

City of Taunton, Massachusetts

Wastewater Treatment Facility Improvements

Solids Handling



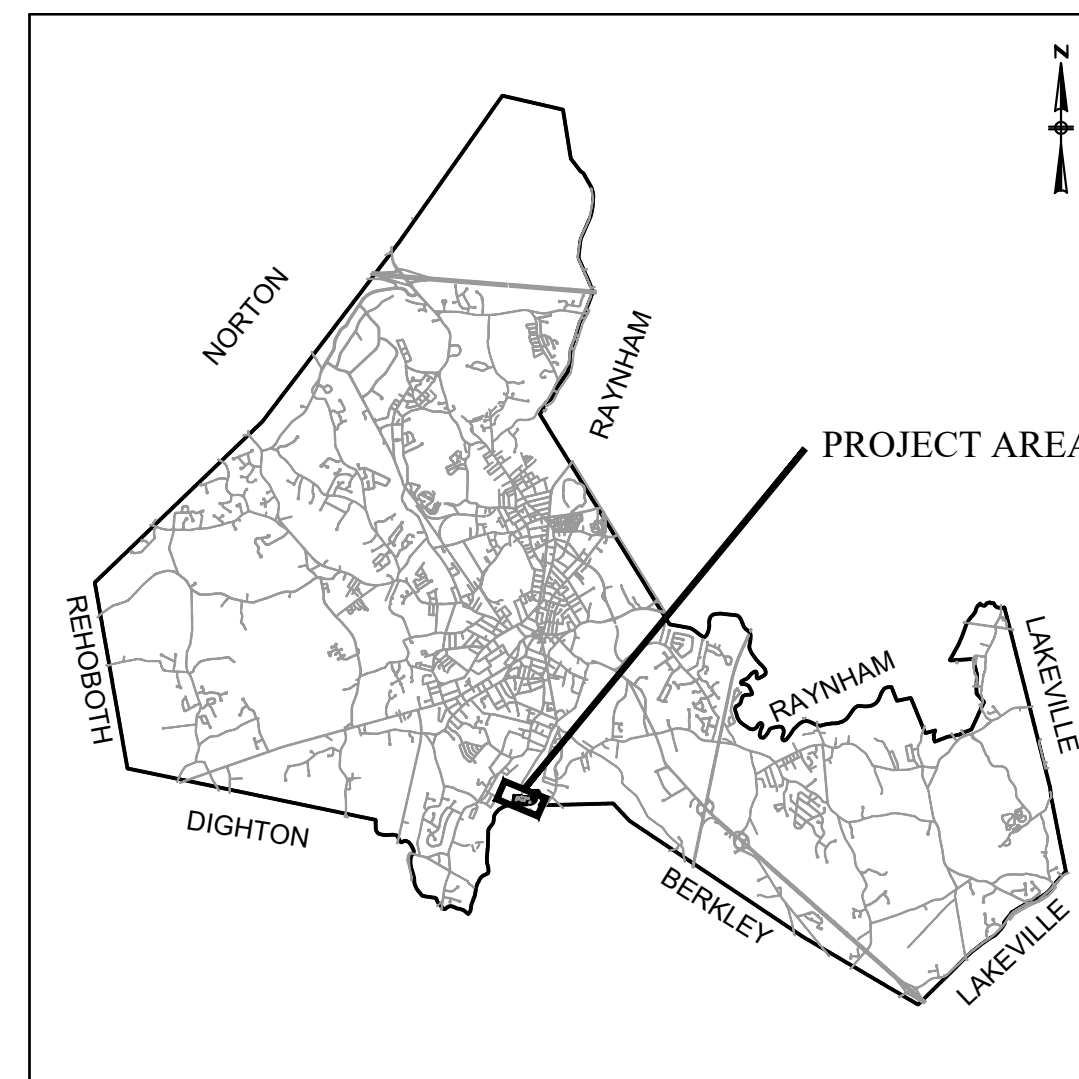
CONSTRUCTION DRAWINGS

Mayor
Shaunna O'Connell

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

City Engineer
Michael Patneau, 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



LOCATION MAP
NOT TO SCALE



Project
Location

PROJECT LOCATION

LOCUS MAP
NOT TO SCALE

Contract S-2020-3
CWSRF No. 6690

Issue Date:

July 20, 2021



Prepared By:



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PREPARED BY



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REGISTERED PROFESSIONAL



Joseph F. Russo, Jr.

SUBCONSULTANT

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

Sheet Index

NO.	REVISIONS	DATE
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DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

NONE

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SHEET NO.

G-1.1

GENERAL CIVIL NOTES

- 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
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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

- 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.
- THE CONTRACTOR SHALL CONDUCT TEST PITS, AS REQUIRED, IN ORDER TO ASCERTAIN THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 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.
- PIPE REPAIR CLAMPS SHALL BE MADE OF STAINLESS STEEL AND PROVIDED WITH TYPE 304 STAINLESS STEEL BOLTS AND NUTS.
- 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.

TREE PRESERVATION NOTES

- PRIOR TO CONSTRUCTION, DETERMINE REQUIRED CLEARANCES FOR CONSTRUCTION OPERATIONS AND PRUNE TREES ACCORDINGLY.
- BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.
- ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.
- 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.
- IMMEDIATELY FOLLOWING BACKFILL OPERATIONS, PROVIDE DEEP WATERING OF THE ROOT SYSTEM, APPLICATION OF FERTILIZER, AND VERTICAL MULCHING.
- 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

- 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.
- 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.
- THE CONSERVATION COMMISSION SHALL BE NOTIFIED ONCE THE EROSION CONTROL BARRIER IS INSTALLED TO APPROVE THE LOCATION AND INSTALLATION OF THE BARRIER.
- 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.
- 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.
- EXCESS SOIL SHALL BE STOCKPILED OUTSIDE OF ALL BUFFER AND RESOURCE AREAS.
- THE STRAW WATTLE/SILT FENCE 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.
- 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.
- 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.
- DISTURBED AREAS SHALL BE RETURNED TO PRE-CONSTRUCTION GRADES, CONSISTENT WITH THAT OF THE ADJACENT WETLANDS. ANY DISTURBED WETLAND AREAS SHALL BE RE-SEEDDED WITH NEW ENGLAND WETLAND MIX. ANY DISTURBED WETLAND BUFFER ZONES SHALL BE RE-SEEDDED 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.
- ALL DEBRIS, EXCESS STOCKPILED SOILS, BRUSH, ETC. SHALL BE REMOVED FROM THE WETLAND AREAS AND BUFFER ZONES FOLLOWING CONSTRUCTION ACTIVITIES.
- 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.
- 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.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 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.
- MAINTENANCE AND CONTROL OF SEDIMENTATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 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.
- WASTE PRODUCTS, INCLUDING STUMPS AND CLEARED VEGETATION SHALL BE DISPOSED AT AN APPROVED LANDFILL.
- SEDIMENTATION BARRIERS SHALL BE MAINTAINED IN GOOD REPAIR UNTIL ALL DISTURBED AREAS HAVE BEEN FULLY STABILIZED WITH VEGETATION.
- AT NO TIME SHALL SEDIMENTS BE DEPOSITED IN A WETLAND OR WATER BODY.
- SEDIMENT CONTROLS SHALL BE INSPECTED AFTER EVERY RAIN EVENT AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.
- PROVIDE EROSION CONTROL BLANKET OVER ENTIRE DISTURBED AREA.
- VEGETATIVE PRACTICES ON DISTURBED SOILS SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER THE LAST ACTIVITY.
- 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.

PREPARED BY



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REGISTERED PROFESSIONAL



Joseph F. Ferris, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

General Notes

NO.	REVISIONS	DATE
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DRAWN BY: BM

DESIGNED BY: BM

CHECKED BY: RM

ISSUE DATE: 3/24/2021

BETA JOB NO.: 6050

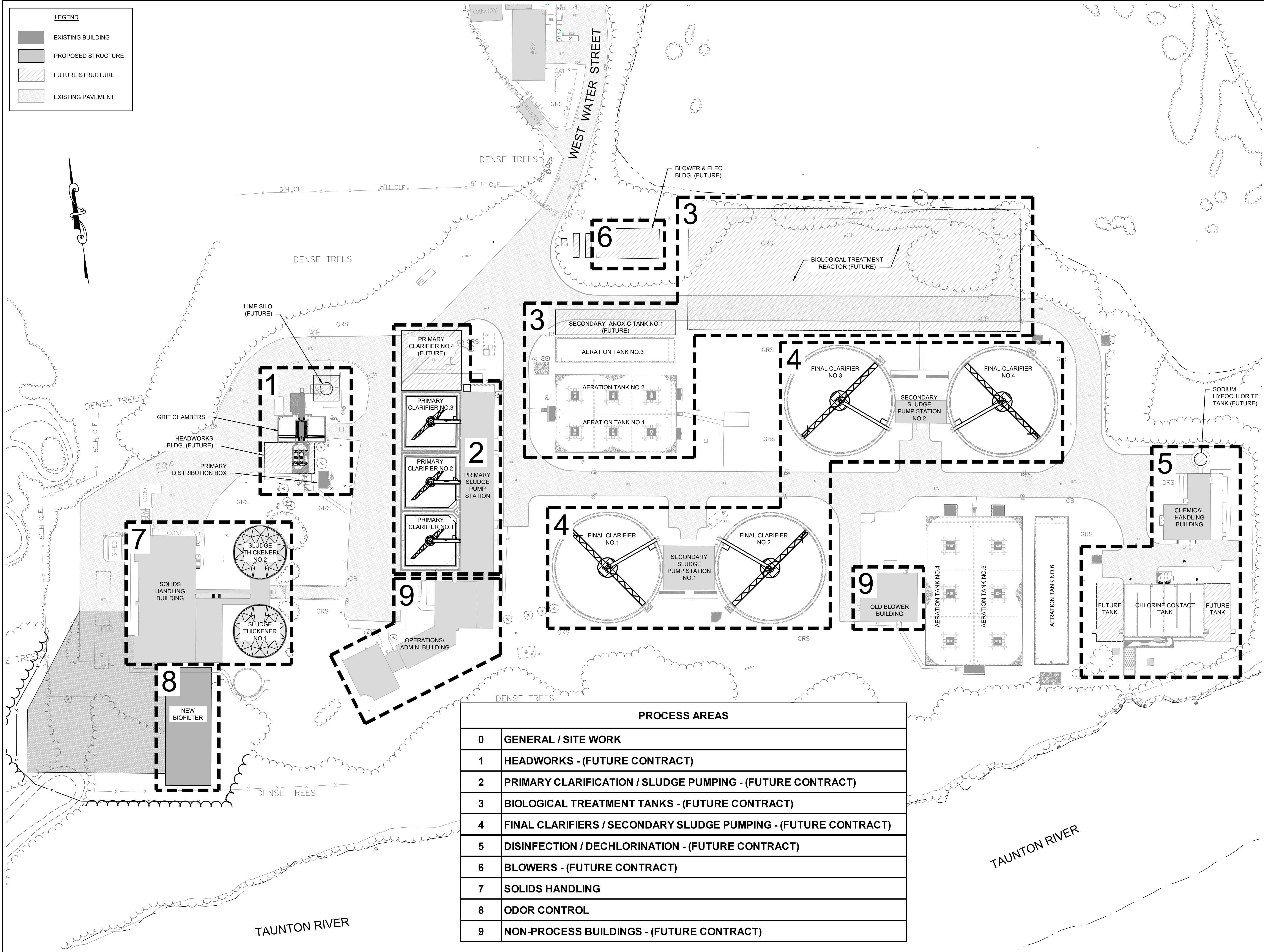
SCALE

NONE

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G-1.3



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LEGEND	
[Solid Grey Box]	EXISTING BUILDING
[Light Grey Box]	PROPOSED STRUCTURE
[Hatched Box]	FUTURE STRUCTURE
[Dotted Box]	EXISTING PAVEMENT

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REGISTERED PROFESSIONAL

 Joseph F. Fedrigo, Jr.

SUBCONSULTANT

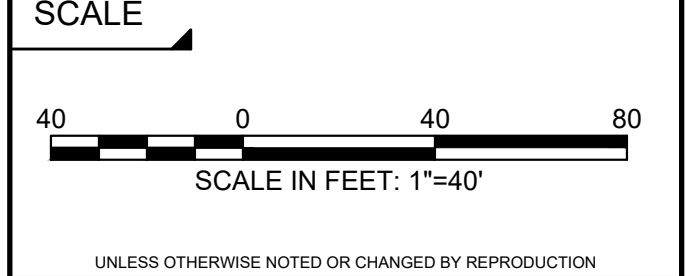
PROJECT
Taunton Wastewater Treatment Facility Improvements Solids Handling
 Taunton, MA

TITLE
WWTF Process Areas Key Plan

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

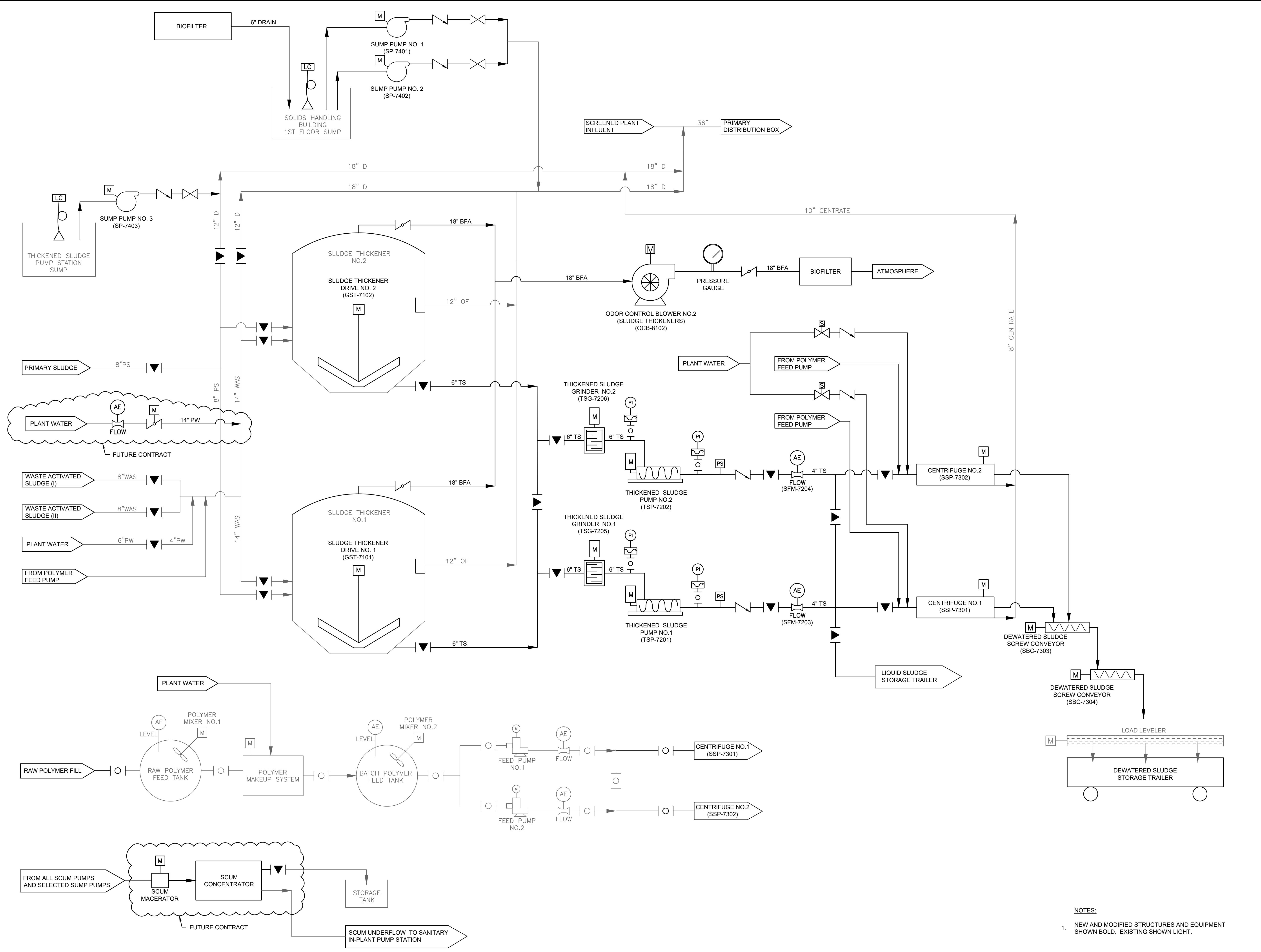
NO.	REVISIONS	DATE

DRAWN BY: BM
 DESIGNED BY: MA
 CHECKED BY: RM
 ISSUE DATE: 3/24/2021
 BETA JOB NO.: 6050



SHEET NO.
 G-1.4

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

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PROJECT
Taunton Wastewater Treatment Facility Improvements Solids Handling
 Taunton, MA

TITLE
Process Flow Diagram Solids Handling

NO.	REVISIONS	DATE

DRAWN BY: BM
 DESIGNED BY: JD
 CHECKED BY: RM
 ISSUE DATE: 3/24/2021
 BETA JOB NO.: 6050

SCALE
 NONE

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 SHEET NO.
G-2.1

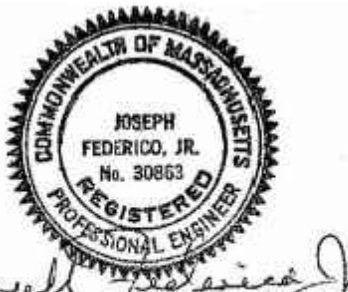
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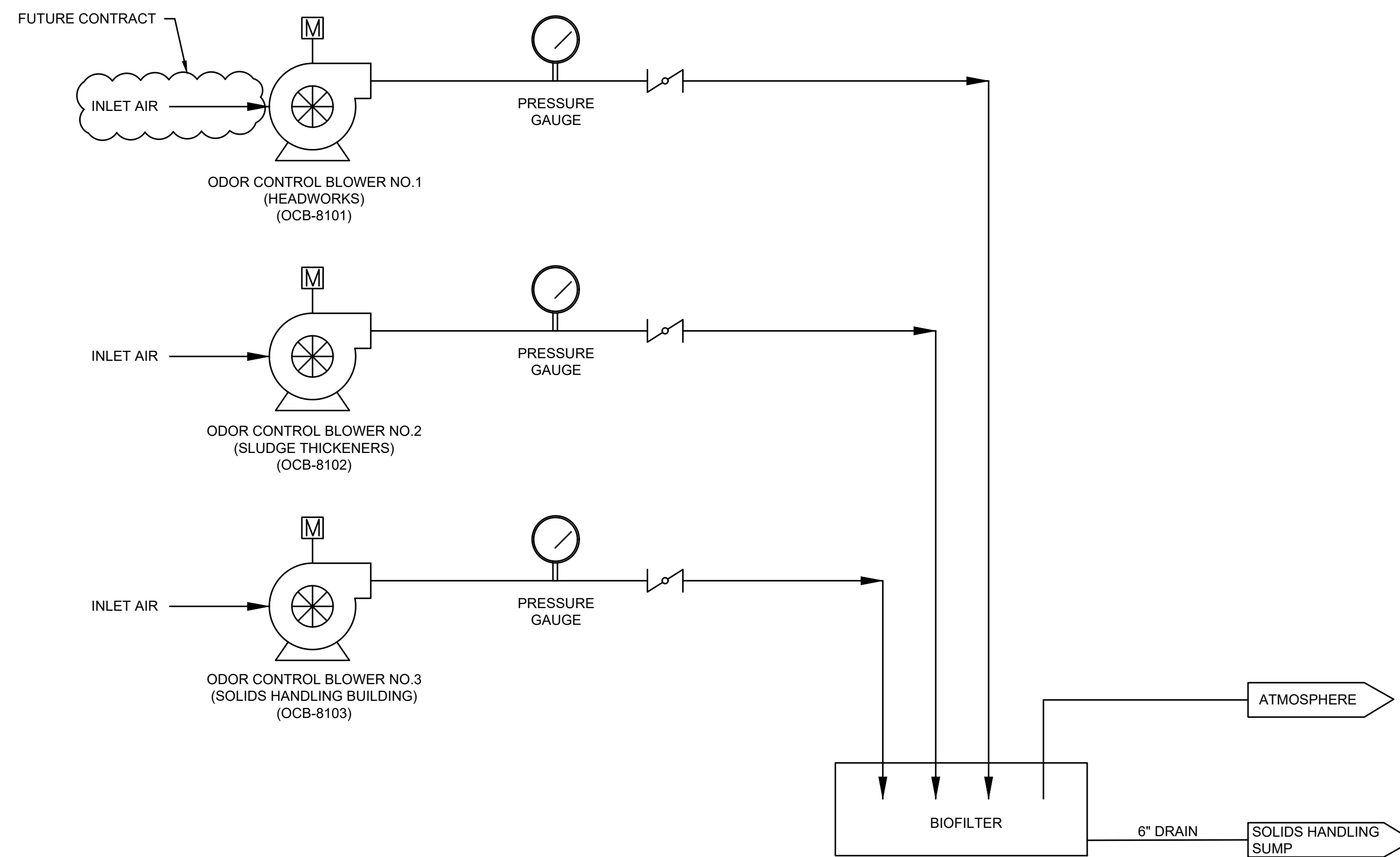
PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Process Flow Diagram Odor Control



NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

NONE

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SHEET NO.

G-2.2

- NOTES:**
- NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

WWTF Existing Site Plan

3/24/2021 3:38 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\WWTF SITE PLAN - EXIST.DWG (BETA STD BW.CTB)

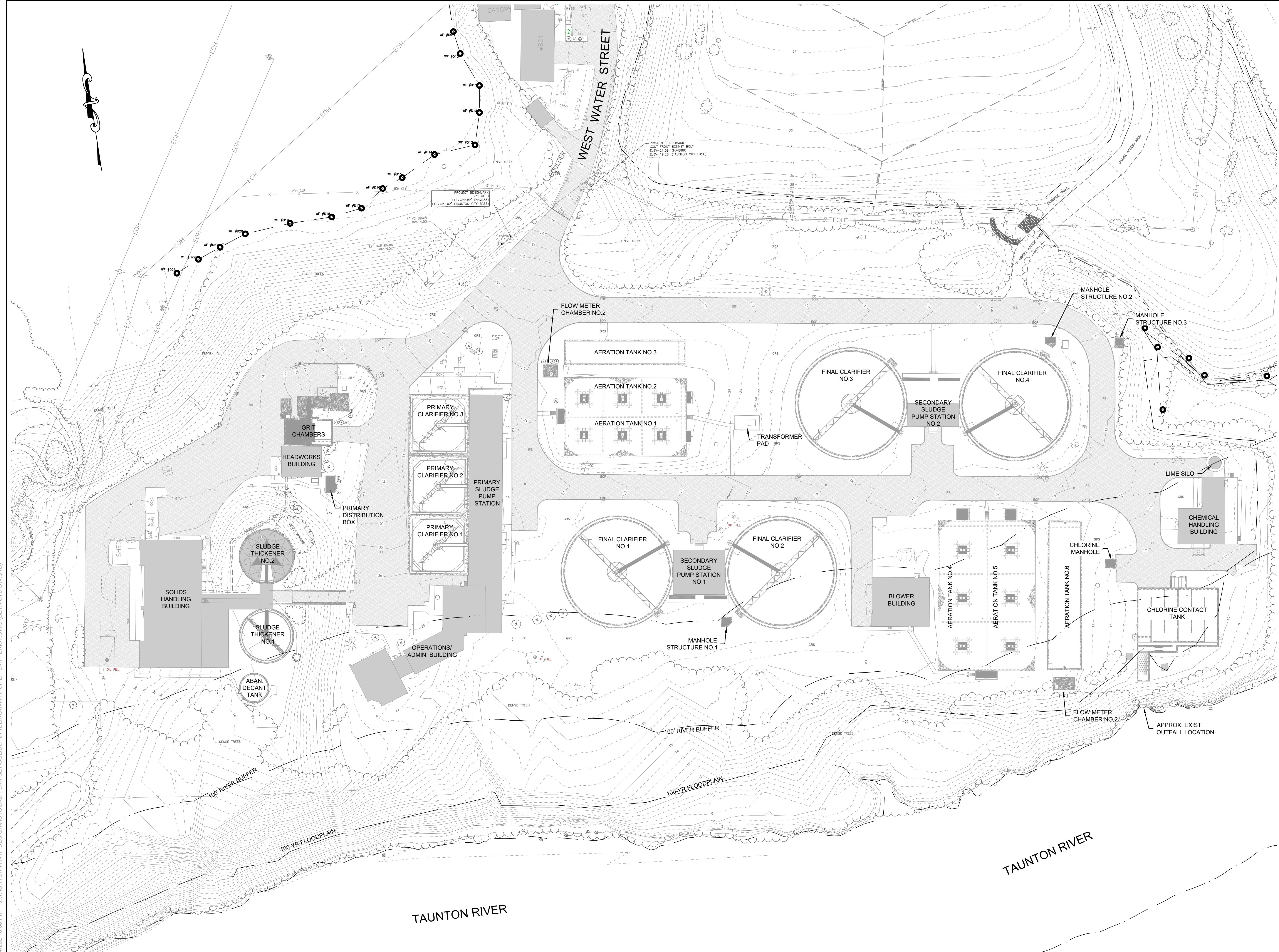


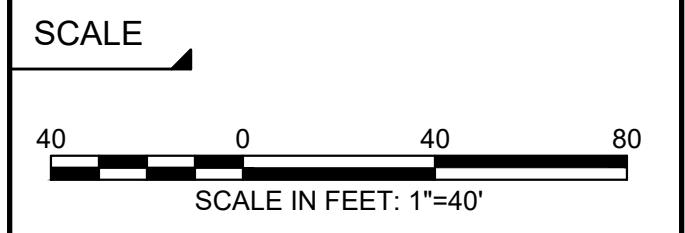
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Table with 2 columns: NO., REVISIONS, DATE. Includes drawing, design, check, and issue dates.

Table with 2 columns: NO., REVISIONS, DATE. Includes scale and other project information.

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REGISTERED PROFESSIONAL



Joseph P. Rodriguez, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Biofilter Site Grading Plan

NO. REVISIONS DATE

DRAWN BY: BM

DESIGNED BY: BM

CHECKED BY: RM

ISSUE DATE: 3/24/2021

BETA JOB NO.: 6050

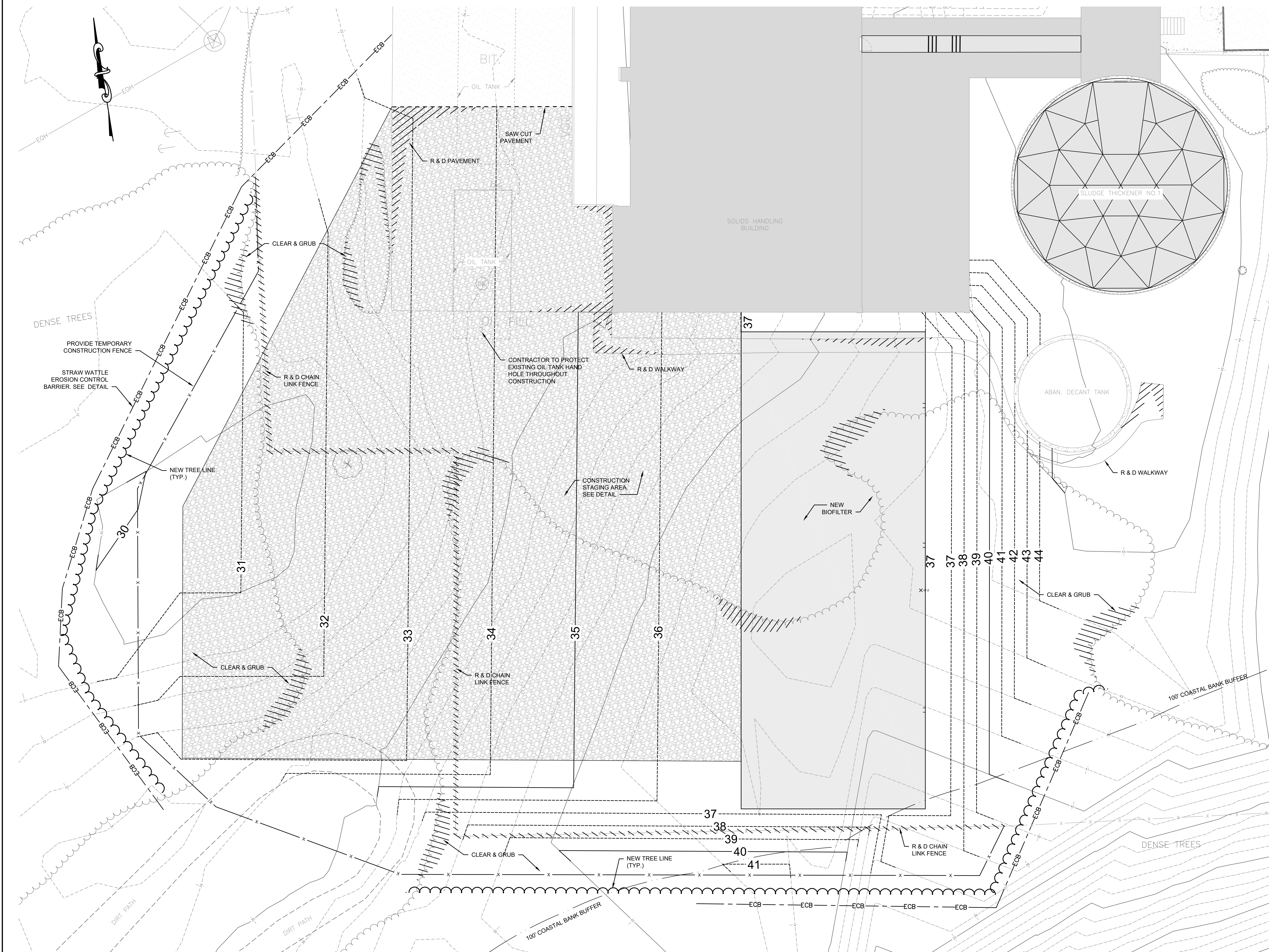
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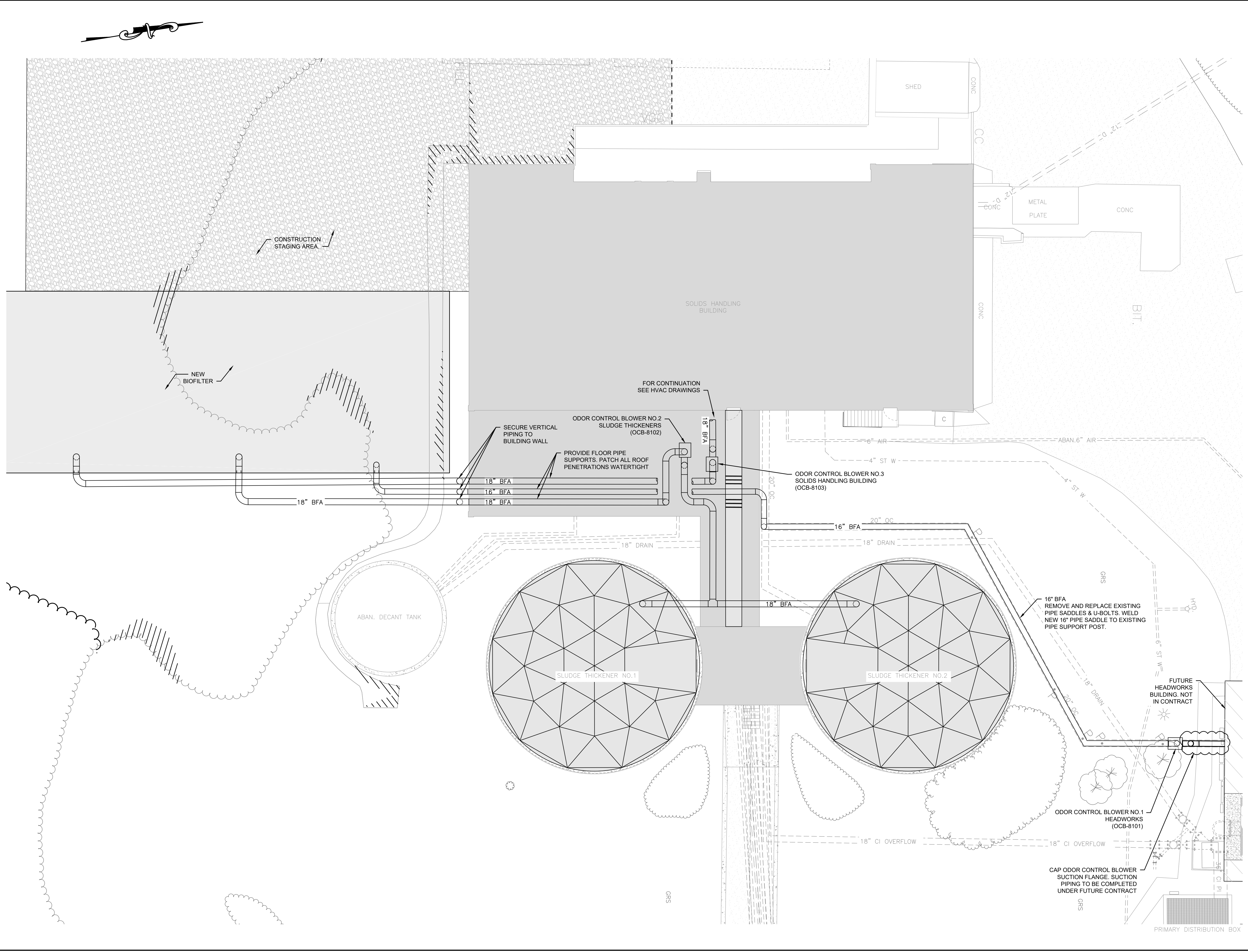
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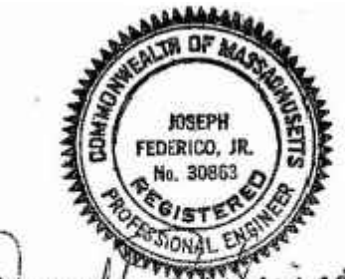


3/24/2021 3:38 PM J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\BIOFILTER SITE GRADING PLAN.DWG (BETA STD BW.CTB)

3/24/2021 3:38 PM J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\WTF YARD PIPING - PROP.DWG (BETA STD BW.CTB)



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REGISTERED PROFESSIONAL

 Joseph F. Jr.


SUBCONSULTANT

PROJECT
Taunton Wastewater Treatment Facility Improvements Solids Handling
 Taunton, MA

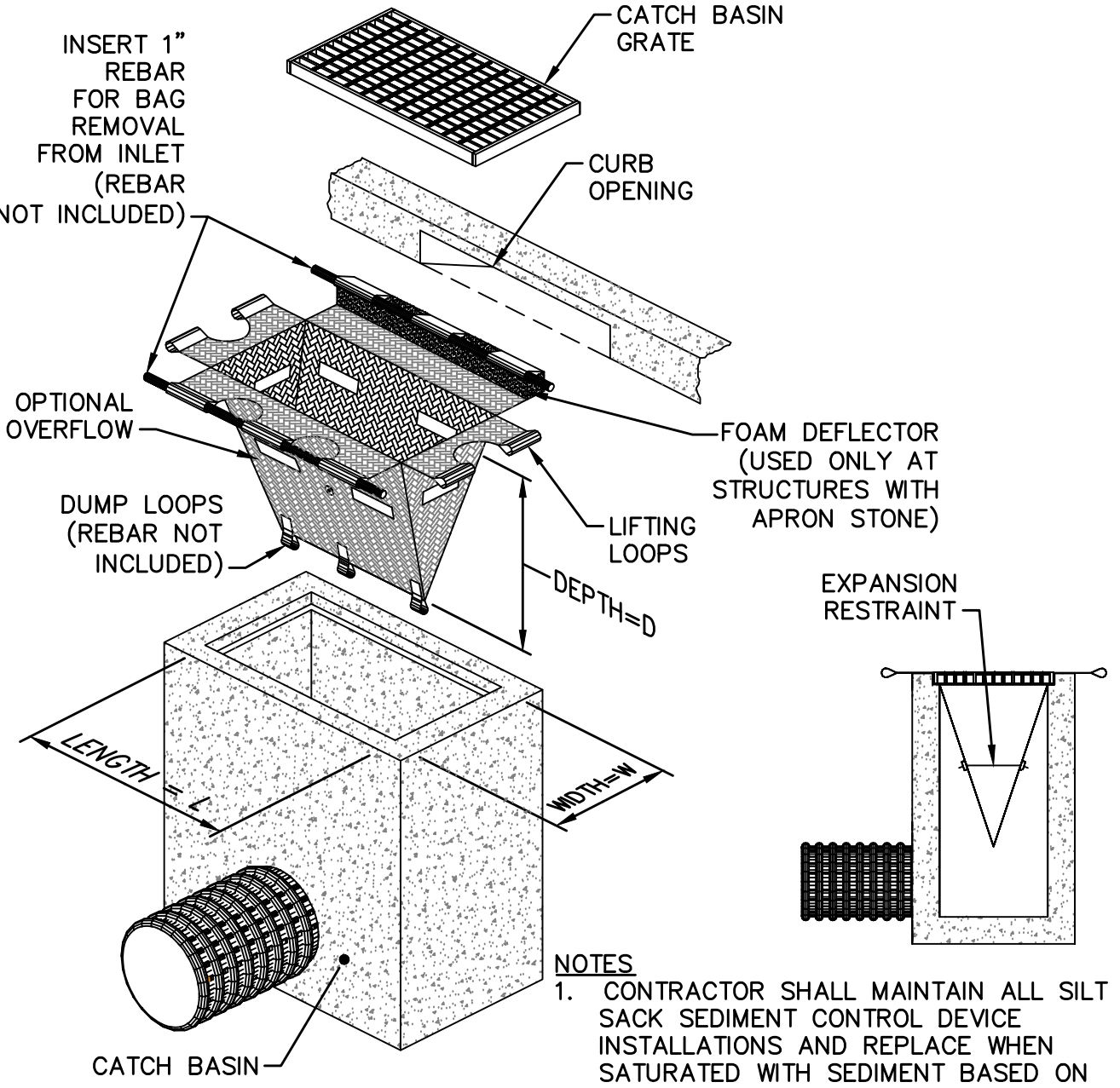
TITLE
Yard Piping Plan

NO.	REVISIONS	DATE

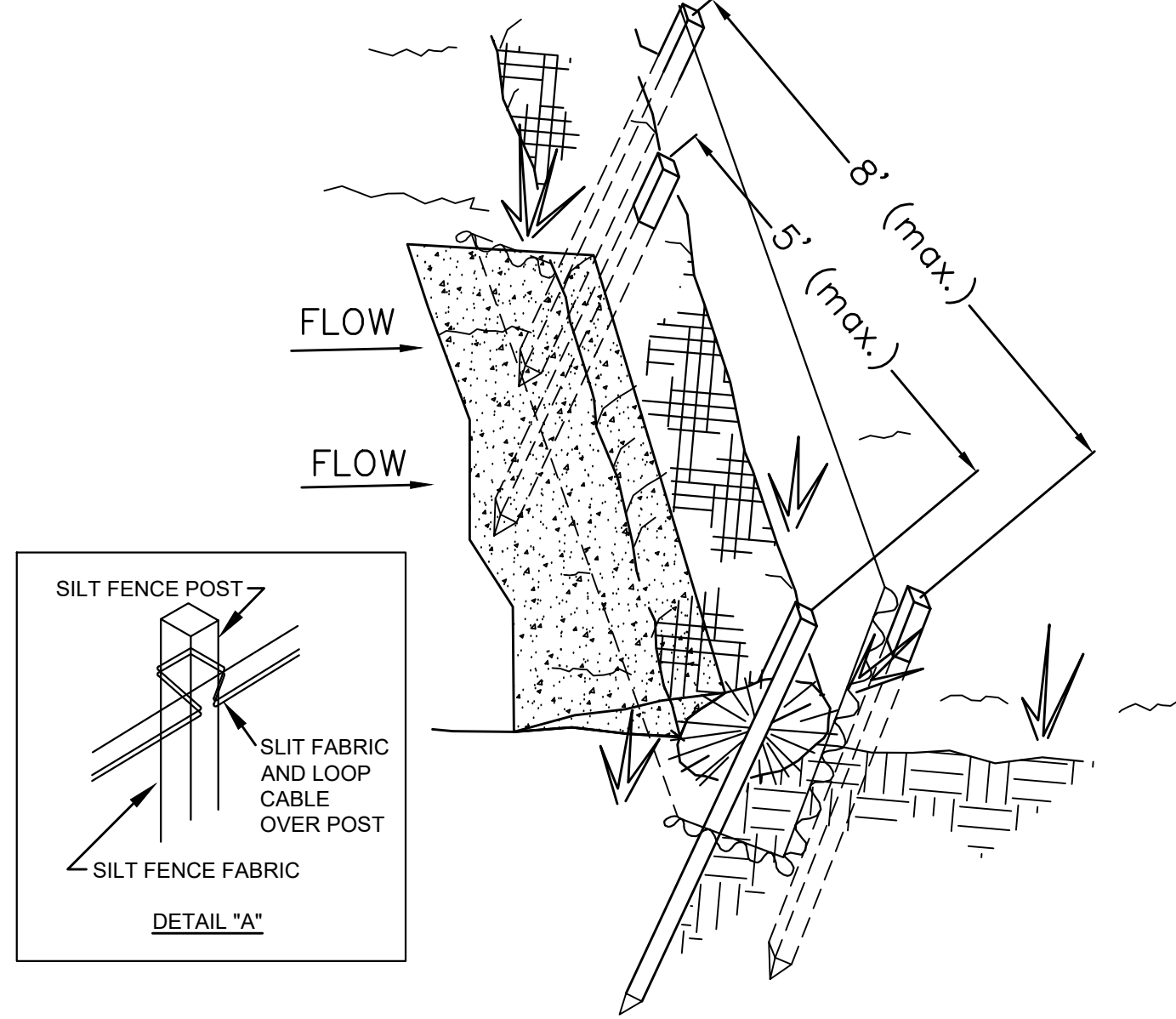
DRAWN BY: BM
 DESIGNED BY: BM
 CHECKED BY: RM
 ISSUE DATE: 3/24/2021
 BETA JOB NO.: 6050

SCALE

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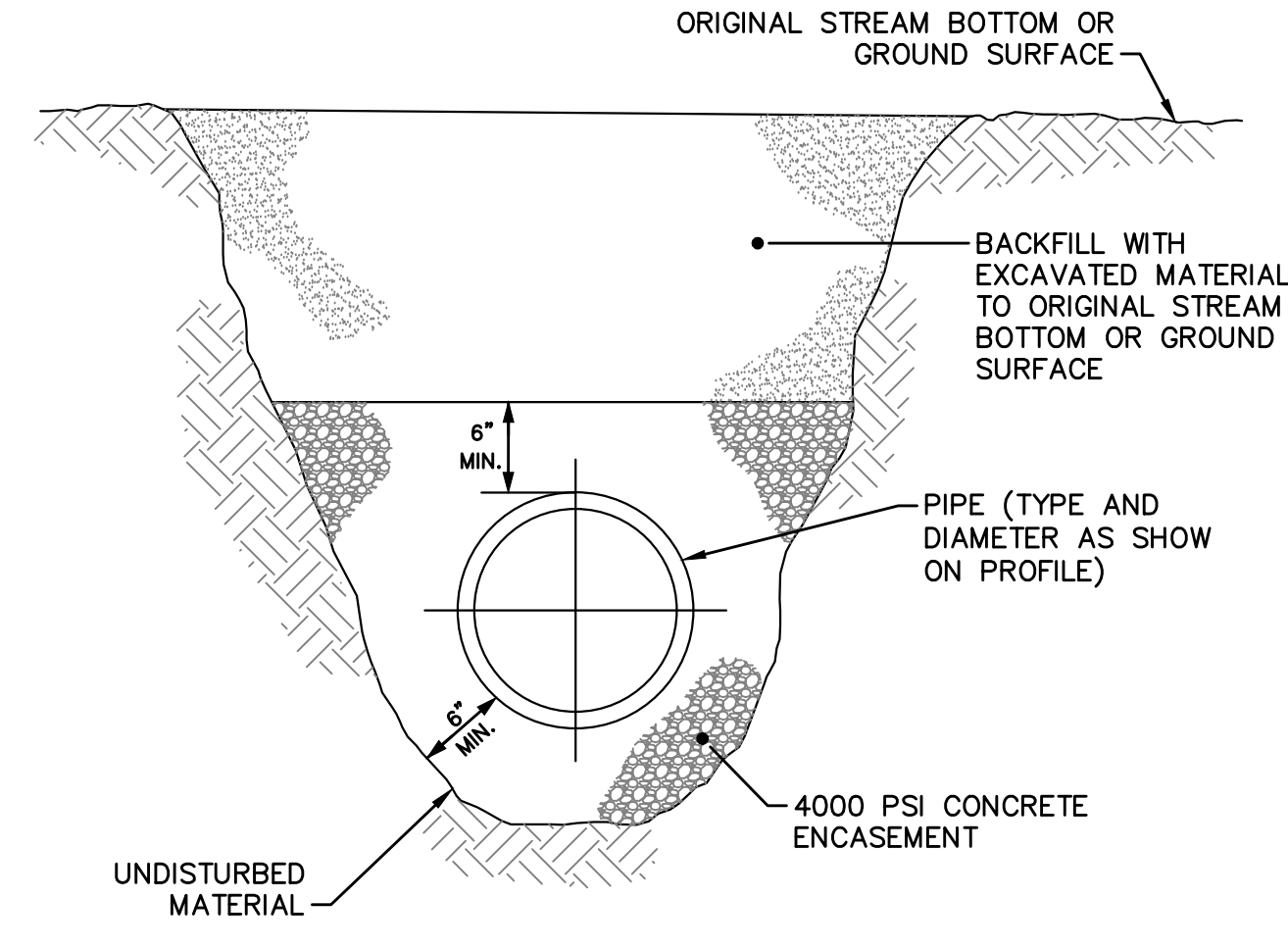
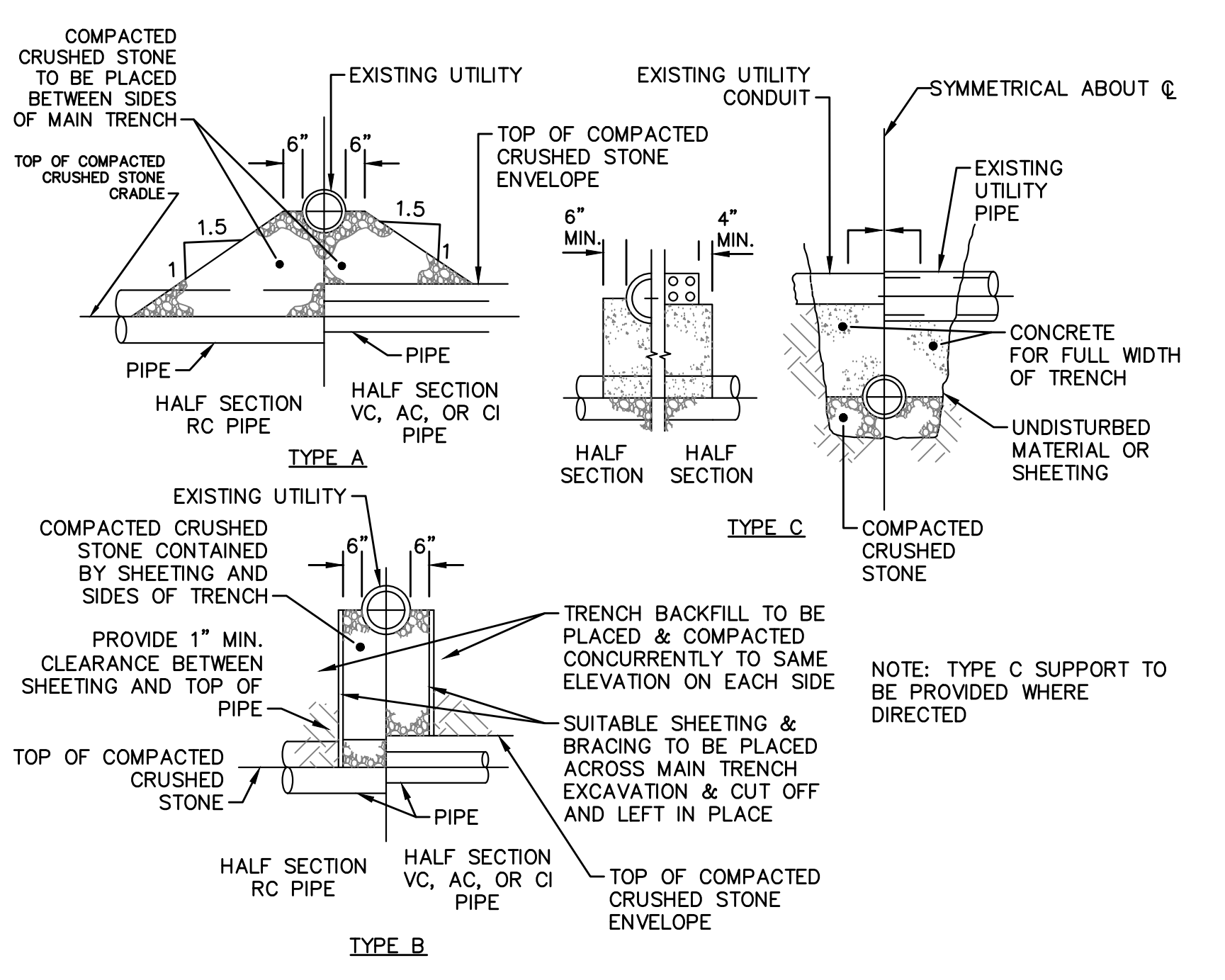
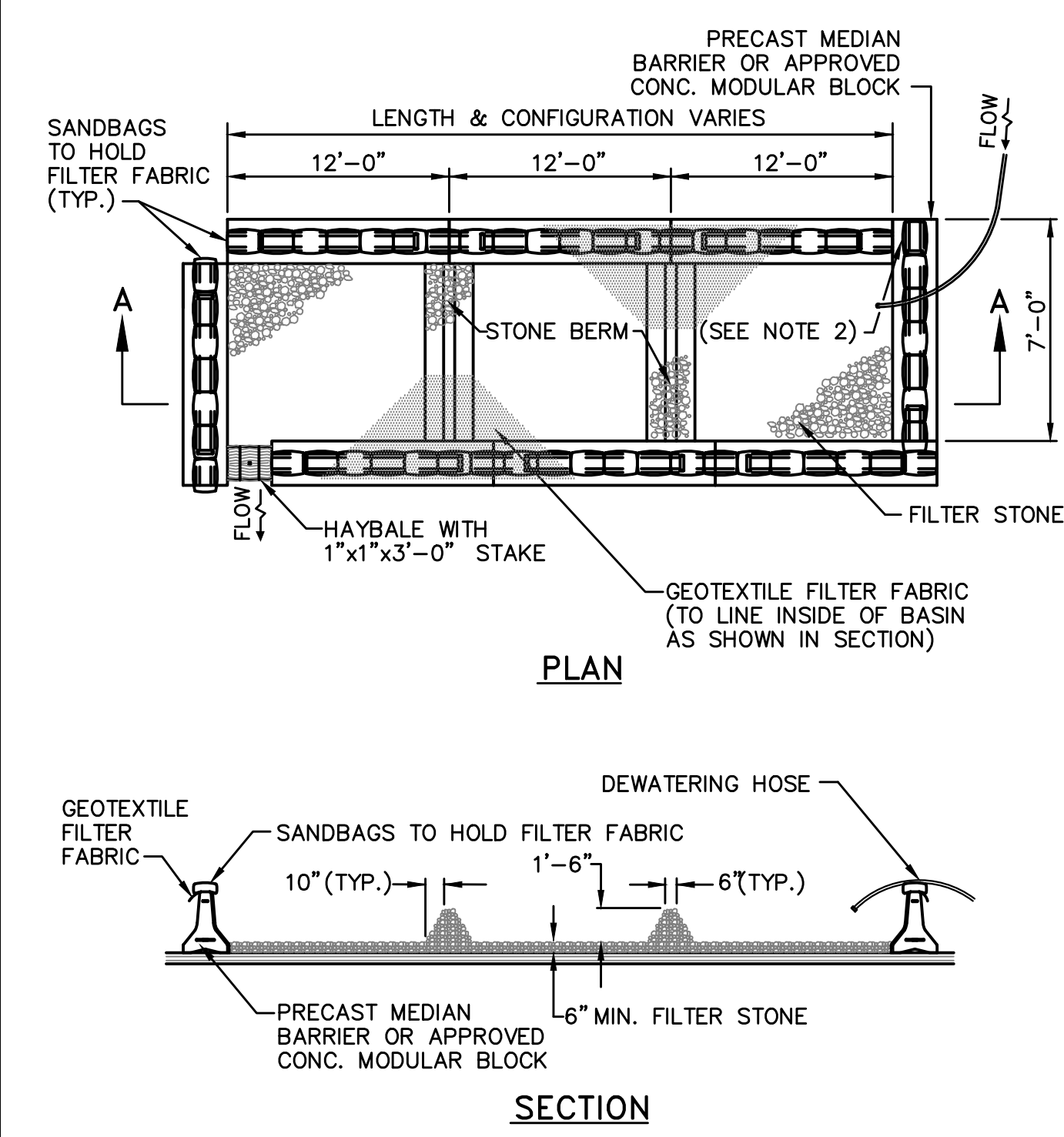
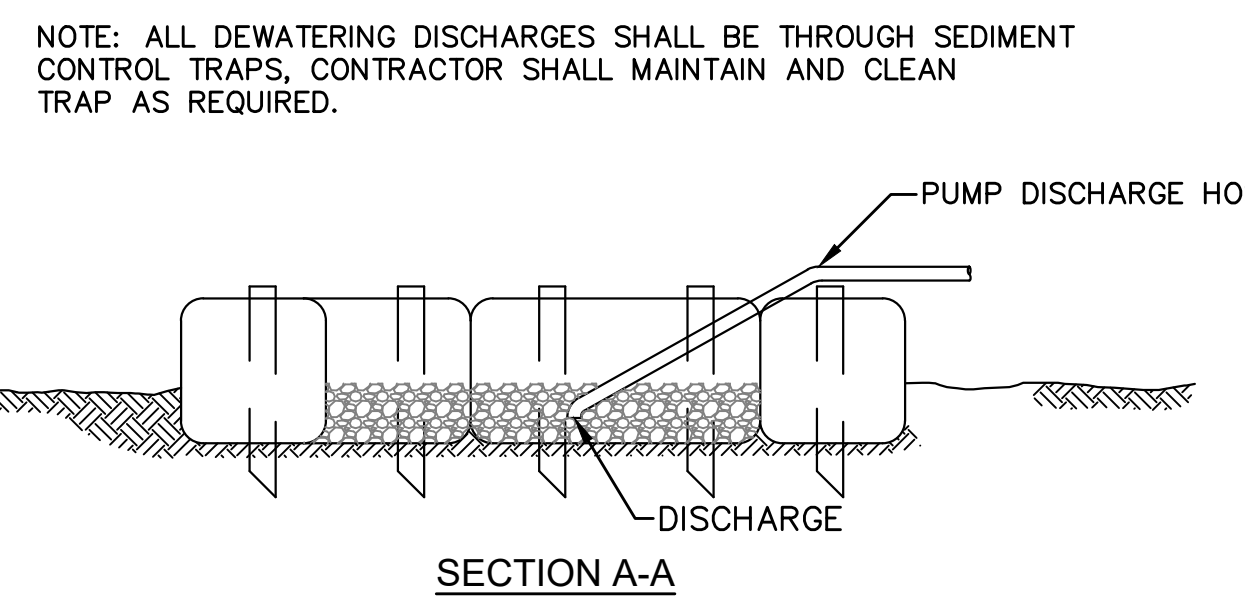
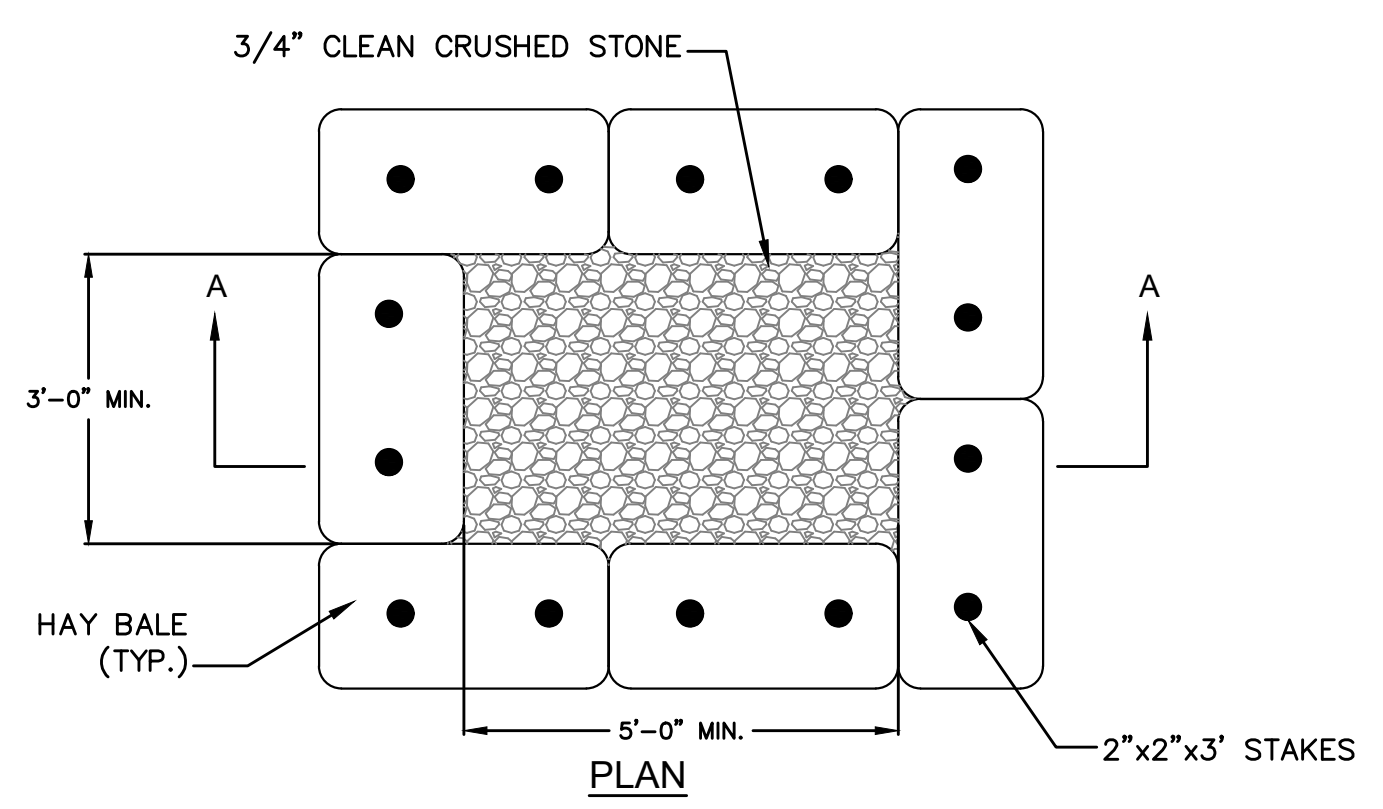
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C-1.3



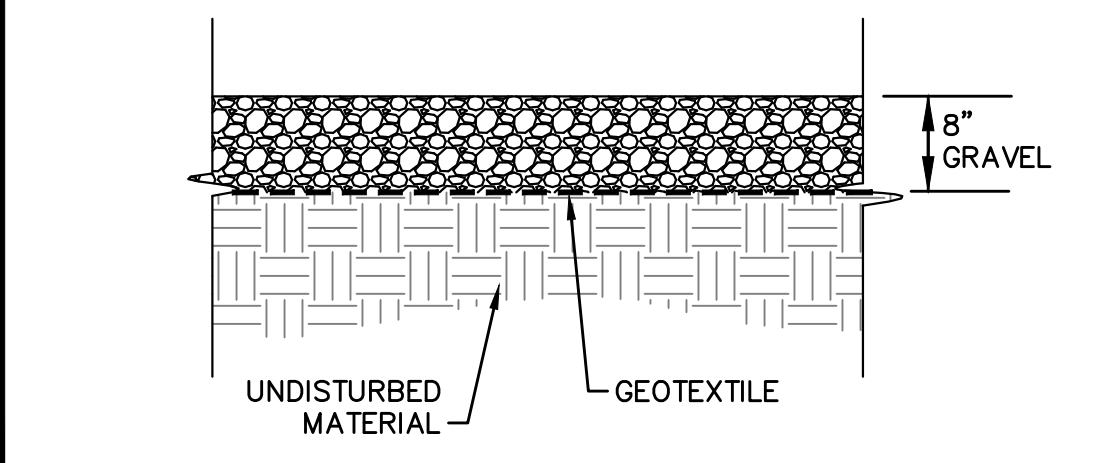
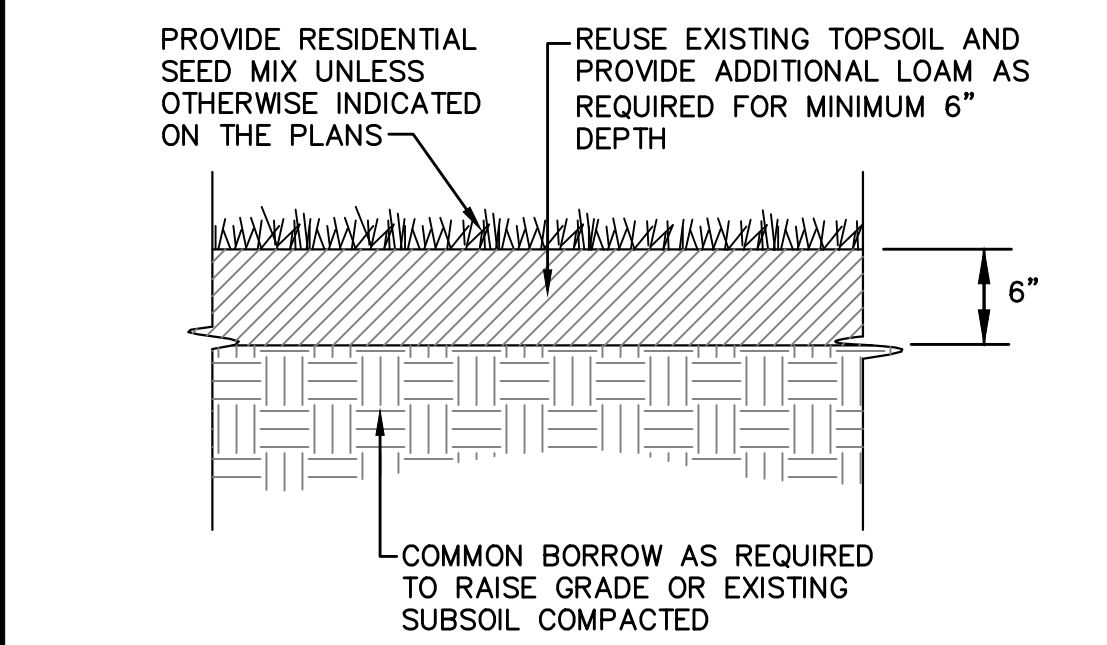
- NOTES:**
- CONTRACTOR SHALL MAINTAIN ALL SILT SACK SEDIMENT CONTROL DEVICE INSTALLATIONS AND REPLACE WHEN SATURATED WITH SEDIMENT BASED ON MANUFACTURER RECOMMENDATIONS. SILT SACK SHALL BE INSPECTED AFTER EVERY RAIN EVENT BUT NO LONGER THAN EVERY TWO WEEKS.
 - SILT SACK SHALL BE DOUBLE NEEDLE SEWN POLYPROPYLENE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



- NOTES:**
- 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.
 - STRAW WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH 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.
 - 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.
 - EXCAVATED SOILS SHALL BE THOROUGHLY COMPACTED ONCE COMPLETE WITH THE INSTALLATION OF EROSION CONTROL DEVICES.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED WITHOUT FURTHER COMPENSATION TO CONTRACTOR.
 - 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.

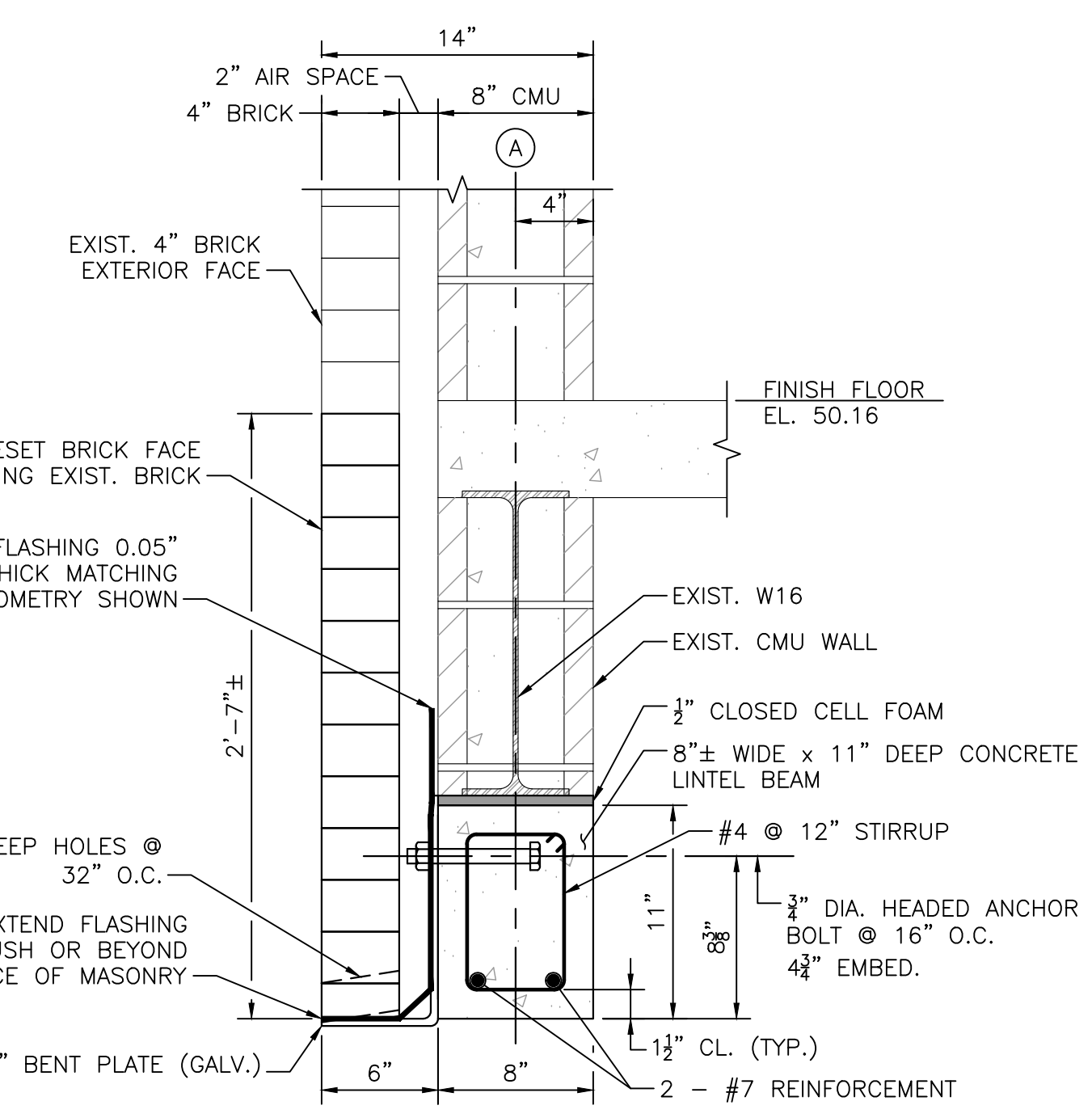
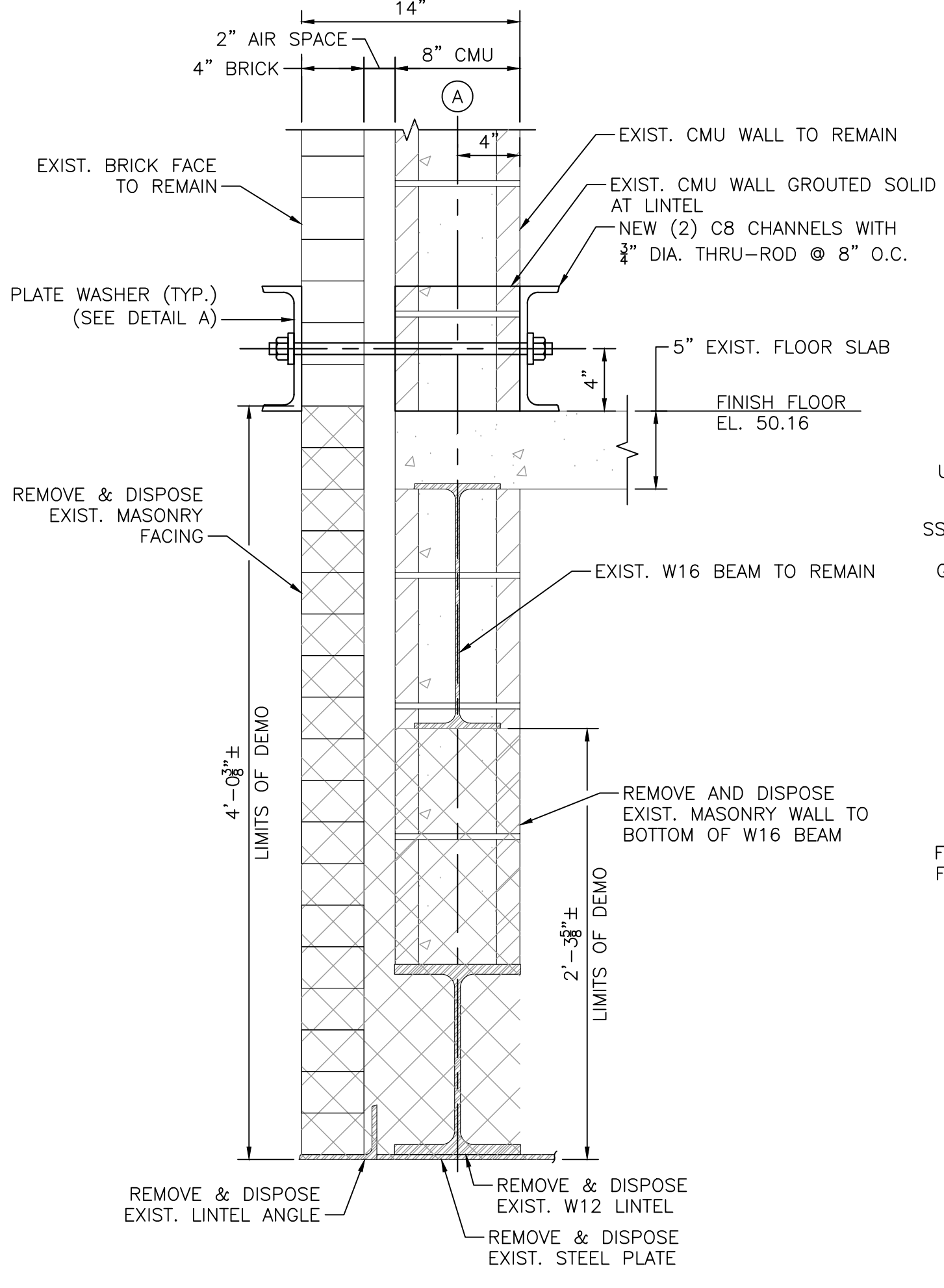
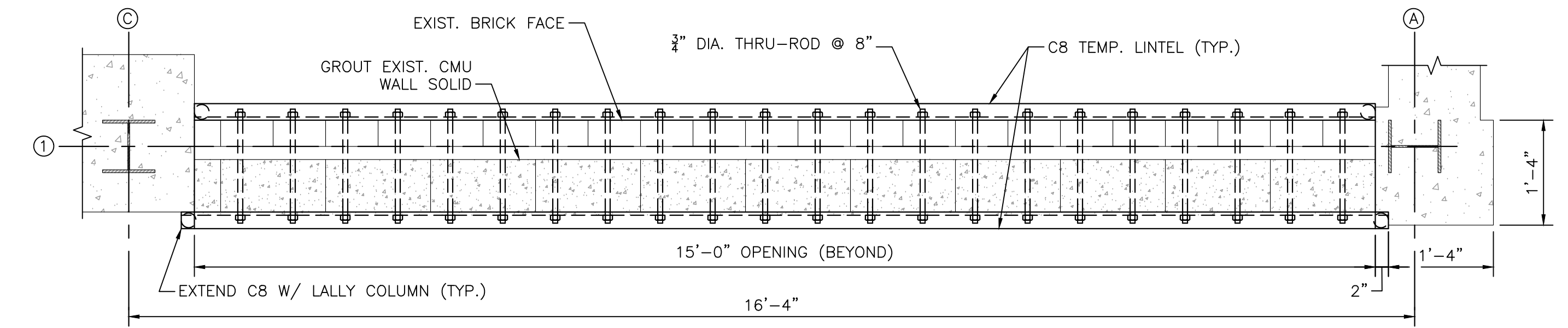
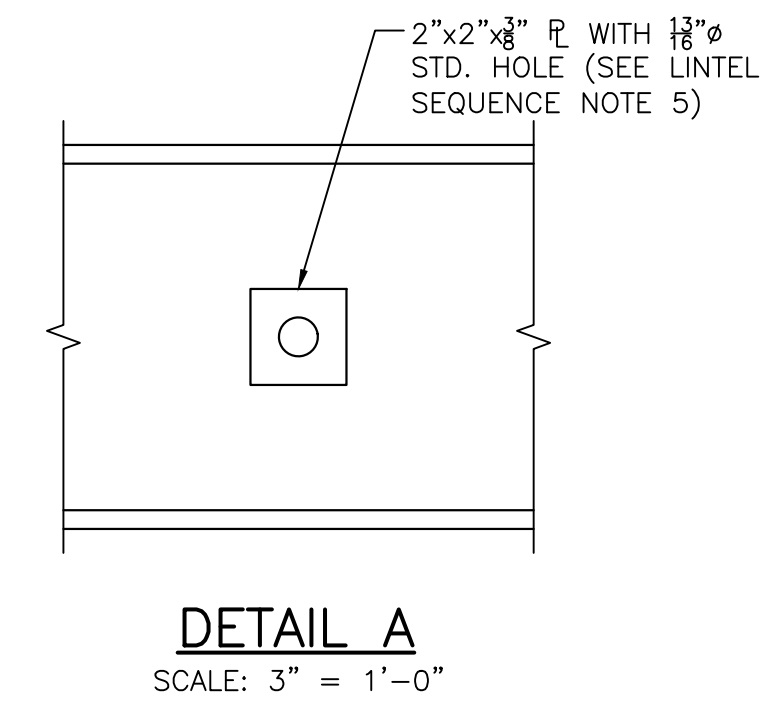
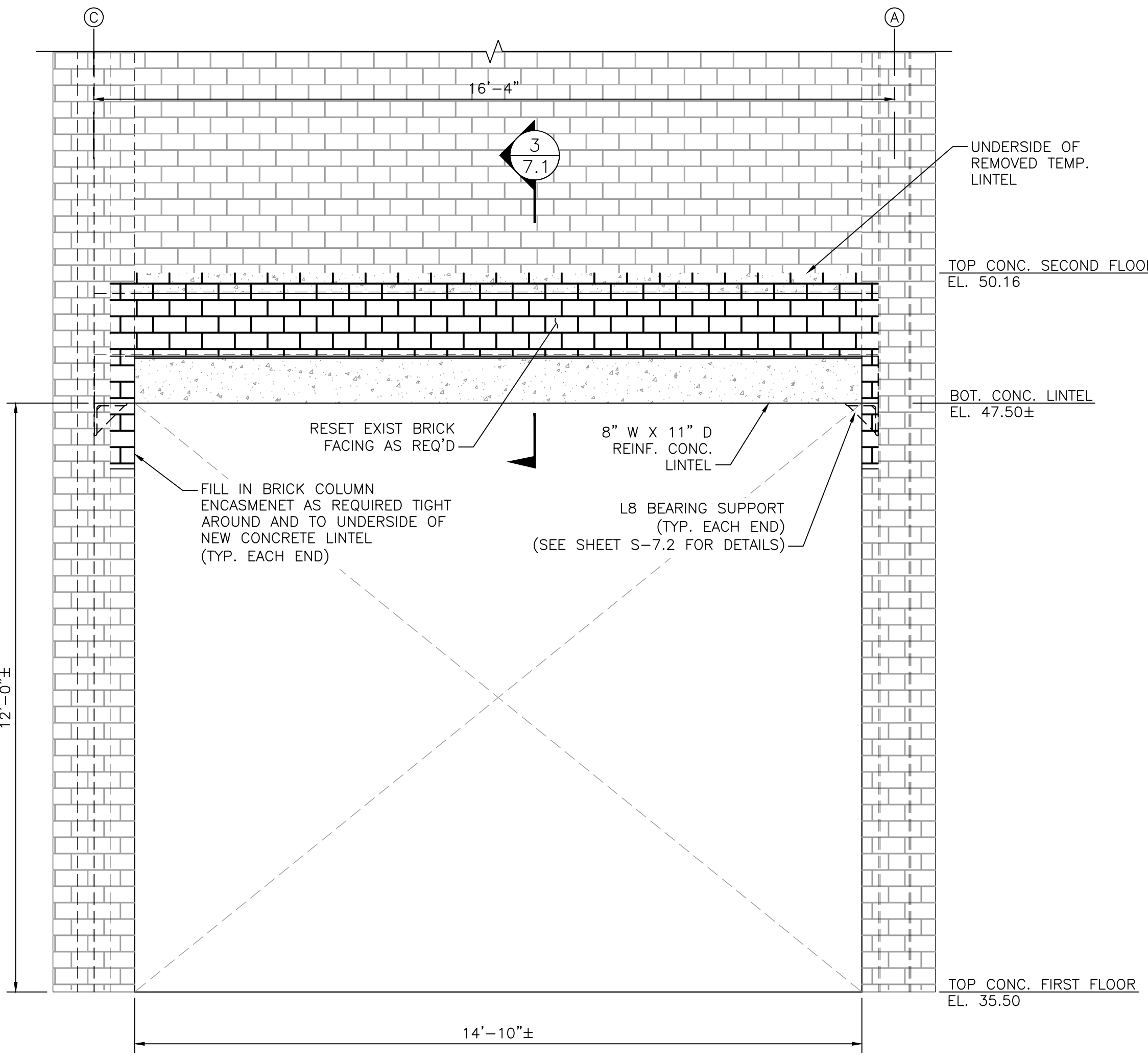
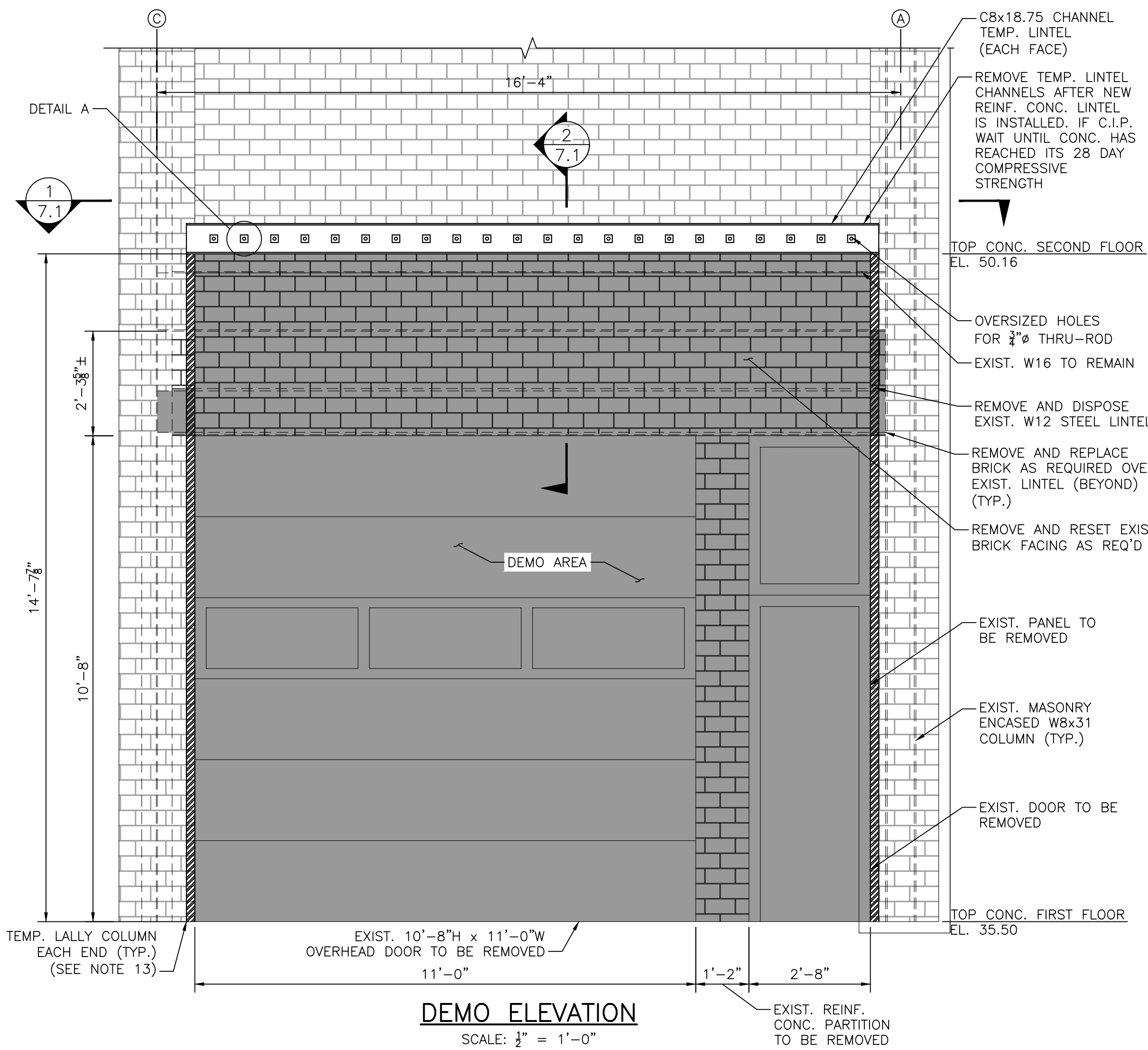


- NOTES:**
- THE PIPE SHALL BE PROPERLY SECURED TO PREVENT DISPLACEMENT DURING THE POURING OF CONCRETE ENCASEMENT.
 - LIMIT OF CONCRETE ENCASEMENT SHALL BE SHOWN ON THE PROFILE OR AS DIRECTED.



NO.	REVISIONS	DATE

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NOTES:

1. REINFORCED CONCRETE LINTEL TO BE CAST-IN-PLACE. CONTRACTOR MAY PROPOSE AN ALTERNATE PLAN FOR THE LINTEL TO BE PRECAST, SUBJECT TO THE APPROVAL OF THE ENGINEER.
2. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530).
3. ANY NEW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-90.
4. MORTAR SHALL CONFORM TO ASTM C-270, TYPE M.
5. GROUT SHALL CONFORM TO ASTM C-476 2,000 PSI.
6. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
7. STEEL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.
8. NEW OPENING FOR 14'-10"± WIDE x 11'-11 1/2"± HIGH DOOR. INSTALLATION OF DOOR TO BE PER MANUFACTURERS RECOMMENDATIONS.
9. 3/8" BENT PLATE TO BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
10. STEEL HARDWARE SHALL BE IN ACCORDANCE WITH ASTM A307 (GALVANIZED).
11. ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM A36.
12. REMOVE EXISTING MASONRY PIER ENCASEMENT AS REQUIRED TO INSTALL L8 BEARING SUPPORT AND REINFORCED CONCRETE LINTEL BEAM. ALL VOIDED AREAS SHALL BE FIT TIGHT WITH MATCHING BRICK ON ALL SIDES, AS REQUIRED.
13. TEMPORARY LALLY COLUMN TO HAVE A MINIMUM CAPACITY OF 7.87 KIPS.

SUGGESTED TEMPORARY LINTEL SEQUENCE:

1. IF REQUIRED, FULLY GROUT EXISTING WALL AT TEMP. LINTEL BEARING ZONES. EXTENT OF GROUT SHALL BE FROM THE TOP OF THE TEMP. STEEL LINTEL TO THE BOTTOM OF THE WALL.
2. LAY OUT THE THRU-ROD HOLES AT GROUTED CELLS IN ACCORDANCE WITH THE PATTERN SHOWN. DRILL HOLES THROUGH THE WALL AT THESE LOCATIONS. VERIFY THAT ALL HOLES ARE THROUGH GROUTED CELLS.
3. INSTALL THRU-RODS. INJECT EPOXY FILL TO FILL ANNULAR SPACE AROUND THE ROD HOLES TO PRODUCE A SOLID BEARING.
4. INSTALL C8 ON BOTH SIDES OF WALL.
5. COVER LINTEL OVERSIZED HOLES WITH 2"x2"x3/8" R WITH STD. HOLES. WELD IN PLACE. INSTALL NUTS, TIGHTEN BOLTS GRADUALLY AND ENSURE EXTERIOR BRICK FACE IS NOT DAMAGED OR DEFLECTING LATERALLY.
6. CAREFULLY REMOVE BLOCK FROM OPENING, TAKING CARE TO NOT DAMAGE SURROUNDING WALLS AND COLUMNS.

NO.	REVISIONS	DATE



**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

**Solids Handling Lintel
Bearing Details**

NO.	REVISIONS	DATE

DRAWN BY: BN

DESIGNED BY: BN

CHECKED BY: TMW

ISSUE DATE: 3/24/2021

BETA JOB NO.: 6050

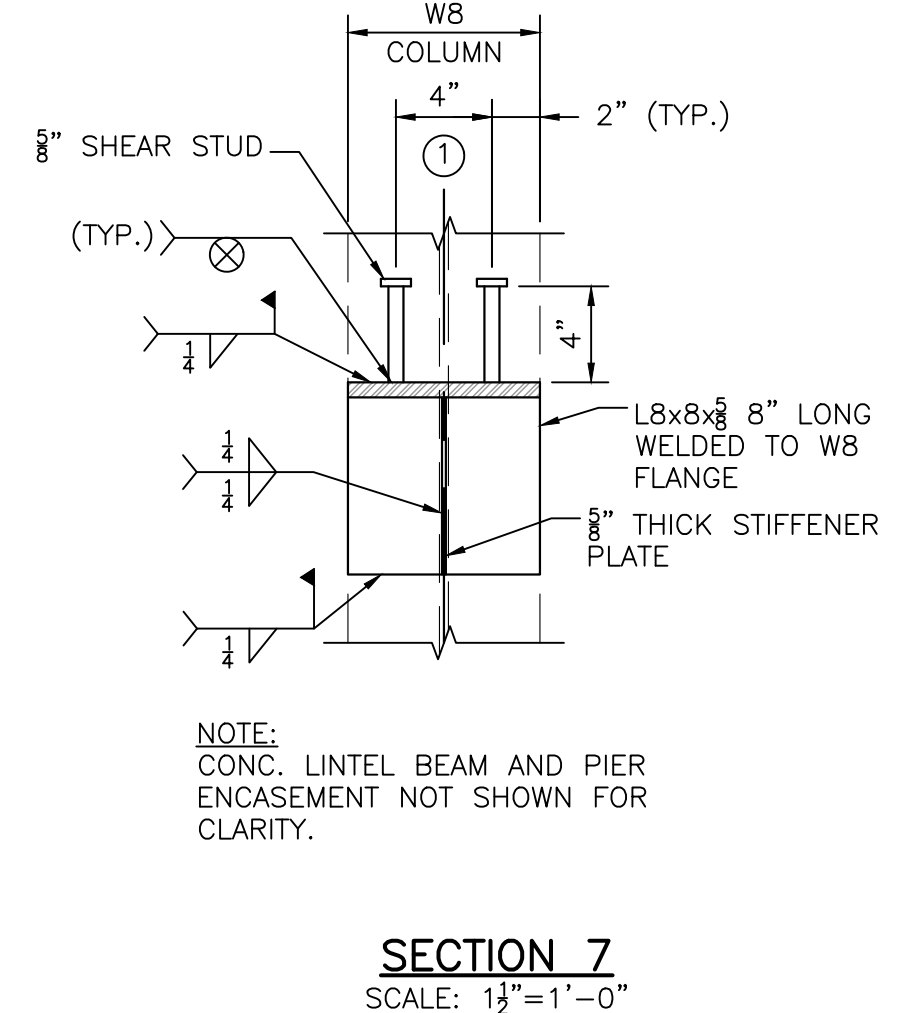
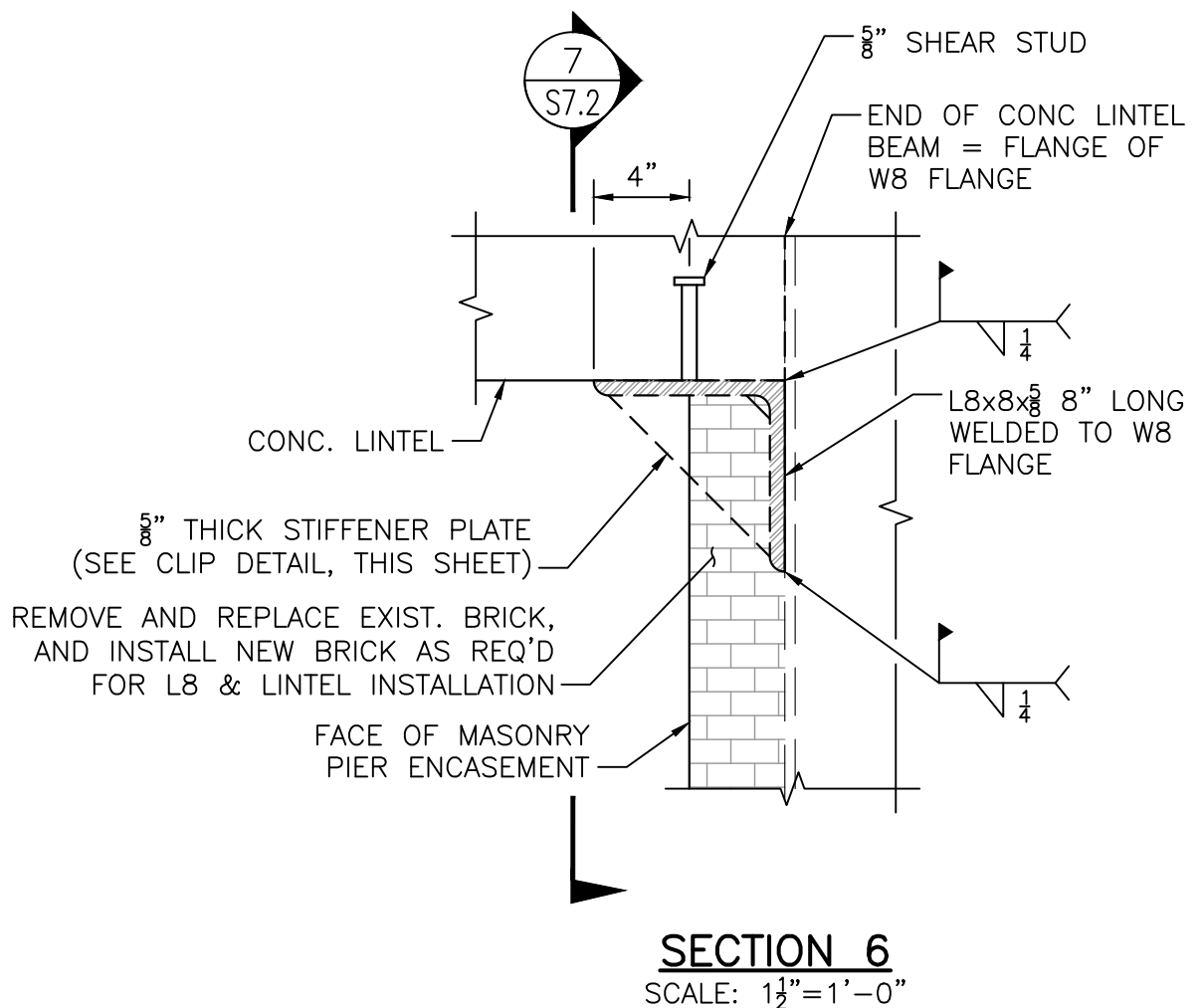
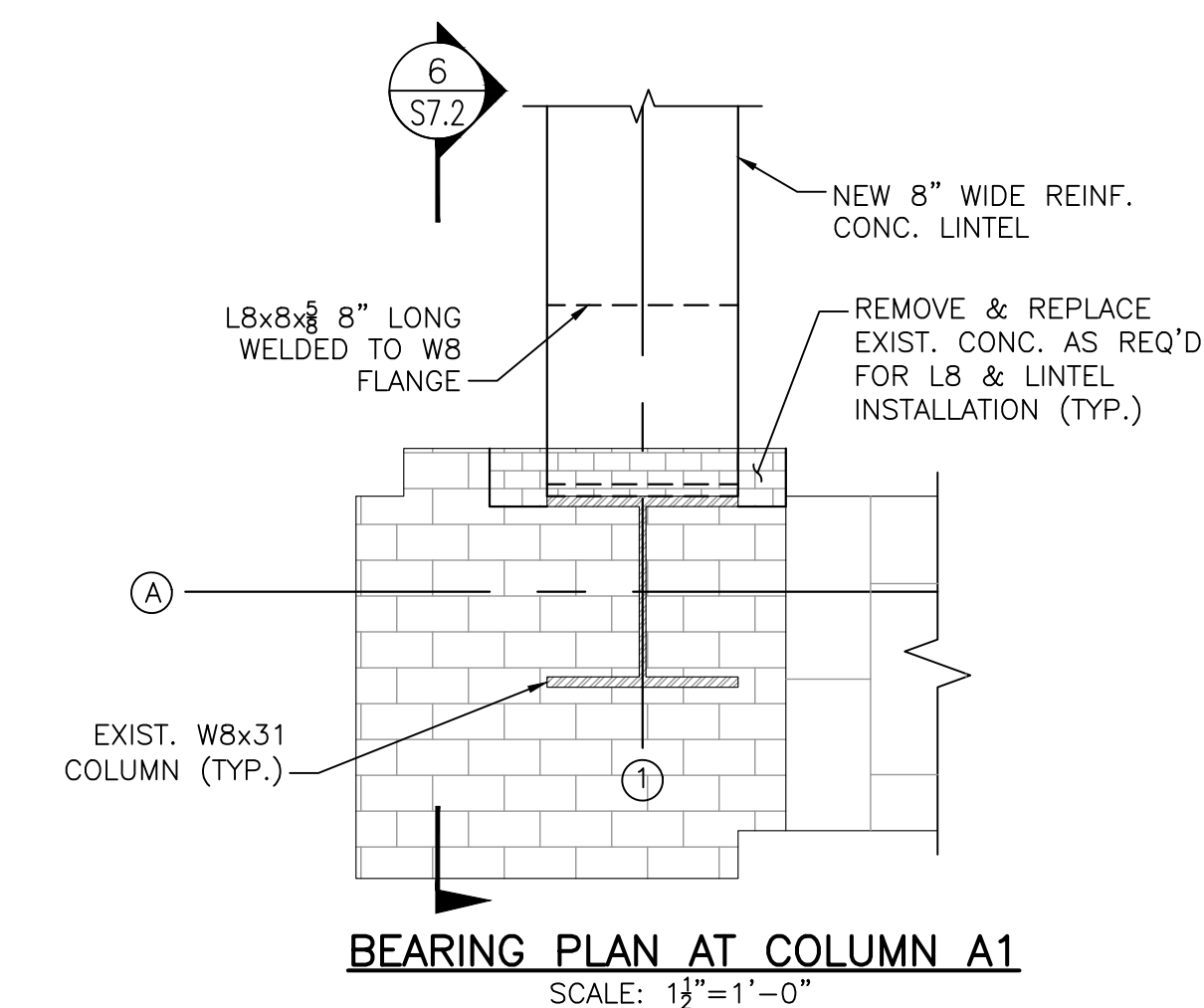
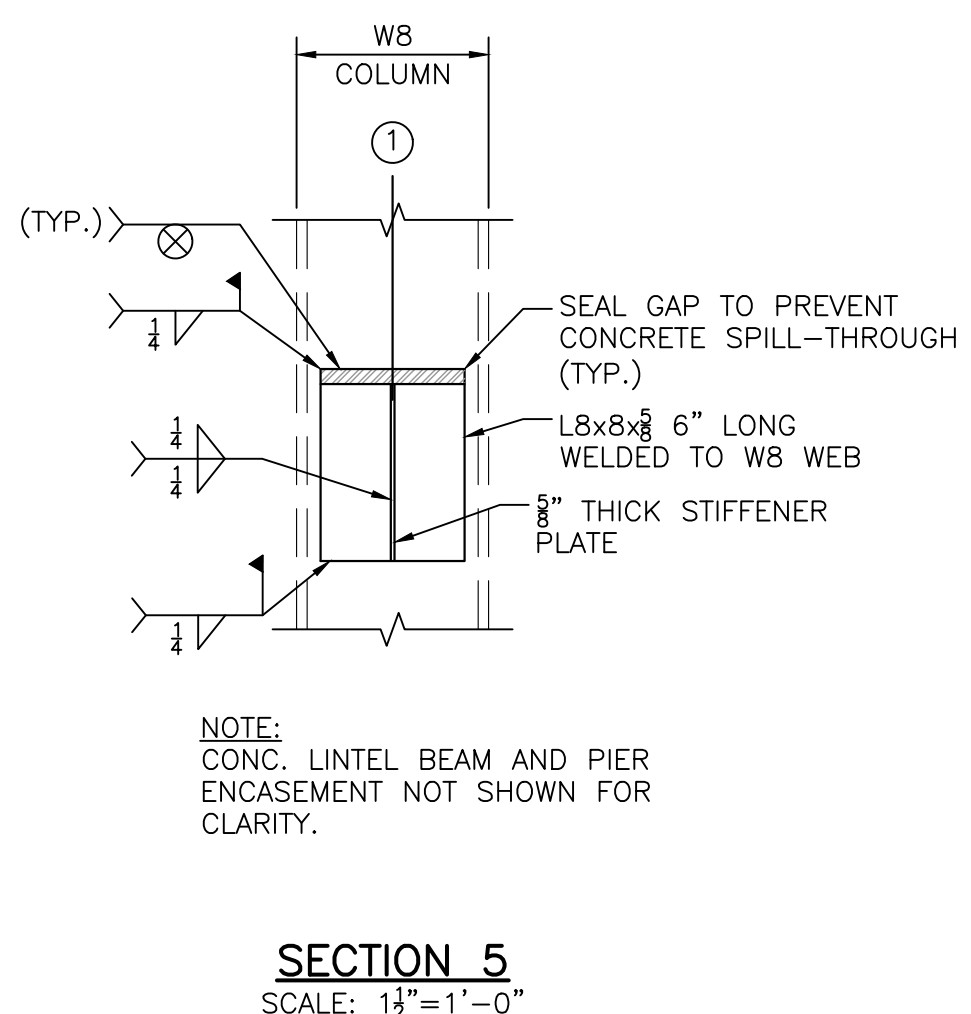
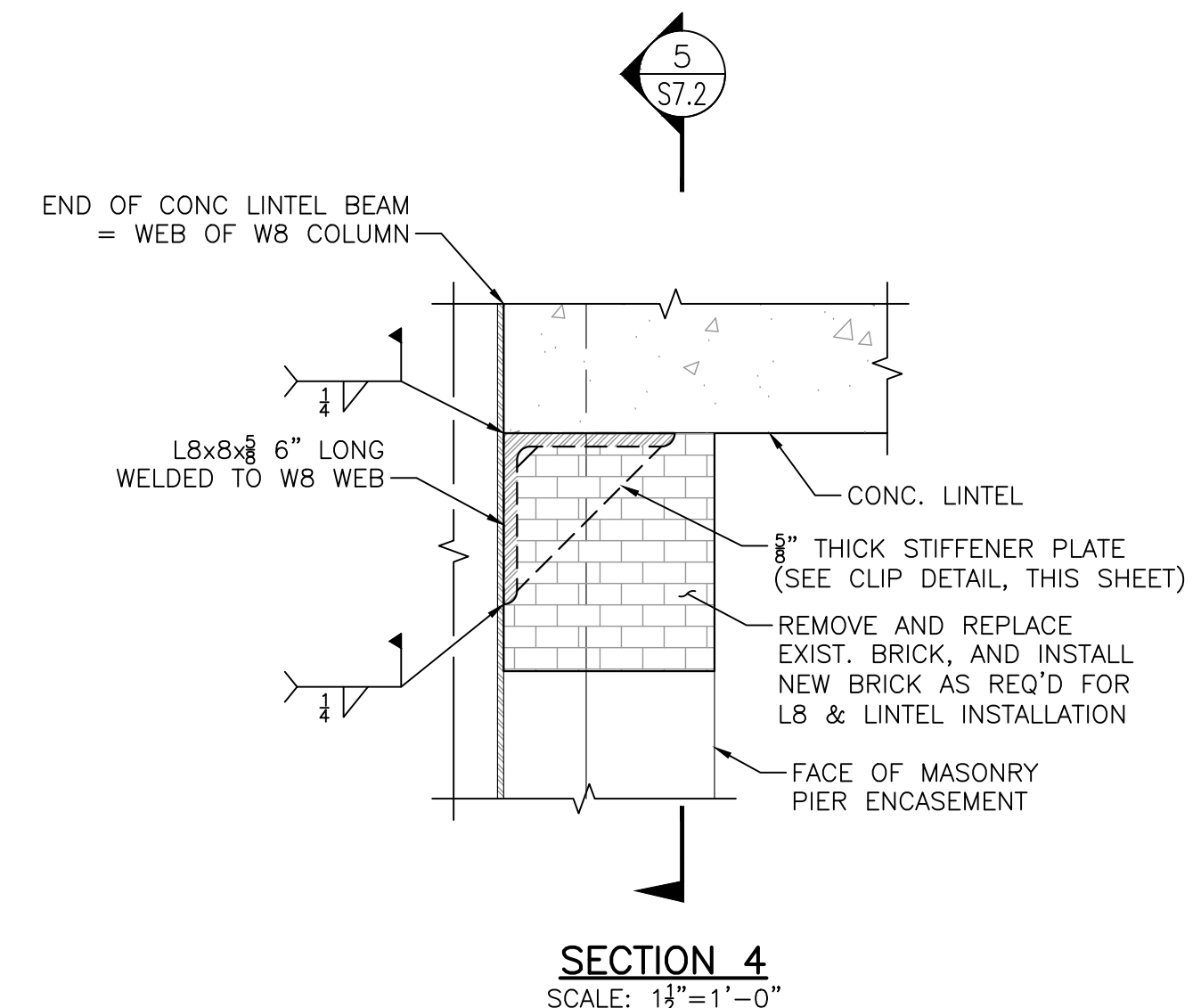
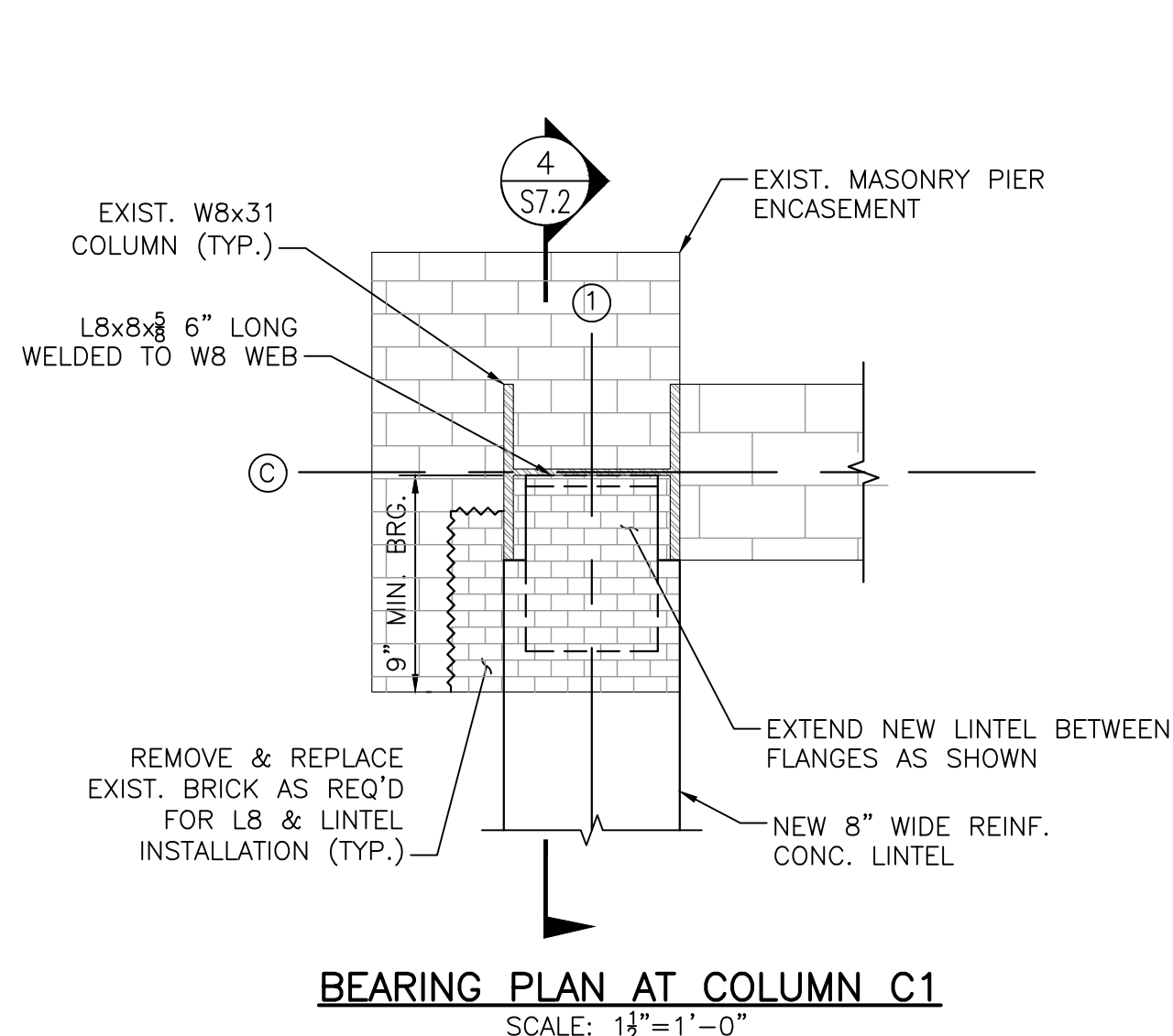
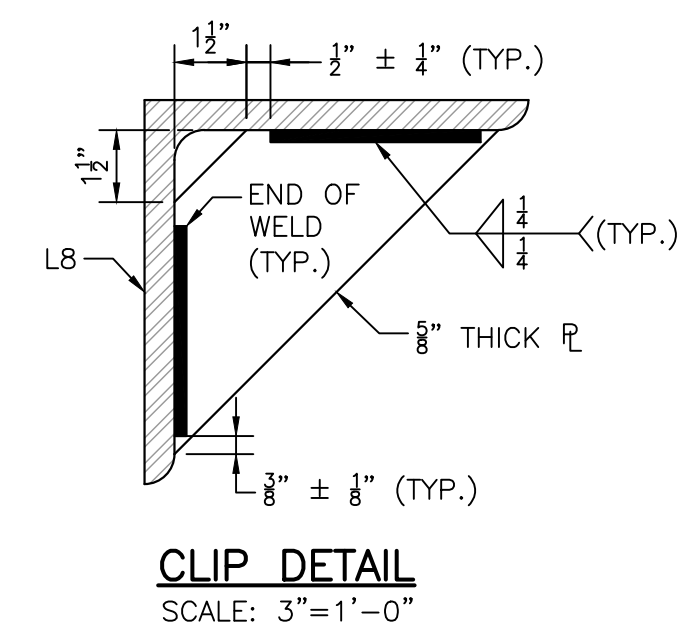
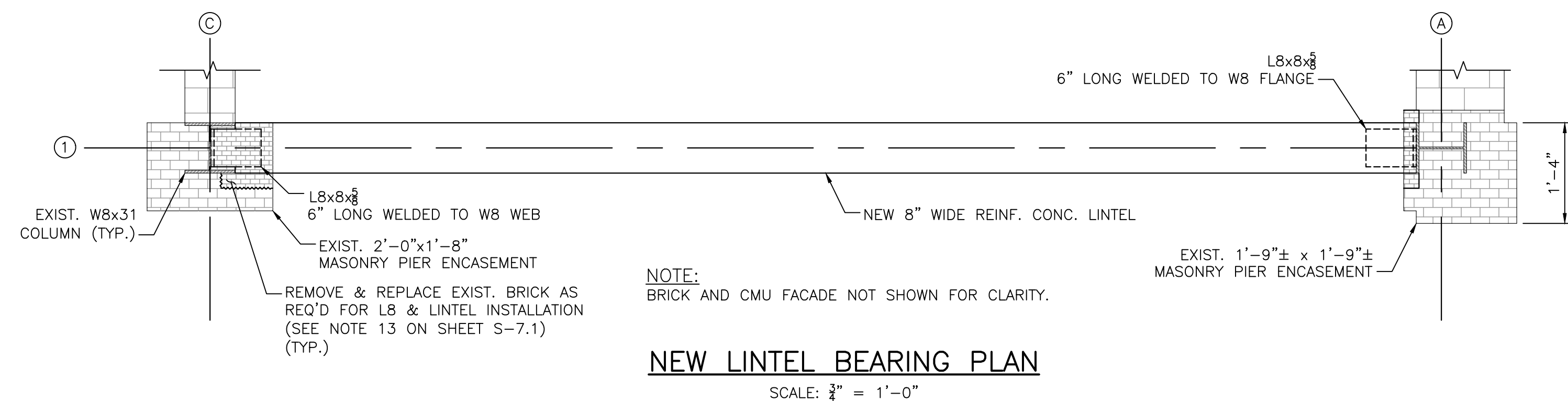
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Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

Solids Handling Knee Wall

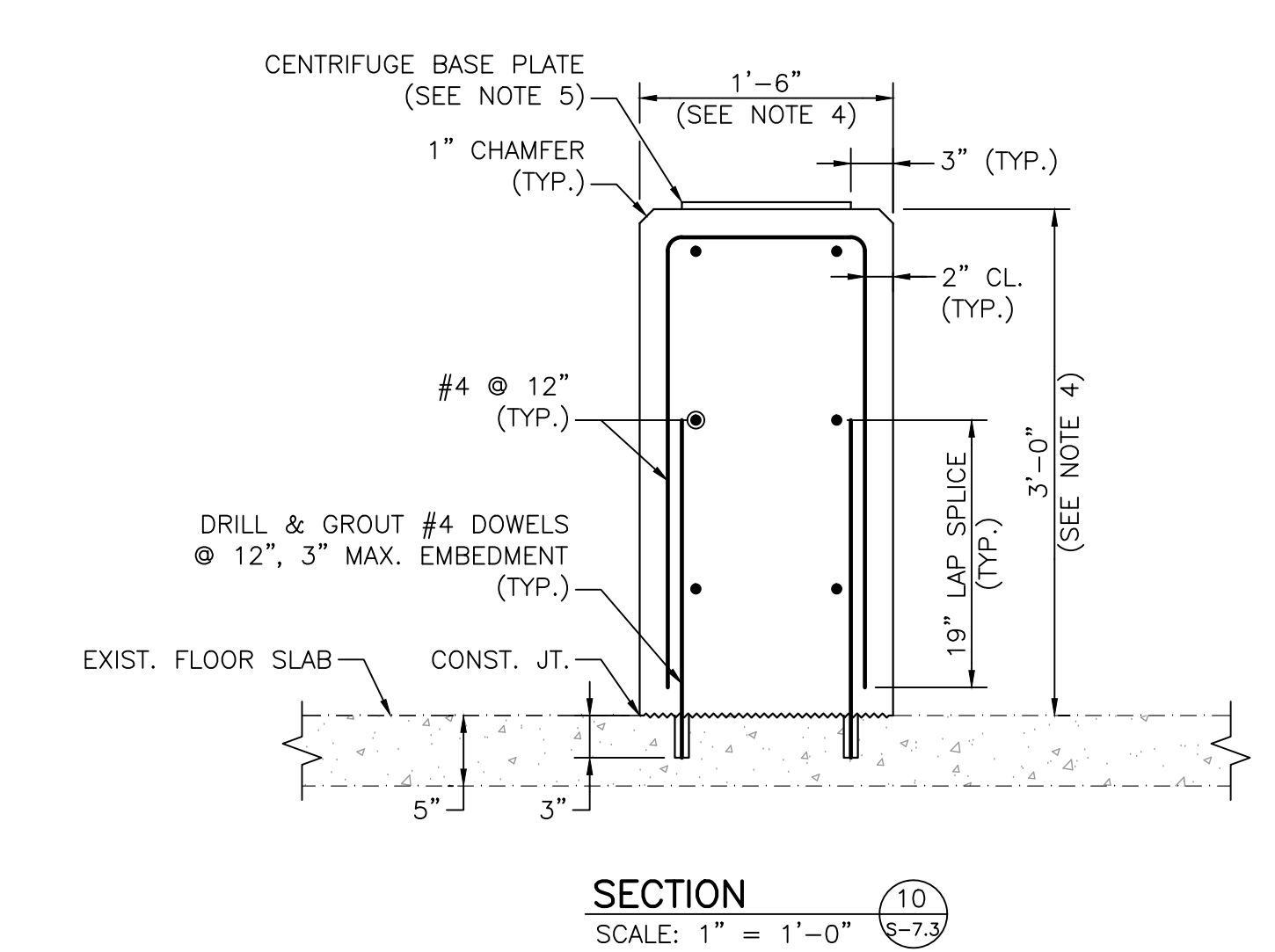
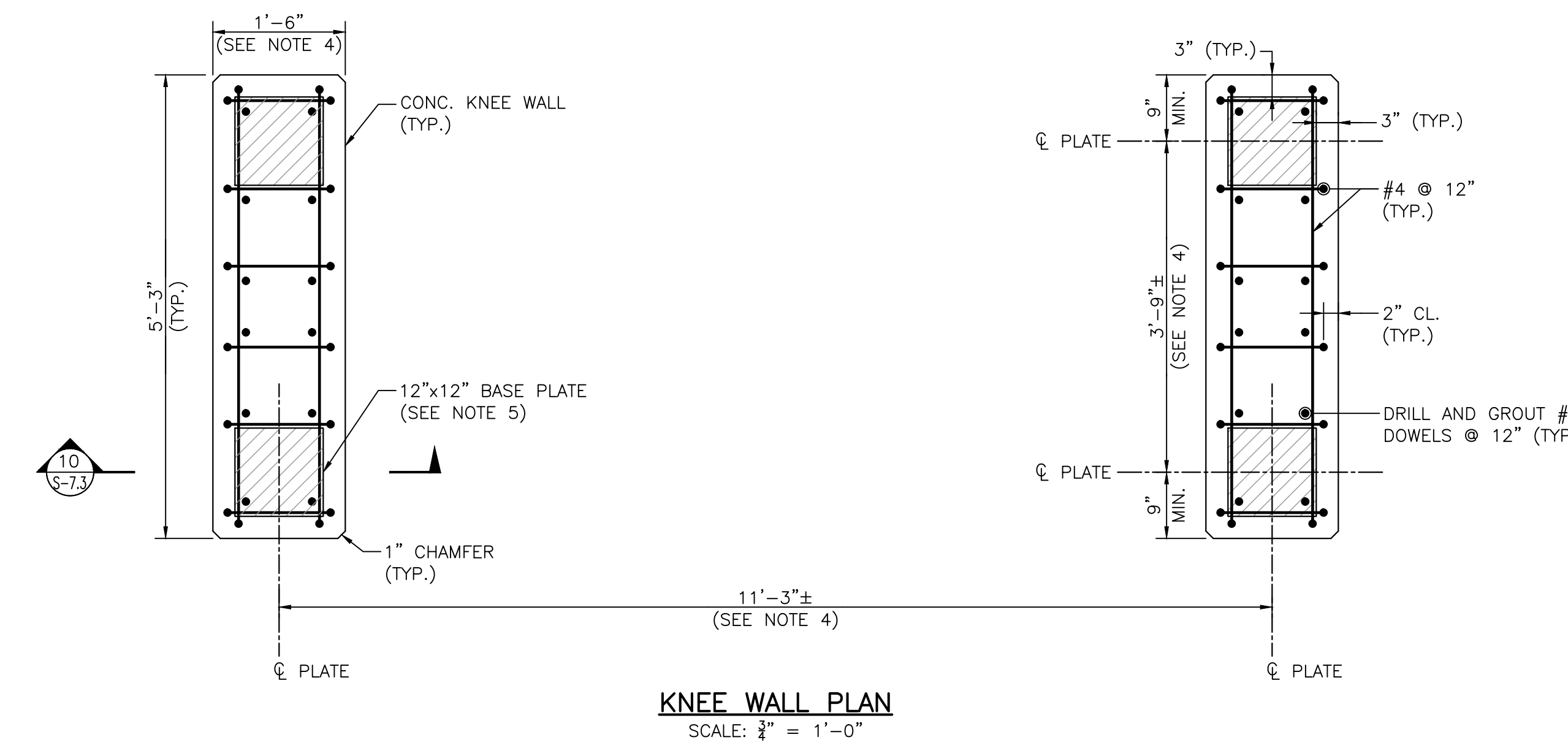
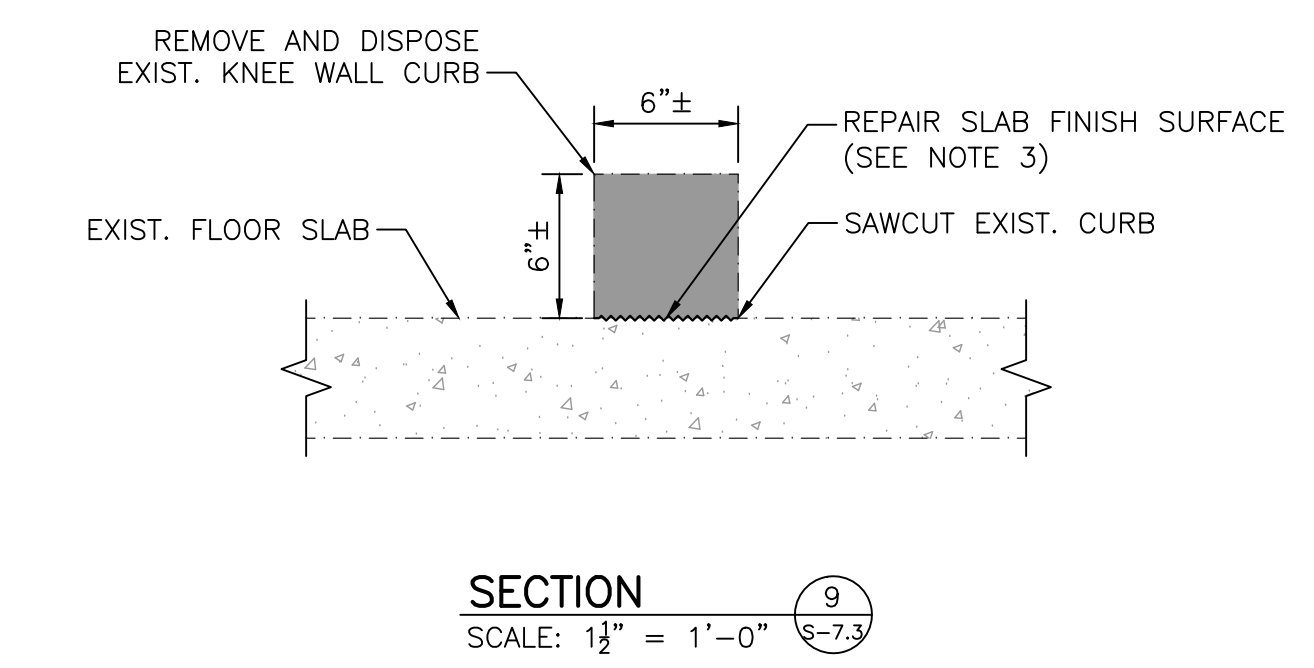
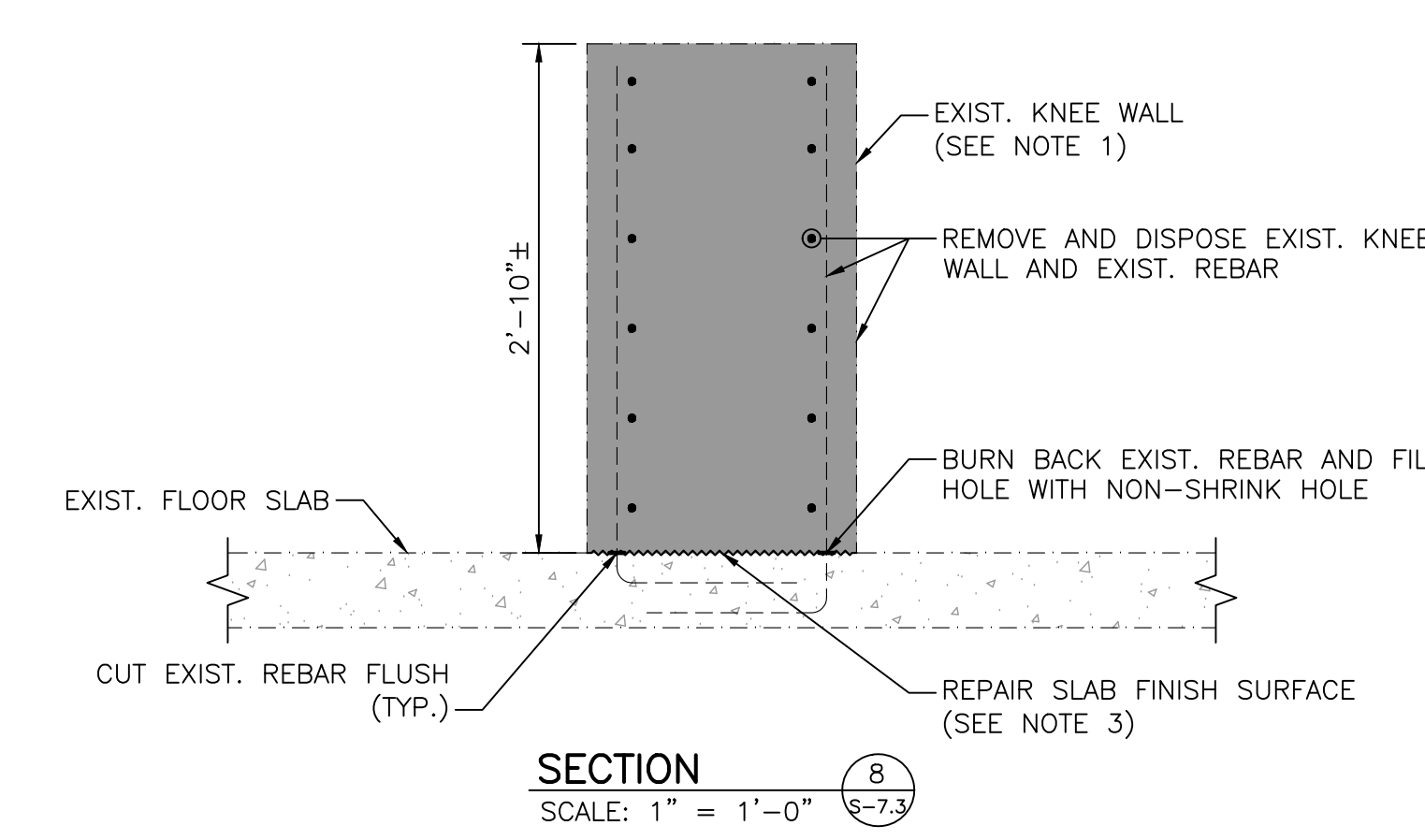
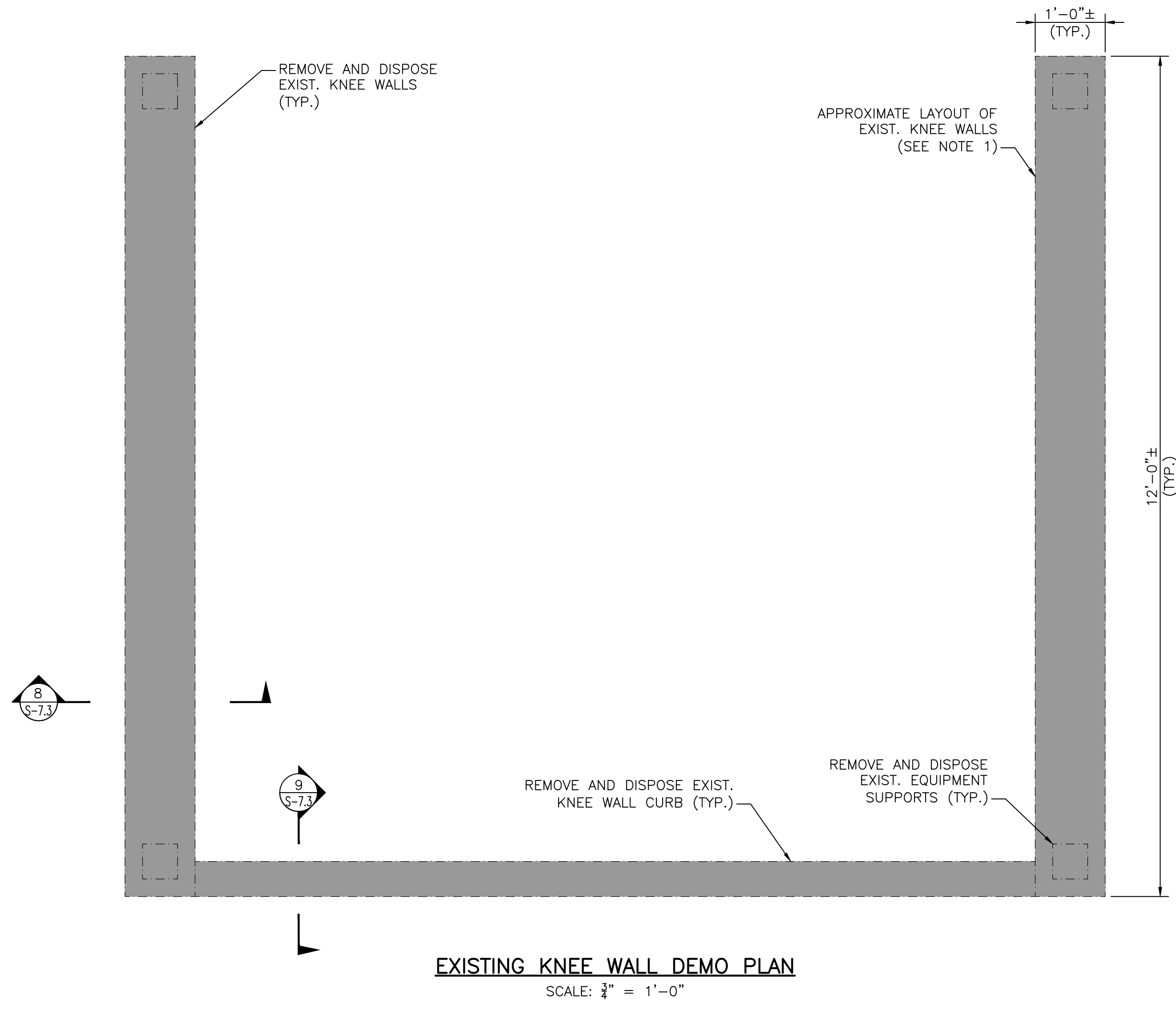
NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

AS SHOWN

NOTES:

- EXISTING KNEE WALL LAYOUT IS APPROXIMATE. ACTUAL DISPOSITION OF KNEE WALL REINFORCING IS UNKNOWN.
- EXISTING FOUNDATION DEMOLITION SHOWN. SEE MECHANICAL SHEETS FOR EXISTING EQUIPMENT DEMOLITION.
- REPAIR SLAB FINISH SURFACE WITH A CEMENTITIOUS PATCHING MORTAR SO THAT FLOOR IS FLAT AND EVEN.
- CONTRACTOR TO COORDINATE ACTUAL BASE PLATE LAYOUT AND DIMENSIONS WITH NEW CENTRIFUGE MANUFACTURER.
- ANCHORAGE OF CENTRIFUGE SHALL BE COORDINATED WITH MANUFACTURER. SIZE AND EMBEDMENT OF CENTRIFUGE ANCHORAGE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
- KNEE WALL CONCRETE SHALL HAVE A 28-DAY MIN. COMPRESSIVE STRENGTH OF 5000 PSI.



3/24/2021 3:38 PM N:\600516050-TAUNTON WWT\FDRAWING FILES\PHASE 1\6050_SRY.3-P1.DWG (BETA-STD BW) (CTB)

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
				PVC	SCH 80	NONE	SOLVENT WELD	NONE	11961
SODIUM HYPOCHLORITE	SH	ALL	ALL	HDPE	SDR 11	NONE	BUTT FUSED	NONE	2620
				DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
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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Joseph F. Rodriguez, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Pipe Schedule

NO. REVISIONS DATE

DRAWN BY: BM
 DESIGNED BY: MA
 CHECKED BY: RM
 ISSUE DATE: 3/24/2021
 BETA JOB NO.: 6050

SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

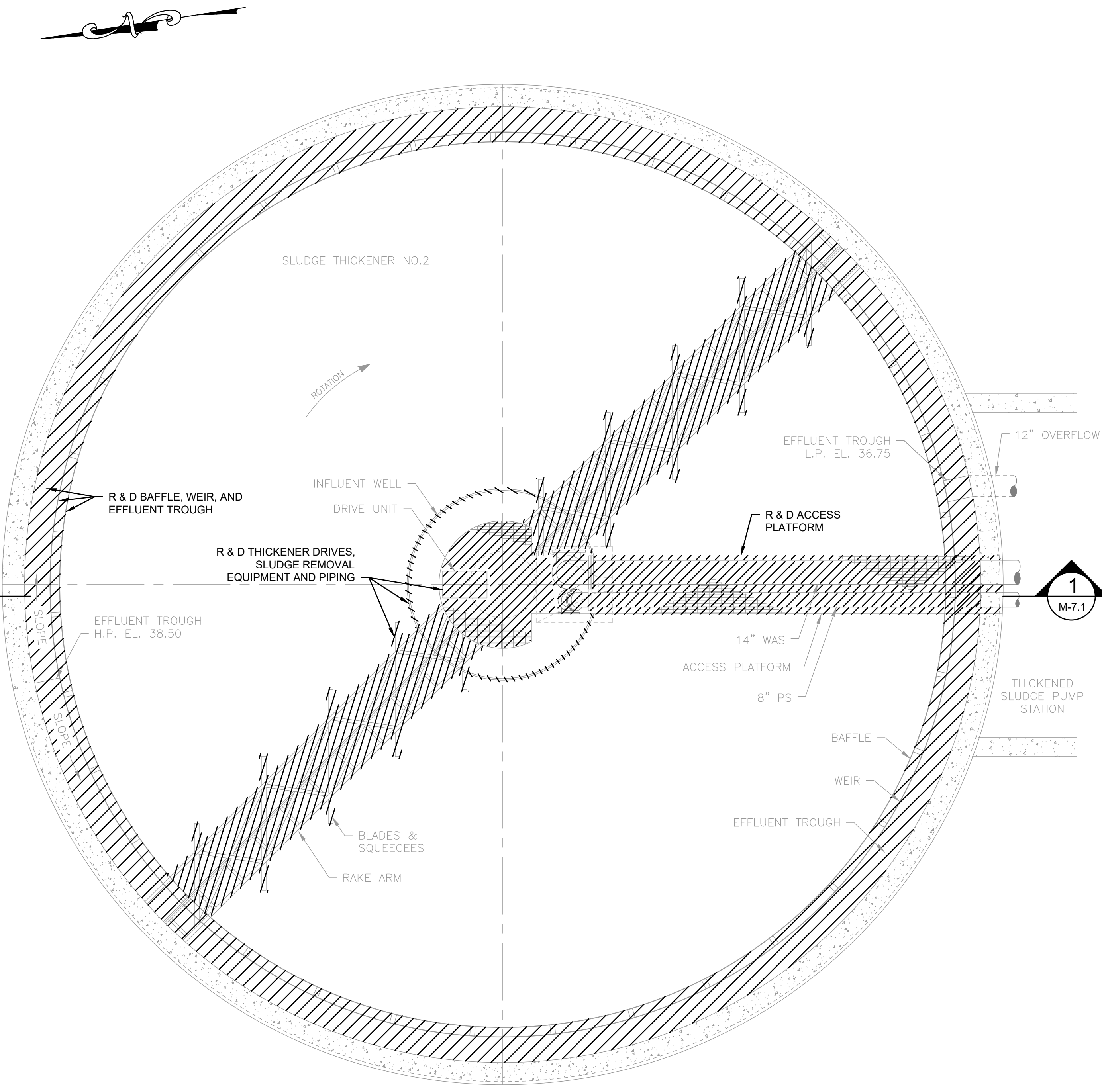
Taunton, MA

TITLE

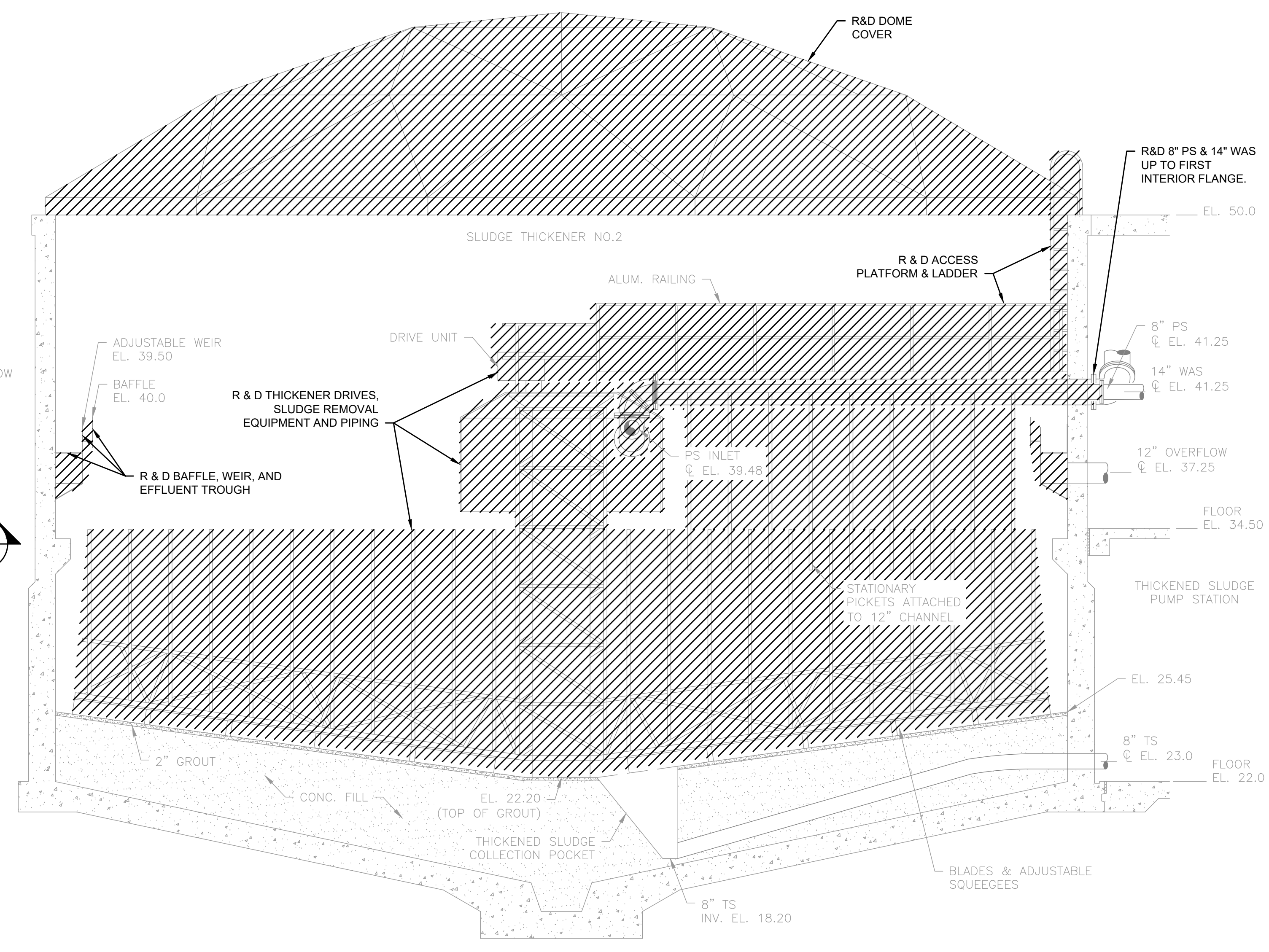
Sludge Thickener Tanks Demolition Plan & Section

NOTES:

1. THE DEMOLITION LIMITS SHOWN APPLY TO SLUDGE THICKENER NO.1 & SLUDGE THICKENER NO.2.
2. ONLY SLUDGE THICKENER NO.2 HAS AN EXISTING DOME COVER. SLUDGE THICKENER NO.1 IS UNCOVERED
3. SLUDGE THICKENERS ARE DEWATERED USING THE EXISTING THICKENED SLUDGE PUMPS



PLAN (EL. 50.0)
SCALE: 1/4"= 1'-0"



SECTION 1
SCALE: 1/4"= 1'-0" M-7.1

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE
AS SHOWN
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SHEET NO.
M-7.1

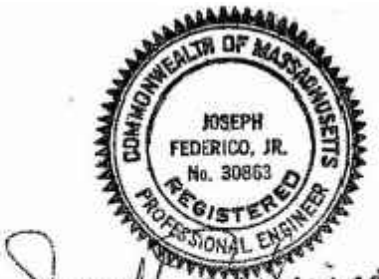
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Joseph F. Rodriguez, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Thickened Sludge Pump Station Demolition Plans & Sections

NO.	REVISIONS	DATE
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DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

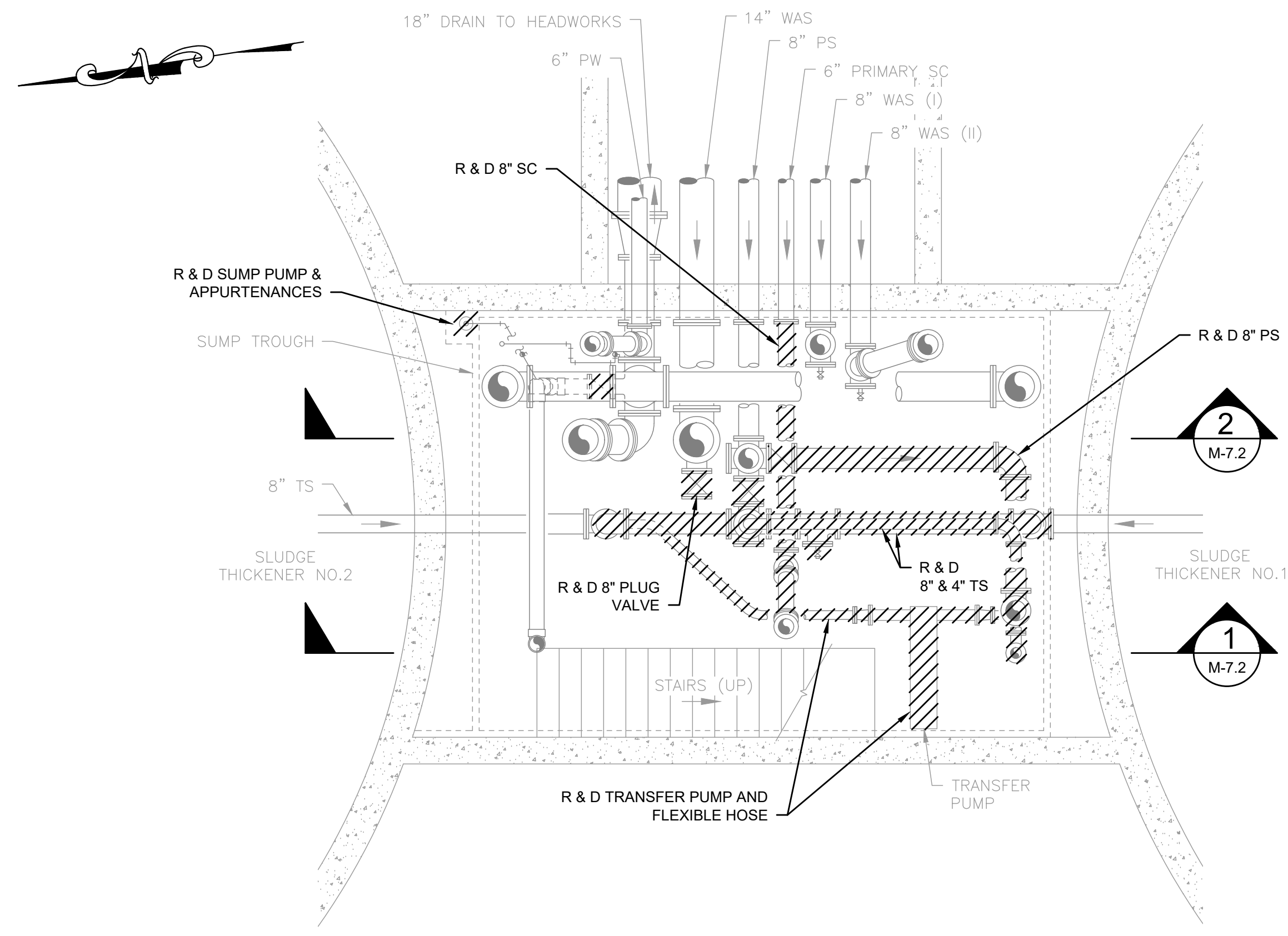
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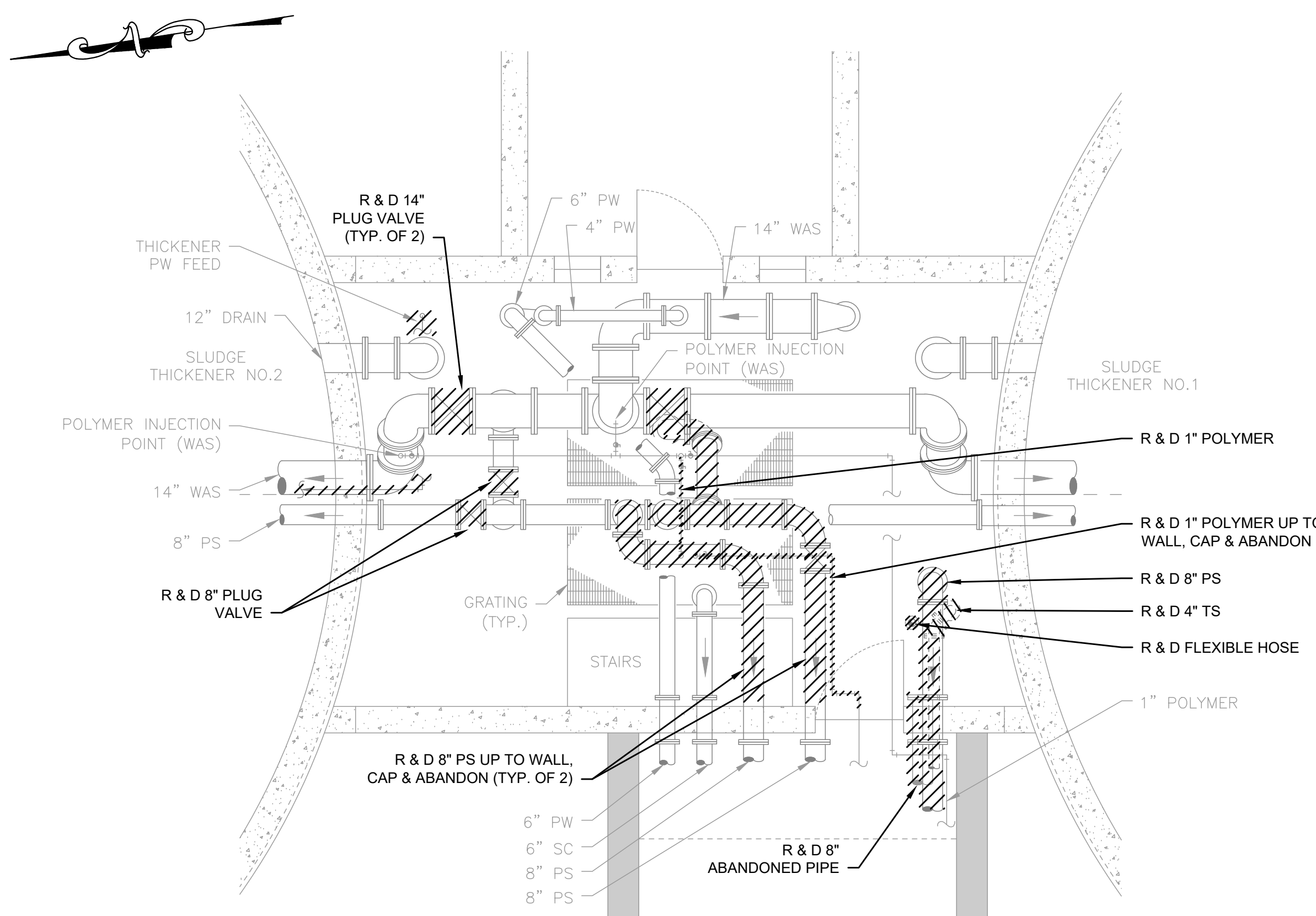
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M-7.2



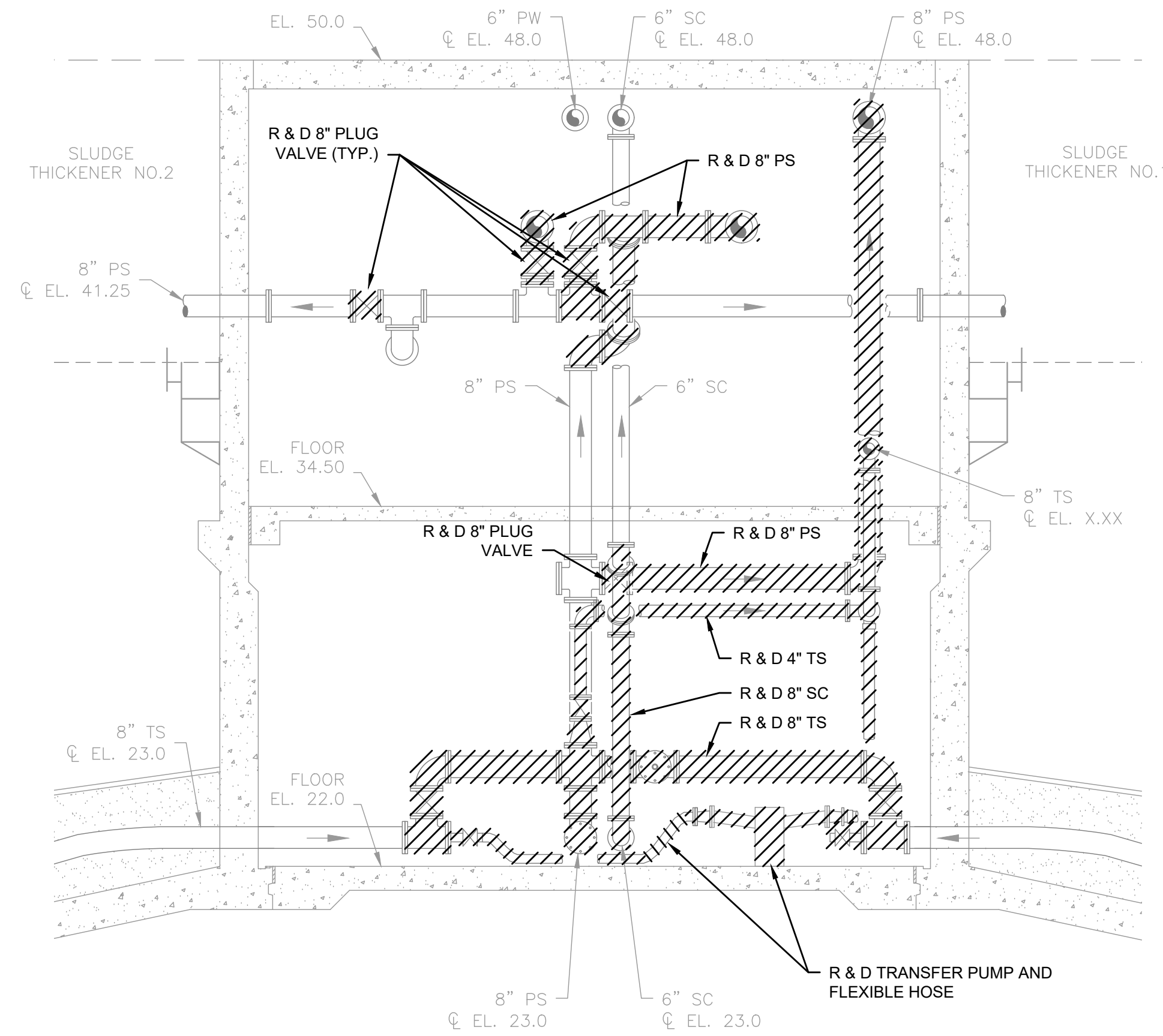
LOWER LEVEL - PLAN (EL. 34.0)

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



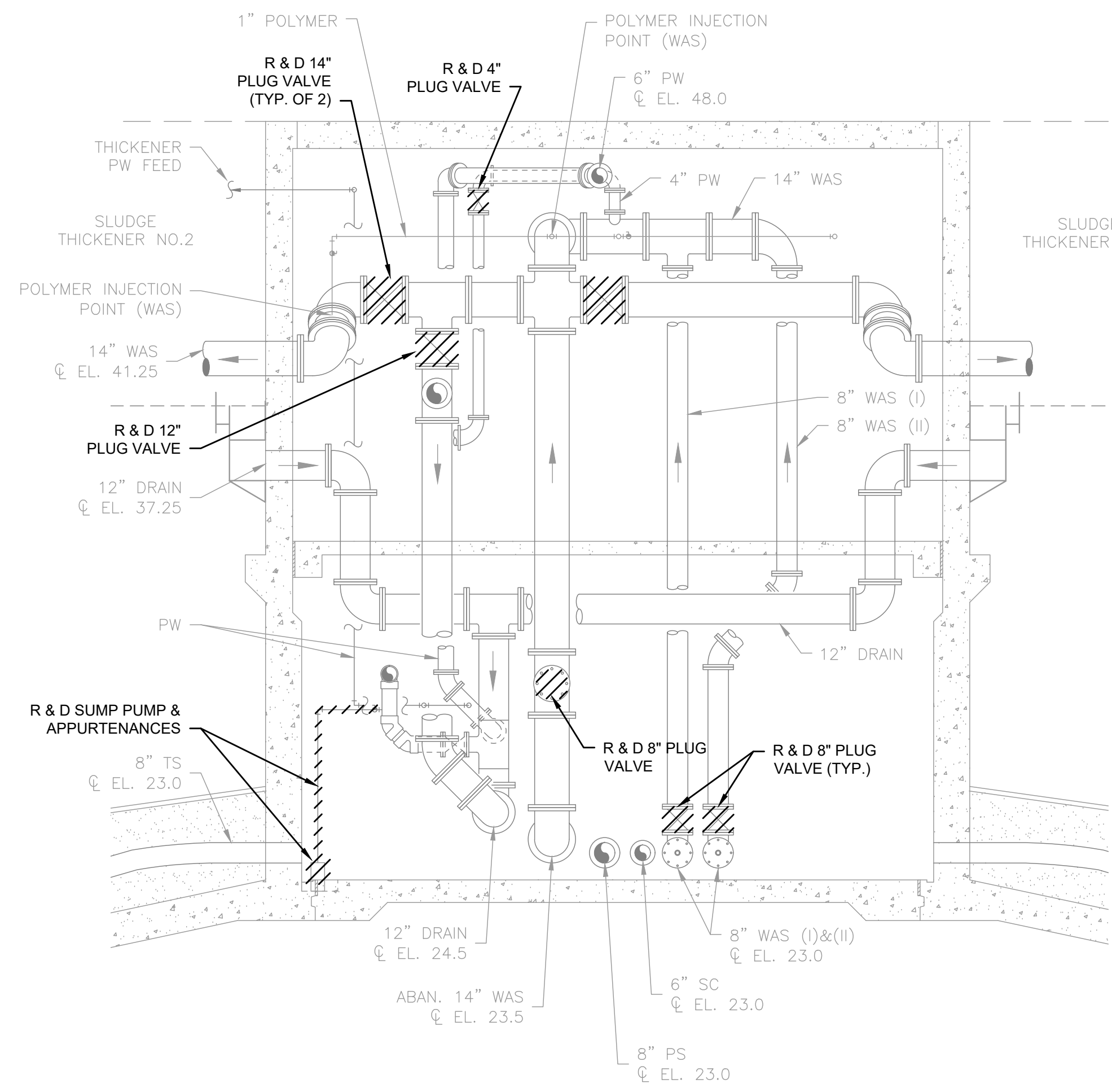
UPPER LEVEL - PLAN (EL. 49.0)

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



SECTION 1

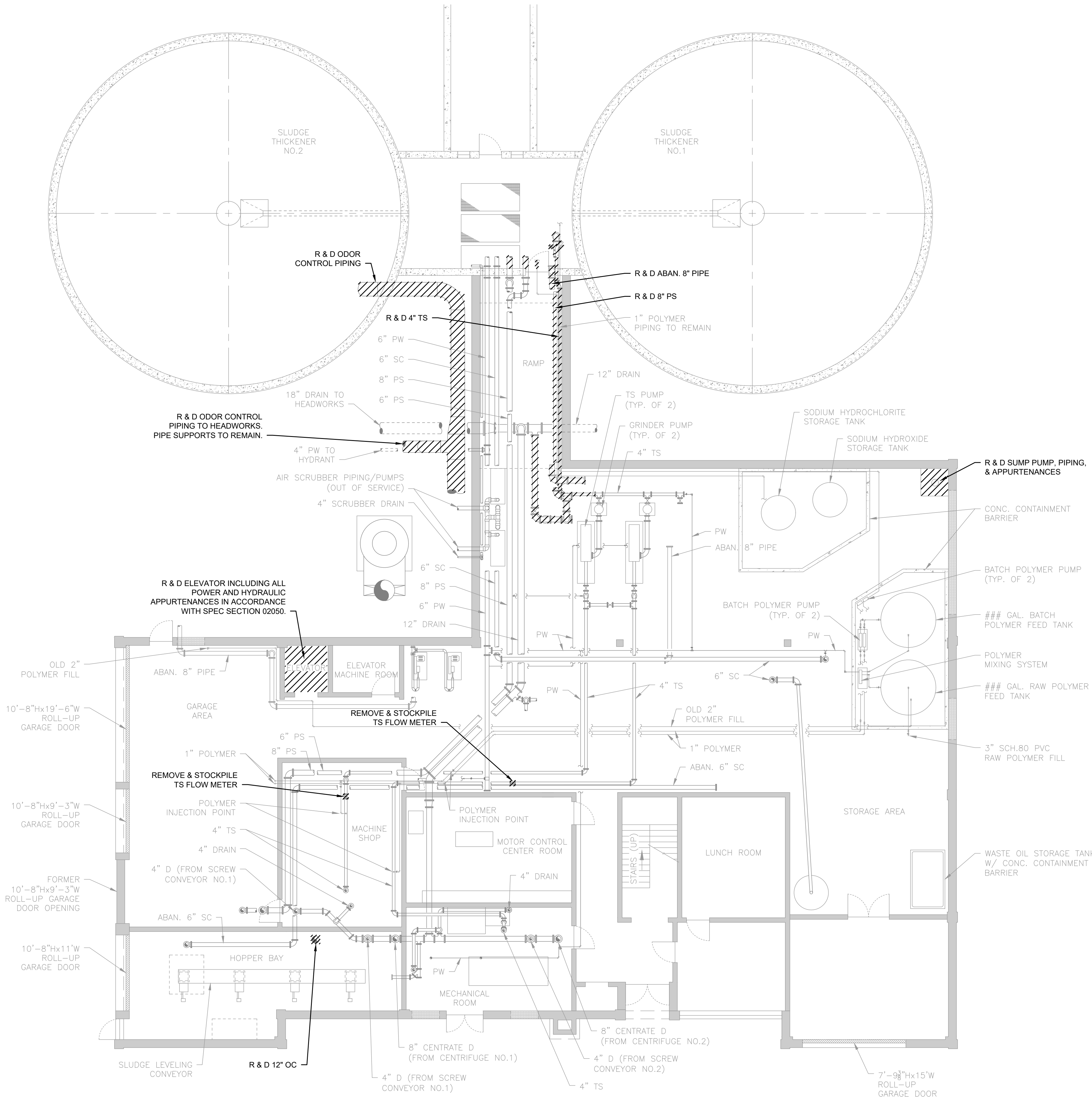
SCALE: 1/4" = 1'-0" M-7.2



SECTION 2

SCALE: 1/4" = 1'-0" M-7.2


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FIRST FLOOR - PLAN (EL. 49.0)
SCALE: 1/8"= 1'-0"

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Joseph F. Ferrigno, Jr.

SUBCONSULTANT

PROJECT
Taunton Wastewater Treatment Facility Improvements Solids Handling
 Taunton, MA

TITLE
Solids Handling Building First Floor Demolition Plan

NO.	REVISIONS	DATE

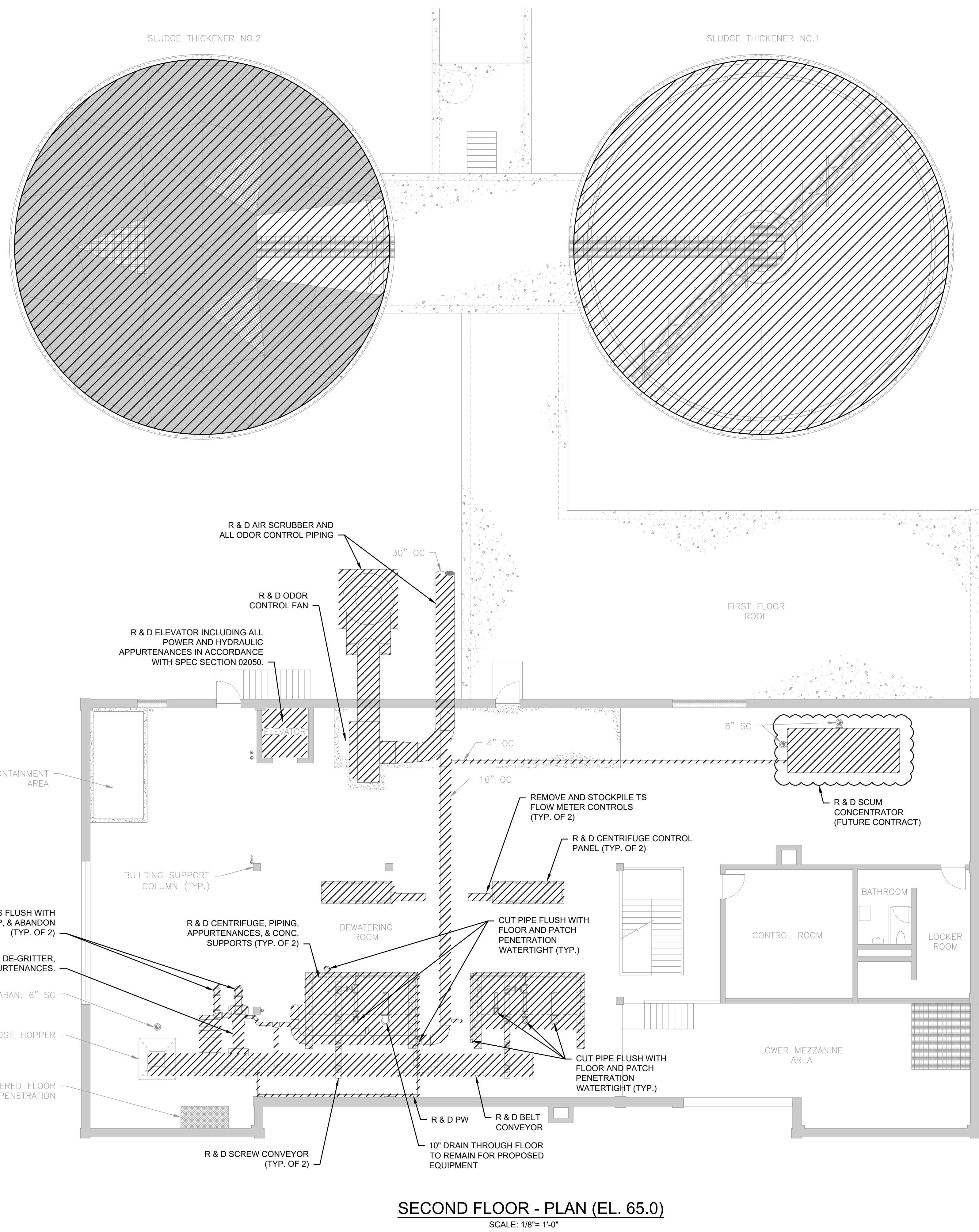
DRAWN BY: BM
 DESIGNED BY: BM
 CHECKED BY: --
 ISSUE DATE: 3/24/2021
 BETA JOB NO.: 6050

SCALE
 AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.
M-7.3

3/24/2021 1:38 PM J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB) 3/24/2021 3:38 PM

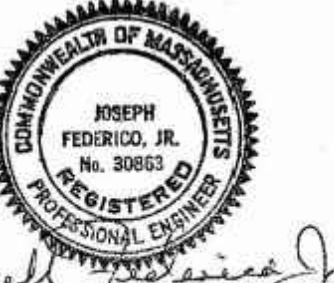


SECOND FLOOR - PLAN (EL. 65.0)
SCALE: 1/8" = 1'-0"

PREPARED BY



REGISTERED PROFESSIONAL



Joseph F. Ferrigno, Jr.

SUBCONSULTANT

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Solids Handling
Building Second Floor
Demolition Plan**

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

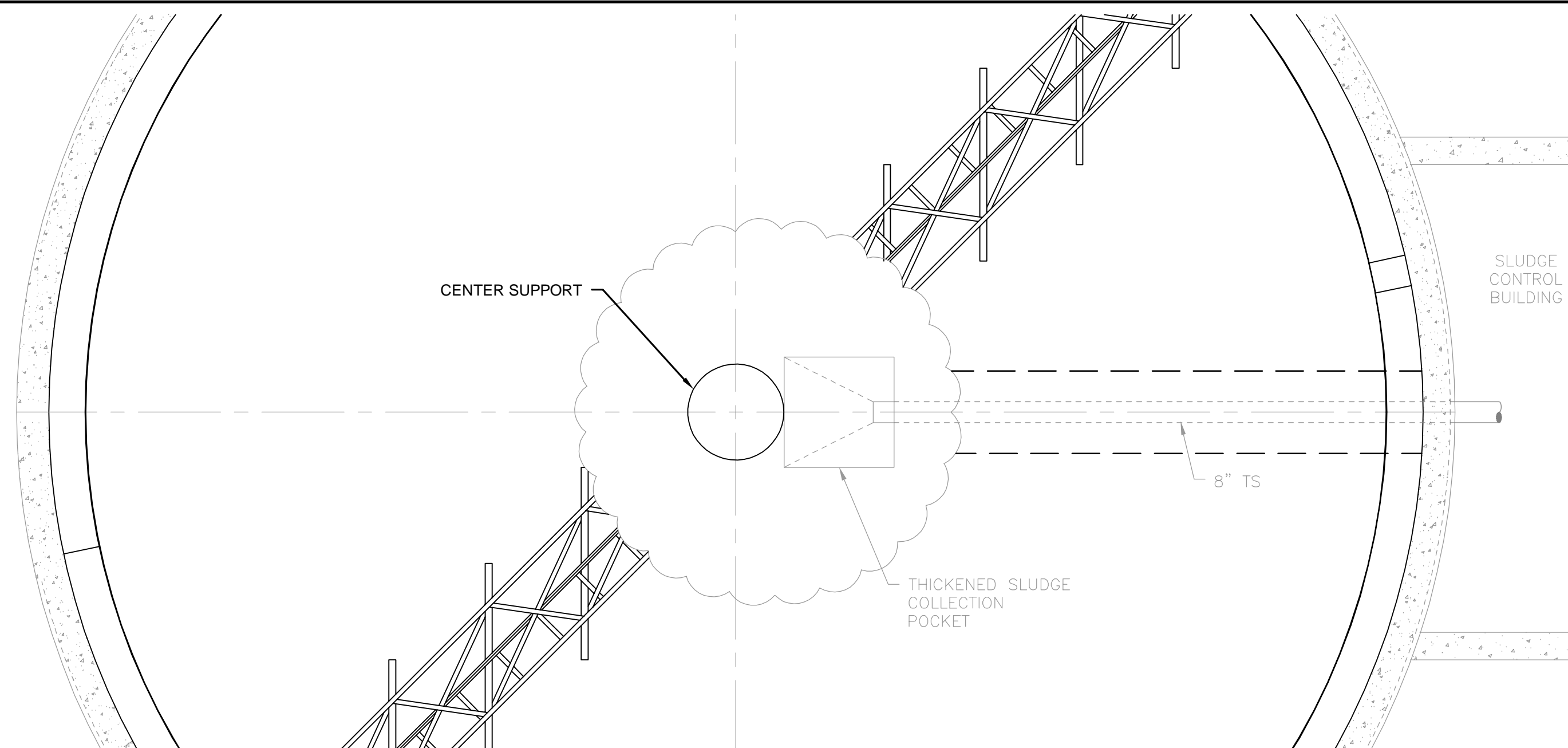
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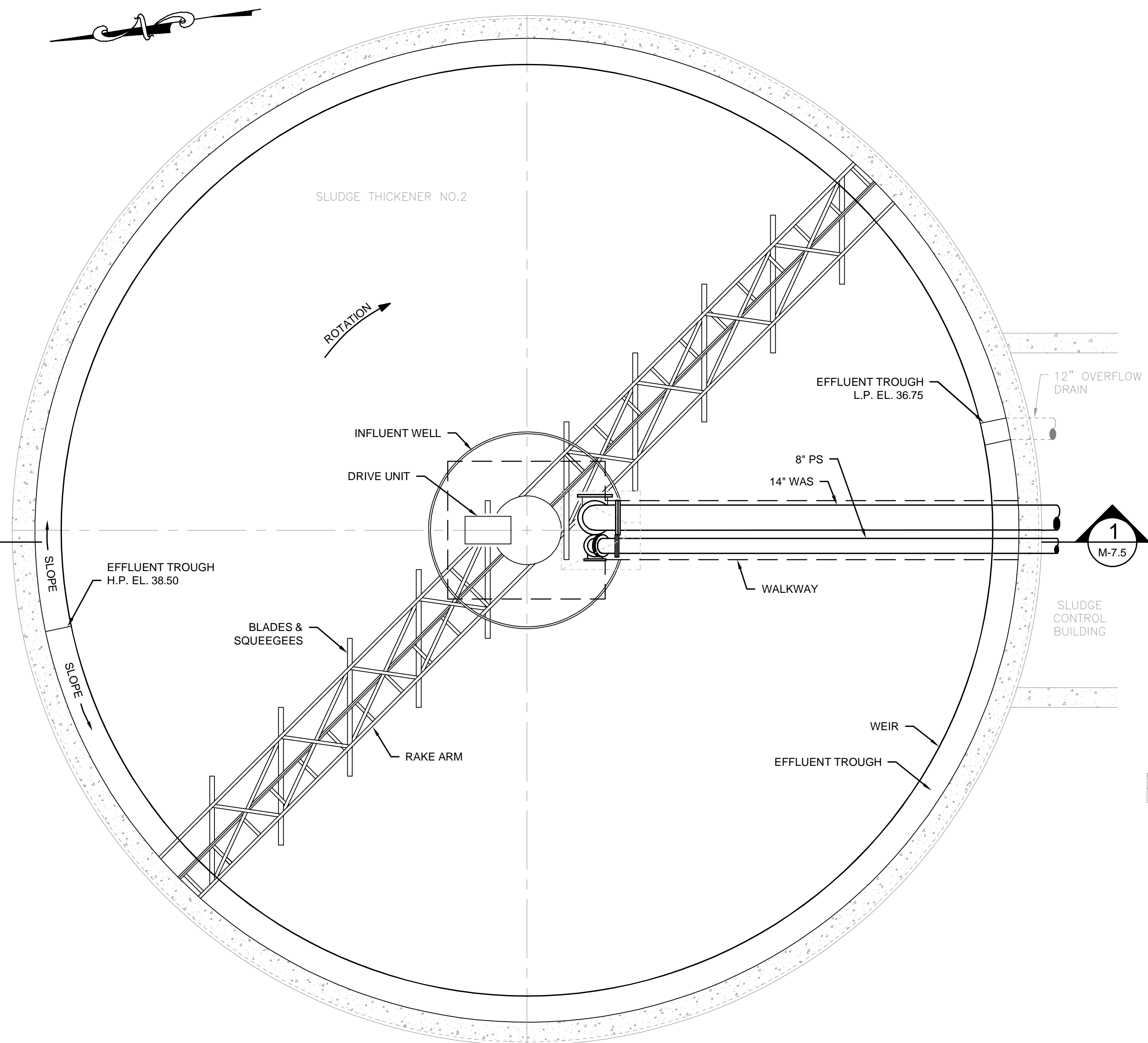
SHEET NO.

M-7.4

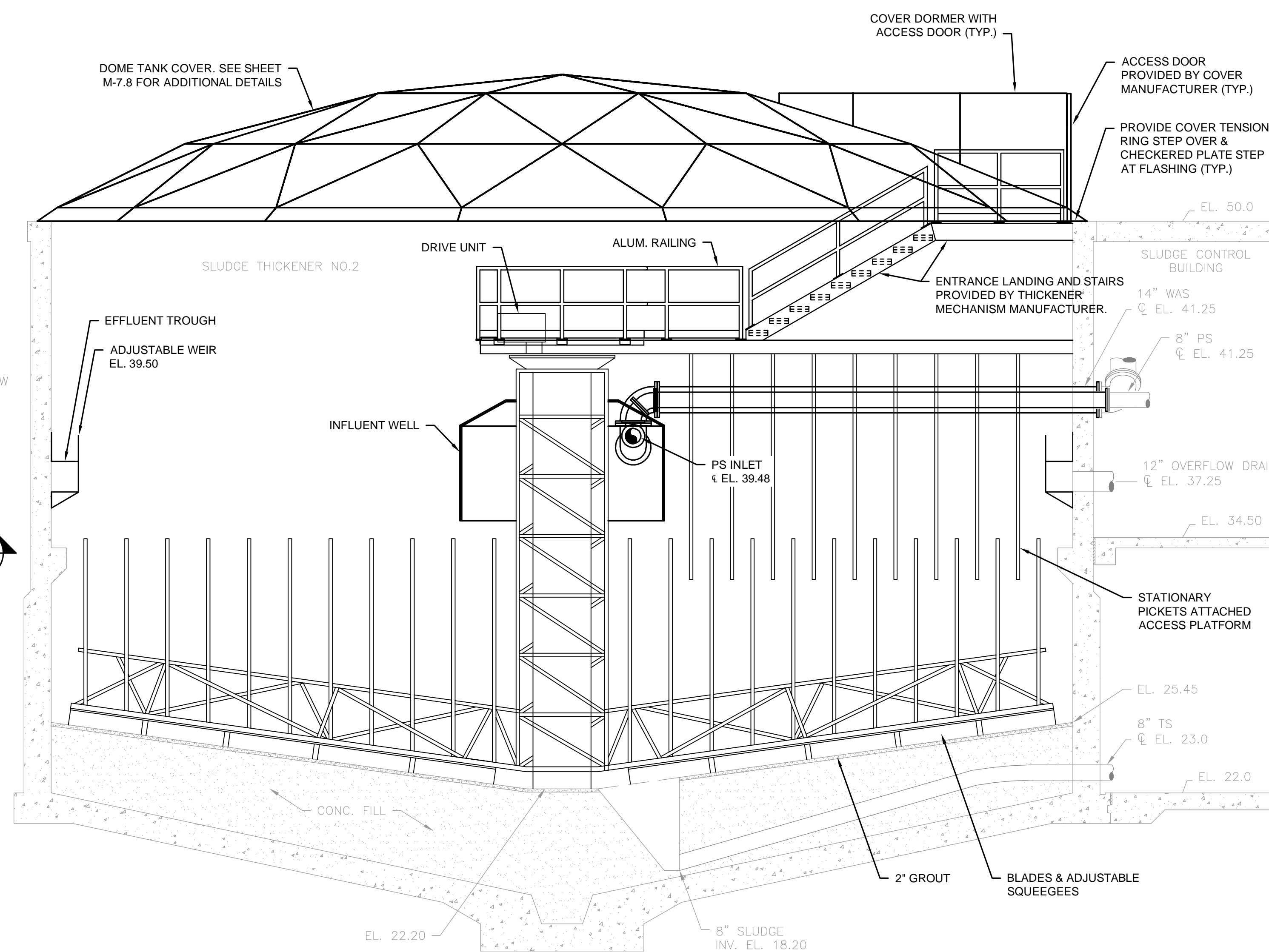
4/20/2021 10:07 AM J:\TAUNTON\WTF DESIGN\AUTOCAD\PIPLAN SET\SOLIDS HANDLING\BUILDING & TANKS- PROP\PLANS & SECTIONS\DWG (BETA, STEB, BIV, STB)



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



PLAN (EL. 50.0)
SCALE: 1/4"= 1'-0"



SECTION 1
SCALE: 1/4"= 1'-0" M-7.5

NOTES:

- 1. THE PROPOSED WORK SHOWN APPLY TO SLUDGE THICKENER NO.1 & SLUDGE THICKENER NO.2.

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PROJECT
**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE
**Gravity Thickening Tanks
Plans & Sections**
**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

DRAWN BY:	BM
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ISSUE DATE:	4/20/2021
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SCALE
AS SHOWN

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Thickened Sludge Pump Station Plans & Sections

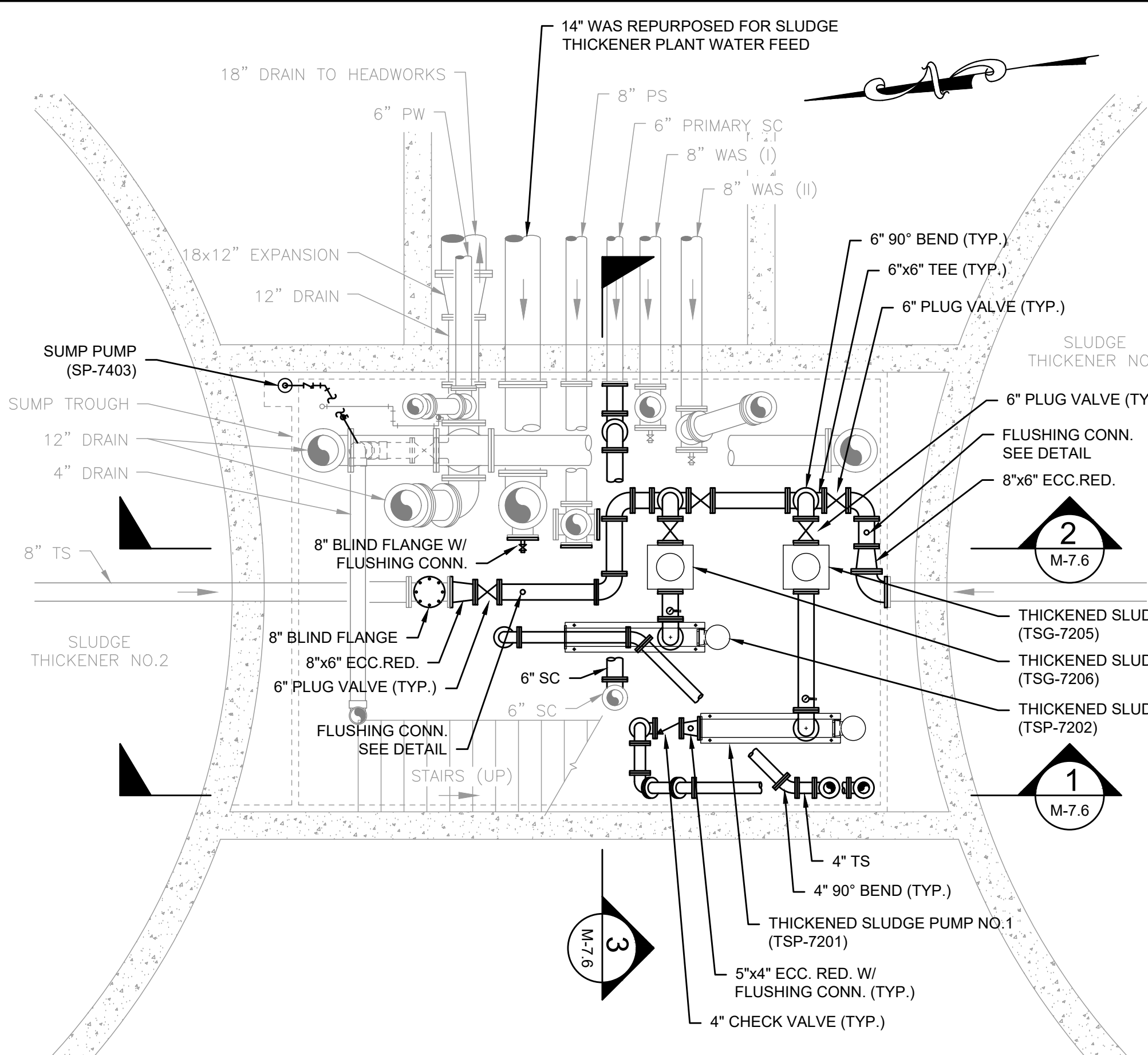
NO.	REVISIONS	DATE

DRAWN BY:	BM
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ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

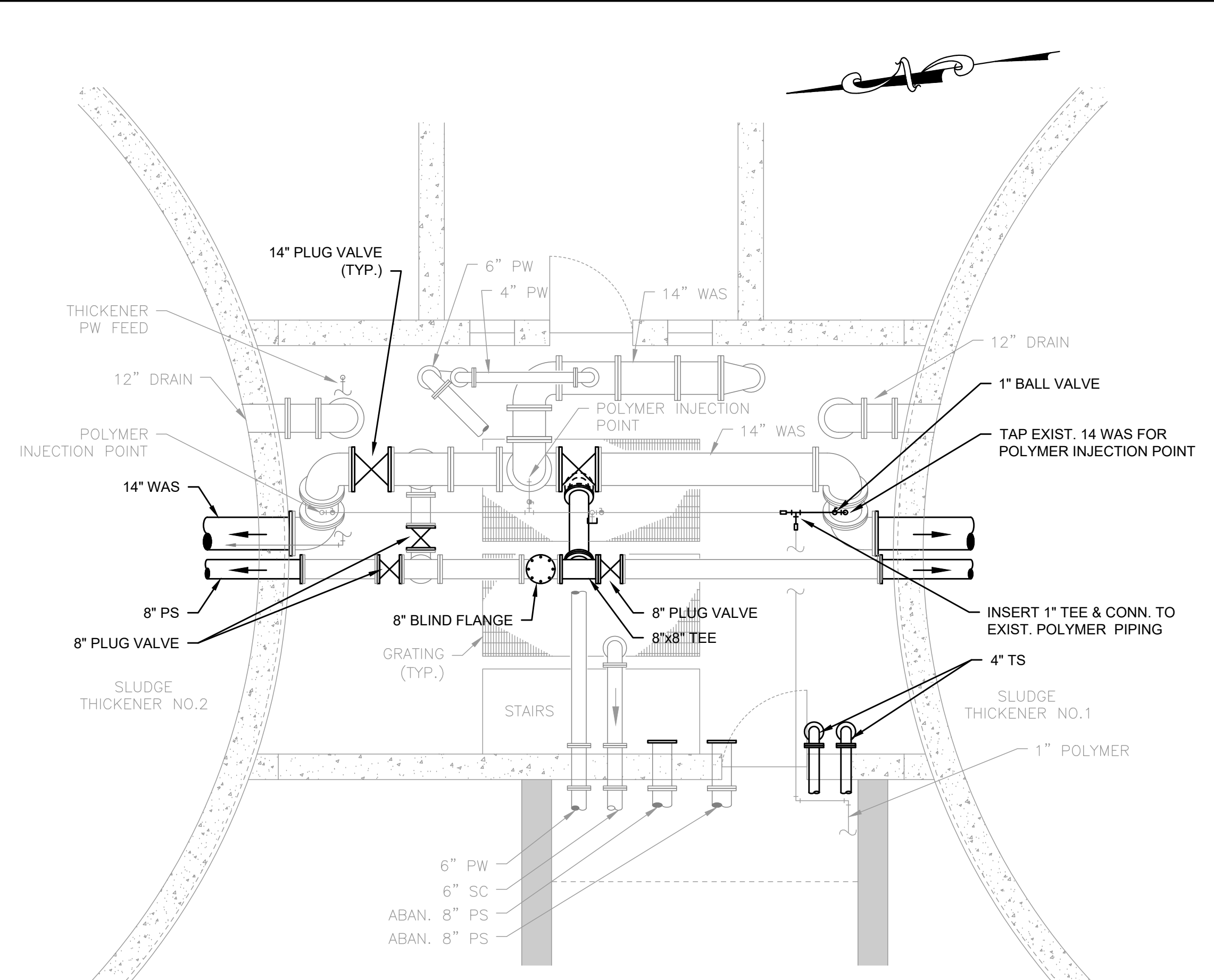
SCALE
AS SHOWN

FOR REVIEW ONLY

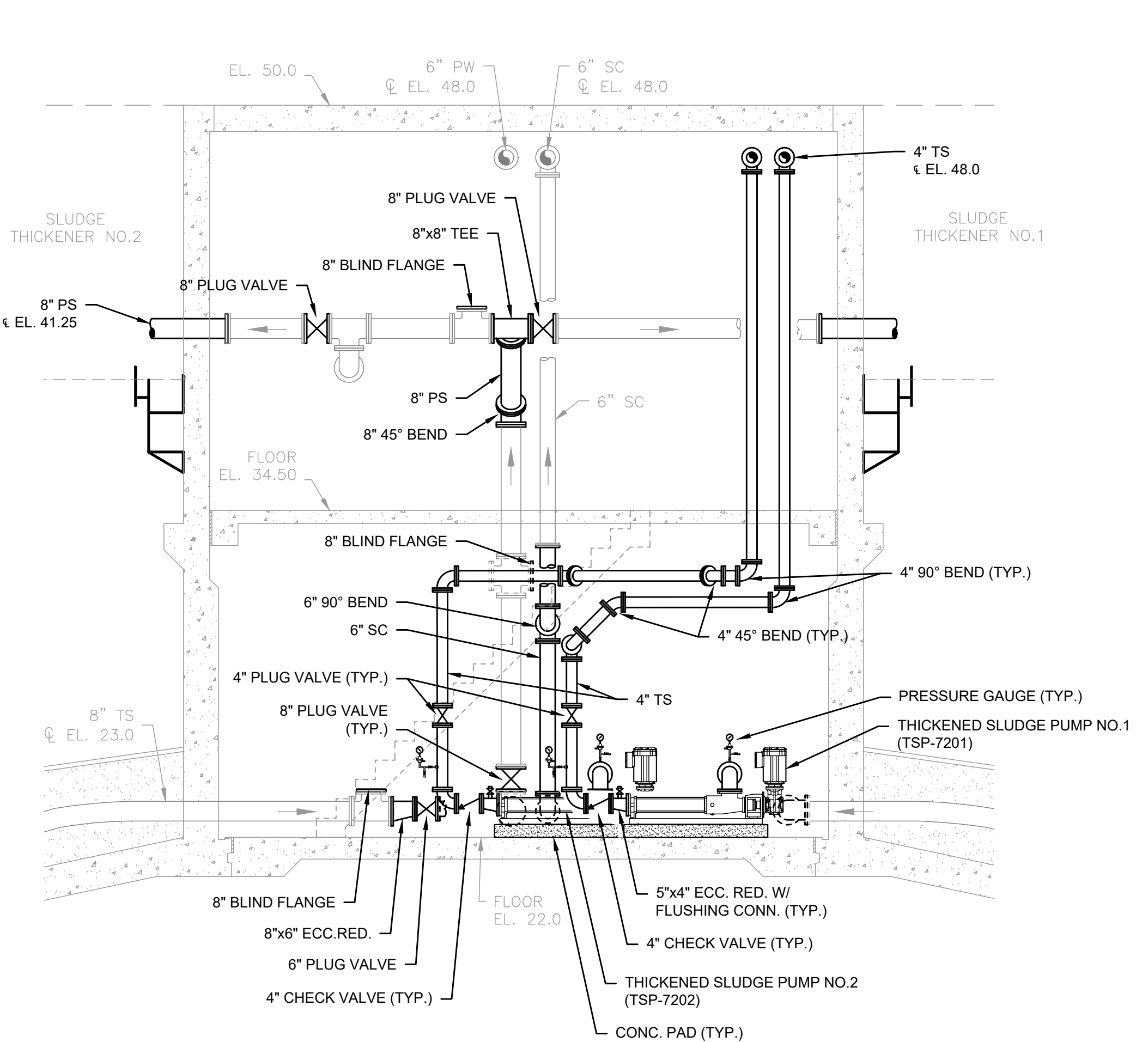
SHEET NO.
M-7.6



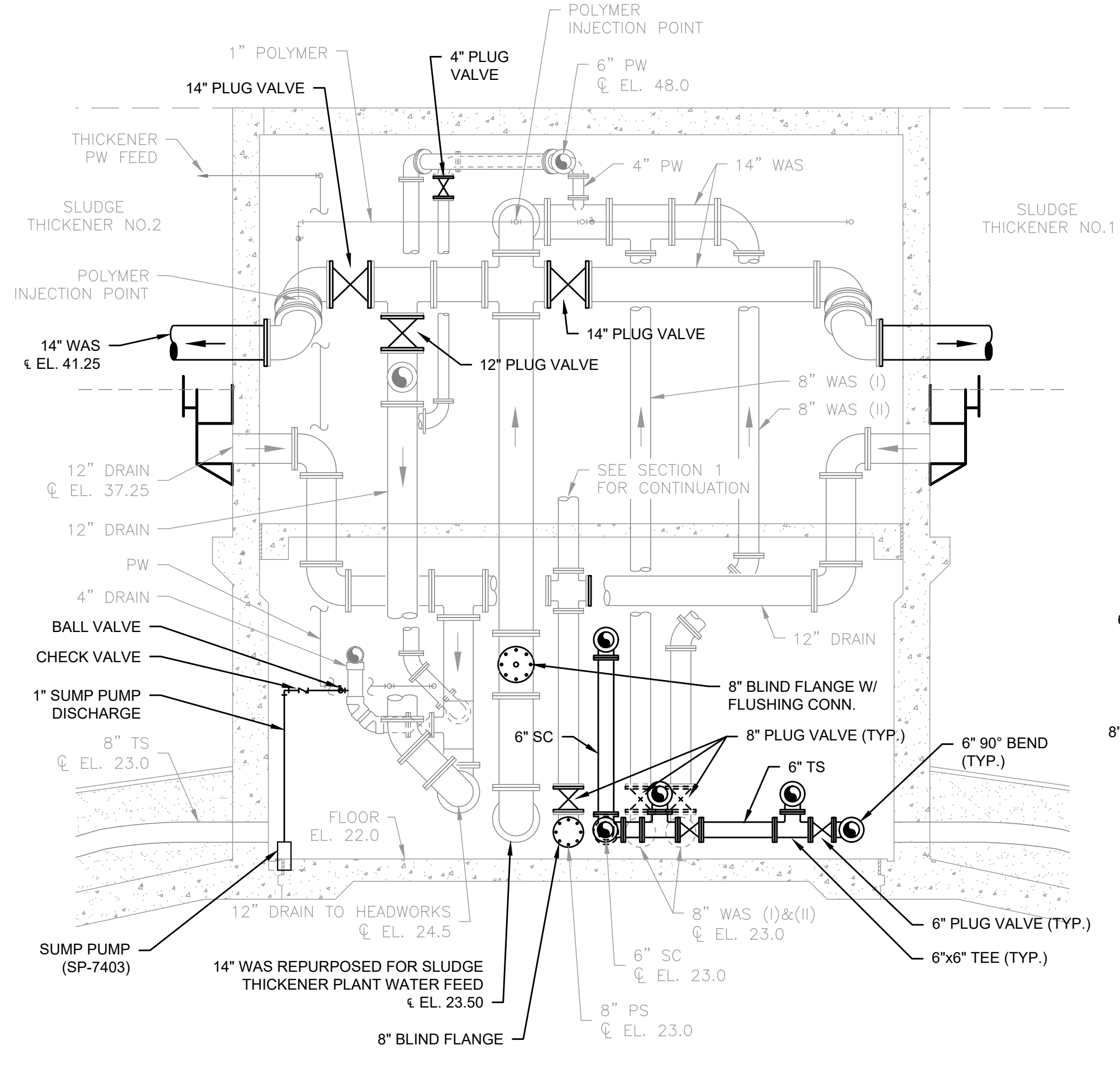
LOWER LEVEL - PLAN (EL. 34.0)
SCALE: 1/4"= 1'-0"



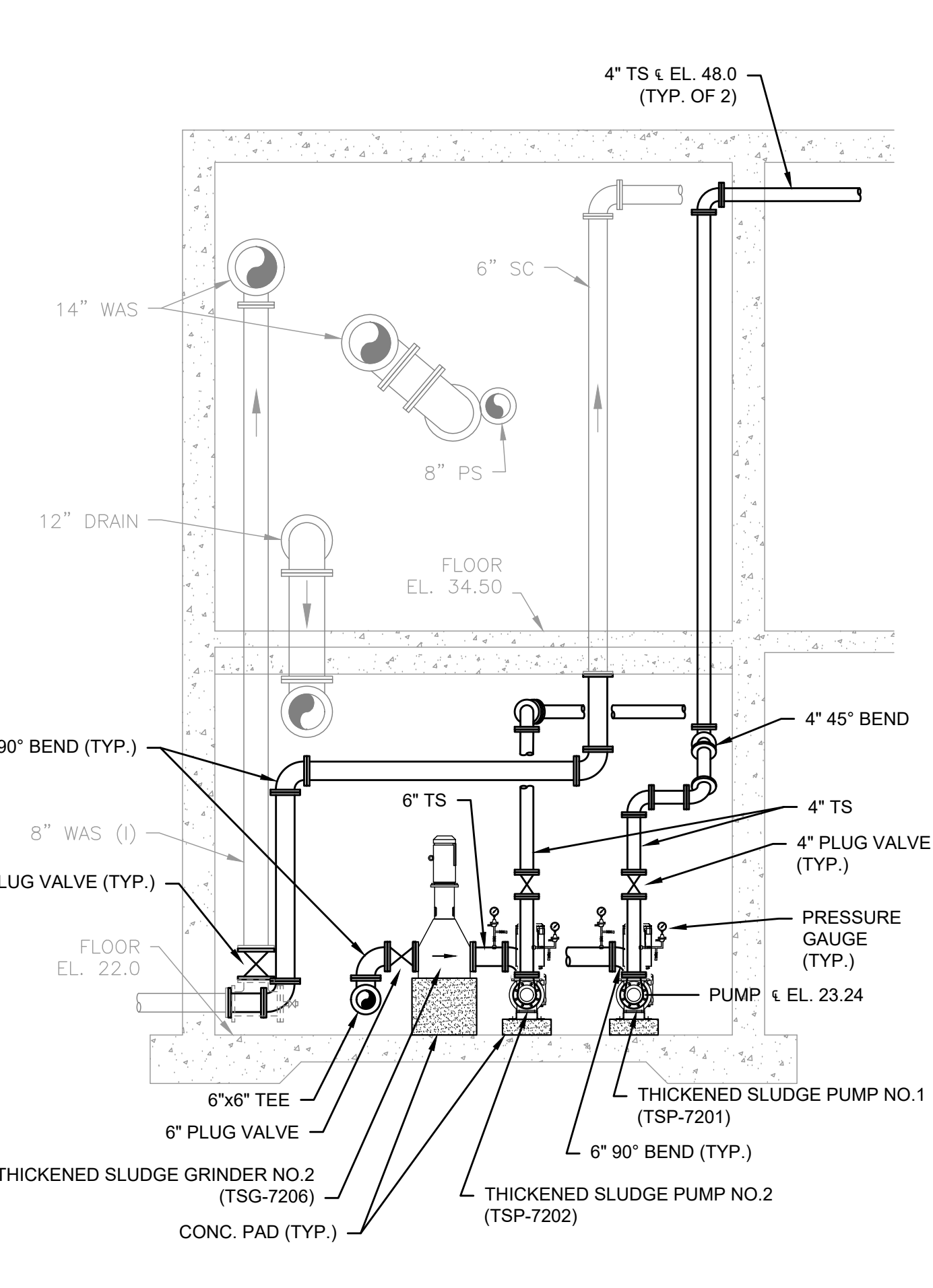
UPPER LEVEL - PLAN (EL. 49.0)
SCALE: 1/4"= 1'-0"



SECTION 1
SCALE: 1/4"= 1'-0" M-7.6

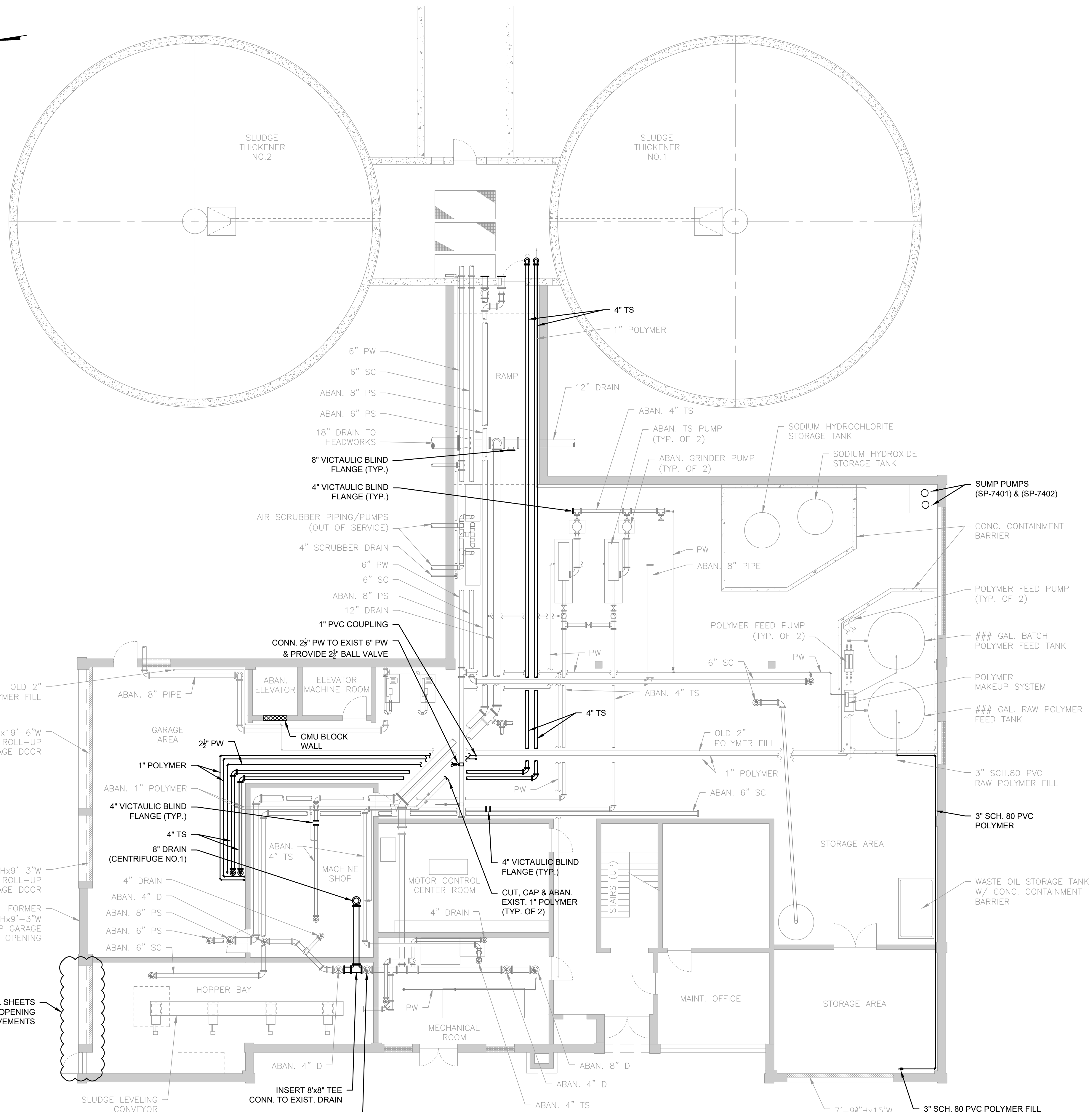


SECTION 2
SCALE: 1/4"= 1'-0" M-7.6



SECTION 3
SCALE: 1/4"= 1'-0" M-7.6

J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SETS\SOLIDS HANDLING\BUILDING & TANKS - PROF. PLANS & SECTIONS.DWG (BETA STD BW.CTB)



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

J:\TAUNTON\WWTF DESIGN\AUTO CAD\PLAN SET\SOLIDS HANDLING BUILDING & TANKS - PROF. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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REGISTERED PROFESSIONAL



Joseph F. Riccio, Jr.

SUBCONSULTANT

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Solids Handling Building
First Floor Plan**

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
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ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

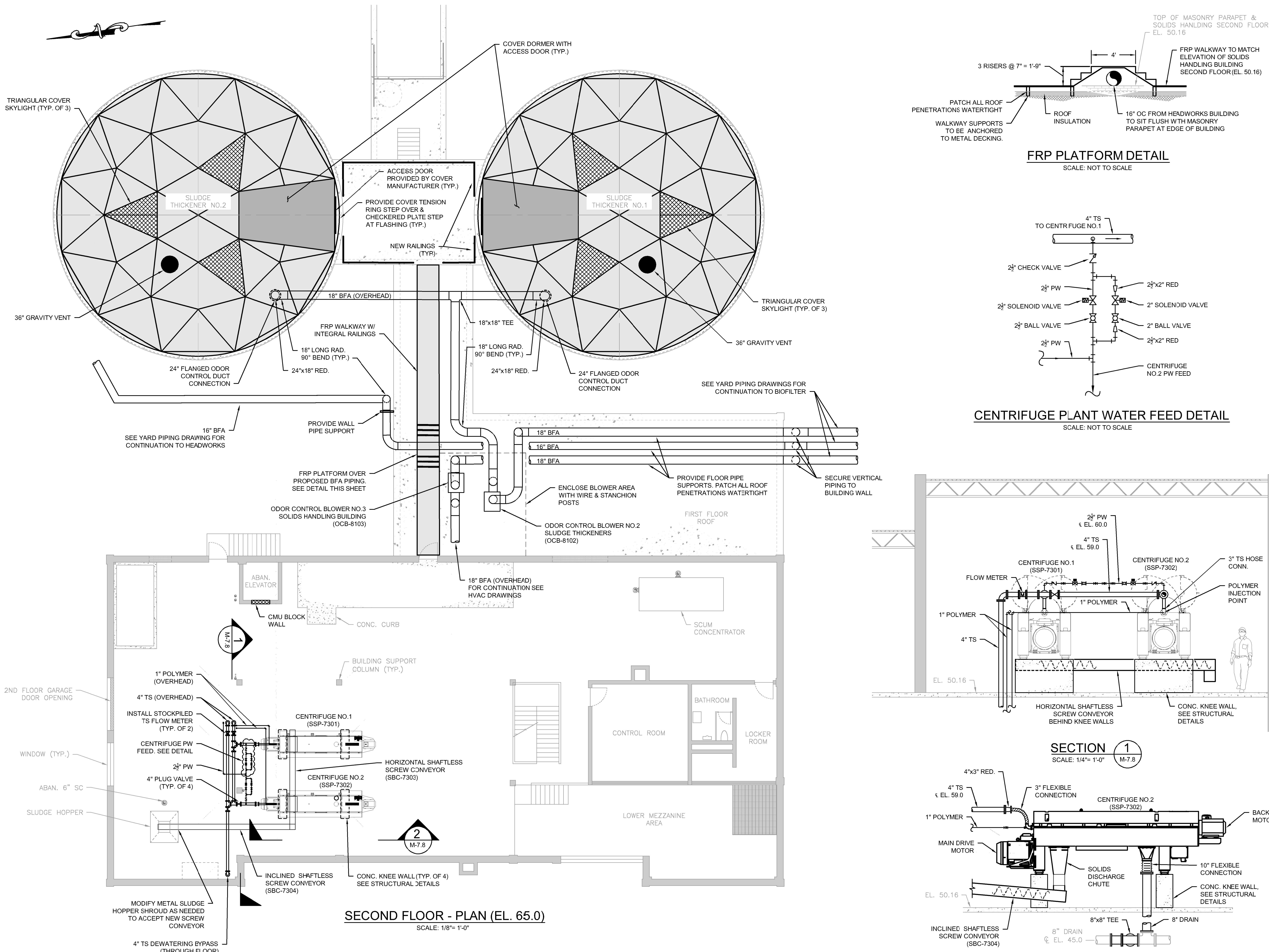
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M-7.7

4/20/2021 10:14:41 AM J:\TAUNTON\WWT DESIGN\AUTOCAD\PLANS SET\SOLIDS HANDLING BUILDING & TANKS-PROP PLANS & SECTIONS.DWG (BETA STB.BW.STB)



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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Building Second Floor Plan

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: BM
DESIGNED BY: BM
CHECKED BY: RM
ISSUE DATE: 4/20/2021
BETA JOB NO.: 6050

SCALE

AS SHOWN

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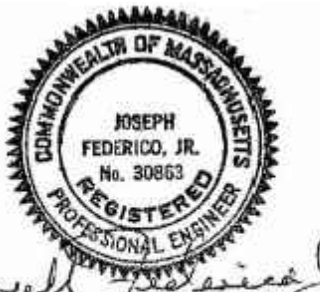
SHEET NO.

M-7.8

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Proposed Biofilter Plan & Section

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

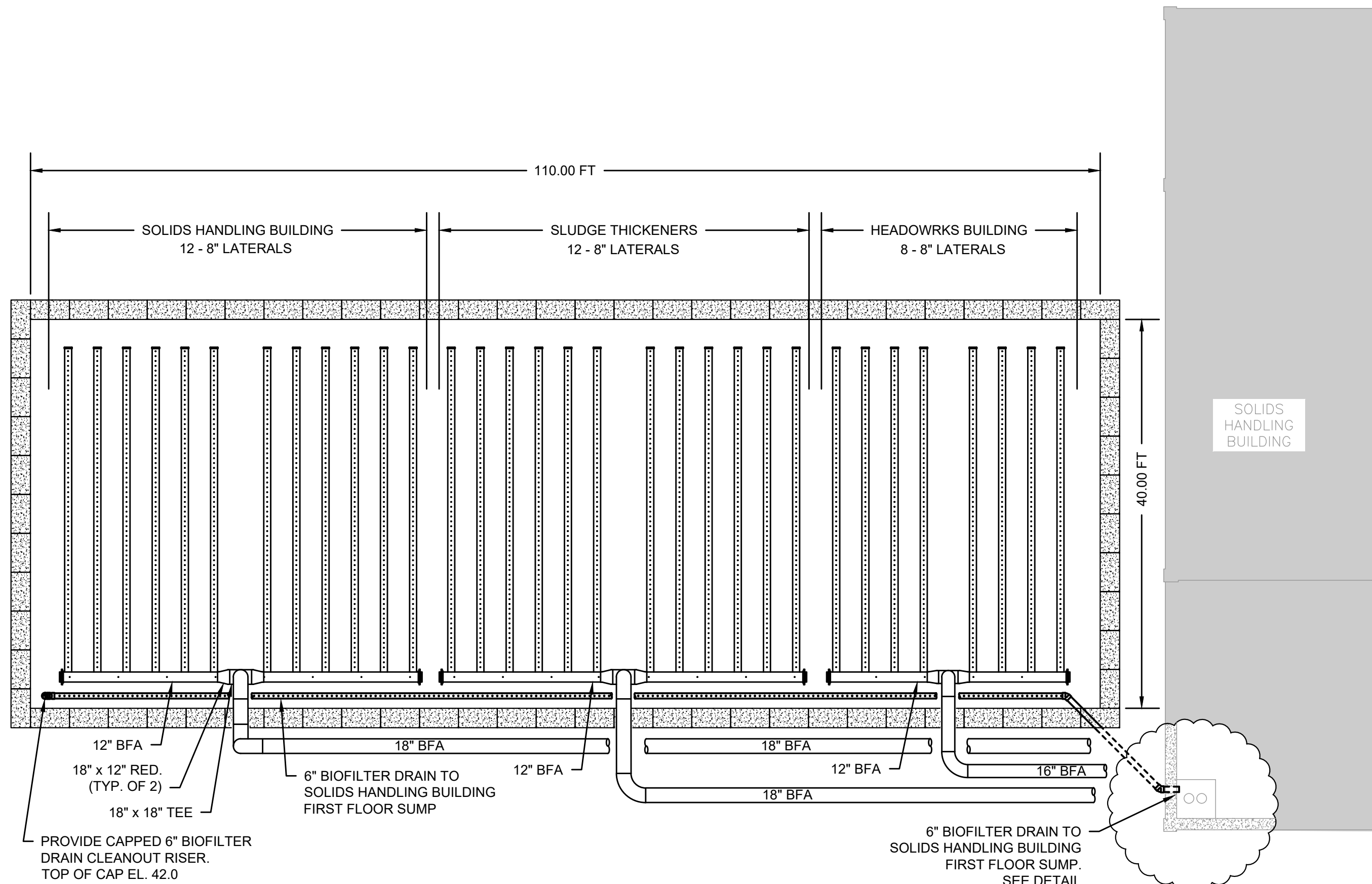
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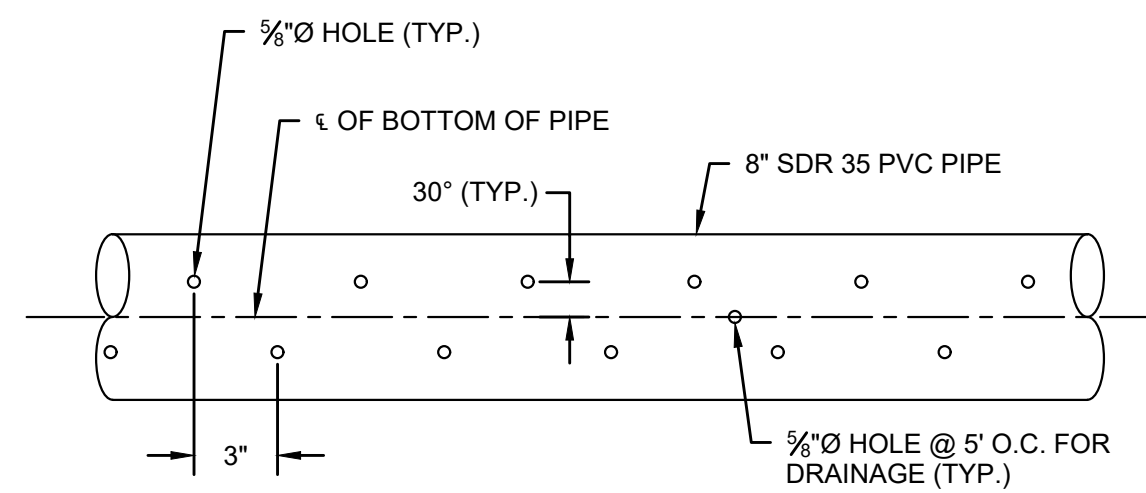
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SHEET NO.

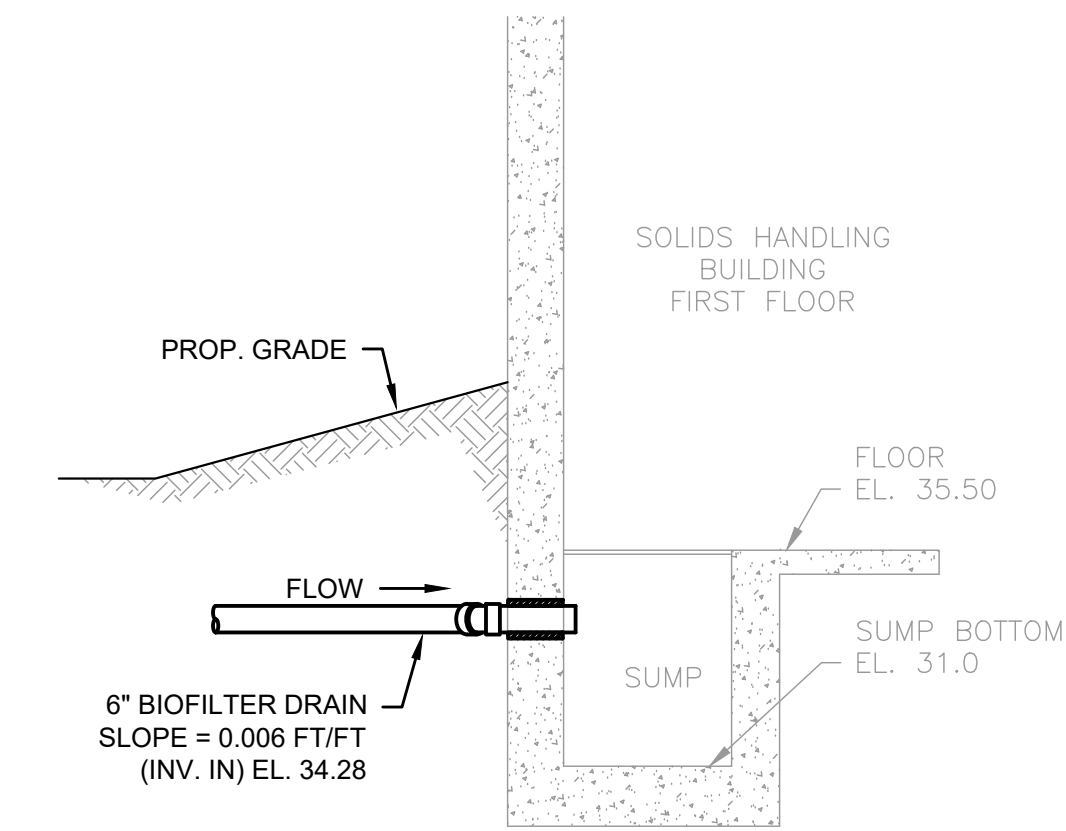
M-8.1



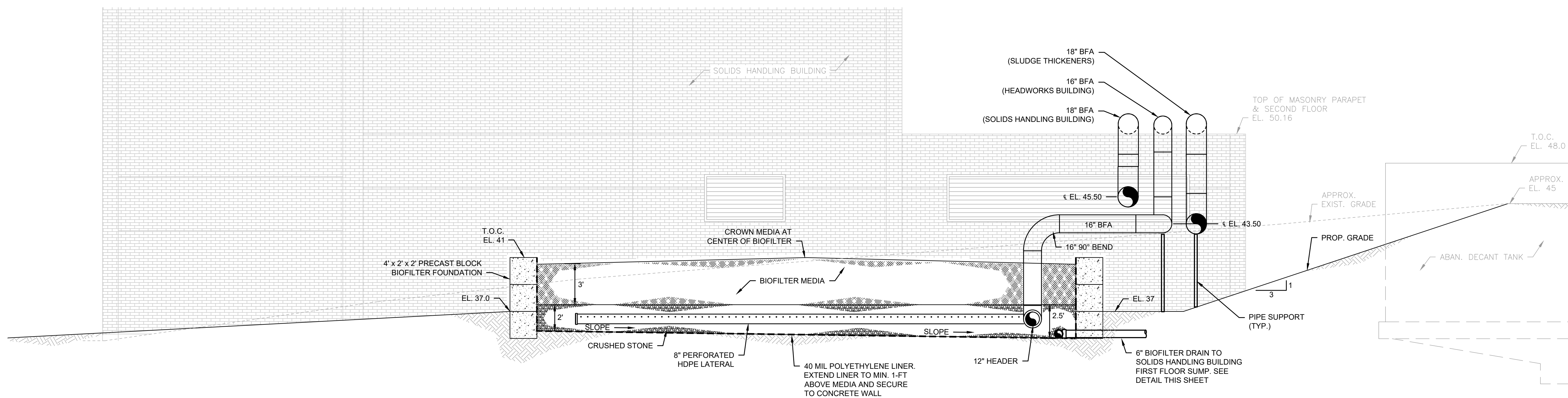
PLAN
SCALE: 1"= 10'-0"



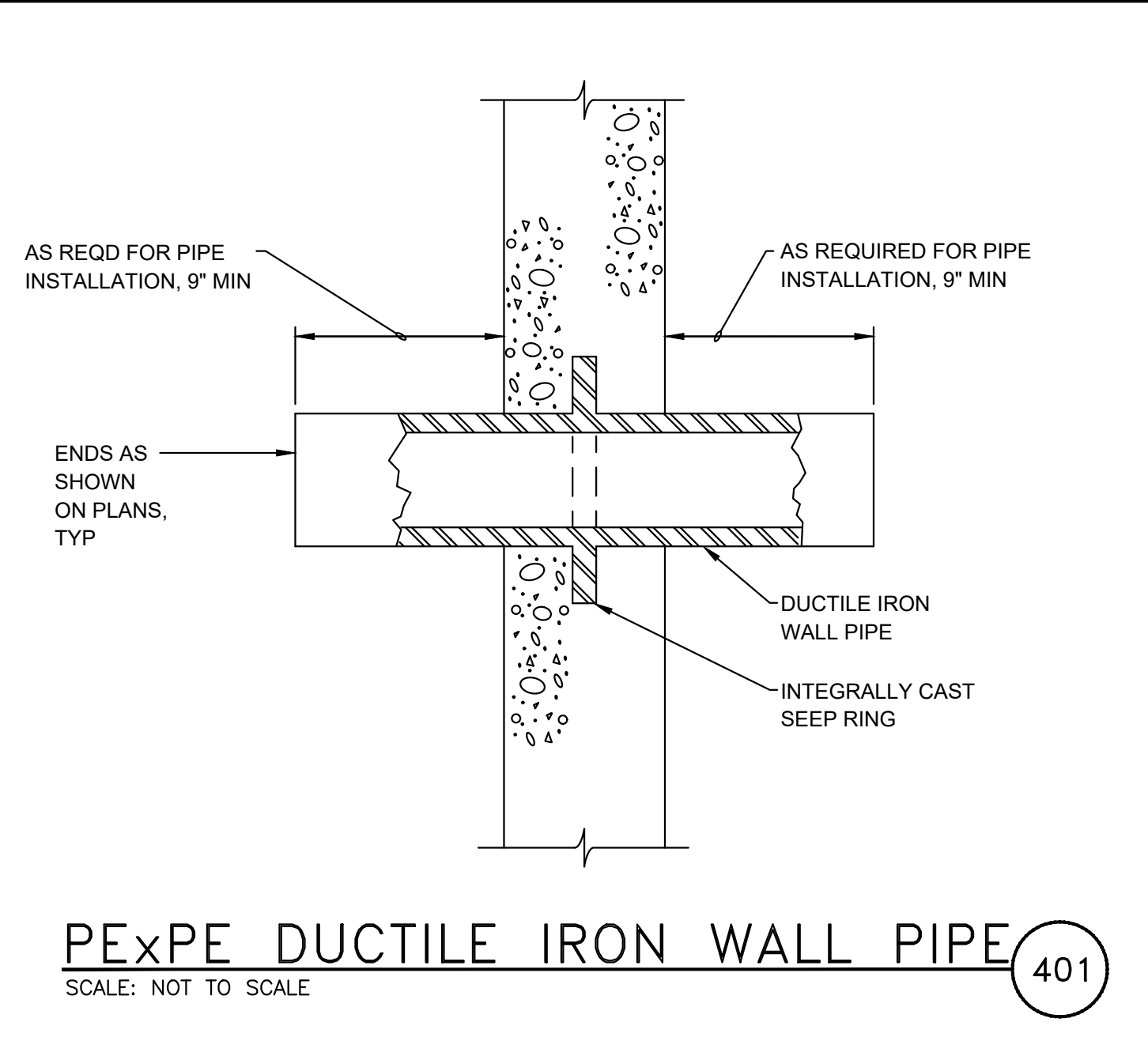
BIOFILTER PIPE PERFORATION DETAIL
SCALE: NOT TO SCALE



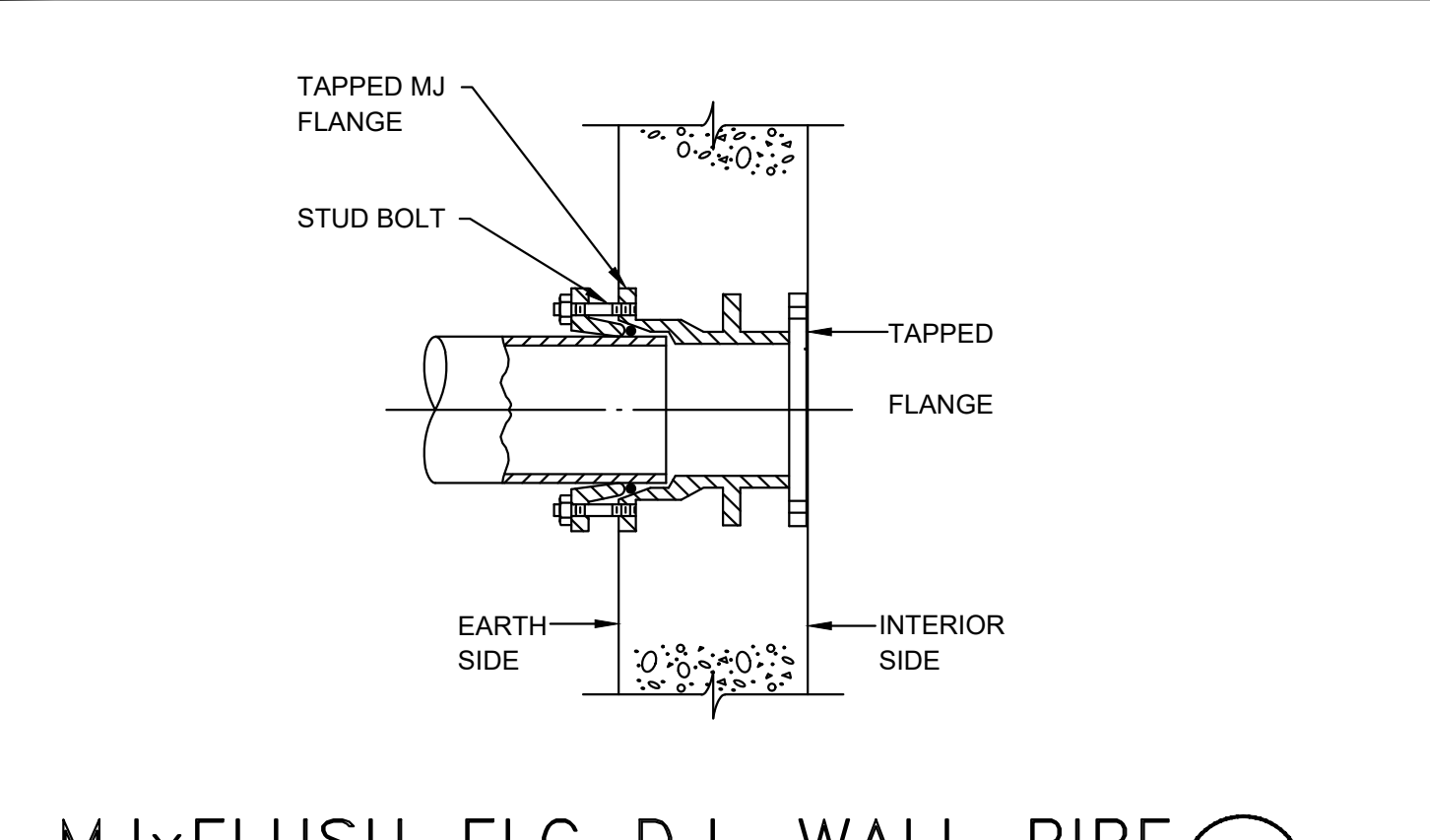
BIOFILTER DRAIN DISCHARGE DETAIL
SCALE: 1/4" = 1'-0"



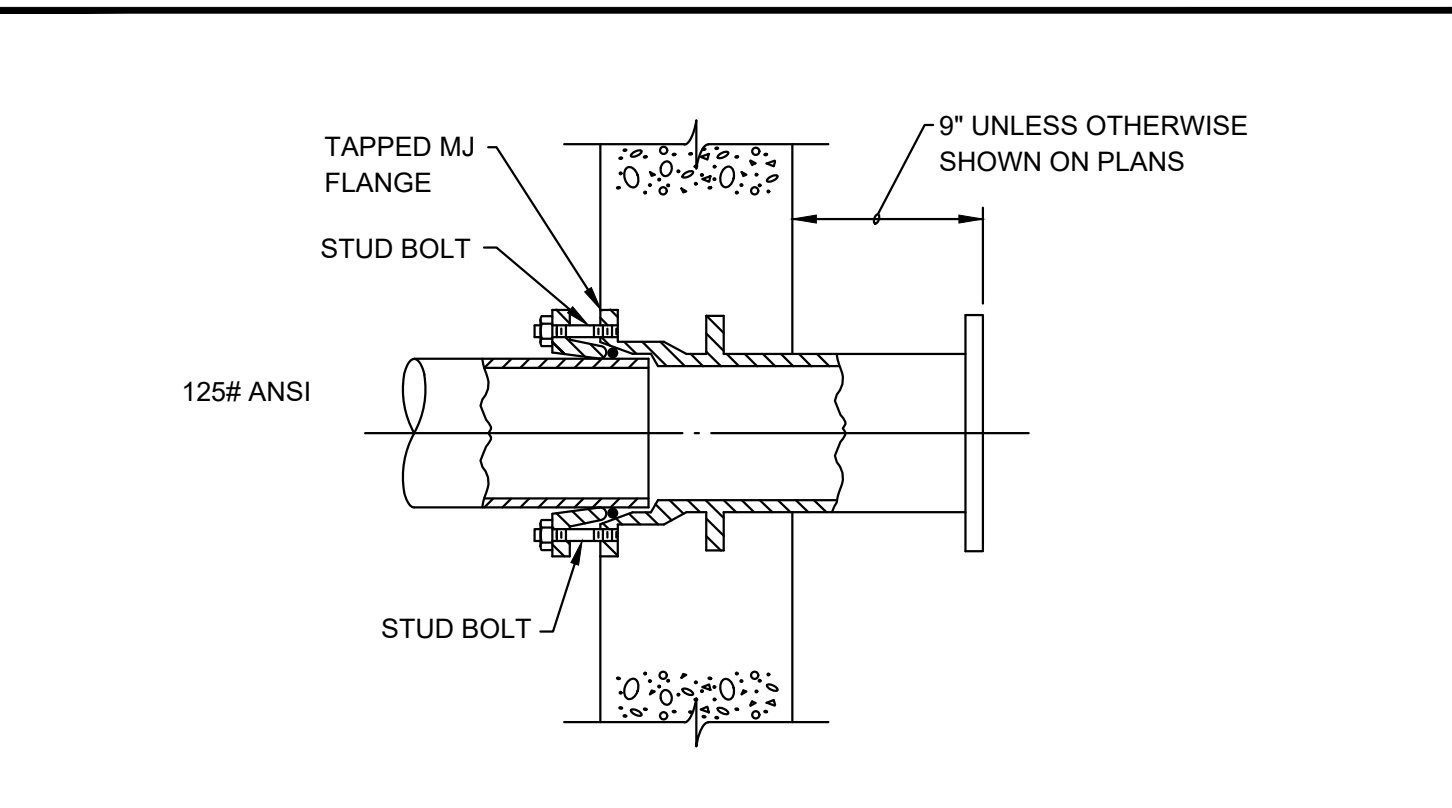
SECTION 1
SCALE: 1/4" = 1'-0" M-8.1



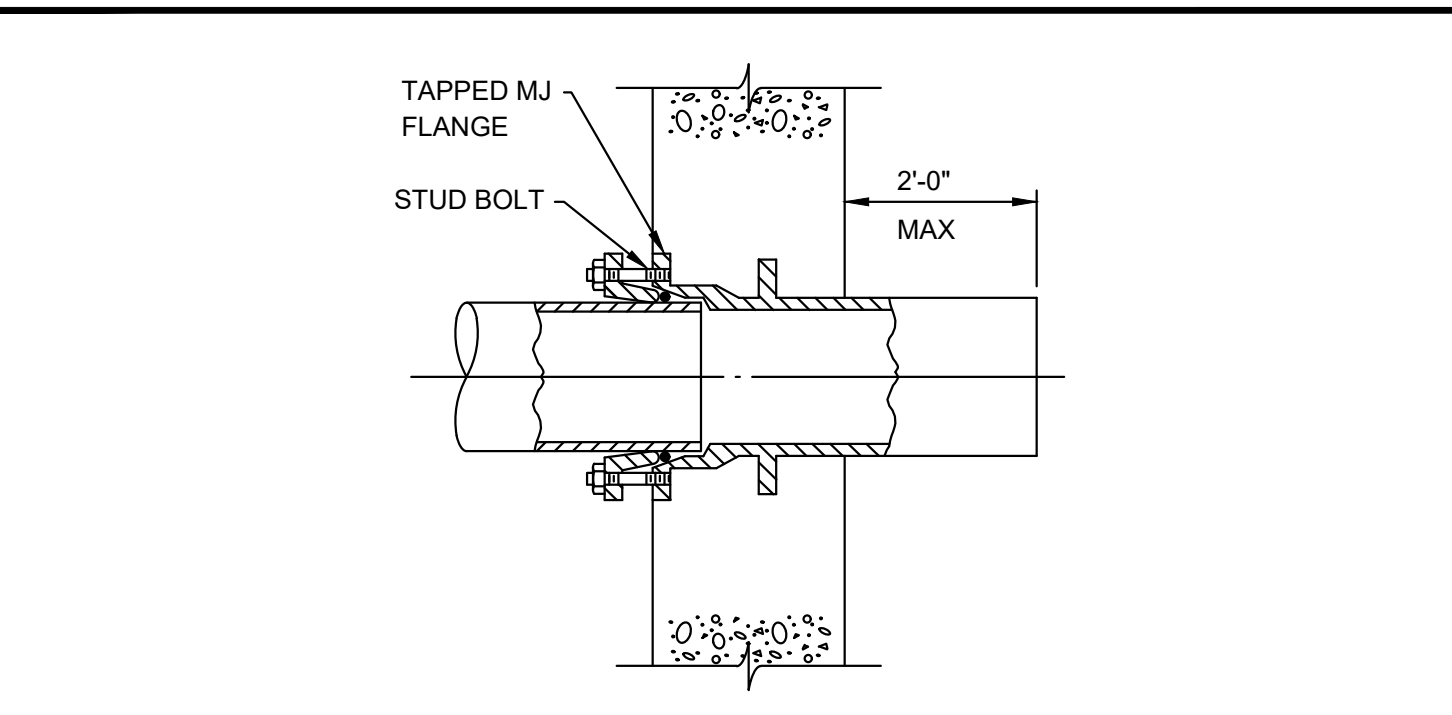
PExPE DUCTILE IRON WALL PIPE 400
SCALE: NOT TO SCALE



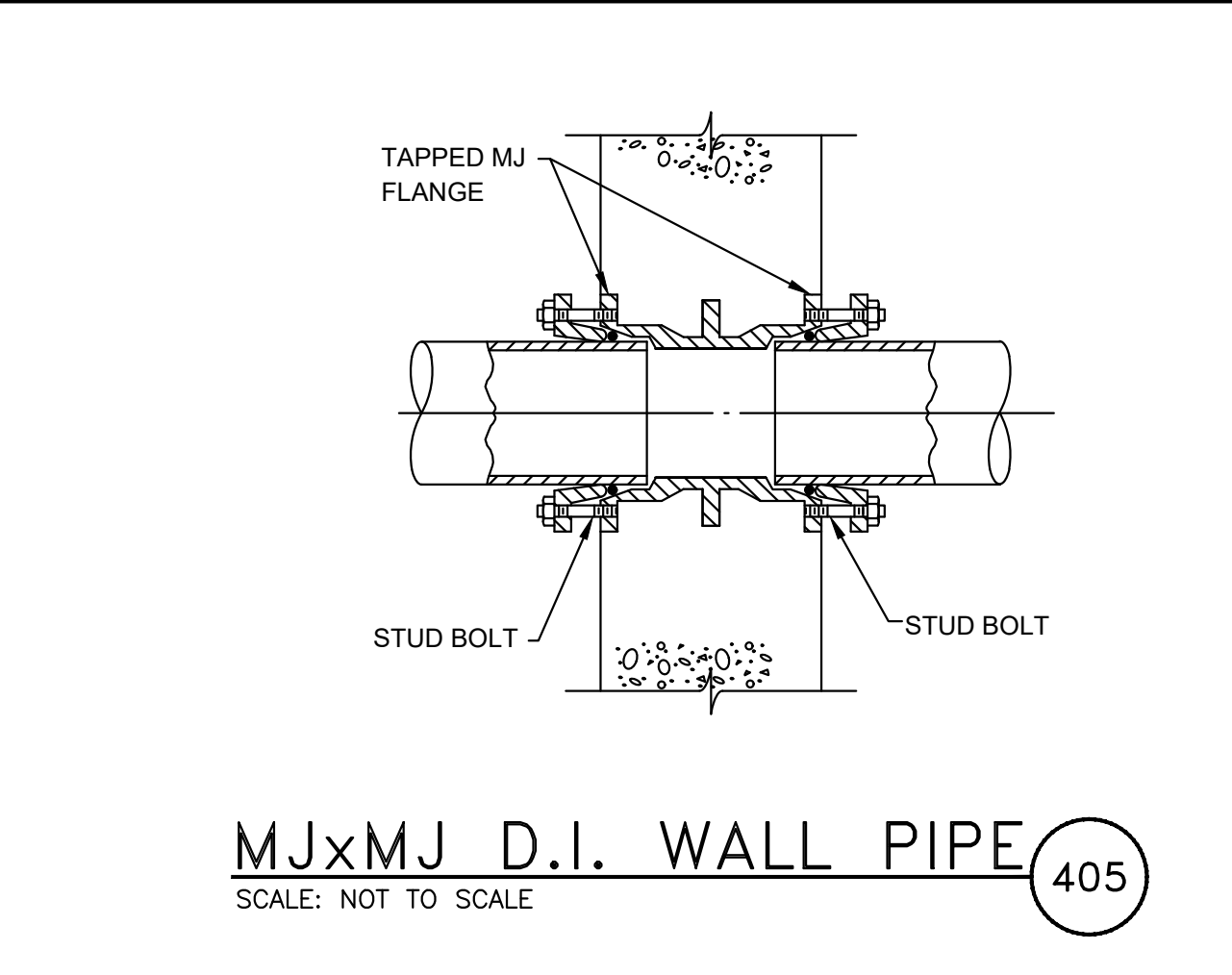
MJxFLUSH FLG D.I. WALL PIPE 401
SCALE: NOT TO SCALE



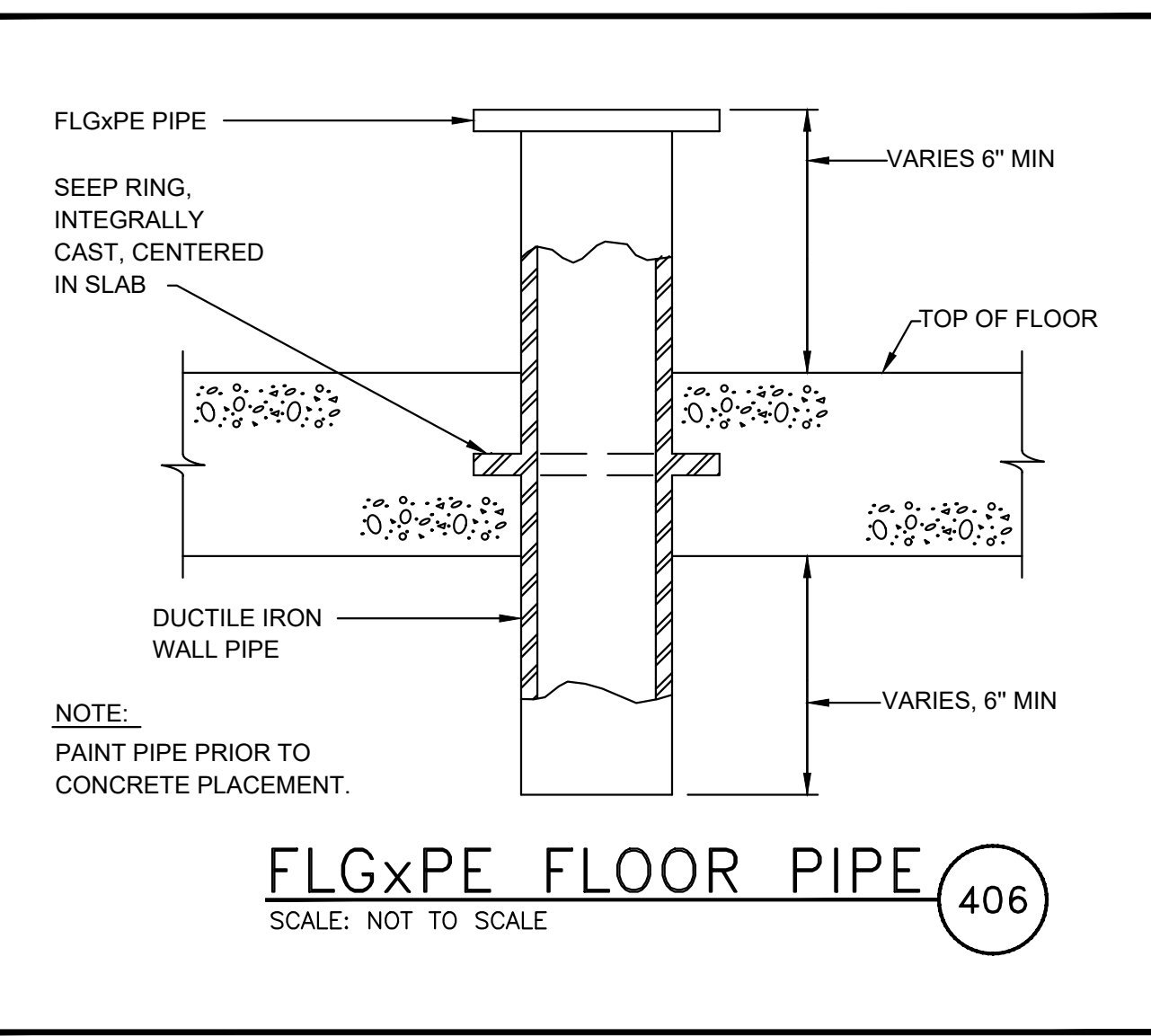
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SCALE: NOT TO SCALE



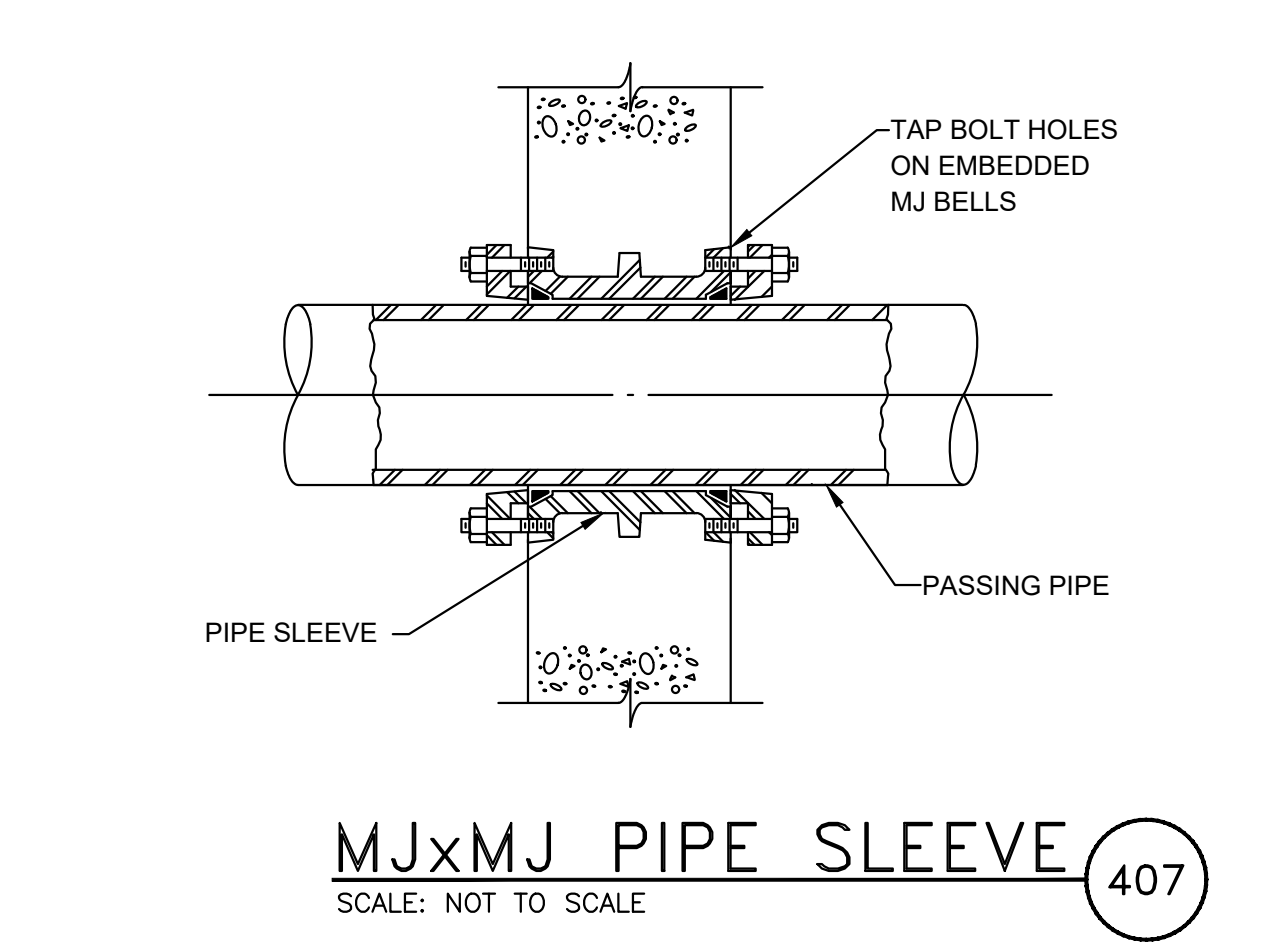
MJxPE D.I. WALL PIPE 403
SCALE: NOT TO SCALE



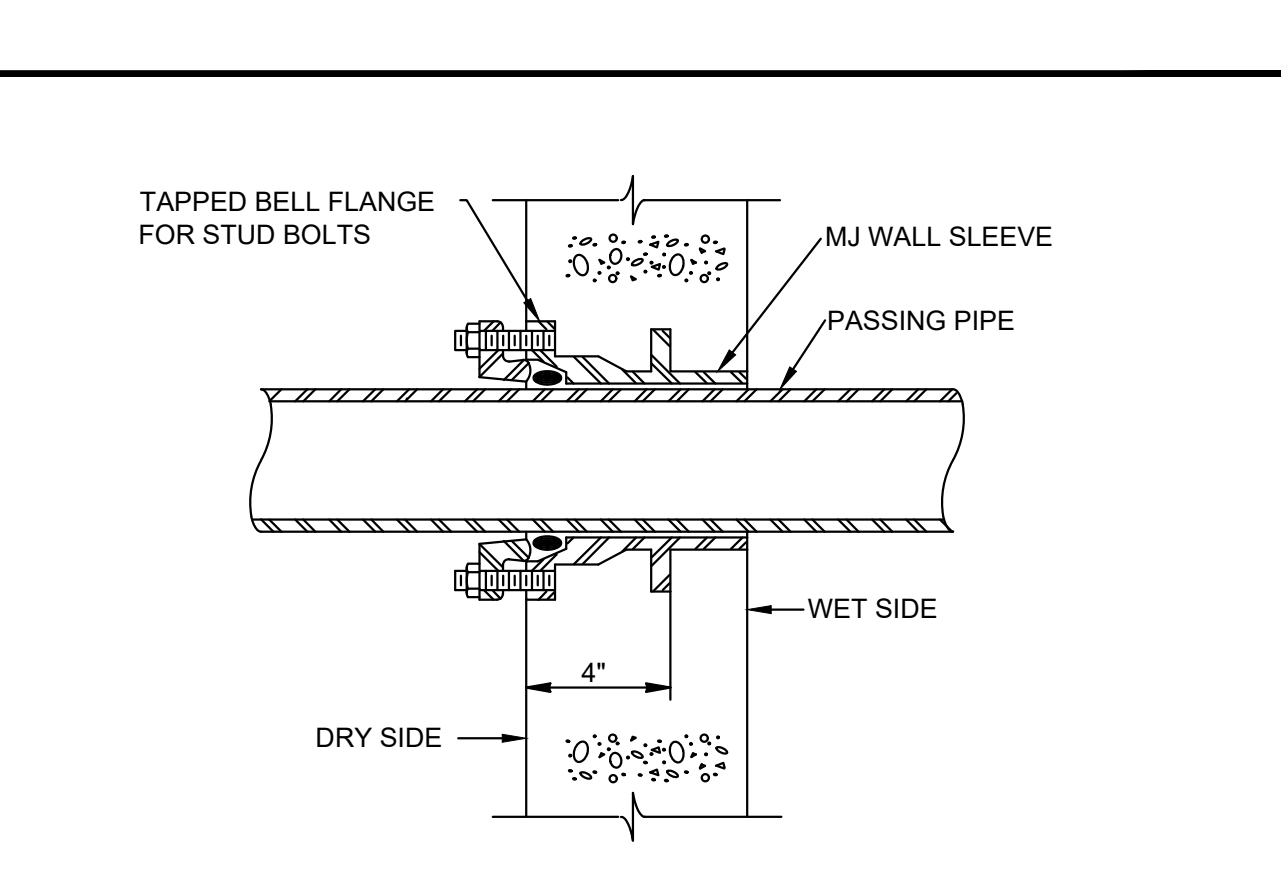
MJxMJ D.I. WALL PIPE 404
SCALE: NOT TO SCALE



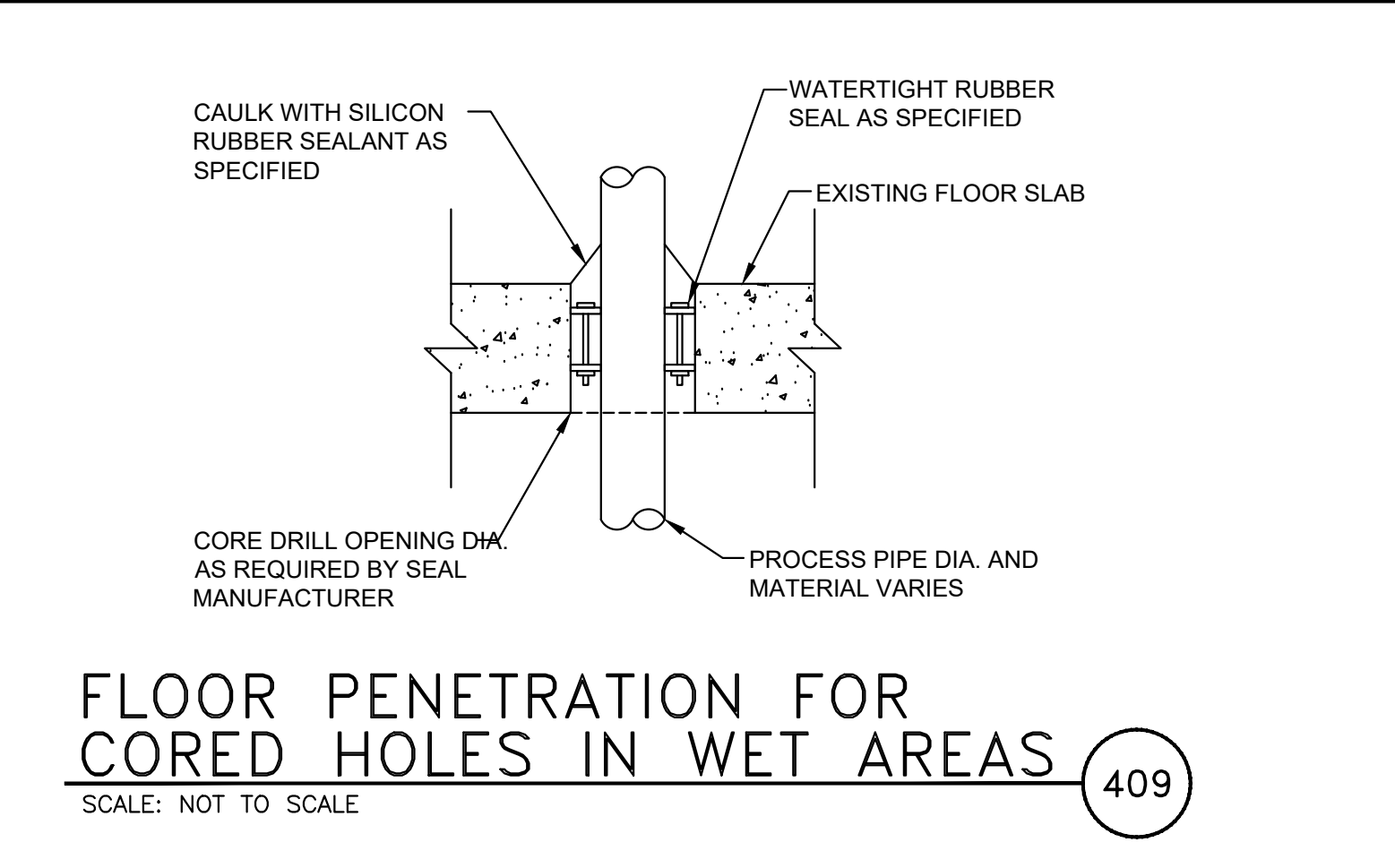
FLGxPE FLOOR PIPE 405
SCALE: NOT TO SCALE



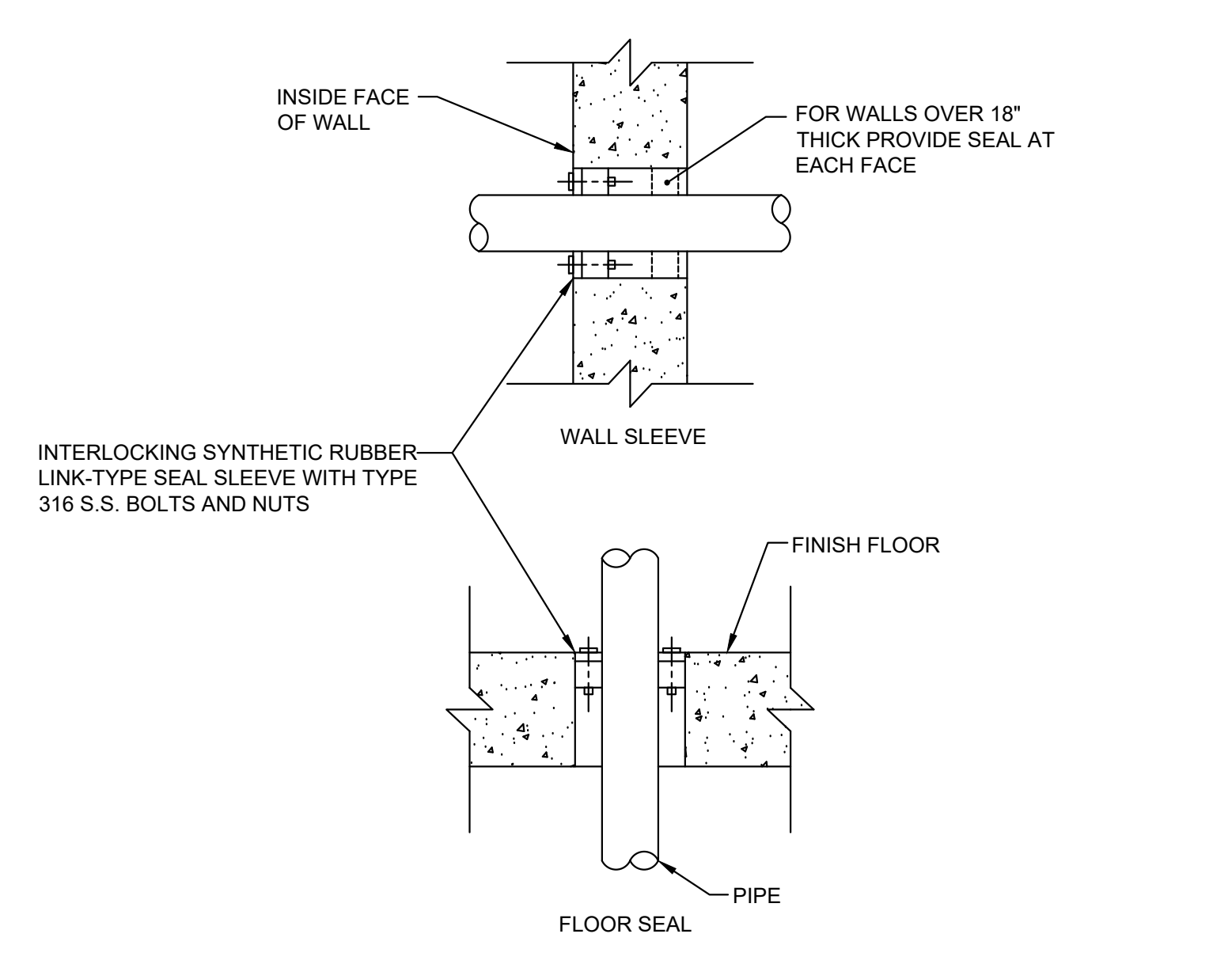
MJxMJ PIPE SLEEVE 406
SCALE: NOT TO SCALE



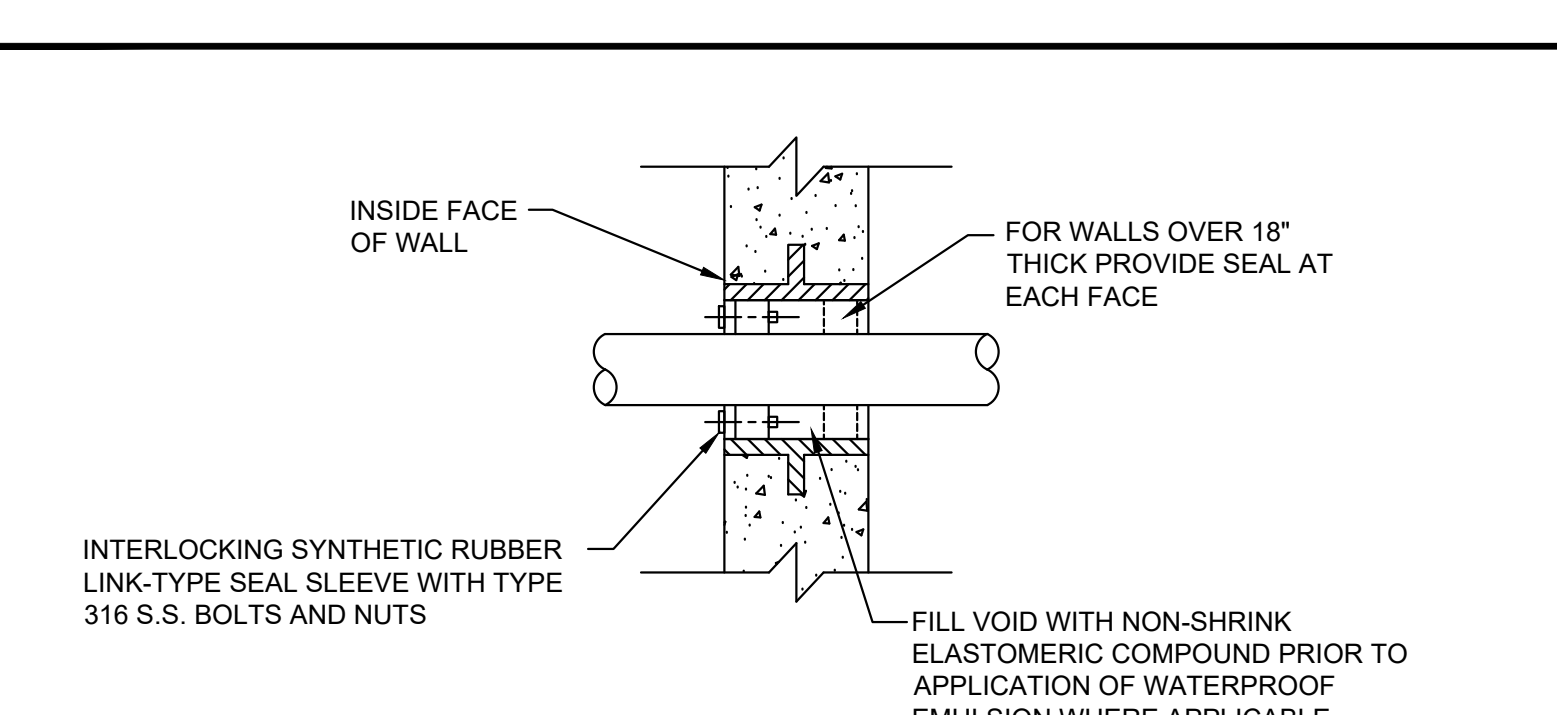
MJxPE WALL SLEEVE 407
SCALE: NOT TO SCALE



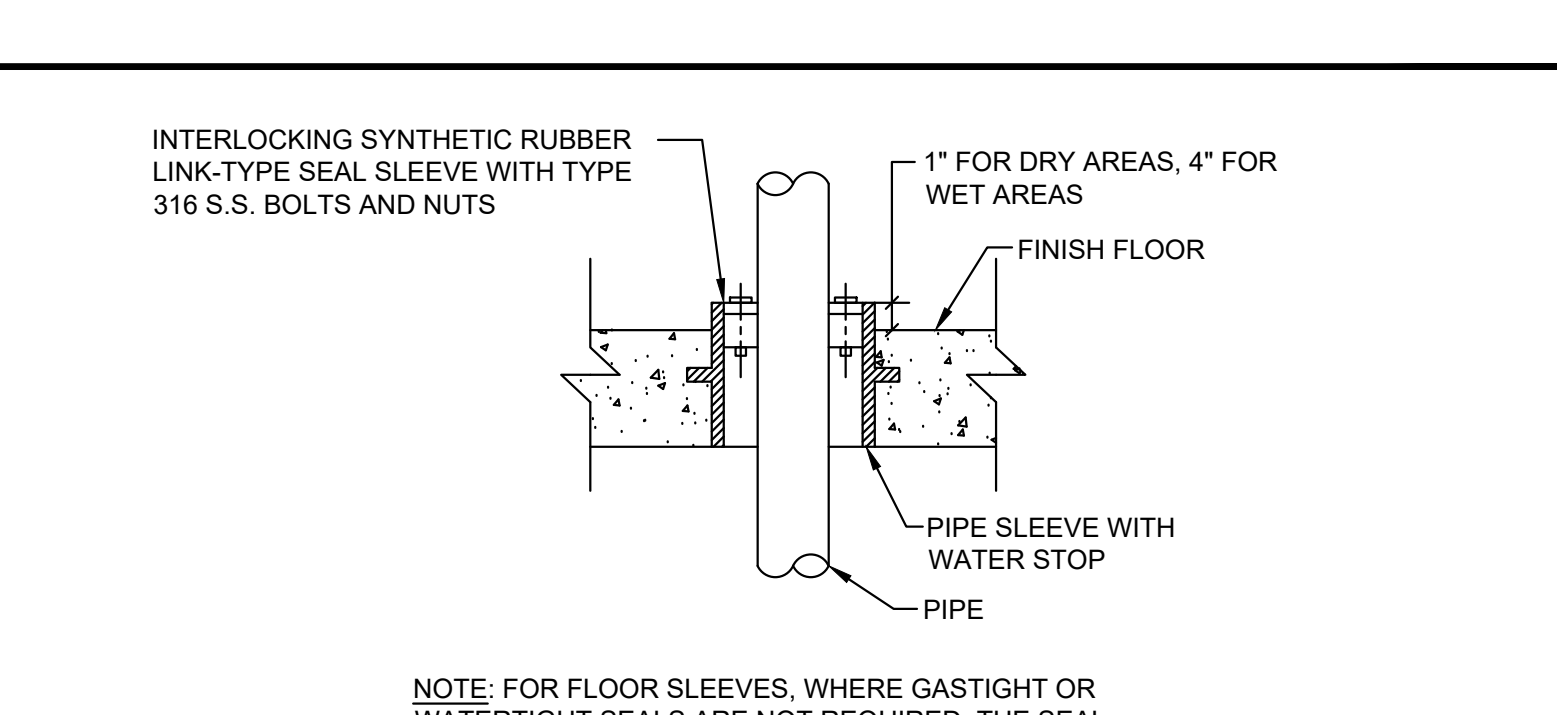
FLOOR PENETRATION FOR CORED HOLES IN WET AREAS 408
SCALE: NOT TO SCALE



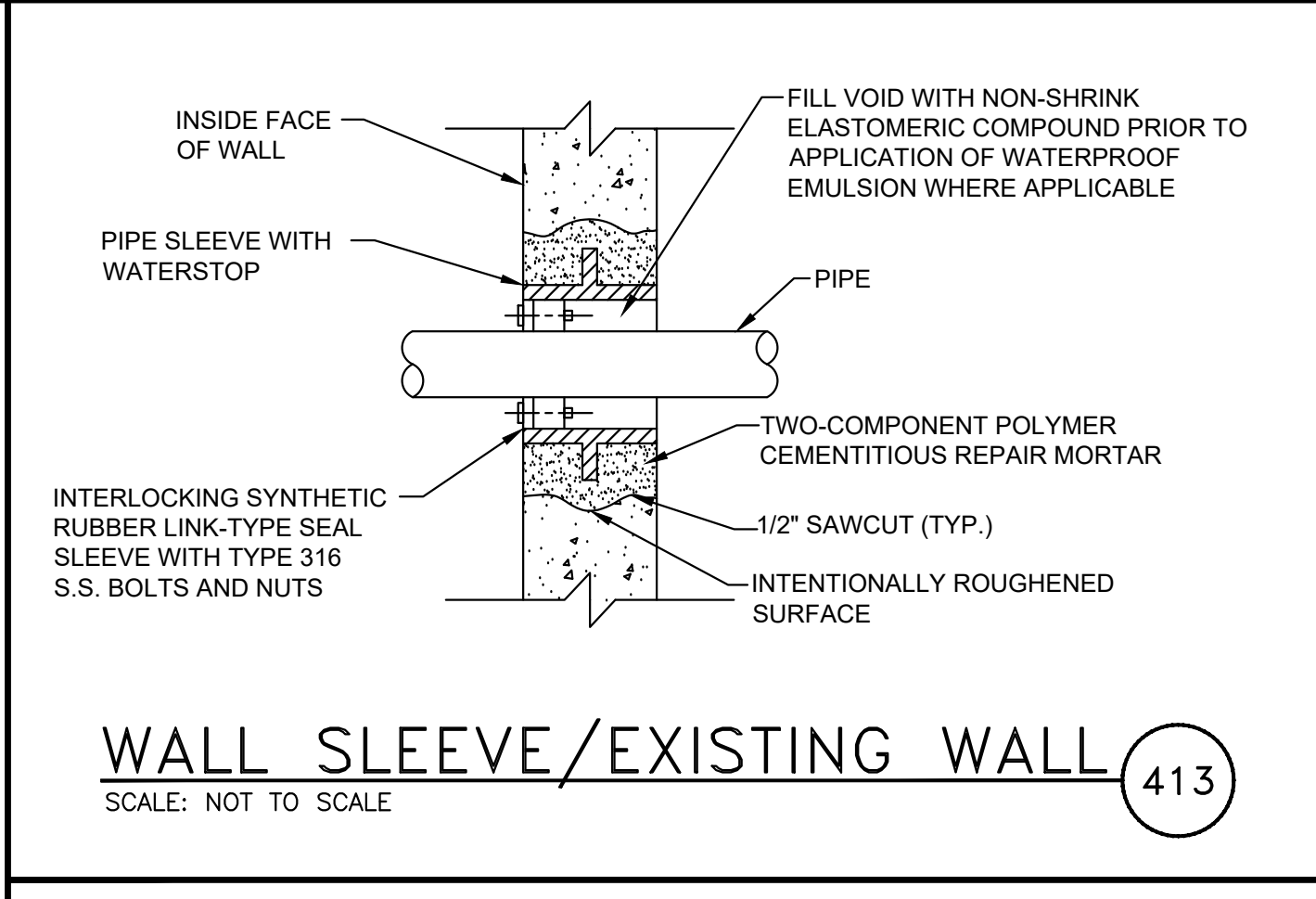
PENETRATION FOR CORED HOLES IN EXISTING WALLS AND DRY AREAS 409
SCALE: NOT TO SCALE



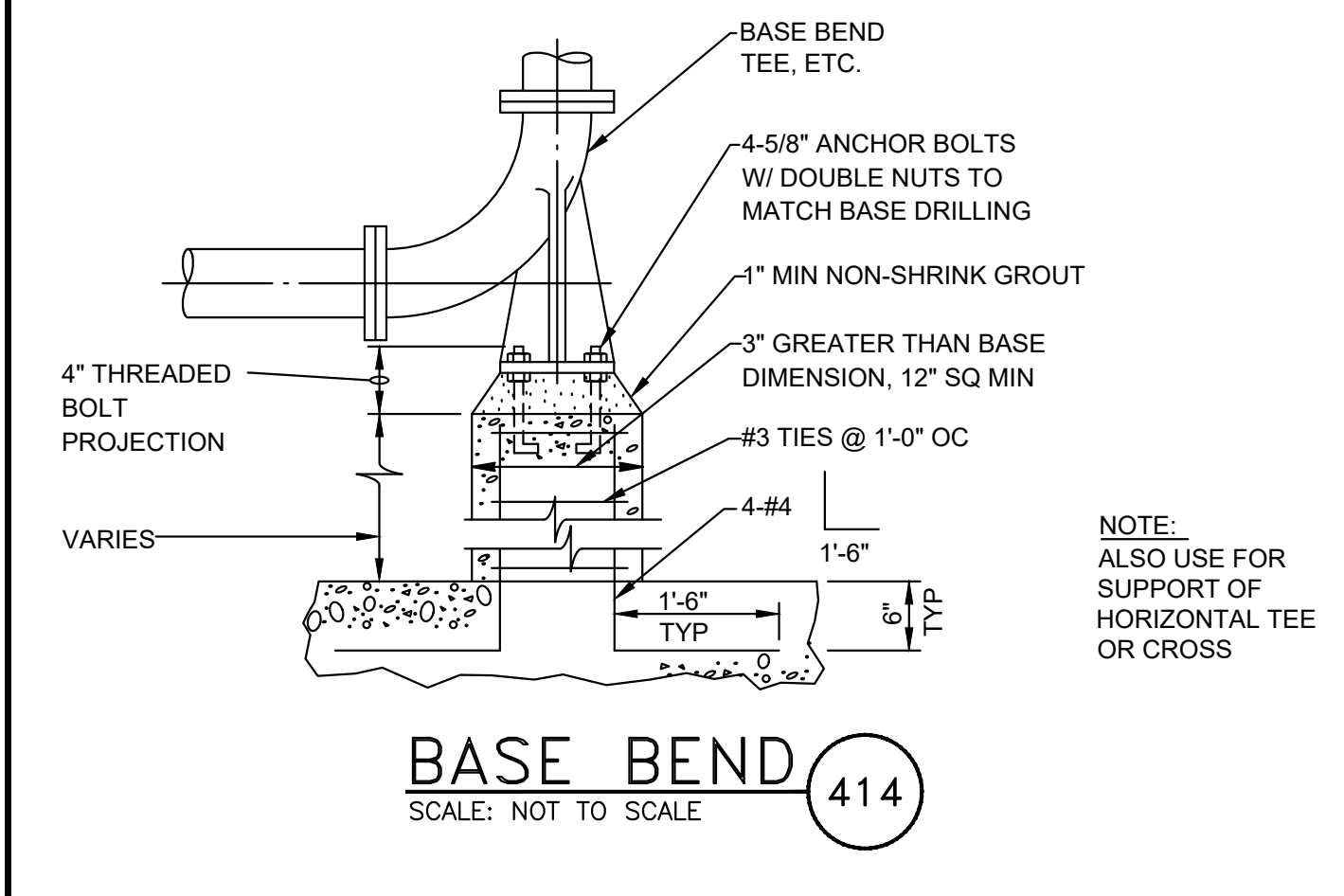
WALL SLEEVE/NEW CONCRETE 410
SCALE: NOT TO SCALE



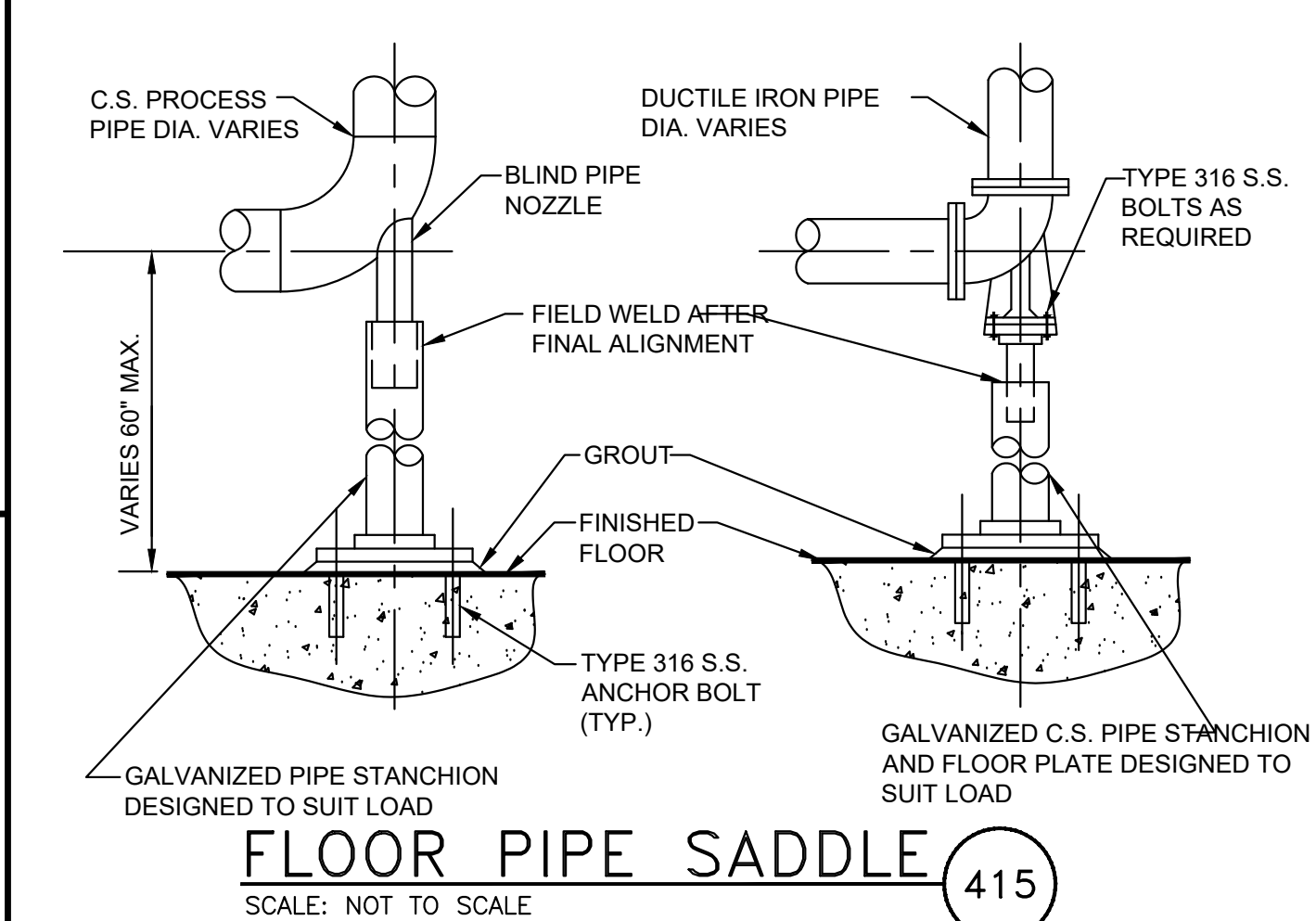
FLOOR SLEEVE/NEW CONCRETE 411
SCALE: NOT TO SCALE



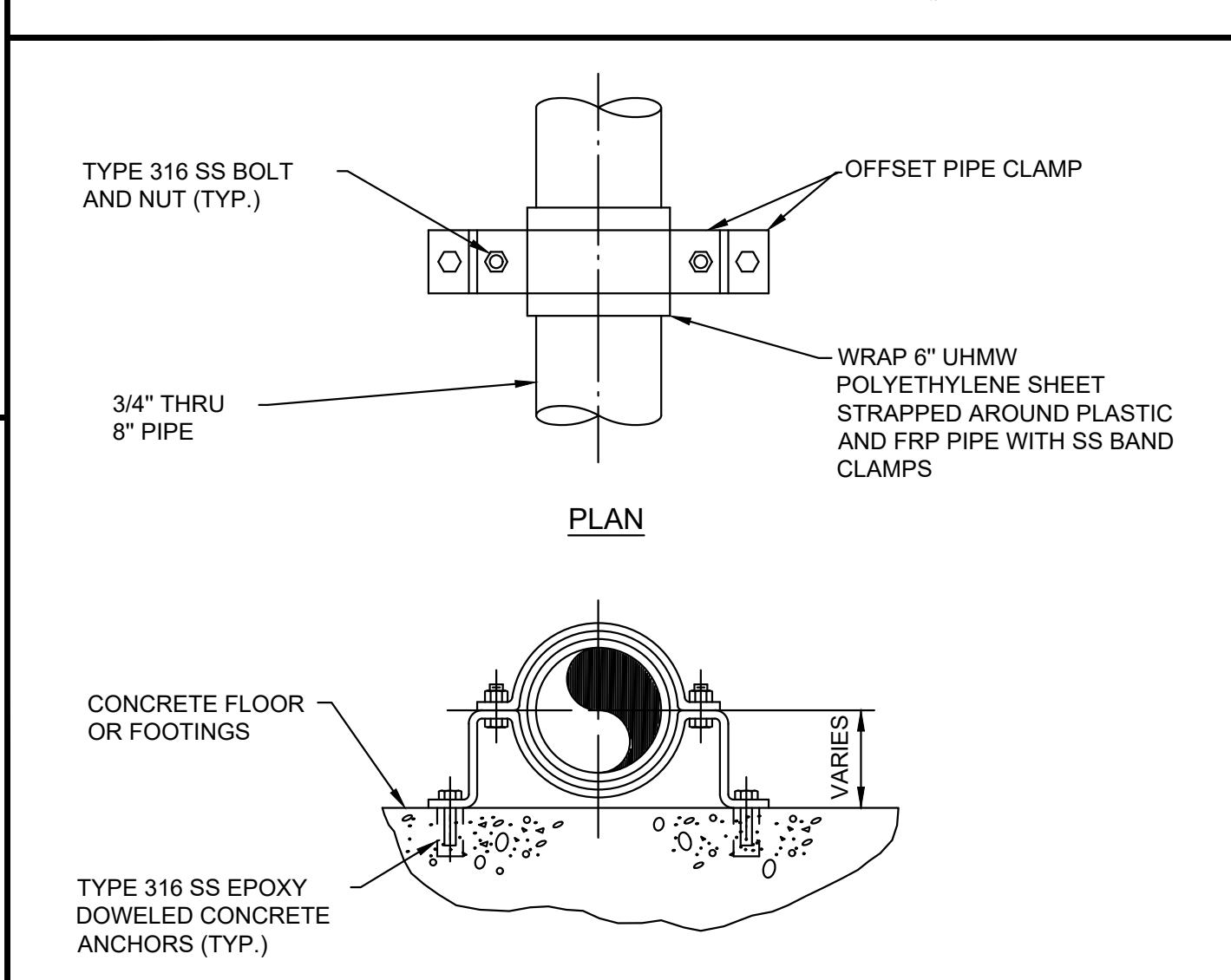
WALL SLEEVE/EXISTING WALL 412
SCALE: NOT TO SCALE



BASE BEND 413
SCALE: NOT TO SCALE



FLOOR PIPE SADDLE 414
SCALE: NOT TO SCALE



PIPE SUPPORT 415
SCALE: NOT TO SCALE

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REGISTERED PROFESSIONAL



Joseph F. Rodriguez, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Mechanical Details I

NO.	REVISIONS	DATE

DRAWN BY: BM
DESIGNED BY: BM
CHECKED BY: RM
ISSUE DATE: 3/24/2021
BETA JOB NO.: 6050

SCALE

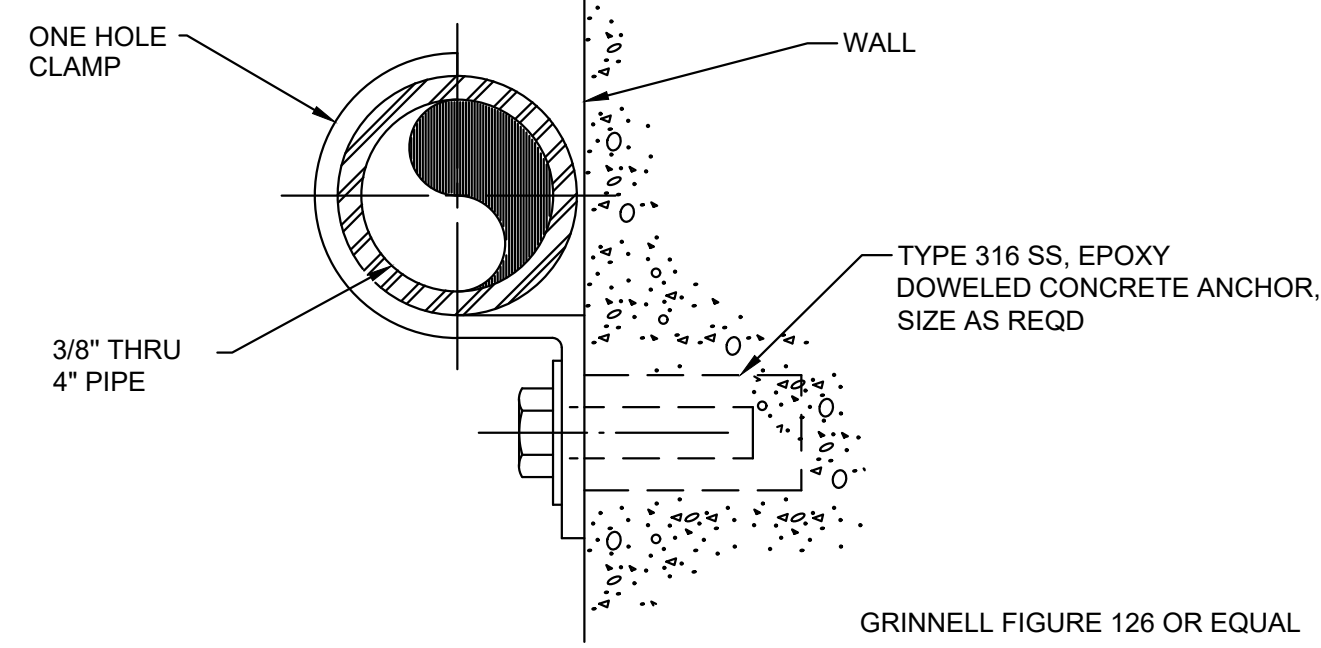
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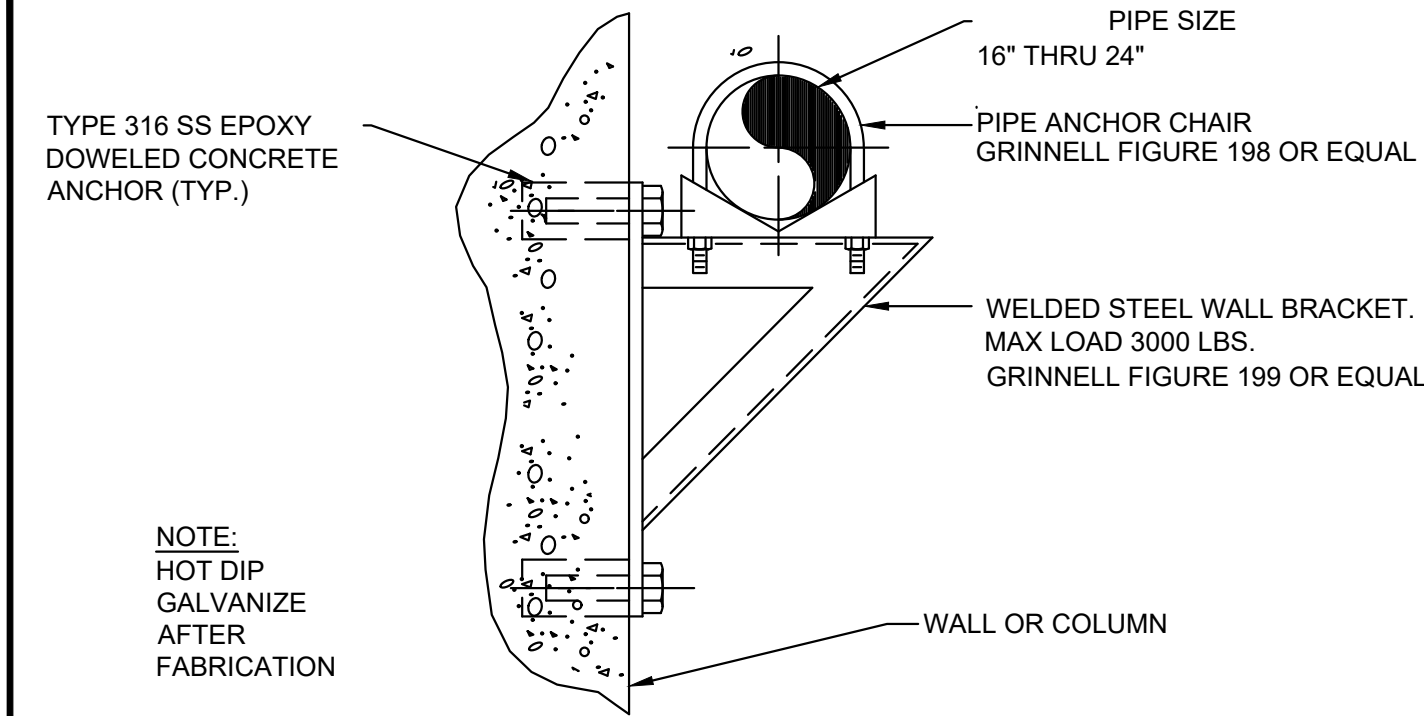
SHEET NO.

MD-1

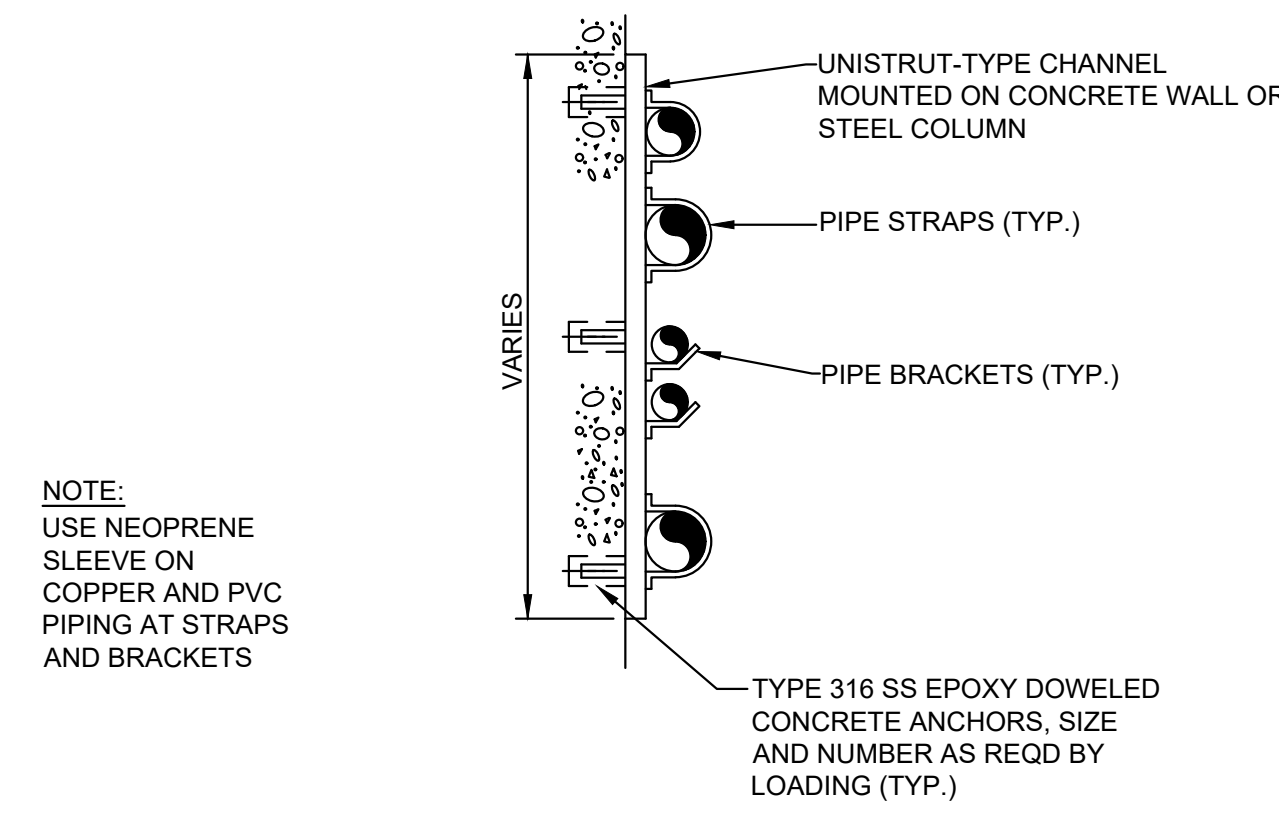
3/24/2021 3:40 PM J:\TAUNTON\WTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\MECHANICAL DETAILS.DWG (BETA STD BW.CTB)



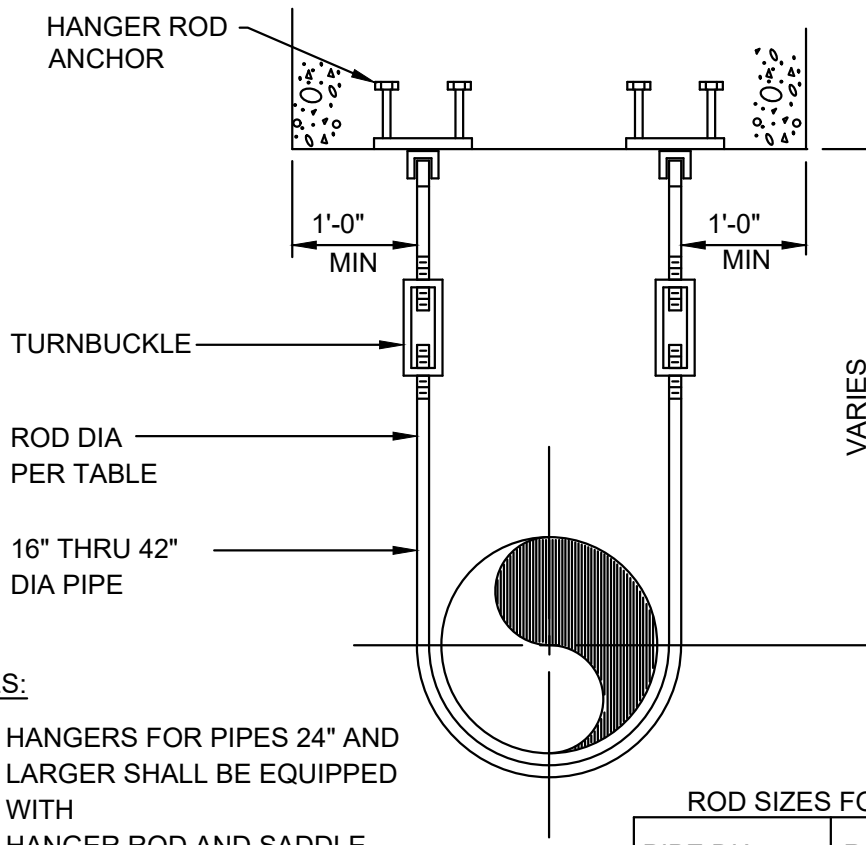
PIPE SUPPORT 417
SCALE: NOT TO SCALE



PIPE SUPPORT-HEAVY 421
SCALE: NOT TO SCALE



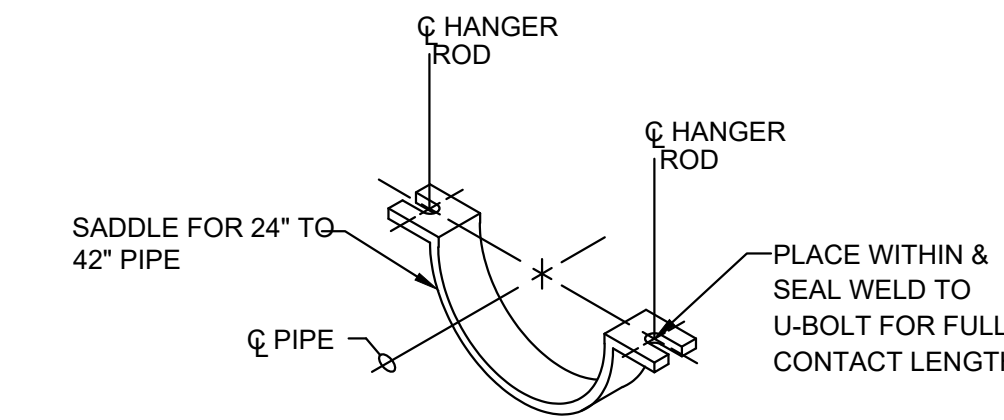
STACKED PIPE WALL SYSTEM 425
SCALE: NOT TO SCALE



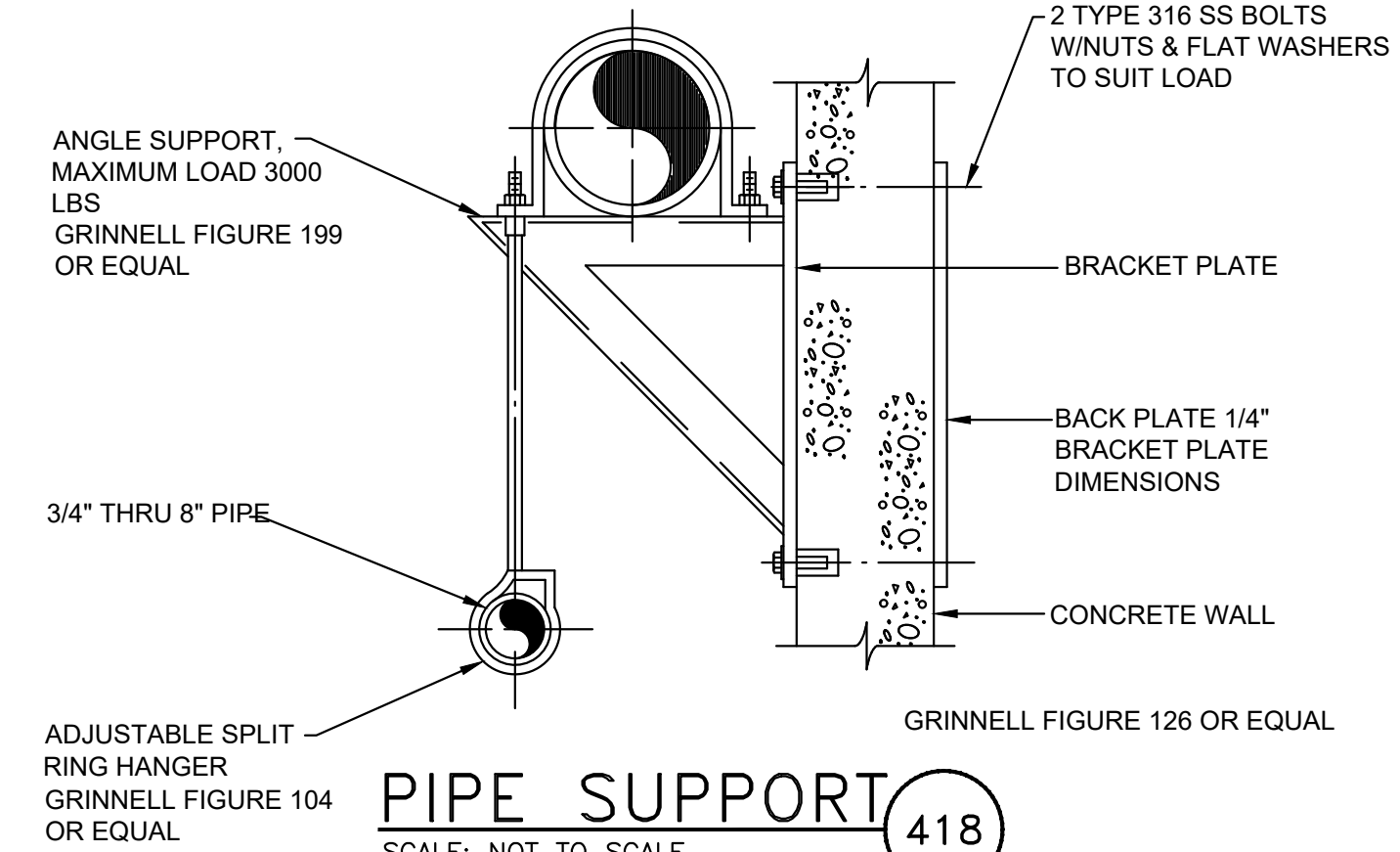
NOTES:

- HANGERS FOR PIPES 24" AND LARGER SHALL BE EQUIPPED WITH TURNBUCKLE AND SADDLE MATERIAL TO BE STAINLESS STEEL FOR STAINLESS STEEL PIPE.
- SPACE HANGERS 12'-0" ON CENTER MAXIMUM.

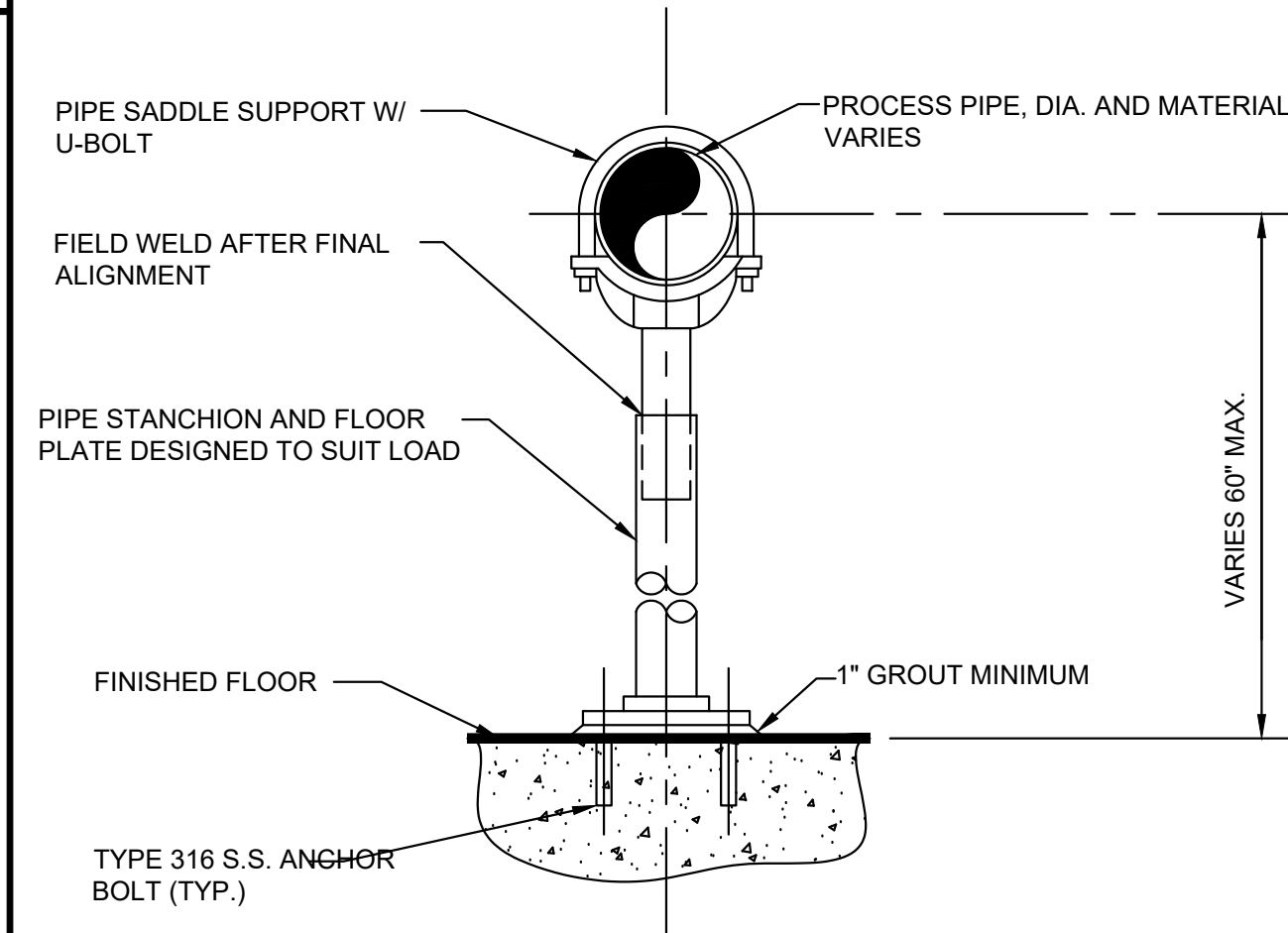
ROD SIZES FOR CLDI	
PIPE DIA	ROD DIA
12" THRU 16"	
18" AND 20"	
24"	



PIPE HANGER 429
SCALE: NOT TO SCALE

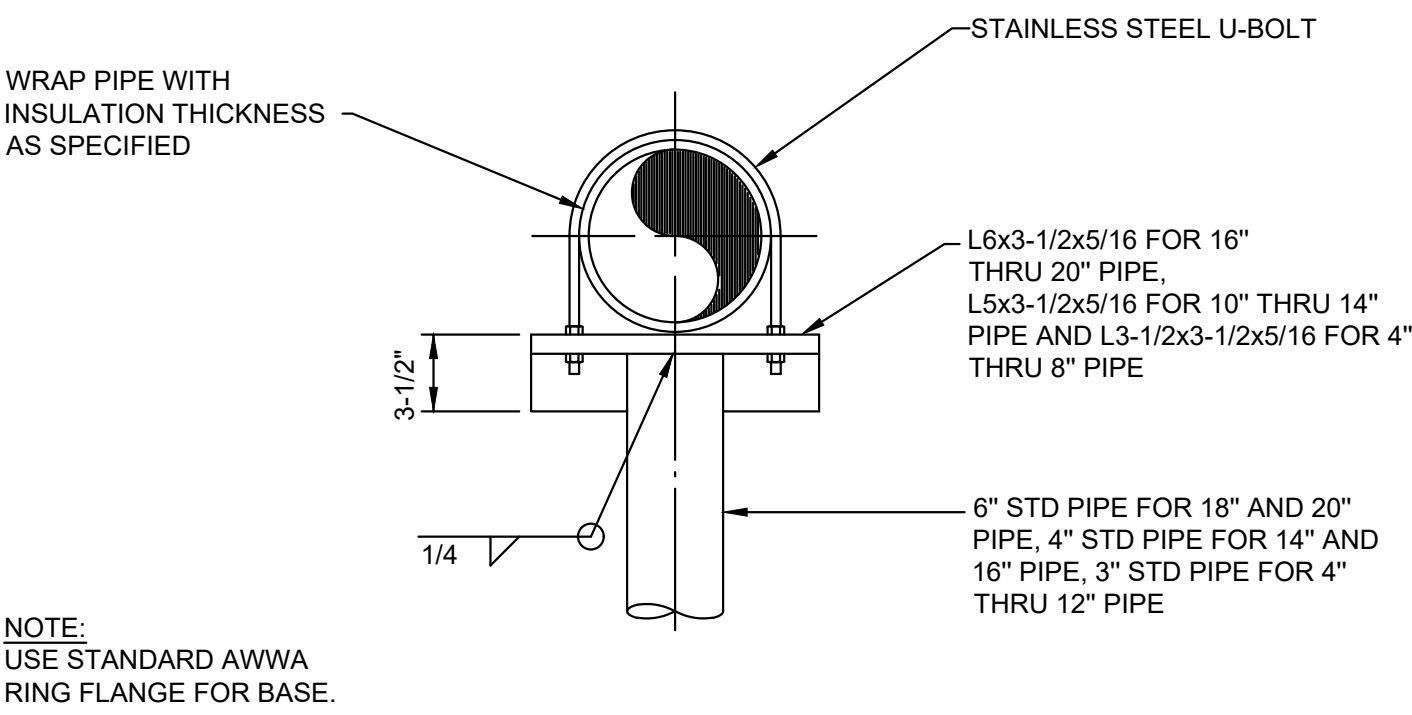


PIPE SUPPORT 418
SCALE: NOT TO SCALE

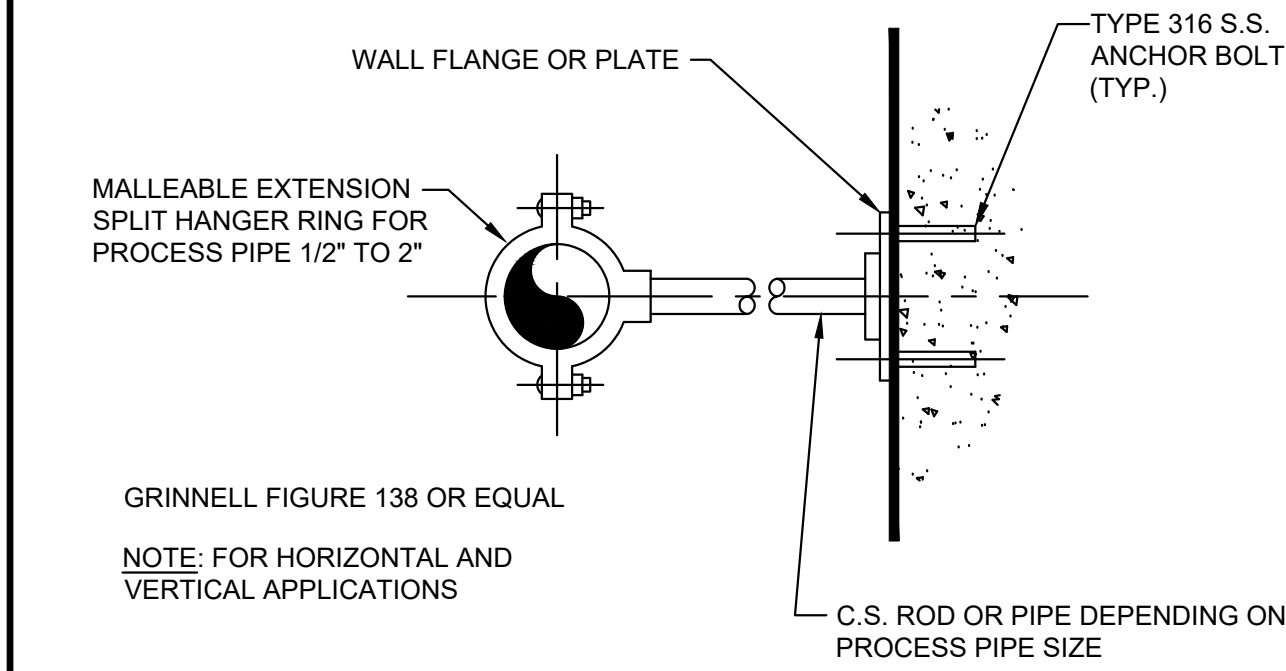


- NOTES:
- PROVIDE HALF-ROUND RIGID INSULATION WAND INSULATION SHIELD FOR INSULATED PIPING.
 - PROVIDE NEOPRENE ISOLATION PAD UNDER SUPPORT FOOT FOR ISOLATED PIPING OR WHEN SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.

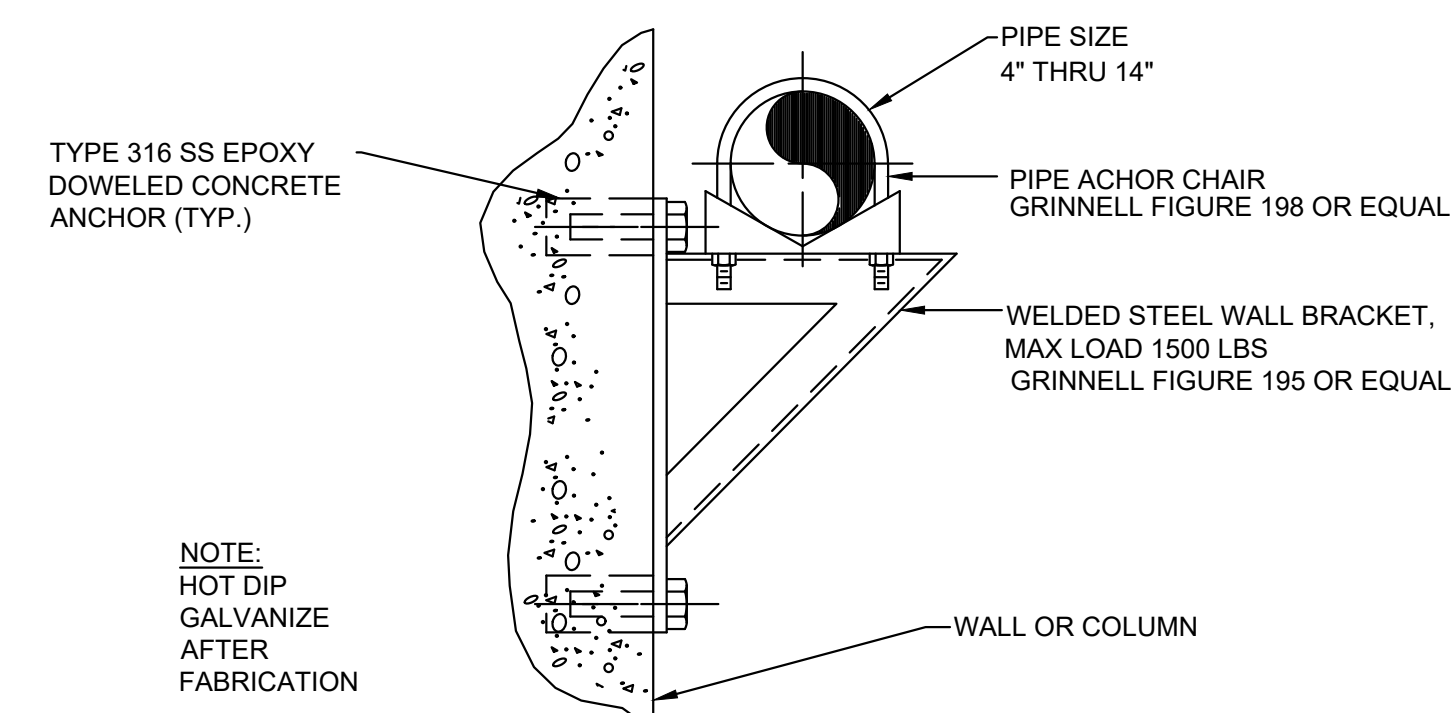
FLOOR PIPE SUPPORT 422
SCALE: NOT TO SCALE



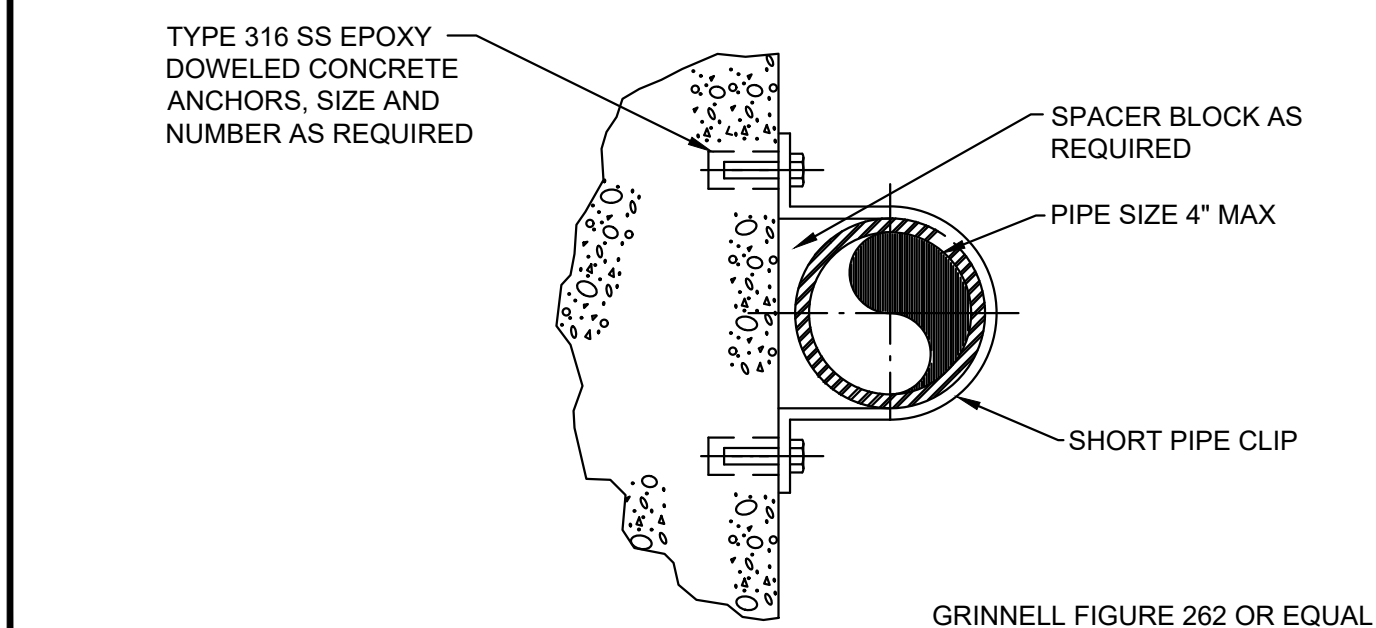
PIPE SUPPORT 419
SCALE: NOT TO SCALE



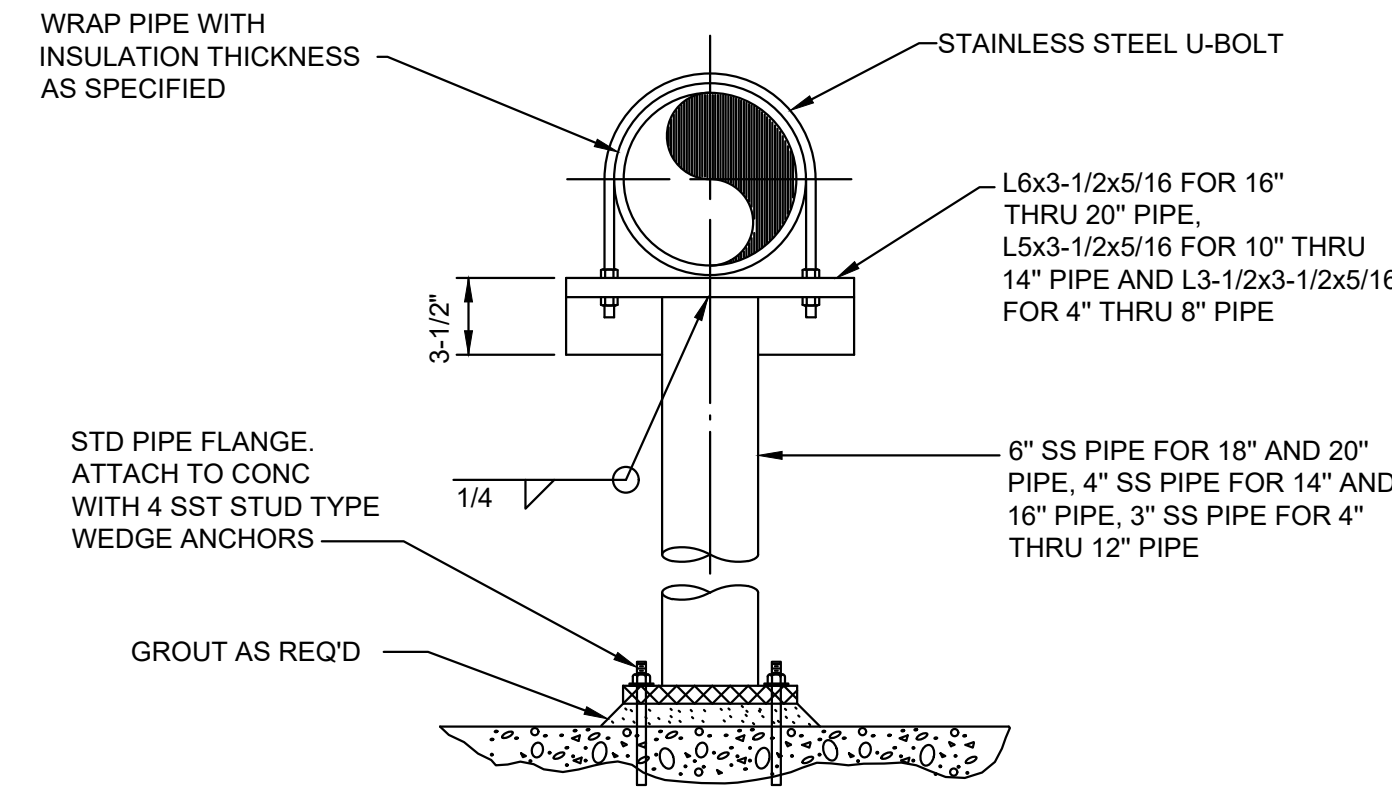
WALL PIPE SUPPORT 423
SCALE: NOT TO SCALE



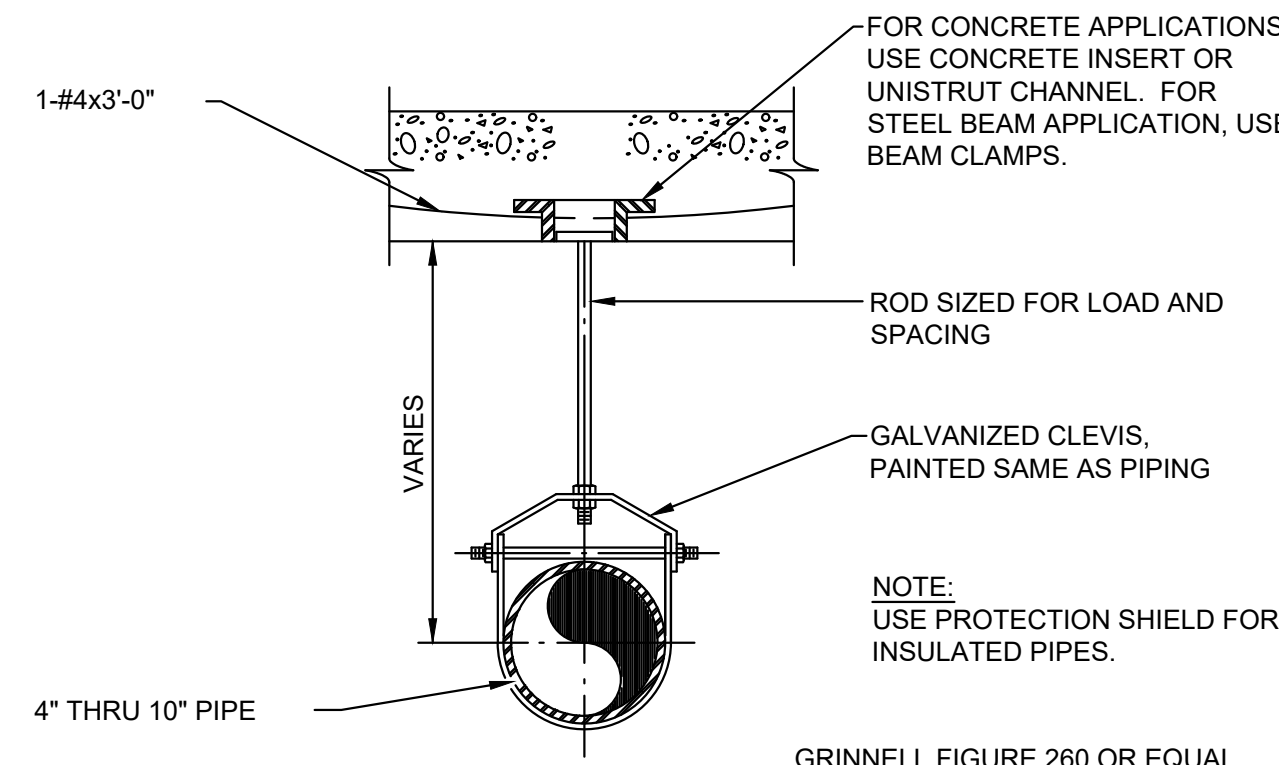
PIPE SUPPORT-MEDIUM 420
SCALE: NOT TO SCALE



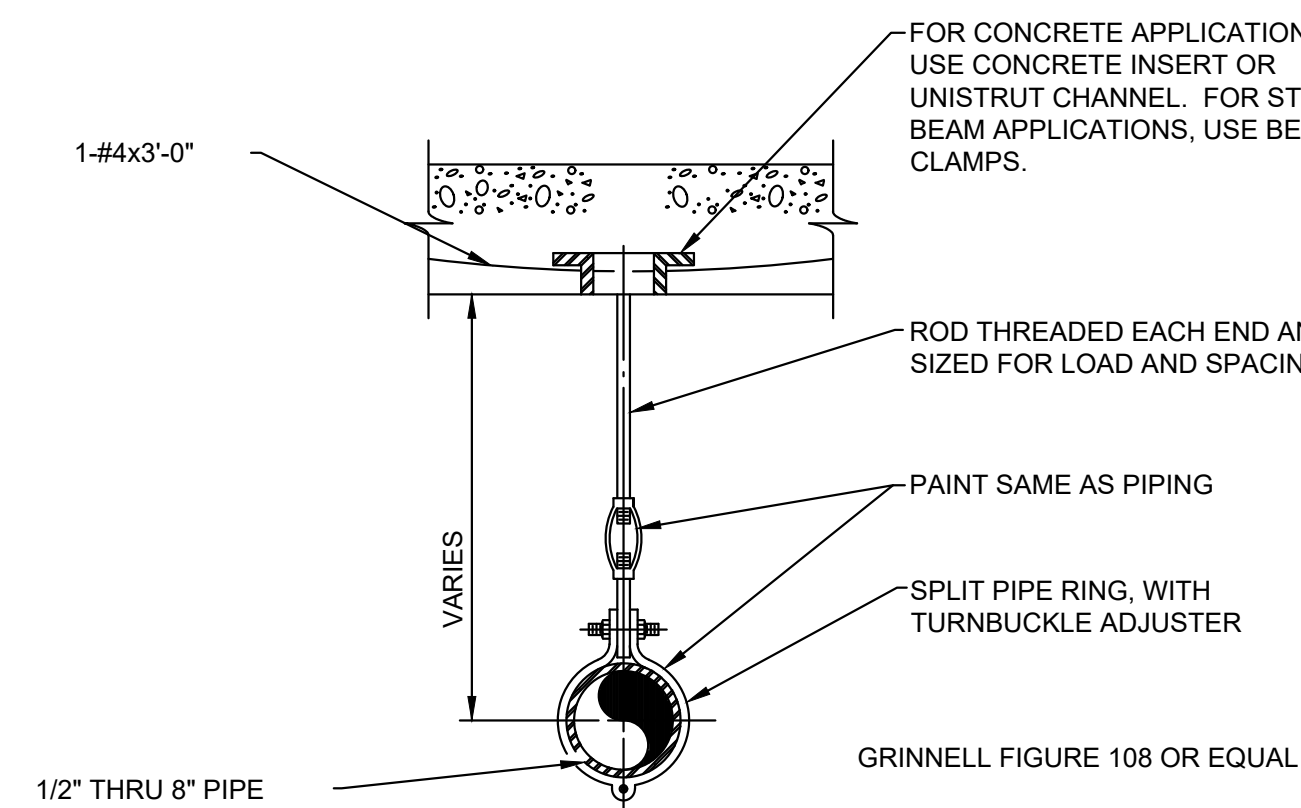
VERTICAL PIPE SUPPORT 424
SCALE: NOT TO SCALE



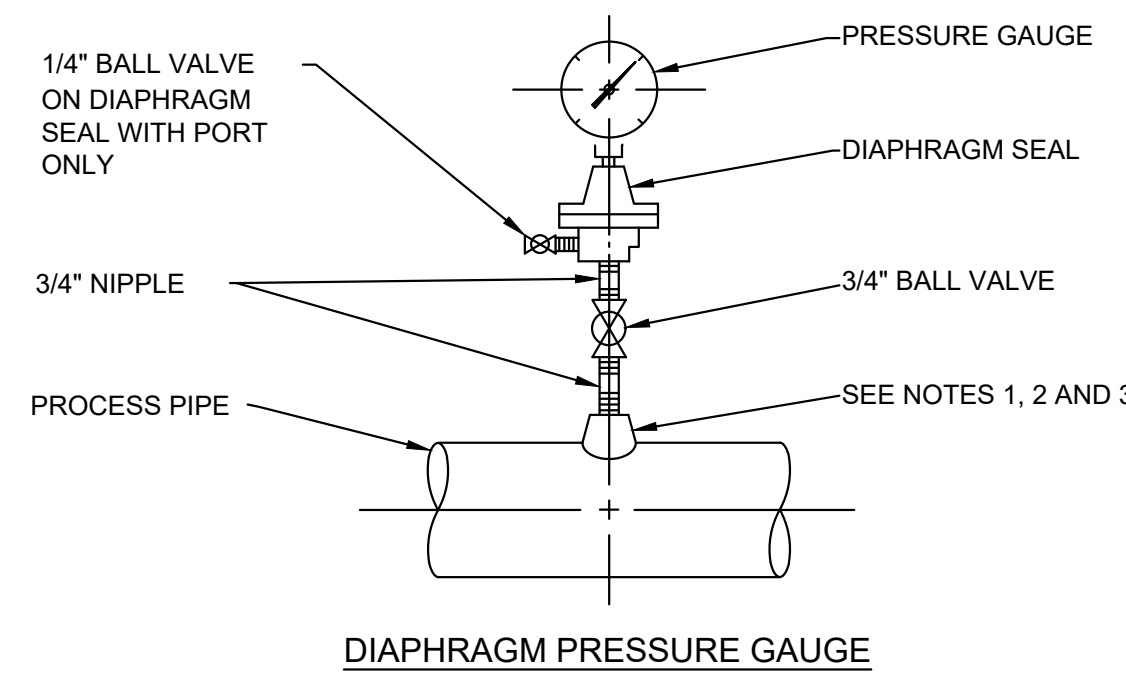
S.S. PIPE SUPPORT (SUBMERGED) 426
SCALE: NOT TO SCALE



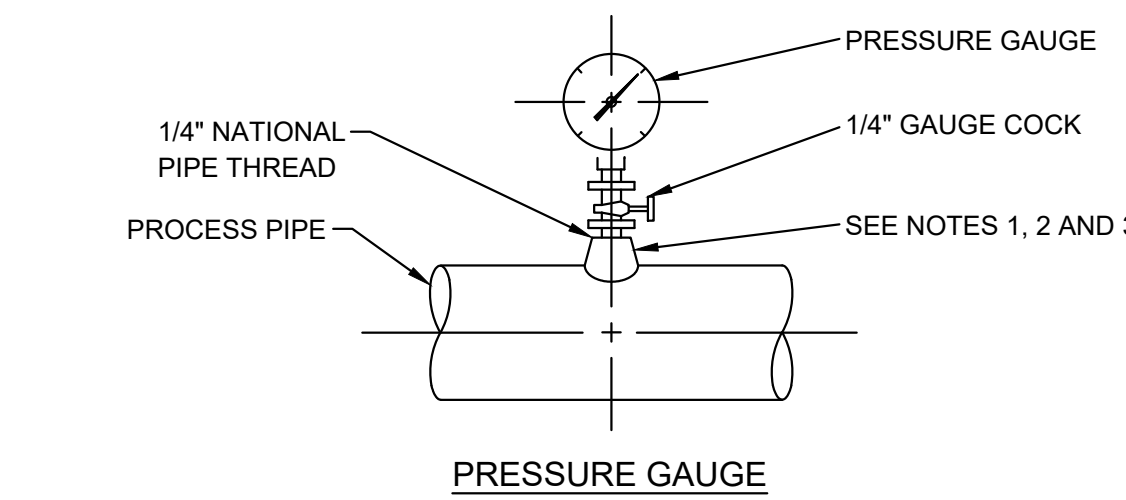
PIPE HANGER 427
SCALE: NOT TO SCALE



PIPE HANGER 428
SCALE: NOT TO SCALE



DIAPHRAGM PRESSURE GAUGE



PRESSURE GAUGE

NOTES:

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

PRESSURE GAUGE MOUNTING DETAILS 430
SCALE: NOT TO SCALE

PREPARED BY



REGISTERED PROFESSIONAL



SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Mechanical Details II

NO.	REVISIONS	DATE

DRAWN BY: BM
DESIGNED BY: BM
CHECKED BY: RM
ISSUE DATE: 3/24/2021
BETA JOB NO.: 6050

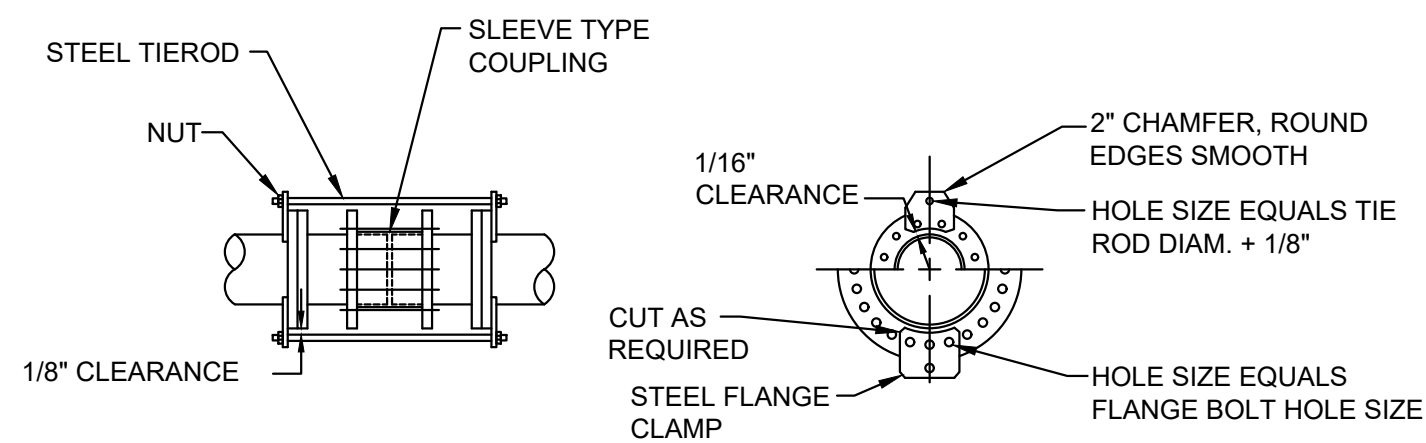
SCALE

AS SHOWN

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SHEET NO.

MD-2



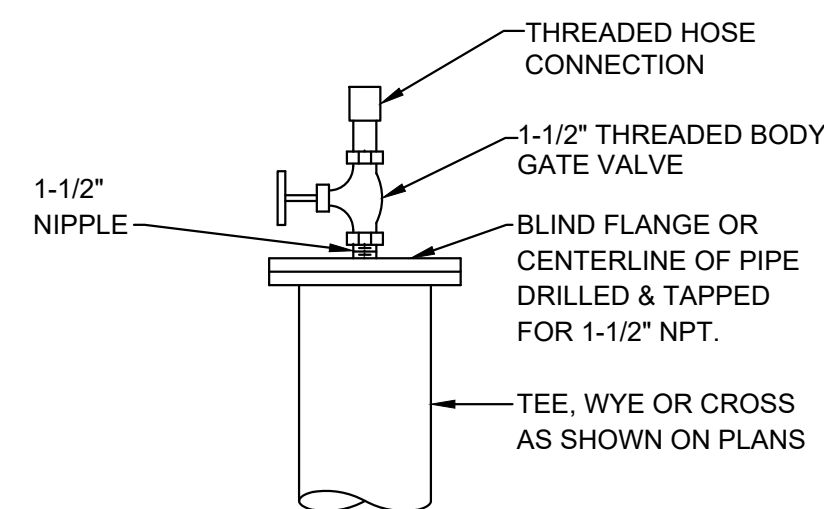
NOTE: TIERODS SHALL BE EQUALLY SPACED AROUND PIPE.

PIPE SIZE	TIERODS		FLANGE CLAMP			
	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"

SLEEVE COUPLING RESTRAINT (150 PSI FLANGE CLAMP ASSEMBLY)

SCALE: NOT TO SCALE

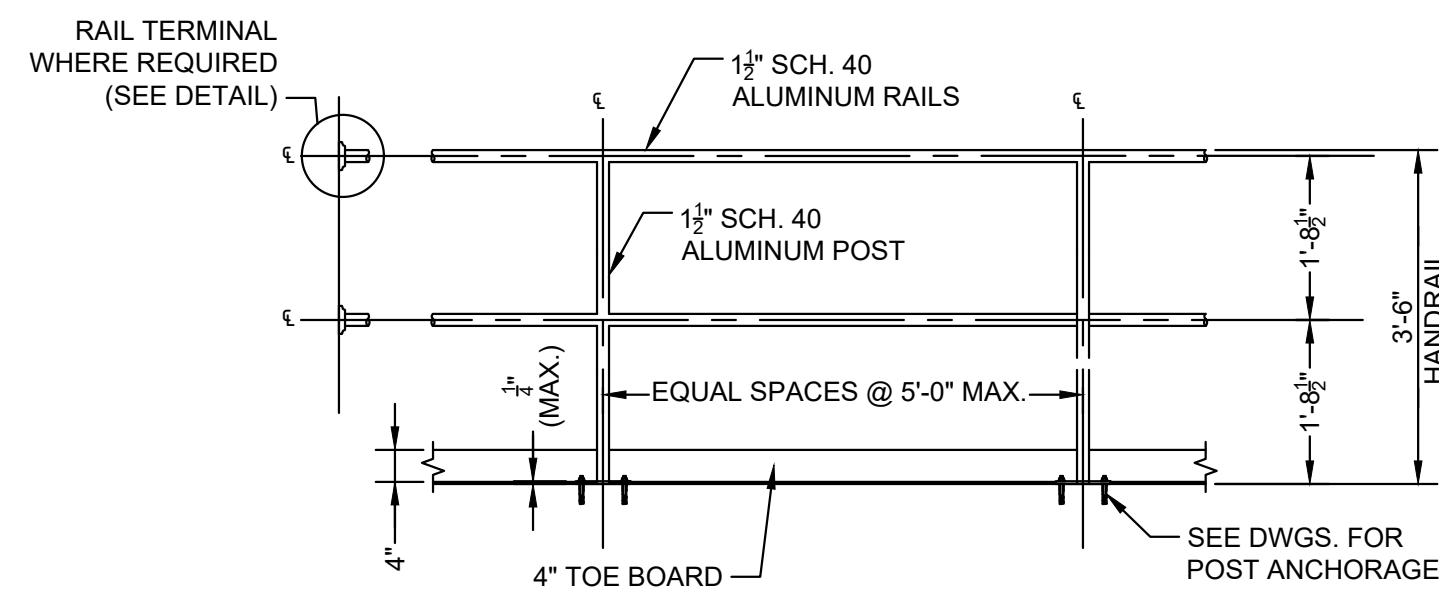
432



FLUSHING CONNECTION

SCALE: NOT TO SCALE

435

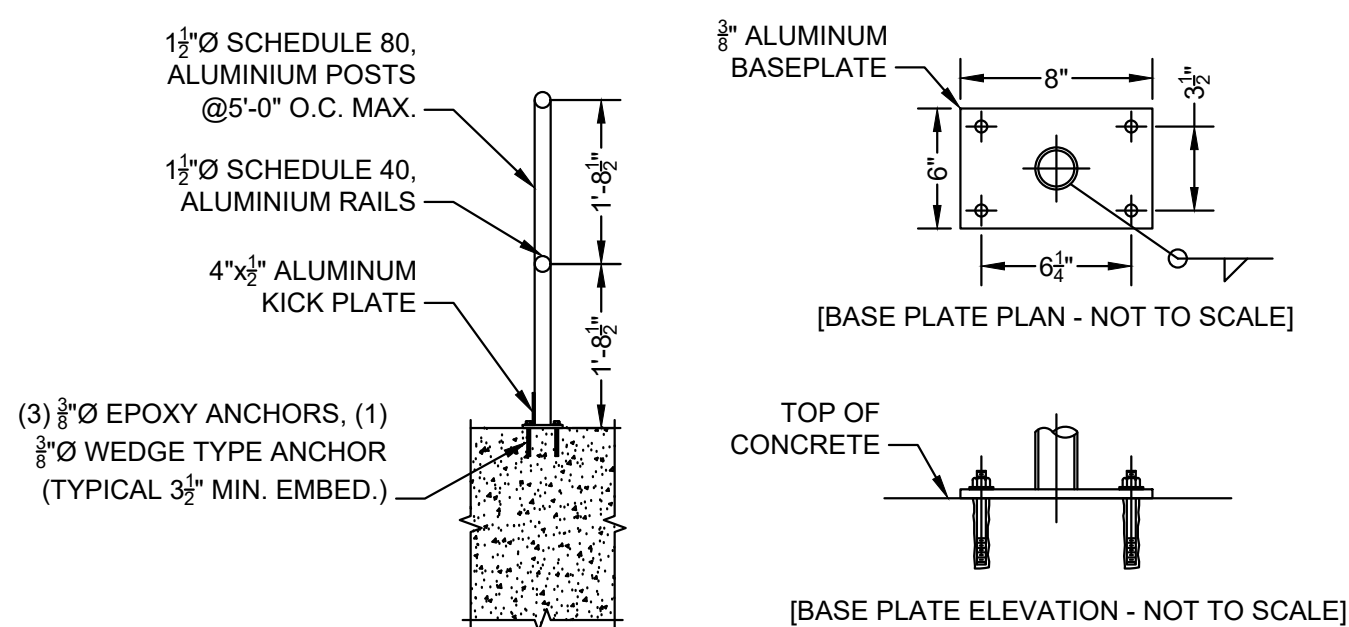


NOTE:

- COAT SURFACE IN CONTACT WITH DISSIMILAR MATERIALS WITH BITUMASTIC COATING AS PER THE SPECIFICATIONS.
- FASTEN RAIL TERMINAL TO WALL BRACKET PER MFR'S RECOMMENDATIONS.
- WALL FLANGE TO BE MOUNTED TO WALL W/ (2) 3/8" S.S. EPOXY ANCHORS.

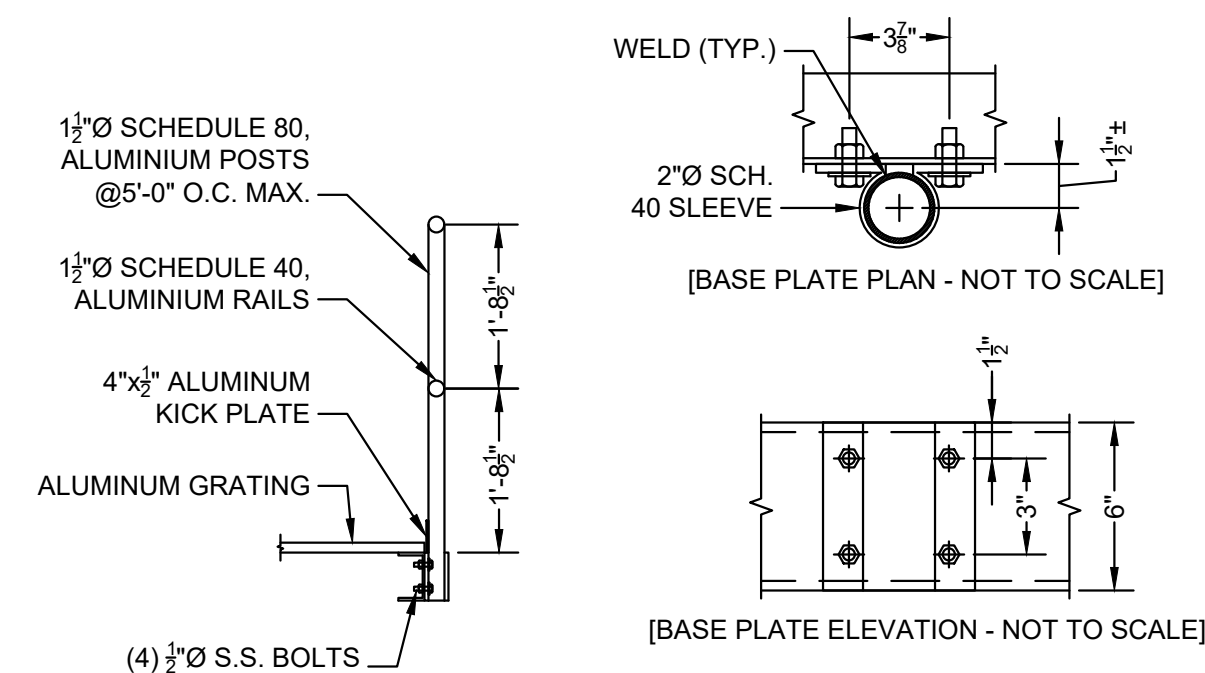
TWO-BAR HANDRAIL DETAIL

SCALE: NOT TO SCALE



TOP MOUNTED HANDRAIL DETAIL

SCALE: NOT TO SCALE



FACE MOUNTED HANDRAIL DETAIL

SCALE: NOT TO SCALE

PREPARED BY



www.BETA-Inc.com

REGISTERED PROFESSIONAL



Joseph Federico, Jr.

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Mechanical Details III

NO. REVISIONS DATE

DRAWN BY: BM

DESIGNED BY: BM

CHECKED BY: RM

ISSUE DATE: 3/24/2021

BETA JOB NO.: 6050

SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

MD-3

1/13/2021 12:45 PM W:\YEAR-2018\18009.00 - TAUNTON\W\TTE UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC LEGEND AND DETAILS\PHASE 1A.DWG (BETA STB BW) (STB)

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.
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

Table with 2 columns: Abbreviation and Description. Includes terms like ACD (Automatic Control Damper), AFF (Access Floor), AHAP (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 Capacity), CAP (Ceiling Diffuser), CD (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), ELR (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), 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), HORH (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

Table with 2 columns: Symbol and Description. Includes CD (Condensate Drain), HWS (Hot Water Supply), HWR (Hot Water Return), RL (Refrigerant Liquid), RS (Refrigerant Suction).

VALVES AND ACCESSORIES

Table with 2 columns: Symbol and Description. Includes Gate Valve, Ball Valve, Butterfly Valve, Globe Valve, Pressure Reducing Valve, Backpressure Regulator, Check Valve, Strainer, Angle Valve, Solenoid Valve, Two-Way Automatic Control Valve, Three-Way Automatic Control Valve, Automatic Flow Control Valve, Flow Switch, Flow Meter, Safety Relief Valve, Union or Flange, End Cap, Vacuum Breaker, Pressure/Temperature Well, Automatic Air Vent, Manual Air Vent, Reducer, Flexible Connection, Expansion Joint, Anchor, Rise, Drop, Top Takeoff, Bottom Takeoff, Pipe Break, Dirt Leg, Clean-out, Expansion Tank, Air Separator.

EQUIPMENT TAG SYMBOLS & ABBREVIATIONS

Table with 2 columns: Symbol and Description. Includes Equipment Not Requiring Electric Service, Equipment Requiring Electric Service, FTR-1 (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 (Connector), EF (Exhaust Fan), ERV (Energy Recovery Ventilator), ET (Expansion Tank), EUH (Electric Unit Heater), FCU (Fan Coil Unit), FMS (Flow Measuring Station), FTR (Finned 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 (Rebalance Existing CFM to Indicated Amount).

INSTRUMENTATION

Table with 2 columns: Symbol and Description. Includes Local Pressure Gauge, Differential Pressure Gauge, Local Temperature Indication, Heating/Cooling Thermostat, Temperature Transmitter, Pressure Transmitter, Smoke Detector, Heat Detector, Flow Transmitter, Static Pressure Sensor, Humidity Sensor, Carbon Dioxide Detector, Carbon Monoxide Detector, Occupancy Sensor, Pressure Sensor Switch.

FLOW DIAGRAM EQUIPMENT SYMBOLS

Table with 2 columns: Symbol and Description. Includes Centrifugal Pump, Positive Displacement Pump, Filter, Suction Diffuser, Expansion Tank, Air Separator.

DUCTWORK LEGEND/SYMBOLS

Table with 2 columns: Symbol and Description. Includes Rectangular Ductwork, Round Duct Diameter, Supply/Outside Air Ductwork Up/Down, Return/Exhaust Air Ductwork Up/Down, Flexible Connection, Acoustically Lined Ductwork, Change of Elevation, Rectangular Duct Transition, Rectangular to Single Line Transition, Rectangular to Round Transition, Mitered Elbow, Round Duct Up, Supply Air Diffuser, Return Air Grille, Manual Volume Damper, Self-Closing Fire Damper, Smoke Damper, Automatic Control Damper, Combination Smoke/Fire Damper, Supply Air Blow Direction, Exhaust/Return/Intake, Diffuser/Register Tag, Inline Centrifugal Fan, Roof Fan or Vent, Terminal Unit (Cooling/Heating), Exhaust Fan (Roof/Floor Plan).

SINGLE LINE DUCTWORK

Table with 2 columns: Symbol and Description. Includes Ductwork, Supply/Outside Air Ductwork Up/Down, Return/Exhaust Air Ductwork Up/Down, Rectangular Ductwork with Acoustical Lining, Flexible Connection, Duct Transition, 90 Degree Takeoff, 90 Degree Elbow, Bullhead Split Supply/Return.

PREPARED BY



REGISTERED PROFESSIONAL



SUBCONSULTANT



PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Legend and General Notes

AS RE-ISSUED PER ADDENDUM #2

Table with 3 columns: NO., REVISIONS, DATE

Table with 2 columns: Field and Value. Includes DRAWN BY: RLB, DESIGNED BY: RHB, CHECKED BY: RHB, ISSUE DATE: 10/16/2020, BETA JOB NO.: 6050

SCALE

NONE

SHEET NO.

H-0.1

ENERGY RECOVERY UNIT SCHEDULE (PART 1)

TAG NO.	BUILDING	SUPPLY AIR PERFORMANCE							EXHAUST AIR NORMAL PERFORMANCE					DX COOLING COIL								HEATING COIL						ELECTRICAL DATA					WEIGHT LBS	SUPPLY FILTER	OUTDOOR FILTER				
		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)	MCA				MOCV	V	PHASE	HZ
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	48.2	60	480	3	60	5,307	MERV-6	MERV-8
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	41.9	50	480	3	60	5,259	MERV-6	MERV-8
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	28.7	35	480	3	60	5,089	MERV-6	MERV-8
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	28.7	35	480	3	60	5,089	MERV-6	MERV-8

ENERGY RECOVERY UNIT SCHEDULE (PART 2)

TAG NO.	ENERGY RECOVERY WHEEL PERFORMANCE								MANUFACTURER MODEL NUMBER	REMARKS
	WINTER CONDITIONS DESIGN				SUMMER CONDITIONS DESIGN					
	OUTDOOR		INDOOR		OUTDOOR		INDOOR			
	DB °F	WB °F	DB °F	RH%	DB °F	WB °F	DB °F	RH%		
7ERV-1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	GREENHECK RVE-120-74-30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV-2	7.4	5.3	48.8	50	90.8	76.2	80.2	50	GREENHECK RVE-120-74-30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV-3	7.4	5.3	53.1	50	90.8	76.2	79.2	50	GREENHECK RVE-120-74-30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV-4	7.4	5.3	53.1	50	90.8	76.2	79.2	50	GREENHECK RVE-120-74-30H	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 DISCHARGE WITH FLOOR PLANS
- ⑨ INSTALLED INDOORS ⑩ AIR FLOW STATIONS

MAKE-UP AIR UNIT SCHEDULE

TAG NO.	LOCATION	SUPPLY BLOWER				HEATING COIL								ELECTRICAL DATA					WEIGHT LBS	MANUFACTURER MODEL NUMBER	REMARKS	
		OA CFM	TSP (IN WC)	ESP (IN WC)	FAN BHP	FAN HP	CAPACITY (MBH)	GPM	EAT (DB °F)	LAT (DB °F)	EWT (DB °F)	LWT (DB °F)	% GLYCOL	WPD (FT)	FLA	MOP	V	PH				HZ
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

BOILER SCHEDULE

TAG NO.	BUILDING	OUTPUT CAPACITY (NET IBR)	FIRING RATE	EFFICIENCY		OPERATING PRESSURE (PSIG)	WATER					ELECTRICAL DATA				WEIGHT (LBS)	MANUFACTURER MODEL NUMBER	REMARKS		
				MBH	OIL (GPH)		COMBUSTION	THERMAL	EWT (°F)	LWT (°F)	GPM	% GLYCOL	WPD (FT)	HP	V				PH	HZ
7 B-1	SLUDGE HANDLING	2506	20.7	88.4	88.4	-	180	160	300	40% P.G.	-	2	208	1	60	-	BURHAM MPC15	POWER FLAME C3-0		

PUMP SCHEDULE

TAG NO.	BUILDING	SYSTEM SERVED	TYPE	GPM	HEAD (FT.)	GLYCOL	FLUID TEMP °F	RPM	ELECTRICAL DATA				MANUFACTURER MODEL NUMBER	REMARKS
									MOTOR HP	V	PH	HZ		
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

- ① VFD RATED MOTOR

EXPANSION TANK SCHEDULE

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

PREPARED BY



REGISTERED PROFESSIONAL



SUBCONSULTANT



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Schedules

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: RHB

CHECKED BY: RHB

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-0.2

1/13/2021 12:45 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1\18009.00 HVAC LEGEND SCHEDULE AND DETAILS\PHASE 1A.DWG (BETA STB BW) STB

1/13/2021 12:45 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE/SHVAC DEPARTMENT/PHASE 1A\18009.00 HVAC LEGEND SCHEDULE AND DETAILS/PHASE 1A.DWG (BETA STB BW.STB)

UH 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
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	--

CUH HORIZONTAL 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

DIFFUSER, REGISTER & GRILLE SCHEDULE

TAG NO.	MODULE SIZE (IN)	SERVICE	CFM RANGE		MAX. NC LEVEL	MANUFACTURER & MODEL NO.	REMARKS
			MIN	MAX			
SR-1	20x12	SUPPLY	500	1800	40	NAILOR 45DL-0	
SR-2	30x12	SUPPLY	1800	2400	40	NAILOR 45DL-0	
SR-3	50x12	SUPPLY	2500	3810	40	NAILOR 45DL-0	
SR-4	70x12	SUPPLY	3800	5000	40	NAILOR 45DL-0	
ER-1	18x12	RETURN	500	1000	40	NAILOR 6755H-HD	
ER-2	30x12	RETURN	1000	1600	40	NAILOR 6755H-HD	
ER-3	36x18	RETURN	1600	2500	40	NAILOR 6755H-HD	
ER-4	30x24	RETURN	2500	2800	40	NAILOR 6755H-HD	
ER-5	42x30	RETURN	2800	4400	40	NAILOR 6755H-HD	

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REGISTERED PROFESSIONAL



SUBCONSULTANT



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Schedules

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE
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DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

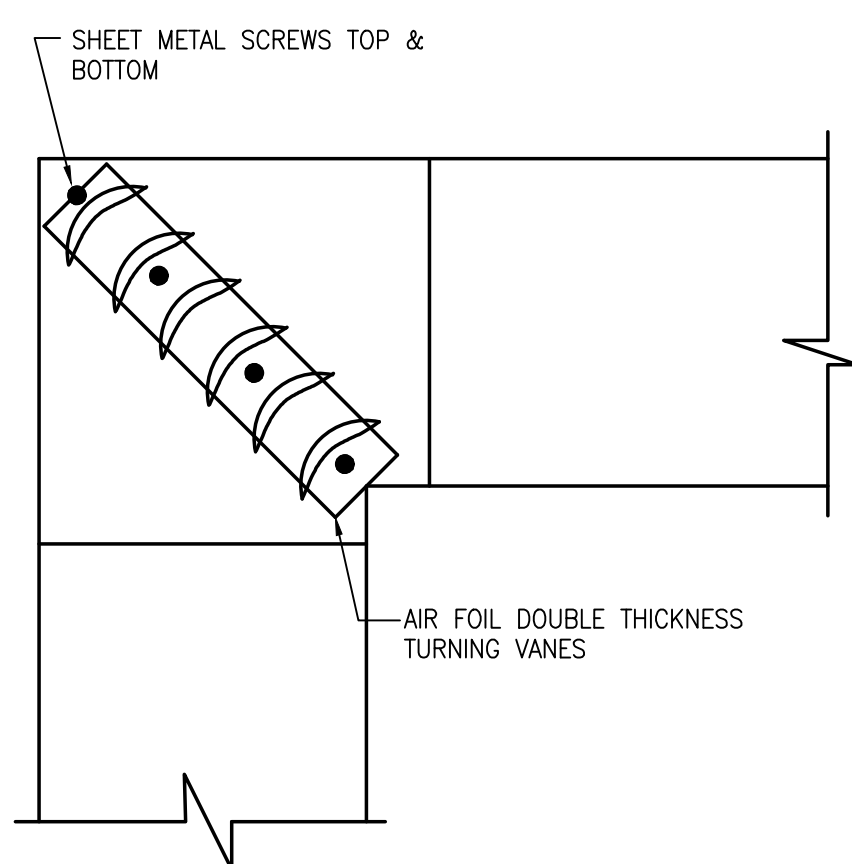
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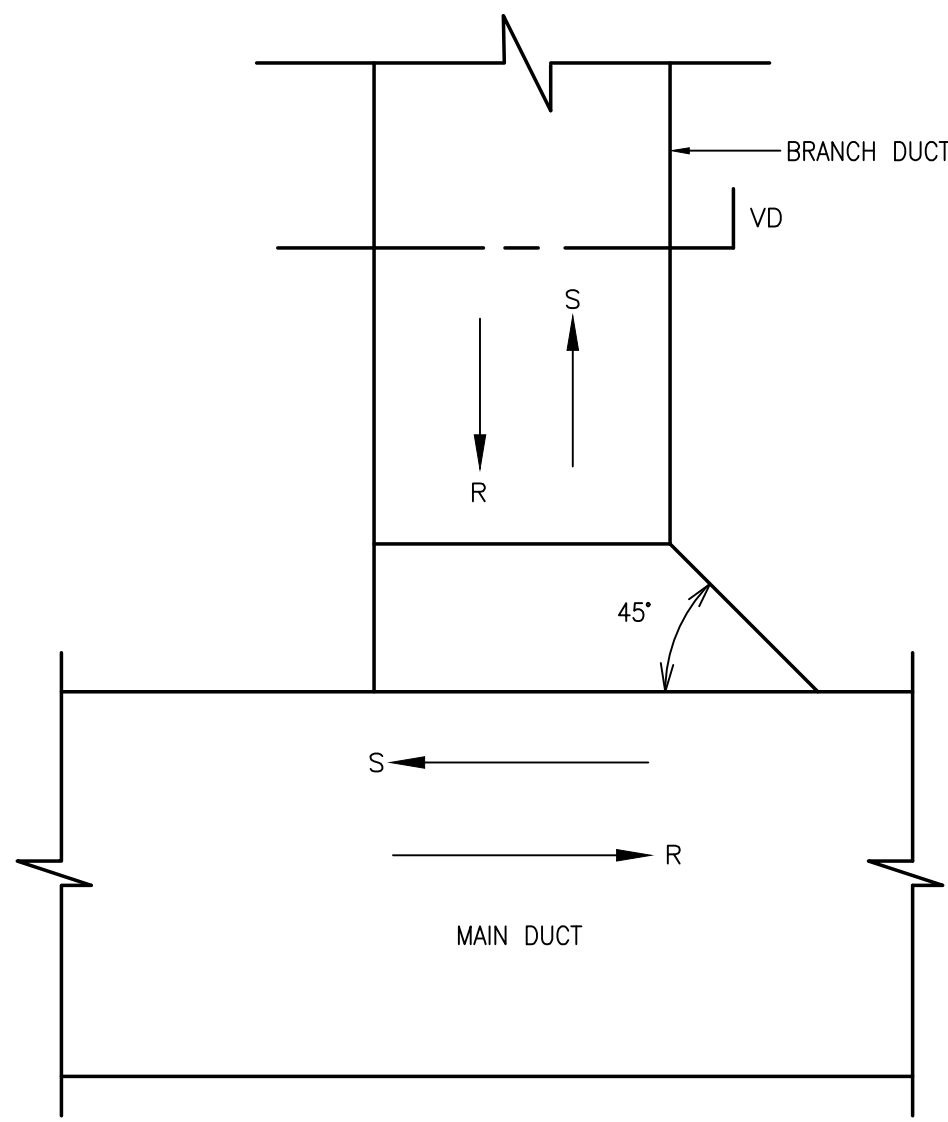
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SHEET NO.

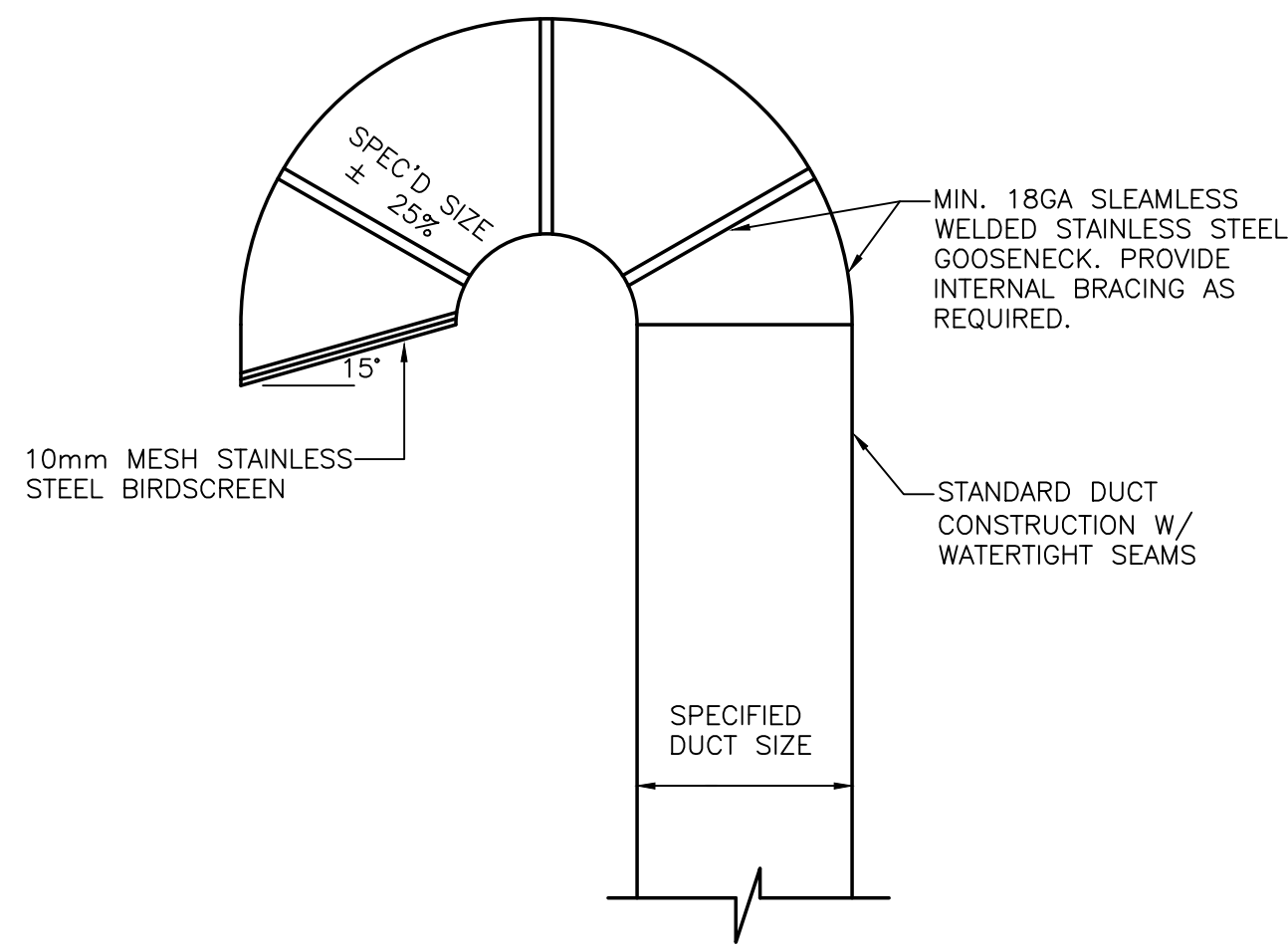
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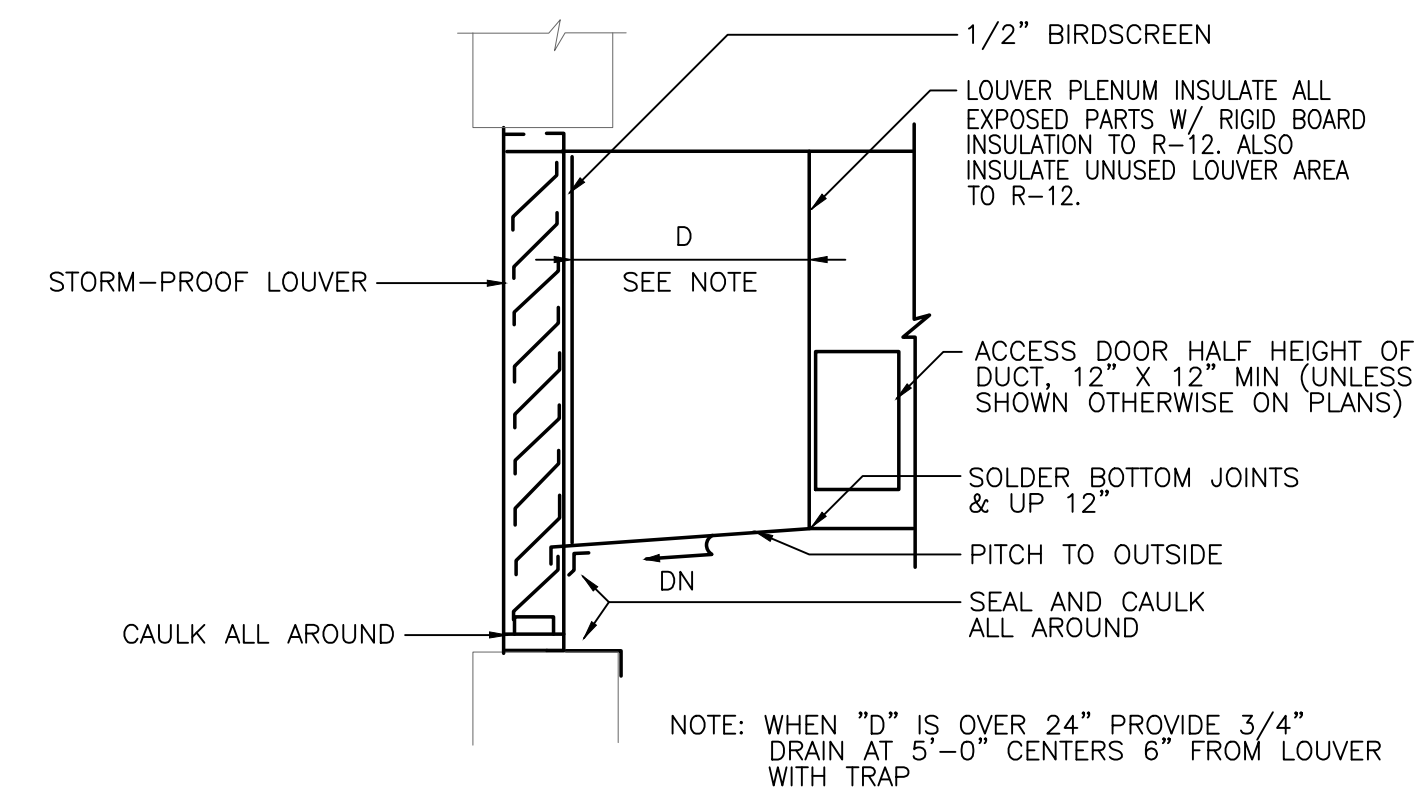
1 TYPICAL 90° DUCT ELBOW DETAIL
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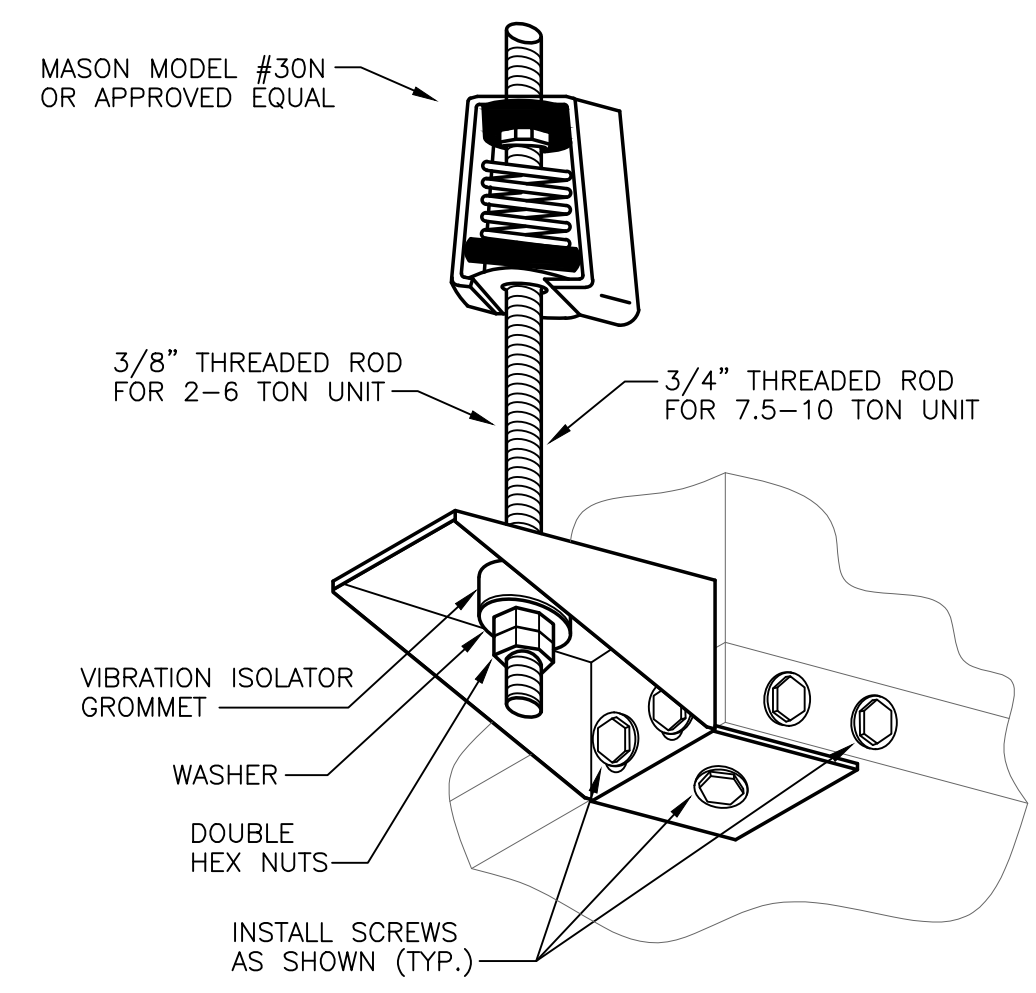
2 BRANCH DUCT CONNECTION DETAIL
NO SCALE



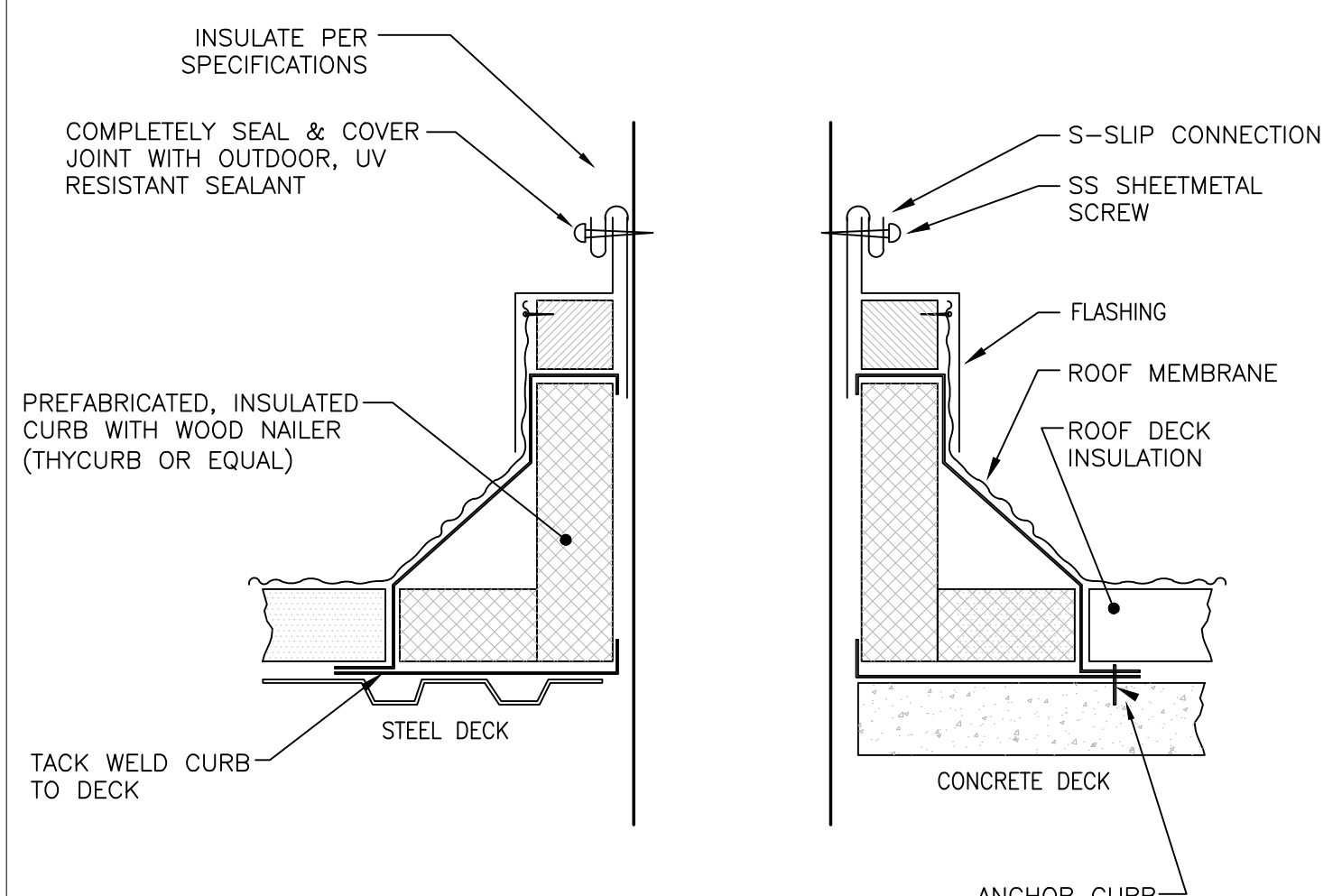
3 GOOSENECK DETAIL
NO SCALE



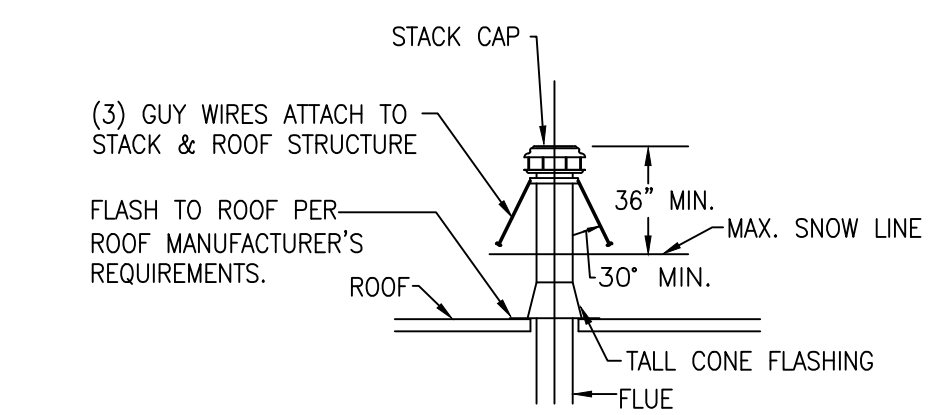
4 LOUVER CONNECTION
NO SCALE



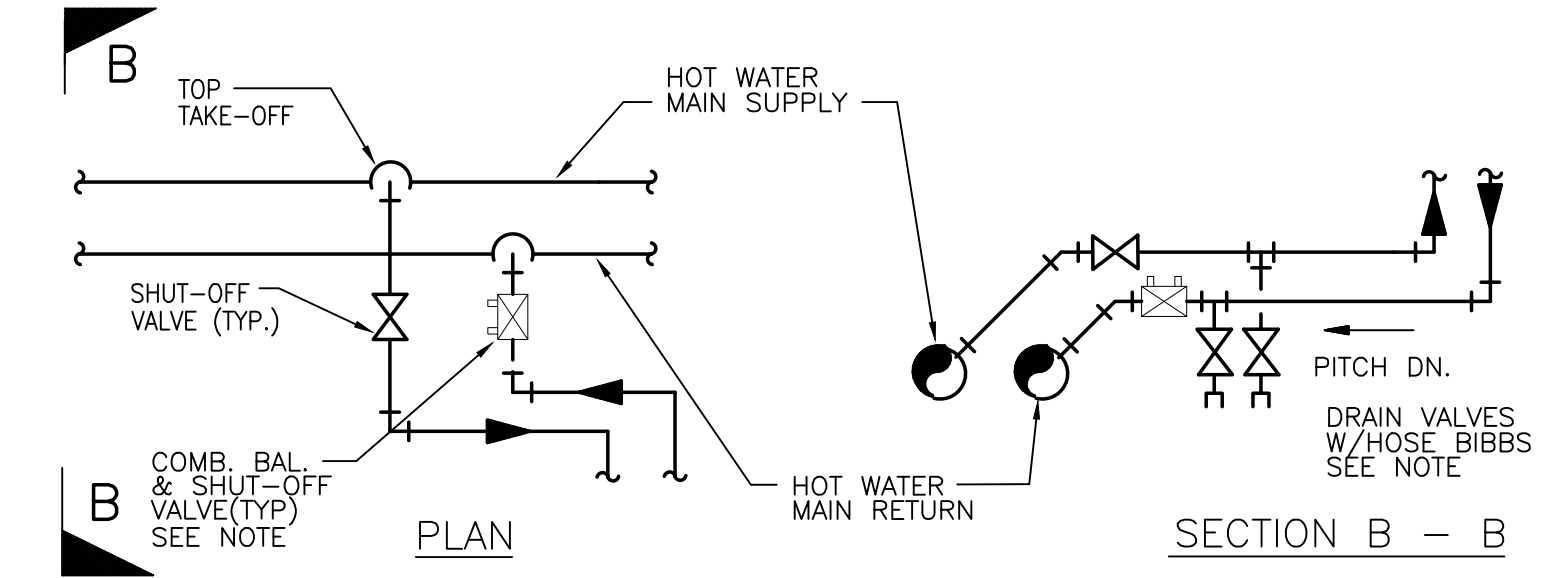
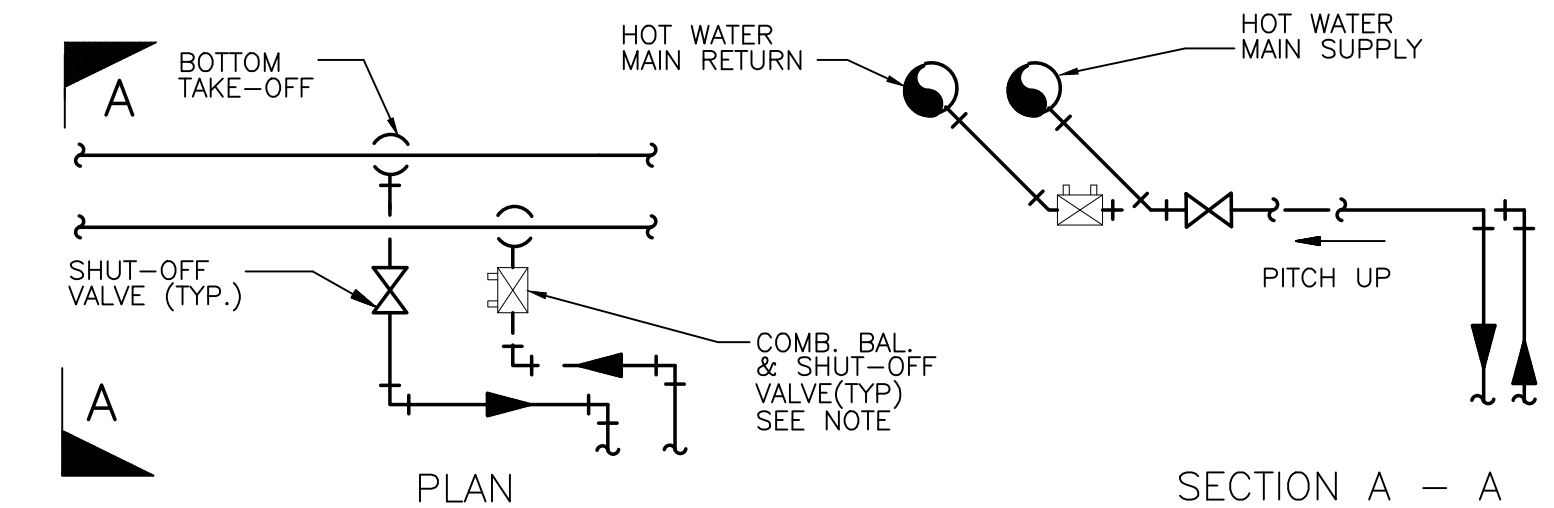
5 HORIZONTAL HEAT PUMP UNIT HANGER KIT ASSEMBLY
NO SCALE



6 DUCT PENETRATION THRU ROOF DETAIL
NO SCALE



7 FLUE & INTAKE THRU ROOF DETAIL
NO SCALE



8 TYPICAL PIPING BRANCH TAKE-OFF DETAIL
NO SCALE

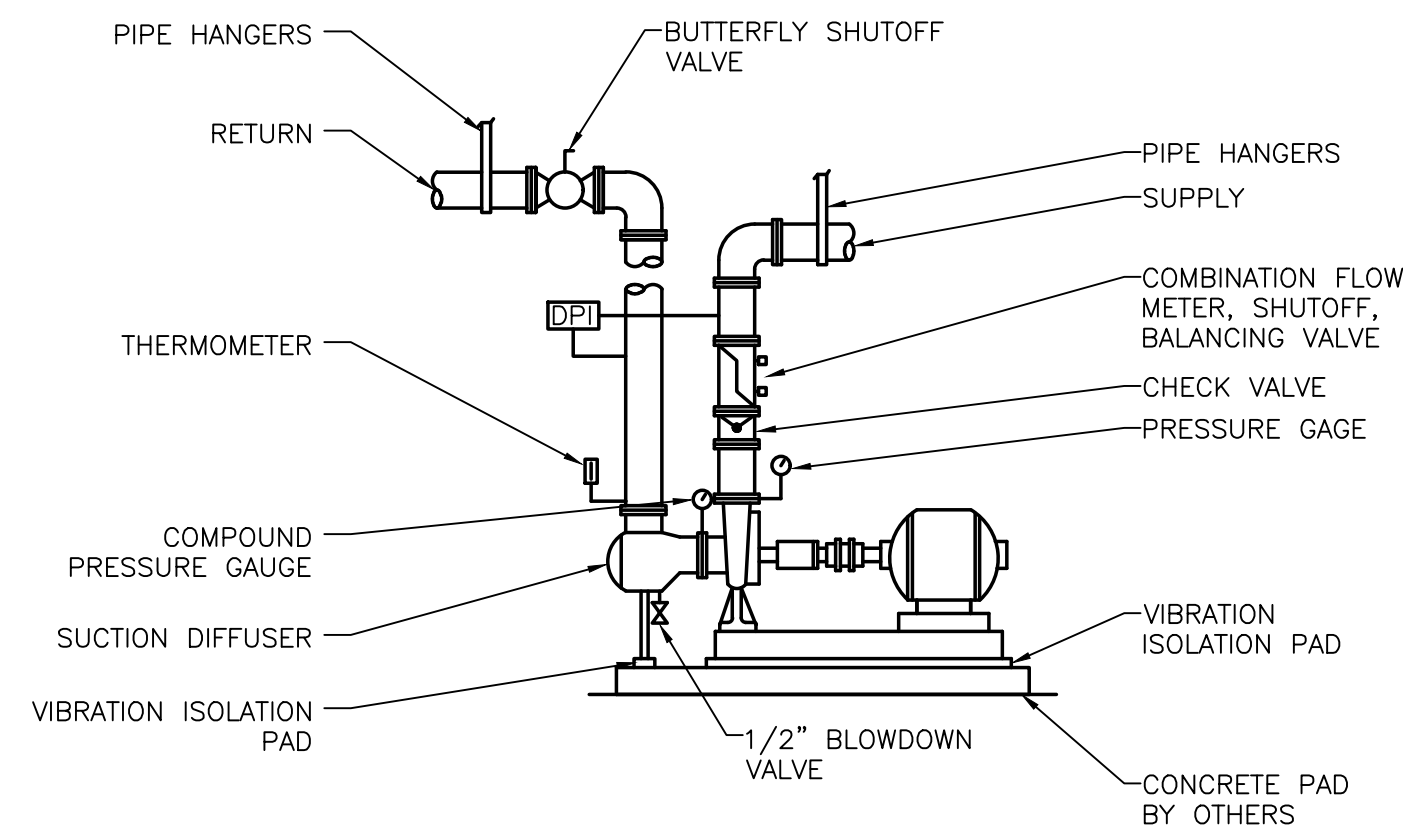
NOTE: COMBINATION FLOW MEASURING, BALANCING AND SHUT-OFF VALVES REQUIRED ON ALL BRANCHES 1 1/2" AND LARGER. PROVIDE BALL VALVES ONLY FOR ALL BRANCHES 1 1/4" AND SMALLER. PROVIDE 3/4" DRAIN VALVES WITH HOSE BIBBS CONNECTION AS SHOWN ON ALL BRANCHES 1 1/2" AND LARGER. COMBINATION FLOW MEASURING, BALANCING 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 15500 FOR VALVE REQUIREMENTS.

1/13/2021 12:45 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC LEGEND SCHEDULE AND DETAILS\PHASE 1A.DWG (BETA STB BWI.STB)

NO.	REVISIONS	DATE

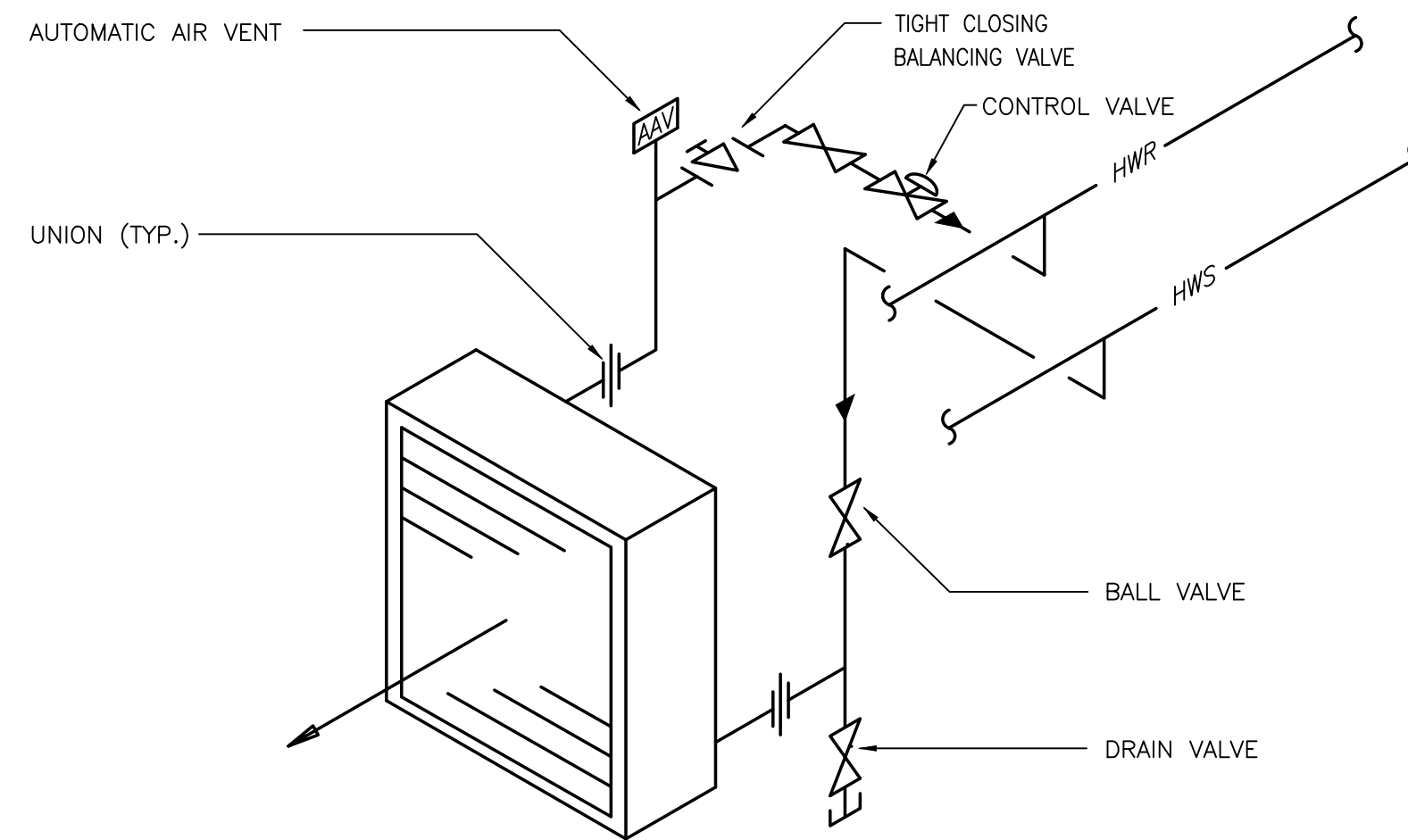
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DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

1/13/2021 12:46 PM \\11YEAR-201818009.00- TAUNTON WWTFF UPGRADE HVAC DEPARTMENT PHASE 1A18009.00 HVAC LEGEND SCHEDULE AND DETAILS PHASE 1A DWG (BETA STB BY STB)



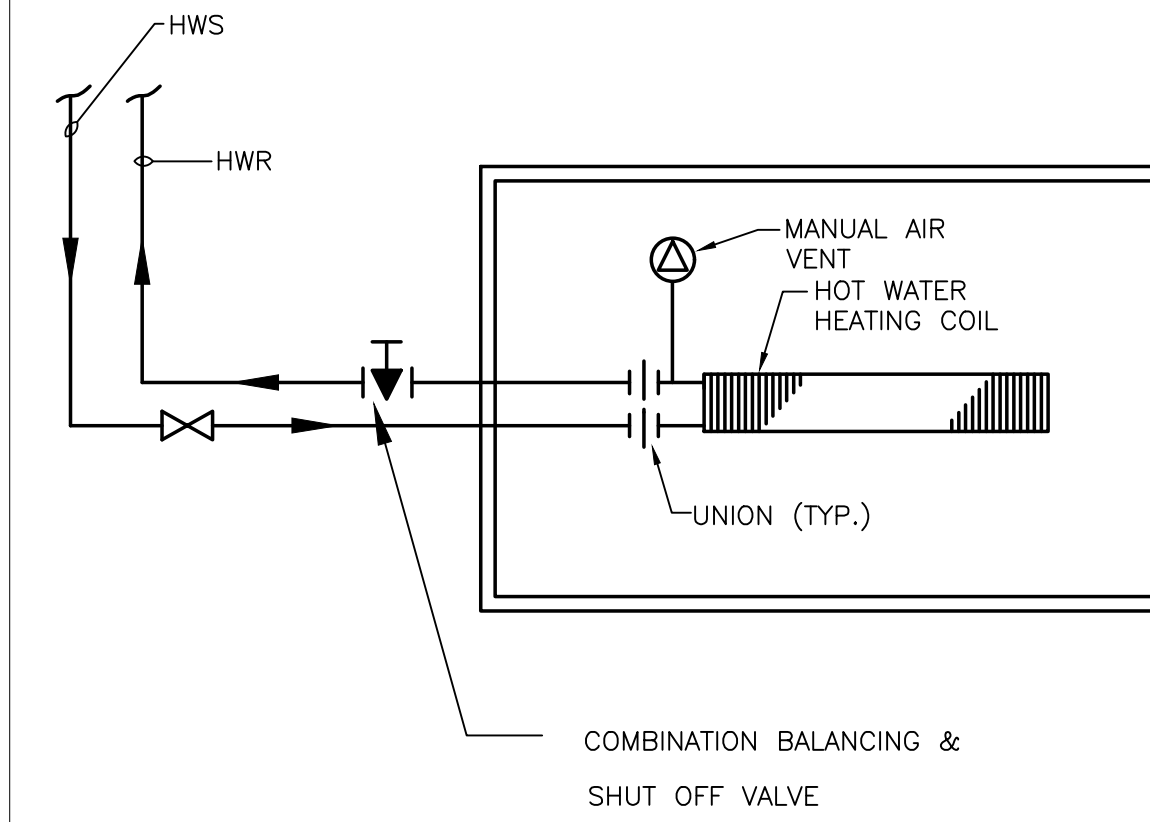
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BASE MOUNTED PUMP PIPING DETAIL
NO SCALE



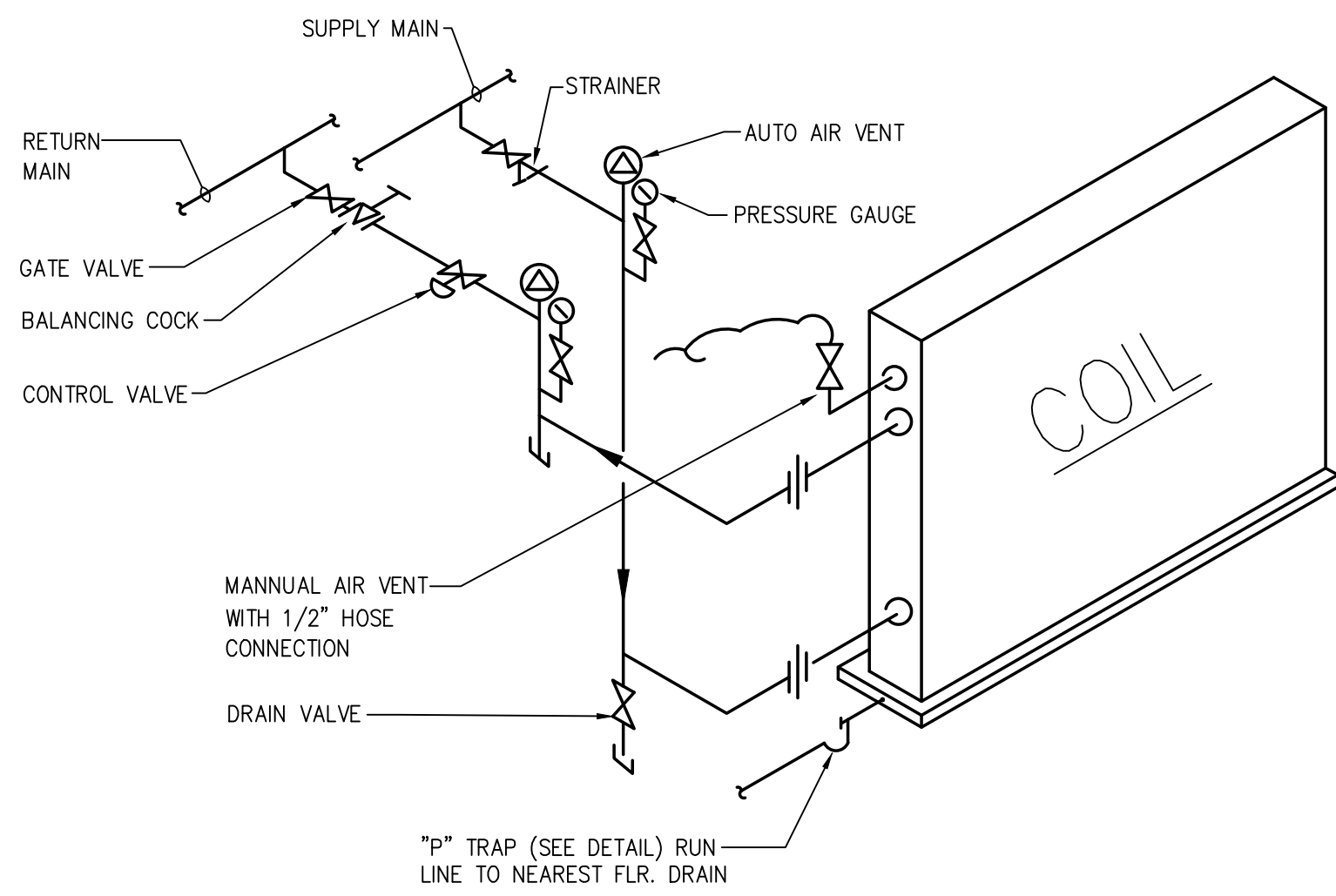
10

UNIT HEATER PIPING DETAIL
NO SCALE



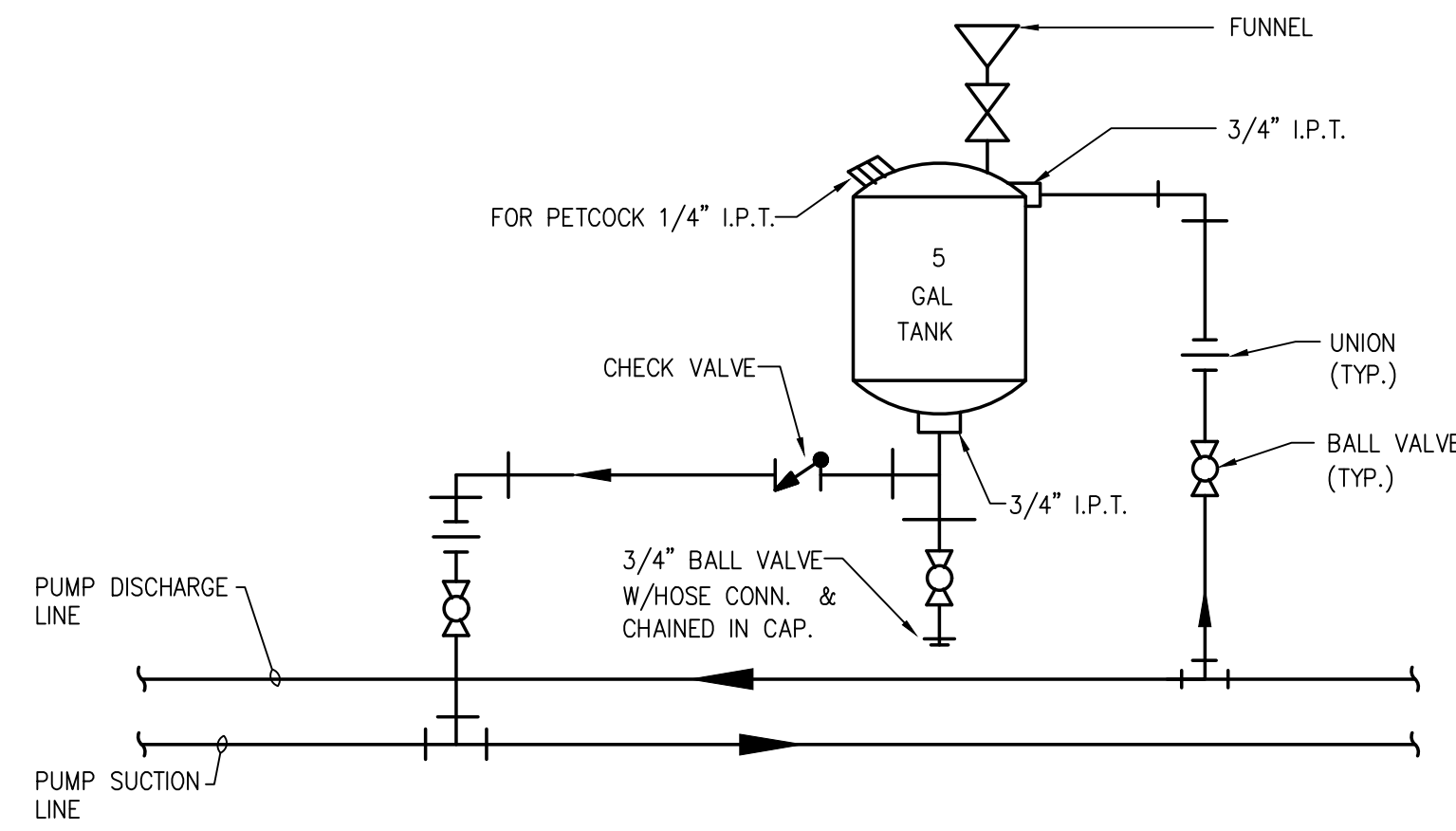
11

HORIZONTAL CABINET HEATER PIPING DETAIL
NO SCALE



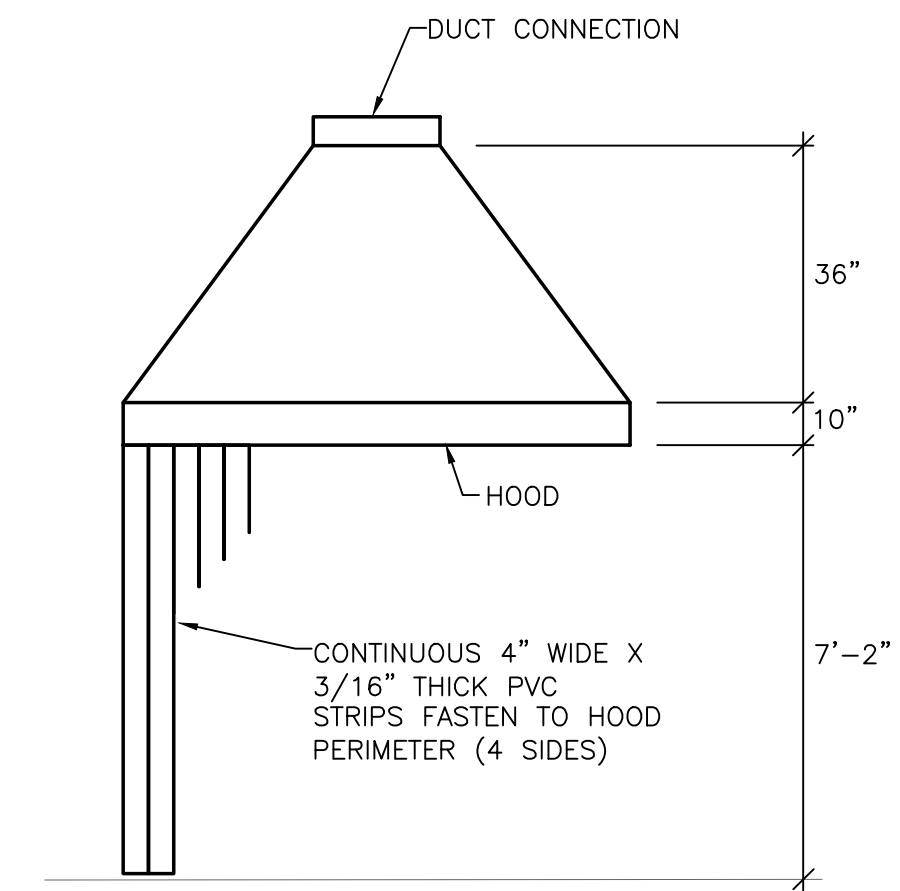
12

SINGLE COIL PIPING DETAIL
NO SCALE



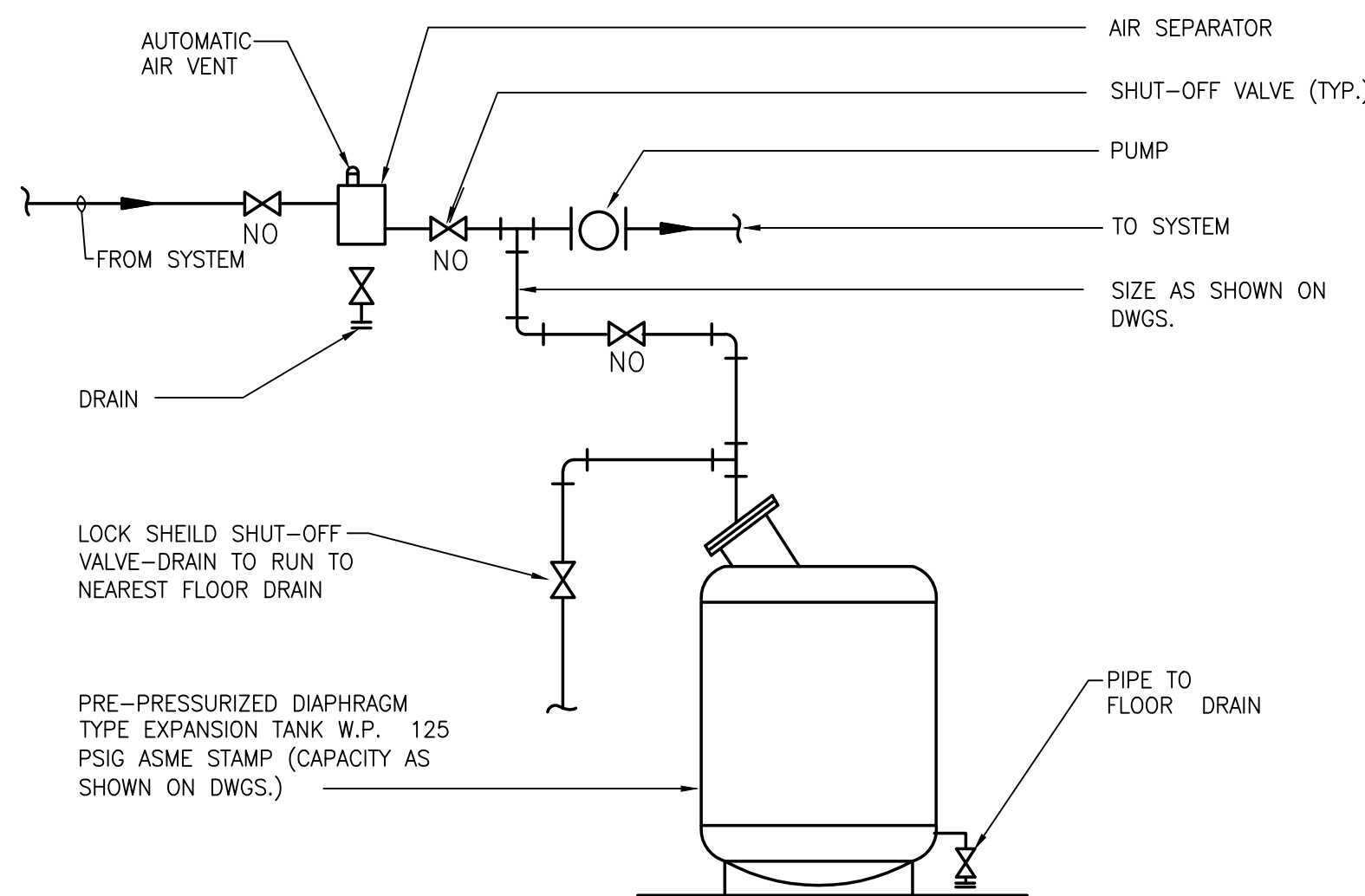
13

CHEMICAL SHOT FEEDER PIPING DETAIL
NO SCALE



14

TYPICAL EXHAUST HOOD
NO SCALE



15

TYPICAL DETAIL PIPING CONNECTIONS TO EXPANSION TANKS
NO SCALE

PREPARED BY



REGISTERED PROFESSIONAL



SUBCONSULTANT



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web: www.sar.com

PROJECT

Taunton Wastewater
Treatment Facility
Improvements
Solids Handling

Taunton, MA

TITLE

Hvac Details

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

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SCALE

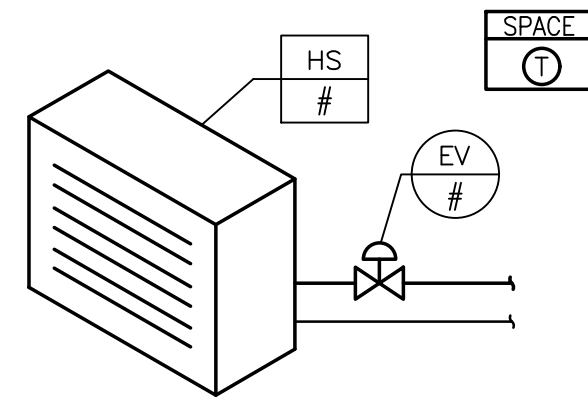
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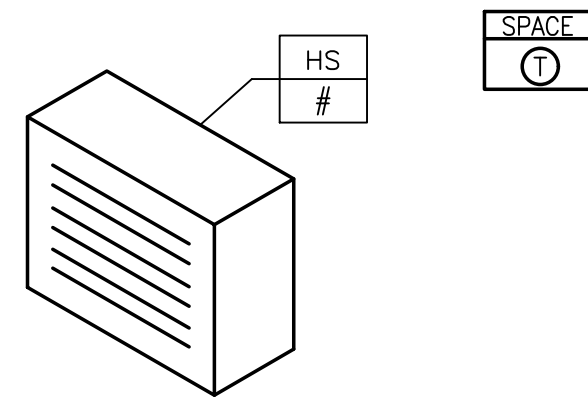
SHEET NO.

H-0.5

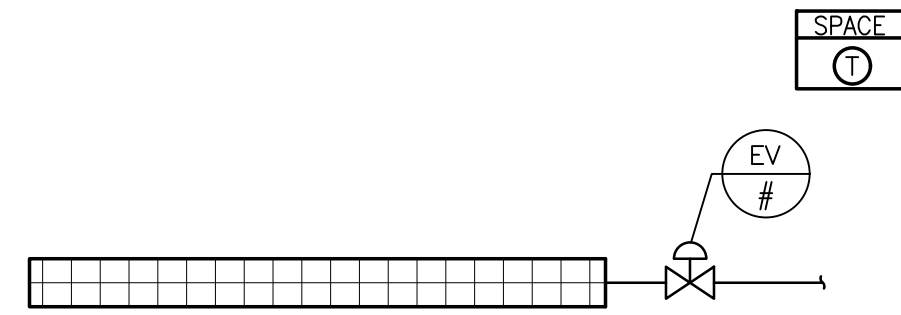
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1 TYPICAL UNIT HEATER CONTROL DIAGRAM NO SCALE



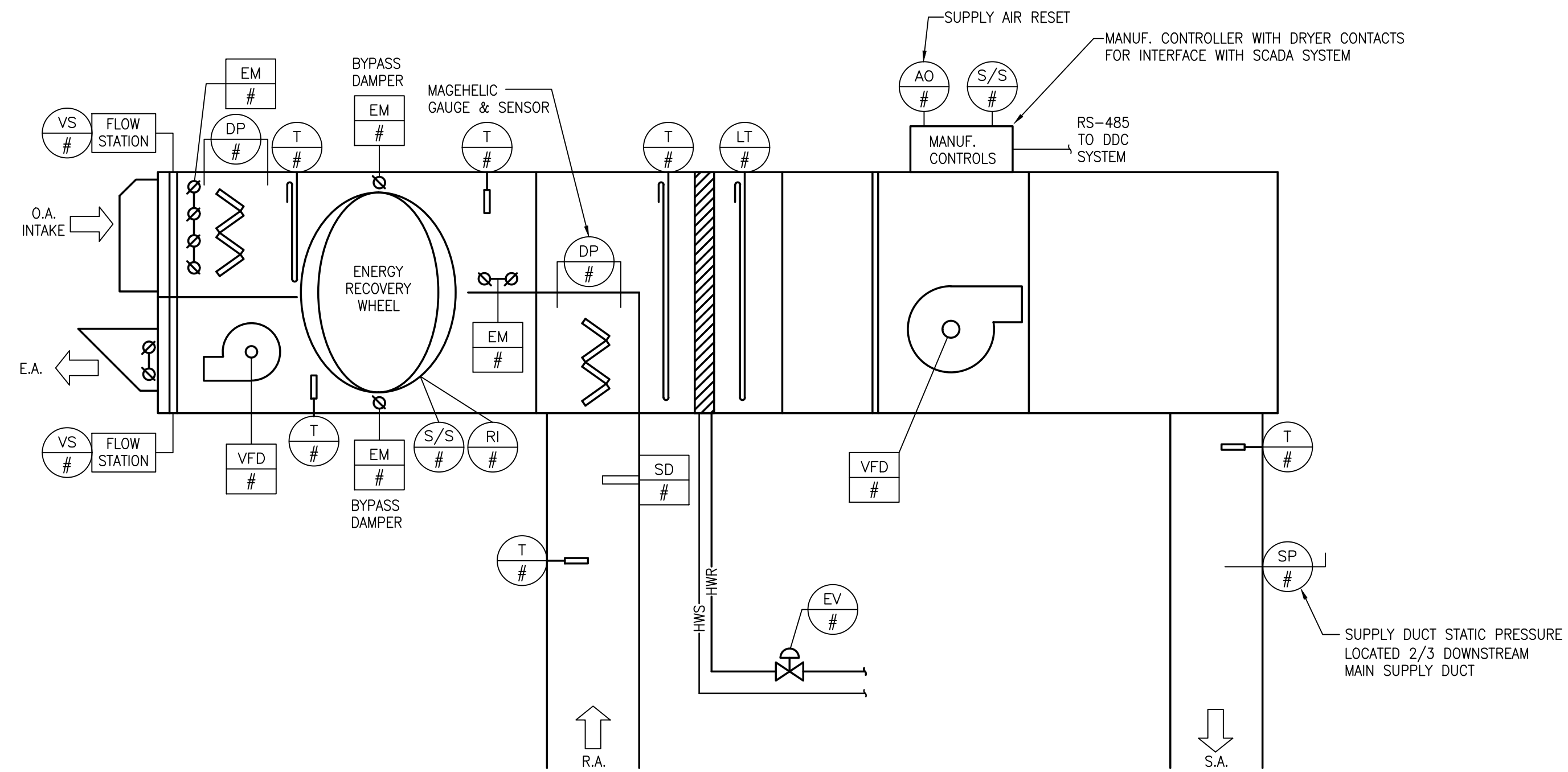
2 TYPICAL ELECTRIC CABINET & UNIT HEATER CONTROL DIAGRAM NO SCALE



3 TYPICAL BASEBOARD HEAT CONTROL DIAGRAM NO SCALE

CONTROLS LEGEND

- SPACE # WALL MOUNTED SPACE TEMPERATURE THERMOSTAT AND/OR OCCUPANCY OVER-RIDE BUTTON
- T # DUCT MOUNTED AVERAGING THERMOSTAT
- T # WATER TEMPERATURE SENSOR/THERMOSTAT
- EM # ELECTRONIC MOTORIZED DAMPER ACTUATOR
- FS # DIFFERENTIAL PRESSURE FLOW SENSOR (AIR) PADDLE FLOW SENSOR (WATER)
- HOA # HAND-AUTO-OFF STARTER
- DP # FILTER DIFFERENTIAL SENSOR
- SD # DUCT SMOKE DETECTOR (FURNISHED BY OTHERS)
- VS # VELOCITY TRANSDUCER
- OC # OCCUPANCY SENSOR (COORDINATE W/ ELECTRICAL)
- AO # ANALOG OUTPUT FROM EMS
- AL # ALARM (DIGITAL AND ANALOG)
- EV # ELECTRONIC VALVE ACTUATOR
- SM # KITCHEN HOOD SMOKE SENSOR
- EM # ELECTRONIC DAMPER MOTOR ACTUATOR
- VS # VELOCITY SENSOR
- T # DUCT MOUNTED TEMPERATURE SENSOR/THERMOSTAT
- CO₂ # CO₂ SENSOR
- H # DUCT MOUNTED RELATIVE HUMIDITY SENSOR
- CO # CO SENSOR
- S/S # START-STOP
- LT # DUCT MOUNTED LOW TEMP. FREEZE THERMOSTAT
- 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



8 TYPICAL ENERGY RECOVERY UNIT CONTROL DIAGRAM NO SCALE

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SUBCONSULTANT



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150 Grossman Drive, Suite 309
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617.328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Details

AS RE-ISSUED PER ADDENDUM #2

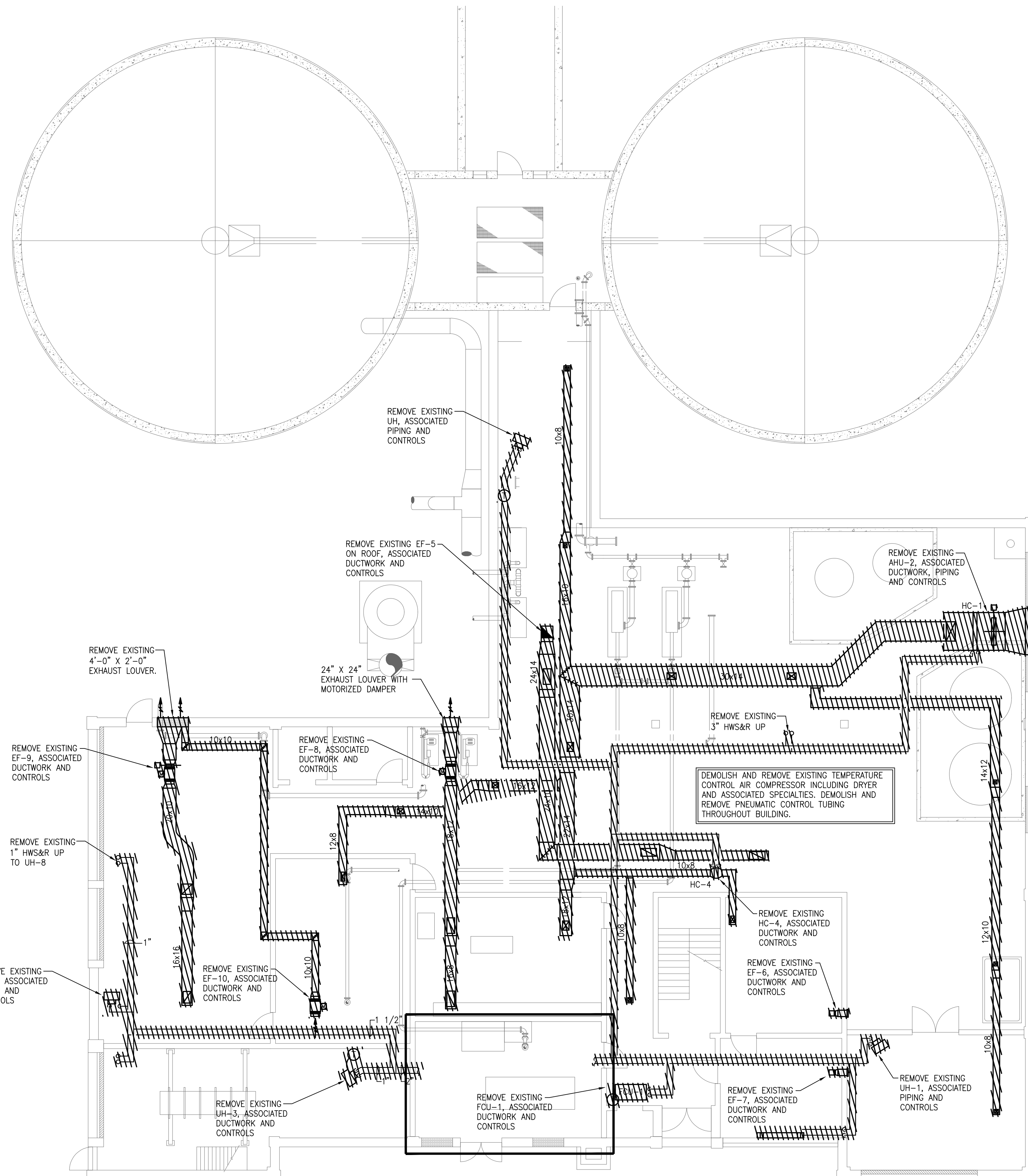
NO.	REVISIONS	DATE

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ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

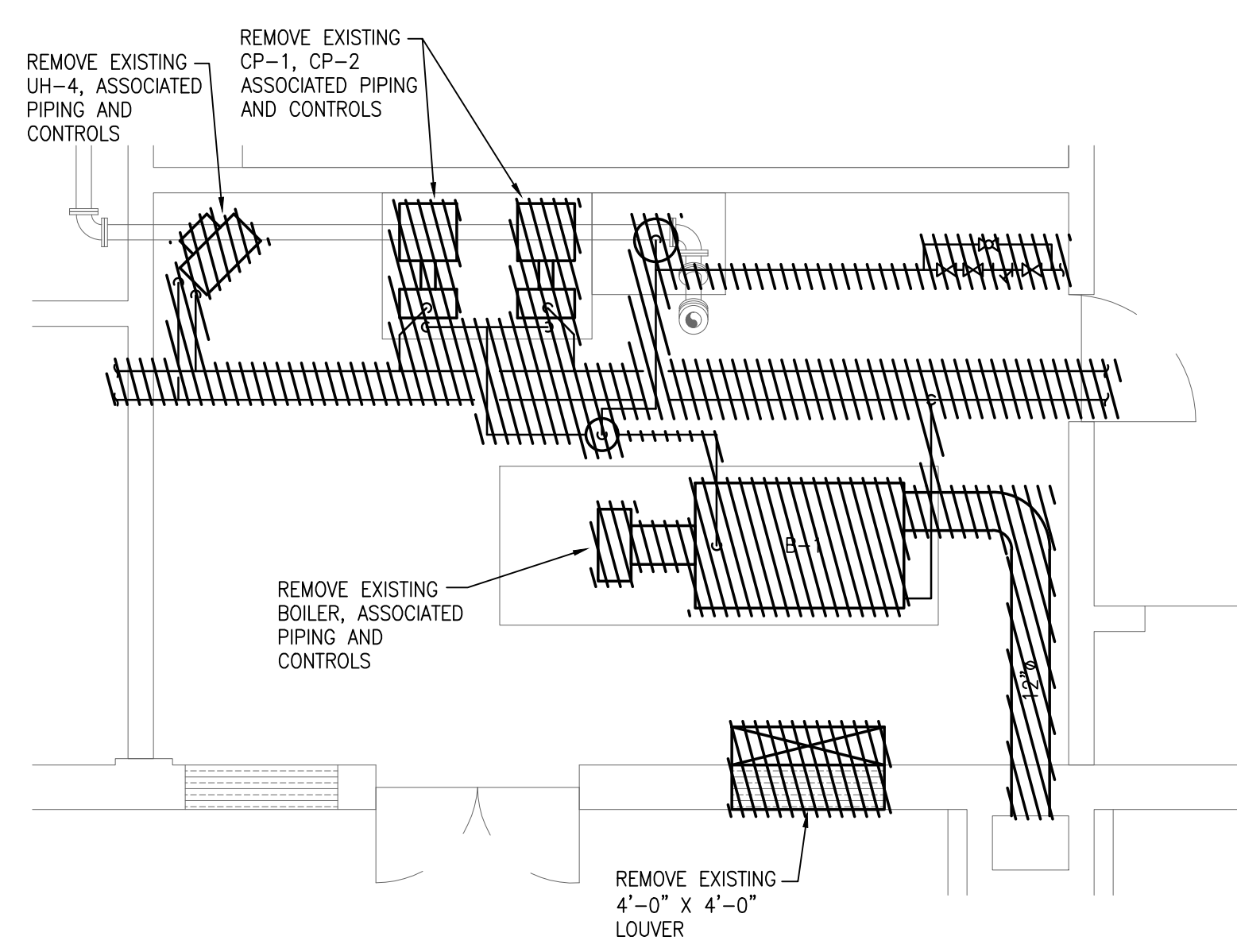
SCALE NONE

SHEET NO. H-0.6

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION



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



BOILER ROOM PART PLAN
SCALE: 1/4" = 1'-0"

1/13/2021 12:46 PM W:\YEAR - 2018\180009.00 - TAUNTON WWTF UPGRADE HVAC DEPARTMENT PHASE 1A\180009.00 HVAC SOLIDS HANDLING BUILDING PHASE 1A.DWG (BETA) STB BW(STB)

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SUBCONSULTANT



PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Demolition Solids Handling Building First Floor Plan

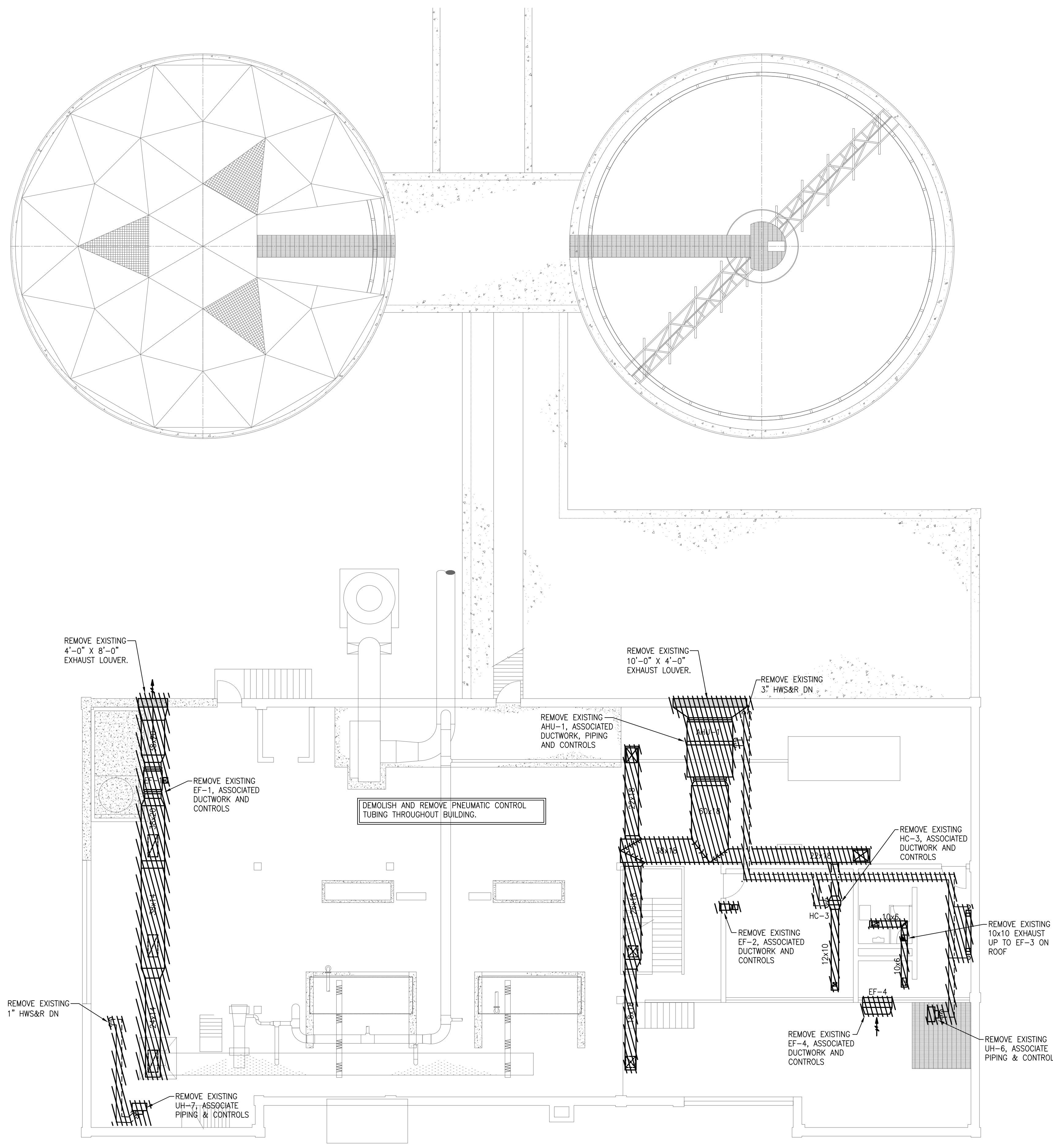
AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE
AS SHOWN
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SHEET NO.
H-7.1



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

1/13/2021 12:46 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING PHASE 1A.DWG (BETA STB BW.STB)

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SUBCONSULTANT



PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Demolition Solids Handling Building Second Floor Plan
AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

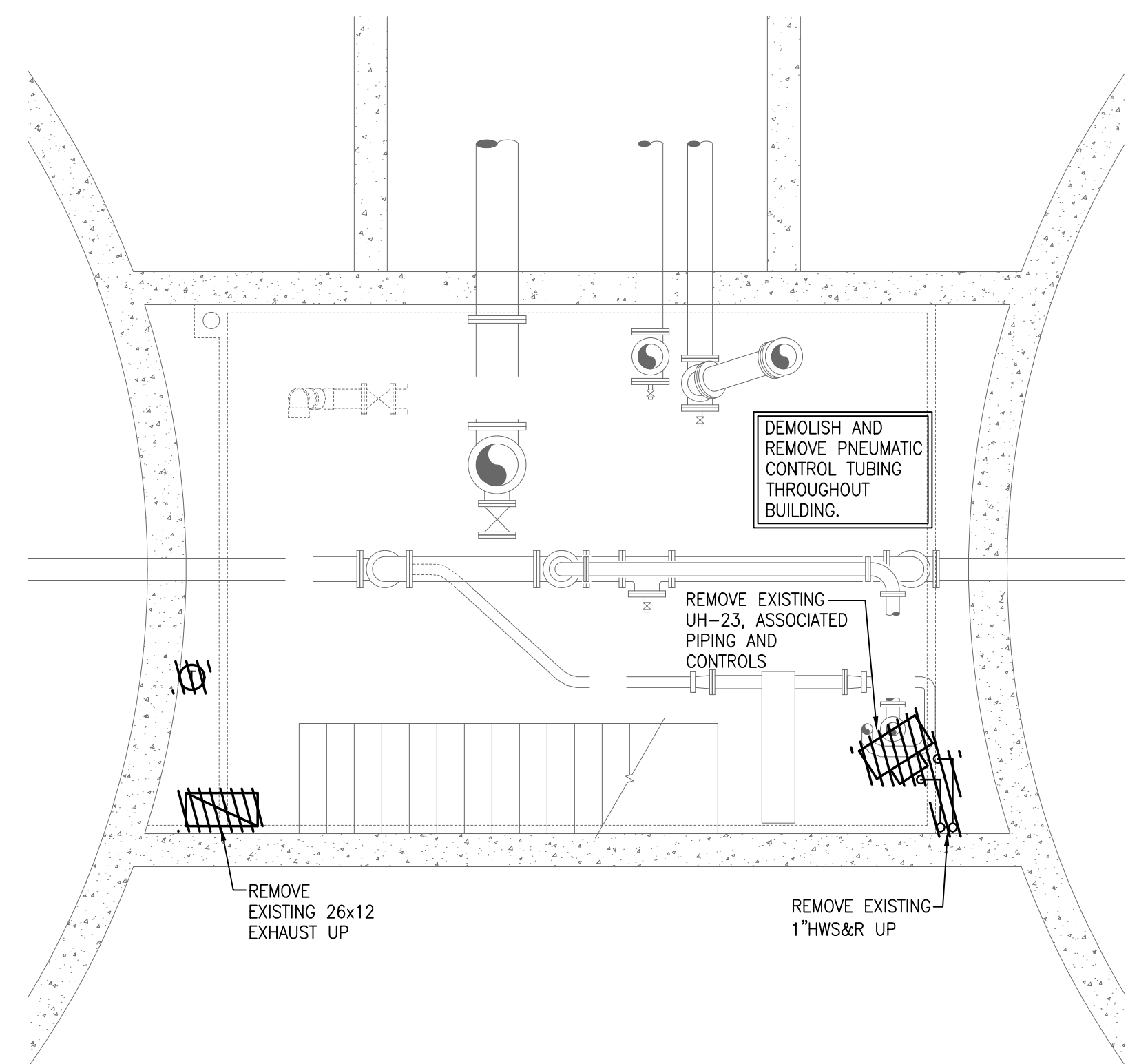
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AS SHOWN

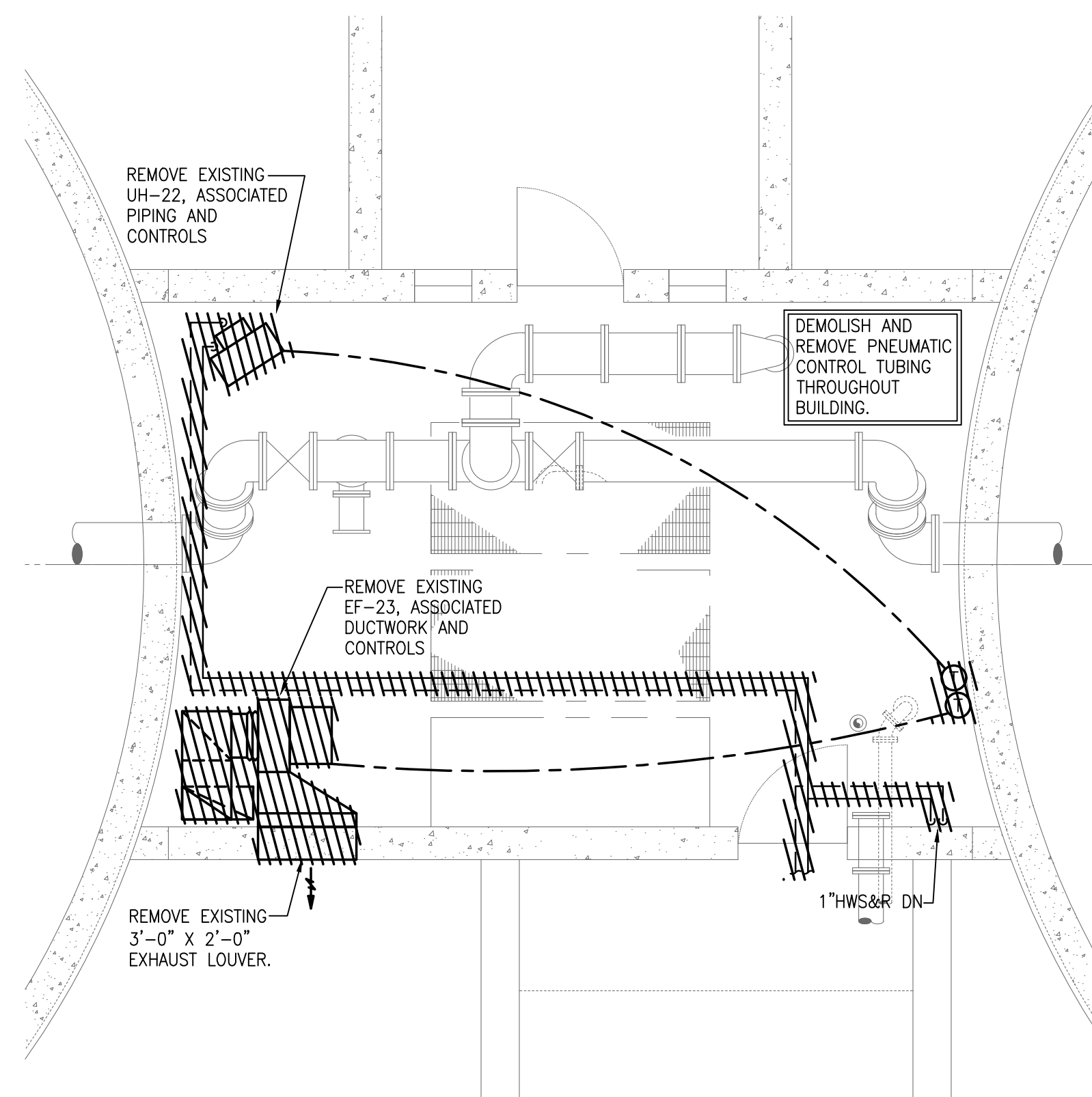
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SHEET NO.

H-7.2



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



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

1/13/2021 12:47 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA-STB BW.STB)

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SUBCONSULTANT



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617.328-9215
web: www.sar.com

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Hvac Demolition
Solids Handling
Building
Plans**
**AS RE-ISSUED PER
ADDENDUM #2**

NO. REVISIONS DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

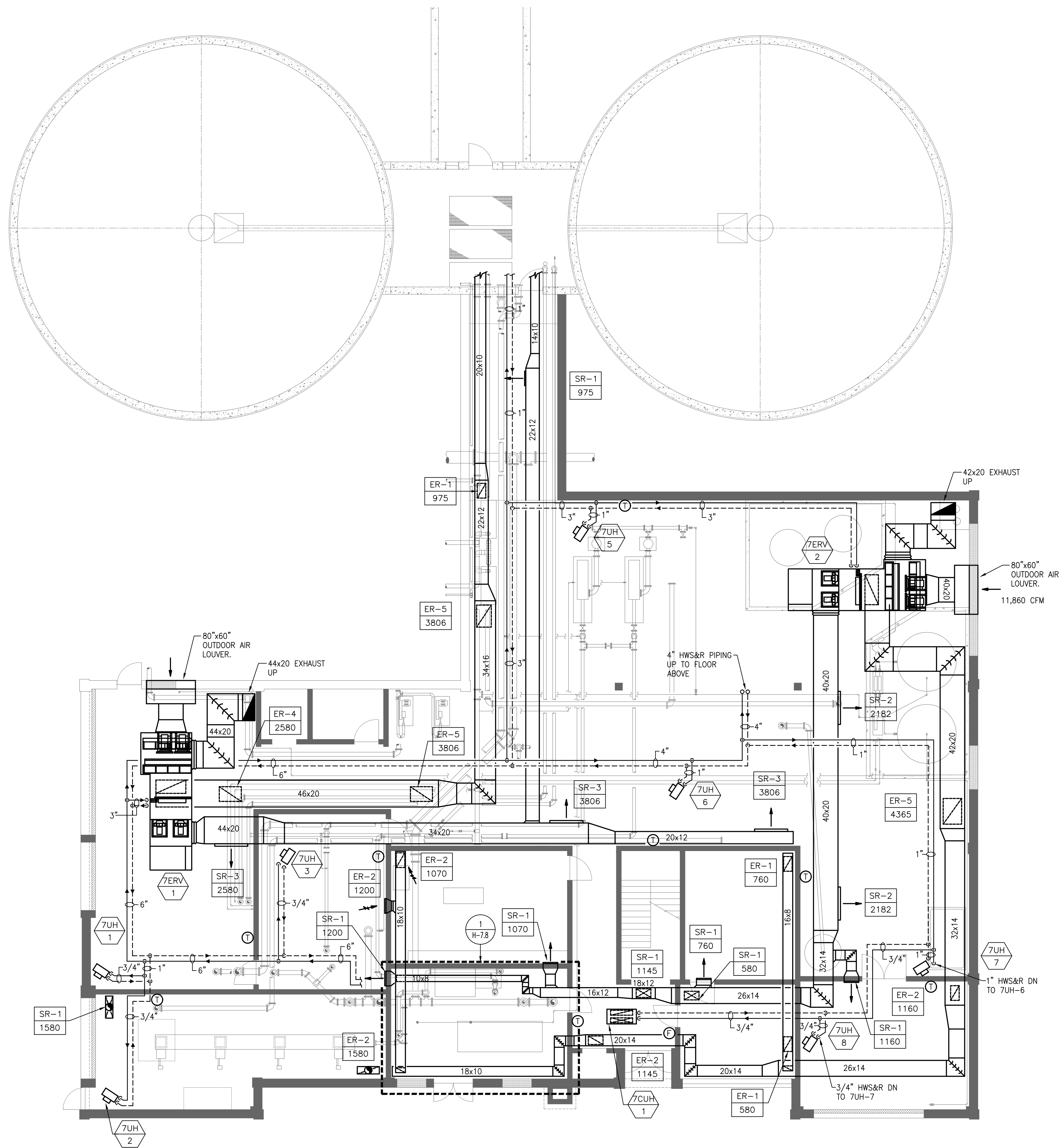
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SHEET NO.

H-7.3

1/13/2021 12:47 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA STB BW.STB)



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

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Braintree, Massachusetts 02184
617.328-9215
web: www.sar.com

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Hvac New Work
Solids Handling
Building
First Floor Plan**

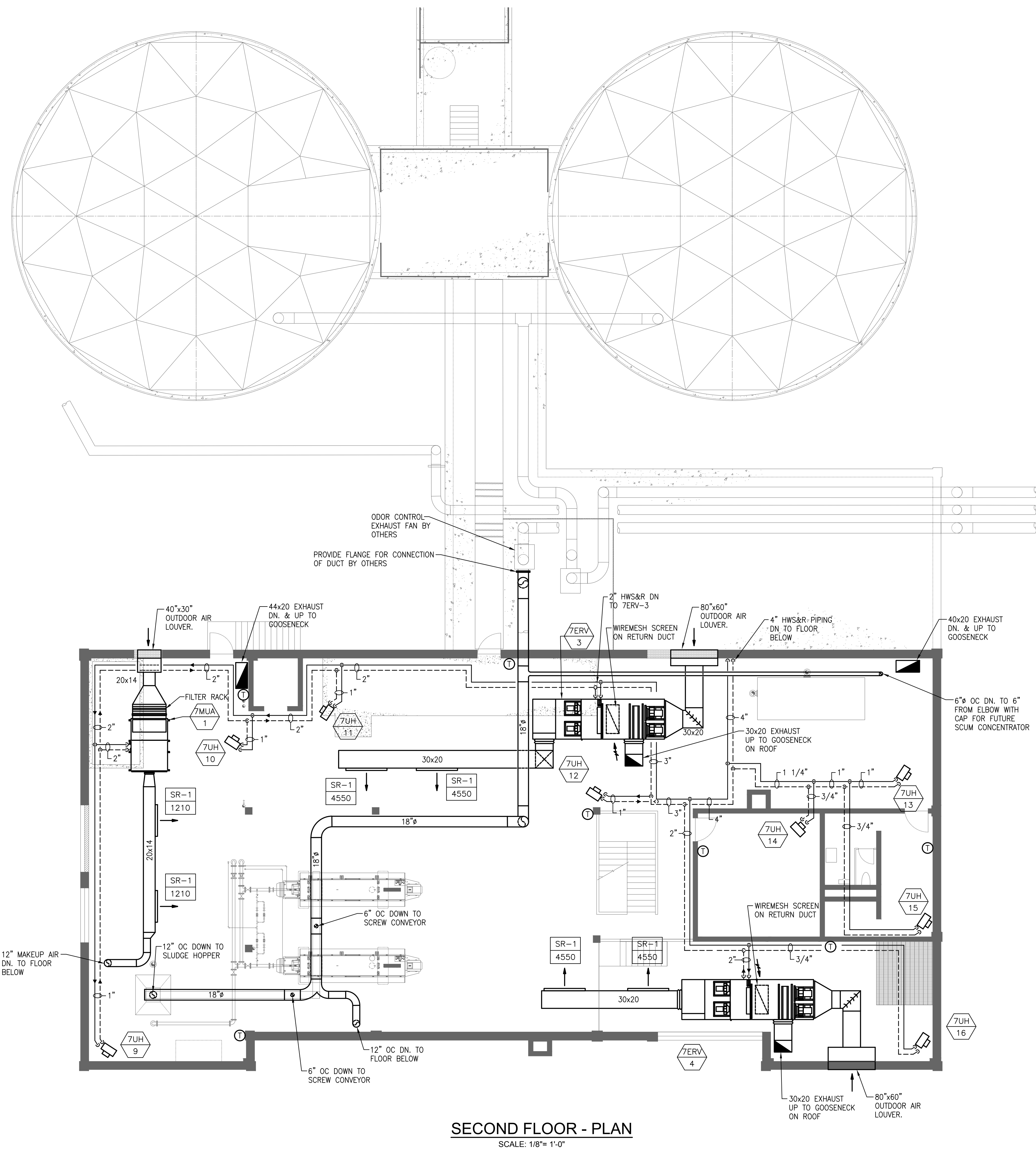
**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
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ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE
AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.
H-7.4



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

1/13/2021 12:48 PM 10/1/2021 12:48 PM 10/1/2021 12:48 PM TAUNTON WWTF UPGRADE HVAC DEPARTMENT PHASE 1A DWG (BETA) STB BW (STB)

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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

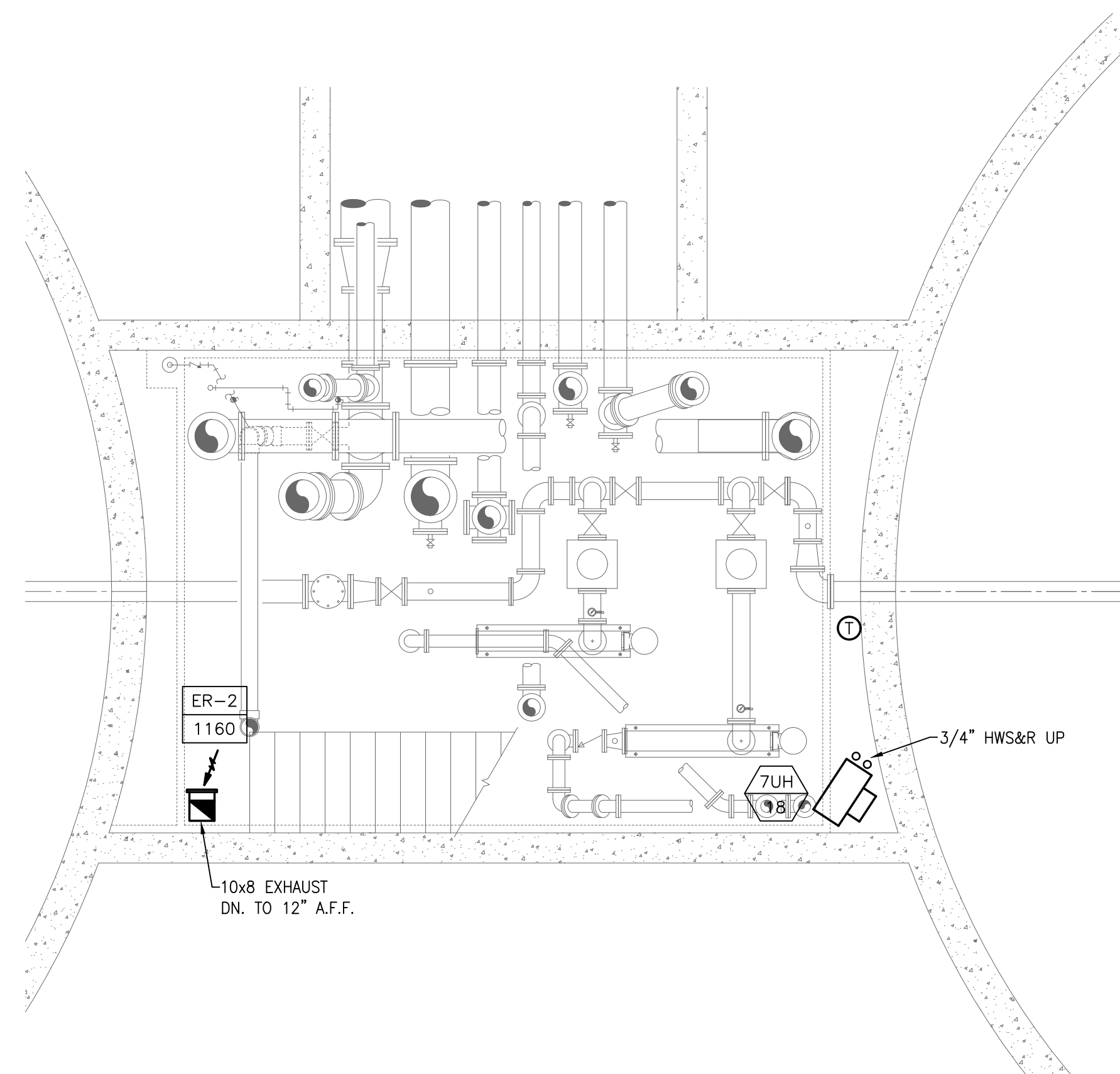
TITLE

**Hvac New Work
Solids Handling
Building
Second Floor
Plan**
**AS RE-ISSUED PER
ADDENDUM #2**

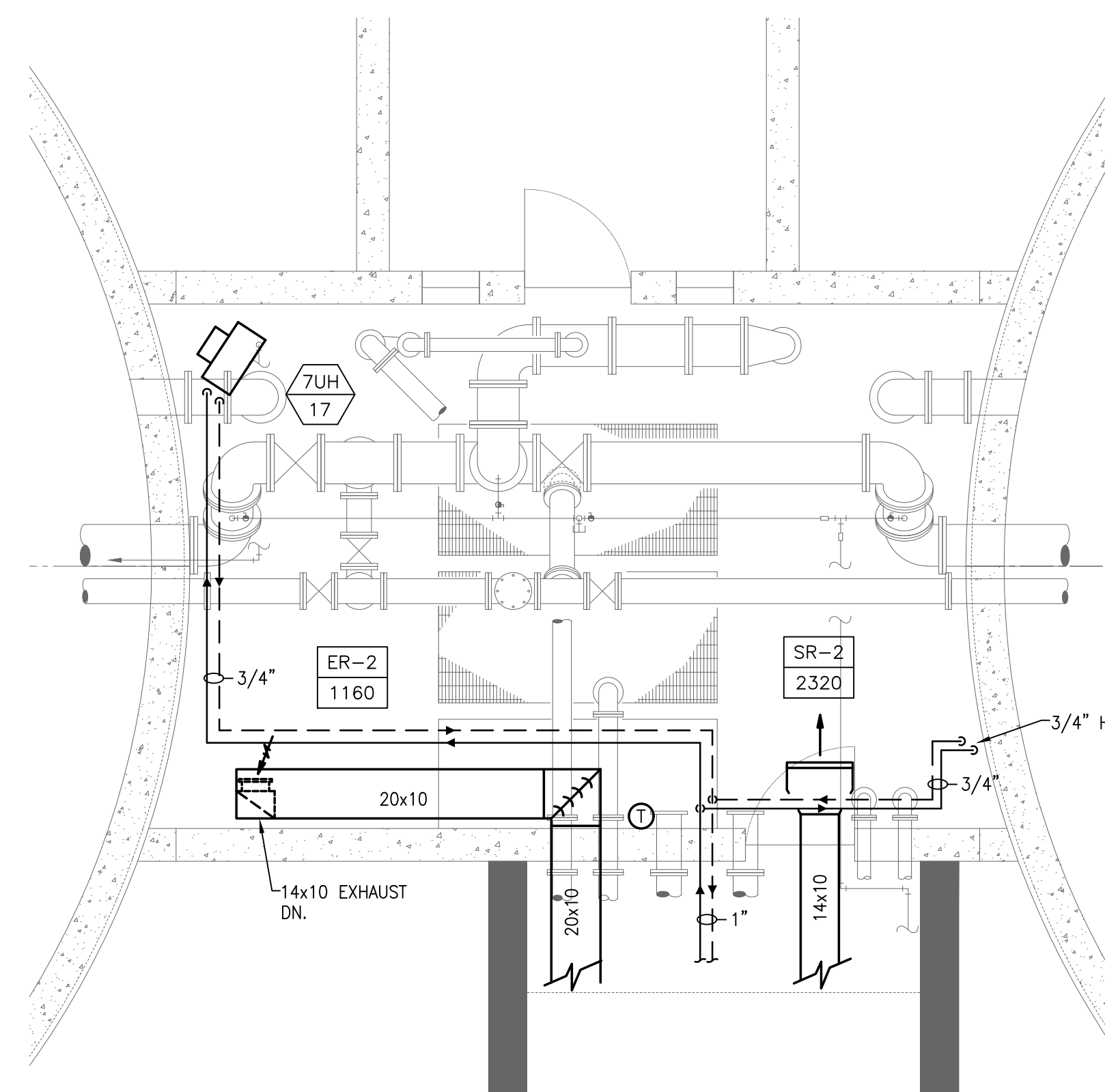
NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050
SCALE	AS SHOWN

SHEET NO.	H-7.5
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LOWER LEVEL - PLAN
SCALE: 1/4" = 1'-0"



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

1/13/2021 12:49 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA-STB BW.STB)

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REGISTERED PROFESSIONAL



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Braintree, Massachusetts 02184
617.328-9215
web: www.sar.com

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Hvac New Work
Solids Handling
Building
Plans**
**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE
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DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

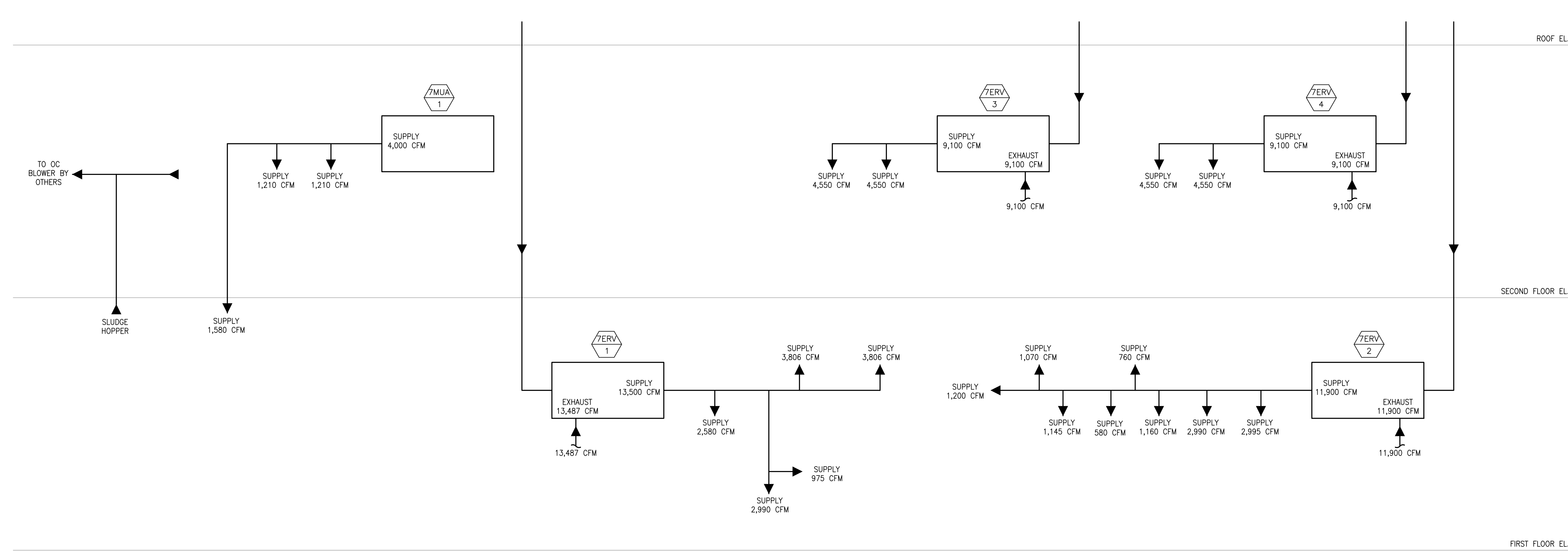
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SHEET NO.

H-7.6

1/13/2021 12:49 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA-STB BW) (STB)



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REGISTERED PROFESSIONAL



SUBCONSULTANT



PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Solids Handling Building Air Flow Diagram
AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

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DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

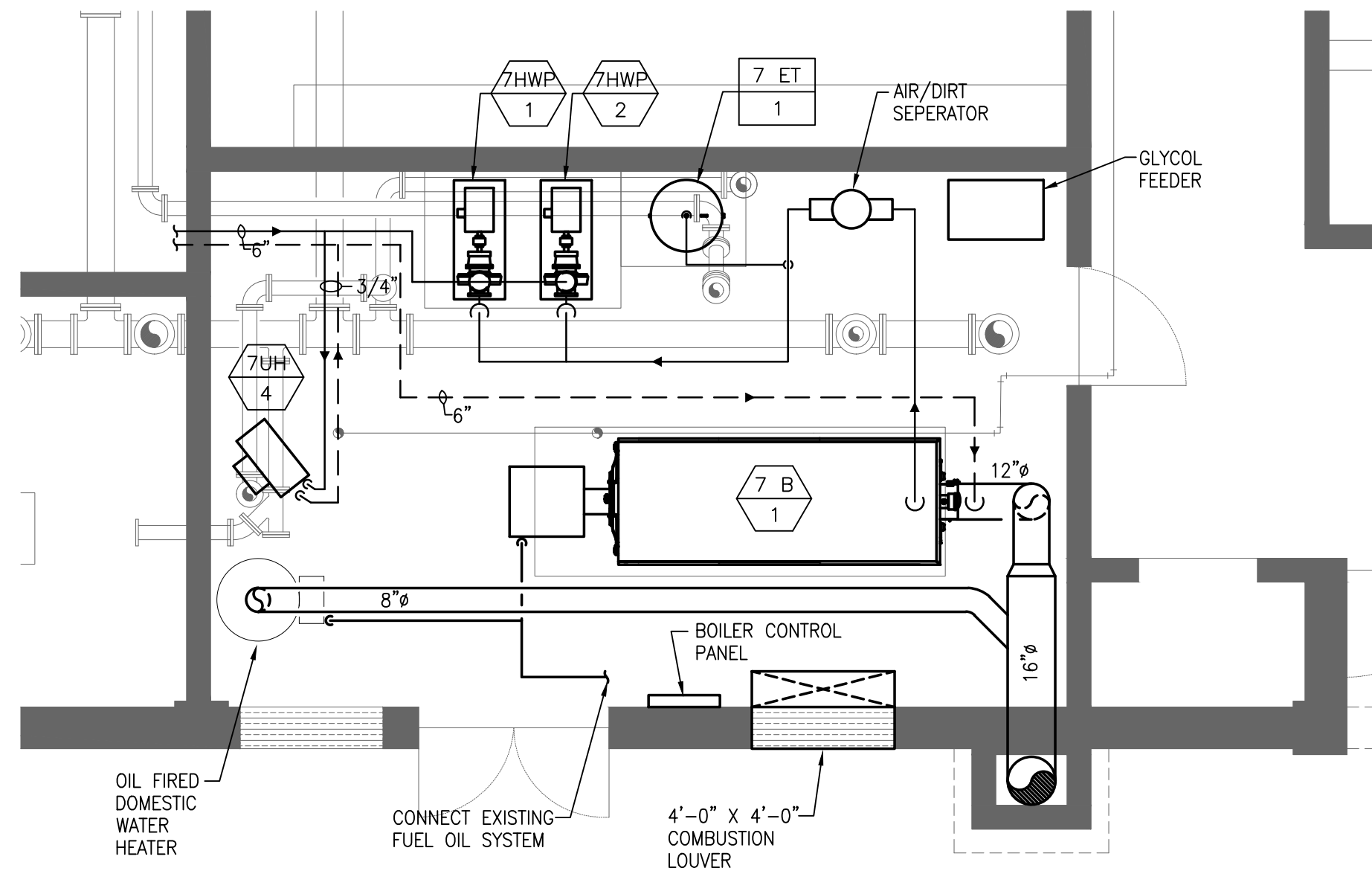
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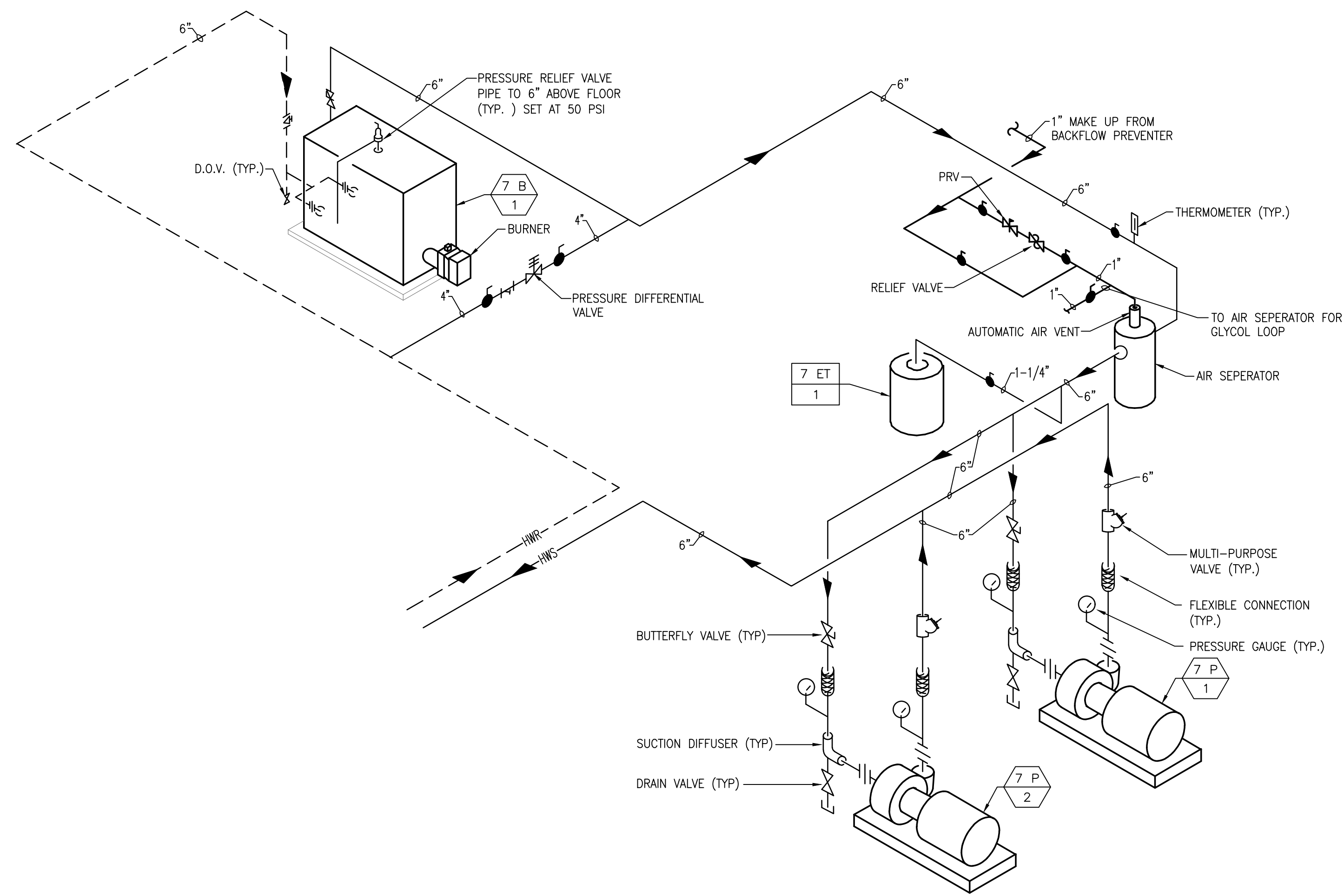
SHEET NO.

H-7.7

1/13/2021 12:50 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA) STB BW(STB)



BOILER ROOM PART PLAN
SCALE: 1/4" = 1'-0"



PIPING SCHEMATIC
NO SCALE

PREPARED BY



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REGISTERED PROFESSIONAL



SUBCONSULTANT



Mechanical/Electrical Engineers
150 Grossman Drive, Suite 309
Braintree, Massachusetts 02184
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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Hvac New Work
Solids Handling
Building
Boiler Room
Part Plan
AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE
-----	-----------	------

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

H-7.8

1/13/2021 12:41 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING LEGEND SCHEDULES DETAILS-PHASE 1A.DWG (BETA STB BW STB)

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 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 P0.2.
5. FOR PLUMBING DETAILS, REFER TO DRAWINGS P0.3 & P.04.
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. PROVIDE ALL FLOOR CLEANOUTS WITH HUB AND SPIGOT; LEAD AND OAKUM JOINTS FROM CLEANOUT TO AND INCLUDING CONNECTION TO SANITARY OR STORM DRAIN.
10. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND HEIGHT OF ALL PLUMBING FIXTURES.
11. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB-CONTRACTOR OF CODE COMPLIANCE.
12. ALL NEW FLOOR DRAINS SHALL BE PROVIDED WITH A TRAP PRIMER CONNECTION. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED EQUIPMENT NECESSARY TO PROVIDE A COMPLETE SYSTEM.
13. PROVIDE CLEANOUTS AT ALL CHANGE OF DIRECTIONS FOR STORM AND SANITARY/WASTE PIPING.
14. PROVIDE DANDY CLEANOUTS AT ALL EXPOSED STORM AND SANITARY/WASTE PIPING 18 INCHES (APPROXIMATELY) ABOVE FINISHED FLOOR WHERE PIPING GOES BELOW FINISHED FLOOR/GRADE.
15. PROVIDE WALL CLEANOUTS WITH ACCESS PANELS AT ALL STORM AND SANITARY/WASTE PIPING WITHIN PIPE CHASES OR WALLS.

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
	S or W	SOIL OR WASTE
	V	VENT
	RW	RAIN WATER CONDUCTOR
	OFD	STORM WATER OVER FLOW DRAINAGE
	PD	PUMPED DISCHARGE
	HTI / TMC	HEAT TRACE AND INSULATE
	CONT	CONTINUATION
	UP	PIPE RISE OR UP
	DP OR DN	PIPE DROP OR DOWN
	TEE	PIPE TEE
	SOV	SHUT-OFF VALVE
		SOLENOID VALVE
	VV	VALVE IN VERTICAL
	CV	CHECK VALVE
	BVA	BALANCING VALVE ASSEMBLY
	W & T	WASTE & TRAP
	OED	OPEN END DRAIN WITH BACKWATER VALVE
	CO	CLEANOUT PLUG
	FOO	FLUSH FLOOR CLEANOUT
	GCO	GRADE CLEANOUT
	DCO	DANDY CLEANOUT
		CAPPED PIPE
		ARROW INDICATES DIRECTION OF FLOW
		ARROW INDICATES DIRECTION OF SLOPE
		UNION
	WTS	WATERTIGHT SLEEVE
	TP	TRAP PRIMER
	HB	HOSE BIBB
	WH	WALL HYDRANT
		DIAGRAM NO. & DWG. NO. REFERENCE
	FD "A"	FLOOR DRAIN & TYPE
	RD "A"	ROOF DRAIN & TYPE
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	WM	WATER METER
	GM	GAS METER
	CO	CARBON MONOXIDE DETECTOR
	T	THERMOMETER
	PG	PRESSURE GAUGE WITH PETCOCK
	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
	SA	SHOCK ABSORBER WITH SHUT-OFF VALVE
		VACUUM RELIEF VALVE

PLUMBING LEGEND

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Legend and General Notes AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	JL
CHECKED BY:	JL
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

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.	Δ TEMP °F				
7DWH-1	AO SMITH	COF-199*	SLUDGE 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.

CIRCULATING PUMP SCHEDULE

DESIGNATION	LOCATION	WATER HEATER SERVED	MODEL	CAPACITY (GPM)	HEAD (FEET)	TYPE	ELECTRICAL REQUIREMENTS				REMARKS
							RPM	HP	VOLTS	Φ	
7DWP-1	MECH ROOM	7DWH-1	TACO 006B	2	6	INLINE	3250	1/40	115	1	SERVES 120' HW SYSTEM

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

SHOCK ABSORBER SCHEDULE

PDI RATING SYMBOL	A	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.

PLUMBING FIXTURE SCHEDULE

DESIGNATION	FIXTURE DESCRIPTION	CONNECTION SIZE								REMARKS
		W1	HW1	BLW	SAN	V	NPW1	NPHW1		
EWU-1	EMERGENCY SHOWER/EYEWASH	-	-	1 1/4"	-	-	-	-	-	INTERIOR 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	
7SP-1	SLUDGE HANDLING	WEIL 2443	20	40	DUPLEX SUBMERSIBLE	1350	2	480	3	AUTOMATIC WITH FLOAT
7SP-2	SLUDGE HANDLING	TSURUMI PUMP LSR2.4S	20	40	SINGLE SURFACE	1350	2/3	120	1	WITH SLS-LSC SURFACE FLOAT

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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

Plumbing
Schedules
AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: RHB

CHECKED BY: RHB

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

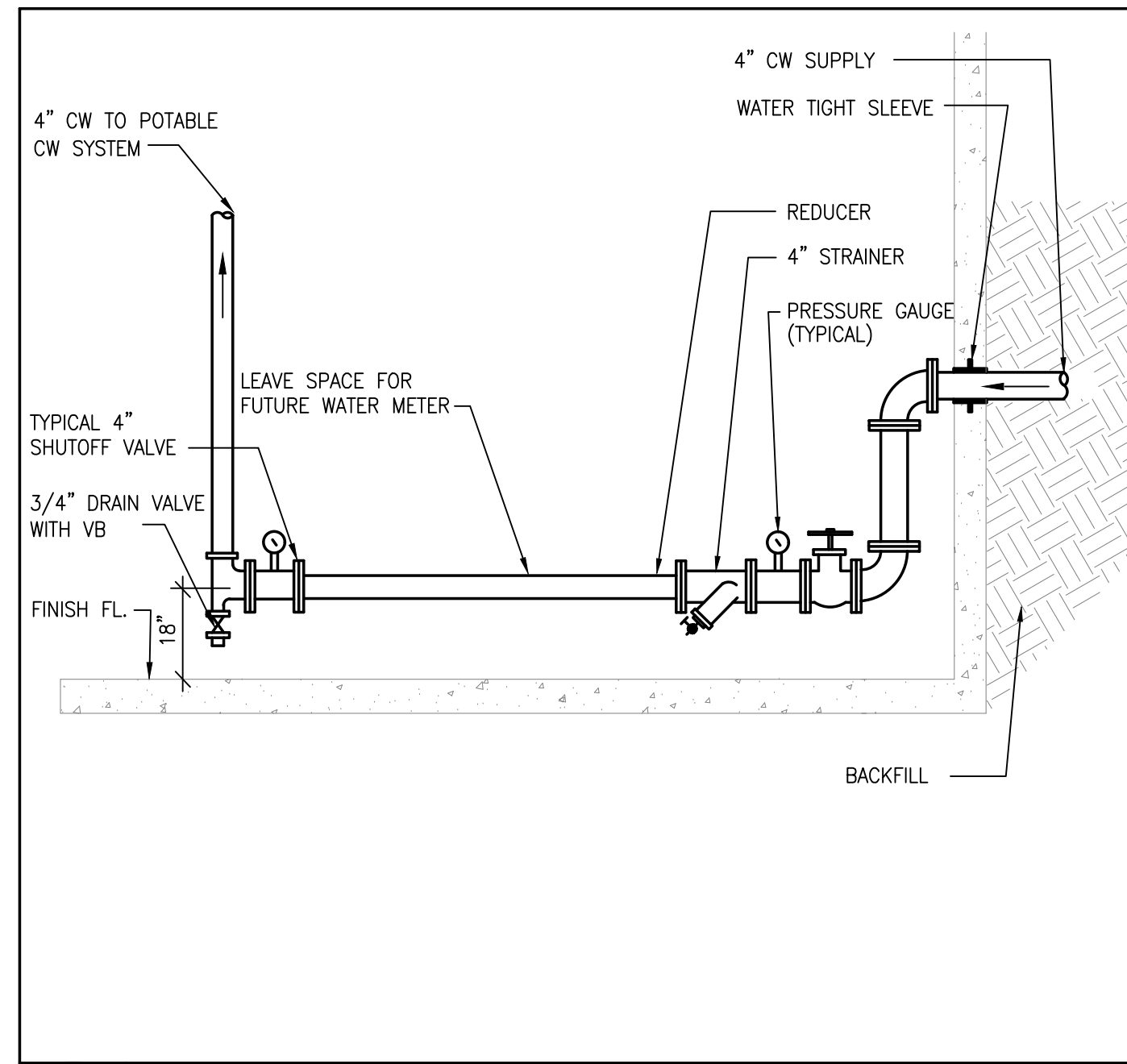
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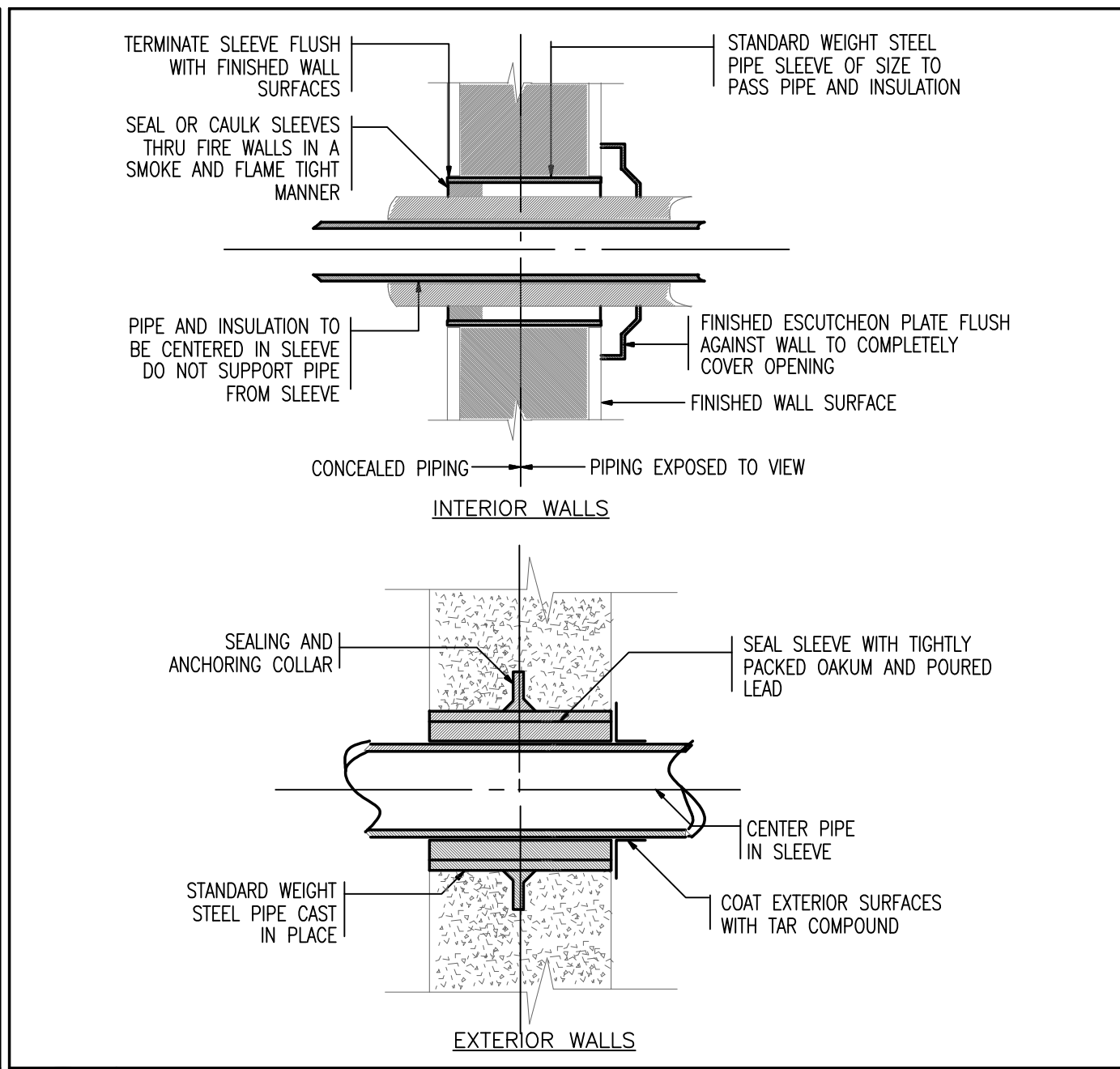
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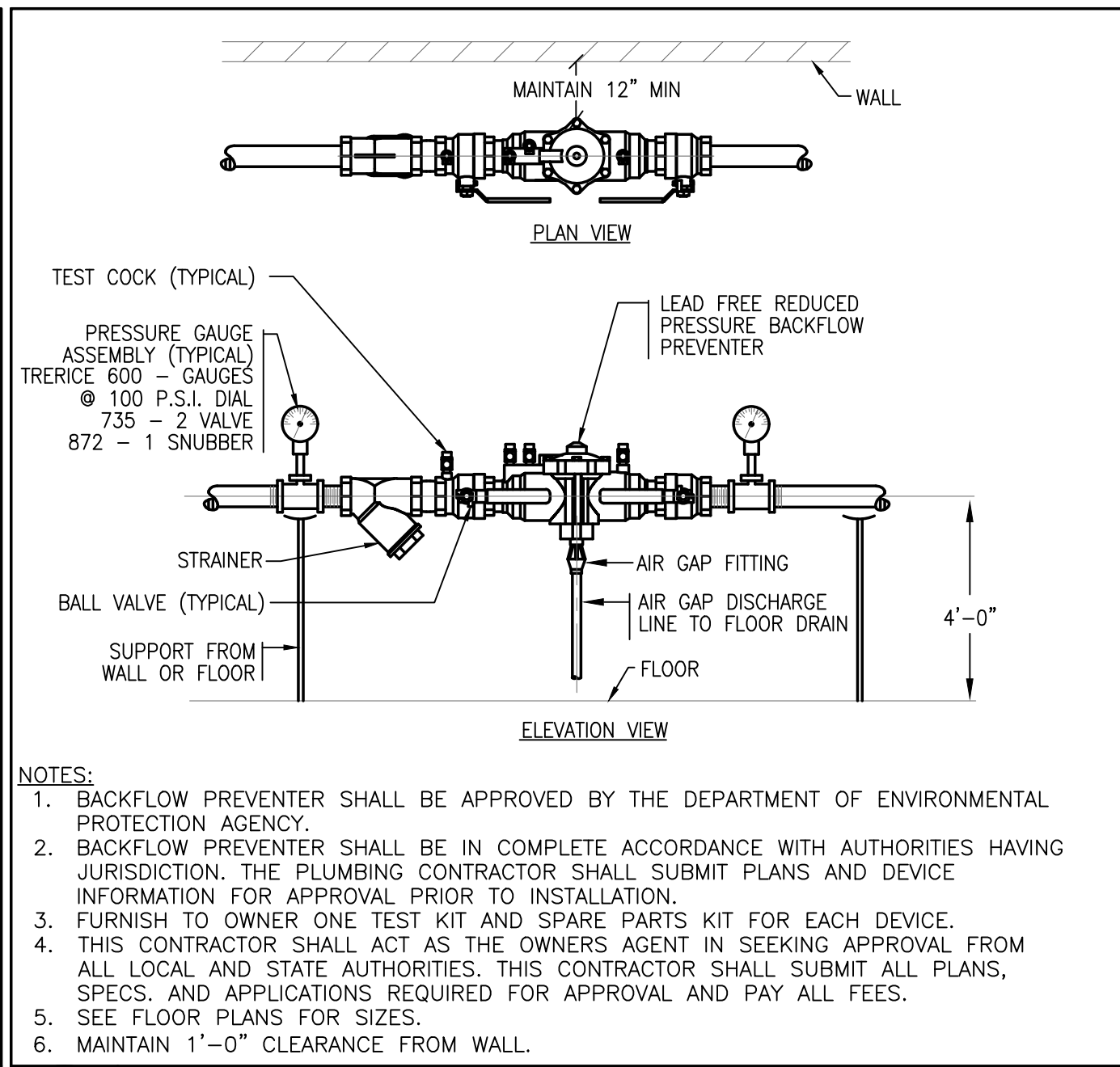
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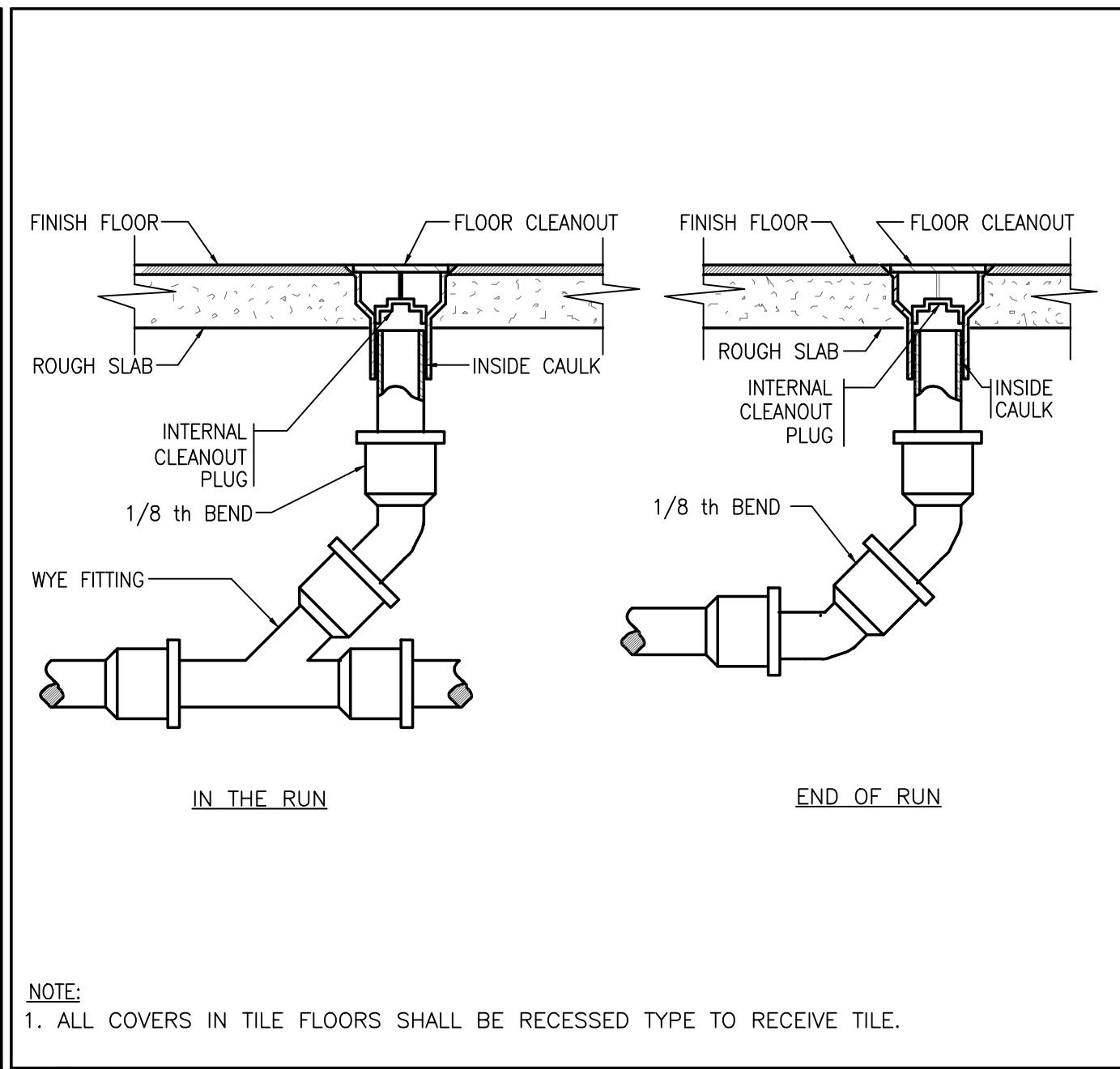
1 DOMESTIC WATER METER DETAIL NTS



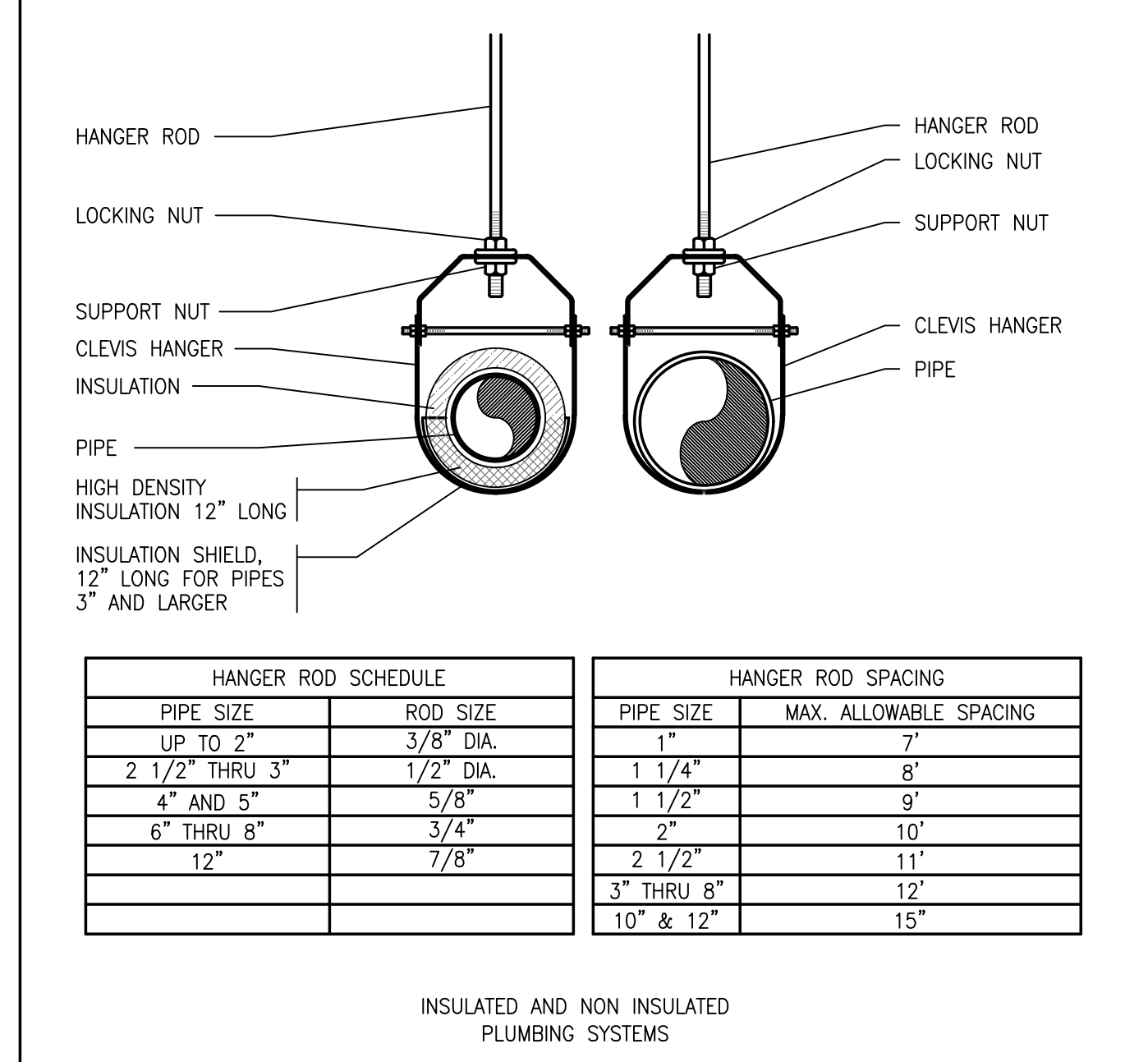
2 PIPING SLEEVE DETAIL NTS



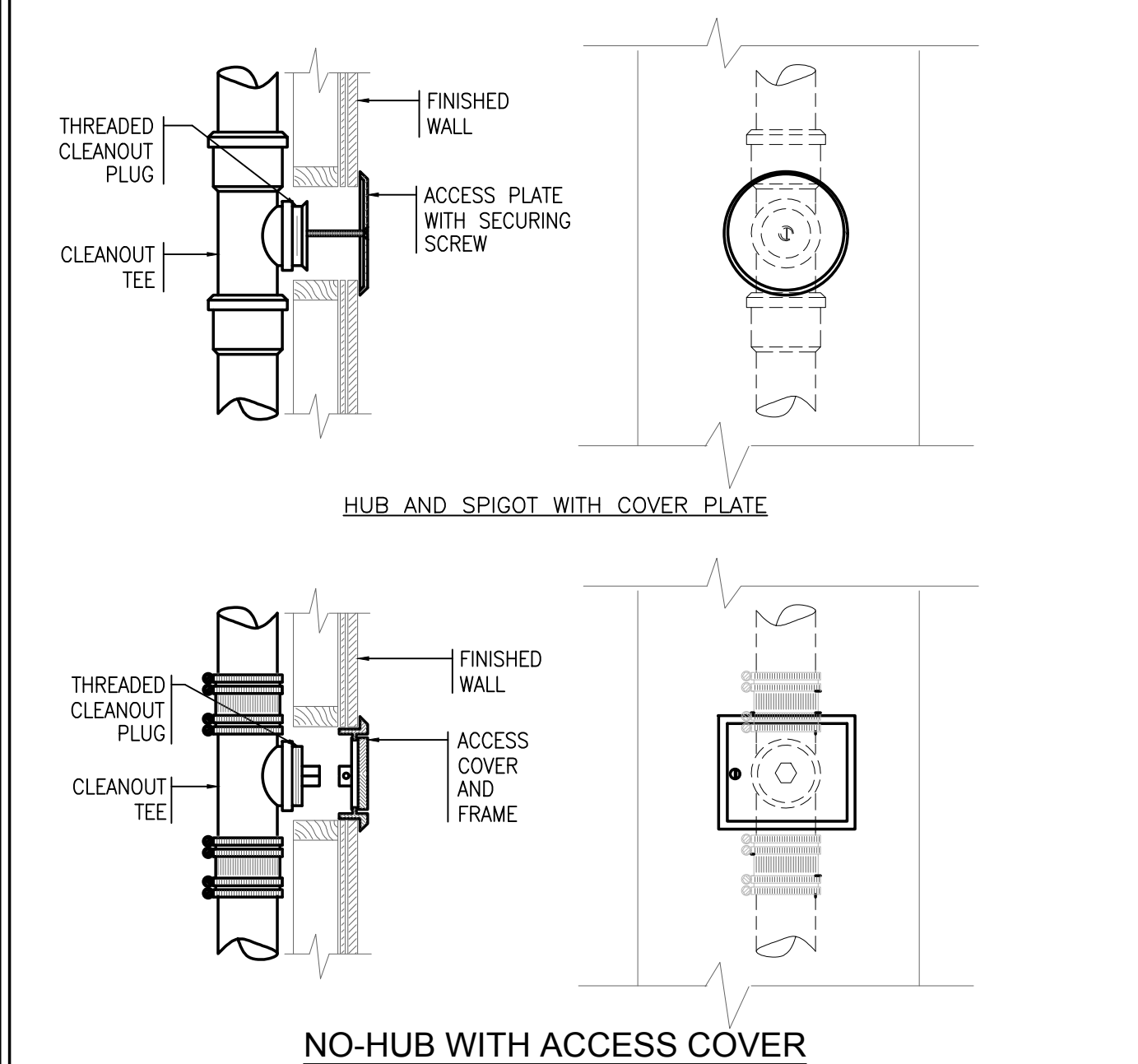
3 RPZ BACKFLOW PREVENTER DETAIL NTS



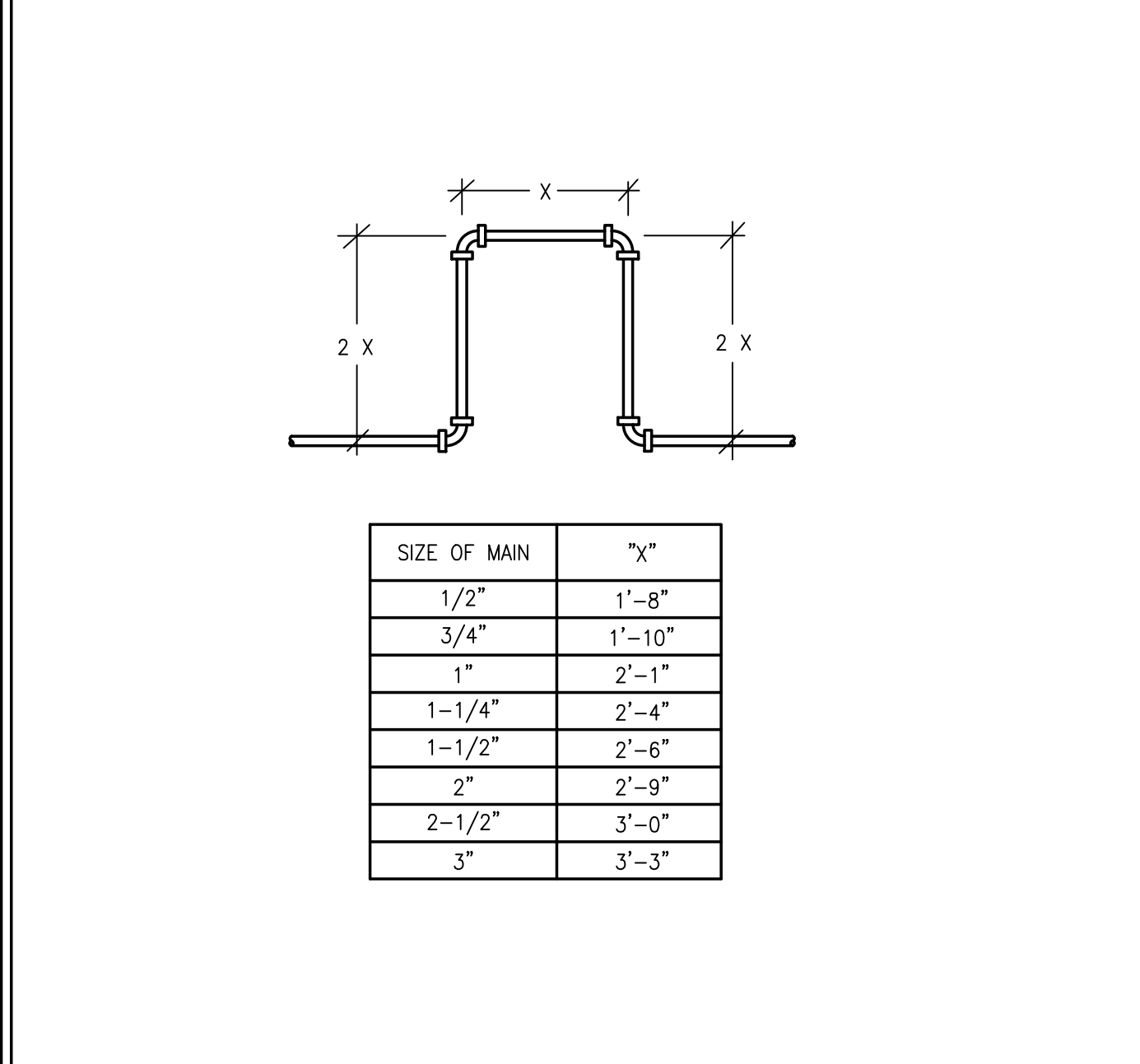
4 FLOOR CLEANOUT DETAIL NTS



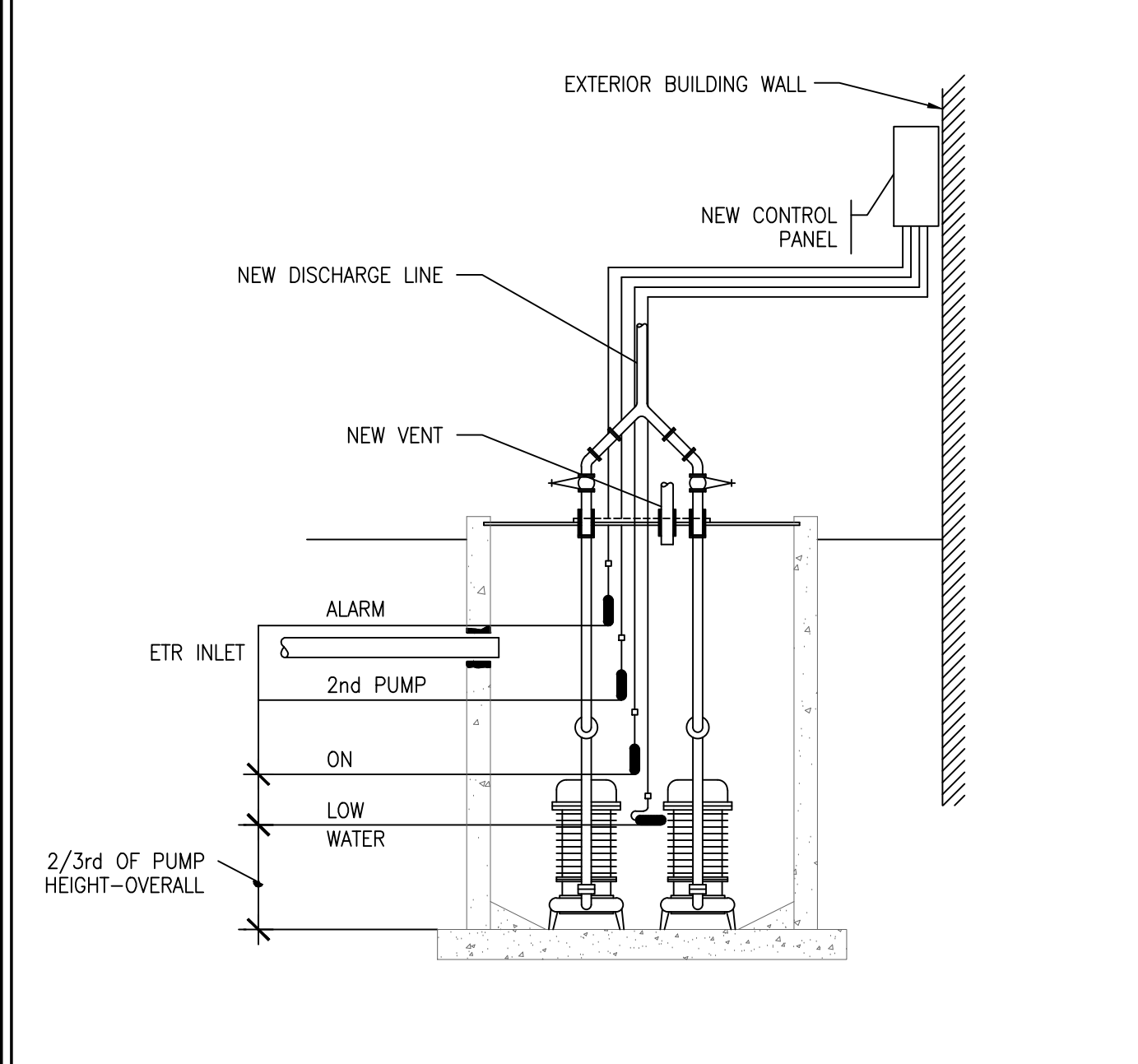
5 CLEVIS PIPE HANGER DETAIL NTS



6 WALL CLEANOUTS DETAIL NTS



7 EXPANSION LOOP DETAIL NTS



8 NEW EJECTOR PUMPS IN EXISTING PIT DETAIL NTS

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PROJECT

Taunton Wastewater
Treatment Facility
Improvements
Solids Handling

Taunton, MA

TITLE

Plumbing
Details
AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: RHB

CHECKED BY: RHB

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

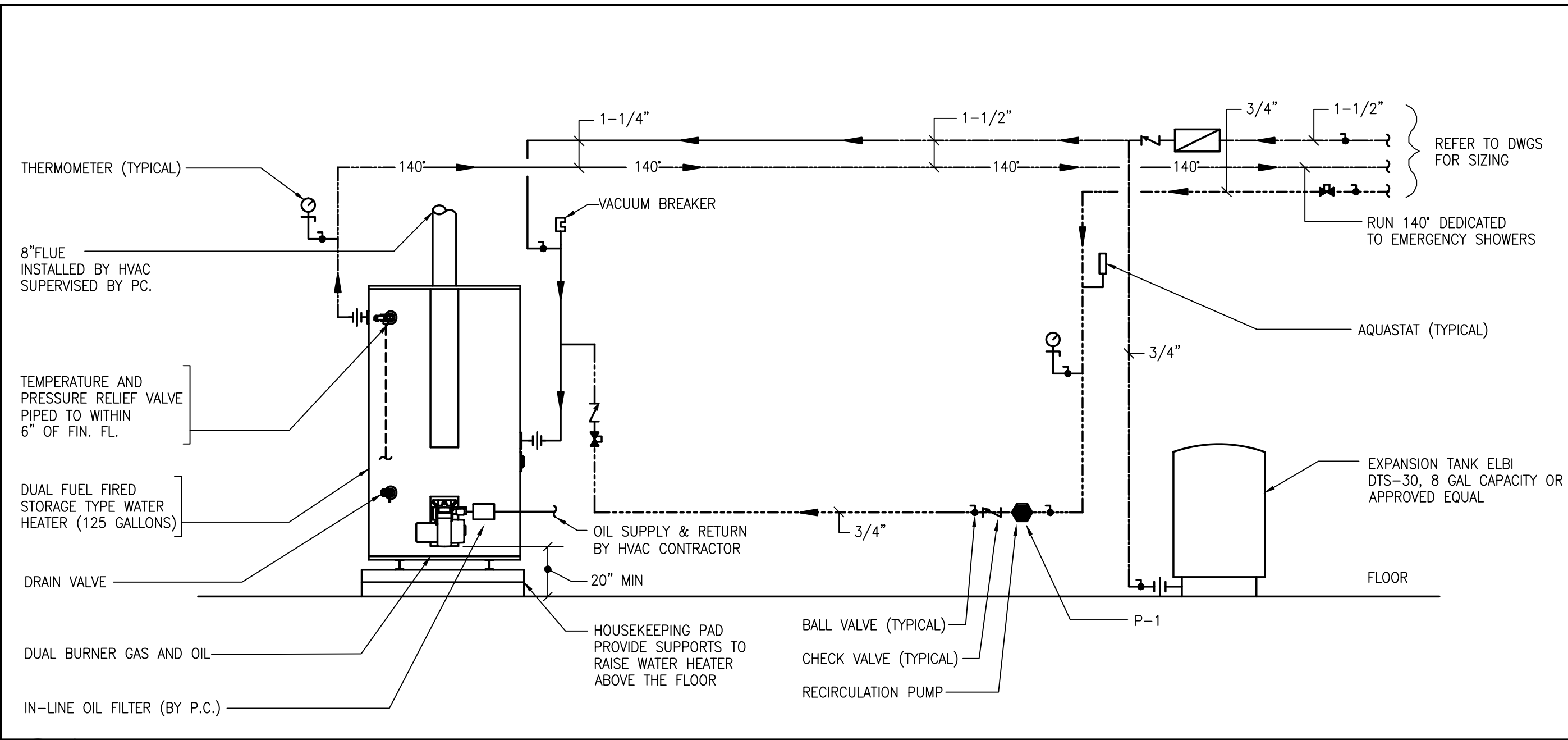
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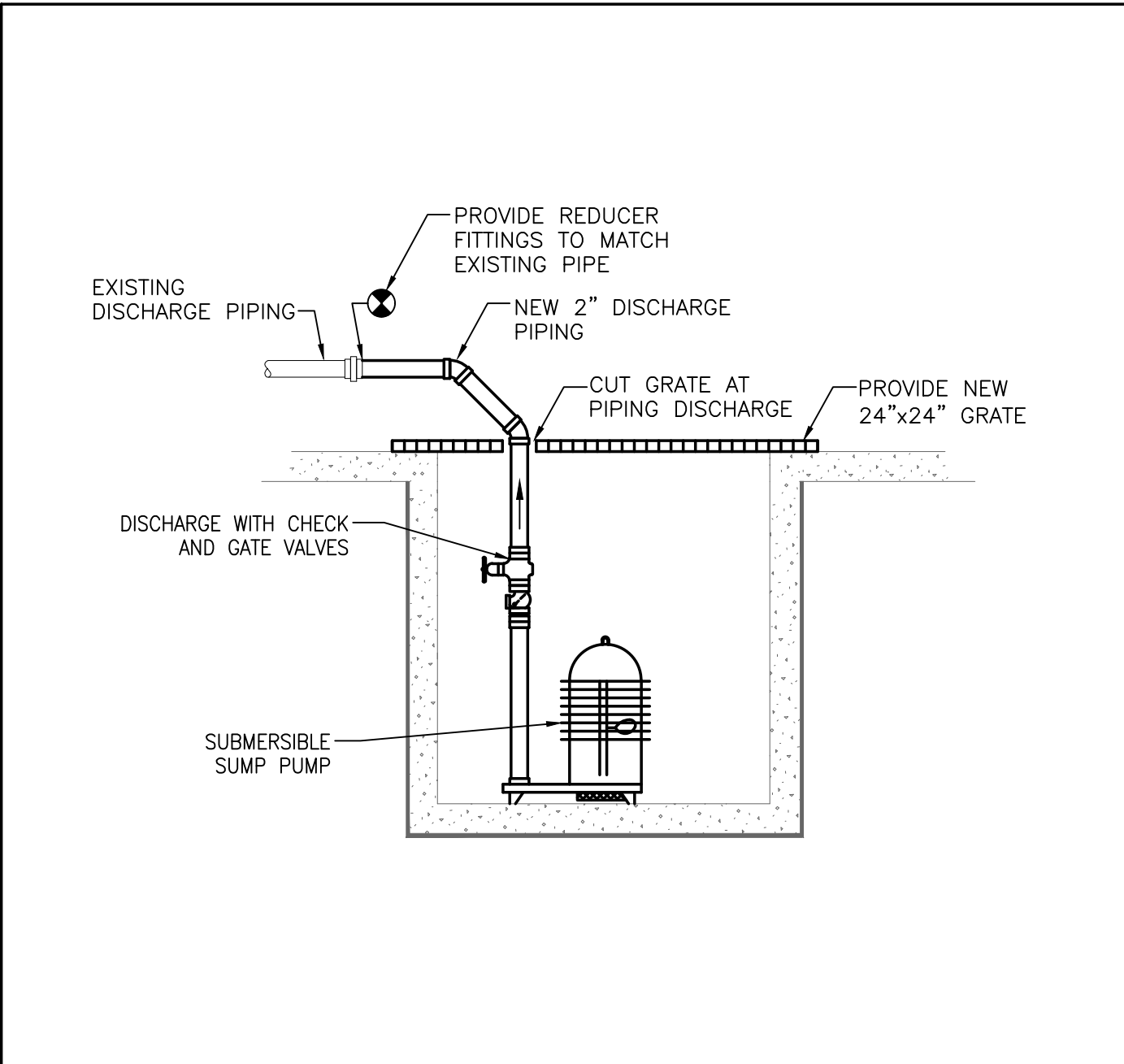
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P-0.3

1/13/2021 12:41 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING LEGEND SCHEDULES DETAILS\PHASE 1A.DWG (BETA STB BY/STB)



9 OIL FIRED WATER HEATER DETAIL NTS



10 NEW SUMP PUMP IN EXISTING PIT DETAIL NTS

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Details
AS RE-ISSUED PER
ADDENDUM #2

NO. REVISIONS DATE

DRAWN BY: RLB
DESIGNED BY: RHB
CHECKED BY: RHB
ISSUE DATE: 10/16/2020
BETA JOB NO.: 6050

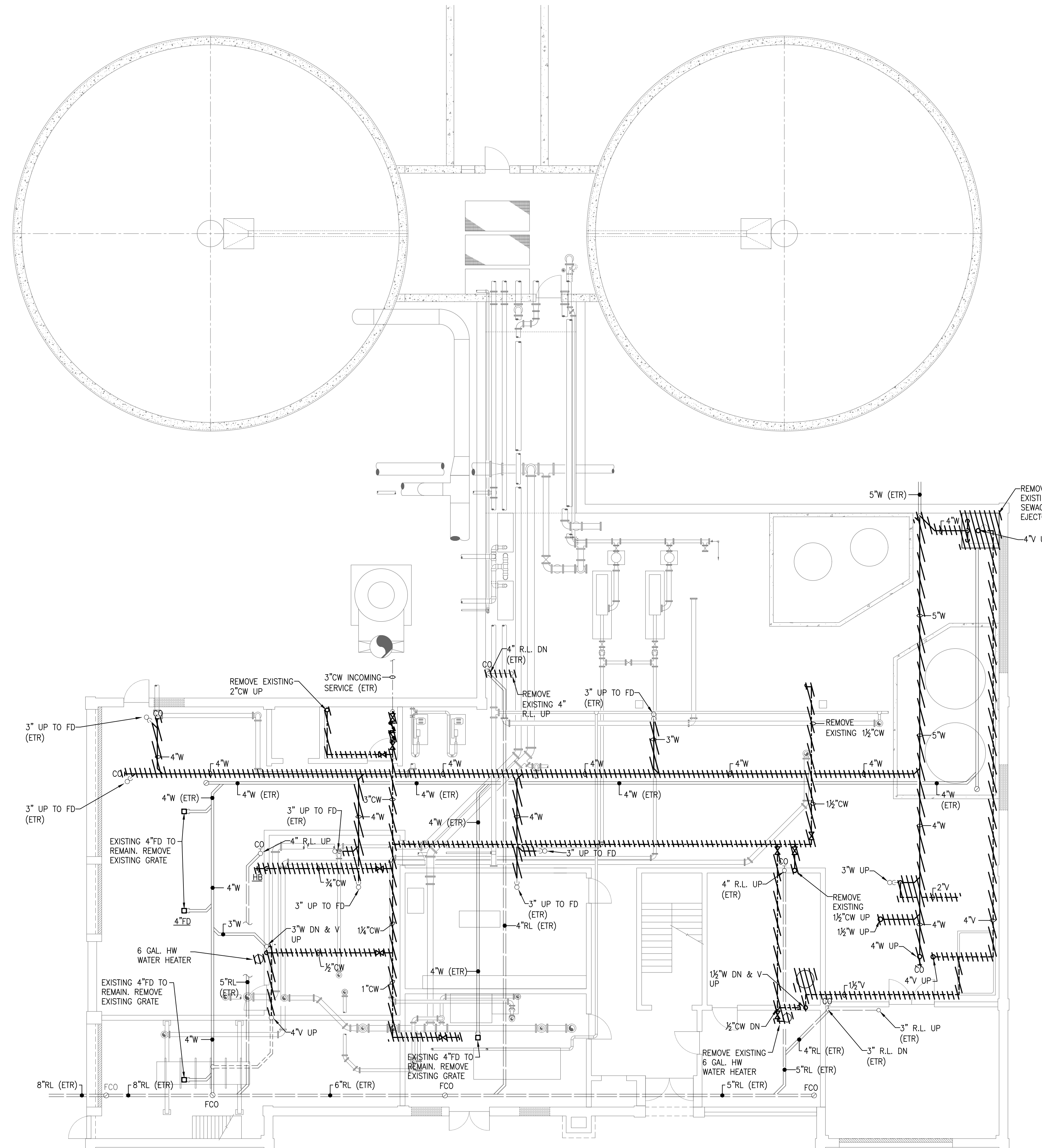
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SHEET NO.

P-0.4



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

1/13/2021 12:42 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING SOLIDS HANDLING BUILDING & TANK-PHASE 1A.DWG (BETA STB BW STB)

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REGISTERED PROFESSIONAL



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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Plumbing
Demolition
Solids Handling
Building First
Floor Plan**

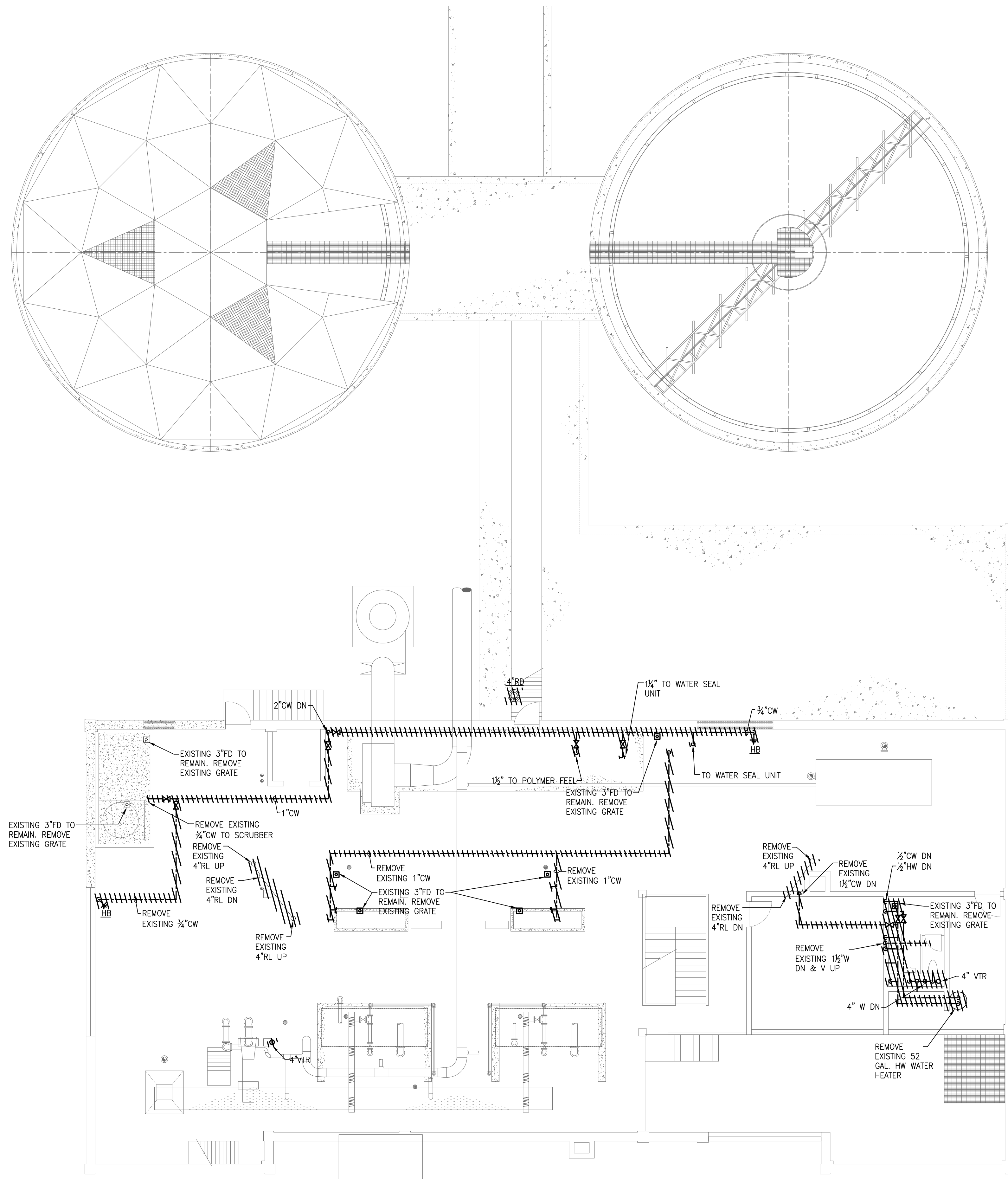
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NO.	REVISIONS	DATE

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ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE
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SHEET NO.
P-7.1



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

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PROJECT

**Taunton Wastewater
 Treatment Facility
 Improvements
 Solids Handling**

Taunton, MA

TITLE

**Plumbing
 Demolition
 Solids Handling
 Building Second
 Floor Plan**

**AS RE-ISSUED PER
 ADDENDUM #2**

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

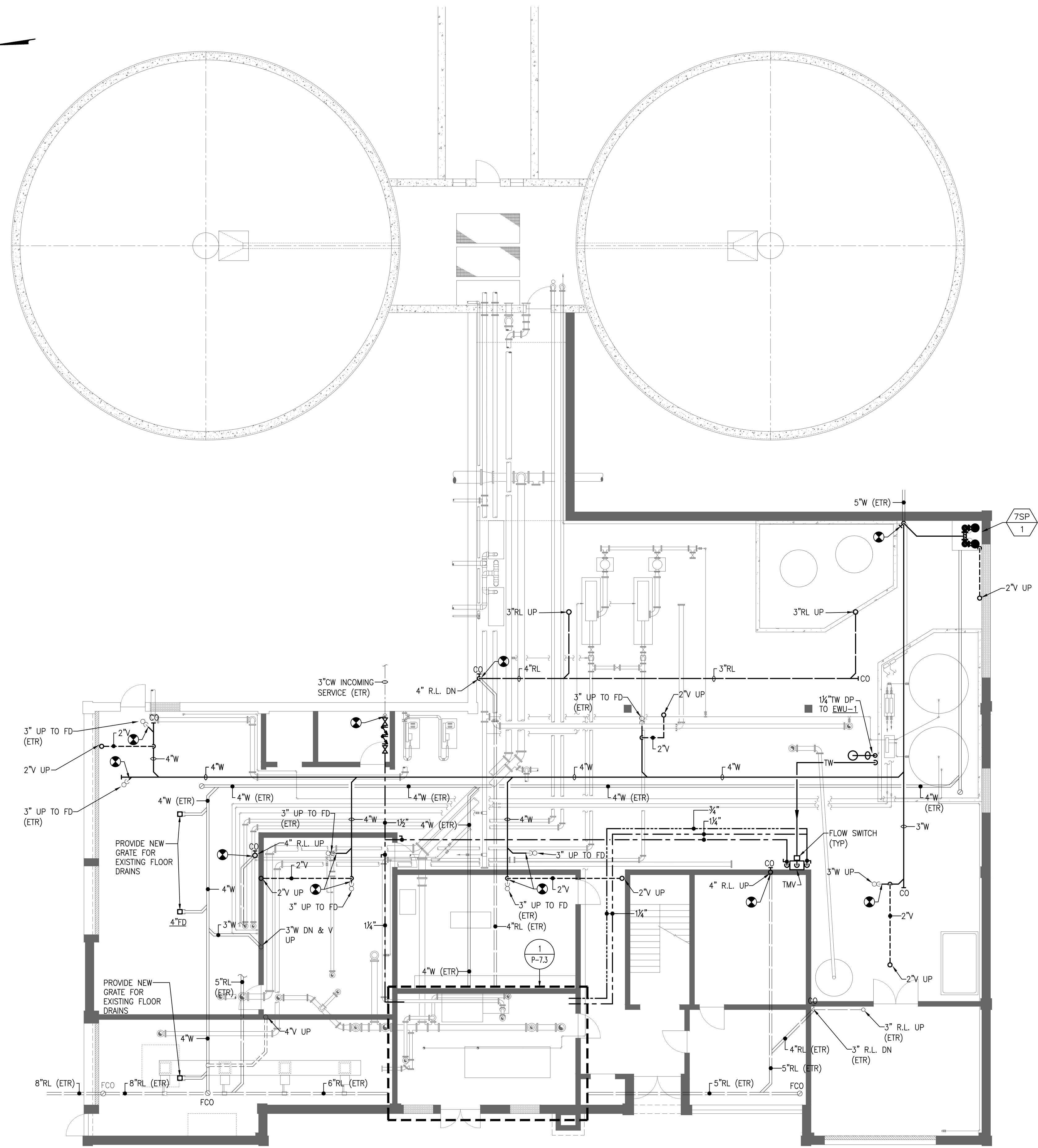
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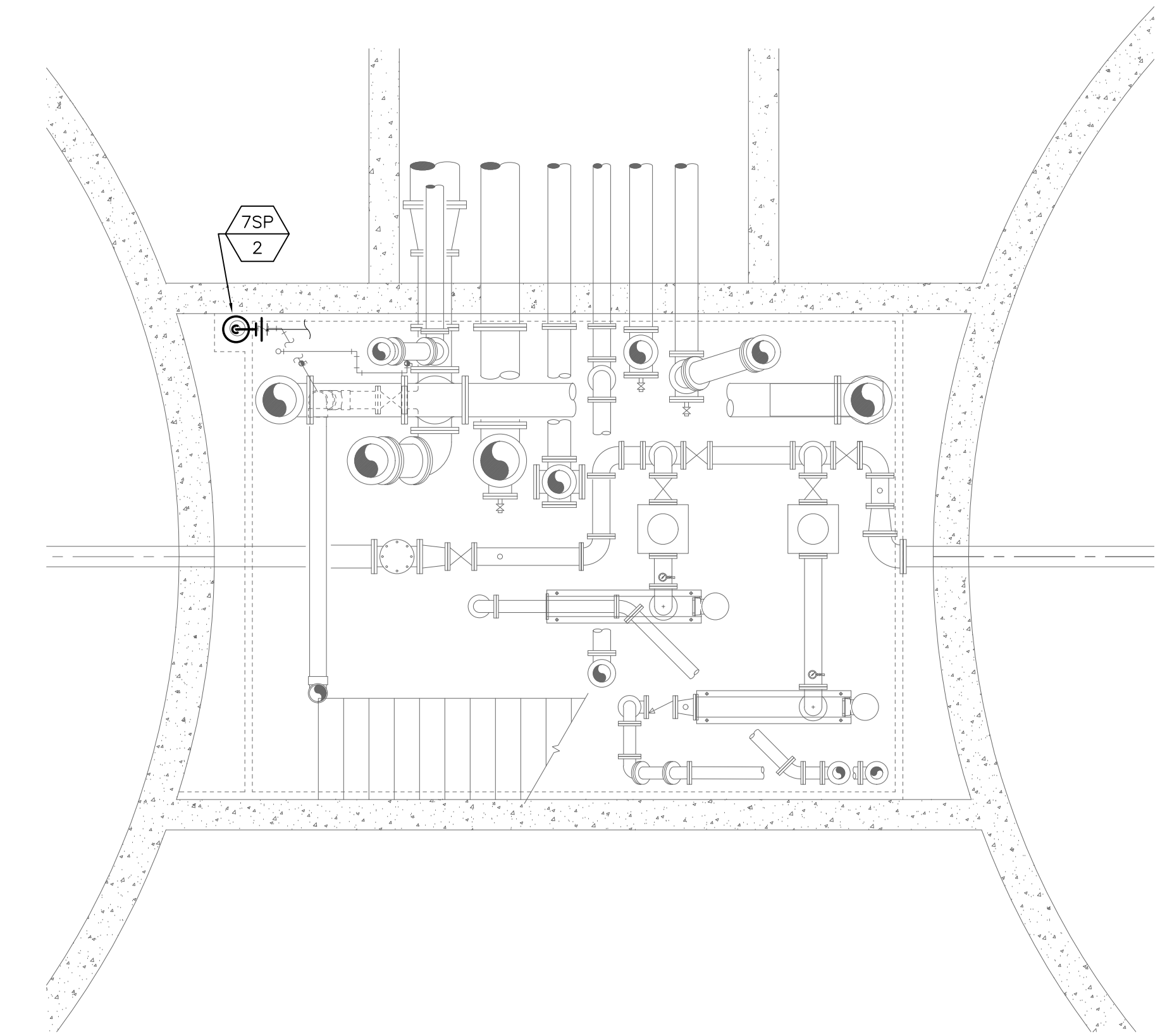
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P-7.2

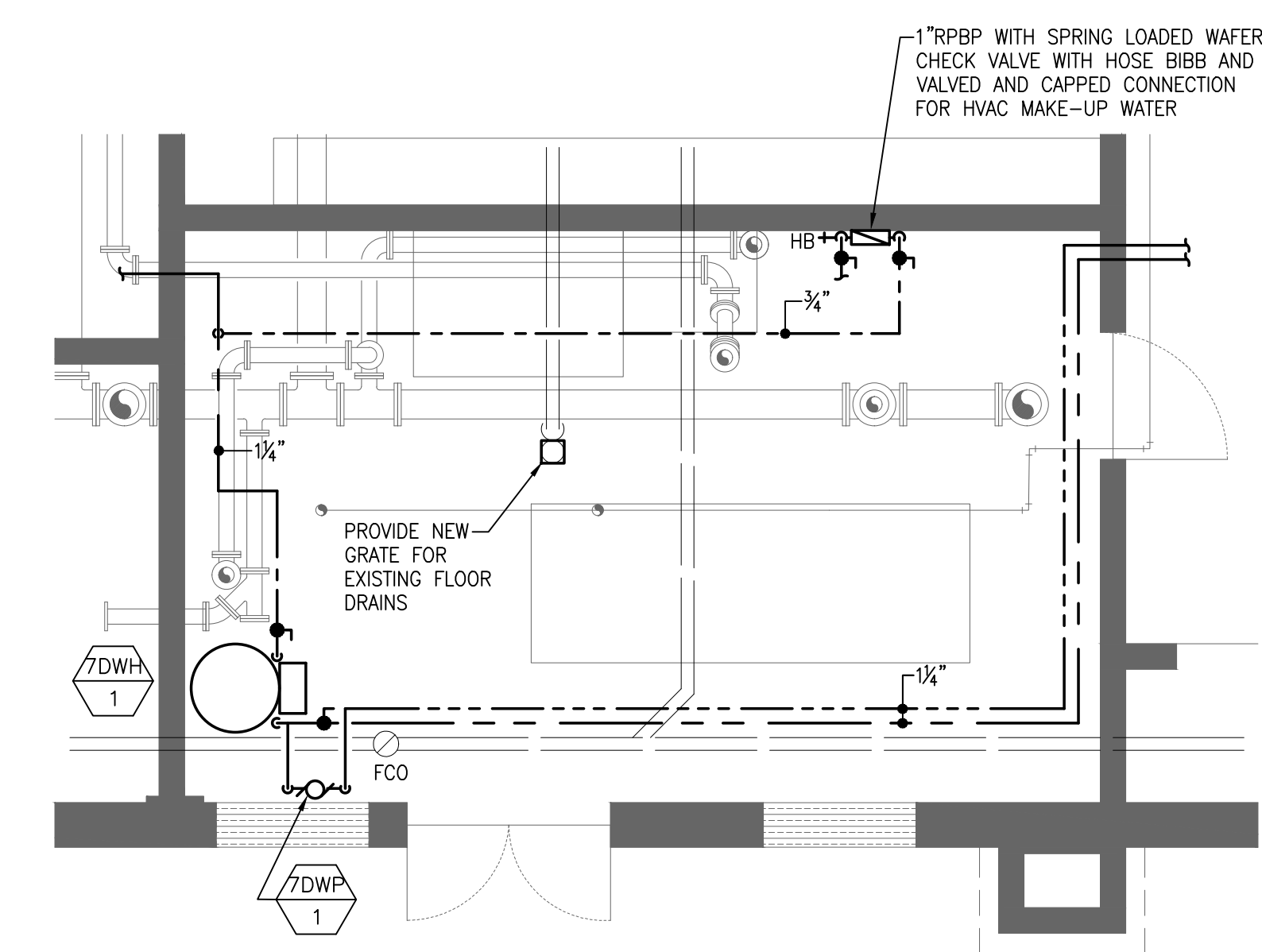
1/13/2021 12:43 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING SOLIDS HANDLING BUILDING & TANK-PHASE 1A.DWG (BETA STB.BW.STB)



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



LOWER LEVEL - 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 Solids Handling

Taunton, MA

TITLE

Plumbing Solids Handling Building First Floor Plan

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

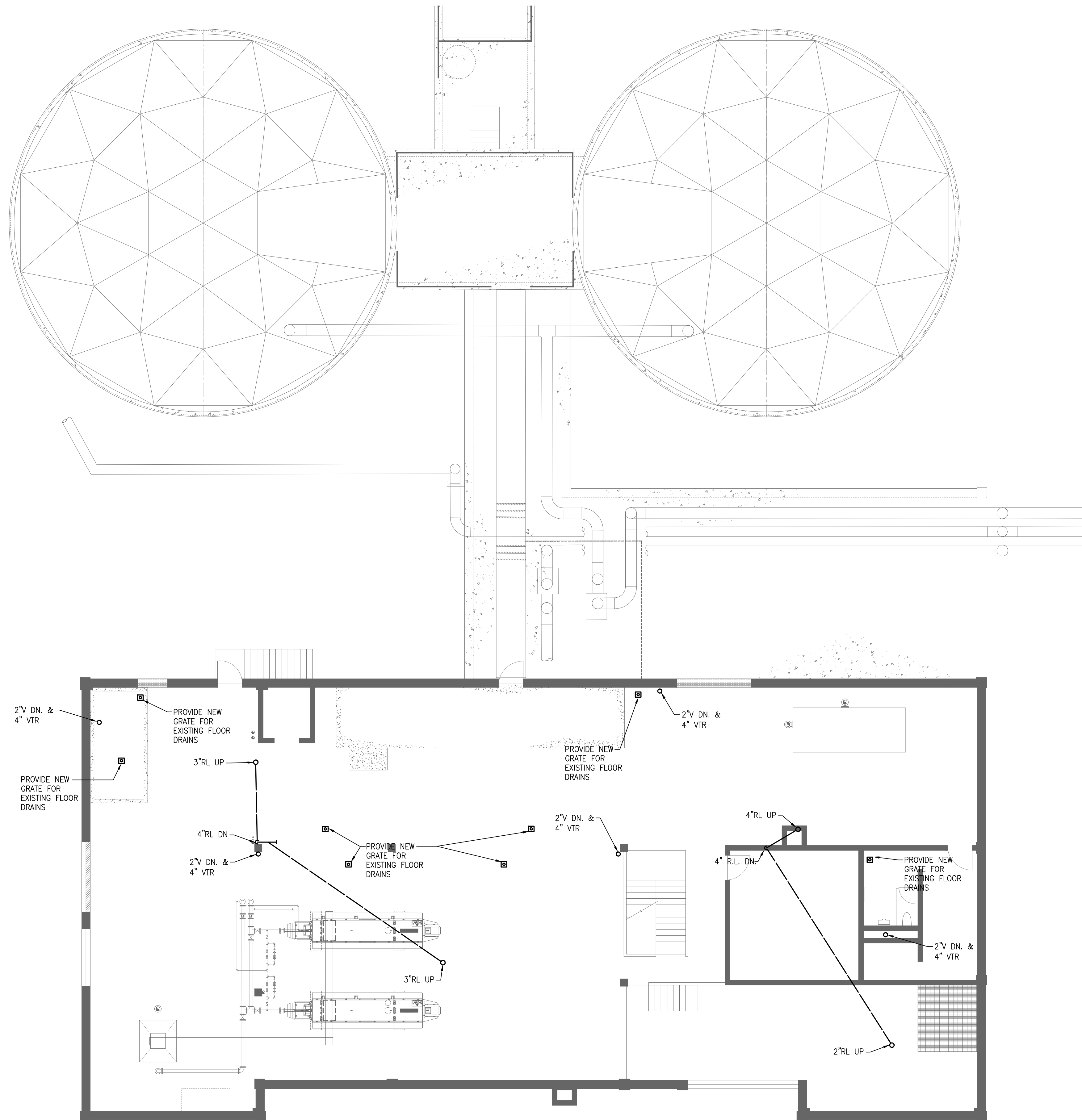
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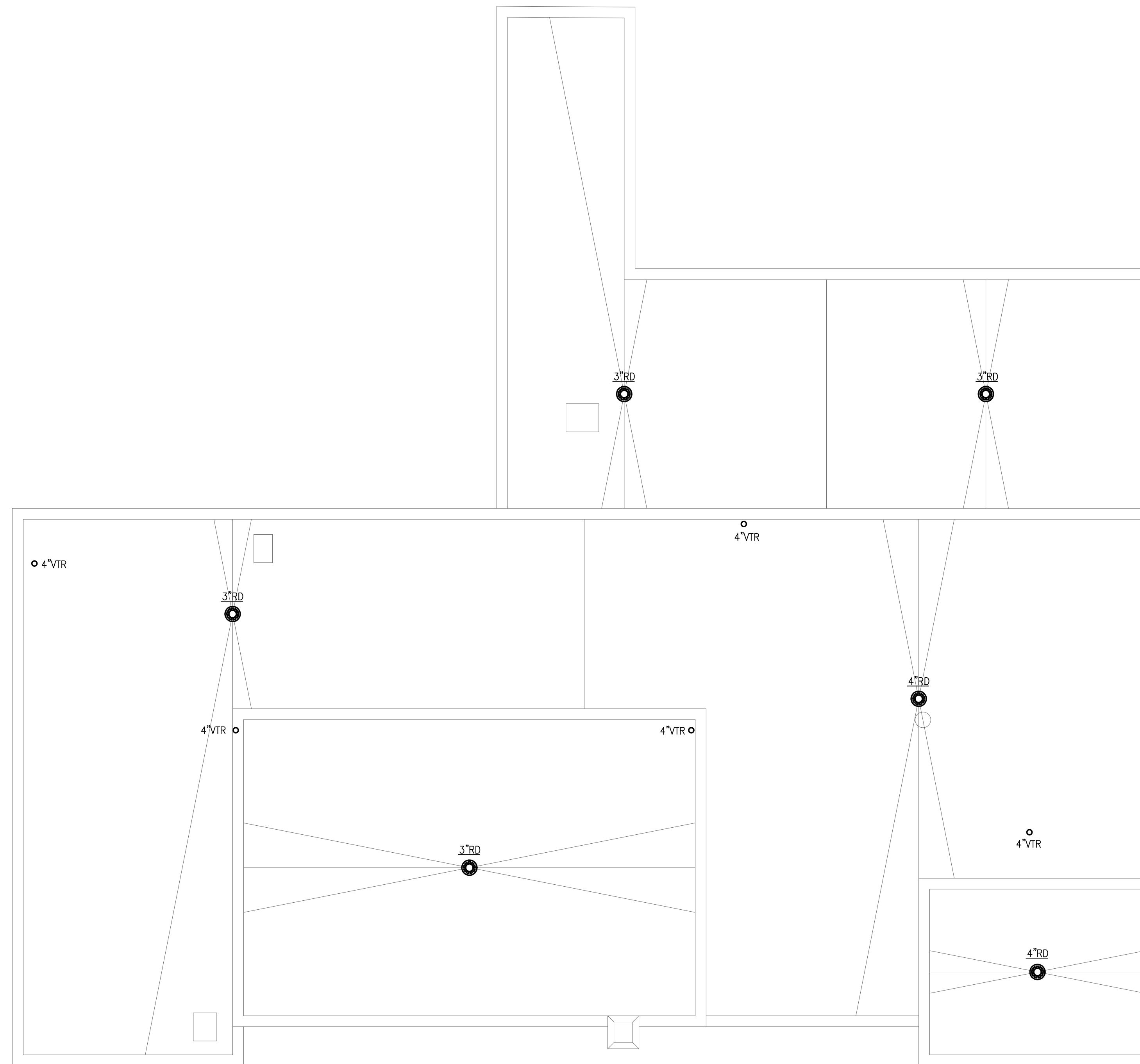
SHEET NO.

P-7.3



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

PREPARED BY BETA <small>www.BETA-Inc.com</small>																		
REGISTERED PROFESSIONAL 																		
SUBCONSULTANT SAR ENGINEERING, INC. <small>Mechanical/Electrical Engineers 150 Grossman Drive, Suite 309 Braintree, Massachusetts 02184 617.328-9215 web: www.sar.com</small>																		
PROJECT Taunton Wastewater Treatment Facility Improvements Solids Handling Taunton, MA																		
TITLE Plumbing Solids Handling Building Second Floor Plan AS RE-ISSUED PER ADDENDUM #2																		
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">DRAWN BY:</td> <td>RLB</td> </tr> <tr> <td>DESIGNED BY:</td> <td>RLB</td> </tr> <tr> <td>CHECKED BY:</td> <td>JL</td> </tr> <tr> <td>ISSUE DATE:</td> <td>10/16/2020</td> </tr> <tr> <td>BETA JOB NO.:</td> <td>6050</td> </tr> </table>	DRAWN BY:	RLB	DESIGNED BY:	RLB	CHECKED BY:	JL	ISSUE DATE:	10/16/2020	BETA JOB NO.:	6050								
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SCALE AS SHOWN <small>UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION</small>																		
SHEET NO. P-7.4																		



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

1/13/2021 12:43 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING SOLIDS HANDLING BUILDING & TANK\PHASE 1A.DWG (BETA STB BW STB)

PREPARED BY



REGISTERED PROFESSIONAL



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Braintree, Massachusetts 02184
617.328-9215
web: www.sar.com

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

Plumbing Solids
Handling
Building Roof
Plan

**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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ISSUE DATE:	10/16/2020
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SCALE

AS SHOWN

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SHEET NO.

P-7.5

1/13/2021 12:51 PM W:\YEAR-2018\18009-00 - TAUNTON WWTF UPGRADE\ELECTRICAL DEPARTMENT\PHASE 1A.DWG (BETA STB BIV.STB)

ELECTRICAL SYMBOLS

Table of electrical symbols including linear lighting fixtures, wall mounted lighting, surface or pendant mounted fixtures, pole mounted site light fixtures, emergency exit signs, emergency lighting battery units, remote emergency lighting units, single pole switches, 2-pole switches, 3-way switches, 4-way switches, digital time clock switches, mechanical timer switches, wall mounted dual technology occupancy sensors, low voltage switches, ceiling mounted dual technology occupancy sensors, lighting control panels, duplex receptacles, simplex receptacles, wall mounted combination motor starters, motor starters, enclosed variable frequency drives, manual motor starters, junction boxes, hand holes, alarm relays, control relays, motor start relays, timing relays, normally open/closed relay contacts, operator push buttons, pressure switches.

ELECTRICAL SYMBOLS

Table of electrical symbols including underground conduit duct banks, homerun designations, EYS type conduit seals, surge protection devices, ground fault monitors, utility poles, molded case circuit breakers, dry type transformers, electric hand holes, copper clad ground rods, building grounding systems, motors, cable/conduit designations, operator stations, generator emergency stops, occupied/unoccupied selector switches, thermostats, motor operated dampers, electric unit heaters, equipment circuit number designations.

TELE/DATA LEGEND

Table for tele/data legend including wall mounted data outlets, ceiling mounted wireless access points.

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

Table of electrical symbols for gas detection systems including control panels, gas sensor detectors, amber alarm beacons, and alarm horns.

FIRE ALARM SYSTEM SYMBOLS

Table of fire alarm system symbols including manual fire alarm stations, fire alarm audio/visual devices, fire alarm visual only devices, fire alarm beacons, smoke detectors, duct smoke detectors, remote test stations, heat detectors, carbon monoxide detectors, input monitoring modules, relay control modules, fire alarm control panels, fire alarm annunciator panels, remote alarm indicating lights, master boxes, and key depositories.

GENERAL NOTES

- 1. GENERAL CONTRACTOR TO PROVIDE CONCRETE HOUSEKEEPING PADS ON ALL FLOOR AND GRADE MOUNTED ELECTRICAL EQUIPMENT, THE FOLLOWING EQUIPMENT IS THE MINIMUM REQUIREMENT FOR HOUSEKEEPING PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE ELECTRICAL CONTRACTORS MOUNTING METHODS, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL HOUSEKEEPING PAD SIZES AND LOCATIONS.
1.1. DISTRIBUTION PANELBOARDS
1.2. DRY TYPE TRANSFORMERS
1.3. 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

Table of abbreviations including (2)1" C, 3#8, #10GND, 3/4" CE, AFF, AFG, AR, ATS, CR, CP, DRG. DWG., EAN, EC, ETM, FE, FIT, FS, FT, FVNR, GND, GRD, HOA, HH, J OR JB, JPB, LE, LIT, LL, LS, LT, MC, MCC, MH, MFR, MS, NTS, OEM, OH, OL, OS, PB, PBE, PBL, PBM, PIT, PL, PS, PT, RGS, RVNR, SPD, SOV, S/S, TB, TD, TR, TS, TSP, TSTW, TYP, UG, UNO, VFD, WP, WSH, XFMR, 2, 1-INCH CONDUITS EACH CONDUIT CONTAINING 3-#8 AWG WIRES AND 1-#10 GROUND CONDUCTOR, EMPTY CONDUIT, NUMERAL DENOTES SIZE, ABOVE FINISHED FLOOR, ABOVE FINISHED GRADE, ALARM RELAY, AUTOMATIC TRANSFER SWITCH, CONTROL RELAY, CONTROL PANEL, DRAWING, EXCEPT AS NOTED, ELECTRICAL CONTRACTOR, ELAPSED TIME METER, FLOW ELEMENT, FLOW INDICATOR TRANSMITTER, FLOW SWITCH, FLOW TRANSMITTER, FULL VOLTAGE NON-REVERSING, GROUNDING CONDUCTOR (EQUIPMENT), HAND-OFF-AUTOMATIC, HANDHOLE, JUNCTION BOX, JOG PUSHBUTTON, LEVEL ELEMENT, LEVEL INDICATOR TRANSMITTER, LOW LEVEL, LEVEL SWITCH, LEVEL TRANSMITTER, MOTOR CONTROLLER (STARTER), MOTOR CONTROL CENTER, MANHOLE, MANUFACTURER, MOTION SENSOR, NOT TO SCALE, ORIGINAL EQUIPMENT MANUFACTURE SUPPLIED OVERHEAD, MOTOR OVERLOAD HEATER, OPERATOR STATION, PUSHBUTTON CONTROL STATION MOMENTARY CONTACT TYPE, STOP START, PUSHBUTTON CONTROL STATION MAINTAINED EMERGENCY STOP TYPE, TWIST TO RELEASE, PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK-OUT DEVICE, STOP-START, PUSHBUTTON CONTROL STATION MAINTAINED CONTACT TYPE, STOP START, PRESSURE INDICATOR TRANSMITTER, PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK-OUT DEVICE, STOP, PRESSURE SWITCH, PRESSURE TRANSMITTER, RIGID GALVANIZED STEEL, REDUCED VOLTAGE NON-REVERSING, SURGE SUPPRESSOR DEVICE, SOLENOID VALVE, SOFT STARTER, TERMINAL BOX, MOTOR TEMPERATURE DETECTOR, TIMING RELAY, TEMPERATURE SWITCH, TWISTED SHIELDED PAIR, TWO SPEED TWO WINDING, TYPICAL, UNDERGROUND, UNLESS OTHERWISE NOTED, VARIABLE FREQUENCY DRIVE, WATER PROOF, HIGH TORQUE SWITCH, TRANSFORMER.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL LEGEND AND NOTES

AS RE-ISSUED PER ADDENDUM #2

Table with columns for NO., REVISIONS, and DATE.

DRAWN BY: RB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

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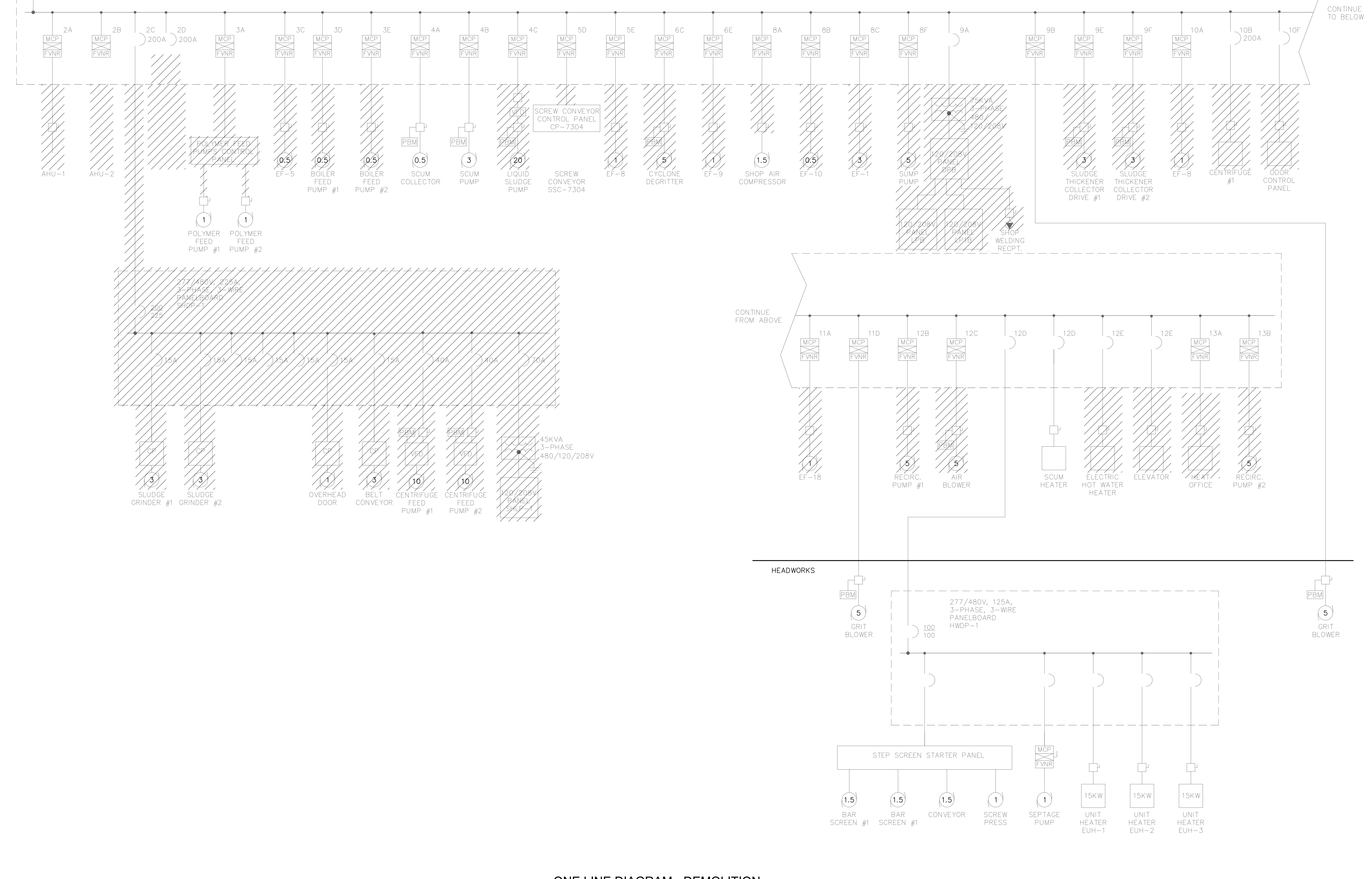
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FROM
PLANT MAIN
SWITCHBOARD
SLUDGE PUMPING
STATION #1

480V, 800A,
3-PHASE, 3-WIRE
MOTOR CONTROL
CENTER MCC-4

800
800

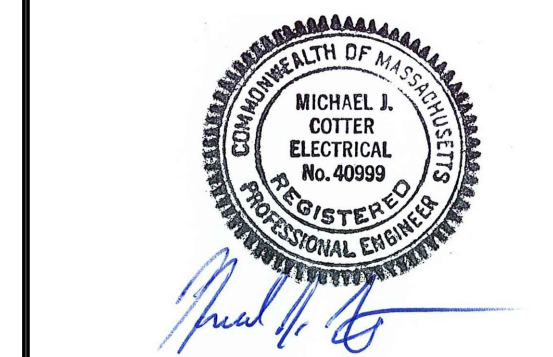


ONE LINE DIAGRAM - DEMOLITION
NOT TO SCALE

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL ONE LINE DIAGRAM DEMOLITION

AS RE-ISSUED PER ADDENDUM #2

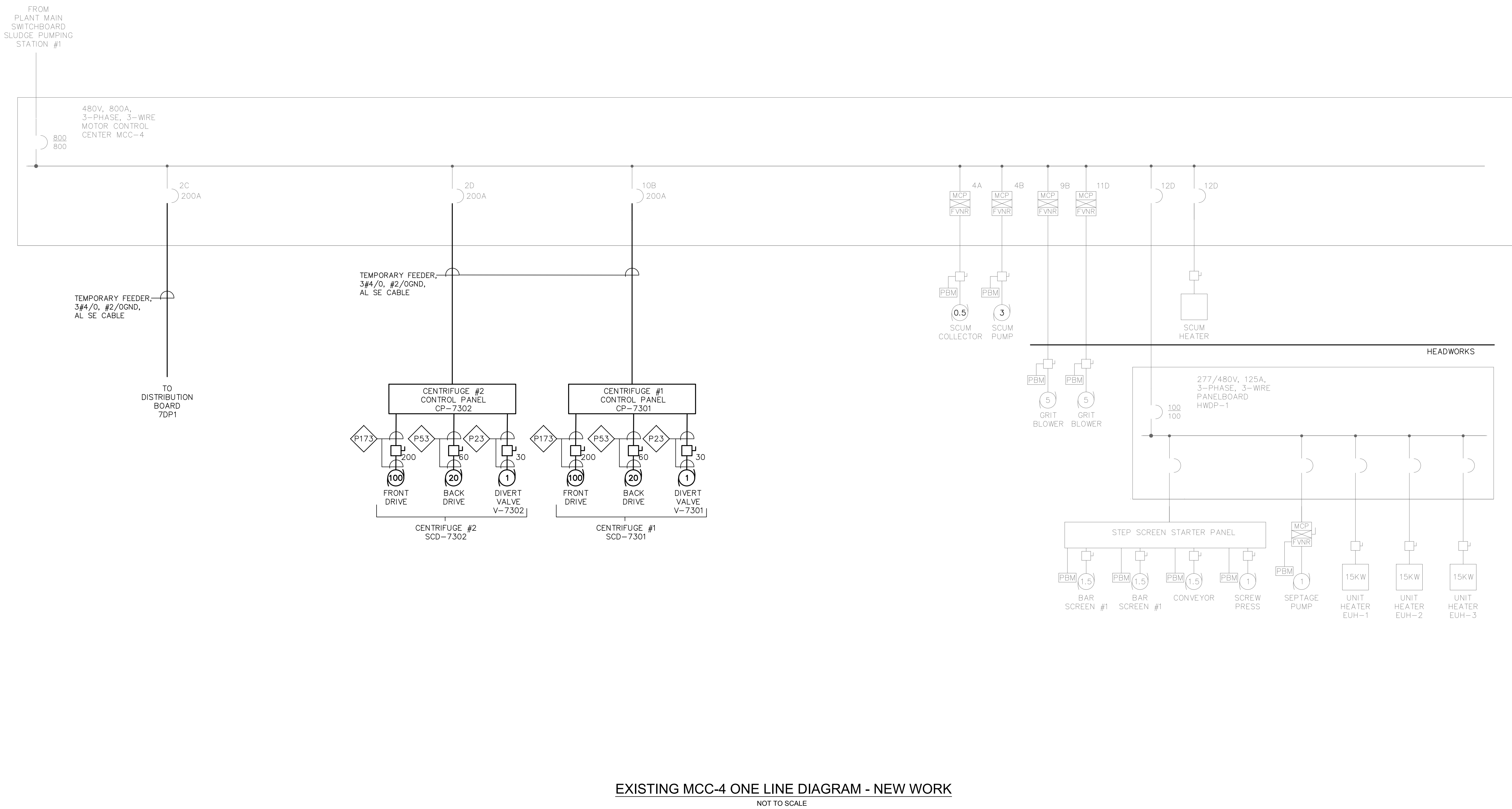
NO.	REVISIONS	DATE

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DESIGNED BY: MC
CHECKED BY: MC
ISSUE DATE:
BETA JOB NO.: 6050

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NONE

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1/3/2021 12:51 PM 10/16/2021 YEAR - 2018/18009.00 - TAUNTON WWTFF UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC ONE LINE - PHASE 1A.DWG (BETA STB BW STB)



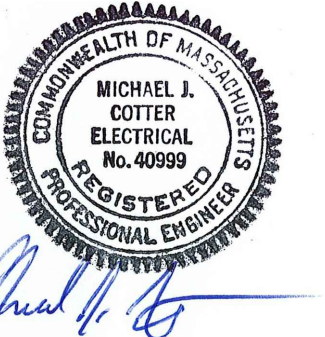
EXISTING MCC-4 ONE LINE DIAGRAM - NEW WORK
NOT TO SCALE

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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**ELECTRICAL
EXISTING MCC-4
ONE LINE
DIAGRAM
NEW WORK**
AS RE-ISSUED PER
ADDENDUM #2

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NONE

SHEET NO.

E-0.3

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL DISTRIBUTION PANEL 7DP1 ONE LINE DIAGRAM NEW WORK

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

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BETA JOB NO.:	6050

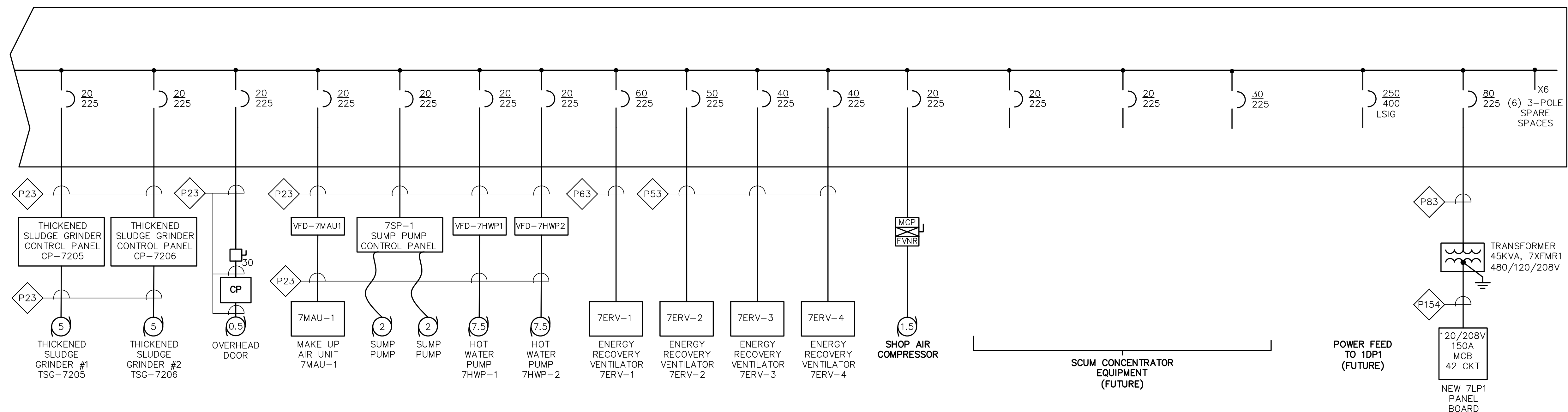
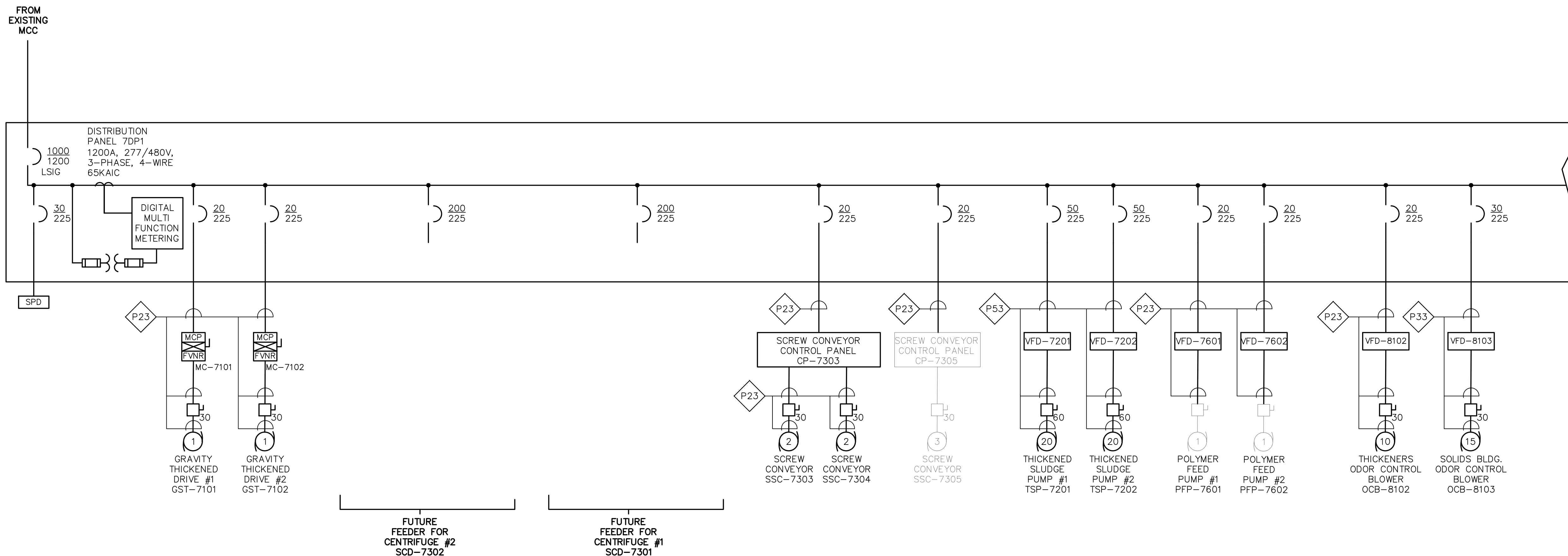
SCALE

NONE

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SHEET NO.

E-0.4



DISTRIBUTION PANEL 7DP1 ONE LINE DIAGRAM - NEW WORK
NOT TO SCALE

PANELBOARD SCHEDULE

Panelboard Schedule table with columns for NO., LOCATION, VOLTAGE, PHASES, MAINS, SOLID NEUTRAL, MCB, AIC AT, GROUND BUS, MLO, SURFACE MOUNTING, and a detailed circuit schedule with descriptions, loads, and breaker specifications.

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LIGHTING FIXTURE SCHEDULE

Lighting Fixture Schedule table with columns for TYPE, DESCRIPTION, MANUFACTURER & CATALOG SERIES, LAMPS (TYPE, LUMENS), VOLTS, WATTS, MOUNTING (TYPE, HEIGHT), and REMARKS.

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.

POWER CABLE/CONDUIT SCHEDULE

Power Cable/Conduit Schedule table with columns for SYMBOL, CONDUIT SIZE*, CONDUCTORS*, and GND*.

SIGNAL CABLE/CONDUIT SCHEDULE

Signal Cable/Conduit Schedule table with columns for SYMBOL, CONDUIT SIZE, and CONDUCTORS.

TELE/DATA CABLE/CONDUIT SCHEDULE

Tele/Data Cable/Conduit Schedule table with columns for SYMBOL, CONDUIT SIZE, and CONDUCTORS.

CONTROL CABLE/CONDUIT SCHEDULE

Control Cable/Conduit Schedule table with columns for SYMBOL, CONDUIT SIZE, and CONDUCTORS.

NOTE: CONDUIT AND CONDUCTOR SIZES ARE TO BE PER THE ABOVE SCHEDULES UNLESS OTHERWISE NOTED.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL SCHEDULES

AS RE-ISSUED PER ADDENDUM #2

NO. REVISIONS DATE

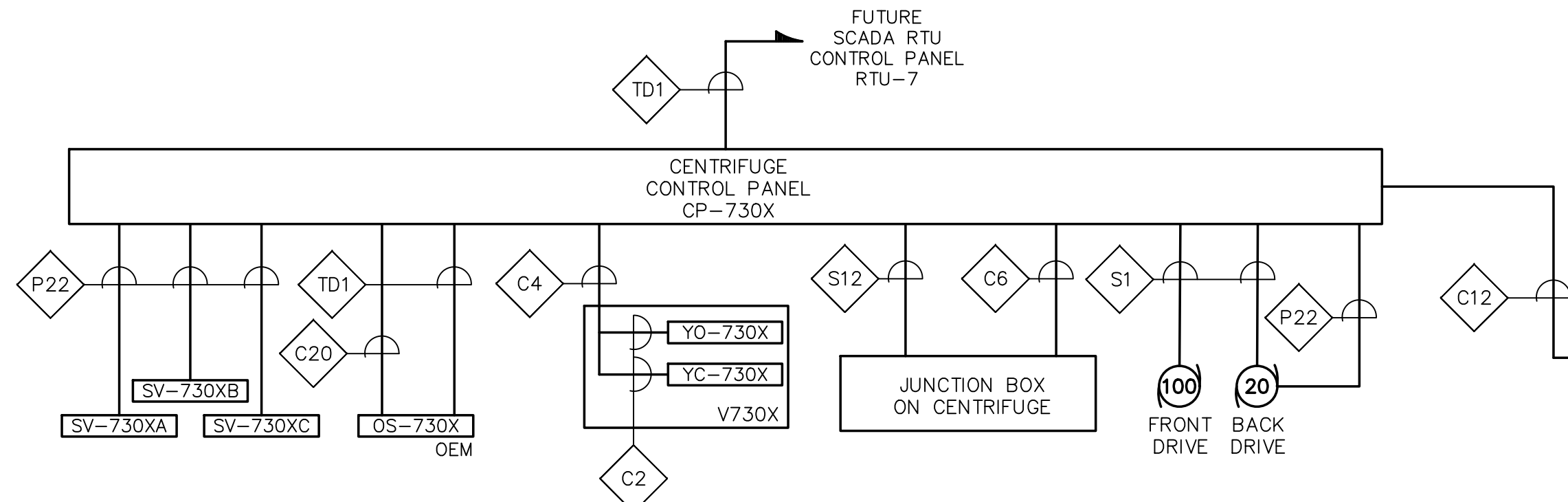
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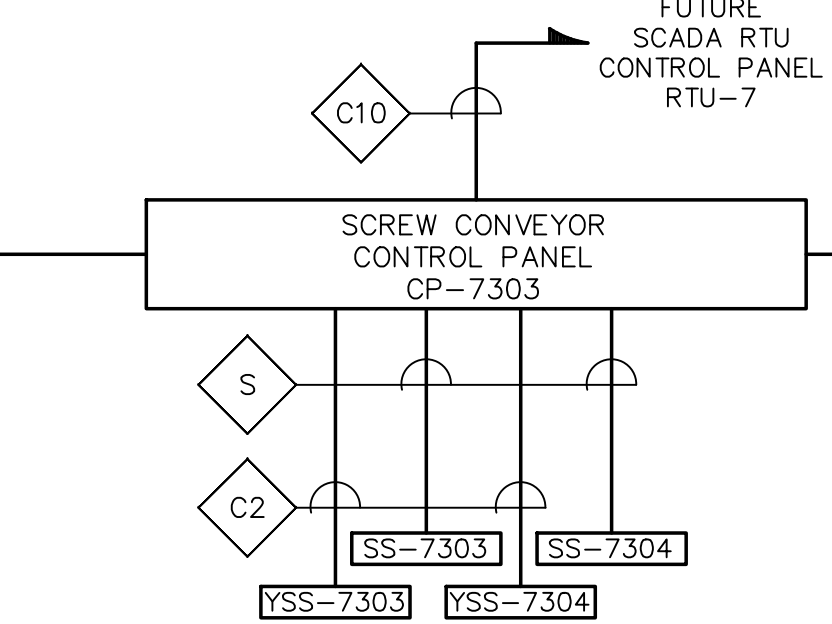


**CONTROL BLOCK WIRING DIAGRAM
SOLIDS CENTRIFUGE DECANTERS SCD-7301 & 7302**

NOT TO SCALE

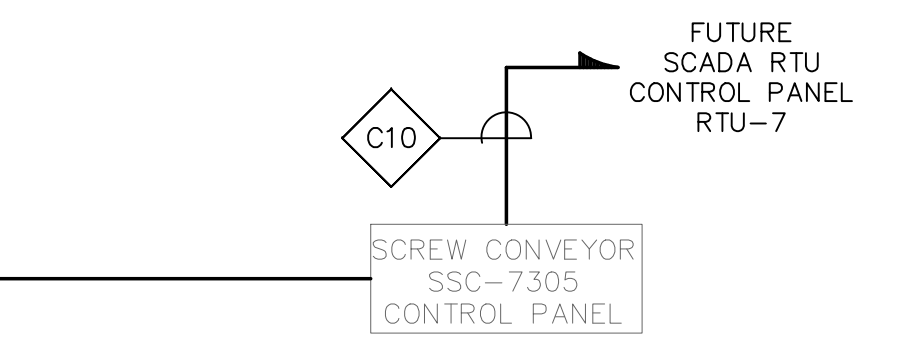
TYPICAL FOR:

- SCD-7301
- SCD-7302



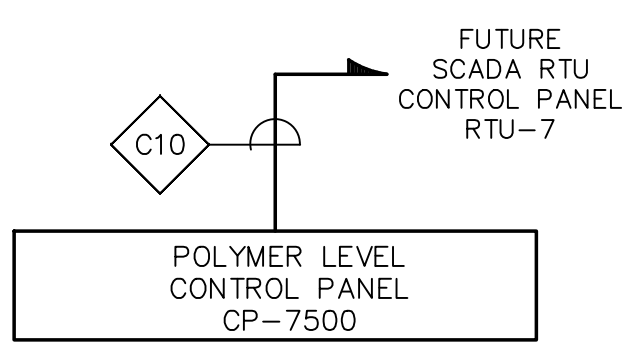
**CONTROL BLOCK WIRING DIAGRAM
SOLIDS SCREW CONVEYORS**

NOT TO SCALE



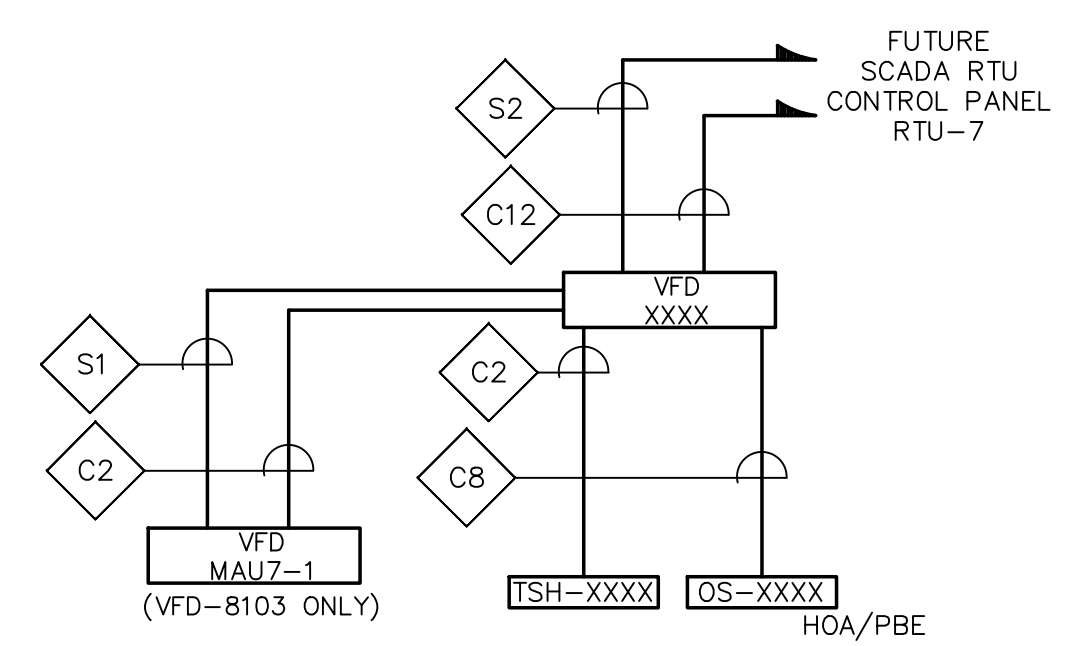
**CONTROL BLOCK WIRING DIAGRAM
SOLIDS SCREW CONVEYOR**

NOT TO SCALE



**CONTROL BLOCK WIRING DIAGRAM
POLYMER LEVEL CONTROL SYSTEM**

NOT TO SCALE

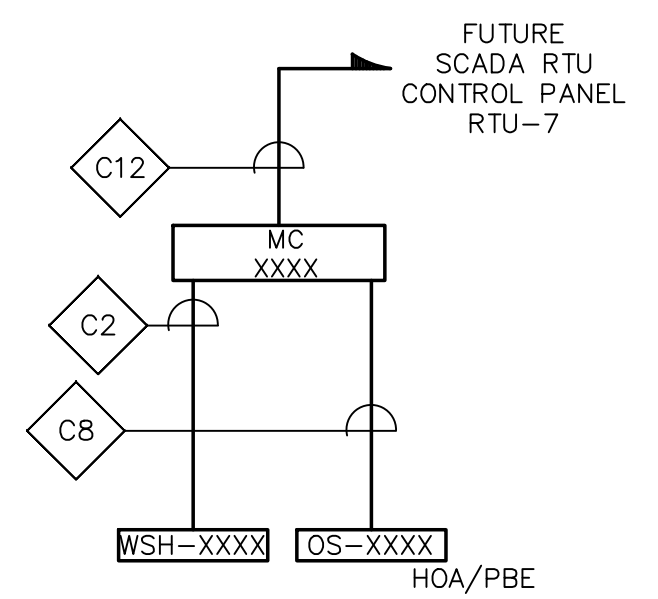


**CONTROL BLOCK WIRING DIAGRAM
ODOR CONTROL BLOWERS**

NOT TO SCALE

TYPICAL FOR:

- VFD-8102/OS-8102/TSH-8102
- VFD-8103/OS-8103/TSH-8103

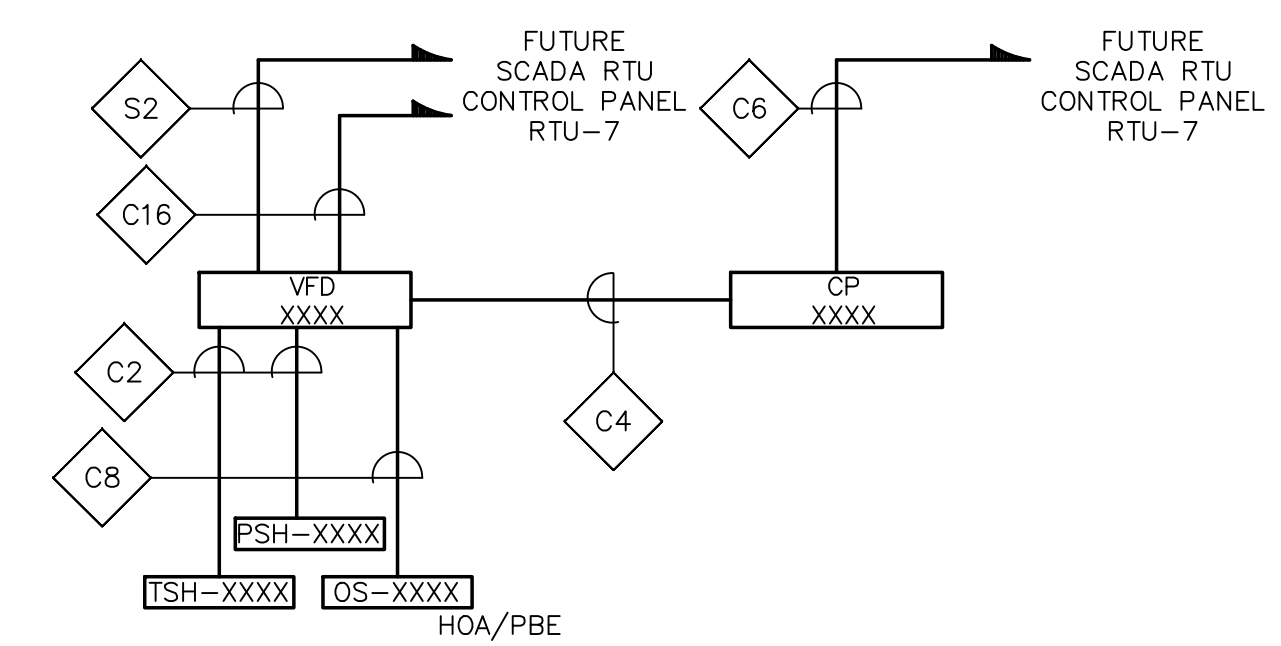


**CONTROL BLOCK WIRING DIAGRAM
GRAVITY THICKENER DRIVES**

NOT TO SCALE

TYPICAL FOR:

- MC-7101/OS-7101/WSH-7101
- MC-7102/OS-7102/WSH-7102

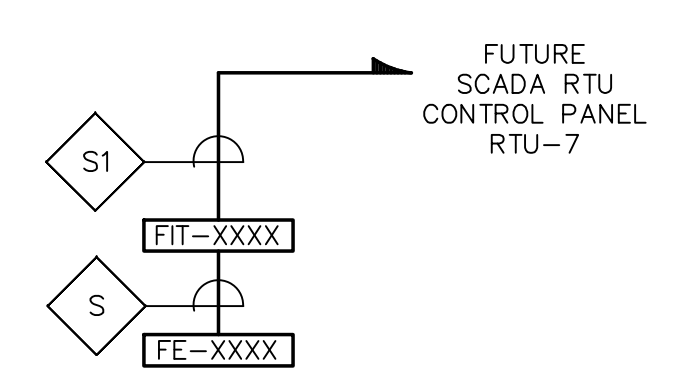


**CONTROL BLOCK WIRING DIAGRAM
THICKENED SLUDGE PUMPS & GRINDERS**

NOT TO SCALE

TYPICAL FOR:

- VFD-7201/CP-7205/OS-7201/PSH-7201/TSH-7201
- VFD-7202/CP-7206/OS-7202/PSH-7202/TSH-7202

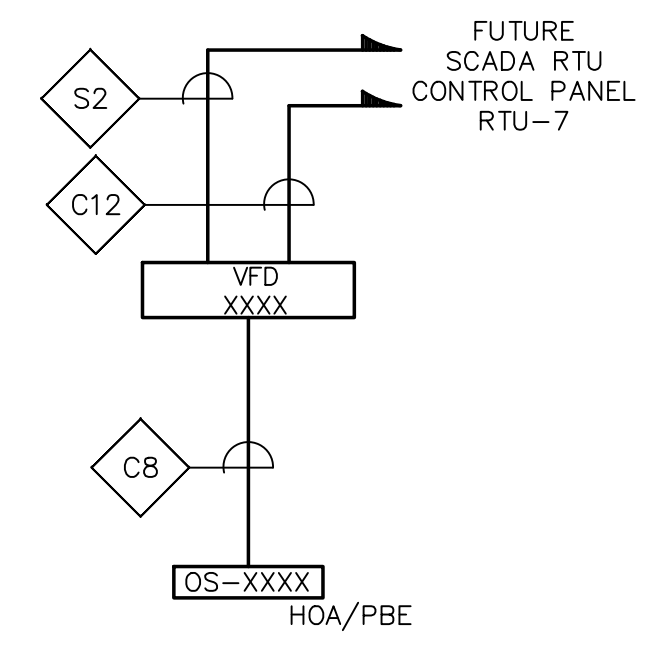


**CONTROL BLOCK WIRING DIAGRAM
FLOW METERS**

NOT TO SCALE

TYPICAL FOR:

- FE-7203/FIT-7203
- FE-7204/FIT-7204
- FE-7603/FIT-7603
- FE-7604/FIT-7604
- FE-9115/FIT-9115
- FE-9116/FIT-9116

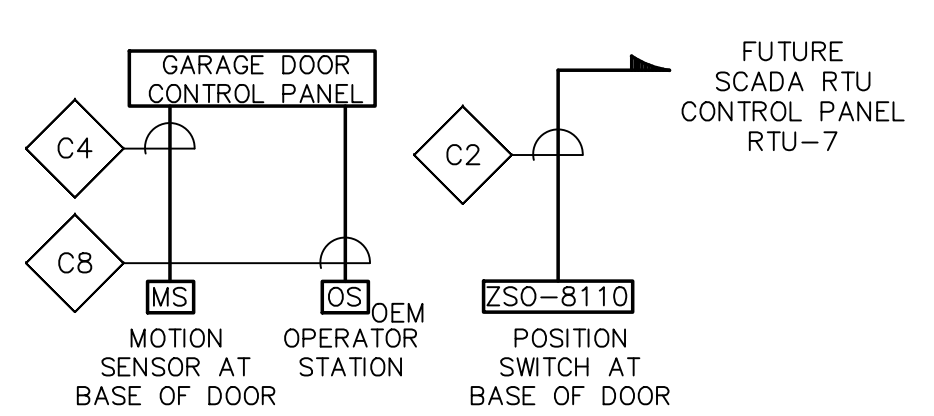


**CONTROL BLOCK WIRING DIAGRAM
POLYMER FEED PUMPS**

NOT TO SCALE

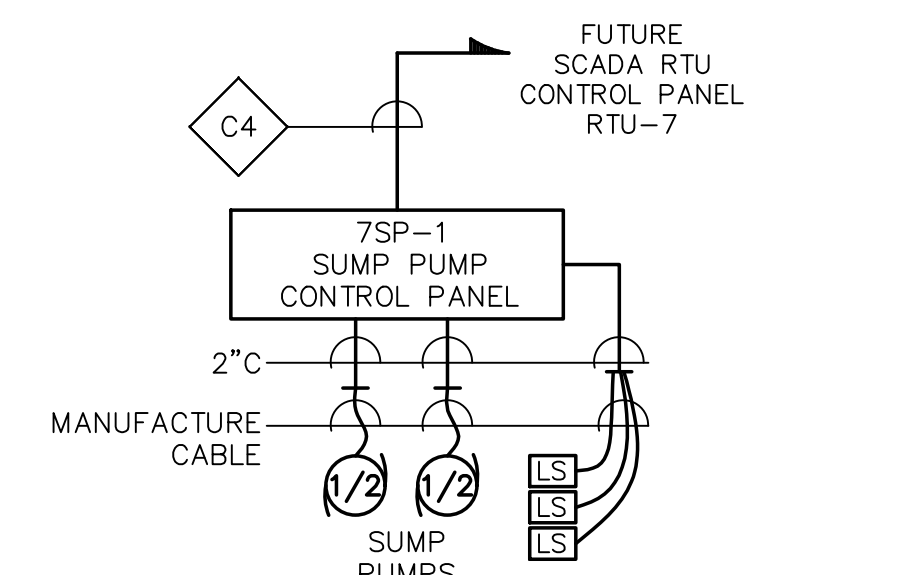
TYPICAL FOR:

- VFD-7601/OS-7601
- VFD-7602/OS-7602



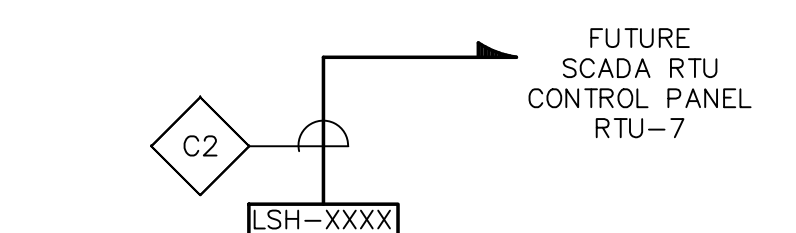
**CONTROL BLOCK WIRING DIAGRAM
OVERHEAD GARAGE DOOR**

NOT TO SCALE



SUMP PUMP BLOCK WIRING DIAGRAM

NOT TO SCALE



**CONTROL BLOCK WIRING DIAGRAM
LEVEL SWITCHES**

NOT TO SCALE

TYPICAL FOR:

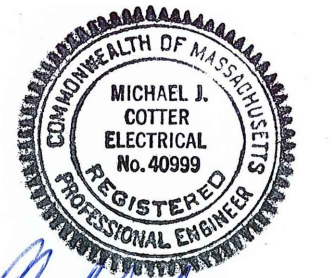
- LSH-7605
- LSH-9356

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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**ELECTRICAL
WIRING
DIAGRAMS**

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

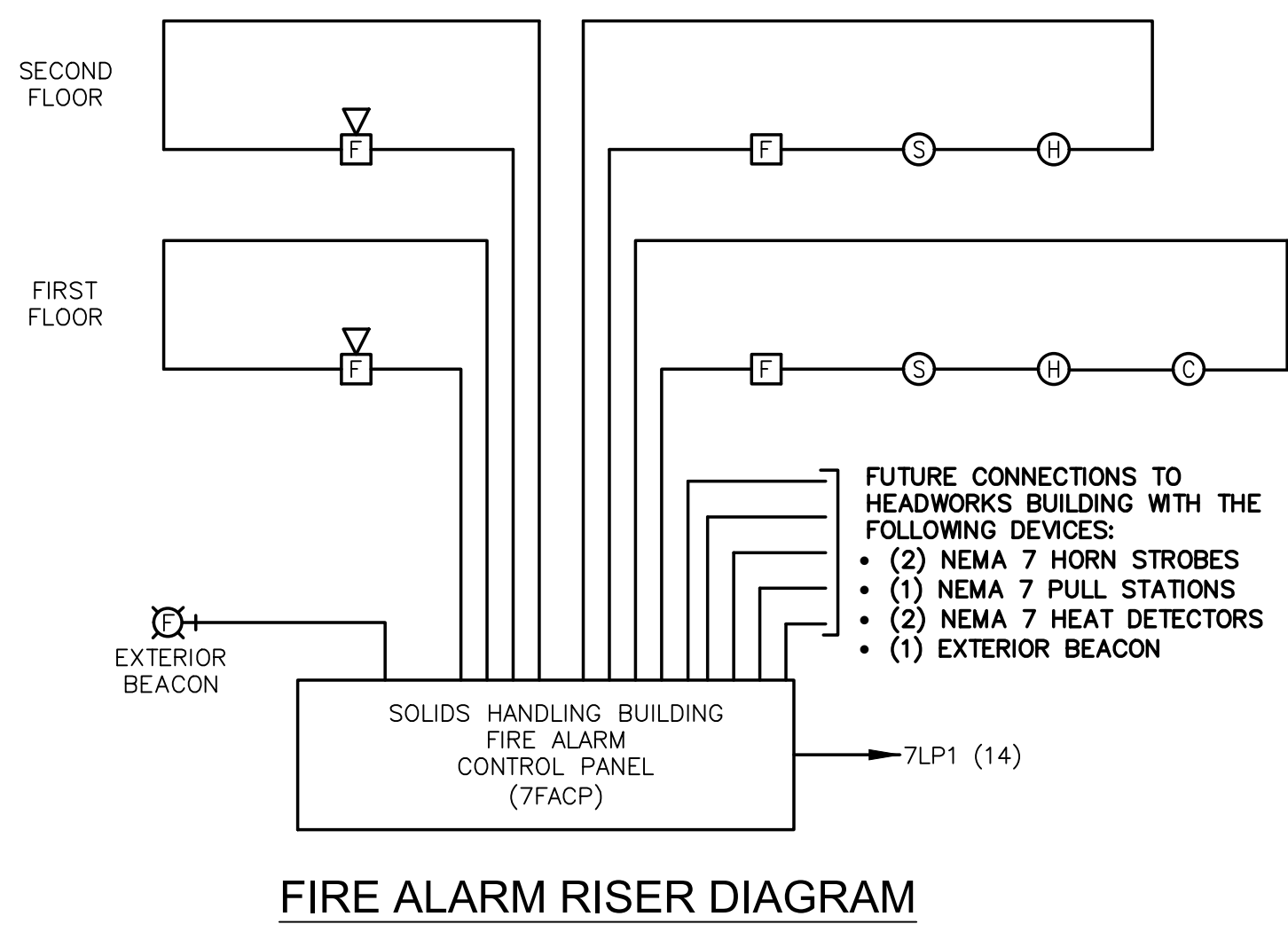
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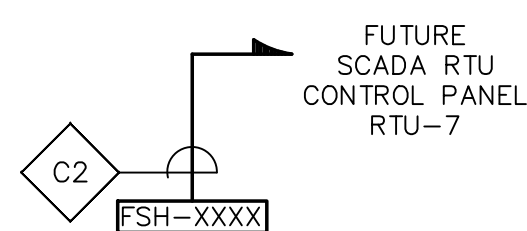


FIRE ALARM RISER DIAGRAM

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.

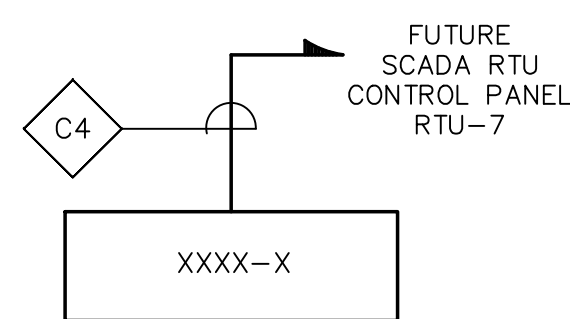


CONTROL BLOCK WIRING DIAGRAM EMERGENCY EYEWASH/SHOWERS

NOT TO SCALE

TYPICAL FOR:

- FSH-9303

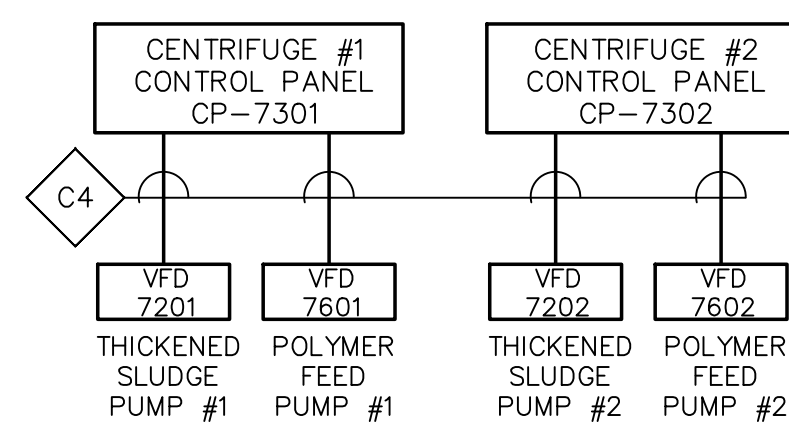


CONTROL BLOCK WIRING DIAGRAM HVAC UNIT MONITORING

NOT TO SCALE

TYPICAL FOR:

- 7ERV-1
- 7ERV-2
- 7ERV-3
- 7ERV-4
- 7MAU-1



TEMPORARY CONTROL BLOCK WIRING DIAGRAM SOLIDS CENTRIFUGE DECANTERS SCD-7301 & 7302

NOT TO SCALE

CENTRIFUGE DECANTERS TEMPORARY CONTROL NOTES:

1. THE START SIGNALS FROM CENTRIFUGE CONTROL PANEL FOR ITS ASSOCIATED THICKENED SLUDGE AND POLYMER FEED PUMPS SHALL BE CONNECTED TO THE AUTO START CIRCUIT IN EACH VFD.
2. THE PUMP RUNNING SIGNALS FROM THE THICKENED SLUDGE AND POLYMER FEED PUMPS VFDs SHALL BE CONNECTED TO THEIR ASSOCIATED CENTRIFUGE CONTROL PANELS RUN STATUSES FOR THESE PUMPS.

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617.328.9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL WIRING DIAGRAMS

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

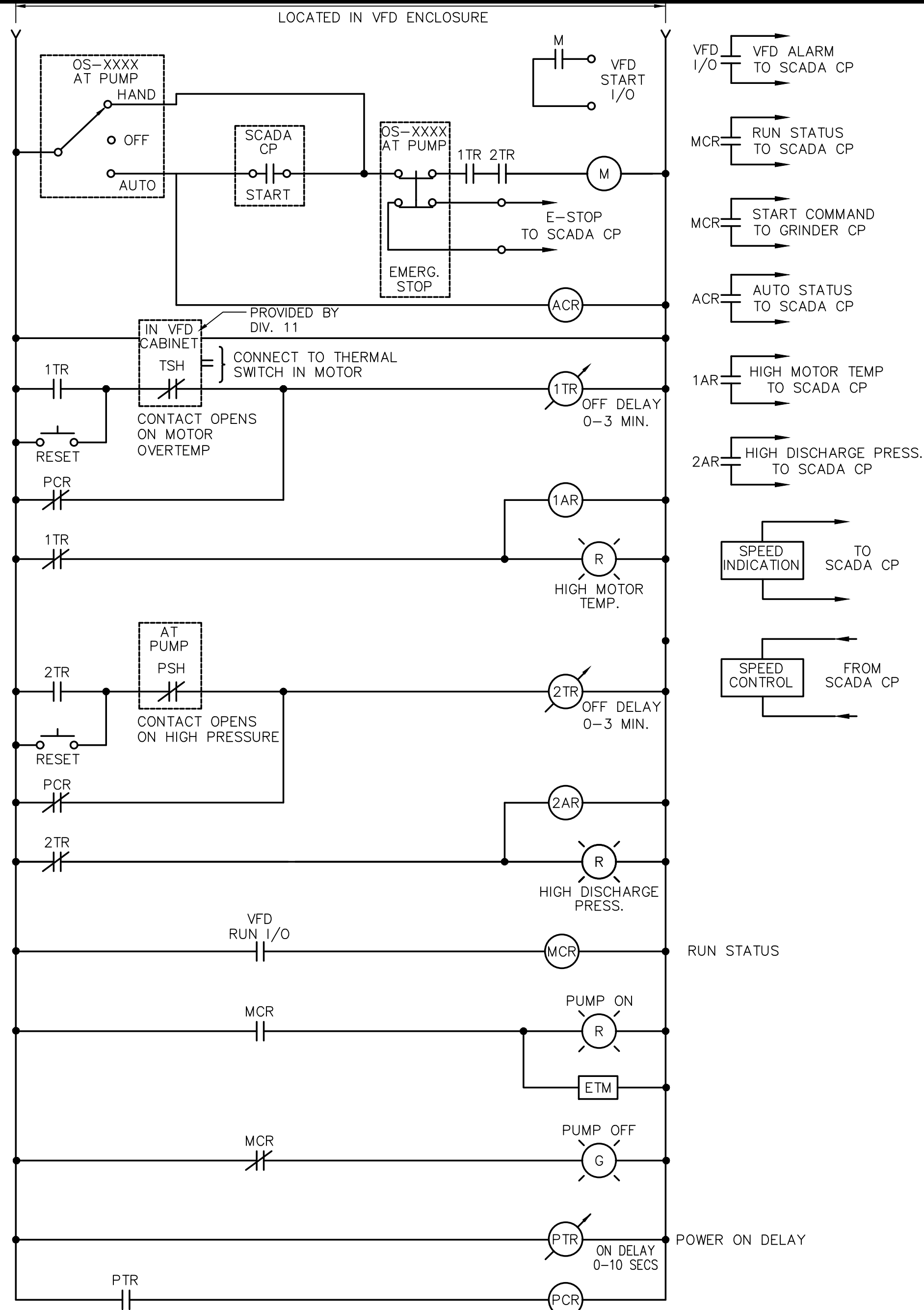
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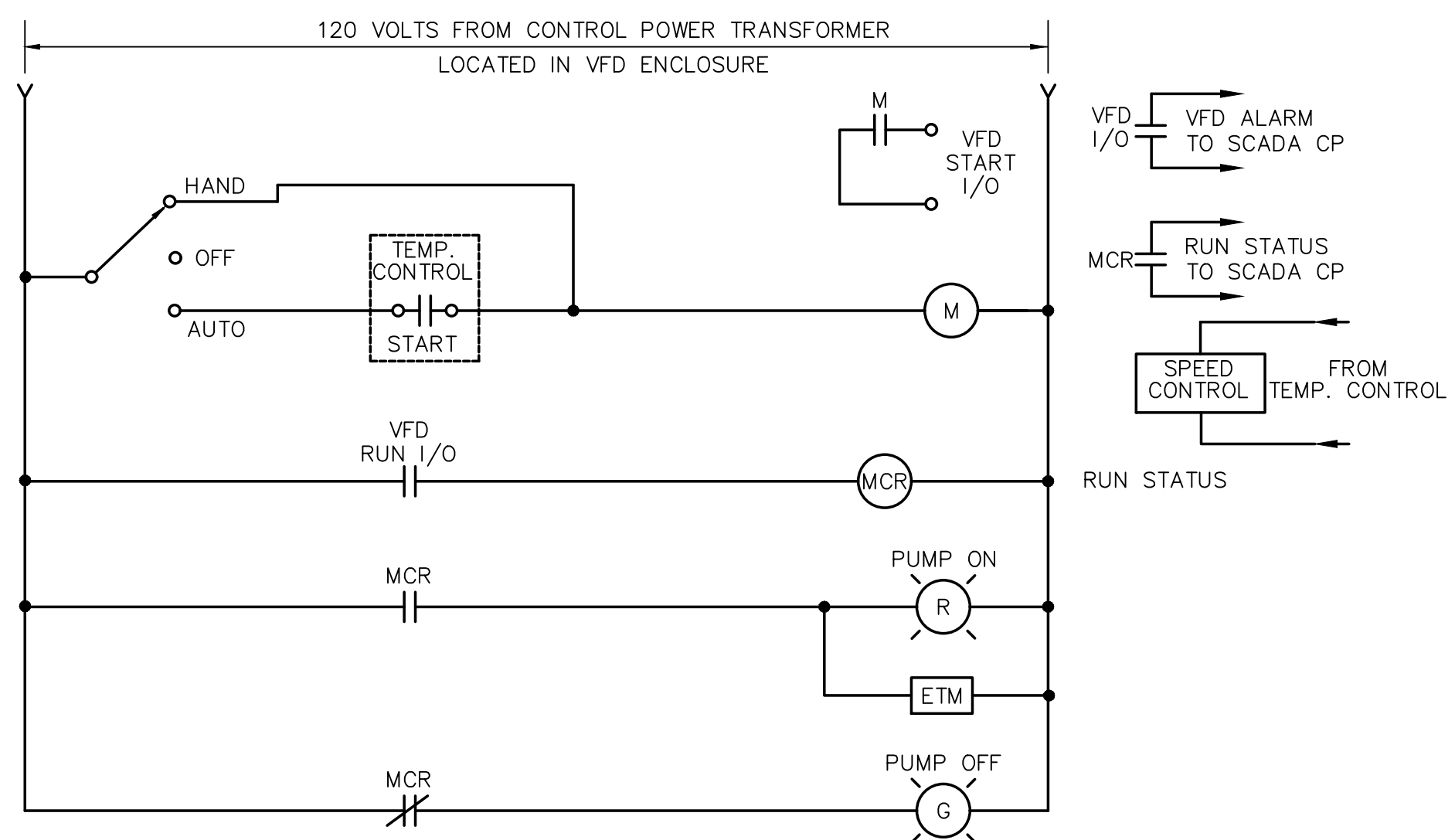
SHEET NO.

E-0.7

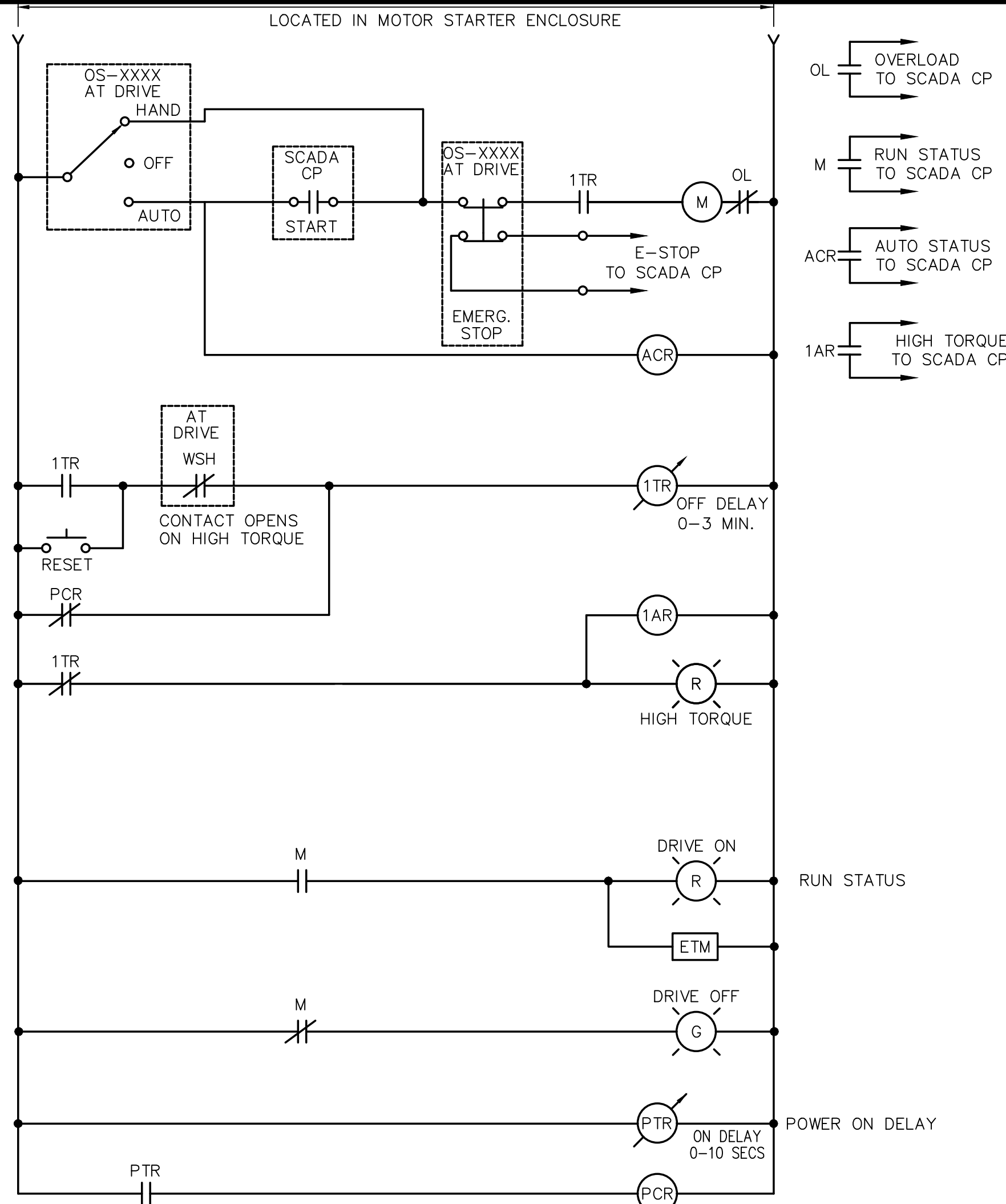
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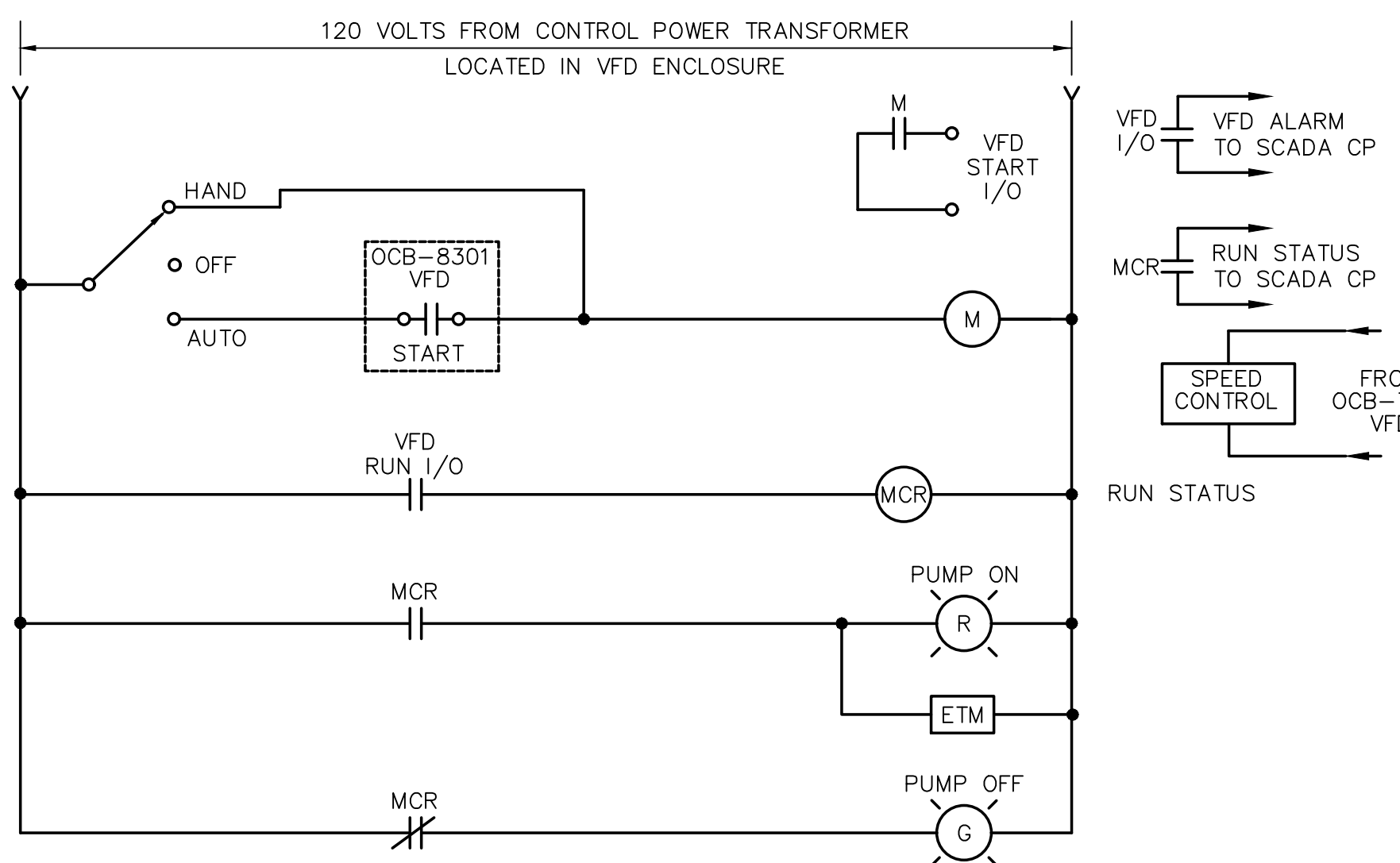
MOTOR CONTROL WIRING DIAGRAM
THICKENED SLUDGE PUMPS
NOT TO SCALE



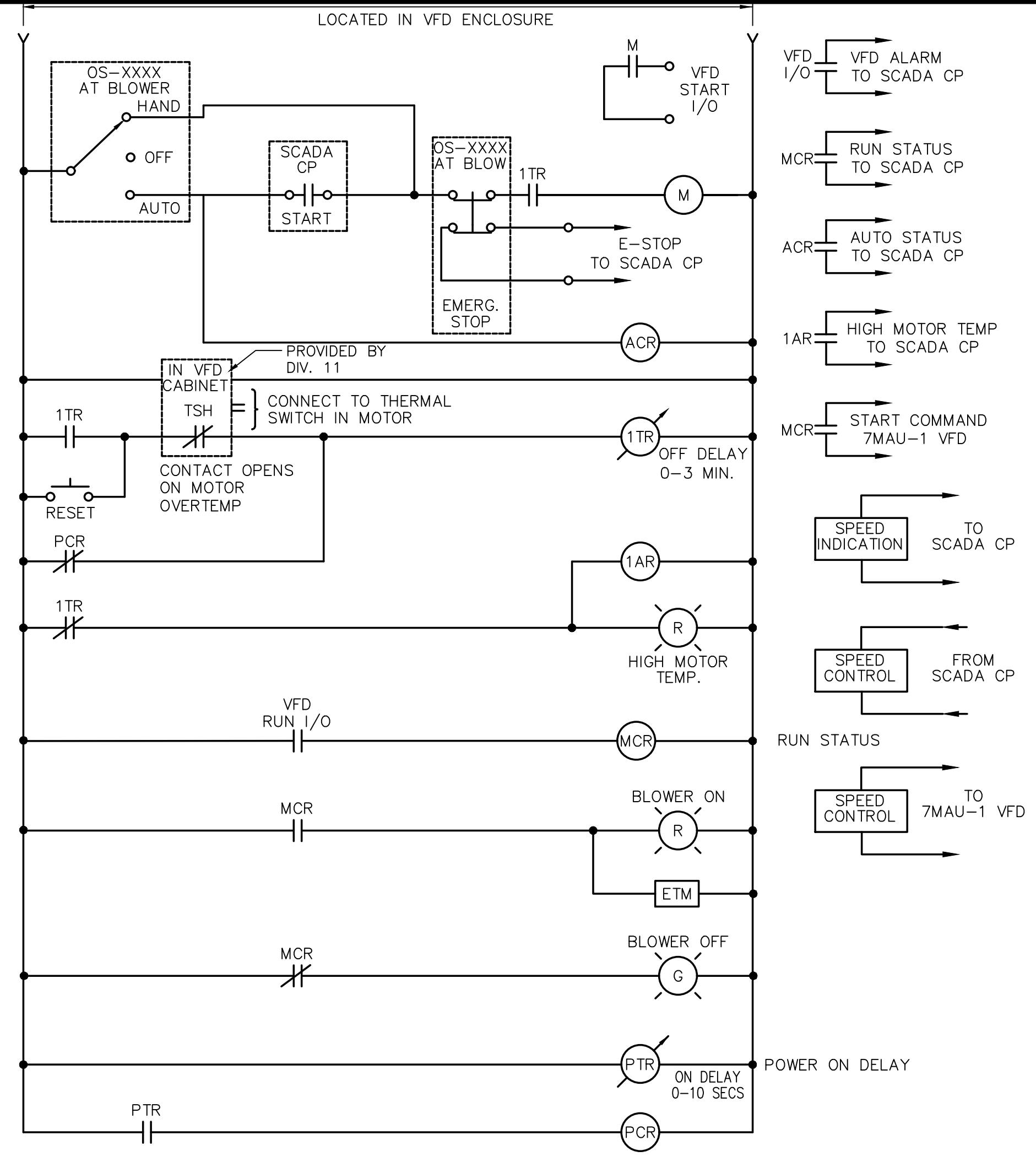
MOTOR CONTROL WIRING DIAGRAM
HOT WATER PUMPS
NOT TO SCALE



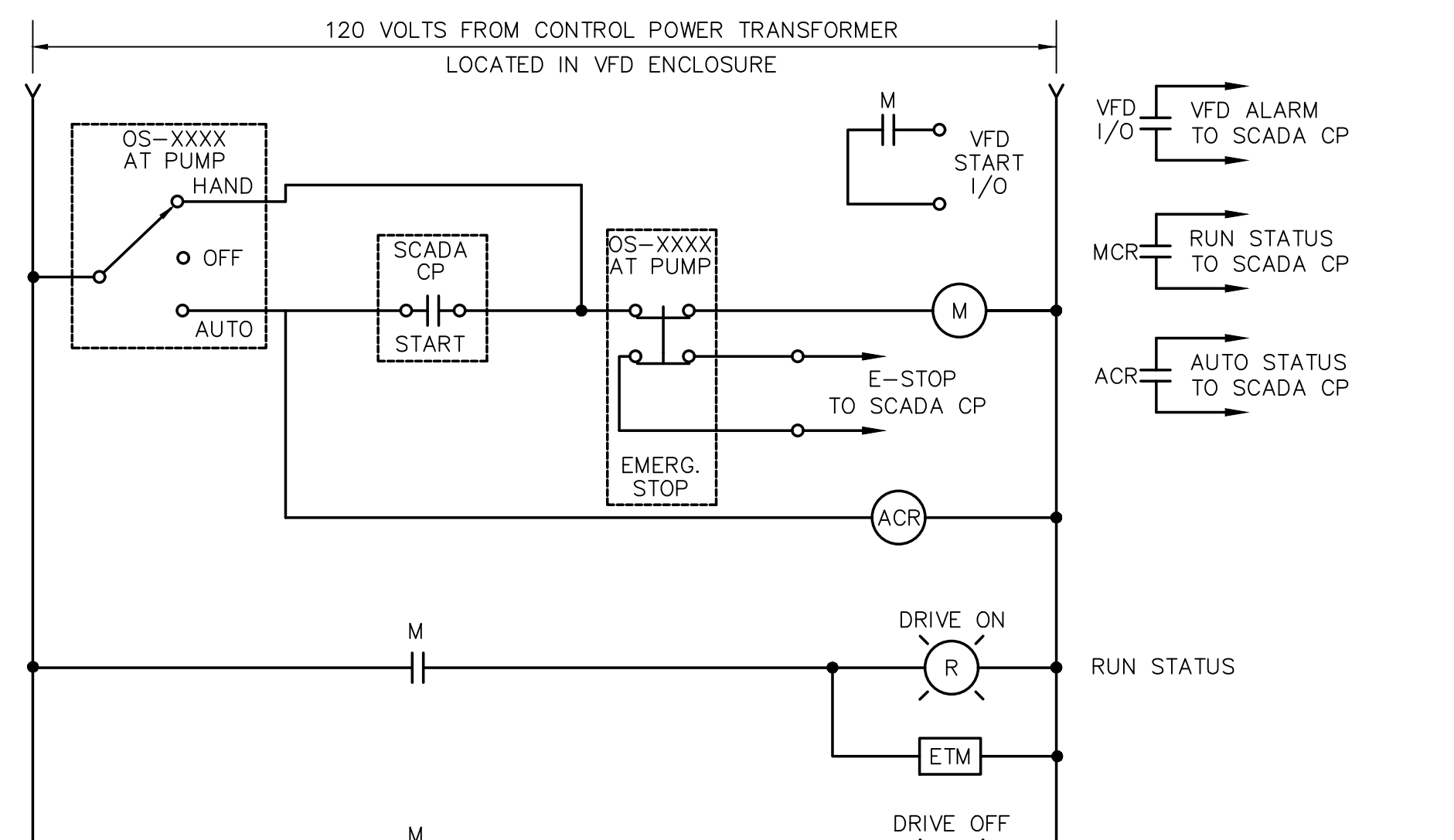
MOTOR CONTROL WIRING DIAGRAM
GRAVITY THICKENER DRIVES
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
7MAU-1
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
ODOR CONTROL BLOWERS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
POLYMER FEED PUMPS
NOT TO SCALE

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

MICHAEL J. CUTLER
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
No. 40999
02184

Subscribed and sworn to before me on this 10th day of October, 2020 at Taunton, Massachusetts.

Paul J. [Signature]

SUBCONSULTANT

SAR
ENGINEERING, INC.
Mechanical/Electrical Engineers
150 Grossman Drive, Suite 309
Braintree, Massachusetts 02184
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL MOTOR CONTROL WIRING DIAGRAMS
AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

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

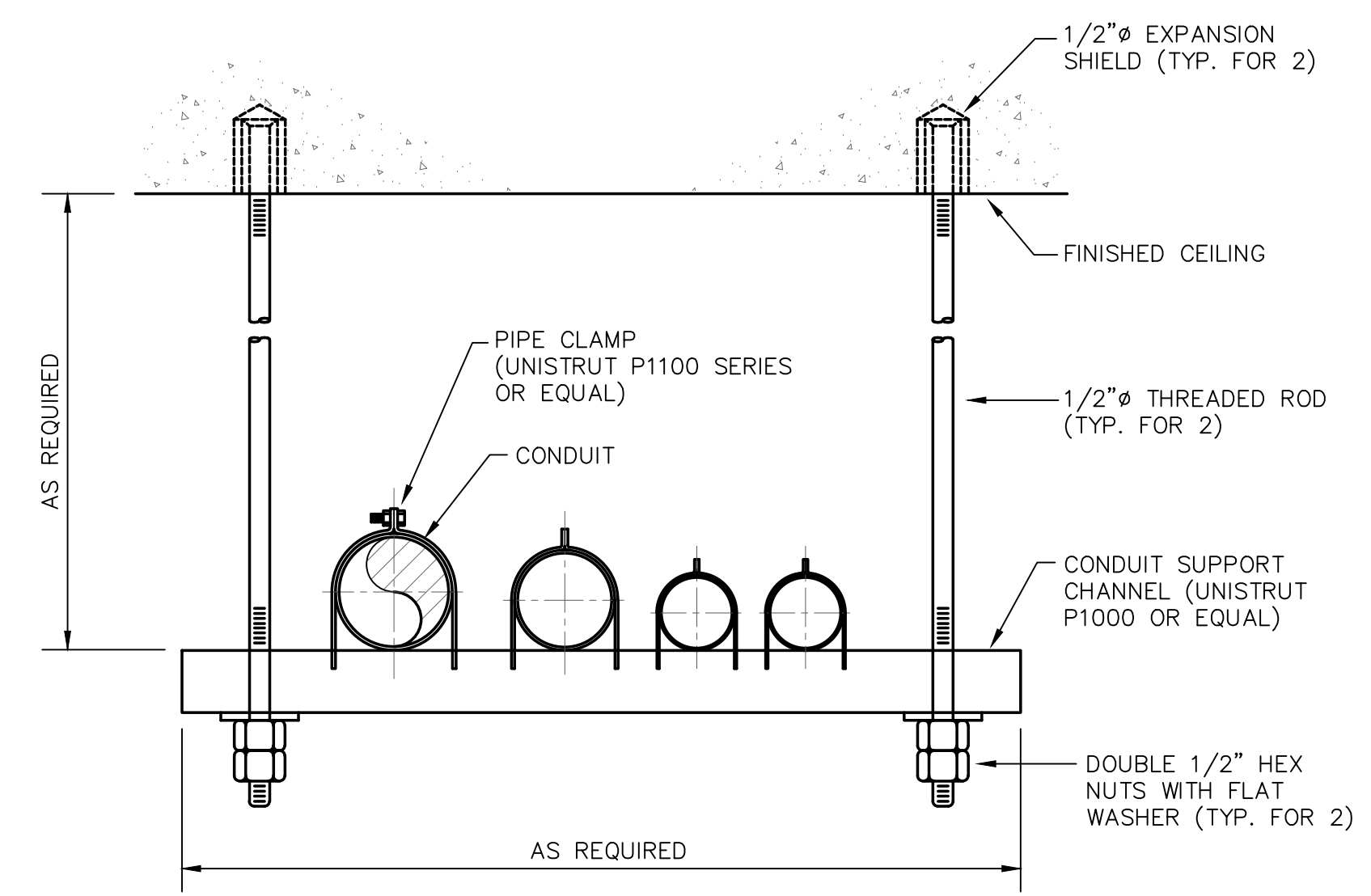
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UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

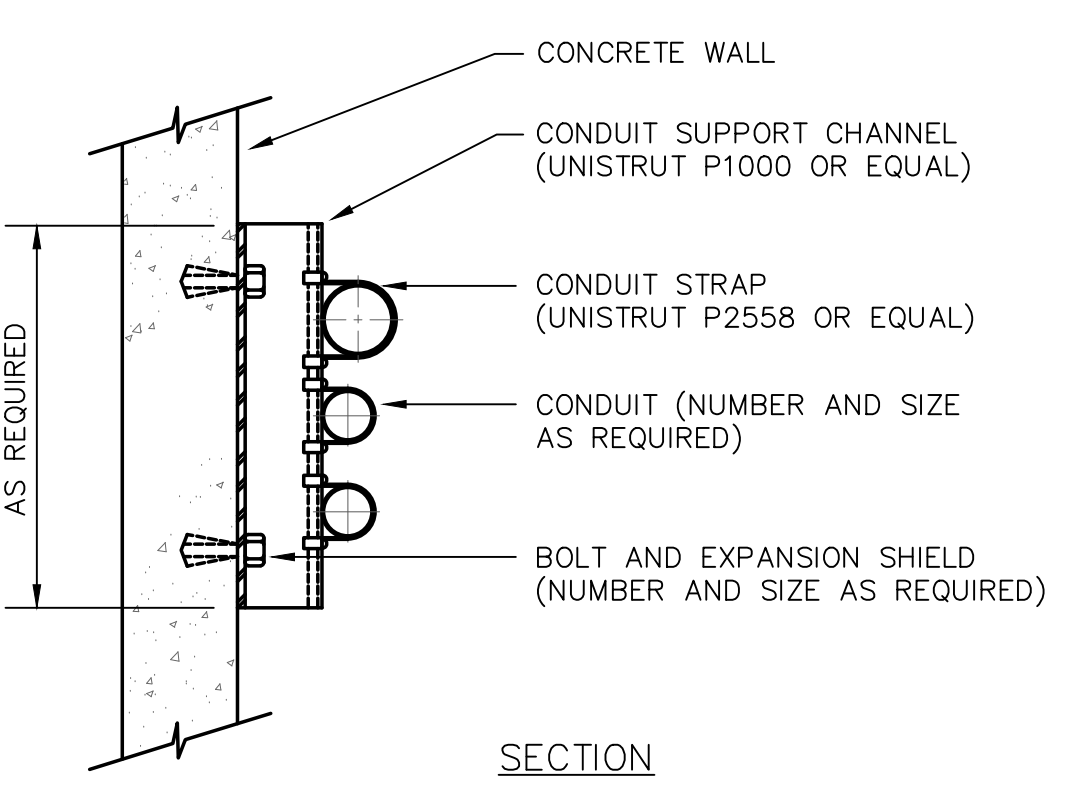
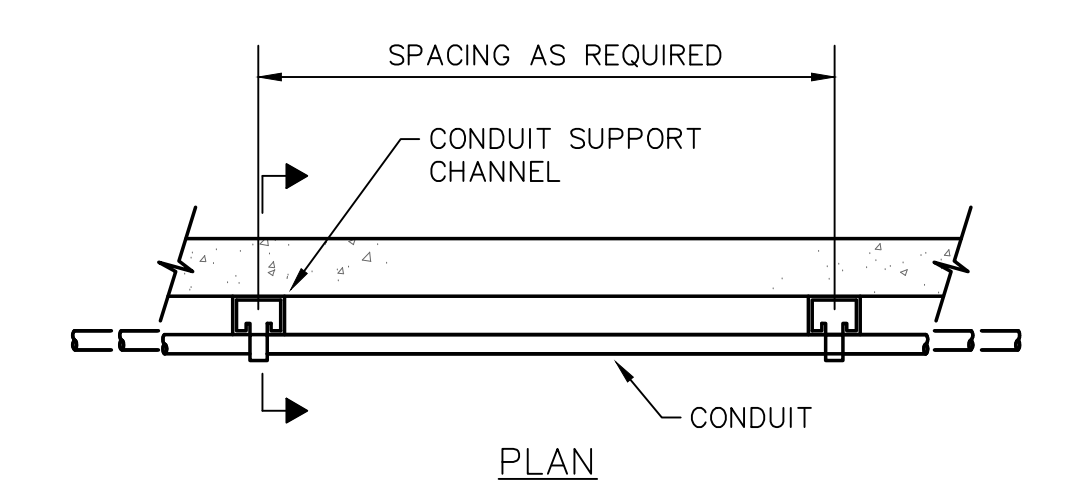
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11/3/2021 12:52 PM W:\YEAR-2018\18009.00 - TAUNTON WWTFF UPGRADES\ELECTRICAL DEPARTMENT\PHASE 1\18009.00 ELEC DIAGRAMS AND DETAILS -14.DWG (BETA, STB,BW,STB)

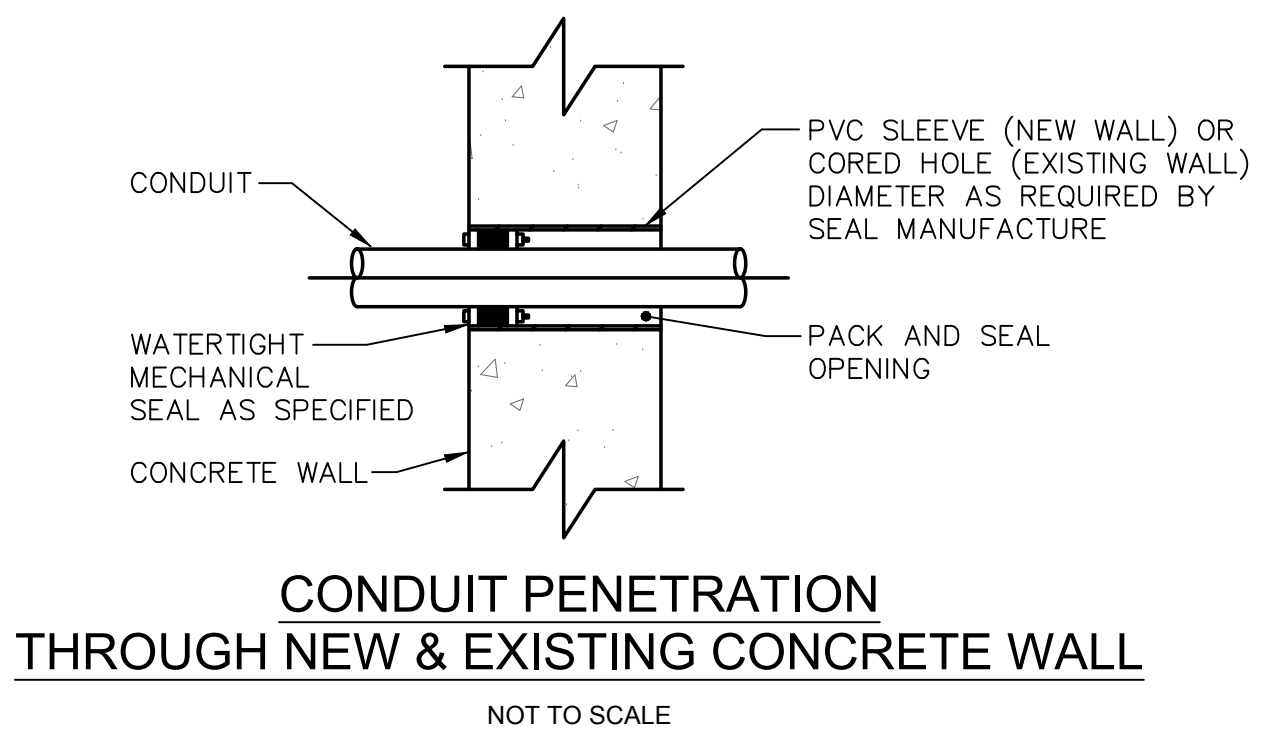
GENERAL NOTES:
 1. ALL MOUNTING BRACKETS, SUPPORTS, FASTENERS, AND ECT. WITHIN THE WET WELL SHALL BE STAINLESS STEEL.



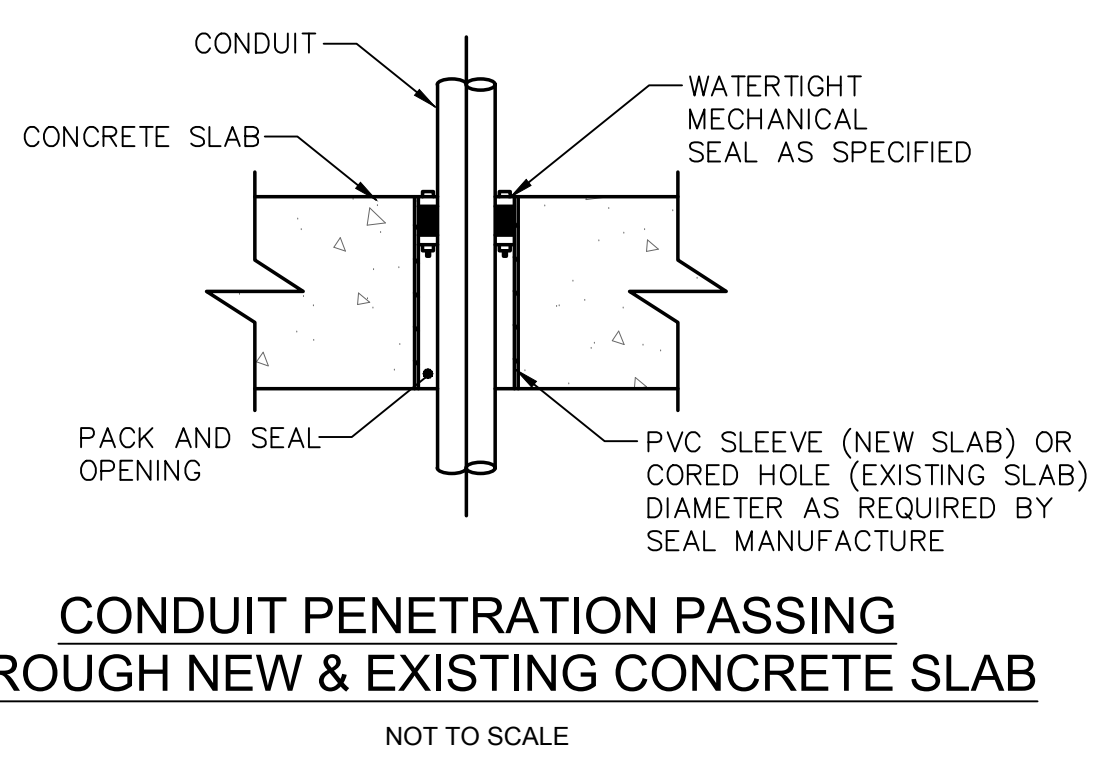
TYPICAL CONDUIT CEILING SUPPORT
 NOT TO SCALE



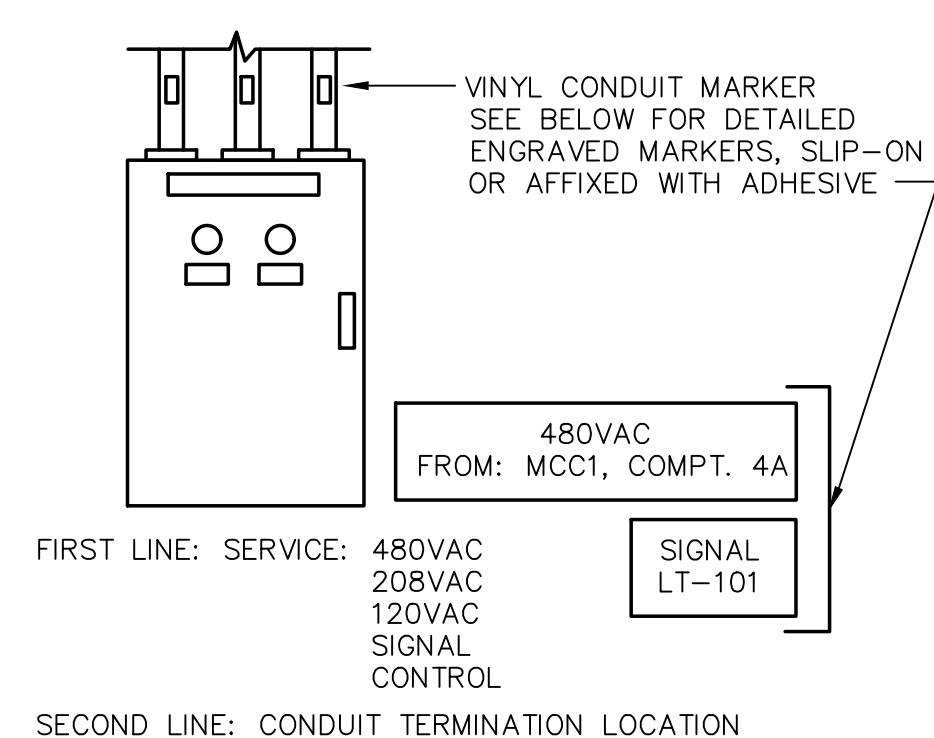
TYPICAL CONDUIT WALL SUPPORT
 NOT TO SCALE



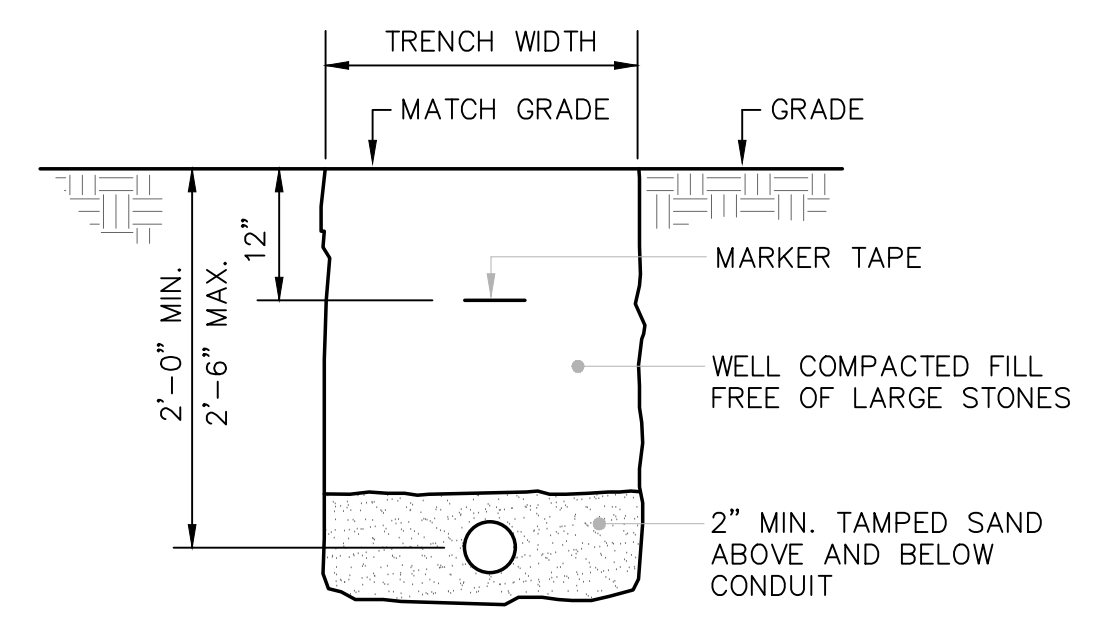
CONDUIT PENETRATION THROUGH NEW & EXISTING CONCRETE WALL
 NOT TO SCALE



CONDUIT PENETRATION PASSING THROUGH NEW & EXISTING CONCRETE SLAB
 NOT TO SCALE

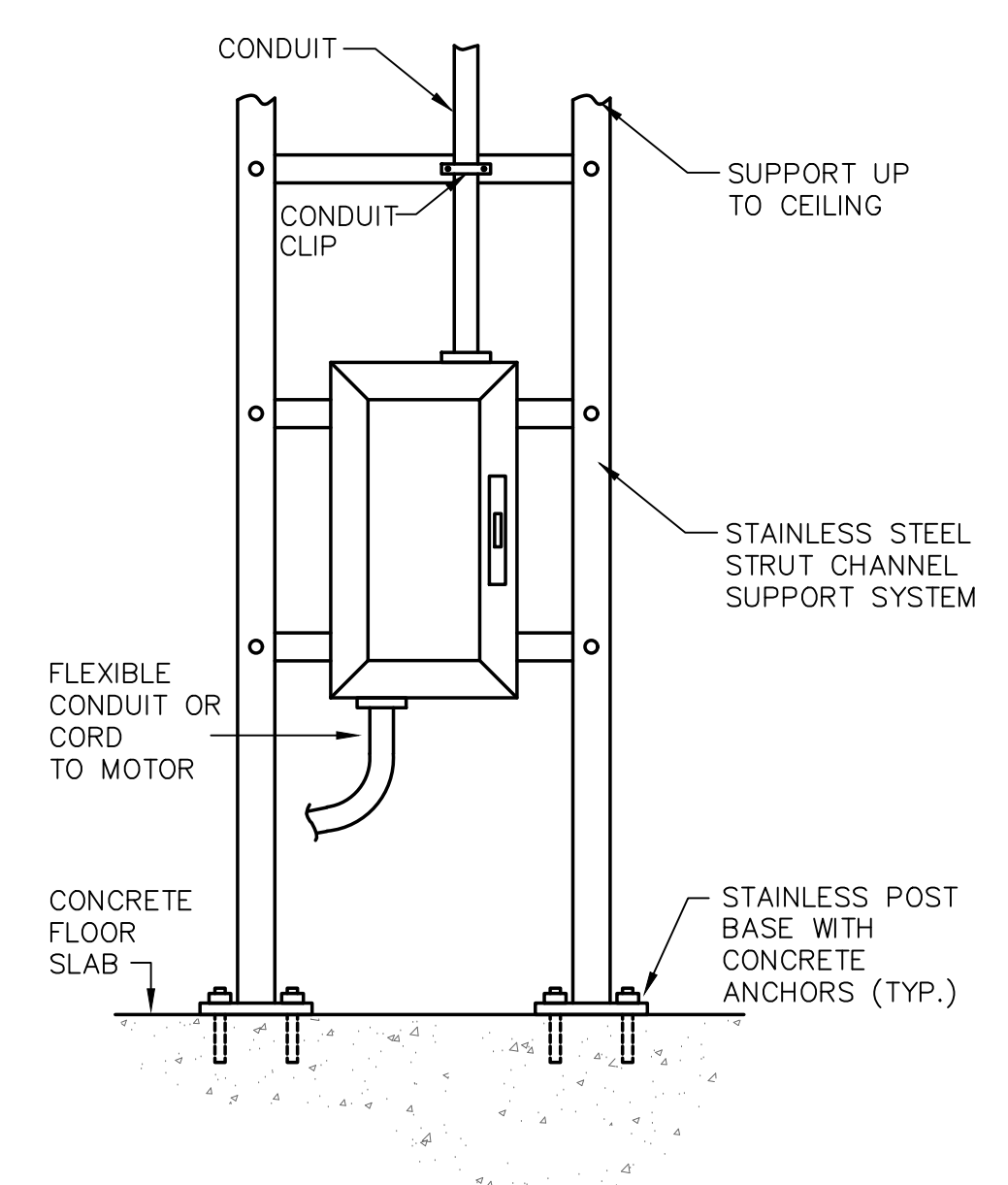


CONDUIT MARKER DETAIL
 NOT TO SCALE

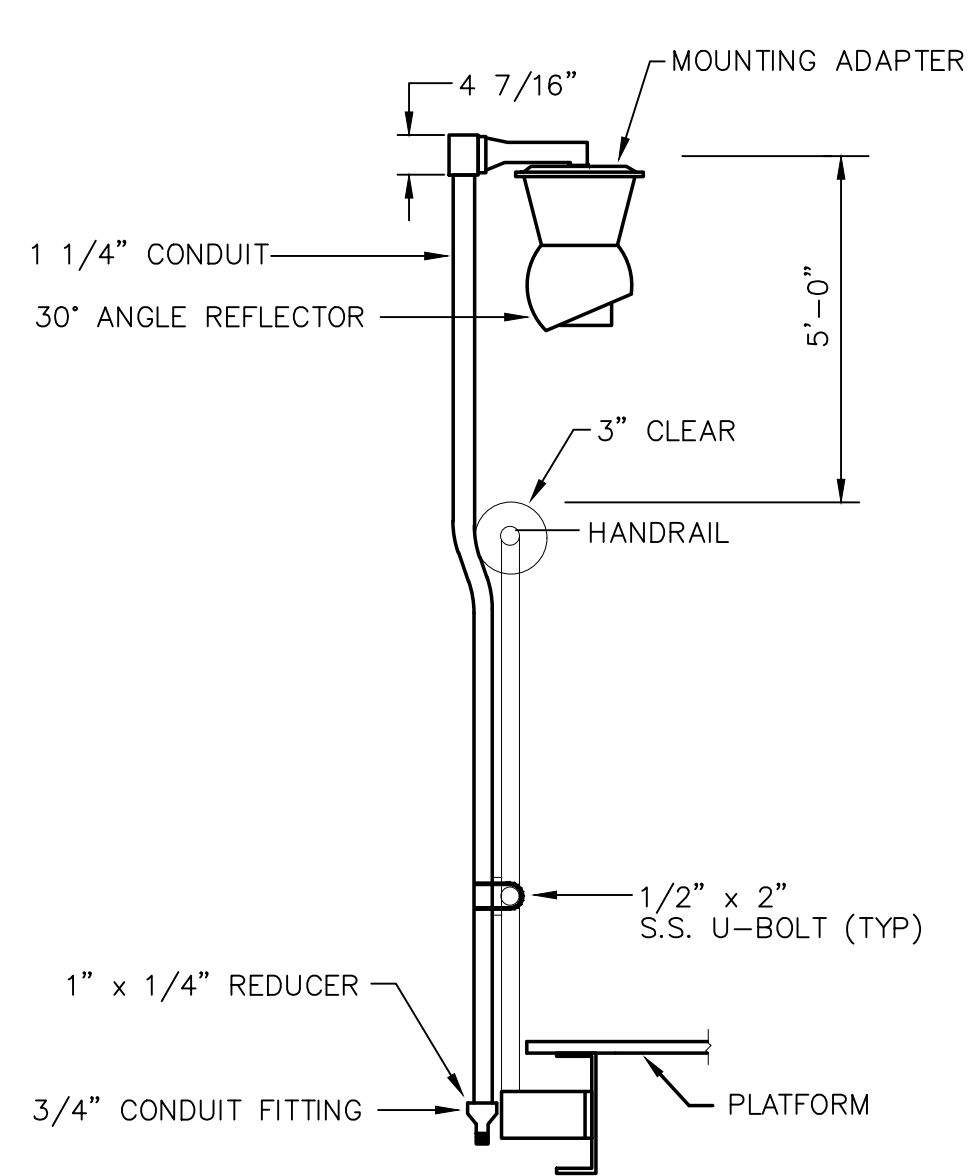


NOTES:
 1. BACKFILL IN LAYERS AND MANUALLY TAMP. PROVIDE RED DUCT BANK MARKER TAPE, READING "CAUTION - ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPE 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
 2. TRENCHING AND BACKFILLING SHALL BE PERFORMED UNDER DIVISION 2 OF THIS CONTRACT.

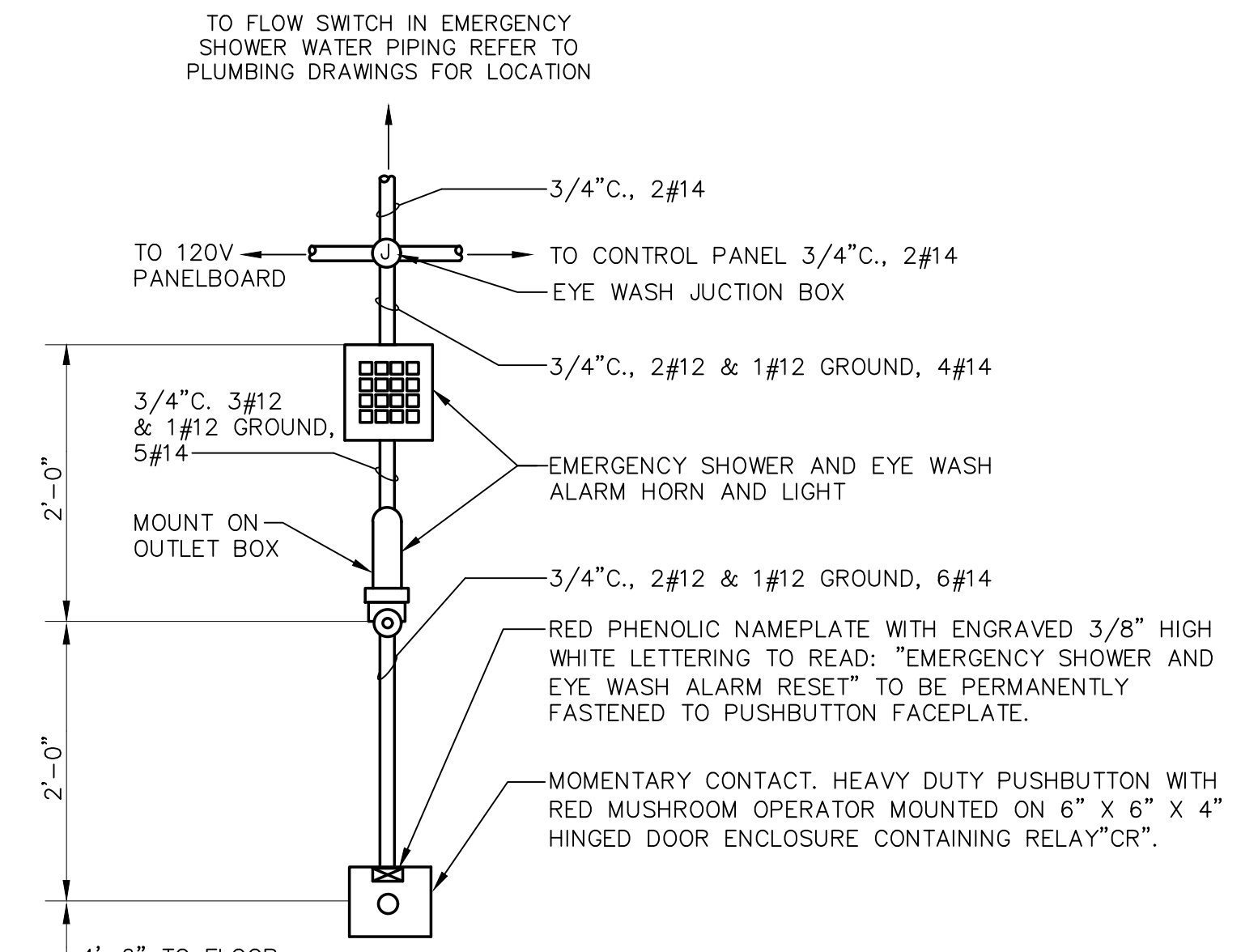
SINGLE UNDERGROUND CONDUIT SECTION
 NOT TO SCALE



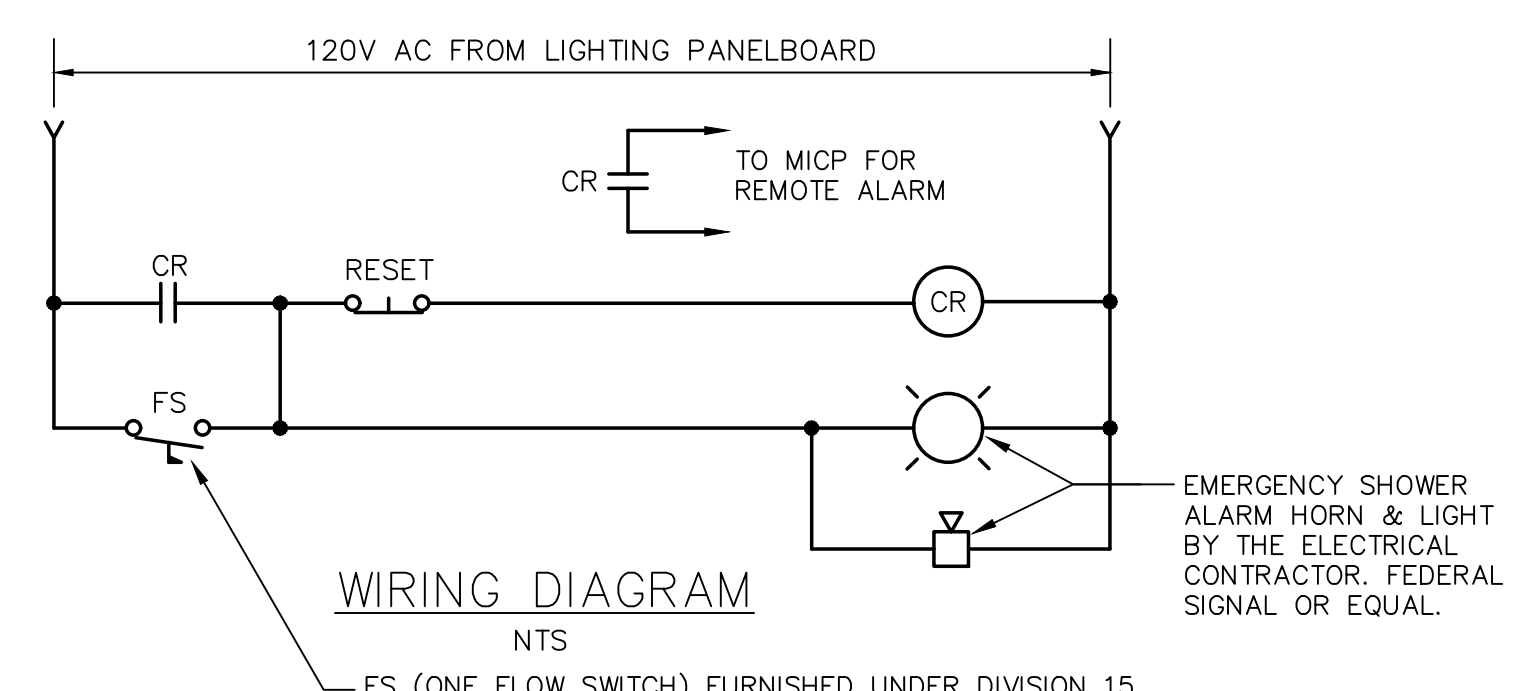
ELECTRICAL EQUIPMENT STANCHION MOUNTING DETAIL
 NOT TO SCALE



LIGHT FIXTURE 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

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REGISTERED PROFESSIONAL

 Michael J. Citteri
 ELECTRICAL ENGINEER
 No. 40999
 STATE OF MASSACHUSETTS

SUBCONSULTANT

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 ENGINEERING, INC.
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PROJECT
Taunton Wastewater Treatment Facility Improvements Solids Handling
 Taunton, MA

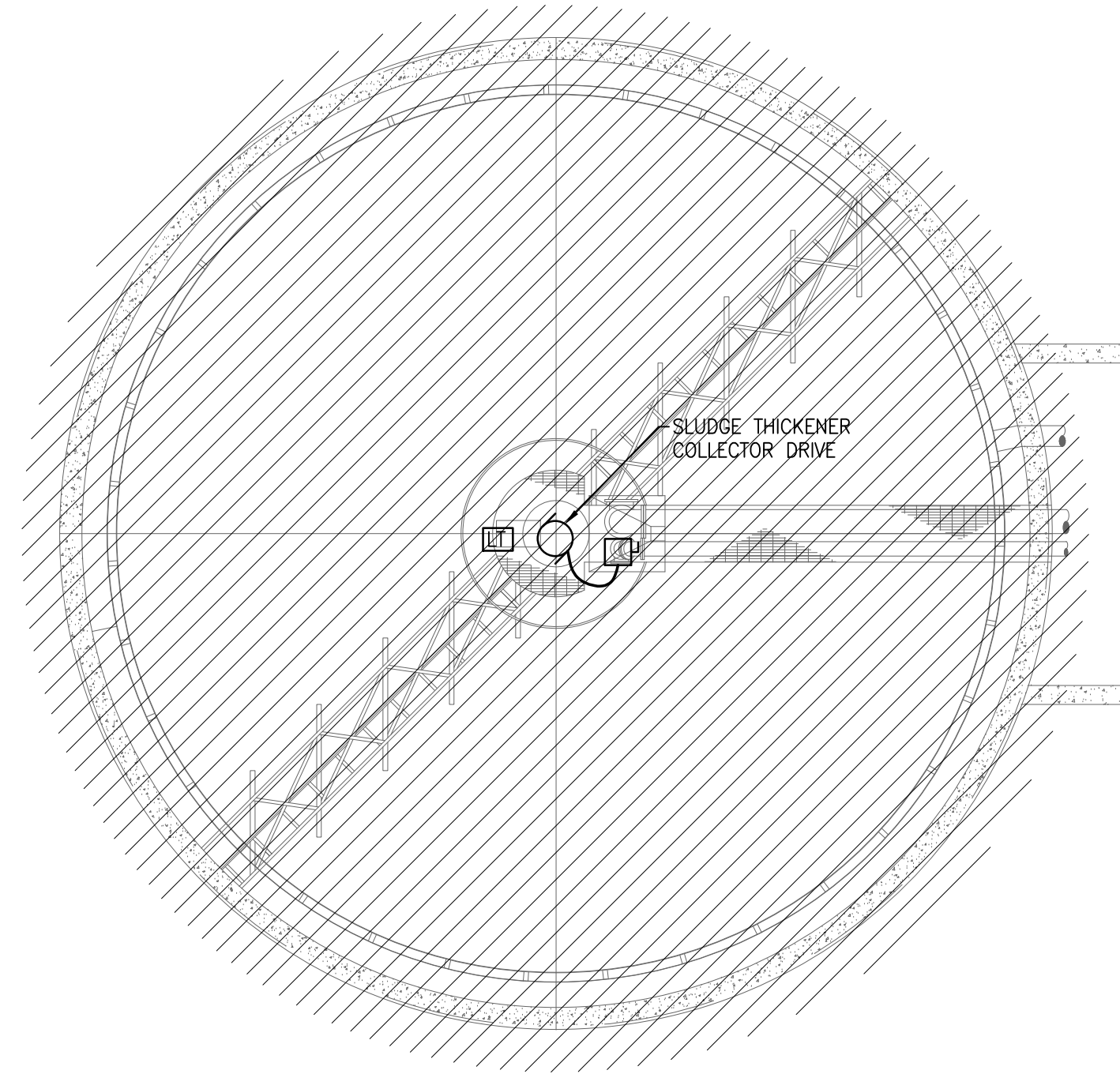
TITLE
ELECTRICAL DETAILS
 AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

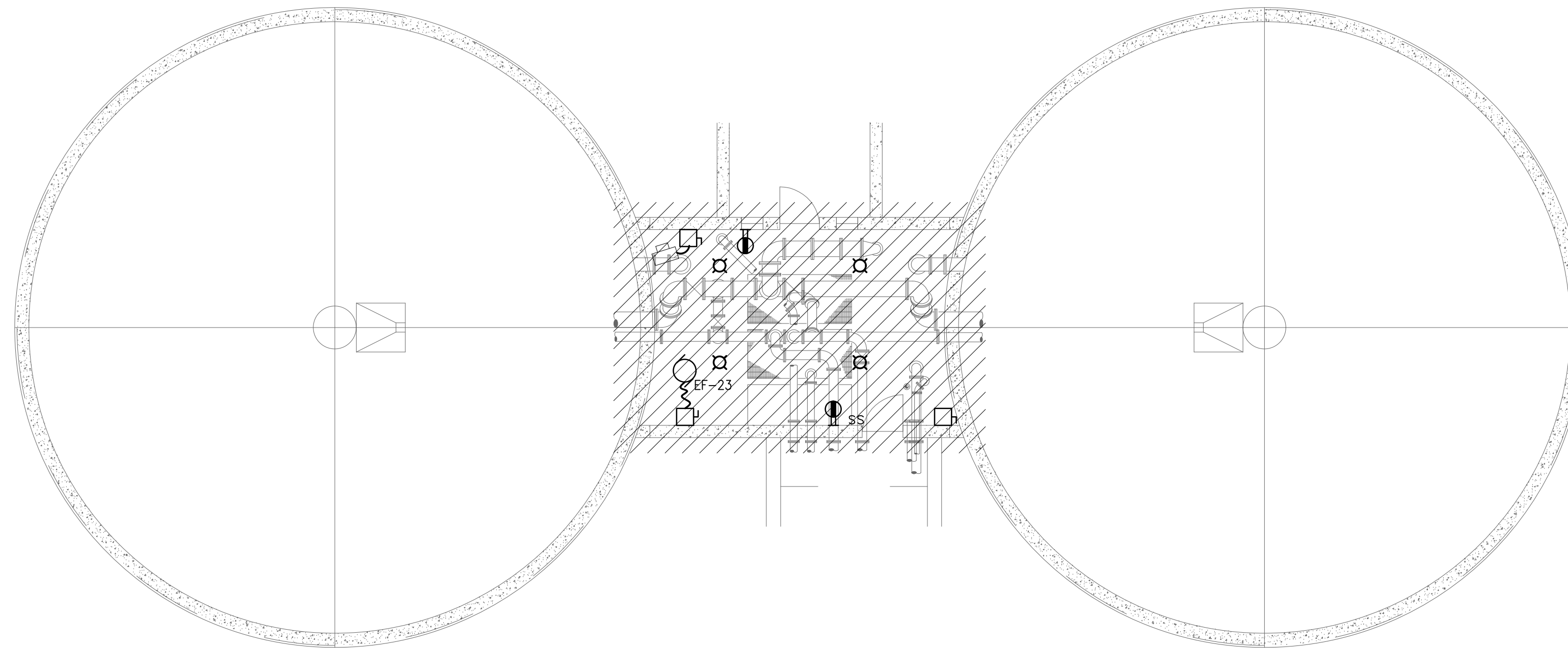
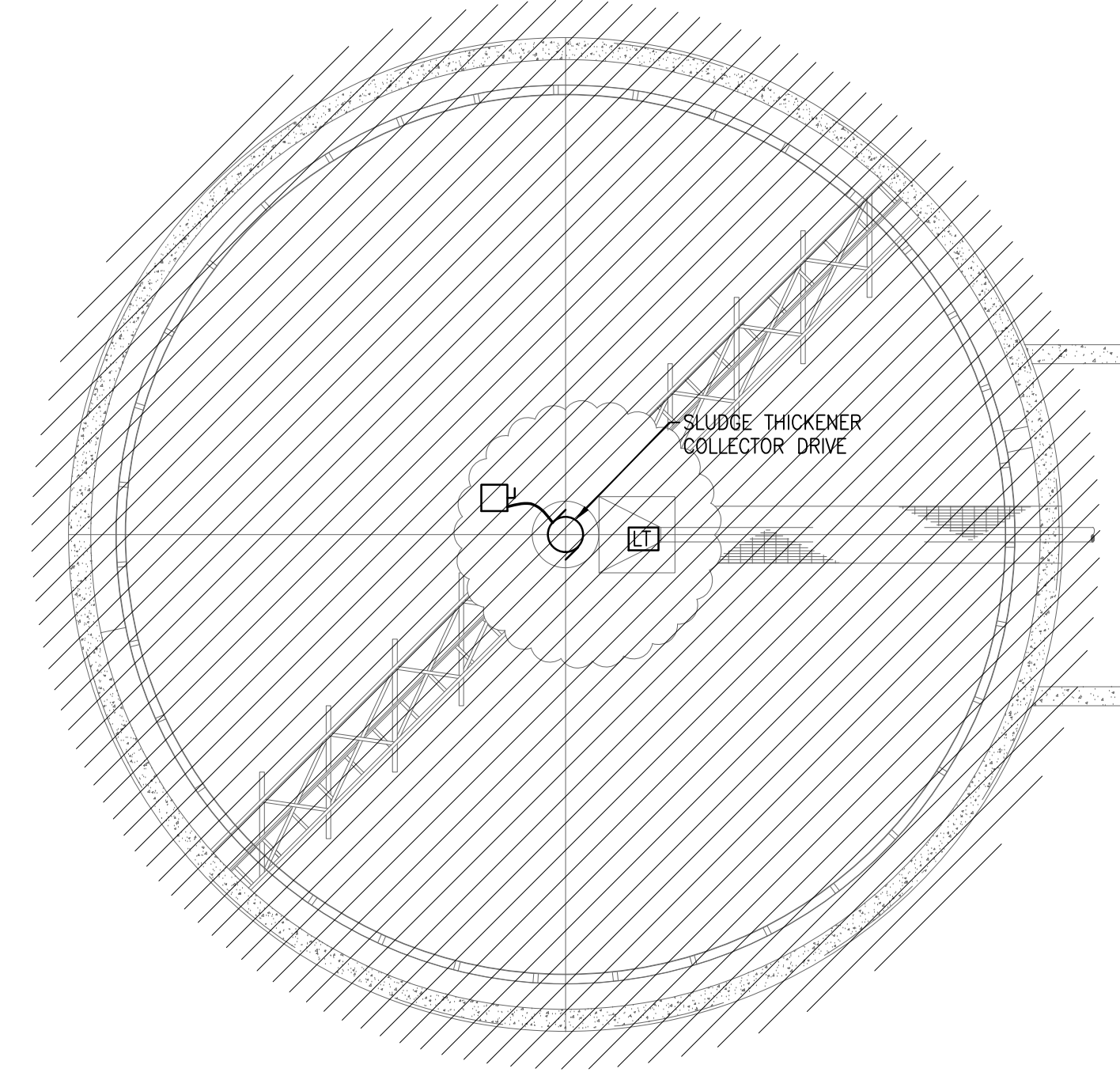
DRAWN BY: RB
 DESIGNED BY: MC
 CHECKED BY: MC
 ISSUE DATE: 10/16/2020
 BETA JOB NO.: 6050

SCALE
 UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

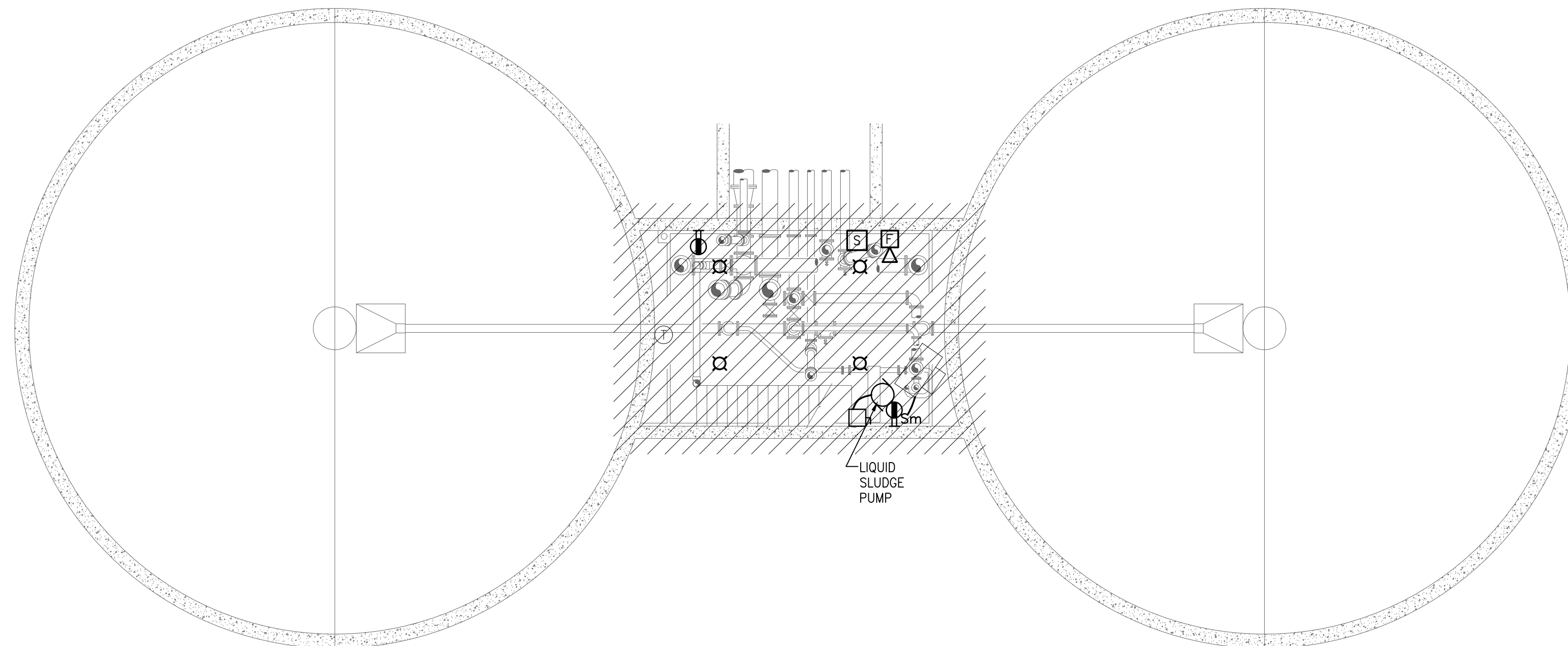
SHEET NO. E-0.9



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



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



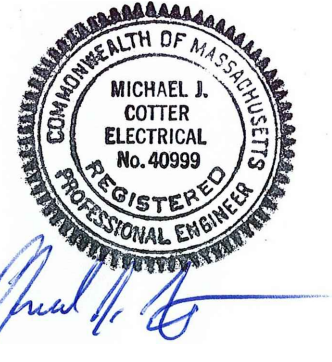
LOWER LEVEL PLAN
SCALE: 1/8" = 1'-0"

1/13/2021 12:53 PM 10:YEAR - 201818009.00 - TAUNTON WWTFF UPGRADE/ELECTRICAL DEPARTMENT/PHASE 1A/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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REGISTERED PROFESSIONAL



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PROJECT

Taunton Wastewater
Treatment Facility
Improvements
Solids Handling

Taunton, MA

TITLE

Electrical
Demolition
Gravity Thickening
Tanks
Plans

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

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

SCALE

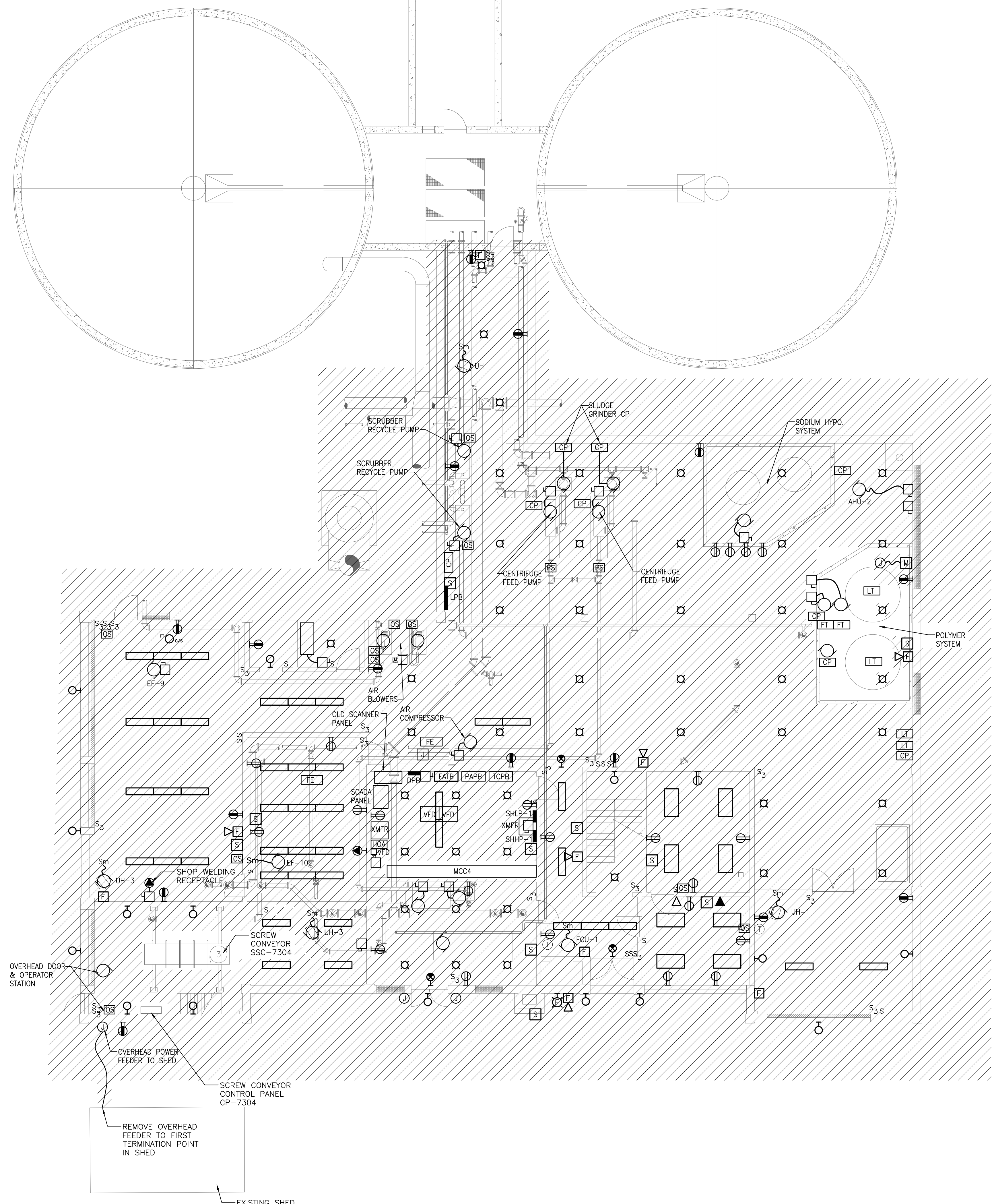
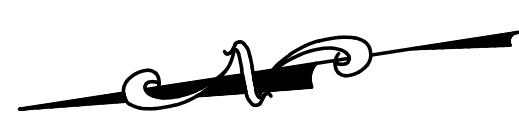
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SHEET NO.

E-7.1

1/13/2021 12:53 PM 101YEAR - 201818009.00 - TAUNTON WWTF UPGRADE/ELECTRICAL DEPARTMENT/PHASE 1A18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)



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

PREPARED BY



REGISTERED PROFESSIONAL



Michael J. Otter

SUBCONSULTANT



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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Electrical
Demolition
Solids Handling
Building
First Floor Plan**

**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

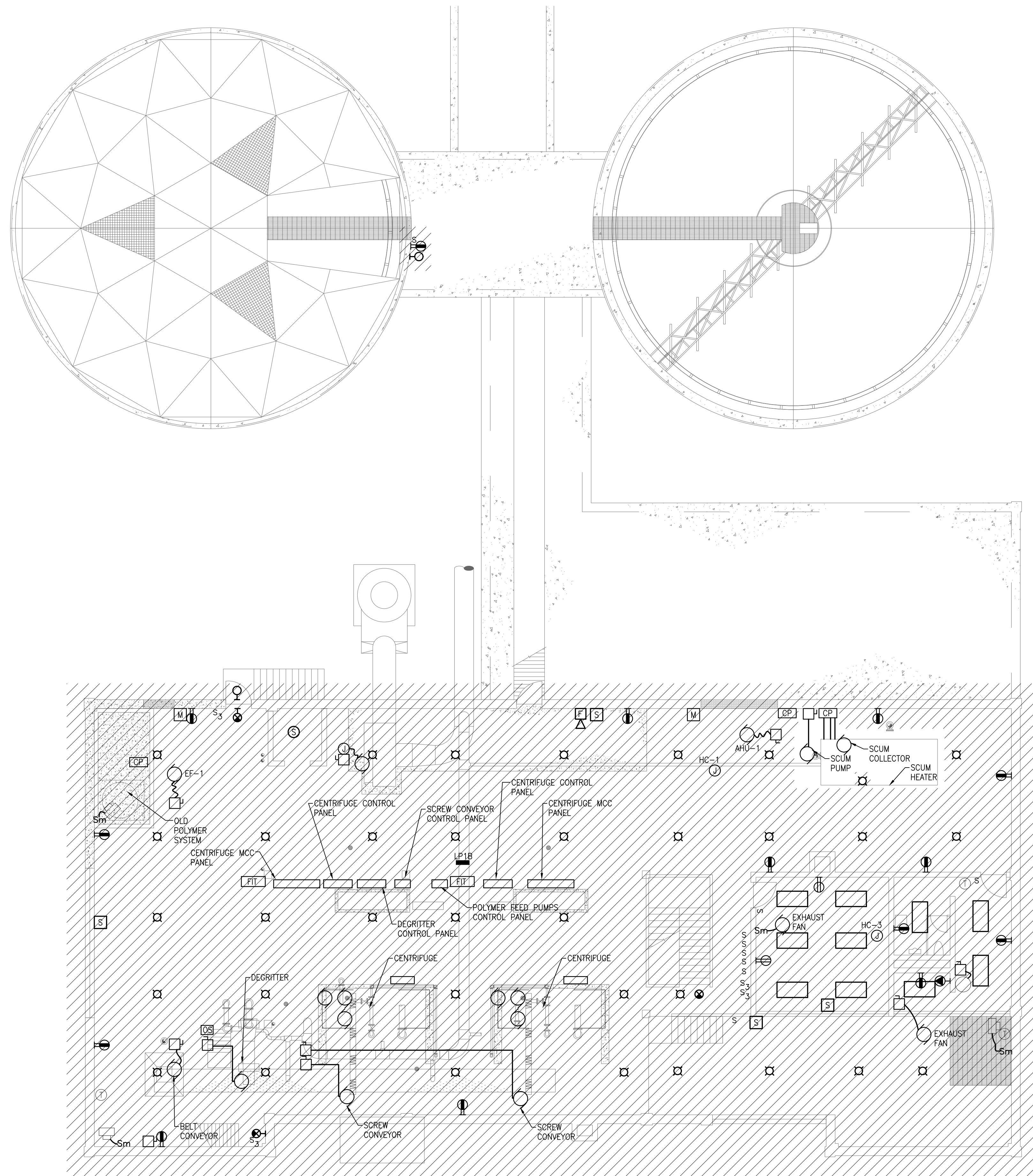
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DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

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SHEET NO.
E-7.2



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

1/3/2021 12:53 PM 10/16/2020 - TAUNTON WWTF UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Electrical
Demolition
Solids Handling
Building
Second Floor
Plan**

**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

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

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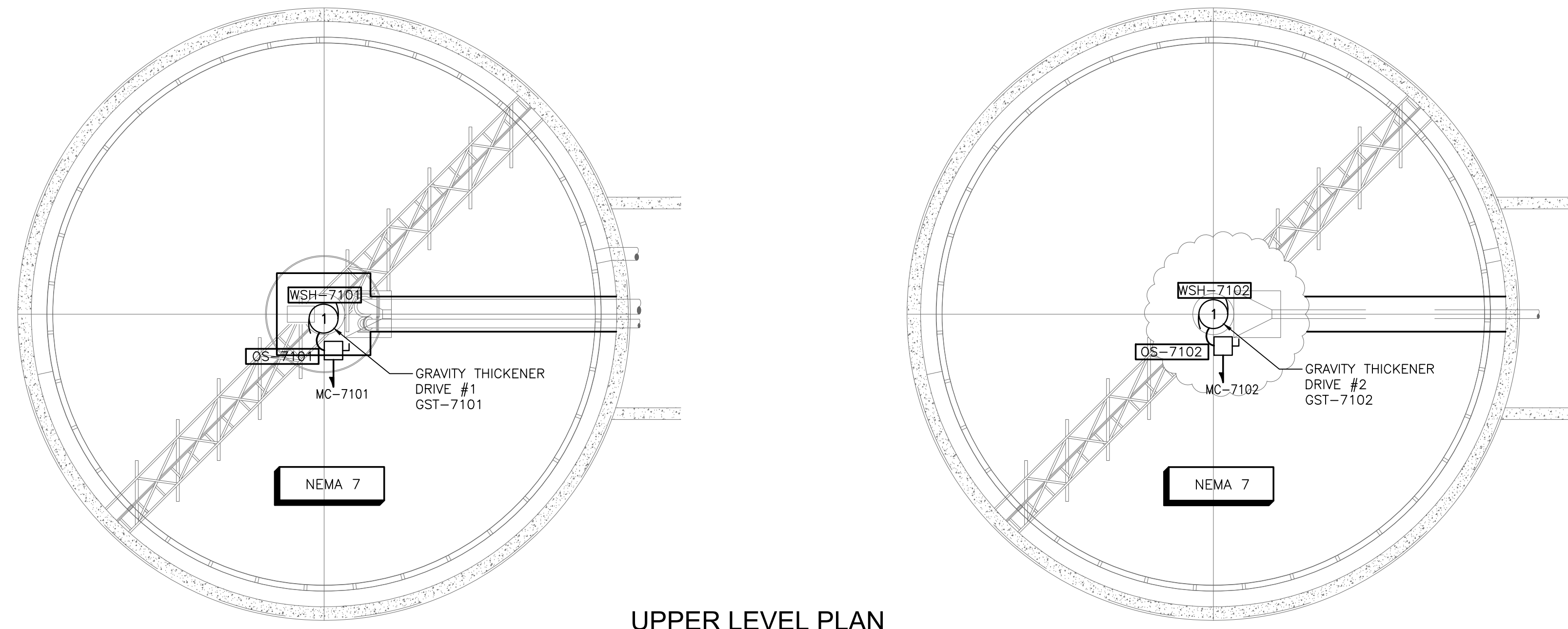
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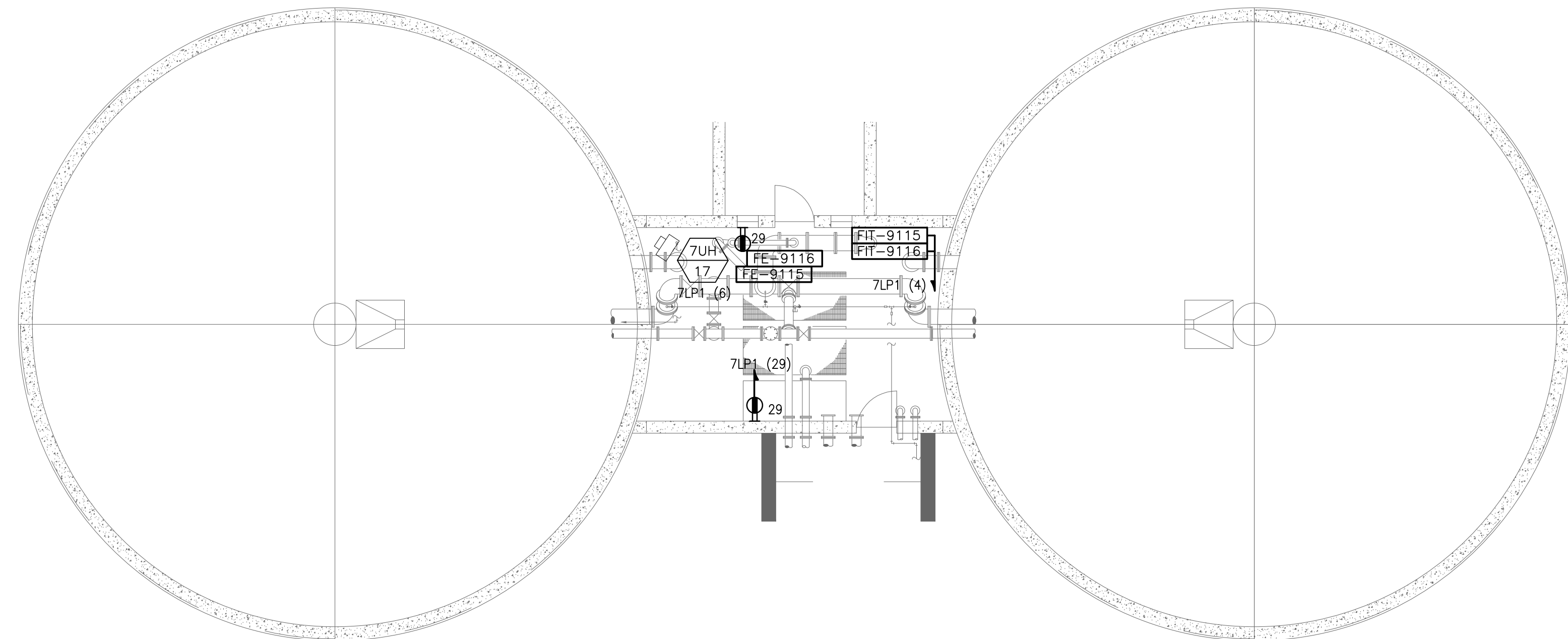
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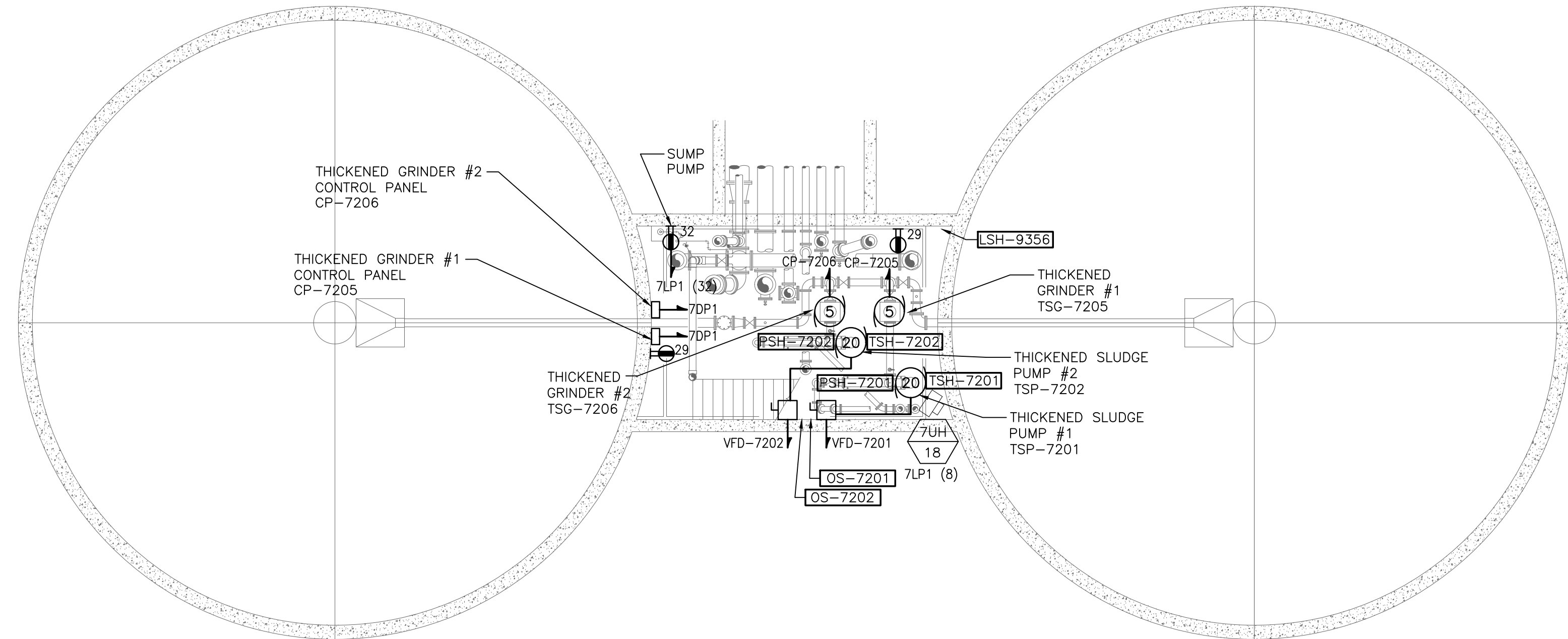
1/13/2021 12:54 PM 10/15/2021 11:13 AM 10/15/2021 11:13 AM TAUNTON WWTF UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW,STB)



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



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



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

PREPARED BY



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REGISTERED PROFESSIONAL



Michael J. Cotter
Professional Engineer

SUBCONSULTANT



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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

Electrical
Gravity Thickening
Tanks
New Work Power
Plans

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

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

SCALE

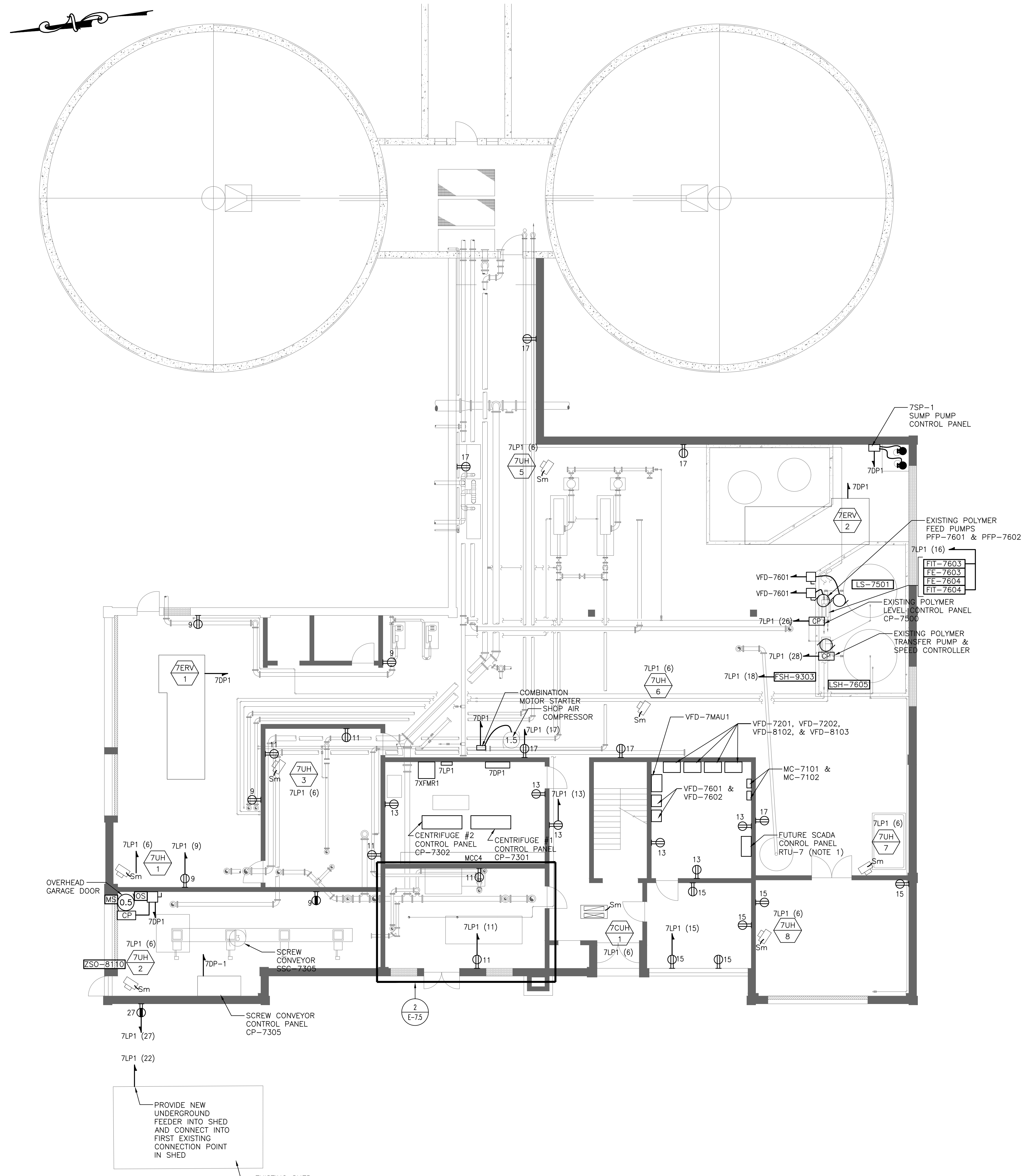
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UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

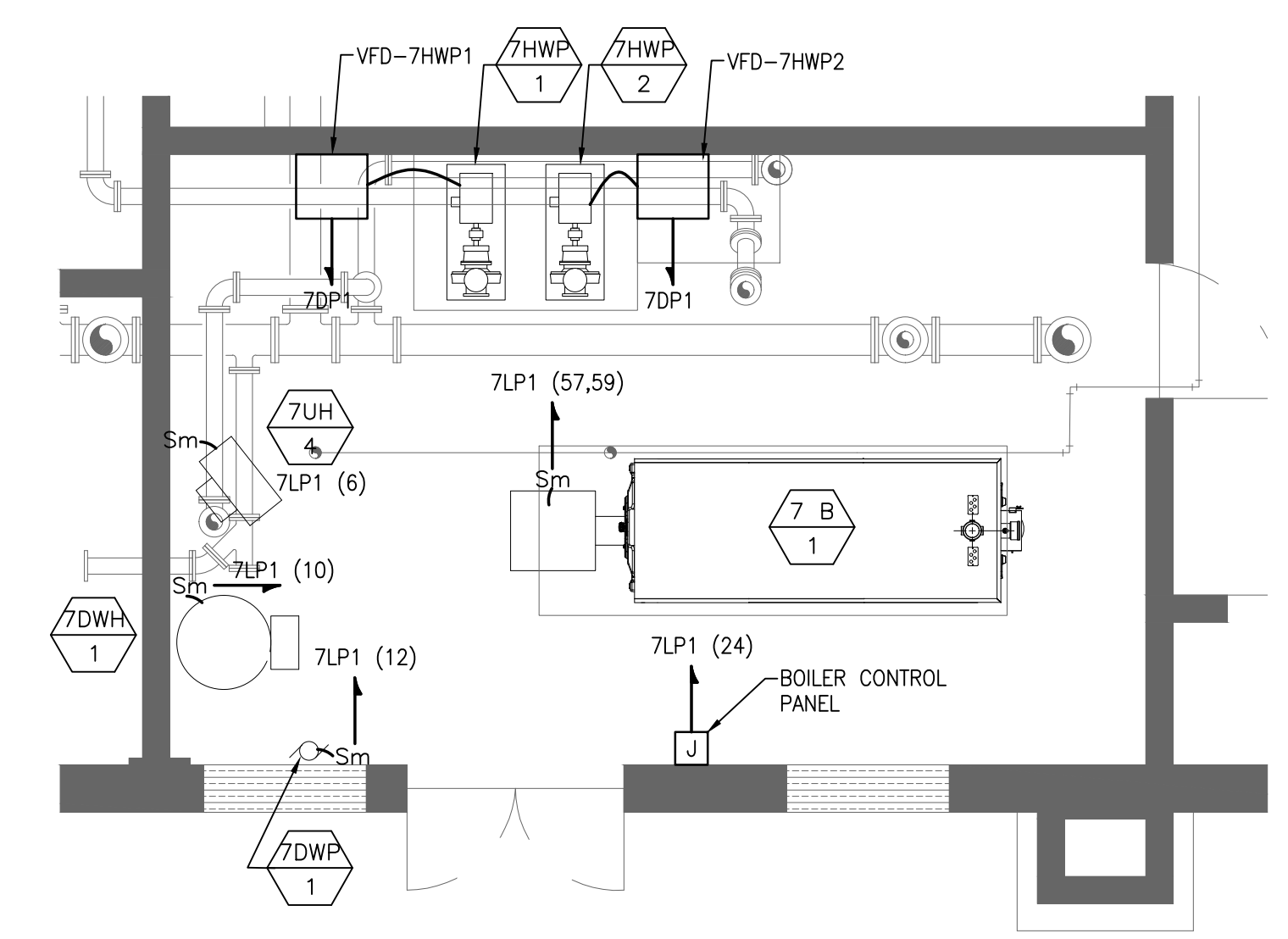
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1/13/2021 12:54 PM 10/1/2018 11:00:00 AM - TAUNTON WWTFF UPGRADE ELECTRICAL DEPARTMENT PHASE I (A) 18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW, STB)



NOTES:
1. PROVIDE WIRE/CABLE TO FLOOR PLUS AN ADDITIONAL 6" FOR FUTURE INSTALLATION IN FUTURE RTU-7 CONTROL PANEL. COIL UP NEATLY, SECURE AND SUPPORT FROM CEILING STRUCTURE.

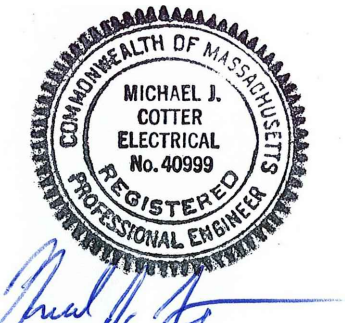


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REGISTERED PROFESSIONAL



MICHAEL J. COTTER
ELECTRICAL
No. 40999
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Solids Handling Building First Floor New Work Power Plan

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

AS SHOWN

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SHEET NO.

E-7.5

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REGISTERED PROFESSIONAL



Michael J. Cotter

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Solids Handling Building Second Floor New Work Power Plan

AS RE-ISSUED PER ADDENDUM #2

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

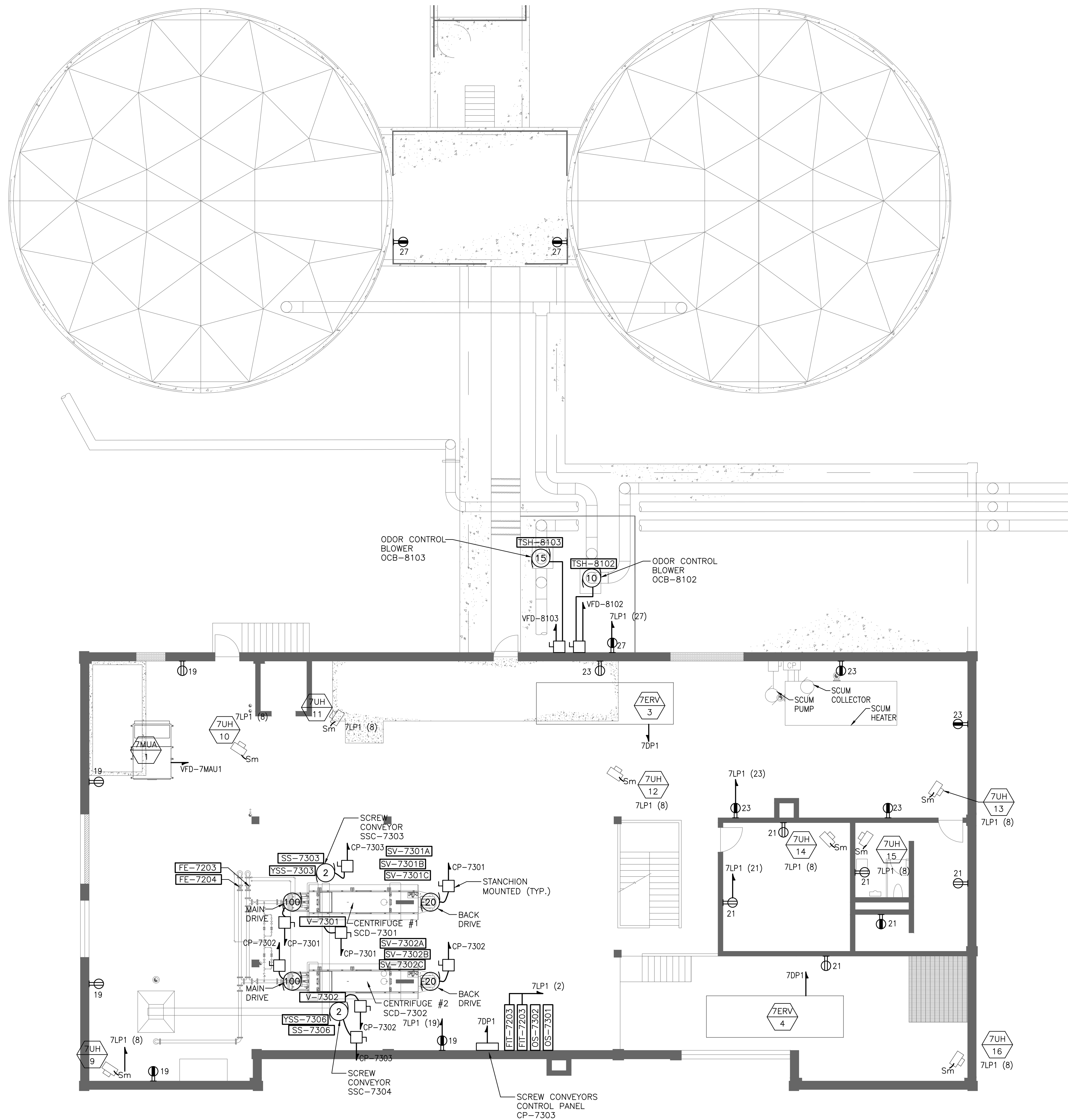
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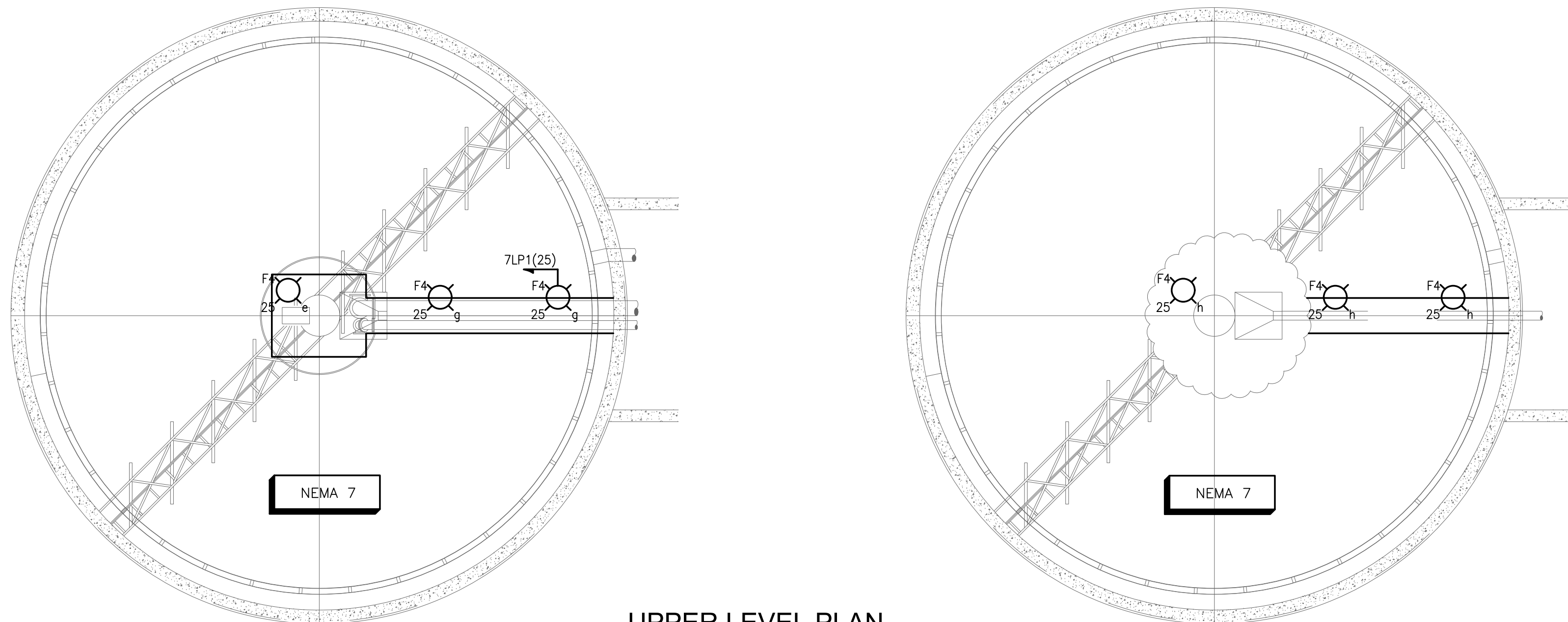
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E-7.6



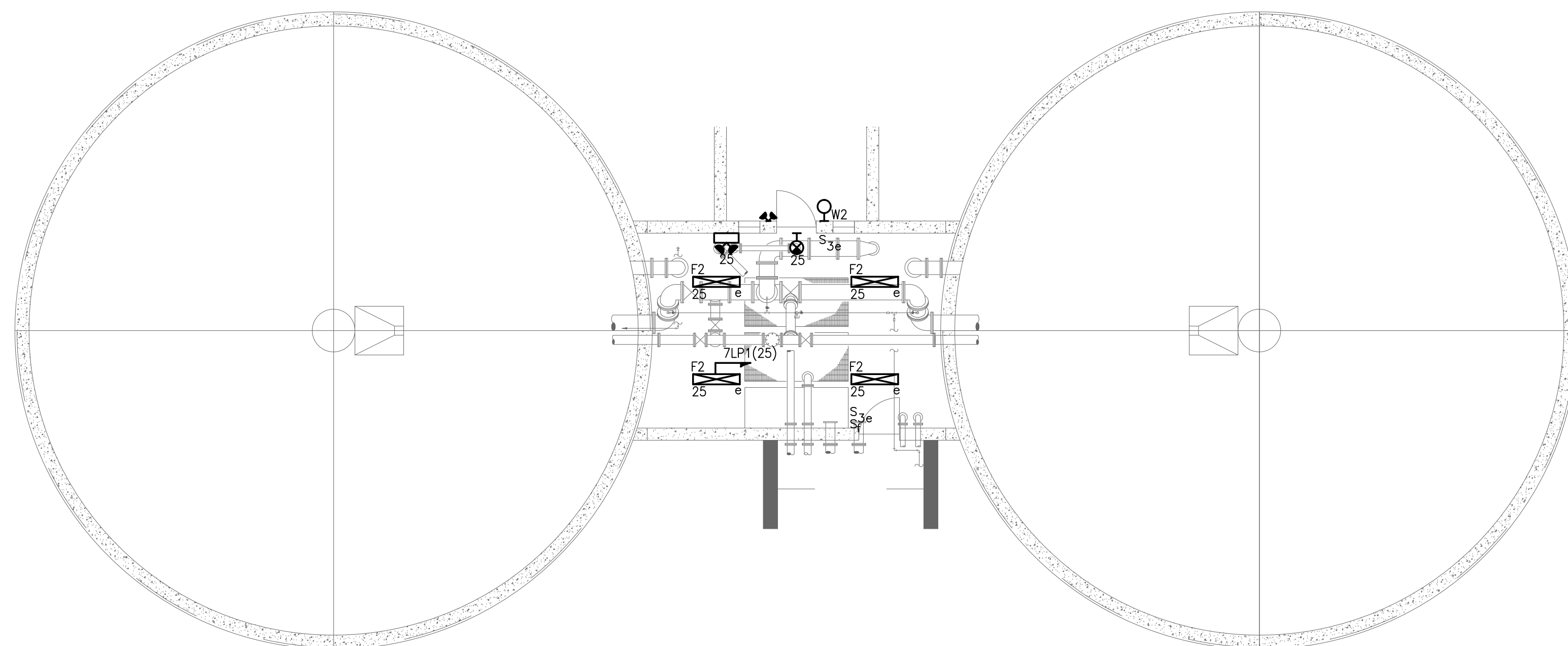
SECOND FLOOR - PLAN
SCALE: 1/8"= 1'-0"

1/3/2021 12:55 PM 10/16/2020 - TAUNTON WWTFF UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)



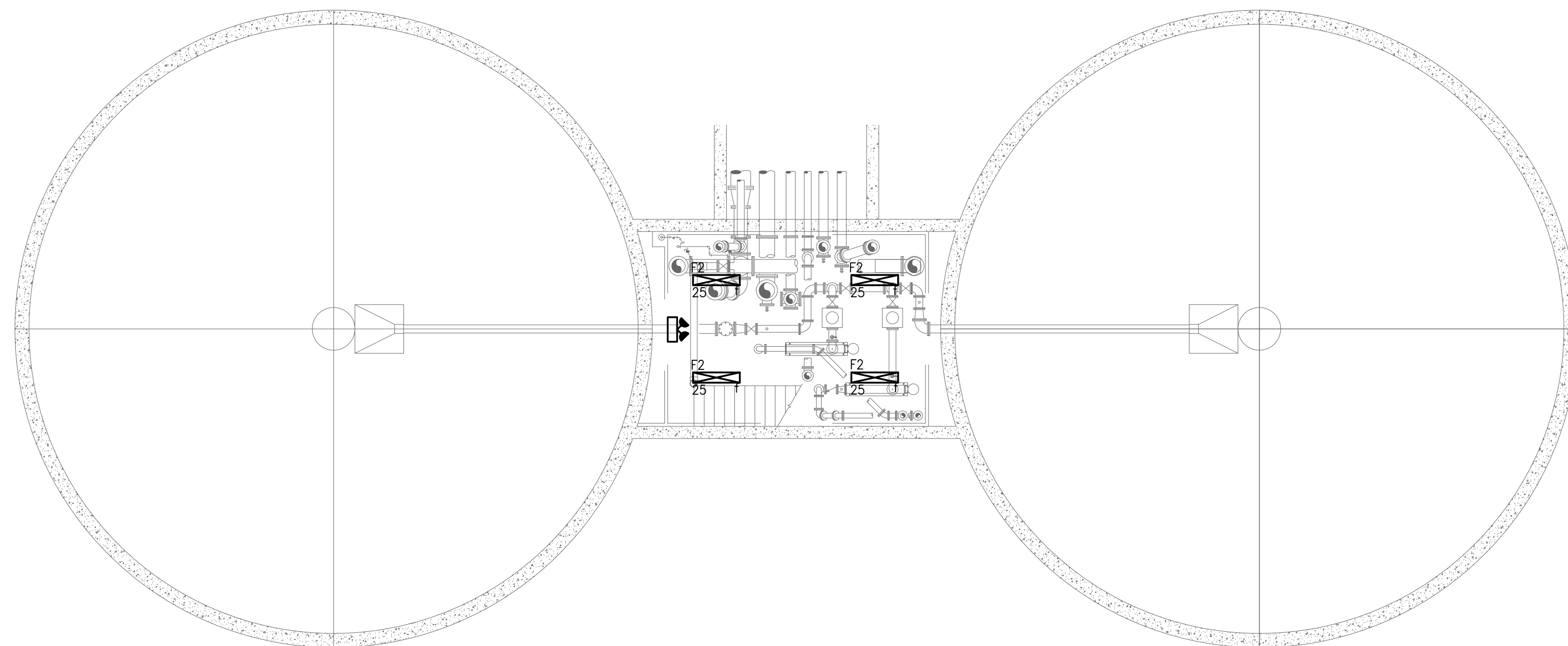
UPPER LEVEL PLAN

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



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

1/3/2021 12:55 PM 10/16/2021 12:55 PM - 2018/18009.00 - TAUNTON WWTU UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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REGISTERED PROFESSIONAL



Michael J. Cotter
Professional Engineer

SUBCONSULTANT



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Gravity Thickening Tanks
New Work Lighting Plans

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE

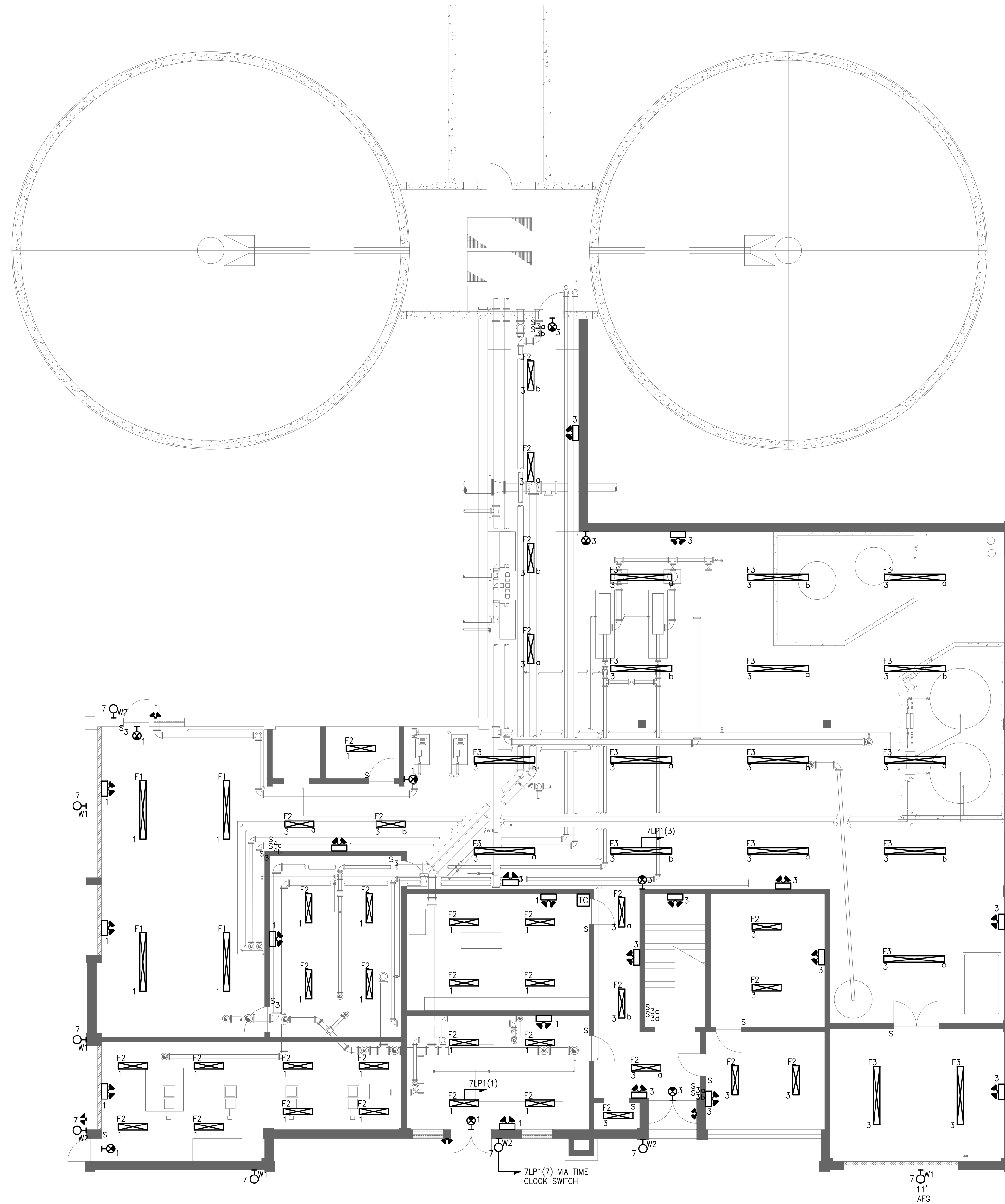
NO.	REVISIONS	DATE

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

SCALE

AS SHOWN

SHEET NO.	E-7.7
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FIRST FLOOR - PLAN
SCALE: 1/8" = 1'-0"

1/13/2021 12:56 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\ELECTRICAL DEPARTMENT\PHASE (A)\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB.BW.STB)

PREPARED BY



REGISTERED PROFESSIONAL



Michael J. Cotter

SUBCONSULTANT



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Braintree, Massachusetts 02184
617.328.9215
web: www.sar.com

PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Electrical
Solids Handling
Building
First Floor New
Work Lighting
Plan**

AS RE-ISSUED PER
ADDENDUM #2

NO.	REVISIONS	DATE
-----	-----------	------

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

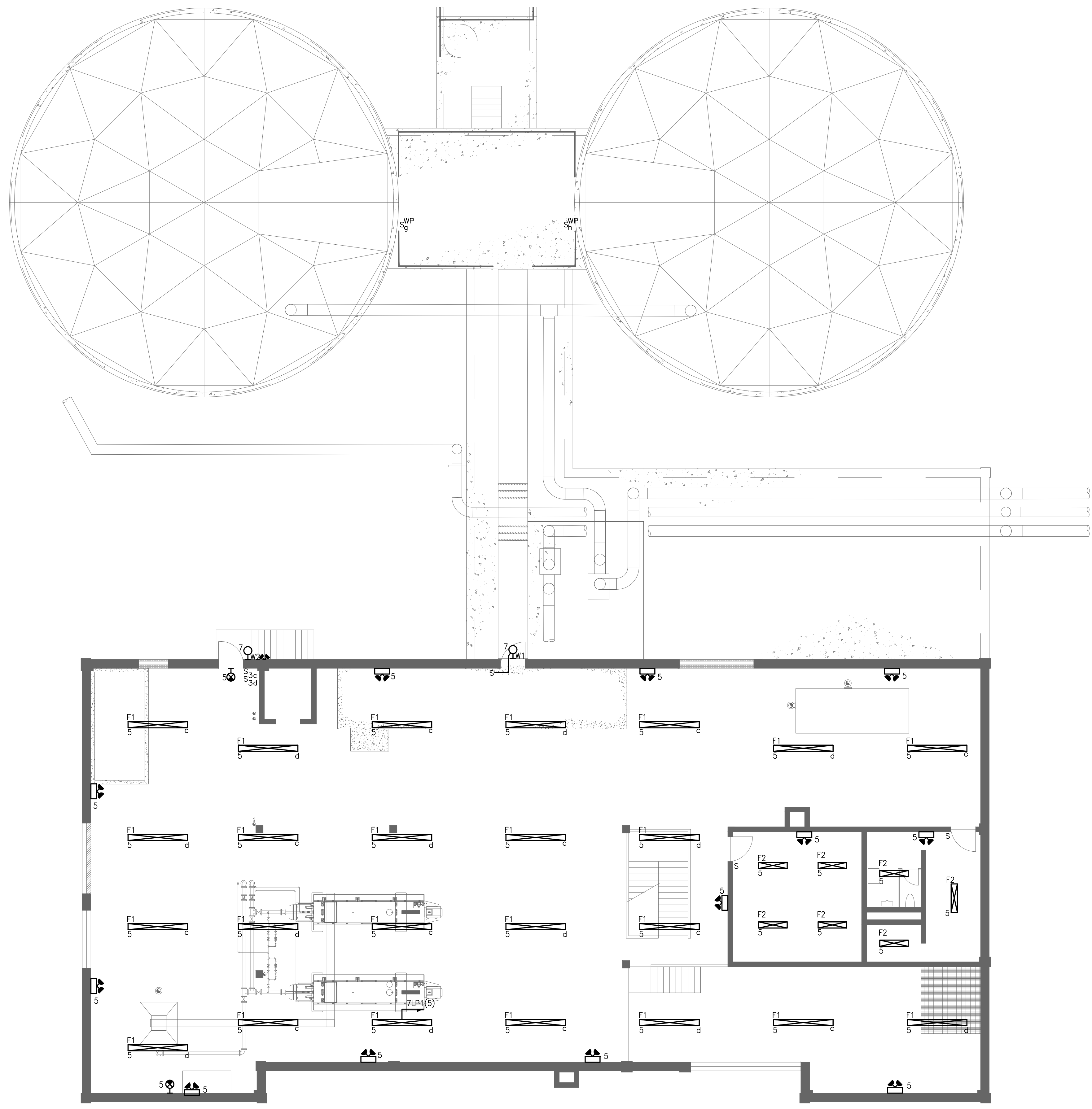
SCALE

AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

E-7.8



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

1/13/2021 12:56 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\ELECTRICAL DEPARTMENT\PHASE 1\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB.BW.STB)

PREPARED BY



REGISTERED PROFESSIONAL



Michael J. Cotter

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PROJECT

Taunton Wastewater
Treatment Facility
Improvements
Solids Handling

Taunton, MA

TITLE

Electrical
Solids Handling
Building
Second Floor
New Work
Lighting Plan

AS RE-ISSUED PER
ADDENDUM #2

NO. REVISIONS DATE

DRAWN BY: RLB

DESIGNED BY: MC

CHECKED BY: MC

ISSUE DATE: 10/16/2020

BETA JOB NO.: 6050

SCALE

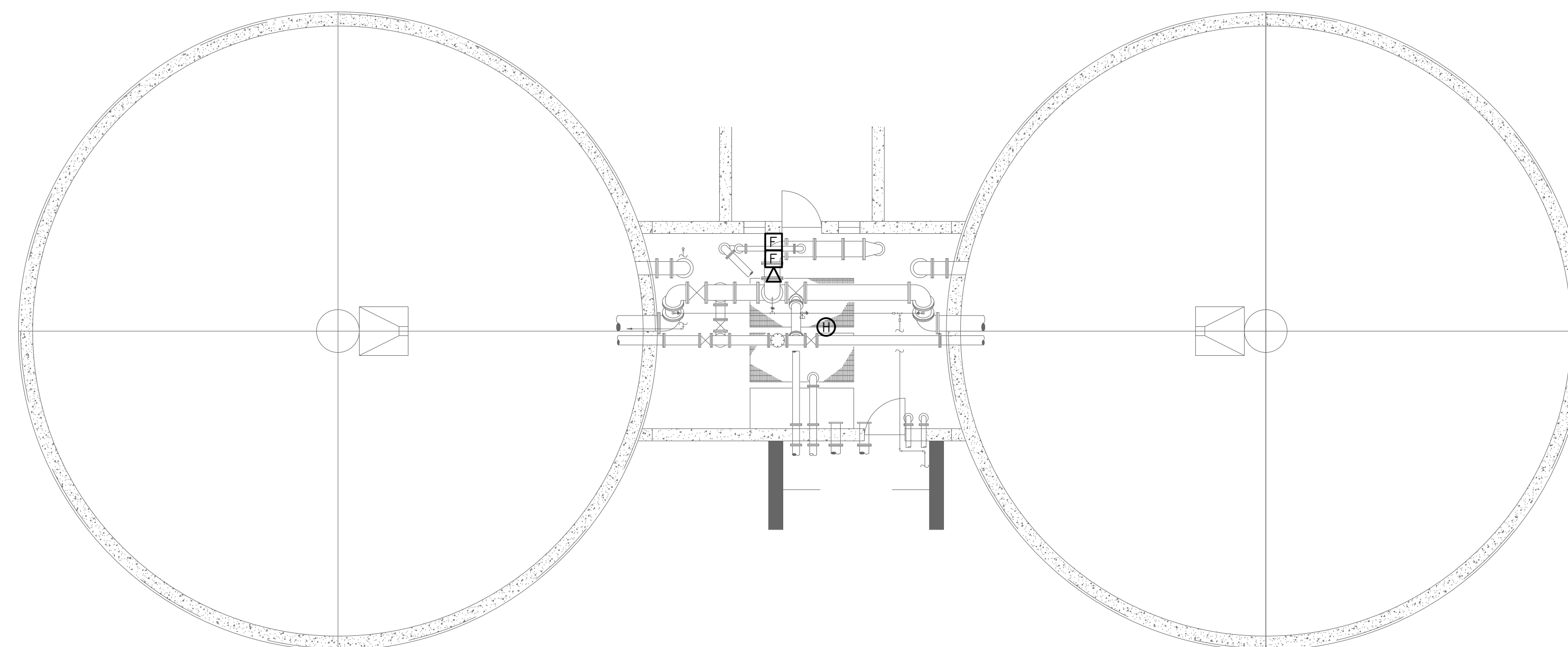
AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

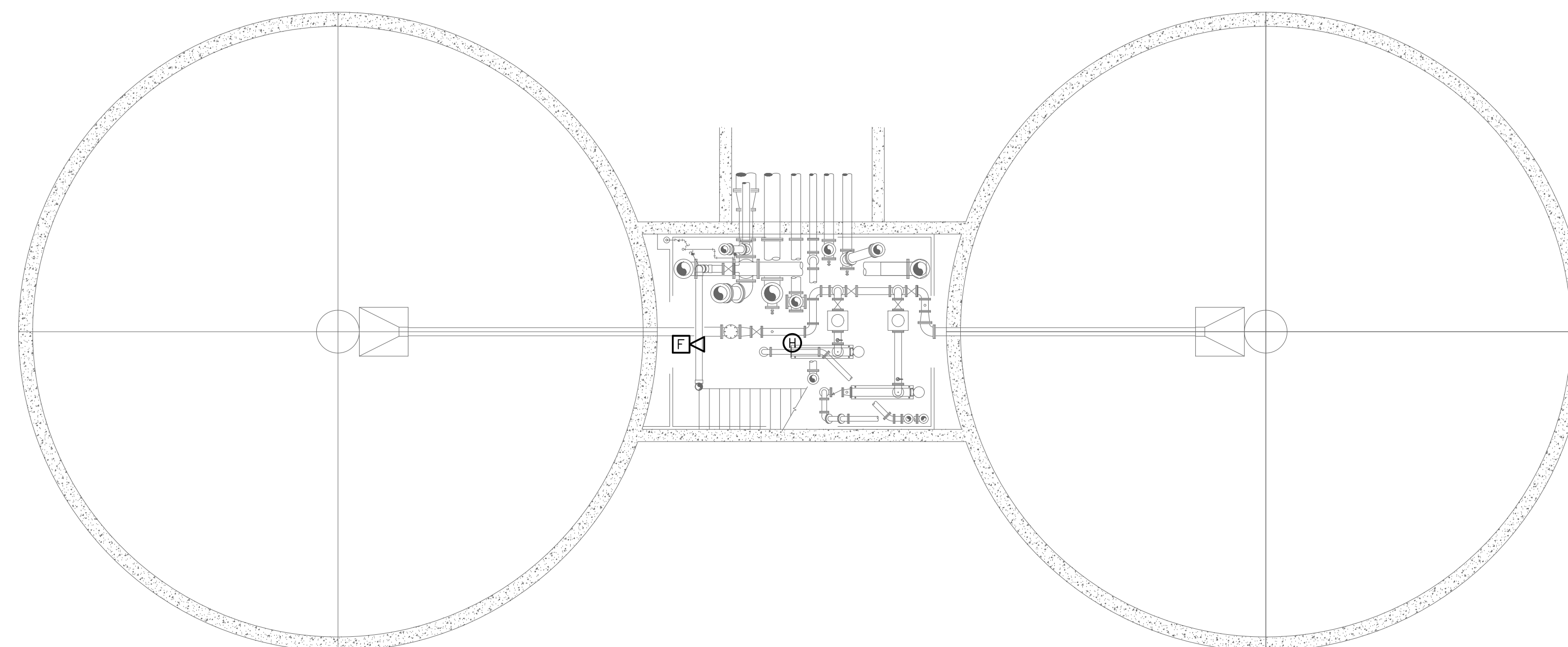
SHEET NO.

E-7.9

1/3/2021 12:57 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADE\ELECTRICAL DEPARTMENT\PHASE 1\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW STB)



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

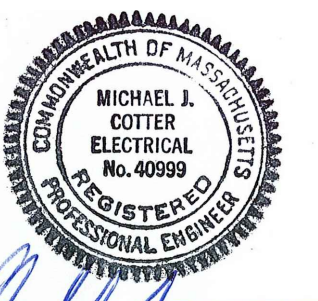


LOWER LEVEL PLAN
SCALE: 1/8" = 1'-0"

PREPARED BY



REGISTERED PROFESSIONAL



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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Electrical
Gravity Thickening
Tanks
New Work Fire Alarm
Plans**

AS RE-ISSUED PER
ADDENDUM #2

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

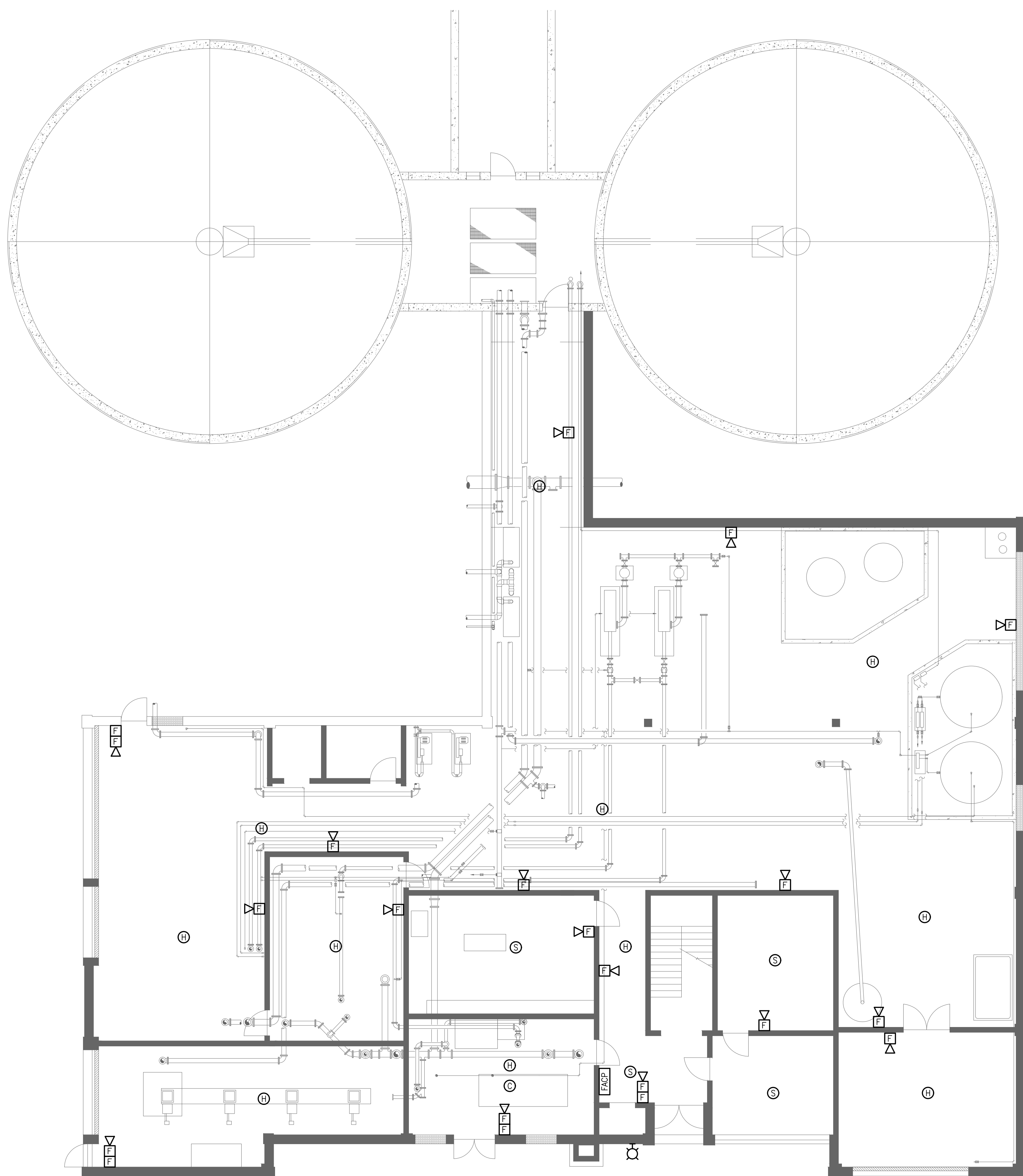
SCALE

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SHEET NO.

E-7.10



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

1/13/2021 12:57 PM 10/11/2020 12:57 PM - 2018/18009.00 - TAUNTON WWTFF UPGRADE/ELECTRICAL DEPARTMENT/PHASE I/18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW, STB)

PREPARED BY



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PROJECT

**Taunton Wastewater
Treatment Facility
Improvements
Solids Handling**

Taunton, MA

TITLE

**Electrical Solids
Handling
Building
First Floor New
Work Fire Alarm
Plan**

**AS RE-ISSUED PER
ADDENDUM #2**

NO.	REVISIONS	DATE

NO.	REVISIONS	DATE

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

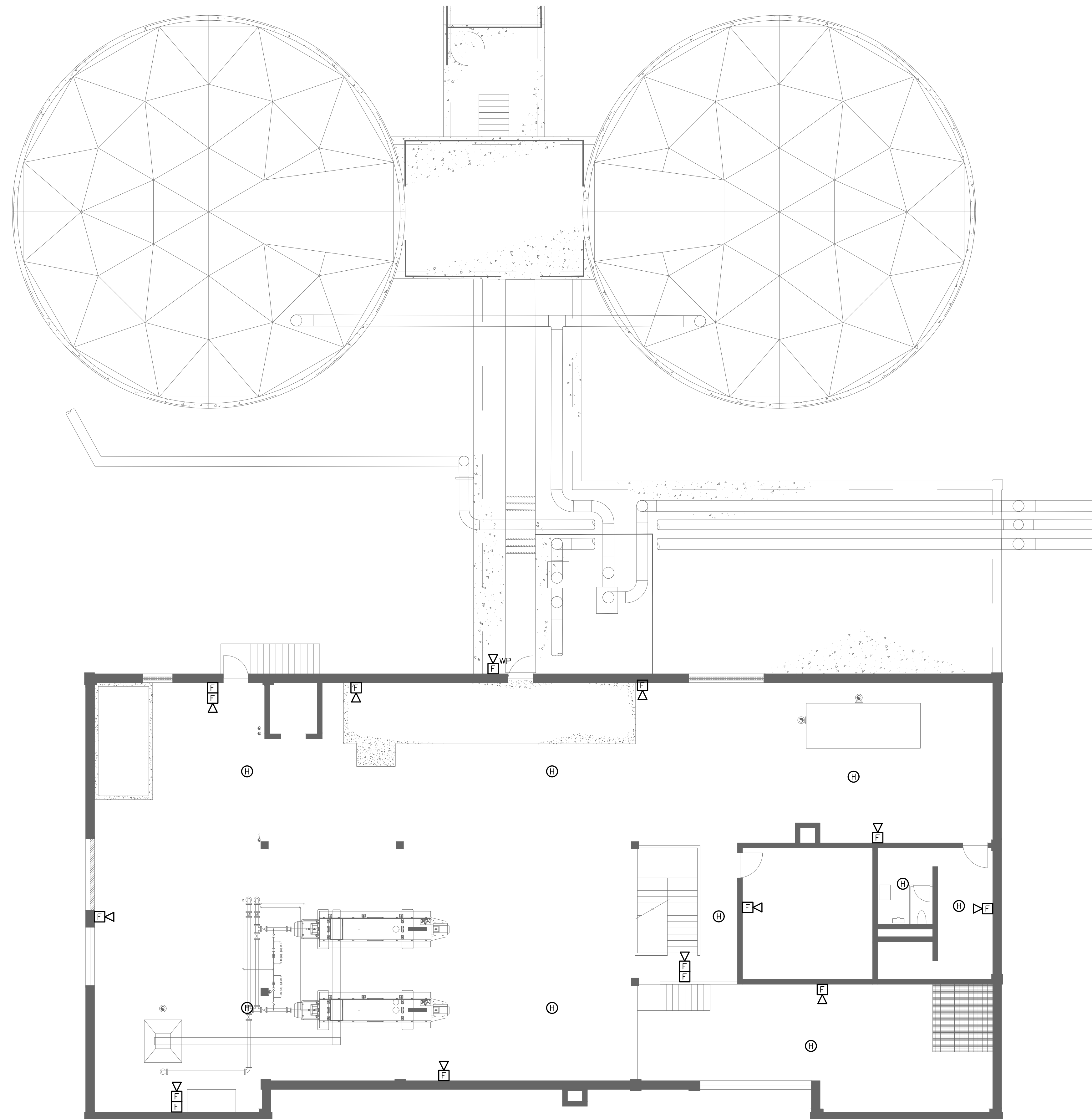
SCALE

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SHEET NO.

E-7.11



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

PREPARED BY



REGISTERED PROFESSIONAL



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PROJECT

Taunton Wastewater
Treatment Facility
Improvements
Solids Handling

Taunton, MA

TITLE

Electrical Solids
Handling
Building
Second Floor
New Work Fire
Alarm Plan

AS RE-ISSUED PER
ADDENDUM #2

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

SCALE

AS SHOWN

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E-7.12