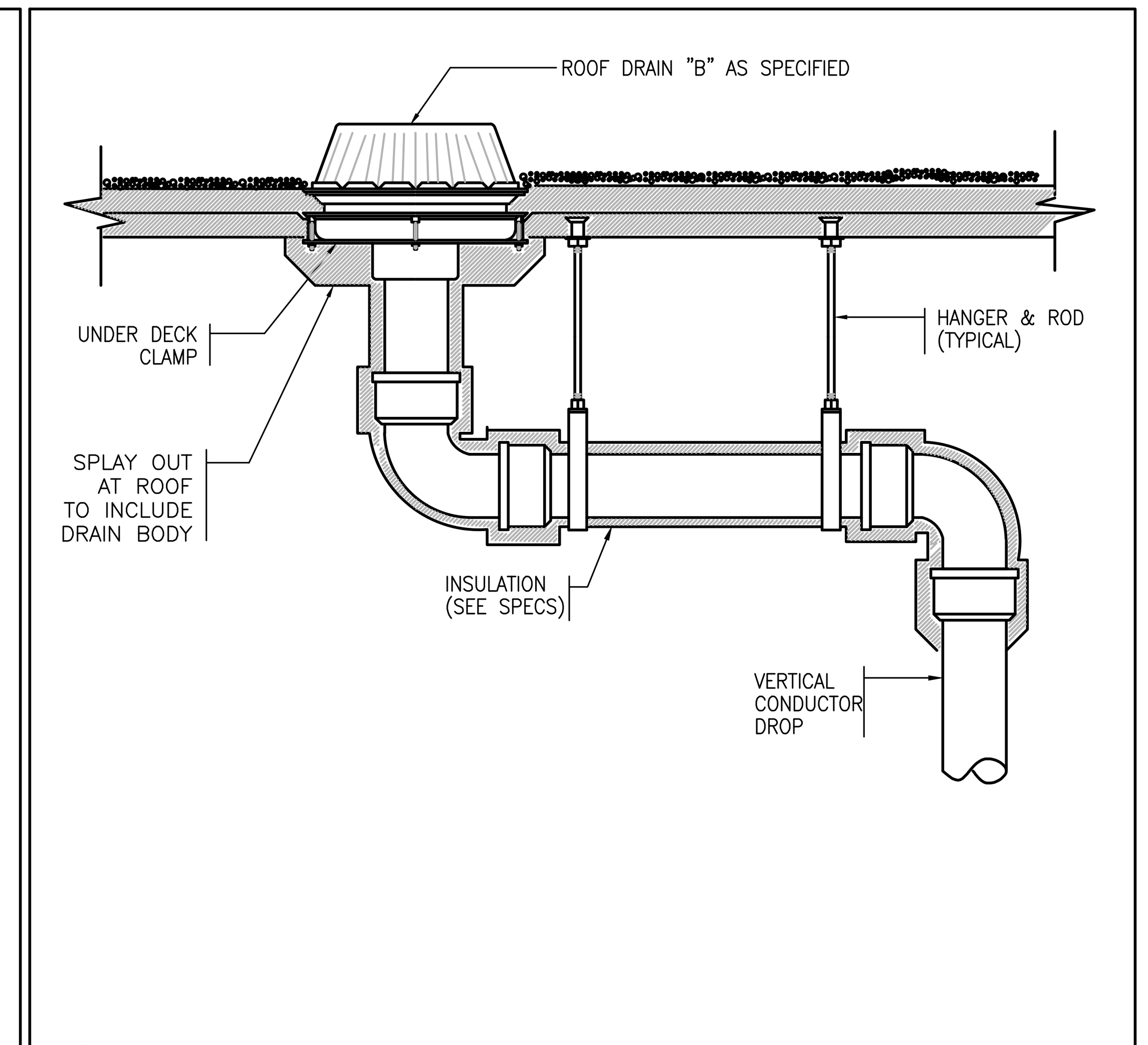
P-0.3



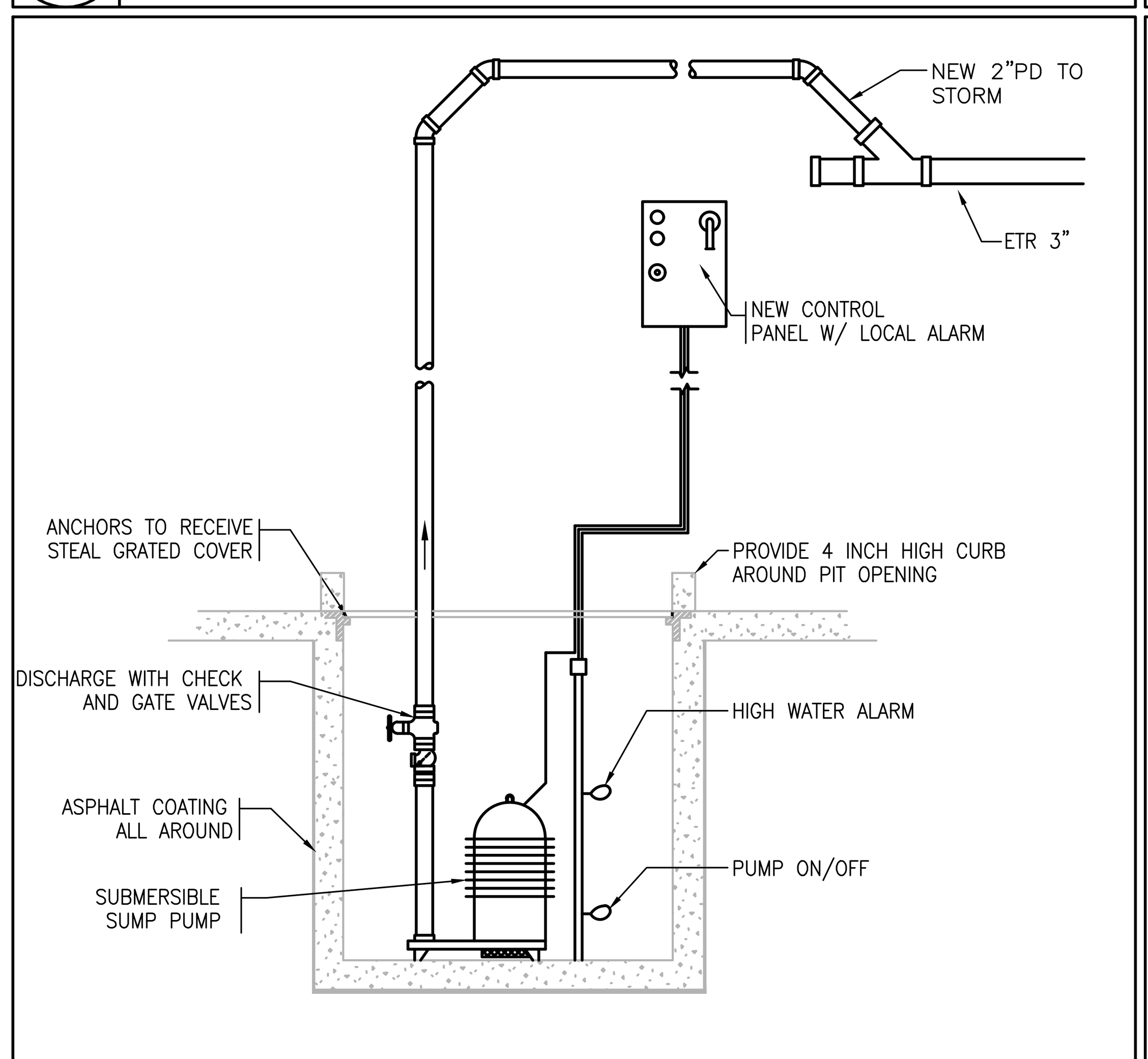
9 FLOOR DRAIN INSTALLATION NTS



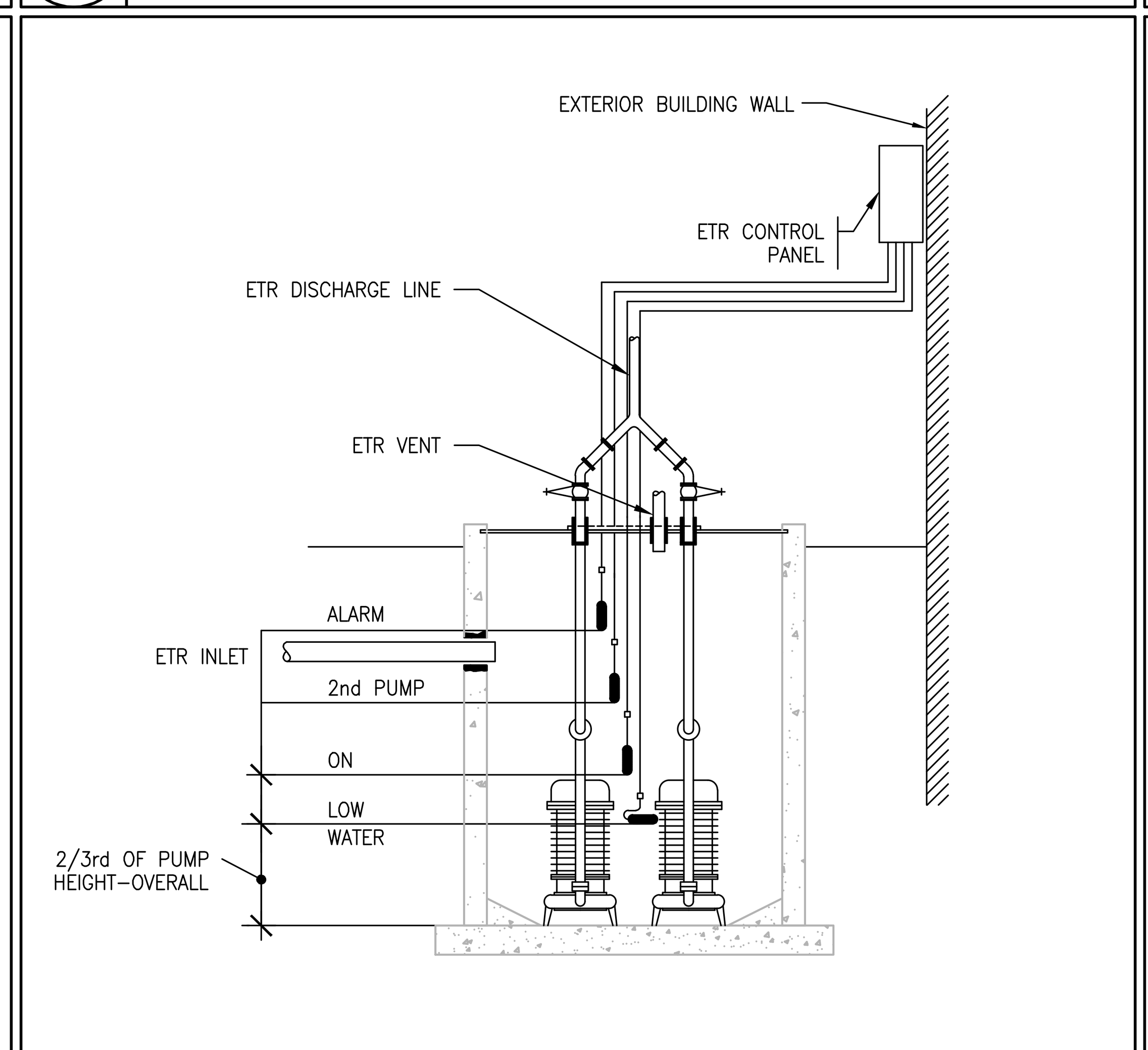
10 TRAP PRIMER DETAIL NTS



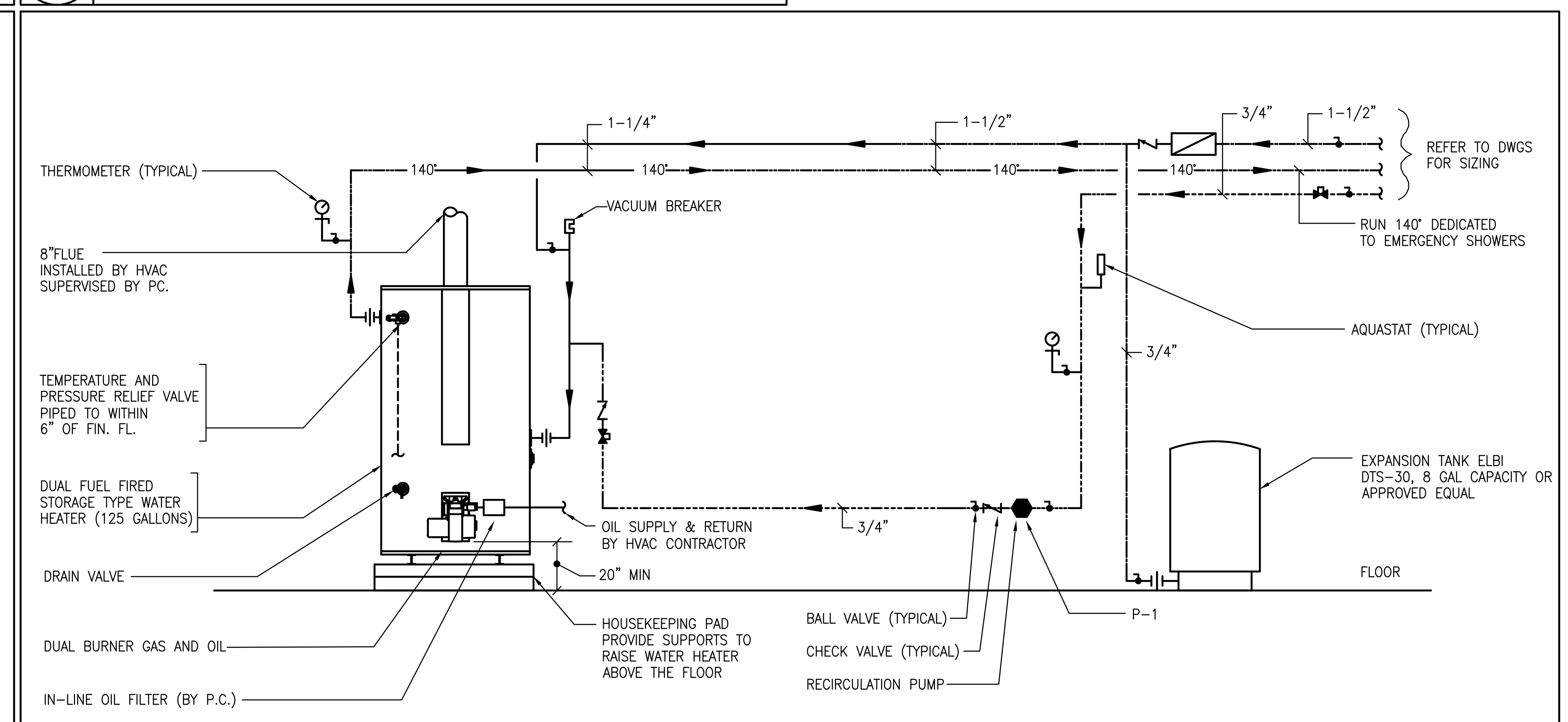
11 ROOF DRAIN DETAIL NTS



13 NEW SUMP PUMP DETAIL NTS



14 NEW EJECTOR PUMPS IN EXISTING PIT DETAIL NTS



14 OIL FIRED WATER HEATER DETAIL NTS

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BETA JOB NO.:	6050

SCALE

NONE

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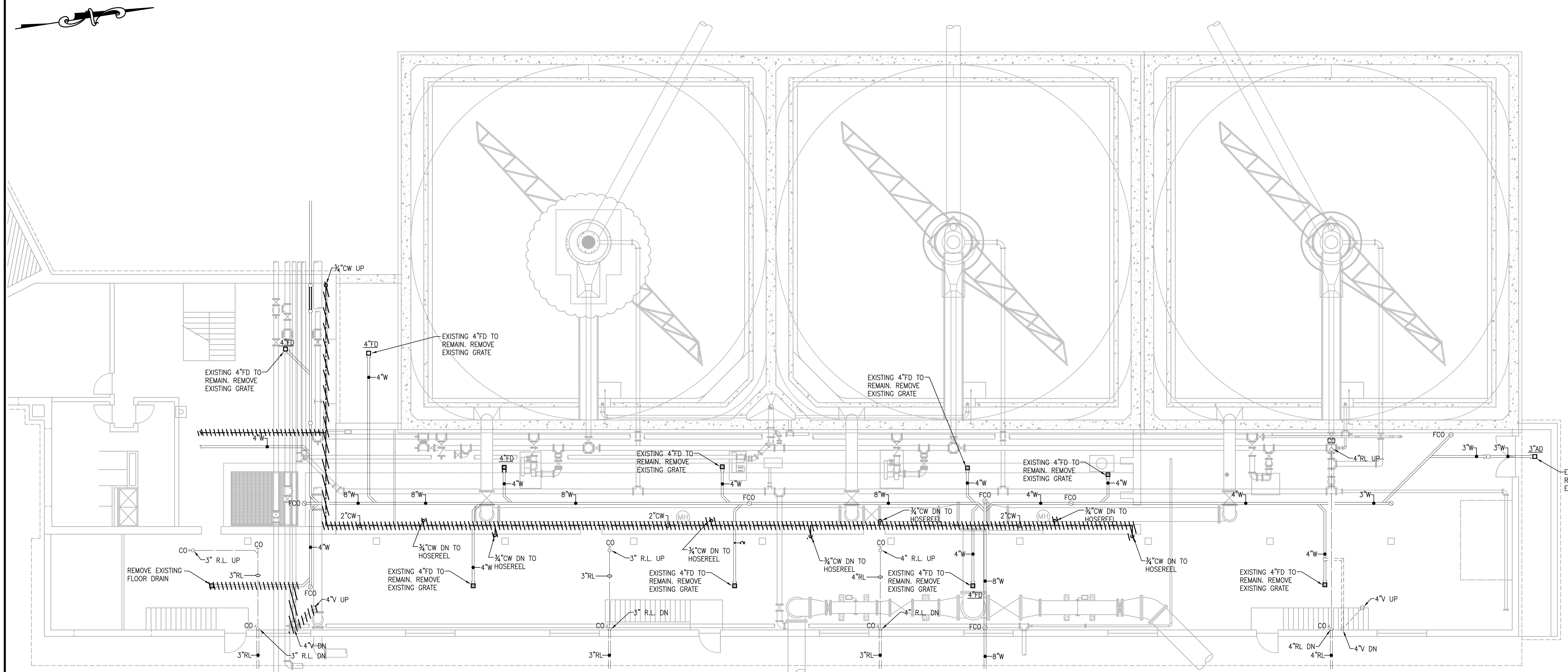
SHEET NO.

P-0.4



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Pipe Gallery Demolition Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

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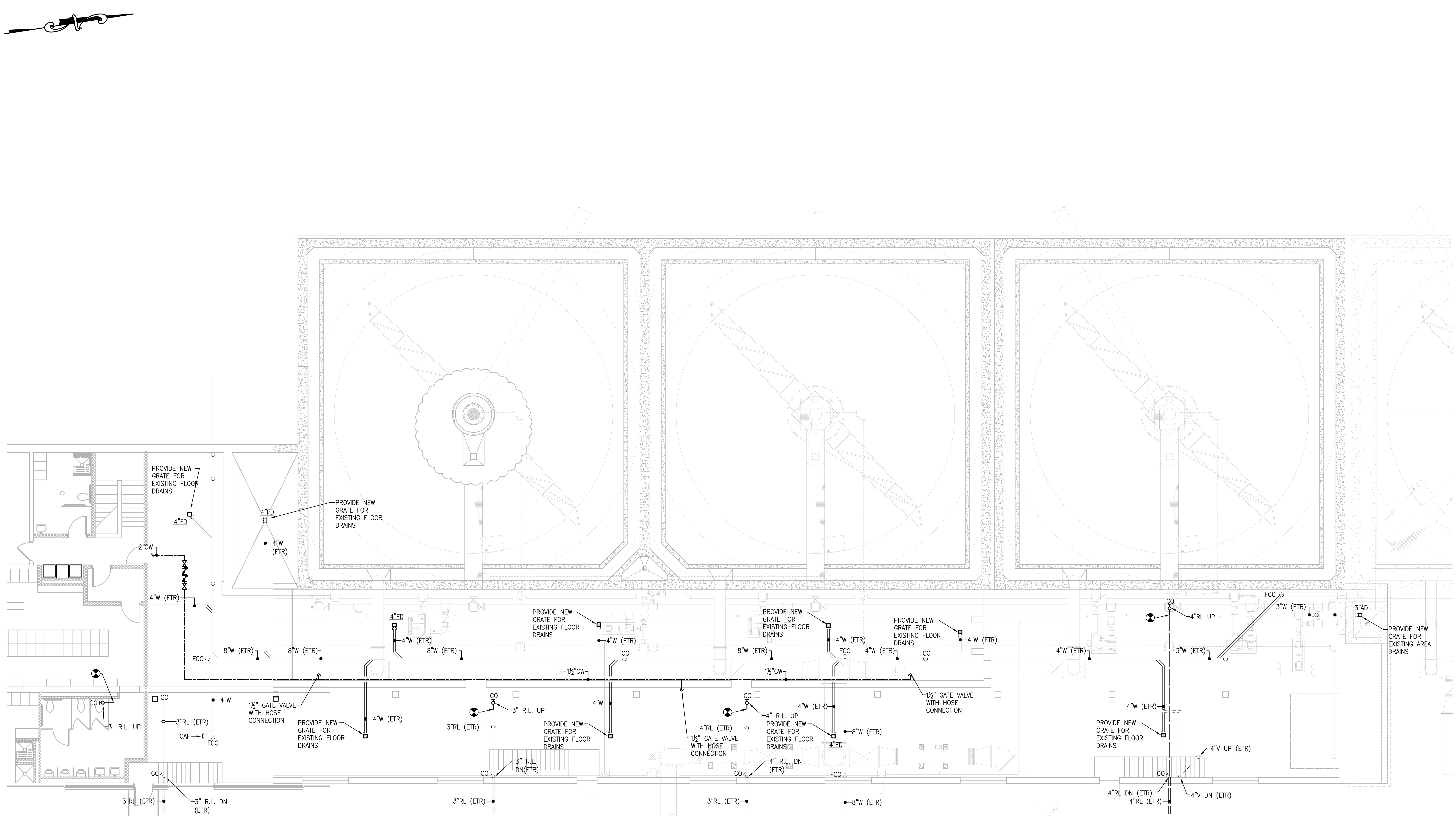
SHEET NO.

P-2.1



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

PREPARED BY
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Pipe Gallery New Work Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

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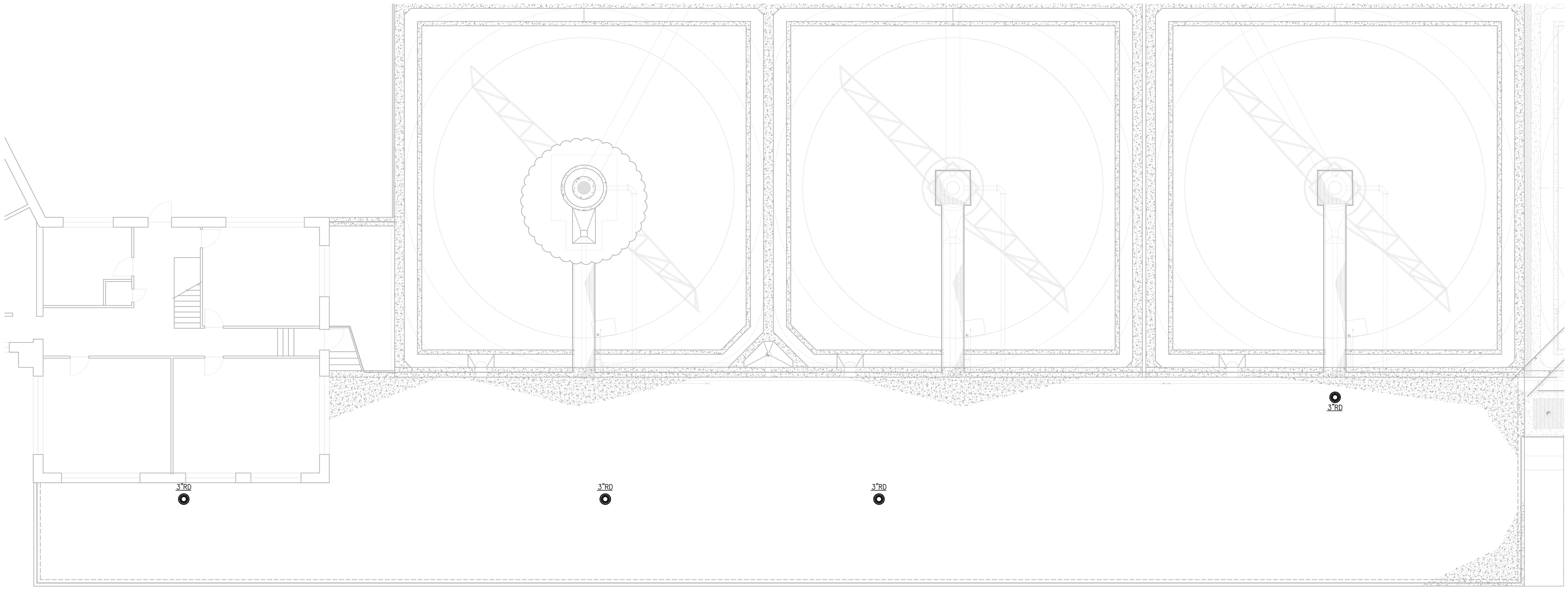
SHEET NO.

P-2.2



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Pipe Gallery New Work Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

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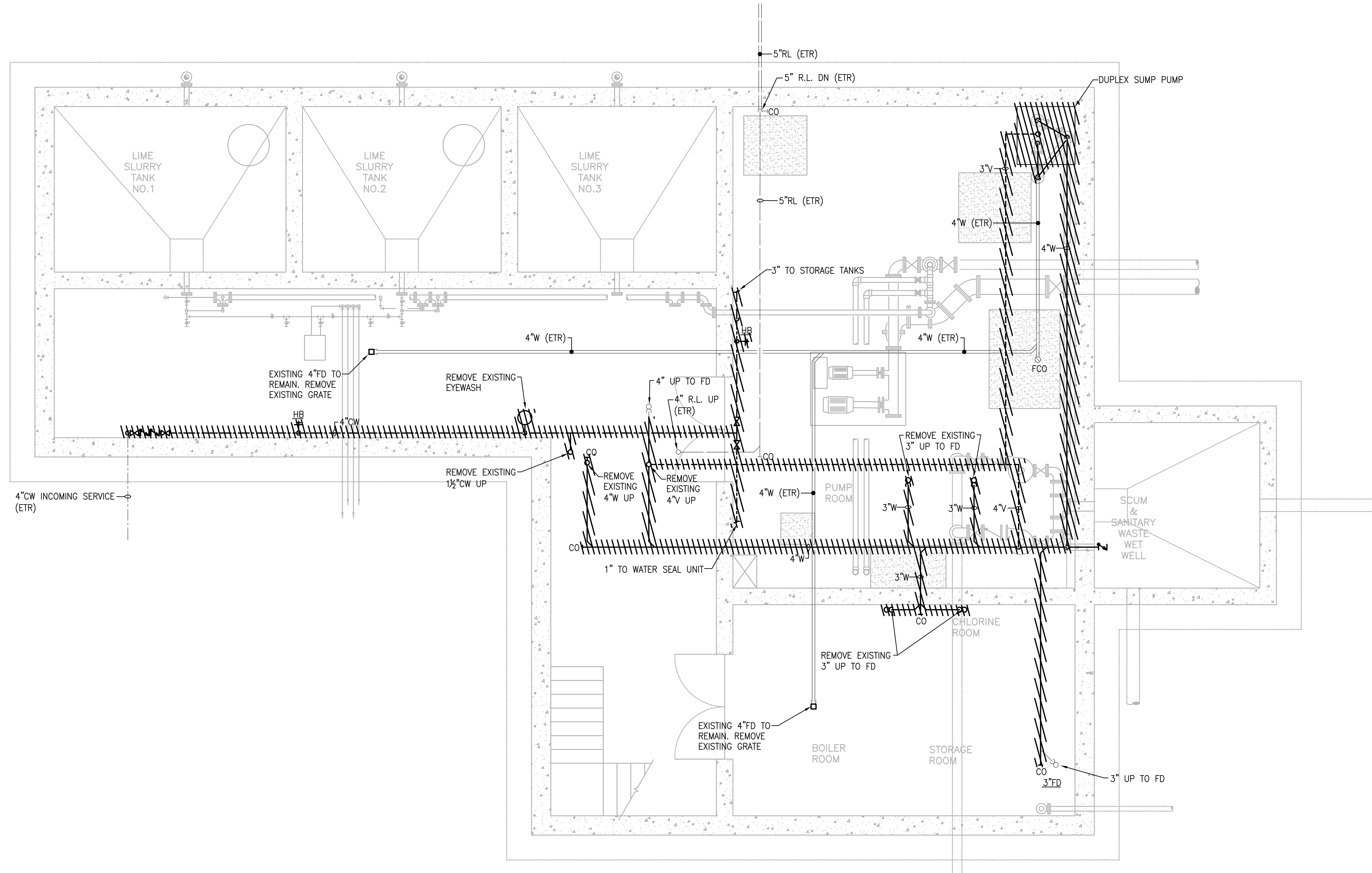
SHEET NO.

P-2.3



BASEMENT - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Demolition Chemical Handling Building Basement Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

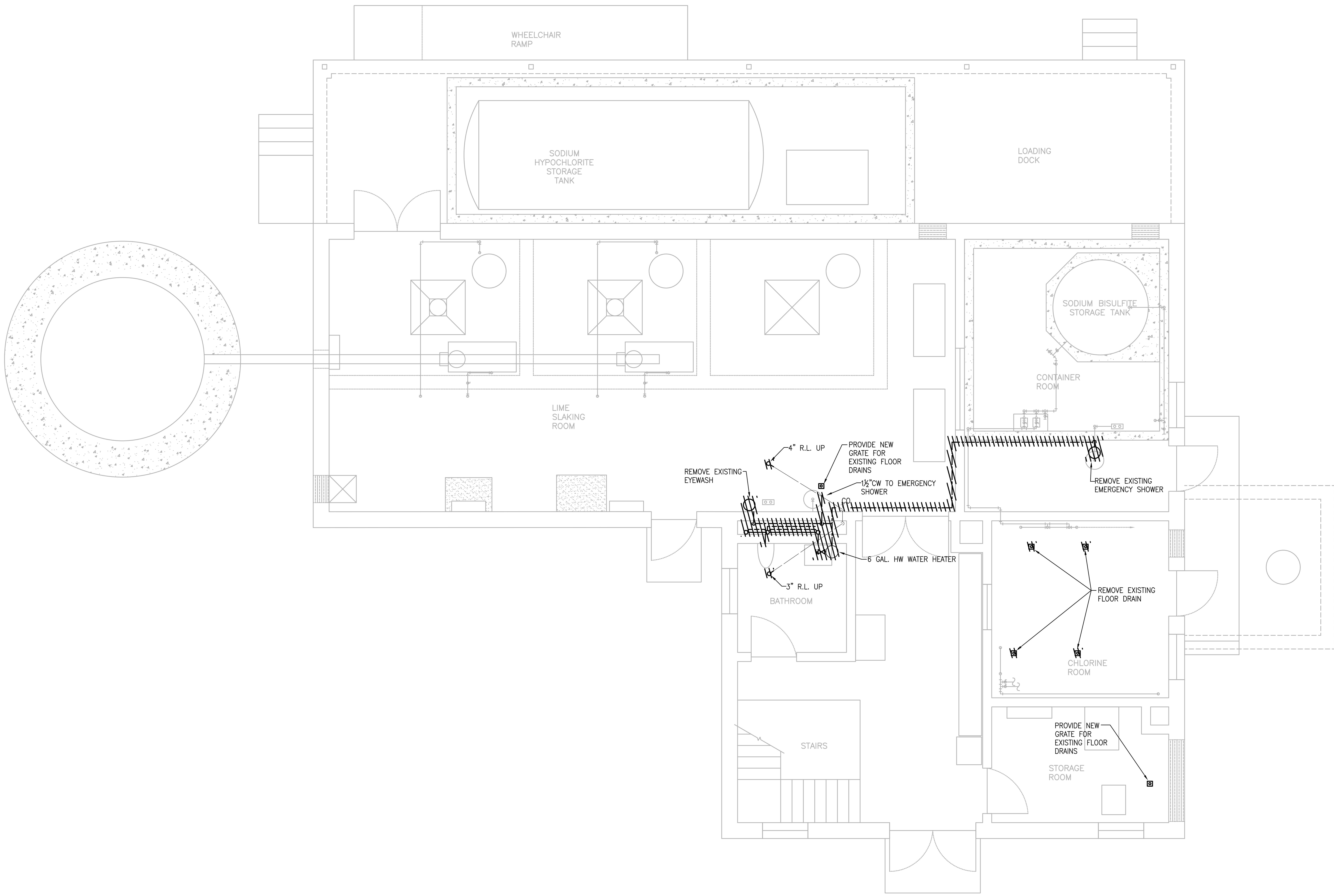
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-5.1



FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Demolition Chemical Handling Building First Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

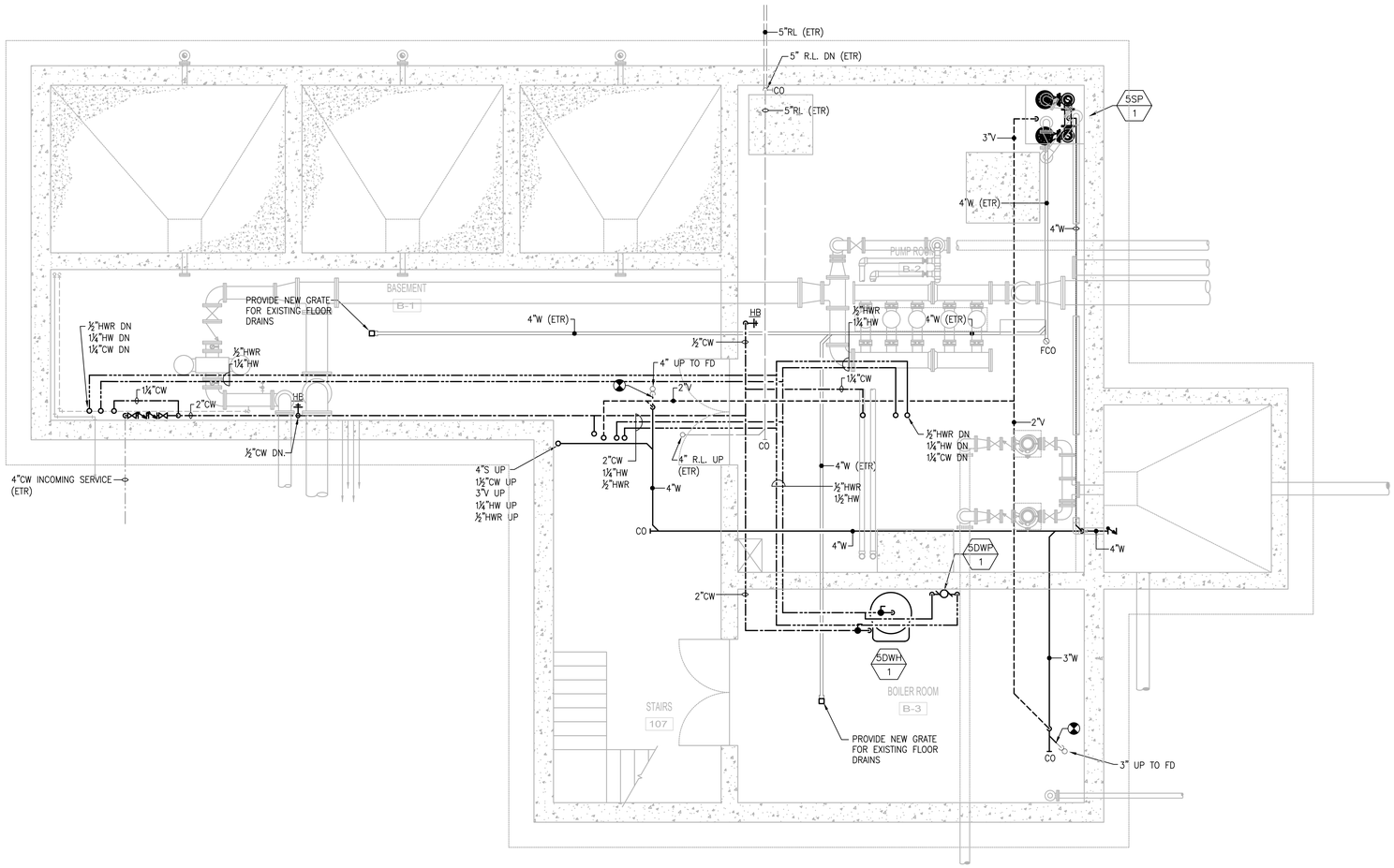
AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-5.2

6/30/2021 9:16 AM W:\T-PROJECTS\T-16009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1\16009.00 PLUMBING CHEMICAL HANDLING BUILDING-PHASE 1.DWG (BETA STB BW.STB)



BASEMENT - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Chemical Handling Building Basement Plan

NO.	REVISIONS	DATE

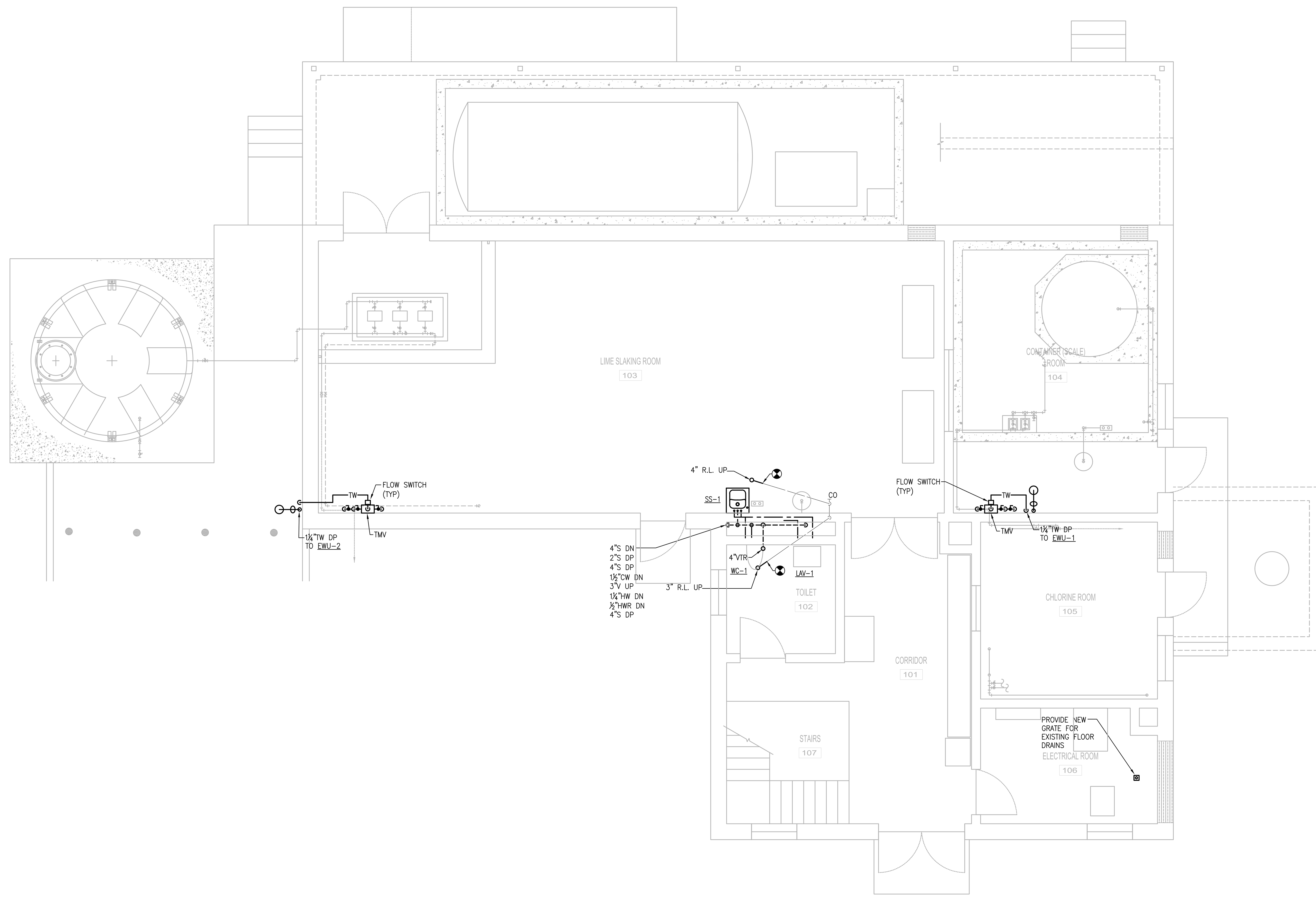
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

P-5.3



FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Chemical Handling Building First Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

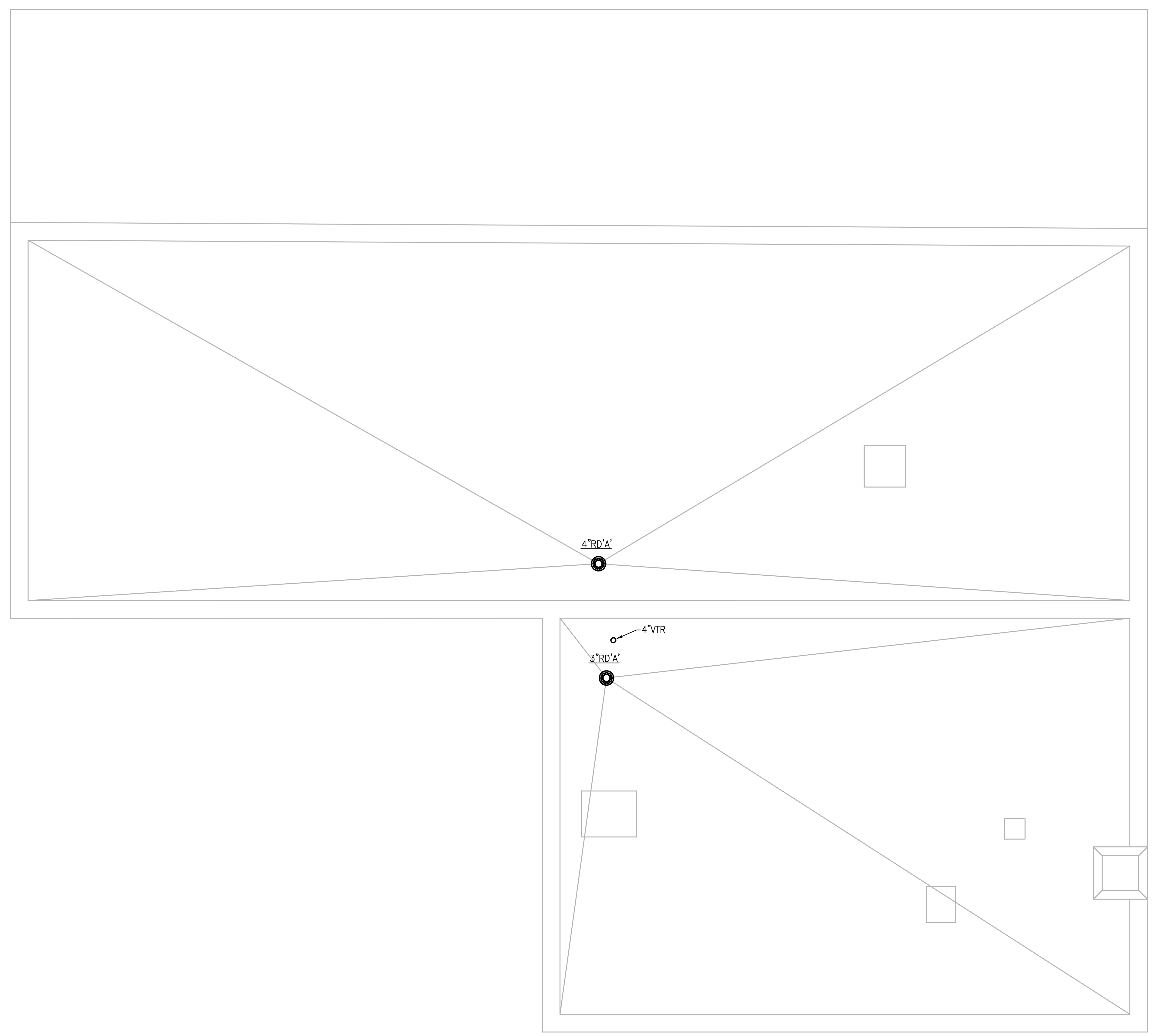
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-5.4



ROOF - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Chemical Handling Building

Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

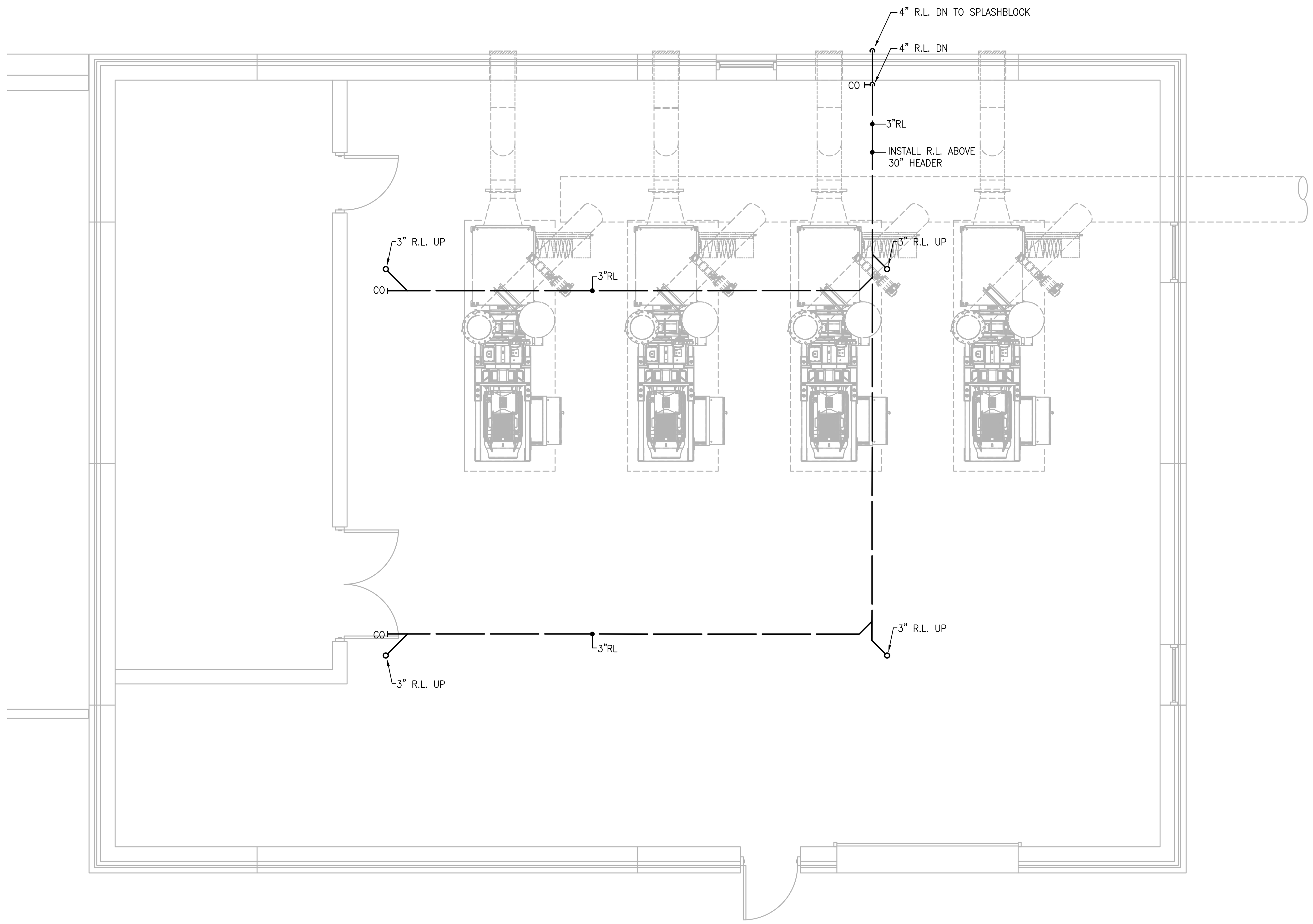
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-5.5



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

PREPARED BY

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REGISTERED PROFESSIONAL

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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Blower Building Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

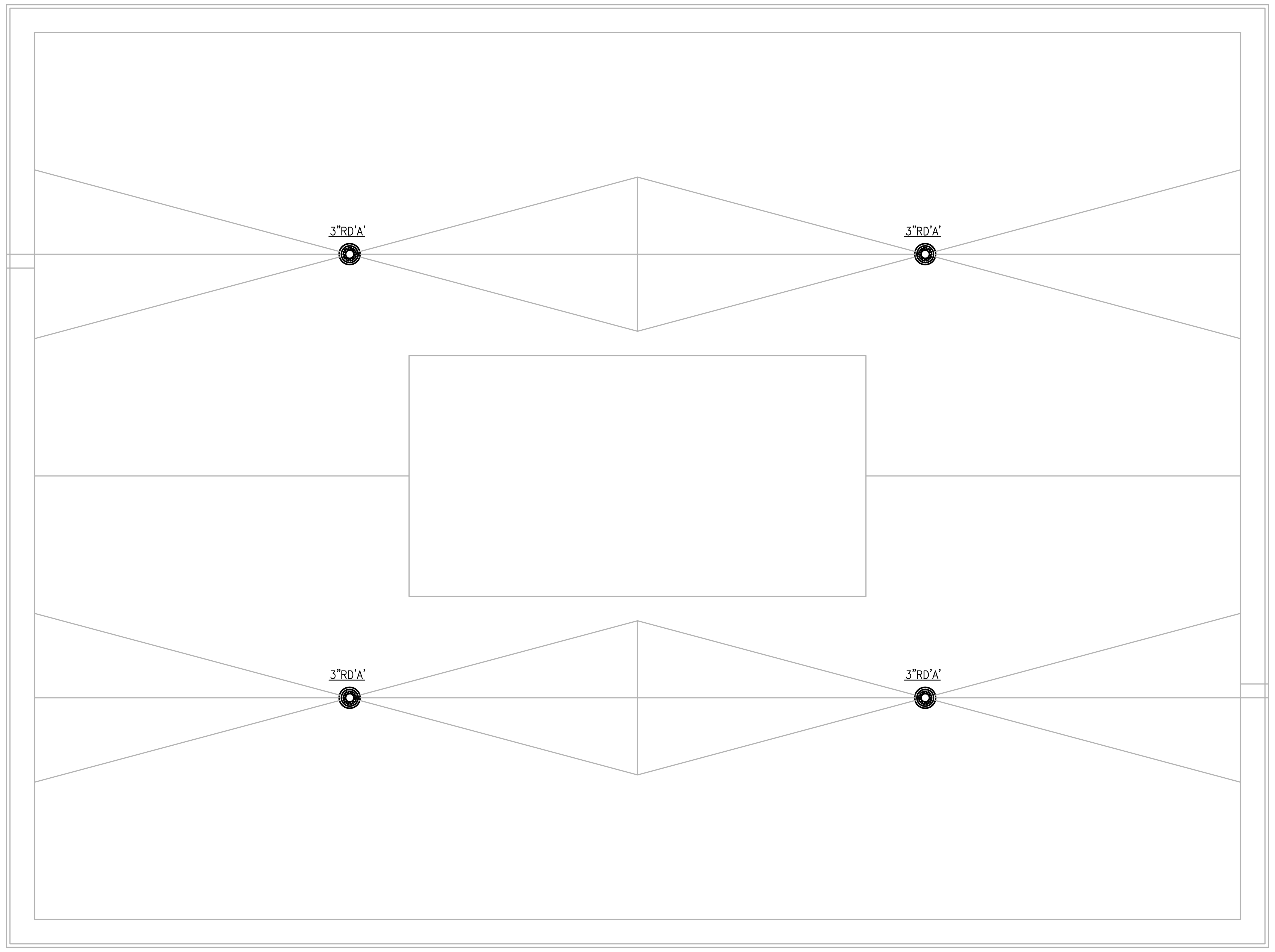
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-6.1



ROOF PLAN

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

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

SUBCONSULTANT

SAR ENGINEERING, INC.
Mechanical/Electrical Engineers
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Blower Building Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

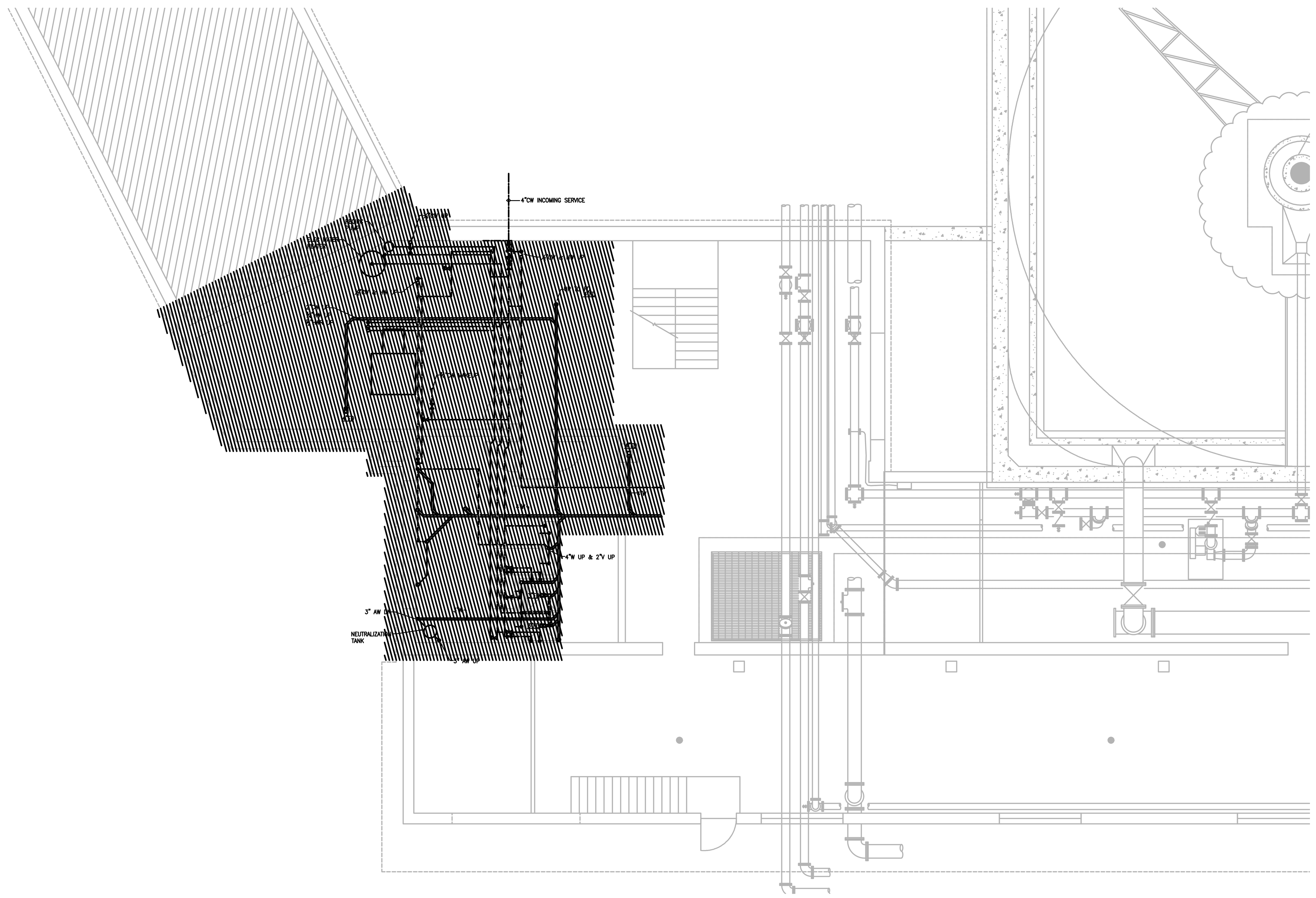
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-6.2



BASEMENT FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

JAMES A. LUCE PLUMBING

SUBCONSULTANT

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Demolition Control & Admin. Building Basement Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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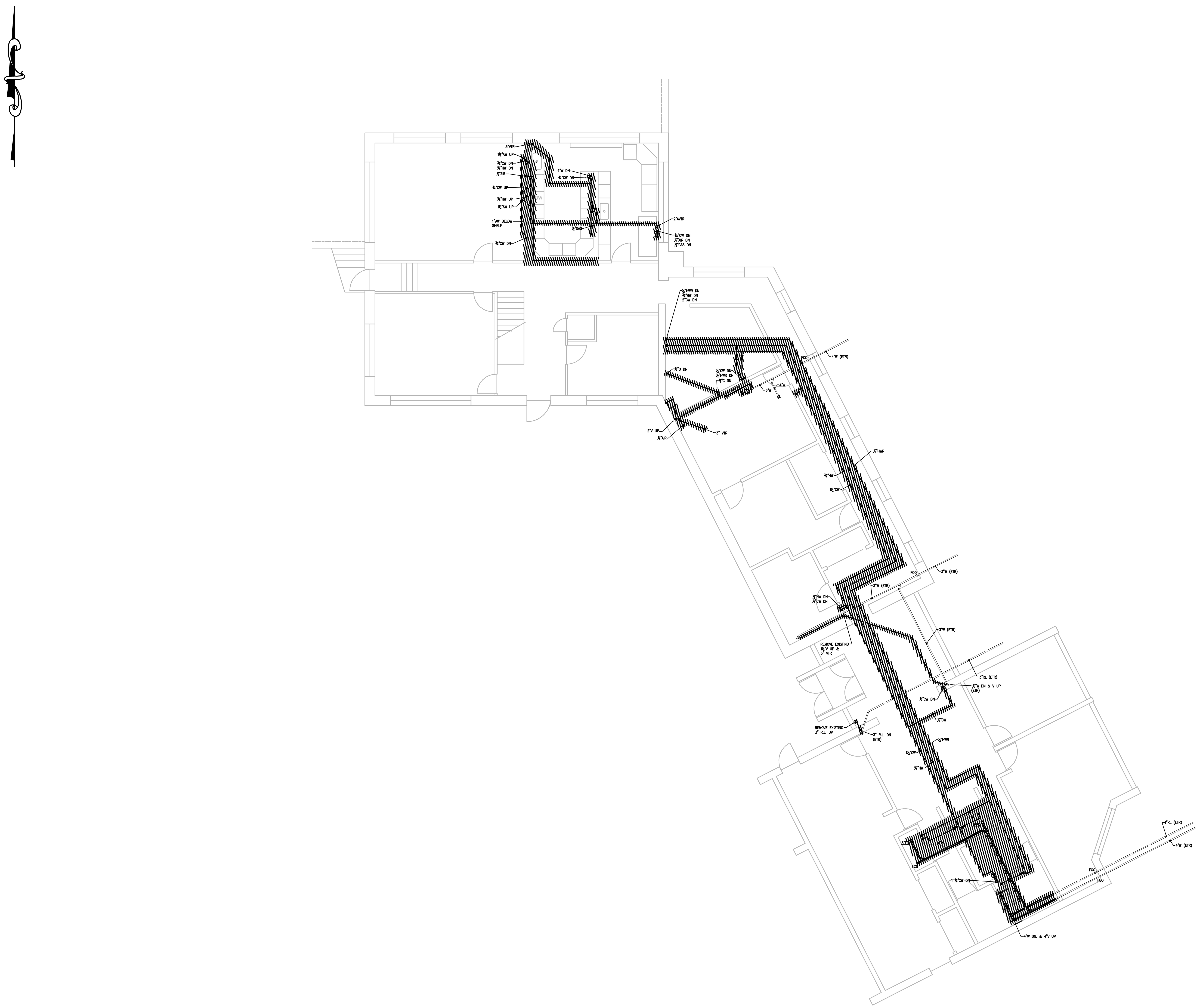
SHEET NO.

P-9.1



FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Demolition Control & Admin. Building First Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

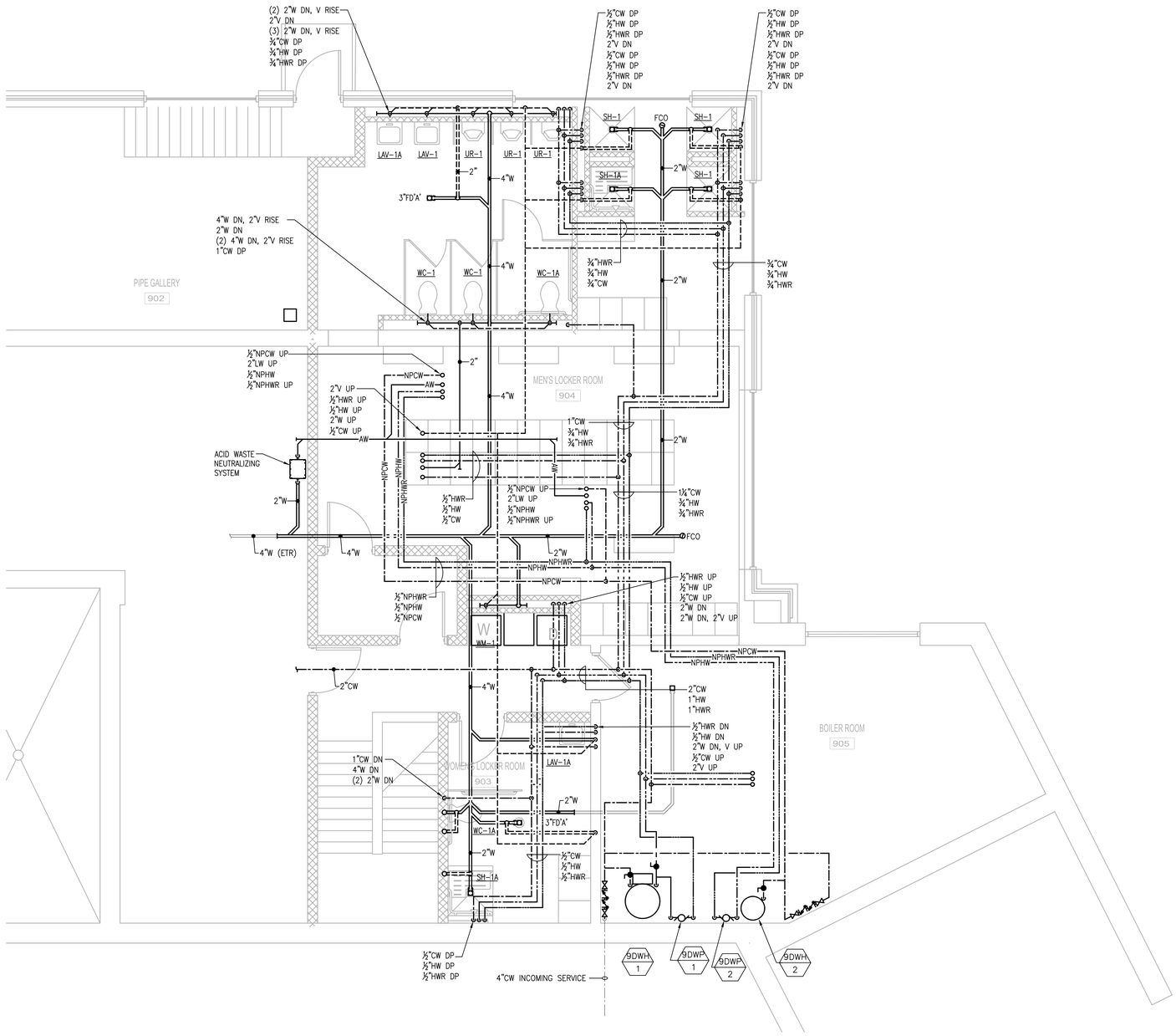
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-9.2



BASEMENT FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

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NO.	REVISIONS	DATE

DRAWN BY:	RLB
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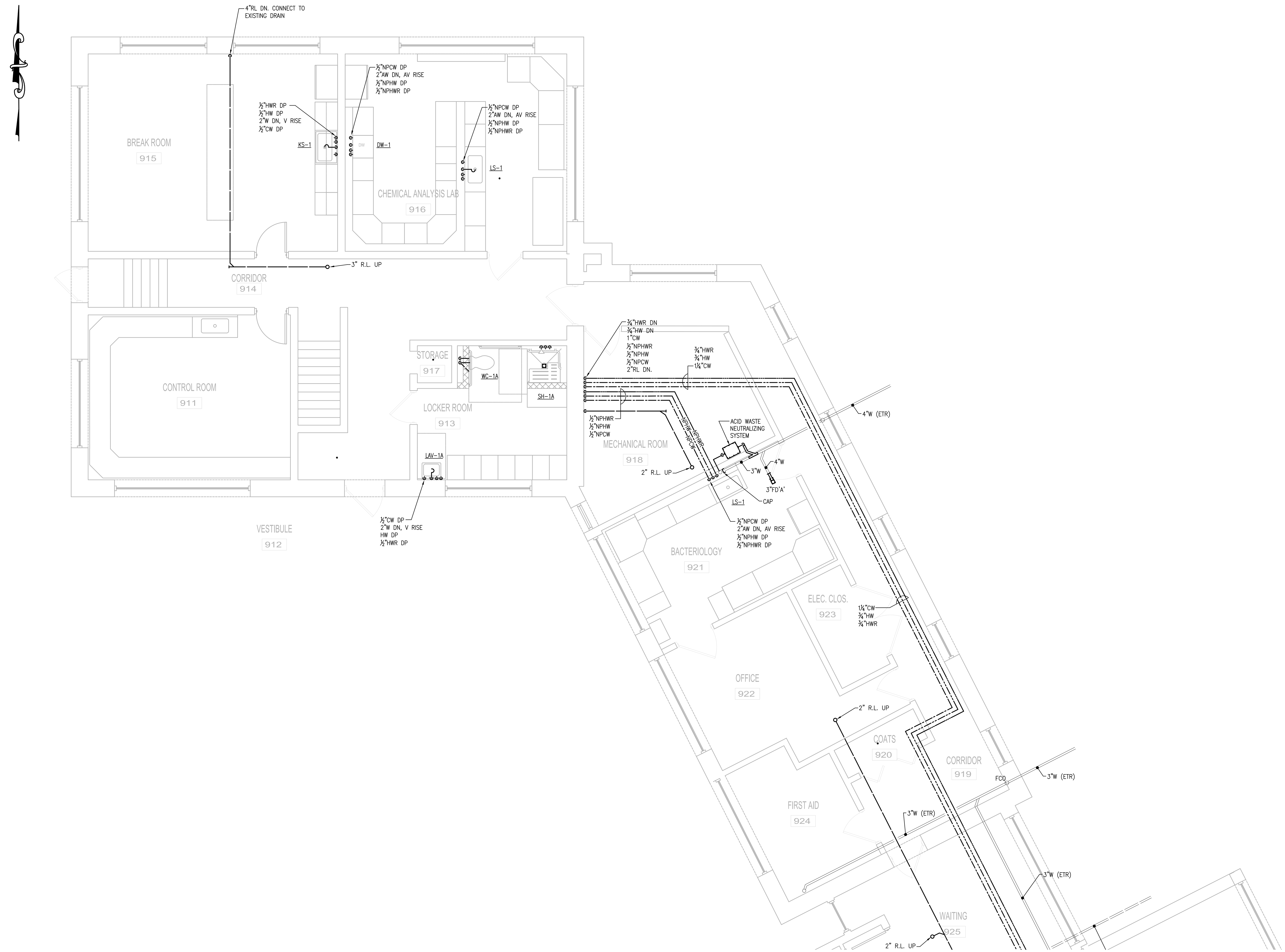
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

P-9.3



FIRST FLOOR - PLAN I

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Control & Admin. Building First Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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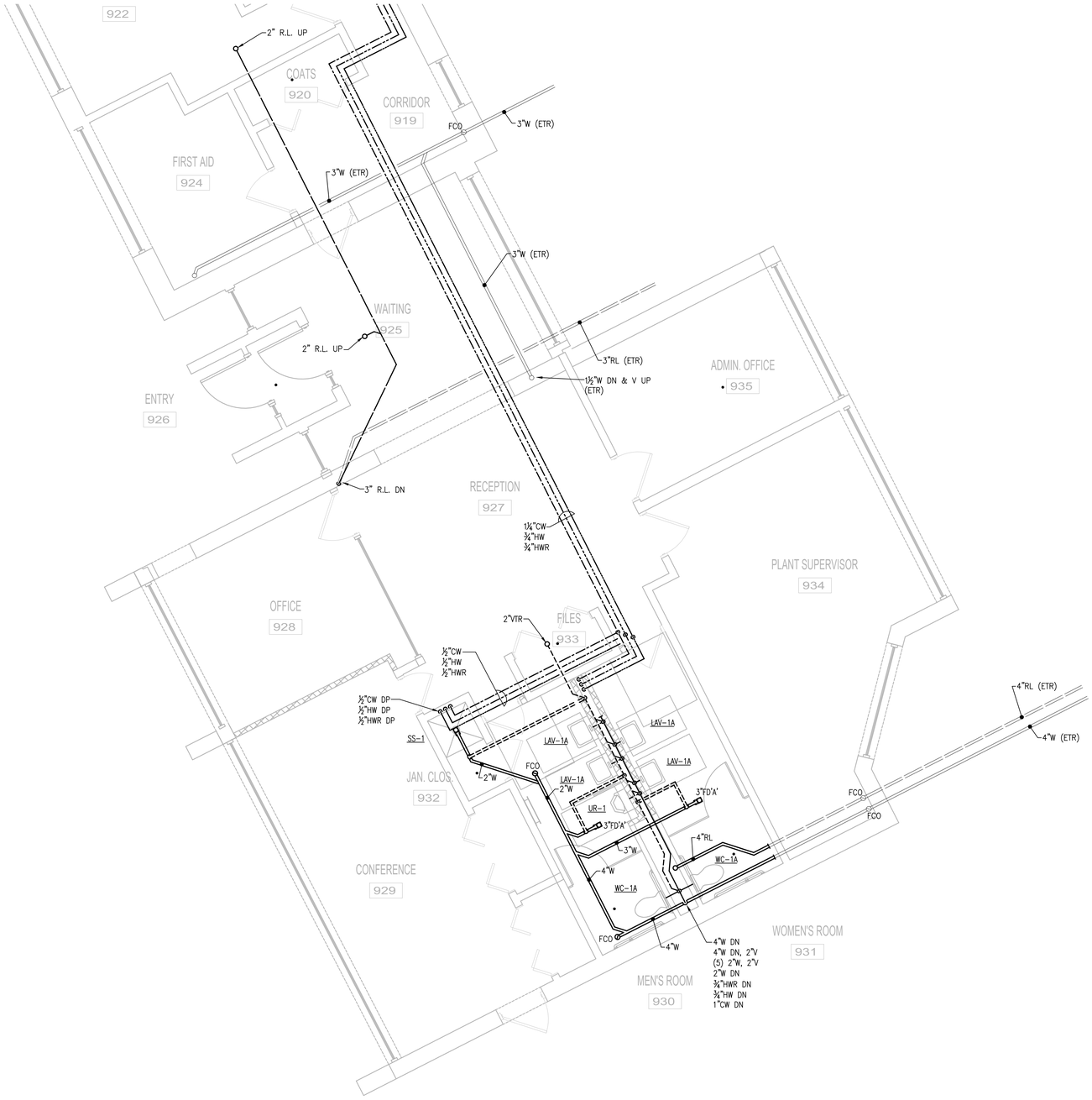
SHEET NO.

P-9.4



FIRST FLOOR - PLAN I

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

PREPARED BY

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REGISTERED PROFESSIONAL

JAMES A. LUCE PLUMBING No. 38996

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Control & Admin. Building First Floor Plan

NO.	REVISIONS	DATE

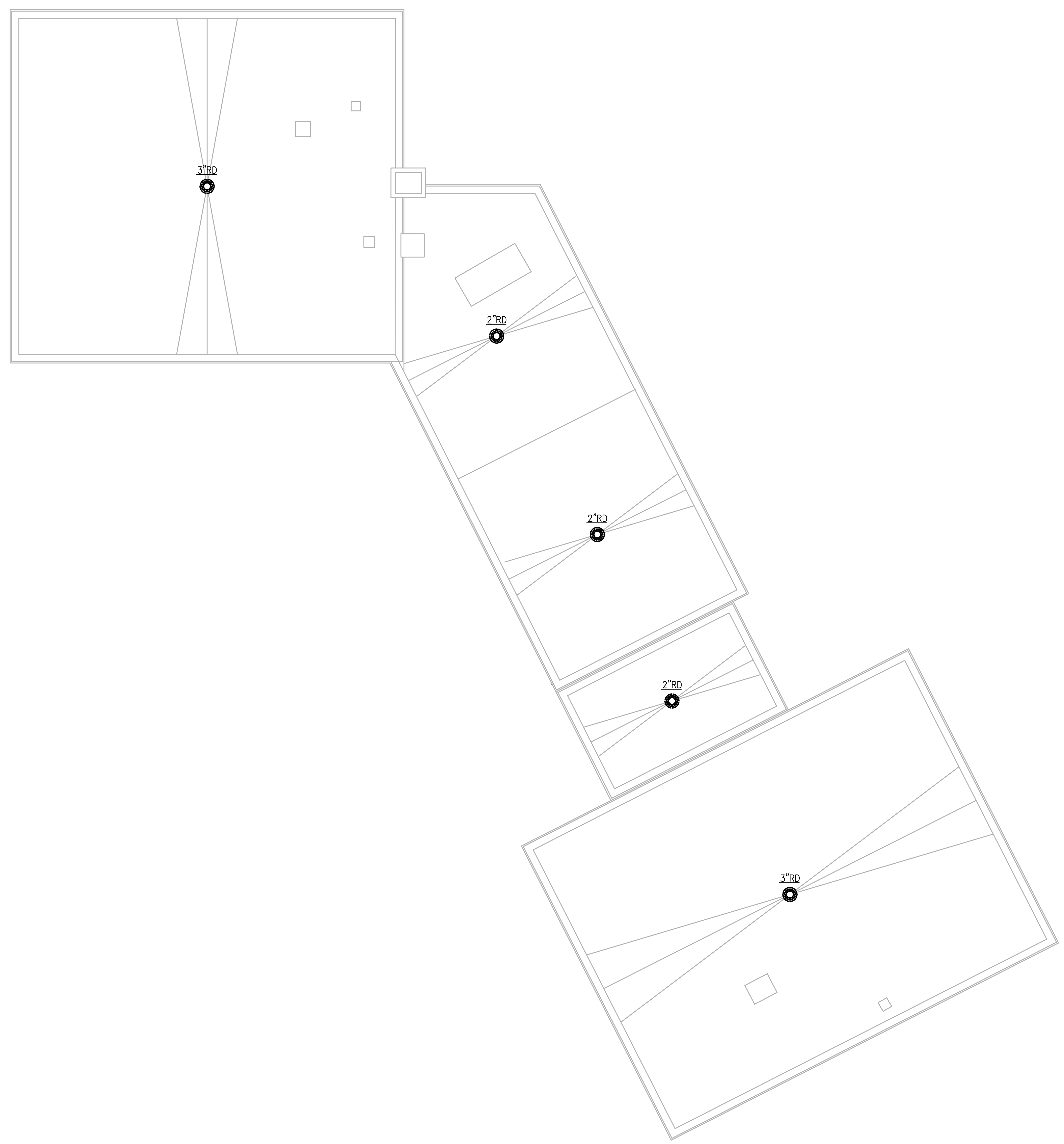
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

P-9.5



ROOF PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Plumbing Control & Admin. Building Roof Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
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SCALE

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UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

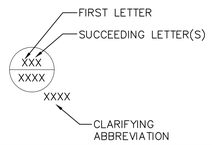
P-9.6

ABBREVIATIONS

AM	AUTO–MANUAL
CP	CONTROL PANEL
DO	DISSOLVED OXYGEN
ES	EMERGENCY STOP
ETH	ETHERNET
FR	FOWARD–REVERSE
HI	HIGH
HOA	HAND–OFF–AUTO
JB	JUNCTION BOX
LR	LOCAL–REMOTE
MC	MOTOR CONTROLLER (STARTER)
OAC	OPEN–AUTO–CLOSE
OEM	EQUIPMENT MANUFACTURE PROVIDED
OIT	OPERATOR INTERFACE TERMINAL
ORP	OXYGEN REDUCTION POTENTIAL
OS	OPERATOR STATION
PH	HYDROGEN ION CONCENTRATION
PRESS	PRESSURE
SS	START–STOP
TEMP	TEMPERATURE
TURB	TURBIDITY
VFD	VARIABLE FREQUENCY DRIVE
ABA	AERATION BLOWER AIR
BTE	BIOLOGICAL TREATED EFFLUENT
CAR	MICRO CARBON
CEN	CENTRATE
FA	FOUL AIR
FS	FOAM SPRAY
LS	LIME SLURRY
MTH	METHANE
PM	POLYMER
PI	PRIMARY INFLUENT
PS	PRIMARY SLUDGE
PTE	PRIMARY TANK EFFLUENT
RAS	RETURN ACTIVATED SLUDGE
RSW	RAW SEWAGE WATER
SAN	SANITARY WASTE
SAXE	SECONDARY ANOXIC EFFLUENT
SC	SCUM
SBS	SODIUM BISULFITE
SHC	SODIUM HYPOCHLORITE
SSE	SECONDARY SETTLED EFLUENT
STO	SLUDGE THICKENER OVERFLOW
TEF	TREATED EFFLUENT WATER
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTER(S)		
	PROCESS OR INIATING VAIRABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUST.		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE		USER'S CHOICE	CLOSE	USER'S CHOICE
D	USER'S CHOICE	DIFFERENCE	USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW	FRACTION			
G	USER'S CHOICE		GLASS		
H	HAND, MANUAL		HORN		HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME, SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE, HUMIDITY				MIDDLE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		USER'S CHOICE	OPEN	USER'S CHOICE
P	PRESSURE, VACUUM		POINT, TEST		
Q	QUANTITY, EVENT	TOTALIZE			
R	RADIATION		RECORD, PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMP.			TRANSMIT	
U	MULTI–VARIABLE		MULTI–FUNCTION	MULTI–FUNCTION	MULTI–FUNCTION
V	VIBRATION			VALVE, DAMPER	
W	WEIGHT, FORCE		WELL		
X	UN–CLASSIFIED		UN–CLASSIFIED	UN–CLASSIFIED	UN–CLASSIFIED
Y	EVENT, STATE			RELAY, COMPUTE	
Z	POSITION			DRIVE, ACTUATOR	



LINE LEGEND

- NEW PROCESS PIPING
- EXISTING PROCESS PIPING
- PNEUMATIC AIR PIPING
- DIGITAL SIGNAL
- ANALOG SIGNAL
- ELECTRICAL POWER OR CONTROL
- FIELD INSTRUMENTATION (XXX / XXXX)
- PLC INTERFACE (XXX / XXXX)
- PANEL/OIT/SCADA DISPLAY AND OR CONTROL (XXX / XXXX)
- INDEPENDENT CONTROIL CIRCUIT (XXX / XXXX)
- DRAWING AND OR PROCESS REFERENCE

SYMBOL LEGEND

- ACTUATOR – MOTORIZED (M)
- ACTUATOR – SOLENOID (S)
- AIR REGULATOR/SEPERATOR
- ANALYZER (A)
- AERATOR – BUBBLE
- AERATOR – SURFACE
- BLOWER/FAN
- CALIBRATION COLUMN
- COMPRESSOR – ROTARY TYPE
- DRAIN
- EDUCATOR
- ELECTRIC MOTOR (M)
- EMERGENCY EYEWASH/SHOWER
- FLEX CONNECTION
- FLOW METER – MAGNETIC (M)
- FLOW METER – ULTRASONIC STRAP ON (U)
- FLOW METER – ROTAMETER
- FLOW METER – THERMAL MASS (T)
- FLOW SWITCH (FS)
- GRINDER (G)
- HOSE
- LEVEL SWITCH – FLOAT SWITCH
- LEVEL SWITCH – PADDLE WHEEL
- LEVEL TRANSMITTER – SUBMERSIBLE PRESSURE (P)
- LEVEL TRANSMITTER – ULTRANSONIC (U)
- LEVEL TRANSMITTER – RADAR (R)
- MACERATOR (M)
- MIXER
- MIXER – SUBMERSIBLE
- MOTOR (M)
- POSITION SWITCH (P)
- PULSATION DAMPENER
- PUMP – CENTRIFUGAL
- PUMP – PERISTALTIC
- PUMP – PROGRESSING/CAVITY
- PUMP – RECIPROCATING/METERING
- PUMP – ROTARY LOBE
- PUMP – SUBMERSIBLE
- SLIDE OR SLUICE GATE
- STATIC MIXER
- VALVE – BALL
- VALVE – BUTTERFLY
- VALVE – CHECK
- VALVE – GATE
- VALVE – GLOBE
- VALVE – PINCH
- VALVE – PLUG
- VALVE – PRESSURE REGULATING
- VALVE – PRESSURE REGULATING
- VIBRATOR (V)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS LEGEND AND NOTES

NO.	REVISIONS	DATE

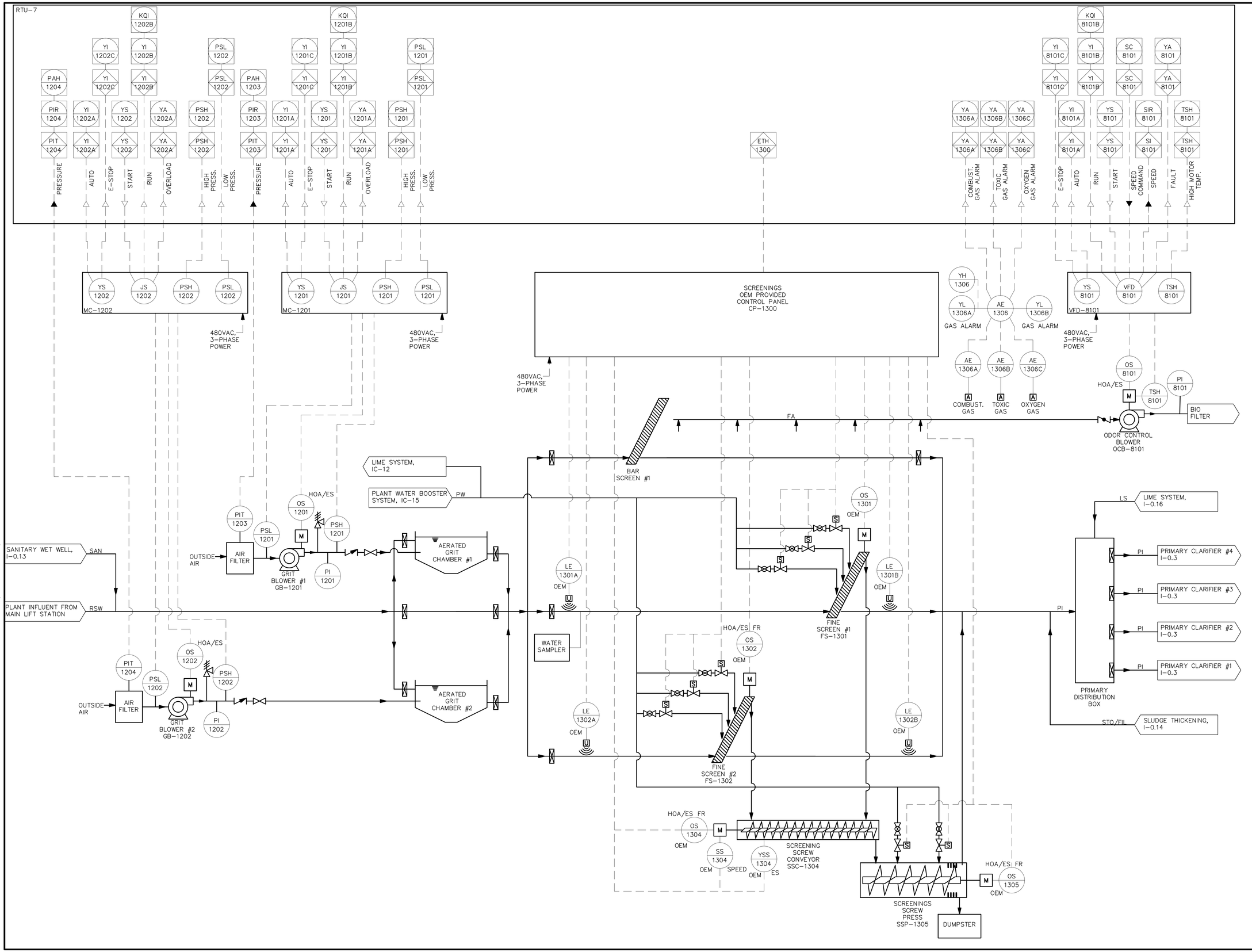
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

I-0.1



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS HEADWORKS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

I-0.2

RTU-2

KQI 2104B
YI 2104A
YI 2104B
WSH 2104
YI 2104C
YS 2104
YA 2104
E-STOP
AUTO
START
RUN
OVERLOAD
HIGH TORQUE

KQI 2103B
YI 2103A
YI 2103B
WSH 2103
YI 2103C
YS 2103
YA 2103

KQI 2102B
YI 2102A
YI 2102B
WSH 2102
YI 2102C
YS 2102
YA 2102

KQI 2101B
YI 2101A
YI 2101B
WSH 2101
YI 2101C
YS 2101
YA 2101

LAH 2303
LAH 2304
LIR 2303
LIR 2304
LIT 2303
LIT 2304
LEVEL

MC-2104: YS 2104, JS 2104, WSH 2104
MC-2103: YS 2103, JS 2103, WSH 2103
MC-2102: YS 2102, JS 2102, WSH 2102
MC-2101: YS 2101, JS 2101, WSH 2101

480VAC, 3-PHASE POWER

OS 2104 HOA/ES
M PCD-2104
WSH 2104
PRIMARY CLARIFIER #4
PRIMARY DISTRIBUTION BOX, I-0.2
PI
PS
PRIMARY SLUDGE PUMPS, I-0.4

OS 2103 HOA/ES
M PCD-2103
WSH 2103
PRIMARY CLARIFIER #3
PRIMARY DISTRIBUTION BOX, I-0.2
PRIMARY SLUDGE PUMPS, I-0.4

OS 2102 HOA/ES
M PCD-2102
WSH 2102
PRIMARY CLARIFIER #2
PRIMARY DISTRIBUTION BOX, I-0.2
PRIMARY SLUDGE PUMPS, I-0.4

OS 2101 HOA/ES
M PCD-2101
WSH 2101
PRIMARY CLARIFIER #1
PRIMARY DISTRIBUTION BOX, I-0.2
PRIMARY SLUDGE PUMPS, I-0.4

PTE
SC

LIT 2304
LE 2304
PRIMARY SCUM WELL #2
SCUM PUMP #2, I-0.4

LIT 2303
LE 2303
PRIMARY SCUM WELL #2
SCUM PUMP #1, I-0.4

PTE
BIOLOGICAL TREATMENT TANKS I-0.5

8/30/2021 10:40 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\18009.00 I&C.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS PRIMARY CLARIFIERS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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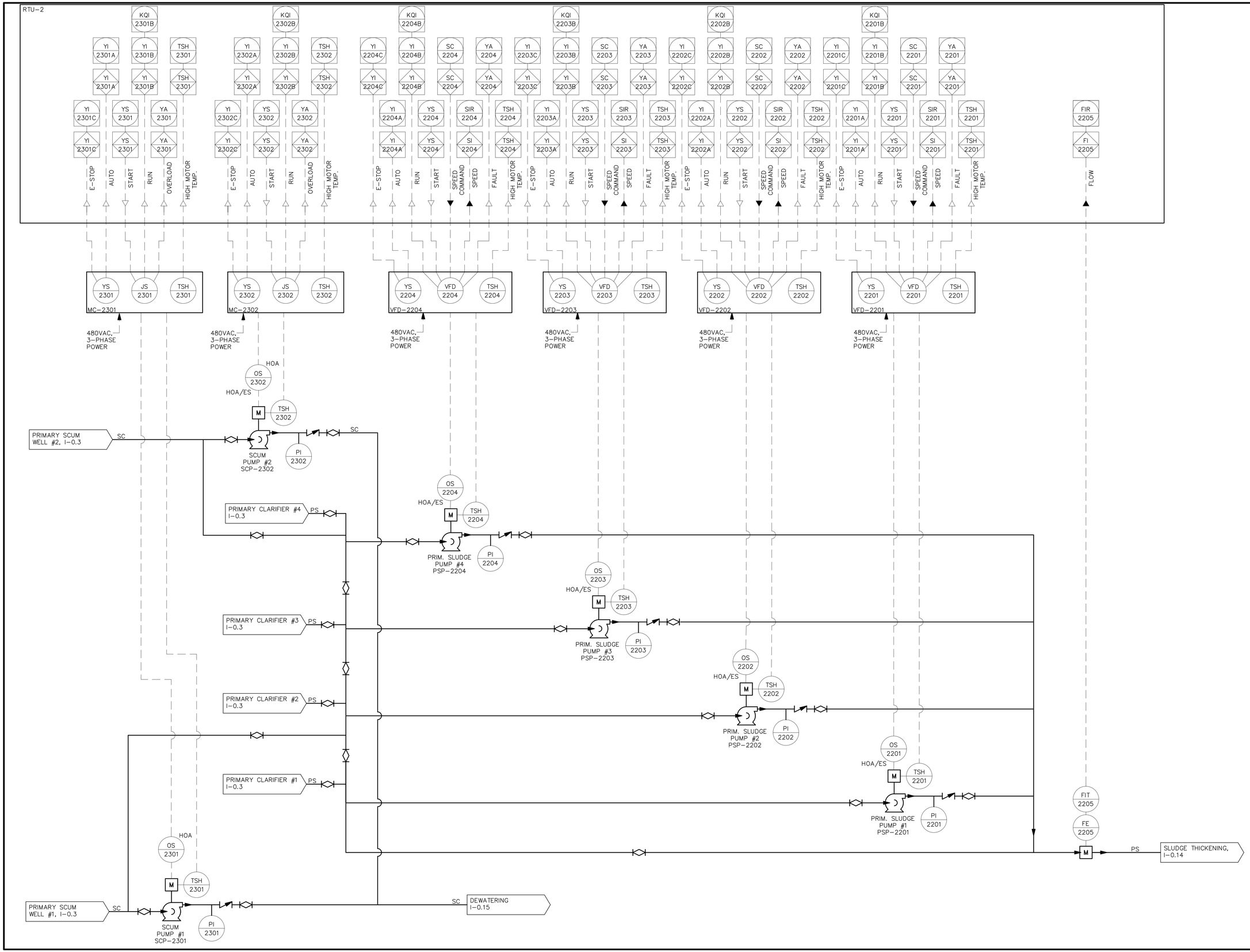
SHEET NO.

I-0.3



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS PRIMARY SLUDGE PUMPS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

I-0.4

RTU-3

KQI 3101B
YI 3101C
YI 3101B
TSH 3101
YI 3101A
YS 3101
YA 3101A
MSH 3101
AUTO
E-STOP
START
RUN
OVERLOAD
HIGH MOTOR TEMP.
SEAL LEAK

KQI 3151B
ZSC 3401
ZSO 3401
YI 3151C
YI 3151B
TSH 3151
YI 3151A
YS 3151
YA 3151A
MSH 3151
OPEN
CLOSED
AUTO
E-STOP
START
RUN
OVERLOAD
HIGH MOTOR TEMP.
SEAL LEAK

KQI 3111B
YI 3111C
YI 3111B
TSH 3111
YI 3111A
YS 3111
YA 3111A
MSH 3111
AUTO
E-STOP
START
RUN
OVERLOAD
HIGH MOTOR TEMP.
SEAL LEAK

KQI 3161B
YI 3161C
YI 3161B
SC 3161
YI 3161A
YS 3161
SIR 3161
SI 3161
TSH 3161
AUTO
E-STOP
RUN
START
SPEED COMMAND
SPEED
FAULT
HIGH MOTOR TEMP.
SEAL LEAK

KQI 3162B
YA 3161
MSH 3161
YI 3162C
YI 3162B
SC 3162
TSH 3162
YI 3162A
YS 3162
SIR 3162
SI 3162
YA 3162
MSH 3162
AIT 3509
NH4
AUTO
E-STOP
START
RUN
SPEED
SPEED COMMAND
FAULT
HIGH MOTOR TEMP.
SEAL LEAK

KQI 3112B
YI 3112C
YI 3112B
TSH 3112
YI 3112A
YS 3112
YA 3112A
MSH 3112
AIT 3508
NO3
AIT 3507
DO
AUTO
E-STOP
START
RUN
OVERLOAD
HIGH MOTOR TEMP.
SEAL LEAK

MC-3101
YS 3101
JS 3101
TSH 3101
MSH 3101
480VAC, 3-PHASE POWER

MC-3151
YS 3151
JS 3151
TSH 3151
MSH 3151

MC-3111
YS 3111
JS 3111
TSH 3111
MSH 3111

VFD-3161
YS 3161
VFD 3161
TSH 3161
MSH 3161

VFD-3162
YS 3162
VFD 3162
TSH 3162
MSH 3162

MC-3112
YS 3112
JS 3112
TSH 3112
MSH 3112

AERATION MASTER CONTROL PANEL CP-6000

AERATION BLOWERS AIR, I-0.19
ABA

FIT 3173
T
M
MBV-3173
PI 3173

OS 3151
HOA/ES
M
MBV-3174
OS 3111
OS 3161
OS 3162
OS 3112
PI 3174

MIRCO CARBON FEED SYSTEM, I-0.20
CAR

AIT 3509 NH4
AIT 3508 NO3
AIT 3507 DO
FS
AE 3509 NH4
AE 3508 NO3
AE 3507 DO

SECONDARY ANOXIC TANKS, I-0.9
BTE

ANOXIC SWING MIXER ASM-3151
INT. REC. PUMP #1 IRP-3161
INT. REC. PUMP #2 IRP-3162

MATCH LINE I-0.6

OS 3101
HOA/ES

SLUDGE PUMPING STATION #1, I-0.11
RAS
M
MGV-3401

ANOXIC SELECTOR MIXER #1 ASM-3111
ANOXIC SELECTOR MIXER #2 ASM-3112

PRIMARY CLARIFIERS I-0.3
PTE

SLUDGE PUMPING STATION #2, I-0.12
RAS

PRE ANOXIC MIXER ASM-3101

MATCH LINE I-0.7

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS BIOLOGICAL TREATMENT TRAIN #1

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
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ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

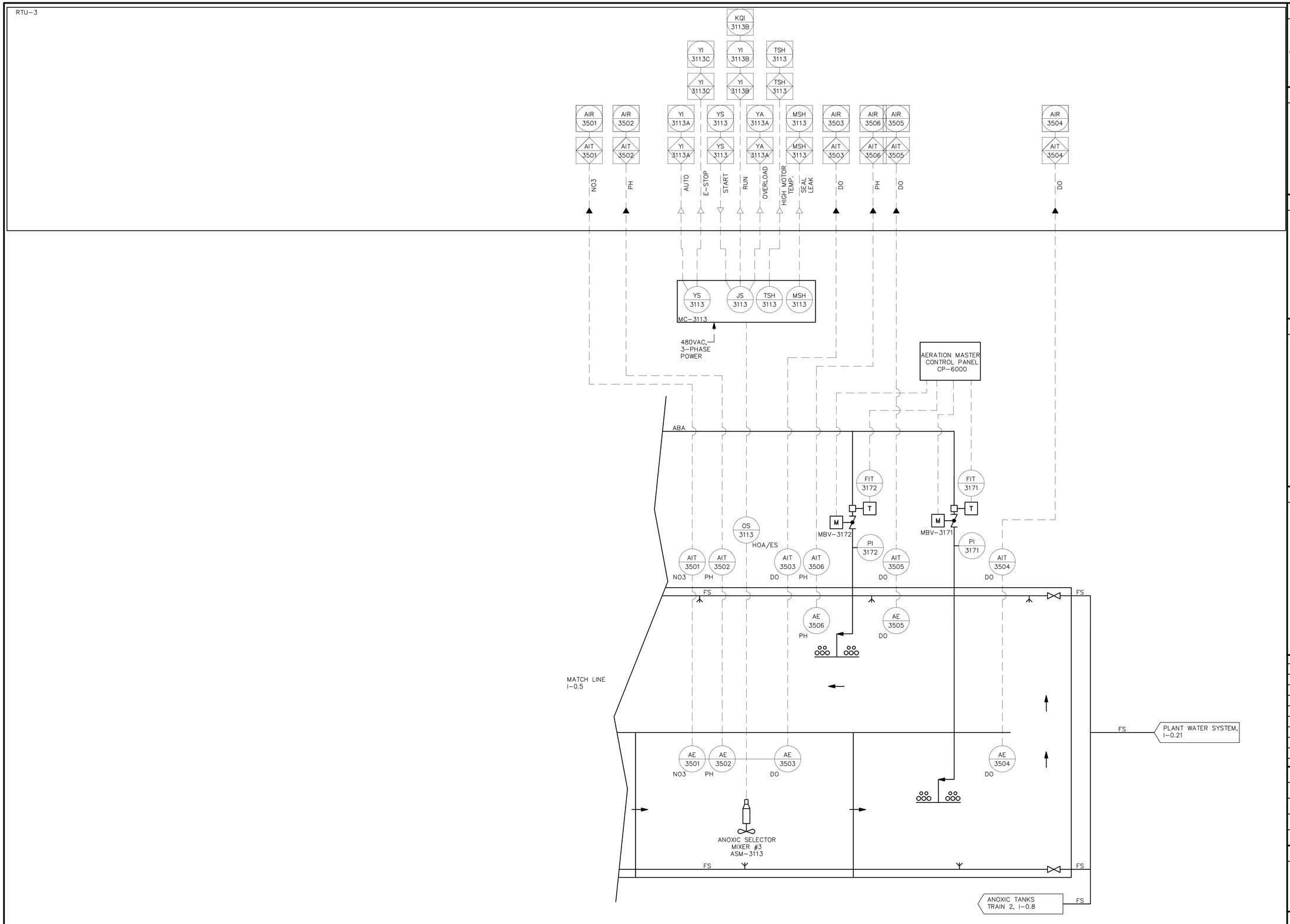
SCALE

NONE

SHEET NO.

I-0.5

RTU–3



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS BIOLOGICAL TREATMENT TRAIN #1

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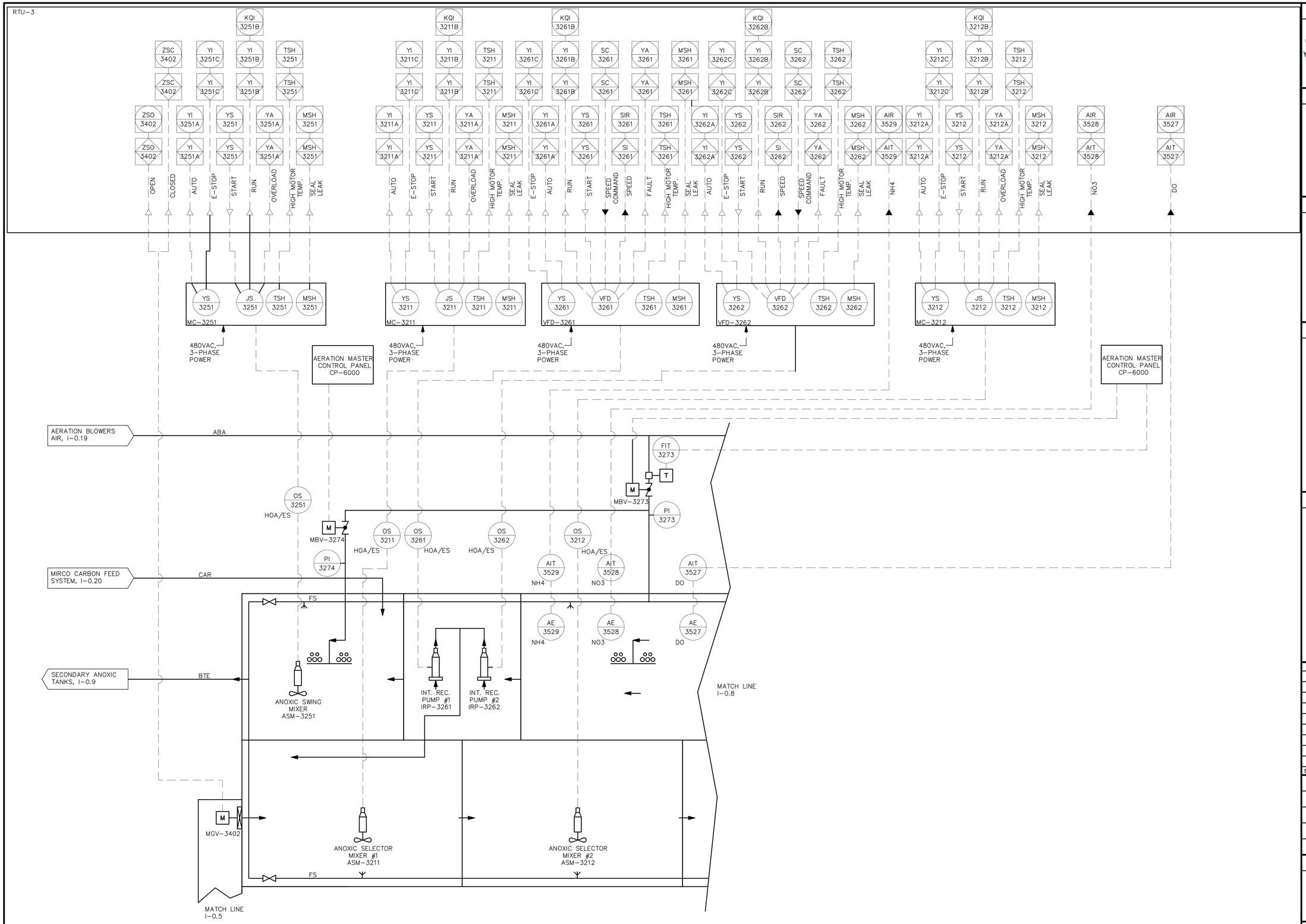
SCALE

NONE

SHEET NO.

I-0.6



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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS BIOLOGICAL TREATMENT TRAIN #2

NO.	REVISIONS	DATE

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SCALE

NONE

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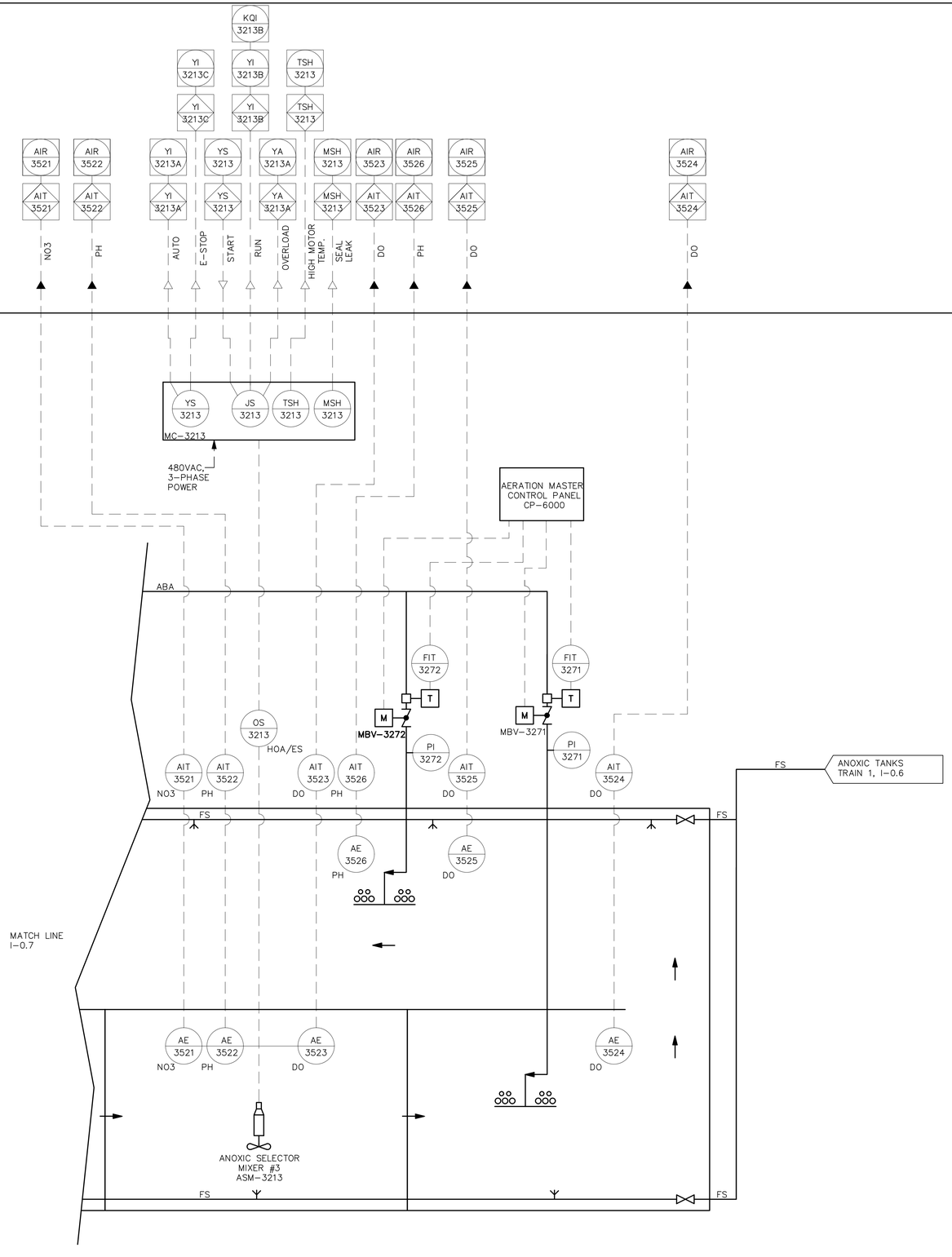
RTU–3



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PROJECT

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Taunton, MA

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NONE

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I-0.8

RTU–3

ZSC 3432 · ZSC 3431 · ZSC 3432 · ZSC 3431
ZSO 3432 · ZSO 3431 · ZSO 3432 · ZSO 3431
OPEN · CLOSED · OPEN · CLOSED

KQI 3131B
YI 3131C · YI 3131B · TSH 3131 · YI 3131C · YI 3131B · TSH 3131
YI 3131A · YS 3131 · YA 3131A · MSH 3131 · YI 3131A · YS 3131 · YA 3131A · MSH 3131
AUTO · E–STOP · START · RUN · OVERLOAD · HIGH MOTOR TEMP. · SEAL LEAK

KQI 3231B
YI 3231C · YI 3231B · TSH 3231 · YI 3231C · YI 3231B · TSH 3231
YI 3231A · YS 3231 · YA 3231A · MSH 3231 · YI 3231A · YS 3231 · YA 3231A · MSH 3231
AUTO · E–STOP · START · RUN · OVERLOAD · HIGH MOTOR TEMP. · SEAL LEAK

AIR 3511 · AIR 3531 · AIR 3532 · AIR 3512
AIT 3511 · AIT 3531 · AIT 3532 · AIT 3512
DO · DO · NO3 · NO3

KQI 3232B
YI 3232C · YI 3232B · TSH 3232 · YI 3232C · YI 3232B · TSH 3232
YI 3232A · YS 3232 · YA 3232A · MSH 3232 · YI 3232A · YS 3232 · YA 3232A · MSH 3232
AUTO · E–STOP · START · RUN · OVERLOAD · HIGH MOTOR TEMP. · SEAL LEAK

KQI 3132B
YI 3132C · YI 3132B · TSH 3132 · YI 3132C · YI 3132B · TSH 3132
YI 3132A · YS 3132 · YA 3132A · MSH 3132 · YI 3132A · YS 3132 · YA 3132A · MSH 3132
AUTO · E–STOP · START · RUN · OVERLOAD · HIGH MOTOR TEMP. · SEAL LEAK

YS 3131 · JS 3131 · TSH 3131 · MSH 3131 — MC–3131
YS 3231 · JS 3231 · TSH 3231 · MSH 3231 — MC–3231
YS 3232 · JS 3232 · TSH 3232 · MSH 3232 — MC–3232
YS 3132 · JS 3132 · TSH 3132 · MSH 3132 — MC–3132

480VAC, 3–PHASE POWER (MC–3131)
480VAC, 3–PHASE POWER (MC–3231)
480VAC, 3–PHASE POWER (MC–3232)
480VAC, 3–PHASE POWER (MC–3132)

OS 3131 HOA/ES · OS 3231 HOA/ES · OS 3231 HOA/ES · OS 3132 HOA/ES

AIT 3511 DO · AIT 3531 DO · AIT 3532 NO3 · AIT 3512 NO3

AE 3511 DO · AE 3512 NO3

BIOLOGICAL TREATMENT TRAIN #1, I–0.05 — BTE — M MGV–3431

SECONDARY ANOXIC MIXER #1 MSA–3131

SECONDARY ANOXIC MIXER #2 MSA–3132

SAXE → RE–AERATION TANK #1 I–0.10

AE 3531 DO · AE 3532 NO3

BIOLOGICAL TREATMENT TRAIN #2, I–0.07 — BTE — M MGV–3432

SECONDARY ANOXIC MIXER #1 MSA–3231

SECONDARY ANOXIC MIXER #2 MSA–3232

SAXE → RE–AERATION TANK #2 I–0.10

BTE → RE–AERATION TANKS I–0.10

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS SECONDARY ANOXIC TANKS

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SCALE

NONE

SHEET NO.

I-0.9

RTU-3

KQI 3141B | KQI 3241B | KQI 3142B | KQI 3242B | KQI 3143B | KQI 3243B

ZSC 3441 | ZSC 3442 | YI 3141A | YI 3141B | SIR 3141 | YA 3141B | YI 3241C | YI 3241B | SC 3241 | YA 3241A | TSH 3241 | YI 3142A | YI 3142B | SIR 3142 | YA 3142B | YI 3242C | YI 3242B | SC 3242 | YA 3242A | TSH 3242 | YI 3143A | YI 3143B | SIR 3143 | YA 3143B | YI 3243C | YI 3243B | SC 3243 | YA 3243A | TSH 3243 | AIR 3513 | ZSC 3444 | ZSC 344

ZSO 3441 | ZSO 3442 | YI 3142C | YS 3141 | SC 3141 | YA 3141A | TSH 3141 | YI 3241A | YS 3241 | SIR 3241 | YA 3241B | YI 3142C | YS 3142 | SC 3142 | YA 3142A | TSH 3142 | YI 3242A | YS 3242 | SIR 3242 | YA 3242B | YI 3142C | YS 3143 | SC 3143 | YA 3143A | TSH 3143 | YI 3243A | YS 3243 | SIR 3243 | YA 3243B | AIR 3533 | ZSO 3444 | ZSO 3443

OPEN | CLOSED | OPEN | CLOSED | E-STOP | AUTO | START | RUN | SPEED COMMAND | SPEED | FAULT | HIGH MOTOR CURRENT | HIGH MOTOR TEMP. | E-STOP | AUTO | RUN | START | SPEED COMMAND | SPEED | FAULT | HIGH MOTOR CURRENT | HIGH MOTOR TEMP. | E-STOP | AUTO | START | RUN | SPEED COMMAND | SPEED | FAULT | HIGH MOTOR CURRENT | HIGH MOTOR TEMP. | E-STOP | AUTO | RUN | START | SPEED COMMAND | SPEED | FAULT | HIGH MOTOR CURRENT | HIGH MOTOR TEMP. | E-STOP | AUTO | START | RUN | SPEED COMMAND | SPEED | FAULT | HIGH MOTOR CURRENT | HIGH MOTOR TEMP. | DO | DO | OPEN | CLOSED | OPEN | CLOSED

YS 3141 | VFD 3141 | TSH 3141 — VFD-3141
YS 3241 | VFD 3241 | TSH 3241 — VFD-3241
YS 3142 | VFD 3142 | TSH 3142 — VFD-3142
YS 3242 | VFD 3242 | TSH 3242 — VFD-3242
YS 3143 | VFD 3143 | TSH 3143 — VFD-3143
YS 3243 | VFD 3243 | TSH 3243 — VFD-3243

480VAC, 3-PHASE POWER

OS 3141 HOA/ES | OS 3241 HOA/ES | OS 3142 HOA/ES | OS 3242 HOA/ES | OS 3143 HOA/ES | OS 3243 HOA/ES

AIT 3533 DO | AIT 3513 DO

AE 3533 DO | AE 3513 DO

SECONDARY ANOXIC TANK #2, I-0.09 — SAXE — MGV-3442

SECONDARY ANOXIC TANK #1, I-0.09 — SAXE — MGV-3441

RE-AERATION SURFACE AERATOR #1 RSA-3241
RE-AERATION SURFACE AERATOR #2 RSA-3242
RE-AERATION SURFACE AERATOR #3 RSA-3243
RE-AERATION SURFACE AERATOR #1 RSA-3141
RE-AERATION SURFACE AERATOR #2 RSA-3142
RE-AERATION SURFACE AERATOR #3 RSA-3143

MGV-3444
MGV-3443

ATE

FINAL CLARIFIER ATE FLOW DISTRIBUTION STRUCTURE

ATE — FINAL CLARIFIERS #1 & #2, I-0.11

ATE — FINAL CLARIFIERS #3 & #4, I-0.12

SECONDARY ANOXIC TANKS I-0.09 — BTE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

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NONE

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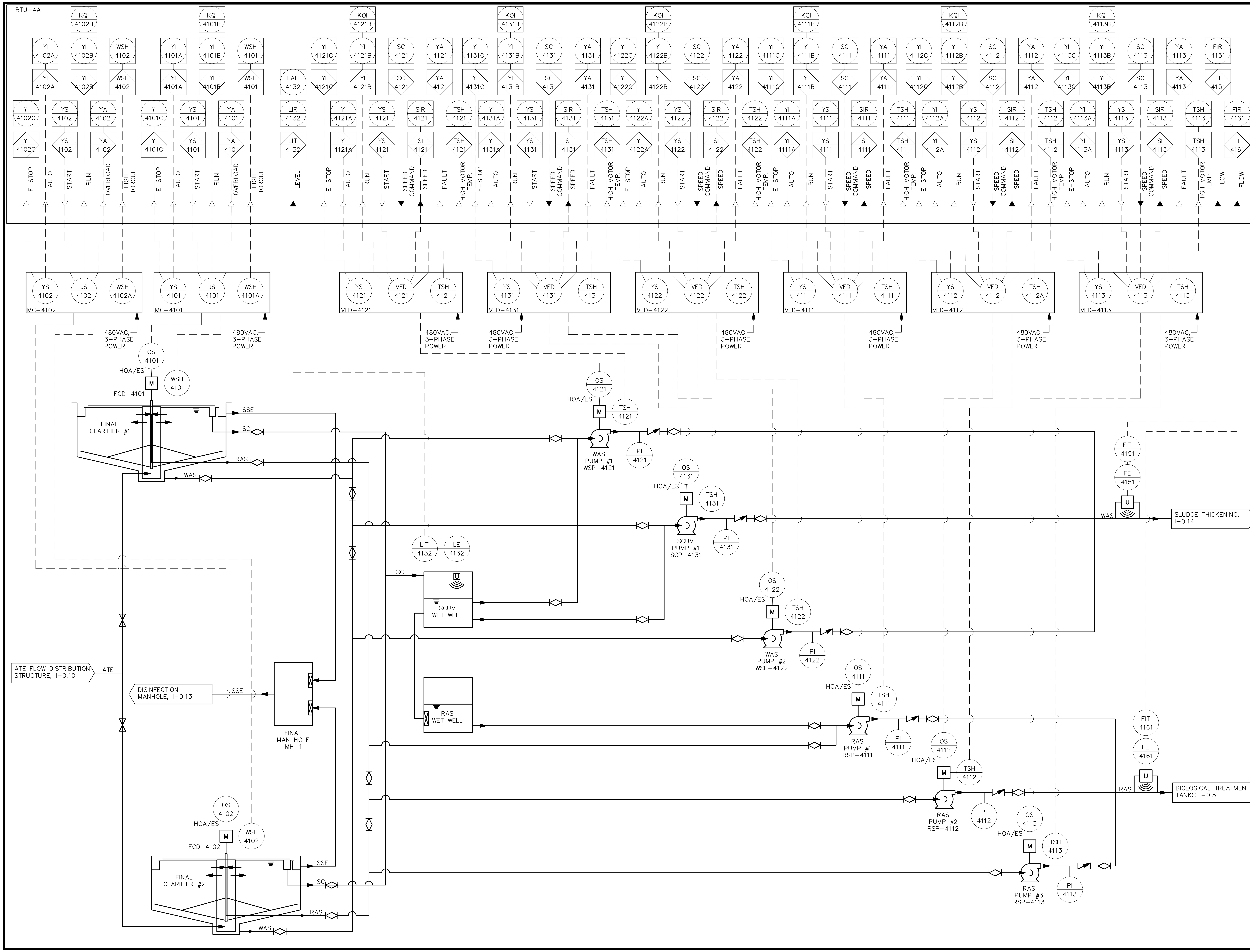

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS FINAL CLARIFIERS #1 & #2

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SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

I-0.11

RTU-4B

KQI 4202B · YI 4202A · YI 4202B · WSH 4202 · YI 4202C · YS 4202 · YA 4202 · YS 4202 · YA 4202
E-STOP · AUTO · START · RUN · OVERLOAD · HIGH TORQUE

KQI 4201B · YI 4201A · YI 4201B · WSH 4201 · YI 4201C · YS 4201 · YA 4201 · YS 4201 · YA 4201
E-STOP · AUTO · START · RUN · OVERLOAD · HIGH TORQUE

LAH 4232 · LIR 4232 · LIT 4232
LEVEL

KQI 4222B · YI 4222C · YI 4222B · SC 4222 · YA 4222 · YI 4222A · YS 4222 · SIR 4222 · TSH 4222 · SI 4222
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

KQI 4231B · YI 4231C · YI 4231B · SC 4231 · YA 4231 · YI 4231A · YS 4231 · SIR 4231 · TSH 4231 · SI 4231
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

KQI 4221B · YI 4221C · YI 4221B · SC 4221 · YA 4221 · YI 4221A · YS 4221 · SIR 4221 · TSH 4221 · SI 4221
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

KQI 4211B · YI 4211C · YI 4211B · SC 4211 · YA 4211 · YI 4211A · YS 4211 · SIR 4211 · TSH 4211 · SI 4211
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

KQI 4212B · YI 4212C · YI 4212B · SC 4212 · YA 4212 · YI 4212A · YS 4212 · SIR 4212 · TSH 4212 · SI 4212
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

KQI 4213B · YI 4213C · YI 4213B · SC 4213 · YA 4213 · YI 4213A · YS 4213 · SIR 4213 · TSH 4213 · SI 4213
E-STOP · AUTO · RUN · START · SPEED COMMAND · SPEED · FAULT · HIGH MOTOR TEMP.

FIR 4251 · FIT 4251 · FIR 4261 · FIT 4261
FLOW · FLOW

MC-4202: YS 4202 · JS 4202 · WSH 4202A
MC-4201: YS 4201 · JS 4201 · WSH 4201A
VFD-4222: YS 4222 · VFD 4222 · TSH 4222
VFD-4231: YS 4231 · VFD 4231 · TSH 4231
VFD-4221: YS 4221 · VFD 4221 · TSH 4221
VFD-4211: YS 4211 · VFD 4211 · TSH 4211
VFD-4212: YS 4212 · VFD 4212 · TSH 4212A
VFD-4213: YS 4213 · VFD 4213 · TSH 4213

480VAC, 3-PHASE POWER

OS 4201 · HOA/ES · M · WSH 4201 · FCD-4201
FINAL CLARIFIER #3
SSE · SC · RAS · WAS

OS 4222 · HOA/ES · M · TSH 4222 · WAS PUMP #2 WSP-4222 · PI 4222
OS 4231 · HOA/ES · M · TSH 4231 · SCUM PUMP #1 SCP-4231 · PI 4231
LIT 4232 · LE 4232 · SC · SCUM WET WELL
OS 4221 · HOA/ES · M · TSH 4221 · WAS PUMP #1 WSP-4221 · PI 4221
OS 4211 · HOA/ES · M · TSH 4211 · RAS PUMP #1 RSP-4211 · PI 4211
RAS WET WELL
OS 4212 · HOA/ES · M · TSH 4212 · RAS PUMP #2 RSP-4212 · PI 4212
OS 4213 · HOA/ES · M · TSH 4213 · RAS PUMP #3 RSP-4213 · PI 4213

FIT 4251 · FE 4251 · U · WAS → SLUDGE THICKENING, I-0.14
FIT 4261 · FE 4261 · U · RAS → BIOLOGICAL TREATMENT TANKS I-0.5

ATE FLOW DISTRIBUTION STRUCTURE, I-0.10 → ATE
DISINFECTION MAN HOLE, I-0.13 → SSE
FINAL MANHOLE MH-2

OS 4202 · HOA/ES · M · WSH 4202 · FCD-4202
FINAL CLARIFIER #4
SSE · SC · RAS · WAS

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS FINAL CLARIFIERS #3 & #4

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NONE

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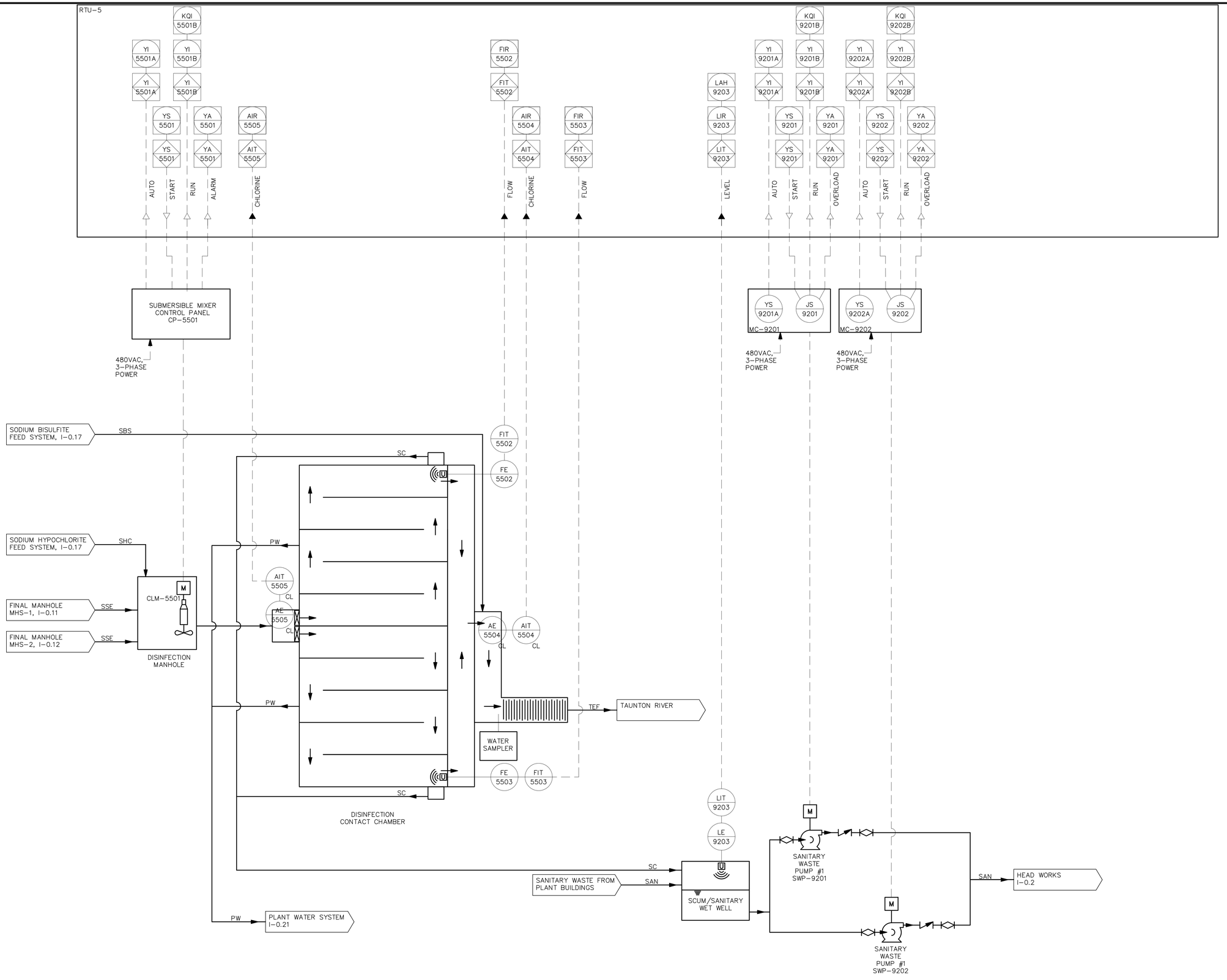

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS DISINFECTION

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SCALE

AS SHOWN

SHEET NO.

I-0.13

RTU-7

FIR 9115 / FIT 9115 — FLOW
XC 9116 / XC 9116 — POSITION COMMAND

MC-7101 (HOA): YS 7101A, JS 7101, WSH 7101A — 480VAC, 3-PHASE POWER
- KQI 7101B
- YI 7101A, YI 7101B, WSH 7101
- YS 7101, YA 7101
- AUTO, START, RUN, OVERLOAD, HIGH TORQUE

MC-7102 (HOA): YS 7102A, JS 7102, WSH 7102A — 480VAC, 3-PHASE POWER
- KQI 7102B
- YI 7102A, YI 7102B, WSH 7102, YI 8102C
- YS 7102, YA 7102
- AUTO, START, RUN, OVERLOAD, HIGH TORQUE

VFD-8102: YS 8102, VFD 8102, TSH 8102 — 480VAC, 3-PHASE POWER
- KQI 8102B
- YI 8102B, SC 8102, YA 8102
- YI 8102A, YS 8102, SIR 8102, TSH 8102
- E-STOP, AUTO, RUN, START, SPEED COMMAND, SPEED, FAULT, HIGH MOTOR TEMP.

THICKENED SLUDGE GRINDER #1 CONTROL PANEL CP-7205: YS 7201, VFD 7201, TSH 7201, PSH 7201 — 480VAC, 3-PHASE POWER
- KQI 7205B
- YI 7205A, YI 7205B, YI 7201C
- YA 7205
- AUTO, ALARM, RUN

VFD-7201: YS 7201, VFD 7201, TSH 7201, PSH 7201 — 480VAC, 3-PHASE POWER
- KQI 7201B
- YI 7201B, SC 7201, YA 7201, PSH 7201
- YI 7201A, YS 7201, SIR 7201, TSH 7201
- E-STOP, AUTO, RUN, START, SPEED COMMAND, SPEED, FAULT, HIGH MOTOR TEMP., HIGH DISCHARGE PRESS.

THICKENED SLUDGE GRINDER #2 CONTROL PANEL CP-7206: YS 7202, VFD 7202, TSH 7202, PSH 7202 — 480VAC, 3-PHASE POWER
- KQI 7206B
- YI 7206A, YI 7206B
- FIR 7203, YA 7206
- FIT 7203, YA 7206
- FLOW, AUTO, ALARM, RUN

VFD-7202: YS 7202, VFD 7202, TSH 7202, PSH 7202 — 480VAC, 3-PHASE POWER
- KQI 7202B
- YI 7202B, SC 7202, YA 7202, PSH 7202
- YI 7202C, YS 7202, SIR 7202, TSH 7202, FIR 7204
- YI 7202A, YS 7202, SI 7202, TSH 7202, FIT 7204
- E-STOP, AUTO, RUN, START, SPEED COMMAND, SPEED, FAULT, HIGH MOTOR TEMP., HIGH DISCHARGE PRESS., FLOW

HOA/ES: OS 8102, PI 8102, M, TSH 8102, PI 8102
ODOR CONTROL BLOWER OCB-8102 → BIO FILTER

WAS
PS
STO/FIL → HEAD WORKS I-0.2
CEN → DEWATERING CENTRIFUGES, I-0.15

HOA/ES: OS 7101, WSH 7101, M, FA
GRAVITY THICKENER #1 → STO
FIT 9115, FE 9115, ZC 9116, M
PLANT WATER BOOSTER SYSTEM, I-0.21 → PW
TS

FINAL SLUDGE PUMPS, I-0.11 → WAS
FINAL SLUDGE PUMPS, I-0.12 → WAS
PRIMARY SLUDGE PUMPS, I-0.4 → PS

HOA/ES: OS 7102, WSH 7102, M, FA, GT-XXXX
GRAVITY THICKENER #2 → STO
TS

HOA/ES: OS 7201, TSH 7201, M, PSH 7201, PI 7201
THICKENED SLUDGE GRINDER #1 TSG-7205 (G)
THICKENED SLUDGE PUMP #1 TSP-7201
FIT 7203, FE 7203, M → TS → DEWATERING CENTRIGUGES #1, I-0.15

HOA/ES: OS 7202, TSH 7202, M, PSH 7202, PI XXXX
THICKENED SLUDGE GRINDER #2 TSG-7206 (G)
THICKENED SLUDGE PUMP #2 TSP-7202
FIT 7204, FE 7204, M → TS → DEWATEROMH CENTRIFUGES #2, I-0.15

NOTES:

1. ALL REFERENCE PROCESS EQUIPMENT AND INSTRUMENTATION SHOWN ON THIS DRAWING SHEET HAS BEEN PROVIDED UNDER PREVIOUS CONTRACT.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS SLUDGE THICKENING

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SCALE

AS SHOWN

SHEET NO.

I-0.14

RTU–7

KQI 7402B
YI 7402A
YI 7402B
YS 7402
YA 7402
AUTO
START
RUN
ALARM

KQI 7401B
YI 7401A
YI 7401B
YA 7401
RUN
ALARM

SCUM MACERATOR CONTROL PANEL CP–7402

480VAC, 3–PHASE POWER

SCUM CONCENTRATOR CONTROL PANEL CP–7401

480VAC, 3–PHASE POWER

ETH 7301

480VAC, 3–PHASE POWER

CENTRIFUGE #1 CONTROL PANEL CP–7301

KQI 8103B
YI 8103C
YI 8103B
SC 8103
YA 8103
YI 8103A
YS 8103
SIR 8103
TSH 8103
SI 8103
E–STOP
AUTO
RUN
SPEED COMMAND
SPEED
FAULT
HIGH MOTOR TEMP.

480VAC, 3–PHASE POWER

YS 8103
VFD 8103
TSH 8103
VFD–8103

ETH 7302

480VAC, 3–PHASE POWER

CENTRIFUGE #2 CONTROL PANEL CP–7302

START

START

KQI 7303B
YI 7303A
YI 7303B
YA 7303
AUTO
RUN
ALARM

KQI 7305B
YI 7305A
YI 7305B
YA 7305
AUTO
RUN
ALARM

SCREW CONVEYOR CONTROL PANEL CP–7303

SCREW CONVEYOR CONTROL PANEL CP–7305

START

480VAC, 3–PHASE POWER

480VAC, 3–PHASE POWER

HOA/ES
OS 8103
PI 8103
M
TSH 8103
PI 8103
BIO FILTER
ODOR CONTROL BLOWER OCB–8103

PLANT WATER BOOSTER SYSTEM, I–0.21 PW

POLYMER PUMPS, I–0.18 PM

POLYMER PUMPS, I–0.18 PM

FA

SV–7301A
SV–7301B
SV–7301C

FA

THICKENED SLUDGE PUMP #1, I–0.14 TS

OS 7301

JB

M

SOLIDS CENTRIFUGE DECANTER #1 SCD–7301

M

V–7301

SLUDGE DEWATERING I–0.14 CEN

SV–7302A
SV–7302B
SV–7302C

FA

THICKENED SLUDGE PUMP #2, I–0.14 TS

OS 7302

JB

M

SOLIDS CENTRIFUGE DECANTER #2 SCD–7302

M

V–7302

FA

M

SS 7303
YSS 7303
ES
SCREW CONVEYOR SSC–7303

M

SS 7304
YSS 7304
ES
SCREENING SCREW CONVEYOR SSC–7304

SOLIDS STORAGE TRAILER

M

SCREW CONVEYOR SSC–7305

TE 7401

M

LSH 7401A
LSH 7401B
LSL 7401A
LSL 7401B

PRIMARY SCUM WELLS I–0.4 SC

M

SCUM MACERATOR SCM–7402

SCUM CONCENTRATOR SC–7401

M

SCUM STORAGE TANK

SAN SANITARY WET WELL, I–0.13

NOTES:

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS DEWATERING

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SCALE

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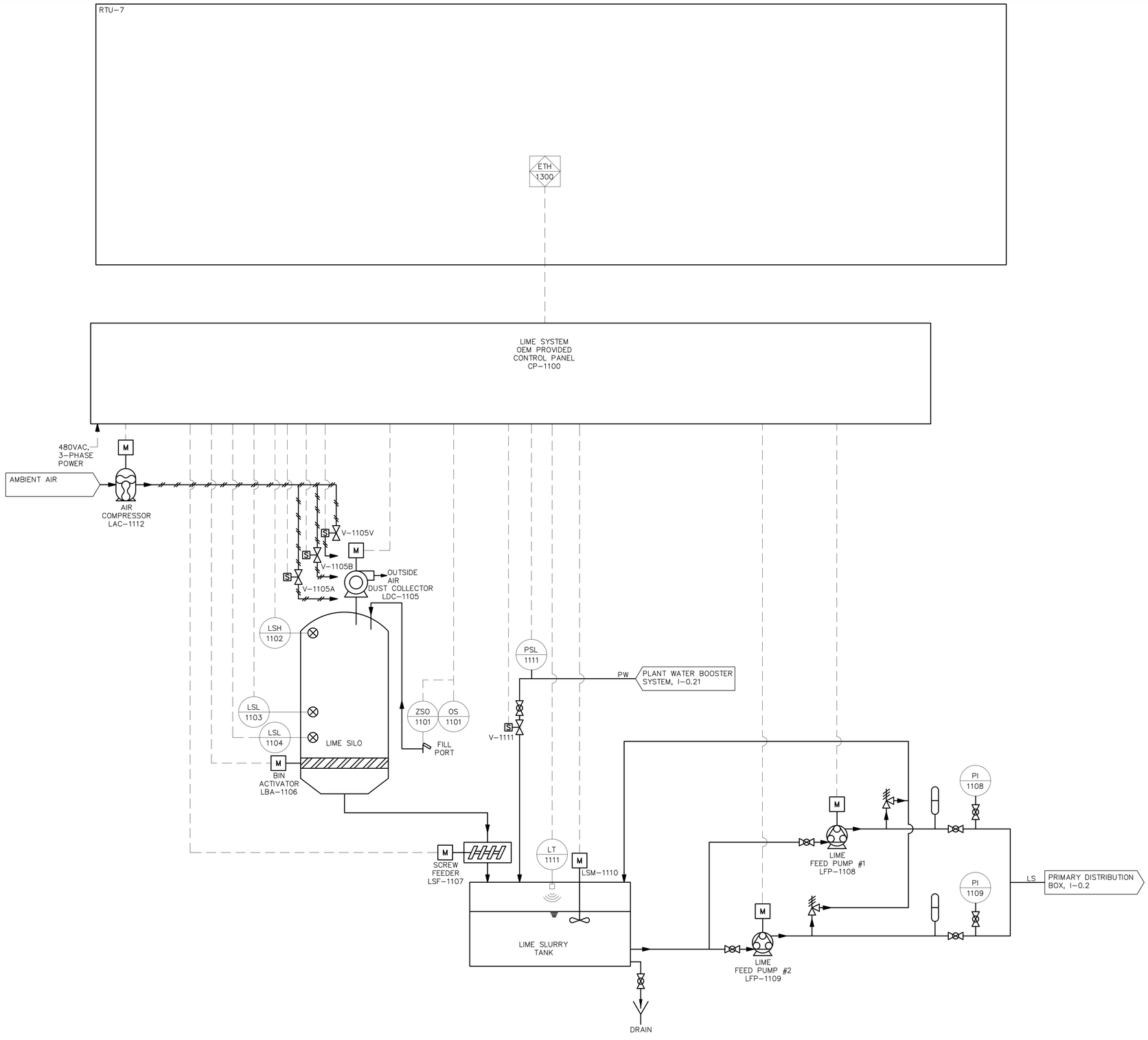

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

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TITLE

INSTRUMENTATION & CONTROLS LIME SYSTEM

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SCALE

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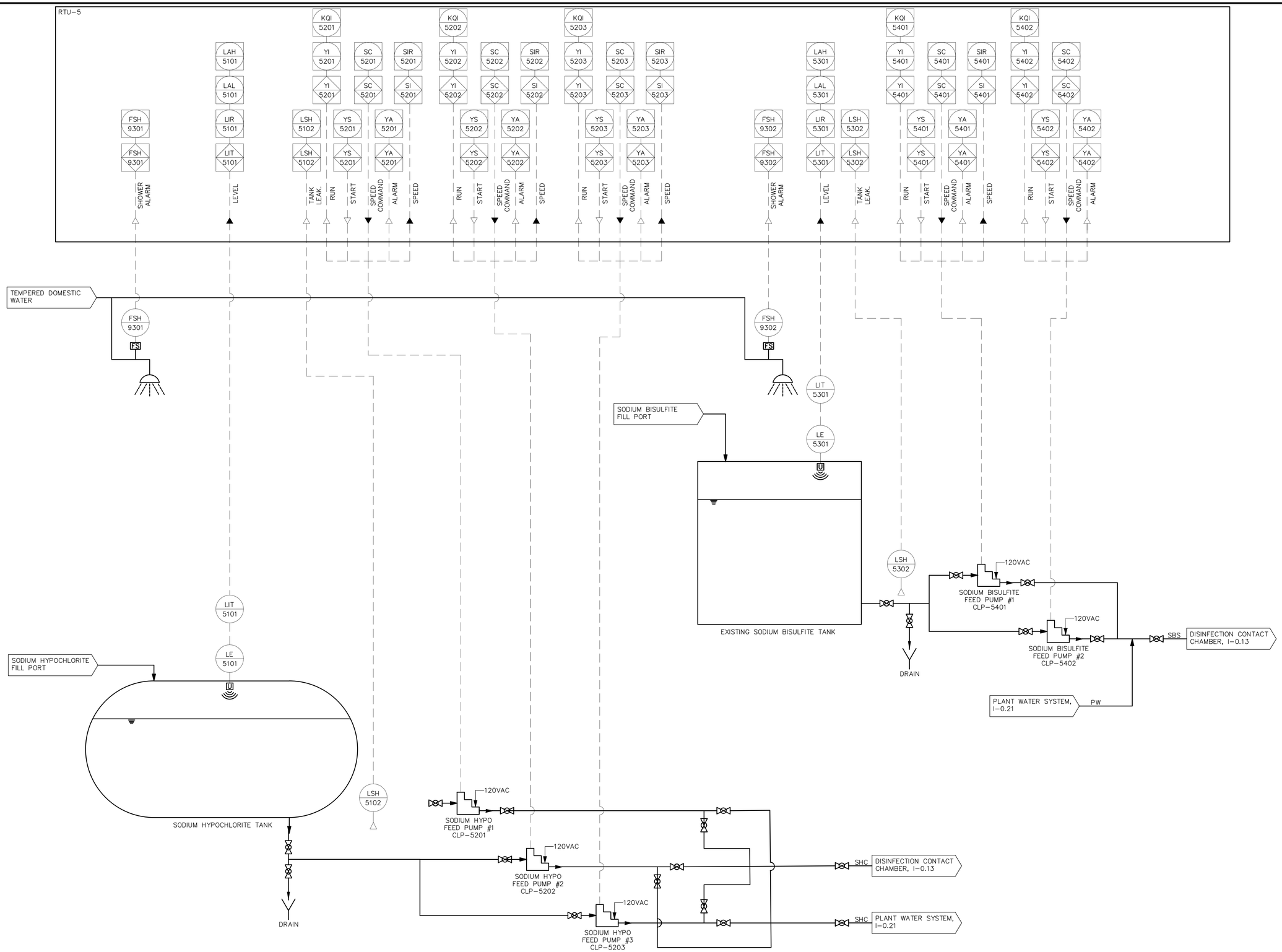

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS SODIUM HYPOCHLORITE & SODIUM BISULFITE SYSTEMS

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SCALE

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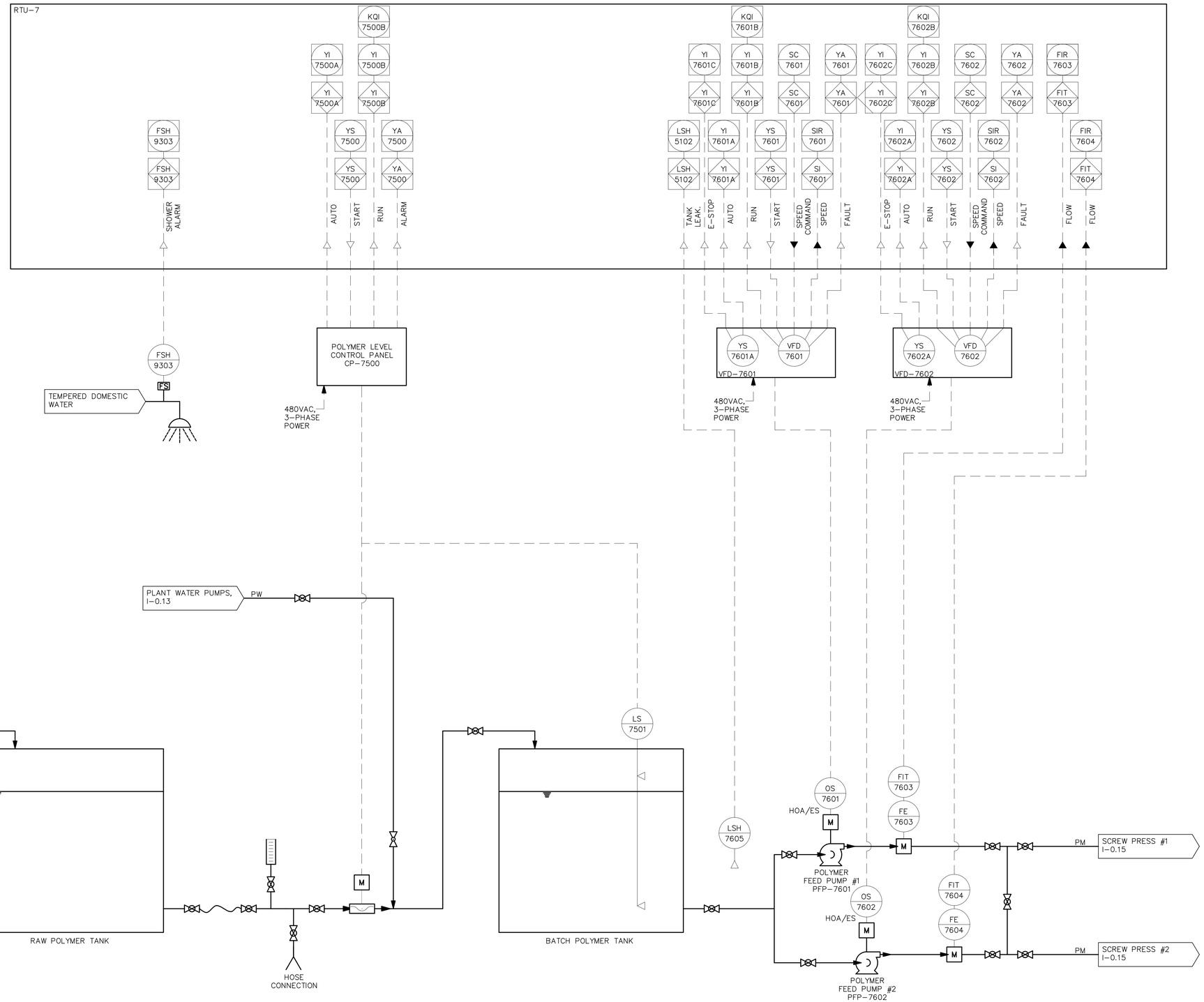

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Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS POLYMER SYSTEM

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I-0.18

RTU–3

ETH 6000

AERATION MASTER CONTROL PANEL CP–6000

BLOWER #1 CONTROL PANEL CP–6101

BLOWER #2 CONTROL PANEL CP–6201

BLOWER #3 CONTROL PANEL CP–6301

BLOWER #4 CONTROL PANEL CP–6401

480VAC, 3–PHASE POWER

480VAC, 3–PHASE POWER

480VAC, 3–PHASE POWER

480VAC, 3–PHASE POWER

INLET AIR

FIT 6102

FE 6102

T

ZSC 6103

PI 6101A

M

AERATION BLOWER #1 BTB–6101

PI 6101B

TI 6101

ZSC 6104

INLET AIR

FIT 6202

FE 6202

T

ZSC 6203

PI 6201A

M

AERATION BLOWER #2 BTB–6201

PI 6201B

TI 6201

ZSC 6204

INLET AIR

FIT 6302

FE 6302

T

ZSC 6303

PI 6301A

M

AERATION BLOWER #3 BTB–6301

PI 6301B

TI 6301

ZSC 6304

INLET AIR

FIT 6402

FE 6402

T

ZSC 6403

PI 6401A

M

AERATION BLOWER #4 BTB–6401

PI 6401B

TI 6401

ZSC 6404

M

MBV–6502

ATMOSPHER

PIT 6001

BIOLOGICAL TREATMEN TRAINS, I–0.5 & I–0

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS AERATION BLOWERS

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SCALE

NONE

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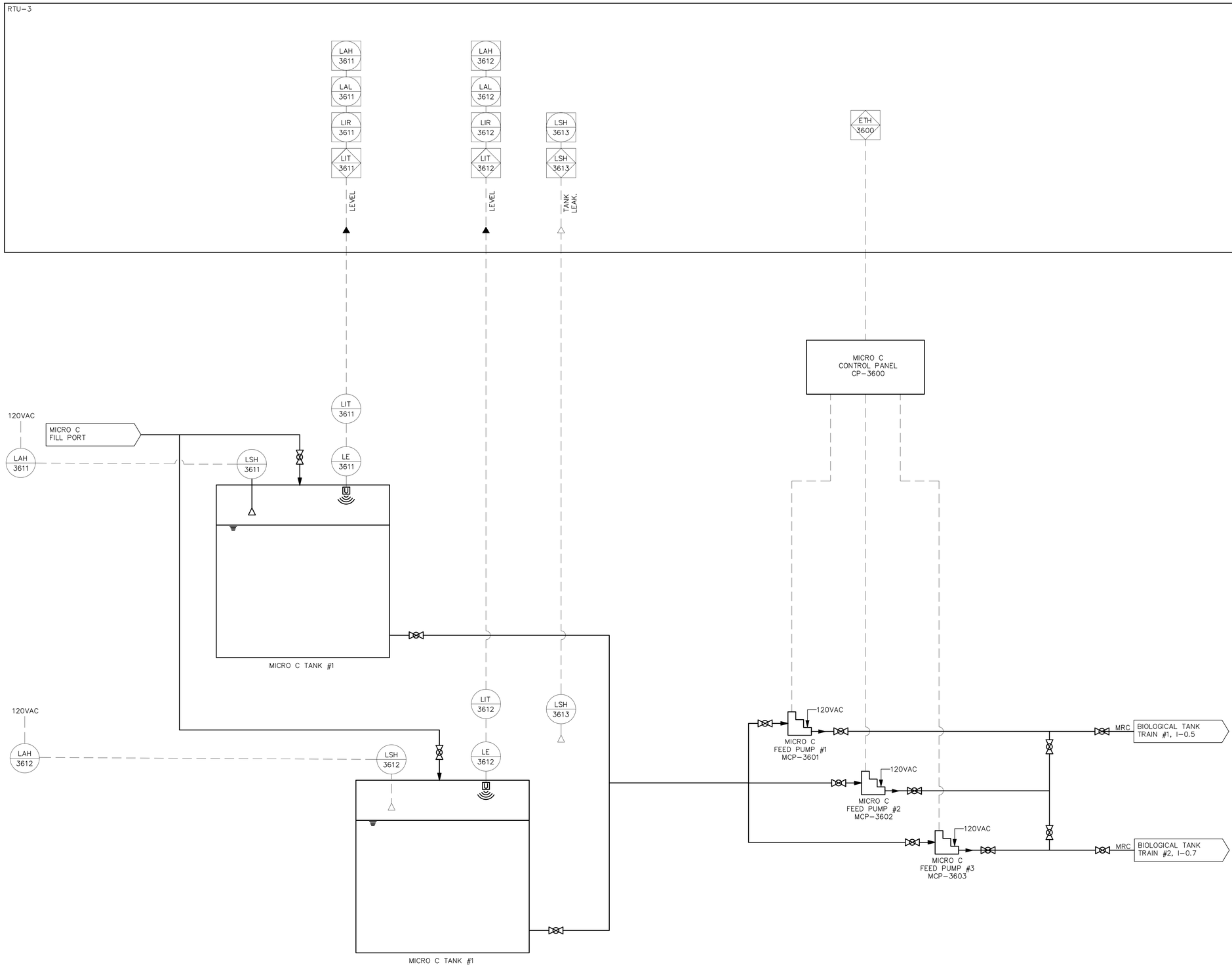

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Taunton Wastewater Treatment Facility Improvements Phase 2

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS MICRO C SYSTEM

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SCALE

NONE

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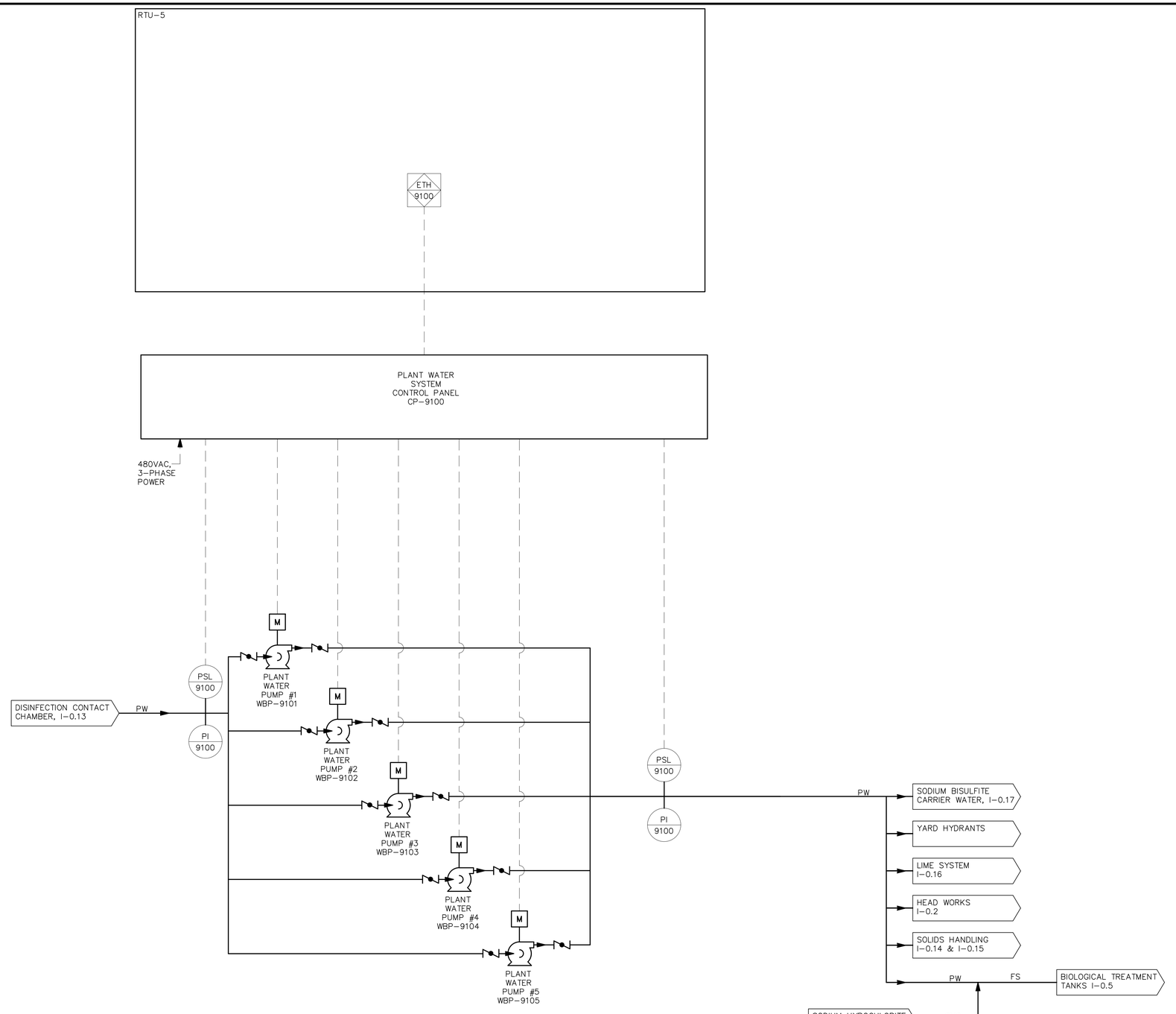

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

INSTRUMENTATION & CONTROLS PLANT WATER

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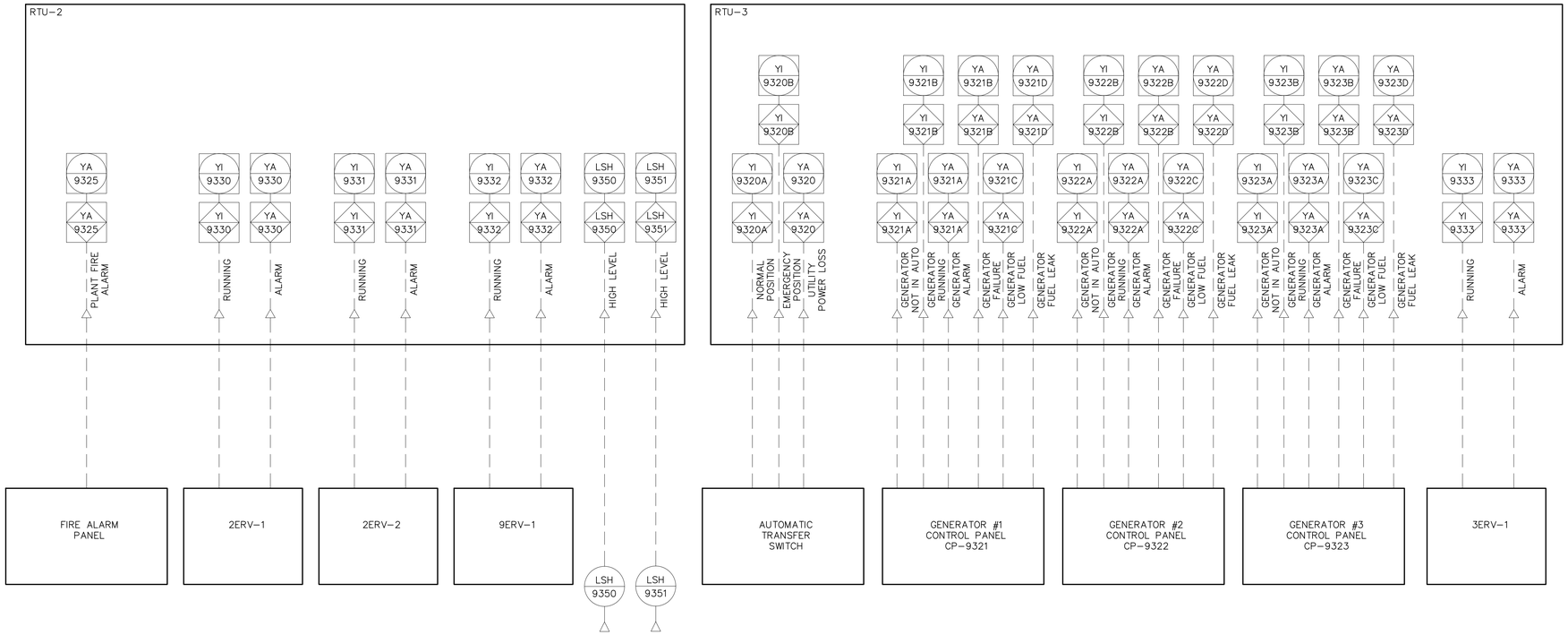

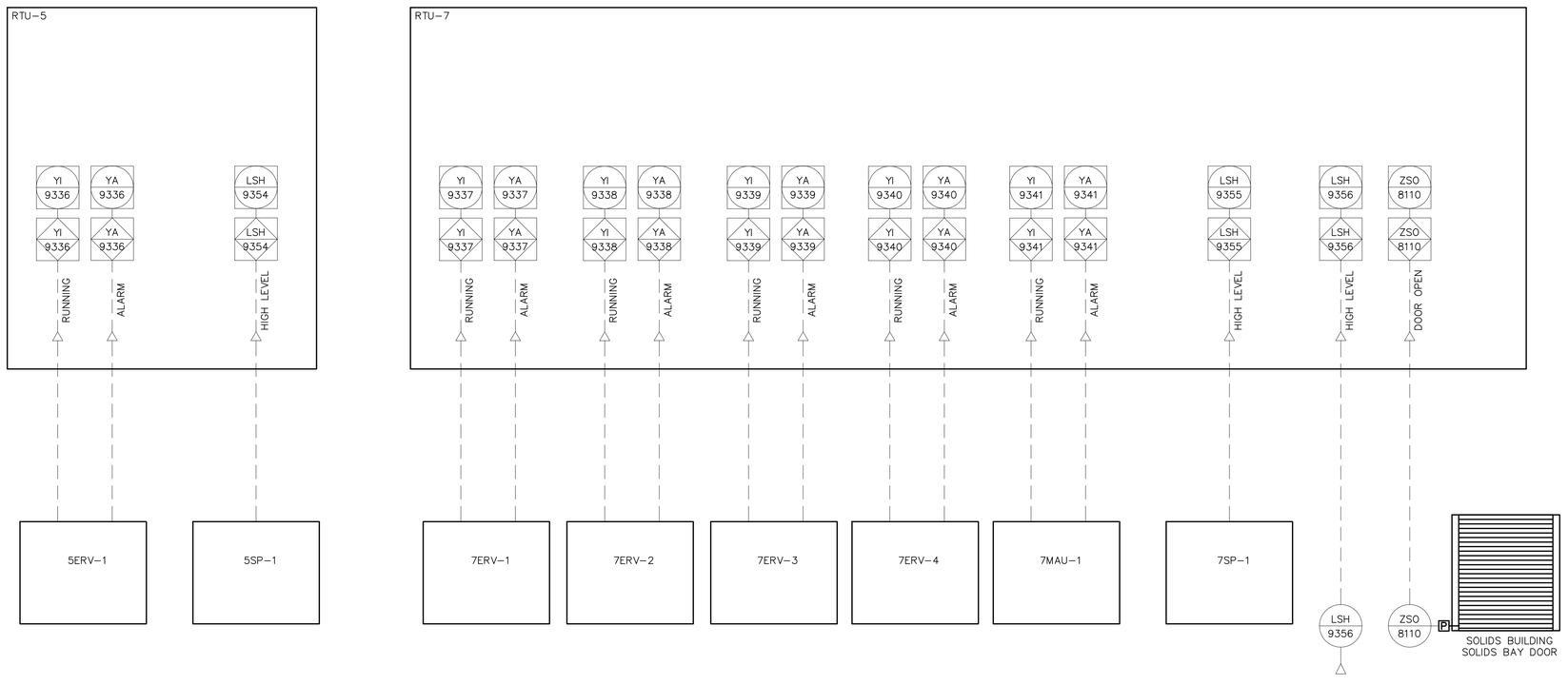

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Taunton Wastewater Treatment Facility Improvements Phase 1

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TITLE

INSTRUMENTATION & CONTROLS HVAC & PLUMBING SYSTEMS

NO.	REVISIONS	DATE

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SCALE

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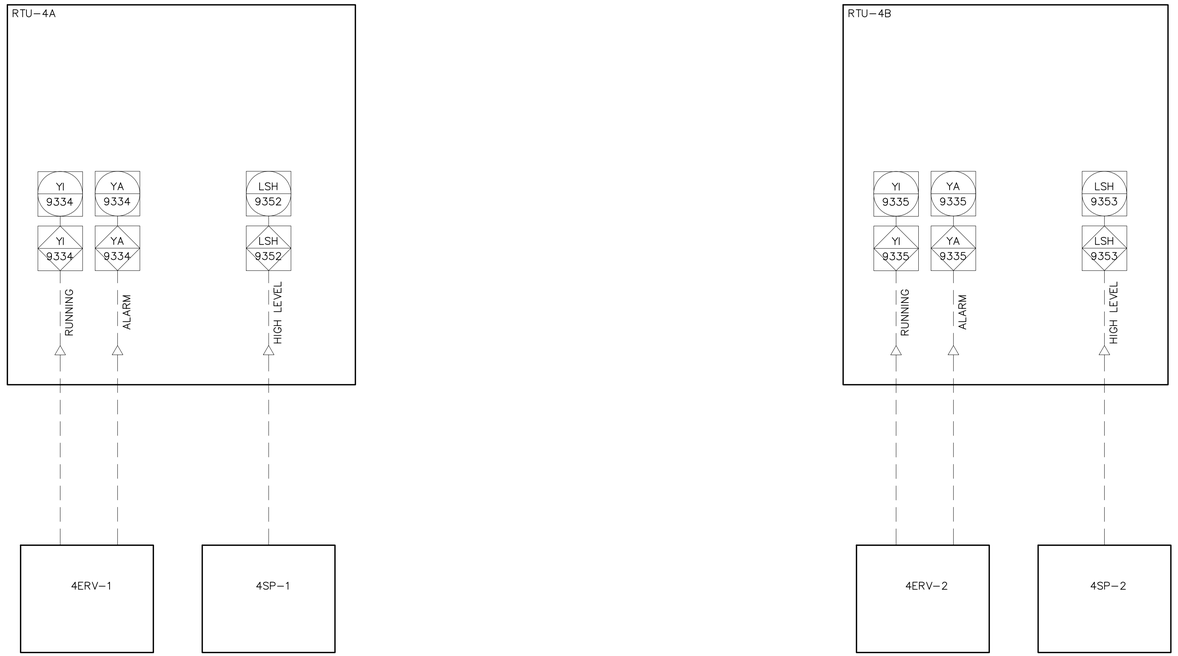

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NONE

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ELECTRICAL SYMBOLS

F1 / 1 a	LINEAR LIGHTING FIXTURES "F1" INDICATES FIXTURE TYPE – TYPICAL FOR ALL FIXTURES "1" INDICATES CIRCUIT NUMBER – TYPICAL FOR ALL FIXTURE "a" INDICATES THE SWITCH CONTROL – TYPICAL FOR ALL FIXTURES
	WALL MOUNTED LIGHTING FIXTURE.
	SURFACE OR PENDANT MOUNTED FIXTURE.
	POLE MOUNTED SITE LIGHT FIXTURE
	EMERGENCY EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LIGHT HEADS
	REMOTE EMERGENCY LIGHTING UNIT WITH TWO LIGHTING HEADS PROVIDE 3/4", 2#10, 1#10GND TO NEAREST THE EMEGENCY LIGHTING BATTERY UNIT
S^{WP}_{a}	SINGLE POLE SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL, "WP" INDICATES WITH WEATHERPROOF COVER
S_2	2–POLE SWITCH 120V, 20A 1 POLE FOR ROOM LIGHT FIXTURES, 1–POLE FOR EXHAUST FAN CONTROL
S_{3a}	3–WAY SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL
S_{4a}	4–WAY SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL
TC	DIGITAL TIME CLOCK SWITCH
TM	MECHANICAL TIMER SWITCH
OC	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR/SWITCH
S	LOW VOLTAGE SWITCH
OC	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
LCP	LIGHTING CONTROL PANEL
Φ_1	DUPLEX RECEPTACLE, WEATHER–RESISTANT 120V, 20A WITH WEATHERPROOF COVER "1" INDICATES CIRCUIT NUMBER – TYPICAL FOR ALL RECEPTACLES
Φ^{GF}	DUPLEX RECEPTACLE, 120V, 20A "GF" INDICATES GROUND FAULT TYPE RECEPTACLE
Φ^{WP}	(2) DUPLEX (QUAD) RECEPTACLES, 120V, 20A "WP" INDICATES WITH WEATHERPROOF COVER
Φ^{WP}	SIMPLEX RECEPTACLE, WP INDICATES WEATHER RESISTANT 120V, 20A UNFUSED DISCONNECT SWITCH, "30" INDICATES 30 AMP RATING, PROVIDE 3–POLE "WP" INDICATES WITH WEATHERPROOF COVER
$\square_{30}$	UNLESS OTHERWISE INDICATED.
$F\!\!\square_{20}$	FUSED DISCONNECT SWITCH, "20" INDICATES 20 AMP FUSE RATING, PROVIDE 3–POLE UNLESS OTHERWISE INDICATED.
	3–PHASE RECEPTACLE
MCP / FVNR	WALL MOUNTED COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER
MCP / FVNR	MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER
VFD	ENCLOSED VARIABLE FREQUENCY DRIVE
Sm	MANUAL MOTOR STARTER 120V, 20A
J J	JUNCTION BOX
HH	POLYMER CONCRETE HAND HOLE
AR1	ALARM RELAY, "AR1" REFERS TO RELAY NAME DESIGNATION
CR1	CONTROL RELAY, "CR1" REFERS TO RELAY NAME DESIGNATION
M	MOTOR START RELAY
TR1	TIMING RELAY, "TR1" REFERS TO RELAY NAME DESIGNATION
	NORMALY OPEN RELAY CONTACT
	NORMALLY CLOSED RELAY CONTACT
	OPERATOR PUSH BUTTON NORMALLY OPEN CONTACT
	OPERATOR PUSH BUTTON NORMALLY CLOSED CONTACT
	PRESSURE SWITCH – CLOSES ON HIGH PRESSURE
	PRESSURE SWITCH – CLOSES ON LOW PRESSURE

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 3#12, 1#12GND FOR 20AMP 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 2#8, 1#10GND FOR 40AMP & 50AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#8, 1#10GND FOR 40AMP & 50AMP THREE PHASE CIRCUITS.
	EYS TYPE CONDUIT SEAL
SPD	SURGE PROTECTION DEVICE
GFM	GROUND FAULT MONITOR AND INDICATION LIGHT
	UTILITY POLE
20 / 100 / LSIG	MOLDED CASE CIRCUIT BREAKER, 3–POLE UNLESS OTHERWISE INDICATED, "20" INDICATES TRIP AMPERE RATING, "100" INDCATES FRAME SIZE, "LSIG" LONG, SHORT, INSTANTANEOUS AND GROUND FAULT PROTECTION RESPECTIVELY
	DRY TYPE TRANSFORMER
EH	CONCRETE HAND HOLE (REFER TO SITE DETAILS)
	3/4"ø X 10'–0" COPPER CLAD GROUND ROD
	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	OPERATOR STATION (SUPPLIED BY OTHER DIV. 16 UNO), "XXXX" REFERS TO TAGNAME ID, "YYY" REFERS TO THE TYPE OF OPERATOR STATION
XX–XXXX	UNLESS OTHERWISE NOTED INSTRUMENATION OR PROCESS EQUIPMENT (SUPPLIED BY OTHER DIVISIONS) "XX–XXXX" REFERS TO TAGNAME ID
E	GENERATOR EMERGENCY STOP, PROVIDE WITH 3 SEPARATE NORMALLY CLOSED CONTACTS
O	OCCUPIED/UNOCCUPIED SELECTOR SWITCH. (SUPPLIED BY DIV. 16)
T	THERMOSTAT (SUPPLIED BY DIV. 15)
M	MOTOR OPERATED DAMPER (SUPPLIED BY DIV. 15)
F / XKW	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,

TELE/DATA LEGEND

1T 2D	WALL MOUNTED DATA OUTLET, 2D INDICATES (2) CAT6 TERMINAL DATA CONNECTORS, 1T INDICATES (1) CAT6 TERMINAL TELEPHONE CONNECTOR
WAP	CEILING MOUNTED WIRELESS ACCESS POINT WITH (1) CAT6 CABLE

DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, ALL EXISTING ELECTRICAL SYSTEMS WITHIN HATCH MARKS (POWER, LIGHTING, LOW VOLTAGE, CONTROLS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OR 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.
2. 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.
3. 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.
4. DEMOLITION ONE LINE DIAGRAMS ONLY INDICATE CURRENT ACTIVE EQUIPMENT AND DO NOT INDICATE ABANDONED EQUIPMENT NO LONGER IN SERVICE. DEMOLITION PLAN DRAWINGS INDICATE BOTH ACTIVE AND ABANDONED EQUIPMENT THAT IS REQUIRED TO BE DEMOLISHED.
5. RING OUT CIRCUITS PRIOR TO DEMOLITION TO DETERMINE ACTIVE CIRCUITS AND DEMOLISH ACTIVE CIRCUITS IN ACCORDANCE TO PHASING PLAN.

ELECTRICAL SYMBOLS

GDC	GAS DETECTION SYSTEM – CONTROL PANEL (SUPPLIED BY DIV. 17)
GD	GAS DETECTION SYSTEM – GAS SENSOR DETECTOR (SUPPLIED BY DIV. 17)
A	GAS DETECTION SYSTEM – AMBER ALARM BEACON (SUPPLIED BY DIV. 17)
H	GAS DETECTION SYSTEM – ALARM HORN (SUPPLIED BY DIV.17)

FIRE ALARM SYSTEM SYMBOLS

F	MANUAL FIRE ALARM STATION
F	FIRE ALARM AUDIO/VISUAL DEVICE
F V	FIRE ALARM VISUAL ONLY DEVICE
	FIRE ALARM BEACON
S	SMOKE DETECTOR
S_D	DUCT SMOKE DETECTOR
RTS	REMOTE TEST STATION AND ALARM FOR DUCT SMOKE DETECTOR
H	HEAT DETECTOR, COMBINATION RATE–OF–RISE AND FIXED TEMPERATURE
C	CARBON MONOXIDE DETECTOR
M	INPUT MONITORING MODULE
C	RELAY CONTROL MODULE
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
	REMOTE ALARM INDICATING LIGHT
E	MASTER BOX
K	KEY DEPOSITORY – KNOX BOX

GENERAL NOTES

1. GENERAL CONTRACTOR TO PROVIDE CONCRETE HOUSEKEEPING AND MOUNTING PADS ON ALL FLOOR AND GRADE MOUNTED ELECTRICAL EQUIPMENT, THE FOLLOWING EQUIPMENT IS THE MINIMUM REQUIREMENT FOR PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE ELECTRICAL CONTRACTORS MOUNTING METHODS, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL PAD SIZES AND LOCATIONS.
   1.1. OIL FILLED TRANSFORMER
   1.2. SWITCHBOARDS
   1.3. GENERATOR
   1.4. DISTRIBUTION PANELBOARDS
   1.5. DRY TYPE TRANSFORMERS
   1.6. FREE STANDING VFDS AND CONTROL PANELS
2. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
3. 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.
4. 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.
5. CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
6. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G. SHALL BE USED UNLESS OTHERWISE NOTED.
7. RECEPTACLES AND SWITCHES SHALL BE MOUNTED 45" ABOVE FINISHED FLOOR.
8. 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 THE DRAWINGS AND/OR SPECIFICATIONS.

TEMPORARY WORK NOTES

1. WORK INDICATED AS TEMPORARY SHALL BE DONE ACCORDANCE WITH NEC ARTICLE 590, INSTALLED IN A NEAT MANNER AND WORKMAN LIKE MANNER.
2. THE USE OF PVC CONDUIT, SE CABLE, AND TRAY CABLE WHERE ALLOWED BY NEC SHALL BE ACCEPTABLE FOR TEMPORARY WORK.
3. SE CABLE AND TRAY CABLE FOR INTERIOR TEMPORARY WORK SHALL BE PROPERLY FASTENED TO BUILDING STRUCTURES AND INSTALLED IN SUCH A MANNER NOT TO INHIBIT ACCESS TO AND AROUND EQUIPMENT.
4. SE CABLE FOR EXTERIOR TEMPORARY WORK SHALL BE PROPERLY FASTENED TO BUILDING EXTERIOR SURFACES AND PROPERLY PROTECTED FROM VEHICLE DAMAGE WHERE RUN BETWEEN BUILDINGS.

ABBREVIATIONS

(2)1"C, 3#8, #10GND	2, 1–INCH CONDUITS EACH CONDUIT CONTAINING 3–#8 AWG WIRES AND 1–#10 GROUND CONDUCTOR
3/4" CE	EMPTY CONDUIT. NUMERAL DENOTES SIZE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AR	ALARM RELAY
ATS	AUTOMATIC TRANSFER SWITCH
CR	CONTROL RELAY
CP	CONTROL PANEL
DRG. DWG.	DRAWING
EAN	EXCEPT AS NOTED
EC	ELECTRICAL CONTRACTOR
ETM	ELAPSED TIME METER
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
FS	FLOW SWITCH
FT	FLOW TRANSMITTER
FVNR	FULL VOLTAGE NON–REVERSING
GND, GRD	GROUNDING CONDUCTOR (EQUIPMENT)
HOA	HAND–OFF–AUTOMATIC
HH	HANDHOLE
J OR JB	JUNCTION BOX
JPB	JOG PUSHBUTTON
LE	LEVEL ELEMENT
LIT	LEVEL INDICATOR TRANSMITTER
LL	LOW LEVEL
LS	LEVEL SWITCH
LT	LEVEL TRANSMITTER
MC	MOTOR CONTROLLER (STARTER)
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MFR	MANUFACTURER
MS	MOTION SENSOR
NTS	NOT TO SCALE
OEM	ORIGINAL EQUIOPMENT MANUFACTURE SUPPLIED
OH	OVERHEAD
OL	MOTOR OVERLOAD HEATER
OS	OPERATOR STATION
PB	PUSHBUTTON CONTROL STATION MOMENTARY CONTACT TYPE, STOP START
PBE	PUSHBUTTON CONTROL STATION MAINTAINED EMERGENCY STOP TYPE, TWIST TO RELEASE
PBL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK–OUT DEVICE, STOP–START
PBM	PUSHBUTTON CONTROL STATION MAINTAINED CONTACT TYPE, STOP START
PIT	PRESSURE INDICATOR TRANSMITTER
PL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK–OUT DEVICE, STOP
PS	PRESSURE SWITCH
PT	PRESSURE TRANSMITTER
RGS	RIGID GALVANIZED STEEL
RVNR	REDUCED VOLTAGE NON–REVERSING
SPD	SURGE SUPPRESSOR DEVICE
SOV	SOLENOID VALVE
S/S	SOFT STARTER
TB	TERMINAL BOX
TD	MOTOR TEMPERATURE DETECTOR
TR	TIMING RELAY
TS	TEMPERATURE SWITCH
TSP	TWISTED SHEILDED PAIR
TSTW	TWO SPEED TWO WINDING
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
WP	WATER PROOF
WSH	HIGH TORQUE SWITCH
XFMR	TRANSFORMER

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

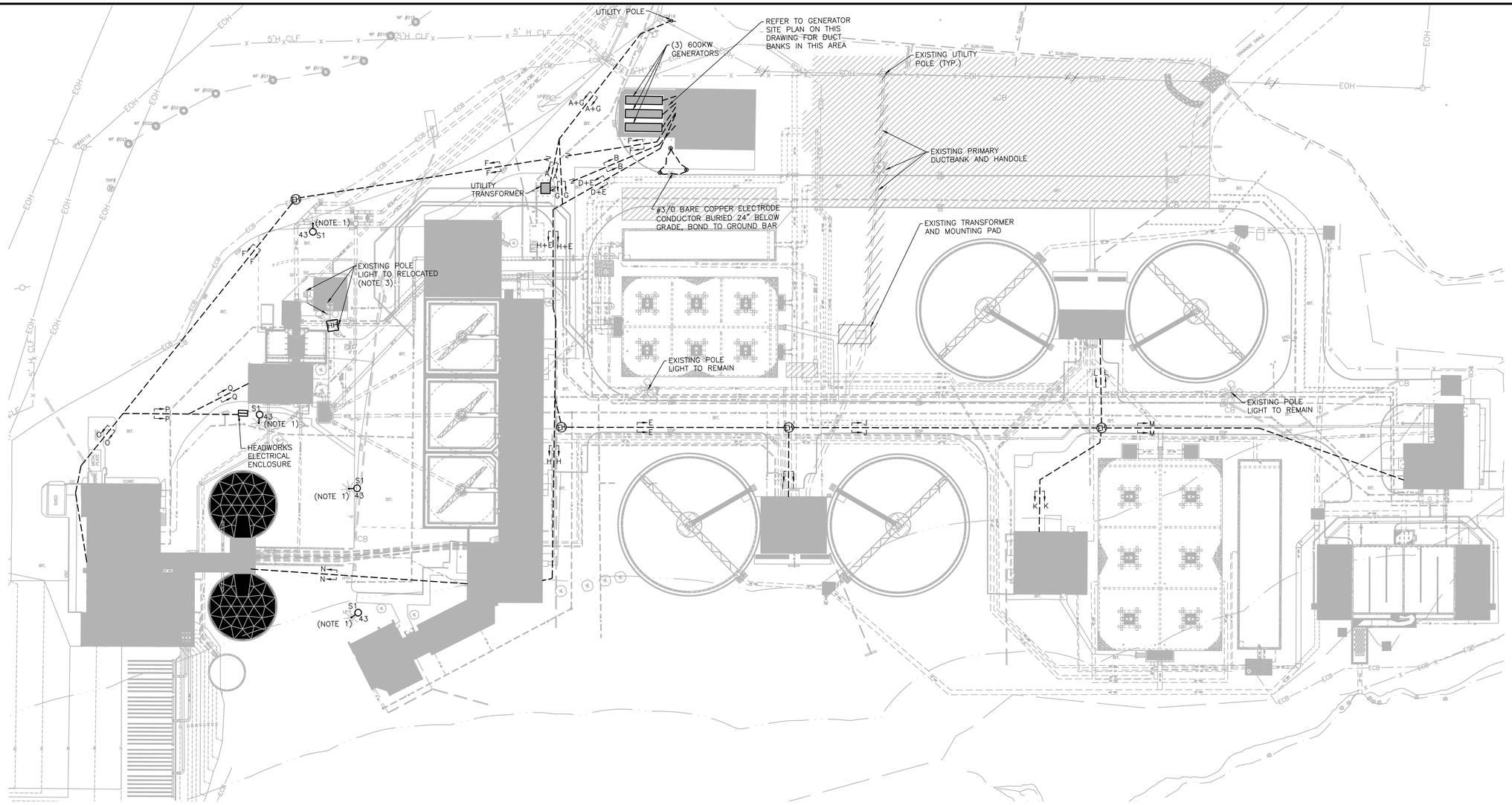
ELECTRICAL LEGEND AND NOTES

NO.	REVISIONS	DATE

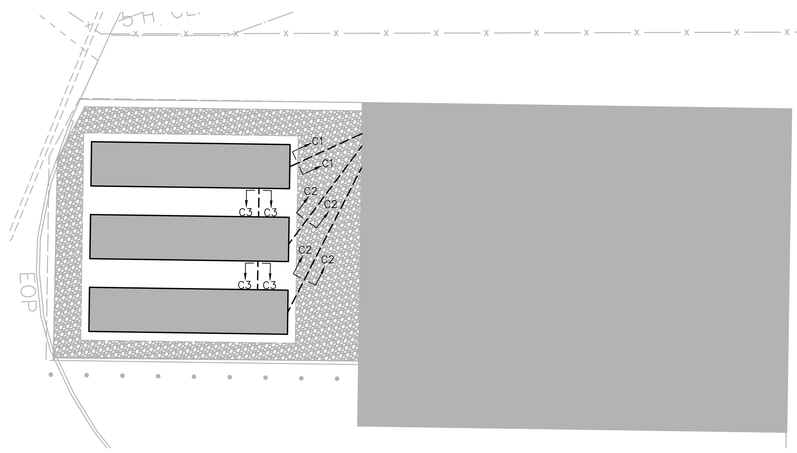
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO.
E-0.1



ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"



ELECTRICAL SITE GENERATOR PLAN
SCALE: 1" = 10'-0"

NOTES:

1. REMOVE EXISTING 12' CONCRETE POLE AND LIGHT, EXISTING WIRING TO BE RE-UTILIZED FOR NEW LIGHT FIXTURE. CUT BACK EXISTING BOLTS, DRILL INTO EXISTING BASE AND INSTALL EPOXY BOLT ANCHORS TO MATCH NEW LIGHT FIXTURE BOLT PATTERN. EXTEND EXISTING WIRING TO NEW LIGHT FIXTURE THROUGH NEW POLE.
2. DISCONNECT AND RELOCATE POLE MOUNTED LIGHTS AND A 30' (APPROXIMATE) POLE, DIG UP AND UNCOVER EXISTING FEEDER TO LIGHT POLE BACK 30' TOWARDS SOURCE AND INSTALL NEW HAND HOLE. INSTALL NEW UNDERGROUND 1"C WITH 2#12, 1#12G TO NEW LIGHT POLE LOCATION. PROVIDE NEW POLE BASE.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Site Plan

NO.	REVISIONS	DATE

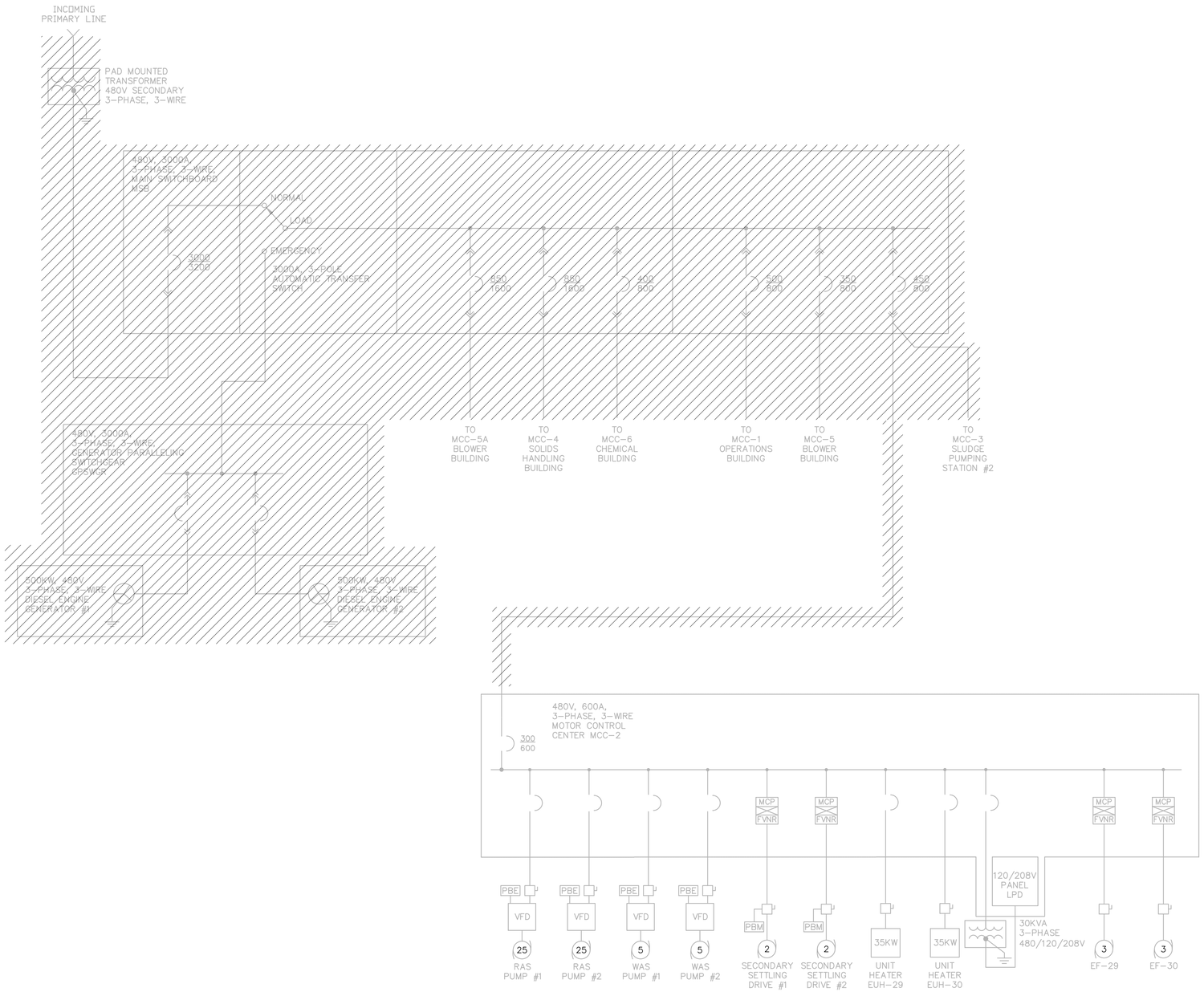
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

40 0 40 80
SCALE IN FEET: 1"=40'

SHEET NO.

E-0.2



MAIN SWITCHBOARD & SLUDGE PUMPING STATION #1 ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
MAIN SWITCHBOARD &
SLUDGE PUMPING
STATION #1
ONE LINE DIAGRAM -
DEMOLITION

NO.	REVISIONS	DATE

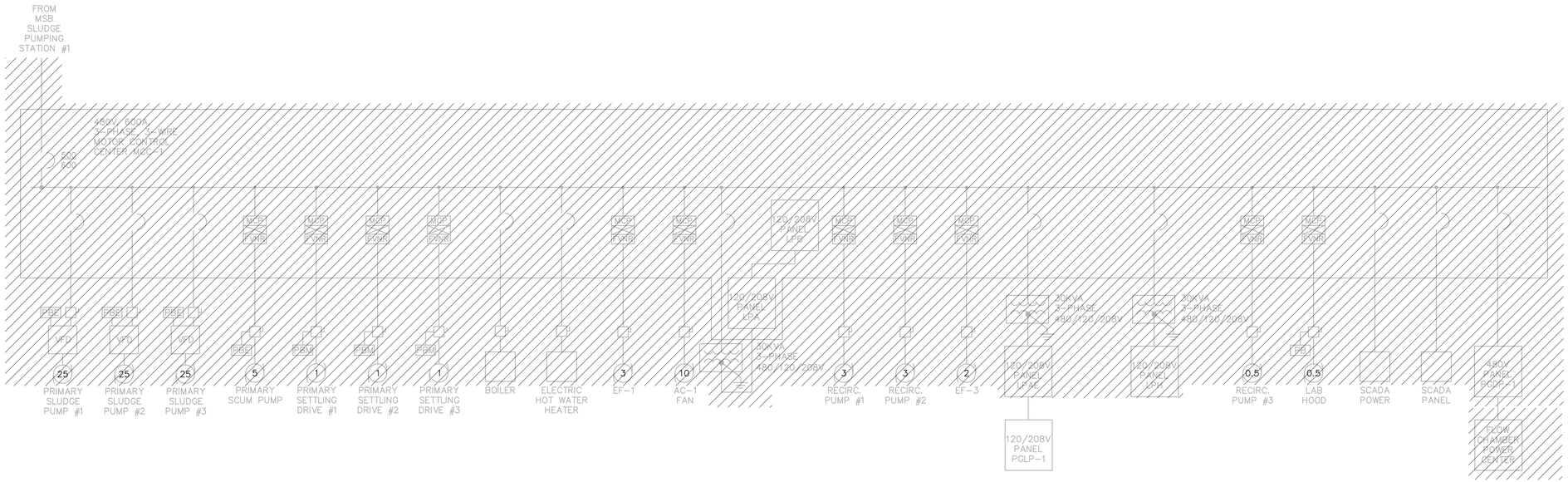
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

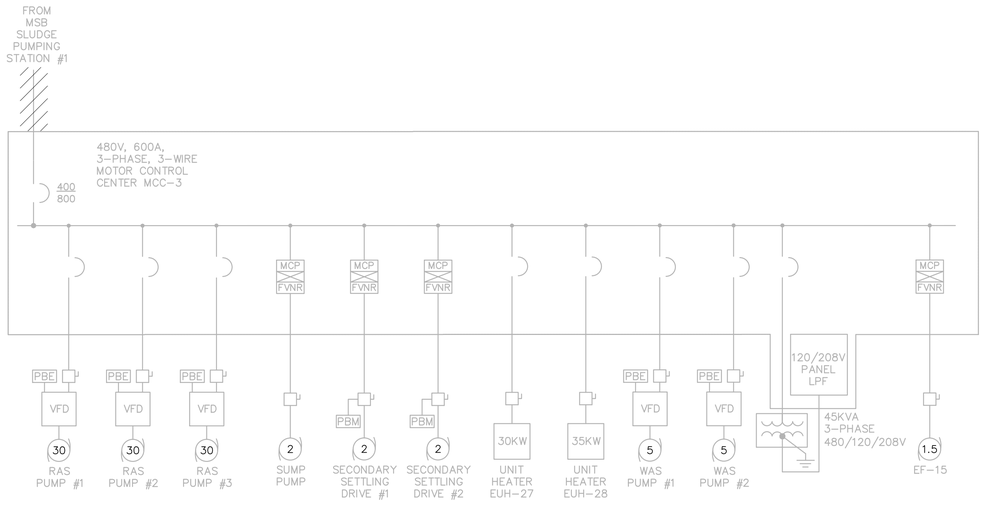
SHEET NO.

E-0.3



OPERATIONS BUILDING ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE



SLUDGE PUMPING STATION #2 ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL OPERATION BUILDING & SLUDGE PUMPING STATION #2 ONE LINE DIAGRAM - DEMOLITION

NO.	REVISIONS	DATE

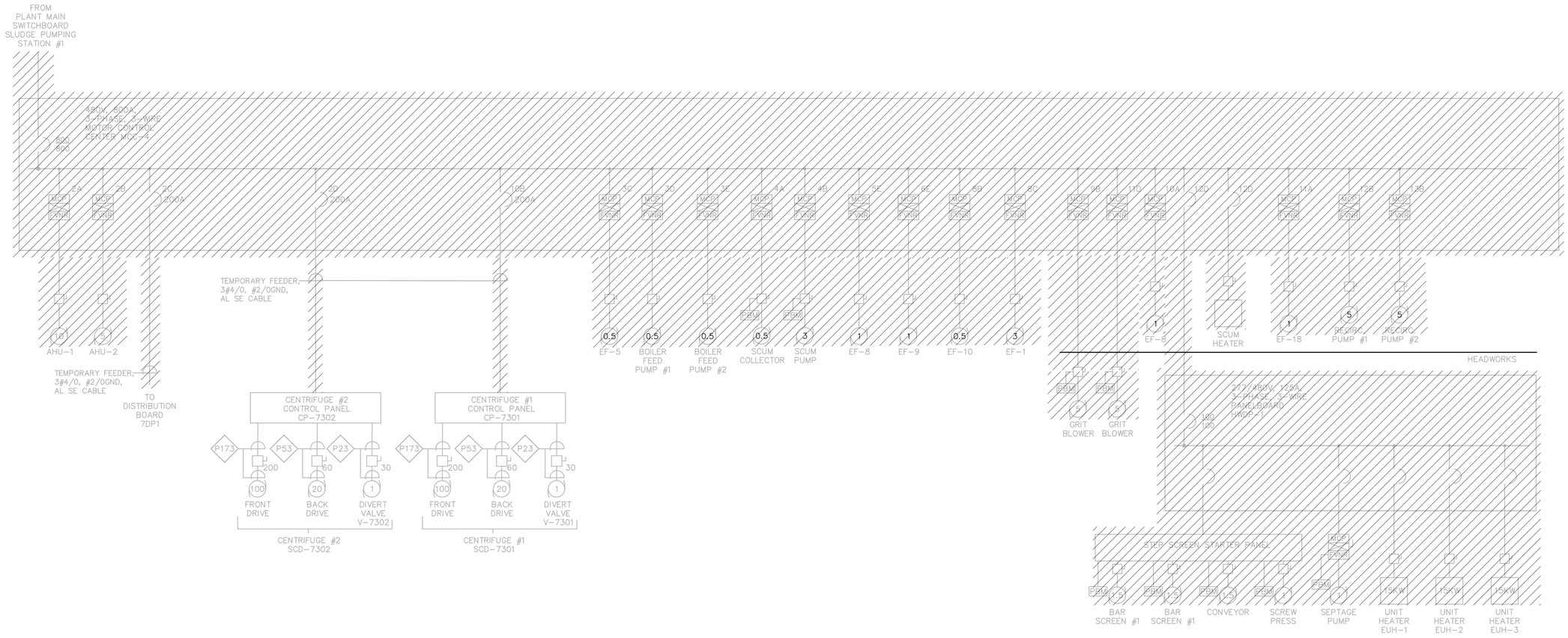
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.4



SOLIDS HANDLING BUILDING AND HEADWORKS ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL SOLIDS HANDLING BUILDING & HEADWORKS ONE LINE DIAGRAM - DEMOLITION

NO.	REVISIONS	DATE

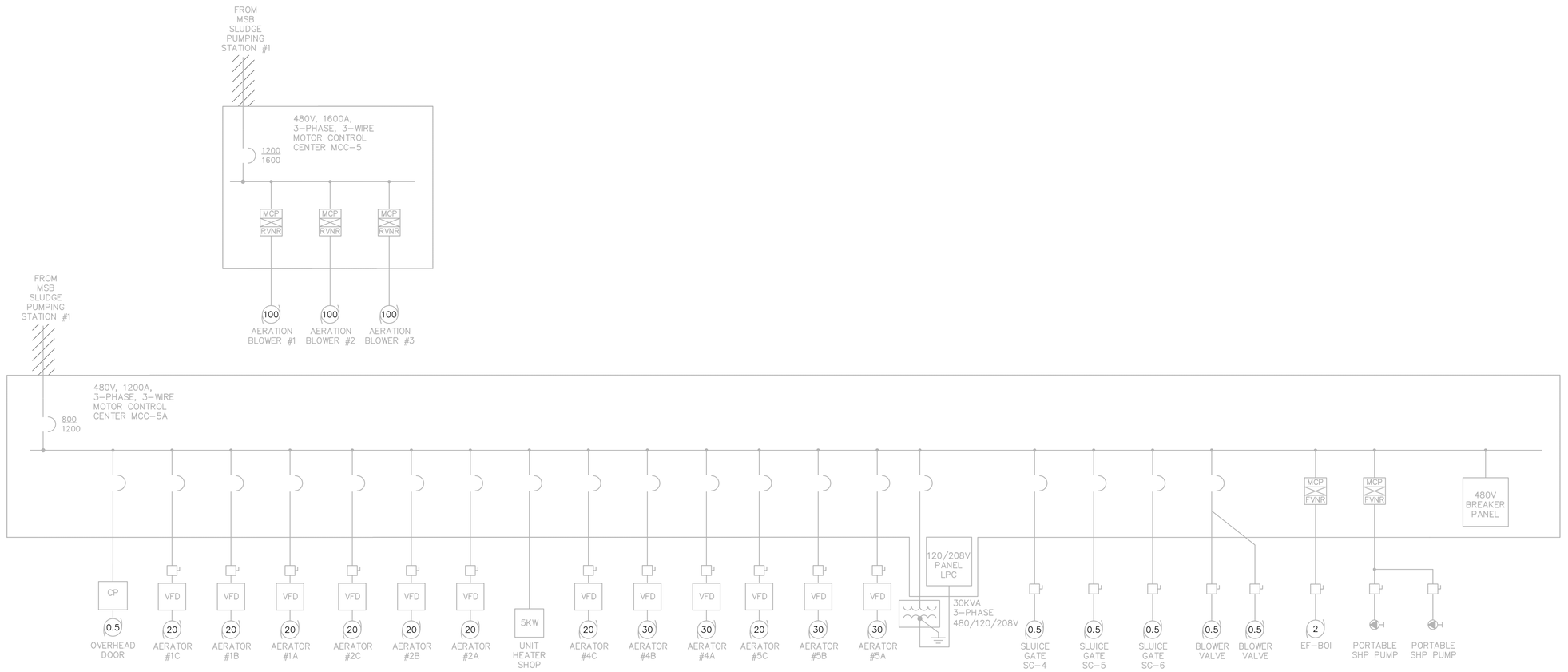
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

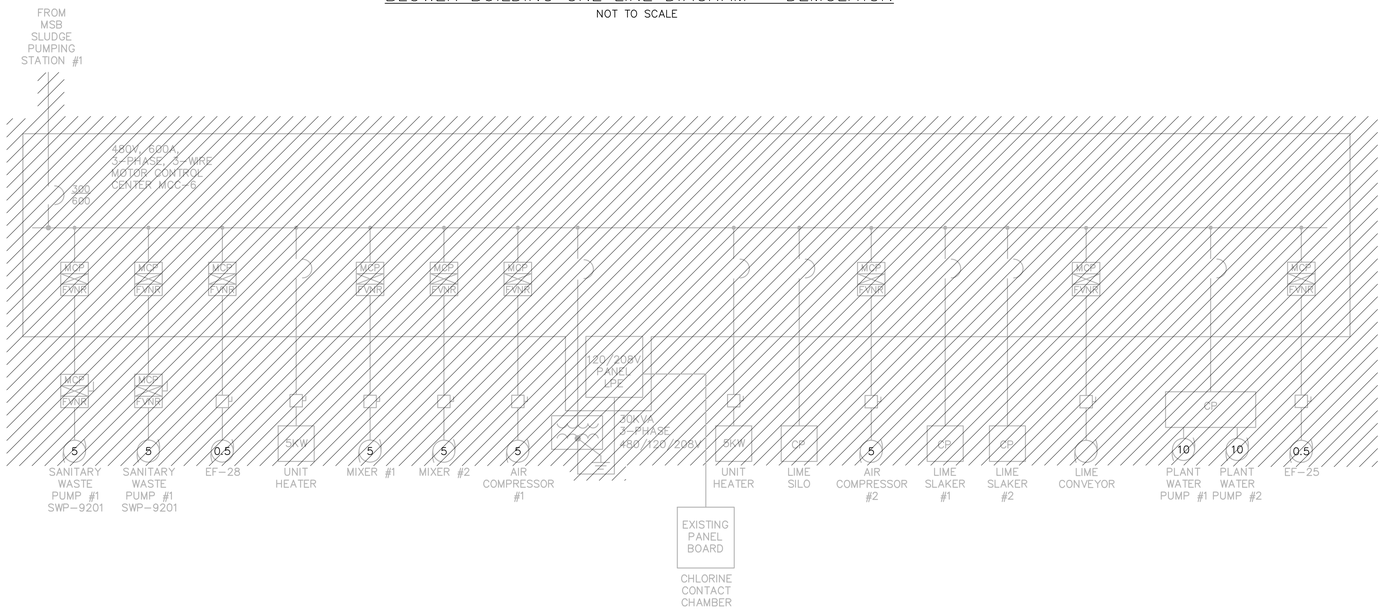
SHEET NO.

E-0.5



BLOWER BUILDING ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE



CHEMICAL BUILDING ONE LINE DIAGRAM – DEMOLITION

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
EXISTING BLOWER BUILDING & CHEMICAL BUILDING
ONE LINE DIAGRAM - DEMOLITION

NO.	REVISIONS	DATE

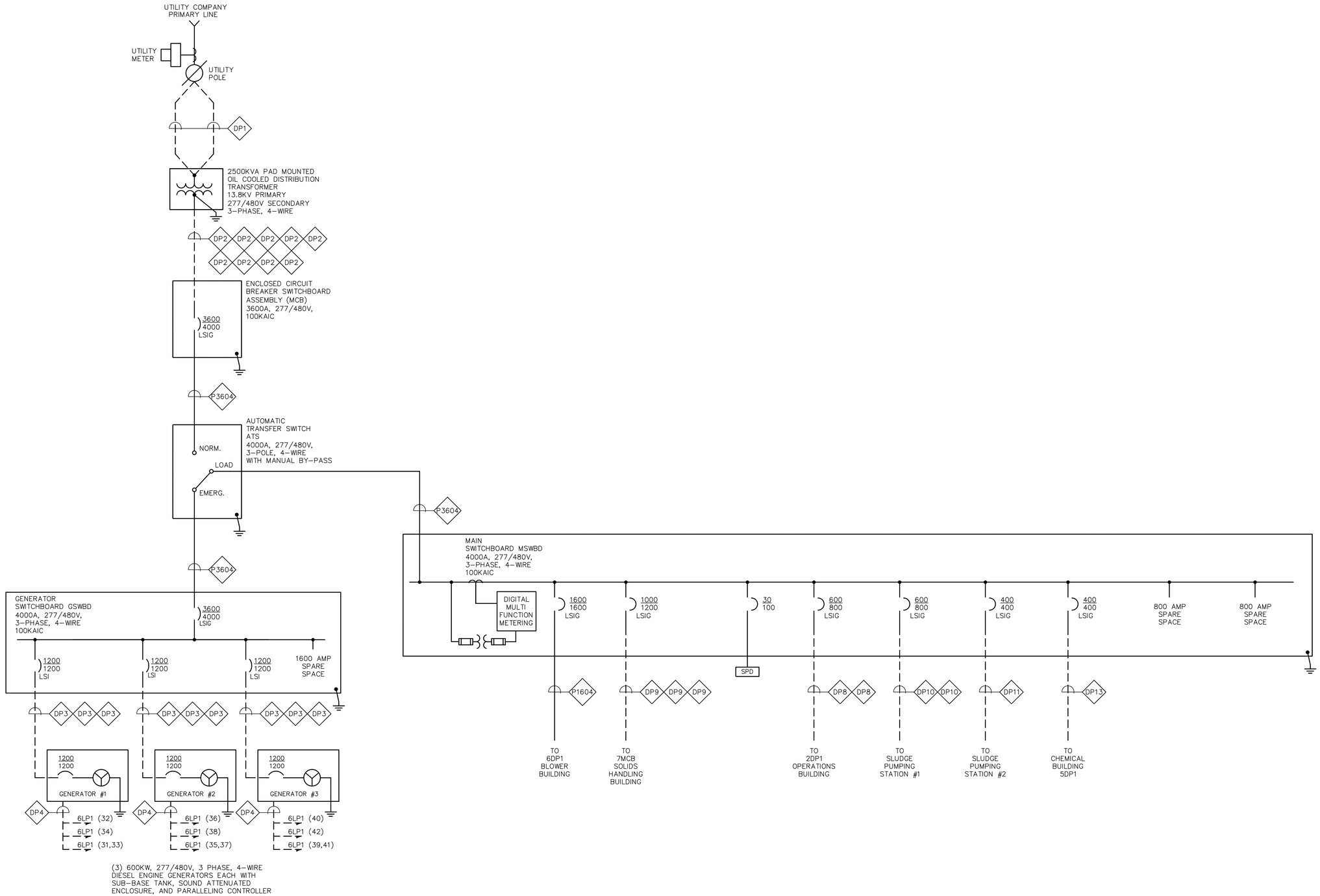
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.6



MAIN SWITCHBOARD ONE LINE DIAGRAM

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
MAIN SWITCHBOARD
ONE LINE DIAGRAM

NO.	REVISIONS	DATE

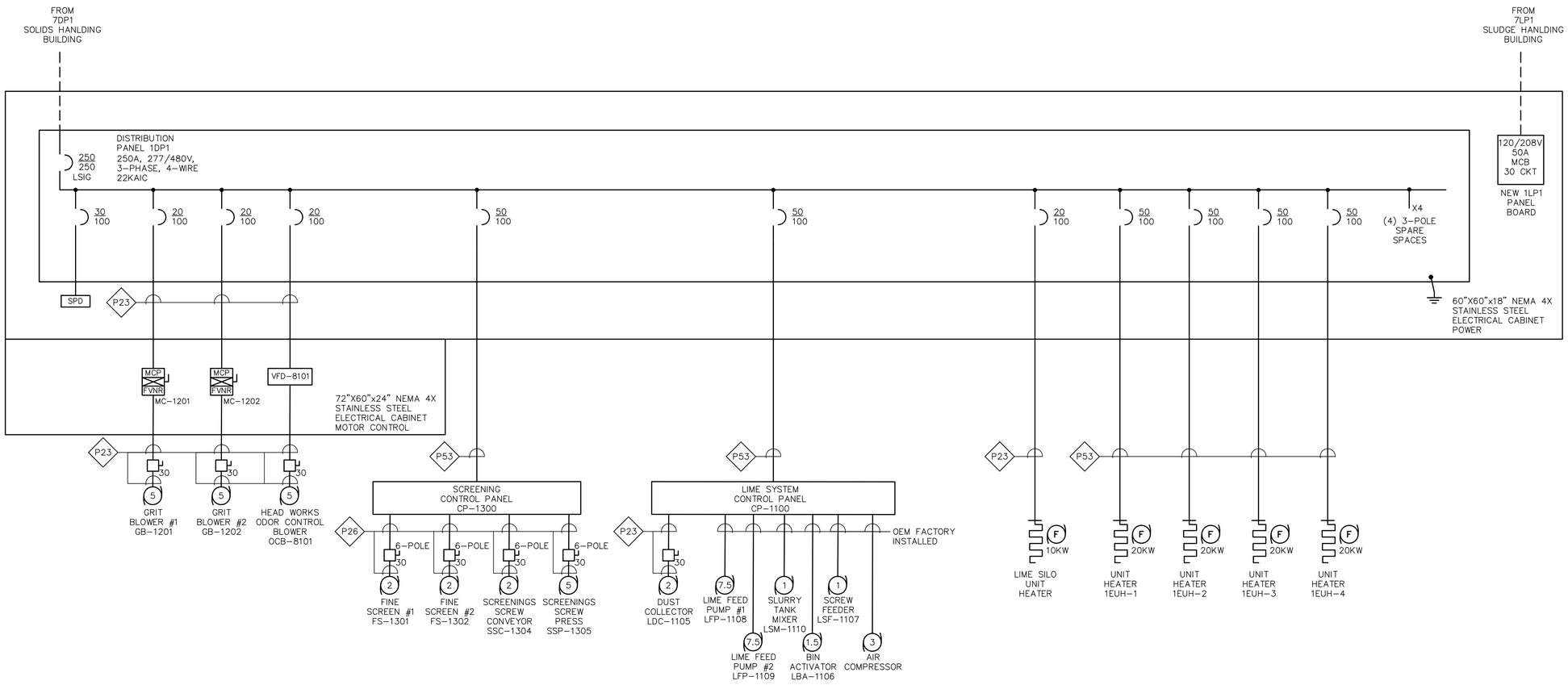
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.7



HEADWORKS ONE LINE DIAGRAM

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
HEADWORKS
ONE LINE DIAGRAM

NO.	REVISIONS	DATE

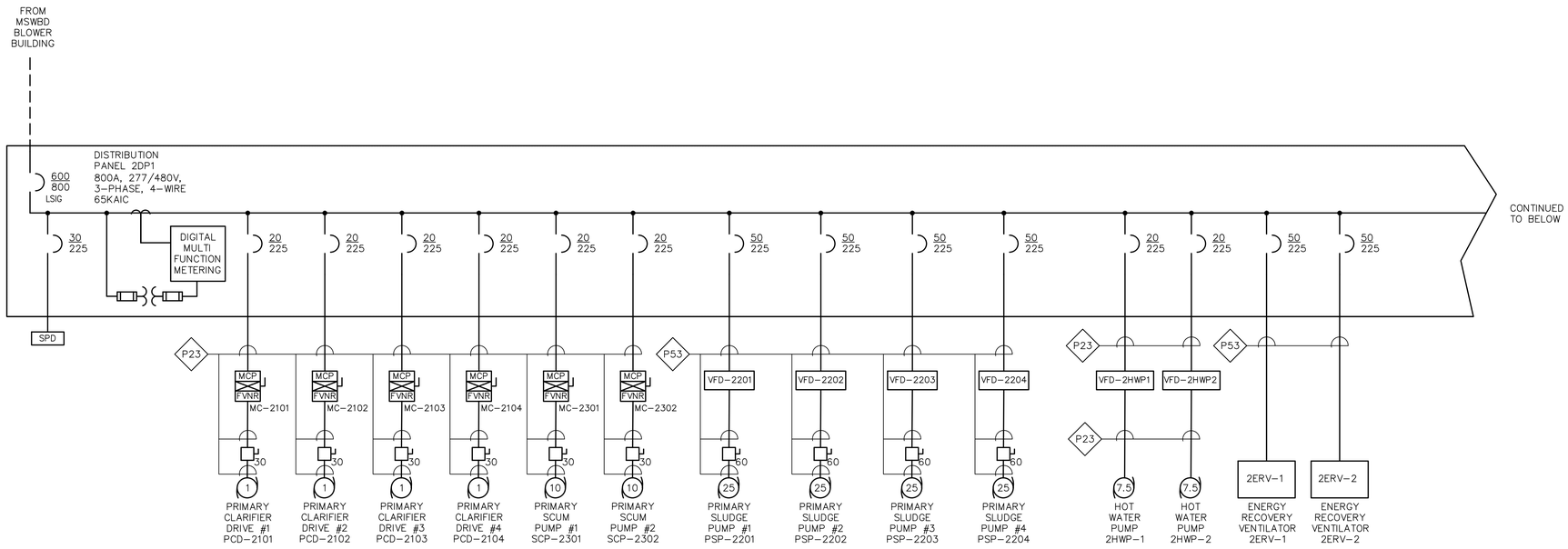
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

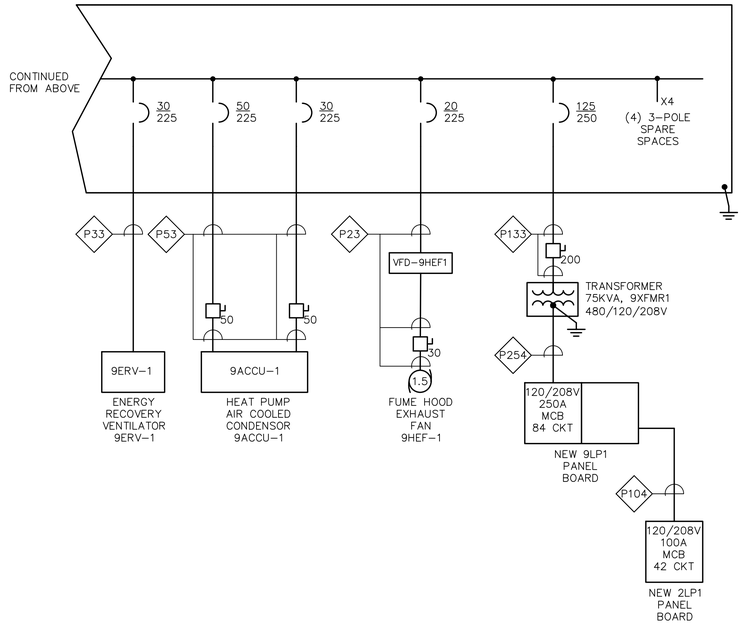
SCALE

NONE

SHEET NO.

E-0.8





OPERATIONS BUILDING ONE LINE DIAGRAM

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL OPERATIONS BUILDING ONE LINE DIAGRAM

NO.	REVISIONS	DATE

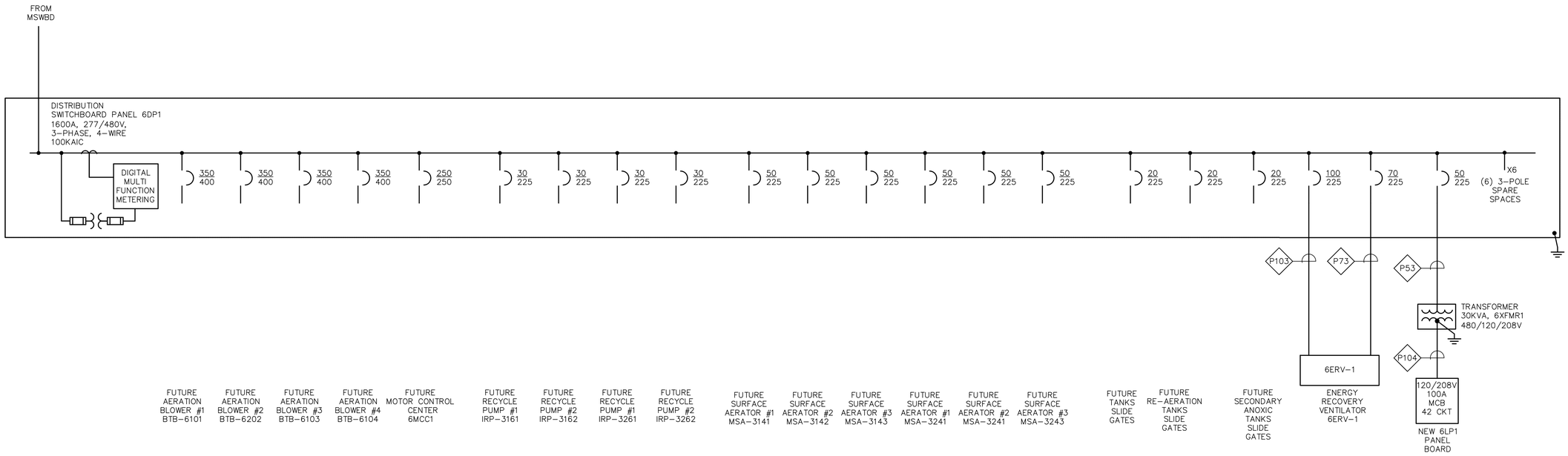
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

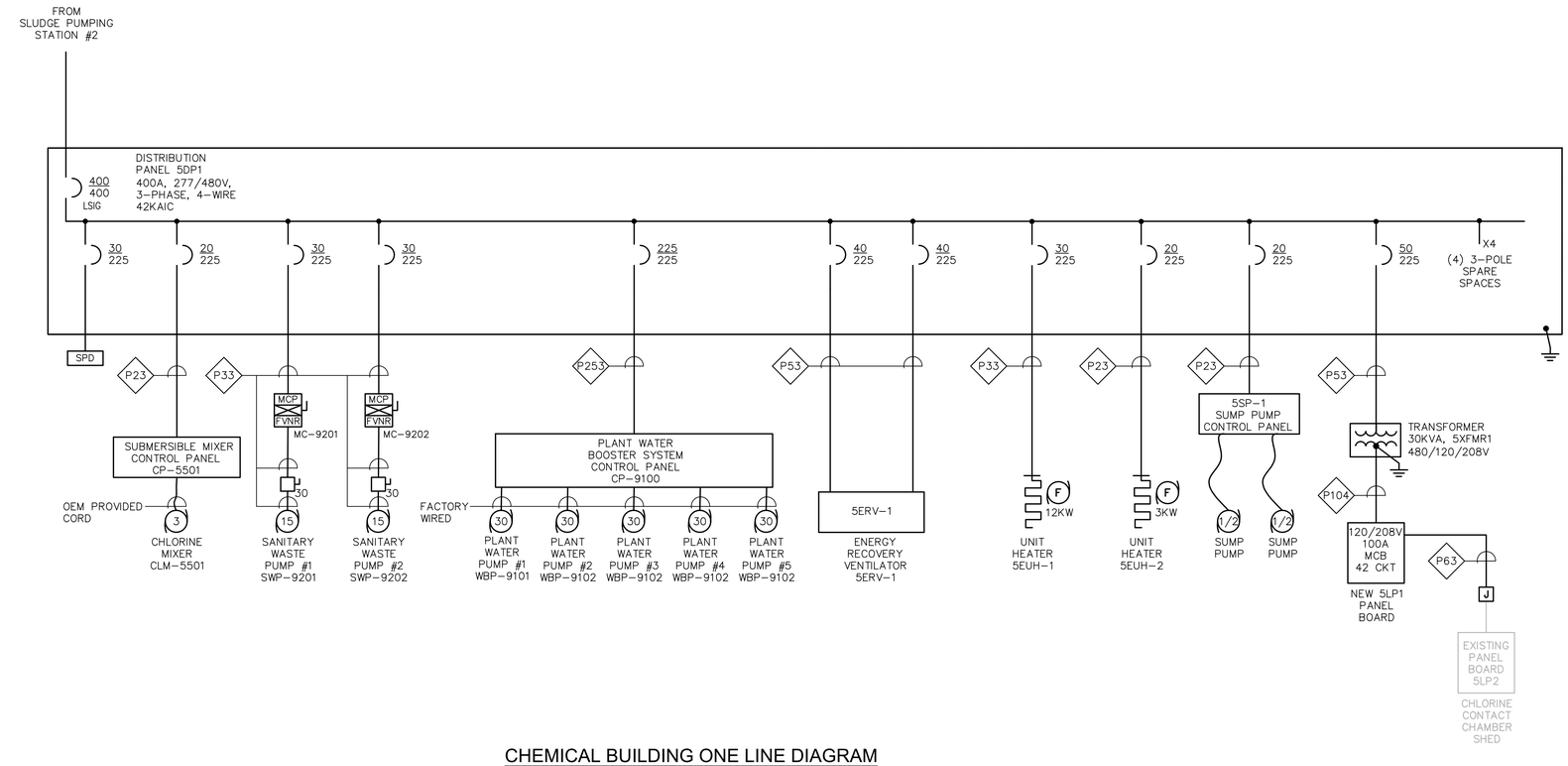
SHEET NO.

E-0.9



NEW BLOWER BUILDING ONE LINE DIAGRAM

NOT TO SCALE



CHEMICAL BUILDING ONE LINE DIAGRAM

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
NEW BLOWER BUILDING
& CHEMICAL BUILDIING
ONE LINE DIAGRAM

NO.	REVISIONS	DATE

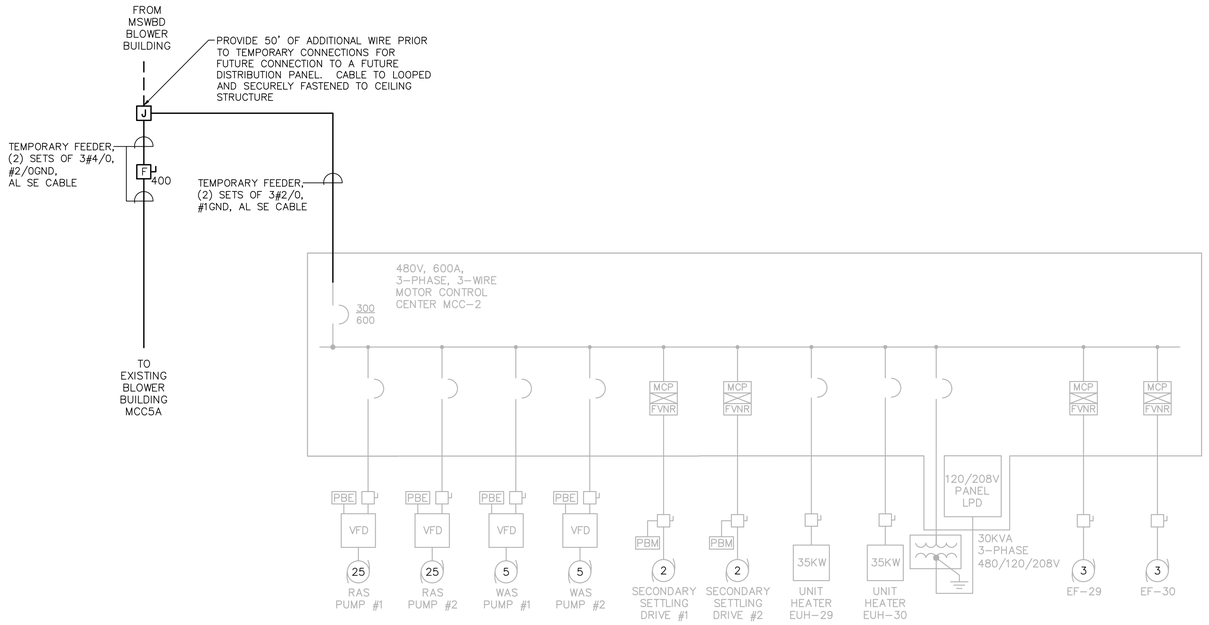
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

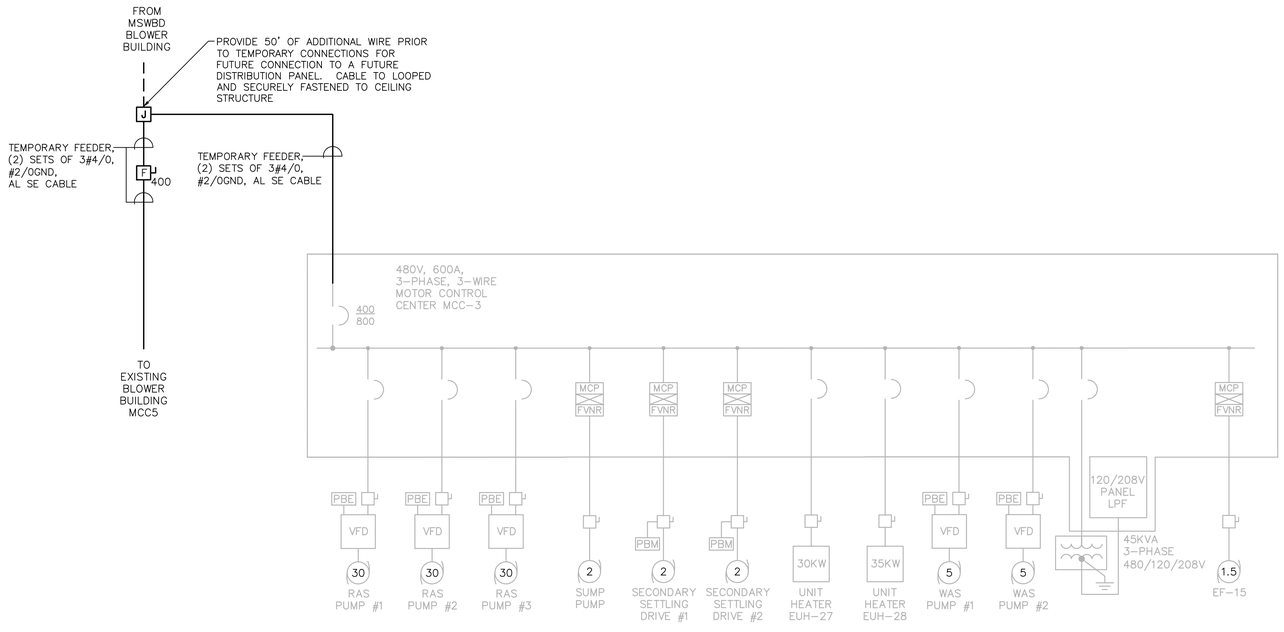
SHEET NO.

E-0.10



SLUDGE PUMPING STATION #1 ONE LINE DIAGRAM

NOT TO SCALE



SLUDGE PUMPING STATION #2 ONE LINE DIAGRAM

NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL SLUDGE PUMPING STATION #1 & SLUDGE PUMPING STATION #2 ONE LINE DIAGRAM

NO.	REVISIONS	DATE

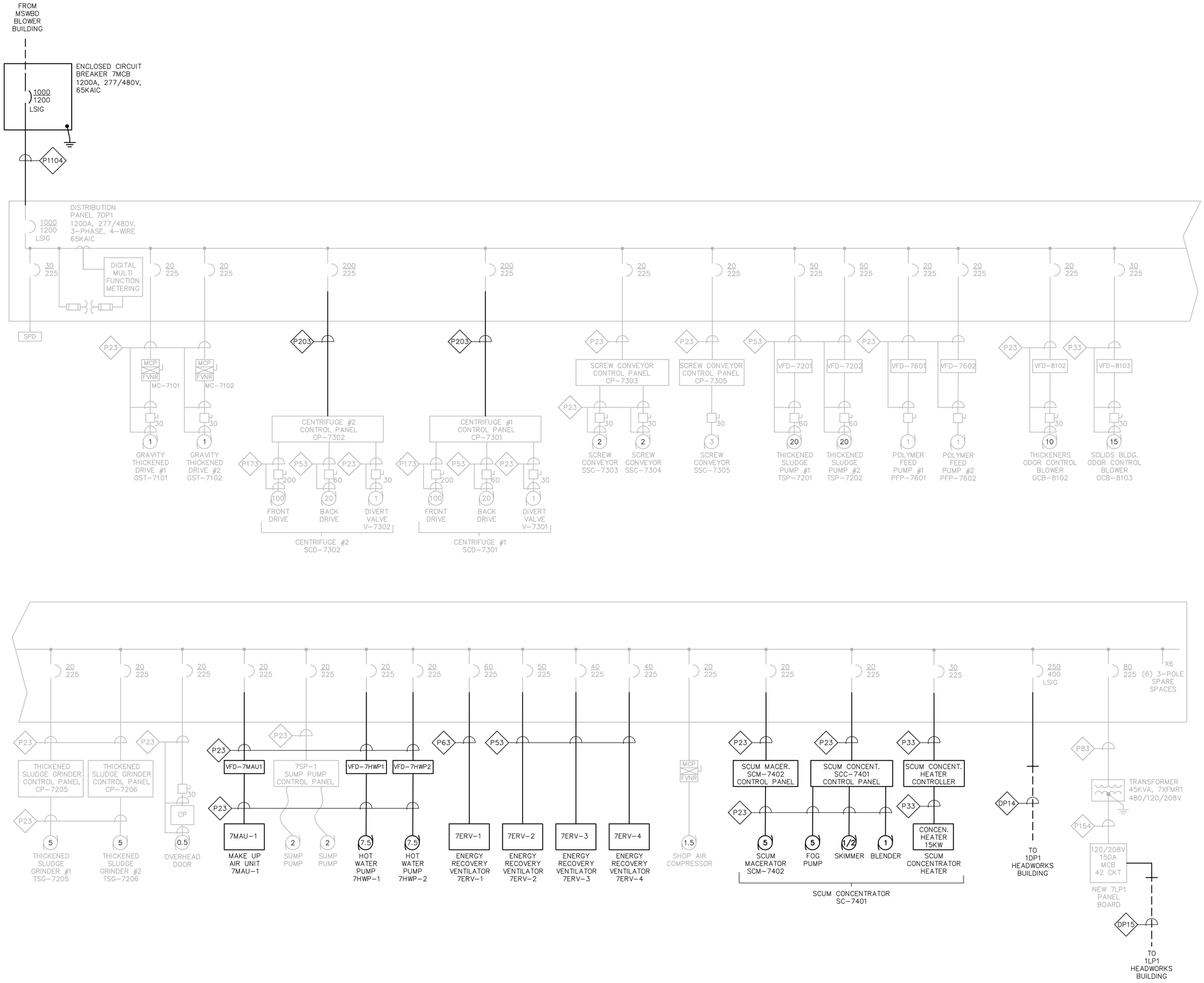
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.11



SOLIDS HANDLING BUILDING ONE LINE DIAGRAM

NOT TO SCALE

6/30/2021 10:18 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\18009.00 ELEC ONE LINE - PHASE 1.DWG (BETA STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
SOLIDS HANDLING
BUILDING
ONE LINE DIAGRAM

NO.	REVISIONS	DATE

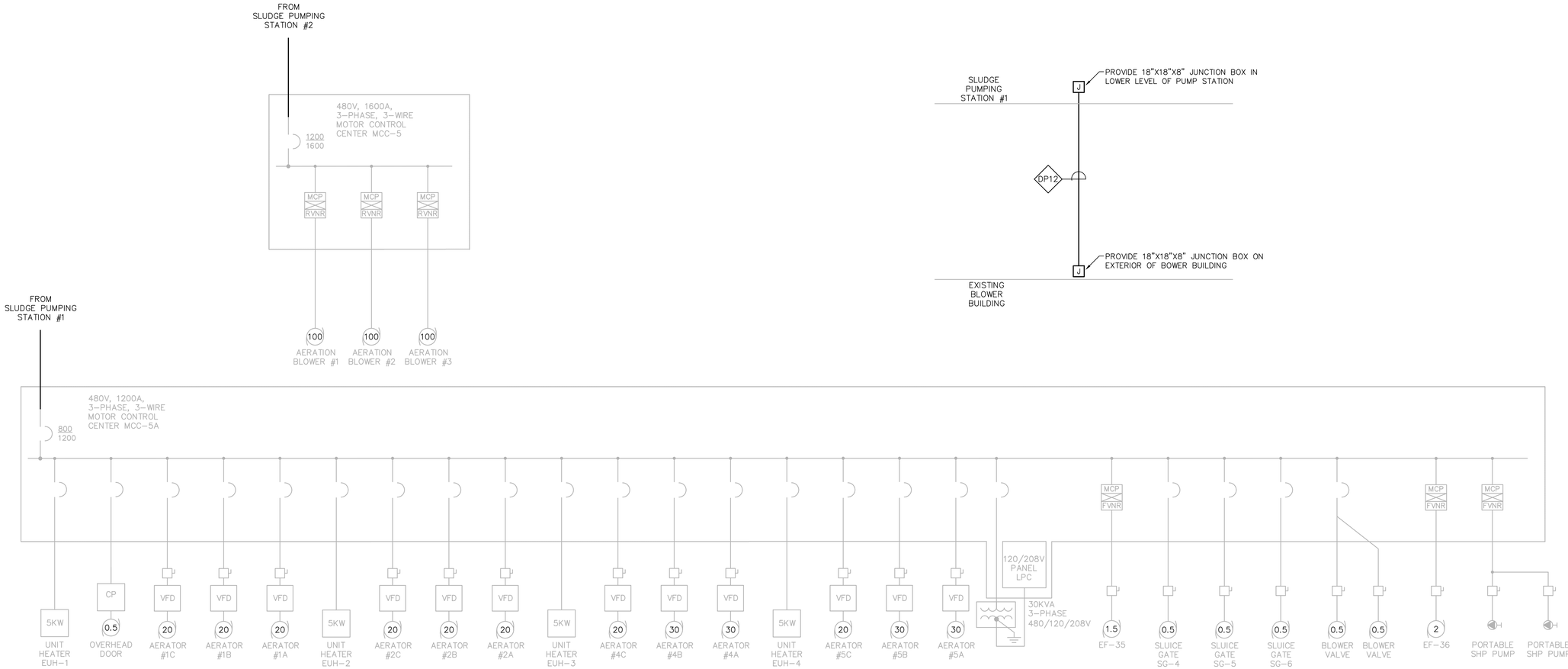
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.12



EXISTING BLOWER BUILDING ONE LINE DIAGRAM

NOT TO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL
EXISTING BLOWER BUILDING
ONE LINE DIAGRAM

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-0.13

PANELBOARD SCHEDULE

NO. 1LP1 — LOCATION: HEADWORKS ELECTRICAL CABINET

120/208 V, 3 PH, 4 W, 100 A MAINS — 100 A SOLID NEUTRAL — 50 A MCB

10,000 AIC AT 120 V — 100 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) Aø	Bø	Cø	BREAKER TRIP	POLE		BREAKER POLE	TRIP	LOAD (KVA) Aø	Bø	Cø	DESCRIPTION OF LOAD	CIRCUIT	
1	HEADWORKS BLDG. INTERIOR LIGHTING	0.95			20	1		1	20	0.20			GAS DETECTION SYSTEM	2	
3	HEADWORKS BLDG. EXTERIOR LIGHTING		0.25		20	1		1	20		0.20		ENCLOSURE RECEPTACLE	4	*
5	HEADWORKD BLDG. RECEPTACLES			1.0	20	1		1	20			0.40	SAMPLER ENCLOSURE	6	*
7	LIME SILO SPARE 120VAC CIRCUIT	1.0			20	1		1	20	–			SPARE	8	
9	SPARE		–		20	1		1	20		–		SPARE	10	
11	SPARE			–	20	1		1	20			–	SPARE	12	
13	SPARE	–			20	1		1	20	–			SPARE	14	
15	SPARE		–		20	1		1	20		–		SPARE	16	
17	SPARE			–	20	1		1	20			–	SPARE	18	
19	SPARE	–			20	1		1	20	–			SPARE	20	
21	SPARE		–		20	1		1	20		–		SPARE	22	
23	SPARE			–	20	1		1	20			–	SPARE	24	
25	SPARE	–			20	1		1	20	–			SPARE	26	
27	SPARE		–		20	1		1	20		–		SPARE	28	
29	SPARE			–	20	1		1	20			–	SPARE	30	
SUB–TOTAL CONNECTED		0.95	0.25	1.00						0.20	–	–	SUB–TOTAL CONNECTED		
∗PROVIDE GFCI BREAKER															

SUB–TOTAL CONNECTED	KVA Aø =	1.15
SUB–TOTAL CONNECTED	KVA Bø =	0.25
SUB–TOTAL CONNECTED	KVA Cø =	1.00
TOTAL CONNECTED	KVA =	2.40

PANELBOARD SCHEDULE

NO. 2LP1 — LOCATION: PRIMARY PIPE GALLERY

120/208 V, 3 PH, 4 W, 100 A MAINS — 100 A SOLID NEUTRAL — 100 A MCB

10,000 AIC AT 120 V — 100 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) Aø	Bø	Cø	BREAKER TRIP	POLE		BREAKER POLE	TRIP	LOAD (KVA) Aø	Bø	Cø	DESCRIPTION OF LOAD	CIRCUIT	
1	PRIMARY GALLERY & EXTERIOR LIGHTING	0.8			20	1		1	20	0.2			FLOW METER	2	
3	PRIMARY GALLERY LIGHTING		0.7		20	1		1	20		0.4		LEVEL TRANSMITTERS	4	
5	PRIMARY GALLERY RECEPTACLES			1.0	20	1		1	20			1.15	HOT WATER UNIT HEATERS	6	
7	PRIMARY GALLERY RECEPTACLES	1.0			20	1		1	20	–			EXTERIOR RECEPTACLES	8	
9	CLARIFIER RECEPTACLES		0.8		20	1		1	20		1.0		RTU–2 SCADA CONTROL PANEL	10	*
11	CLARIFIER LIGHTING			0.85	20	1		1	20			–	SPARE	12	
13	SPARE	–			20	1		1	20	–			SPARE	14	
15	SPARE		–		20	1		1	20		–		SPARE	16	
17	SPARE			–	20	1		1	20			–	SPARE	18	
19	SPARE	–			20	1		1	20	–			SPARE	20	
21	SPARE		–		20	1		1	20		–		SPARE	22	
23	SPARE			–	20	1		1	20			–	SPARE	24	
25	SPARE	–			20	1		1	20	–			SPARE	26	
27	SPARE		–		20	1		1	20		–		SPARE	28	
29	SPARE			–	20	1		1	20			–	SPARE	30	
31	SPARE	–			20	1		1	20	–			SPARE	32	
33	SPARE		–		20	1		1	20		–		SPARE	34	
35	SPARE			–	20	1		1	20			–	SPARE	36	
37	SPARE	–			20	1		1	20	–			SPARE	38	
39	SPARE		–		20	1		1	20		–		SPARE	40	
41	SPARE			–	20	1		1	20			–	SPARE	42	
SUB–TOTAL CONNECTED		–	–	–						–	–	–	SUB–TOTAL CONNECTED		
∗PROVIDE GFCI BREAKER															

SUB–TOTAL CONNECTED	KVA Aø =	–
SUB–TOTAL CONNECTED	KVA Bø =	–
SUB–TOTAL CONNECTED	KVA Cø =	–
TOTAL CONNECTED	KVA =	–

PANELBOARD SCHEDULE

NO. 5LP1 — LOCATION: CHEMICAL HANDLING BUILDING

120/208 V, 3 PH, 4 W, 100 A MAINS — 100 A SOLID NEUTRAL — 100 A MCB

10,000 AIC AT 120 V — 100 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) Aø	Bø	Cø	BREAKER TRIP	POLE		BREAKER POLE	TRIP	LOAD (KVA) Aø	Bø	Cø	DESCRIPTION OF LOAD	CIRCUIT	
1	UPPER LEVEL & EXTERIOR LIGHTING	0.82			20	1		1	20	0.40			FLOW METERS	2	
3	LOWER LEVEL LIGHTING		0.55		20	1		1	20		0.40		ANALIZERS	4	
5	UPPER LEVEL RECETPACLES			–	20	1		1	20			1.0	RTU–5 SCADA CONTROL PANEL	6	
7	LOWER LEVEL RECEPTACLES	–			20	1		1	20	0.20			SANITARY LEVEL TRANSMITTER	8	
9	FIRE ALARM CONTROL PANEL		0.50		20	1		1	20		0.30		NaOCl LEVEL TRANSMITTER & FILL STATION	10	
11	CHEMICAL ROOM RECEPTACLES			0.40	20	1		1	20			0.30	NaHSO LEVEL TRANSMITTER & FILL STATION	12	
13	LOWER LEVEL RECEPTACLES	1.20			20	1		1	20	1.0			NaOCL PUMP #1 & NaHSO PUMP #1	14	
15	UPPER LEVEL RECEPTACLES		0.60		20	1		1	20		1.0		NaOCL PUMP #2 & NaHSO PUMP #2	16	
17	UPPER LEVEL RECEPTACLES			1.0	20	1		1	20			0.10	EYEWASH/SHOWER ALARMS	18	
19	ROOFTOP RECEPTACLES	0.30			20	1		1	20	–			SPARE	20	
21	EXHAUST FAN 5EF–1		0.69		20	1		1	20		–		SPARE	22	
23	EXHAUST FAN 5EF–2			0.69	20	1		1	20			–	SPARE	24	
25	STAFF ROOM RECEPTACLES	0.80			20	1		1	20	–			SPARE	26	
27	STAFF ROOM RECEPTACLES		0.80		20	1		1	20		–		SPARE	28	
29	SPARE			–	20	1		1	20			–	SPARE	30	
31	SPARE	–			20	1		1	20	–			SPARE	32	
33	SPARE		–		20	1		1	20		–		SPARE	34	
35	SPARE			–	20	1		1	20			–	SPARE	36	
37	SPARE	–			20	1				2.0				38	
39	SPARE		–		20	1		3	50		2.0		EXISTING PANELBOARD AT CHLORINE CONTACT CHAMBER	40	
41	SPARE			–	20	1						2.0		42	
SUB–TOTAL CONNECTED		–	–	–						–	–	–	SUB–TOTAL CONNECTED		
∗PROVIDE GFCI BREAKER															

SUB–TOTAL CONNECTED	KVA Aø =	–
SUB–TOTAL CONNECTED	KVA Bø =	–
SUB–TOTAL CONNECTED	KVA Cø =	–
TOTAL CONNECTED	KVA =	–

PANELBOARD SCHEDULE

NO. 6LP1 — LOCATION: BLOWER BUILDING

120/208 V, 3 PH, 4 W, 100 A MAINS — 100 A SOLID NEUTRAL — 100 A MCB

10,000 AIC AT 120 V — 100 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) Aø	Bø	Cø	BREAKER TRIP	POLE		BREAKER POLE	TRIP	LOAD (KVA) Aø	Bø	Cø	DESCRIPTION OF LOAD	CIRCUIT	
1	LIGHTING	0.70			20	1		1	20	1.0			RTU–3 SCADA CONTROL PANEL	2	
3	BLOWER RM. RECEPTACLES		1.0		20	1		1	20		–		SPARE	4	
5	ELEC RM RECEPTACLES			0.40	20	1		1	20			–	SPARE	6	
7	FIRE ALARM CONTROL PANEL	0.50			20	1		1	20	–			SPARE	8	
9	ROOFTOP LIGHTING AND RECEPTACLES		0.30		20	1		1	20		–		SPARE	10	
11	SPARE			–	20	1		1	20			–	SPARE	12	
13	SPARE	–			20	1		1	20	–			SPARE	14	
15	SPARE		–		20	1		1	30		–		SPARE	16	
17	SPARE			–	20	1		1	30			–	SPARE	18	
19	SPARE	–			20	1		1	30	–			SPARE	20	
21	SPARE		–		20	1		1	30		–		SPARE	22	
23	SPARE			–	20	1		1	20			–	SPARE	24	*
25	SPARE	–			20	1		1	20	–			SPARE	26	*
27	SPARE		–		20	1		1	20		–		SPARE	28	
29	SPARE			–	20	1		1	20			–	SPARE	30	
31	SPARE	–			20	1		1	20	–			SPARE	32	
33	SPARE		–		20	1		1	20		–		SPARE	34	
35	SPARE			–	20	1		1	20			–	SPARE	36	
37	SPARE	–			20	1		1	20	–			SPARE	38	
39	SPARE		–		20	1		1	30		–		SPARE	40	
41	SPARE			–	20	1		1	30			–	SPARE	42	
43	GENERATOR #1 BLOCK JACKET HEATER	2.0			30	2		1	20	1.0			GENERATOR #1 ALTERNATOR HEATER	44	
45			2.0					1	20		0.5		GENERATOR #1 BATTERY CHARGER	46	
47	GENERATOR #2 BLOCK JACKET HEATER			2.0	30	2		1	20			1.0	GENERATOR #2 ALTERNATOR HEATER	48	
49		2.0						1	20	0.5			GENERATOR #2 BATTERY CHARGER	50	
51	GENERATOR #3 BLOCK JACKET HEATER		2.0		30	2		1	20		1.0		GENERATOR #3 ALTERNATOR HEATER	52	
53				2.0				1	20			0.5	GENERATOR #3 BATTERY CHARGER	54	
SUB–TOTAL CONNECTED		9.70	5.30	4.40						2.50	1.50	1.50	SUB–TOTAL CONNECTED		
∗PROVIDE GFCI BREAKER															

SUB–TOTAL CONNECTED	KVA Aø =	12.20
SUB–TOTAL CONNECTED	KVA Bø =	6.80
SUB–TOTAL CONNECTED	KVA Cø =	5.90
TOTAL CONNECTED	KVA =	24.90

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL PANELBOARD SCHEDULES

NO.	REVISIONS	DATE

DRAWN BY: RB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 7/2/21

BETA JOB NO.: 6050

SCALE

SHEET NO. E-0.14

PANELBOARD SCHEDULE

NO. 9LP1 – 1ST TUB — LOCATION: OPERATIONS BLDG. ELECTRIC ROOM

120/208 V, 3 PH, 4 W, 400 A MAINS — 400 A SOLID NEUTRAL — 250 A MCB

22,000 AIC AT 120 V — 400 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) A∅	LOAD (KVA) B∅	LOAD (KVA) C∅	BREAKER TRIP	BREAKER POLE	BREAKER POLE	BREAKER TRIP	LOAD (KVA) A∅	LOAD (KVA) B∅	LOAD (KVA) C∅	DESCRIPTION OF LOAD	CIRCUIT
1	1ST FLR LIGHTING	1.21			20	1	1	20	1.0			915 BREAK ROOM REFRIGATOR	2
3	1ST FLR LIGHTING		0.85		20	1	1	20		0.60		915 BREAK ROOM RECEPTACLES	4
5	1ST FLR LIGHTING			1.43	20	1	1	20			0.60	915 BREAK ROOM RECEPTACLES	6
7	911 CONTROL ROOM RECEPTACLES	1.20			20	1	1	20	1.40			911 CONTROL ROOM RECEPTACLES	8
9	1ST FLOOR CORRIDOR RECEPTACLES		1.0		20	1	1	20		0.80		922 OFFICE RECEPTACLES	10
11	924 FIRST AID RECEPTACLES			0.60	20	1	1	20			0.80	1ST FLOOR CORRIDOR RECEPTACLES	12
13	935 IND. WASTE OFFICE RECEPTACLES	0.80			20	1	1	20	1.20			934 PLANT SUPER RECEPTACLES	14
15	928 OFFICE RECEPTACLES		0.80		20	1	1	20		0.60		929 CONFERENCE RECEPTACLES	16
17	916 CHEMICAL LAB RECEPTACLES			0.60	20	1	1	20			0.80	916 CHEMICAL LAB RECEPTACLES	18
19	916 CHEMICAL LAB RECEPTACLES	1.0			20	1	1	20	1.0			916 CHEMICAL LAB LAB HOOD	20
21	921 BACTERIOLOGY RECEPTACLES		0.80		20	1	1	20		1.0		921 BACTERIOLOGY RECEPTACLES	22
23	CABINET UNIT HEATERS			–	20	1	1	20			0.60	LOCKER RM RECEPTACLES	24
25	9DWH–1	0.25			20	1	1	20	–			RECIRC PUMPS	26
27	916 CHEMICAL LAB REFRIGERATOR		0.80		20	1	1	20		0.50		FIRE ALARM CONTROL PANEL	28
29	BOILER CONTROL PANEL			0.50	20	1	1	20			0.60	BOILER ROOM RECETPACLES	30
31	SCADA CONTROL PANEL MTU–CP	0.50			20	1	2	20	1.4			BOILER	32
33	9DWH–2		2.25		X	2				1.4			34
35				2.25			2	20			0.45	HEAT PUMPS	36
37		–							0.45				38
39	PANELBOARD 2LP1		–		100	3	2	20		0.50		HEAT PUMPS	40
41				–							0.50		42

∗PROVIDE GFCI BREAKER

PANELBOARD SCHEDULE

NO. 9LP1 – 2ND TUB — LOCATION: OPERATIONS BLDG. ELECTRIC ROOM

120/208 V, 3 PH, 4 W, 400 A MAINS — 400 A SOLID NEUTRAL — – A MCB

22,000 AIC AT 120 V — 400 A GROUND BUS — 400 A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) A∅	LOAD (KVA) B∅	LOAD (KVA) C∅	BREAKER TRIP	BREAKER POLE	BREAKER POLE	BREAKER TRIP	LOAD (KVA) A∅	LOAD (KVA) B∅	LOAD (KVA) C∅	DESCRIPTION OF LOAD	CIRCUIT
43	SITE LIGHTING – NEW S1 FIXTURES & EXISTING SPOT LIGHT	1.25			20	1	1	20	0.50			ROOFTOP RECEPTACLES	44
45	SITE LIGHTING – EXISTING HIGH MAST FIXTURES		1.5		20	1	1	20		0.90		LOWER LEVEL LIGHTING	46
47				1.5			1	20			0.50	WASHER	48
49	DISHWASHER	1.2			20	1	2	30	2.5			DRYER	50
51	EQUIPMENT RACK POWER		0.40		20	1				2.5			52
53	930/931 MENS/WOMENS RESTROOMS RECEPTACLES			0.40	20	1	1	20			–	SPARE	54
55	SPARE	–			20	1	1	20	–			SPARE	56
57	SPARE		–		20	1	1	20		–		SPARE	58
59	SPARE			–	20	1	1	20			–	SPARE	60
61	SPARE	–			20	1	1	20	–			SPARE	62
63	SPARE		–		20	1	1	20		–		SPARE	64
65	SPARE			–	20	1	1	20			–	SPARE	66
67	SPARE	–			20	1	1	20	–			SPARE	68
69	SPARE		–		20	1	1	20		–		SPARE	70
71	SPARE			–	20	1	1	20			–	SPARE	72
77	SPARE	–			20	1	1	20	–			SPARE	74
75	SPARE		–		20	1	1	20		–		SPARE	76
77	SPARE			–	20	1	1	20			–	SPARE	78
79	SPARE	–			20	1	1	20	–			SPARE	80
81	SPARE		–		20	1	1	20		–		SPARE	82
83	SPARE			–	20	1	1	20			–	SPARE	84
SUB–TOTAL CONNECTED		7.66	8.40	7.28					9.45	8.80	4.38	SUB–TOTAL CONNECTED	

∗PROVIDE GFCI BREAKER

SUB–TOTAL CONNECTED	KVA A∅ =	17.11
SUB–TOTAL CONNECTED	KVA B∅ =	17.20
SUB–TOTAL CONNECTED	KVA C∅ =	11.66
TOTAL CONNECTED	KVA =	45.97

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL PANELBOARD SCHEDULES

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO. E-0.15

POWER CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE*	CONDUCTORS*	GND*
P22	3/4"	(2)#12	(1)#12
P23	3/4"	(3)#12	(1)#12
P26	3/4"	(6)#12	(1)#12
P32	3/4"	(2)#10	(1)#10
P33	3/4"	(3)#10	(1)#10
P53	3/4"	(3)#8	(1)#10
P54	3/4"	(4)#8	(1)#10
P63	1"	(3)#6	(1)#8
P64	1"	(4)#6	(1)#8
P83	1 1/4"	(3)#4	(1)#8
P84	1 1/4"	(4)#4	(1)#8
P103	1 1/2"	(3)#3	(1)#6
P104	1 1/2"	(4)#3	(1)#6
P113	1 1/2"	(3)#2	(1)#6
P114	1 1/2"	(4)#2	(1)#6
P133	2"	(3)#1	(1)#6
P134	2"	(4)#1	(1)#6
P153	2"	(3)#1/0	(1)#6
P154	2"	(4)#1/0	(1)#6
P173	2 1/2"	(3)#2/0	(1)#6
P174	2 1/2"	(4)#2/0	(1)#6
P203	2 1/2"	(3)#3/0	(1)#4
P204	2 1/2"	(4)#3/0	(1)#4
P233	3"	(3)#4/0	(1)#4
P234	3"	(4)#4/0	(1)#4
P253	3"	(3)250KCMIL	(1)#4
P254	3"	(4)250KCMIL	(1)#4
P404	4"	(4)500KCMIL	(1)#3
P804	(2)4"	(8)500KCMIL	(2)#1/0
P1104	(3)4"	(12)500KCMIL	(3)#2/0
P1604	(4)4"	(16)600KCMIL	(4)#4/0
P3604	(9)4"	(36)600KCMIL	(9)500KCMIL

SIGNAL CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
S	1"	VENDER PROVIDED
S1	3/4"	1-2/C#16 TSP
S13	3/4"	1-3/C#16 TSP
S2	3/4"	2-2/C#16 TSP
S23	3/4"	2-3/C#16 TSP
S3	1"	3-2/C#16 TSP
S33	1"	3-3/C#16 TSP
S4	1"	4-2/C#16 TSP
S5	1"	5-2/C#16 TSP
S6	1 1/2"	6-2/C#16 TSP
S7	1 1/2"	7-2/C#16 TSP
S8	1 1/2"	8-2/C#16 TSP
S9	1 1/2"	9-2/C#16 TSP
S10	2"	10-2/C#16 TSP
TC1	3/4"	8/C#18

TELE/DATA CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CABLES
TD1	1"	1-CAT6
TD2	1"	2-CAT6
FO6	1"	6 STRAND FIBER OPTIC
FO12	2"	12 STRAND FIBER OPTIC

CONTROL CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
C2	3/4"	2#14
C4	3/4"	4#14
C5	3/4"	5#14
C6	3/4"	6#14
C7	3/4"	7#14
C8	3/4"	8#14
C9	3/4"	9#14
C10	3/4"	10#14
C12	3/4"	12#14
C16	1"	16#14
C20	1"	20#14
C30	1"	30#14
C50	1 1/2"	50#14

NOTE: CONDUIT AND CONDUCTOR SIZES ARE TO BE PER THE ABOVE SCHEDULES UNLESS OTHERWISE NOTED.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG SERIES	LAMPS TYPE	LAMPS LUMENS	VOLTS	WATTS	MOUNTING TYPE	MOUNTING HEIGHT	REMARKS
F1	96" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L96-9000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	8124lm	120	54	PENDANT	13'-5"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	
F2	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-4000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	3615lm	120	24	PENDANT	13'-5"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	
F3	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-4000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	3615lm	120	24	SURFACE		
F4	CLASS I DIV.1 EXPLOSION PROOF LED GLOBE LIGHT FIXTURE	HUBBELL HLEML-45-30-X2-AN	LED 5000K	2880lm	120	45	PENDANT	12'-0"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	
F5	2x2 LED LIGHTING FIXTURE	LITHONIA 2BLT2-20L-33LHE-ADP-MVOLT	LED –	2065	120	26	RECESSED		
F6	2x2 LED LIGHTING FIXTURE	LITHONIA 2WRTL-G-L24-3000LM-OAW-AFL-120-EZ1-35K-90CRI	LED –	3000	120	26	RECESSED		
F7	LED FLOOD LIGHT KNUCKLE MOUNT WITH 1/2" THREADED PIPE	LITHONIA OFL1-LED-P1-40K-MVOLT-THK-M	LED 4000K	2295lm	120	21	PIPE		
W1	EXTERIOR BUILDING MOUNTED LED WALL PACK LIGHT FIXTURE	LITHONIA TWP-LED-20C-700-50K-T3M-120-PE-DDXB	LED 5000K	4233lm	120	45	WALL		FIXTURE CIRCUIT TO BE CONNECTED TO AND CONTROLLED BY A TIME CLOCK SWITCH
W2	EXTERIOR BUILDING MOUNTED LED MINI WALL PACK LIGHT FIXTURE	LITHONIA TWS-LED-P1-50K	LED 5000K	1476lm	120	25	WALL		FIXTURE CIRCUIT TO BE CONNECTED TO AND CONTROLLED BY A TIME CLOCK SWITCH
S1	LED SITE LIGHT FIXTURE WITH 12' SQUARE POLE TYPE 3 OPTICS, BRONZE COLOR	HUBBELL LIGHTING ASL-A-16L-5K-140-3-U-DB	LED 5000K	7410lm	120	56	POLE		MOUNTED ON 12' SQUARE STRAIGHT POLE WITH BASE COVER AND POLE CAP #SSS-H-12-40-A-1L-S2-DB-UL
	SELF CONTAINED EMERGENCY LIGHTING BATTERY UNIT NEMA 4 WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	–	120	8	WALL		INSTALL 3/4"C, 2#12, 1#12GND TO REMOTE HEADS
	SEALED-BEAM WEATHERPROOF REMOTE LIGHTING FIXTURE WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	–	120	8	WALL		
	EMERGENCY EXIT SIGN LED TYPE WITH BATTERY BACK-UP NEMA 4X	REFER TO SPECIFICATIONS	LED	–	120	3	WALL		

LIGHTING FIXTURE SCHEDULES NOTES:

1. THE CATALOG NUMBERS LISTED ARE GIVEN AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS, MATERIALS, DIMENSIONS, COEFFICIENT OF UTILIZATIONS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS WILL BE ACCEPTABLE.

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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

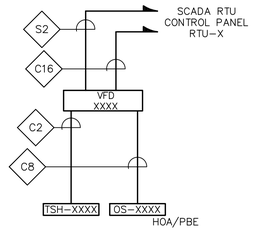
ELECTRICAL LIGHTING, & CABLE/CONDUIT SCHEDULES

NO.	REVISIONS	DATE

DRAWN BY: RB
DESIGNED BY: MC
CHECKED BY: MC
ISSUE DATE: 7/2/21
BETA JOB NO.: 6050

SCALE

SHEET NO. E-0.16

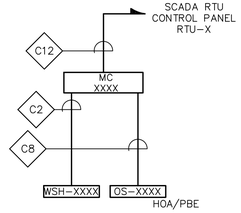


CONTROL BLOCK WIRING DIAGRAM
PRIMARY SLUDGE PUMPS

NOT TO SCALE

TYPICAL FOR:

- VFD-2201/OS-2201/TSH-2201 – RTU-2
- VFD-2202/OS-2202/TSH-2202 – RTU-2
- VFD-2203/OS-2203/TSH-2203 – RTU-2
- VFD-2204/OS-2204/TSH-2204 – RTU-2

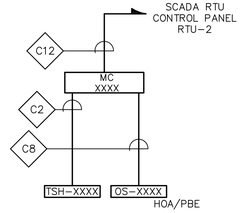


CONTROL BLOCK WIRING DIAGRAM
PRIMARY CLARIFIER DRIVES

NOT TO SCALE

TYPICAL FOR:

- MC-2101/OS-2101/WSH-2101 – RTU-2
- MC-2102/OS-2102/WSH-2102 – RTU-2
- MC-2103/OS-2103/WSH-2103 – RTU-2
- MC-2104/OS-2104/WSH-2104 – RTU-2

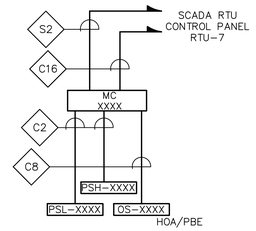


CONTROL BLOCK WIRING DIAGRAM
PRIMARY SCUM PUMPS

NOT TO SCALE

TYPICAL FOR:

- MC-2301/OS-2301/TSH-2301
- MC-2302/OS-2302/TSH-2302

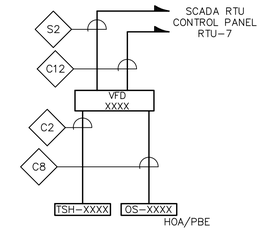


CONTROL BLOCK WIRING DIAGRAM
GRIT BLOWERS

NOT TO SCALE

TYPICAL FOR:

- MC-1201/OS-1201/PSL-1201/PSH-1201
- MC-1202/OS-1202/PSL-1202/PSH-1202

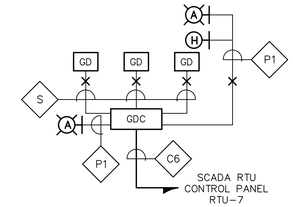


CONTROL BLOCK WIRING DIAGRAM
ODOR CONTROL BLOWER

NOT TO SCALE

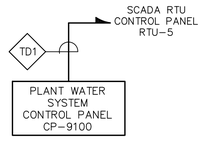
TYPICAL FOR:

- VFD-8101/OS-8101/TSH-8101



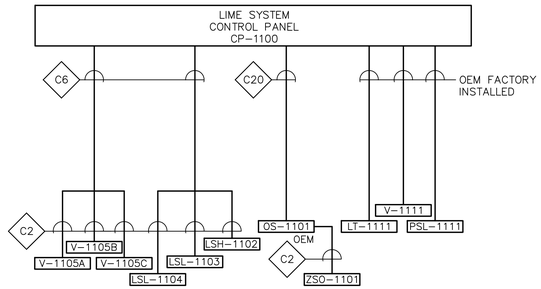
CONTROL BLOCK WIRING DIAGRAM
GAS DETECTION SYSTEM

NOT TO SCALE



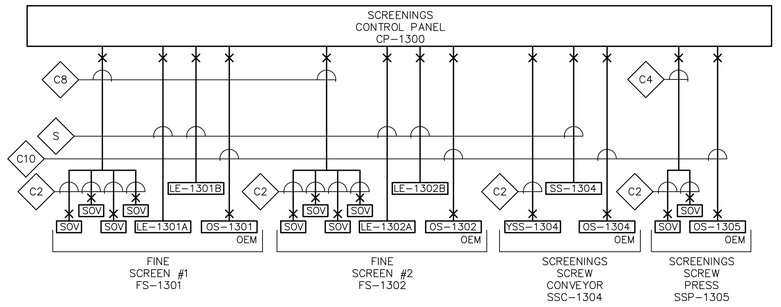
CONTROL BLOCK WIRING DIAGRAM
PLANT WATER SYSTEM

NOT TO SCALE



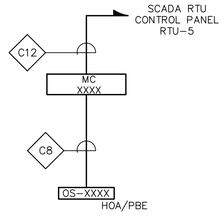
CONTROL BLOCK WIRING DIAGRAM
LIME SYSTEM

NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
HEAD WORKS SCREENINGS

NOT TO SCALE

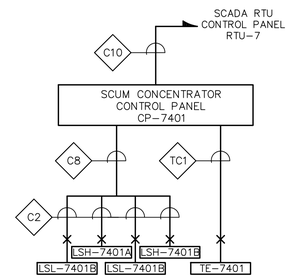


CONTROL BLOCK WIRING DIAGRAM
SANITARY WASTE PUMPS

NOT TO SCALE

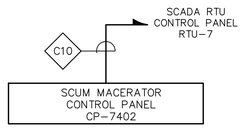
TYPICAL FOR:

- MC-9201/OS-9201
- MC-9202/OS-9202



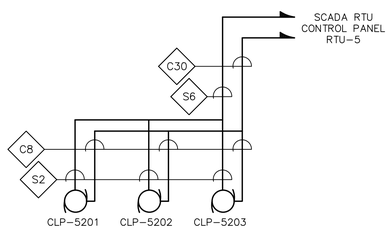
CONTROL BLOCK WIRING DIAGRAM
SCUM CONCENTRATOR

NOT TO SCALE



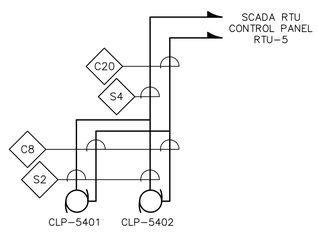
CONTROL BLOCK WIRING DIAGRAM
SCUM MACERATOR

NOT TO SCALE



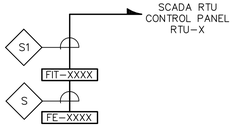
CONTROL BLOCK WIRING DIAGRAM
CHLOR. CHEMICAL FEED PUMPS

NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
DE-CHLOR. CHEMICAL FEED PUMPS

NOT TO SCALE

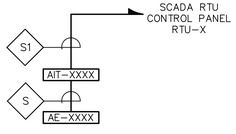


CONTROL BLOCK WIRING DIAGRAM
FLOW METERS

NOT TO SCALE

TYPICAL FOR:

- FE-2205/FIT-2205 – RTU-2
- FE-5502/FIT-5502 – RTU-5
- FE-5503/FIT-5503 – RTU-5

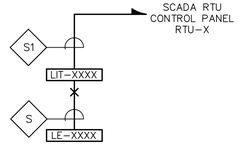


CONTROL BLOCK WIRING DIAGRAM
ANALYZERS

NOT TO SCALE

TYPICAL FOR:

- AE-5504/AIT-5504 – RTU-5
- AE-5505/AIT-5505 – RTU-5

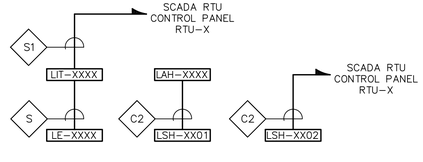


CONTROL BLOCK WIRING DIAGRAM
SCUM & SANITARY WELLS ULTRASONIC LEVEL TRANSMITTERS

NOT TO SCALE

TYPICAL FOR:

- LE-2303/LIT-2303 – RTU-2
- LE-2304/LIT-2304 – RTU-2
- LE-9203/LIT-9203 – RTU-5



CONTROL BLOCK WIRING DIAGRAM
CHEMICAL TANKS LEVEL MONITORING

NOT TO SCALE

TYPICAL FOR:

- LE-5101/LIT-5101/LSH-5101/LAH-5101/LSH-5102 – RTU-5
- LE-5301/LIT-5301/LSH-5301/LAH-5301/LSH-5302 – RTU-5

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL CONTROL BLOCK WIRING DIAGRAMS

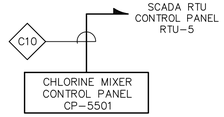
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

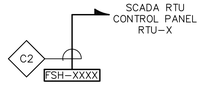
SHEET NO.

E-0.17



CONTROL BLOCK WIRING DIAGRAM
CHLORINE MIXER

NOT TO SCALE

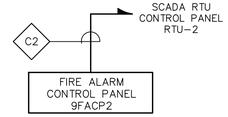


CONTROL BLOCK WIRING DIAGRAM
EMERGENCY EYEWASH/SHOWERS

NOT TO SCALE

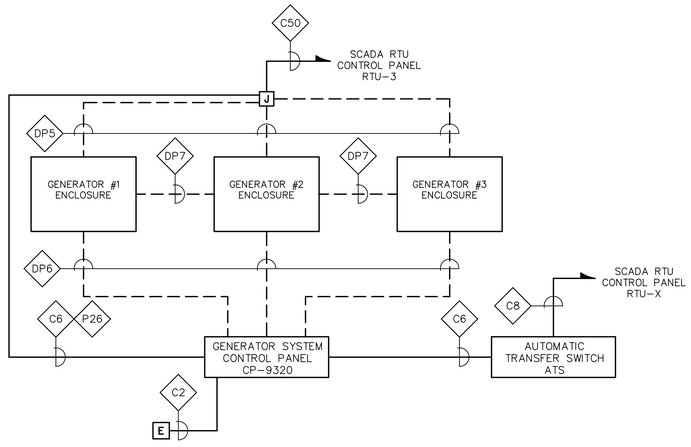
TYPICAL FOR:

- FSH-9301 – RTU-5
- FSH-9302 – RTU-5



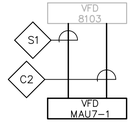
CONTROL BLOCK WIRING DIAGRAM
FIRE ALARM MONITORING

NOT TO SCALE



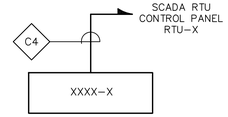
CONTROL BLOCK WIRING DIAGRAM
GENERATOR SYSTEM

NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
EXISTING ODOR CONTROL BLOWER VFD-8103

NOT TO SCALE

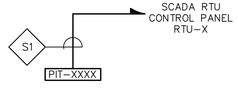


CONTROL BLOCK WIRING DIAGRAM
HVAC UNIT MONITORING

NOT TO SCALE

TYPICAL FOR:

- 2ERV-1 – RTU-2
- 2ERV-2 – RTU-2
- 9ERV-1 – RTU-2
- 3ERV-1 – RTU-3
- 5ERV-1 – RTU-5
- 7ERV-1 – RTU-7
- 7ERV-2 – RTU-7
- 7ERV-3 – RTU-7
- 7ERV-4 – RTU-7
- 7MAU-1 – RTU-7

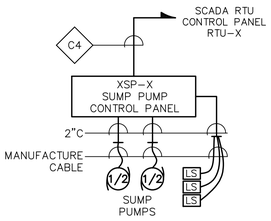


CONTROL BLOCK WIRING DIAGRAM
PRESSURE TRANSMITTERS

NOT TO SCALE

TYPICAL FOR:

- PIT-1203 – RTU-7
- PIT-1204 – RTU-7

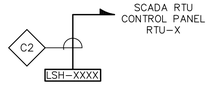


SUMP PUMP BLOCK WIRING DIAGRAM

NOT TO SCALE

TYPICAL FOR:

- 5SP-1 – RTU-5

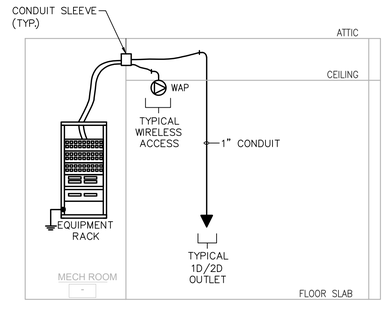


CONTROL BLOCK WIRING DIAGRAM
LEVEL SWITCHES

NOT TO SCALE

TYPICAL FOR:

- LSH-9350 – RTU-2
- LSH-9351 – RTU-2



NOTES:

1. REFER TO SPECIFICATION FOR RACEWAY REQUIREMENTS
2. REFER TO TECHNOLOGY PLAN DRAWINGS FOR QUANTITY OF TELE/DATA RACKS IN EACH ROOM

TECHNOLOGY RISER DIAGRAM

NOT TO SCALE

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL CONTROL BLOCK WIRING DIAGRAMS

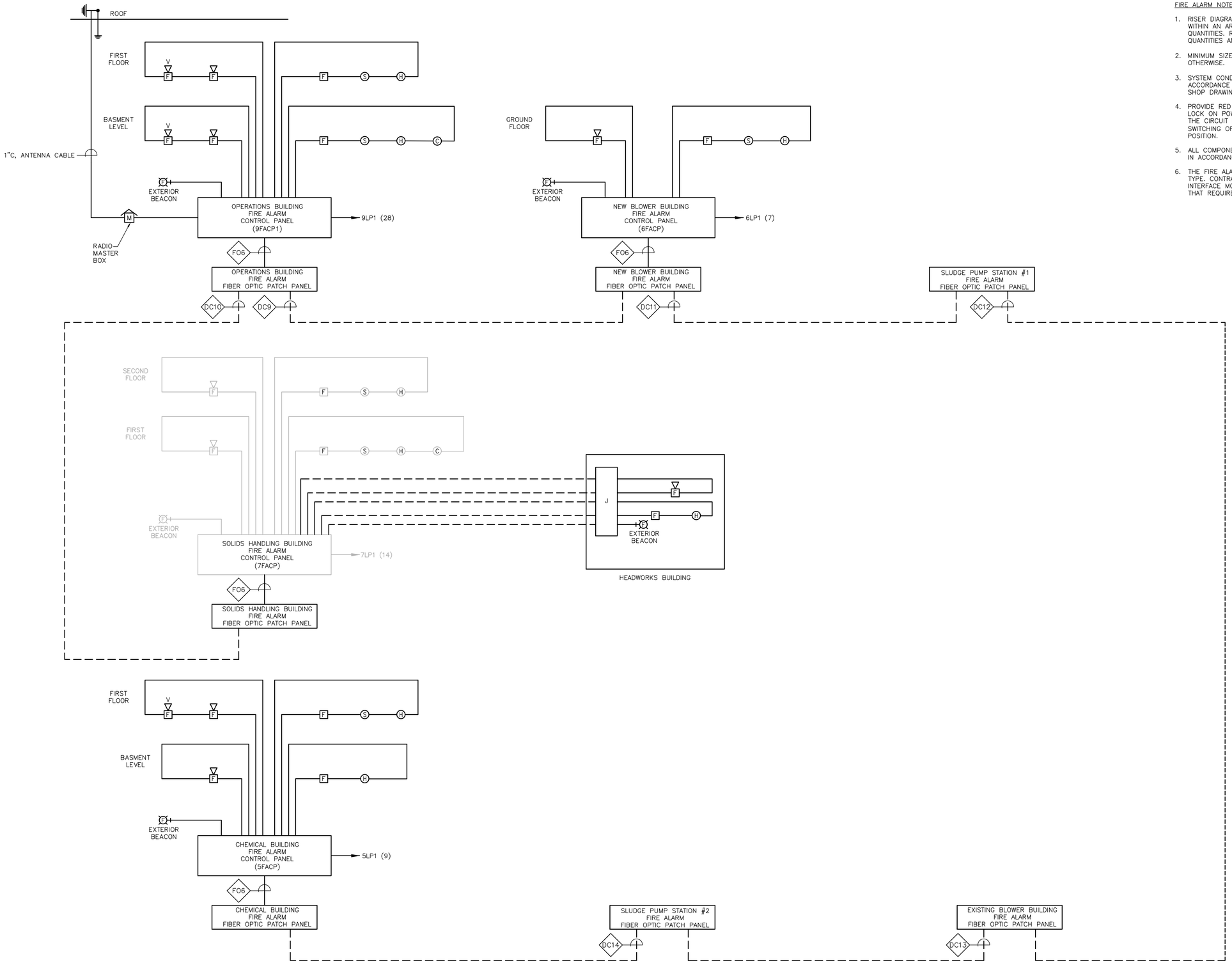
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO.

E-0.18



FIRE ALARM RISERS & PANEL INTERCONNECTION DIAGRAM

NOT TO SCALE

FIRE ALARM NOTES:

1. RISER DIAGRAM ONLY REPRESENTS TYPE OF DEVICES WITHIN AN AREA AND DOES NOT REPRESENT ACTUAL QUANTITIES. REFER TO PLAN DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF DEVICES.
2. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS NOTED OTHERWISE.
3. SYSTEM CONDUIT/CABLING SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT SUPPLIERS APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
4. PROVIDE RED COLORED CIRCUIT BREAKER HANDLE LOCK ON POWER CIRCUIT. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
5. ALL COMPONENTS OF THE SYSTEM SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS.
6. THE FIRE ALARM SYSTEM SHALL BE ADDRESSABLE TYPE. CONTRACTOR TO PROVIDE THE NECESSARY INTERFACE MODULES FOR THE FIRE ALARM DEVICES THAT REQUIRES THEM.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL FIRE ALARM RISERS & PANEL INTERCONNECTION DIAGRAM

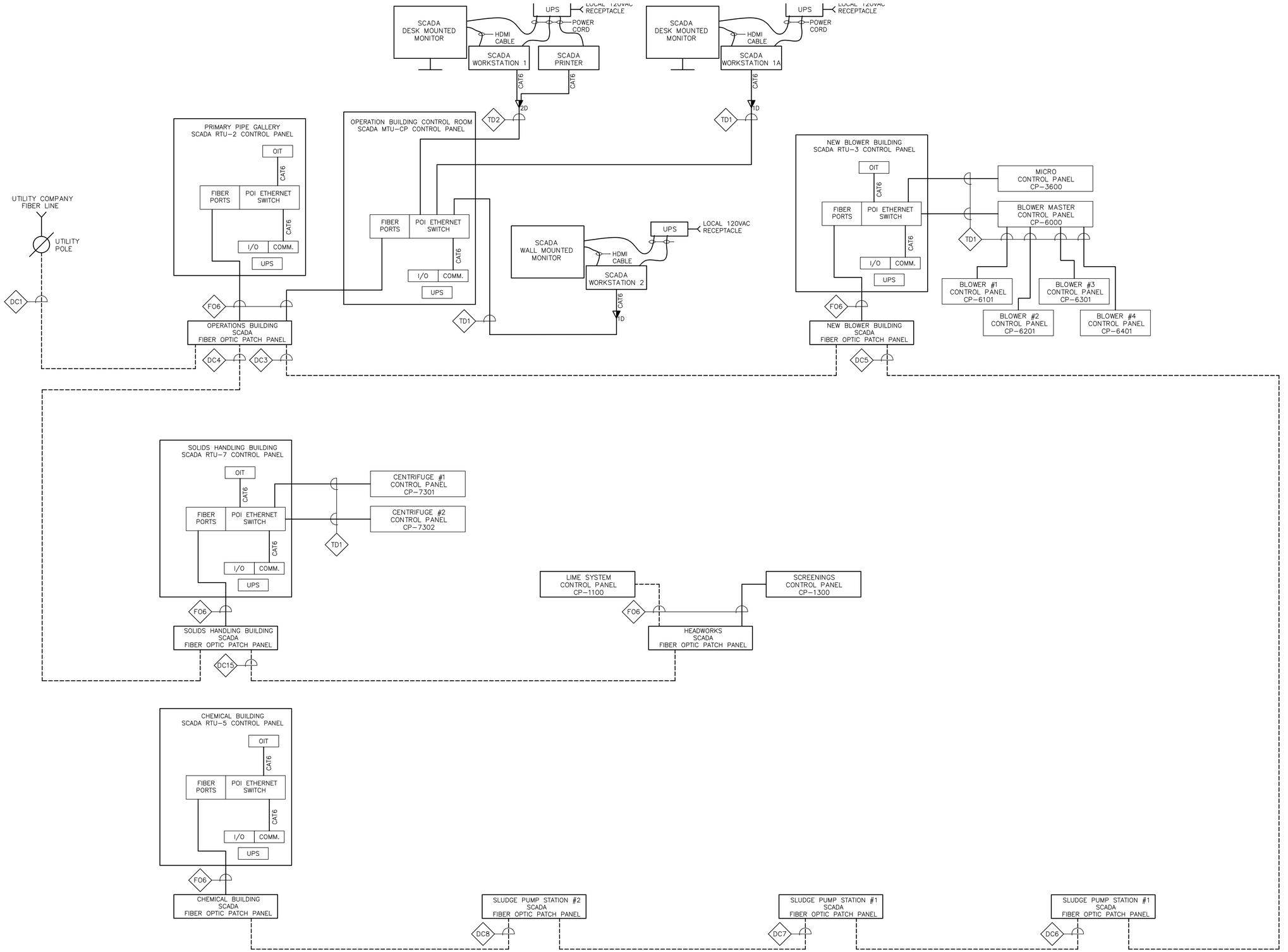
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO.

E-0.19



SCADA SYSTEM INTERCONNECTION DIAGRAM

NOT TO SCALE

6/30/2021 10:35 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\18009.00 ELEC DIAGRAMS AND DETAILS-PHASE 1.DWG (BETA STB.BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL SCADA PANEL INTERCONNECTION DIAGRAM

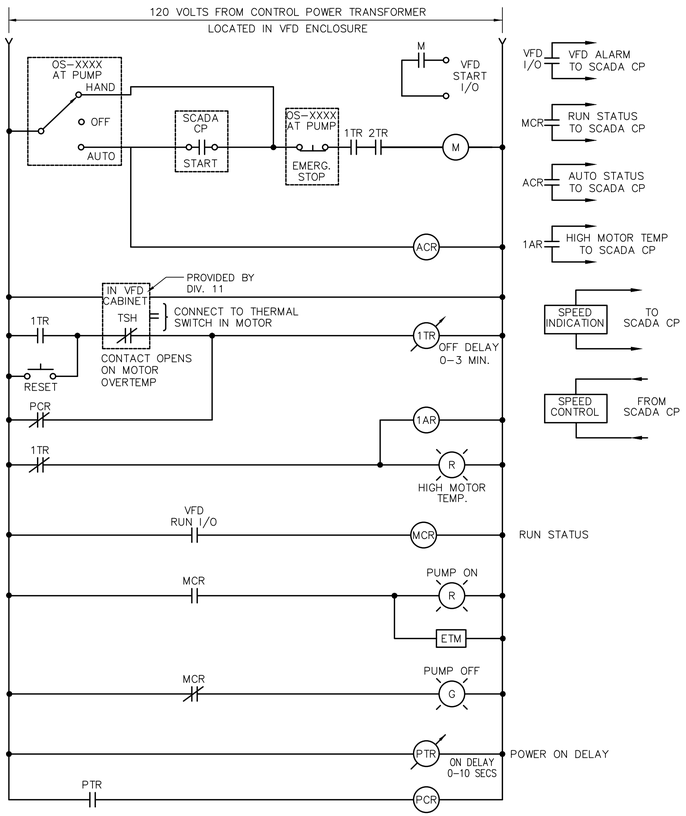
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

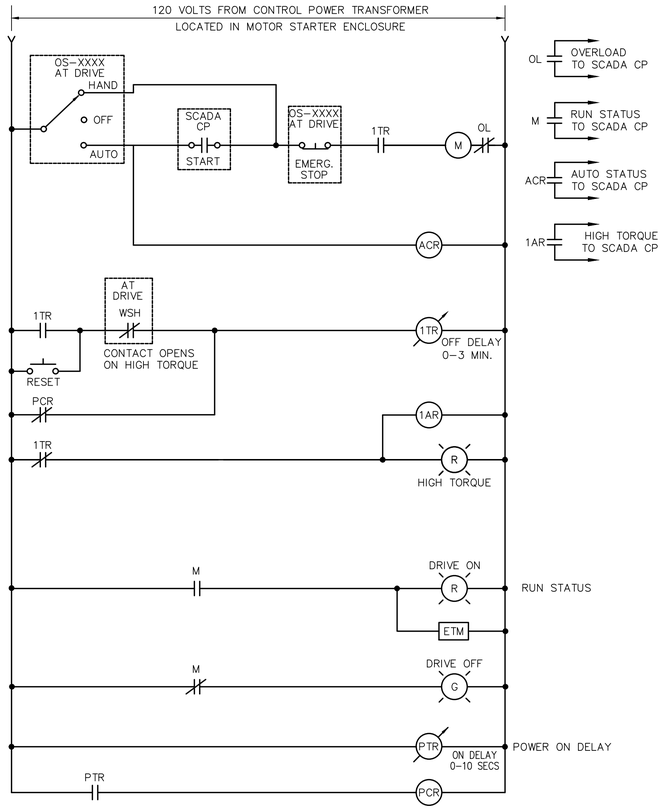
SCALE

SHEET NO.

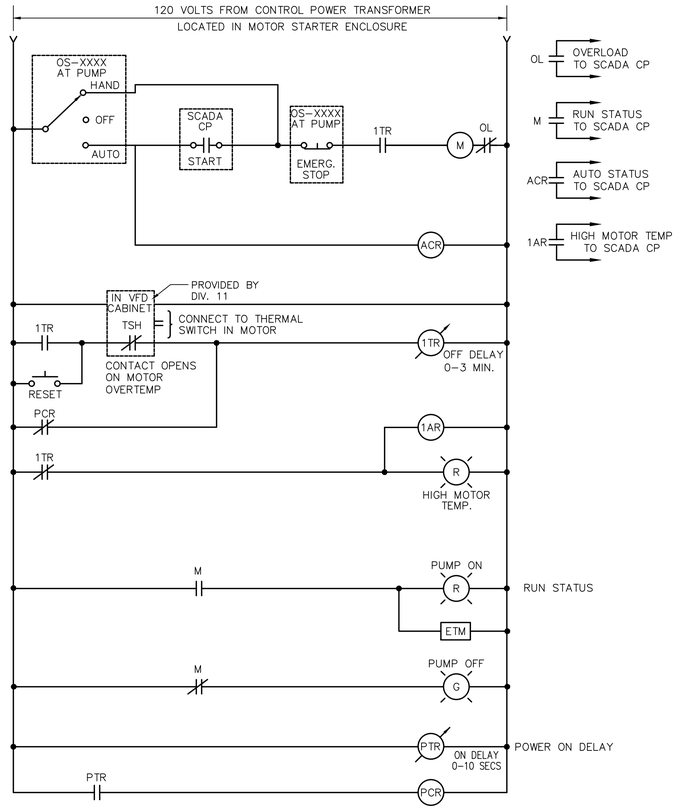
E-0.20



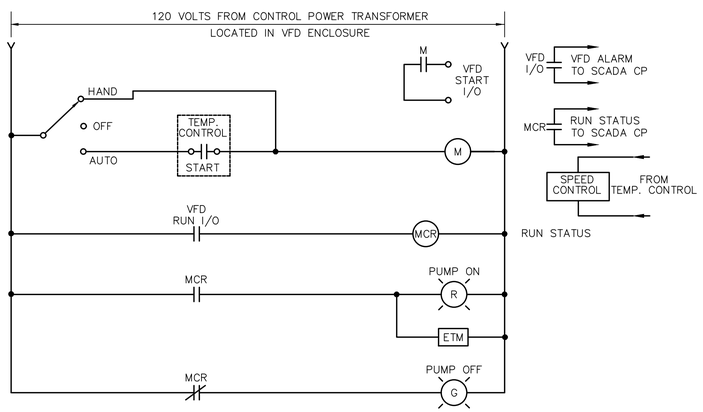
MOTOR CONTROL WIRING DIAGRAM
PRIMARY SLUDGE PUMPS
NOT TO SCALE



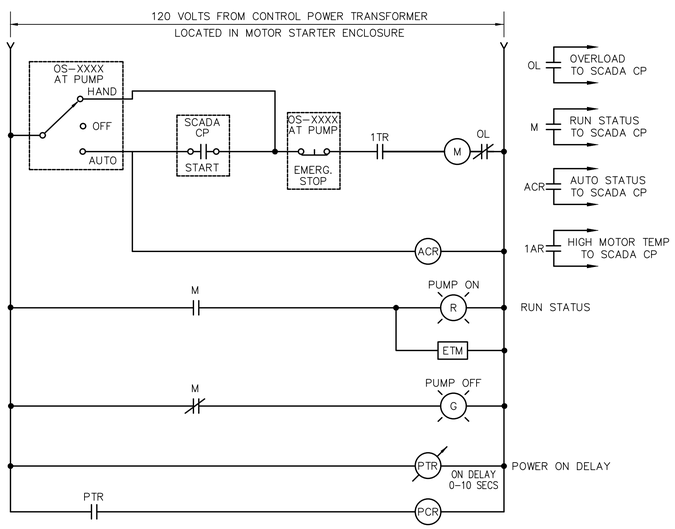
MOTOR CONTROL WIRING DIAGRAM
PRIMARY CLARIFIER DRIVES
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
PRIMARY SCUM PUMPS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
HOT WATER PUMPS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
SANITARY WASTE PUMPS
NOT TO SCALE

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL MOTOR CONTROL WIRING DIAGRAMS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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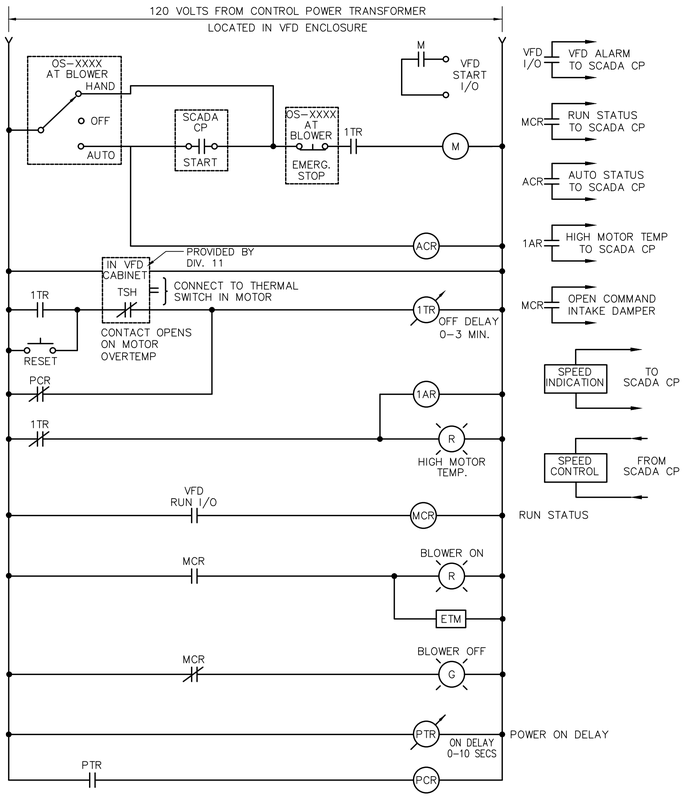
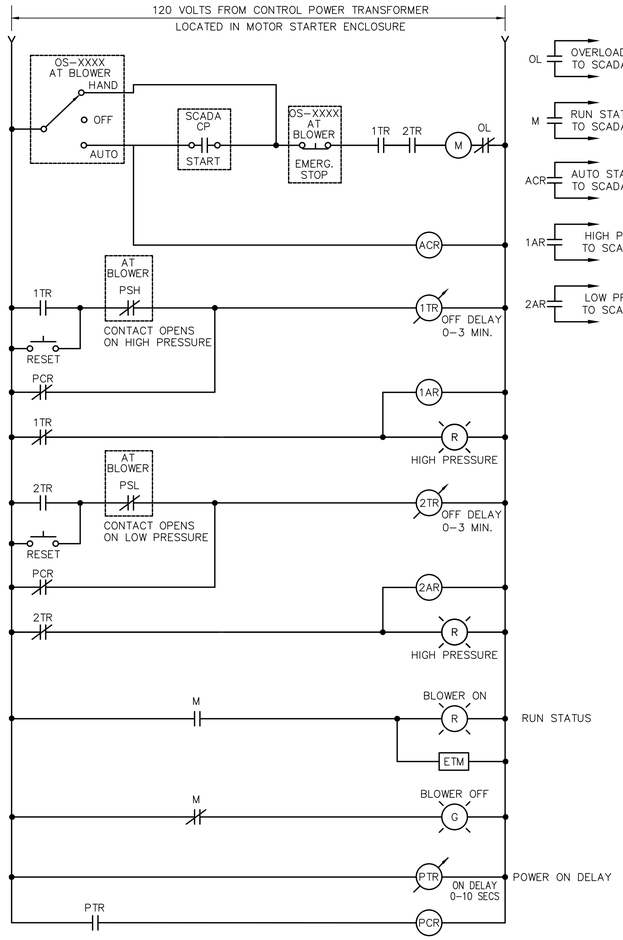
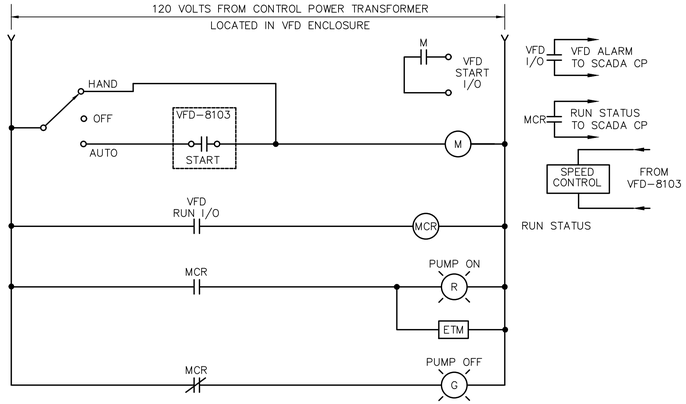
E-0.21



MOTOR CONTROL WIRING DIAGRAM
ODOR CONTROL BLOWERS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
GRIT BLOWERS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
7MAU-1
NOT TO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL MOTOR CONTROL WIRING DIAGRAMS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO.

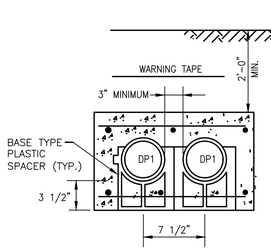
E-0.22

POWER DUCT / CABLE SCHEDULE

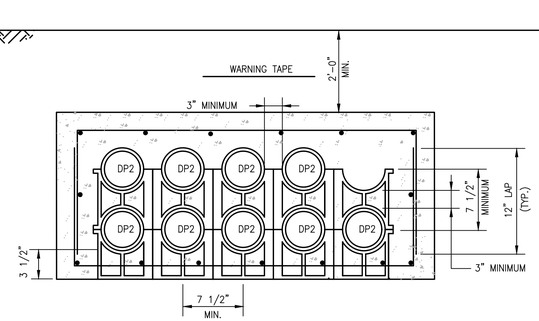
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
DP1	4"	(3) #4/0 AL 15KV CABLE	UTILITY POLE	UTILITY TRANSFORMER
DP2	4"	(4) 600kcmil	UTILITY TRANSFOMER	MCB
DP3	4"	(4) 600kcmil, #3/0 GND	GENERATOR	GSWBD1
DP4	1"	(4) #12, #12GND, (2) #10, #10GND	GENERATOR	6LP1
DP5	1"	(20) #14, (2) #12	GENERATOR	GENERATOR MASTER CONTROL PANEL, RTU-3
DP6	1"	(1) RS-485 CABLE	GENERATOR MASTER CONTROL PANEL	GENERATOR CONTROL PANEL
DP7	1"	(2) RS-485 CABLES	GENERATOR CONTROL PANEL	GENERATOR CONTROL PANEL
DP8	4"	(4) 350kcmil, #1 GND	MSWBD1	OPERATON BUILDING - 2DP1
DP9	4"	(4) 500kcmil, #2/0 GND	MSWBD1	SOLIDS HANDLING BUILDING - 7MCB
DP10	4"	(4) 350kcmil, #1 GND	MSWBD1	SLUDGE PUMPING STATION #1
DP11	5"	(4) 600kcmil, #3 GND	MSWBD1	SLUDGE PUMPING STATION #2
DP12	3"	PULL STRING FOR FUTURE FEEDER	SLUDGE PUMPING STATION #1	EXISTING BLOWER BUILDING
DP13	5"	(4) 600kcmil, #3 GND	MSWBD1	CHEMICAL HANDLING BUILDING - 5DP1

COMMUNICATION DUCT / CABLE SCHEDULE

DUCT NO.	SIZE	CONDUCTORS	FROM	TO
DC1	3"	FIBER OPTIC CABLE (SCADA)	UTILITY POLE	ADMINISTRATION BLDG. FIBER PATCH PANEL
DC2	3"	PULL STRING	UTILITY POLE	TELE/COM DEMARK BACKBOARD
DC3	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	ADMINISTRATION BLDG. FIBER PATCH PANEL	BLOWER BLDG. FIBER PATCH PANEL
DC4	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	ADMINISTRATION BLDG. FIBER PATCH PANEL	SLUDGE HANDLING BLDG. FIBER PATCH PANEL
DC5	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	BLOWER BLDG. FIBER PATCH PANEL	SLUDGE PUMPING STATION #1 FIBER PATCH PANEL
DC6	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	SLUDGE PUMPING STATION #1 FIBER PATCH PANEL	EXISTING BLOWER BUILDING FIBER PATCH PANEL
DC7	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	STORAGE BUILDING FIBER PATCH PANEL	SLUDGE PUMPING STATION #2 FIBER PATCH PANEL
DC8	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	SLUDGE PUMPING STATION #2 FIBER PATCH PANEL	CHEMICAL BLDG. FIBER PATCH PANEL
DC9	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	ADMINISTRATION BLDG. FIBER PATCH PANEL	BLOWER BLDG. FIBER PATCH PANEL
DC10	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	ADMINISTRATION BLDG. FIBER PATCH PANEL	SLUDGE HANDLING BLDG. FIBER PATCH PANEL
DC11	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	BLOWER BLDG. FIBER PATCH PANEL	SLUDGE PUMPING STATION #1 FIBER PATCH PANEL
DC12	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	SLUDGE PUMPING STATION #1 FIBER PATCH PANEL	EXISTING BLOWER FIBER PATCH PANEL
DC13	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	STORAGE BUILDING FIBER PATCH PANEL	SLUDGE PUMPING STATION #2 FIBER PATCH PANEL
DC14	3"	12 STRAND FIBER OPTIC CABLE (FIRE ALARM)	SLUDGE PUMPING STATION #2 FIBER PATCH PANEL	CHEMICAL BLDG. FIBER PATCH PANEL



SECTION A-A



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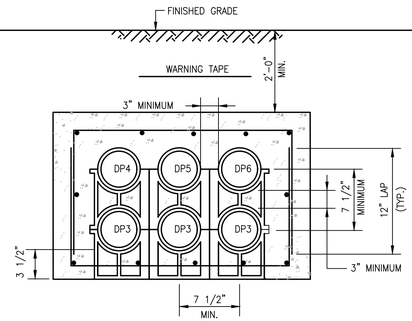

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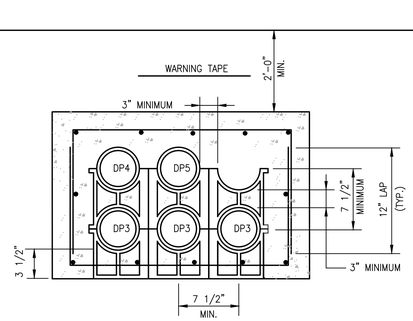

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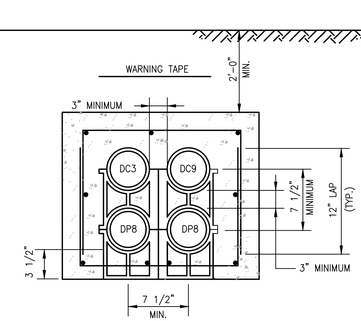

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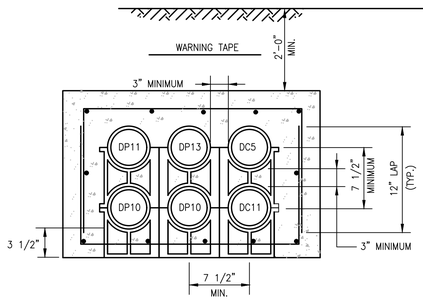

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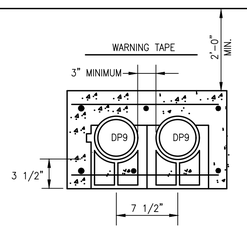

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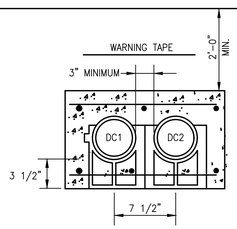

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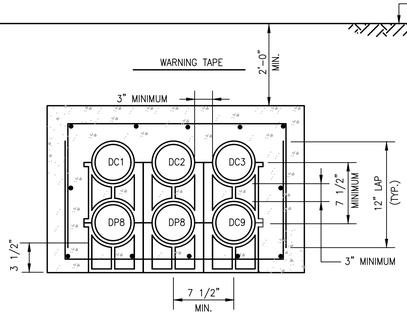

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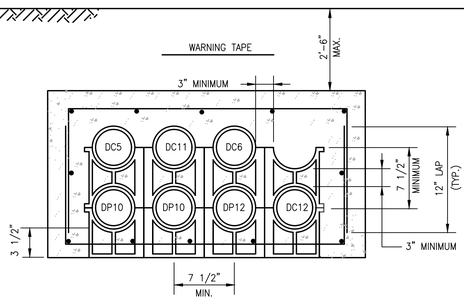
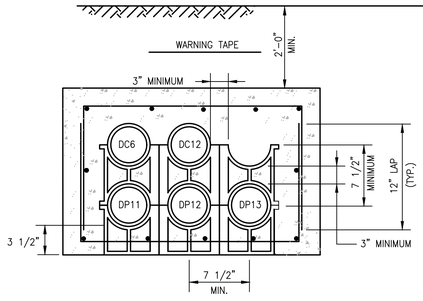
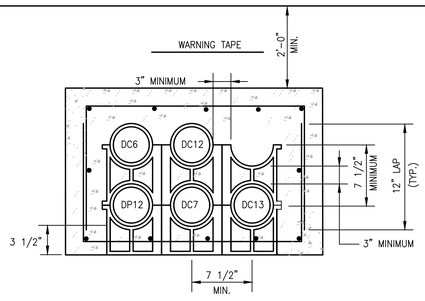


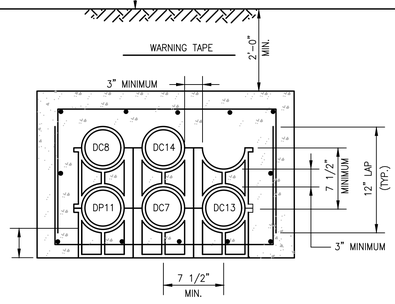
SECTION I-I



SECTION J-J



SECTION K-K



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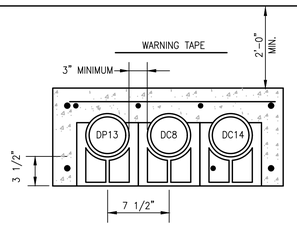
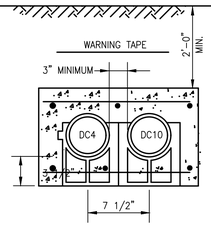


SECTION M-M



SECTION N-N

NOTES:

1. BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE RED DUCT BANK MARKER TAPES, READING "CAUTION – ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
2. A MINIMUM OF 12" SEPARATION SHALL BE KEPT BETWEEN DUCT BANK SECTIONS WITHIN SAME TRENCH.
3. A MINIMUM 3" OF CONCRETE SHALL KEPT BETWEEN CONDUITS AND THE PERIMETER OF ALL DUCTBANKS.

DUCTBANK SECTIONS - PART 1

NO SCALE

PREPARED BY

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REGISTERED PROFESSIONAL

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL DUCT BANK SECTIONS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO. E-0.23

POWER DUCT / CABLE SCHEDULE

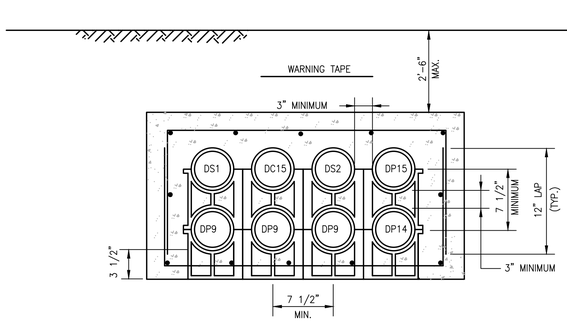
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
DP14	4"	(4) 250kcmil, #4 GND	7DP1	1DP1
DP15	2"	(4) #6, #10 GND	7LP1	1LP1

SCADA I/C DUCT / CABLE SCHEDULE

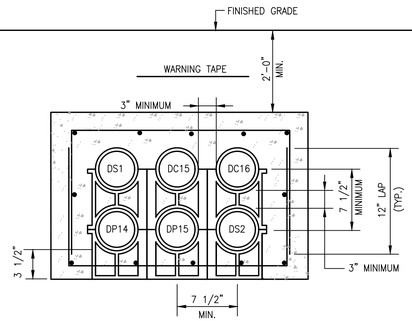
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
DS1	3"	(8) 2/C#16 TSP	HEADWORKS EQUIPMENT VIA ELECTRICAL ENCL.	RTU-7 SCADA CONTROL PANEL
DS2	3"	(60) #14	HEADWORKS EQUIPMENT VIA ELECTRICAL ENCL.	RTU-7 SCADA CONTROL PANEL

COMMUNICATION DUCT / CABLE SCHEDULE

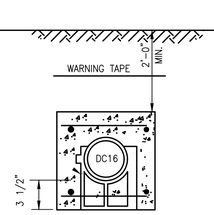
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
DC15	3"	12 STRAND FIBER OPTIC CABLE (SCADA)	SLUDGE HANDLING BLDG. FIBER PATCH PANEL	HEADWORKS ELECTRICAL ENCL. FIBER PATCH PANEL
DC16	3"	3-SECTION INNER DUCT WITH FIRE ALARM CABLING FOR DEVICE INITIATING AND AND DEVICE ALARM CIRCUITS	SLUDGE HANDLING BLDG. 7FACP	HEADWORKS BUILDING FIRE ALARM DEVICES



SECTION O-O



SECTION P-P



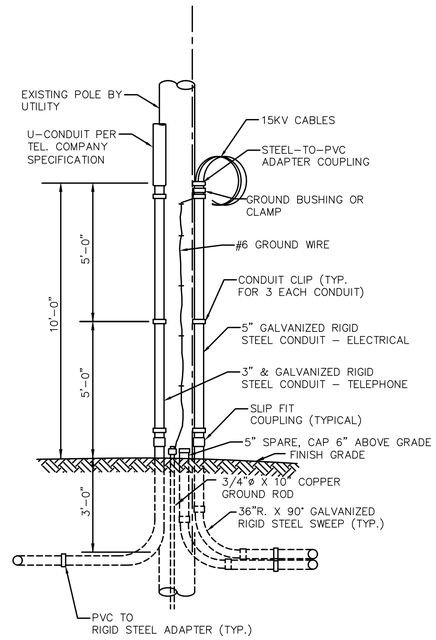
SECTION Q-Q

NOTES:

1. BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE RED DUCT BANK MARKER TAPES, READING "CAUTION – ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
2. A MINIMUM OF 12" SEPARATION SHALL BE KEPT BETWEEN DUCT BANK SECTIONS WITHIN SAME TRENCH.

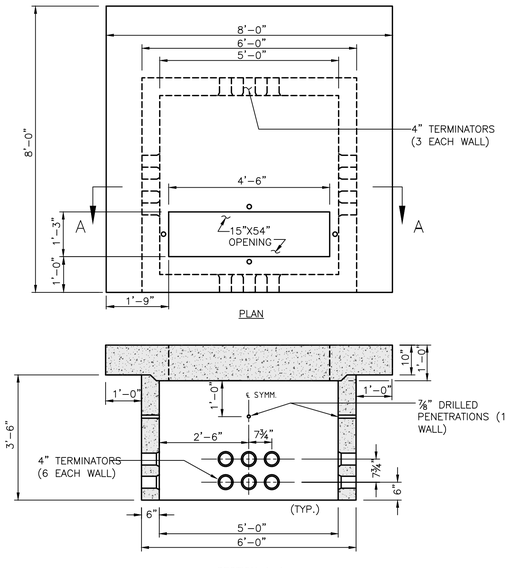
DUCTBANK SECTIONS - PART 2

NO SCALE



UTILITY POLE SERVICE RISER DETAIL

NOT TO SCALE



PLAN

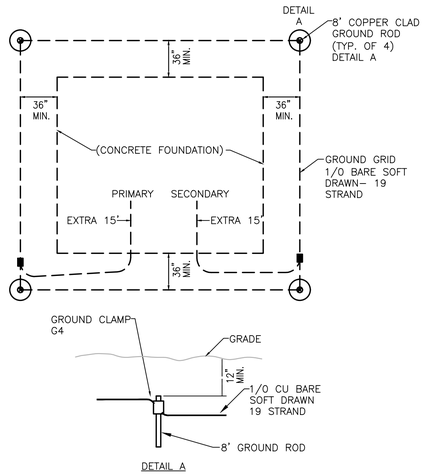
SECTION A–A

NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. DESIGN SPECIFICATIONS – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD.
4. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1½".
5. ALL TERMINATORS SHALL HAVE BELL ENDS FLUSH WITH THE INSIDE WALL.

TRANSFORMER PAD

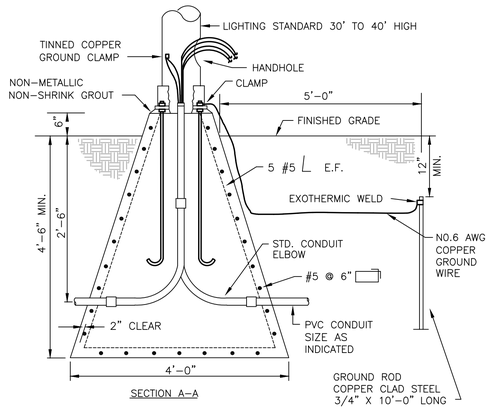
NO SCALE



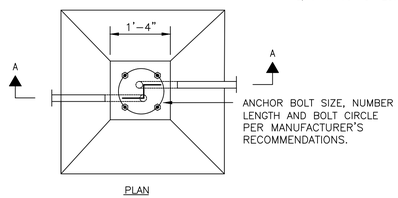
DETAIL A

PAD MOUNTED TRANSFORMER GROUNDING PLAN

NO SCALE



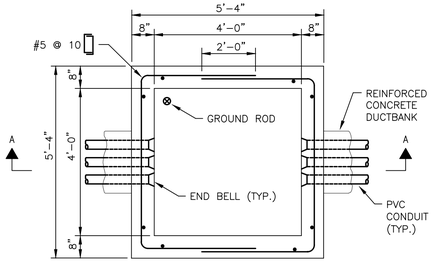
SECTION A–A



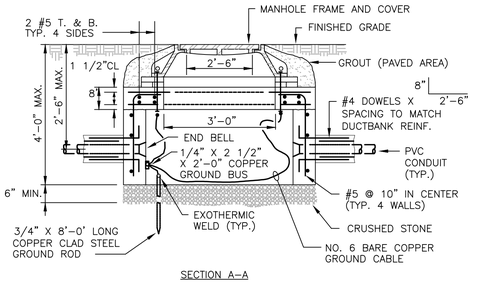
PLAN

UTILITY HANDHOLE DETAIL

NO SCALE



PLAN VIEW



SECTION A–A

NOTES:

1. CHIMNEY HEIGHT IS KEPT TO MINIMUM TO FACILITATE PLACING COMPLETED SPLICES IN HANDHOLE FROM ABOVE GRADE
2. CONCRETE PER SPECIFICATIONS WITH MINIMUM STRENGTH OF 5,000 PSI AT 28 DAYS
3. PROVIDE HANDHOLE FRAME, RING AND COVER.
4. REFER TO DUCTBANK SECTIONS FOR THE REQUIRED NUMBER OF CONDUIT ENTRANCES. PROVIDE CONDUIT ENTRY SPACE ON NON-USED SIDES FOR A MINIMUM (8) 4" FUTURE CONDUITS.

UTILITY HANDHOLE DETAIL

NO SCALE

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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No. 40599
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

ELECTRICAL DUCT BANK SECTIONS & SITE DETAILS

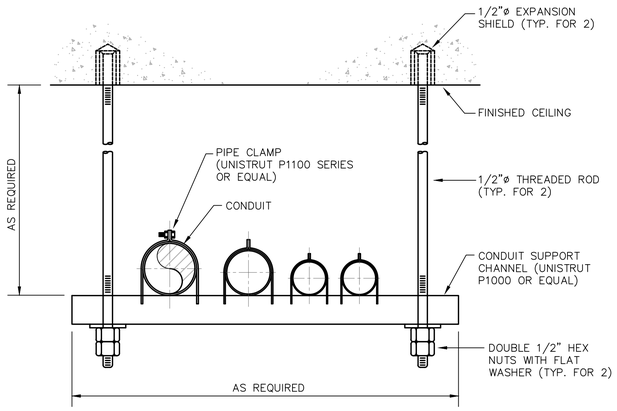
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

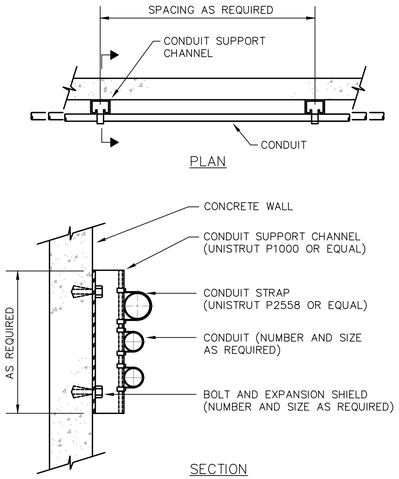
SHEET NO.

E-0.24



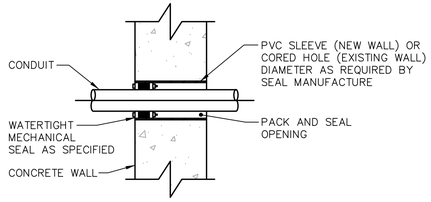
TYPICAL CONDUIT CEILING SUPPORT

NOT TO SCALE



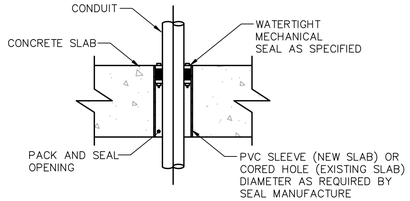
TYPICAL CONDUIT WALL SUPPORT

NOT TO SCALE



CONDUIT PENETRATION THROUGH NEW & EXISTING CONCRETE WALL

NOT TO SCALE

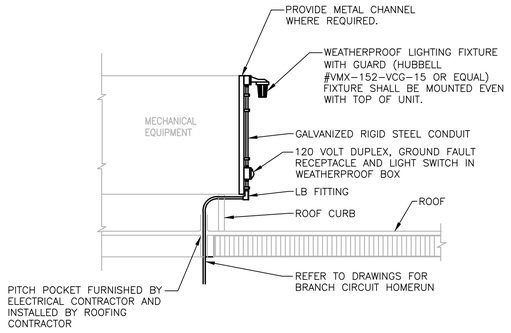


CONDUIT PENETRATION PASSING THROUGH NEW & EXISTING CONCRETE SLAB

NOT TO SCALE

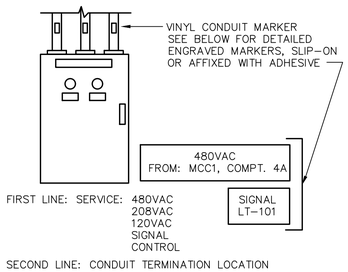
GENERAL NOTES:

1. ALL MOUNTING BRACKETS, SUPPORTS, FASTENERS, AND ECT. WITHIN THE WET WELL SHALL BE STAINLESS STEEL.



ROOFTOP LIGHT AND RECEPTACLE DETAIL

NOT TO SCALE



CONDUIT MARKER DETAIL

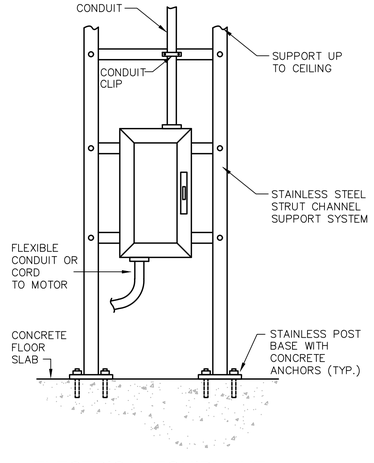
NOT TO SCALE

NOTES:

1. FOR REINFORCING REQUIREMENTS SEE STRUCTURAL SPECIFICATIONS.

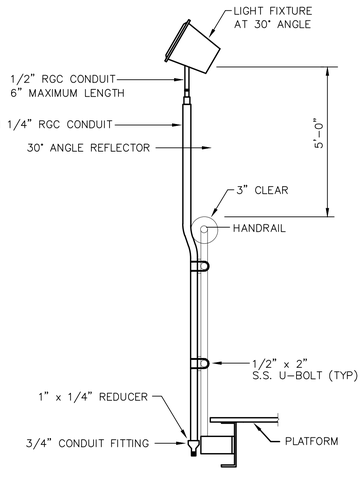
HEADWORKS ELECTRICAL ENCLOSURE BASE DETAIL

NOT TO SCALE



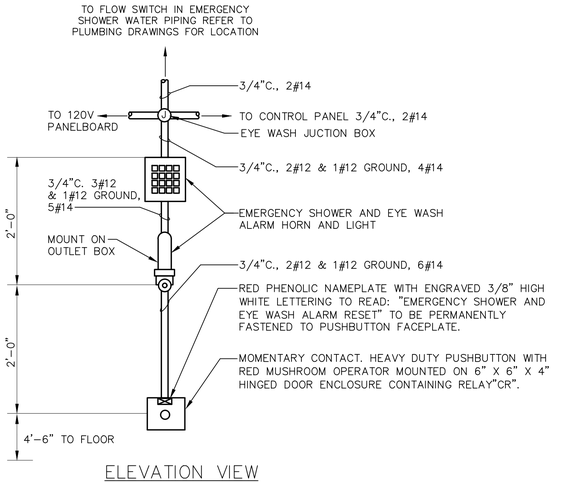
ELECTRICAL EQUIPMENT STANCHION MOUNTING DETAIL

NOT TO SCALE



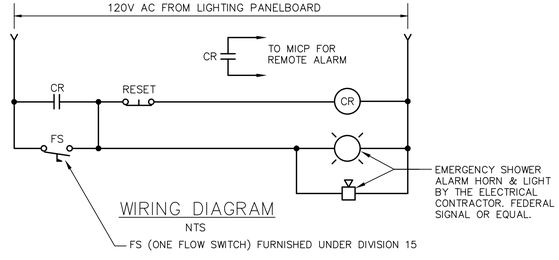
LIGHT FIXTURE AT CLARIFIERS RAIL MOUNTING DETAIL

NOT TO SCALE



ELEVATION VIEW

NOT TO SCALE



WIRING DIAGRAM

NTS

NOTE:
1. ALL EXPOSED SURFACES OF COMPONENTS SHALL HAVE A YELLOW ENAMEL FINISH, INCLUDING CONDUIT (WITHIN 10'-0" RADIUS OF THE STATION, BOXES, ENCLOSURE AND HORN GRILLE.

2. ALARM STATION TO BE MOUNTED OUTSIDE OF EACH CHEMICAL ROOM CONTAINING A EMERGENCY SHOWER. REFER TO PLAN DRAWINGS FOR EYEWASH JUNCTION BOX LOCATIONS.

EMERGENCY EYE WASH ALARM STATION

NOT TO SCALE

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
REGISTERED
PROFESSIONAL ENGINEER

SUBCONSULTANT

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

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

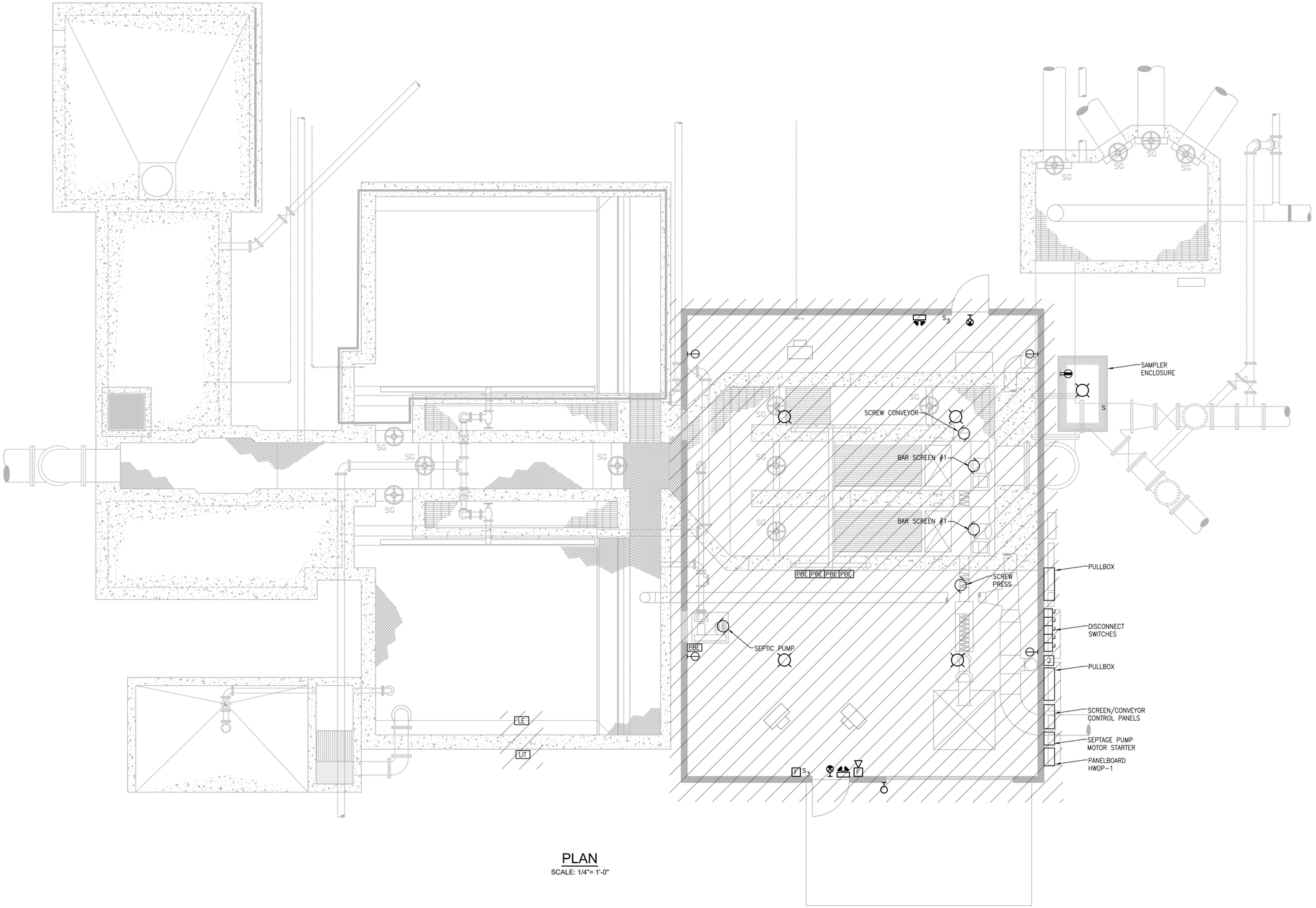
ELECTRICAL DETAILS

NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

SHEET NO. E-0.25



PLAN

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

6/30/2021 10:19 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\18009.00 ELEC HEADWORKS-PHASE 1.DWG (BETA STB BW.STB)

PREPARED BY

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REGISTERED PROFESSIONAL

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ELECTRICAL
No. 40999

SUBCONSULTANT

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Existing Conditions Headworks Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

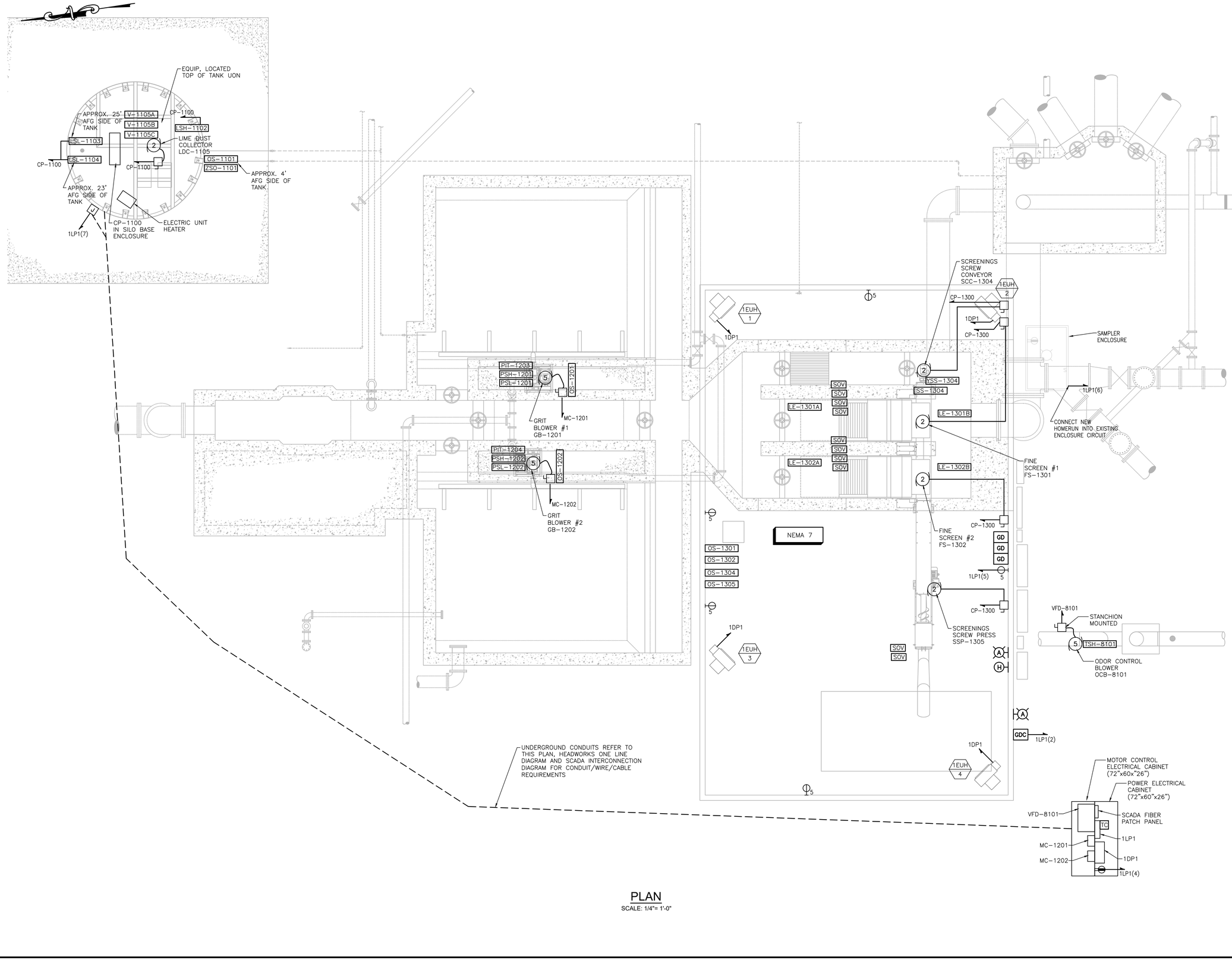
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

E-1.1



PLAN

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Headworks Power Plan

NO.	REVISIONS	DATE

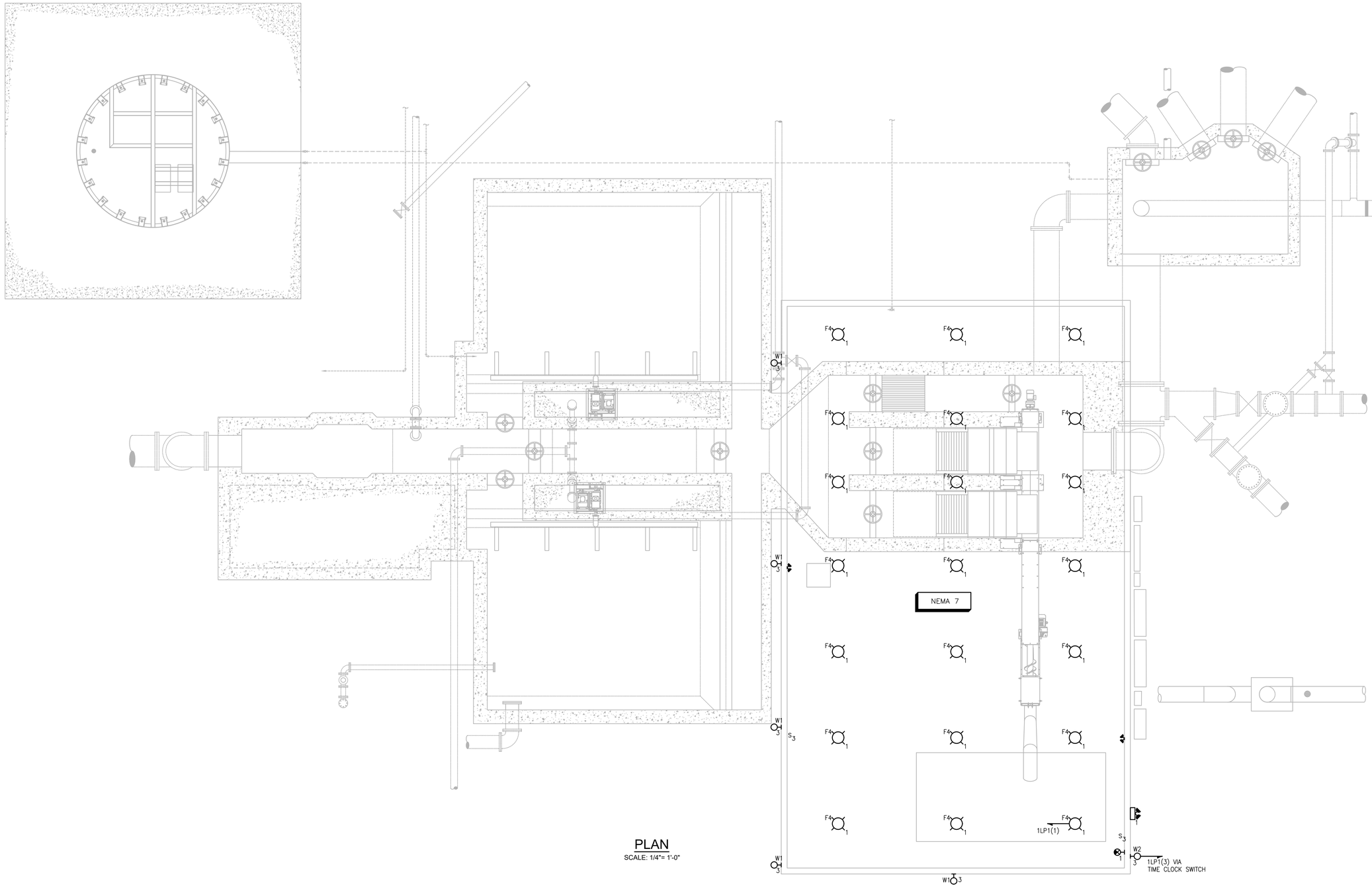
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-1.2



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Headworks
Lighting Plan

NO.	REVISIONS	DATE

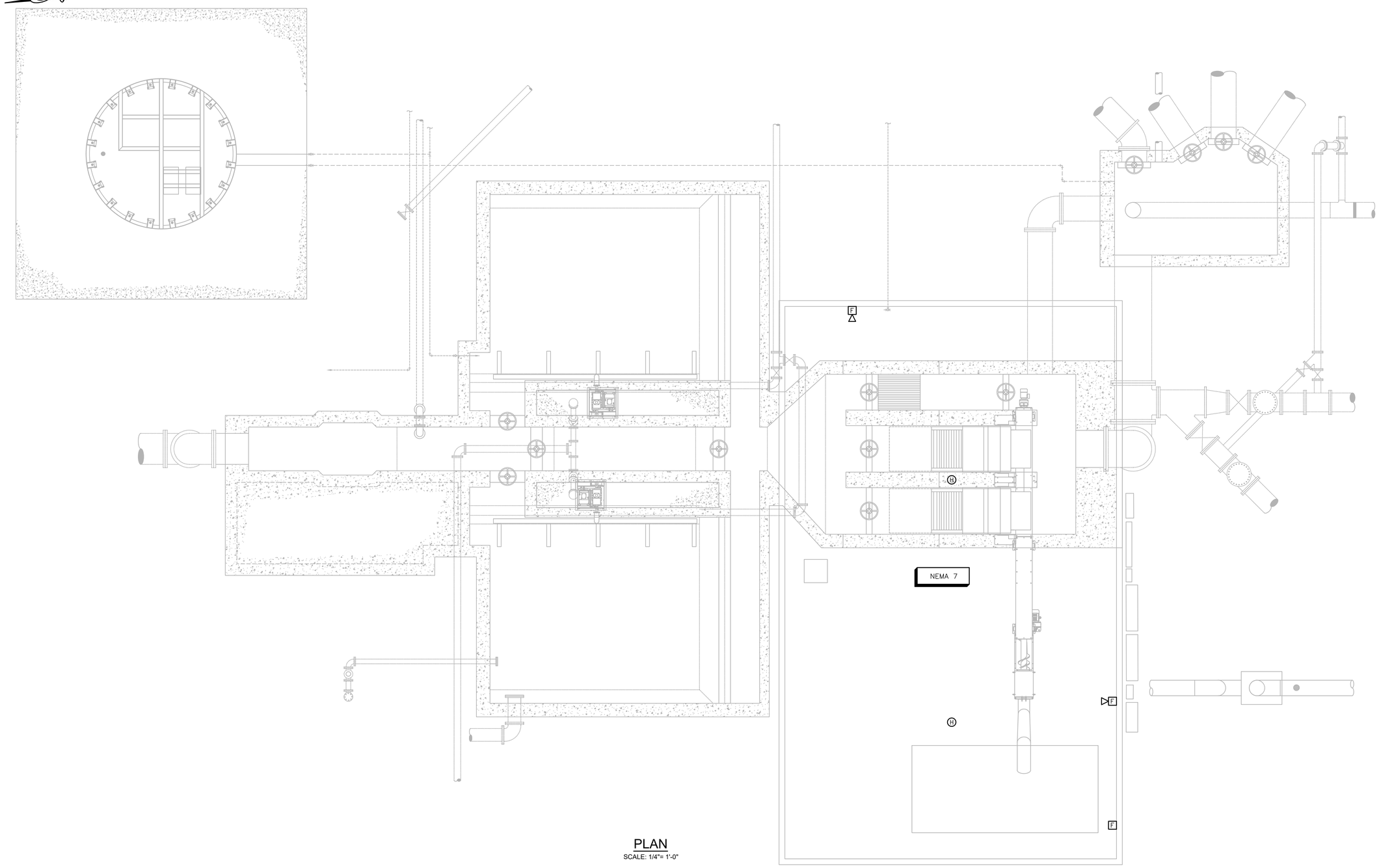
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-1.3



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Headworks
Fire Alarm Plan

NO.	REVISIONS	DATE

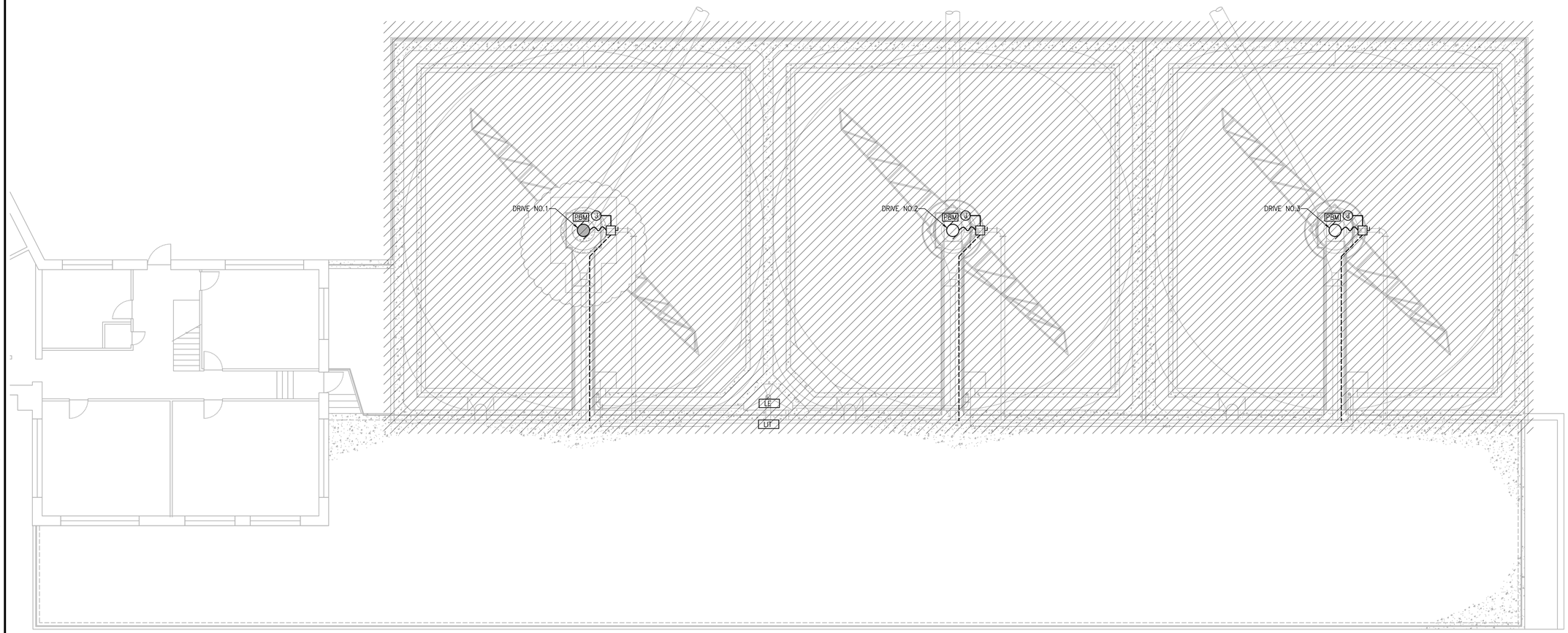
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-1.4



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition Primary Clarifiers Plan

NO.	REVISIONS	DATE

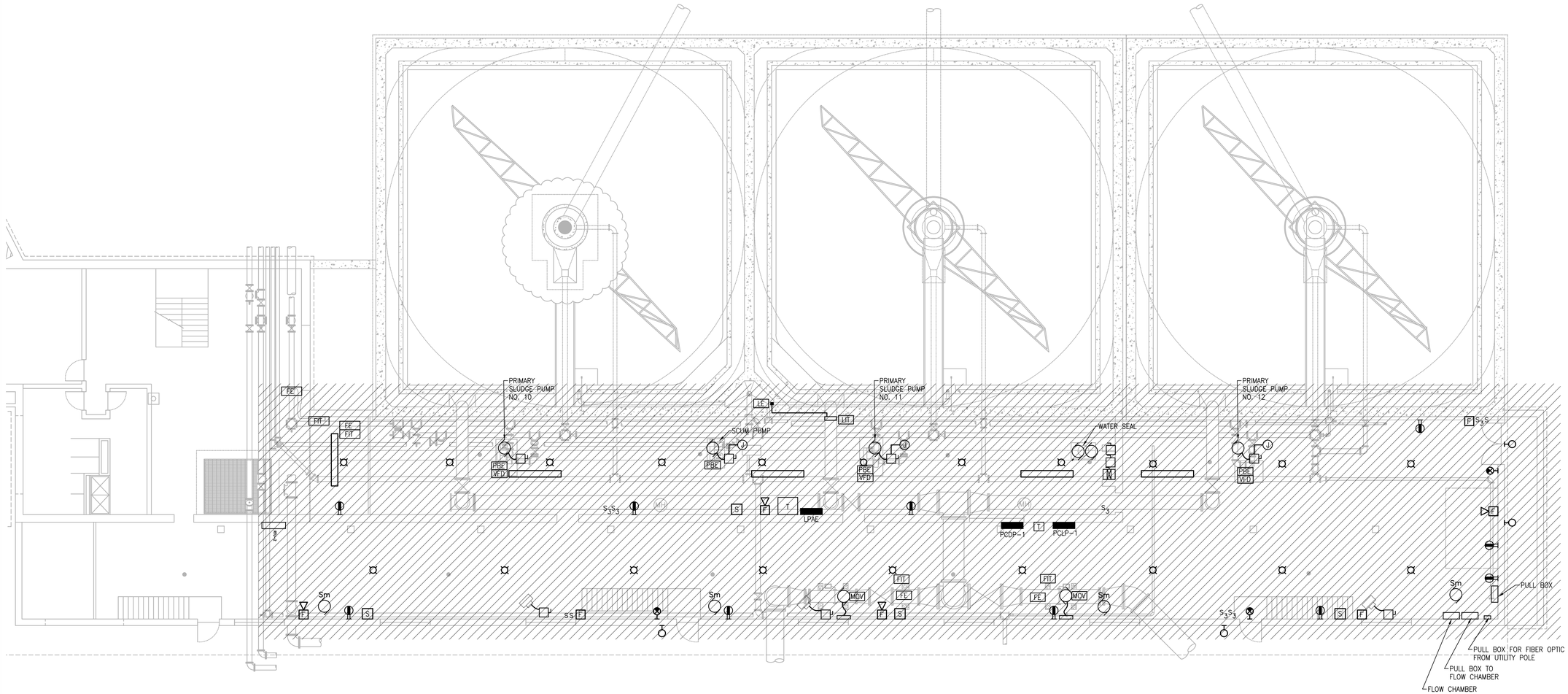
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-2.1



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition Primary Sludge Pump Station Plan

NO.	REVISIONS	DATE

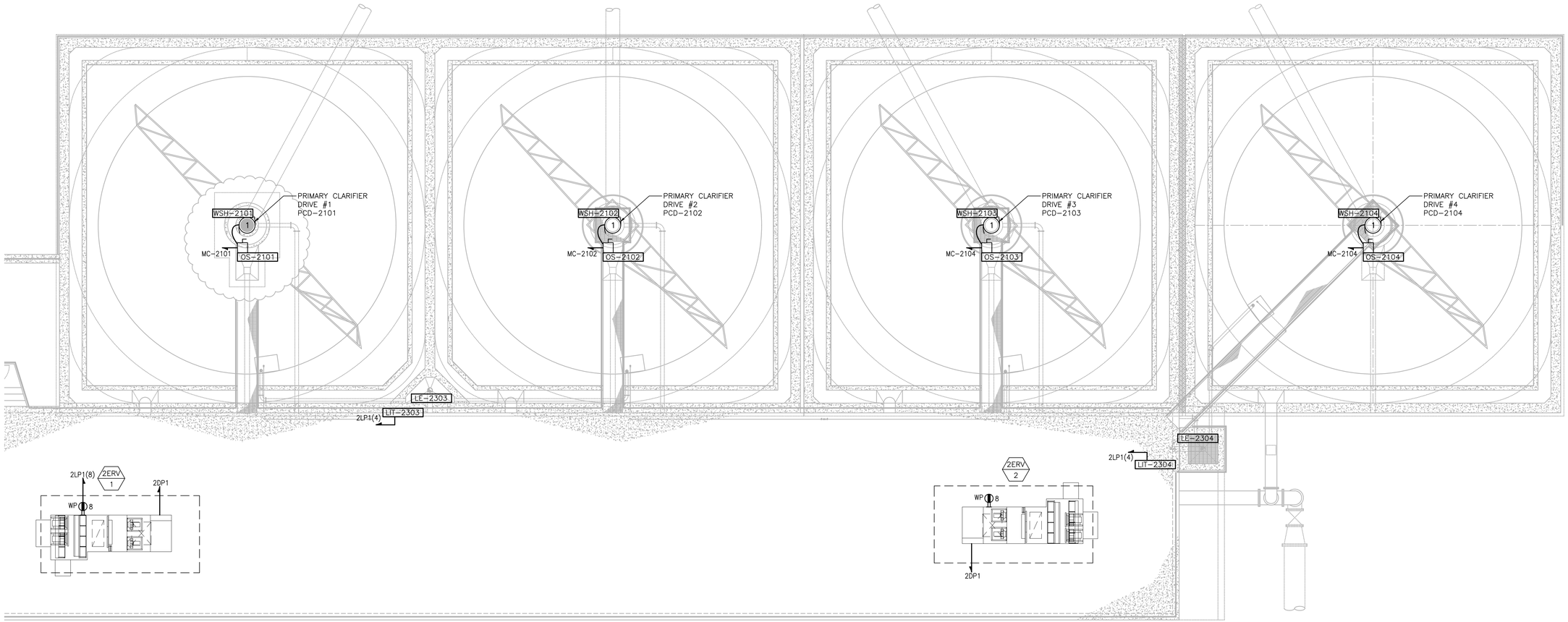
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-2.2



PLAN

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

6/30/2021 10:25 AM W:\T-PROJECTS\T-18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\18009.00 ELEC PRIMARY CLARIFIERS & SLUDGE PS-PHASE 1.DWG (BETA.STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Power Primary Clarifiers Power Plan

NO.	REVISIONS	DATE

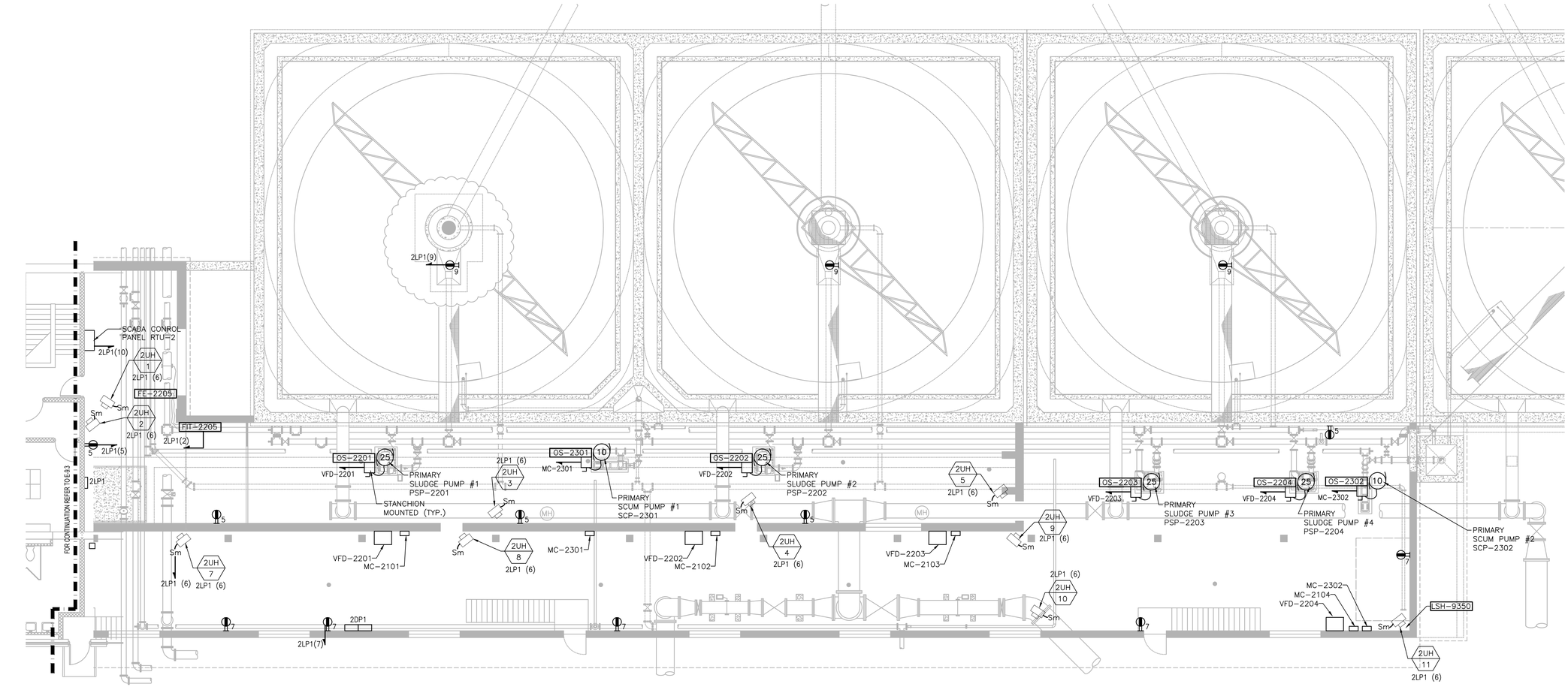
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-2.3



PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Primary Sludge Pump Station Power Plan

NO.	REVISIONS	DATE

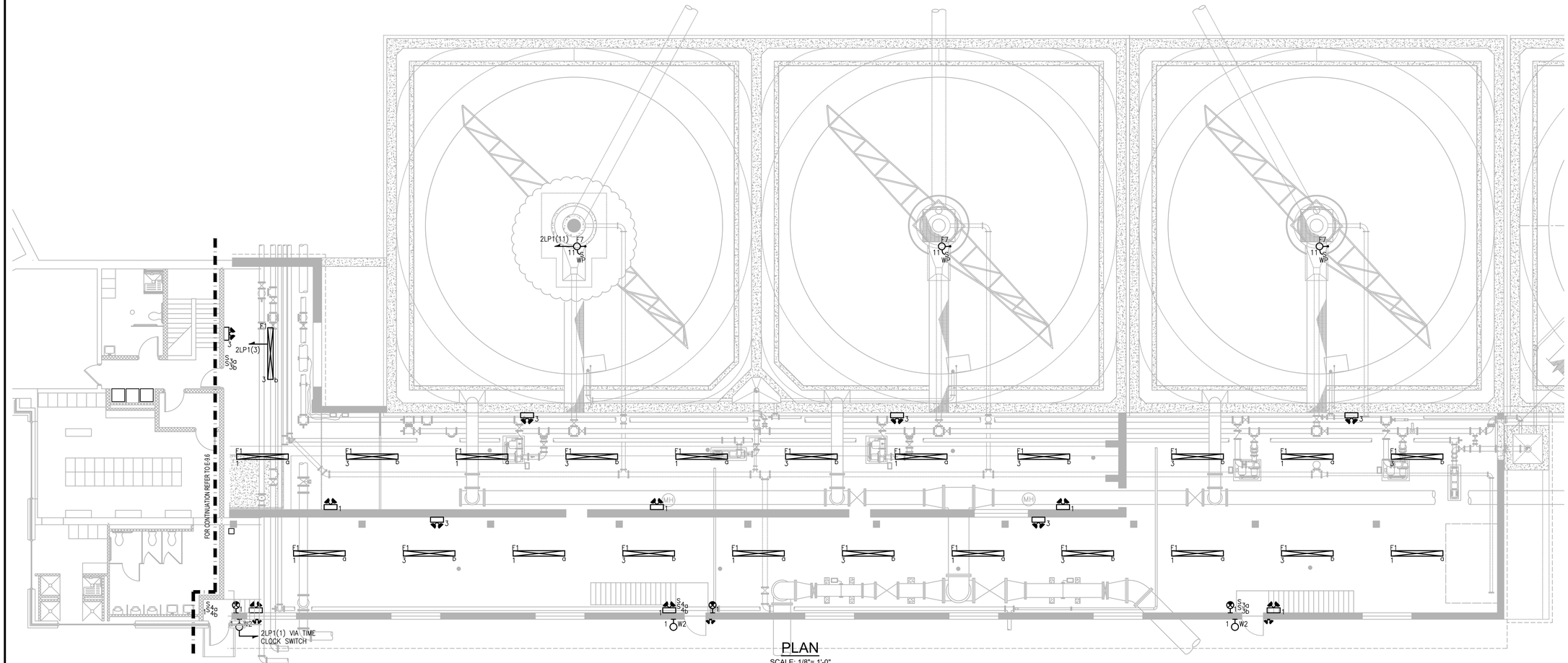
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-2.4



PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Primary Sludge Pump Station Lighting Plan

NO.	REVISIONS	DATE

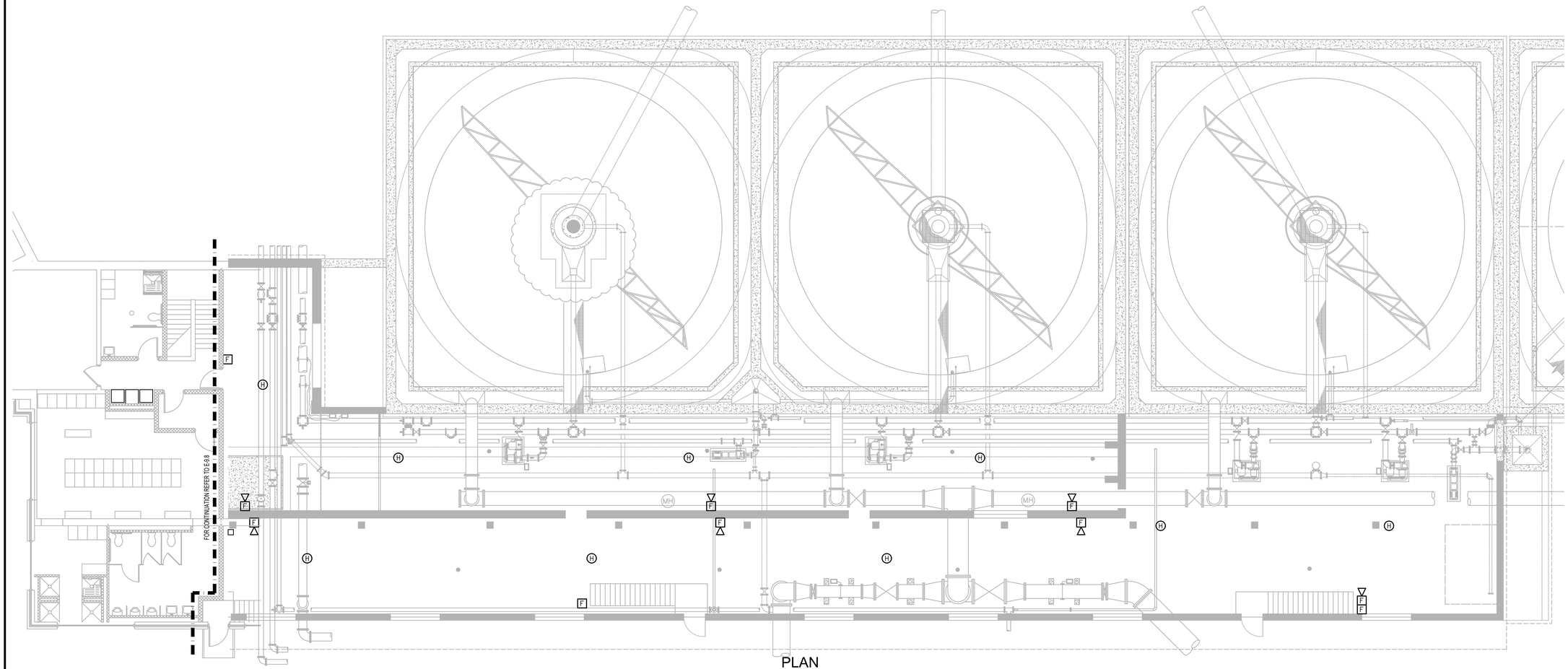
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-2.5



PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Primary Sludge Pump Station Fire Alarm Plan

NO.	REVISIONS	DATE

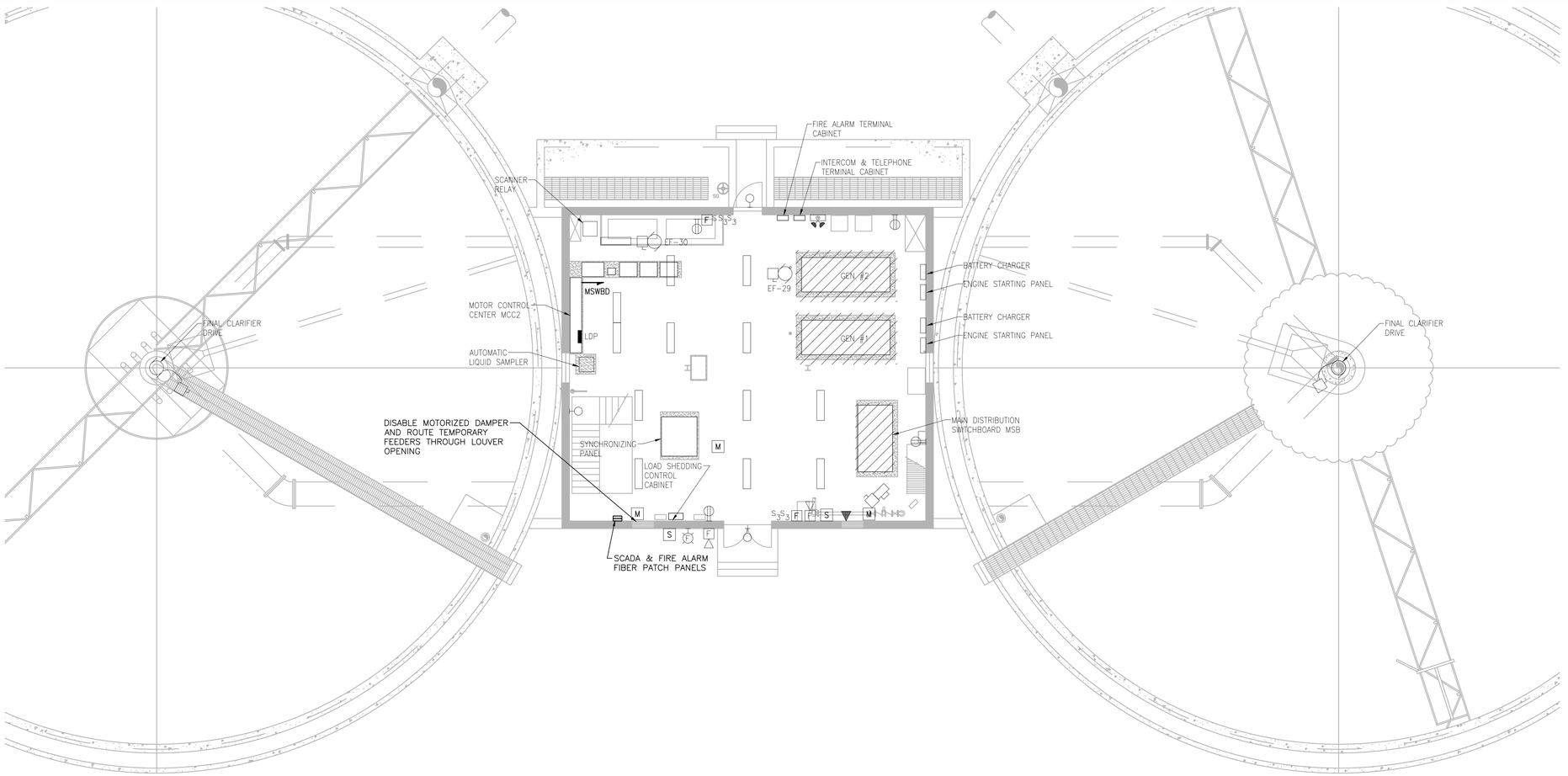
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

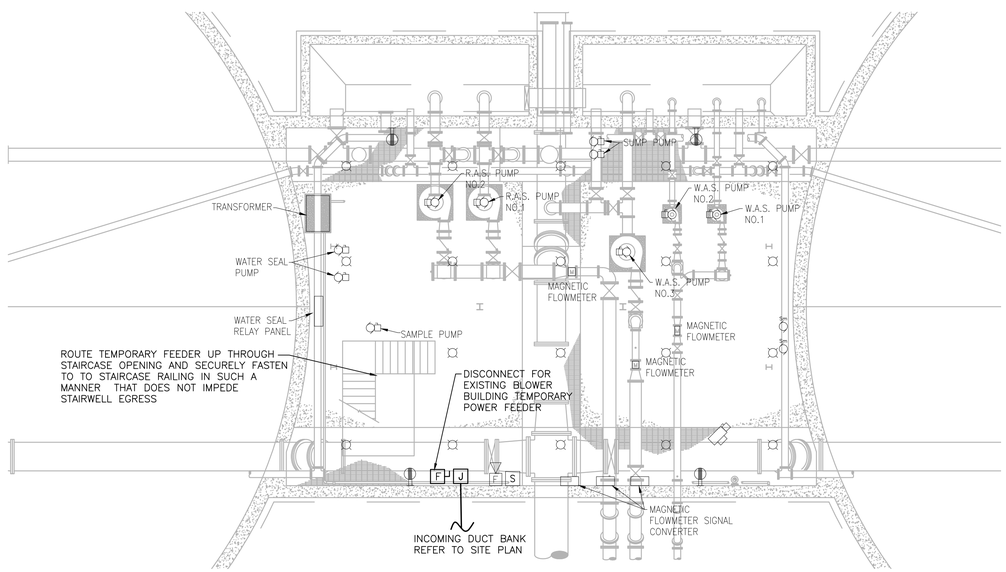
SHEET NO.

E-2.6



UPPER LEVEL PLAN

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



LOWER LEVEL PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Final Clarifiers No. 1 & 2 Plan & Sludge Pump Station No.1 Plan

NO.	REVISIONS	DATE

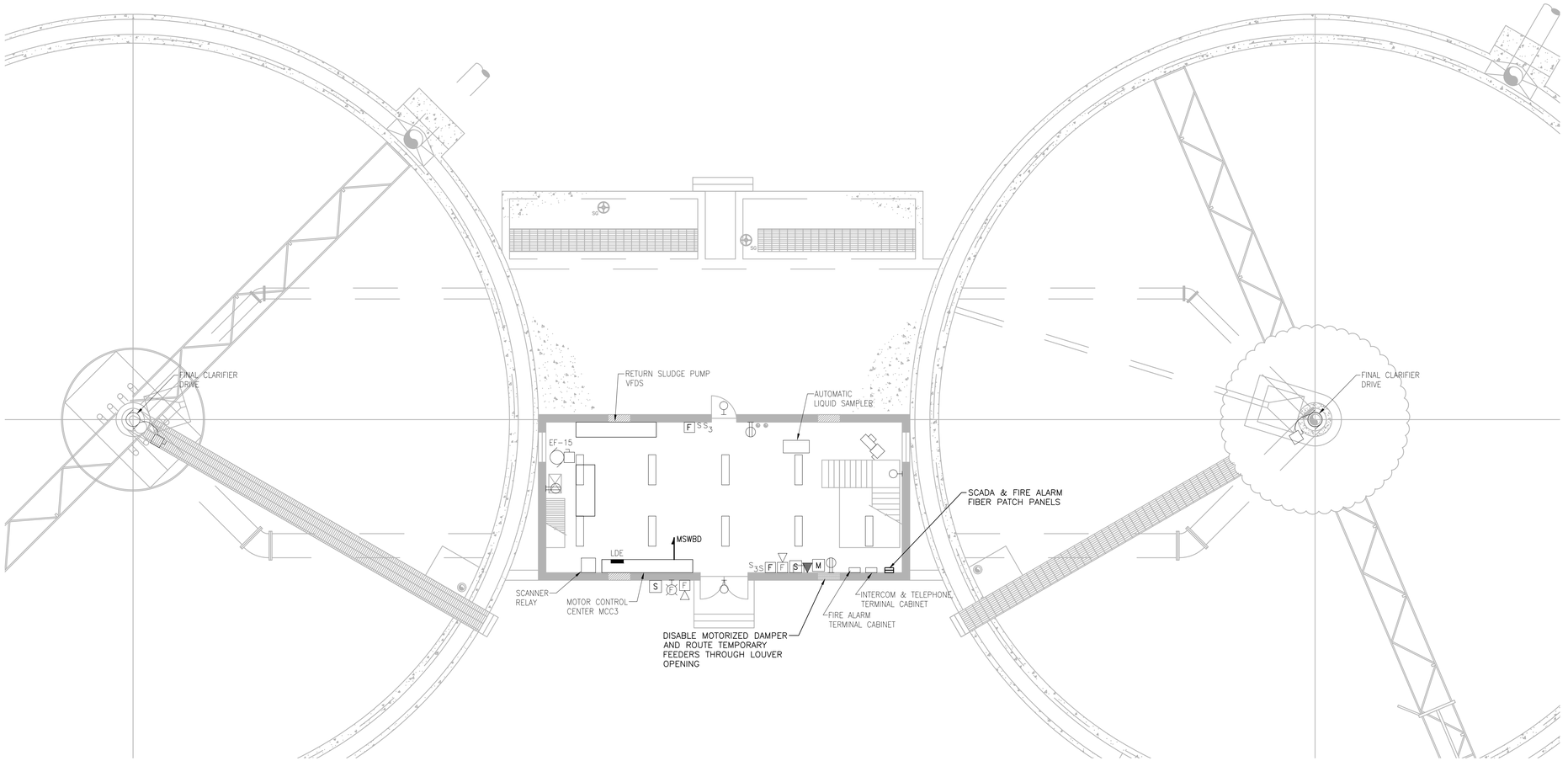
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

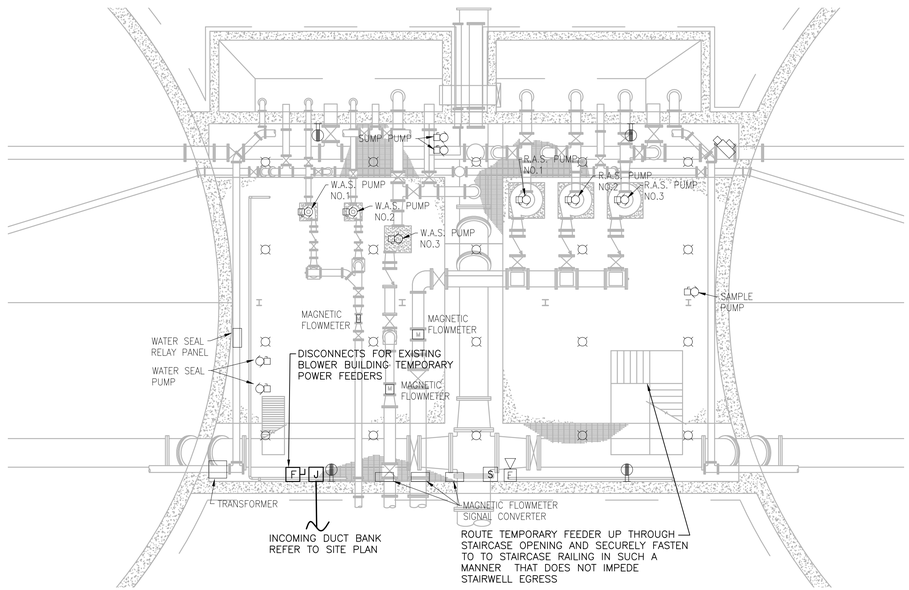
SHEET NO.

E-4.1



UPPER LEVEL PLAN

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



LOWER LEVEL PLAN

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

PREPARED BY

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Braintree, Massachusetts 02184
617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Final Clarifiers No. 3 & 4 Plan & Sludge Pump Station No.2 Plan

NO.	REVISIONS	DATE

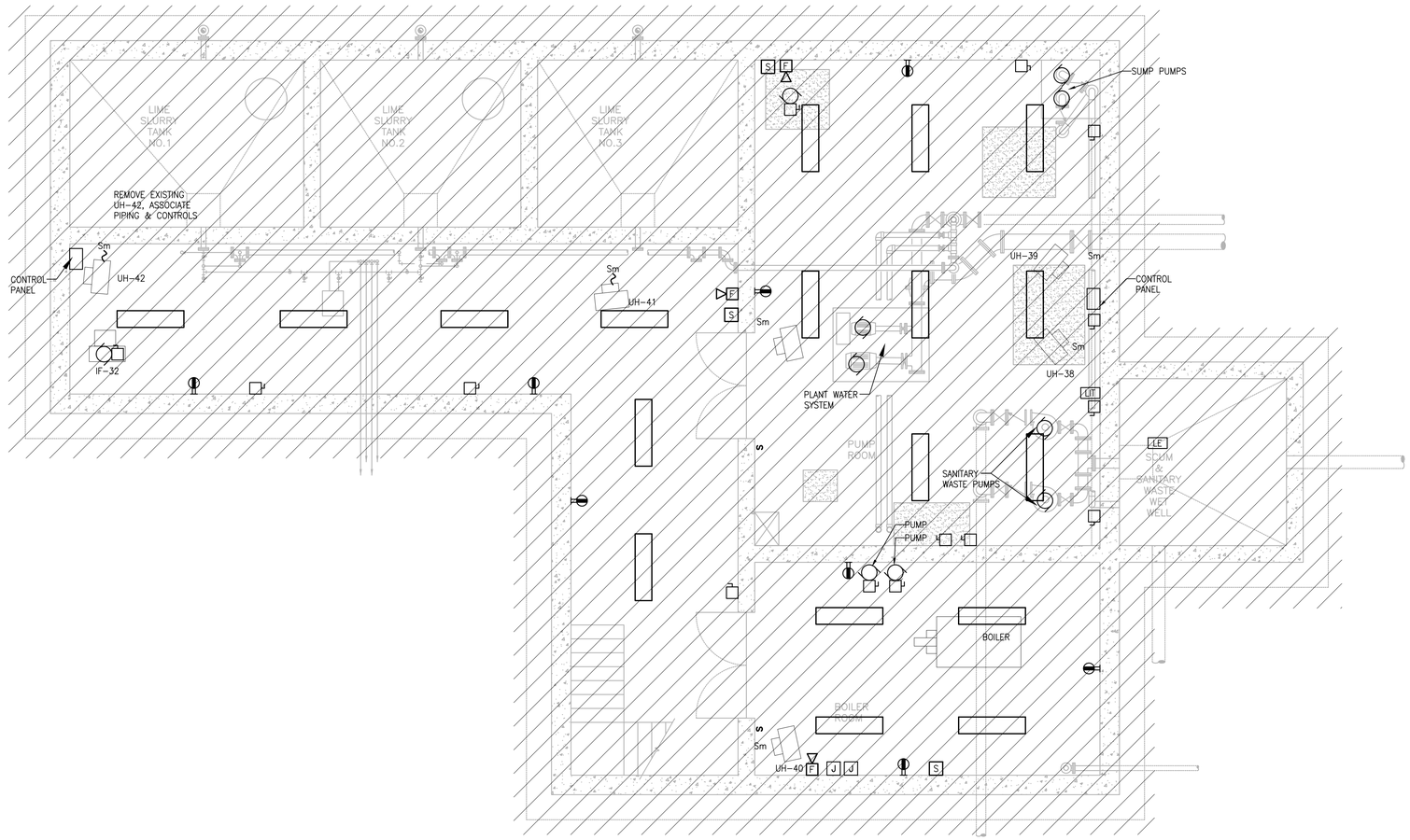
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

E-4.2



BASEMENT - PLAN

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition
Chemical Handling
Building
Basement Plan

NO.	REVISIONS	DATE

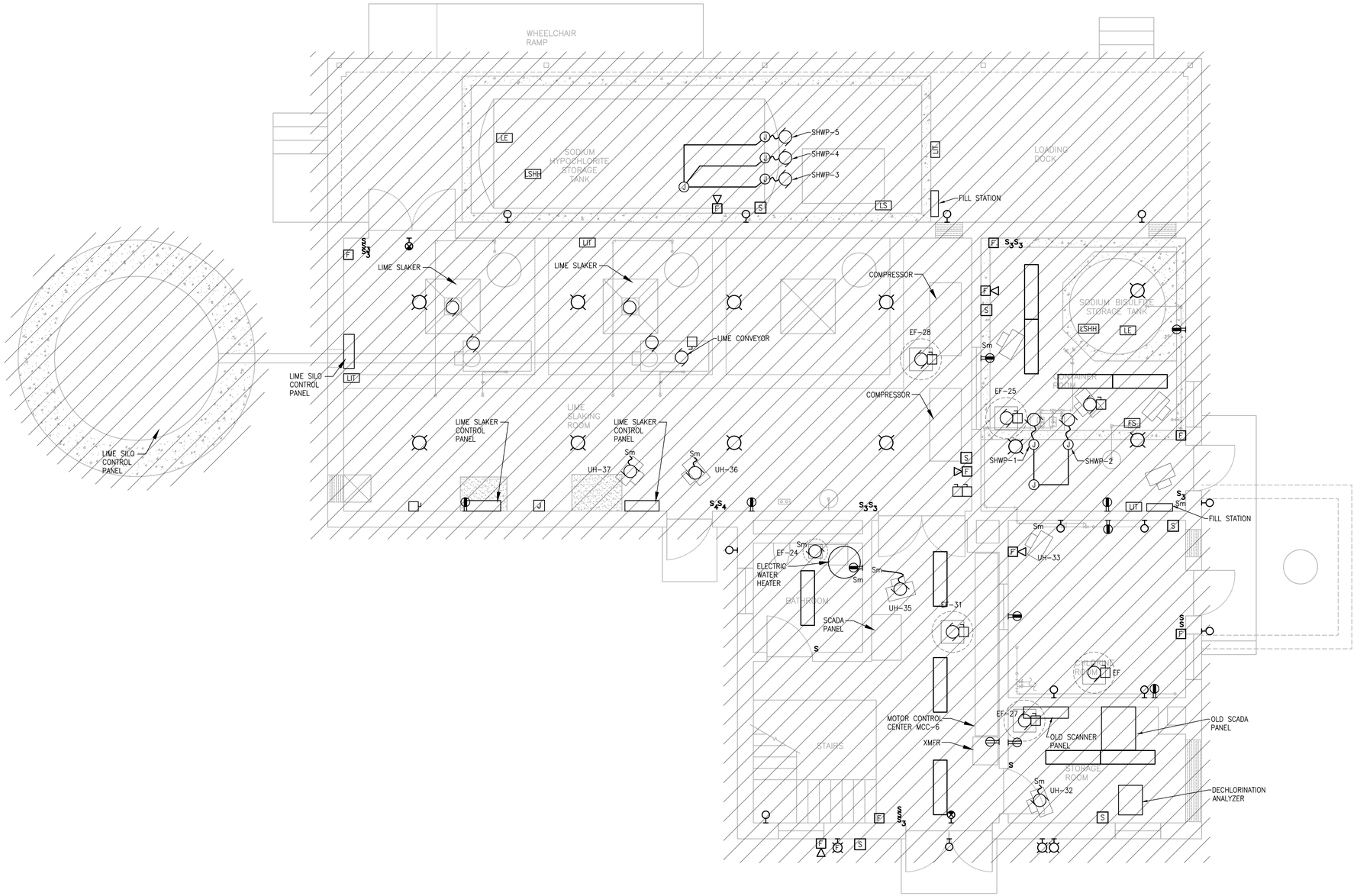
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.1



FIRST FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

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MICHAEL J. COTTER
ELECTRICAL
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Demolition
Chemical
Handling Building
First Floor Plan

NO.	REVISIONS	DATE

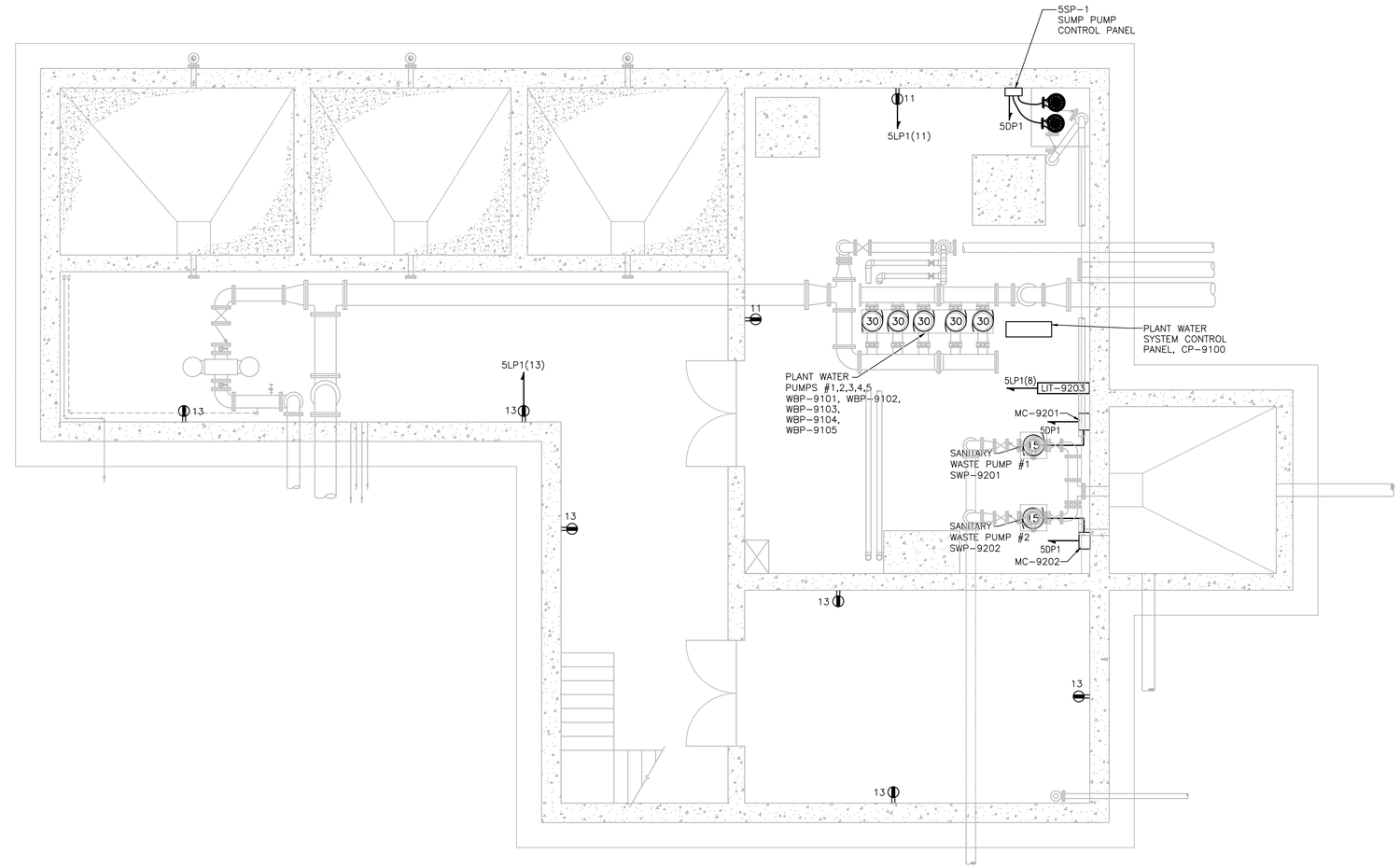
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.2



BASEMENT - PLAN

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

PREPARED BY

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MICHAEL J. COTTER
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Chemical Handling Building Basement Power Plan

NO.	REVISIONS	DATE

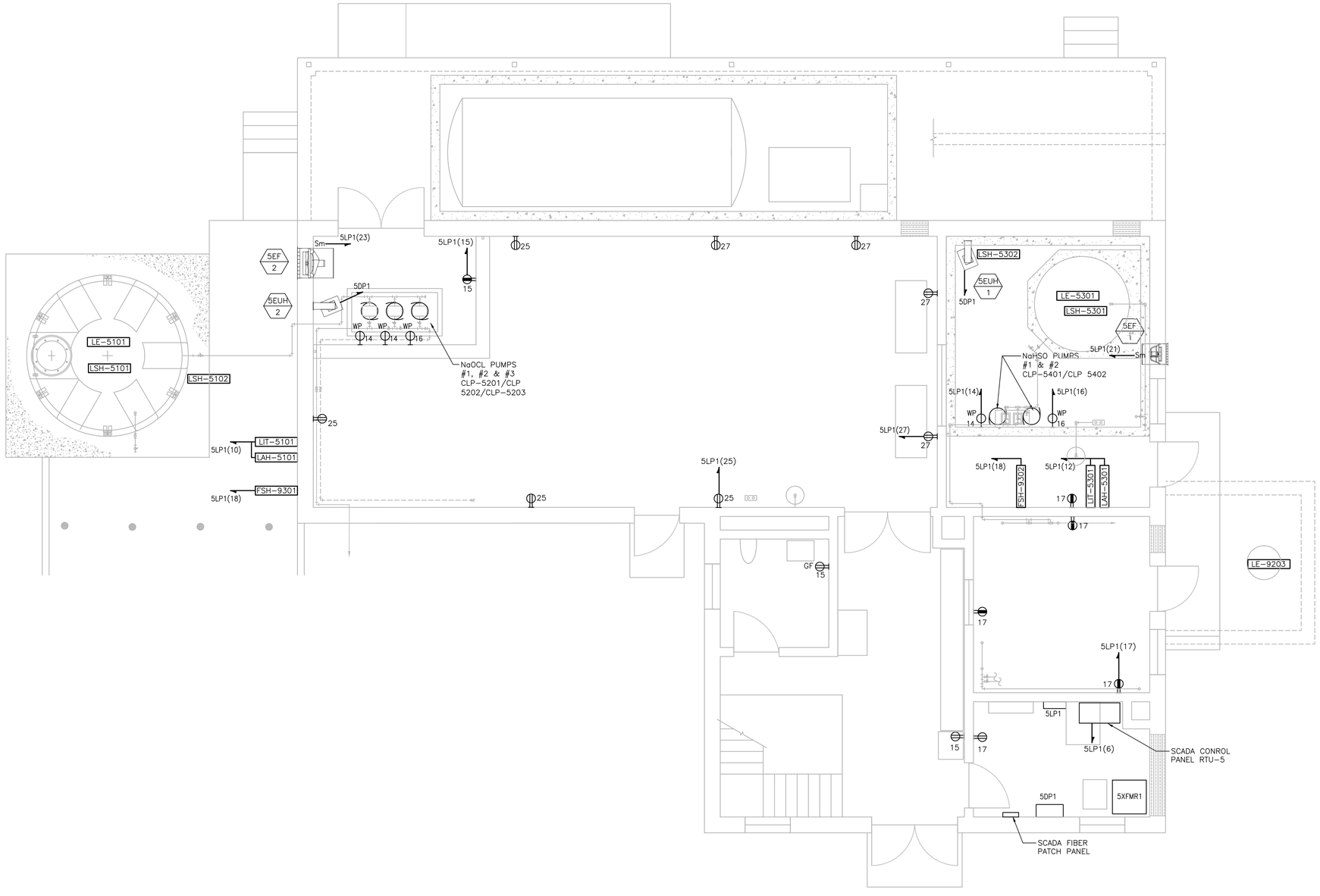
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.3



FIRST FLOOR - PLAN

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Chemical
Handling Building
First Floor Power
Plan

NO.	REVISIONS	DATE

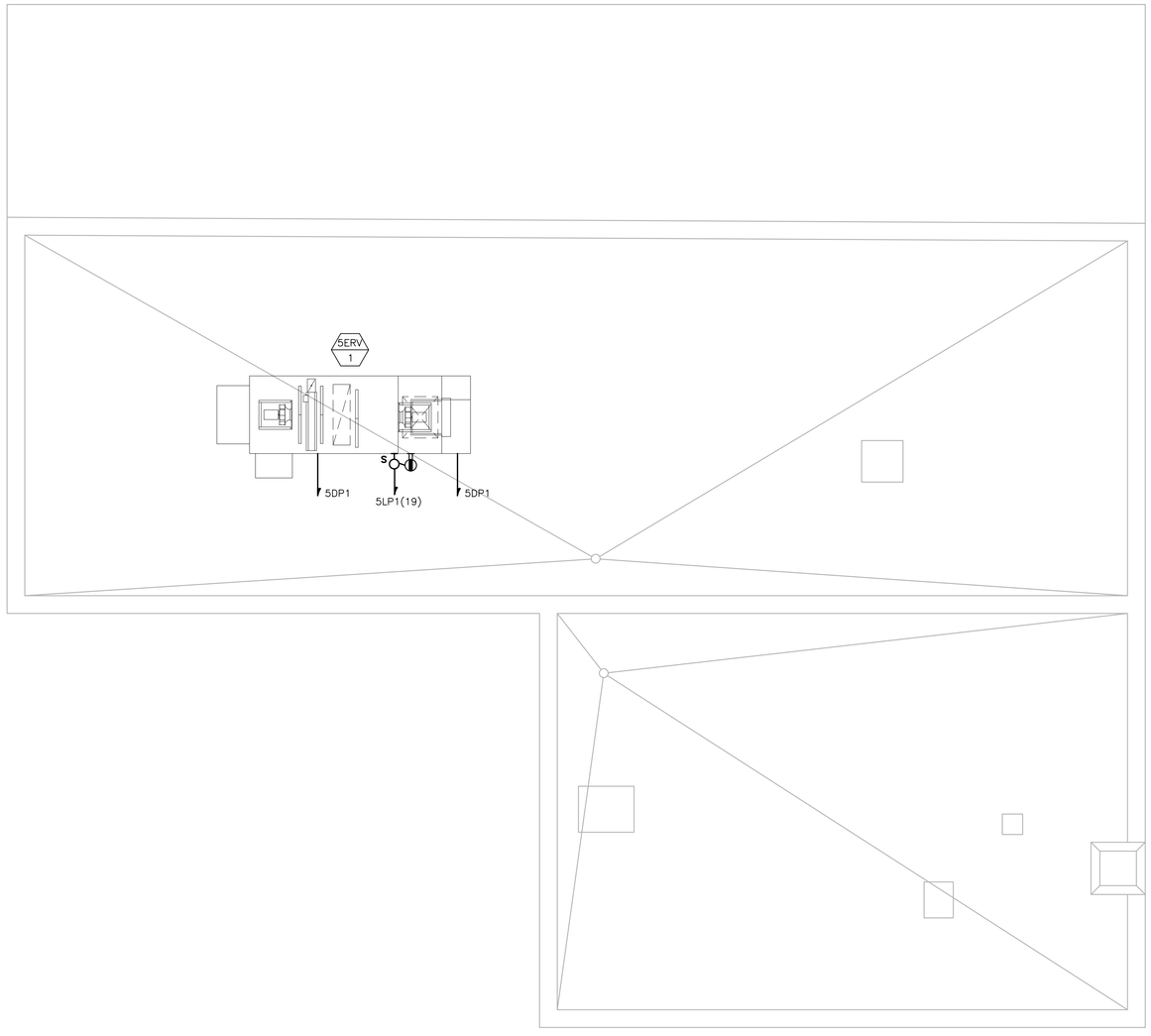
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.4



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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40999
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SUBCONSULTANT

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Chemical
Handling Building
Roof Power Plan

NO.	REVISIONS	DATE

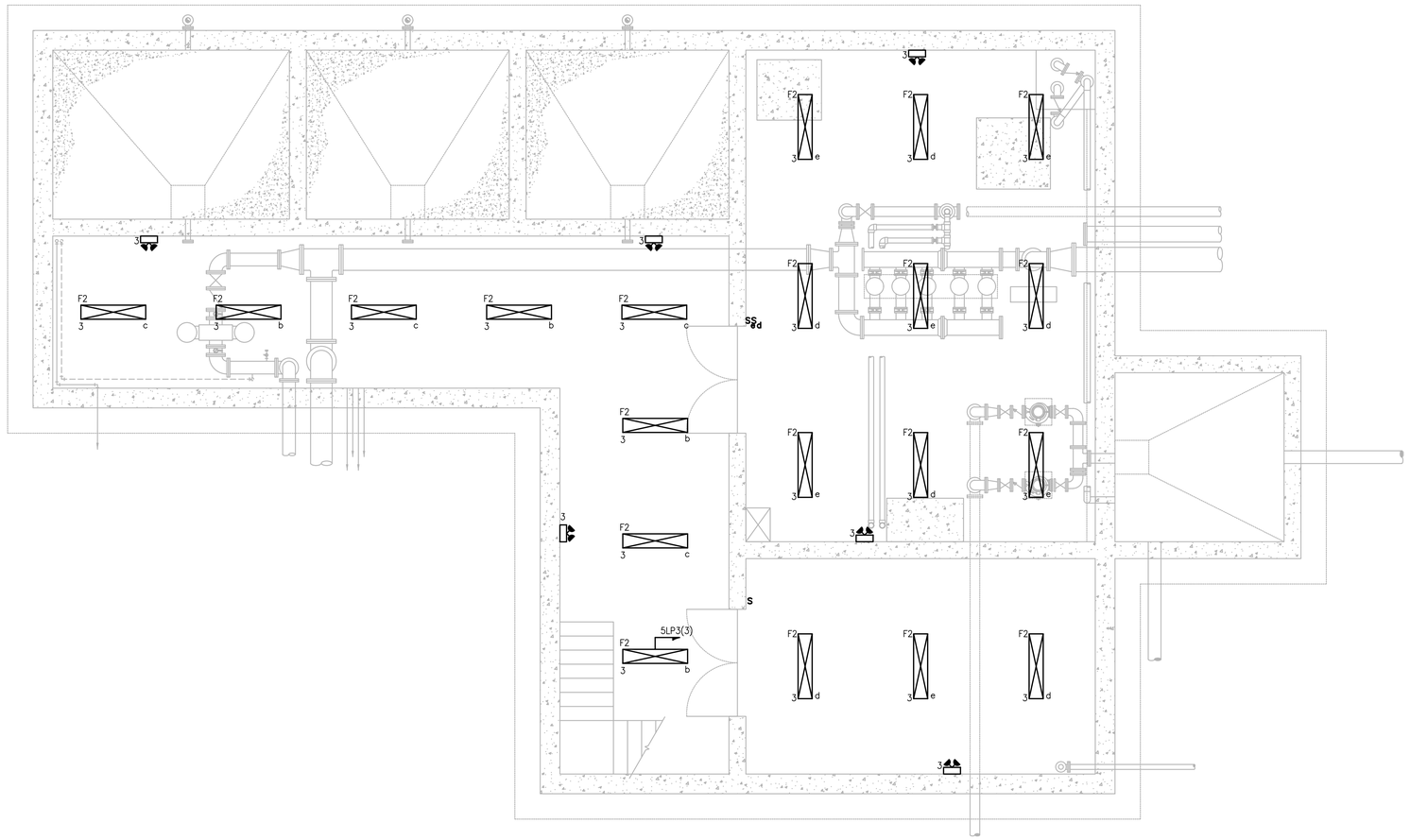
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.5



BASEMENT - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40999
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ENGINEERING, INC.

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

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Chemical Handling Building Basement Lighting Plan

NO.	REVISIONS	DATE

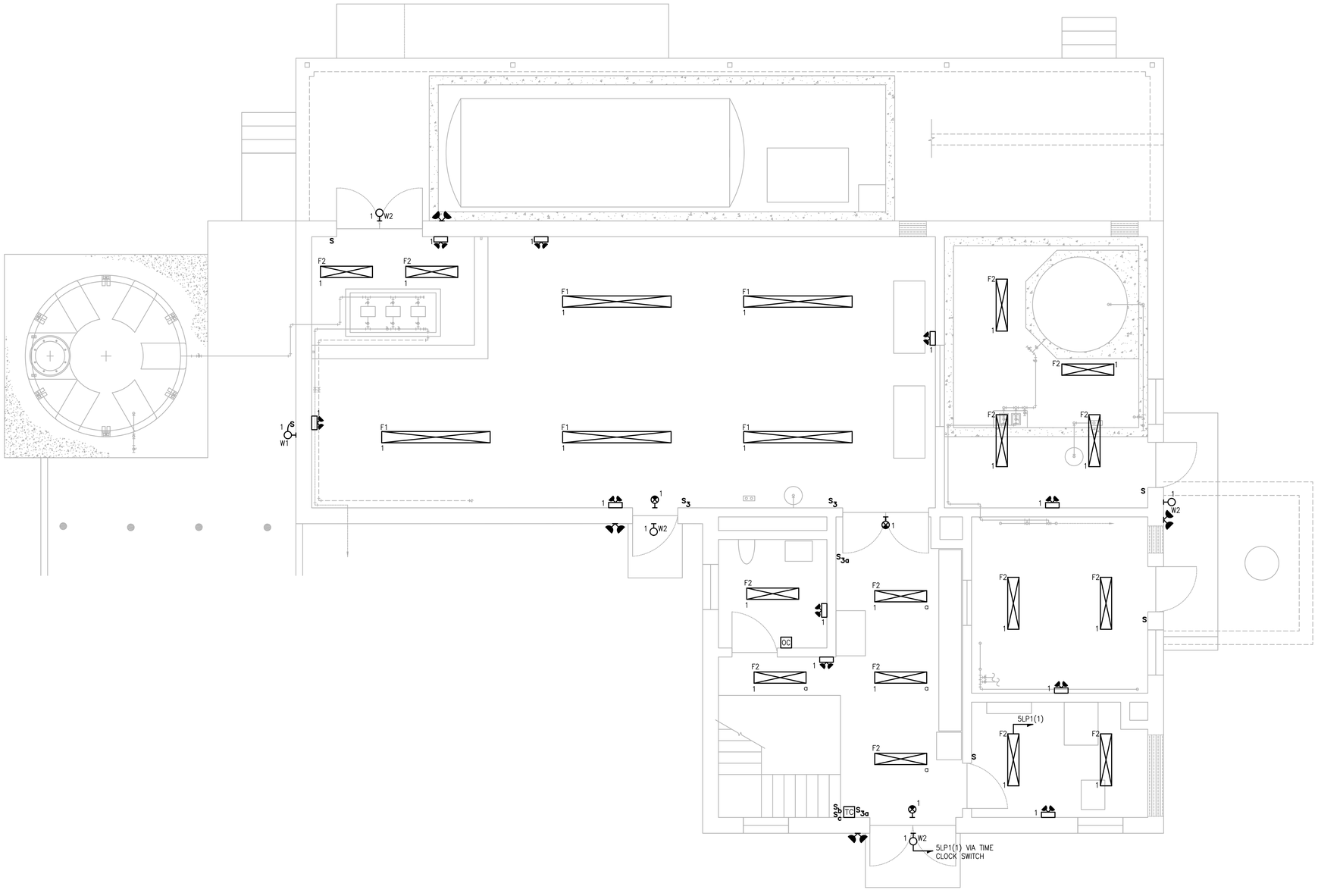
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.6



FIRST FLOOR - PLAN

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

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
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SUBCONSULTANT

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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Chemical
Handling Building
First Floor
Lighting Plan

NO.	REVISIONS	DATE

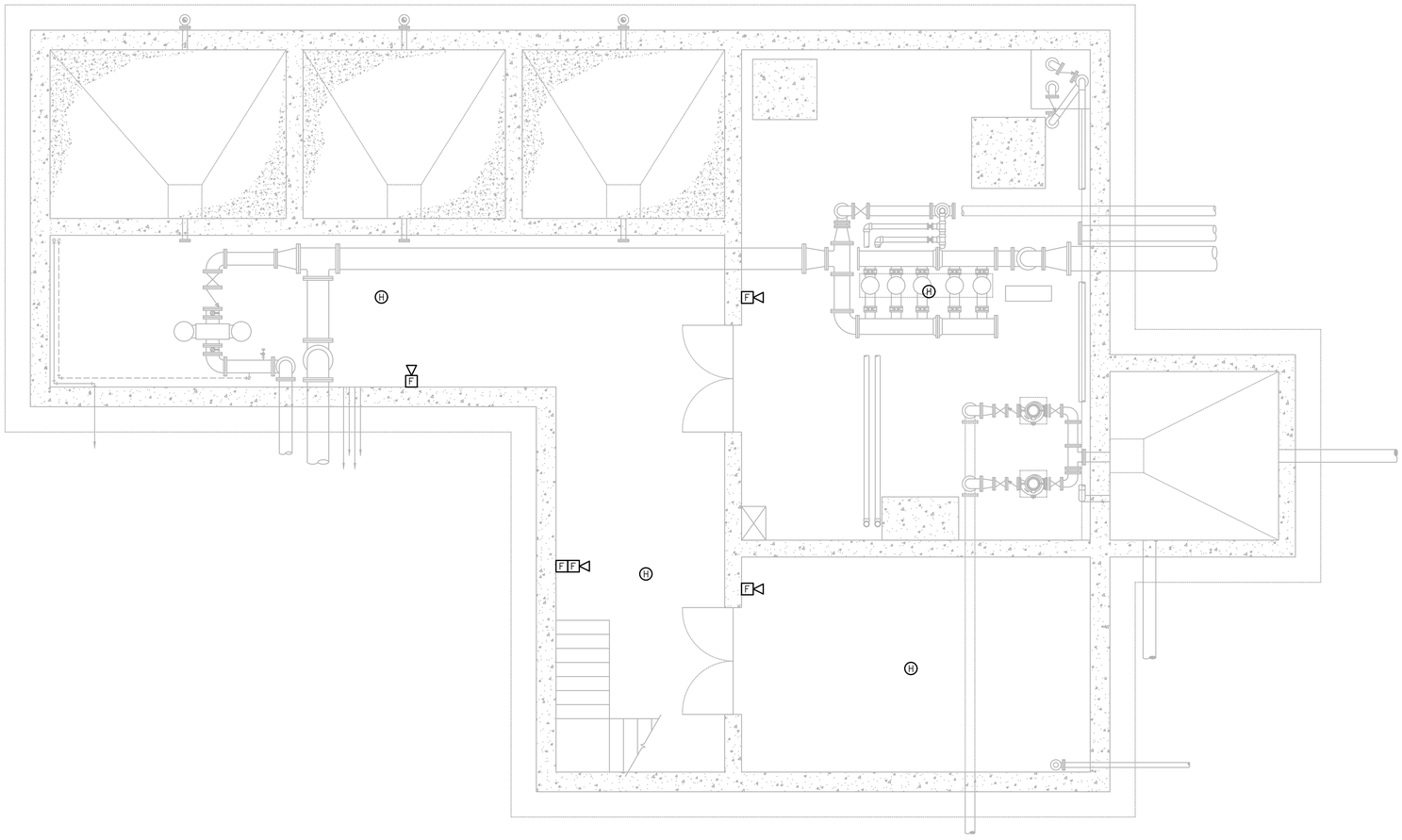
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.7



BASEMENT - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Chemical Handling Building Basement Fire Alarm Plan

NO.	REVISIONS	DATE

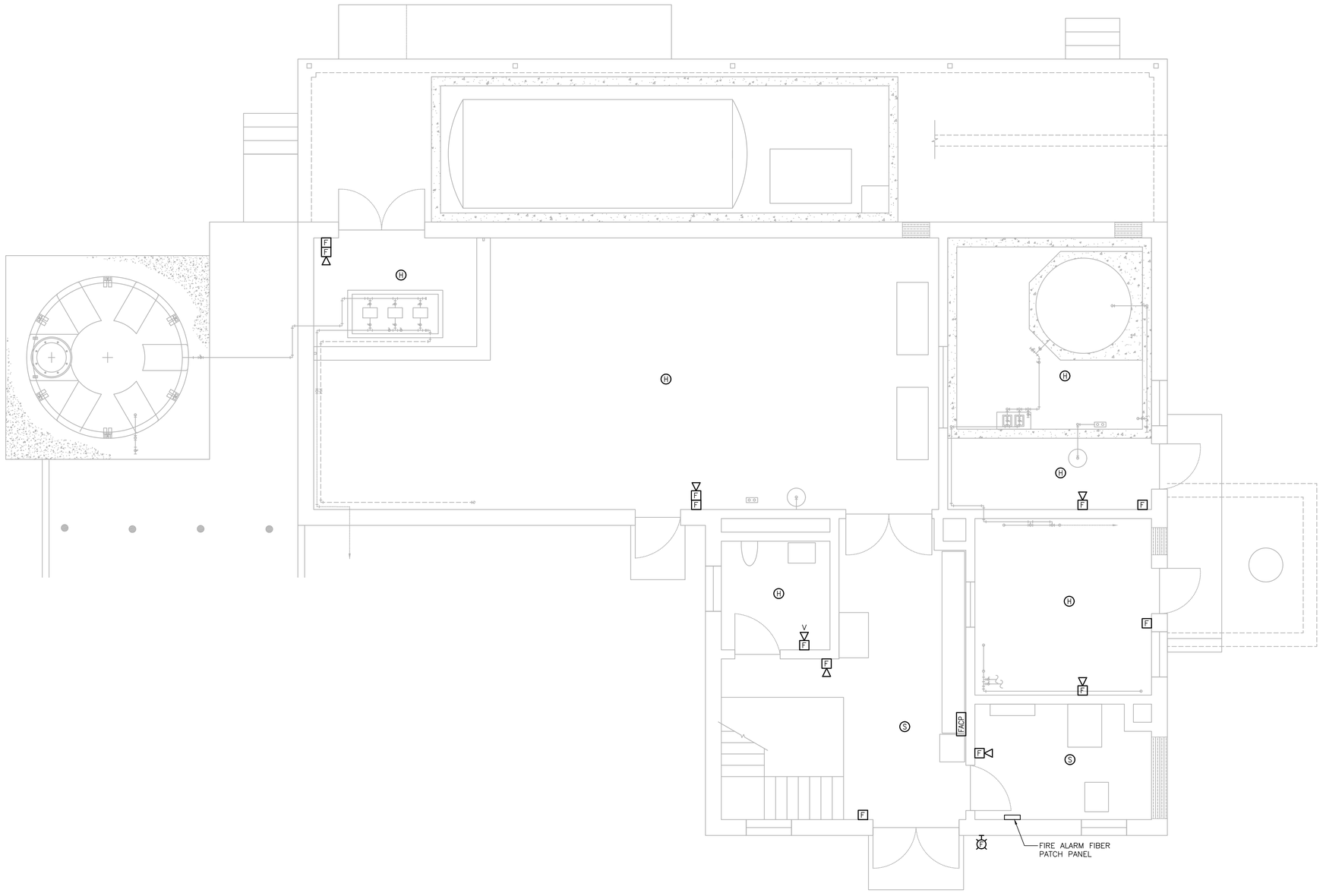
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.8



FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Chemical
Handling Building
First Floor Fire
Alarm Plan

NO.	REVISIONS	DATE

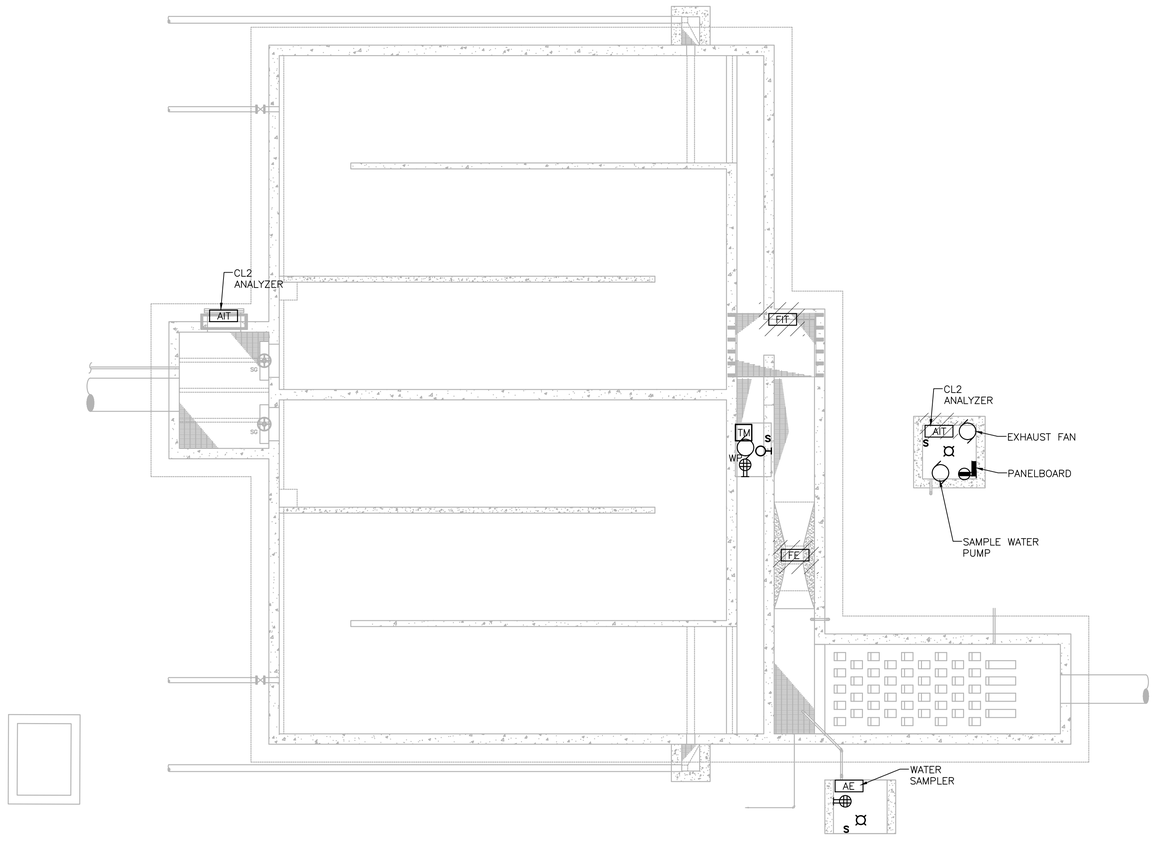
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.9



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition
Chlorine Contact Tank
Plan

NO.	REVISIONS	DATE

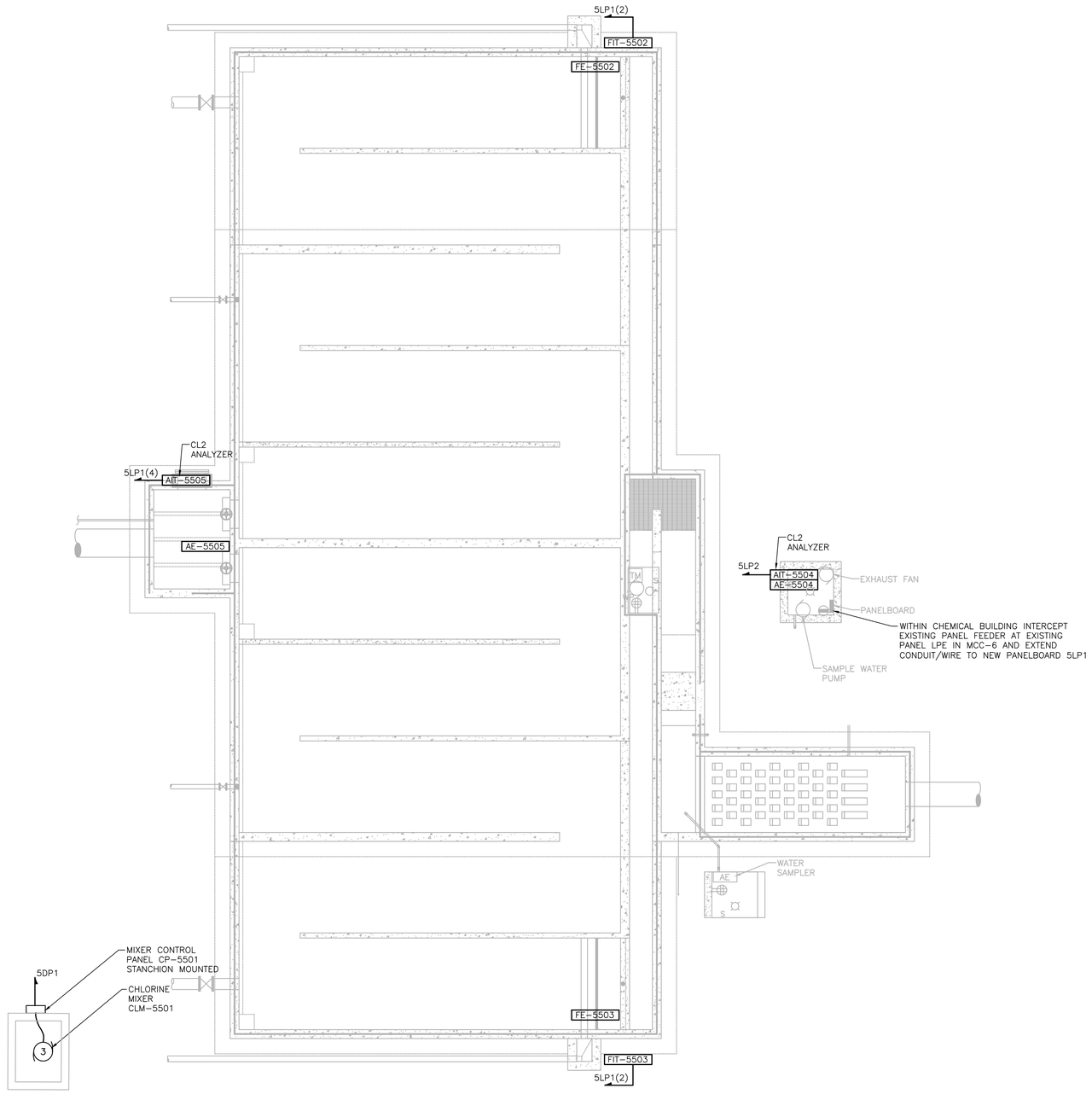
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.10



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Chlorine Contact Tank Plan

NO.	REVISIONS	DATE

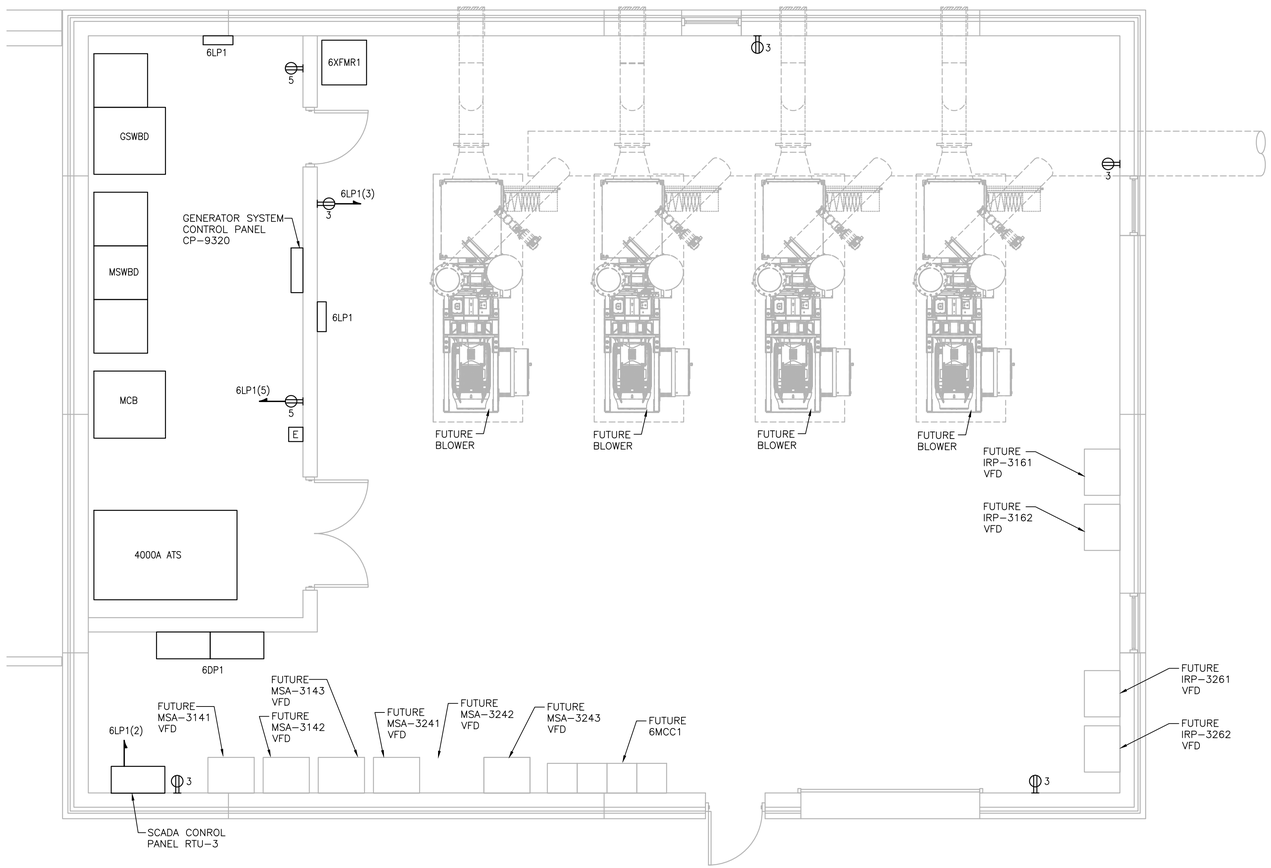
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-5.11



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Blower Building Power Plan

NO.	REVISIONS	DATE

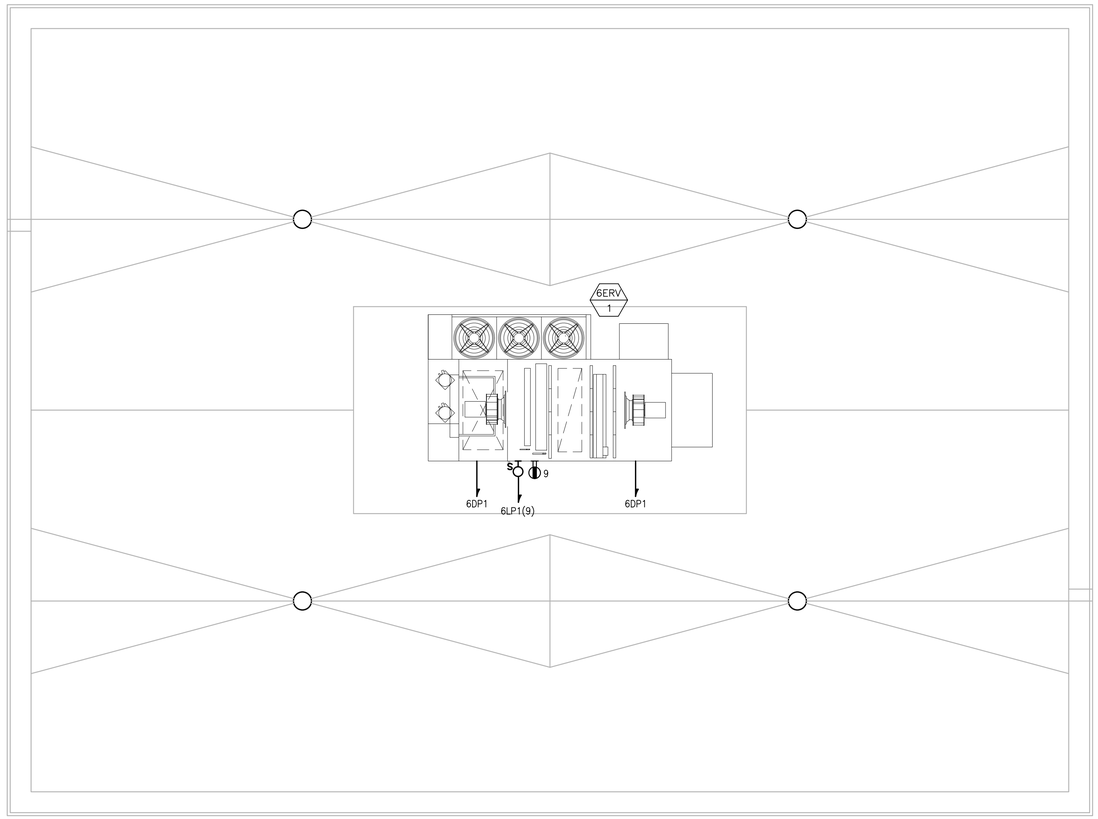
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-6.1



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Blower Building
Power Roof Plan

NO.	REVISIONS	DATE

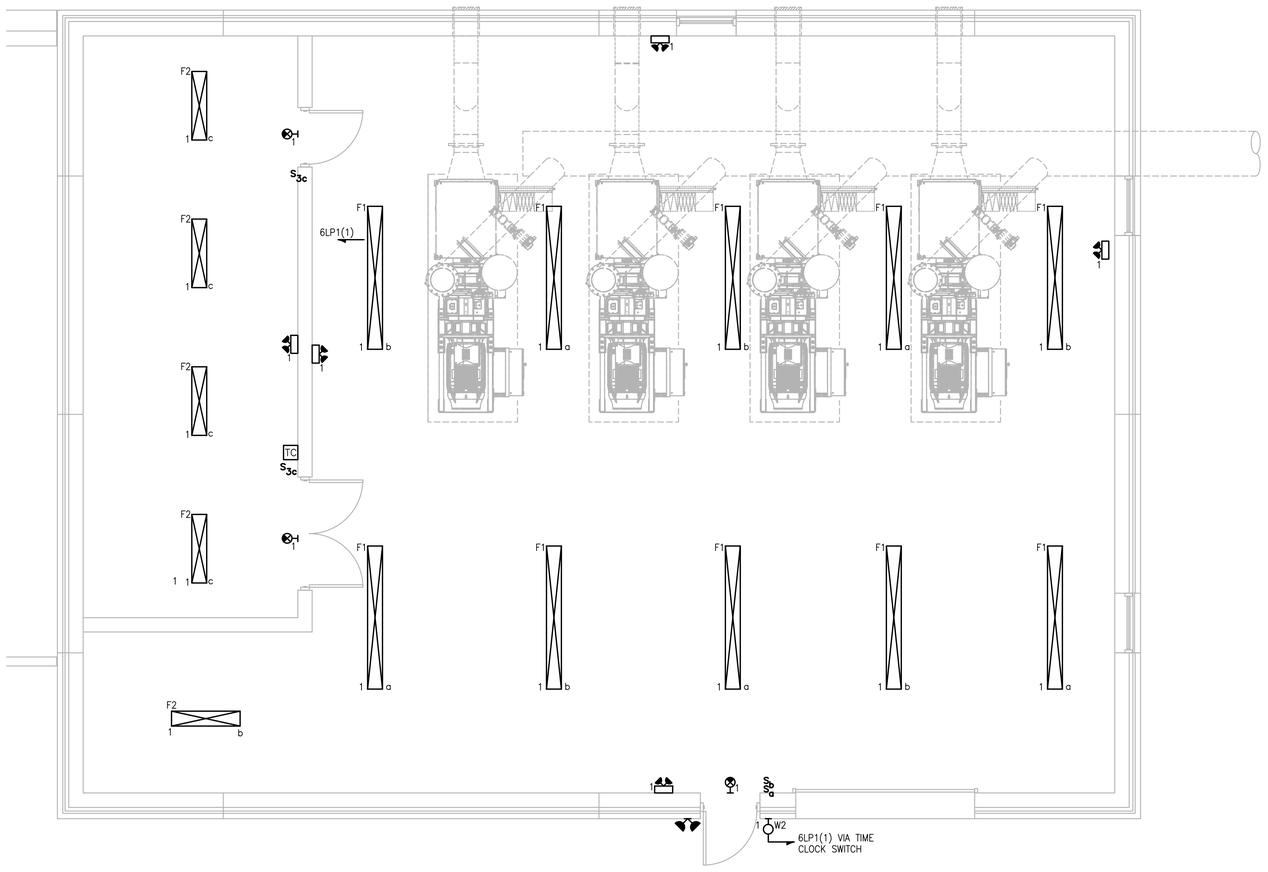
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-6.2



PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Blower Building Lighting Plan

NO.	REVISIONS	DATE

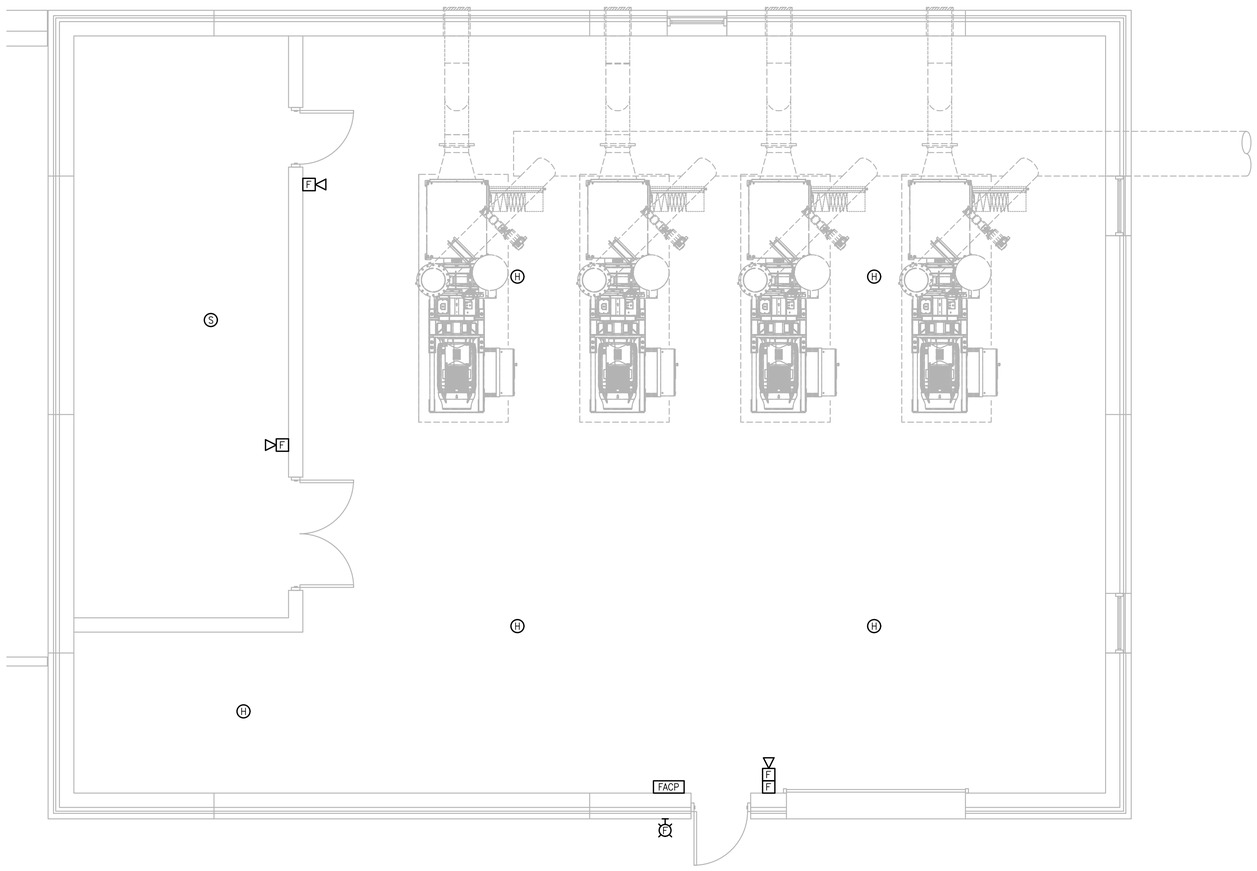
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-6.3



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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Blower Building
Fire Alarm Plan

NO.	REVISIONS	DATE

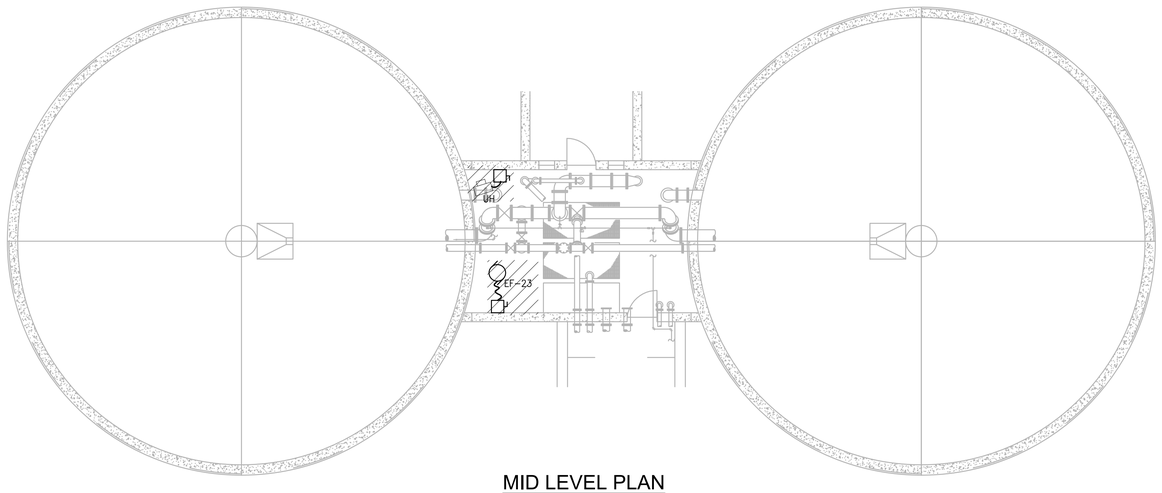
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

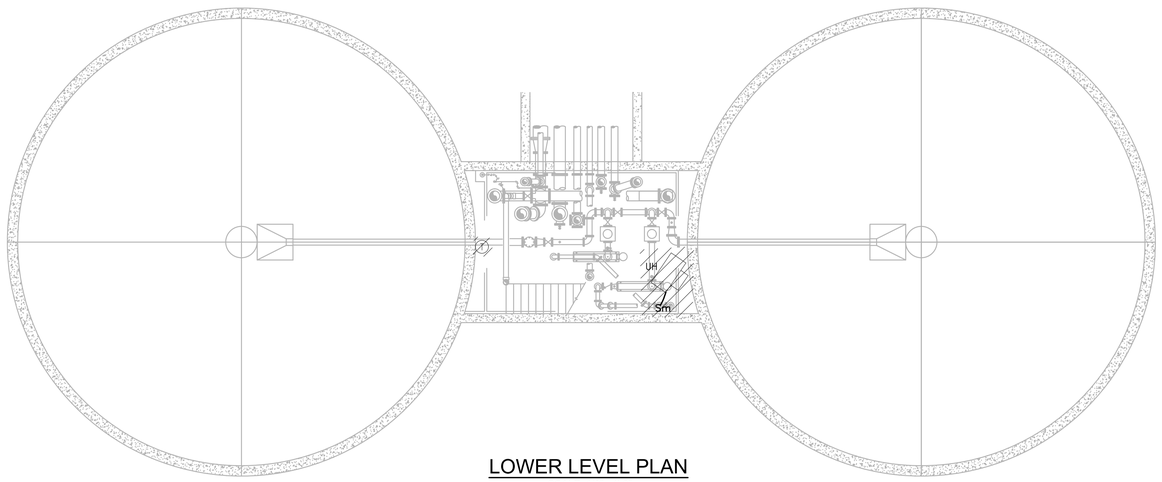
SHEET NO.

E-6.4



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Demolition
Gravity Thickening Tanks
Plans

NO.	REVISIONS	DATE

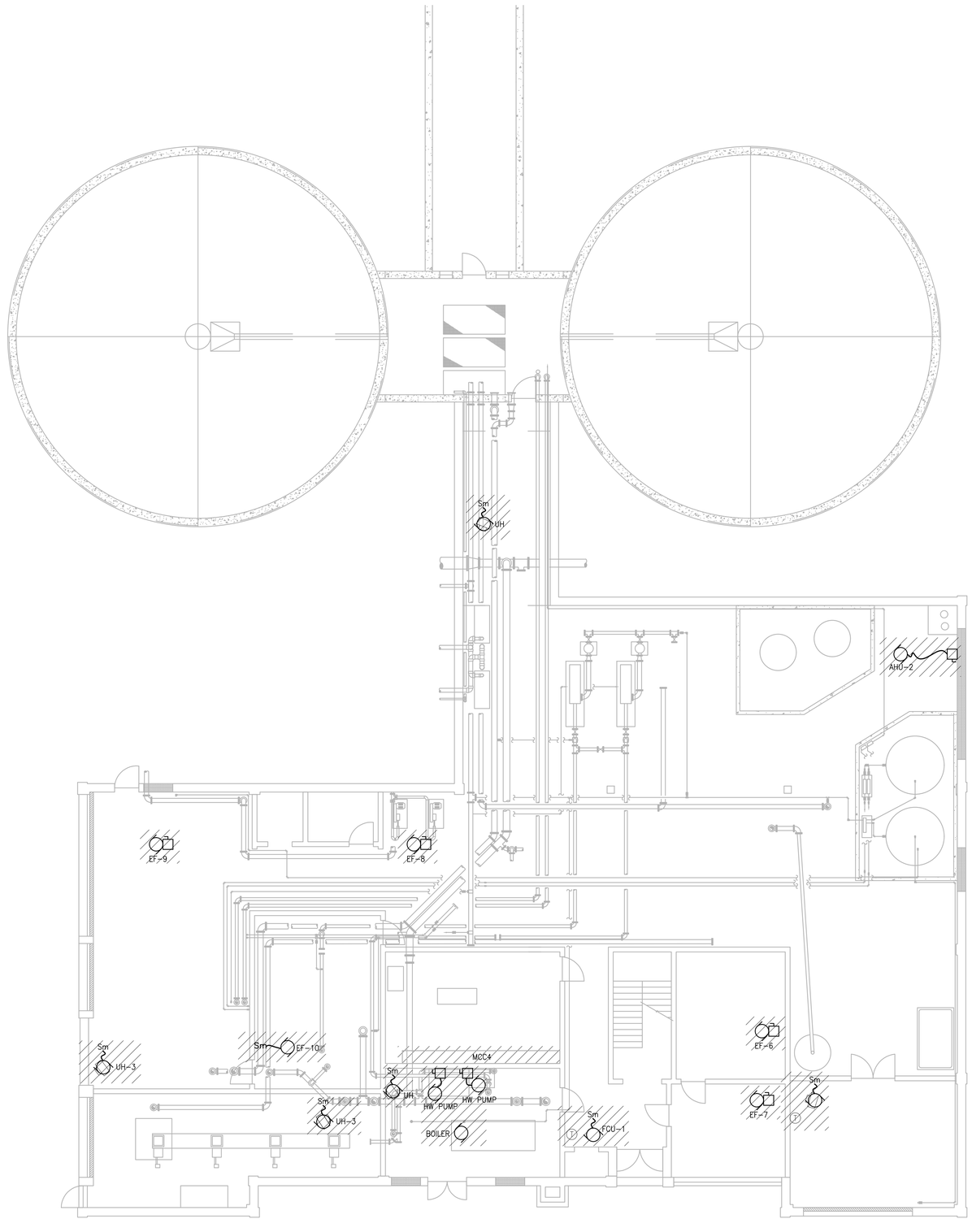
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.1



FIRST FLOOR - PLAN

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

PREPARED BY

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www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Demolition
Solids Handling
Building
First Floor Plan

NO.	REVISIONS	DATE

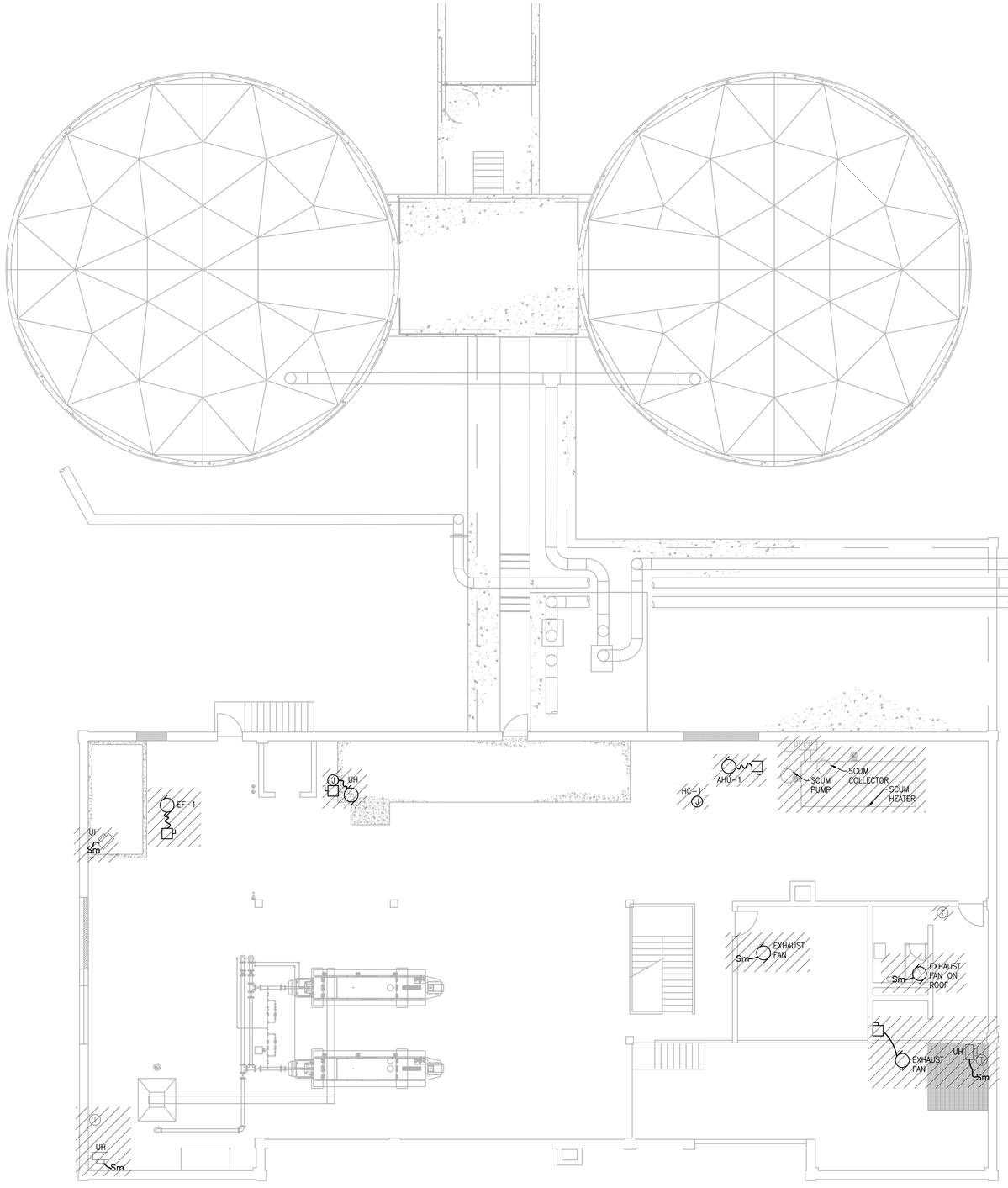
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.2



SECOND FLOOR - PLAN

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

PREPARED BY

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www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

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

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Demolition
Solids Handling
Building
Second Floor
Plan

NO.	REVISIONS	DATE

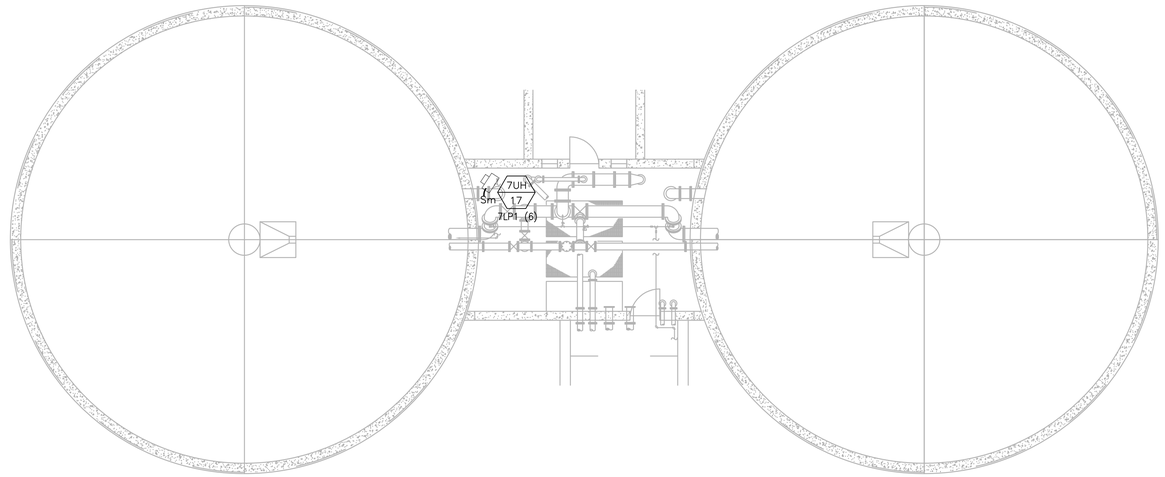
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

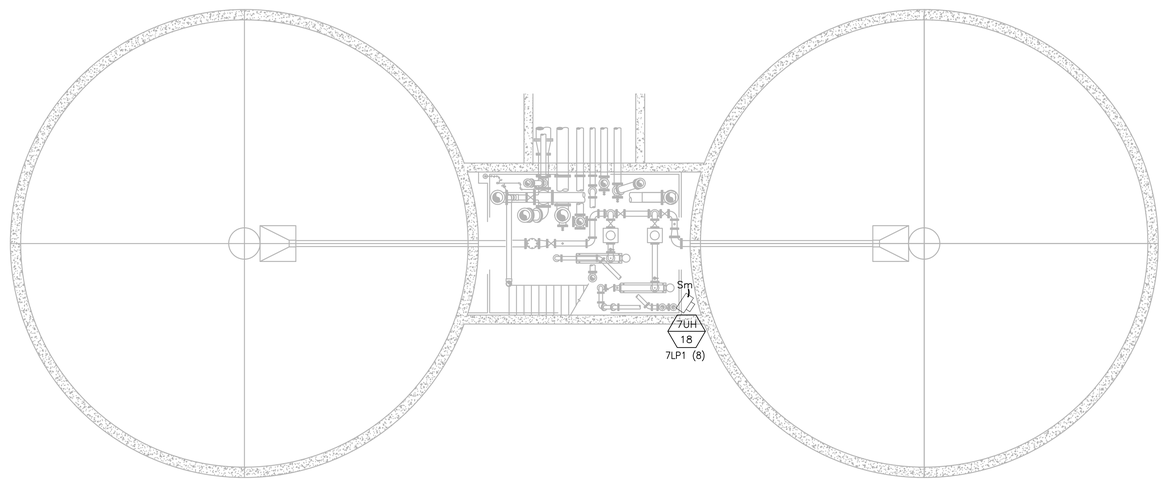
SHEET NO.

E-7.3



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Gravity Thickening Tanks
New Work Power Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

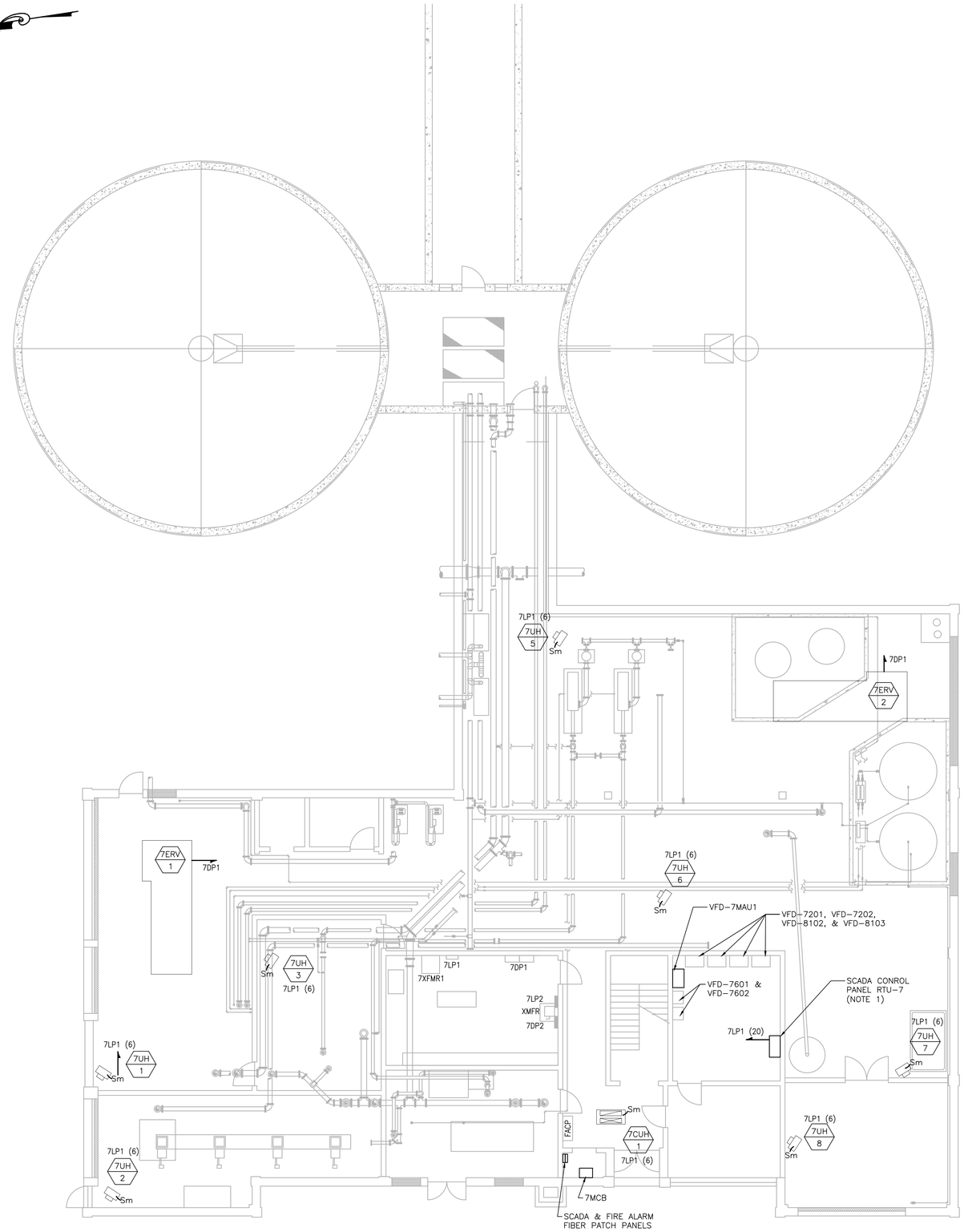
AS SHOWN

SHEET NO.

E-7.4

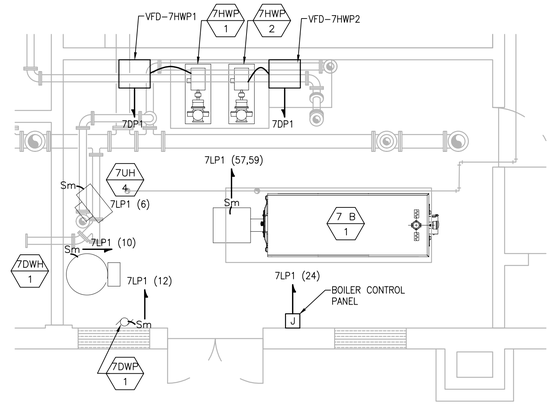
NOTES:

1. TERMINATE EXISTING INSTRUMENTATION/CONTROL SIGNAL WIRING/CABLE IN RTU-7 THAT HAS BEEN PREVIOUS INSTALLED UNDER PHASE 1A AND EXTEND THE EXISTING ASSOCIATED CONDUIT. REFER TO INSTRUMENTATION AND CONTROLS P&ID DRAWINGS FOR THE QUANTITY AND TYPES OF SIGNALS BEING CONNECTED TO RTU-7.



FIRST FLOOR - PLAN

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



BOILER ROOM PART PLAN

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Solids Handling Building First Floor New Work Power Plan

NO.	REVISIONS	DATE

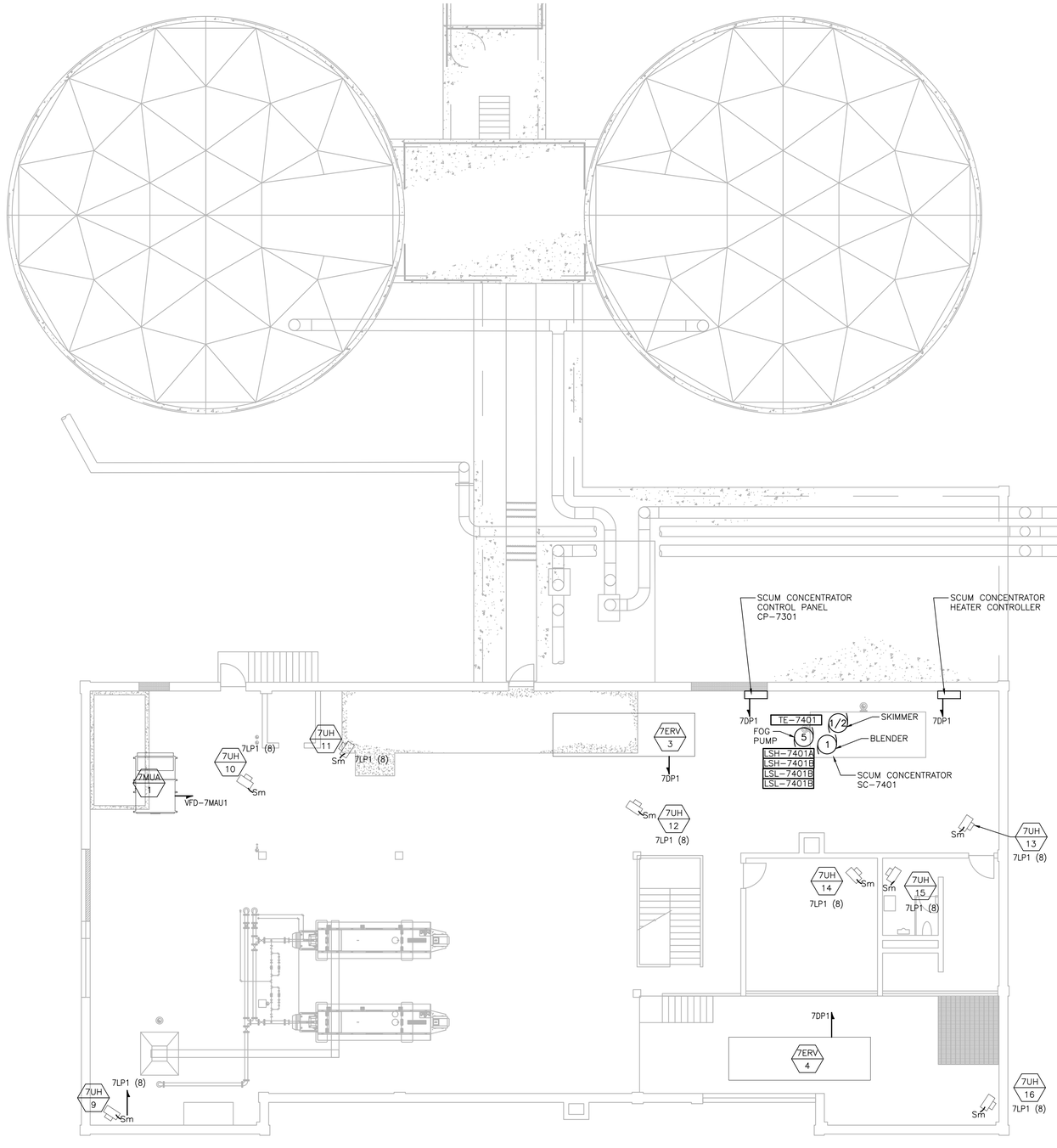
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.5



SECOND FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical
Solids Handling
Building
Second Floor
New Work
Power Plan

NO.	REVISIONS	DATE

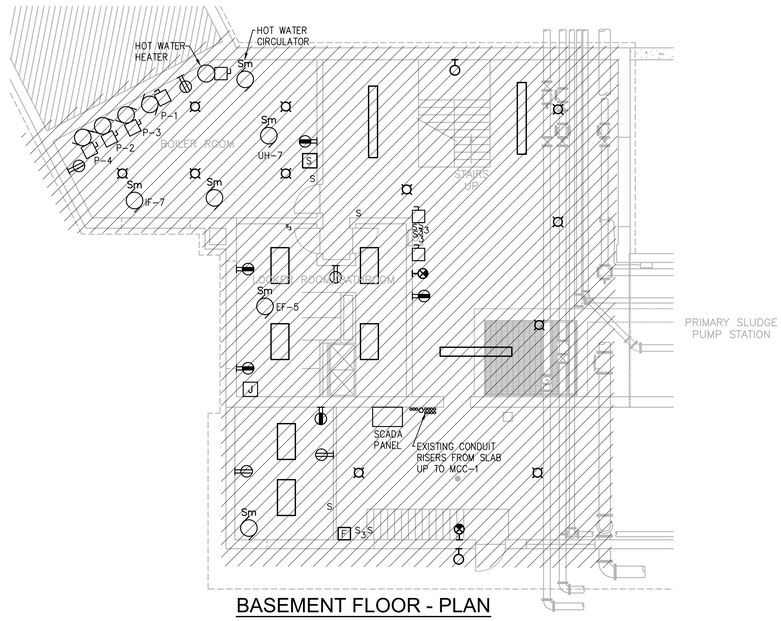
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.6



BASEMENT FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition Control & Admin. Building Basement Plan

NO.	REVISIONS	DATE

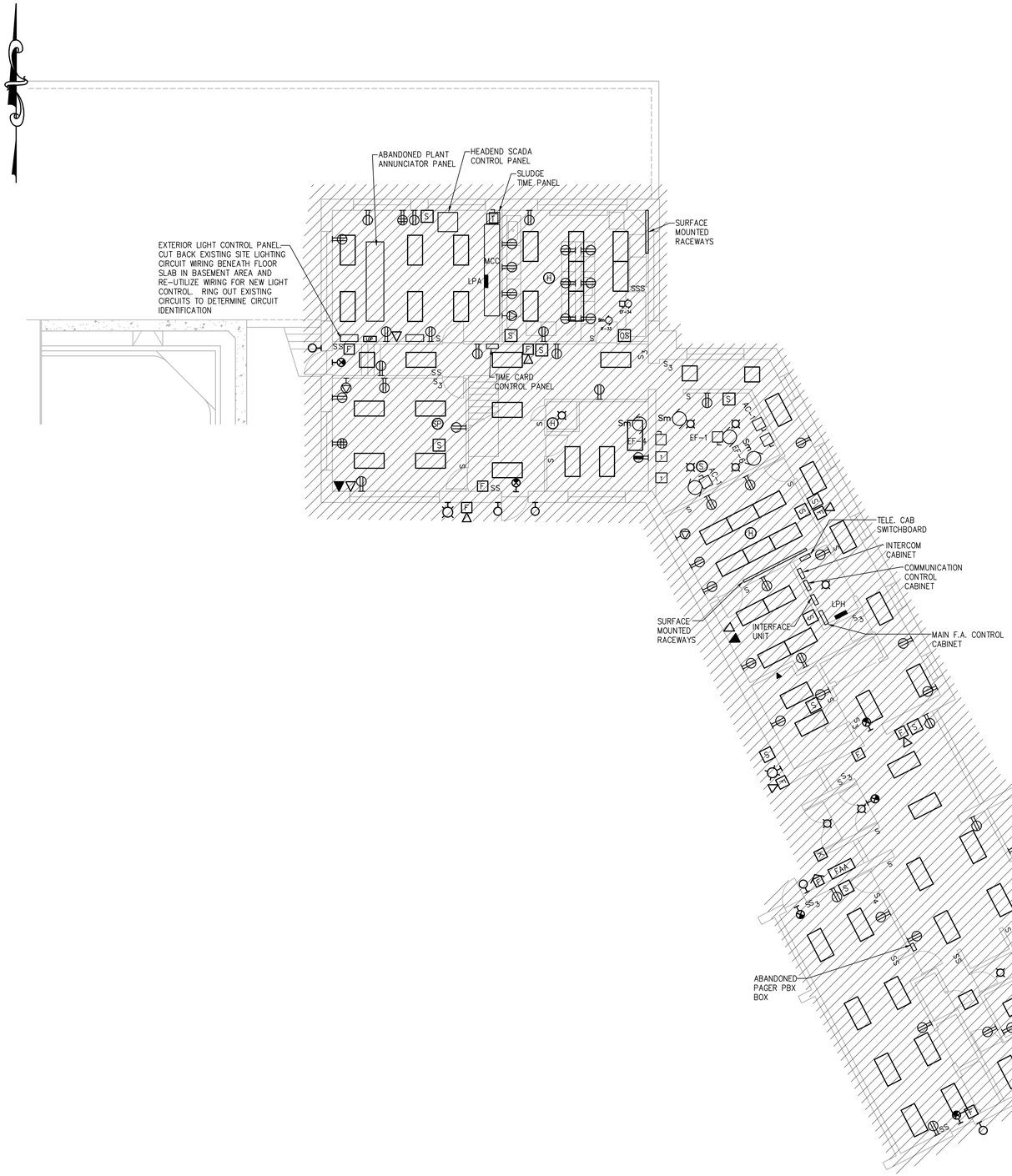
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.1



FIRST FLOOR - PLAN

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

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
ELECTRICAL
No. 40599
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

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Mechanical/Electrical Engineers
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Braintree, Massachusetts 02184
617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Demolition Control & Admin. Building First Plan

NO.	REVISIONS	DATE

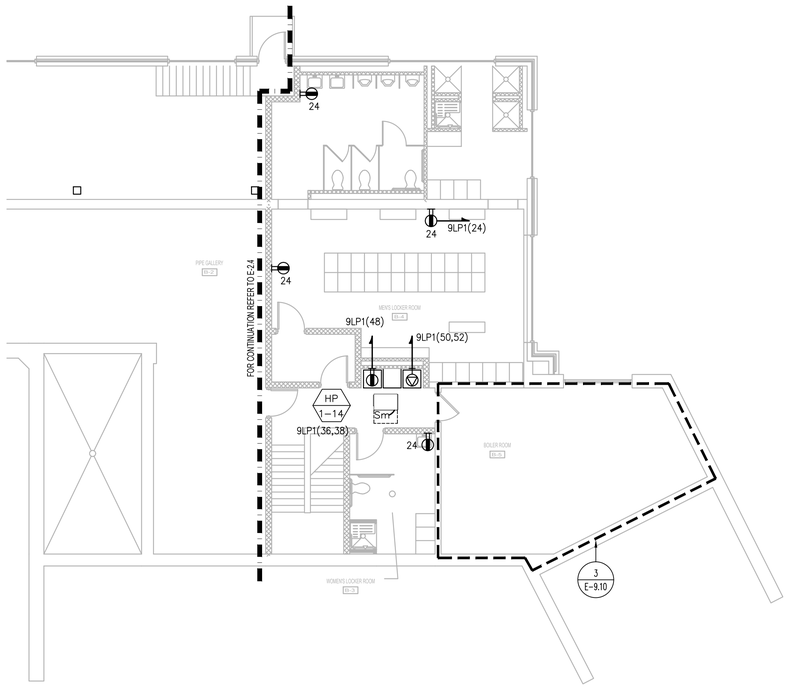
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.2



BASEMENT FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building Basement Power Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.3

FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building First Floor Power Plan

NO.	REVISIONS	DATE

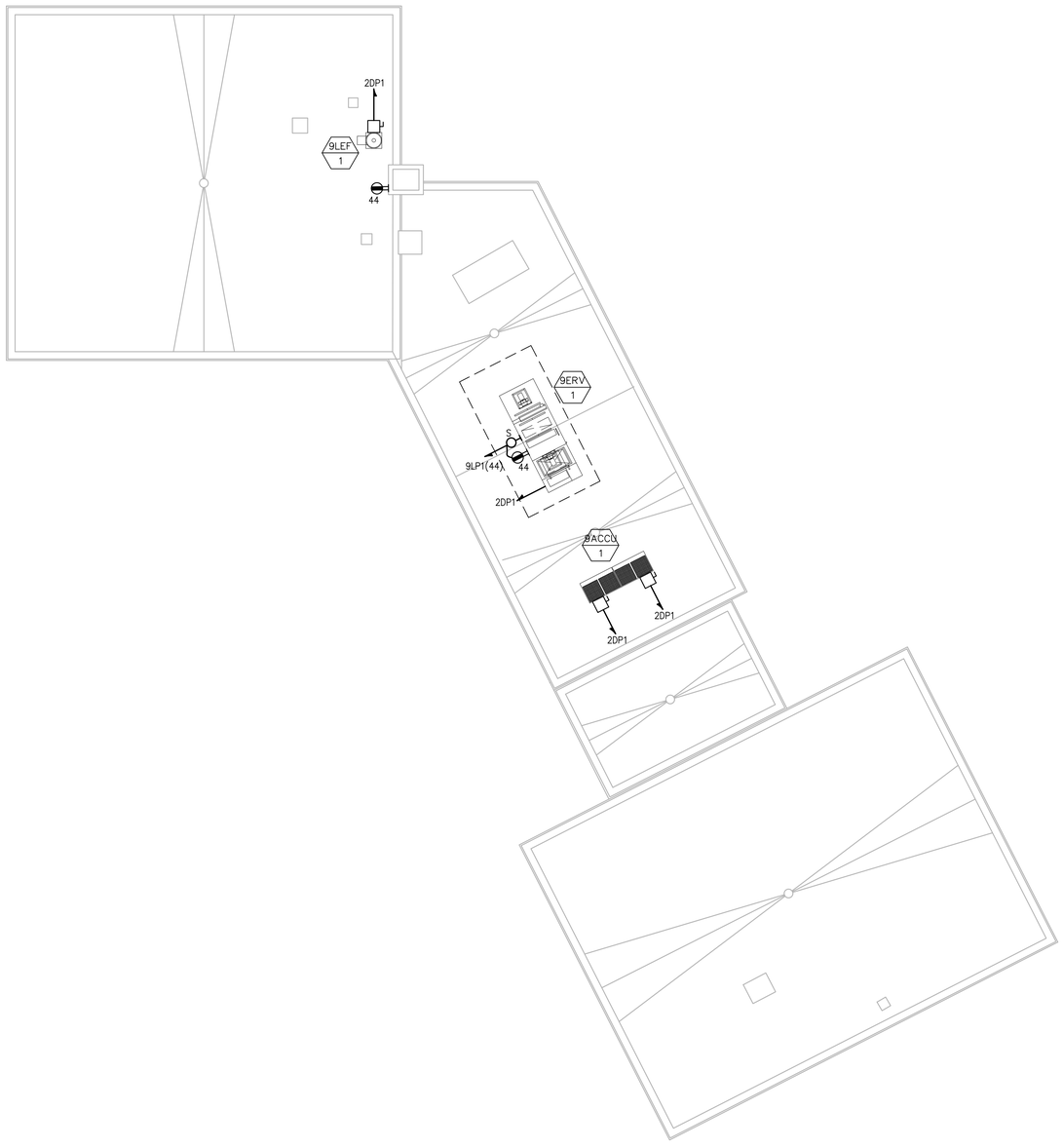
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.4



ROOF - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building Roof Power Plan

NO.	REVISIONS	DATE

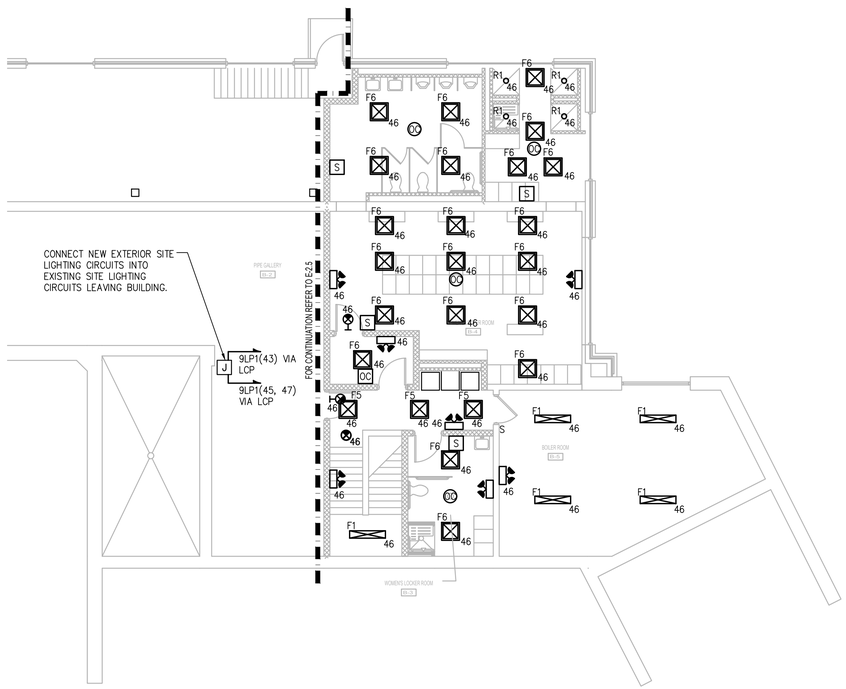
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.5



BASEMENT FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building Basement Lighting Plan

NO.	REVISIONS	DATE

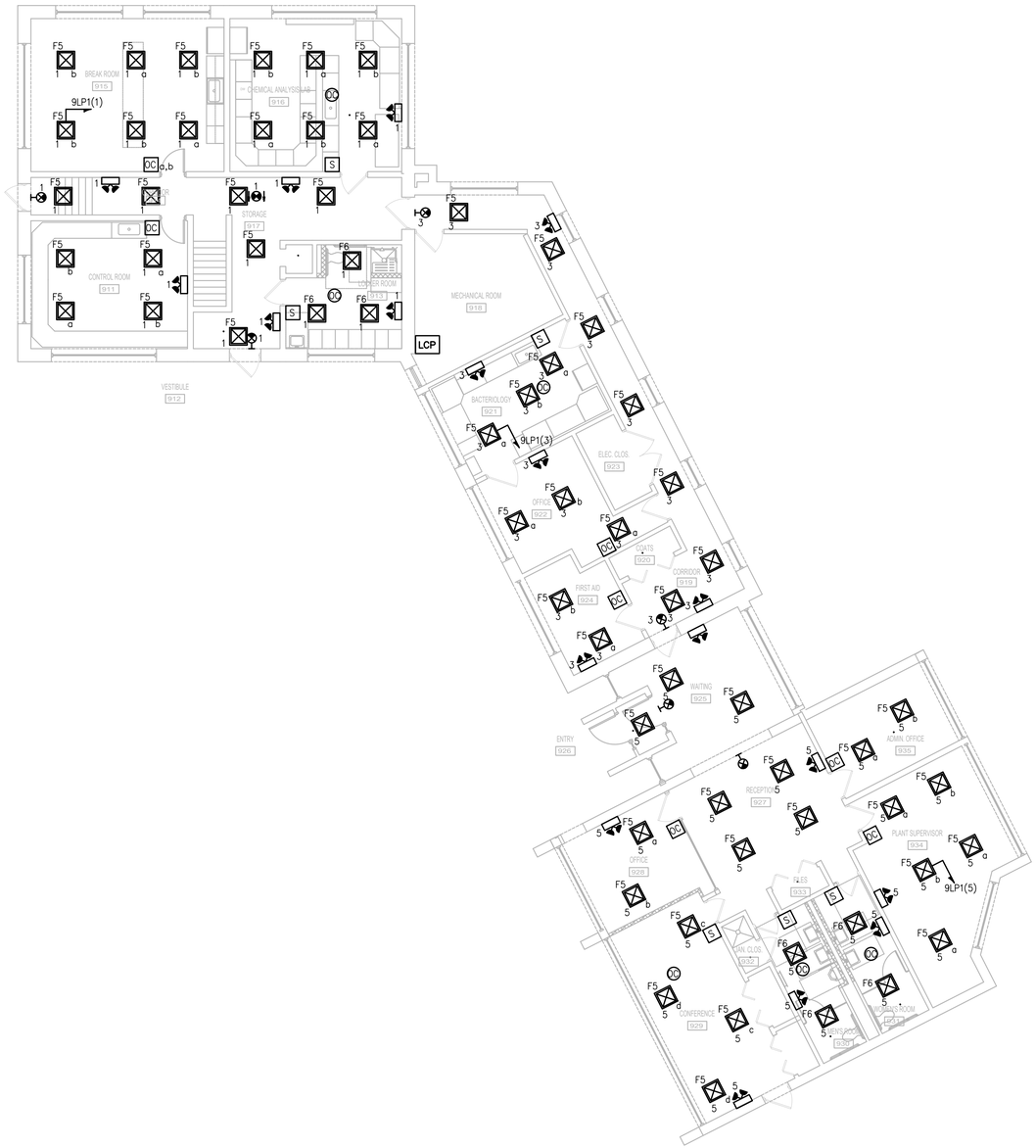
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.6



FIRST FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building First Floor Lighting Plan

NO.	REVISIONS	DATE

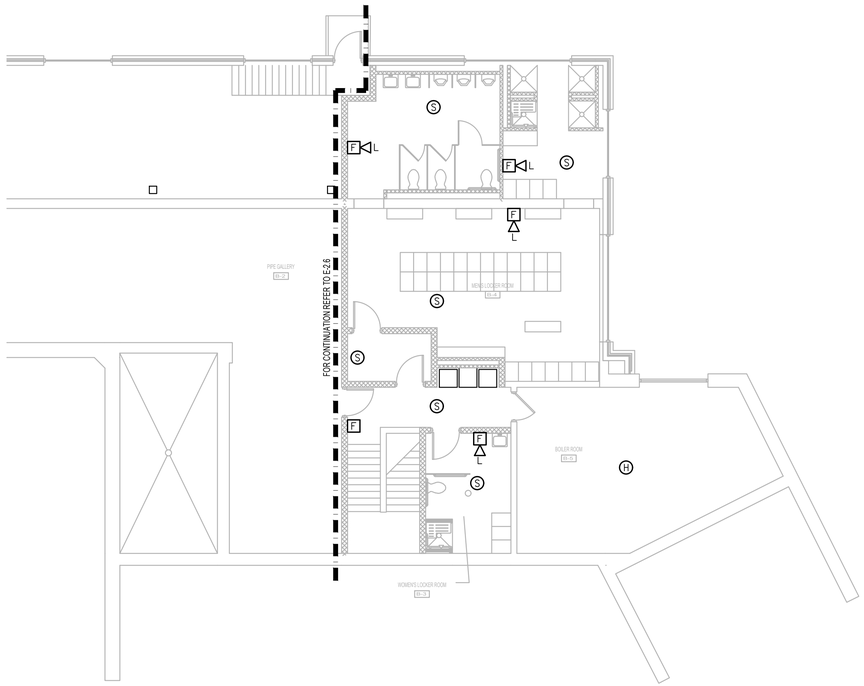
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.7



BASEMENT FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building Basement Fire Alarm Plan

NO.	REVISIONS	DATE

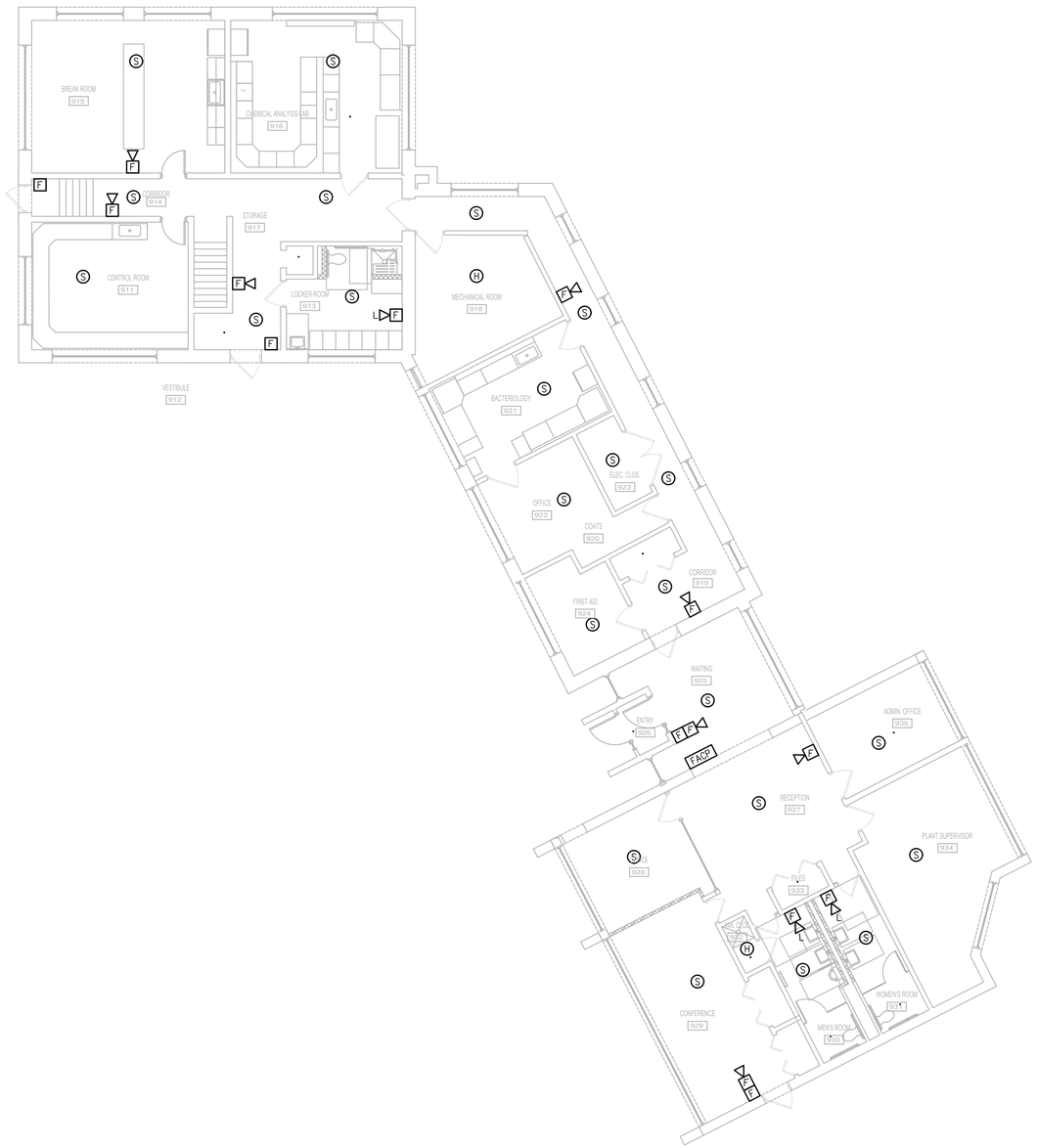
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-9.8



FIRST FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Control & Admin. Building First Floor Fire Alarm Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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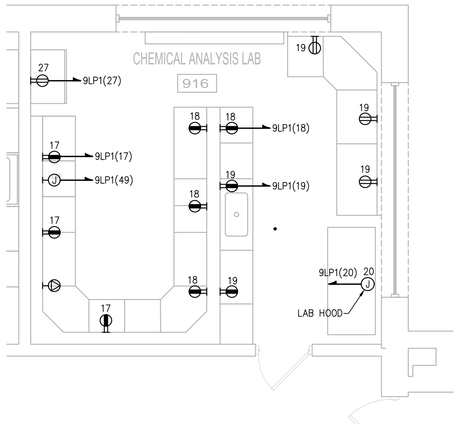
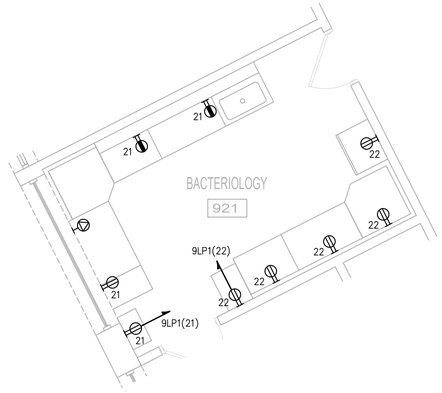
SHEET NO.

E-9.9



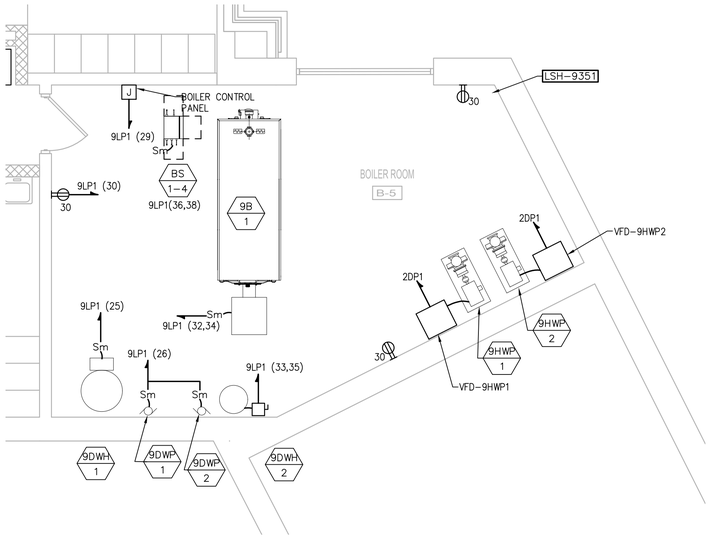
CHEMICAL ANALYSIS LAB PART PLAN

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



BACTERIOLOGY PART PLAN

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



BOILER ROOM PART PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Part Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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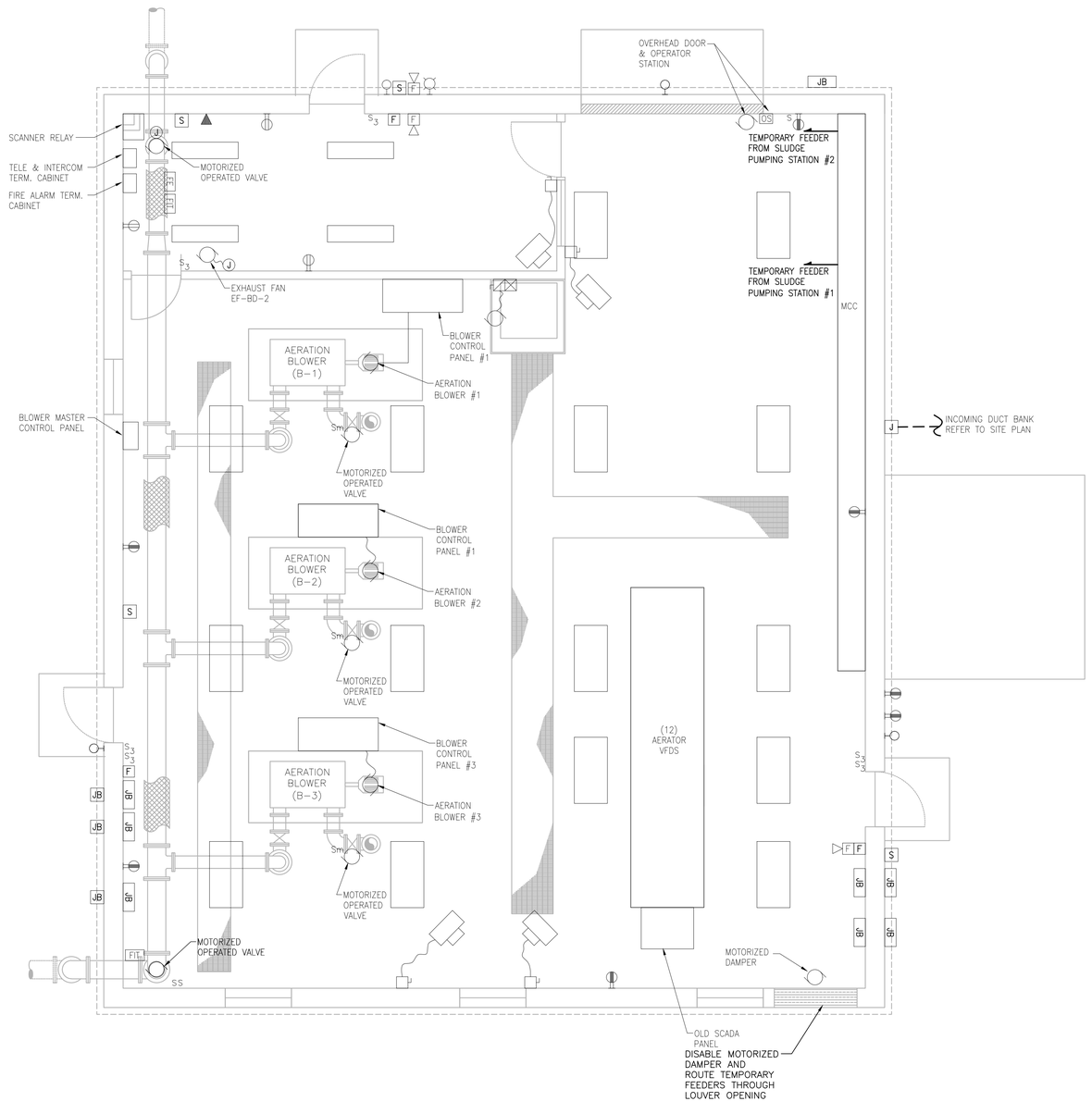
SHEET NO.

E-9.10



PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Phase 1

Taunton, MA

TITLE

Electrical Existing Blower Building Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	7/2/21
BETA JOB NO.:	6050

SCALE

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SHEET NO.

E-9.11