

PROJECT:

West Parish Filters Water Treatment
Plant
1515 Granville Road
Westfield, MA 01085
Project No. 24-51

ADDENDUM NO. 3 04/01/2024

Posted: 04/01/2024 at 5:34PM EDT

Awarding Authority/Owner:

Springfield Water and Sewer Commission
250 M Street Extension
Agawam, MA 01001

Reference Contract Documents (drawings and specifications) dated 02/26/2024

The attention of Bidders submitting proposals for the above subject project is called to the following addendum to the specifications and drawings. The items set forth herein, whether of omission, addition, substitution, or clarifications are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (3) MUST BE ENTERED IN THE APPROPRIATE SPACE "B" PROVIDED AFTER THE WORD "NUMBERS" OF THE CONTRACT FORM ENTITLED "FORM FOR GENERAL BID," AND IN SPACE "B" OF THE "FORM FOR SUB-BID."

BID DOCUMENT MODIFICATIONS ARE AS FOLLOWS.

Pre-Bid Conference / Site Changes:

The following modifications have been made to the Pre-Bid Conference / Site Visit.

Pre-Bid Site visit requirement : Optional

Scheduled:

Date: 04/09/2024 at 10:00AM EDT

Location: 1515 Granville Road, Westfield, Westfield, MA 01085

Other Modifications / Attachments:

The following attachment includes additional modifications, clarifications and/or provisions not included in the items above in this Addendum.

See document at the end of document.

All other of the portions of the Contract Documents remain unchanged. Please be reminded to acknowledge this Addendum on the bid forms.

ATTACHMENTS

24-51 Addendum No. 3.pdf

--- End of Addendum No. 3 ---

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

SWSC BID NO. 24-51

ADDENDUM NO. 3

TO ALL CONTRACTORS ESTIMATING:

Bidders are hereby informed that plans and specifications for the above-mentioned contract are modified, corrected, and/or supplemented as follows, and that Addendum No. 3 becomes a part of the Contract Documents and consists of Item Nos. 3-1 through 3-79.



Marc W. Morin
04/01/2024

ANNOUNCEMENTS (THESE ITEMS NOT TO BECOME PART OF THE CONTRACT DOCUMENTS AND ARE FOR INFORMATION ONLY)

A second non-mandatory site visit will be held at 10 AM on April 9, 2024 at the West Parish Filters Water Treatment Plant located at 1515 Granville Road, Westfield, MA.

DRAWING CHANGES

ITEM 3-1: CONTRACT DRAWINGS

Delete the following drawing sheets in their entirety and replace with the attached drawings in Attachment No. A:

- G-002, Index Of Drawings - Sheet 1
- G-004, Index Of Drawings - Sheet 3
- C-000, General Notes, Legend And Abbreviations
- C-003, Erosion And Sediment Control Phasing Plan - Phase li
- C-004, Erosion And Sediment Control Phasing Plan - Phase lii
- C-005, Erosion And Sediment Control Phasing Plan - Phase Iv
- C-006, Erosion And Sediment Control Phasing Plan - Phase V
- C-100, Overall Existing Conditions With Yard Piping Demolition Plan
- C-101, Existing Conditions With Yard Piping Demolition Plan - Sheet 1
- C-102, Existing Conditions With Yard Piping Demolition Plan - Sheet 2
- C-103, Existing Conditions With Yard Piping Demolition Plan - Sheet 3
- C-104, Existing Conditions With Yard Piping Demolition Plan - Sheet 4
- C-105, Existing Conditions With Yard Piping Demolition Plan - Sheet 5
- C-107, Existing Conditions With Yard Piping Demolition Plan - Sheet 7
- C-110, Overall Demolition Plan
- C-111, Demolition Plan - Sheet 1
- C-114, Demolition Plan - Sheet 4
- C-120, Interim Overall Grading And Drainage Plan
- C-123, Interim Site Plan 3
- C-124, Interim Site Plan 4
- C-125, Interim Site Plan 5
- C-130, Overall Grading And Drainage Plan
- C-131, Grading And Drainage Plan - Sheet 1
- C-133, Grading And Drainage Plan - Sheet 3
- C-140, Overall Yard Piping Plan
- C-141, Yard Piping Plan - Sheet 1
- C-142, Yard Piping Plan - Sheet 2
- C-143, Yard Piping Plan - Sheet 3
- C-144, Yard Piping Plan - Sheet 4
- C-145, Yard Piping Plan - Sheet 5
- C-150, Overall Final Site Plan
- C-151, Final Site Plan - Sheet 1
- C-152, Final Site Plan - Sheet 2
- C-153, Final Site Plan - Sheet 3
- C-154, Final Site Plan - Sheet 4
- C-155, Final Site Plan - Sheet 5
- C-156, Final Site Plan - Sheet 6
- C-157, Final Site Plan - Sheet 7
- C-170, Site Sections - Sheet 1
- C-210, Stormwater Wetland Pond Plan
- C-212, Storm Drain Profiles - Sheet 1
- C-213, Storm Drain Profiles - Sheet 2
- C-214, Storm Drain Profiles - Sheet 3

- C-215, Storm Drain Profiles - Sheet 4
- C-216, Storm Drain Profiles - Sheet 5
- C-220, Site Drain Profile
- C-231, Sanitary Sewer Profiles
- C-233, Septic System Plan
- C-235, Septic System Details - Sheet 2
- C-236, Holding Tank Details
- C-246, Raw Water Transmission Main Connection Details - Sheet 1
- C-251, Treated Water Transmission Main Plan And Profile - Sheet 1
- C-252, Treated Water Transmission Main Plan And Profile - Sheet 2
- C-253, Treated Water Transmission Main Plan And Profile - Sheet 3
- C-254, Treated Water Transmission Main Connection Details
- C-263, Fence Restoration Plan - Sheet 2
- C-271, Overflow Profile - Sheet 1
- C-272, Overflow Profile - Sheet 2
- C-273, Process Piping Profiles - Sheet 1
- C-274, Process Piping Profiles - Sheet 2
- C-275, Fire And Service Water Profiles - Sheet 1
- C-276, Process And Service Water Profiles - Sheet 2
- C-301, Erosion And Sediment Control Notes And Details - Sheet 1
- C-314, Site Details - Sheet 1
- C-316, Yard Piping Details - Sheet 1
- L-001, General Notes, Symbols, and Abbreviations
- L-002, Drawing Key and Overall Planting Plan
- L-101, Planting Plan - Sheet 1
- L-102, Planting Plan - Sheet 2
- L-103, Planting Plan - Sheet 3
- L-104, Planting Plan - Sheet 4
- L-105, Planting Plan - Sheet 5
- L-106, Planting Plan - Sheet 6
- L-107, Planting Plan - Sheet 7
- L-108, Planting Plan - Sheet 8
- L-201, Planting Schedule
- A-003, Architectural Notes - Sheet 2
- A-004, Architectural Notes - Sheet 3
- A-005, Roof Details
- A-013, Finish Schedule
- A-1208, Water Treatment Building - Locker Room And Break Room Interior Elevations At El 471.00 - Administration Area
- A-1304, Water Treatment Building - Pantry, Conference And Training Room Interior Elevations At El 485.00 - Administration Area
- A-1709, Water Treatment Building - Curtain Wall A Plans, Elevation And Section - Administration Area
- A-3303, Dewatering Building - Interior Elevations

- M-102, Details - Sheet 2
- M-2100, Water Treatment Building - Overall Plan At El 457.00
- M-2102, Water Treatment Building - Plan At El 457.00 - Process Area 2
- M-2103, Water Treatment Building - Plan At El 457.00 - Process Area 3
- M-2104, Water Treatment Building - Plan At El 457.00 - Process Area 4
- M-2105, Water Treatment Building - Plan At El 457.00 - Process Area 5
- M-2106, Water Treatment Building - Plan At El 457.00 - Process Area 6
- M-2202, Water Treatment Building - Plan At El 47100 - Process Area 2
- M-2203, Water Treatment Building - Plan At El 47100 - Process Area 3
- M-2205, Water Treatment Building - Plan At El 47100 - Process Area 5
- M-2303, Water Treatment Building - Plan At El 485.00 - Process Area 3
- M-2305, Water Treatment Building - Plan At El 485.00 - Process Area 5
- M-2306, Water Treatment Building - Plan At El 485.00 - Process Area 6
- M-2405, Water Treatment Building - Plan At El 499.00 - Process Area 5
- M-2703, Water Treatment Building - Sections - Process Area Sheet 3
- M-2704, Water Treatment Building - Sections - Process Area Sheet 4
- M-2705, Water Treatment Building - Sections - Process Area Sheet 5
- M-2711, Water Treatment Building - Sections - Process Area Sheet 11
- M-3201, Dewatering Building - Plan At El 464.50
- M-3301, Dewatering Building - Plan At El 484.50
- M-3704, Dewatering Building - Sections - Sheet 4
- M-5101, Miscellaneous Structures - Backwash Facility - Plans
- M-5102, Miscellaneous Structures - Backwash Facility - Sections
- I-2010, Process And Instrumentation Diagram - Raw Water
- I-2020, Process And Instrumentation Diagram - Daf Module
- I-2022, Process And Instrumentation Diagram - Daf Recycle Pumps
- I-2032, Process And Instrumentation Diagram - Filtered Water Discharge
- I-2112, Process And Instrumentation Diagram - Pacl Feed System
- I-2211, Process And Instrumentation Diagram - Electrical Switchgear
- I-5011, Process And Instrumentation Diagram - Backwash Pumping System
- I-5014, Process And Instrumentation Diagram - Domestic Water Pumping System
- I-5016, Process And Instrumentation Diagram - Domestic Water Caustic System
- H-021, Water Treatment Building - Cooling Water Control Diagram
- H-3201, Dewatering Building - Plan At El 464.50
- H-3301, Dewatering Building - Plan At El 484.50
- H-3701, Dewatering Building - Sections - Sheet 1
- H-3702, Dewatering Building - Sections - Sheet 2
- P-011, Water Treatment Building - Water Systems Riser Diagrams At El 471.00 - Process Area
- P-014, Dewatering Building - Water Services Riser Diagrams At El

464.50

- P-2702, Water Treatment Building - Sections - Process Area Sheet 2
- P-3201, Dewatering Building - Plan At EI 464.50
- P-3704, Dewatering Building - Sections - Sheet 4
- FP-2250, Water Treatment Building - Sprinkler Coverage Plan At EI 471.00 - Process Areas
- FP-2350, Water Treatment Building - Sprinkler Coverage Plan At EI 485.00 - Process Areas
- E-010, Standard Details - Sheet 8
- E-014, Manhole, Handhole, Ductbank Schedules And Details - Sheet 1
- E-015, Manhole, Handhole, Ductbank Schedules And Details - Sheet 2
- E-016, Manhole, Handhole, Ductbank Schedules And Details - Sheet 3
- E-017, Manhole, Handhole, Ductbank Schedules And Details - Sheet 4
- E-1101, Water Treatment Building - Power Plan At EI 457.00 - Administration Area 1
- E-1121, Water Treatment Building - Lighting Plan At EI 457.00 - Administration Area 1
- E-1201, Water Treatment Building - Power Plan At EI 471.00 - Administration Area 1
- E-1202, Water Treatment Building - Power Plan At EI 471.00 - Administration Area 2
- E-1221, Water Treatment Building - Lighting Plan At EI 471.00 - Administration Area 1
- E-1222, Water Treatment Building - Lighting Plan At EI 471.00 - Administration Area 2
- E-1301, Water Treatment Building - Power Plan At EI 485.00 - Administration Area 1
- E-1302, Water Treatment Building - Power Plan At EI 485.00 - Administration Area 2
- E-1321, Water Treatment Building - Lighting Plan At EI 485.00 - Administration Area 1
- E-1322, Water Treatment Building - Lighting Plan At EI 485.00 - Administration Area 2
- E-1401, Water Treatment Building - Overall Power And Lighting Plan At EI 499.00 - Administration Areas
- E-1520, Water Treatment Building - Overall Security System Plan At EI 457.00 - Administration Areas
- E-1521, Water Treatment Building - Overall Security System Plan At EI 471.00 - Administrations Areas
- E-1522, Water Treatment Building - Overall Security System Plan At EI 485.00 - Administration Areas
- E-1701, Water Treatment Building - Sections - Administration Area
- E-1802, Water Treatment Building - Security System Riser Diagram - Administration Area
- E-1803, Water Treatment Building - Panel Board Schedules -

Administration Area Sheet 1

- E-1804, Water Treatment Building - Panel Board Schedules - Administration Area Sheet 2
- E-1805, Water Treatment Building - Panel Board Schedules - Administration Area Sheet 3
- E-2104, Water Treatment Building - Power Plan At EI 457.00 - Process Area 4
- E-2105, Water Treatment Building - Power Plan At EI 457.00 - Process Area 5
- E-2106, Water Treatment Building - Power Plan At EI 457.00 - Process Area 6
- E-2107, Water Treatment Building - Power Plan At EI 457.00 - Process Area 7
- E-2108, Water Treatment Building - Power Plan At EI 457.00 - Process Area 8
- E-2109, Water Treatment Building - Power Plan At EI 457.00 - Process Area 9
- E-2124, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 4
- E-2125, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 5
- E-2126, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 6
- E-2127, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 7
- E-2128, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 8
- E-2129, Water Treatment Building - Lighting Plan At EI 457.00 - Process Area 9
- E-2202, Water Treatment Building - Power Plan At EI 471.00 - Process Area 2
- E-2203, Water Treatment Building - Power Plan At EI 471.00 - Process Area 3
- E-2207, Water Treatment Building - Power Plan At EI 471.00 - Process Area 7
- E-2208, Water Treatment Building - Power Plan At EI 471.00 - Process Area 8
- E-2209, Water Treatment Building - Power Plan At EI 471.00 - Process Area 9
- E-2221, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 1
- E-2222, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 2
- E-2223, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 3

- E-2224, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 4
- E-2225, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 5
- E-2226, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 6
- E-2227, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 7
- E-2228, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 8
- E-2229, Water Treatment Building - Lighting Plan At EI 471.00 - Process Area 9
- E-2301, Water Treatment Building - Power Plan At EI 485.00 - Process Area 1
- E-2302, Water Treatment Building - Power Plan At EI 485.00 - Process Area 2
- E-2303, Water Treatment Building - Power Plan At EI 485.00 - Process Area 3
- E-2304, Water Treatment Building - Power Plan At EI 485.00 - Process Area 4
- E-2305, Water Treatment Building - Power Plan At EI 485.00 - Process Area 5
- E-2307, Water Treatment Building - Power Plan At EI 485.00 - Process Area 7
- E-2308, Water Treatment Building - Power Plan At EI 485.00 - Process Area 8
- E-2309, Water Treatment Building - Power Plan At EI 485.00 - Process Area 9
- E-2321, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 1
- E-2322, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 2
- E-2323, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 3
- E-2324, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 4
- E-2325, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 5
- E-2326, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 6
- E-2328, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 8
- E-2329, Water Treatment Building - Lighting Plan At EI 485.00 - Process Area 9
- E-2400, Water Treatment Building - Overall Roof Plan At EI 499.00 -

Process Areas

- E-2401, Water Treatment Building - Enlarged Plan - Electrical Room No.1 At El 471.00 - Process Area
- E-2402, Water Treatment Building - Enlarged Plan - Electrical Room No.2 At El 485.00 - Process Area
- E-2560, Water Treatment Building - Overall Security System Plan At El 457.00 - Process Areas
- E-2561, Water Treatment Building - Overall Security System Plan At El 471.00 - Process Areas
- E-2562, Water Treatment Building - Overall Security System Plan At El 485.00 - Process Areas
- E-2701, Water Treatment Building - Sections - Process Area Sheet 1
- E-2702, Water Treatment Building - Sections - Process Area Sheet 2
- E-2801, Water Treatment Building - Overall Single Line Diagram - Existing
- E-2804, Water Treatment Building - Mcc-1 Single Line Diagram - Sheet 1
- E-2805, Water Treatment Building - Mcc-1 Single Line Diagram - Sheet 2
- E-2806, Water Treatment Building - Mcc-2 Single Line Diagram - Sheet 1
- E-2807, Water Treatment Building - Mcc-2 Single Line Diagram - Sheet 2
- E-2808, Water Treatment Building - Mcc-3 Single Line Diagram - Sheet 1
- E-2809, Water Treatment Building - Mcc-3 Single Line Diagram -Sheet 2
- E-2810, Water Treatment Building - Swbd-1 Single Line Diagram
- E-2811, Water Treatment Building - Switchgear Elevations
- E-2812, Water Treatment Building - Mcc Elevations - Sheet 1
- E-2813, Water Treatment Building - Mcc Elevations - Sheet 2
- E-2814, Water Treatment Building - Network Riser Diagrams - Process Area
- E-2816, Water Treatment Building - Security System Diagrams - Process Area
- E-2817, Water Treatment Building - Panel Board Schedules - Process Area Sheet 1
- E-2818, Water Treatment Building - Panel Board Schedules - Process Area Sheet 2
- E-2819, Water Treatment Building - Panel Board Schedules - Process Area Sheet 3
- E-2820, Water Treatment Building - Panel Board Schedules - Process Area Sheet 4
- E-2821, Water Treatment Building - Panel Board Schedules - Process Area Sheet 5

- E-2822, Water Treatment Building - Panel Board Schedules - Process Area Sheet 6
- E-2823, Water Treatment Building - Wiring Diagrams - Process Area Sheet 1
- E-2824, Water Treatment Building - Wiring Diagrams - Process Area Sheet 2
- E-2825, Water Treatment Building - Wiring Diagrams - Process Area Sheet 3
- E-3101, Dewatering Building - Power Plan At EI 450.00
- E-3121, Dewatering Building - Lighting Plan At EI 450.00
- E-3201, Dewatering Building - Power Plan At EI 464.50
- E-3221, Dewatering Building - Lighting Plan At EI 464.50
- E-3301, Dewatering Building - Power Plan At EI 484.50
- E-3321, Dewatering Building - Lighting Plan At EI 484.50
- E-3401, Dewatering Building - Enlarged Plan - Electrical Room At EI 484.50
- E-3560, Dewatering Building - Overall Security System Plan At EI 450.00
- E-3561, Dewatering Building - Overall Security System Plan At EI 464.50
- E-3562, Dewatering Building - Overall Security System Plan At EI 484.50
- E-3701, Dewatering Building - Sections
- E-3801, Dewatering Building - Mcc-4 Single Line Diagram - Sheet 1
- E-3802, Dewatering Building - Mcc-4 Single Line Diagram - Sheet 2
- E-3803, Dewatering Building - Mcc-4 Front Elevations
- E-3804, Dewatering Building - Panel Board Schedules
- E-3806, Dewatering Building - Wiring Diagrams - Sheet 1
- E-3807, Dewatering Building - Wiring Diagrams - Sheet 2
- E-3808, Dewatering Building - Wiring Diagrams - Sheet 3
- E-3810, Dewatering Building - Security System Diagram

SPECIFICATION CHANGES

ITEM 3-2: Section 00 01 10 – Table of Contents

Insert the following:

“Section 28 13 00 – Access Control” in Division 28

“Section 28 23 00 – Video Surveillance” in Division 28

“Section 33 56 34 – Industrial Wastewater Holding Tank” in Division 33.

ITEM 3-3: Section 00 11 00 – Advertisement for Bids

Delete “B-G Mechanical Services, Inc.” in the LIST OF PREQUALIFIED GENERAL BIDDERS AND SUB-BIDDERS LIST and Replace with “B-G Mechanical, Inc.” under the HVAC and Plumbing sections.

ITEM 3-4: Section 00 20 00 - Instructions to Bidders

After paragraph 7.01, insert the following:

“7.02 A second site visit will be held at the West Parish Filters, 1515 Granville Road, Westfield, MA local time on April 9, 2024 at 10:00 a.m. Representatives of Owner and Engineer will be present to discuss the Project.”

ITEM 3-5: Section 00 20 00 - Instructions to Bidders

Delete paragraph 10.03 in its entirety and replace with the following:

“10.03 Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security, and complied with the other conditions of the Notice of Award, whereupon the bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within **5 days** of the Notice of Award, Owner may annul the Notice of Award and the Bid security shall be forfeited to the Owner as liquidated damages for such failure.”

ITEM 3-6: Section 00 20 00 - Instructions to Bidders

Delete paragraph 14.06-C in its entirety and replace with: “NOT USED”

ITEM 3-7: Section 00 20 00 - Instructions to Bidders

Delete paragraph 14.06-D in its entirety and replace with: “NOT USED”

ITEM 3-8: Section 00 51 00 – Notice of Award

Delete this Section in its entirety and Replace with Section 00 51 00 Notice of Award included in Attachment B.

ITEM 3-9: Section 01 11 00 – Summary of Work

After paragraph 1.02.B.22, insert the following:

- “23. Treated Water conveyance pipeline improvements, including connection to existing mains and temporary relocation of treatment water mains during construction”

ITEM 3-10: Section 01 11 00 – Summary of Work

Delete paragraph 1.04.C in its entirety and Replace with the following:

- “C. Specifications related to the Waterproofing, Damp-proofing, and Caulking filed sub-bid category:
1. Section 07 10 00 – Basic Waterproofing, Damp-proofing, and Caulking Requirements.
 2. Section 07 13 54 – Thermoplastic Sheet Waterproofing.
 3. Section 07 26 16 – Below Grade Vapor Retarders.
 4. Section 07 27 26 - Fluid-Applied Membrane Air Barriers.
 5. Section 07 90 00 – Joint Fillers, Sealants and Caulking.
 6. Section 07 95 00 – Expansion Joint System.”

ITEM 3-11: Section 01 14 00 – Coordination with Owner’s Operations

After paragraph 1.05.C.8.c, insert with the following:

- “d. No other owner supplied water source may be used by the Contractor without explicit written permission from the Owner.”

ITEM 3-12: Section 01 14 00 – Coordination with Owner’s Operations

Re-number paragraph 1.06.D to 1.06.A.

ITEM 3-13: Section 01 14 00 – Coordination with Owner’s Operations

Delete paragraph 1.06.A.2.f in its entirety and replace with the following:

- “f. Tie-ins 1, 2, 3 and 4 part 1 may occur in the order proposed by the Contractor and approved by the Owner. Once these tie-ins are complete, the Contractor may proceed with Tie-in 4 part 2. Once Tie-in 4 part 2 is complete, the Contractor may proceed with Tie-in 5. No two tie-ins may occur simultaneously unless approved by the Owner. Tie-ins shall not be permitted on holiday or holiday weekends including Thanksgiving, Christmas, New Years, Memorial Day, July 4th and Labor Day.”

ITEM 3-14: Section 01 14 00 – Coordination with Owner’s Operations

Delete paragraph 1.06.A.3.d in its entirety and replace with the following:

- “d. Installation of the 60” raw water transmission main between the EDV Structure and Cook Brook shall not begin until the EDV Structure is substantially complete. Installation of the 60” raw water transmission main between Cook Brook and the new water treatment plant may begin before the EDV Structure is substantially complete. Refer to Section 01 11 00 – Summary of Work for other construction contracts at the Site. The 60” motorized gate shall remain closed and under lock out and tag out until startup.”

ITEM 3-15: Section 01 32 00 – Construction Progress Schedules

Delete paragraph 1.04.B in its entirety and replace with the following:

- “B. The Schedule’s Late Finish Date shall equal the Contract Completion Date. The Schedule’s Late Finish date for any intermediate milestone shall equal the contractual completion date.”

ITEM 3-16: Section 01 32 00 – Construction Progress Schedules

After paragraph 1.04.I, insert the following:

- “J. Activity Codes: As a minimum, the following activity codes shall be included:
1. Responsibility – The party responsible for each activity. Only one party can be responsible for an activity.
 2. Location: Location of activity work by stationing, building, or other suitable reference.
 3. Added Work: Work added after acceptance of the Schedule or by contract change, or Update.
 4. Schedule Update Number: Assigned during schedule updates to identify progressed activities.
 5. Other project specific codes as required to facilitate use and analysis of the schedule.
 6. Information provided in the Work Breakdown Structure may be used in place of activity codes with approval by the Engineer.

- K. Approval of the Initial Baseline CPM Schedule, or any subsequent updates by the Engineer, shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Contractor of providing sufficient materials, equipment, and labor to guarantee completion of the project in accordance with the contract, proposal, plans, and specifications. Approval shall not be construed to modify or amend the completion date. Contractual requirement and Completion dates can only be amended by standard contractual means.
- L. Failure to include in the initial Baseline CPM Schedule any element of work required for performance of the contract shall not excuse to Contractor from completing all work required within the completion date(s) specified in the contract.”

ITEM 3-17: Section 01 52 00 Construction Facilities

Delete the table in paragraph 1.02.B.3 in its entirety and replace with the following:

“3.	Furnishing
4	Flat top desk, 2-1/2 x 5 feet, with drawers at each end
1	Plywood drawing table, 3 x 6 feet tilt top with drafting stool
18	Straight chairs
2	Four-drawer, legal size steel filing cabinets with lock and key (HON 210P Series full-suspension files)
1	23-gallon metal or heavy-duty plastic waste baskets with lids
3	28-quart metal or heavy-duty plastic waste baskets
1	Hanging drawing racks with appurtenances
2	Wall-mounted fire extinguishers
1	Bookcase with 4 shelves, 3 feet wide
3	Metal/plastic office folding tables, 30 x 60 inches (minimum)
1	Metal/plastic office folding table, 30 x 96 inches (minimum)
1	Steel storage cabinets (72” H x 36” W x 24” D) with four adjustable shelves and locks
1	First aid cabinet (conforms with OSHA requirements for construction site of up to five people)
4	Tilt/swivel type desk chairs

2	4 cu ft capacity refrigerator
1	1.4 cu. Ft. countertop microwave with double-oven cart
1	Laser copying/printing/scanner/facsimile machine with local service contract (printing/scanning in full color up to 11" x 17" paper size)
1	Office hard drive (1 TB minimum) and router networked for up to 4 personnel with high speed internet and 4-in-1 printer"

ITEM 3-18: Section 01 75 00 - Checkout and Startup Procedures

Delete paragraph 1.01.D.1 in its entirety and replace with the following:

- "1. The Owner will provide the following process chemicals for field testing and startup, including replenishment of chemicals consumed during field testing and startup: polyaluminum chloride, coagulant polymer, filter aid polymer, sodium hydroxide, sodium hypochlorite, and phosphoric acid. The Contractor is responsible for procuring any additional chemicals, including for testing disinfection and neutralization of tanks, piping, and equipment. Dewatering polymer is to be provided by the Contractor in accordance with Section 46 76 33 – Dewatering Centrifuges."

ITEM 3-19: Section 01 75 00 - Checkout and Startup Procedures

Delete paragraph 3.05.D.7.e in its entirety and replace with the following:

- "e. "NOT USED"

ITEM 3-20: Section 04 22 23.23 – Prefaced Concrete Unit Masonry

Delete paragraph 1.04.D and replace with the following:

- "D. Section 05 05 23 – Metal Fastening
E. Section 05 50 00 – Metal Fabrications
F. Section 07 60 00 – Sheet Metal Flashing and Trim"

ITEM 3-21: Section 04 22 23.23 – Prefaced Concrete Unit Masonry

Delete paragraph 3.02.I in its entirety and replace with the following:

- "I. Built-In Work: Metal door and window frames, fabricated metal and FRP frames, louvered openings, anchor bolts, pipes, ducts, conduits, plates, and items specified in other sections shall be built

in as the Work progresses. Items shall be built in plumb and level. Frame voids shall be filled solid with grout. Adjacent masonry cores shall be filled with grout for a minimum of twelve (12) inches beyond the framed openings. Do not build in organic materials subject to deterioration.”

ITEM 3-22: Section 04 43 00 – Stone Masonry

Delete paragraph 1.04.E in its entirety and replace with the following:

- “E. Section 05 05 23 – Metal Fastening
- F. Section 05 50 00 – Metal Fabrications
- G. Section 07 60 00 – Sheet Metal Flashing and Trim”

ITEM 3-23: Section 07 10 00 – Basic Waterproofing, Damproofing, and Caulking Requirements

Delete paragraph 1.02.A and replace with the following:

- “A. A FSB submitted for the work of Division 07 – Waterproofing, Damproofing, and Caulking shall include the work specified in the following Sections:
 - 1. 07 13 54 - Thermoplastic Sheet Waterproofing
 - 2. 07 26 16 - Below Grade Vapor Retarder
 - 3. 07 27 26 - Fluid-Applied Membrane Air Barriers¹
 - 4. 07 90 00 - Joint Fillers, Sealants and Caulking
 - 5. 07 95 00 - Expansion Joint System”

ITEM 3-24: Section 07 70 00 – Roof Specialties and Accessories

Delete paragraph 2.01.F in its entirety and replace with the following:

- “F. NOT USED”

ITEM 3-25: Section 07 90 00 – Joint Fillers, Sealants and Caulking

After paragraph 1.04.A.10, insert the following:

- “11. MassDEP – Massachusetts Department of Environmental Protection
- 12. 310 CMR 7.0 - Code of Massachusetts Regulations Air Pollution Control

13. VOC - Volatile Organic Compound
14. OTC – Ozone Transport Commission”

ITEM 3-26: Section 07 90 00 – Joint Fillers, Sealants and Caulking

After paragraph 1.05.A.4, insert the following:

- “5. Provide materials in accordance with local, state, and federal regulations. Where materials listed do not comply, substitute equal products with VOC limits which comply with local, state, and federal regulations indicate such upon submittal and provide at no additional cost to Owner.”

ITEM 3-27: Section 07 90 00 – Joint Fillers, Sealants and Caulking

Delete paragraph 1.07.B.2 in its entirety and replace with the following:

- “2. Formula or specification number, lot number, color and date of manufacturer”

ITEM 3-28: Section 08 11 13 – Steel Doors and Frames

Delete paragraph 1.02 in its entirety and replace with the following:

“1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 04 22 23.23 – Prefaced Concrete Unit Masonry
- B. Section 04 30 00 – Stone Masonry
- C. Section 08 14 00 – Wood Doors
- D. Section 08 71 01 - Finish Hardware
- E. Section 08 81 03 - Glass, Plastic and Glazing
- F. Section 09 90 00 – Painting”

ITEM 3-29: Section 08 81 03 – Glass, Plastic, and Glazing

Delete paragraph 2.1 in its entirety and replace with the following:

“2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Specifications provide insulating glass and laminated glass manufactured by one of the following:
 - 1. Basis of Design: Guardian Glass, LLC
 - 2. Arnold Glas
 - 3. Vitro
 - 4. Viracon, Inc.
 - 5. Cardinal IG

- B. Subject to compliance with the Specifications provide fire rated glazing system as manufactured by one of the following:
 - 1. Technical Glass Products' (TGP), 8107 Bracken Place SE Snoqualmie, WA 98065;
 - 2. SAFTI (Safety and Fire Technology, Inc.) , 100 N Hill Dr Ste 12, Brisbane, CA 94005;
 - 3. McGrory Glass, 1400 Grandview Avenue, Paulsboro, NJ 08066.”

ITEM 3-30: Section 08 81 03 – Glass, Plastic, and Glazing

Delete paragraph 2.2.D in its entirety and replace with the following:

- “D. Fire Rated Glazing System - ASTM E119 UL to be located as indicated on the Contract Drawings of a minimum of 1/4-inch thickness, indicated in fire rated assemblies in doors, sidelights or windows unless noted otherwise. Products are listed as follows:
 - 1. SuperLite II 90 28/28 glazing wall and door system UL Design #U518. Maximum vision area 28 square feet, 90-minute fire rate assembly. Basis of Design: SAFTI and O’Keeffe/GPX.
 - 2. SuperLite II-45 Door, window or sidelight ASTM E163 and E152 UL Design #R14212. Basis of Design SAFTI and CECO.
 - 3. SuperLite II 60 28 glazing wall system with GPX frame. ASTM E119 UL Design #U518. Basis of Design SAFTI and O’Keeffe/GPX.

4. Frame and metal door finish of Fire Rated Glazing System to match finish of door and frame which it is installed.”

ITEM 3-31: Section 09 90 00 – Painting

After paragraph 1.05.A.8, insert the following:

- “9. MassDEP - Massachusetts Department of Environmental Protection
10. 310 CMR 7.0 – Code of Massachusetts Regulation Air Pollution Control.
11. AIM – Architectural and Industrial Maintenance
12. VOC – Volatile Organic Compound
13. OTC – Ozone Transport Commission”

ITEM 3-32: Section 09 90 00 – Painting

Delete paragraph 1.06.A.2 in its entirety and replace with the following:

- “2. Painting schedule identifying surface preparation and paint systems proposed. Cross reference with Tables 1 and 2. Provide the name of the paint manufacturer, and name, address, and telephone number of manufacturer's representative who will inspect the work. Submit schedule for approval as soon as possible following the Award of Contract, so approved schedule may be used to identify colors and specify shop paint systems for fabricated items. Manufacturer shall substitute paint system with equal performance where required for MassDEP VOC compliance.”

ITEM 3-33: Section 09 90 00 – Painting

Delete paragraph 3.10.A in its entirety and replace with the following:

- “A. Provide paint systems in accordance with local, state, and federal regulations. Where paint systems shown in schedule do not comply, substitute equal products with VOC limits which comply with local, state, and federal regulations indicate such upon submittal and provide at no additional cost to Owner.”

ITEM 3-34: Section 09 90 00 – Painting

Delete Table 2 in its entirety and replace with Table 2 as shown in Attachment C.

ITEM 3-35: Section 11 40 00 – Foodservice Equipment

After paragraph 1.01.B.c, insert the following:

“d. Dishwasher”

ITEM 3-36: Section 11 40 00 – Foodservice Equipment

After paragraph 2.02.C, insert the following:

“D. Dishwasher: Provide GE Profile™ UltraFresh System Dishwasher with Stainless Steel Interior model number: PDT755SYRFS or approved equal meeting the following features:

1. Installation: Flush Cabinet
2. Finish: Fingerprint Resistant Stainless Steel
3. Appearance: Full-length door with sealed toe kick
4. Acoustics: Quiet water valve, 42 dBA Quiet Package”

ITEM 3-37: Section 21 12 00 – Fire Suppression Standpipes

Delete paragraph 2.01.A and replace with the following:

“A. FIRE PROTECTION SPRINKLER PIPING SUB-SUBCONTRACTOR shall ensure that all components of the piping system (including pipes, fittings, couplings, appurtenances and field-cut end joints) are compatible, and do not deviate from the listing and installation restrictions of the installed products. Any products that are purchased, installed or modified in a manner that does not meet this requirement shall be replaced at no expense to the owner.”

ITEM 3-38: Section 22 05 00 – Basic Plumbing Requirements

Delete paragraph 1.01.E.1 in its entirety.

ITEM 3-39: Section 22 05 00 – Basic Plumbing Requirements

Delete paragraph 2.02.A and replace with the following:

- “A. Coordinate with GENERAL CONTRACTOR installing concrete and/or MASONRY SUBCONTRACTOR installing block for placement of sleeves during concrete wall, concrete slab, or concrete block construction.”

ITEM 3-40: Section 22 05 00 – Basic Plumbing Requirements

Delete paragraph 2.03.A and replace with the following:

- “A. Coordinate with GENERAL CONTRACTOR installing concrete and/or MASONRY SUBCONTRACTOR installing block for placement of sleeves during concrete wall, concrete slab, or concrete block construction.”

ITEM 3-41: Section 22 11 19 – Facility Water Distribution Piping Specialties

After paragraph 1.02.A.22, insert the following:

- “23. Backpressure regulating valves”

ITEM 3-42: Section 22 11 19 – Facility Water Distribution Piping Specialties

After paragraph 2.23, insert the following:

“2.24 BACKPRESSURE REGULATING VALVES

- A. Valve shall be a single seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve seal and seat shall be field replaceable. The valve shall include a valve closing speed control and integral Y-strainer.
- B. Valves shall be capable of operation at 5 psig inlet pressure and shall be rated to relieve up to 150 gpm of clean water.
- C. Valves shall be lead free per NSF-372 or certified lead free by NSF-61.
- D. The valve body shall be ductile iron or stainless steel. All ferrous surfaces, excluding stainless steel, shall be coated with a minimum of 4 mils of epoxy.
- E. Dielectric flange kits shall be provided for connection to copper piping.
- F. Acceptable Manufacturers:
 - 1. OCV Control Valves – Model 108-2
 - 2. Flomatic – C301
 - 3. Watts – S Series
 - 4. Approved Equal”

ITEM 3-43: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 1.01.E.1 in its entirety and replace with the following:

“1. NOT USED”

ITEM 3-44: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 1.03.B and replace with the following:

“B. Shop Drawings: The HVAC SUBCONTRACTOR shall submit for approval shop drawings prepared in accordance with Section 01 33 00 – Submittal Procedures and as required by other Sections of these specifications.”

ITEM 3-45: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 1.10.B.2 and replace with the following:

- “2. Include travel, per diem and incidental costs for personnel under contract to the HVAC SUBCONTRACTOR.”

ITEM 3-46: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 1.12.B and replace with the following:

- “B. Include labor and materials to install certain items furnished under this contract when required by the schedule. These items are part of this contract but may need to be installed only after completion of work under another contract which the HVAC SUBCONTRACTOR may or may not be participating in. It is the responsibility of this contract to coordinate with others to ensure that preparations are made and ready to accept the installation of these items. These items include, but are not limited to:”

ITEM 3-47: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 1.13.A and replace with the following:

- “A. Should it become necessary to use the new portion of the system and the new equipment to warm or air condition part of the building before the completion of this work, the Owner reserves the right to make use of same at its own risk and expense, but the temporary use of the equipment shall not constitute an acceptance of the plant or part thereof in way. The Owner will bear the cost of fuel and electrical current for such temporary use of the equipment. If temporary use of new systems or equipment is solely for the benefit of the HVAC SUBCONTRACTOR, the HVAC SUBCONTRACTOR shall bear the cost of fuel and electrical current for such temporary use.”

ITEM 3-48: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 2.02.A and replace with the following:

- “A. Coordinate with GENERAL CONTRACTOR installing concrete and/or MASONRY SUBCONTRACTOR installing block for placement of sleeves during concrete wall, concrete slab, or concrete block construction.”

ITEM 3-49: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 2.04.A and replace with the following:

- “A. Coordinate with GENERAL CONTRACTOR installing concrete and/or MASONRY SUBCONTRACTOR installing block for placement of sleeves during concrete wall, concrete slab, or concrete block construction.”

ITEM 3-50: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.09.B.1 and replace with the following:

- “1. Study, examine, and compare of the contract documents, including drawings and specifications. The HVAC SUBCONTRACTOR shall have a full understanding of how the work in this part is scheduled, phased, and installed with work of other trades.”

ITEM 3-51: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.09.B.4 and replace with the following:

- “4. Certain installations may be presented as typical, and full details are not repeated for each case. The HVAC SUBCONTRACTOR shall provide complete installation as if full details apply to each and every case and make adjustments to typical details to suit each specific installation as part of the basic work.”

ITEM 3-52: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.09.B.6 and replace with the following:

- “6. If there is a discrepancy in the drawings or specifications, the HVAC SUBCONTRACTOR shall figure the work based on the most stringent requirements to complete the installation and obtain clarification from the Architect before installation.”

ITEM 3-53: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.09.C.12 and replace with the following:

- “12. Coordinate with the locations of electrical panels and avoid installing piping and ductwork over them. Electrical panels are purposely located and have priority for location. The HVAC SUBCONTRACTOR is responsible for required piping and ductwork offsets to ensure that the panels are located as designed and for other conditions.”

ITEM 3-54: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.12.B.3 and replace with the following:

- “3. It is the HVAC SUBCONTRACTOR’S responsibility to coordinate with the GENERAL CONTRACTOR and other SUBCONTRACTORS for accurate sizes and locations of openings through the structure. The dimensions shown on the Structural Drawings are for general information only. Provide specific sizes, dimensions, requirements, etc.”

ITEM 3-55: Section 23 00 00 - Basic HVAC Requirements

Delete paragraph 3.14.C and replace with the following:

- “C. If noise or vibration problems are a result of improper material or installation, or exceeds limits by this specification section, these conditions shall be corrected by the HVAC SUBCONTRACTOR at no cost to the Owner.”

ITEM 3-56: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.16.A and replace with the following:

- “A. Care shall be exercised during construction to avoid damage or disfigurement. Equipment shall be protected from dust and moisture prior to and during construction. The HVAC SUBCONTRACTOR is cautioned that concrete finishing, painting, etc. in electrical rooms shall not proceed if unprotected equipment is installed.”

ITEM 3-57: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.16.D and replace with the following:

- “D. The HVAC SUBCONTRACTOR shall repair by spray or brush painting, after properly preparing the surface, scratches or defects in the finish of the equipment. Only identical paint furnished by the equipment manufacturer shall be used for such purposes.”

ITEM 3-58: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.16.E and replace with the following:

- “E. Failure of the HVAC SUBCONTRACTOR to protect the equipment as outlined herein shall be grounds for rejection of the equipment and its installation.”

ITEM 3-59: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.22.A.2 and replace with the following:

- “2. The HVAC SUBCONTRACTOR shall submit to the Project Manager 3 copies of test results, certified in writing, witnessed, signed and dated, immediately upon completion of work. Unsatisfactory condition revealed by these test results, or unsatisfactory methods of tests and/or testing apparatus and instruments, shall be corrected by the HVAC SUBCONTRACTOR to the satisfaction of the Project Manager.”

ITEM 3-60: Section 23 00 00 – Basic HVAC Requirements

Delete paragraph 3.22.A.3 and replace with the following:

- “3. The Project Manager reserves the right to require that the HVAC SUBCONTRACTOR perform and repeat tests that are deemed necessary to complete or check the tests or the certified records of the HVAC SUBCONTRACTOR during the course of the work. Correct unsatisfactory portion of its work that is revealed by the tests or that may be due to progressive deterioration during this period, unless the item in question was a direct specification.”

ITEM 3-61: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 1.02.E in its entirety and replace with the following:

- “E. The Automatic Temperature Controls (ATC) SUB-SUBCONTRACTOR shall furnish and install all HVAC ATC components and accessories in accordance with the Specifications.”

ITEM 3-62: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 2.02.C in its entirety and replace with the following:

- “C. The ATC SUB-SUBCONTRACTOR shall provide all communication media, connectors, repeaters and network switches/routers, and network devices necessary to provide a complete and workable control network.”

ITEM 3-63: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 3.01.C in its entirety and replace with the following:

- “C. The ATC SUB-SUBCONTRACTOR shall examine the drawings and specifications for other parts of the work. If head room or space conditions appear inadequate or if any discrepancies occur between the plans and the ATC SUB-SUBCONTRACTOR’s work and the plans and the work of others the ATC SUB-SUBCONTRACTOR shall report these discrepancies to the ENGINEER and shall obtain written instructions for any changes necessary to accommodate the ATC SUB-SUBCONTRACTOR’s work with the work of others. Any changes in the work covered by this specification made necessary by the failure or neglect of the ATC SUB-SUBCONTRACTOR to report such discrepancies shall be made by and at the expense of the ATC SUB-SUBCONTRACTOR”

ITEM 3-64: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 3.03.B in its entirety and replace with the following:

- “B. Coordination with controls specified in other sections or divisions. Other sections and/or divisions of this specification include controls and control devices that are to be part of or interfaced to the control system specified in this section. These controls shall be integrated into the system and coordinated by the ATC SUB-SUBCONTRACTOR as follows:”

ITEM 3-65: Section 23 09 00 - HVAC Automatic Temperature Controls

Delete paragraph 3.16.A.1 in its entirety and replace with the following:

- “1. Prior to acceptance, the control system shall undergo a series of performance tests to verify operation and compliance with this specification and the sequence of operation. These tests shall occur after the HVAC SUBCONTRACTOR has completed the installation, started up the system, and performed their own tests. See section 23 05 95 for additional requirements related to system start-up.”

ITEM 3-66: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 3.16.A.3.a in its entirety and replace with the following:

- “a. DDC loop response. The ATC SUB-SUBCONTRACTOR shall supply trend data output in a graphical form showing the step response of each DDC loop. The test shall show the loop’s response to a change in set point, which represents a change of actuator position of at least 25% of its full range. The sampling rate of the trend shall be from 10 seconds to 3 minutes, depending on the speed of the loop. The trend data shall show for each sample the set point, actuator position, and

controlled variable values. Any loop that yields unreasonably under-damped or over-damped control shall require further tuning by the ATC SUB-SUBCONTRACTOR.”

ITEM 3-67: Section 23 09 00 – HVAC Automatic Temperature Controls

Delete paragraph 3.17.B in its entirety and replace with the following:

“B. At the completion of work in any area, the ATC SUB-SUBCONTRACTOR shall clean all work, equipment, etc., keeping it free from dust, dirt, and debris, etc.”

ITEM 3-68: Section 23 31 13 – Metal Ducts and Duct Accessories

After paragraph 3.03.A, insert the following:

“B. All ductwork connected to the following units (outside air, supply, return, exhaust) shall be leak tested:

1. DOAS-1
2. DOAS-2
3. EF-17
4. EF-19”

ITEM 3-69: Section 23 84 16 – Dehumidification Units

Delete paragraph 2.02 and replace with the following

- “A. Munters
- B. Bry-Air
- C. Scientific Climate Systems
- D. Or approved Equal (prior written approval by engineer of record is required)
- E. Manufacturer must clearly define any exceptions made to plans and specifications. Any deviations in layout or arrangement shall be submitted to the consulting engineer prior to bid date. Acceptance of deviation(s) from specifications shall be in the form of written approval from the consulting engineer. HVAC SUBCONTRACTOR is responsible for expenses that occur due to any exceptions

made.”

ITEM 3-70: Section 26 06 11 – Cable and Conduit Schedule

Delete Section 26 06 11 in its entirety and replace with the Section in Attachment D.

ITEM 3-71: Section 26 50 00 – Lighting

Delete table in 2.02.G in its entirety and replace with the table included in Attachment E.

ITEM 3-72: Section 28 13 00 – Access Control

Insert Section 28 50 00 – Access Control, included as Attachment F.

ITEM 3-73: Section 28 23 00 – Video Surveillance

Insert Section 28 23 00 – Video Surveillance, included as Attachment G.

ITEM 3-74: Section 33 56 34 – Industrial Wastewater Holding Tank

Insert Section 33 56 34 – Industrial Wastewater Holding Tank, attached in Attachment H.

ITEM 3-75: Section 40 05 68.23 – Miscellaneous Valves

Delete paragraph 2.03.B in its entirety and replace with the following:

“B. Reduced Pressure Zone Assembly (RPZA) Backflow Preventers:

1. Manufacturers:

a. Watts

b. Ames

c. FEBCO

2. Standard: ASSE 1013 or 1047 and AWWA C511.

3. Operation: Continuous-pressure applications.

4. Pressure Loss: 12 psi maximum, through middle 1/3 of flow range.

5. Provide with associated air gap fitting.

6.NPS 2 and smaller:

- a. Bronze body construction with stainless steel cover bolts and silicon rubber disc in both check valves and relief valve. Three screwdriver operated ball valve test cocks tapped into RPZ body.
- b. Replaceable polymer seats for check valves.
- c. Captured springs on check valves.
- d. Ball valves with stainless steel handles for isolation on upstream and downstream ends, with ball valve test cock on upstream isolation ball valve.
- e. Suitable for pressures up to 175 psig and temperature range of 33-180°F.
- f. Watts 009 M3 as basis of design.

7. NPS 2-1/2" and larger:

- a. Epoxy coated cast iron body construction with stainless steel seats, disc holders, and trim. Three bronze ball valve test cocks tapped into RPZ body. Coating shall comply with AWWA C550.
- b. Replaceable stainless steel seats and rubber discs.
- c. Resilient seated OS&Y gate valve for isolation on upstream and downstream ends, with test cock on upstream isolation valve.
- d. Suitable for pressures up to 175 psig and temperature range of 33-140°F.
- e. Watts 957-FS as basis of design."

ITEM 3-76: Section 40 61 93 – Process Control System Input-Output List Part 3

After 40 61 93 Part 2, insert the table included in Attachment I.

ITEM 3-77: Section 40 61 96 – Process Control Descriptions

Delete 3.01.B.5 in its entirety and replace with the following:

- "5. When backwashing the filters under low backwash flow conditions, modulate the existing flow control valve FCV-81040 to a fixed

position (initially 20% open, operator adjustable), open the new backwash recycle isolation valve MOV-81050, and modulate the backwash recycle flow control valve FCV-81060 to a fixed position (initially 20% open, operator adjustable) and begin controlling the backwash flow rate as measured by FE/FIT-81040 by modulating the pump speed as required.”

ITEM 3-78: Section 40 61 96 – Process Control Descriptions

After paragraph 3.01.B.5, insert the following:

- “6. When backwashing the filters under high backwash flow conditions, modulate the existing flow control valve FCV-81040 to a fixed position (initially 100% open, operator adjustable), open the new backwash recycle isolation valve MOV-81050, and modulate the backwash flow control valve FCV-81060 to a fixed position (initially 0% open, operator adjustable) and begin controlling the backwash flow rate as measured by FE/FIT-81040 by modulating the pump speed as required.”

ITEM 3-79: Section 40 61 96 – Process Control Descriptions

After paragraph 3.01, insert the following:

“3.02 CS-810.2 PH CONTROL OF DOMESTIC WATER

A. Reference Drawings: I-5014, 5016

B. Process Overview

1. In order to provide improved control for pH levels in the existing domestic water system, a small chemical addition skid shall be added to provide caustic to the water as required. The existing hardware and software will be updated and used for operation of the existing domestic water facility.
2. When existing flow switch FSL-73050 indicates a minimum flow of domestic water to the distribution system, and at least one of the caustic metering pumps P-70360 or P-70370 are in remote mode, the system shall send a run command to the enabled caustic metering system pump(s) P-70360 or P70370 and modulate the pump speed command(s) as required to maintain the operator pH setpoint (initially 7.0, adjustable) as measured by the

existing pH probe AE/AIT-70351.

C. Alarms

1. The system shall generate an alarm to notify the operator of a high pH condition on measured pH levels above operator setpoint (initially 8.0, adjustable).

D. Programmed Interlocks

1. When existing flow switch FSL-73050 indicates a low flow of domestic water to the distribution system or the measured pH is greater than or equal to a high-high interlock setpoint, (initially 8.2, adjustable), or the pH signal is out of range high or low, the system shall remove the run command and set the pump speed command to 0% to stop the flow of caustic into the system.”

RESPONSES TO BIDDER QUESTIONS

Question	Response
Will there be an opportunity for another walk through?	Yes. A second site visit is scheduled for April 9, 2024 at 10 AM.
Please advise if Owner or Contractor/CM will buy the builder's risk property insurance for this project.	The Contractor is responsible for purchasing Builders Risk Policy as per supplemental conditions. Further insurance requirements are contained within the supplemental conditions.
I have attached a submittal for Sherwin-Williams products to fill in areas where our coatings were missing in the specification or relace products listed that do not meet OTC 1 VOC requirements for field application in MA. Please let me know if the additions are approved	Refer to Items 3-31, 3-32, 3-33, and 3-34 in Addendum No. 3
Under Section 002000 Instruction to Bidders paragraph 14.06 Points A thru I are forms required for Filed Sub-Bid submission. With regards to Point C & D, is the Certificate of Authority Form (Page 004002-3) the form for point C & D?	Refer to Addendum No. 3 Items 3-6 and 3-7.
Section 00 20 00 (Instruction to Bidders) Article 9.01 requests questions relating to the Pre-File Subcontractor scope be submitted by	Refer to Item 1-2 in Addendum 1.

<p>4:30 PM, Wednesday, March 20th. It is our understanding the SWSC is considering implementing a Project Labor Agreement. CH Nickerson is a Prequalified Bidder for the Miscellaneous Metals Filed Sub-Bid. We need either a copy of the executed PLA prior to March 20th, or an extension of the Filed Sub-Bidder question period.</p>	
<p>I do not see condensate shown on either the plumbing or hvac drawings. Can you please add the condensate piping to the drawings for one of them & let us know who should be carrying it please?</p>	<p>Condensate piping for the VRF systems have been added to the HVAC drawings in Addendum 2</p>
<p>Section 46 76 33, Paragraph 2.01.A calls out approved manufacturers. Is Alfa Laval considered and approved equal? If not, what would be required for Alfa Laval to be considered as an approved equal?</p>	<p>In accordance with MGL Chapter 30 section 39M, specifications must provide for full competition for each item of material by providing at least three (3) manufacturers. As such, Section 46 76 33 provides a list of three (3) acceptable manufacturers, or equal. While Alfa Laval was not evaluated as part of the Contract Documents, if Alfa Laval can provide an equivalent "or equal" product in addition to the Approved list of Manufacturers specified in Section 46 76 33, Alfa Laval is encouraged to submit a proposed bid for this project.</p>
<p>Substitution Request - Fire Rated Glass. The Undersigned certifies:</p> <ul style="list-style-type: none"> · Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product. · Same warranty will be furnished for proposed substitution as for specified product. · Same maintenance service and source of replacement parts, as applicable, is available. · Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule. · Proposed substitution does not affect dimensions and functional clearances. 	<p>Refer to Items 3-29 and Item 3-30 in Addendum 3.</p>
<p>Does the waterproofing, dampproofing and caulking filed sub-contractor own the below-grade horizontal vapor barrier?</p>	<p>Yes. Refer to Items 3-10 and 3-23 in Addendum No. 3.</p>
<p>Please provide a duct liner schedule for this project, spec section 230700 is unclear.</p>	<p>Duct liner is not intended to be used on this project</p>
<p>What division is responsible to furnish and install louvers?</p>	<p>Louvers are specified in Division 08 and shown on the Architectural drawings. Refer to the HVAC drawings for the interface between duct systems and the louvers.</p>

Please provide an HVAC scope of work.	The HVAC scope can be found in the HVAC drawings, Division 23 specifications, and other referenced specifications.
Spec section 23-31-13-3 states transverse joints are to be bolted gasketed connections. What is the construction for longitudinal joints? Is welded ductwork required on this project?	Paragraph 2.02D of section 23 31 13 specifies requirements for joints and seams on rectangular ductwork. Paragraph 2.02E of section 23 31 13 specifies requirements for joints and seams on round ductwork. For round ductwork, welded or snap-lock longitudinal seams that can meet the specified seal class is acceptable.
Are secondary drain pans required for ducted FCU's?	Secondary drain pans are not required for ducted fan coil units. All fan coil units and branch controllers for the VRF system are specified to be provided with condensate pumps and drainage piping.
Section 46 76 33 Dewatering Centrifuges - 2.04.D – Centrisys offers a 4"x 6" nameplate. Please revise.	Noted. To be confirmed during the shop drawing submittal review. Requests for substitutions shall be in accordance with Specification Section 01 25 00 Substitution Procedures
Section 46 76 33 Dewatering Centrifuges - 4.07.A.1 - Base lifting device is not applicable, we recommend the use of straps	Base lifting device (straps) shall be provided as recommended by selected centrifuge manufacturer. To be confirmed during the shop drawing submittal review.
Section 46 76 33 Dewatering Centrifuges - 4.07A. 5-10 – These tools are not applicable to our design except for a bearing puller (#6) which will be included	Noted. To be confirmed during the shop drawing submittal review.
Section 46 76 33 Dewatering Centrifuges - 4.03.D - Centrisys does not conduct wet testing at our facilities.	Noted. To be confirmed during the shop drawing submittal review.
Please confirm that the 7ft centrifuge stands are not within the centrifuge manufacturer's scope as stated on the structural plans.	In accordance with S-3301: CONCRETE EQUIPMENT PEDESTAL SHALL BE LOCATED, DESIGNED, AND SIZED TO SUPPORT CENTRIFUGE. CONTRACTOR SHALL SUBMIT EQUIPMENT PEDESTAL DESIGN DRAWINGS AND DESIGN CALCULATIONS SIGNED AND SEALED BY AN ENGINEER CURRENTLY REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. CONCRETE BEAMS B306 SHALL BE LOCATED BENEATH EQUIPMENT PEDESTALS. THE CONCRETE SLAB AND BEAMS AT EL 484.50 SHALL NOT BE PLACED PRIOR TO CONCRETE EQUIPMENT PEDESTAL DESIGN APPROVAL. CONTRACTOR TO COORDINATE WITH MANUFACTURER.
Section 46 76 33 Dewatering Centrifuges -	Noted. Dual VFD is not required.

1.04.A.4 – Centrisys' design utilizes a motor starter for the HPU backdrive. Please confirm if dual VFD is required.	
Per note 2 on drawing M-2706, all AS piping is to be insulated within 8' from the floor. Specification section 40 42 13 – Insulation does not delineate the 8' from the floor but indicates it is only for blower discharge piping. Please confirm what is to be insulated.	The blower discharge piping (air scour (AS) piping) within 8 feet of the floor is to be insulated.
c. Section 04 05 19, paragraph 2.02.E (Dovetail anchors) – Please clarify if the Masonry Filed Sub Bid is required to furnish the dovetail anchor slot and the GC is to install the anchor slot.	Dovetail anchors and slots to be provided by Masonry FSB per Section 04 05 19 to ensure proper fit of components. Dovetail slots should be furnished to GC/concrete contractor as part of their built-in work.
Section 04 05 19, paragraph 2.02.G (Partition Top Anchors) – The masonry accessories listing calls for #PTA-310 – Partition Type Anchors. These anchors are used in conjunction with a dovetail slot. Please clarify if the Masonry Filed Sub Bid is required to furnish and the dovetail slot and the GC is to install it or Is the Masonry Filed Sub Bid required to furnish and install the dovetail slot in all beams and slabs.	Dovetail anchors and slots to be provided by Masonry FSB per Section 04 05 19 to ensure proper fit of components. Dovetail slots should be furnished to GC/concrete contractor as part of their built-in work.
Please confirm the Masonry Filed Sub Bid is required to install all pipe sleeves, supplied by others, in CMU / Masonry required.	Masonry FSB is required to incorporate all built-in work supplied by others.
Please confirm the Masonry Filed Sub Bid is responsible for installing all door frames in masonry that are supplied by the GC.	GC is responsible for supplying and installing door frames in coordination with the FSB. FSB to incorporate as part of built-in work.
Section 07 10 00 – Section 07 26 16 is not listed as part of the Waterproofing, Damproofing and Caulking Filed Sub Bid. The title block for Section 07 26 16 states this section is part of the Waterproofing, Damproofing and Caulking Filed Sub Bid, please clarify.	Refer to Items 3-10 and 3-23 in Addendum no. 3 for clarification.
Drawing A-005, Details 5 and 7 – Is the roof blocking shown at the top of parapet and expansion joint required to be furnished and install as part of the Roofing Filed Sub Bid?	Refer to response to the second bidder question in Addendum 2. Refer to Section 07 52 00 Built-Up Bituminous Roofing, 2.12D for wood blocking requirements under filed sub-bid 07 - Roofing and Flashing.
Drawing A-005, Detail 5 – Is the insulation shown on the top and back side of the parapet required to be furnished and installed as part of the Roofing Filed Sub Bid?	Refer to A-003 and A-005 in Addendum no. 3 for clarification.
Drawing A-003, Finishes Note 09 29 00.9 (Exterior Gypsum System) – The Lathing and Plaster Filed Sub Bid is responsible for interior	Refer to Section 2.02.L.

and exterior gypsum board. Please confirm cold formed steel studs are to be furnished and installed are also to be furnished and installed by the Lathing and Plaster Filed Sub Bid per Section 05 40 00.	
Please confirm the Lathing and Plastering Filed Sub Bid is responsible for installing all door frames in gypsum board partition walls. GC to supply frames.	GC is responsible for supplying and installing door frames in coordination with the FSB. FSB to incorporate as part of built-in work.
Drawing A-013, Finish Schedule – PCB (Porcelain Tile Cove Base), PFT (Porcelain Floor Tile) and PWT (Porcelain Wall Tile) reference spec section 09 31 13, this section was not included in the bid package. Please confirm these designations should reference 09 30 00 and are part of the Tile Filed Sub Bid.	Refer to drawing A-013 in Addendum No. 3. PCB and PFT are work of Section 09 30 00.
Section 22 05 00, Paragraph 1.01.E.1 – Clarify if the firestopping material shall be provided by the Filed Sib-Bidder installing it.	Section 22 05 00 requires the PLUMBING SUBCONTRACTOR to furnish and install all firestopping for penetrations for plumbing piping and conduits. The requirements for the firestopping are located in specification 07 84 00. Refer to Item 3-38 in Addendum 3.
Drawing P-001 – Confirm the term “Contractor” used throughout the notes on this page is the work of the Filed Sub-Bidder.	Confirmed, all instances of the term "Contractor" throughout the notes on this sheet are the work of the PLUMBING SUBCONTRACTOR.
Drawing P-019 – Oil Separator Detail – Clarify the following” i. Clarify if the metal assess covers are provided by the Plumbing Filed Sub-Bidder ii. Clarify the quantity. Fixture schedule notes one unit, two appear on the plumbing drawings. The Treatment Plant unit is shown on the plumbing drawings, but not the structural.	The OWS in the Dewatering Building is located below the slab at elevation 464.50. The hatch for the pit in which the OWS is located is within the scope of the GENERAL CONTRACTOR, as shown on the structural drawings. There are two Oil-Water Separators in the PLUMBING SUBCONTRACT; one is located on sheet P-2204 and the other is located on sheet P-3101.
Section 22 31 11, paragraph 3.03.C.4 – Clarify if the Plumbing Filed Sub-Bidder would take samples and submit to the USEPA Lab.	Sampling services required for the laboratory pure water system is to be provided as part of the PLUMBING SUBCONTRACT
Section 21 12 00, paragraph 2.01.A – Clarify “Contractor” should be Filed Sub-Bidder	Refer to Item 3-37 in Addendum 3, clarifying that this is the work of the FIRE PROTECTION SPRINKLER PIPING SUBCONTRACTOR
Section 23 00 00, Paragraph 1.01.E.1 – Clarify if the firestopping material shall be provided by the Filed Sib-Bidder installing it.	23 00 00 requires the HVAC SUBCONTRACTOR to furnish and install all firestopping for penetrations for HVAC piping and conduits. The requirements for the

	firestopping are located in specification 07 84 00. Refer to Item 3-43 in Addendum 3.
Section 23 00 00, and all other HVAC Filed Sub-Bidder sections - The terms "HVAC Subcontractor" and "Contractor" are used interchangeably. Confirm both terms in the as noted in all HVAC Filed Sub-Bidder sections refer to the Filed Sub-Bidder or their Sub-Contractors.	Instances of contractor and subcontractor have been updated to clarify which items are the responsibility of the HVAC SUBCONTRACTOR or other SUBCONTRACTORS. . Refer to Items 3-44 through 3-60 in Addendum 3.
Section 23 09 00, paragraph 1.02.E – Confirm the word "Contractor" is the HVAC Filed Sub-Bidder.	References to "Contractor" have been corrected throughout 23 09 00. Refer to Items 3-61 through 3-67 in Addendum 3.
Section 23 09 00, paragraph 3.03.B – Confirm the word "Contractor" is the HVAC Filed Sub-Bidder, or their ATC Sub-Contractor.	References to "Contractor" have been corrected throughout 23 09 00. Refer to Items 3-61 through 3-67 in Addendum 3.
Section 23 09 00, paragraph 3.17.B – Confirm the word "Contractor" is the HVAC Filed Sub-Bidder.	References to "Contractor" have been corrected throughout 23 09 00. Refer to Items 3-61 through 3-67 in Addendum 3.

SPRINGFIELD WATER AND SEWER COMMISSION

Theo G. Theocles, Esq.
 Director of Legal Affairs/Chief Procurement Officer

Date: March 20, 2024

Attachment A – Contract Drawings

Drawing No.	GENERAL DRAWINGS
	Title
G-001	COVER SHEET WITH LOCUS PLAN
G-002	INDEX OF DRAWINGS - SHEET 1
G-003	INDEX OF DRAWINGS - SHEET 2
G-004	INDEX OF DRAWINGS - SHEET 3
G-005	INDEX OF DRAWINGS - SHEET 4
G-006	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
G-007	WATER TREATMENT BUILDING - KEY PLAN AT EL 457.00
G-008	WATER TREATMENT BUILDING - KEY PLAN AT EL 471.00
G-009	WATER TREATMENT BUILDING - KEY PLAN AT EL 485.00
G-010	WATER TREATMENT BUILDING - KEY PLAN AT EL 499.00
G-011	PROCESS FLOW DIAGRAM
G-012	HYDRAULIC PROFILE - EXISTING SOURCE
G-013	RAW AND FINISHED WATER SEQUENCE OF CONSTRUCTION - SHEET 1
G-014	RAW AND FINISHED WATER SEQUENCE OF CONSTRUCTION - SHEET 2

Drawing No.	REMOVALS DRAWINGS
	Title
R-001	SLOW SAND FILTERS - OVERALL TOP DEMOLITION PLAN
R-002	SLOW SAND FILTERS - OVERALL BOTTOM DEMOLITION PLAN
R-003	SLOW SAND FILTERS 7-10 - ENLARGED TOP DEMOLITION PLAN - SSF 7 & 8
R-004	SLOW SAND FILTERS 7-10 - ENLARGED TOP DEMOLITION PLAN - SSF 9 & 10
R-005	SLOW SAND FILTERS 7-10 - ENLARGED BOTTOM DEMOLITION PLAN - SSF 7 & 8
R-006	SLOW SAND FILTERS 7-10 - ENLARGED BOTTOM DEMOLITION PLAN - SSF 9 & 10
R-007	SLOW SAND FILTERS 7-10 - SECTIONS - SSF 7-10 - SHEET 1
R-008	SLOW SAND FILTERS 7-10 - SECTIONS - SSF 7-10 - SHEET 2
R-009	SLOW SAND FILTERS 15-18 - ENLARGED TOP DEMOLITION PLAN - SSF 15 & 16
R-010	SLOW SAND FILTERS 15-18 - ENLARGED TOP DEMOLITION PLAN - SSF 17 & 18
R-011	SLOW SAND FILTERS 15-18 - ENLARGED BOTTOM DEMOLITION PLAN - SSF 15 & 16
R-012	SLOW SAND FILTERS 15-18 - ENLARGED BOTTOM DEMOLITION PLAN - SSF 17 & 18
R-013	SLOW SAND FILTERS 15-18 - SECTIONS - SSF 15-18
R-014	SAND BINS - DEMOLITION PLANS
R-015	SAND BINS - DEMOLITION SECTIONS
R-101	REGULATOR HOUSE 3, SSF NOS. 7-10 - BASEMENT DEMOLITION PLAN
R-102	REGULATOR HOUSE 3, SSF NOS. 7-10 - FIRST FLOOR DEMOLITION PLAN
R-103	REGULATOR HOUSE 3, SSF NOS. 7-10 - SECOND FLOOR DEMOLITION PLAN
R-104	REGULATOR HOUSE 3, SSF NOS. 7-10 - ROOF DEMOLITION PLAN
R-105	REGULATOR HOUSE 3, SSF NOS. 7-10 - DEMOLITION SECTION 1
R-106	REGULATOR HOUSE 3, SSF NOS. 7-10 - DEMOLITION SECTION 2
R-201	REGULATOR HOUSE 4, SSF NOS. 15-18 - BASEMENT DEMOLITION PLAN
R-202	REGULATOR HOUSE 4, SSF NOS. 15-18 - FIRST FLOOR DEMOLITION PLAN
R-203	REGULATOR HOUSE 4, SSF NOS. 15-18 - ROOF DEMOLITION PLAN
R-204	REGULATOR HOUSE 4, SSF NOS. 15-18 - DEMOLITION SECTION 1
R-205	REGULATOR HOUSE 4, SSF NOS. 15-18 - DEMOLITION SECTION 2

Drawing No.	CIVIL DRAWINGS
	Title
C-000	GENERAL NOTES, LEGEND AND ABBREVIATIONS
C-001	OVERALL SITE PLAN AND DRAWING KEY
C-002	EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE I
C-003	EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE II
C-004	EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE III
C-005	EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE IV
C-006	EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE V
C-007	OVERALL SITE ACCESS PLANS - PHASE I
C-008	OVERALL SITE ACCESS PLANS - PHASE II
C-009	OVERALL SITE ACCESS PLANS - PHASE III
C-010	OVERALL SITE ACCESS PLANS - PHASE IV
C-100	OVERALL EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN
C-101	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 1
C-102	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 2
C-103	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 3
C-104	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 4
C-105	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 5
C-106	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 6
C-107	EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN - SHEET 7
C-110	OVERALL DEMOLITION PLAN
C-111	DEMOLITION PLAN - SHEET 1
C-112	DEMOLITION PLAN - SHEET 2
C-113	DEMOLITION PLAN - SHEET 3
C-114	DEMOLITION PLAN - SHEET 4
C-115	DEMOLITION PLAN - SHEET 5
C-116	DEMOLITION PLAN - SHEET 6
C-120	INTERIM OVERALL GRADING AND DRAINAGE PLAN
C-121	INTERIM SITE PLAN 1
C-122	INTERIM SITE PLAN 2
C-123	INTERIM SITE PLAN 3
C-124	INTERIM SITE PLAN 4
C-125	INTERIM SITE PLAN 5

Drawing No.	CIVIL DRAWINGS (CONT.)
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C-131	GRADING AND DRAINAGE PLAN - SHEET 1
C-132	GRADING AND DRAINAGE PLAN - SHEET 2
C-133	GRADING AND DRAINAGE PLAN - SHEET 3
C-134	GRADING AND DRAINAGE PLAN - SHEET 4
C-135	GRADING AND DRAINAGE PLAN - SHEET 5
C-136	GRADING AND DRAINAGE PLAN - SHEET 6
C-140	OVERALL YARD PIPING PLAN
C-141	YARD PIPING PLAN - SHEET 1
C-142	YARD PIPING PLAN - SHEET 2
C-143	YARD PIPING PLAN - SHEET 3
C-144	YARD PIPING PLAN - SHEET 4
C-145	YARD PIPING PLAN - SHEET 5
C-146	YARD PIPING PLAN - SHEET 6
C-150	OVERALL FINAL SITE PLAN
C-151	FINAL SITE PLAN - SHEET 1
C-152	FINAL SITE PLAN - SHEET 2
C-153	FINAL SITE PLAN - SHEET 3
C-154	FINAL SITE PLAN - SHEET 4
C-155	FINAL SITE PLAN - SHEET 5
C-156	FINAL SITE PLAN - SHEET 6
C-157	FINAL SITE PLAN - SHEET 7
C-161	STAKING PLAN - SHEET 1
C-162	STAKING PLAN - SHEET 2
C-163	STAKING PLAN - SHEET 3
C-164	STAKING PLAN - SHEET 4
C-165	STAKING PLAN - SHEET 5
C-166	STAKING PLAN - SHEET 6
C-167	STAKING TABLES
C-170	SITE SECTIONS - OVERALL PLAN
C-171	SITE SECTIONS - SHEET 1
C-172	SITE SECTIONS - SHEET 2
C-173	SITE SECTIONS - SHEET 3
C-174	SITE SECTIONS - SHEET 4
C-175	SITE SECTIONS - SHEET 5
C-176	SITE SECTIONS - SHEET 6
C-177	SITE SECTIONS - SHEET 7
C-201	ACCESS ROAD PLAN AND PROFILE - SHEET 1
C-202	ACCESS ROAD PLAN AND PROFILE - SHEET 2
C-203	ACCESS ROAD PLAN AND PROFILE - SHEET 3
C-204	ACCESS ROAD PLAN AND PROFILE - SHEET 4
C-205	ROADWAY DETAILS & SECTIONS
C-210	STORMWATER WETLAND POND PLAN
C-211	STORMWATER WETLAND POND PROFILE AND CROSS SECTIONS
C-212	STORM DRAIN PROFILES - SHEET 1
C-213	STORM DRAIN PROFILES - SHEET 2
C-214	STORM DRAIN PROFILES - SHEET 3
C-215	STORM DRAIN PROFILES - SHEET 4
C-216	STORM DRAIN PROFILES - SHEET 5
C-217	STORMWATER DETAILS - SHEET 1
C-218	STORMWATER DETAILS - SHEET 2
C-219	STORMWATER DETAILS - SHEET 3
C-220	SITE DRAIN PROFILE
C-231	SANITARY SEWER PROFILES
C-232	SANITARY PUMP STATION DETAIL
C-233	SEPTIC SYSTEM PLAN
C-234	SEPTIC SYSTEM DETAILS - SHEET 1
C-235	SEPTIC SYSTEM DETAILS - SHEET 2
C-236	HOLDING TANK DETAILS
C-240	OVERALL TRANSMISSION MAINS PLAN
C-241	RAW WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 1
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C-243	RAW WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 3
C-244	RAW WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 4
C-245	RAW WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 5
C-246	RAW WATER TRANSMISSION MAIN CONNECTION DETAILS - SHEET 1
C-247	RAW WATER TRANSMISSION MAIN CONNECTION DETAILS - SHEET 2
C-251	TREATED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 1
C-252	TREATED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 2
C-253	TREATED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 3
C-254	TREATED WATER TRANSMISSION MAIN CONNECTION DETAILS
C-261	TRANSMISSION MAIN RESTORATION PLAN
C-262	FENCE RESTORATION PLAN - SHEET 1
C-263	FENCE RESTORATION PLAN - SHEET 2
C-271	OVERFLOW PROFILE - SHEET 1
C-272	OVERFLOW PROFILE - SHEET 2
C-273	PROCESS PIPING PROFILES - SHEET 1
C-274	PROCESS PIPING PROFILES - SHEET 2
C-275	WASH WATER AND DOMESTIC WATER PROFILES
C-276	PROCESS WATER AND DOMESTIC WATER PROFILES

Drawing No.	CIVIL DRAWINGS (CONT.)
	Title
C-301	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS - SHEET 1
C-302	EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2
C-303	EROSION AND SEDIMENT CONTROL DETAILS - SHEET 3
C-304	EROSION AND SEDIMENT CONTROL DETAILS - SHEET 4
C-310	STEEL PIPE DETAILS - SHEET 1
C-311	STEEL PIPE DETAILS - SHEET 2
C-312	STEEL PIPE DETAILS - SHEET 3
C-313	STEEL PIPE DETAILS - SHEET 4
C-314	SITE DETAILS - SHEET 1
C-315	SITE DETAILS - SHEET 2
C-316	YARD PIPING DETAILS - SHEET 1
C-317	YARD PIPING DETAILS - SHEET 2

Drawing No.	LANDSCAPE DRAWINGS
	Title
L-001	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
L-002	DRAWING KEY AND OVERALL PLANTING PLAN
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L-102	PLANTING PLAN - SHEET 2
L-103	PLANTING PLAN - SHEET 3
L-104	PLANTING PLAN - SHEET 4
L-105	PLANTING PLAN - SHEET 5
L-106	PLANTING PLAN - SHEET 6
L-107	PLANTING PLAN - SHEET 7
L-108	PLANTING PLAN - SHEET 8
L-201	PLANTING SCHEDULE
L-202	DETAILS - SHEET 1
L-203	DETAILS - SHEET 2

Drawing No.	ARCHITECTURAL DRAWINGS
	Title
x A-001	GENERAL NOTES, ABBREVIATIONS, SYMBOLS AND LEGENDS
x A-002	ARCHITECTURAL NOTES - SHEET 1
x A-003	ARCHITECTURAL NOTES - SHEET 2
x A-004	ARCHITECTURAL NOTES - SHEET 3
x A-005	ROOF DETAILS
x A-006	EXPANSION JOINT DETAILS
x A-007	EXTERIOR WALL DETAILS
x A-008	COLUMN DETAILS
x A-009	INTERIOR PARTITION DETAILS
x A-010	FIRESTOPPING DETAILS
x A-011	RAILING DETAILS
x A-012	TOILET ACCESSORIES AND FIXTURES
x A-013	FINISH SCHEDULE
x A-014	DOOR SCHEDULE
x A-015	DOOR DETAILS
x A-016	WINDOW SCHEDULE AND TYPES
x A-017	WINDOW DETAIL
x A-018	TRANSLUCENT PANEL SCHEDULE, TYPES AND DETAILS
x A-019	LOUVER SCHEDULE AND DETAILS, IDENTIFYING DEVICES SCHEDULE
x A-020	IDENTIFYING DEVICES DETAILS

A-0100	WATER TREATMENT BUILDING - BUILDING CODE SUMMARY
A-0101	WATER TREATMENT BUILDING - LIFE SAFETY PLAN AT EL 457.00
A-0102	WATER TREATMENT BUILDING - LIFE SAFETY PLAN AT EL 471.00
A-0103	WATER TREATMENT BUILDING - LIFE SAFETY PLAN AT EL 485.00
A-0104	WATER TREATMENT BUILDING - ROOF SAFETY PLAN AT EL 499.00
A-0105	WATER TREATMENT BUILDING - LIFE SAFETY EXTERIOR ELEVATIONS
A-0106	DEWATERING BUILDING - BUILDING CODE SUMMARY
A-0107	DEWATERING BUILDING - LIFE SAFETY PLANS
A-0108	DEWATERING BUILDING - LIFE SAFETY EXTERIOR ELEVATIONS

x A-1101	WATER TREATMENT BUILDING - PLAN AT EL 457.00 - ADMINISTRATION AREA 1
x A-1200	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 471.00 - ADMINISTRATION AREA
x A-1201	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 1
x A-1202	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 2
x A-1203	WATER TREATMENT BUILDING - ENLARGED LABORATORY PLAN AT EL 471.00 - ADMINISTRATION AREA
x A-1204	WATER TREATMENT BUILDING - LABORATORY INTERIOR ELEVATIONS AT EL 471.00 - ADMINISTRATION AREA SHEET 1
x A-1205	WATER TREATMENT BUILDING - LABORATORY INTERIOR ELEVATIONS AT EL 471.00 - ADMINISTRATION AREA SHEET 2
x A-1206	WATER TREATMENT BUILDING - ENLARGED RESTROOMS PLAN AND INTERIOR ELEVATIONS AT EL 471.00 - ADMINISTRATION AREA
x A-1207	WATER TREATMENT BUILDING - ENLARGED LOCKER ROOM AND BREAK ROOM PLAN AT EL 471.00 - ADMINISTRATION AREA
x A-1208	WATER TREATMENT BUILDING - LOCKER ROOM AND BREAK ROOM INTERIOR ELEVATIONS AT EL 471.00 - ADMINISTRATION AREA
x A-1209	WATER TREATMENT BUILDING - OVERALL REFLECTED CEILING PLAN AT EL 471.00 - ADMINISTRATION AREA

x DENOTES DRAWING THAT REQUIRES FILED SUB BID

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REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	C. BROWN
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN

Marc W. Morin
No. 53793
Professional Engineer

03/28/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

GENERAL
INDEX OF DRAWINGS - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	G-002

MECHANICAL DRAWINGS (CONT.)	
Drawing No.	Title
M-2405	WATER TREATMENT BUILDING - PLAN AT EL 499.00 - PROCESS AREA 5
M-2406	WATER TREATMENT BUILDING - PLAN AT EL 499.00 - PROCESS AREA 6
M-2601	WATER TREATMENT BUILDING - PARTIAL PLAN BELOW SLAB PIPING - PROCESS AREA 5, AREA 6, AREA 8 AND AREA 9
M-2602	WATER TREATMENT BUILDING - PARTIAL PLAN AT EL 457.00 - PROCESS AREA 5, AREA 6, AREA 8 AND AREA 9
M-2603	WATER TREATMENT BUILDING - PARTIAL PLAN AT EL 471.00 - PROCESS AREA 5, AREA 6, AREA 8 AND AREA 9
M-2604	WATER TREATMENT BUILDING - ENLARGED PLAN - COAGULANT POLYMER STORAGE PLAN - PROCESS AREA
M-2605	WATER TREATMENT BUILDING - COAGULANT POLYMER STORAGE SECTIONS - PROCESS AREA
M-2606	WATER TREATMENT BUILDING - ENLARGED PLAN - PHOSPHORIC ACID STORAGE PLAN - PROCESS AREA
M-2607	WATER TREATMENT BUILDING - PHOSPHORIC ACID STORAGE SECTIONS - PROCESS AREA
M-2608	WATER TREATMENT BUILDING - ENLARGED PLAN - SODIUM HYDROXIDE STORAGE PLAN - PROCESS AREA
M-2609	WATER TREATMENT BUILDING - SODIUM HYDROXIDE STORAGE SECTIONS - PROCESS AREA
M-2610	WATER TREATMENT BUILDING - ENLARGED PLAN - FILTER AID POLYMER STORAGE PLAN - PROCESS AREA
M-2611	WATER TREATMENT BUILDING - FILTER AID POLYMER STORAGE SECTIONS - PROCESS AREA
M-2612	WATER TREATMENT BUILDING - ENLARGED PLAN - POLYALUMINUM CHLORIDE STORAGE PLAN - PROCESS AREA
M-2613	WATER TREATMENT BUILDING - POLYALUMINUM CHLORIDE STORAGE SECTIONS - PROCESS AREA
M-2614	WATER TREATMENT BUILDING - ENLARGED PLAN - SODIUM HYPOCHLORITE STORAGE PLAN - PROCESS AREA
M-2615	WATER TREATMENT BUILDING - SODIUM HYPOCHLORITE STORAGE SECTIONS - PROCESS AREA
M-2701	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 1
M-2702	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 2
M-2703	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 3
M-2704	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 4
M-2705	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 5
M-2706	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 6
M-2707	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 7
M-2708	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 8
M-2709	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 9
M-2710	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 10
M-2711	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 11
M-2712	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 12

M-3101	DEWATERING BUILDING - PLAN AT EL 450.00
M-3201	DEWATERING BUILDING - PLAN AT EL 464.50
M-3301	DEWATERING BUILDING - PLAN AT EL 484.50
M-3302	DEWATERING BUILDING - PLAN AT EL 493.00
M-3701	DEWATERING BUILDING - SECTION - SHEET 1
M-3702	DEWATERING BUILDING - SECTION - SHEET 2
M-3703	DEWATERING BUILDING - SECTIONS - SHEET 3
M-3704	DEWATERING BUILDING - SECTIONS - SHEET 4

M-4101	WASTE WASHWATER TANK - PLAN AT EL 424.83
M-4201	WASTE WASHWATER TANK - PLAN AT EL 464.00
M-4701	WASTE WASHWATER TANK - SECTION - SHEET 1
M-4702	WASTE WASHWATER TANK - SECTION - SHEET 2
M-4703	WASTE WASHWATER TANK - SECTION - SHEET 3

M-5101	MISCELLANEOUS STRUCTURES - BACKWASH FACILITY - PLANS
M-5102	MISCELLANEOUS STRUCTURES - BACKWASH FACILITY - SECTIONS

M-5301	MISCELLANEOUS STRUCTURES - CHEMICAL INJECTION VAULT - PLANS AND SECTIONS 1
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INSTRUMENTATION DRAWINGS	
Drawing No.	Title
I-001	SYMBOLS AND LEGENDS
I-002	SCADA ARCHITECTURE
I-005	SCADA FIBER OPTIC ROUTING
I-020	IT NETWORK ARCHITECTURE
I-080	INSTALLATION DETAILS 1
I-081	INSTALLATION DETAILS 2
I-082	INSTALLATION DETAILS 3
I-083	INSTALLATION DETAILS 4
I-084	INSTALLATION DETAILS 5
I-085	INSTALLATION DETAILS 6
I-086	INSTALLATION DETAILS 7
I-087	INSTALLATION DETAILS 8
I-088	INSTALLATION DETAILS 9
I-089	INSTALLATION DETAILS 10

I-2010	PROCESS AND INSTRUMENTATION DIAGRAM - RAW WATER
I-2012	PROCESS AND INSTRUMENTATION DIAGRAM - STATIC MIXERS
I-2020	PROCESS AND INSTRUMENTATION DIAGRAM - DAF MODULE
I-2022	PROCESS AND INSTRUMENTATION DIAGRAM - DAF RECYCLE PUMPS
I-2024	PROCESS AND INSTRUMENTATION DIAGRAM - DAF SATURATORS
I-2026	PROCESS AND INSTRUMENTATION DIAGRAM - FLOATED SOLIDS TRANSFER TANKS
I-2030	PROCESS AND INSTRUMENTATION DIAGRAM - FILTER MODULES
I-2032	PROCESS AND INSTRUMENTATION DIAGRAM - FILTERED WATER DISCHARGE
I-2034	PROCESS AND INSTRUMENTATION DIAGRAM - TRANSMISSION MAINS
I-2036	PROCESS AND INSTRUMENTATION DIAGRAM - AIR SCOUR BLOWER
I-2040	PROCESS AND INSTRUMENTATION DIAGRAM - DEVICE TABLES
I-2110	PROCESS AND INSTRUMENTATION DIAGRAM - PACL BULK STORAGE
I-2112	PROCESS AND INSTRUMENTATION DIAGRAM - PACL FEED SYSTEM
I-2120	PROCESS AND INSTRUMENTATION DIAGRAM - SODIUM HYDROXIDE BULK STORAGE
I-2122	PROCESS AND INSTRUMENTATION DIAGRAM - SODIUM HYDROXIDE FEED SYSTEM 1

x DENOTES DRAWING THAT REQUIRES FILED SUB BID

INSTRUMENTATION DRAWINGS (CONT.)	
Drawing No.	Title
I-2123	PROCESS AND INSTRUMENTATION DIAGRAM - SODIUM HYDROXIDE FEED SYSTEM 2
I-2130	PROCESS AND INSTRUMENTATION DIAGRAM - PHOSPHORIC ACID BULK STORAGE
I-2132	PROCESS AND INSTRUMENTATION DIAGRAM - PHOSPHORIC ACID FEED SYSTEM
I-2140	PROCESS AND INSTRUMENTATION DIAGRAM - SODIUM HYPOCHLORITE BULK STORAGE
I-2142	PROCESS AND INSTRUMENTATION DIAGRAM - SODIUM HYPOCHLORITE FEED SYSTEM
I-2152	PROCESS AND INSTRUMENTATION DIAGRAM - FILTER AID POLYMER FEED SYSTEM
I-2160	PROCESS AND INSTRUMENTATION DIAGRAM - COAGULATION POLYMER BULK STORAGE
I-2162	PROCESS AND INSTRUMENTATION DIAGRAM - COAGULATION POLYMER FEED SYSTEM
I-2210	PROCESS AND INSTRUMENTATION DIAGRAM - ELECTRICAL GENERATORS
I-2211	PROCESS AND INSTRUMENTATION DIAGRAM - ELECTRICAL SWITCHGEAR
I-2212	PROCESS AND INSTRUMENTATION DIAGRAM - MECHANICAL SUPPORT SYSTEMS
I-2213	PROCESS AND INSTRUMENTATION DIAGRAM - HVAC AND FIRE PROTECTION
I-3010	PROCESS AND INSTRUMENTATION DIAGRAM - RESIDUALS STORAGE
I-3012	PROCESS AND INSTRUMENTATION DIAGRAM - DEWATERING CENTRIFUGE
I-3014	PROCESS AND INSTRUMENTATION DIAGRAM - RESIDUALS HANDLING
I-3016	PROCESS AND INSTRUMENTATION DIAGRAM - RESIDUALS POLYMER
I-3018	PROCESS AND INSTRUMENTATION DIAGRAM - CENTRATE HOLDING
I-4010	PROCESS AND INSTRUMENTATION DIAGRAM - WASTE WASHWATER
I-4011	PROCESS AND INSTRUMENTATION DIAGRAM - WATER RECYCLE
I-5010	PROCESS AND INSTRUMENTATION DIAGRAM - EXISTING BACKWASH TANK (CLEARWELL)
I-5011	PROCESS AND INSTRUMENTATION DIAGRAM - BACKWASH PUMPING SYSTEM
I-5012	PROCESS AND INSTRUMENTATION DIAGRAM - WASHWATER PUMPING SYSTEM
I-5013	PROCESS AND INSTRUMENTATION DIAGRAM - PROCESS WATER PUMPING SYSTEM
I-5014	PROCESS AND INSTRUMENTATION DIAGRAM - DOMESTIC WATER PUMPING SYSTEM
I-5015	PROCESS AND INSTRUMENTATION DIAGRAM - DOMESTIC WATER SODIUM HYPOCHLORITE
I-5016	PROCESS AND INSTRUMENTATION DIAGRAM - DOMESTIC WATER CAUSTIC SYSTEM

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HVAC DRAWINGS (FILED SUB BID REQUIRED)

Drawing No.	Title
H-001	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
H-002	BASIS OF DESIGN
H-003	BMS SYSTEM ARCHITECTURE
H-004	BMS PANEL DETAILS
H-005	WATER TREATMENT BUILDING - HV-01 CONTROL DIAGRAM
H-006	WATER TREATMENT BUILDING - HV-01 CONTROL STRATEGY
H-007	WATER TREATMENT BUILDING - HV-02 & BCU-01 CONTROL DIAGRAM
H-008	WATER TREATMENT BUILDING - HV-02 & BCU-01 CONTROL STRATEGY
H-009	WATER TREATMENT BUILDING - HV-03 CONTROL DIAGRAM
H-010	WATER TREATMENT BUILDING - HV-03 CONTROL STRATEGY
H-011	WATER TREATMENT BUILDING - DHU-01 & SF-01 CONTROL DIAGRAM
H-012	WATER TREATMENT BUILDING - DHU-01 & SF-01 CONTROL STRATEGY
H-013	WATER TREATMENT BUILDING - DOAS-01 CONTROL DIAGRAM
H-014	WATER TREATMENT BUILDING - DOAS-01 CONTROL STRATEGY
H-015	WATER TREATMENT BUILDING - DOAS-02 CONTROL DIAGRAM
H-016	WATER TREATMENT BUILDING - DOAS-02 CONTROL STRATEGY
H-017	WATER TREATMENT BUILDING - VRF CONTROL DIAGRAM
H-018	WATER TREATMENT BUILDING - VRF CONTROL STRATEGY
H-019	WATER TREATMENT BUILDING - AC-1 THROUGH AC-4 CONTROL DIAGRAM
H-020	WATER TREATMENT BUILDING - AC-1 THROUGH AC-4 CONTROL STRATEGY
H-021	WATER TREATMENT BUILDING - COOLING WATER CONTROL DIAGRAM
H-022	WATER TREATMENT BUILDING - COOLING WATER CONTROL STRATEGY
H-023	DEWATERING BUILDING - HV-04 CONTROL DIAGRAM
H-024	DEWATERING BUILDING - HV-04 CONTROL STRATEGY
H-025	EQUIPMENT SCHEDULES - SHEET 1
H-026	EQUIPMENT SCHEDULES - SHEET 2
H-027	EQUIPMENT SCHEDULES - SHEET 3
H-028	EQUIPMENT SCHEDULES - SHEET 4
H-029	EQUIPMENT SCHEDULES - SHEET 5
H-030	EQUIPMENT SCHEDULES - SHEET 6
H-031	STANDARD DETAILS - SHEET 1
H-032	STANDARD DETAILS - SHEET 2
H-033	STANDARD DETAILS - SHEET 3

H-1100	WATER TREATMENT BUILDING - PLAN AT EL 457.00 - ADMINISTRATION AREAS
H-1200	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 471.00 - ADMINISTRATION AREAS
H-1201	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 1
H-1202	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 2
H-1300	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 485.00 - ADMINISTRATION AREAS
H-1301	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - ADMINISTRATION AREA 1
H-1302	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - ADMINISTRATION AREA 2
H-1400	WATER TREATMENT BUILDING - OVERALL ROOF PLAN AT EL 499.00 - ADMINISTRATION AREAS
H-1601	WATER TREATMENT BUILDING - ENLARGED PLANS - ADMINISTRATION AREAS
H-1701	WATER TREATMENT BUILDING - SECTIONS - ADMINISTRATION AREA - SHEET 1
H-1702	WATER TREATMENT BUILDING - SECTIONS - ADMINISTRATION AREA - SHEET 2

H-2200	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 471.00 - PROCESS AREAS
H-2201	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 1
H-2202	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 2
H-2203	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 3
H-2204	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 4
H-2205	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 5
H-2206	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 6

HVAC DRAWINGS (CONT.) (FILED SUB BID REQUIRED)	
Drawing No.	Title
H-2207	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 7
H-2208	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 8
H-2209	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 9
H-2300	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 485.00 - PROCESS AREAS
H-2301	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 1
H-2302	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 2
H-2303	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 3
H-2304	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 4
H-2305	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 5
H-2306	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 6
H-2307	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 7
H-2308	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 8
H-2309	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 9
H-2400	WATER TREATMENT BUILDING - OVERALL ROOF PLAN AT EL 499.00 - PROCESS AREAS
H-2701	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 1
H-2702	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 2
H-2703	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 3
H-2704	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 4
H-2705	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 5
H-2706	WATER TREATMENT BUILDING - SECTIONS - PROCESS AREA SHEET 6
H-3101	DEWATERING BUILDING - PLAN AT EL 450.00
H-3201	DEWATERING BUILDING - PLAN AT EL 464.50
H-3301	DEWATERING BUILDING - PLAN AT EL 484.50
H-3401	DEWATERING BUILDING - ROOF PLAN AT EL 515.83
H-3701	DEWATERING BUILDING - SECTIONS - SHEET 1
H-3702	DEWATERING BUILDING - SECTIONS - SHEET 2


PLUMBING DRAWINGS (FILED SUB BID REQUIRED)

Drawing No.	Title
P-001	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
P-002	SCHEDULES - SHEET 1
P-003	SCHEDULES - SHEET 2
P-004	STORM WATER DRAINAGE SCHEDULES
P-005	WATER TREATMENT BUILDING - RISER DIAGRAMS AT EL 457.00 - ADMINISTRATION AREA
P-006	WATER TREATMENT BUILDING - WATER SYSTEMS RISER DIAGRAMS AT EL 471.00 - ADMINISTRATION AREA
P-007	WATER TREATMENT BUILDING - SANITARY RISER DIAGRAMS AT EL 471.00 - ADMINISTRATION AREA
P-008	WATER TREATMENT BUILDING - WATER SYSTEM RISER DIAGRAMS AT EL 485.00 - ADMINISTRATION AREA
P-009	WATER TREATMENT BUILDING - SANITARY RISER DIAGRAMS AT EL 485.00 - ADMINISTRATION AREA
P-010	WATER TREATMENT BUILDING - RISER DIAGRAMS AT EL 457.00 - PROCESS AREA
P-011	WATER TREATMENT BUILDING - WATER SYSTEMS RISER DIAGRAMS AT EL 471.00 - PROCESS AREA
P-012	WATER TREATMENT BUILDING - SANITARY RISER DIAGRAMS AT EL 471.00 - PROCESS AREA
P-013	WATER TREATMENT BUILDING - WATER SYSTEMS RISER DIAGRAMS AT EL 485.00 - PROCESS AREA
P-014	DEWATERING BUILDING - WATER SERVICES RISER DIAGRAMS AT EL 464.50
P-015	DEWATERING BUILDING - SANITARY RISER DIAGRAMS AT EL 464.50
P-016	DEWATERING BUILDING - WATER SERVICES DIAGRAMS AT EL 484.50
P-017	DEWATERING BUILDING - SANITARY RISER DIAGRAMS AT EL 484.50
P-018	STANDARD DETAILS - SHEET 1
P-019	STANDARD DETAILS - SHEET 2
P-020	STANDARD DETAILS - SHEET 3

P-1100	WATER TREATMENT BUILDING - PLAN AT EL 457.00 - ADMINISTRATION AREA
P-1200	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 471.00 - ADMINISTRATION AREA
P-1201	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 1
P-1202	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - ADMINISTRATION AREA 2
P-1300	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 485.00 - ADMINISTRATION AREA
P-1301	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - ADMINISTRATION AREA 1
P-1302	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - ADMINISTRATION AREA 2
P-1400	WATER TREATMENT BUILDING - ROOF PLAN AT EL 499.00 - ADMINISTRATION AREA
P-1601	WATER TREATMENT BUILDING - ENLARGED PLANS AT EL 471.00 - ADMINISTRATION AREA
P-1602	WATER TREATMENT BUILDING - ENLARGED PLANS AT EL 485.00 - ADMINISTRATION AREA
P-1603	WATER TREATMENT BUILDING - LAB WATER PURIFICATION SYSTEM - ADMINISTRATION AREA
P-1701	WATER TREATMENT BUILDING - SECTIONS - ADMINISTRATION AREA - SHEET 1
P-1702	WATER TREATMENT BUILDING - SECTIONS - ADMINISTRATION AREA - SHEET 2
P-2100	WATER TREATMENT BUILDING - PLAN AT EL 457.00 - PROCESS AREA
P-2200	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 471.00 - PROCESS AREA
P-2201	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 1
P-2202	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 2
P-2203	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 3
P-2204	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 4
P-2205	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 5
P-2206	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 6
P-2207	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 7
P-2208	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 8
P-2209	WATER TREATMENT BUILDING - PLAN AT EL 471.00 - PROCESS AREA 9
P-2300	WATER TREATMENT BUILDING - OVERALL PLAN AT EL 485.00 - PROCESS AREA
P-2301	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 1
P-2302	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 2
P-2303	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 3
P-2304	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 4
P-2305	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 5
P-2306	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 6
P-2307	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 7
P-2308	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 8
P-2309	WATER TREATMENT BUILDING - PLAN AT EL 485.00 - PROCESS AREA 9

Autodesk DocuSign/090398-004 - West Parish Filter WTF90398-004-General.rvt 3/21/2024 7:11:15 AM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	C. BROWN		
DRAWN BY:	D. KVOPKA		
CHECKED BY:	M. MORIN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



M. Morin
03/28/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

GENERAL INDEX OF DRAWINGS - SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	G-004

GENERAL NOTES:

- SITE INFORMATION HAS BEEN PROVIDED BY THE FOLLOWING SOURCES:
 - SITE SURVEY PREPARED BY BRENNAN CONSULTING, PERFORMED BETWEEN OCTOBER 19, 2022 AND JUNE 23, 2023.
 - ADDITIONAL TOPOGRAPHIC SURVEY FROM AECOM TECHNICAL SERVICES, INC. AS PART OF WEST PARISH FILTERS ENERGY DISSIPATION VALVE FACILITY CONTRACT PREPARED BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC., DATED BETWEEN DECEMBER 13, 2019 AND SEPTEMBER 2021.
 - FINAL SITE CONDITIONS FOR CONTRACT NO. S2057-042 - WEST PARISH FILTERS CLEARWELL AND BACKWASH PUMPING STATION PROJECT PREPARED BY TIGHE & BOND, DATED APRIL 2022.
 - FINAL SITE CONDITIONS FOR CONTRACT NO. CA-1819-18 - WEST PARISH FILTERS CHLORINE FEED LINES REPLACEMENT PROJECT PREPARED BY TIGHE & BOND, DATED JUNE 2020.
 - SITE CONDITIONS FOR EXISTING SEPTIC SYSTEM PREPARED FOR DISPOSAL WORKS CONSTRUCTION PERMIT APPLICATION, DATED MAY 4, 2000.
- HORIZONTAL CONTROL IS REFERENCED TO THE MASSACHUSETTS COORDINATE SYSTEM, NAD83 AND THE VERTICAL CONTROL IS REFERENCED TO THE SPRINGFIELD NEW CITY BASE AS CONVERTED FROM THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) UNLESS OTHERWISE NOTED.
DATUM CONVERSION: NAVD88 + 1.18 FEET = SPRINGFIELD NEW CITY BASE
- CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE OWNER/ENGINEER AT THE CONTRACTOR'S EXPENSE.
- UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT THE DIG-SAFE CALL CENTER AT 1-888-344-7233 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF THE DIG-SAFE CALL CENTER.
- WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
- WHERE OVERHEAD POWER LINES ARE PRESENT, CONTRACTOR SHALL CONTACT THE UTILITY PRIOR TO CONSTRUCTION ACTIVITIES TO DETERMINE THE MINIMUM REQUIRED EQUIPMENT CLEARANCE (MEC) DISTANCE BASED UPON LINE STRENGTH.
- DURING EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS, INCLUDING BUT NOT LIMITED TO 29 CFR 1926 SUBPART P EXCAVATIONS, 1926 SUBPART S UNDERGROUND CONSTRUCTIONS, AND 1926 SUBPART AA CONFINED SPACES IN CONSTRUCTION, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
- ALL WORK IN CONFINED SPACES MUST BE DONE IN ACCORDANCE WITH 29 CFR 1926 SUBPART AA CONFINED SPACES IN CONSTRUCTION.
- ALL MATERIALS, CONSTRUCTION METHODS, AND WORKMANSHIP SHALL CONFORM WITH THE CONSTRUCTION SPECIFICATIONS AND DRAWINGS.
- GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.
- ALL TEMPORARY FACILITIES ARE SUBJECT TO THE SAME HEALTH AND SAFETY REQUIREMENTS AS PERMANENT FACILITIES, AS SPECIFIED IN THE CONTRACT DOCUMENTS AND HEALTH SAFETY PLAN (HASP).
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE AND MAINTAIN ALL PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. A COMMONWEALTH OF MASSACHUSETTS REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE SHALL REPLACE PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY ASSOCIATED WITH THE WORK UNDER THIS PROJECT AND FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY LAWS, CODES, REGULATIONS, AND

ORDINANCES INCLUDING, BUT NOT LIMITED TO, THOSE CURRENTLY MANDATED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND MAINTENANCE OF ALL EXCAVATION SUPPORT ON THE PROJECT. ALL EXCAVATION SUPPORT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. ALL EXCAVATION SUPPORT DESIGN DOCUMENTS SHALL BE PRESENTED TO THE ENGINEER FOR REVIEW BEFORE IMPLEMENTATION. CONTRACTOR SHALL USE ADEQUATE SHORING METHODS TO ENSURE:
 - COMPLIANCE WITH OSHA REGULATIONS.
 - PROTECTION OF EXISTING PAVEMENT AND ROAD SHOULDERS, STRUCTURES AND UTILITIES.
 - CONSTRUCTION ACTIVITIES ARE CONFINED TO RIGHTS-OF-WAY OR EASEMENTS AS INDICATED
- LIMITS OF DISTURBANCE (LOD) SHALL BE AS INDICATED ON THE CONTRACT DRAWINGS. ANY CHANGES TO THE LOD BY THE CONTRACTOR SHALL REQUIRE PRIOR APPROVAL FROM THE ENGINEER.
- CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE, ANY DAMAGE CAUSED BY CONSTRUCTION RELATED ACTIVITIES TO EXISTING UTILITY SERVICE LINES.
- IN THE EVENT OF DAMAGE TO EXISTING UTILITIES, CONTRACTOR SHALL STOP WORK IMMEDIATELY. TAKE NECESSARY PRECAUTIONS TO PREVENT INJURY OR FURTHER DAMAGE, AND NOTIFY PROPER AUTHORITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING/REPAIRING ALL EXISTING STRUCTURES, CONDUITS, OR OTHER UTILITIES DAMAGED BY CONTRACTOR'S OPERATIONS AT NO COST TO OWNER.
- REMOVAL AND REPLACEMENT OR REPAIR OF EXISTING UTILITY SERVICES SHALL BE COORDINATED WITH APPROPRIATE UTILITY COMPANY AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT TO ORIGINAL OR BETTER CONDITION OF ALL EXISTING PAVEMENTS, FENCES, AND MISCELLANEOUS ITEMS WHERE DAMAGED BY CONSTRUCTION ACTIVITIES OR REQUIRED TO COMPLETE THE CONSTRUCTION.
- ALL HOLES, TRENCHES, AND OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY BARRICADES, LIGHTS OR OTHER PROTECTIVE DEVICES.
- REMOVAL OF EXCAVATED MATERIALS AND DAILY CLEANUP OPERATIONS SHALL BE PERFORMED IN COMPLIANCE WITH THE SPECIFICATIONS AND TO THE SATISFACTION OF THE OWNER/ENGINEER.
- EXCESS/UNSUITABLE SPOIL TO BE REMOVED FROM SITE. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL SUBMIT THE OFF-SITE SPOIL LOCATIONS TO BE USED AND PROVIDE DOCUMENTATION OF EROSION CONTROL MEASURES TO BE PROVIDED DURING DISPOSAL OPERATIONS. CONTRACTORS OFF-SITE SEDIMENT CONTROL MEASURES MUST BE APPROVED BY MASSDEP PRIOR TO SPOIL DISPOSAL.
- ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE IMPLEMENTED BEFORE CONSTRUCTION COMMENCES AND SHALL NOT BE REMOVED UNTIL PERMANENT GROUND COVER STABILIZATION HAS BEEN ESTABLISHED.
- THE CONTRACTOR SHALL RECORD AND SUPPLY TO THE ENGINEER THE FOLLOWING INFORMATION:
 - THE LOCATION OF ALL UTILITIES CROSSED AND THE NEW LOCATION AND DEPTH OF ALL RELOCATED AND/OR ADJUSTED UTILITIES.
- THERE ARE ZONE A SPECIAL FLOOD HAZARD AREAS OUTSIDE OF THE SITE'S LIMIT OF DISTURBANCE. FOR ADDITIONAL INFORMATION, SEE FEMA FIRM MAP NO. 25013C0352E, EFFECTIVE DATE JULY 16TH, 2013.

ABBREVIATIONS:

B	BOTTOM	PIV	POST INDICATOR VALVE
BC	BOTTOM FO CURB	PR	PRESSURE
BCB	BIT. CONC. BERM	RCP	REINFORCED CONCRETE PIPE
BFV	BUTTERFLY VALVE	R=	RIM ELEVATION
BIT	BITUMINOUS	RET	RETAINING
BMP	BEST MANAGEMENT PRACTICE	RW	RAW WATER
BW	BOTTOM OF WALL	SCM	SUPPLY CHAIN MANAGEMENT
C	COPPER	SD	STORM DRAIN
CB	CATCH BASIN	SMH	SEWER MANHOLE
C.L.	CEMENT LINED	SS	SANITARY SEWER
CLF	CHAIN LINK FENCE	S.P.	SAND PIPE
CMP	CORRUGATED METAL PIPE	T	TOP
CR	CENTRATE RETURN	TBM	TEMPORARY BENCH MARK
DAFS	DAF SOLIDS	TDC	TEMPORARY DIVERSION CHANNEL
DOM.	DOMESTIC	TOD	TOP OF DEBRIS
DIP	DUCTILE IRON PIPE	TR=	CENTERLINE OF TROUGH
DS	DOWNSPOUT	T.D.	TILE DRAIN
EMH	ELECTRIC MANHOLE	TT=	TOP OF TRAP
FES	FLARED END SECTION	TVP=	TOP OF VERTICAL PIPE
FM	FORCE MAIN	TW	TOP OF WALL
F.W.	FILTERED WATER	UP	UTILITY POLE
FOW	FULL OF WATER	VGC	VERTICAL GRANITE CURB
G.	GUARD RAIL	WF	WOOD FENCE
GR	GATE VALVE	WF-##	WETLAND FLAG NUMBER
GV	GATE VALVE	WMH	WATER MANHOLE
HH	HANDHOLE	WWR	WASHWATER RECYCLE
I=	INVERT ELEVATION	WWW	WASTE WASHWATER
INACC.	INACCESSIBLE	(70-E2)	CONTRACT# - SHEET# (1910 - 0516) PLAN SET YEAR - SHEET#
MH	MANHOLE		
NVP	NO VISIBLE PIPES		
OF	OUTFALL		

CIVIL SYMBOLS (PLAN)

	EXISTING	NEW		EXISTING	NEW
BOLLARD/ POST	●	●	WATER METER	WM	WM
COMMUNICATION BOX	□	□	WATER VALVE	WV	WV
COMMUNICATION MANHOLE	○	○	WETLANDS FLAG	WF	WF
ELECTRICAL BOX	□	□			
ELECTRICAL GUY WIRE	↓	↓			
ELECTRIC LIGHT POLE	☀	☀			
ELECTRICAL MANHOLE	⊕	⊕			
ELECTRIC METER	EM	EM			
ELECTRICAL POWER POLE	⊕	⊕			
FIBER OPTIC BOX	F	F			
FLAG POLE	9	9			
GAS METER	GM	GM			
GAS VALVE	G	G			
GEO-TECH MONITORING WELL	⊕	⊕			
GEO-TECH TEST PIT	⊕	⊕			
GEO-TECH OBSERVATION WELL	⊕	⊕			
GEO-TECH SOIL BORING	⊕	⊕			
MAIL BOX	MB	MB			
ROAD SIGNAGE	↑	↑			
ROAD MARKINGS	↑	↑			
SEWER AIR RELEASE VALVE	⊕	⊕			
SEWER CLEANOUT	oCO	oCO			
SEWER MANHOLE	⊕	⊕			
SEWER VALVE	S	S			
STORM FLARED END SECTION	▽	▽			
STORM HEADWALL	▽	▽			
STORM INLET	□	□			
STORM MANHOLE	⊕	⊕			
SURVEY BENCHMARK	⊕	⊕			
SURVEY CONTROL POINT	△	△			
SURVEY MARKER	⊕	⊕			
SURVEY IRON PIN	⊕	⊕			
TELEPHONE BOX	T	T			
TELEPHONE MANHOLE	⊕	⊕			
TRAFFIC SIGNAL BOX	TR	TR			
TREE	☀	☀			
UNKNOWN VALVE	UNK	UNK			
WATER HYDRANT (FIRE)	⊕	⊕			
WATER HYDRANT (YARD)	⊕	⊕			
WATER MANHOLE	⊕	⊕			

EROSION CONTROL		
SYMBOL	KEY NOTE	DESCRIPTION
(SF)	1	SILT FENCE
(IP)	2	YARD INLET PROTECTION
(TPF)	3	TREE PROTECTION FENCE
(CE)	4	STABILIZED CONSTRUCTION ENTRANCE

CIVIL SITE LINE STYLES

EXISTING	NEW	DESCRIPTION	EXISTING	NEW	DESCRIPTION
---	---	CHAIN LINK FENCE	---	---	PROFILE SANITARY SEWER
---	---	CHLORINE	---	---	PROFILE PRCP RAW WATER
---	---	COOK BROOK LIMITS	---	---	PROPERTY LINES
---	---	CONTOURS MAJOR	---	---	SANITARY DRAIN
---	---	CONTOURS MINOR	---	---	SANITARY FORCE MAIN
---	---	DOMESTIC WATER	---	---	STORM DRAIN
---	---	ELECTRIC OVERHEAD	---	---	SANITARY PIPE
---	---	LAB SANITARY	---	---	WASH WATER
---	---	LIMIT OF DISTURBANCE	---	---	WATER PIPE
---	---	DESIGN COMPONENT	---	---	WETLAND FLAG
---	---	PROCESS WATER	---	---	WETLAND LIMITS

CIVIL SITE HATCHING STYLES

EXISTING	DEMO	NEW	DESCRIPTION
---	---	---	ASPHALT PAVEMENT
---	---	---	BUILDING/STRUCTURE
---	---	---	CONCRETE CURB
---	---	---	CONCRETE PAD/PAVEMENT
---	---	---	CONCRETE SIDEWALK
---	---	---	EMERGENCY SPILLWAY
---	---	---	CONTRACTOR STAGING / CONSTRUCTION ENTRANCE
---	---	---	DEMOLITION
---	---	---	EARTH/GRADE
---	---	---	LANDSCAPE
---	---	---	GRAVEL
---	---	---	LAYER OF CLAY
---	---	---	LAYER OF COMPACTED FOUNDATION
---	---	---	LAYER OF ROLLED EMBANKMENT
---	---	---	STRUCTURE
---	---	---	WETLANDS

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

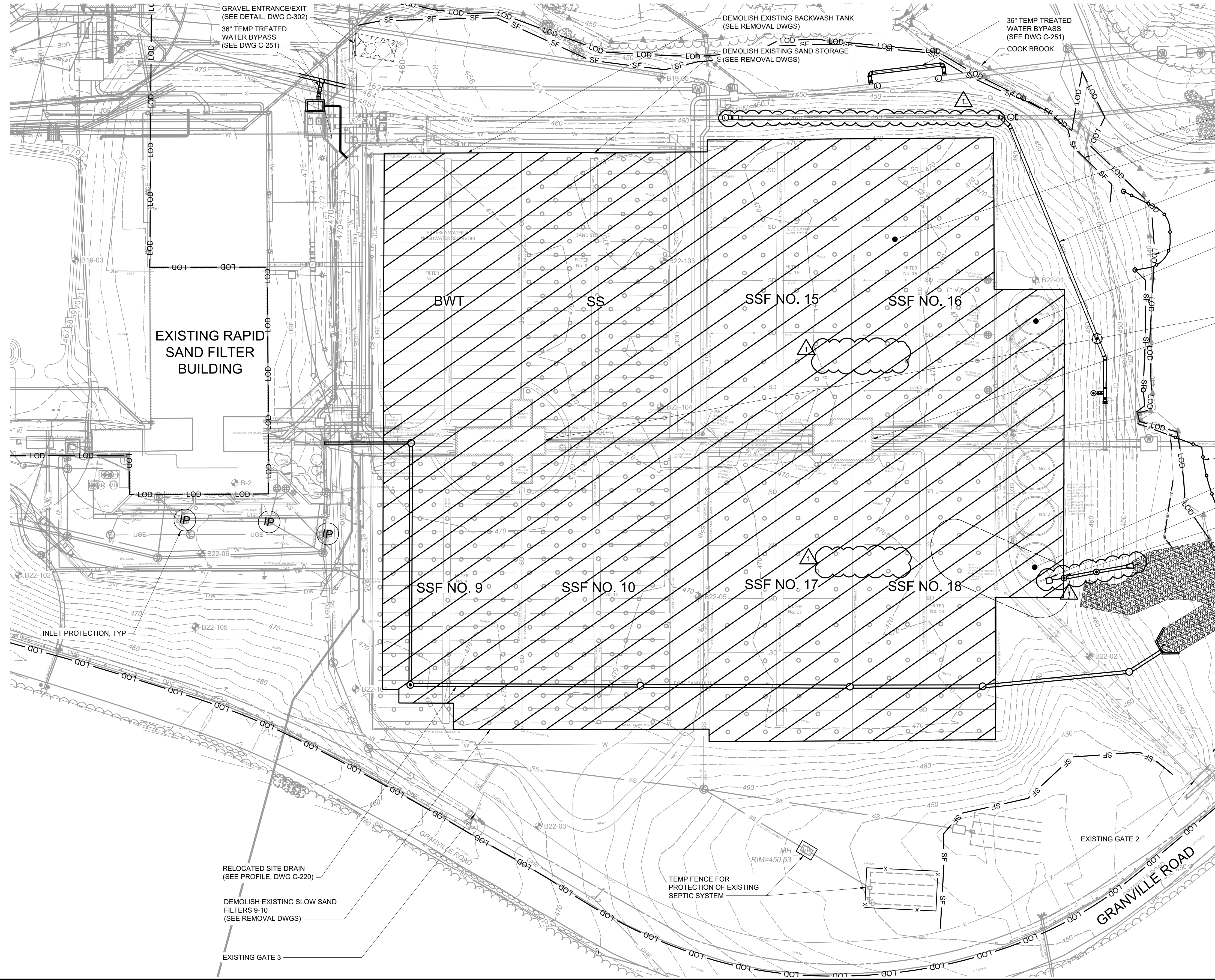
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-000



- NOTES:**
- CONSTRUCTION PHASING AS SHOWN IS SUGGESTED AND FOR THE PURPOSES OF EROSION AND SEDIMENT CONTROL. CONTRACTOR MAY PERFORM WORK IN ALTERNATIVE PHASES OR SEQUENCE PROVIDED THAT CONTRACT RESTRICTIONS ARE FOLLOWED AND SEQUENCE IS APPROVED BY THE ENGINEER.
 - SEE DWGS C-301 THROUGH C-304 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.

- SILT FENCE, TYP
- DEMOLISH EXISTING SLOW SAND FILTERS 15-18 (SEE REMOVAL DWGS)
- 36" TEMP TREATED WATER BYPASS (SEE DWG C-251)
- LIMIT OF DISTURBANCE, TYP
- DEMOLISH EXISTING SAND BINS (SEE REMOVAL DWGS)
- UPPER LAGOON
- DEMOLISH EXISTING REGULATOR HOUSES (SEE REMOVAL DWGS)
- TURBIDITY CURTAIN, TYP
- TEMP SEDIMENT BASIN (SEE DETAIL, DWG C-304)
- SKIMMER (SEE DETAIL, DWG C-304)
- RISER (SEE DETAIL, DWG C-304)
- FES-01
- RIPRAP OUTLET PROTECTION, TYP (SEE DETAIL, DWG C-302)
- HW-01

- CONSTRUCTION SEQUENCING - PHASE II:**
- DEMOLISH EXISTING ABOVE-GRADE REGULATOR BUILDINGS.
 - REMOVE, ABANDON, AND CAP YARD PIPING CONNECTED TO EXISTING INFRASTRUCTURE TO BE DEMOLISHED. (SEE C-100 SERIES DRAWINGS).
 - START DEMOLITION OF SLOW SAND FILTERS (SSF) NO. 15 THROUGH NO. 18 AND SAND BINS.
 - PROCESS AND STOCKPILE MATERIALS FOR RE-USE AND BACKFILL AREAS WITH REQUIRED BACKFILL AFTER EACH AREA IS DEMOLISHED AND EXCAVATED TO SUBGRADE.
 - ESTABLISH TEMPORARY ACCESS ROADS, TEMPORARY DIVERSION DITCHES, SEDIMENT BASIN, AND OUTFALL AS WORK ADVANCES.
 - SUPPORT WALLS OF BACKWASH TANK (BWT) AND SSF NO. 9 (SEE R-SERIES DRAWINGS).
 - DEMOLISH BWT, SAND STORAGE (SS), AND SSF NO. 9 AND 10.
 - STOCKPILE MATERIALS FOR RE-USE AND BACKFILL AREAS WITH REQUIRED BACKFILL MATERIALS AS EACH AREA IS DEMOLISHED TO SUBGRADE.
 - CONTINUE TO ESTABLISH TEMPORARY ACCESS ROADS AND TEMPORARY DIVERSION DITCHES.
 - BACKFILL AREAS TO INTERIM SITE PLAN GRADES TO ALLOW FOR FOUNDATIONS OF STRUCTURES AND TANKS TO BE CONSTRUCTED (SEE C-120 SERIES DRAWINGS).
 - CONSTRUCT SITE DRAIN AND DEMOLISH EXISTING 30-INCH DRAIN DISCHARGING TO THE UPPER LAGOON.
 - REMOVE TURBIDITY CURTAIN DOWNSTREAM OF HW-01 AND FES-01.

SCALE: 1" = 50'

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
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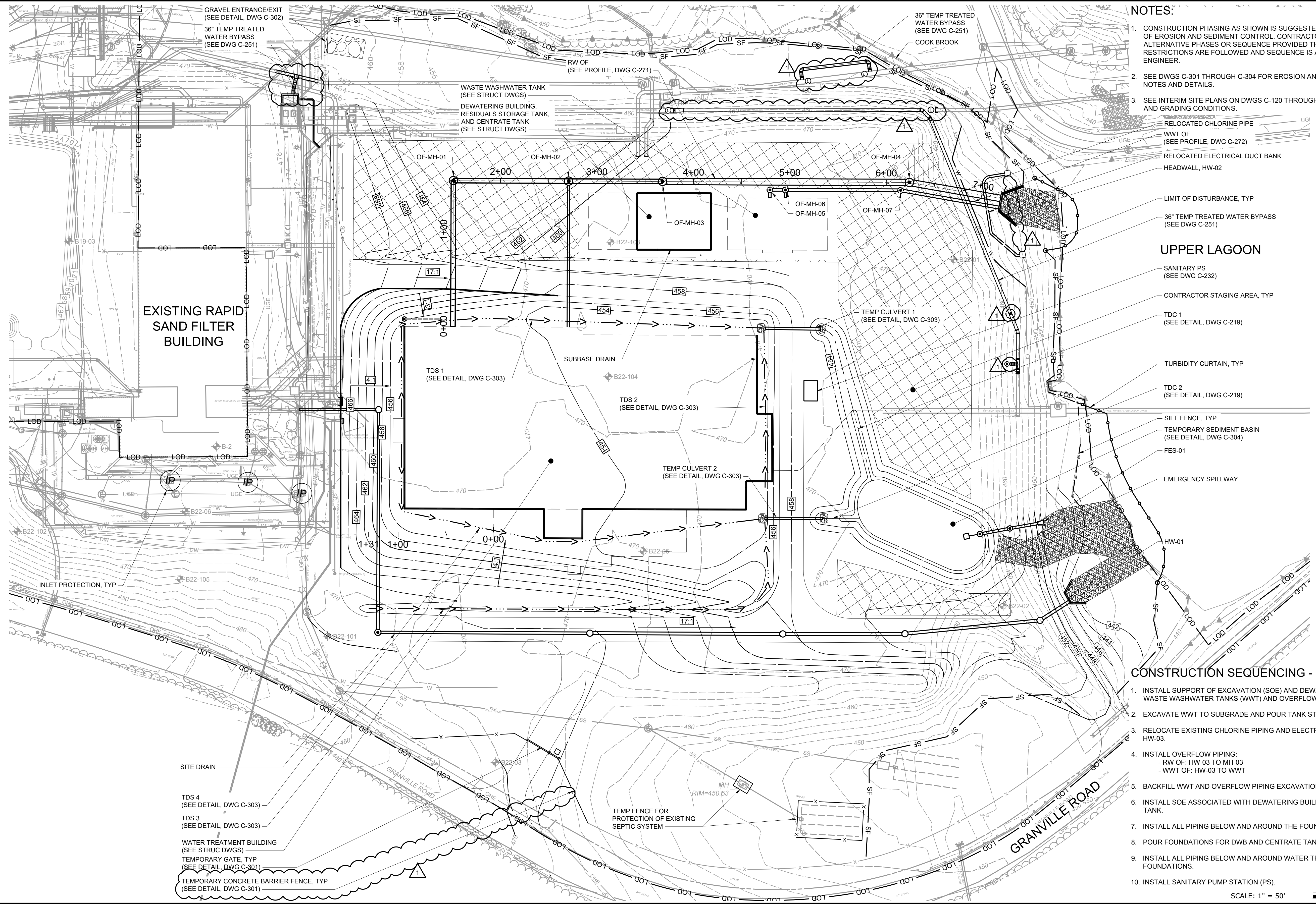


Hazen
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 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
EROSION AND SEDIMENT CONTROL
PHASING PLAN - PHASE II

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-003



- NOTES:**
- CONSTRUCTION PHASING AS SHOWN IS SUGGESTED AND FOR THE PURPOSES OF EROSION AND SEDIMENT CONTROL. CONTRACTOR MAY PERFORM WORK IN ALTERNATIVE PHASES OR SEQUENCE PROVIDED THAT CONTRACT RESTRICTIONS ARE FOLLOWED AND SEQUENCE IS APPROVED BY THE ENGINEER.
 - SEE DWGS C-301 THROUGH C-304 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
 - SEE INTERIM SITE PLANS ON DWGS C-120 THROUGH C-125 FOR PHASE III SITE AND GRADING CONDITIONS.

- RELOCATED CHLORINE PIPE
- WWT OF (SEE PROFILE, DWG C-272)
- RELOCATED ELECTRICAL DUCT BANK
- HEADWALL, HW-02
- LIMIT OF DISTURBANCE, TYP
- 36" TEMP TREATED WATER BYPASS (SEE DWG C-251)

- UPPER LAGOON**
- SANITARY PS (SEE DWG C-232)
 - CONTRACTOR STAGING AREA, TYP
 - TDC 1 (SEE DETAIL, DWG C-219)
 - TURBIDITY CURTAIN, TYP
 - TDC 2 (SEE DETAIL, DWG C-219)
 - SILT FENCE, TYP
 - TEMPORARY SEDIMENT BASIN (SEE DETAIL, DWG C-304)
 - FES-01
 - EMERGENCY SPILLWAY

- CONSTRUCTION SEQUENCING - PHASE III:**
- INSTALL SUPPORT OF EXCAVATION (SOE) AND DEWATERING SYSTEM FOR WASTE WASHWATER TANKS (WWT) AND OVERFLOW PIPING.
 - EXCAVATE WWT TO SUBGRADE AND POUR TANK STRUCTURE.
 - RELOCATE EXISTING CHLORINE PIPING AND ELECTRICAL DUCT BANK NEAR HW-03.
 - INSTALL OVERFLOW PIPING:
 - RW OF: HW-03 TO MH-03
 - WWT OF: HW-03 TO WWT
 - BACKFILL WWT AND OVERFLOW PIPING EXCAVATIONS.
 - INSTALL SOE ASSOCIATED WITH DEWATERING BUILDING (DWB) AND CENTRATE TANK.
 - INSTALL ALL PIPING BELOW AND AROUND THE FOUNDATIONS OF DWB.
 - POUR FOUNDATIONS FOR DWB AND CENTRATE TANK.
 - INSTALL ALL PIPING BELOW AND AROUND WATER TREATMENT BUILDING (WTB) FOUNDATIONS.
 - INSTALL SANITARY PUMP STATION (PS).

SCALE: 1" = 50'

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	J. HARKINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

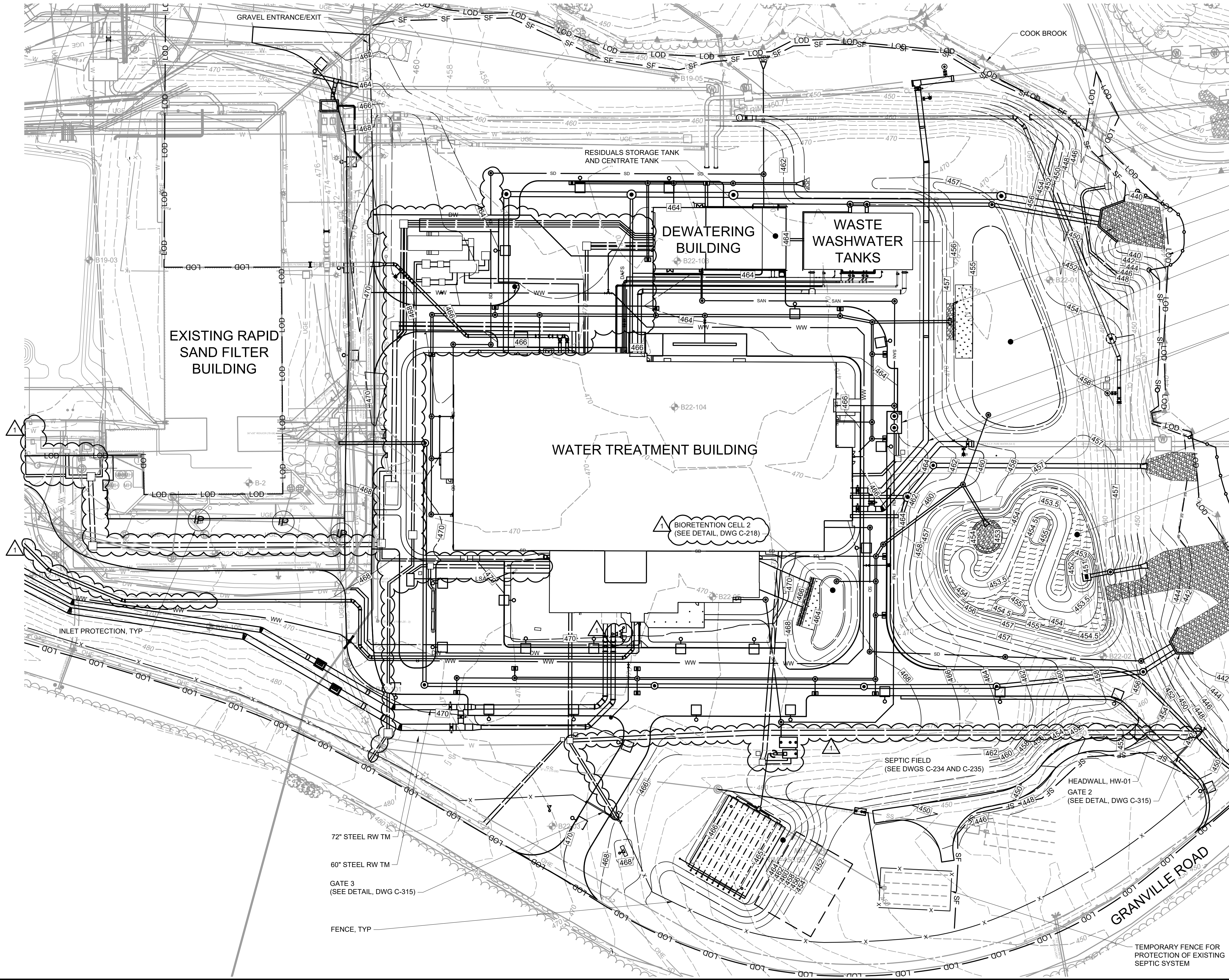


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 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
EROSION AND SEDIMENT CONTROL
PHASING PLAN - PHASE III

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-004



- NOTES:**
- CONSTRUCTION PHASING AS SHOWN IS SUGGESTED AND FOR THE PURPOSES OF EROSION AND SEDIMENT CONTROL. CONTRACTOR MAY PERFORM WORK IN ALTERNATIVE PHASES OR SEQUENCE PROVIDED THAT CONTRACT RESTRICTIONS ARE FOLLOWED AND SEQUENCE IS APPROVED BY THE ENGINEER.
 - SEE DWG C-301 THROUGH C-304 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.

- SILT FENCE, TYP
- HEADWALL, HW-02
- LEVEL SPREADER, TYP
- LIMIT OF DISTURBANCE, TYP
- BIORETENTION CELL 1 (SEE DETAIL, DWG C-218)
- UPPER LAGOON**
- SANITARY PS
- 60" STEEL FW TM (SEE DWGS C-252 AND C-253)
- TURBIDITY CURTAIN, TYP
- FES-04
- STORMWATER WETLAND (SEE DWG C-210)

- CONSTRUCTION SEQUENCING - PHASE IV:**
- POUR FOUNDATIONS FOR WTB. BACKFILL AROUND BUILDING TO SUBBASE OF ROADWAYS AND LANDSCAPED AREAS.
 - TEMPORARILY STABILIZE AREAS AND CONSTRUCT DITCHES TO CONVEY RUNOFF TO SEDIMENT BASIN.
 - CONSTRUCT SUPERSTRUCTURE OF BUILDINGS.
 - CONSTRUCT RW TM AND FW TM. (SEE DWGS C-240 THROUGH C-253).
 - INSTALL YARD PIPING AND OVERFLOW PIPING AROUND WTB. (SEE C-140 SERIES DWGS).
 - EXCAVATE SEDIMENT BASIN TO SUBGRADE FROM EAST TO WEST DIRECTION TO MAINTAIN DRAINAGE PATH. GRADE OUT CONTOURS FOR STORMWATER WETLAND.
 - EXCAVATE SEDIMENT BASIN TO SUBGRADE FROM SOUTH TO NORTH TO MAINTAIN DRAINAGE PATH. GRADE OUT CONTOURS FOR BIORETENTION, BIO-01.
 - INSTALL BIORETENTION SOIL MEDIA AND STABILIZE AREAS AROUND THE BIORETENTION.
 - INSTALL LANDSCAPING WITHIN STORMWATER WETLAND AND PROVIDE TEMPORARY STABILIZATION MEASURES.
 - INSTALL STORM DRAIN NETWORK AROUND WTB. (SEE C-130 SERIES DWGS).
 - REMOVE REMAINING CONSTRUCTION DITCHES AND GRADE AREAS TO SUBGRADE/FINAL GRADES AND STABILIZE.
 - INSTALL SANITARY DRAINS, SANITARY FORCE MAIN, AND SEPTIC FIELD. (SEE C-230 SERIES DWGS).
 - INSTALL ELECTRICAL DUCT BANKS AND ASSOCIATED STRUCTURES FROM PROPERTY LINE TO EQUIPMENT PADS. CONNECT DUCT BANKS TO THE WTB, DWB, WWT, SANITARY PUMP STATION, EMERGENCY GENERATOR, AND ACCESS GATES.
 - INSTALL TRUCK DELIVERY CONTAINMENT AREA AND ASSOCIATED DRAINAGE PIPING TO TIE INTO STORM DRAIN SYSTEM.

SCALE: 1" = 50'

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PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
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Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

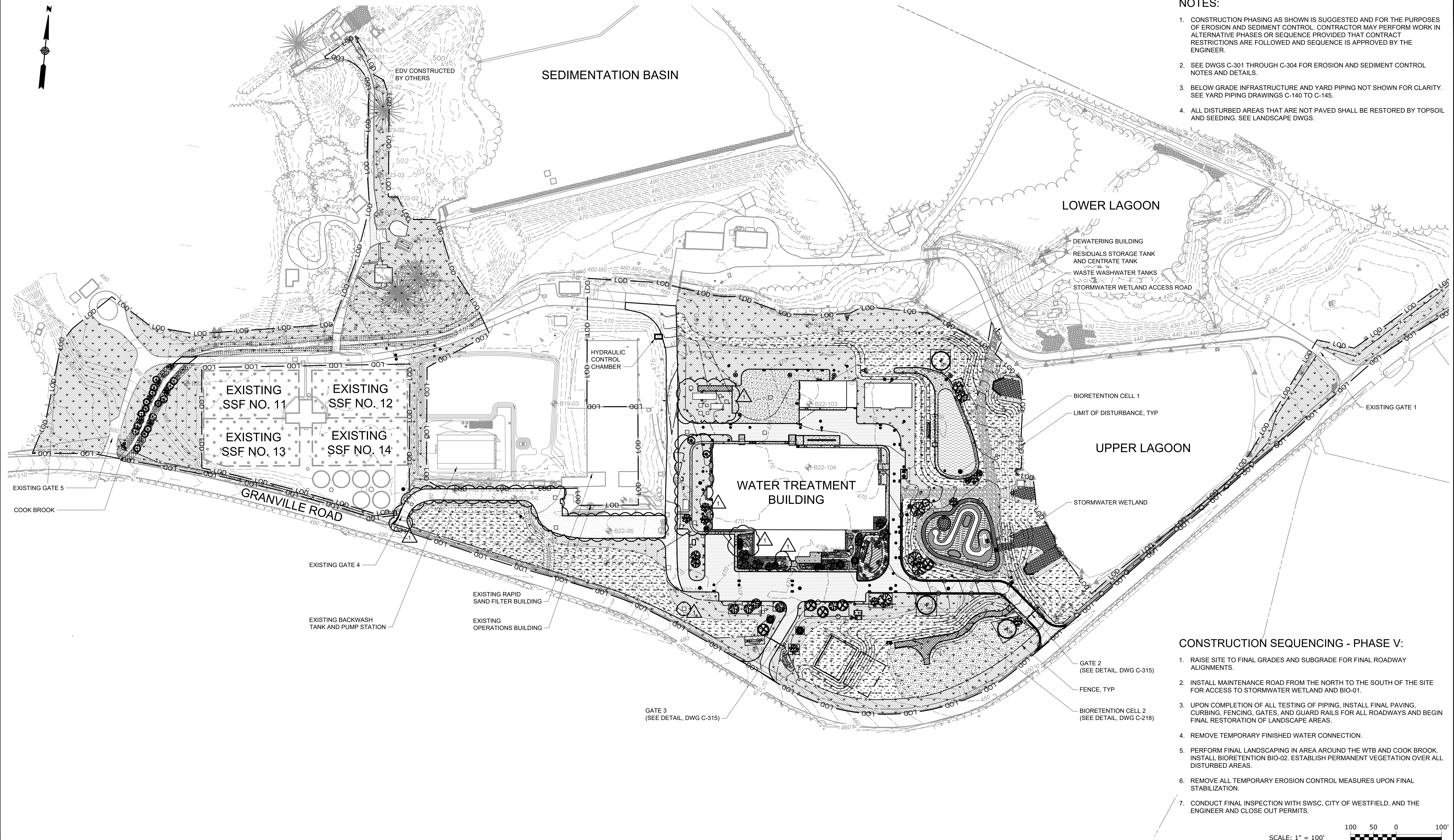
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL

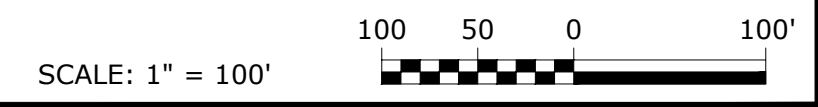
EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE IV

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-005



- NOTES:**
- CONSTRUCTION PHASING AS SHOWN IS SUGGESTED AND FOR THE PURPOSES OF EROSION AND SEDIMENT CONTROL. CONTRACTOR MAY PERFORM WORK IN ALTERNATIVE PHASES OR SEQUENCE PROVIDED THAT CONTRACT RESTRICTIONS ARE FOLLOWED AND SEQUENCE IS APPROVED BY THE ENGINEER.
 - SEE DWGS C-301 THROUGH C-304 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
 - BELOW GRADE INFRASTRUCTURE AND YARD PIPING NOT SHOWN FOR CLARITY. SEE YARD PIPING DRAWINGS C-140 TO C-145.
 - ALL DISTURBED AREAS THAT ARE NOT PAVED SHALL BE RESTORED BY TOPSOIL AND SEEDING. SEE LANDSCAPE DWGS.

- CONSTRUCTION SEQUENCING - PHASE V:**
- RAISE SITE TO FINAL GRADES AND SUBGRADE FOR FINAL ROADWAY ALIGNMENTS.
 - INSTALL MAINTENANCE ROAD FROM THE NORTH TO THE SOUTH OF THE SITE FOR ACCESS TO STORMWATER WETLAND AND BIO-01.
 - UPON COMPLETION OF ALL TESTING OF PIPING, INSTALL FINAL PAVING, CURBING, FENCING, GATES, AND GUARD RAILS FOR ALL ROADWAYS AND BEGIN FINAL RESTORATION OF LANDSCAPE AREAS.
 - REMOVE TEMPORARY FINISHED WATER CONNECTION.
 - PERFORM FINAL LANDSCAPING IN AREA AROUND THE WTB AND COOK BROOK. INSTALL BIORETENTION BIO-02. ESTABLISH PERMANENT VEGETATION OVER ALL DISTURBED AREAS.
 - REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON FINAL STABILIZATION.
 - CONDUCT FINAL INSPECTION WITH SWSC, CITY OF WESTFIELD, AND THE ENGINEER AND CLOSE OUT PERMITS.



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 PLOT DATE: 3/22/2024 2:21 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL

EROSION AND SEDIMENT CONTROL PHASING PLAN - PHASE V

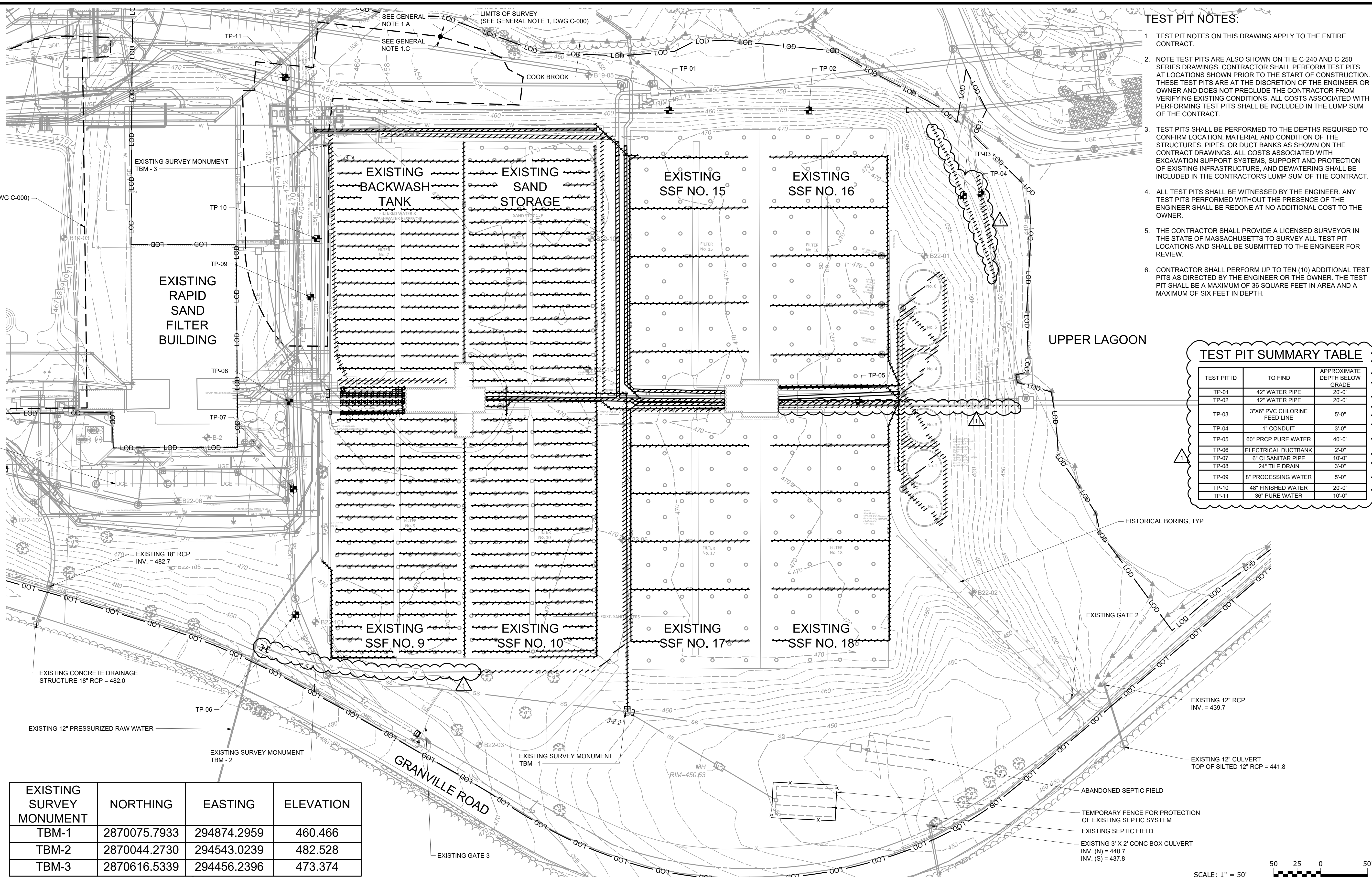
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-006

TEST PIT NOTES:

- TEST PIT NOTES ON THIS DRAWING APPLY TO THE ENTIRE CONTRACT.
- NOTE TEST PITS ARE ALSO SHOWN ON THE C-240 AND C-250 SERIES DRAWINGS. CONTRACTOR SHALL PERFORM TEST PITS AT LOCATIONS SHOWN PRIOR TO THE START OF CONSTRUCTION. THESE TEST PITS ARE AT THE DISCRETION OF THE ENGINEER OR OWNER AND DOES NOT PRECLUDE THE CONTRACTOR FROM VERIFYING EXISTING CONDITIONS. ALL COSTS ASSOCIATED WITH PERFORMING TEST PITS SHALL BE INCLUDED IN THE LUMP SUM OF THE CONTRACT.
- TEST PITS SHALL BE PERFORMED TO THE DEPTHS REQUIRED TO CONFIRM LOCATION, MATERIAL AND CONDITION OF THE STRUCTURES, PIPES, OR DUCT BANKS AS SHOWN ON THE CONTRACT DRAWINGS. ALL COSTS ASSOCIATED WITH EXCAVATION SUPPORT SYSTEMS, SUPPORT AND PROTECTION OF EXISTING INFRASTRUCTURE, AND DEWATERING SHALL BE INCLUDED IN THE CONTRACTOR'S LUMP SUM OF THE CONTRACT.
- ALL TEST PITS SHALL BE WITNESSED BY THE ENGINEER. ANY TEST PITS PERFORMED WITHOUT THE PRESENCE OF THE ENGINEER SHALL BE REDONE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE A LICENSED SURVEYOR IN THE STATE OF MASSACHUSETTS TO SURVEY ALL TEST PIT LOCATIONS AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- CONTRACTOR SHALL PERFORM UP TO TEN (10) ADDITIONAL TEST PITS AS DIRECTED BY THE ENGINEER OR THE OWNER. THE TEST PIT SHALL BE A MAXIMUM OF 36 SQUARE FEET IN AREA AND A MAXIMUM OF SIX FEET IN DEPTH.

TEST PIT SUMMARY TABLE

TEST PIT ID	TO FIND	APPROXIMATE DEPTH BELOW GRADE
TP-01	42" WATER PIPE	20'-0"
TP-02	42" WATER PIPE	20'-0"
TP-03	3"x6" PVC CHLORINE FEED LINE	5'-0"
TP-04	1" CONDUIT	3'-0"
TP-05	60" PRCP PURE WATER	40'-0"
TP-06	ELECTRICAL DUCTBANK	2'-0"
TP-07	6" CI SANITARY PIPE	10'-0"
TP-08	24" TILE DRAIN	3'-0"
TP-09	8" PROCESSING WATER	5'-0"
TP-10	48" FINISHED WATER	20'-0"
TP-11	36" PURE WATER	10'-0"



EXISTING SURVEY MONUMENT	NORTHING	EASTING	ELEVATION
TBM-1	2870075.7933	294874.2959	460.466
TBM-2	2870044.2730	294543.0239	482.528
TBM-3	2870616.5339	294456.2396	473.374

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1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. CAMPOS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

3/25/2024

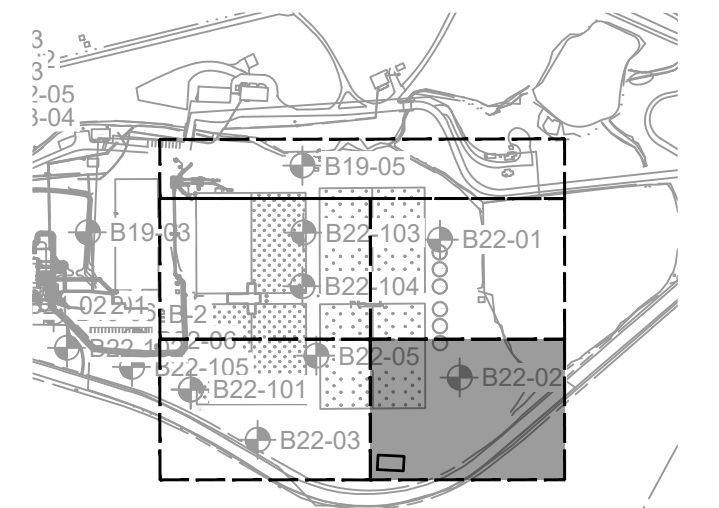
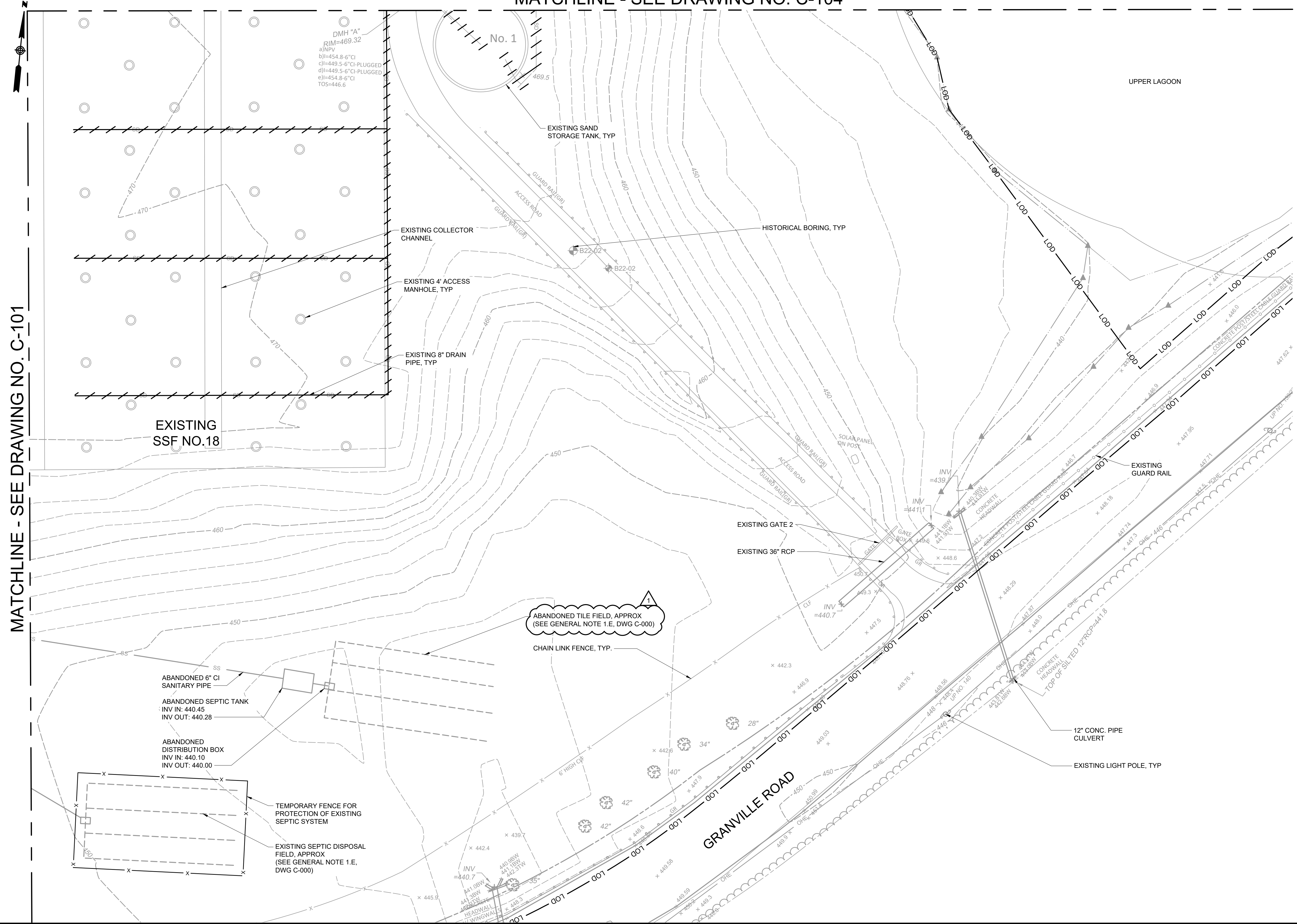
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 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
OVERALL EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-100

SCALE: 1" = 50'

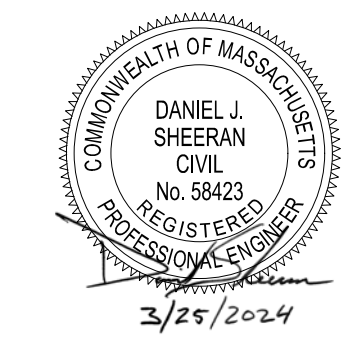


KEY MAP
NTS

SCALE: 1" = 20'

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PLOT DATE: 3/21/2024 11:18 AM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

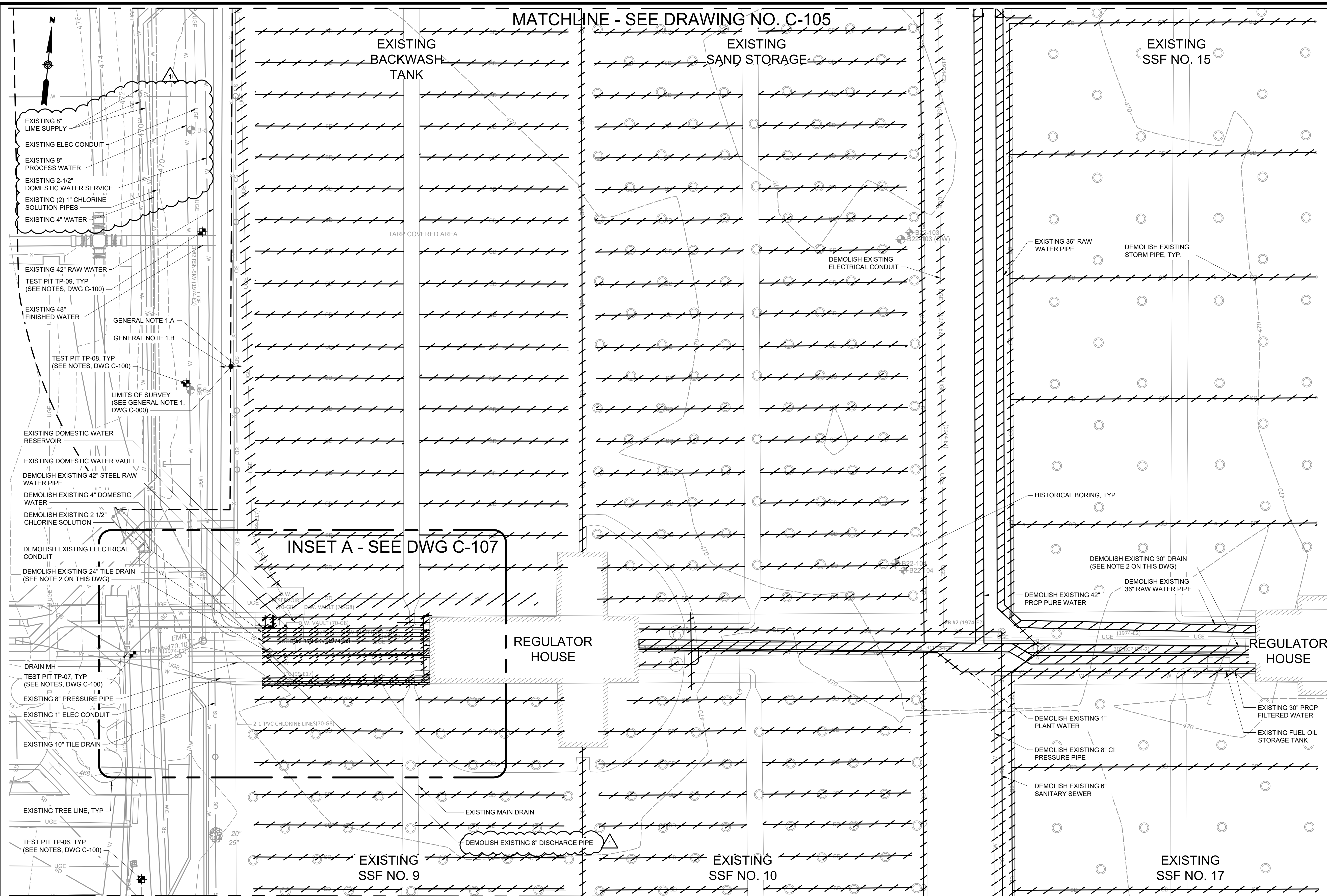


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN SHEET 2

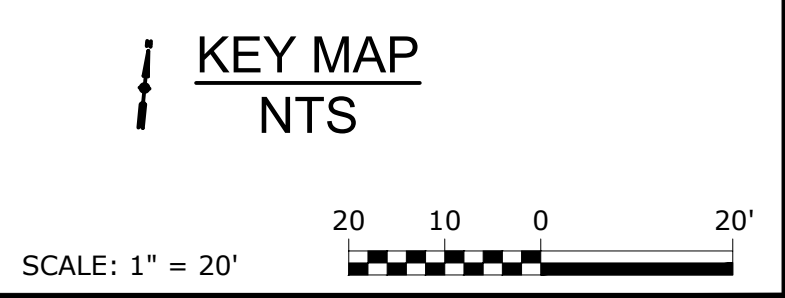
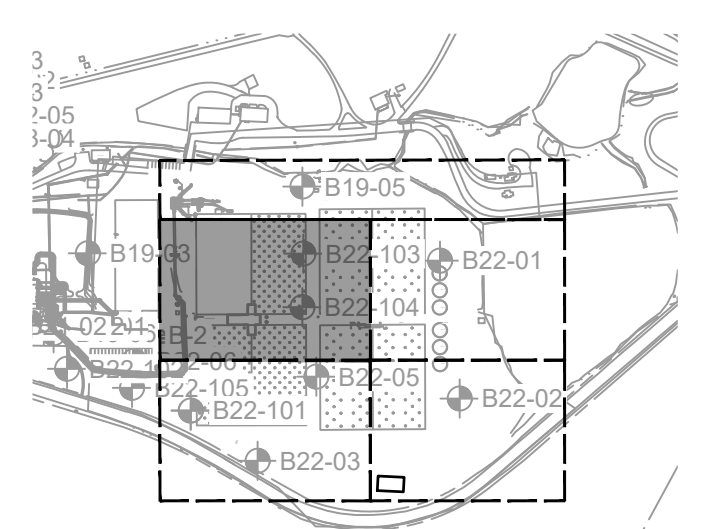
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-102



- NOTES:**
- MANHOLE COVERS EXIST ON TOP OF BACKWASH TANK. THESE ARE NOT CURRENTLY SHOWN ON PLAN SINCE THE BACKWASH TANK WAS COVERED WITH A TARP DURING THE FIELD SURVEY.
 - SITE DRAIN SHALL BE RELOCATED, AS SHOWN ON C-120 SERIES AND C-130 SERIES DRAWINGS, PRIOR TO THE DEMOLITION OF THE EXISTING 24" AND 30" TILE DRAINS.

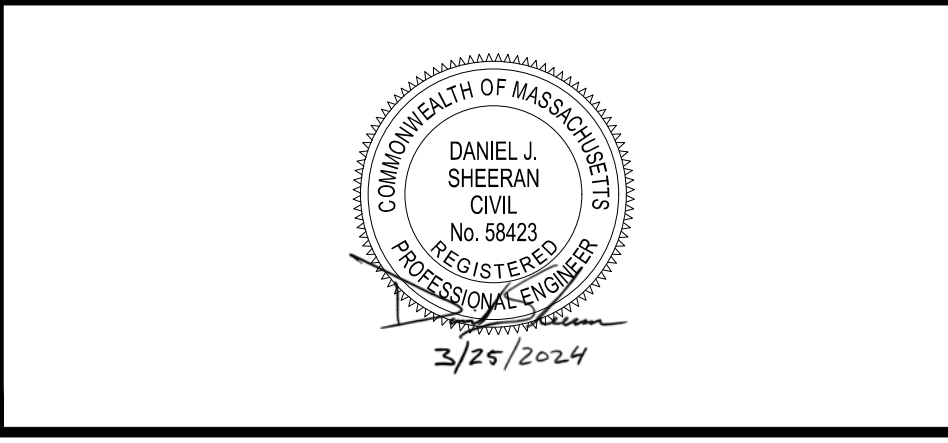
MATCHLINE - SEE DRAWING NO. C-104

INSET A - SEE DWG C-107



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PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. CAMPOS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
3/26/2024	



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL

EXISTING CONDITIONS

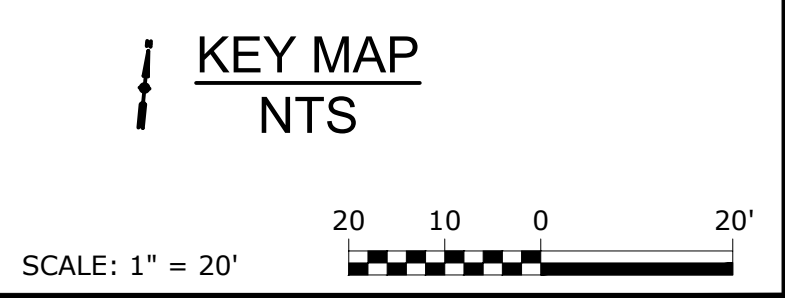
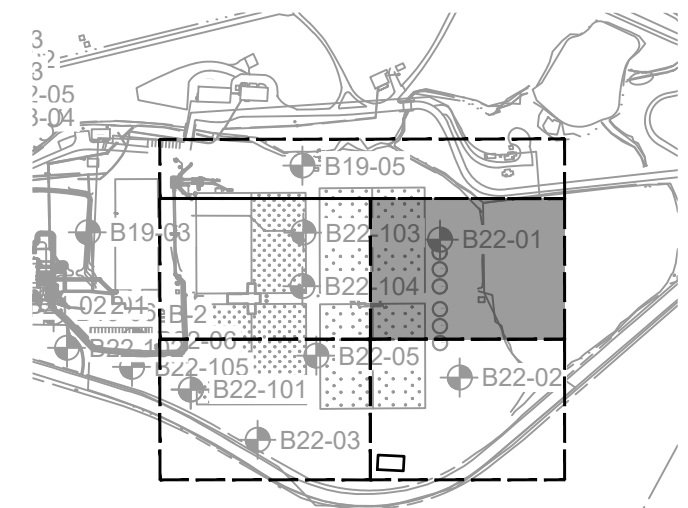
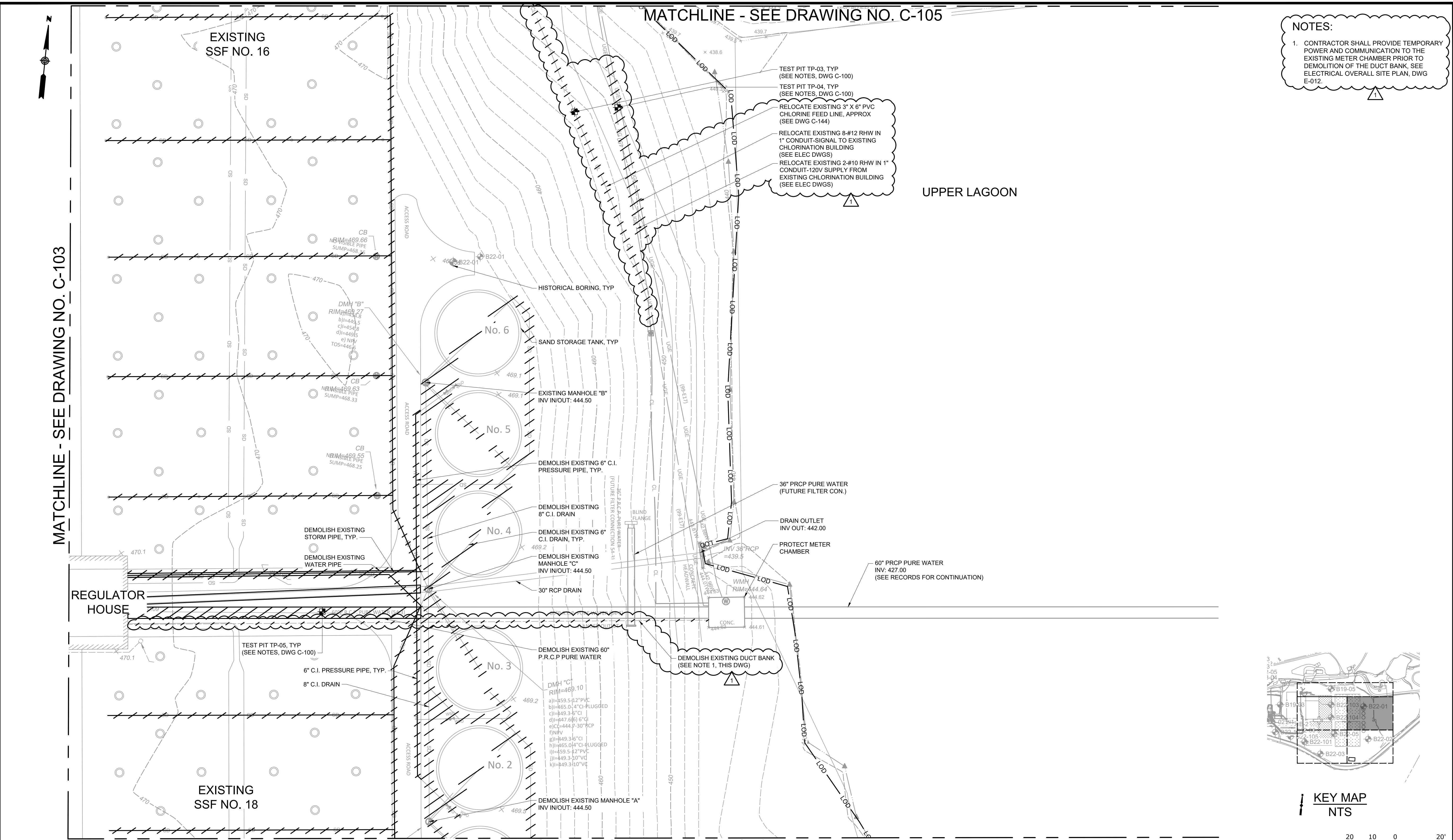
WITH YARD PIPING DEMOLITION PLAN

SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-103

NOTES:

- CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND COMMUNICATION TO THE EXISTING METER CHAMBER PRIOR TO DEMOLITION OF THE DUCT BANK. SEE ELECTRICAL OVERALL SITE PLAN, DWG E-012.



File: C:\USERS\KROBBINS\00\ACCORDS\HAZEN AND SAWYER\00888-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-104_Saved by KROBBINS Save date: 3/21/2024 11:24 AM PLOT DATE: 3/22/2024 1:49 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

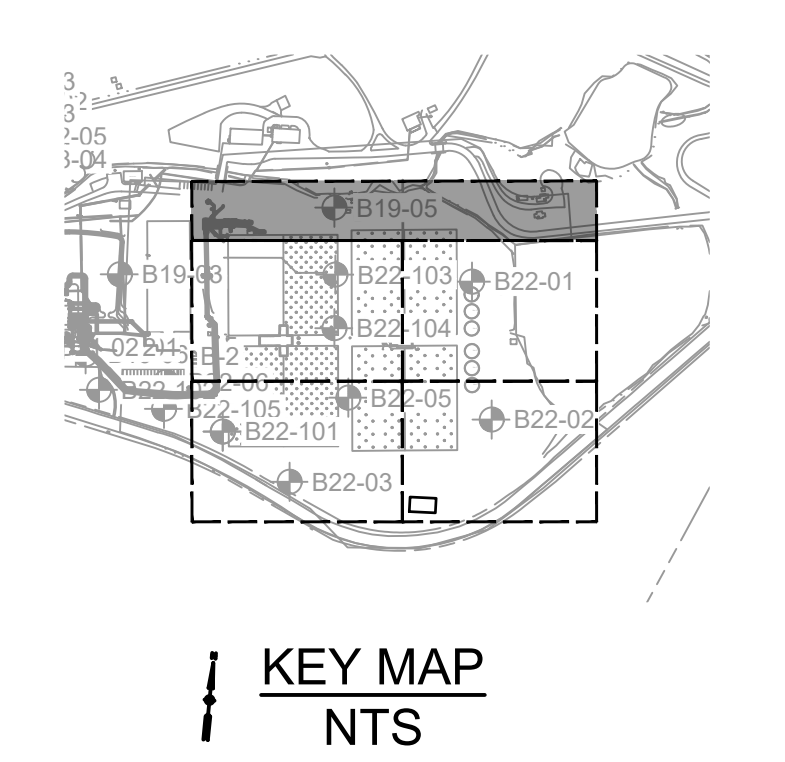
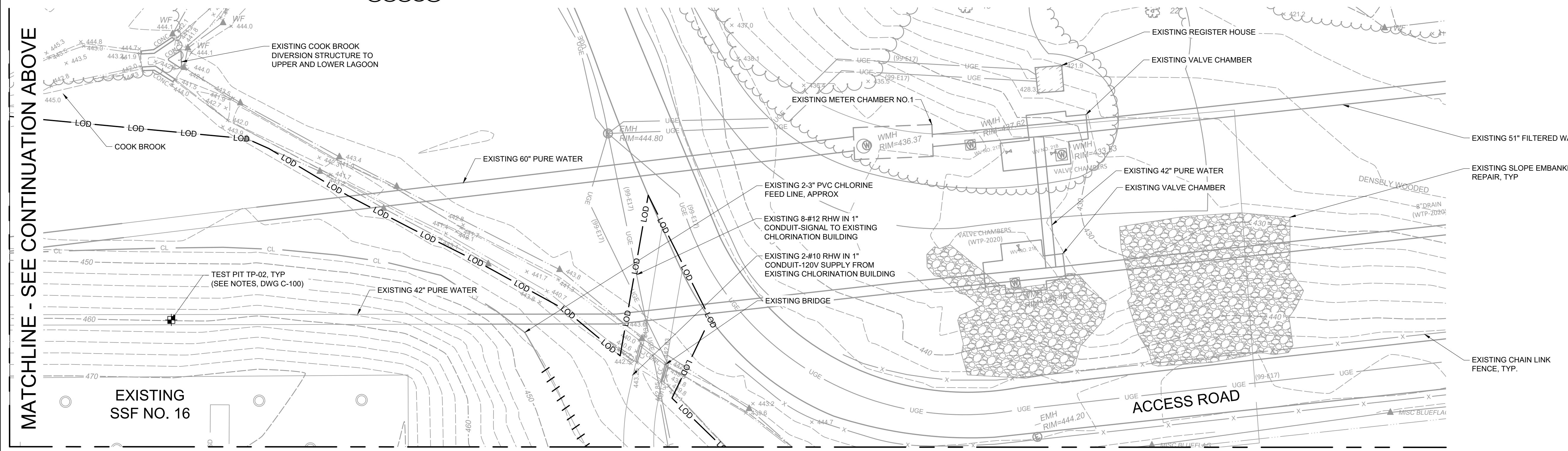
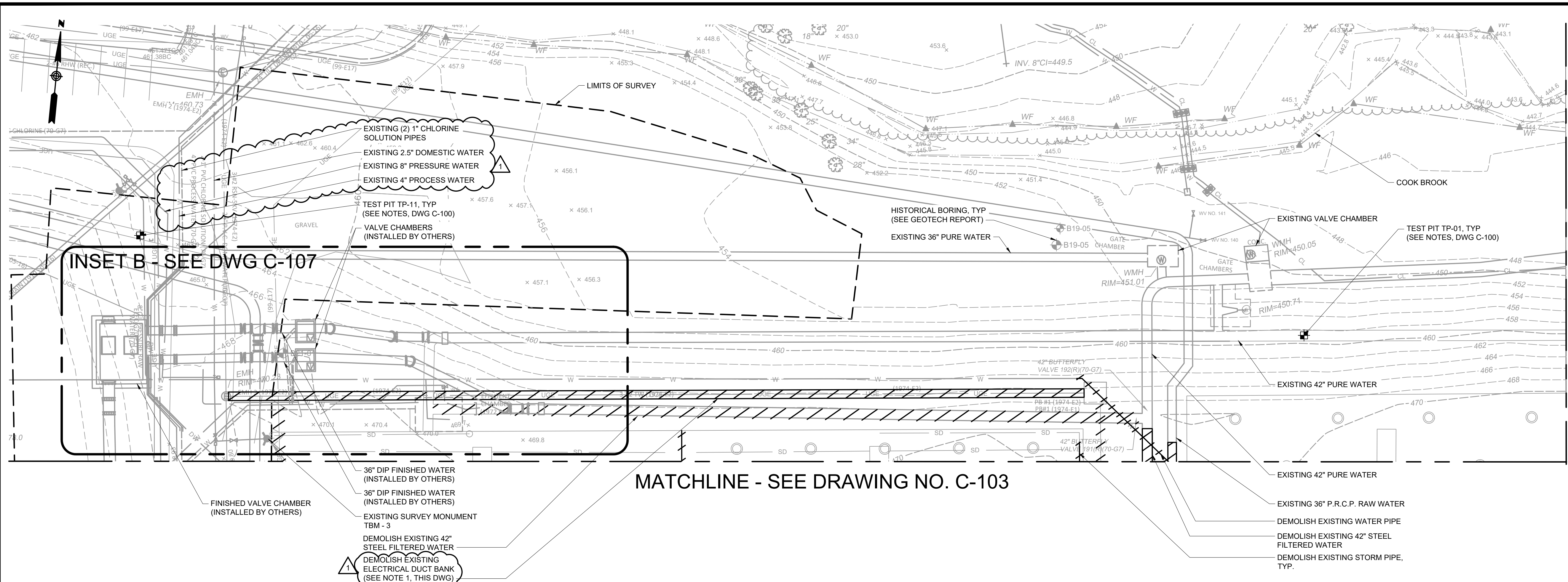
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN SHEET 4

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER: C-104

NOTES:
 1. CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND COMMUNICATION TO THE EXISTING METER CHAMBER PRIOR TO DEMOLITION OF THE DUCT BANK. SEE ELECTRICAL OVERALL SITE PLAN, DWG E-012.

MATCHLINE - SEE CONTINUATION BELOW



SCALE: 1" = 20'

MATCHLINE - SEE CONTINUATION ABOVE

MATCHLINE - SEE DRAWING NO. C-103

MATCHLINE - SEE DRAWING NO. C-104

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. CAMPOS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



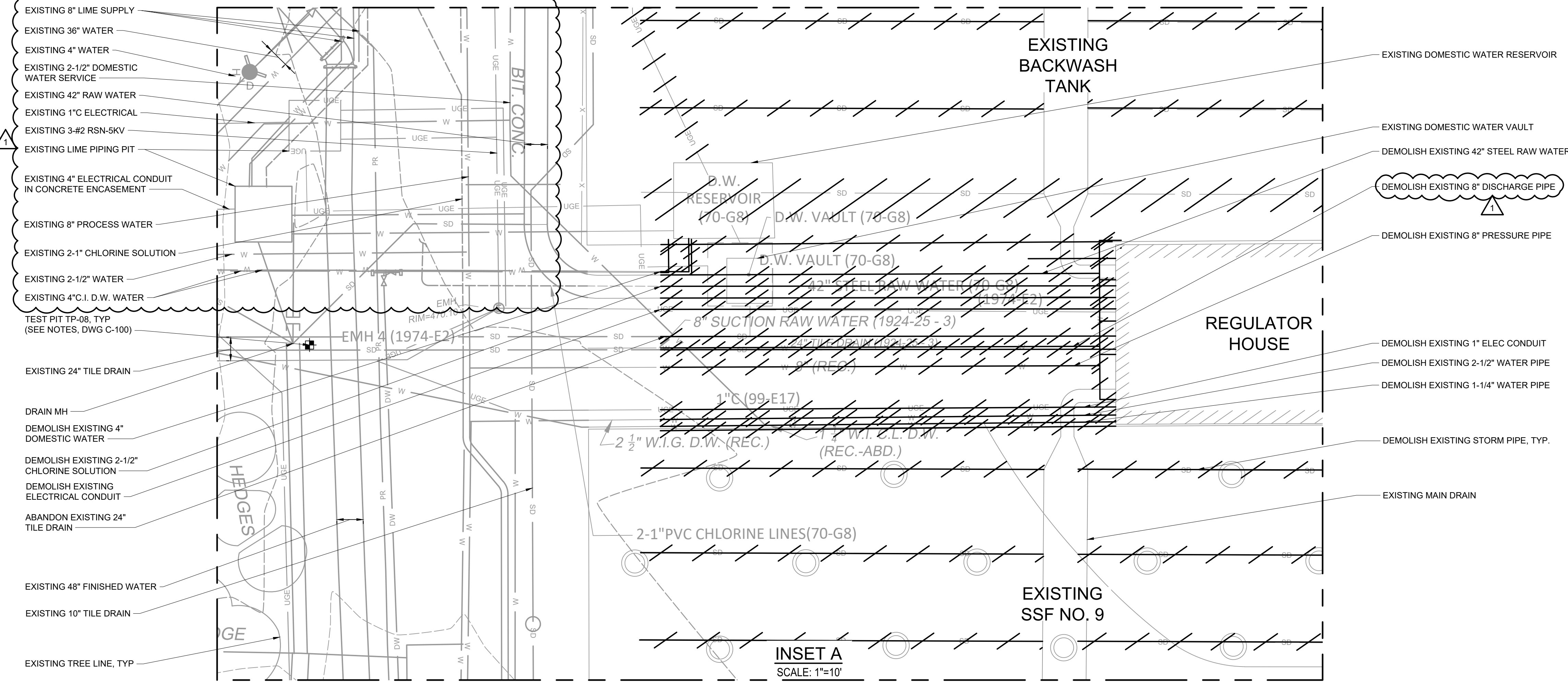
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

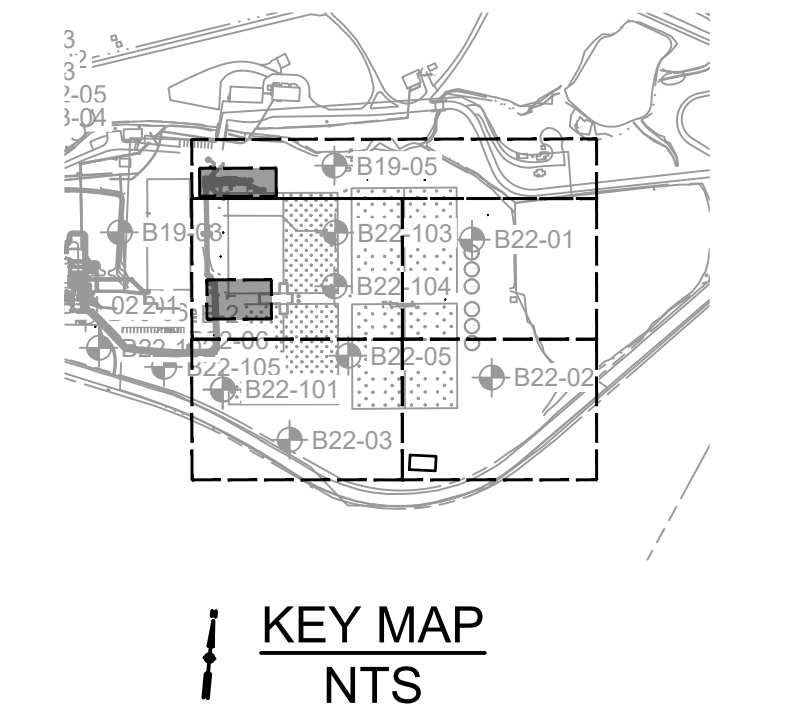
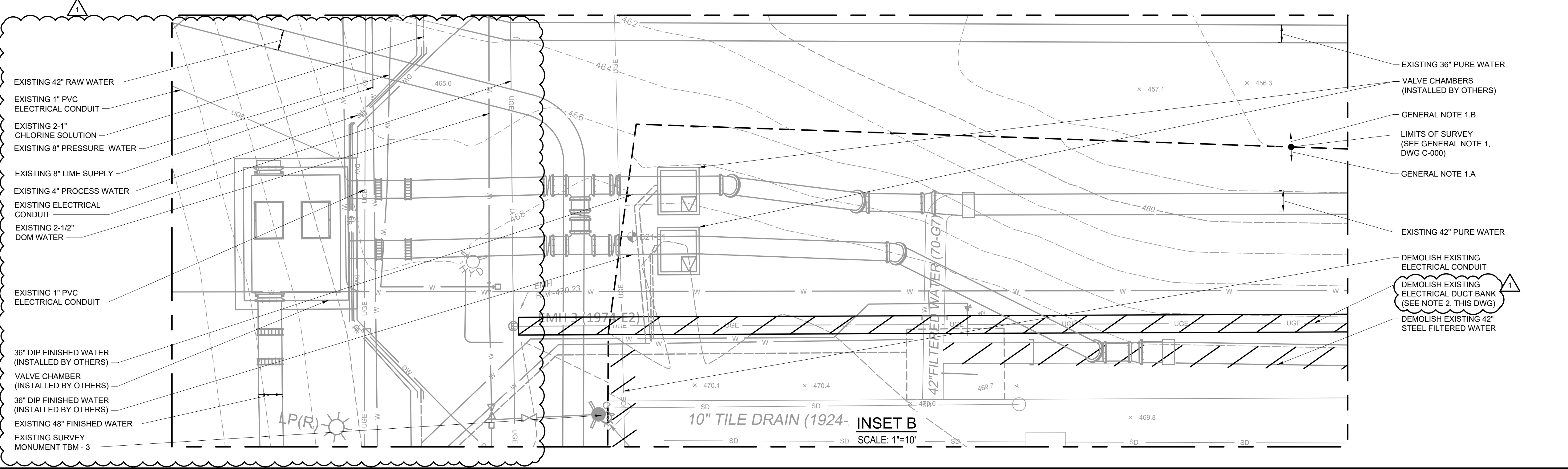
CIVIL
EXISTING CONDITIONS
WITH YARD PIPING DEMOLITION PLAN
SHEET 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-105

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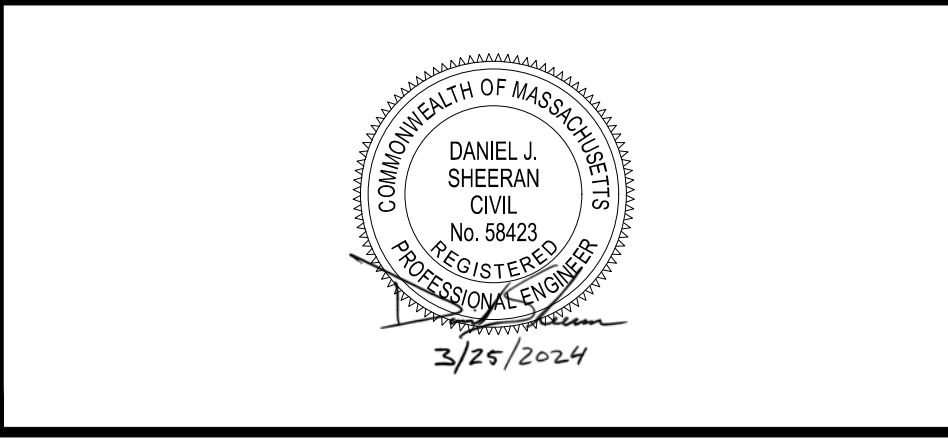
- NOTES:**
- MANHOLE COVERS EXIST ON TOP OF BACKWASH TANK. THESE ARE NOT CURRENTLY SHOWN ON PLAN SINCE THE BACKWASH TANK WAS COVERED WITH A TARP DURING THE FIELD SURVEY.
 - CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND COMMUNICATION TO THE EXISTING FLOW METER CHAMBER PRIOR TO DEMOLITION OF DUCT BANK. SEE ELECTRICAL OVERALL SITE PLAN, DWG E-012.



SCALE: 1" = 10'

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 PLOT DATE: 3/22/2024 1:54 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. CAMPOS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"
1	ADDENDUM NO. 3
0	ISSUED FOR BIDS
REV	ISSUED FOR
	DATE
	BY
	MWM
	MWM

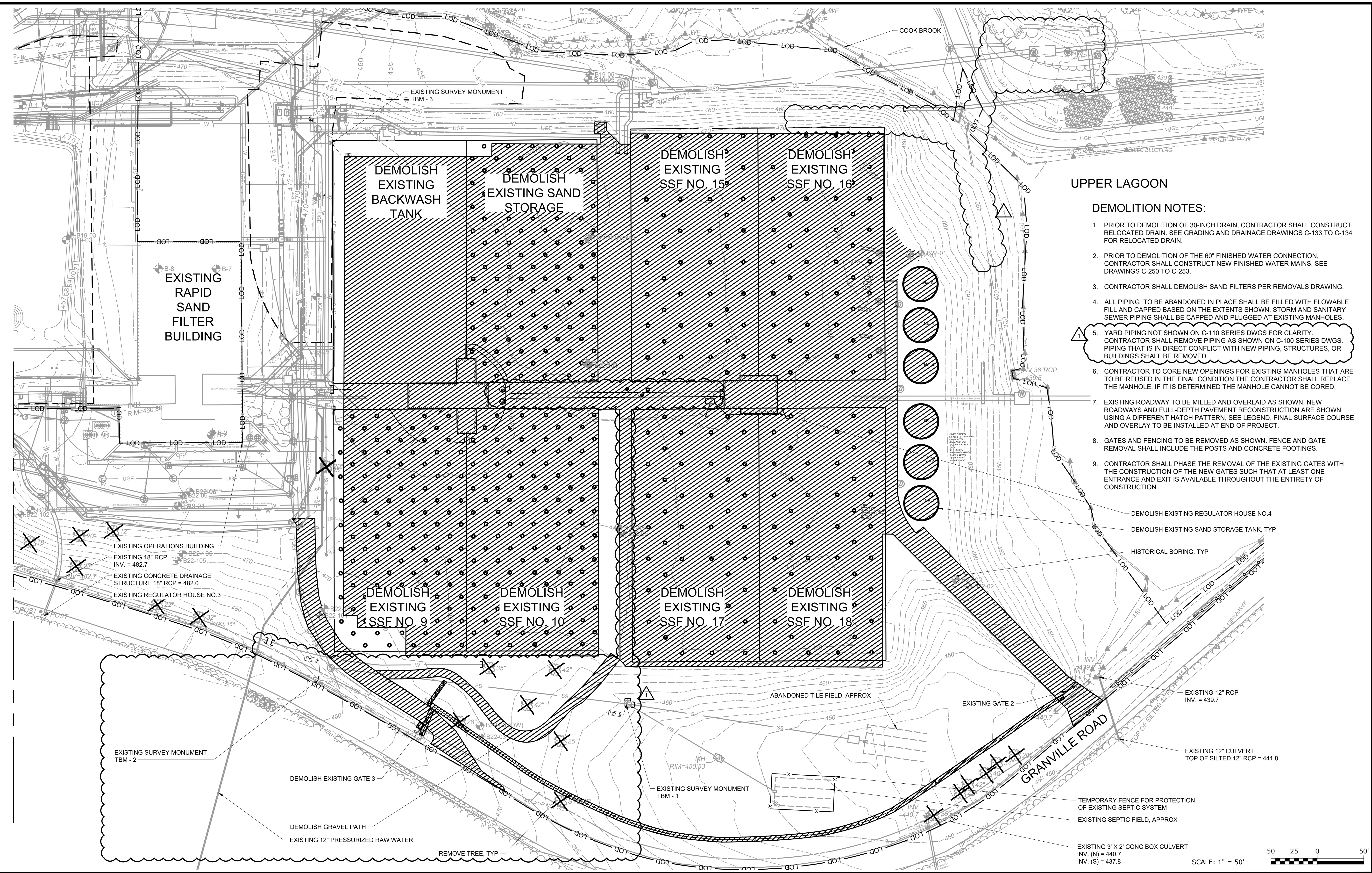


Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL EXISTING CONDITIONS WITH YARD PIPING DEMOLITION PLAN SHEET 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-107



UPPER LAGOON

DEMOLITION NOTES:

- PRIOR TO DEMOLITION OF 30-INCH DRAIN, CONTRACTOR SHALL CONSTRUCT RELOCATED DRAIN. SEE GRADING AND DRAINAGE DRAWINGS C-133 TO C-134 FOR RELOCATED DRAIN.
- PRIOR TO DEMOLITION OF THE 60" FINISHED WATER CONNECTION, CONTRACTOR SHALL CONSTRUCT NEW FINISHED WATER MAINS, SEE DRAWINGS C-250 TO C-253.
- CONTRACTOR SHALL DEMOLISH SAND FILTERS PER REMOVALS DRAWING.
- ALL PIPING TO BE ABANDONED IN PLACE SHALL BE FILLED WITH FLOWABLE FILL AND CAPPED BASED ON THE EXTENTS SHOWN. STORM AND SANITARY SEWER PIPING SHALL BE CAPPED AND PLUGGED AT EXISTING MANHOLES.
- YARD PIPING NOT SHOWN ON C-110 SERIES DWGS FOR CLARITY. CONTRACTOR SHALL REMOVE PIPING AS SHOWN ON C-100 SERIES DWGS. PIPING THAT IS IN DIRECT CONFLICT WITH NEW PIPING, STRUCTURES, OR BUILDINGS SHALL BE REMOVED.
- CONTRACTOR TO CORE NEW OPENINGS FOR EXISTING MANHOLES THAT ARE TO BE REUSED IN THE FINAL CONDITION. THE CONTRACTOR SHALL REPLACE THE MANHOLE, IF IT IS DETERMINED THE MANHOLE CANNOT BE CORED.
- EXISTING ROADWAY TO BE MILLED AND OVERLAID AS SHOWN. NEW ROADWAYS AND FULL-DEPTH PAVEMENT RECONSTRUCTION ARE SHOWN USING A DIFFERENT HATCH PATTERN. SEE LEGEND. FINAL SURFACE COURSE AND OVERLAY TO BE INSTALLED AT END OF PROJECT.
- GATES AND FENCING TO BE REMOVED AS SHOWN. FENCE AND GATE REMOVAL SHALL INCLUDE THE POSTS AND CONCRETE FOOTINGS.
- CONTRACTOR SHALL PHASE THE REMOVAL OF THE EXISTING GATES WITH THE CONSTRUCTION OF THE NEW GATES SUCH THAT AT LEAST ONE ENTRANCE AND EXIT IS AVAILABLE THROUGHOUT THE ENTIRETY OF CONSTRUCTION.

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 PLOT DATE: 3/22/2024 3:49 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



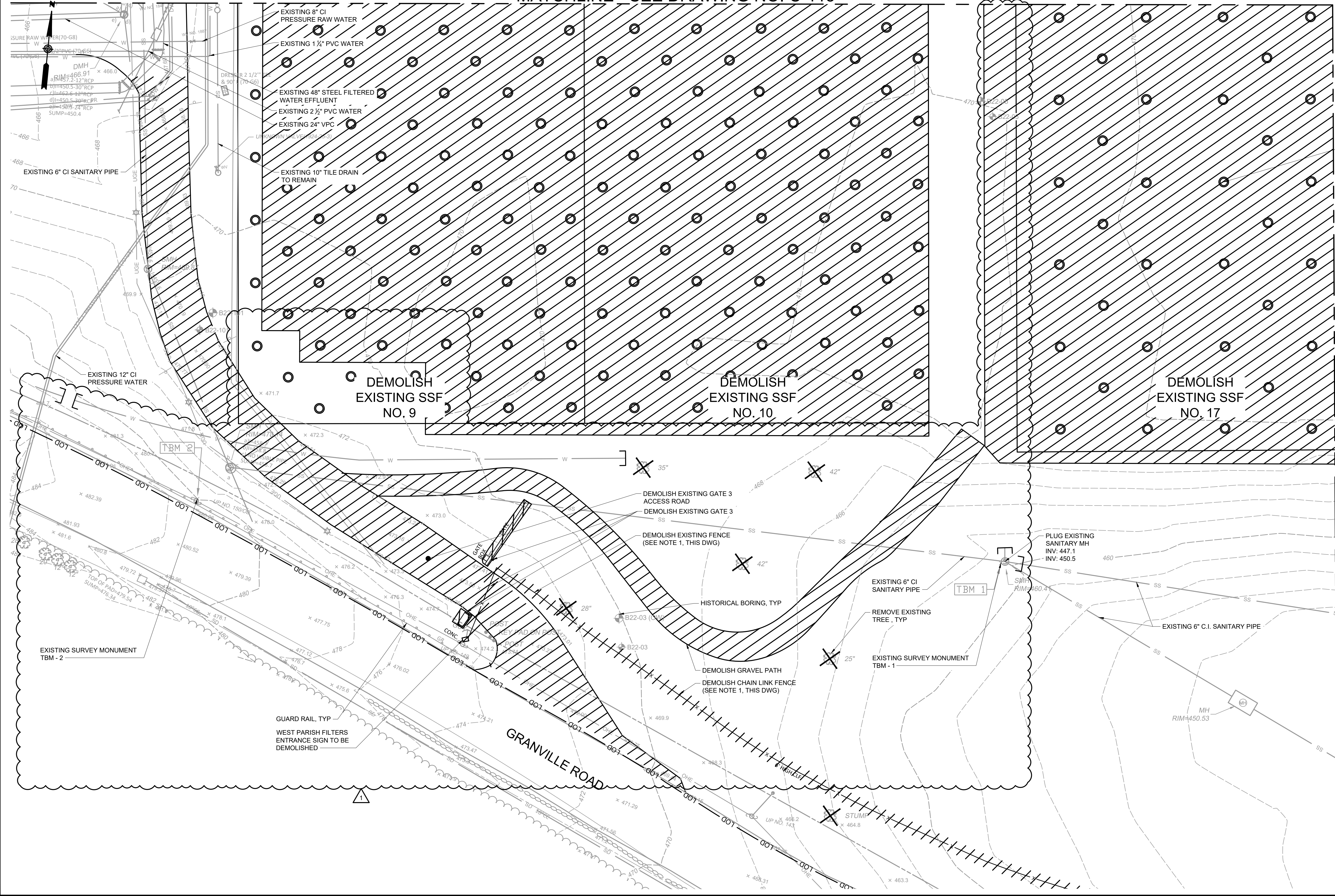
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
OVERALL DEMOLITION PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-110

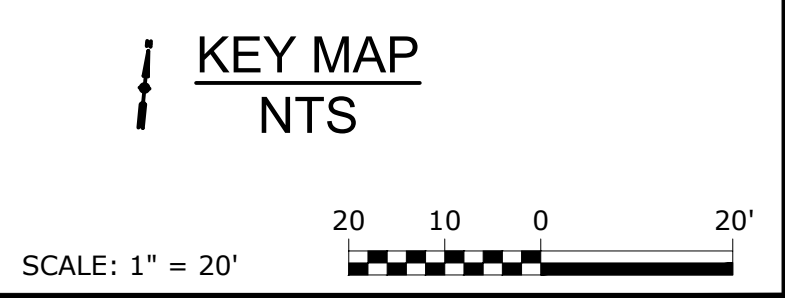
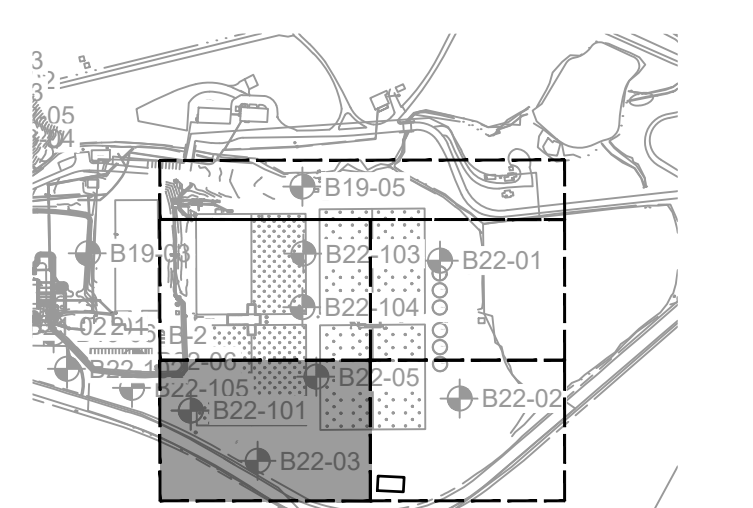
MATCHLINE - SEE DRAWING NO. C-113



- NOTES:
- CONTRACTOR SHALL MAINTAIN PERIMETER SECURITY OF PLANT SITE THROUGHOUT CONSTRUCTION ACTIVITIES THROUGH THE USE OF TEMPORARY FENCING OR OTHER SECURITY MEASURES AS APPROVED BY OWNER.
 - REFER TO R-SERIES DRAWINGS FOR SAND FILTERS DEMOLITION.

EXISTING 4" SEWER MANHOLE, TYP

MATCHLINE - SEE DRAWING NO. C-112



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 PLOT DATE: 3/25/2024 11:42 AM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

3/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

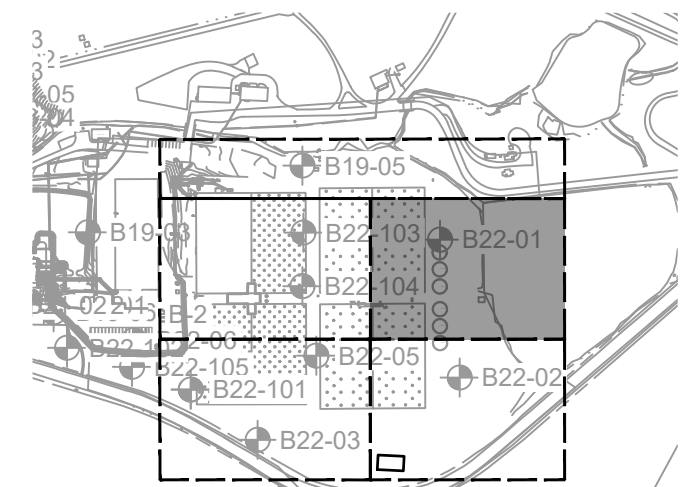
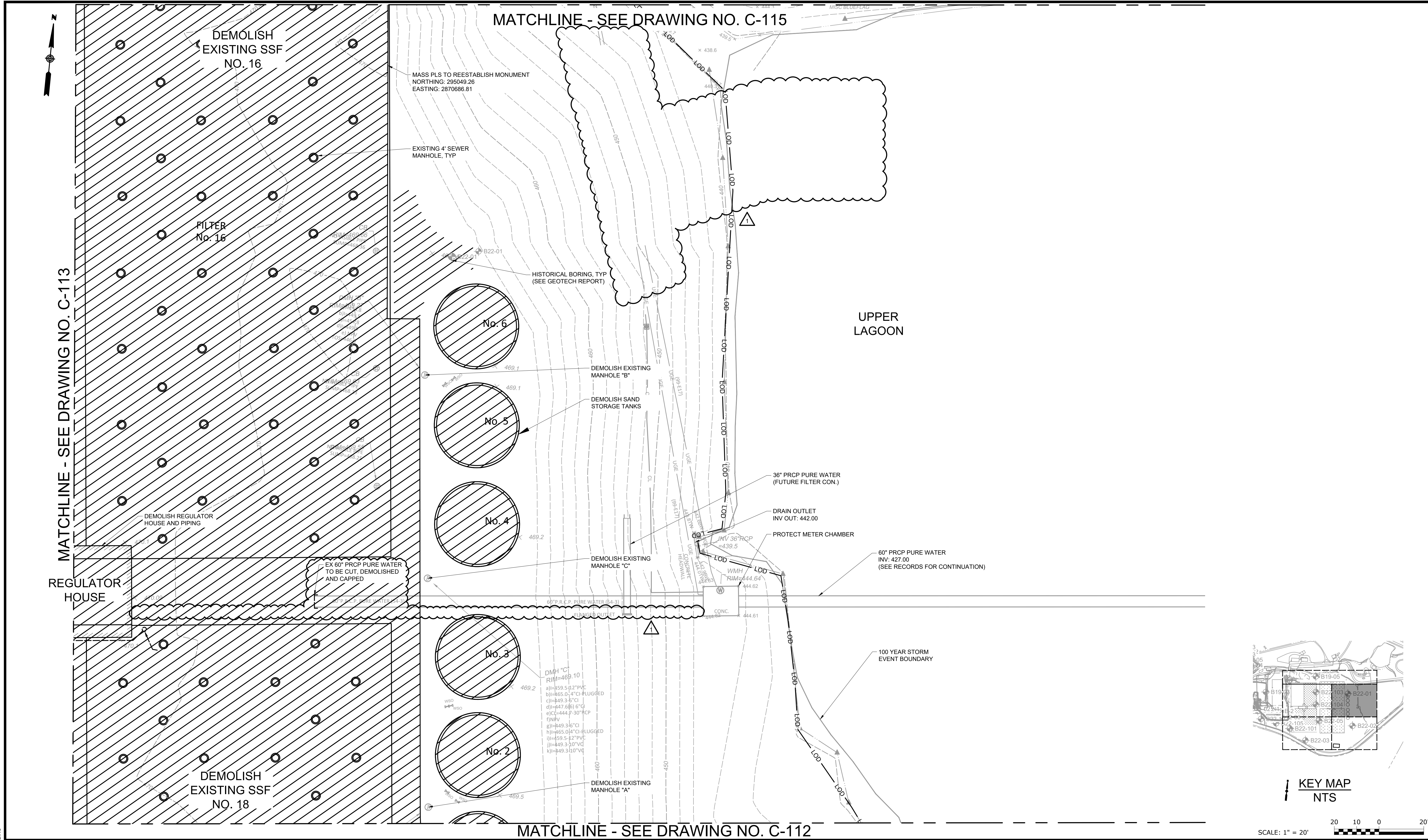
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL DEMOLITION PLAN SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-111

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PLOT DATE: 3/22/2024 2:42 PM BY: KROBBINS



KEY MAP
NTS

SCALE: 1" = 20'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. CAMPOS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

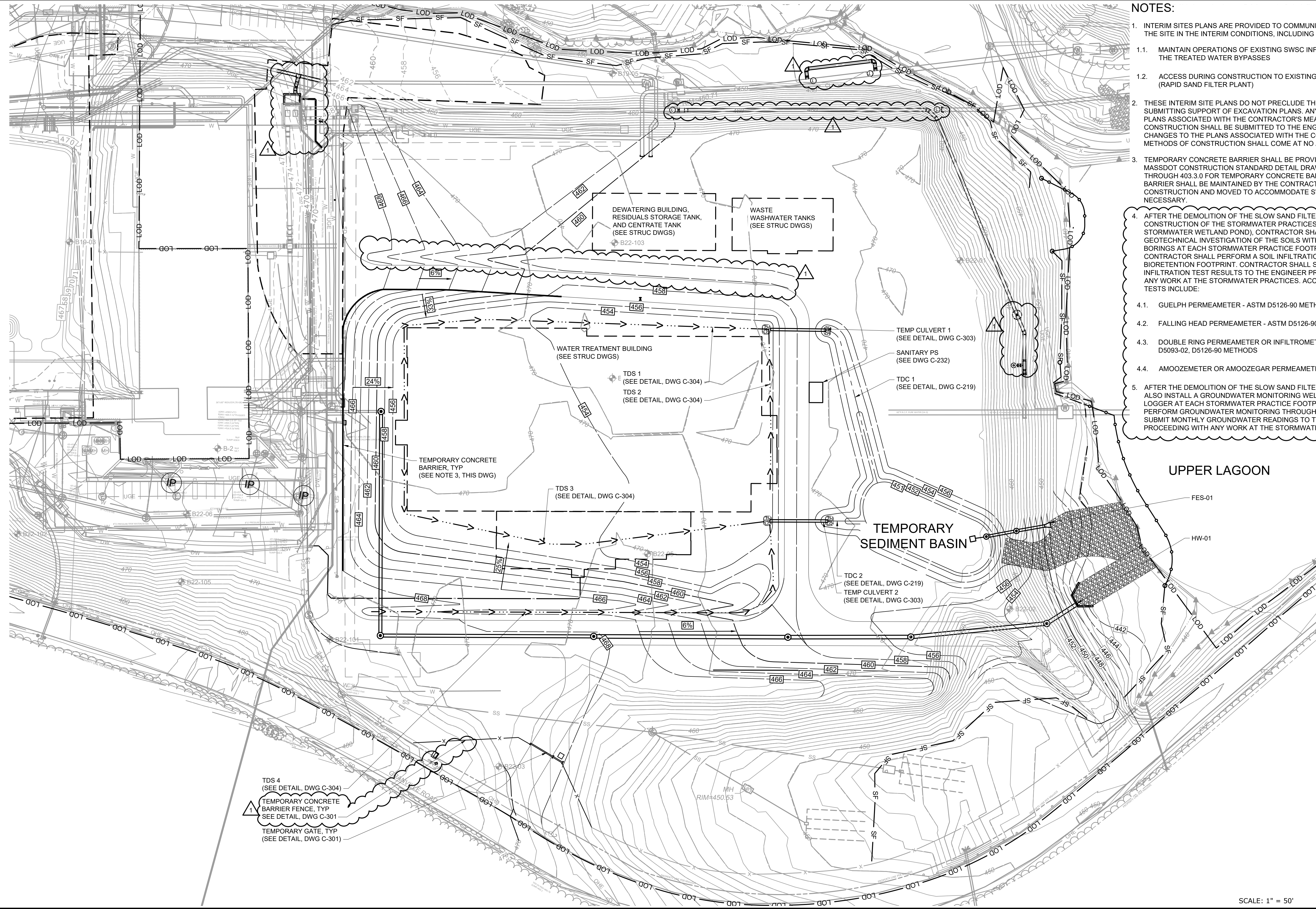
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL DEMOLITION PLAN SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-114

- NOTES:**
- INTERIM SITES PLANS ARE PROVIDED TO COMMUNICATE REQUIREMENTS FOR THE SITE IN THE INTERIM CONDITIONS, INCLUDING BUT NOT LIMITED TO:
 - MAINTAIN OPERATIONS OF EXISTING SWSC INFRASTRUCTURE INCLUDING THE TREATED WATER BYPASSES
 - ACCESS DURING CONSTRUCTION TO EXISTING SWSC INFRASTRUCTURE (RAPID SAND FILTER PLANT)
 - THESE INTERIM SITE PLANS DO NOT PRECLUDE THE CONTRACTOR FROM SUBMITTING SUPPORT OF EXCAVATION PLANS. ANY DEVIATIONS FROM THESE PLANS ASSOCIATED WITH THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. CHANGES TO THE PLANS ASSOCIATED WITH THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION SHALL COME AT NO ADDITIONAL COST TO SWSC.
 - TEMPORARY CONCRETE BARRIER SHALL BE PROVIDED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD DETAIL DRAWING NUMBERS E 403.1.0 THROUGH 403.3.0 FOR TEMPORARY CONCRETE BARRIER MASH TL-2. CONCRETE BARRIER SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND MOVED TO ACCOMMODATE SWSC OPERATIONS AS NECESSARY.
 - AFTER THE DEMOLITION OF THE SLOW SAND FILTERS AND PRIOR TO THE CONSTRUCTION OF THE STORMWATER PRACTICES (BIORETENTIONS AND STORMWATER WETLAND POND), CONTRACTOR SHALL CONDUCT A GEOTECHNICAL INVESTIGATION OF THE SOILS WITH A MINIMUM OF THREE BORINGS AT EACH STORMWATER PRACTICE FOOTPRINT. IN ADDITION, THE CONTRACTOR SHALL PERFORM A SOIL INFILTRATION TEST WITHIN EACH BIORETENTION FOOTPRINT. CONTRACTOR SHALL SUBMIT SOIL RESULTS AND INFILTRATION TEST RESULTS TO THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK AT THE STORMWATER PRACTICES. ACCEPTABLE INFILTRATION TESTS INCLUDE:
 - GUELPH PERMEAMETER - ASTM D5126-90 METHOD
 - FALLING HEAD PERMEAMETER - ASTM D5126-90 METHOD
 - DOUBLE RING PERMEAMETER OR INFILTRMETER - ASTM D3385-03, D5093-02, D5126-90 METHODS
 - AMOOZEMETER OR AMOOZEGAR PERMEAMETER - AMOOZEGAR 1992
 - AFTER THE DEMOLITION OF THE SLOW SAND FILTERS, CONTRACTOR SHALL ALSO INSTALL A GROUNDWATER MONITORING WELL WITH A WATER LEVEL DATA LOGGER AT EACH STORMWATER PRACTICE FOOTPRINT. CONTRACTOR SHALL PERFORM GROUNDWATER MONITORING THROUGHOUT CONSTRUCTION AND SUBMIT MONTHLY GROUNDWATER READINGS TO THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK AT THE STORMWATER PRACTICES.



UPPER LAGOON

TEMPORARY SEDIMENT BASIN

TDS 4 (SEE DETAIL, DWG C-304)
 TEMPORARY CONCRETE BARRIER FENCE, TYP (SEE DETAIL, DWG C-301)
 TEMPORARY GATE, TYP (SEE DETAIL, DWG C-301)

SCALE: 1" = 50'

File: C:\USERS\KROBBINS\00\ACCORDS\HAZEN AND SAWYER\00888-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-120 Saved by: JLU Save date: 3/22/2024 4:14 PM
 PLOT DATE: 3/22/2024 5:08 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	J. HARKINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

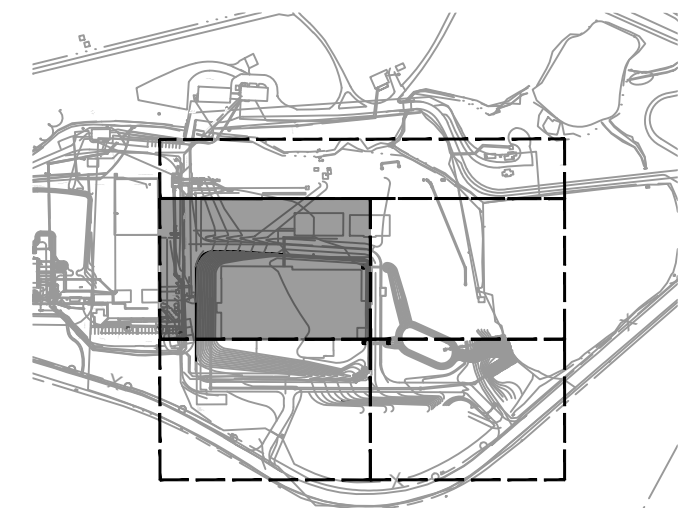
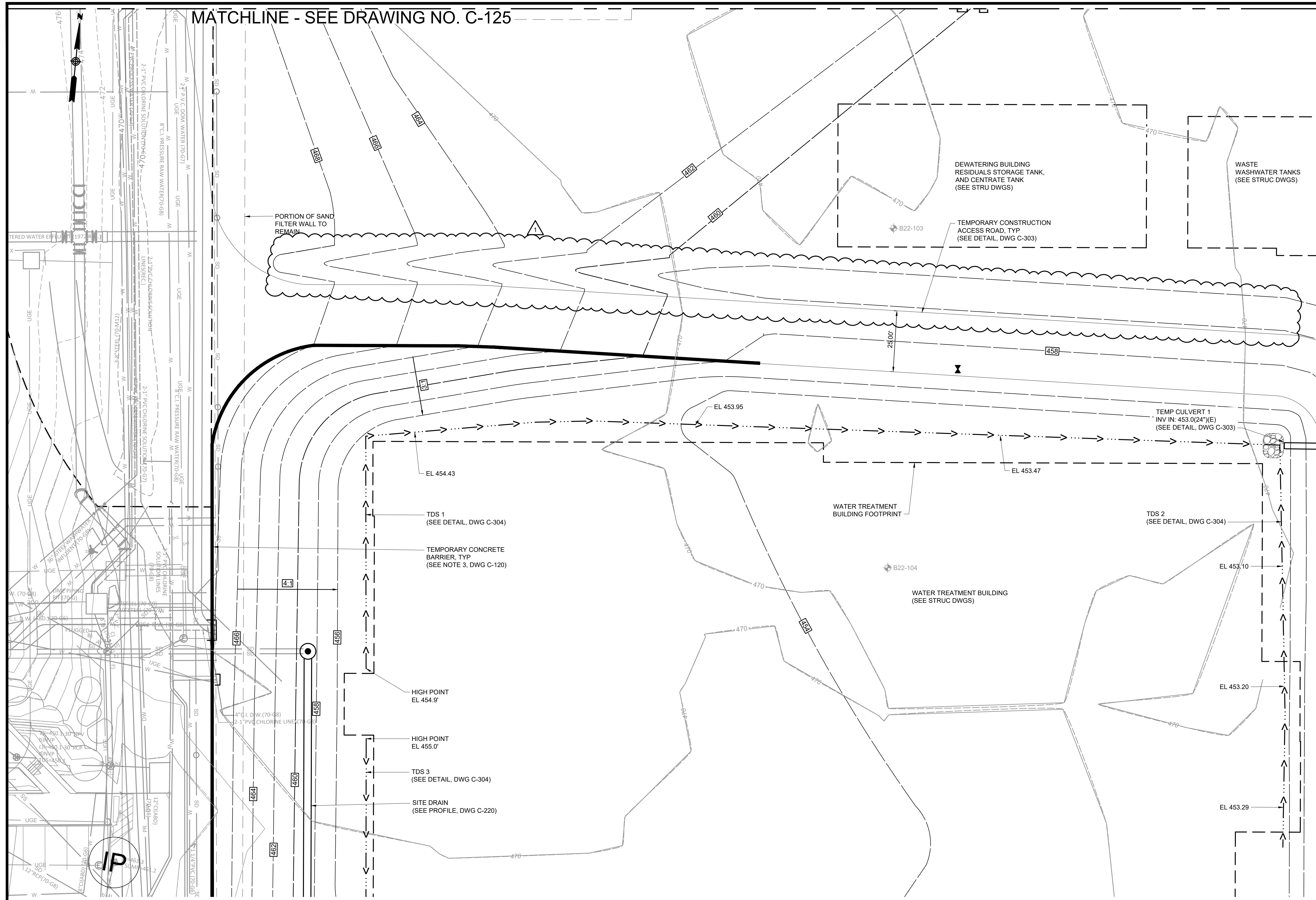
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
INTERIM OVERALL GRADING AND DRAINAGE PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-120

MATCHLINE - SEE DRAWING NO. C-125

MATCHLINE - SEE DRAWING NO. C-124



SCALE: 1" = 20'

File: C:\USERS\KROBBINS\DRAWING\PROJECT FILES\CIVIL\C-123 Saved by KROBBINS Save date: 3/21/2024 9:32 AM
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REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	J. HARKINS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

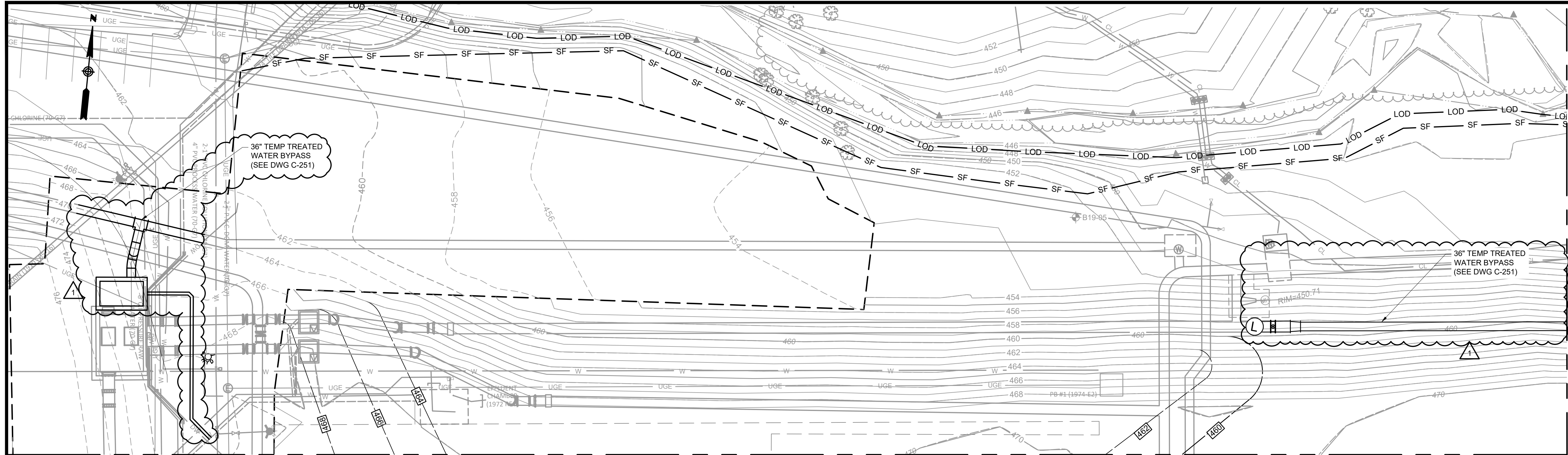
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

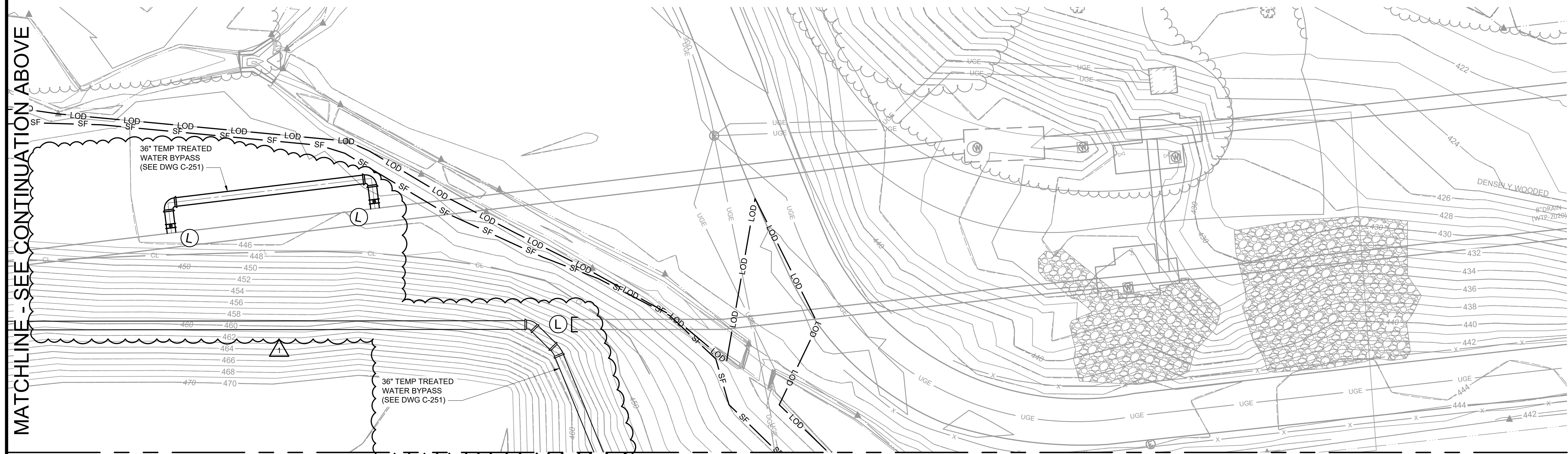
CIVIL INTERIM SITE PLAN 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-123



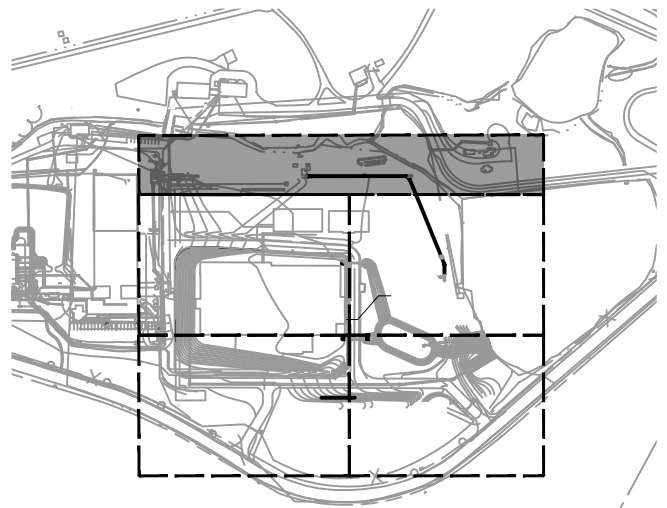
MATCHLINE - SEE CONTINUATION BELOW

MATCHLINE - SEE DRAWING NO. C-123



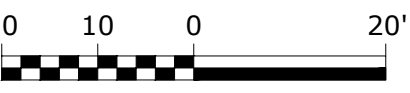
MATCHLINE - SEE CONTINUATION ABOVE

MATCHLINE - SEE DRAWING NO. C-124



KEY MAP
NTS

SCALE: 1" = 20'



File: C:\USERS\KROBBINS\00\ACCC\00\SPRINGFIELD\WATER\PROJECT FILES\CIVIL\C-125.dwg Saved by: KROBBINS Save date: 3/21/2024 12:52 PM
PLOT DATE: 3/22/2024 5:00 PM BY: KROBBINS

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	J. HARKINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



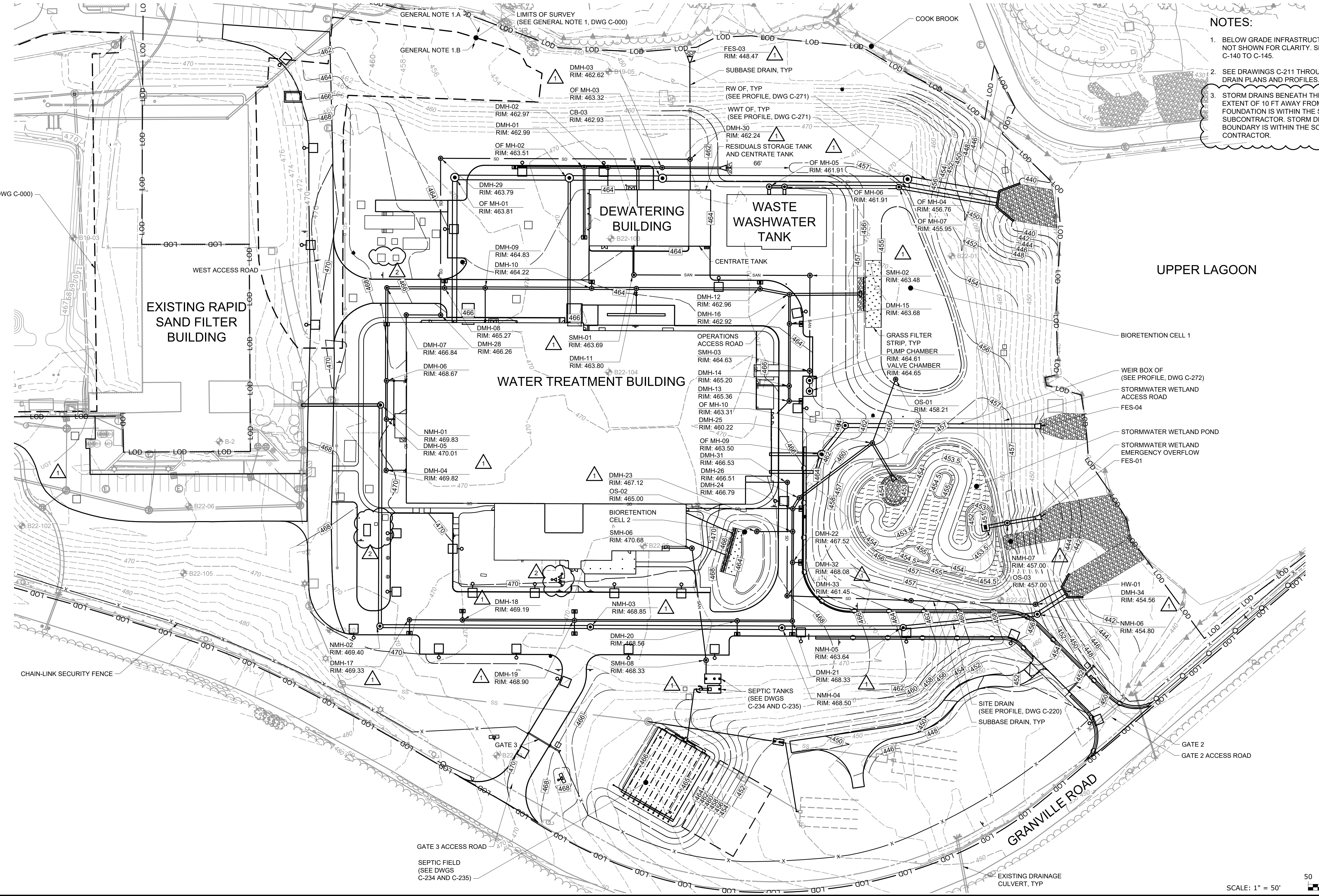
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL INTERIM SITE PLAN 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-125

- NOTES:**
- BELOW GRADE INFRASTRUCTURE AND YARD PIPING NOT SHOWN FOR CLARITY. SEE YARD PIPING DRAWINGS C-140 TO C-145.
 - SEE DRAWINGS C-211 THROUGH C-215 FOR STORM DRAIN PLANS AND PROFILES.
 - STORM DRAINS BENEATH THE BUILDINGS AND TO AN EXTENT OF 10 FT AWAY FROM THE BUILDING FOUNDATION IS WITHIN THE SCOPE OF THE PLUMBING SUBCONTRACTOR. STORM DRAINS BEYOND THE 10 FT BOUNDARY IS WITHIN THE SCOPE OF THE GENERAL CONTRACTOR.



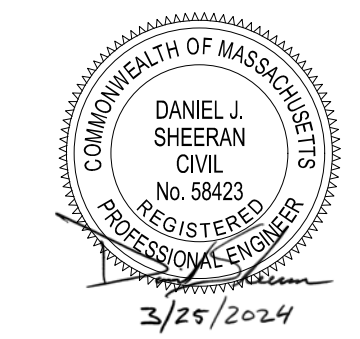
LIMITS OF SURVEY
(SEE GENERAL NOTE 1.C, DWG C-000)

SCALE: 1" = 50'

File: C:\USERS\KROBBINS\00\CADD\CADD\00\PROJECT FILES\CIVIL\C-130_Saved by KROBBINS Save date: 3/22/2024 10:12 AM
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REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
OVERALL GRADING AND DRAINAGE PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-130

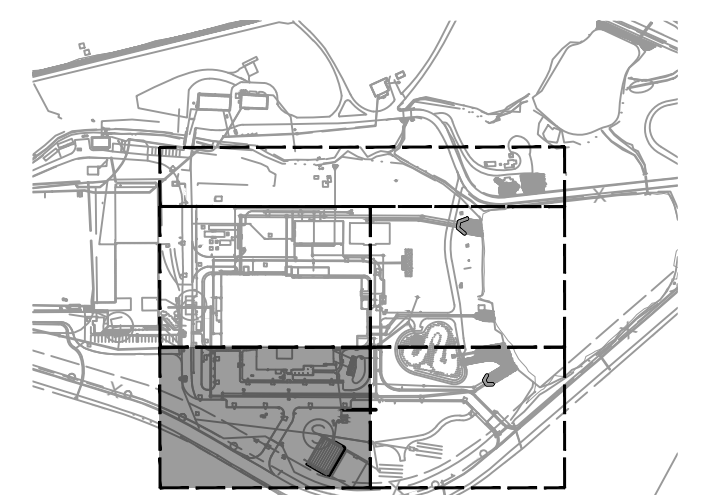
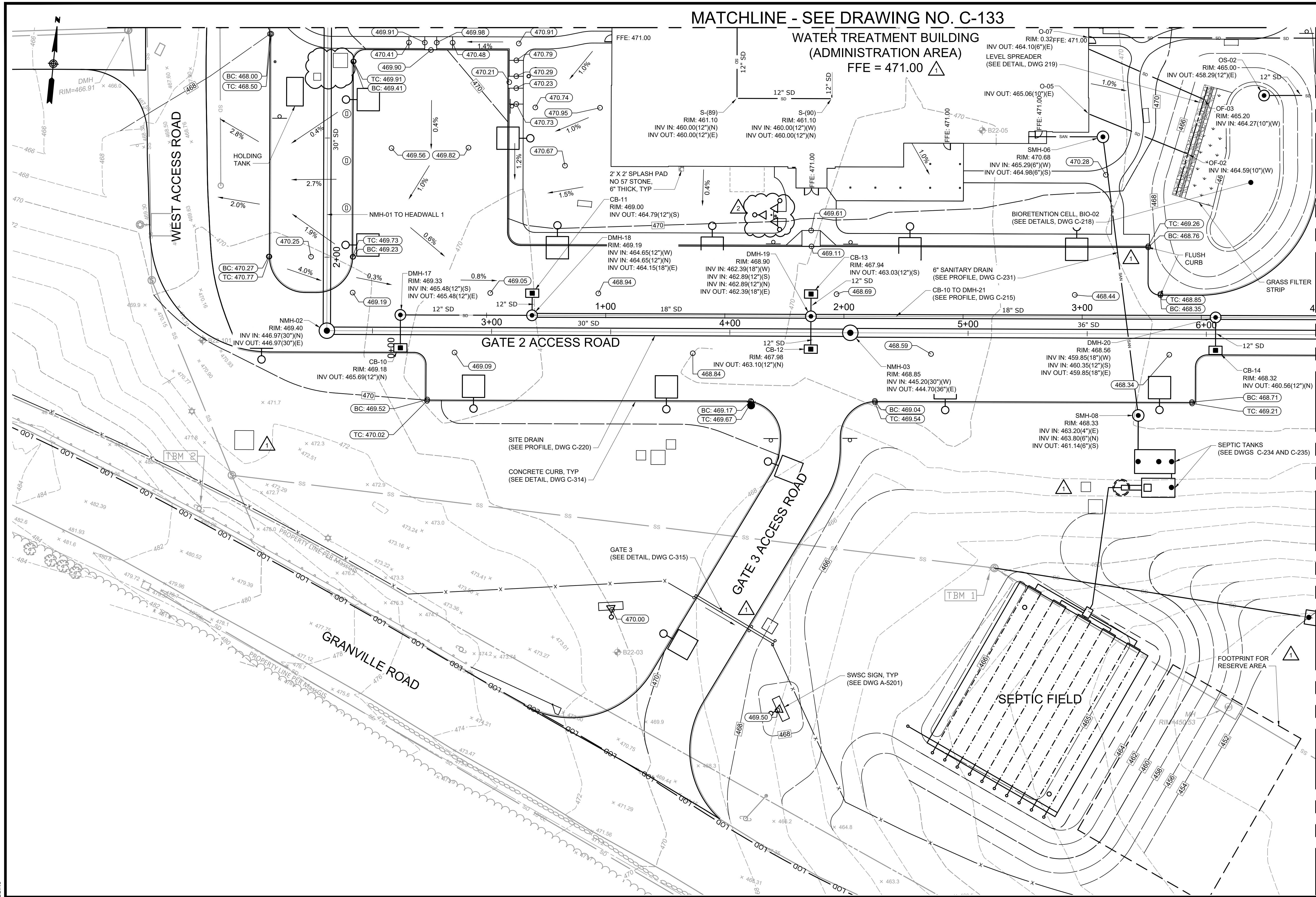
MATCHLINE - SEE DRAWING NO. C-133

WATER TREATMENT BUILDING
(ADMINISTRATION AREA)
FFE = 471.00

NOTES:

1. BELOW GRADE INFRASTRUCTURE AND YARD PIPING NOT SHOWN FOR CLARITY. SEE YARD PIPING DRAWINGS C-140 TO C-145.
2. SEE DRAWINGS C-211 THROUGH C-215 FOR STORM DRAIN PLANS AND PROFILES.
3. SEE DRAWINGS C-201 THROUGH C-205 FOR ACCESS ROAD PLANS AND PROFILES.

MATCHLINE - SEE DRAWING NO. C-132



KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KROBBINS\DRAWINGS\Hazen and Sawyer\03088-004_West Parish Filter WTP\PROJECT FILES\CIVIL\C-131.dwg
 PLOT DATE: 3/22/2024 10:08 AM BY: KROBBINS
 Saved by: KROBBINS Save date: 3/22/2024 10:07 AM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

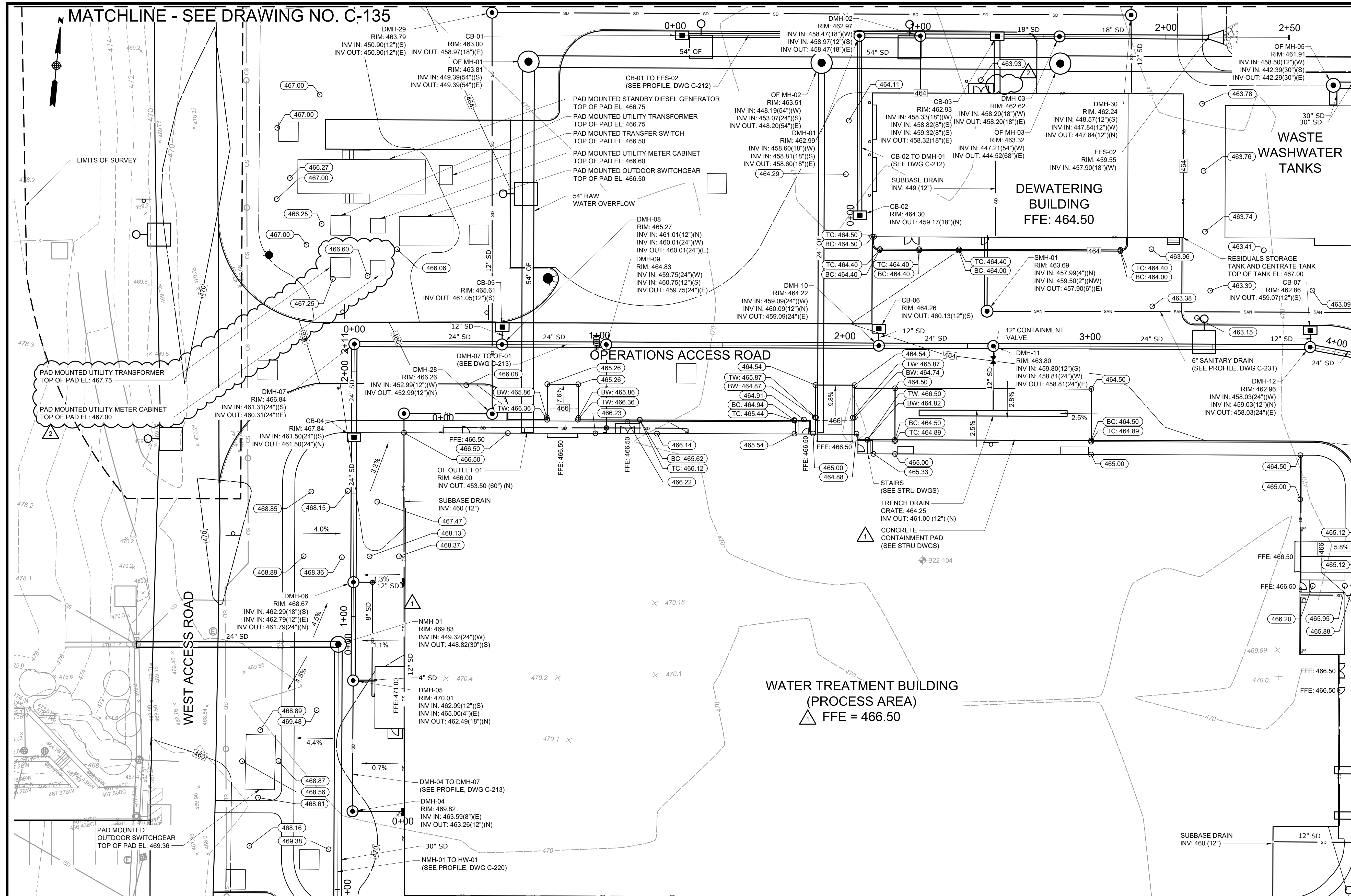
PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

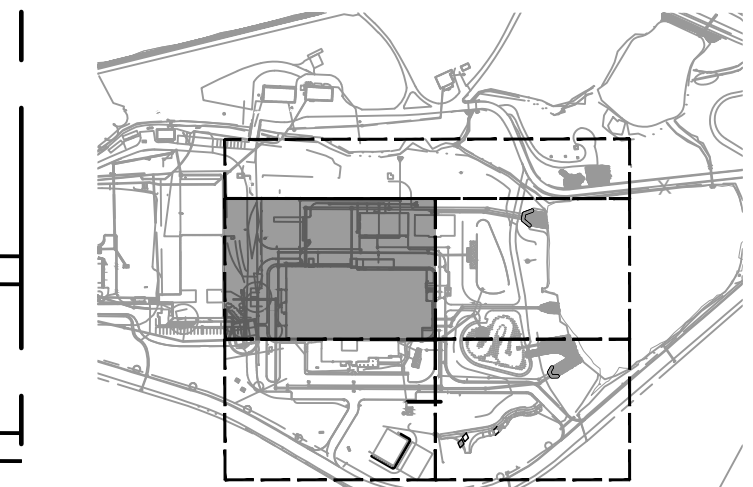
CIVIL
GRADING AND DRAINAGE PLAN
SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-131



- NOTES:**
- BELOW GRADE INFRASTRUCTURE AND YARD PIPING NOT SHOWN FOR CLARITY. SEE YARD PIPING DRAWINGS C-140 TO C-145.
 - SEE DRAWINGS C-211 THROUGH C-215 FOR STORM DRAIN PLANS AND PROFILES.
 - SEE DRAWINGS C-201 THROUGH C-205 FOR ACCESS ROAD PLANS AND PROFILES.

MATCHLINE - SEE DRAWING NO. C-134



KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KROBBINS\PROJECTS\CADD\CADD\PROJECT FILES\CIVIL\C-133.dwg Saved by: KROBBINS Save date: 3/21/2024 3:58 PM
PLOT DATE: 3/21/2024 4:09 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

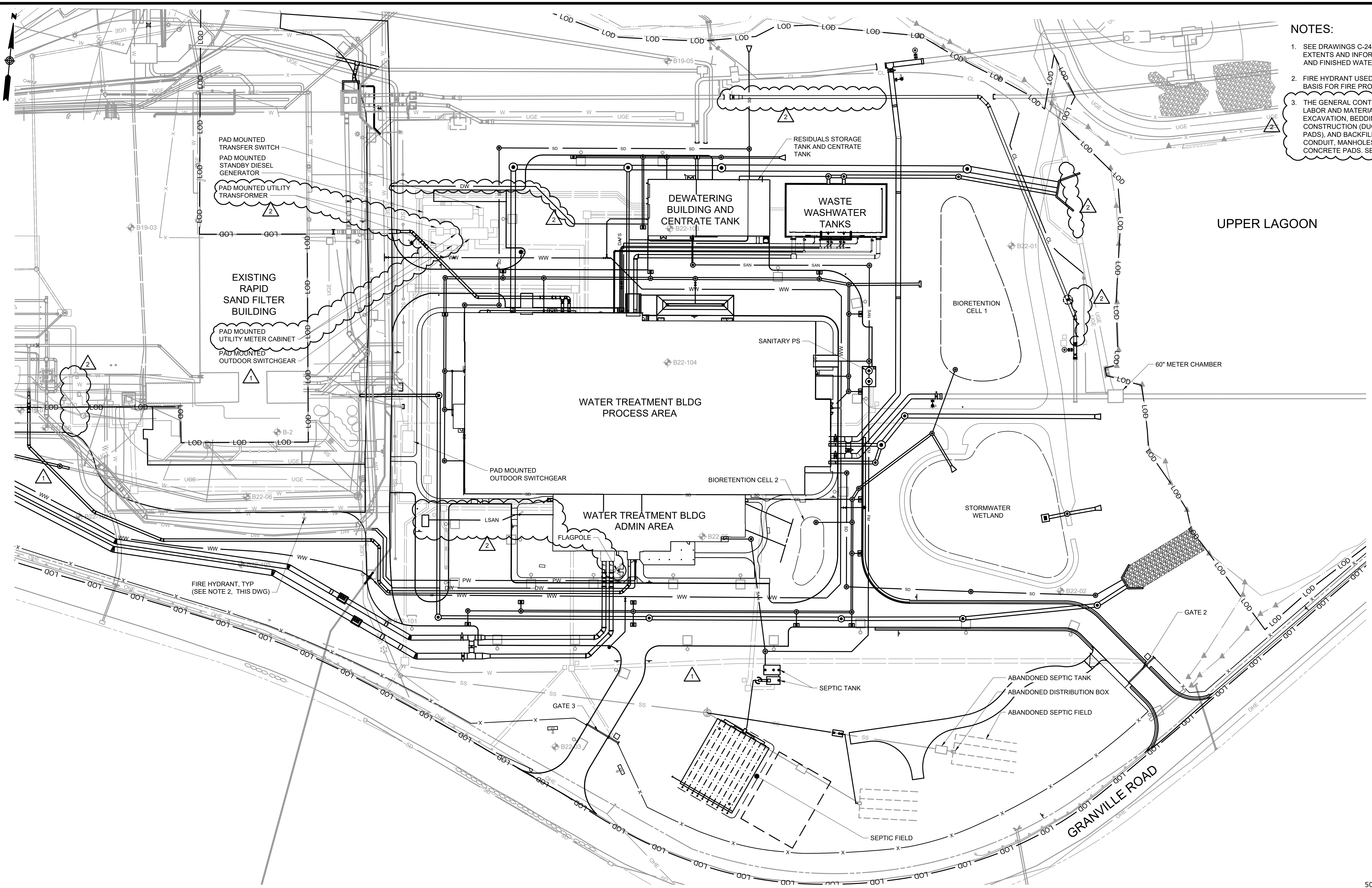
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

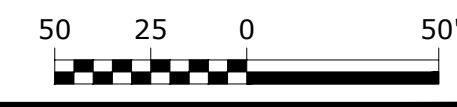
CIVIL
GRADING AND DRAINAGE PLAN
SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-133

- NOTES:**
- SEE DRAWINGS C-240 THROUGH C-254 FOR EXTENTS AND INFORMATION ON THE RAW WATER AND FINISHED WATER TRANSMISSION MAINS.
 - FIRE HYDRANT USED FOR FIRE FLOW TEST AND IS BASIS FOR FIRE PROTECTION DESIGN.
 - THE GENERAL CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS ASSOCIATED WITH EXCAVATION, BEDDING MATERIALS, CONCRETE CONSTRUCTION (DUCT BANKS AND EQUIPMENT PADS), AND BACKFILLING OF DUCT BANKS, CONDUIT, MANHOLES, HANDHOLES, AND CONCRETE PADS. SEE ELECTRICAL DRAWINGS.



SCALE: 1" = 50'



File: C:\USERS\LWALLACE\DCDC\Hazen and Sawyer\0398-004_West Parish Filter WTP\PROJECT FILES\CIVIL\C-140 Saved by: LWALLACE Save date: 3/22/2024 4:43 PM
 Plot Date: 3/22/2024 4:45 PM BY: LWALLACE

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	J. LU
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

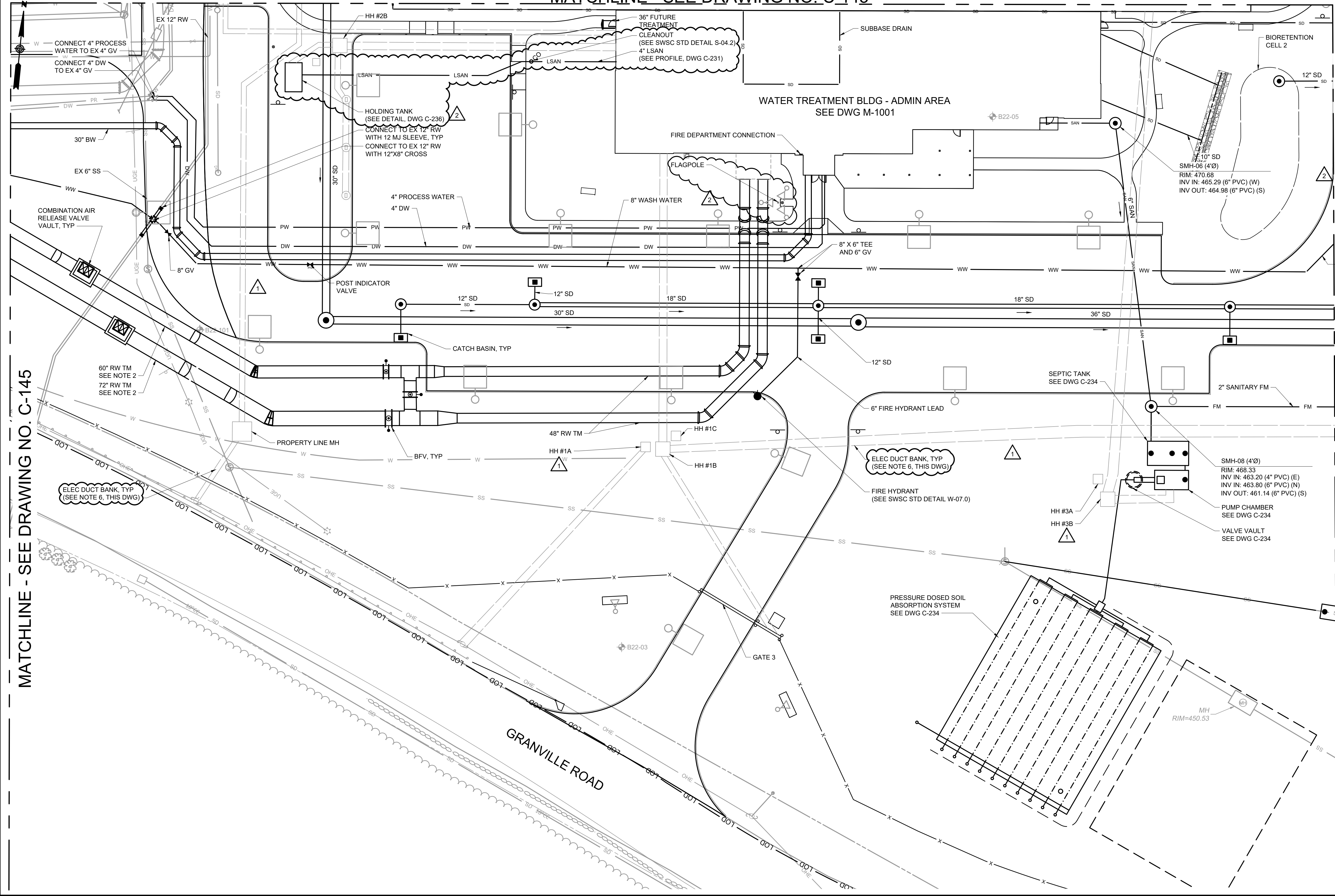
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL OVERALL YARD PIPING PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-140

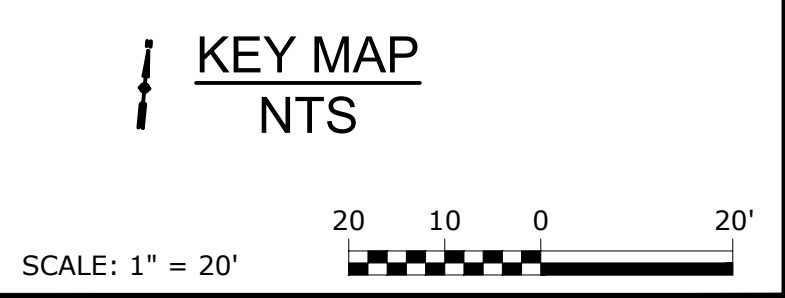
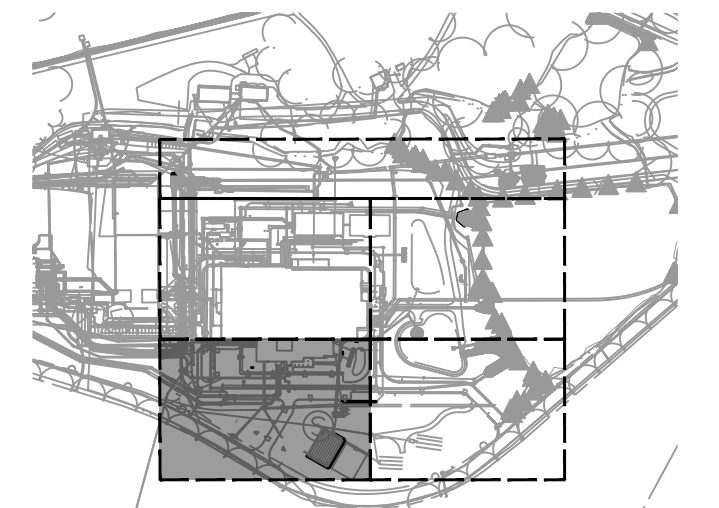
MATCHLINE - SEE DRAWING NO. C-143



- NOTES:
- SEE DRAWINGS C-131 THROUGH C-136 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
 - SEE DRAWINGS C-240 THROUGH C-245 FOR ADDITIONAL INFORMATION ON THE RAW WATER TRANSMISSION MAINS.
 - SEE DRAWINGS C-211 AND C-215 FOR STORM DRAIN PROFILES.
 - SEE DRAWINGS C-271 THROUGH C-274 FOR PROCESS PIPING AND OVERFLOW PROFILES.
 - SEE DRAWING C-275 FOR WATER AND FIRE SERVICE PROFILES.
 - ELECTRICAL DUCT BANKS, MANHOLES, HANDHOLES, LIGHTS, AND EQUIPMENT ARE SCREENED FOR CLARITY. SEE ELECTRICAL DRAWINGS E-012 AND E-013 AND NOTE 3 ON DRAWING C-140.

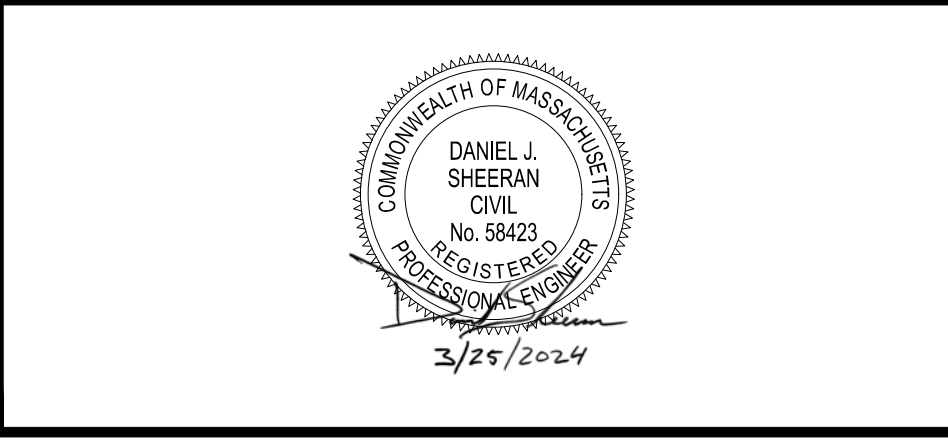
MATCHLINE - SEE DRAWING NO. C-145

MATCHLINE - SEE DRAWING NO. C-142



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PLOT DATE: 3/22/2024 4:55 PM BY: LWALLACE

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	J. LU
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
DATE:	3/25/2024



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

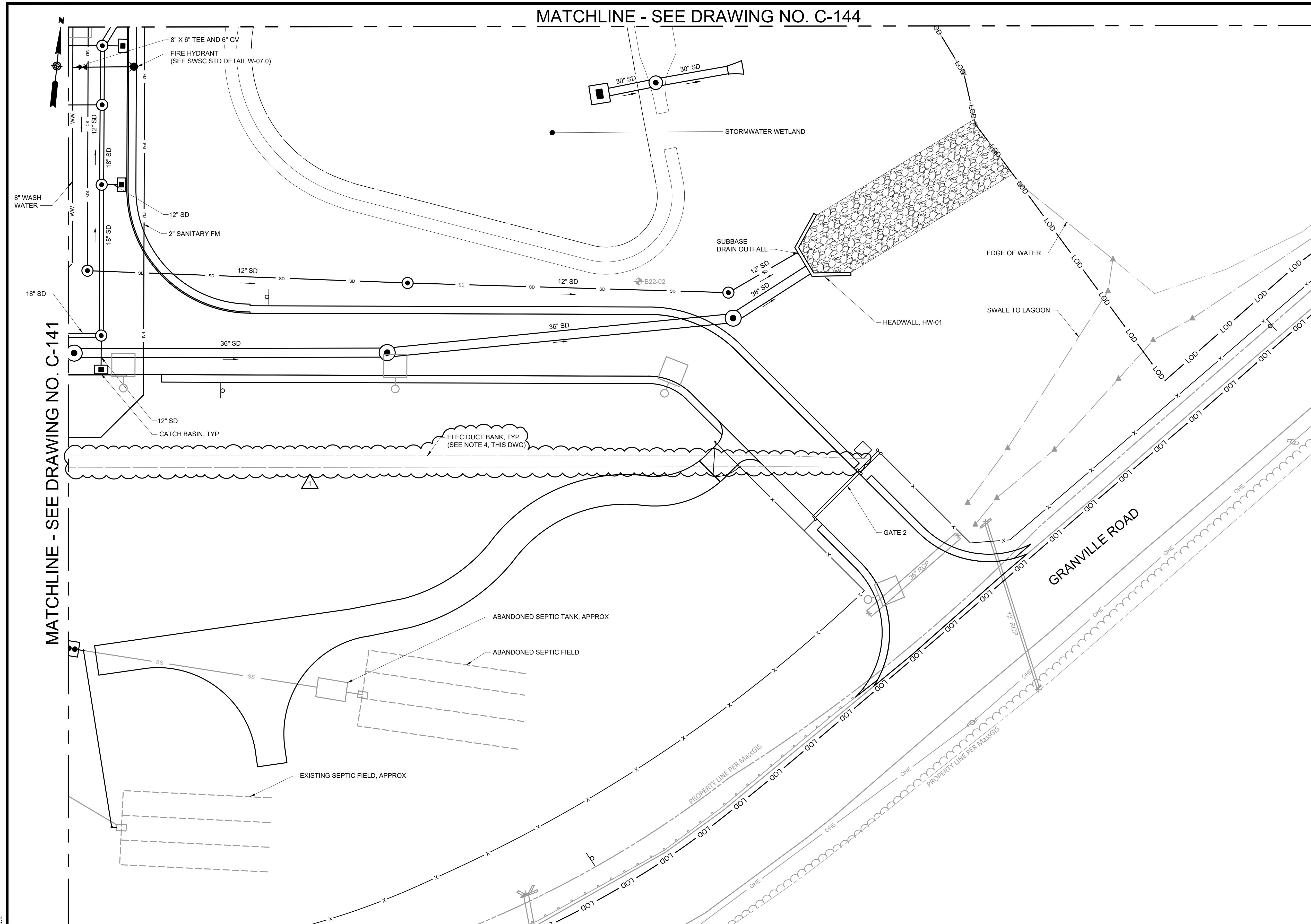
CIVIL YARD PIPING PLAN SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-141

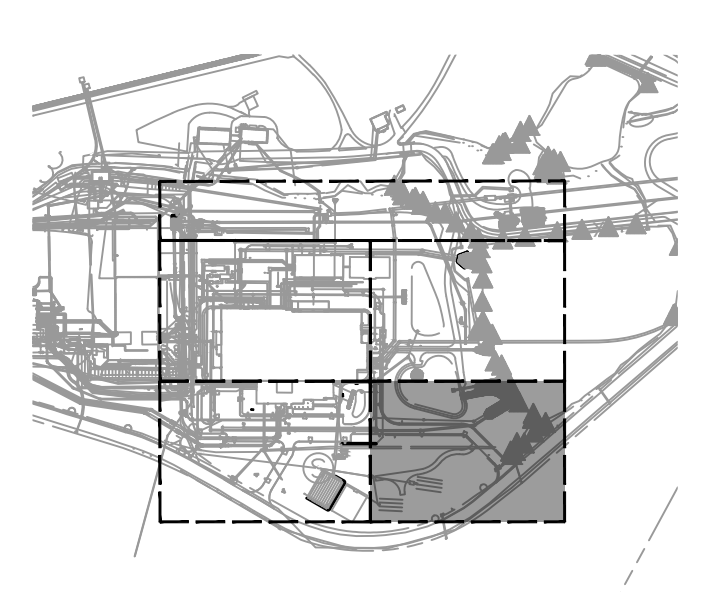
MATCHLINE - SEE DRAWING NO. C-144

NOTES:

- SEE DRAWINGS C-131 THROUGH C-136 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
- SEE DRAWINGS C-211 AND C-215 FOR STORM DRAIN PROFILES.
- SEE DRAWING C-275 FOR FIRE SERVICE PROFILE.
- ELECTRICAL DUCT BANKS, MANHOLES, HANDHOLES, LIGHTS, AND EQUIPMENT ARE SCREENED FOR CLARITY. SEE ELECTRICAL DRAWINGS D-012 AND D-013 AND NOTE 3 ON DRAWING C-140.



MATCHLINE - SEE DRAWING NO. C-141



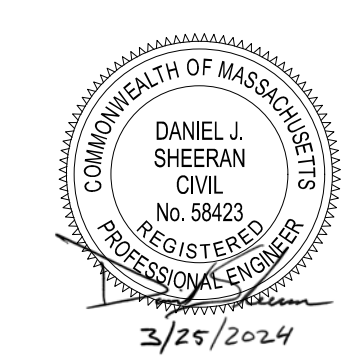
KEY MAP
NTS

SCALE: 1" = 20'



File: C:\USERS\LWALLACE\DCDC\DC\HAZEN AND SAWYER\0308-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-142_Saved by KROBBINS Save date: 3/15/2024 4:03 PM
PLOT DATE: 3/22/2024 5:01 PM BY: LWALLACE

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

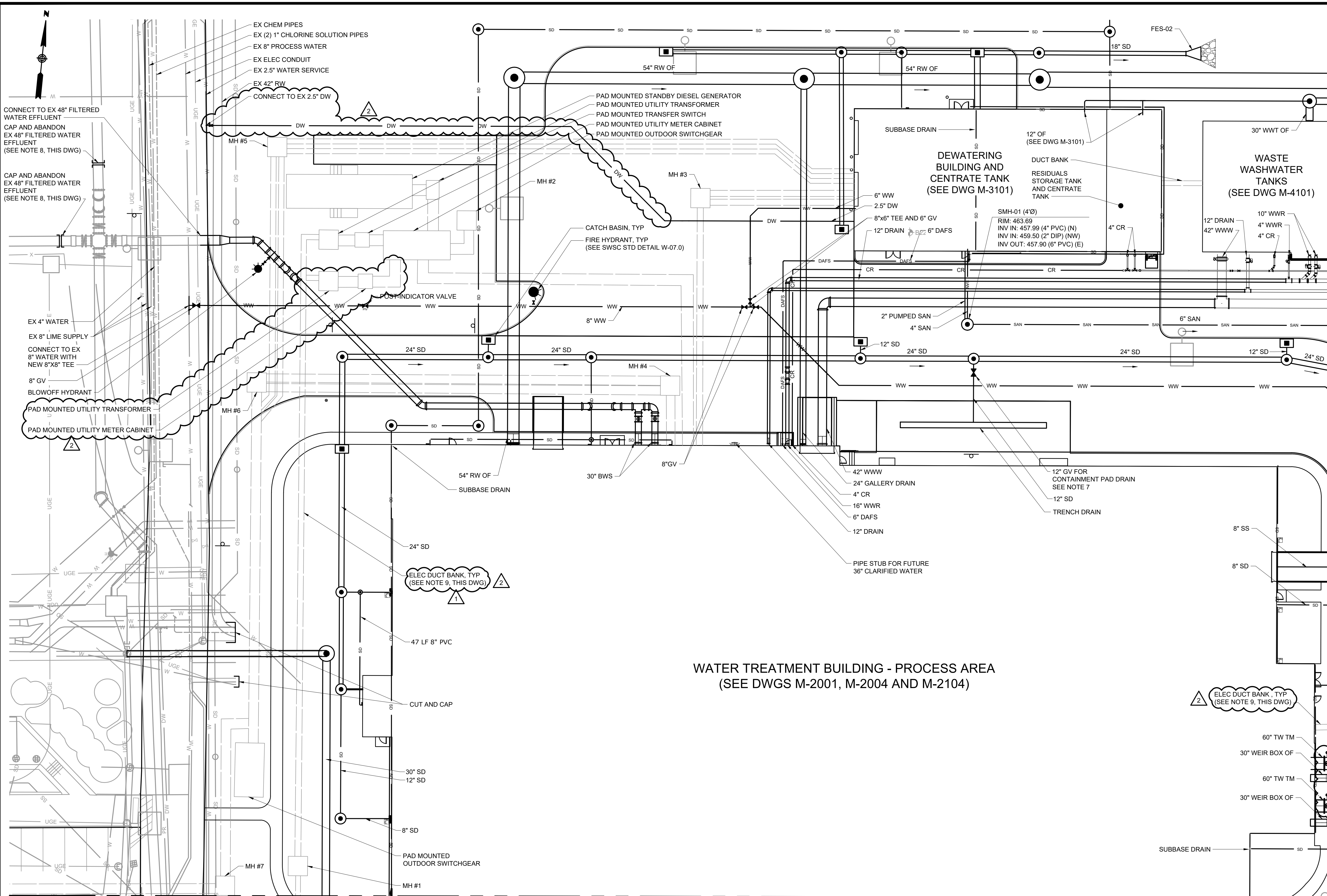


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL YARD PIPING PLAN SHEET 2

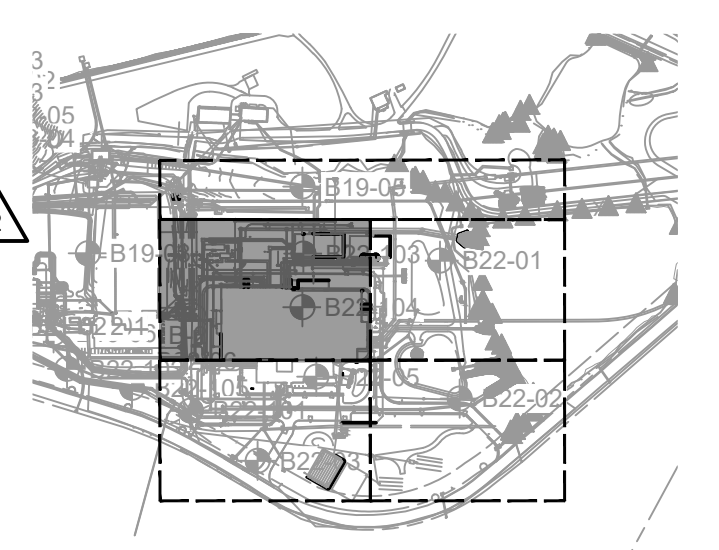
DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER:
C-142



- NOTES:**
- SEE DRAWINGS C-131 THROUGH C-136 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
 - SEE DRAWINGS C-251 THROUGH C-254 FOR ADDITIONAL INFORMATION ON THE FINISHED WATER TRANSMISSION MAINS.
 - SEE DRAWINGS C-212 AND C-216 FOR STORM DRAIN PROFILES.
 - SEE DRAWINGS C-271 THROUGH C-274 FOR PROCESS PIPING AND OVERFLOW PROFILES.
 - SEE DRAWING C-275 FOR WATER AND FIRE SERVICE PROFILES.
 - SEE DRAWING E-012 FOR ADDITIONAL INFORMATION ON DUCT BANKS AND ELECTRICAL EQUIPMENT.
 - THE GATE VALVE ON THE 12" PIPE FROM THE CONTAINMENT PAD TO BE CLOSED DURING DELIVERIES. VALVE TO REMAIN OPEN AT ALL OTHER TIMES TO ALLOW FOR STORMWATER TO DRAIN FROM THE CONTAINMENT PAD.
 - INSTALL PIPE CAPS AND ABANDON EXISTING 48" FILTERED WATER EFFLUENT AS SHOWN AND IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AS SPECIFIED IN SECTION 01 14 00.
 - ELECTRICAL DUCT BANKS, MANHOLES, HANDHOLES, LIGHTS, AND EQUIPMENT ARE SCREENED FOR CLARITY. SEE ELECTRICAL DRAWINGS D-012 AND D-013 AND NOTE 3 ON DRAWING C-140.

MATCHLINE - SEE DRAWING NO. C-144

WATER TREATMENT BUILDING - PROCESS AREA
(SEE DWGS M-2001, M-2004 AND M-2104)



KEY MAP
NTS

SCALE: 1" = 20'

MATCHLINE - SEE DRAWING NO. C-141

File: C:\USERS\LWALLACE\PROJECTS\Hazen and Sawyer\0398-004_West Parish Filter WTP\PROJECT FILES\DWG\C-143.dwg Saved by KROBBINS Save date: 3/22/2024 10:26 AM PLOT DATE: 3/22/2024 5:04 PM BY: LWALLACE

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0 1/2" 1"	3/25/2024

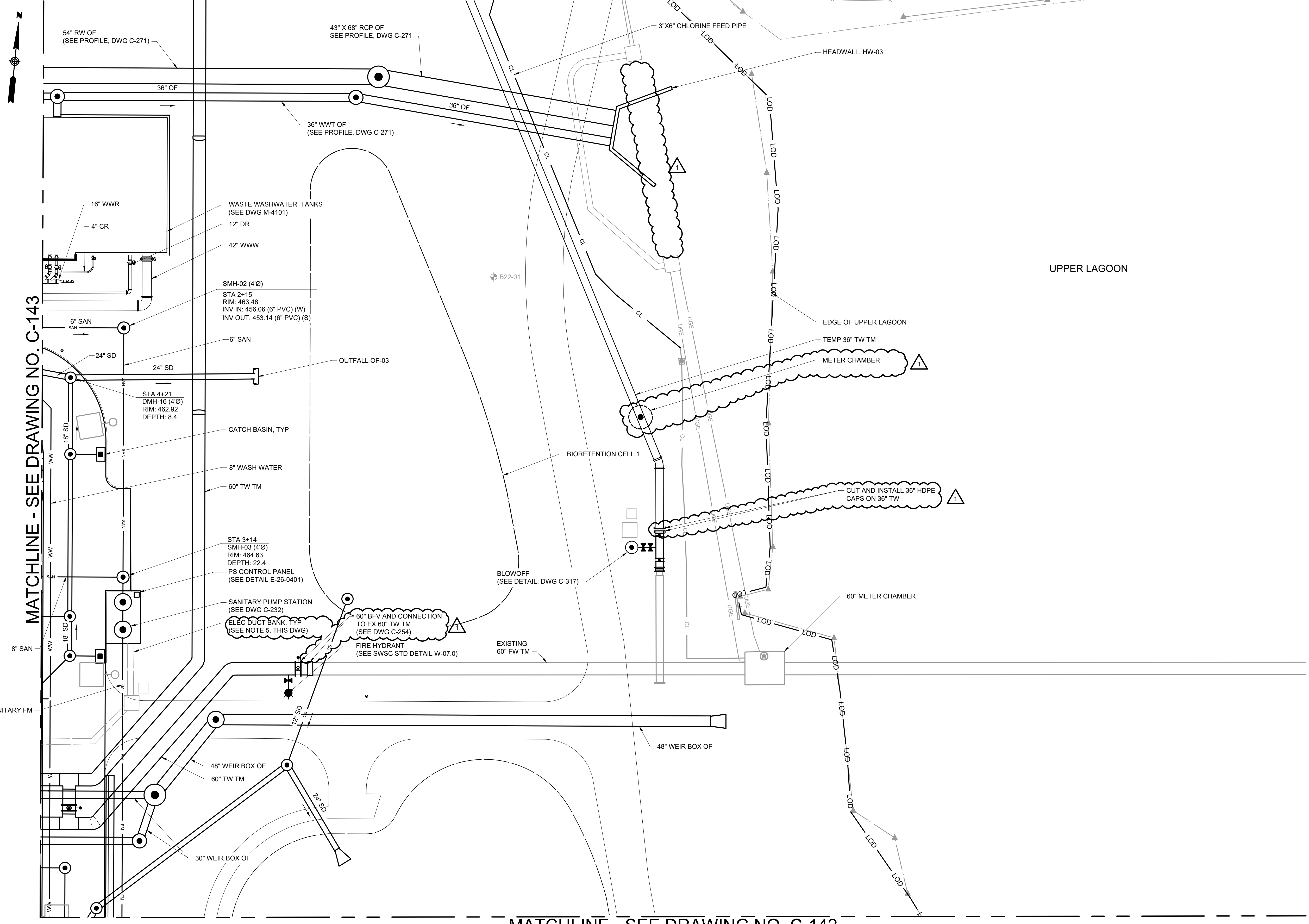


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
YARD PIPING PLAN
SHEET 3

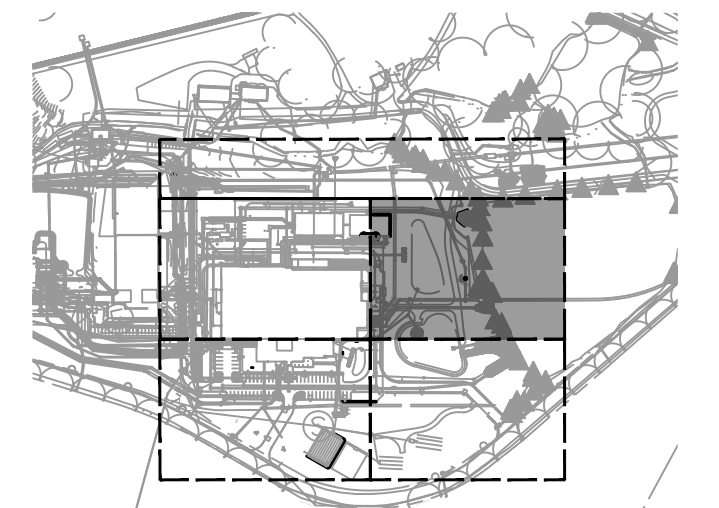
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-143



- NOTES:**
- SEE DRAWINGS C-131 THROUGH C-136 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
 - SEE DRAWINGS C-251 THROUGH C-254 FOR ADDITIONAL INFORMATION ON THE TREATED WATER TRANSMISSION MAINS.
 - SEE DRAWINGS C-212 AND C-216 FOR STORM DRAIN PROFILES.
 - SEE DRAWINGS C-271 THROUGH C-274 FOR OVERFLOW AND PROCESS PIPING PROFILES.
 - ELECTRICAL DUCT BANKS, MANHOLES, HANDHOLES, LIGHTS, AND EQUIPMENT ARE SCREENED FOR CLARITY. SEE ELECTRICAL DRAWINGS E-012 AND E-103 AND NOTE 3 ON DRAWING C-140.

MATCHLINE - SEE DRAWING NO. C-143

MATCHLINE - SEE DRAWING NO. C-142



KEY MAP
NTS

SCALE: 1" = 20'

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PLOT DATE: 3/22/2024 5:12 PM BY: LWALLACE

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

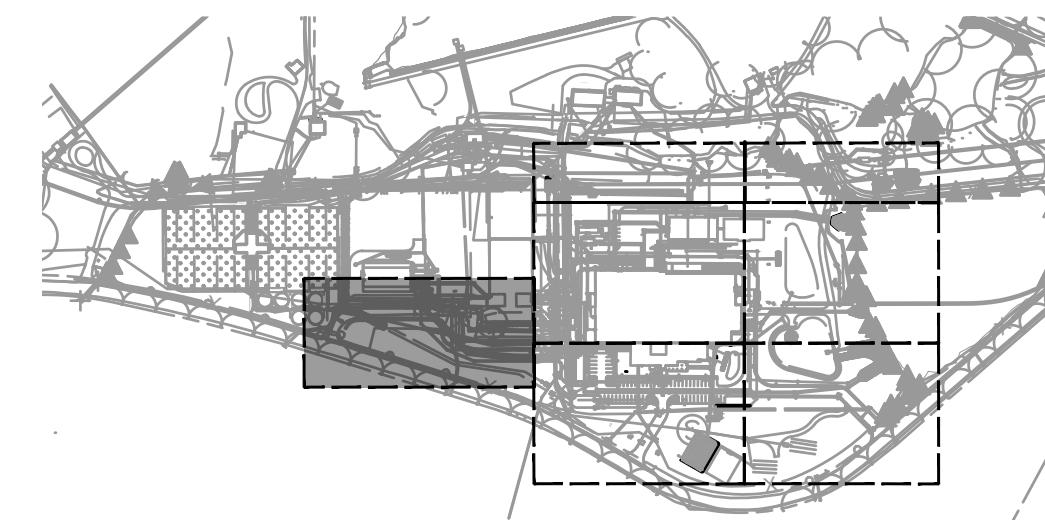
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL YARD PIPING PLAN SHEET 4

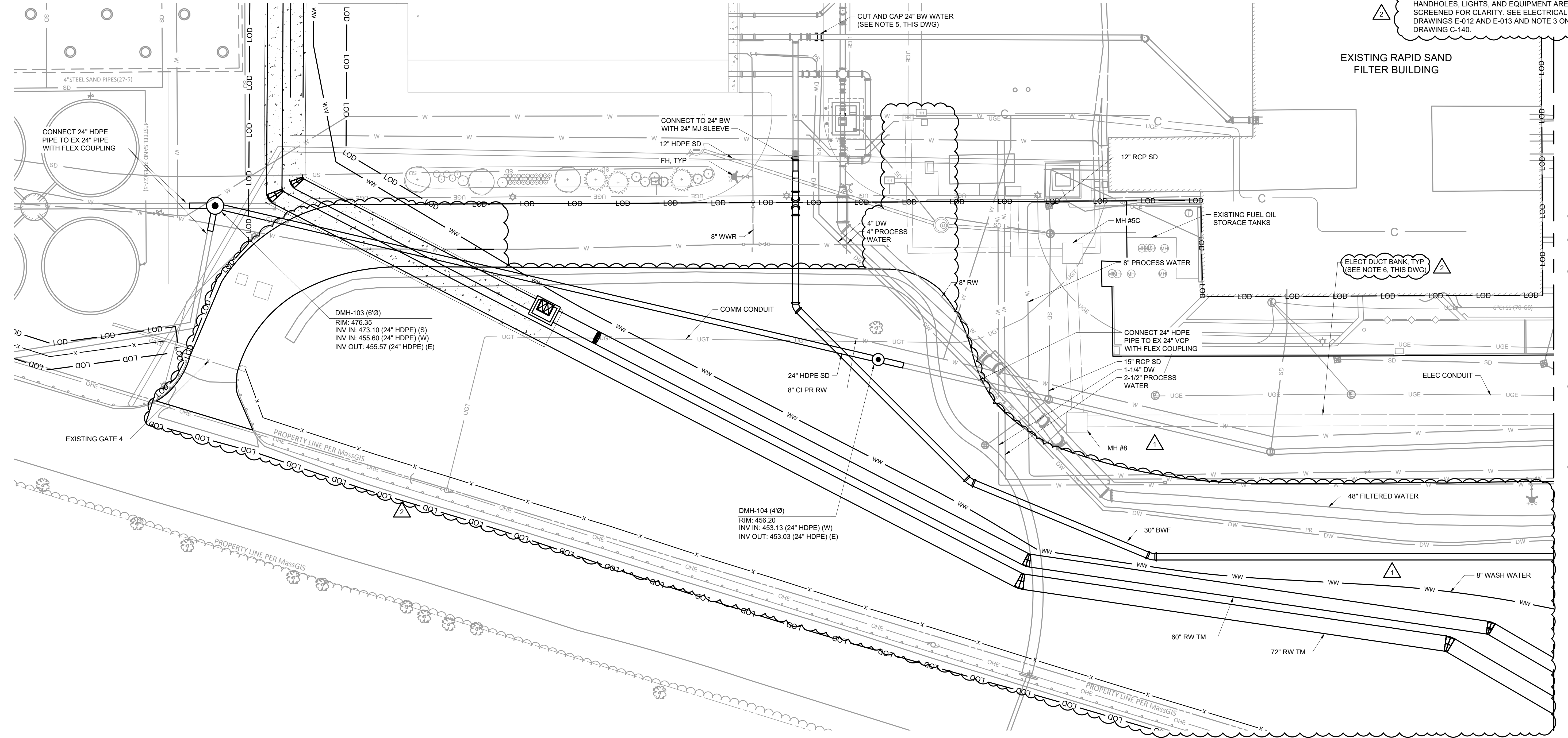
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-144



KEY MAP
NTS

NOTES:

- SEE DRAWINGS C-131 THROUGH C-136 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
- SEE DRAWINGS C-240 THROUGH C-246 FOR ADDITIONAL INFORMATION ON THE RAW WATER TRANSMISSION MAINS.
- SEE DRAWINGS C-212 AND C-216 FOR STORM DRAIN PROFILES.
- SEE DRAWINGS C-273 AND C-274 FOR PROCESS PIPING PROFILES.
- SEE SEQUENCE OF CONSTRUCTION SPECIFIED IN SECTION 01 14 00.
- ELECTRICAL DUCT BANKS, MANHOLES, HANDHOLES, LIGHTS, AND EQUIPMENT ARE SCREENED FOR CLARITY. SEE ELECTRICAL DRAWINGS E-012 AND E-013 AND NOTE 3 ON DRAWING C-140.



MATCHLINE - SEE DRAWING NO. C-141

SCALE: 1" = 20'

File: C:\USERS\LWALLACE\CAD\CADD\CS\Hazen AND SAWYER\0398-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-145.dwg Saved by: KROBBINS Save date: 3/22/2024 2:52 PM
PLOT DATE: 3/22/2024 5:17 PM BY: LWALLACE

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

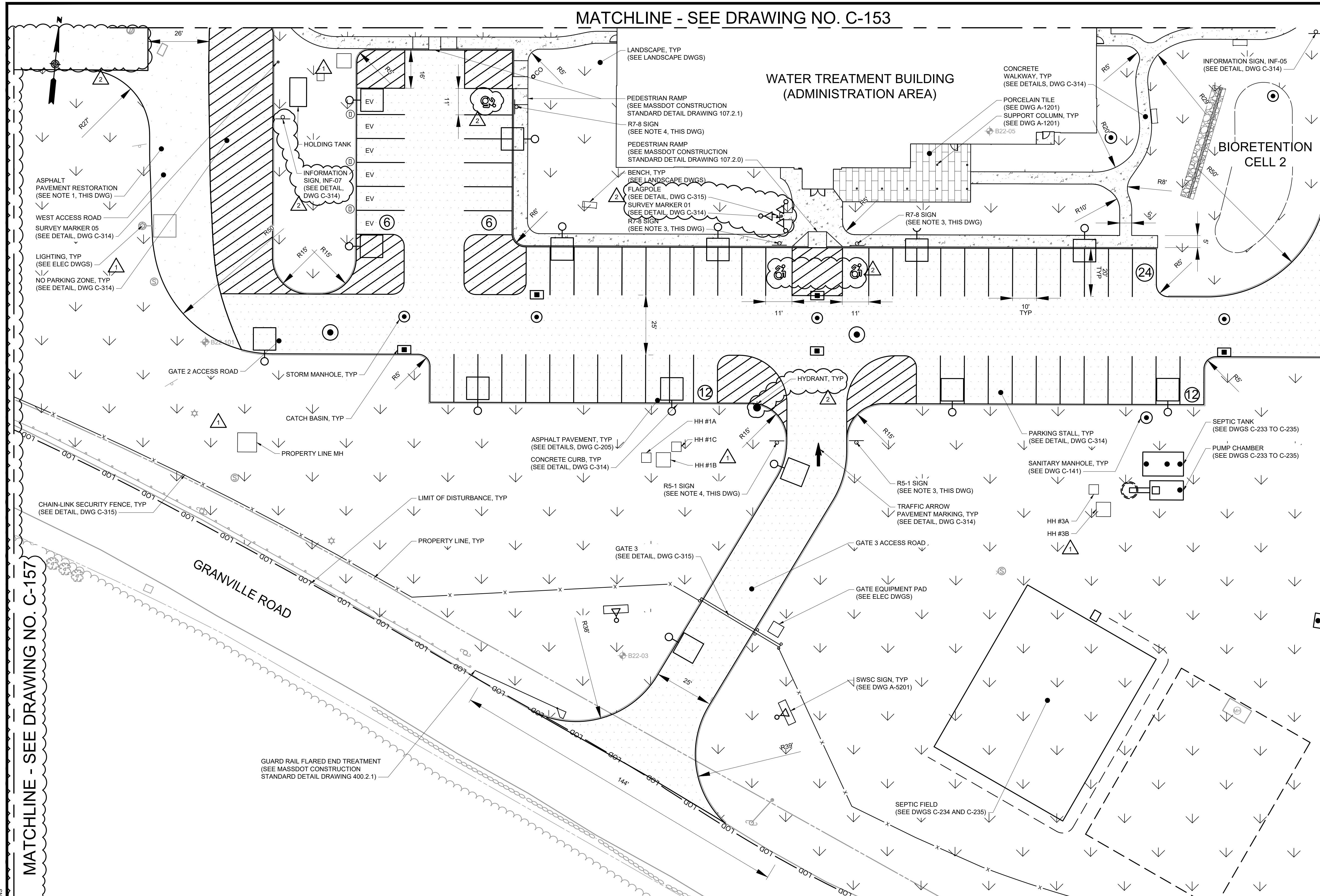
CIVIL
YARD PIPING PLAN
SHEET 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-145

MATCHLINE - SEE DRAWING NO. C-153

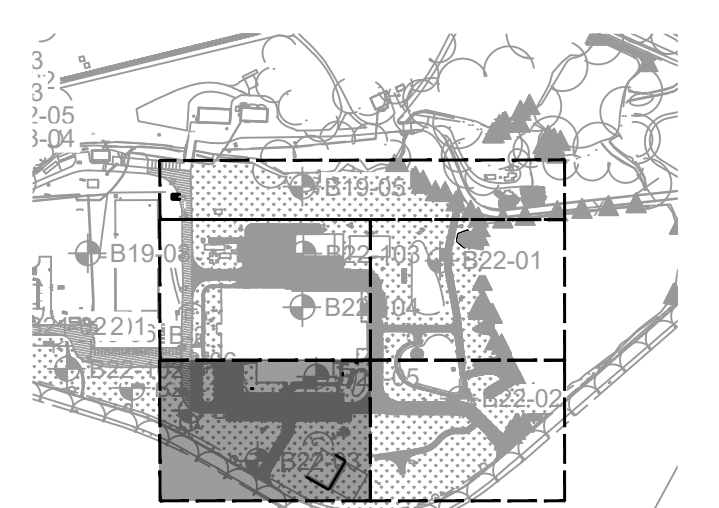
NOTES:

- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
- BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.
- NEW SIGNS SHALL CONFORM TO THE 2009 MUTCD FOR SIZE, COLOR, AND TEXT DIMENSION. SEE DWG C-314 FOR MUTCD SIGN SCHEDULE.



MATCHLINE - SEE DRAWING NO. C-152

MATCHLINE - SEE DRAWING NO. C-157



KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KROBBINS\DRAWINGS\HAZEN AND SAWYER\PROJECT FILES\CIVIL\C-151.dwg Saved by: KROBBINS Save date: 3/22/2024 1:38 PM
PLOT DATE: 3/22/2024 5:27 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

3/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

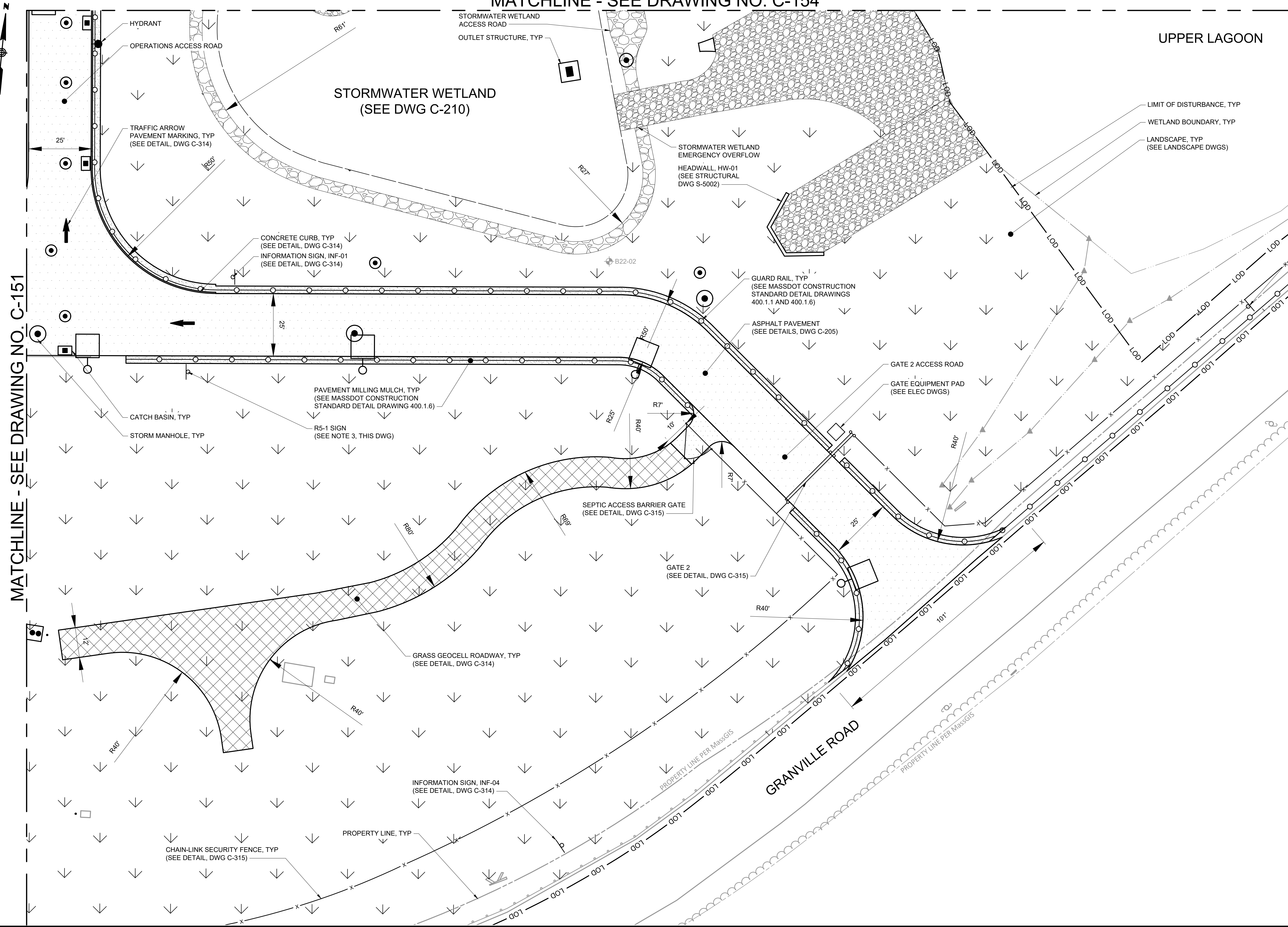
CIVIL FINAL SITE PLAN SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-151

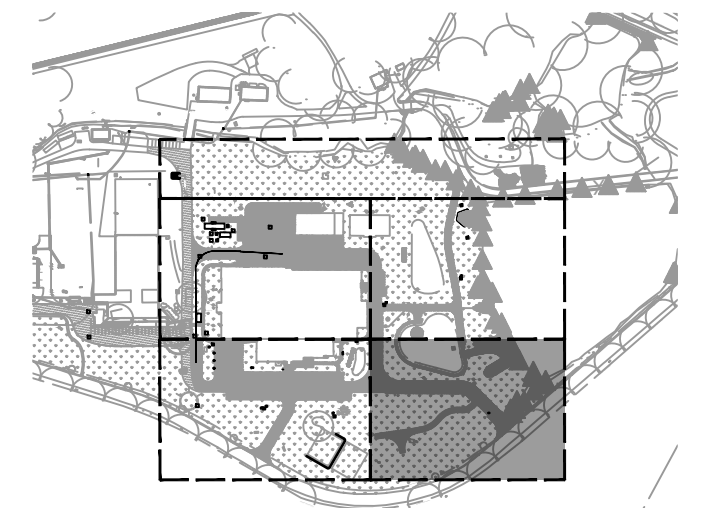
MATCHLINE - SEE DRAWING NO. C-154

UPPER LAGOON

- NOTES:**
- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
 - BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.
 - NEW SIGNS SHALL CONFORM TO THE 2009 MUTCD FOR SIZE, COLOR, AND TEXT DIMENSION. SEE DWG C-314 FOR MUTCD SIGN SCHEDULE.



MATCHLINE - SEE DRAWING NO. C-151

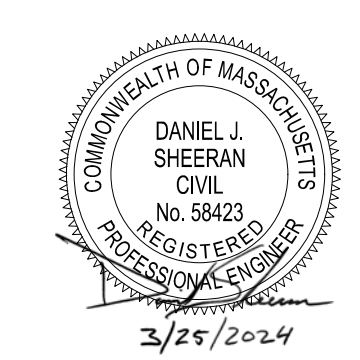


KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KROBBINS\DRAWINGS\HAZEN AND SAWYER\PROJECT FILES\CIVIL\C-152.dwg, 2/23/2024, 3:27 PM
PLOT DATE: 3/22/2024, 5:32 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



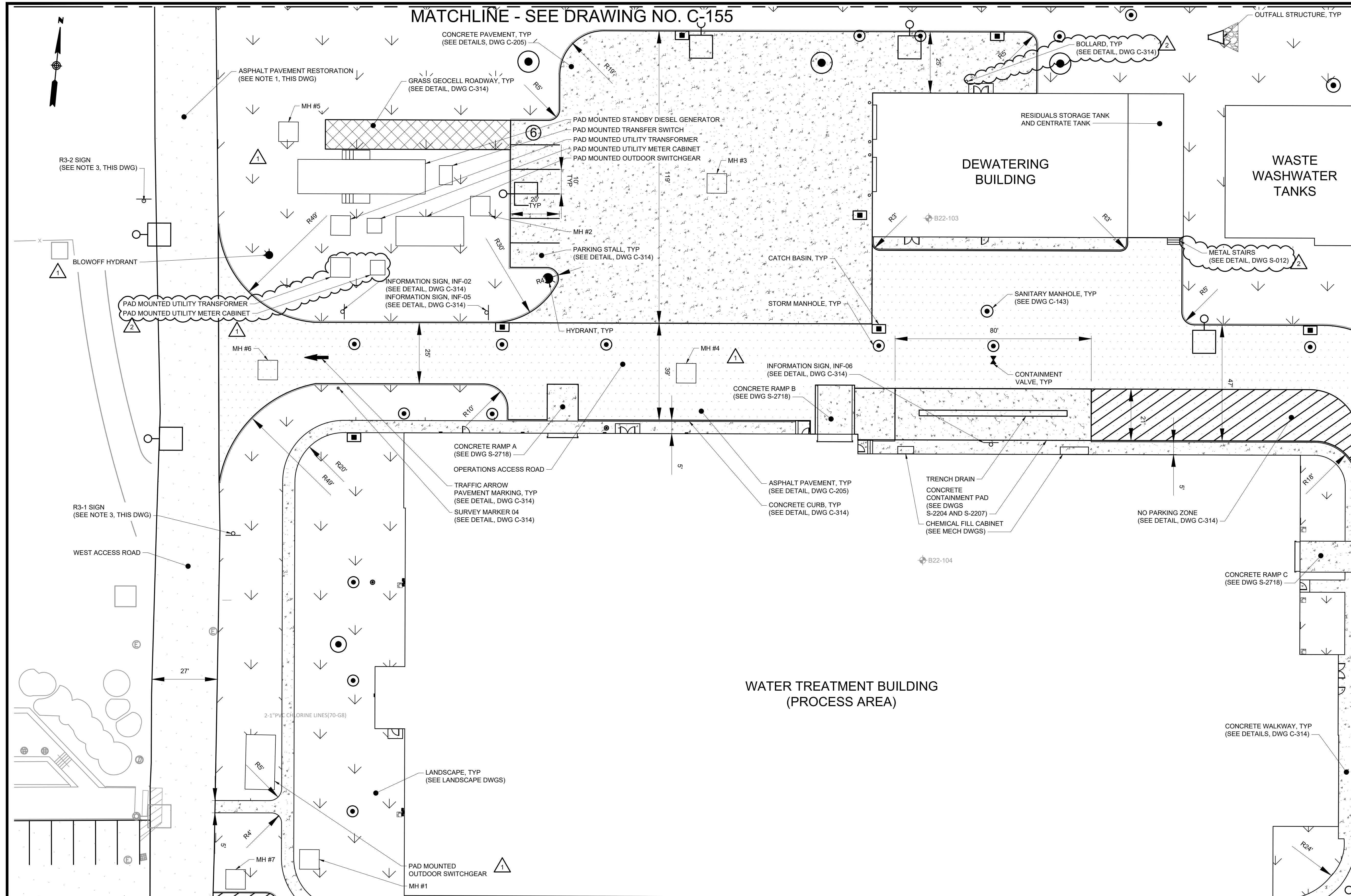
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL FINAL SITE PLAN SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-152

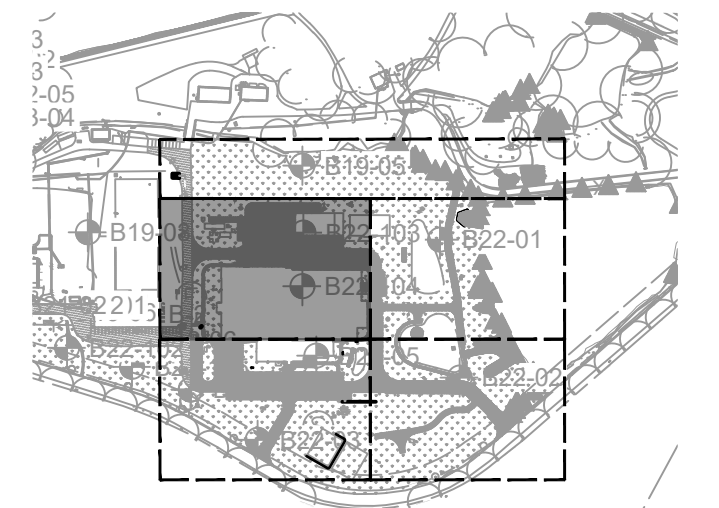
MATCHLINE - SEE DRAWING NO. C-155



- NOTES:**
- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
 - BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.
 - NEW SIGNS SHALL CONFORM TO THE 2009 MUTCD FOR SIZE, COLOR, AND TEXT DIMENSION. SEE DWG C-314 FOR MUTCD SIGN SCHEDULE.

MATCHLINE - SEE DRAWING NO. C-154

MATCHLINE - SEE DRAWING NO. C-151



KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KROBBINS\00\ACCORDS\HAZEN AND SAWYER\00888-004_WEST PARISH FILTER WTR PROJECT FILES\CIVIL\C-153.dwg Saved by: KROBBINS Save date: 3/21/2024 4:34 PM
PLOT DATE: 3/22/2024 5:35 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL FINAL SITE PLAN SHEET 3

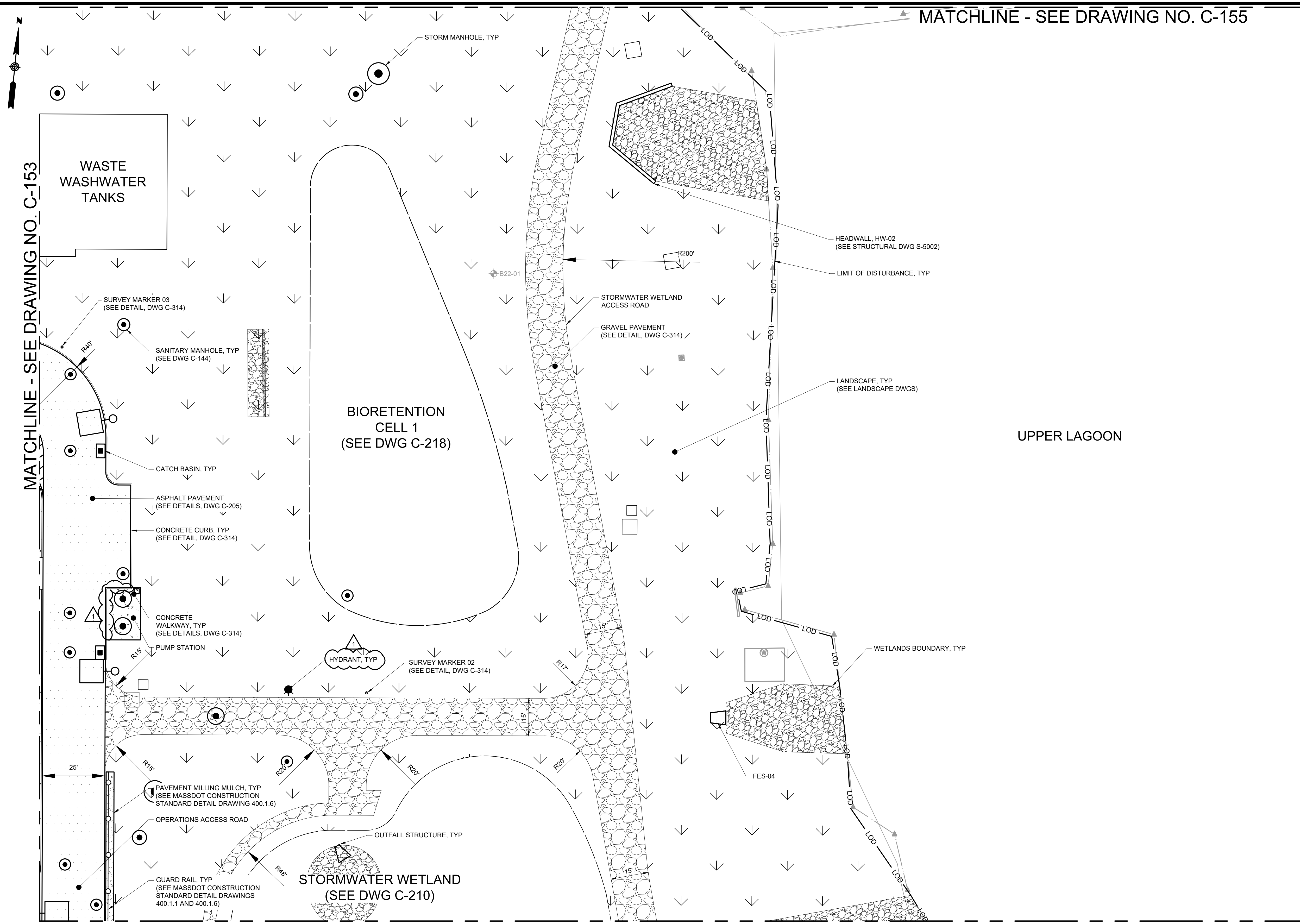
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-153

MATCHLINE - SEE DRAWING NO. C-155

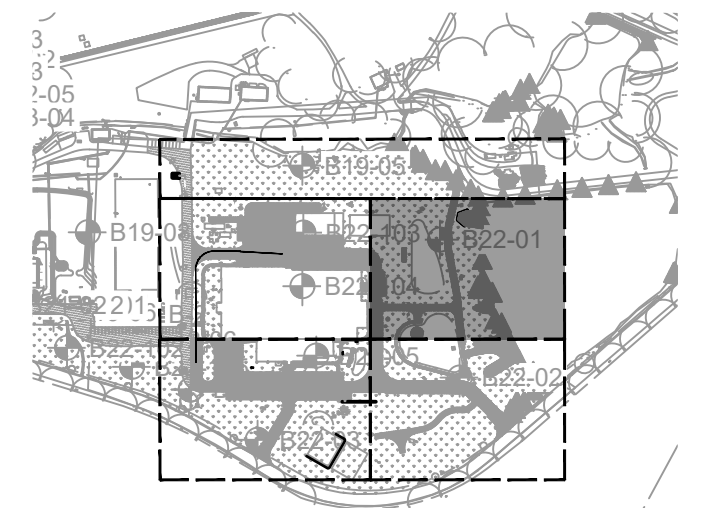
NOTES:

- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
- BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.

MATCHLINE - SEE DRAWING NO. C-153

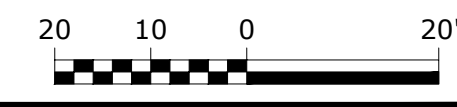


MATCHLINE - SEE DRAWING NO. C-152



KEY MAP NTS

SCALE: 1" = 20'



File: C:\USERS\KROBBINS\PROJECTS\CIVIL\PROJECT FILES\CIVIL\C-154.dwg Saved by KROBBINS Save date: 3/21/2024 4:21 PM PLOT DATE: 3/22/2024 5:37 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

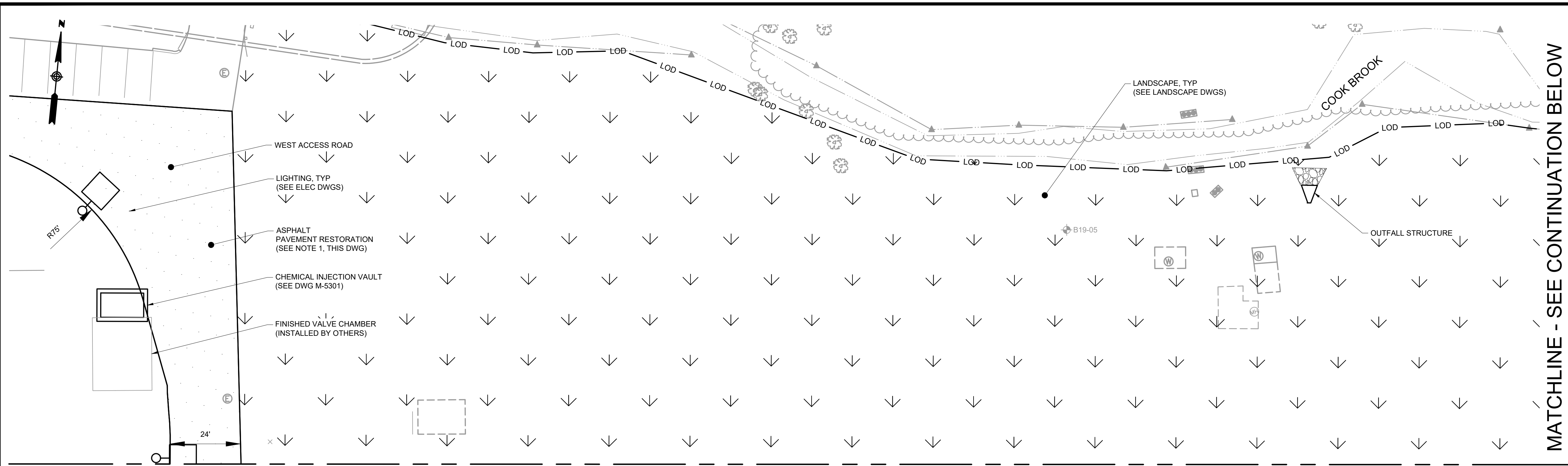
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

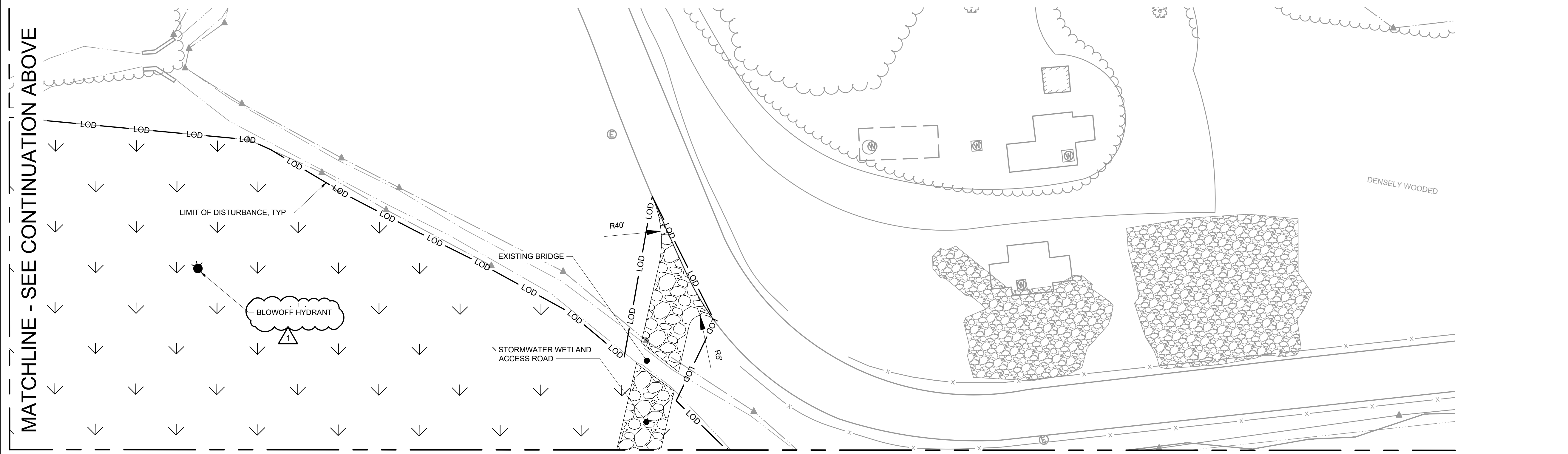
CIVIL FINAL SITE PLAN SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-154

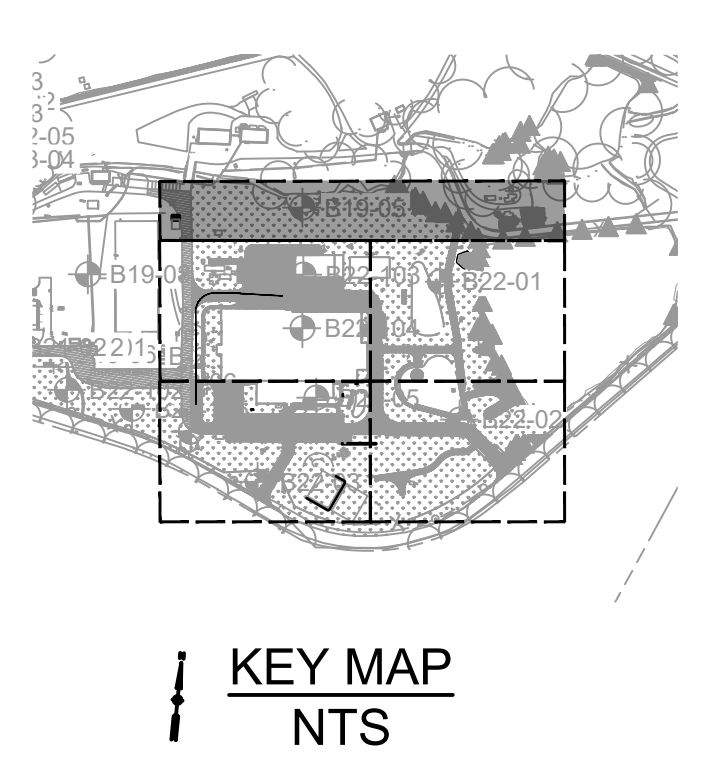


- NOTES:**
- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
 - BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.

MATCHLINE - SEE DRAWING NO. C-153



MATCHLINE - SEE DRAWING NO. C-154



SCALE: 1" = 20'

File: C:\USERS\KROBBINS\00\ACCORDS\HAZEN AND SAWYER\00888-004_WEST PARISH FILTER WTR\PROJECT FILES\CIVIL\C-155.dwg, Date: 2/23/2024, 3:39 PM
 PLOT DATE: 3/22/2024, 5:19 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

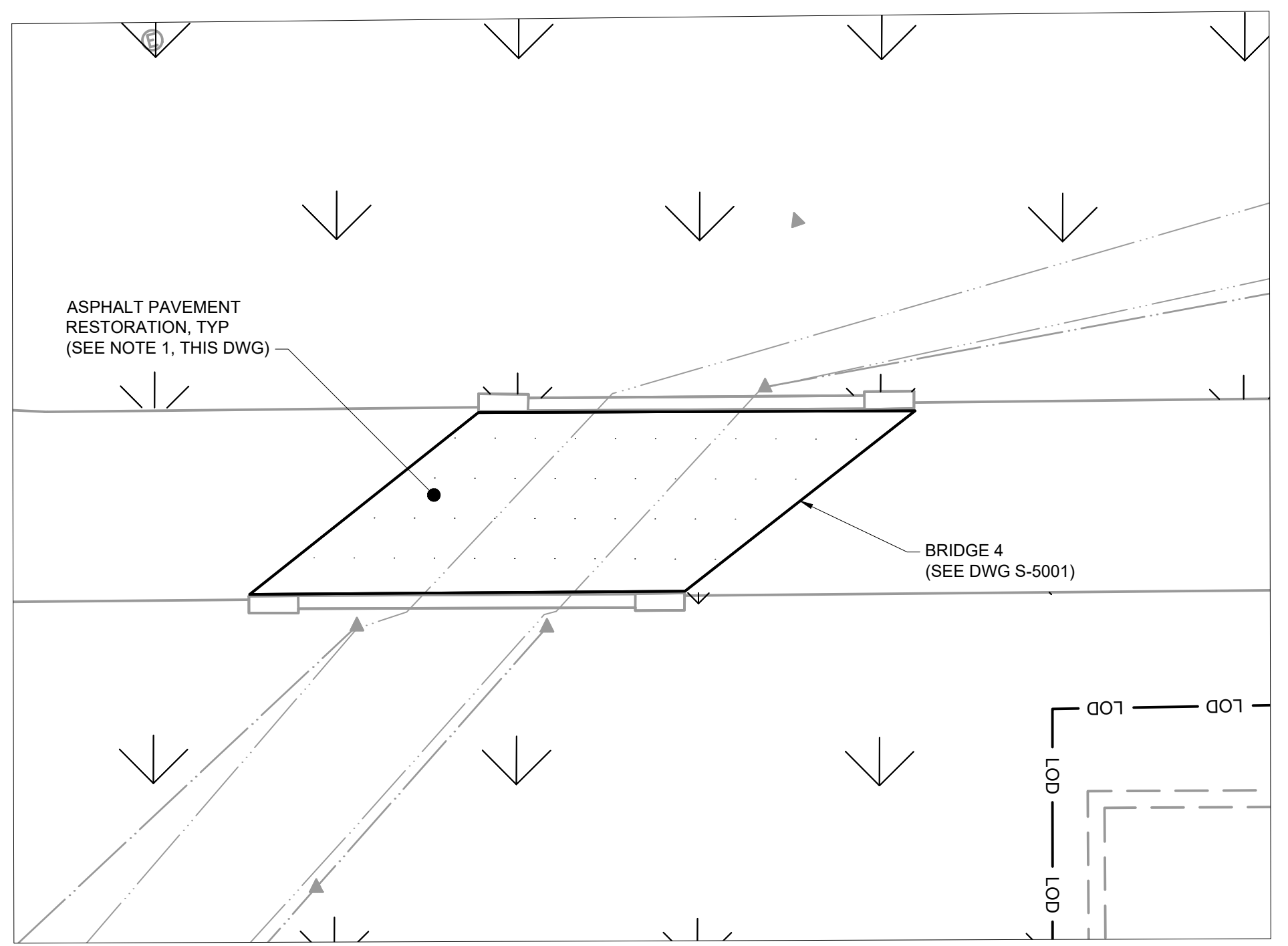
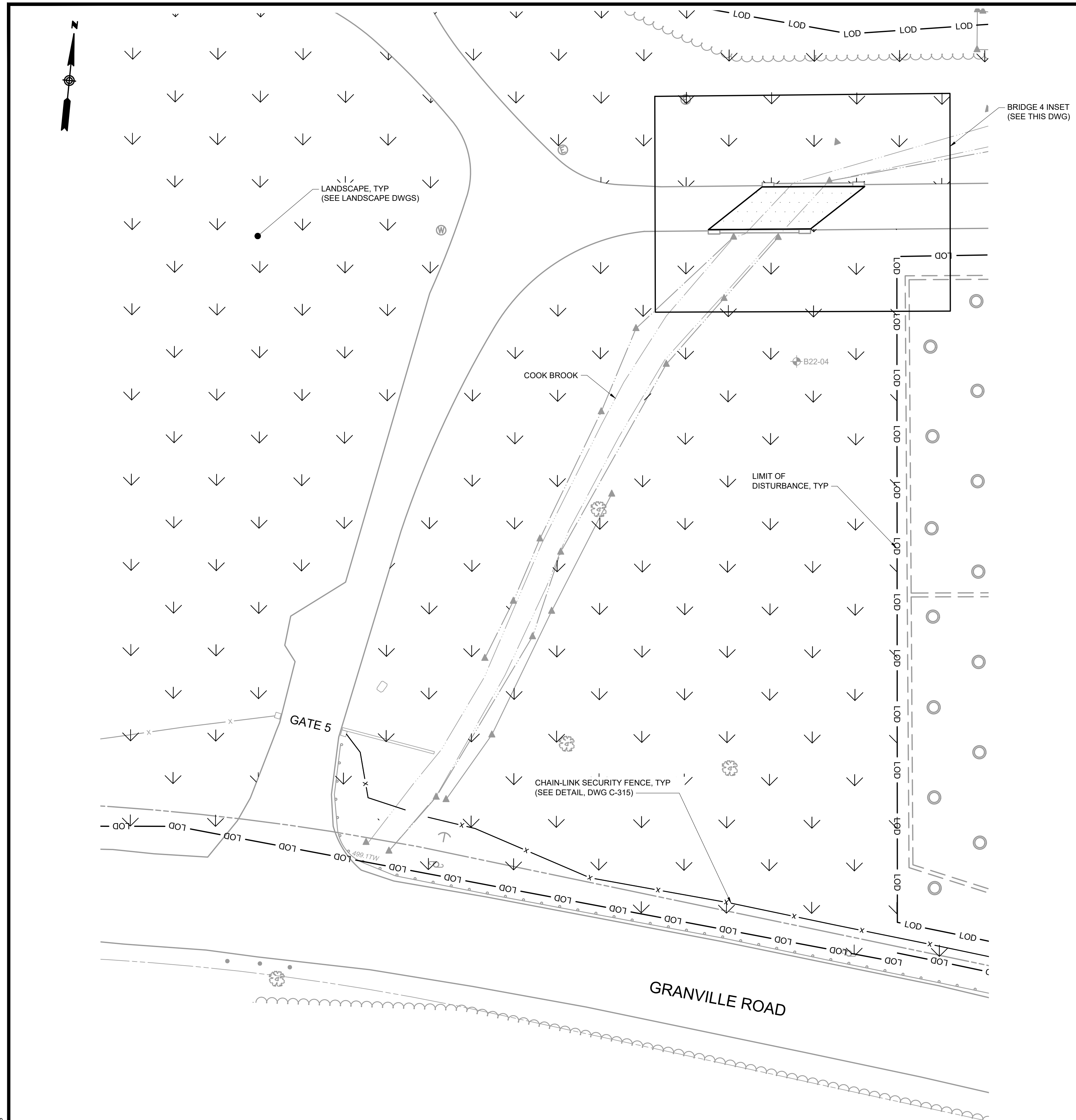
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

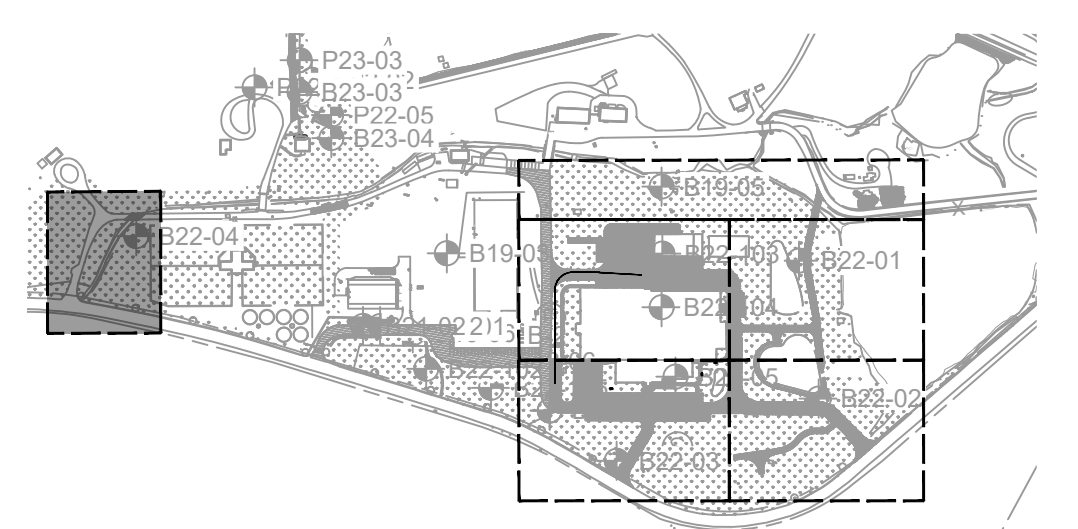
CIVIL FINAL SITE PLAN SHEET 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-155

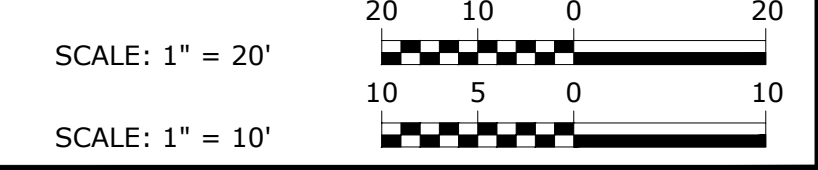
- NOTES:**
- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
 - BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.



BRIDGE 4
SCALE: 1"=10'



KEY MAP
NTS



File: C:\USERS\KROBBINS\Documents\HAZEN AND SAWYER\00398-004_WEST PARISH FILTER WTR PROJECT FILES\CIVIL-C-156.dwg, Save date: 2/23/2024, 3:31 PM
PLOT DATE: 3/22/2024, 5:39 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

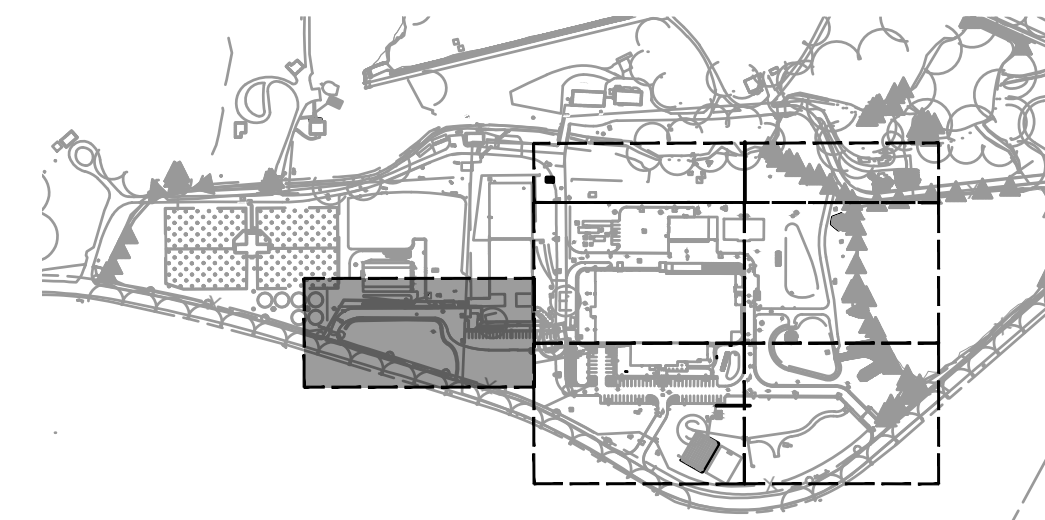


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

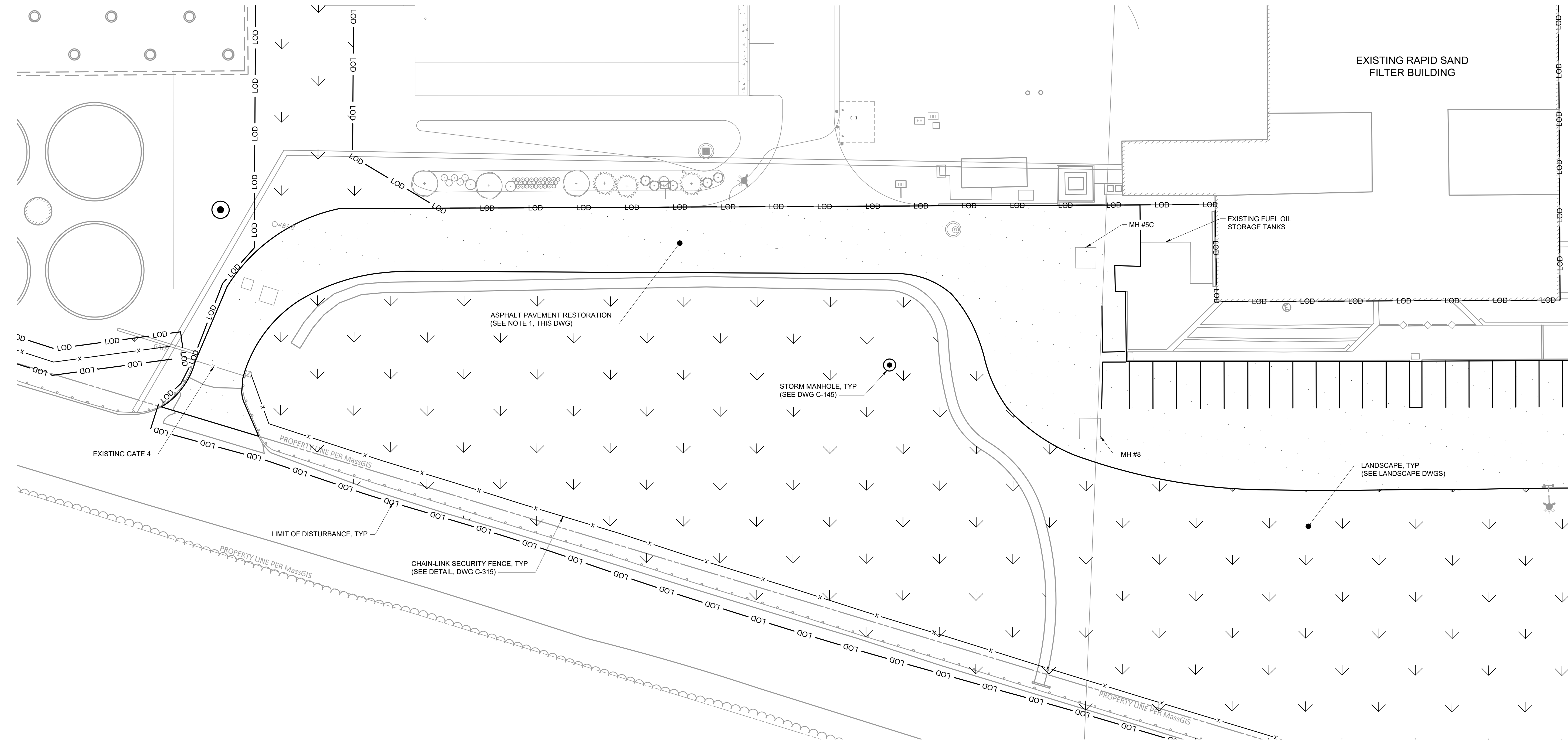
CIVIL FINAL SITE PLAN SHEET 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-156



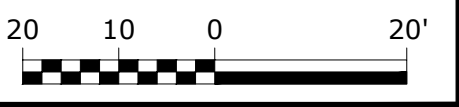
KEY MAP
NTS

- NOTES:**
- EXISTING PAVEMENT SHALL BE MILLED TO A MINIMUM OF 1.5" AND SHALL BE OVERLAID TO FINAL GRADES.
 - BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.



MATCHLINE - SEE DRAWING NO. C-151

SCALE: 1" = 20'



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PLOT DATE: 3/22/2024 5:40 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
0	ADDENDUM NO. 3	MAR 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

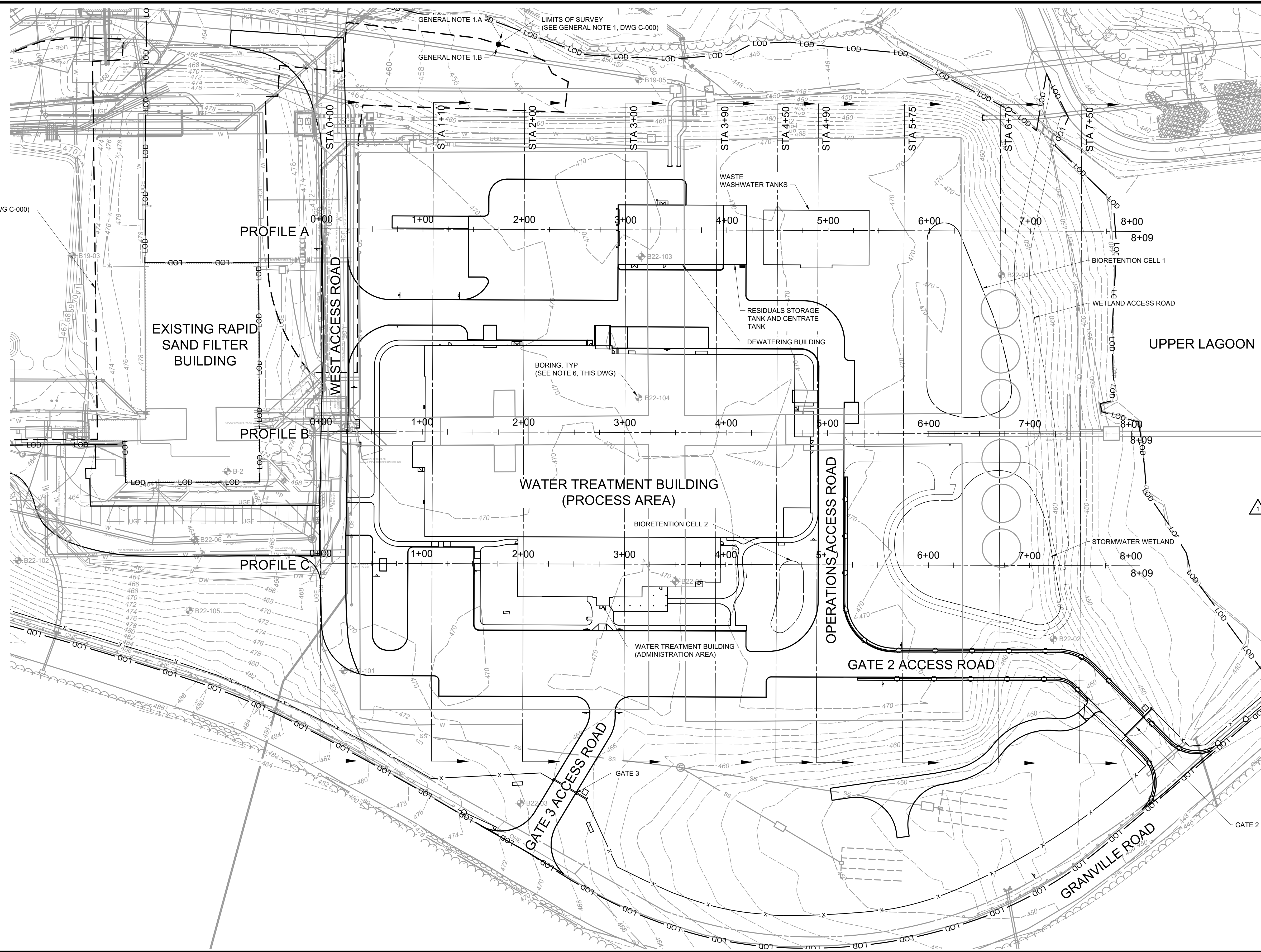
CIVIL FINAL SITE PLAN SHEET 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-157

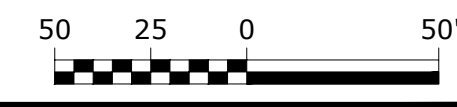
SITE SECTION NOTES:

- APPROXIMATE ELEVATIONS OF EXISTING MATERIAL LAYERS HAVE BEEN SOURCED FROM THE FOLLOWING RECORDS:
 - WEST PARISH FILTERS #7-10 RECORD PLANS PREPARED BY E.E. LOCHRIDGE AND J.B. PORTER, DATED 1924-1925.
 - CONTRACT 54 ADDITIONAL WEST PARISH FILTERS RECORD DRAWINGS PREPARED BY CLINTON BOGERT ENGINEERS, DATED AUGUST 1967.
- RECORD DRAWINGS INDICATE A 12-INCH THICK CLAY LAYER BELOW SLOW SAND FILTERS 7-10. UPON COMPLETION OF DEMOLITION OF SAND FILTERS 7-10, THE EXISTING CLAY LAYER SHALL BE EXCAVATED AND REMOVED. FOR PURPOSE OF BIDDING, REMOVAL OF AN AVERAGE OF 18 INCHES OF MATERIAL BELOW SAND FILTERS 7-10 SHALL BE INCLUDED AS PART OF THE LUMP SUM BID.
- RECORD DRAWINGS INDICATE AN APPROXIMATELY 28-INCH THICK COMPACTED FOUNDATION LAYER BELOW SLOW SAND FILTERS 15-18. UPON COMPLETION OF DEMOLITION OF SAND FILTERS 15-18, THE COMPACTED FOUNDATION LAYER SHALL BE EXCAVATED AND REMOVED.
- UNLESS OTHERWISE NOTED, EXISTING MATERIAL AROUND SAND FILTERS IS ASSUMED TO BE A MIXTURE OF TOPSOIL AND GENERAL FILL.
- PROPOSED BELOW GRADE INFRASTRUCTURE, YARD PIPING, AND TOPOGRAPHIC INFORMATION NOT SHOWN ON PLAN VIEW FOR CLARITY. SEE GRADING AND DRAINAGE DRAWINGS C-130 TO C-136 AND YARD PIPING DRAWINGS C-140 TO C-145.
- BORING INFORMATION IS REFERENCED FROM GEOTECHNICAL ENGINEERING REPORT PERFORMED BY GZA GEOENVIRONMENTAL, INC., DATED AUGUST 18, 2023. FOR IN SITU SOIL CONDITIONS AND GROUNDWATER INFORMATION, REFER TO AVAILABLE GEOTECHNICAL INFORMATION PROVIDED IN REPORT.
- SITE SECTIONS SHOW BOTTOM OF SLAB OF NEW STRUCTURES, INCLUDING THE WATER TREATMENT BUILDING, WASTE WASHWATER TANKS, DEWATERING BUILDING, RESIDUAL STORAGE TANK, AND CENTRATE TANK. SEE STRUCTURAL DRAWINGS FOR REQUIRED FILL MATERIALS UNDERNEATH STRUCTURES THAT ARE NOT REPRESENTED IN THESE SECTIONS.
- ELECTRICAL DUCT BANKS AS SHOWN ON ELECTRICAL DRAWINGS NOT SHOWN ON SECTION OR PROFILE DRAWINGS IN THE C-170 SERIES DRAWINGS FOR CLARITY.
- QUANTITIES OF SAND TO BE REMOVED FROM EACH EXISTING STRUCTURE ARE PROVIDED IN THE FOLLOWING TABLE:

STRUCTURE ID	SAND VOLUME (CY)
BACKWASH TANK	0
SAND STORAGE	2,452
SSF NO. 9	3,521
SSF NO. 10	3,834
SSF NO. 15	2,116
SSF NO. 16	2,213
SSF NO. 17	4,009
SSF NO. 18	4,316
SAND BINS (6)	938



SCALE: 1" = 50'



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 PLOT DATE: 3/21/2024 1:31 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND
SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

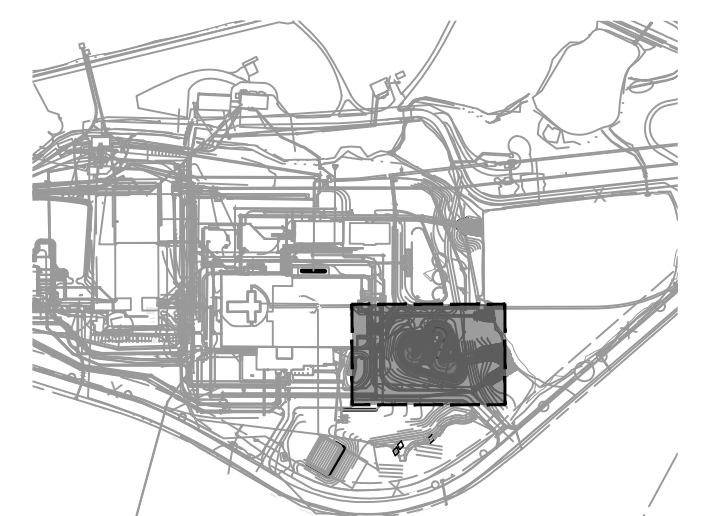
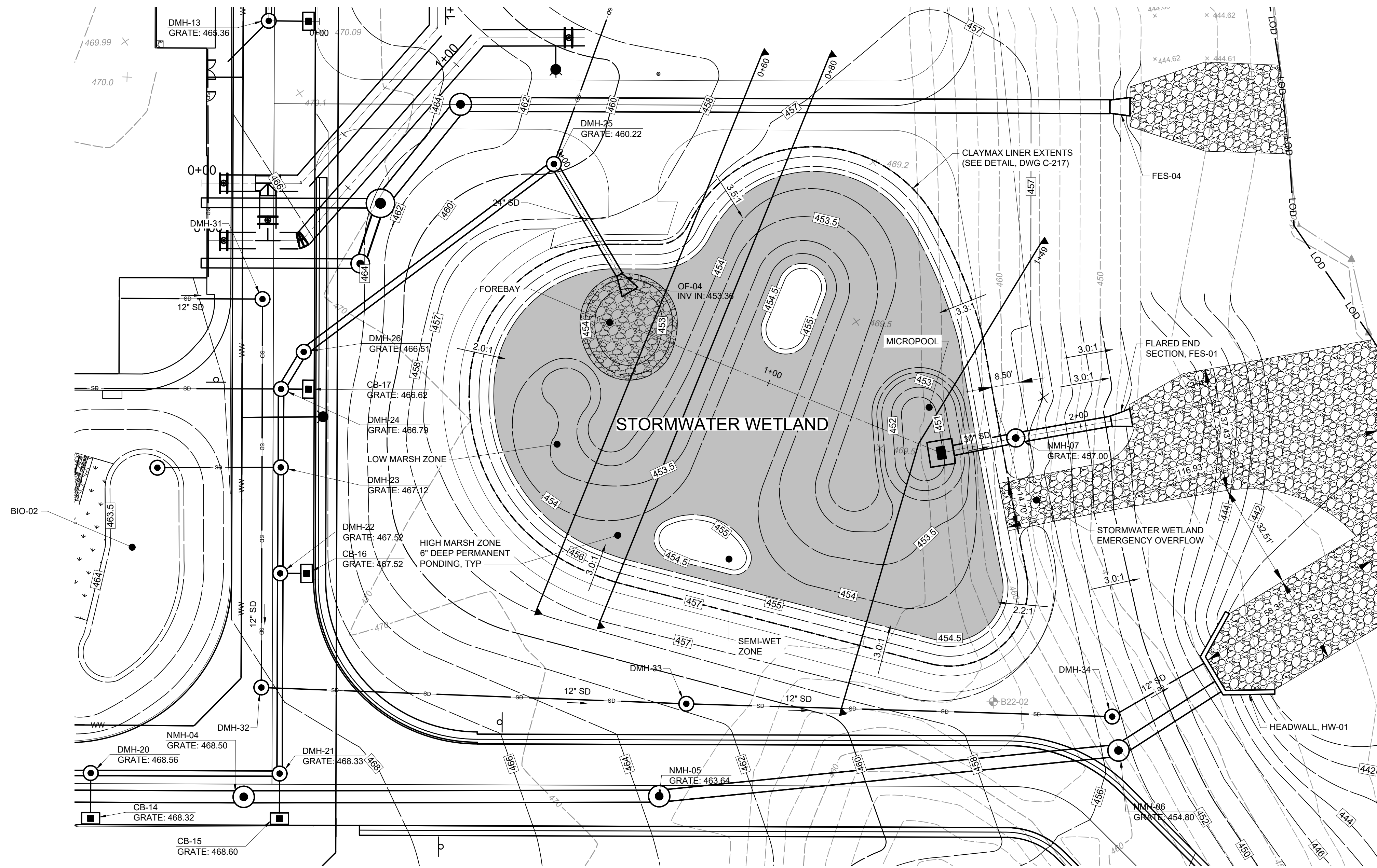
CIVIL
SITE SECTIONS - OVERALL PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-170



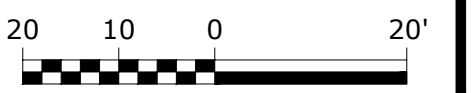
NOTES:

- 1. SEE DRAWING C-211 FOR STORMWATER WETLAND POND PROFILE AND CROSS SECTIONS.
- 2. SEE DRAWING L-107 FOR LANDSCAPE PLANTING ZONES.
- 3. SEE NOTE 4 ON DRAWING C-120.



KEY MAP
NTS

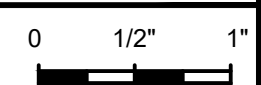
SCALE: 1" = 20'



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PLOT DATE: 3/22/2024 12:52 PM BY: KROBBINS

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

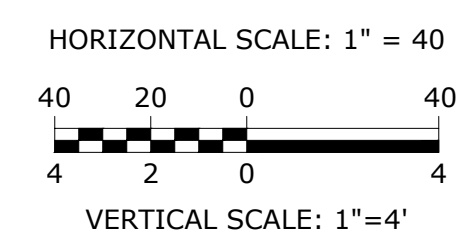
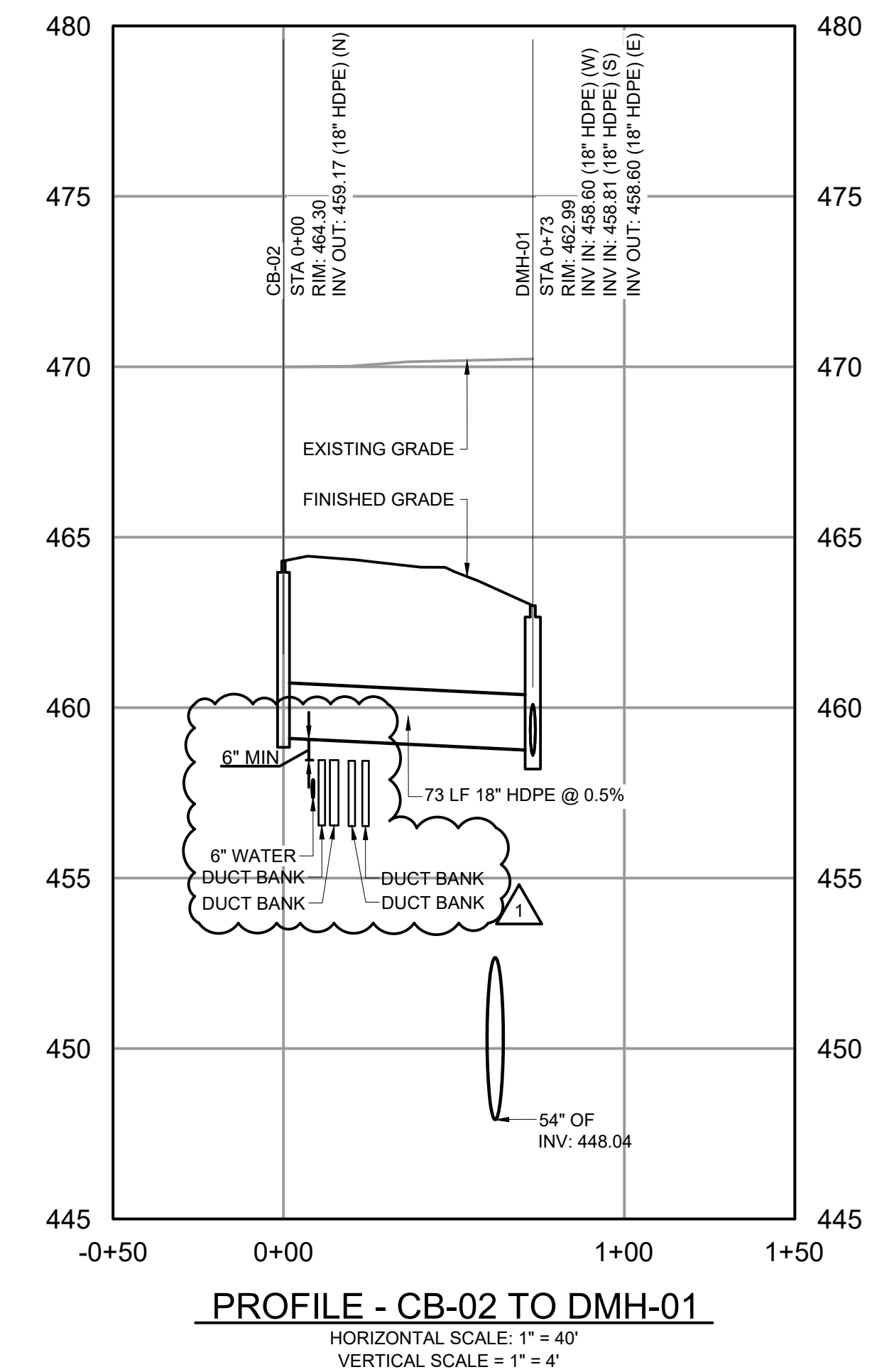
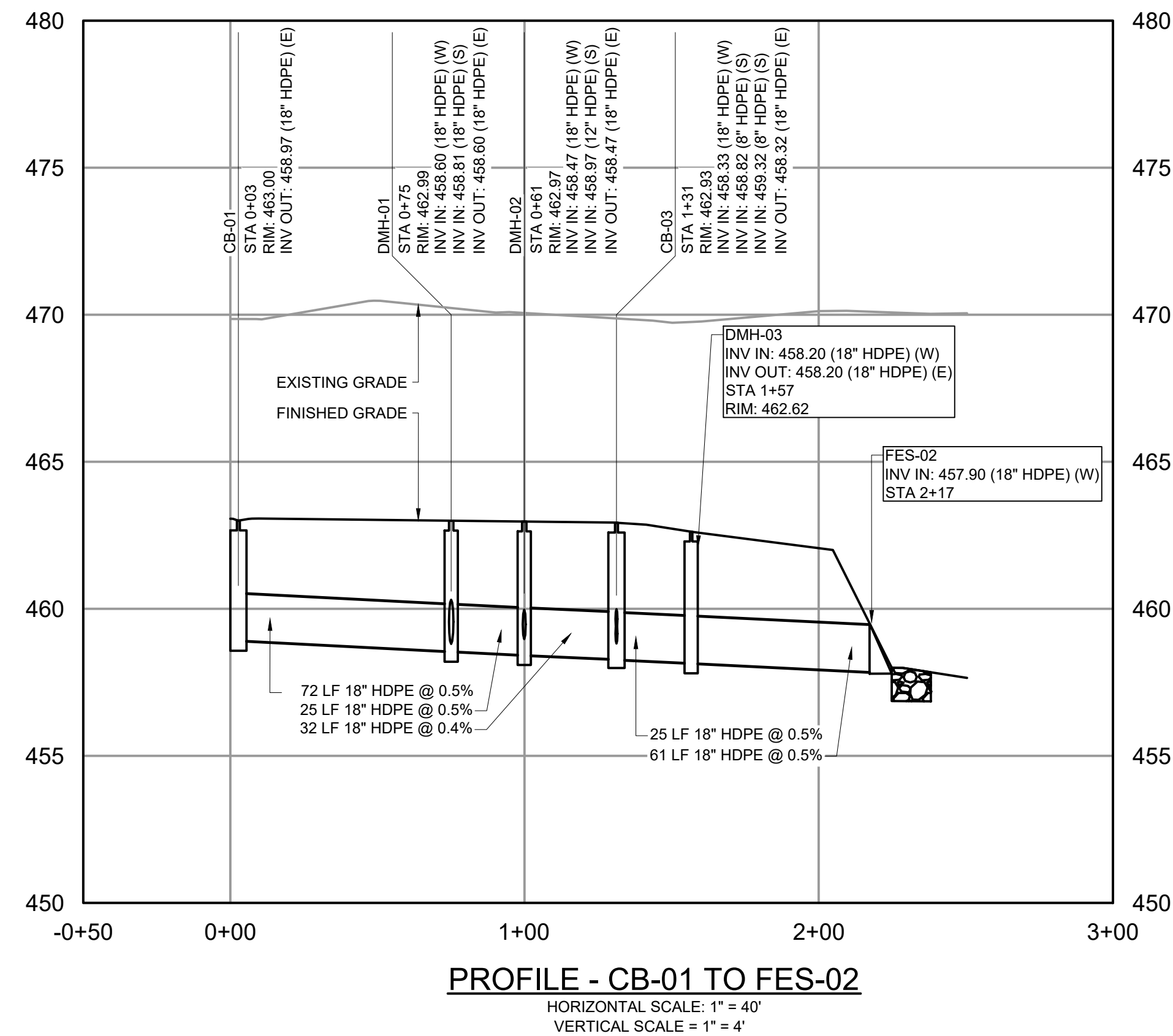
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
STORMWATER WETLAND
POND PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-210

NOTES:

- SEE DRAWING C-133 FOR STORM DRAIN PLANS.
- FOR EXISTING GRADE AND SITE CONDITIONS, SEE DWG C-000 GENERAL NOTES NOTE 1.
- FOR TRENCH DETAILS, SEE DWG C-137.



File: C:\USERS\KROBBINS\Documents\HAZEN AND SAWYER\00388-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-212.dwg, 3/21/2024, 3:32 PM
 PLOT DATE: 3/22/2024, 5:49 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



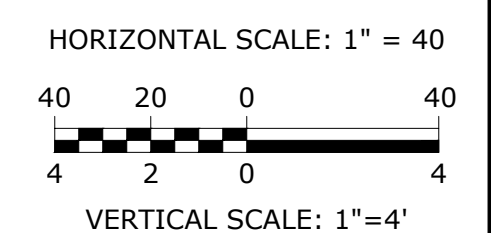
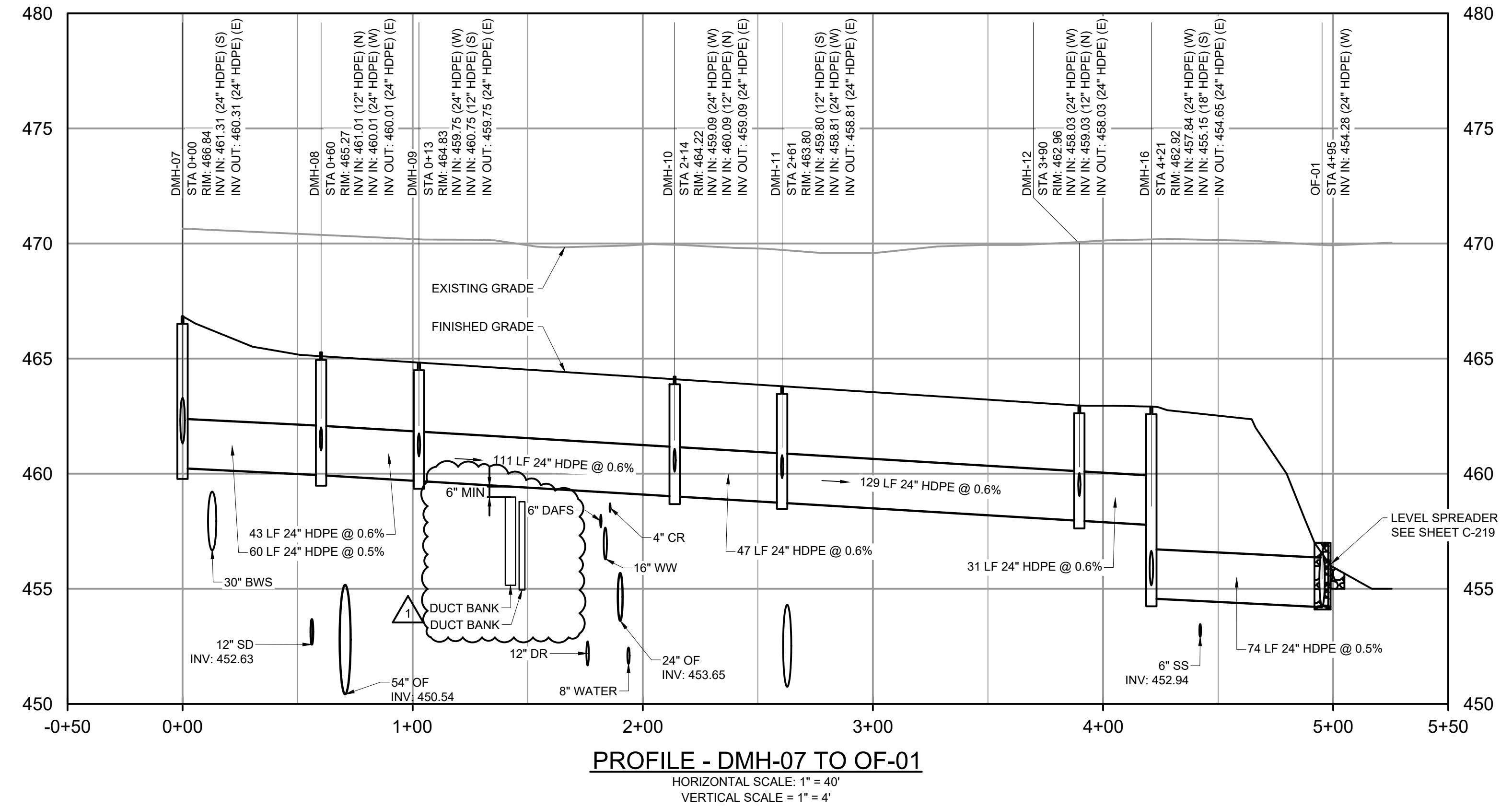
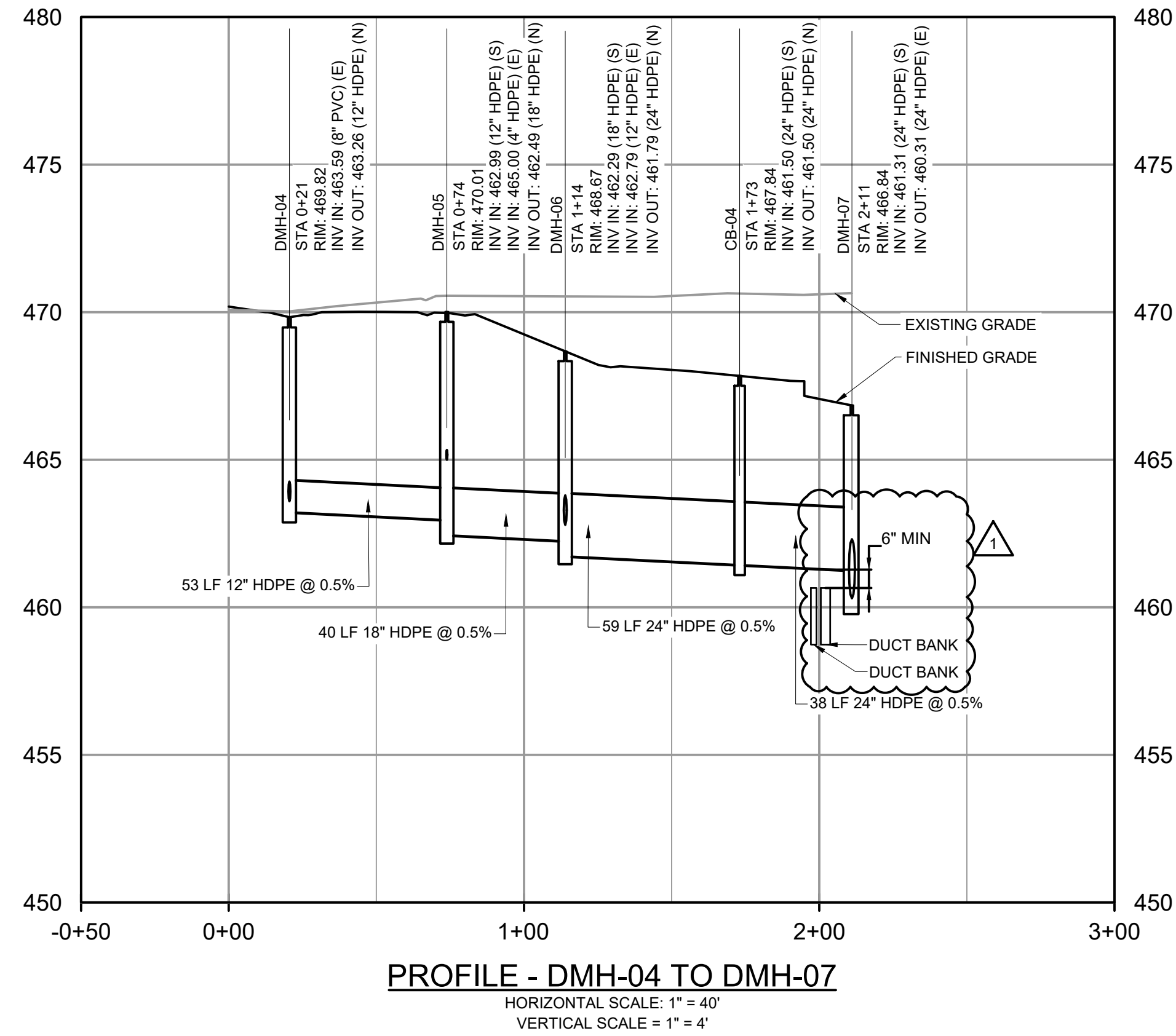
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL STORM DRAIN PROFILES SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-212

- NOTES:**
- SEE DRAWINGS C-132 THROUGH C-134 FOR STORM DRAIN PLANS.
 - FOR EXISTING GRADE AND SITE CONDITIONS, SEE DWG C-000 GENERAL NOTES NOTE 1.
 - FOR TRENCH DETAILS, SEE DWG C-317.



File: C:\USERS\KROBBINS\00\ACCC\00\Hazen and Sawyer\00\088-004_West Parish Filter WTP\PROJECT FILES\CIVIL\C-213.dwg
 PLOT DATE: 3/22/2024 5:52 PM BY: KROBBINS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

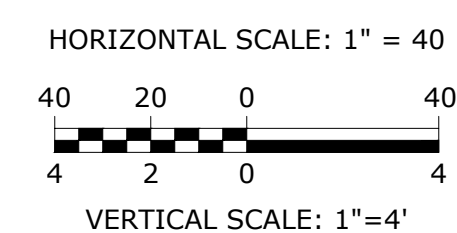
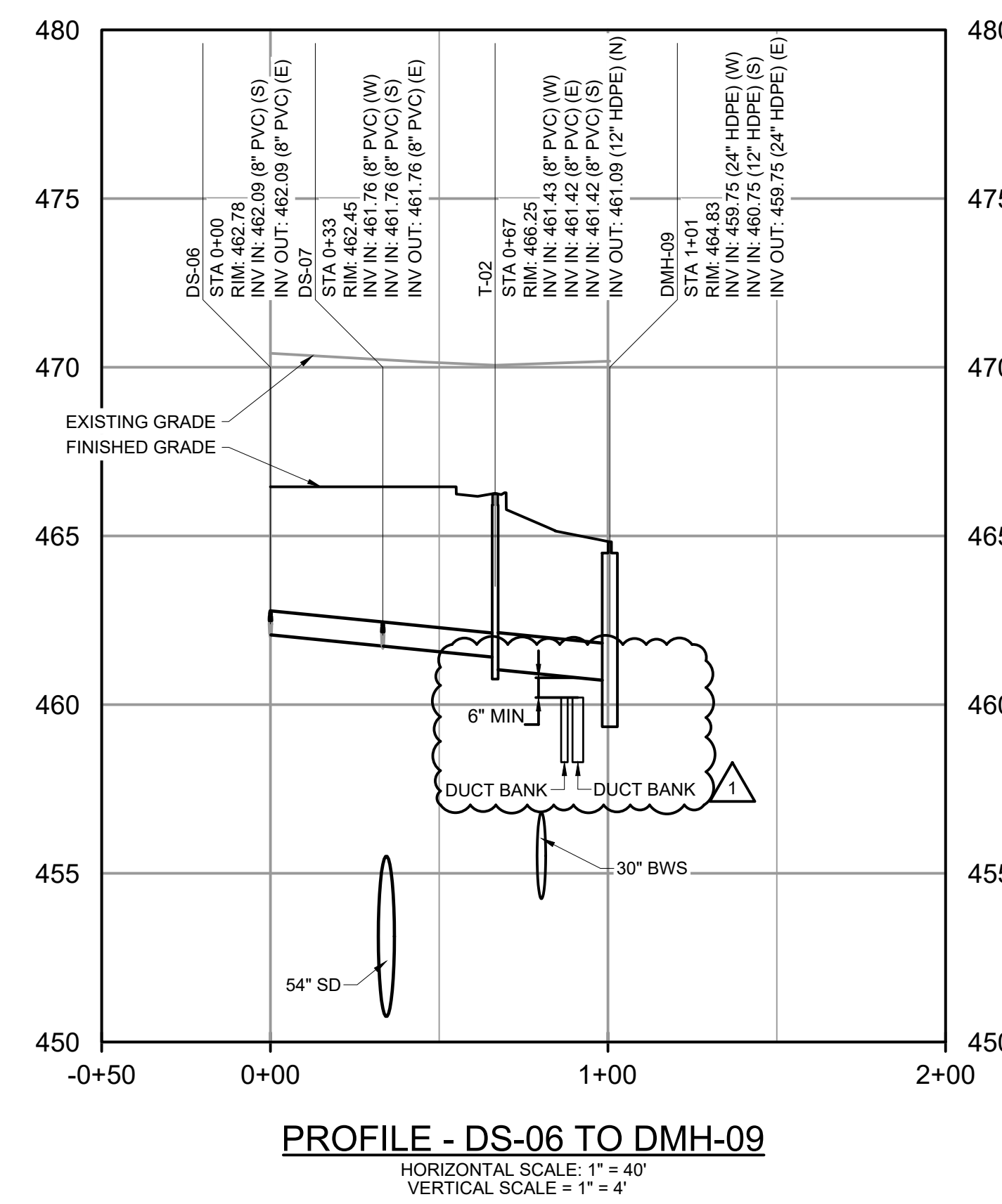
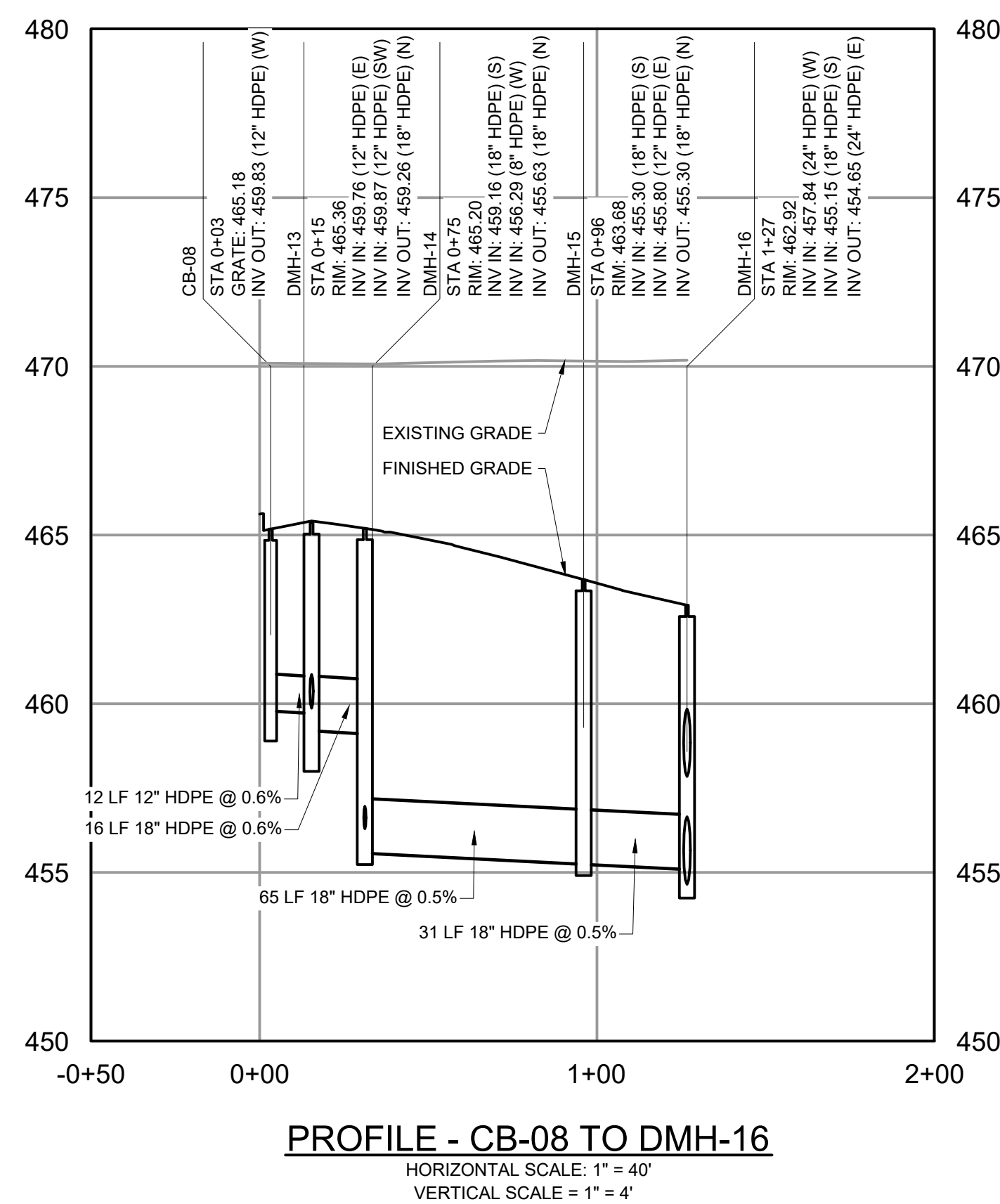
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL STORM DRAIN PROFILES SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-213

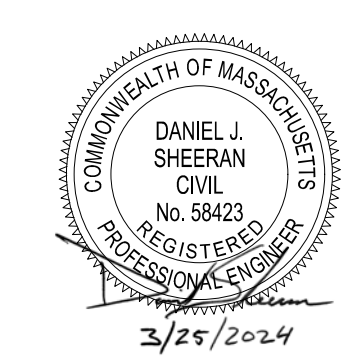
NOTES:

1. SEE DRAWING C-134 FOR STORM DRAIN PLANS.
2. FOR EXISTING GRADE AND SITE CONDITIONS, SEE DWG C-000 GENERAL NOTES NOTE 1.
3. FOR TRENCH DETAILS, SEE DWG C-317.



File: C:\USERS\KROBBINS\PROJECTS\HAZEN AND SAWYER\00388-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-214.dwg
 PLOT DATE: 3/22/2024 5:53 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



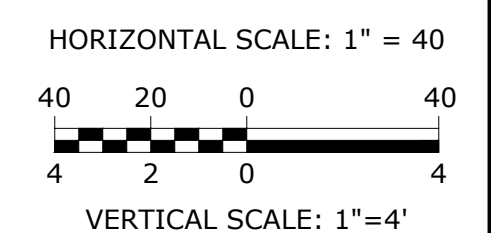
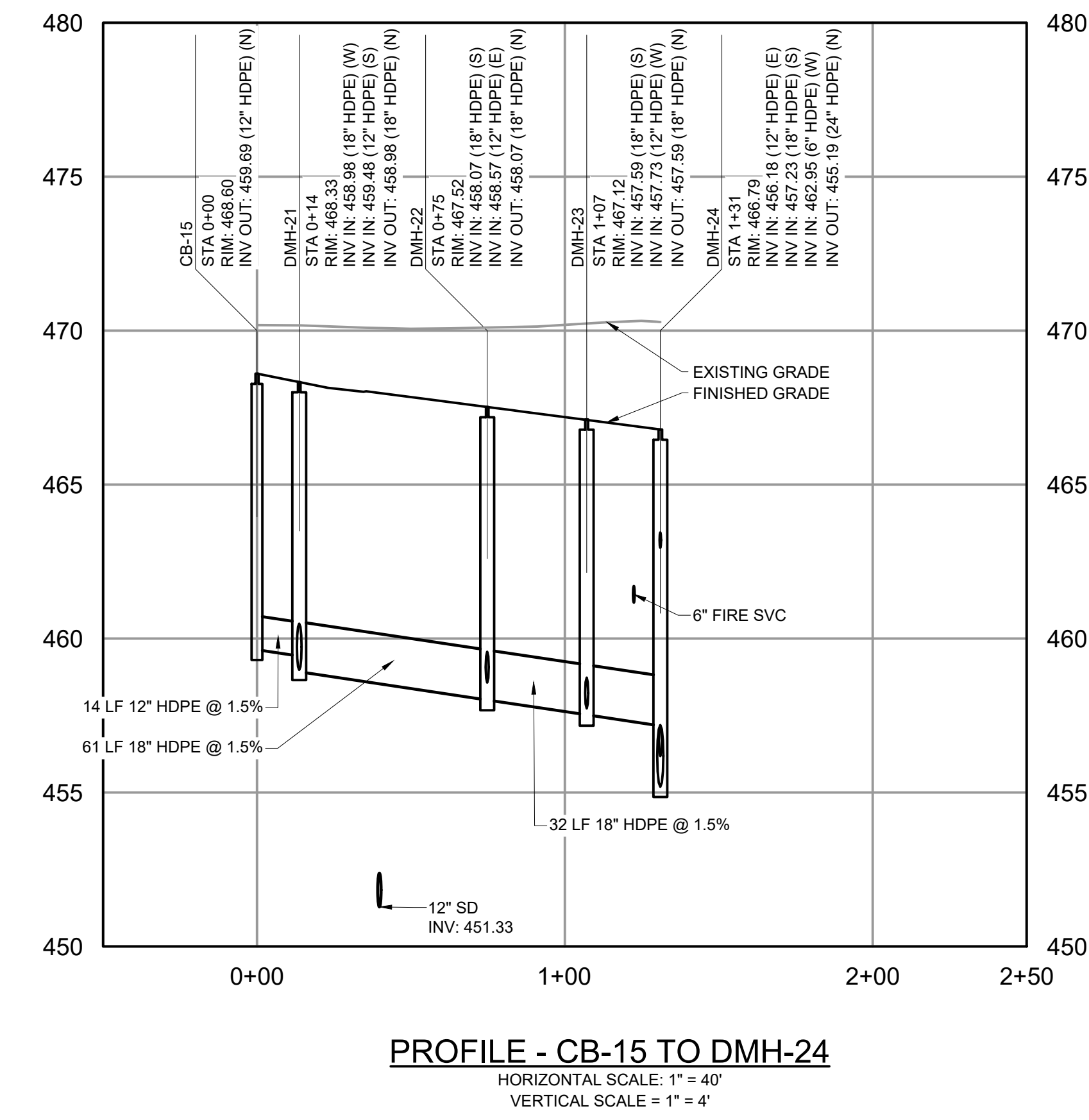
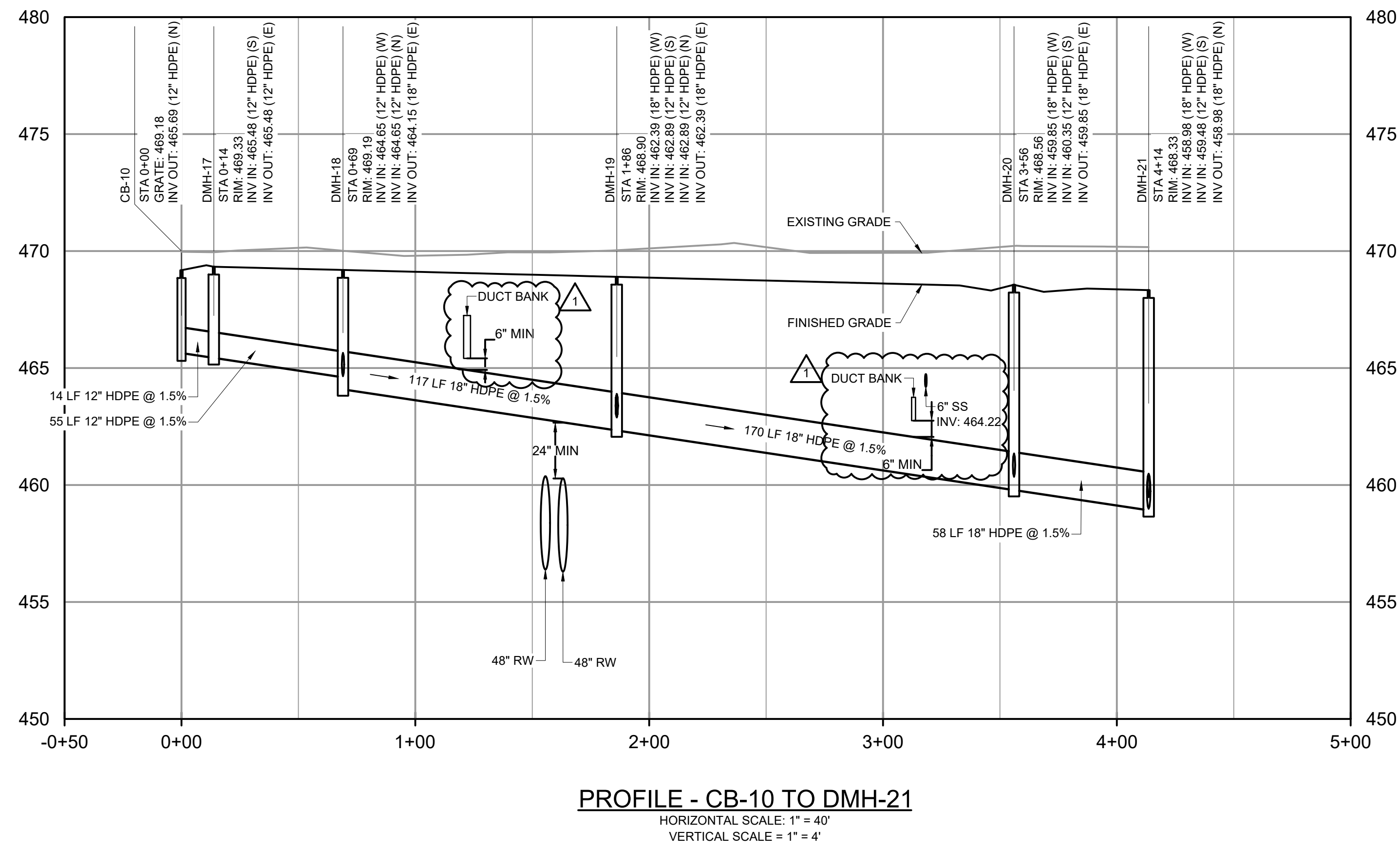
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 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL STORM DRAIN PROFILES SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-214

- NOTES:**
- SEE DRAWINGS C-131, C-132, C-134 FOR STORM DRAIN PLANS.
 - FOR EXISTING GRADE AND SITE CONDITIONS, SEE DWG C-000 GENERAL NOTES NOTE 1.
 - FOR TRENCH DETAILS, SEE DWG C-317.



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 PLOT DATE: 3/22/2024 6:01 PM BY: KROBBINS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



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SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

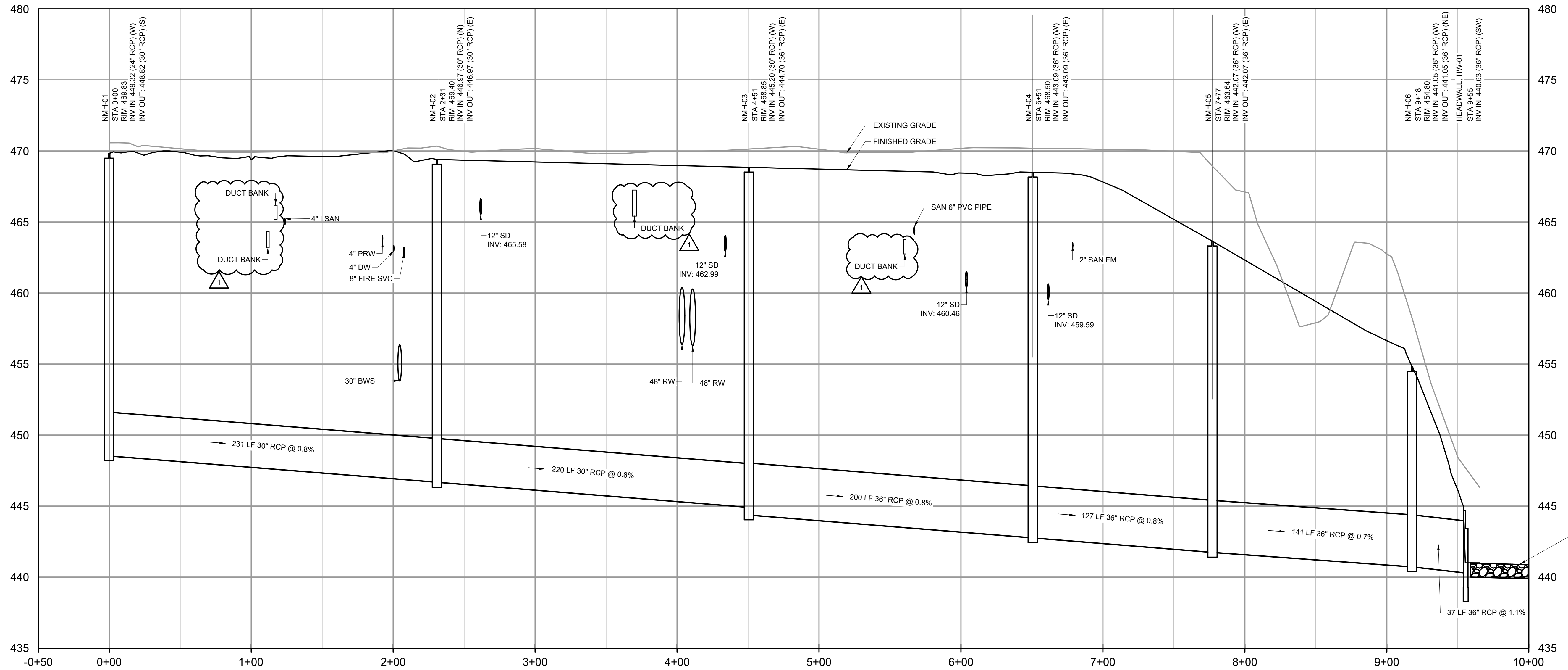
CIVIL STORM DRAIN PROFILES SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-215



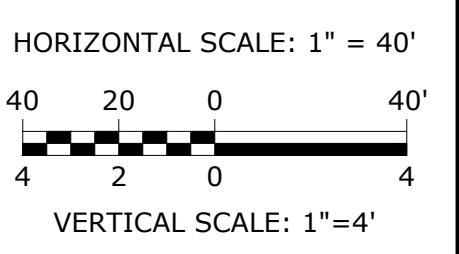
NOTES:

- SEE DRAWINGS C-121 THROUGH C-125 FOR GRADING AND DRAINAGE PLANS.
- FOR TRENCH DETAIL, SEE DWG C-317.



PROFILE - SITE DRAIN
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'

RIPRAP OUTLET PROTECTION
 SEE DETAIL, DWG C-302



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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	J. HARKINS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

DANIEL J. SHEERAN
 No. 58423
 REGISTERED PROFESSIONAL ENGINEER
 3/25/2024

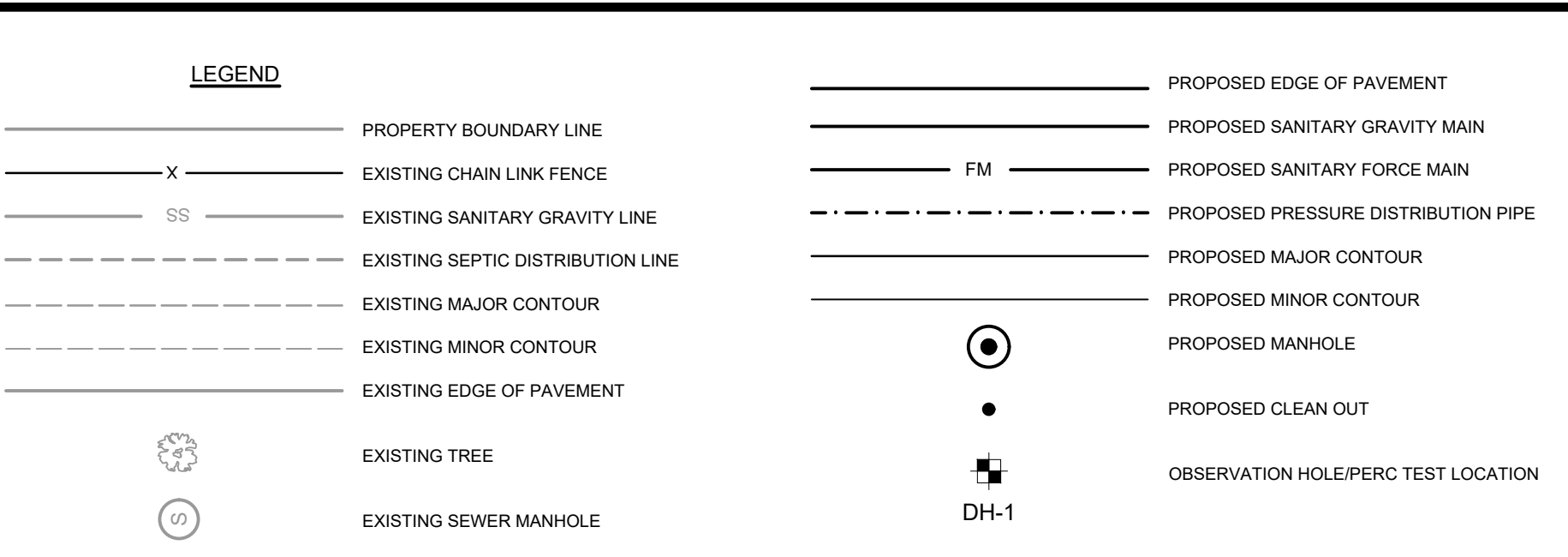
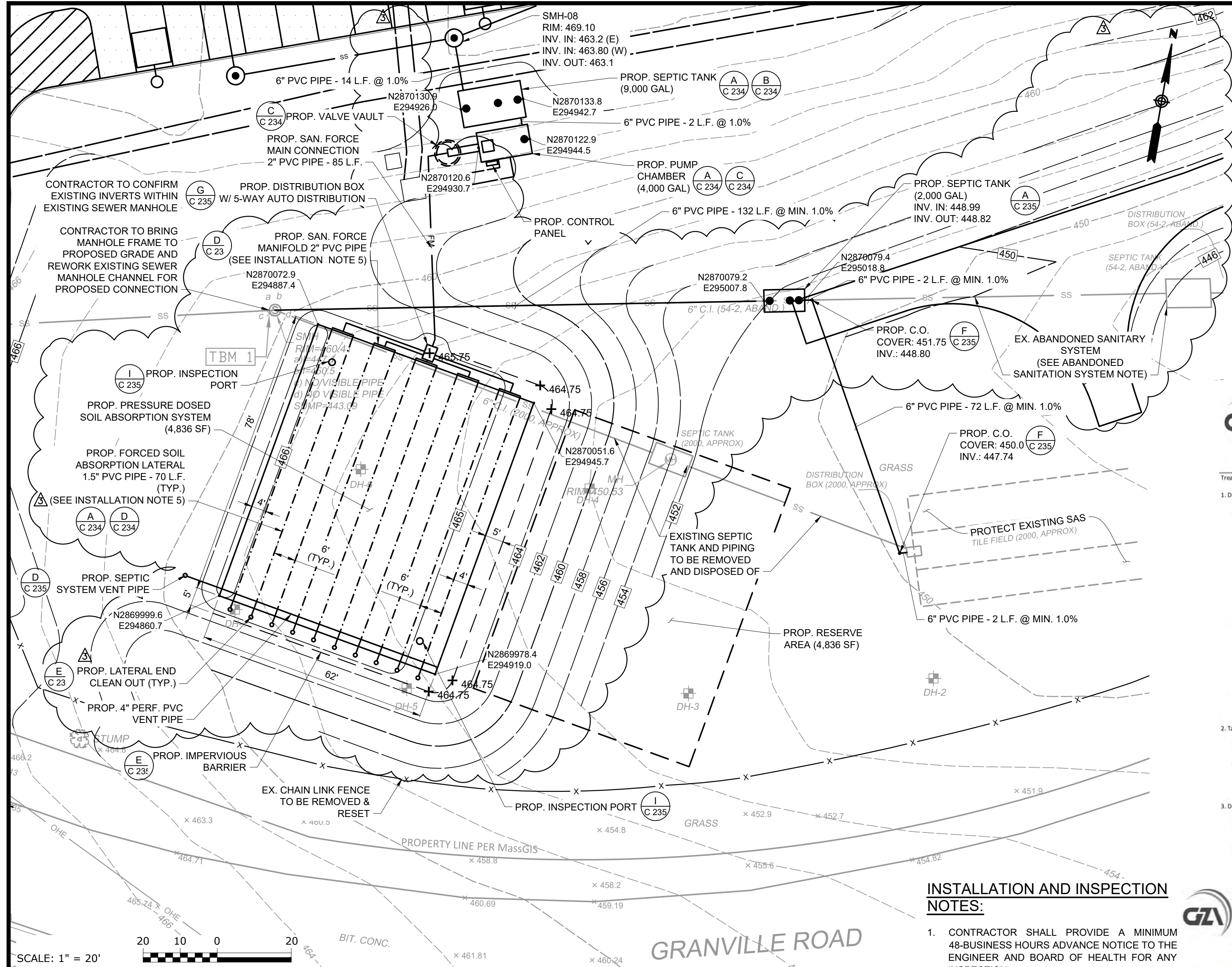
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 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL SITE DRAIN PROFILE

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-220



GZA GeoEnvironmental, Inc.
 1350 Main Street, Suite 1400
 Springfield, MA 01103
 413-730-2127
 FAX 413-732-1249
 http://www.gza.com

Engineers and Scientists

JOB: 05.0046609.08
 SHEET NO.: 2 OF 6
 CALCULATED BY: MMS DATE: 12/18/2023
 CHECKED BY: NLR DATE: 1/15/2024
 SCALE: N/A

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JOB: 05.0046609.08
 SHEET NO.: 2 OF 6
 CALCULATED BY: MMS DATE: 12/18/2023
 CHECKED BY: NLR DATE: 1/15/2024
 SCALE: N/A

Treatment System Design (310 CMR 15.000)

1. Daily Design Flow (310 CMR 15.203)

A. Building Type: Administrative Building

Offices	Design Flow Rate	75 gpd/1,000 sf
Building Area	Design Flow	13,200 sf
Design Flow		1,448 gpd

Lockers

Design Flow Rate	20 gpd/lock
No. of Lockers	48 lockers
Design Flow	920 gpd

C. Building Type: Water Treatment Building

Factory, Industrial without cafeteria	Design Flow Rate	15 gpd/person
No. of Employees	36 employees/day	540 gpd

D. Total Required Flow Rate: 2,908 gpd (Office + Locker Room + Factory, Industrial without Cafeteria)
 Total Design Flow Rate: 3,000 gpd Design Value

2. Tank Size (310 CMR 15.223-224)

A. No. of Compartments: Non-residential structure and design flow > 1,000 gpd → 2 Compartments or 2 Tanks

Chamber Sizing	Required	Design
1st Compartment (1 x daily design flow)	6,000 gallons	6,000 gallons
2nd Compartment (1 x daily design flow)	3,000 gallons	3,000 gallons
Design Tank Size		9,000 gallons Design Value

3. Dosing Chamber Size (310 CMR 15.231, 254)

Chamber Size	Required	Design
Storage Volume (SAS pipe volume, see SAS Design on Sheet 2)	735.1 gallons	750 gallons
Emergency Storage Volume (1 x daily design flow, see note)	3,000.0 gallons	3,000.0 gallons
Design Chamber Size		4,000 gallons Design Value

Soil Absorption System Design

1. Soil Classification (310 CMR 15.243)

Soil Description: Sand (per DH logs, see sheet 4) Soil Class: II

2. Percolation Rate: 9.33 min per inch (see Sheet 6)

3. LTR - Effluent Loading Rate (310 CMR 15.242)

Effluent Loading Rate: 0.63 gpd/sf

4. Soil Absorption System Area

A. Required Area (for Design Flow Rate): 4,762 sf

B. Design Area

Single Bed Dimensions	Total Area	
Length	Width	sf
78'	62'	4,836
Design Value		

C. Number of Lines, Spacing and Pipe Volume

Separation from Edge	4 ft
Separation between lines	6 ft
Total Width	62.0 ft
Required number of lines	10.0

Notes:
 1. 4-ft maximum per 310 CMR 15.252
 2. 6-ft maximum width per 310 CMR 15.252

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JOB: 05.0046609.08
 SHEET NO.: 2 OF 6
 CALCULATED BY: MMS DATE: 12/18/2023
 CHECKED BY: NLR DATE: 1/15/2024
 SCALE: N/A

Excavation Date: 5/23/2023
 Soil Evaluator: Name: Mark Stadnicki, SEB13884
 Company: GZA
 Witnessed By: Name: Crystal Dugay
 Organization: Westfield Board of Health

Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-9	A	10R/3/3	-	-	-	loamy sand	-	blocky	friable
9-12	B	10R/4/4	-	-	-	loamy sand	-	blocky	friable
12-46	C1	2.5Y/4/4	17	7.5R/6/8	35/2	fine sandy silt	15%	-	massive friable
46-90	C2	2.5Y/4/4	-	-	-	fine sand	-	-	loose

Note: Refusal. Lidage stops up from 90" to 30" as you go toward the Right of Way.

Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-8	A	10R/3/3	-	-	-	sandy loam	-	blocky	friable
8-60	C1	7.5R/5/4	-	-	-	coarse sand	15%	80	single grain loose

NOTE: Terminated at 5' Material too bony

Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-7	A	10R/3/3	-	-	-	sandy loam	<5%	blocky	weak friable
7-15	B	10R/4/4	-	-	-	gravelly loamy sand	25%	-	granular loose
15-29	C1	2.5Y/5/2	26	7.5R/6/8	15%	sand	5%	-	granular loose
29-108	C2	10R/4/4	-	-	-	gravel	80%	40%	granular loose

Percolation Test: Depth: 30" Rate: 3 min/inch

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JOB: 05.0046609.08
 SHEET NO.: 3 OF 6
 CALCULATED BY: MMS DATE: 12/18/2023
 CHECKED BY: NLR DATE: 1/15/2024
 SCALE: N/A

Excavation Date: 10/14/2015
 Soil Evaluator: Name: Mark Stadnicki, SEB13884
 Company: GZA
 Witnessed By: Name: Crystal Dugay
 Organization: Westfield Board of Health

Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-9	A	10R/3/3	-	-	-	loamy sand	-	blocky	friable
9-22	B	2.5Y/4/4	-	-	-	coarse sand	5%	5%	single grain loose
22-28	C	2.5Y/4/4	24	7.5R/5/6	20%	loamy sand	<5%	platy	friable
28-72	2C	1.5Y/4/2	-	-	-	gravel	60%	30%	single grain loose

Note: Large rock possibly ledge down hill side of hole. Water seeping 30".

Percolation Test

Depth	30"	Rate	3 min/inch
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Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-12	A	10R/3/3	-	-	-	sandy loam	<5%	blocky	friable
12-22	B	10R/5/4	16	5R/5/8	10%	silty sand	5%	-	granular loose
22-54	C	2.5Y/4/4	-	-	-	loamy sand	5-15%	-	granular loose
54-74	C1	2.5Y/4/2	-	-	-	sandy loam	-	-	granular loose
74-120	2C	2.5Y/4/2	-	-	-	gravelly coarse sand	30%	40%	granular loose

Note: Seepage 40" top

Percolation Test

Depth	36"	Rate	3 min/inch
-------	-----	------	------------

Deep Observation Hole Log

Depth (inches)	Soil Layer / Horizon	Soil Matrix	Redoximorphic Features	Soil Color	Percent	Soil Texture	% Coarse Fragments	Soil Structure	Soil Consistency
0-12	A	7.5R/3/2	-	-	-	sandy loam	-	2-5%	blocky friable
12-18	B	7.5R/3/2	-	-	-	loamy sand	-	5%	single grain loose
18-32	C	5Y/3/2	28	2.5Y/5/2	20%	sandy silt	5%	-	platy friable
32-41	2C	10R/4/4	-	-	-	fine sand	30%	-	single grain loose
41-60	2C1	10R/4/4	-	-	-	fine sand	5%	-	single grain loose
60-120	2C2	10R/4/4	-	-	-	gravelly coarse sand	20%	70%	single grain loose

Note: Possible perched water table

Percolation Test

Depth	42"	Rate	4 min/inch
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- GENERAL NOTES:**
- BACKGROUND INFORMATION BASED ON THE FOLLOWING:
 - SITE SURVEY PREPARED BY BRENNAN CONSULTANTS, PERFORMED BETWEEN OCTOBER 12, 2022 AND JUNE 23, 2023.
 - ADDITIONAL TOPOGRAPHIC SURVEY FROM AECOM TECHNICAL SERVICES, INC. AS PART OF WEST PARISH FILTERS ENERGY DISSIPATION VALVE FACILITY CONTRACT PREPARED BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, INC. DATED BETWEEN DECEMBER 13, 2019 AND SEPTEMBER 2021.
 - FINAL SITE CONDITIONS FOR CONTRACT NO. S2057-042-WEST PARISH FILTERS CLEARWELL AND BACKWASH PUMPING STATION PROJECT PREPARED BY TIGHE & BOND, DATED APRIL 2022.
 - FINAL SITE CONDITIONS FOR CONTRACT NO. CA-1819-18 - WEST PARISH FILTERS CHLORINE FEED LINES REPLACEMENT PROJECT PREPARED BY TIGHE & BOND, DATED JUNE 2020.
 - SITE CONDITIONS FOR EXISTING SEPTIC SYSTEM PREPARED FOR DISPOSAL WORKS CONSTRUCTION APPLICATION, DATED MAY 4, 2000.
 - PROPOSED SITE LAYOUT, GRADING, AND PIPING SHOWN ON THIS DRAWING IS BASED ON THE 100% SUBMITTAL SITE PLAN FOR THE WEST PARISH FILTERS TREATMENT PLANT DATED, SEPTEMBER 2023, PREPARED BY HAZEN & SAWYER.

- REFERENCE ARCHITECTURAL, LANDSCAPING, MECHANICAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND DETAILS.**
- LOCATIONS OF UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY, AND ARE NOT WARRANTED TO BE CORRECT. ALL EXISTING UTILITIES SHALL BE VERIFIED FOR SERVICE, SIZE, INVERT ELEVATION, LOCATIONS, ETC. PRIOR TO START OF ANY WORK IN THE GENERAL AREA. CONTRACTOR SHALL NOTIFY DIG-SAFE (DIAL 811 OR AT WWW.DIGSAFE.COM) AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION. NOTIFY ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES PRIOR TO COMMENCING ANY WORK.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATION AND LAYOUT OF THE UTILITY SERVICES TO SANITARY SYSTEM IMPROVEMENTS AND COORDINATION WITH OTHER TRADES AS NECESSARY.
 - LOCATION OF UTILITY SERVICES TO SITE IMPROVEMENTS SHALL BE COORDINATED WITH THE CIVIL ENGINEERING DOCUMENTS PRIOR TO INSTALLATION.
 - BENCHMARK INFORMATION:
 - TBM-1: CHISELED SQUARE ON RIM OF SEWER MANHOLE. ELEVATION = 460.46

- SITE CONSTRUCTION NOTES**
- PLANS DO NOT PURPORT TO SHOW ALL UTILITIES. THE ACCURACY AND COMPLETENESS OF ANY UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, SIZE, TYPE, ETC. OF ALL UTILITIES THAT MAY BE AFFECTED BY THE WORK OF THIS PROJECT.
 - PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL REVIEW SCHEDULING AND SITE SAFETY WITH THE OWNER. CONTRACTOR SHALL ENSURE THAT THEIR OPERATIONS HAVE THE MINIMUM POSSIBLE IMPACT ON ALL AREAS OF THE PROPERTY. THE PROPERTY WILL BE CLOSED TO THE PUBLIC DURING THE LIFE OF THE PROJECT; HOWEVER, THE WORK AREA MAY NOT BE FENCED AND IS SUBJECT TO RANDOM ENTRY BY UNAUTHORIZED PERSONNEL. THE CONTRACTOR SHALL SUPPLY SUITABLE SIGNAGE INDICATING THAT THE WORK AREA IS CLOSED AND SHALL PROTECT THE PUBLIC FROM THE HAZARDS ASSOCIATED WITH THEIR WORK AT ALL TIMES, INCLUDING THE INSTALLATION OF TEMPORARY BARRICADES OR FENCING AT ACCESS POINTS TO ACTIVE WORK AREAS.
 - CONTRACTOR SHALL PERFORM ALL EXCAVATIONS IN STRICT CONFORMANCE WITH APPLICABLE STATE AND O.S.H.A. RULES, AS AMENDED.
 - REPLACE DISTURBED SURFACES WITH MATERIALS AND THICKNESS TO MATCH EXISTING.
 - ALL AREAS NOT OTHERWISE SURFACED SHALL RECEIVE MINIMUM 6" LOAM AND SHALL BE SEEDED, MULCHED, AND ESTABLISHED AS LAWN.

- INSTALLATION AND INSPECTION NOTES:**
- CONTRACTOR SHALL PROVIDE A MINIMUM 48-BUSINESS HOURS ADVANCE NOTICE TO THE ENGINEER AND BOARD OF HEALTH FOR ANY INSPECTION.
 - CONTRACTOR SHALL REMOVE ALL SOIL TO THE BOTTOM OF THE FINE SANDY SILT/SILT LAYER (MIN. 36" DEPTH) OR AS DIRECTED BY THE DESIGNER
 - ALL WASTEWATER SYSTEMS SHALL BE INSPECTED BY THE ENGINEER AND BOARD OF HEALTH PRIOR TO BACKFILLING. INSPECTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - NATIVE SUBGRADE FOR SOIL ABSORPTION SYSTEM (SAS - LEACH FIELD) PRIOR TO INSTALLATION OF SAS COMPONENTS.
 - SAS FILL ("TITLE V" SAND) REQUIRED TO ESTABLISH PROPOSED SAS STONE SUBGRADE
 - SAS STONE AND PIPING PRIOR TO BACKFILLING.
 - SEPTIC TANK AND PUMP STATION LEAKAGE TESTS PRIOR TO BACKFILLING.
 - CLEAR WATER TEST OF ALL COMPONENTS INSTALLED AND FUNCTIONING AS INTENDED.
 - FINAL INSPECTION OF BACKFILLED SYSTEM.
 - CONTRACTOR SHALL BE RESPONSIBLE TO DOCUMENT AS-BUILT CONDITIONS, INCLUDING PREPARATION OF AS-BUILT DRAWINGS FOR THE HORIZONTAL AND VERTICAL LOCATION OF ALL INSTALLED SYSTEM COMPONENTS.
 - D-BOX OUTLET PIPES SHALL BE SLOPED TO DRAIN TOWARDS LATERALS AT A MIN. OF 1%

Pressure Distribution System Design - Per 310 CMR 15.254, 2 & 3

Pipe Sizing

1. Perforation Size and Spacing	Perf. Diameter	0.25 in
Perf. Spacing		5 ft
2. Lateral Pipe Diameter	Perf. Spacing	1.5 in
Pipe Length		78 ft
Pipe Diameter		1.5 in
3. Lateral Discharge Rate	Perf. Discharge Rate	1.17 gpm/perf.
No. of Perf. Per Lateral		15/4
Discharge Per Lateral		18.3 gpm/lateral
4. Manifold Size	Length	32 ft
Diameter		2 in
5. Dosing Volume	Volume per Lateral	0.96 cflateral
No. of Laterals		10
Total Lateral Volume		9.57 cflateral
Dose Volume (10x Lateral Vol)		95.7 cflateral
		276.0 gpd/dose
Manifold and Discharge Line Lengths	Manifold Volume	0.70 cflateral
Discharge Line Volume		85.3 cflateral
Discharge Line Diam		2 in
Discharge Line Volume		1.86 cflateral
Volume Manifold + Discharge Line		2.56 cflateral
		19.2 gal
Total Dose Volume		98.3 cflateral
		735.2 gal
7. Minimum Discharge Rate	Discharge Rate Per Lateral	18.3 gpm
No. of Laterals		2 per dosing event
Minimum Pumping Rate		36.5 gpm

See Item 3, above
 Pump Design Value (rate per lateral x number of laterals per dosing event)

Pump Sizing

8. Head Loss Through System

Fraction Loss = $L_f \left(\frac{3.55 Q_p}{C_p D_p^{4.75}} \right)^{1.85}$ ft of water

$L_d = 162.9$ ft length of discharge line - adjusted for "effective pipe length" of valves and fittings, see below
 $C_p = 150$ friction factor for plastic pipe from Hazen-Williams equation
 $D_p = 2$ in diameter of discharge line
 $Q_p = 36.5$ gpm discharge rate

Fraction Loss = 4.3 ft

Component	Effective Pipe Length	No. Units	Total Effective Length
90-deg elbow	5.5	6	33
45-deg elbow	3	1	3
Check Valve	18	1	18
tee fitting	10	2	20
Gate Valve	1.2	3	3.6
		Total	77.6

Head loss through distribution valve $H_v = 0.0049 \times Q^2 + 5.5 \times (1 - e^{-0.39Q})$ (equation from oncom systems for V6000A type distribution valve)
 $Q_m = 36.5$ gpm discharge rate
 Head loss = 11.9 ft of water

Total Head Loss = Friction Loss + Static Head + Dist. Valve headloss
 Total Head Loss: 23.8 ft
 Pump Design Value: 25 ft

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Engineers and Scientists

JOB: 05.0046609.08
 SHEET NO.: 4 OF 6
 CALCULATED BY: MMS DATE: 12/18/2023
 CHECKED BY: NLR DATE: 1/15/2024
 SCALE: N/A

Excavation Date: 5/23/2023
 Soil Evaluator: Name: Mark Stadnicki, SEB13884
 Company: GZA
 Witnessed By: Name: Crystal Dugay
 Organization: Westfield Board of Health

Percolation Test Results

Perf. (1TP 6)	Perf. (2TP 5)	Perf. (3TP 4)	Perf. (4TP 3)	
Date:	5/23/2023	5/23/2023	5/23/2023	
Time at Start:	9:45AM	10:00AM	12:00PM	2:30PM
Depth of Perc:	42"	36"	30"	30"
Start Pre-Soak:	9:56AM	10:19AM	12:15PM	2:43PM
End Pre-Soak:	10:11AM	10:34AM	12:30PM	2:58PM
Time at 12":	10:23AM	10:38AM	12:43PM	2:58PM
Time at 9":	10:30AM	10:44AM	1:07PM	3:06PM
Time at 6":	10:42AM	10:53AM	1:35PM	3:21PM
Time (9" - 6")	12 Min	9 Min	28 Min	15 Min
Rate (min/ft)	4min/ft	3min/ft	9.3min/ft	5min/ft

Performed by: Mark Stadnicki, SEB13884
 Witnessed by: Crystal Dugay, Board of Health Witness

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	M. STADNICKI
DRAWN BY:	M. STADNICKI
CHECKED BY:	N. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

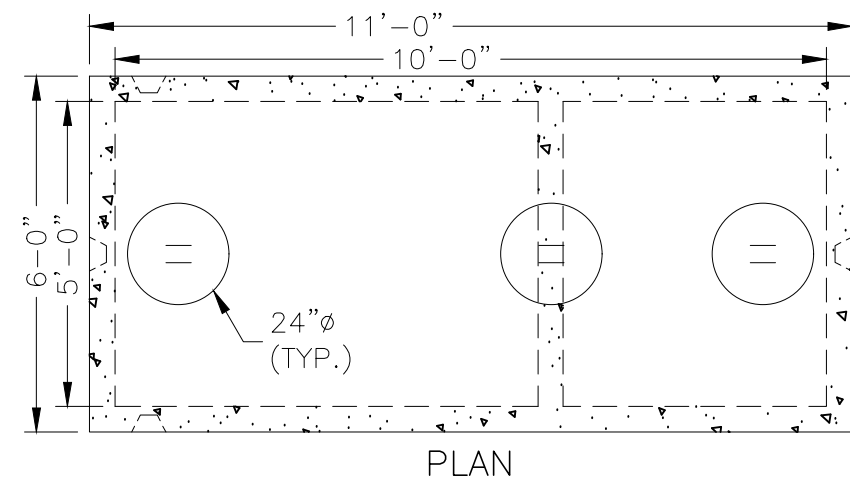
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

GZA GeoEnvironmental, Inc.
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 GZA NO.: 05.0046609.08

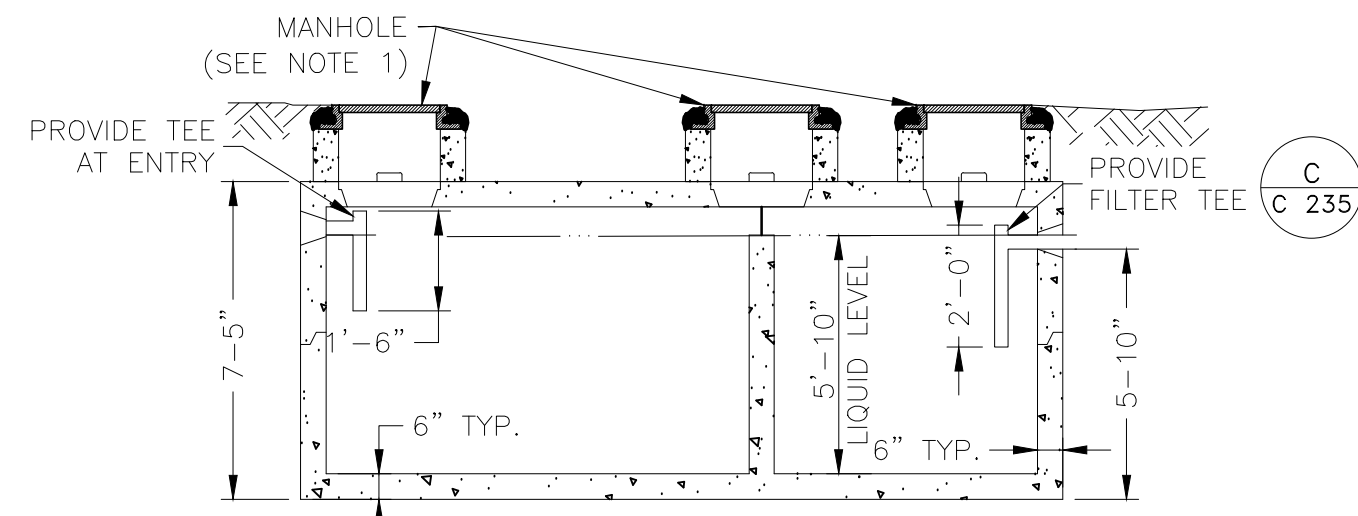
CIVIL SEPTIC SYSTEM PLAN

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER: C-233

File: J:\GZA INTERCOMPANY PROJECTS\05.0046609.08 HAZEN SAWYER WESTFIELD SEPTIC SYSTEM DESIGN\05.0046609.08 CAD\05.23.2024_1.48 PM_PLOT DATE: 3/25/2024 1:48 PM BY: MARK STADNICKI



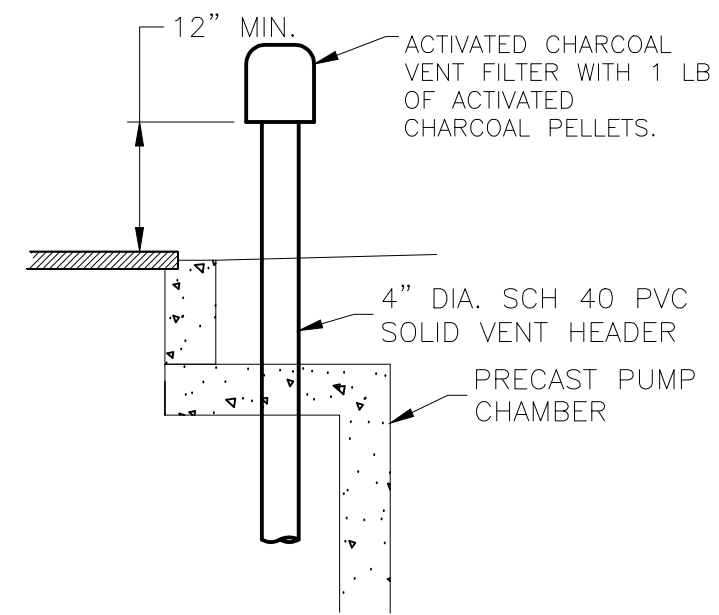
PLAN



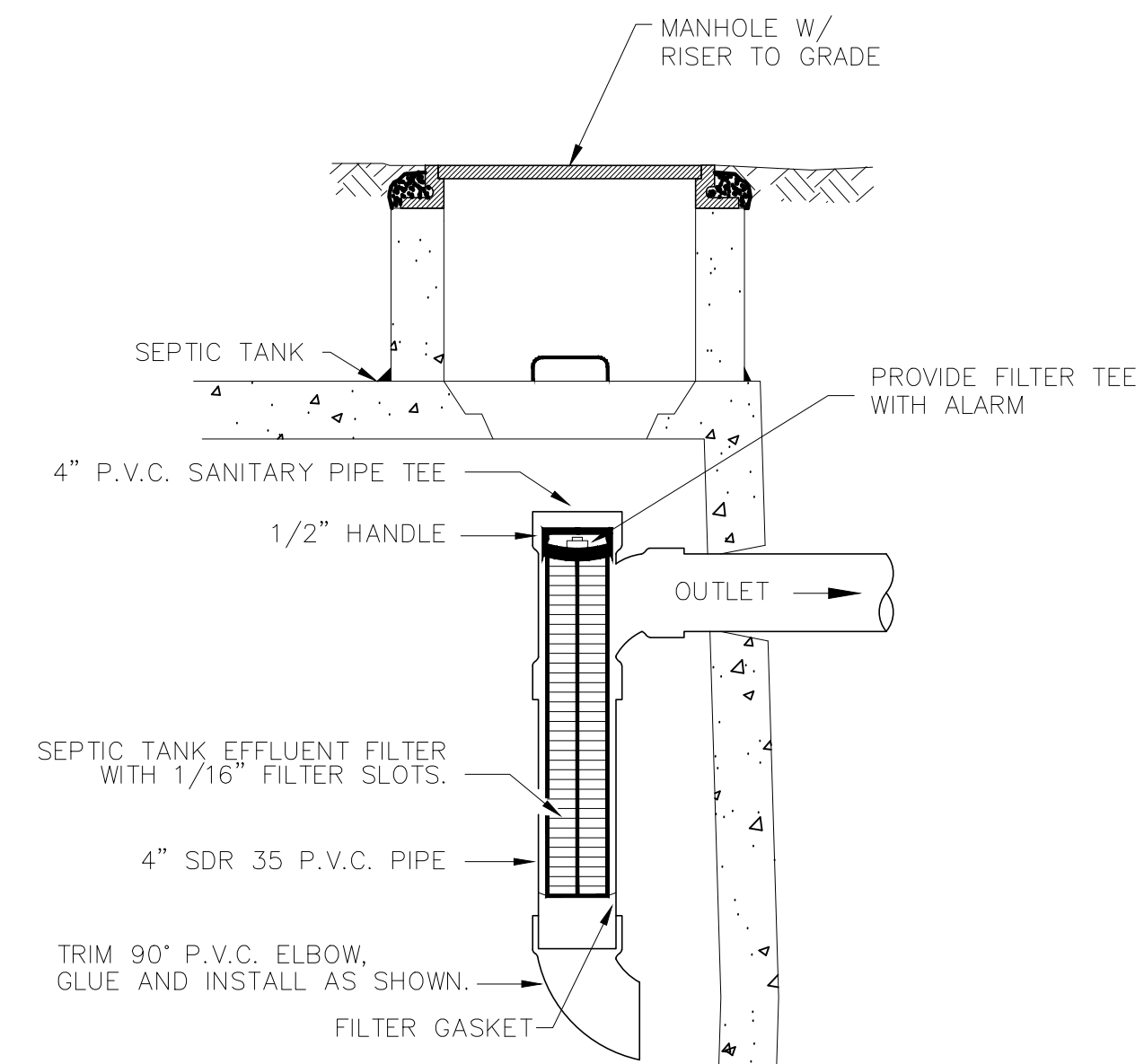
SECTION

- NOTES:
1. PROVIDE PRE-CAST OR MASONRY BLOCK RISERS TO EXTEND TANK OPENINGS TO GRADE.
 2. SEE DRAWING C234 FOR SYSTEM INVERTS.

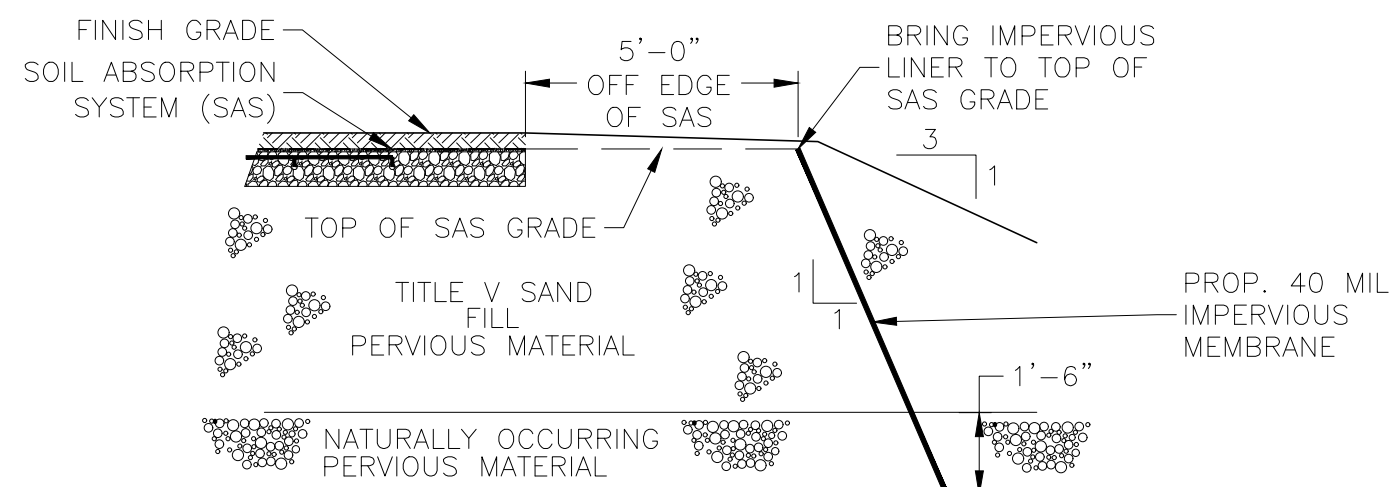
A 2,000 GALLON DUAL CHAMBER SEPTIC TANK
C 235 NTS



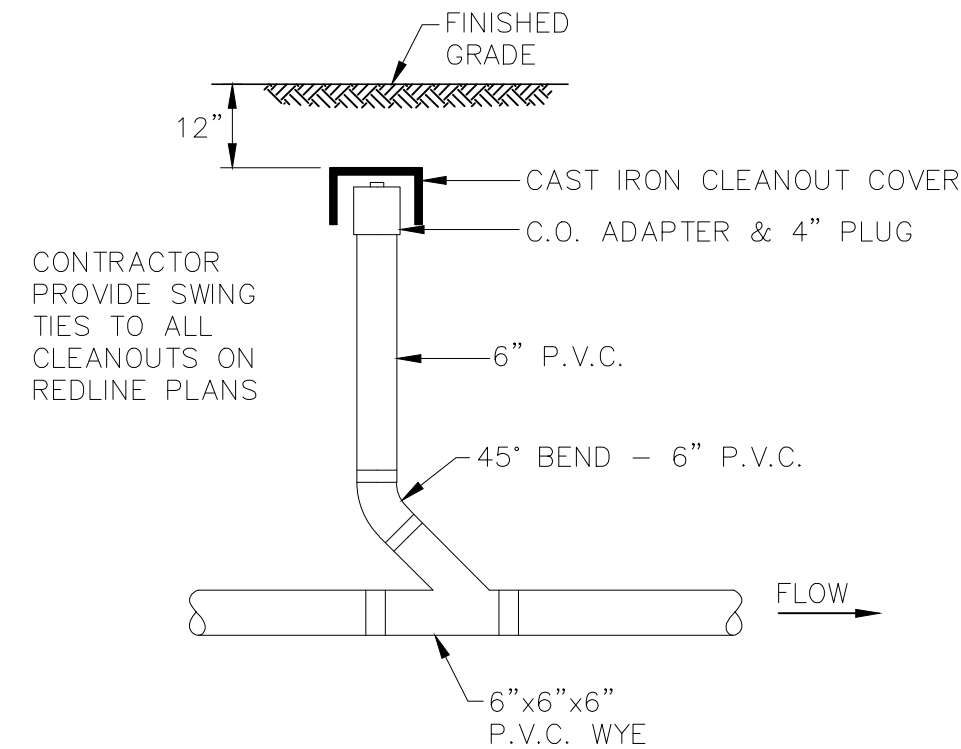
B PUMP CHAMBER VENT DETAIL
C 235 NTS



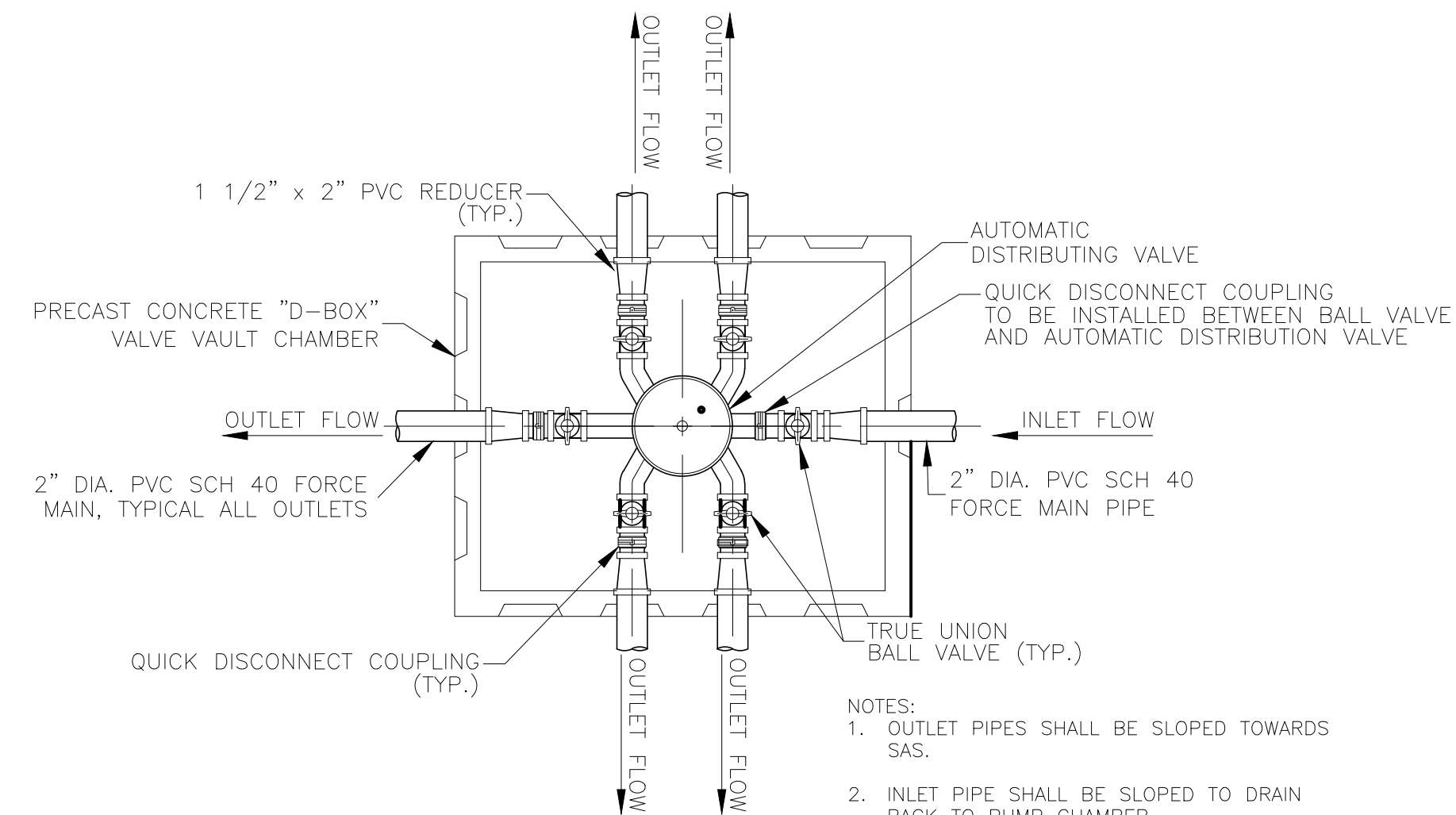
C SEPTIC TANK FILTER
C 235 NTS



E IMPERMEABLE LINER DETAIL
C 235 NTS

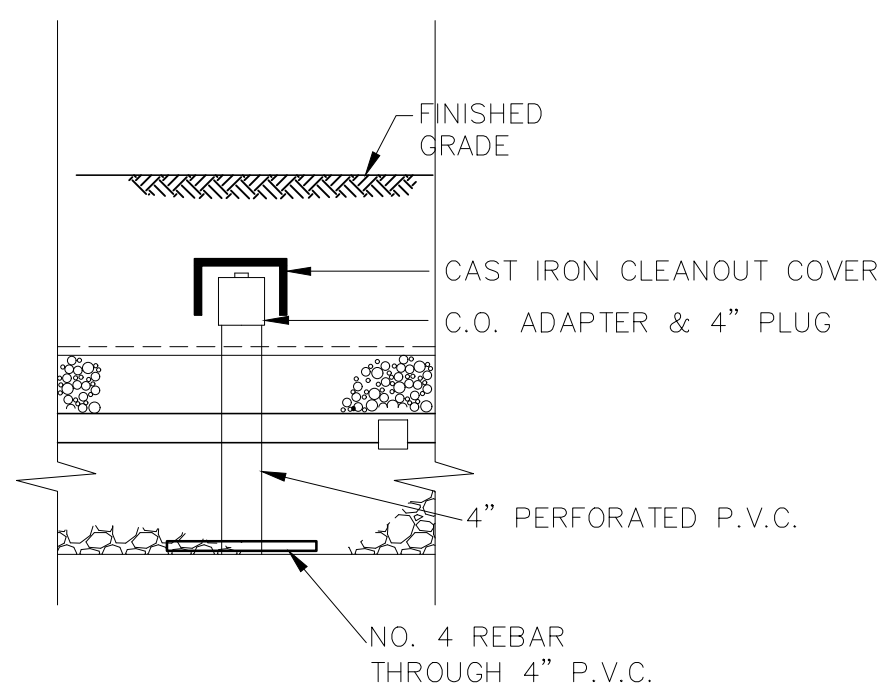


F CLEANOUT TO GRADE (C.O.T.G.)
(UNPAVED)
C 235 NTS

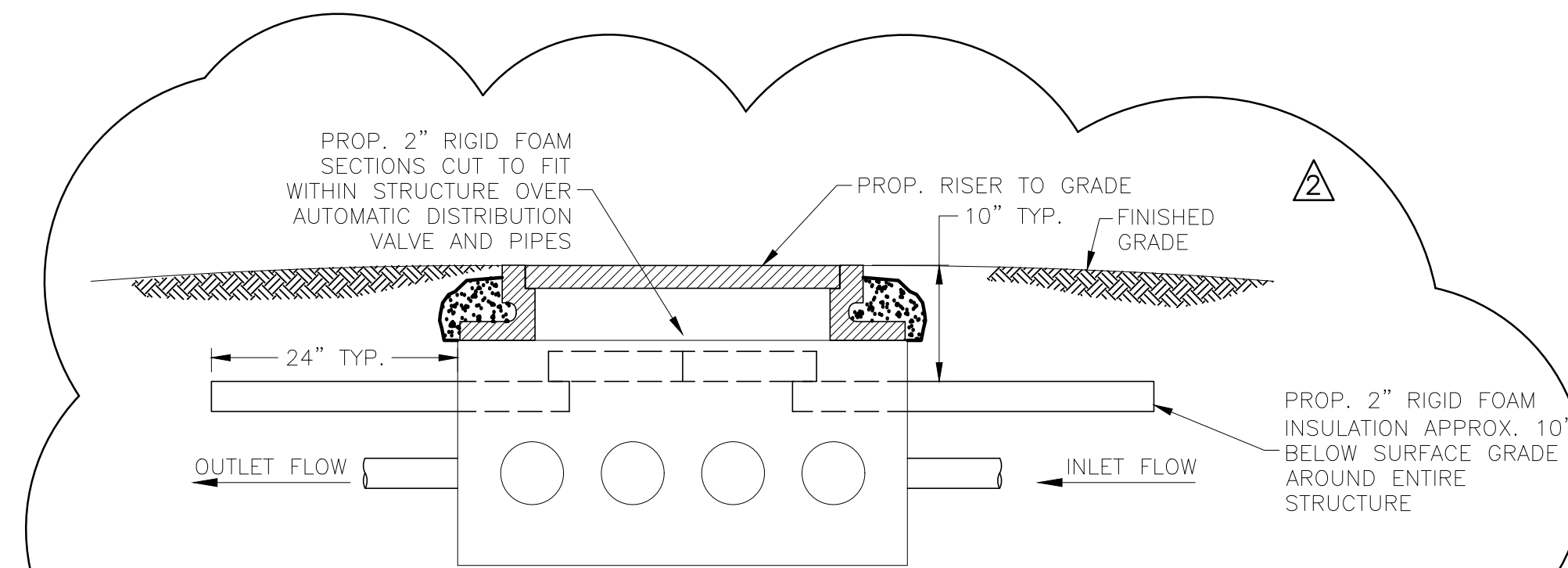


G "D-BOX" VALVE ASSEMBLY
C 235 NTS

- NOTES:
1. OUTLET PIPES SHALL BE SLOPED TOWARDS SAS.
 2. INLET PIPE SHALL BE SLOPED TO DRAIN BACK TO PUMP CHAMBER.
 3. SEE DRAWING C234 FOR SYSTEM INVERTS.
 4. SEE J-235 FOR D-BOX INSULATION DETAIL.



I INSPECTION PORT DETAIL
C 235 NTS

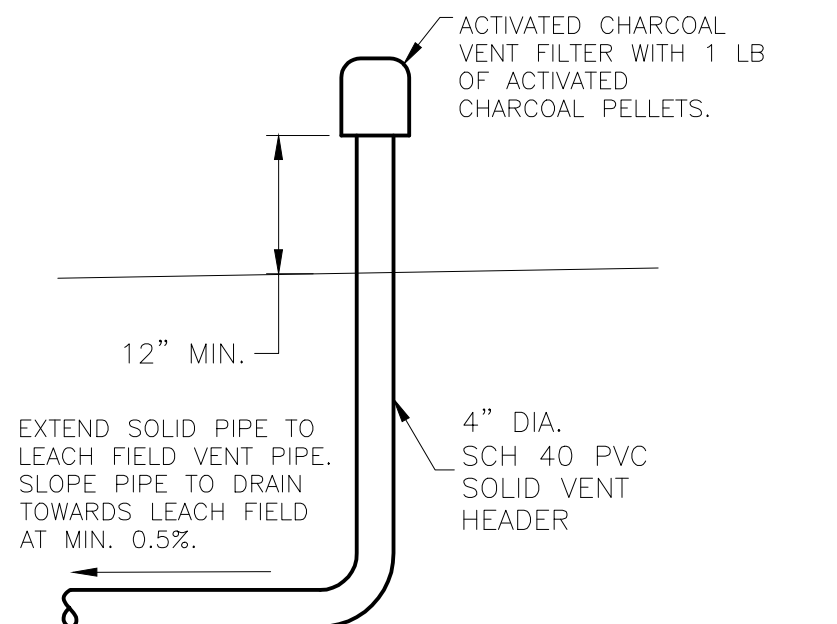


J "D-BOX" VALVE INSULATION DETAIL
C 235 NTS

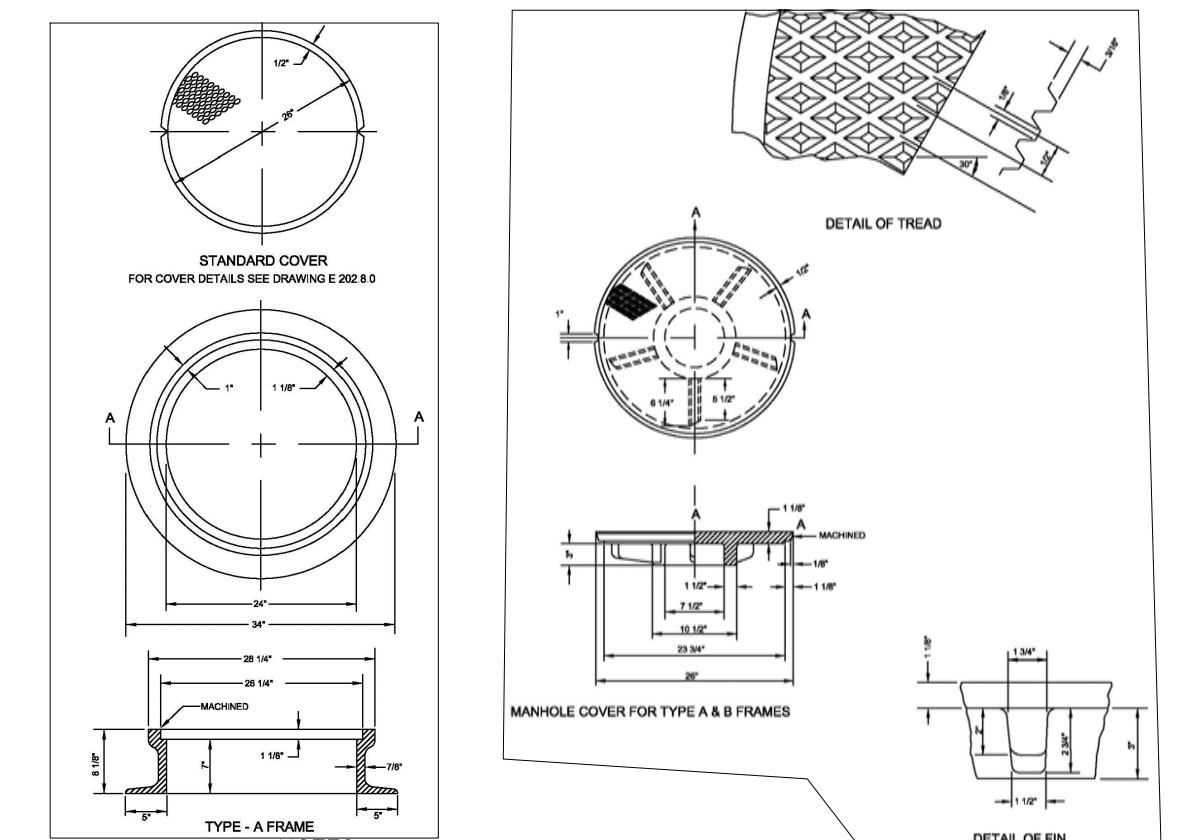
"TITLE V SAND" NOTE:

1. TITLE V SAND SHALL BE FILL MATERIAL WHICH MEETS THE STANDARDS SET FORTH IN 310 CMR 15.255(3).
- 1.1. FILL SHALL CONSIST OF SELECT ON-SITE OR IMPORTED SOIL MATERIAL. THE FILL SHALL BE COMPRISED OF CLEAN GRANULAR SAND, BE FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES, AND SHALL NOT CONTAIN REMEDIATION WASTE. MIXTURES AND LAYERS OF DIFFERENT CLASSES OF SOIL SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN TWO INCHES.
- 1.2. FILL MATERIAL SHALL HAVE THE FOLLOWING GRADATION

SIEVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SIEVE
#4	4.75 mm	100%
#50	0.30 mm	10% - 100%
#100	0.15 mm	0% - 20%
#200	0.075 mm	0% - 5%



D SEPTIC SYSTEM LOW VENT
C 235 DETAIL NTS



- NOTES:
1. FRAMES AND COVERS SHALL BE HEAVY DUTY, H-20 RATED CAST IRON IN ACCORDANCE WITH MASS DOT STANDARD DETAILS.
 2. SEWER MANHOLES SHALL BE STAMPED WITH "SEWER" IN 3-INCH TALL LETTERS.

H MANHOLE FRAME AND COVER DETAIL
C 235 NTS



GZA GeoEnvironmental, Inc.

www.gza.com

GZA NO.: 05.0046609.08

File: \\G:\SPRINGFIELD\BOH\GZA\INTERCOMPANY PROJECTS\05.0046609.08\HAZEN SAWYER WESTFIELD\SEPTIC SYSTEM DESIGN\05.0046609.08 CAD\C-235_REV.2 Saved by MARK STADNICKI Save date: 3/25/2024 12:14 PM PLOT DATE: 3/25/2024 12:18 PM BY: MARK STADNICKI

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	M. STADNICKI
DRAWN BY:	M. STADNICKI
CHECKED BY:	N. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
ADDENDUM NO. 3	MAR 24 MWM
ISSUED FOR BIDS	FEB 24 MWM
CITY OF WESTFIELD BOH	FEB 24 MWM
ISSUED FOR	DATE BY



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND
SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL
SEPTIC SYSTEM DETAILS - SHEET 2

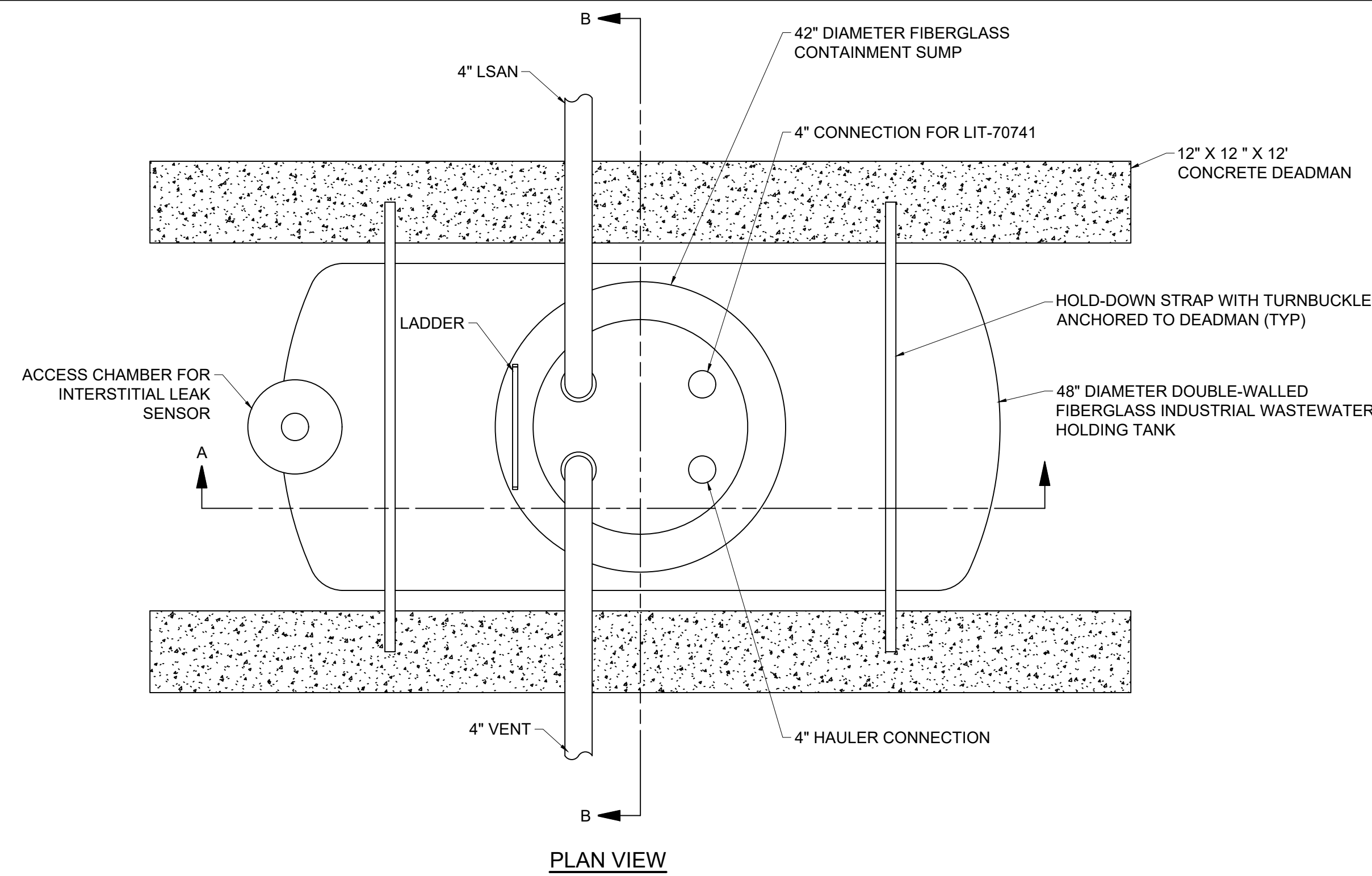
DATE: FEBRUARY 2024

HAZEN NO.: 90398-004

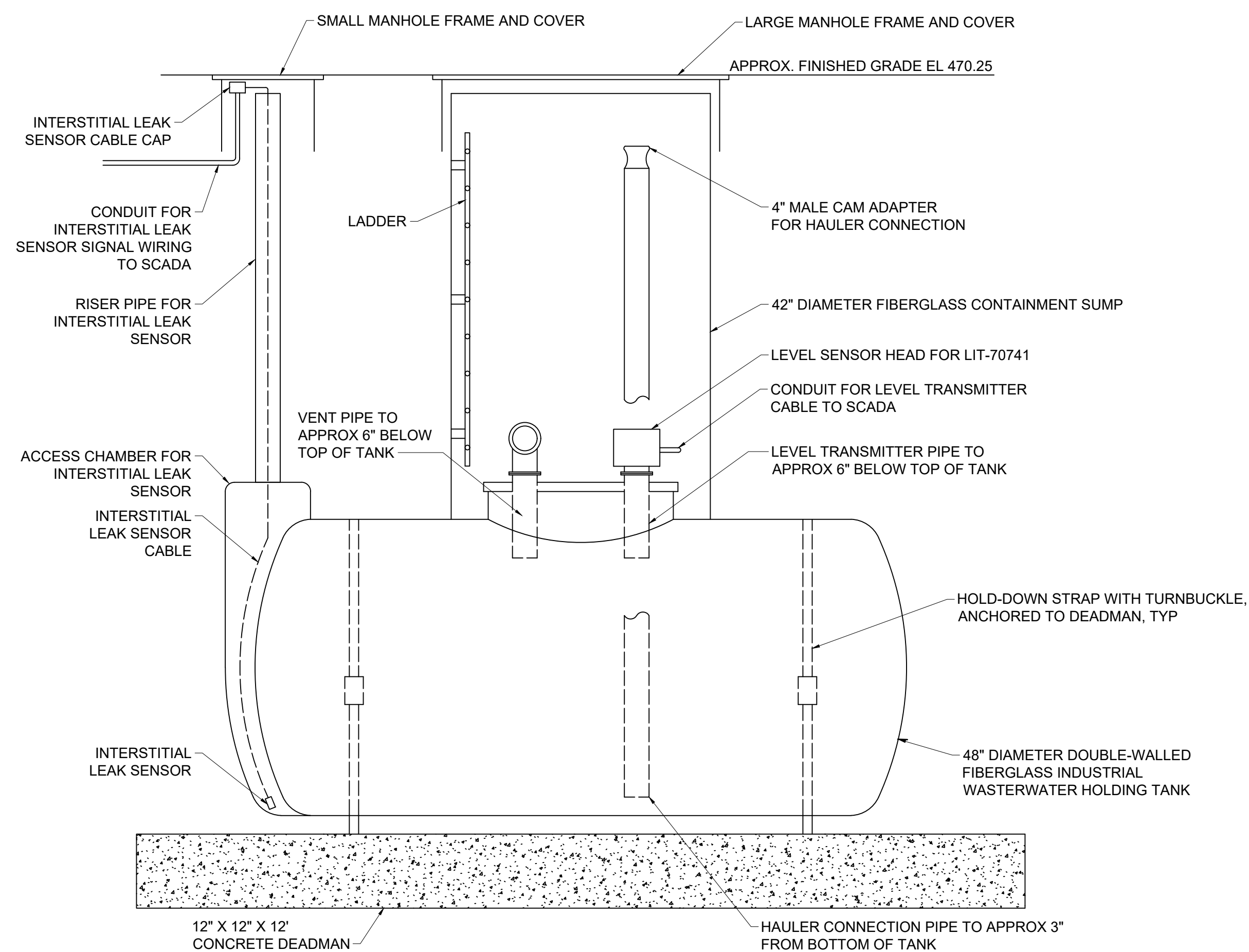
CONTRACT NO.: 24-51

DRAWING NUMBER:

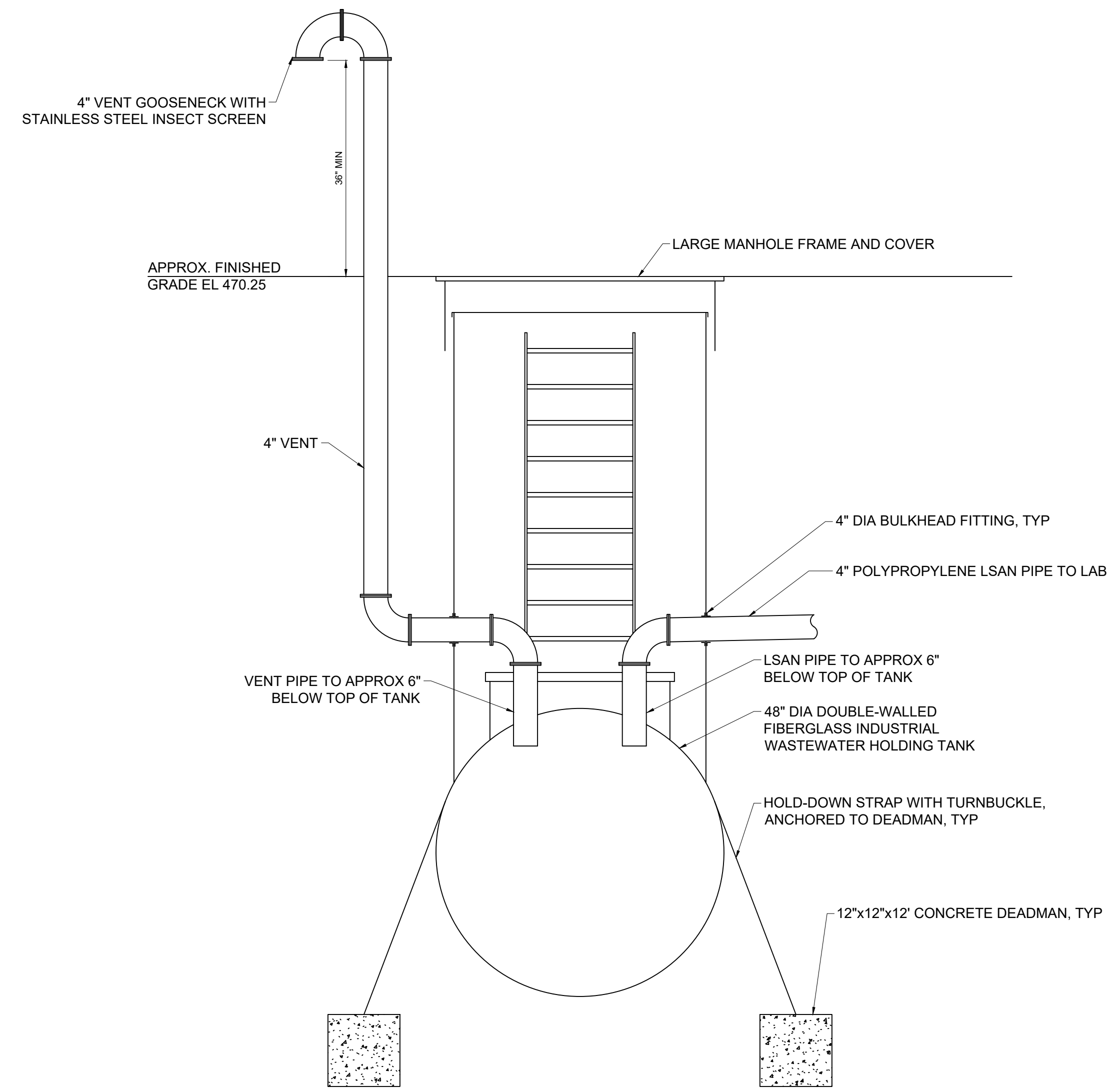
C-235



PLAN VIEW



SECTION A-A



SECTION B-B

NOTES:

1. PROVIDE ALL NECESSARY MATERIAL, EQUIPMENT, PREPARATION, AND LABOR FOR INSTALLATION OF SYSTEM COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - BACKFILL MATERIAL SHALL MEET ALL SIEVE AND COMPACTION REQUIREMENTS. SUBMIT DOCUMENTATION OF MATERIAL AND COMPACTION TESTING RESULTS.
 - PERFORM SOAP TESTING OF TANK AND INTERSTITIAL SPACE ON SITE AND SUBMIT DOCUMENTATION OF TEST RESULTS.
2. TANK SHALL BE INSTALLED WITH A MINIMUM BURIAL COVER OF 6" FROM TOP OF TANK TO FINISHED GRADE.
3. BURIED 4" LSAN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT. MATERIAL SHALL BE POLYPROPYLENE WITH ELECTROFUSION JOINTS IN ACCORDANCE WITH THE REQUIREMENTS IN THE PLUMBING DRAWINGS AND SPECIFICATIONS.
4. FOR LSAN AND VENT CONNECTIONS, PROVIDE A FLEXIBLE COUPLING CAPABLE OF 1/2" OF MOVEMENT IN ANY DIRECTION, INCLUDING LATERAL OFFSET, AXIAL EXPANSION, AND AXIAL COMPRESSION. THE FLEXIBLE COUPLING FOR THE LSAN PIPE SHALL BE FLANGED, WITH ELECTROFUSION MATING FLANGES FOR THE POLYPROPYLENE PIPING.

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	M. HROSS		
DRAWN BY:	L. WALLACE		
CHECKED BY:	D. WITTE		
0	ADDENDUM NO. 3	MAR 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"



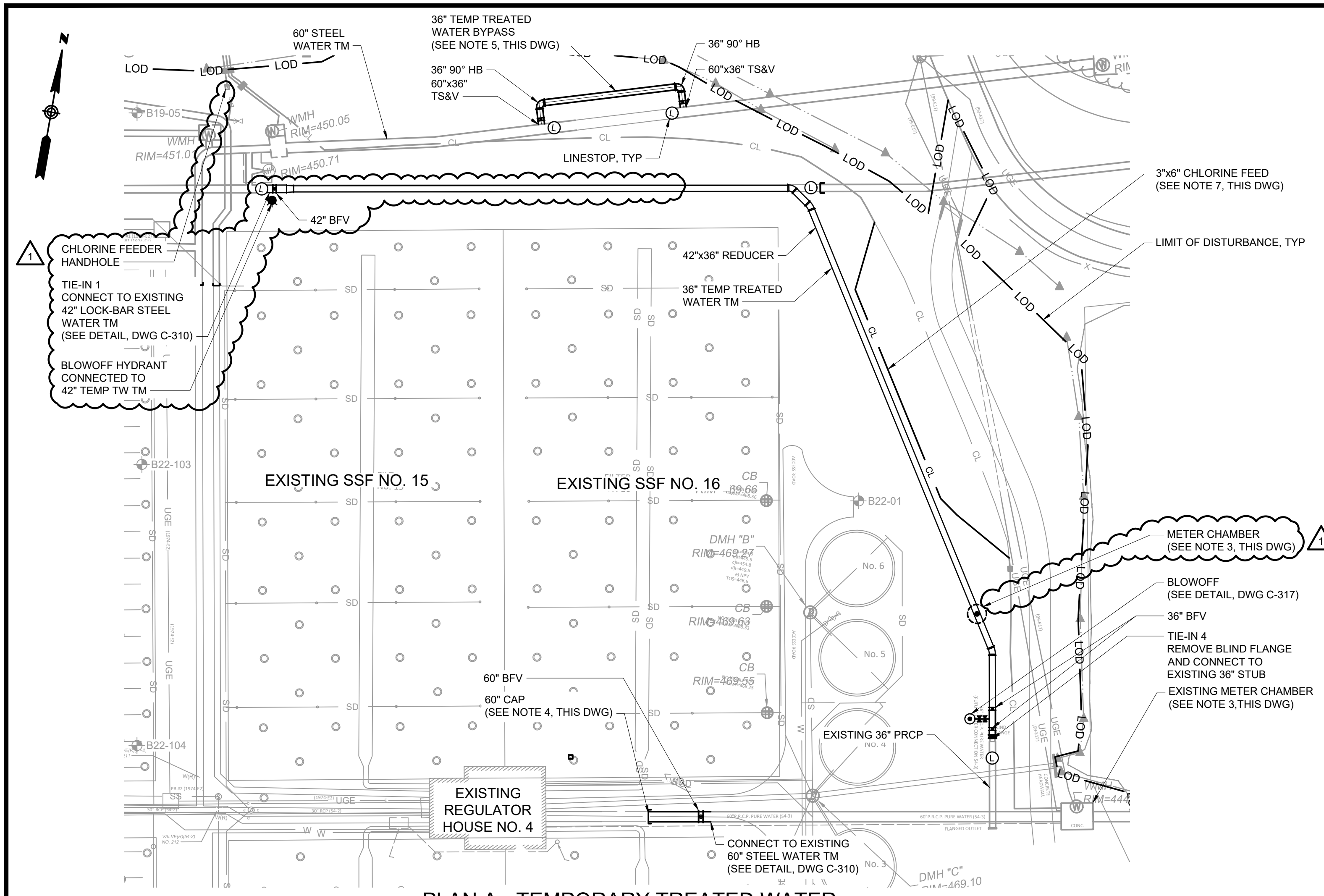
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

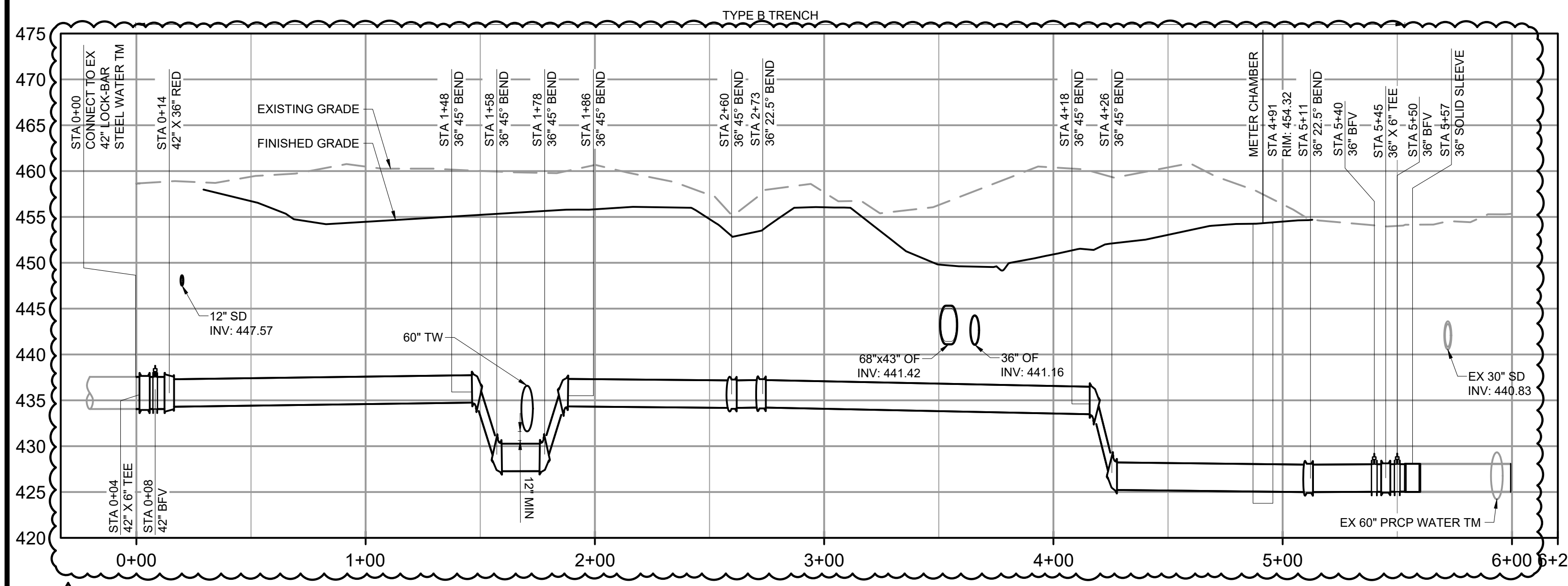
WEST PARISH WATER TREATMENT PLANT

CIVIL HOLDING TANK DETAILS

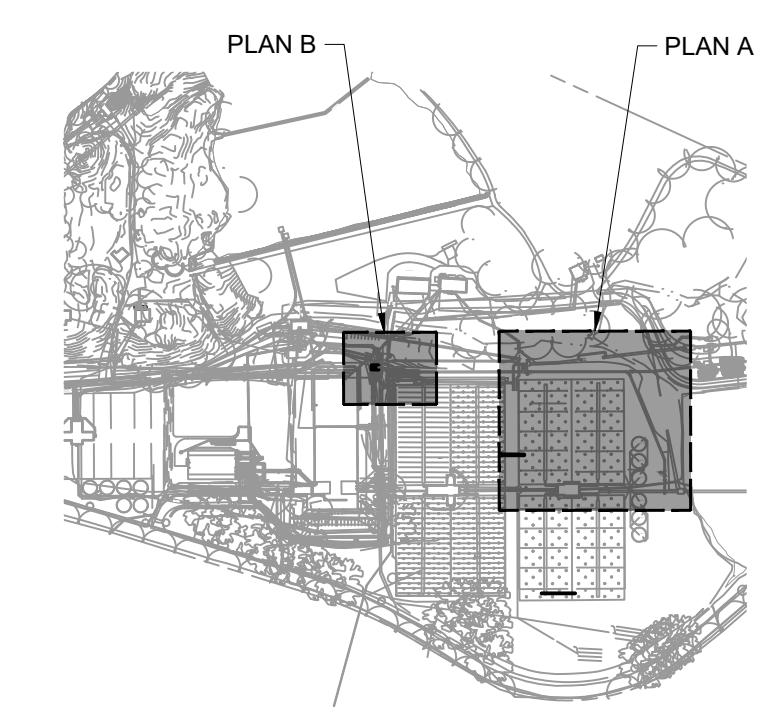
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-236



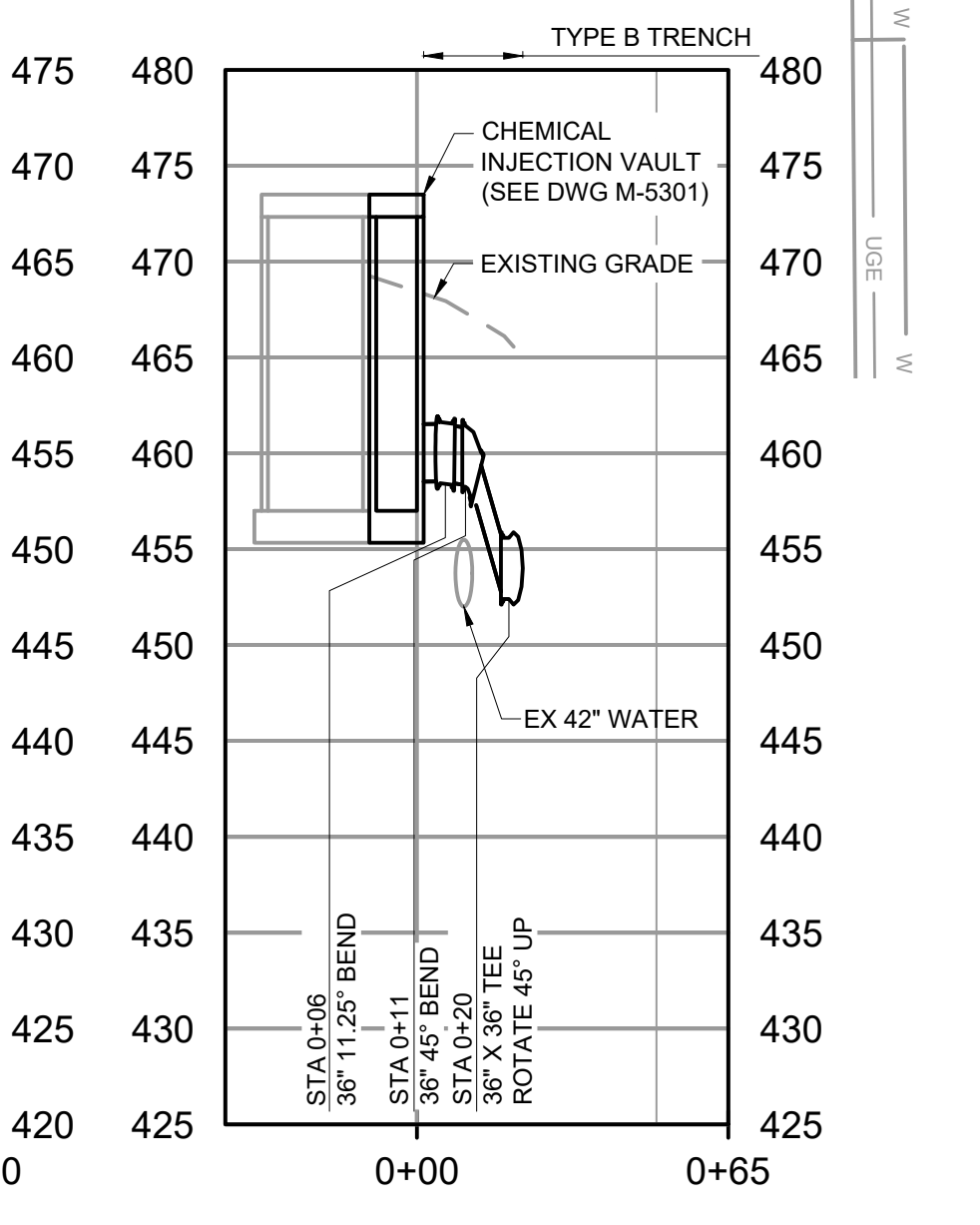
PLAN A - TEMPORARY TREATED WATER
SCALE: 1" = 40'



PROFILE - TEMPORARY 36" TREATED WATER
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'



PLAN B - CHEMICAL INJECTION VAULT
SCALE: 1" = 20'

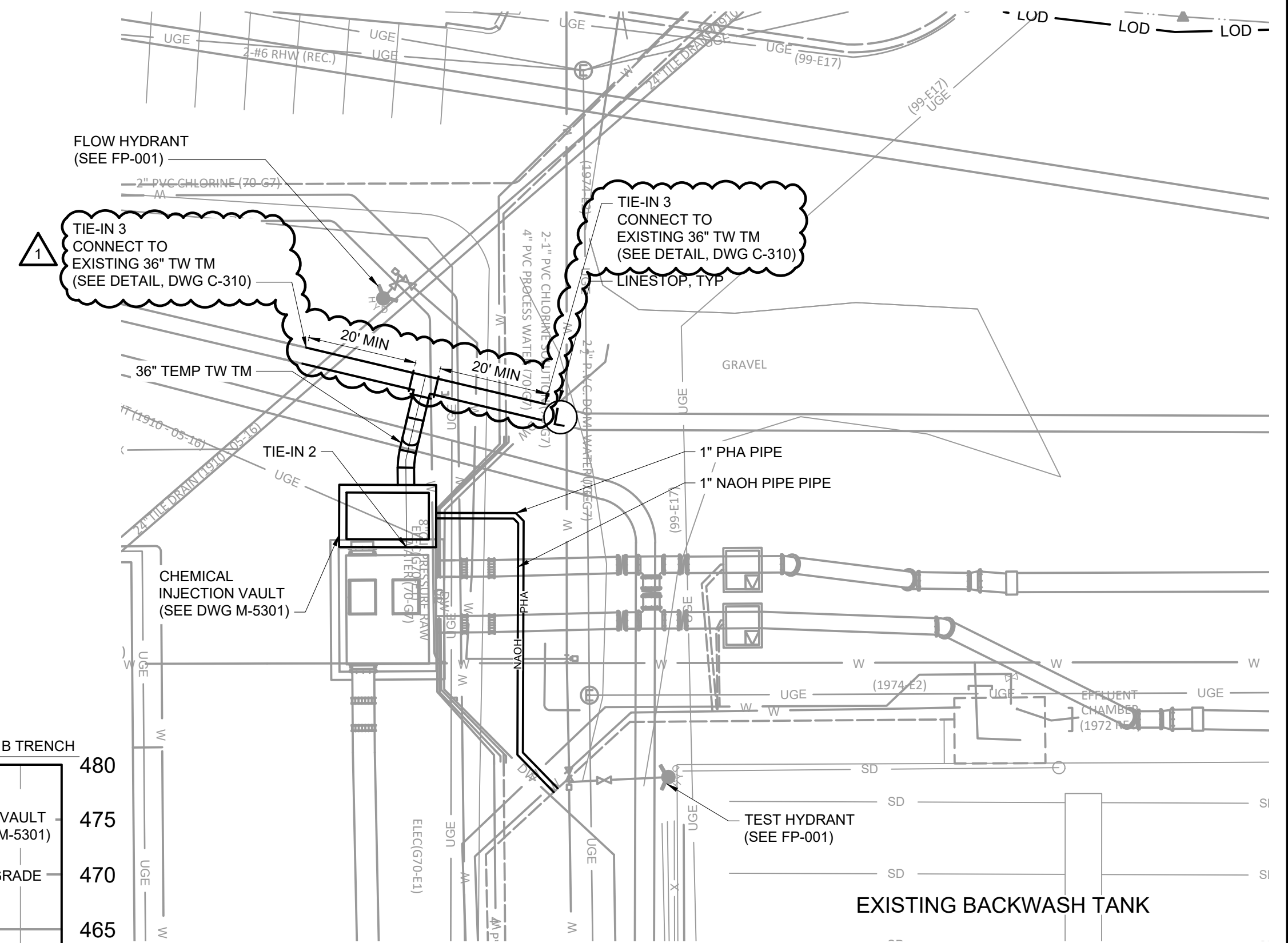
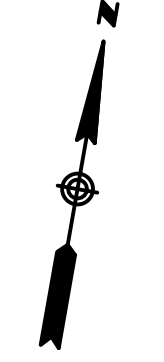


PROFILE - CHEMICAL INJECTION VAULT
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 20'

NOTES:

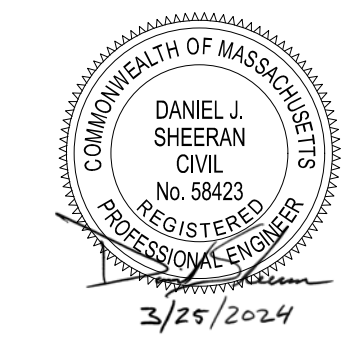
1. INTERIM AND EXISTING TRANSMISSION MAINS TO REMAIN IN SERVICE UNTIL THE NEW TREATMENT BUILDING AND FINISHED WATER TRANSMISSION MAINS HAVE BEEN CONSTRUCTED AND ARE OPERATIONAL.
2. CONNECTION TO EXISTING 42" STEEL TRANSMISSION MAIN IS SHOWN BASED ON THE S2057-042 CONTRACT. CONTRACTOR SHALL TEST PIT AND ADJUST LOCATION OF CONNECTIONS IN THE FIELD.
3. THE EXISTING ULTRASONIC FLOW METER WITHIN THE EXISTING METER CHAMBER SHALL BE REMOVED AND INSTALLED WITHIN THE NEW METER CHAMBER. SEE ELECTRICAL OVERALL SITE PLAN, DWG E-012, FOR TEMPORARY POWER AND COMMUNICATION.
4. 60" CAP TO BE REMOVED FOR CONNECTION OF THE NEW 60" TREATED WATER TRANSMISSION MAIN.
5. THE LINESTOPS INSTALLED ON THE EXISTING 60" STEEL TREATED WATER TM SHALL BE INSTALLED SUCH THAT THE 36" BYPASS WATER PIPE HAS THE SAME CENTERLINE ELEVATION AS THE 60" PIPE.
6. PRIOR TO SHOP DRAWING SUBMITTALS, CONTRACTOR SHALL TEST PIT AND CONFIRM CONDITION AND DIMENSIONS OF ALL EXISTING STEEL TRANSMISSION MAINS AT THEIR RESPECTIVE CONNECTIONS.
7. CHLORINE FEED TO THE EXISTING METER CHAMBER SHALL NOT BE INTERRUPTED. CONTRACTOR SHALL RELOCATE THE CHLORINE FEED AS SHOWN TO ACCOMMODATE CONSTRUCTION OF THE WATER TREATMENT PLANT.

KEY MAP
NTS



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PLOT DATE: 3/22/2024 3:53 PM BY: LWALLACE

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	L. WALLACE		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



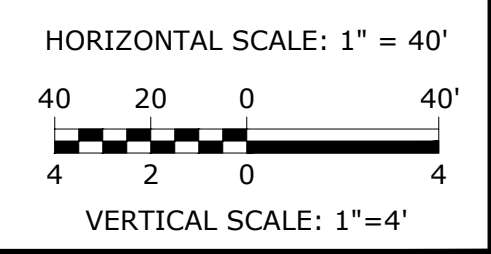
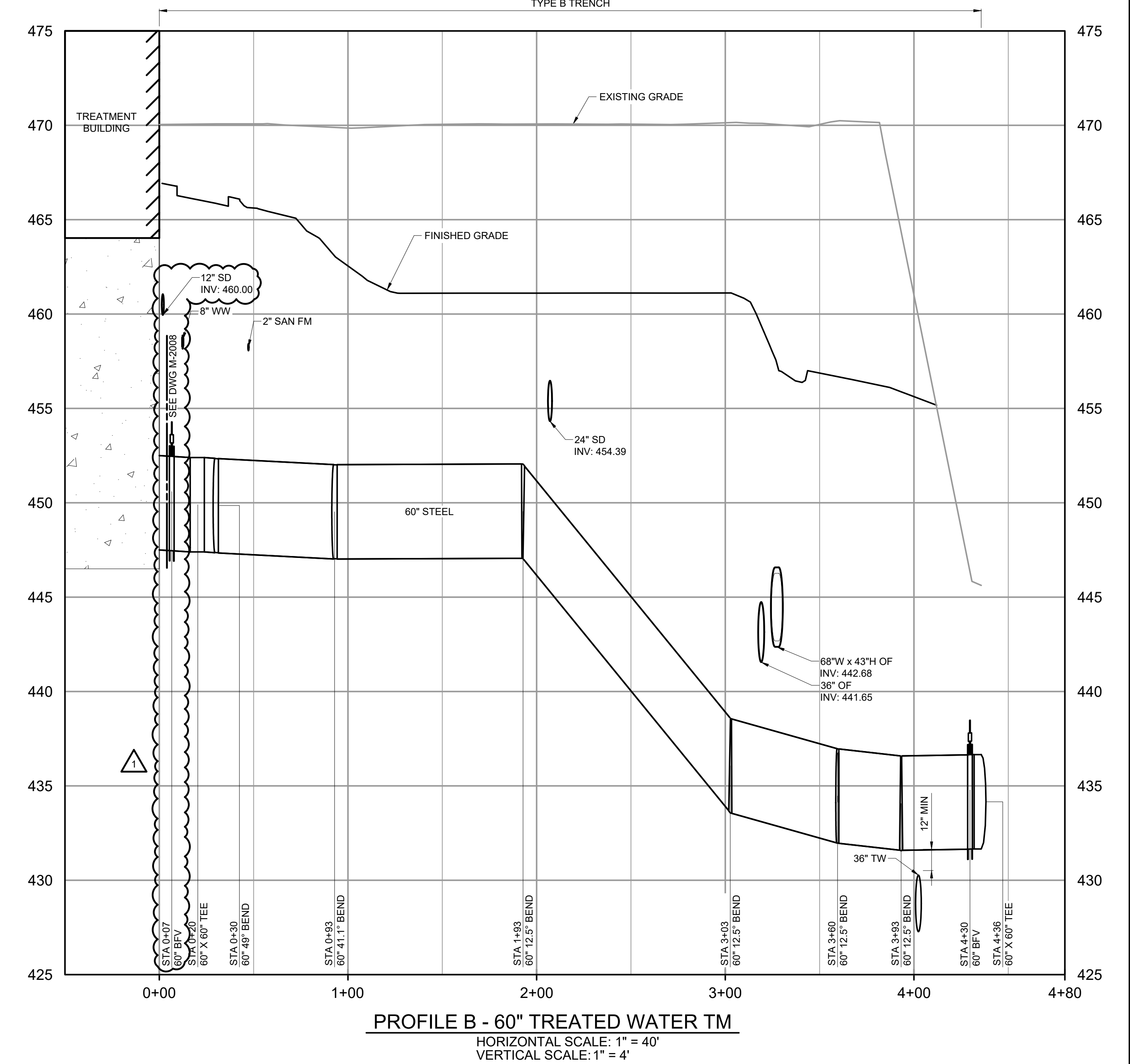
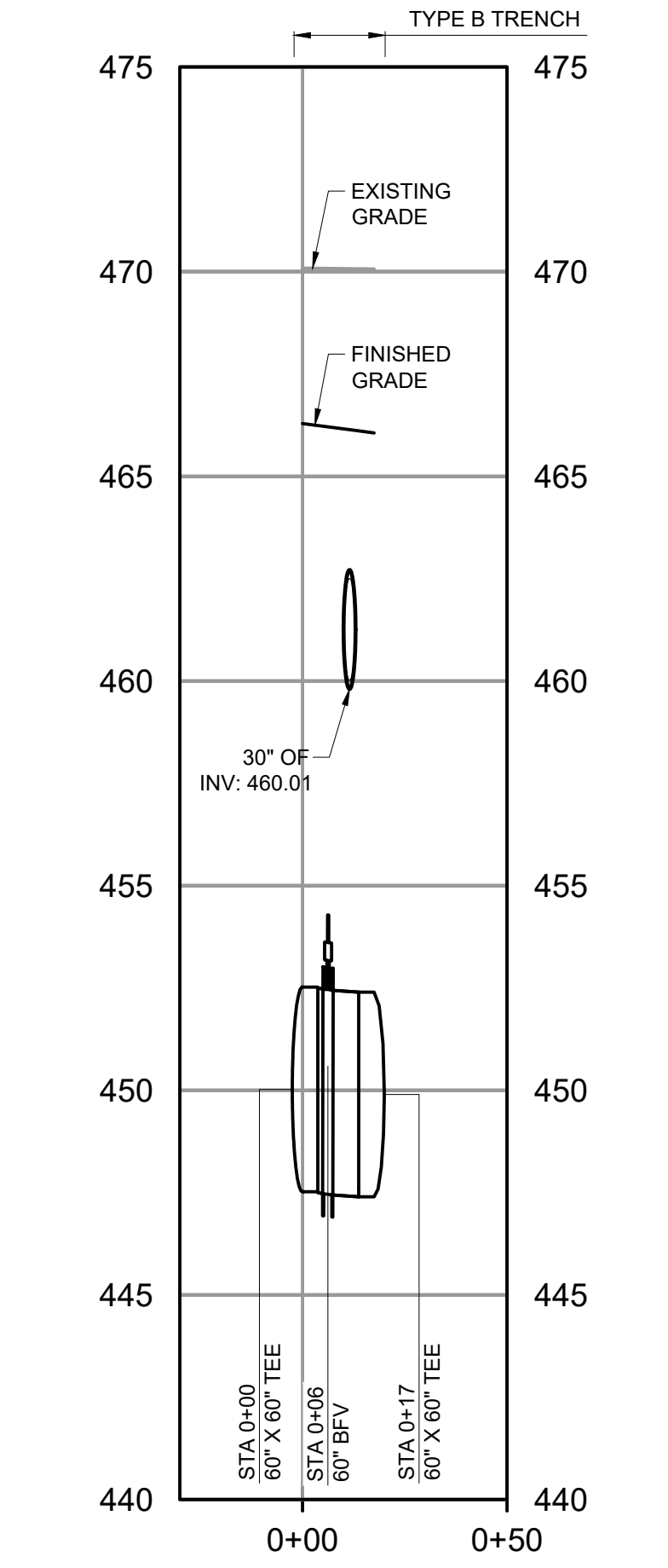
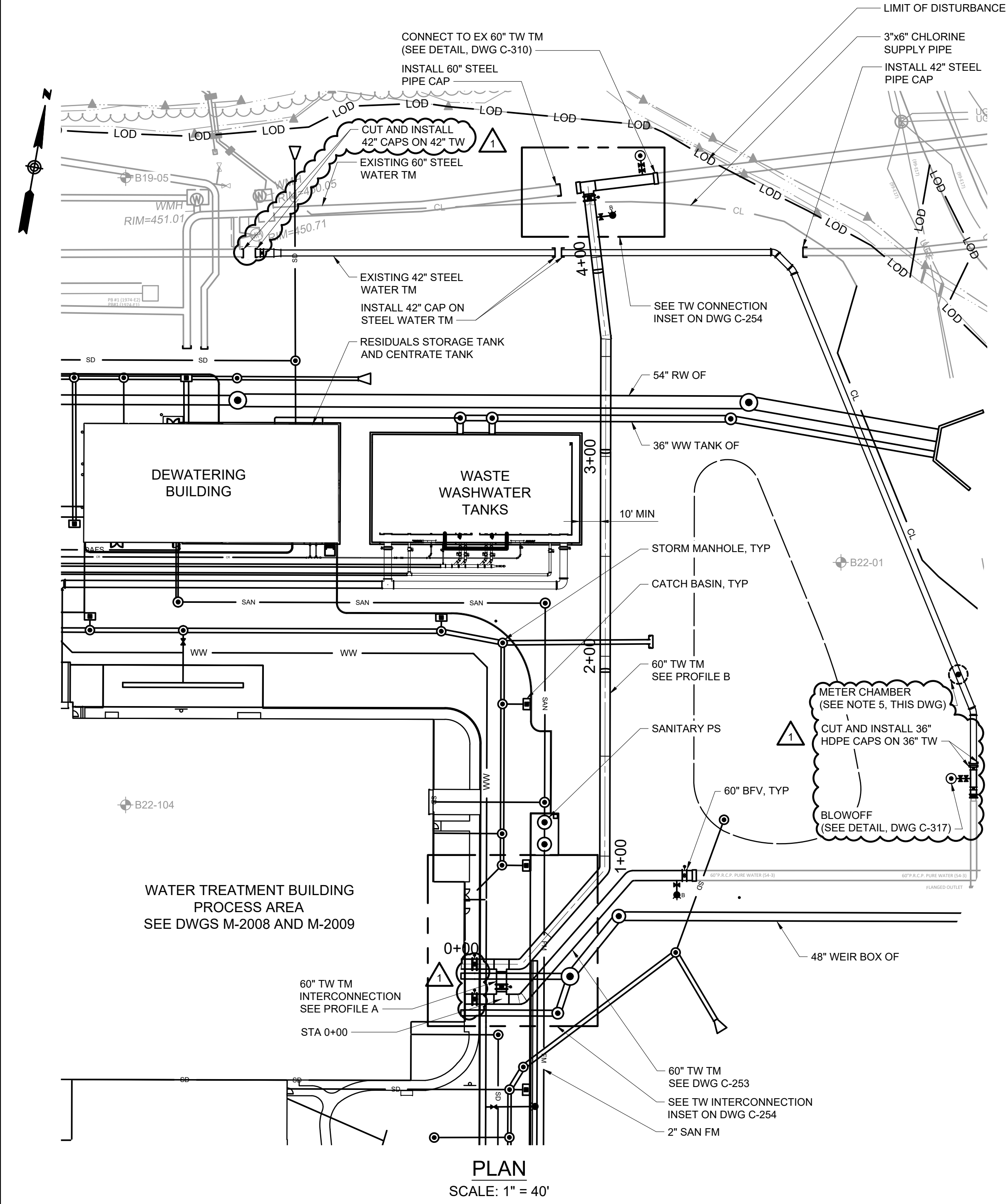
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
TREATED WATER TRANSMISSION MAIN
PLAN AND PROFILE - SHEET 1

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER:
C-251

- NOTES:
- SEE DRAWINGS C-131 THROUGH C-135 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
 - SEE DRAWINGS C-140 THROUGH C-145 FOR ADDITIONAL INFORMATION ON YARD PIPING.
 - SEE DRAWINGS C-310 THROUGH C-315 FOR STEEL PIPE DETAILS.
 - SEE DRAWINGS G-013 AND G-014 AND SECTION 01 14 00 FOR SEQUENCE OF CONSTRUCTION OF INFRASTRUCTURE.
 - SEE ELECTRICAL OVERALL SITE PLAN DRAWING E-012 FOR TEMPORARY POWER AND COMMUNICATION.



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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	L. WALLACE		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

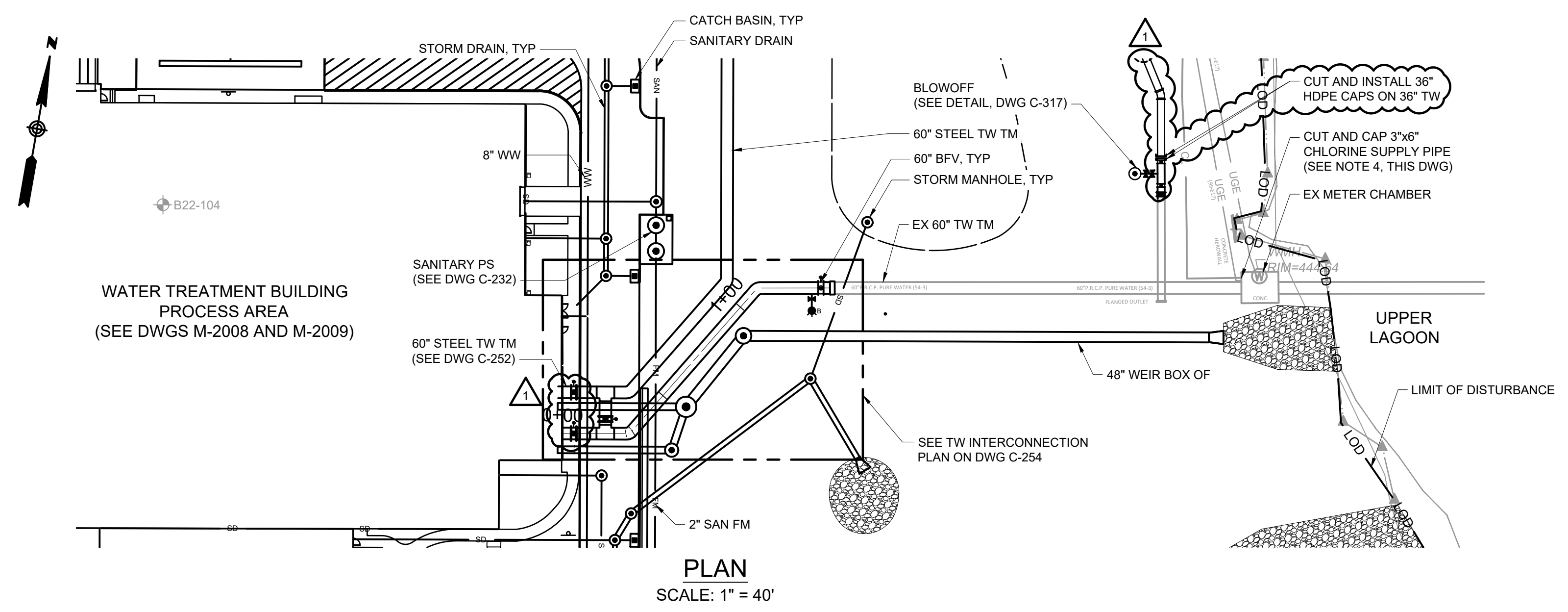
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

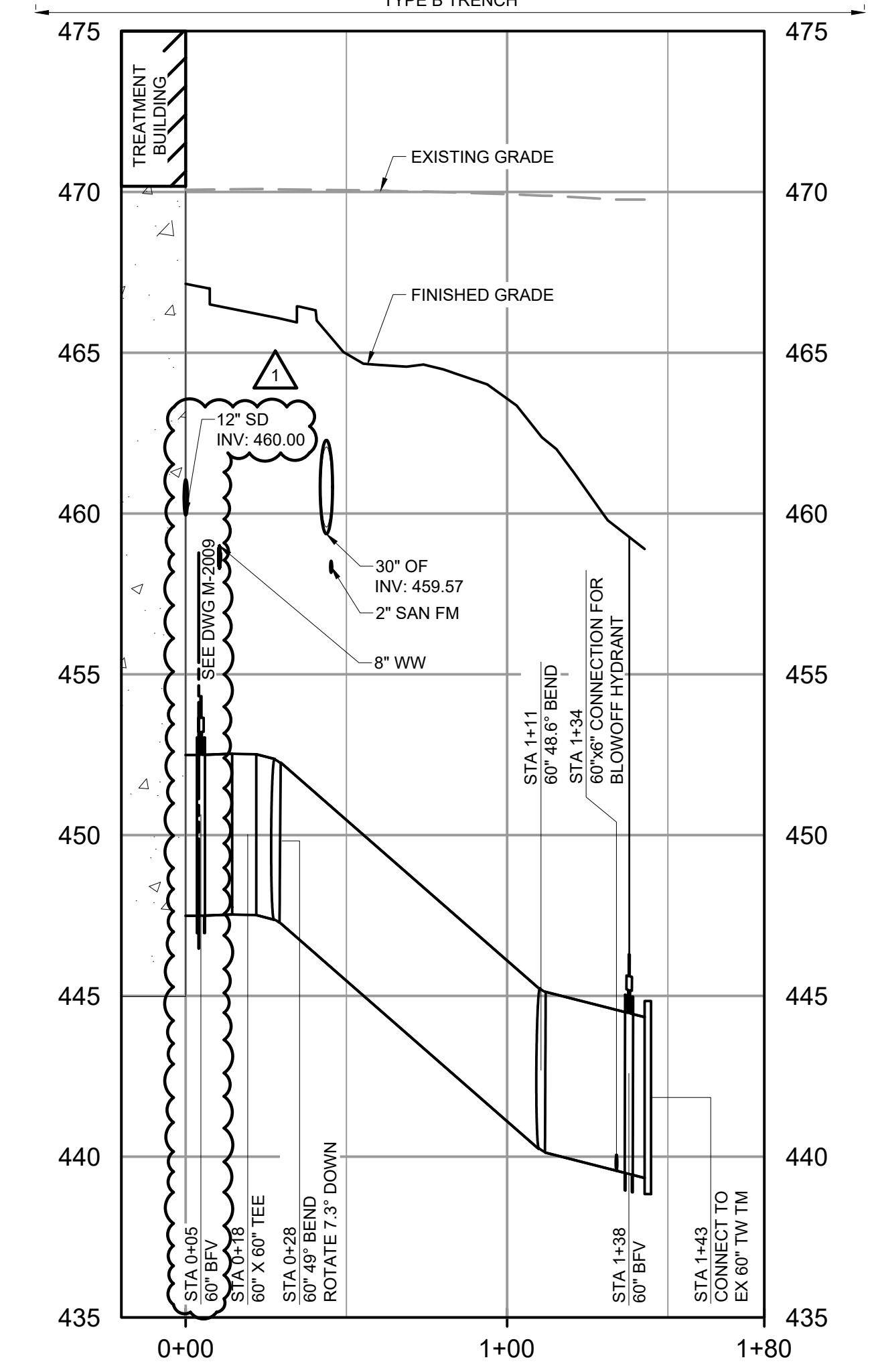
CIVIL

TREATED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-252

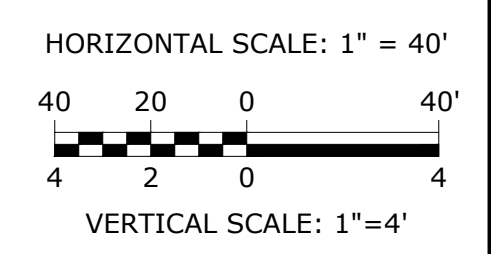


PLAN
SCALE: 1" = 40'



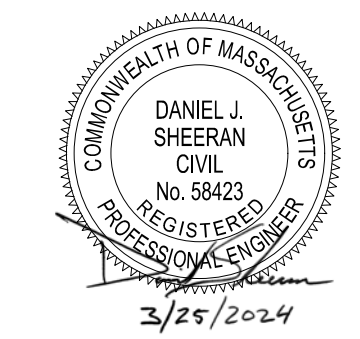
PROFILE - 60" TREATED WATER TM
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

- NOTES:**
- SEE DRAWINGS C-131 THROUGH C-135 FOR ADDITIONAL INFORMATION ON STORM DRAINS AND MANHOLES.
 - SEE DRAWINGS C-141 THROUGH C-145 FOR ADDITIONAL INFORMATION ON YARD PIPING.
 - SEE DRAWINGS C-310 THROUGH C-315 FOR STEEL PIPE DETAILS.
 - REFER TO SPECIFICATION SECTION 01 14 00 FOR WHEN TO CUT AND CAP THE CHLORINE SUPPLY PIPING.



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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	L. WALLACE		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

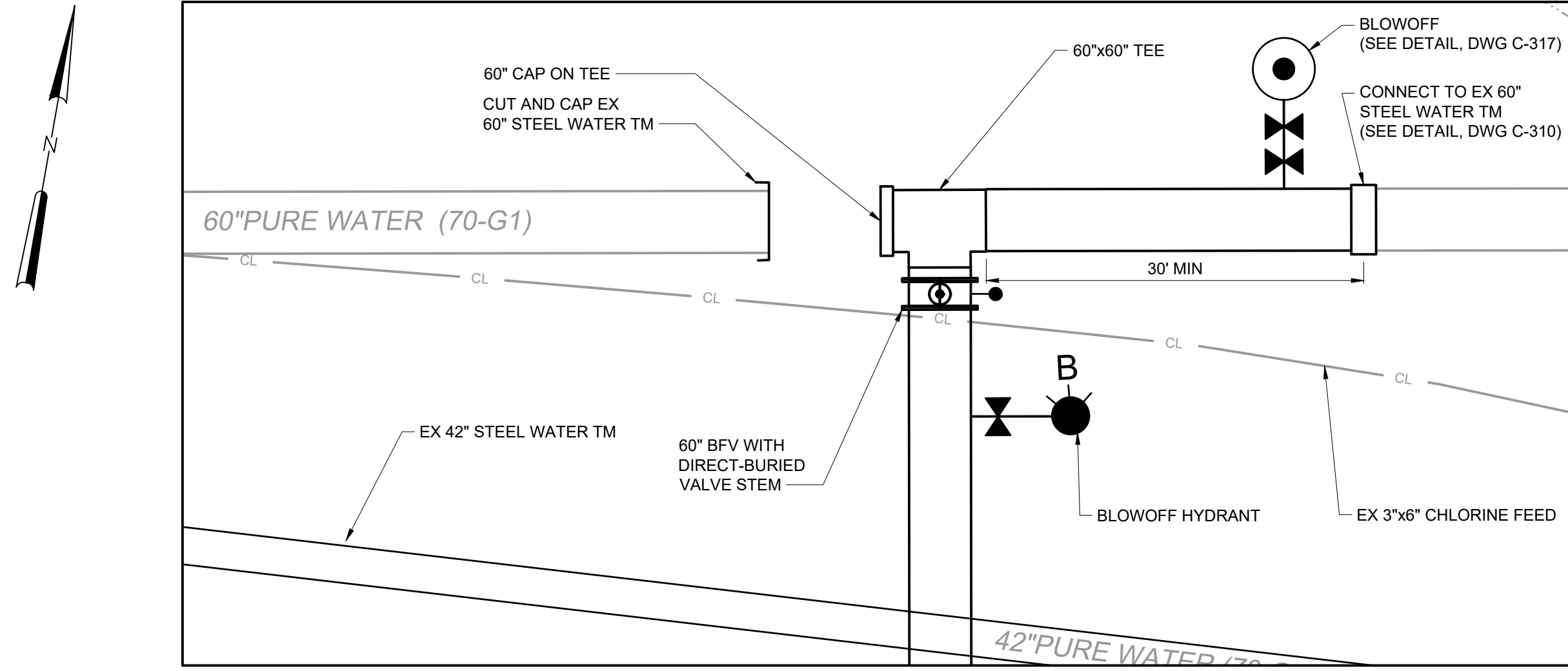


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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

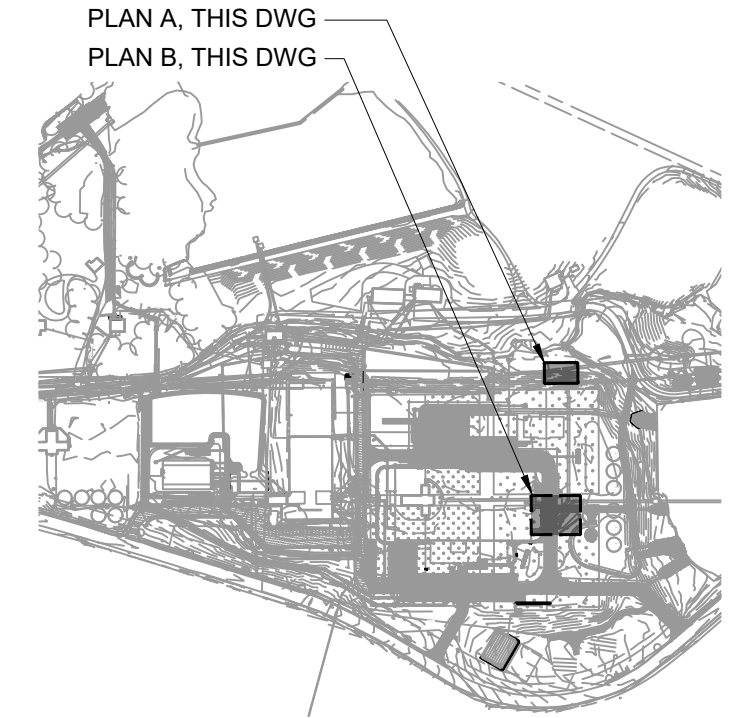
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
TREATED WATER TRANSMISSION MAIN
PLAN AND PROFILE - SHEET 3

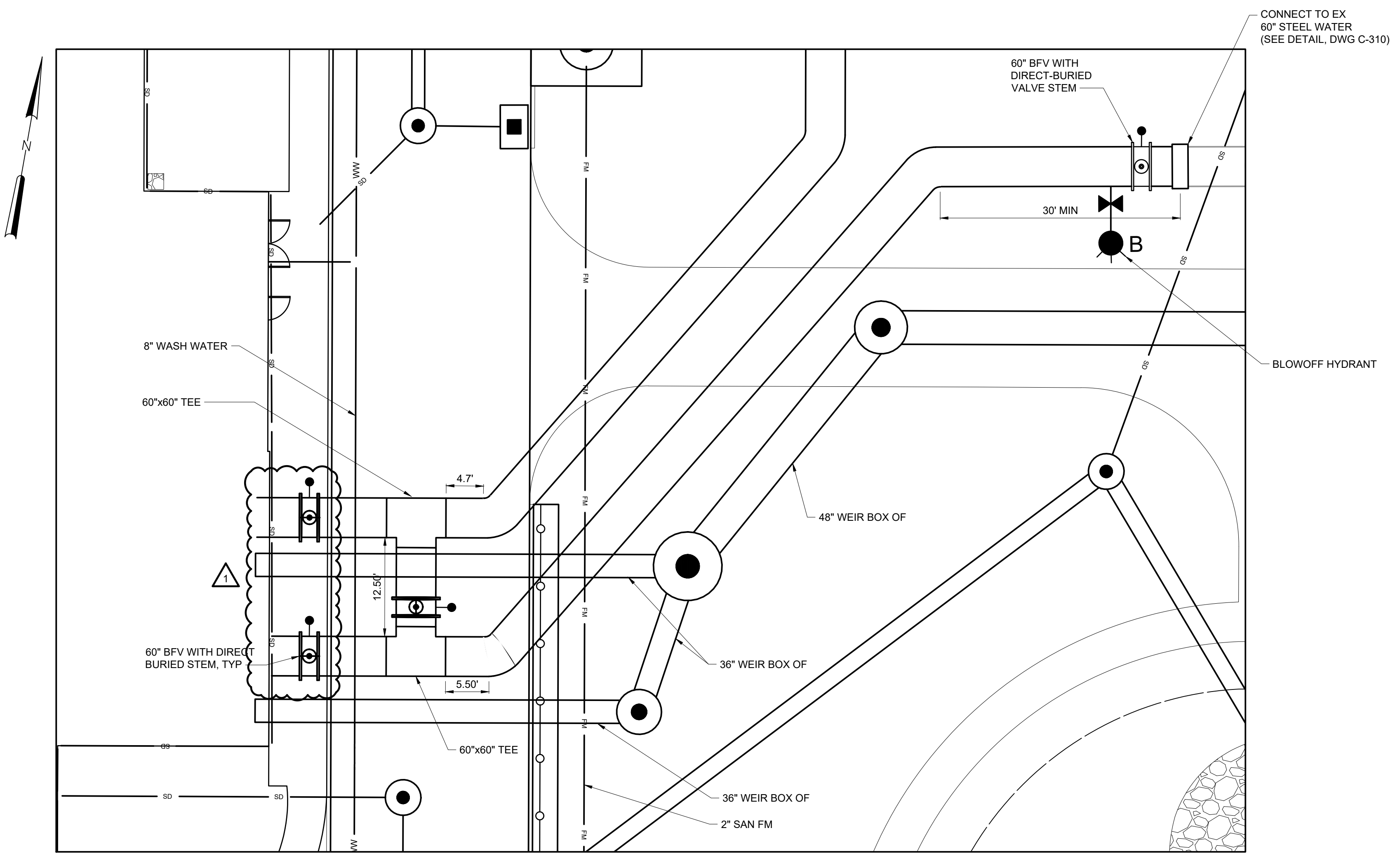
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-253



PLAN A - TW CONNECTION (TIE-IN 5)
SCALE: 1" = 10'



KEY MAP
NTS



PLAN B - TW INTERCONNECTION
SCALE: 1" = 10'

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PROJECT ENGINEER:	K. BARRETT			
DESIGNED BY:	L. WALLACE			
DRAWN BY:	J. LU			
CHECKED BY:	D. SHEERAN			
1	ADDENDUM NO. 3	MAR 24	MWM	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
0	ISSUED FOR BIDS	FEB 24	MWM	
REV	ISSUED FOR	DATE	BY	



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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

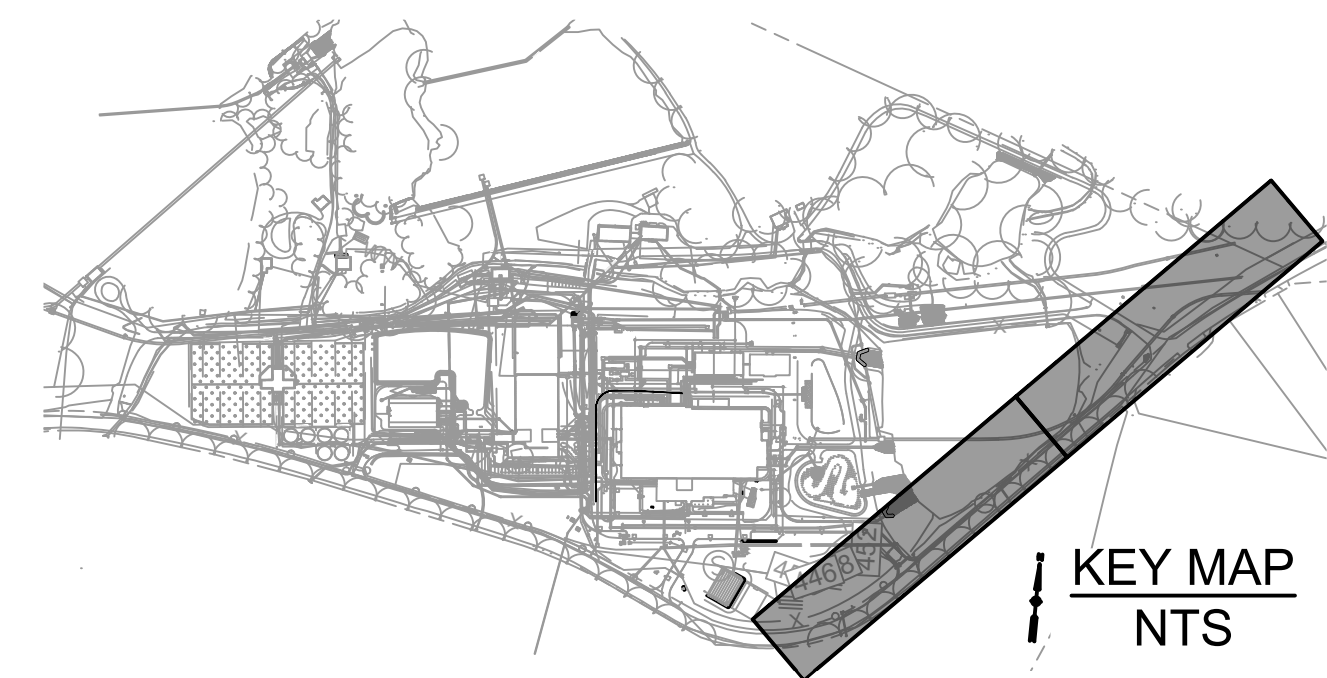
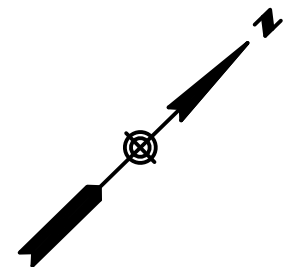
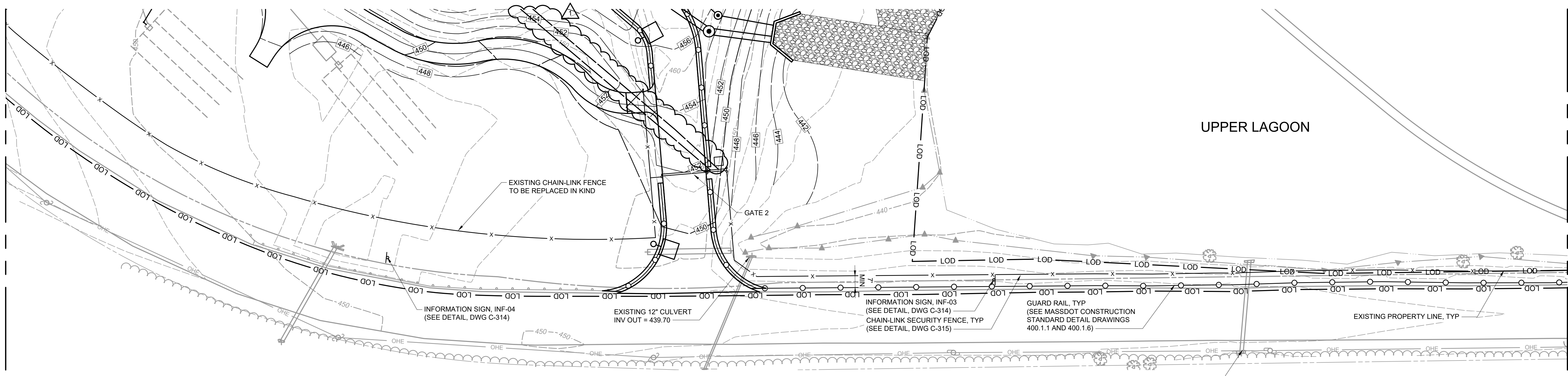
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
TREATED WATER TRANSMISSION
MAIN CONNECTION DETAILS

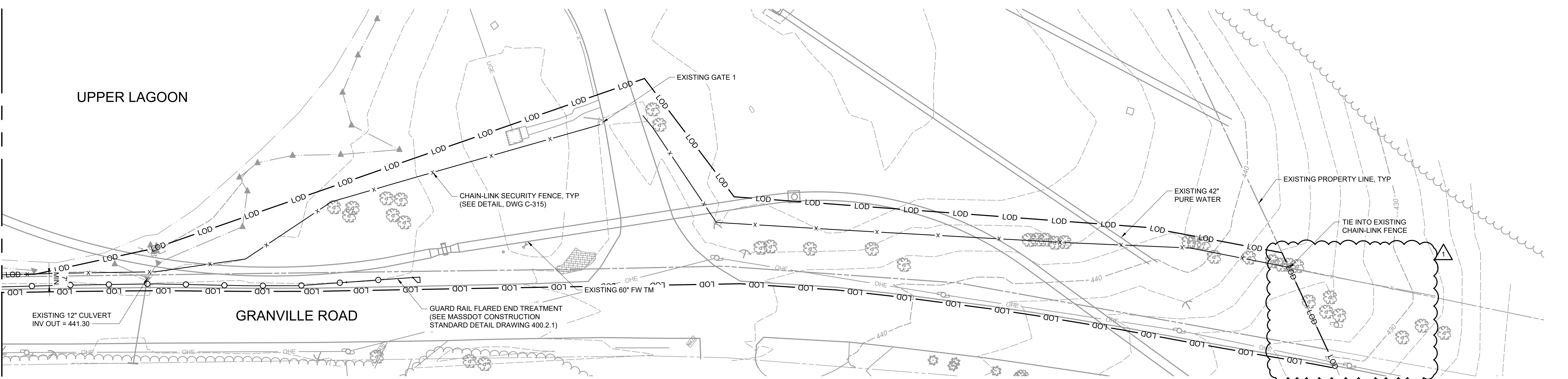
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-254

MATCHLINE - SEE DRAWING NO. C-262

MATCHLINE - SEE CONTINUATION BELOW



MATCHLINE - SEE CONTINUATION ABOVE



SCALE: 1" = 30'

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REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

DANIEL J. SHEERAN
CIVIL
No. 58423
REGISTERED PROFESSIONAL ENGINEER
3/20/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

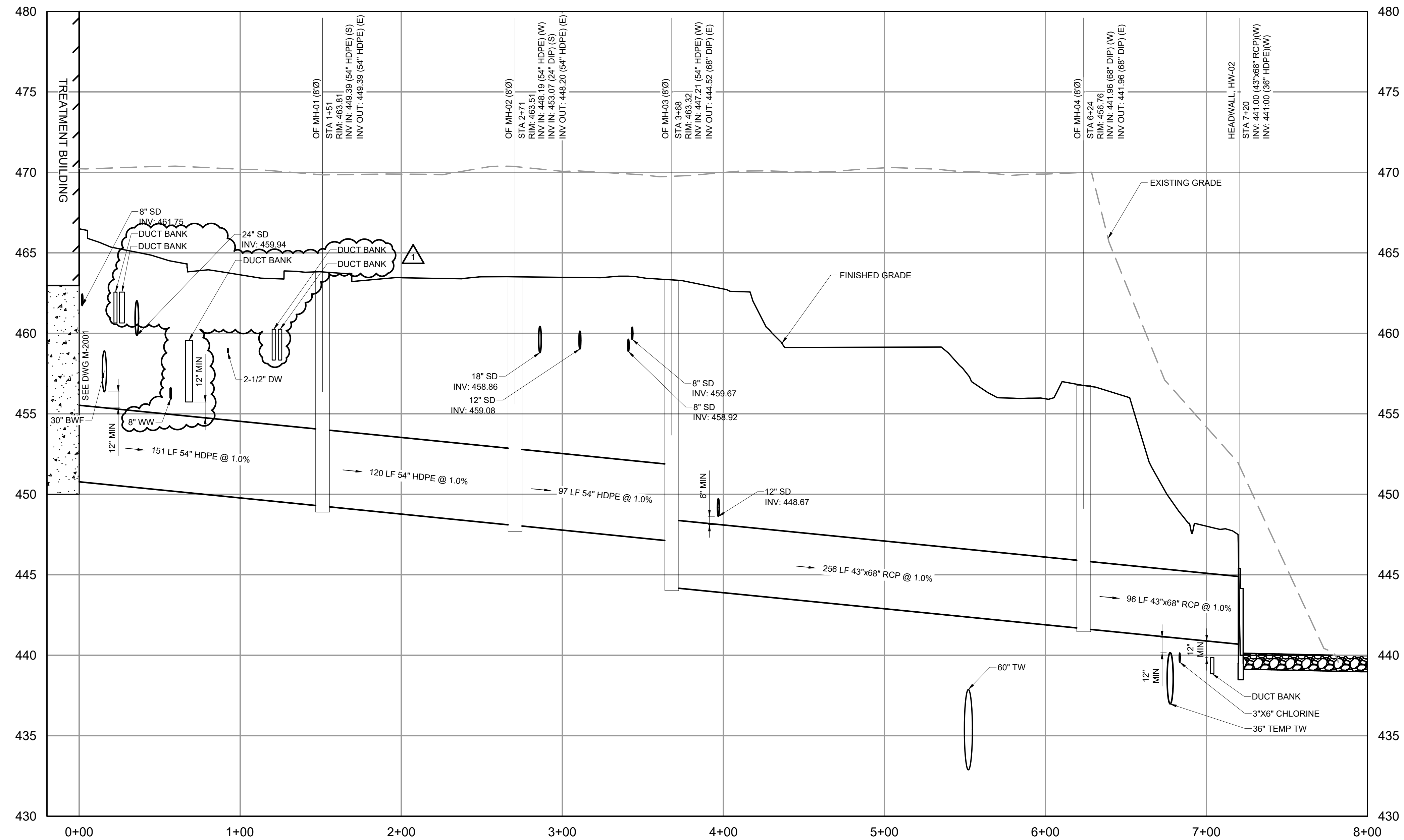
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL
FENCE RESTORATION PLAN - SHEET 2

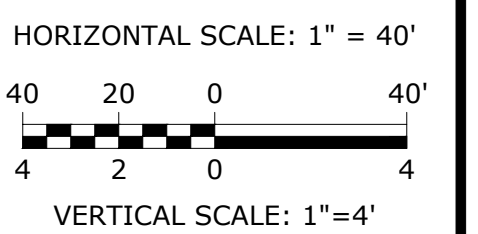
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-263

- NOTES:**
1. FLAP GATES SHALL BE PROVIDED AT THE OPENINGS IN THE HEADWALL.
 2. FOR TRENCH DETAILS, SEE DRAWING C-317.



PROFILE - RAW WATER OVERFLOW (RW OF)

HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144



File: C:\USERS\LWALLACE\DCDC\DCS\HAZEN AND SAWYER\0398-004_WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-271_Plot Date: 3/21/2024 2:24 PM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



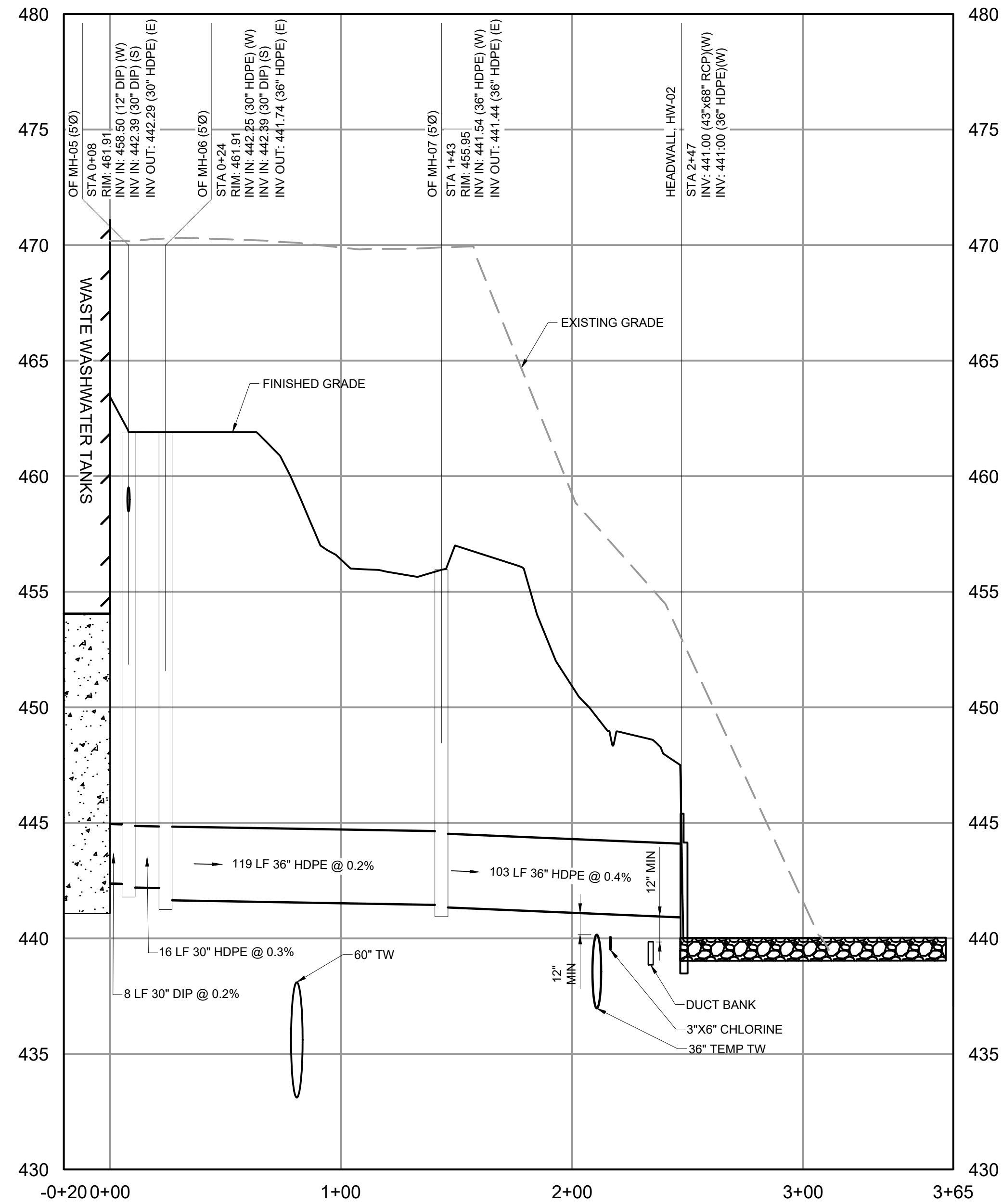
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

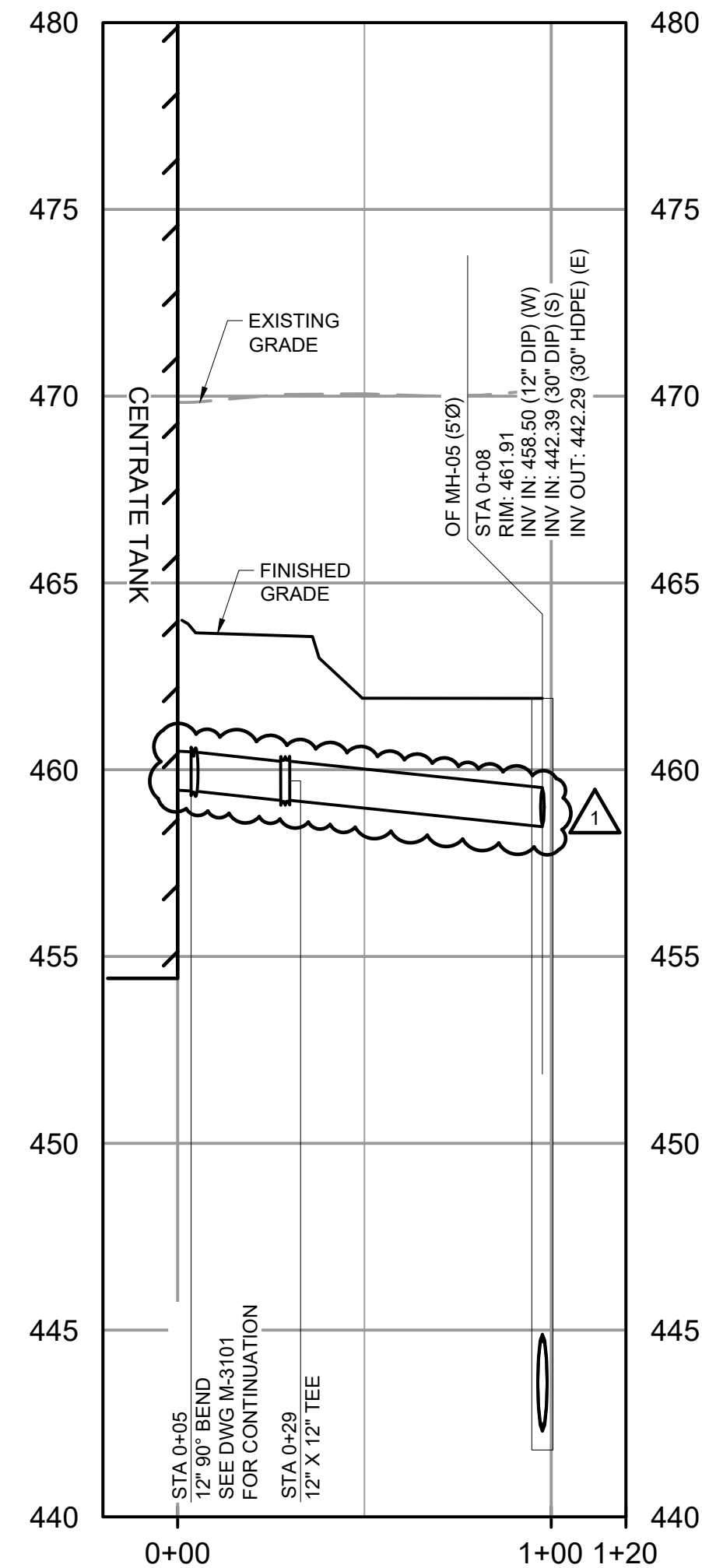
CIVIL OVERFLOW PROFILE - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-271

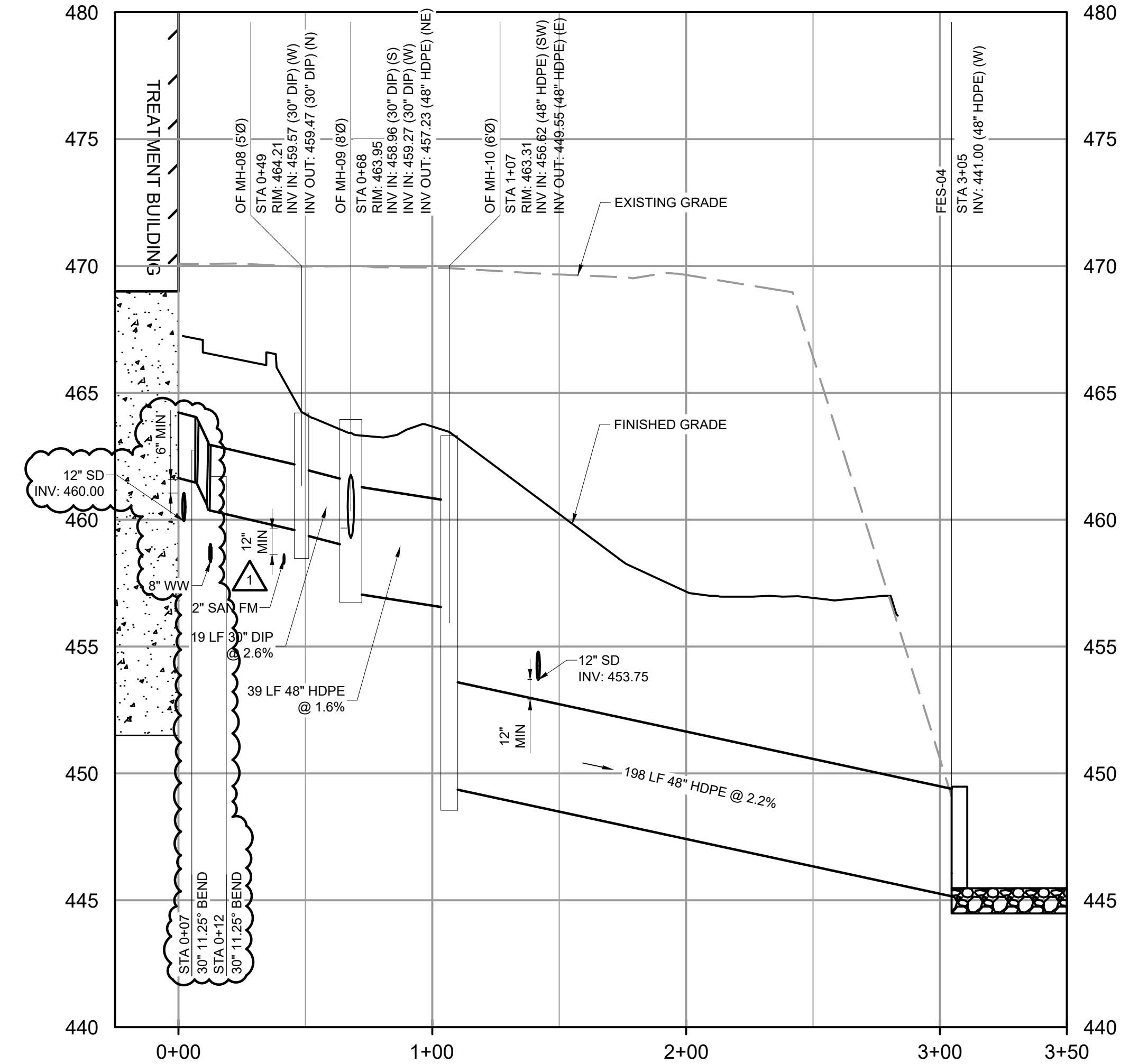
- NOTES:**
1. FLAP GATES SHALL BE PROVIDED AT THE OPENINGS IN THE HEADWALL.
 2. FOR TRENCH DETAILS, SEE DRAWING C-317.



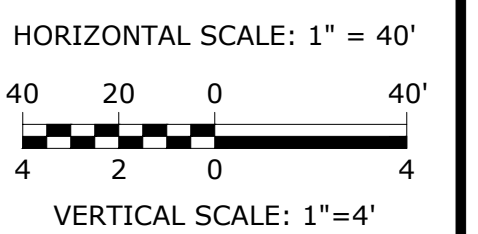
PROFILE - WASTE WASHWATER TANK OVERFLOW (WWT OF)
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144



PROFILE - CENTRATE TANK OVERFLOW
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144



PROFILE - WEIR BOX OVERFLOW
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144



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0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

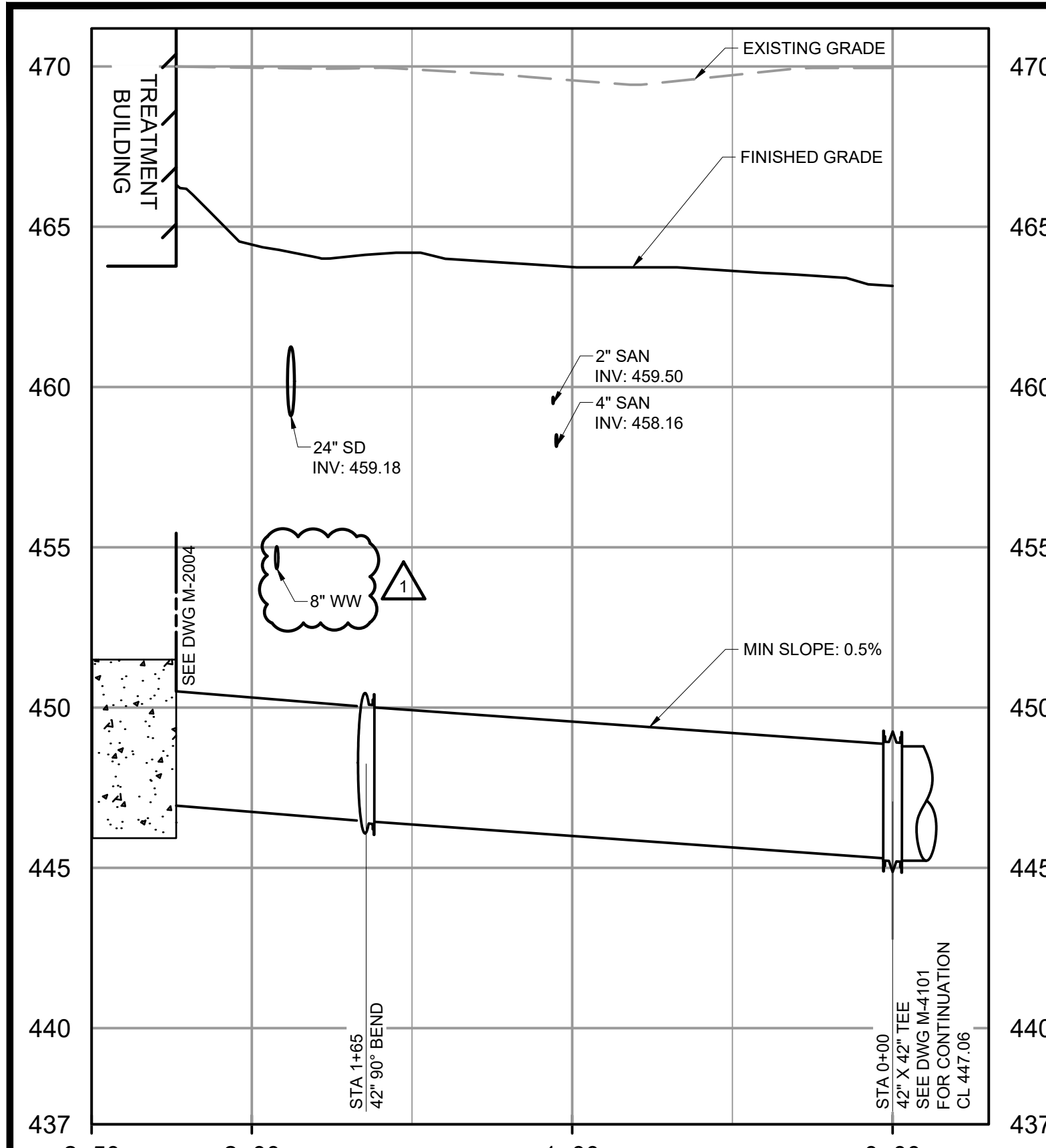
HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

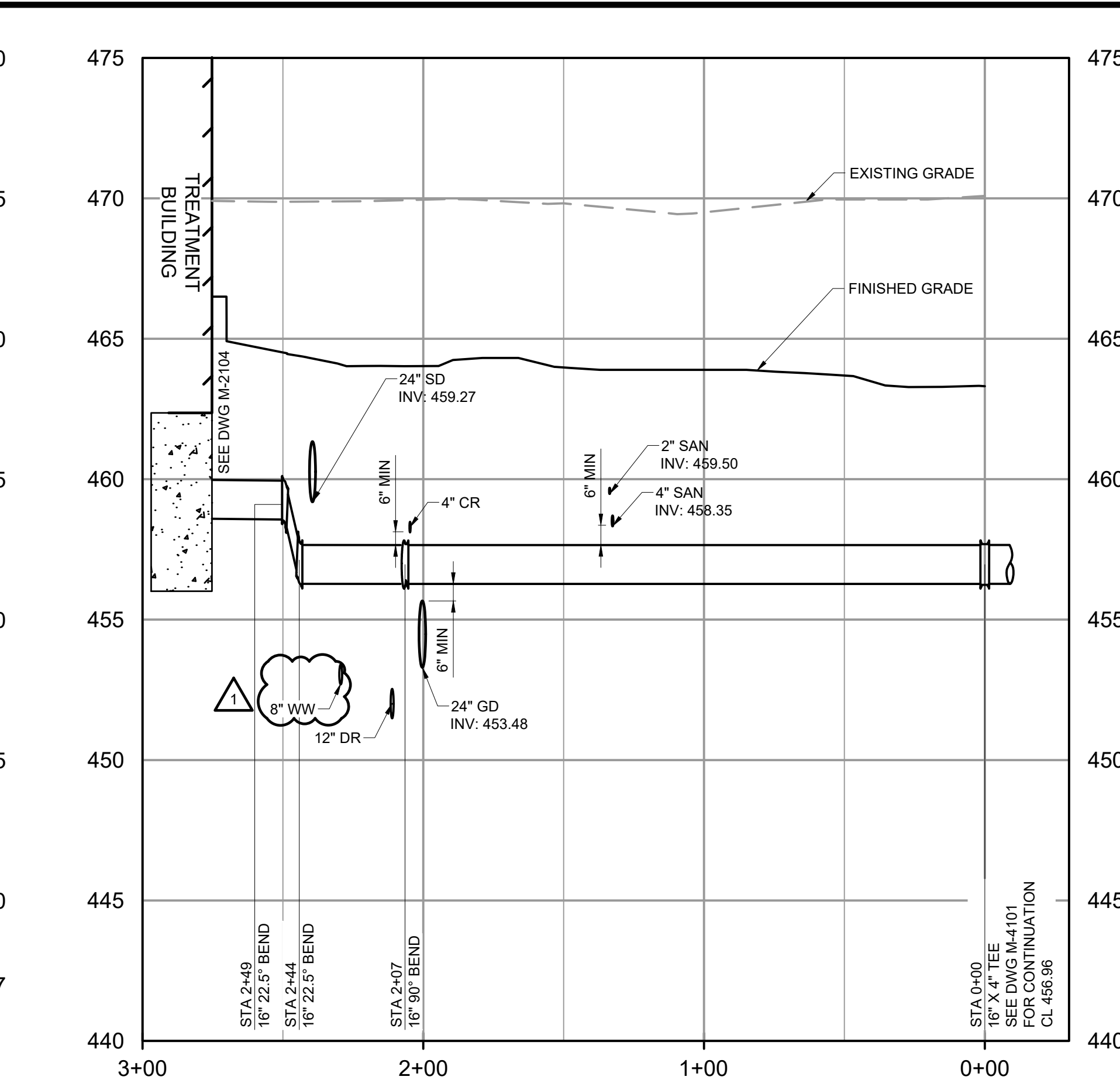
WEST PARISH WATER TREATMENT PLANT

CIVIL OVERFLOW PROFILE - SHEET 2

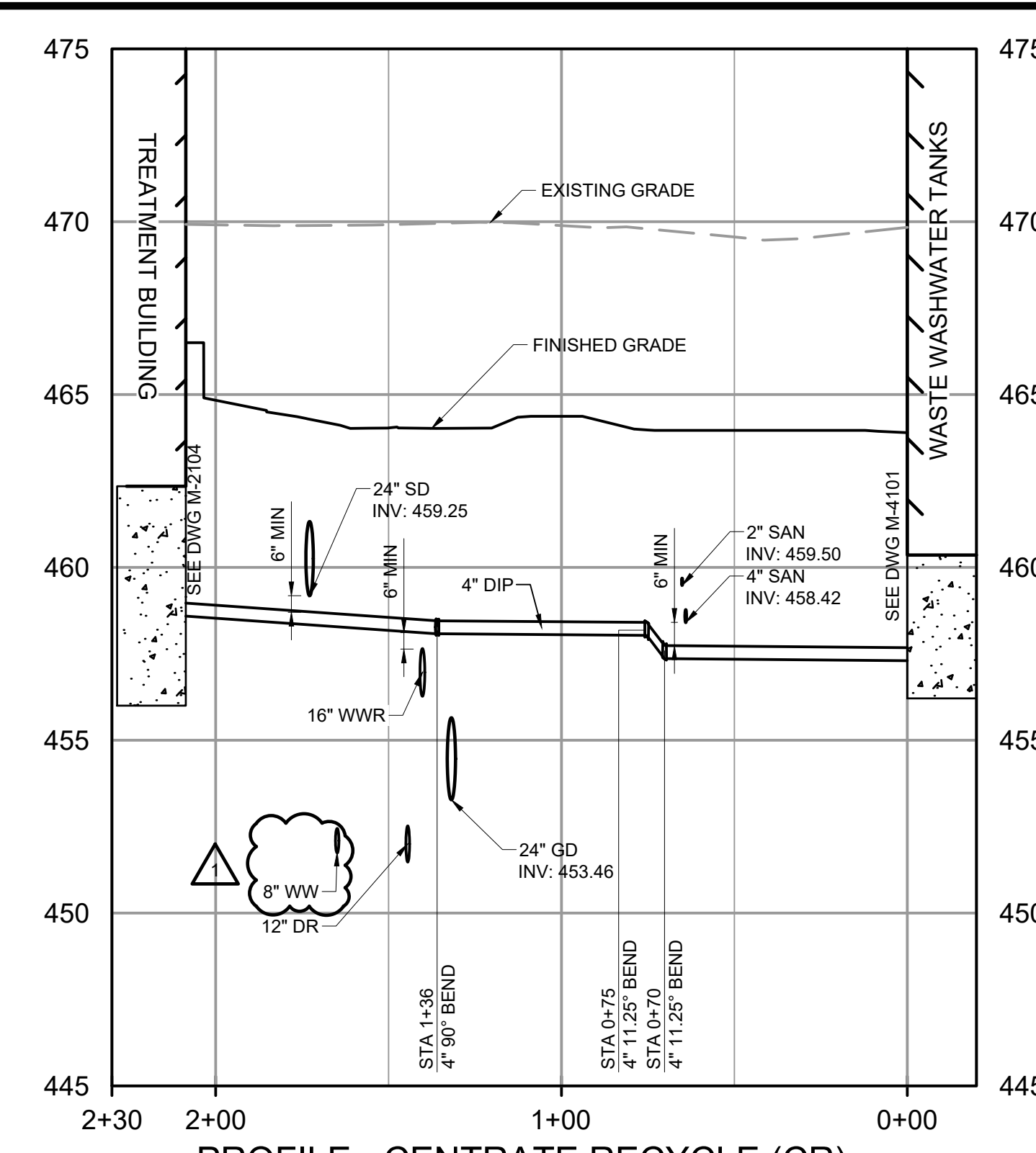
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-272



PROFILE - WASTE WASHWATER (WW)
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 FOR PLAN VIEW, SEE DWG C-143

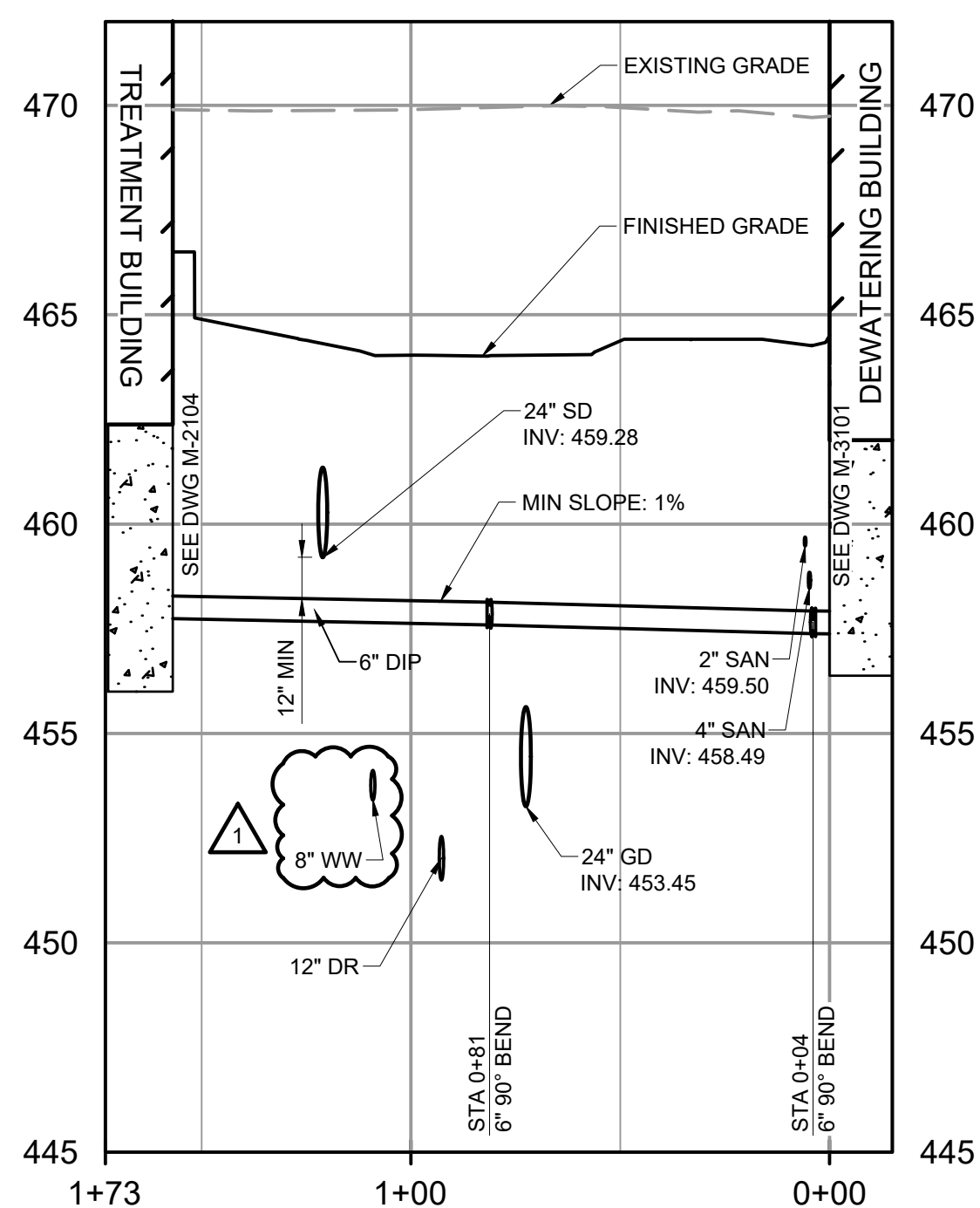


PROFILE - WASTE WASHWATER RECYCLE (WWR)
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 FOR PLAN VIEW, SEE DWG C-143

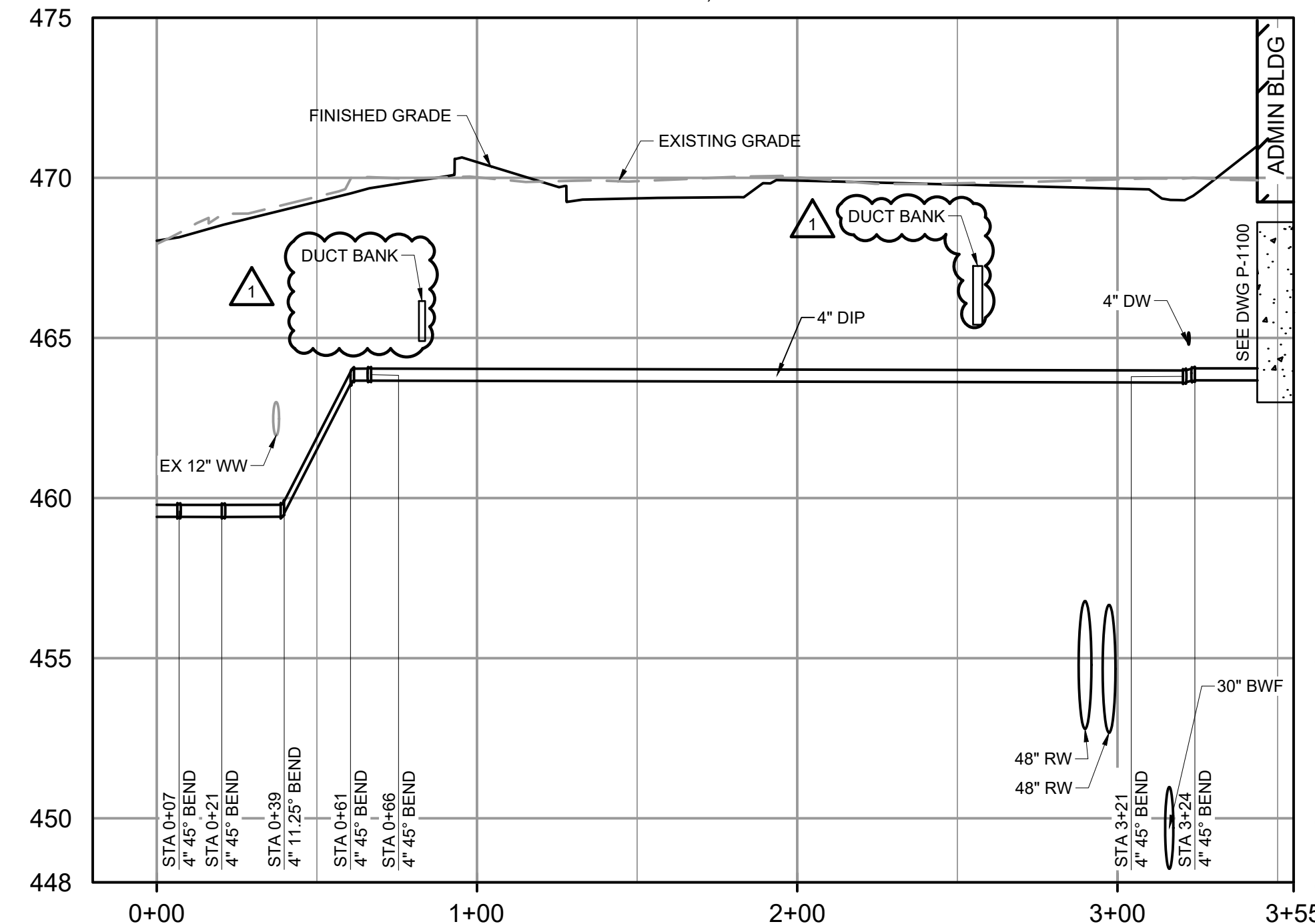


PROFILE - CENTRATE RECYCLE (CR)
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 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144

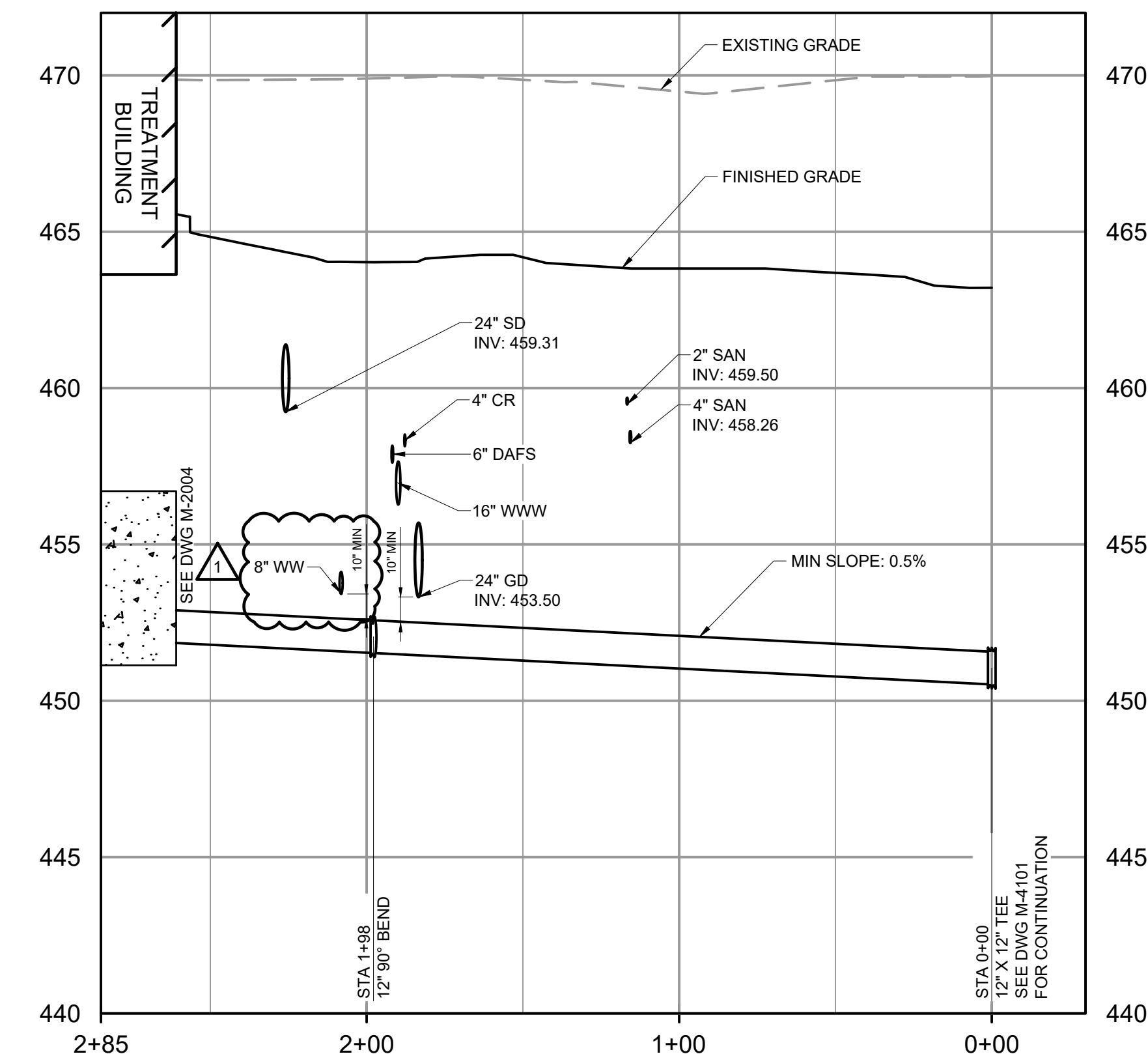
NOTE:
 USE TYPE B TRENCHES FOR ALL PIPES PROFILED ON THIS DRAWING. SEE DETAIL ON DRAWING C-317.



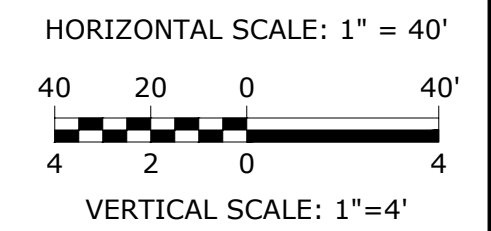
PROFILE - DAFS
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWG C-143



PROFILE - ADMIN BUILDING PROCESS WATER
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWG C-141



PROFILE - 12" DRAIN
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 4'
 FOR PLAN VIEW, SEE DWGS C-143 AND C-144



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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	L. WALLACE		
DRAWN BY:	K. ROBBINS		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

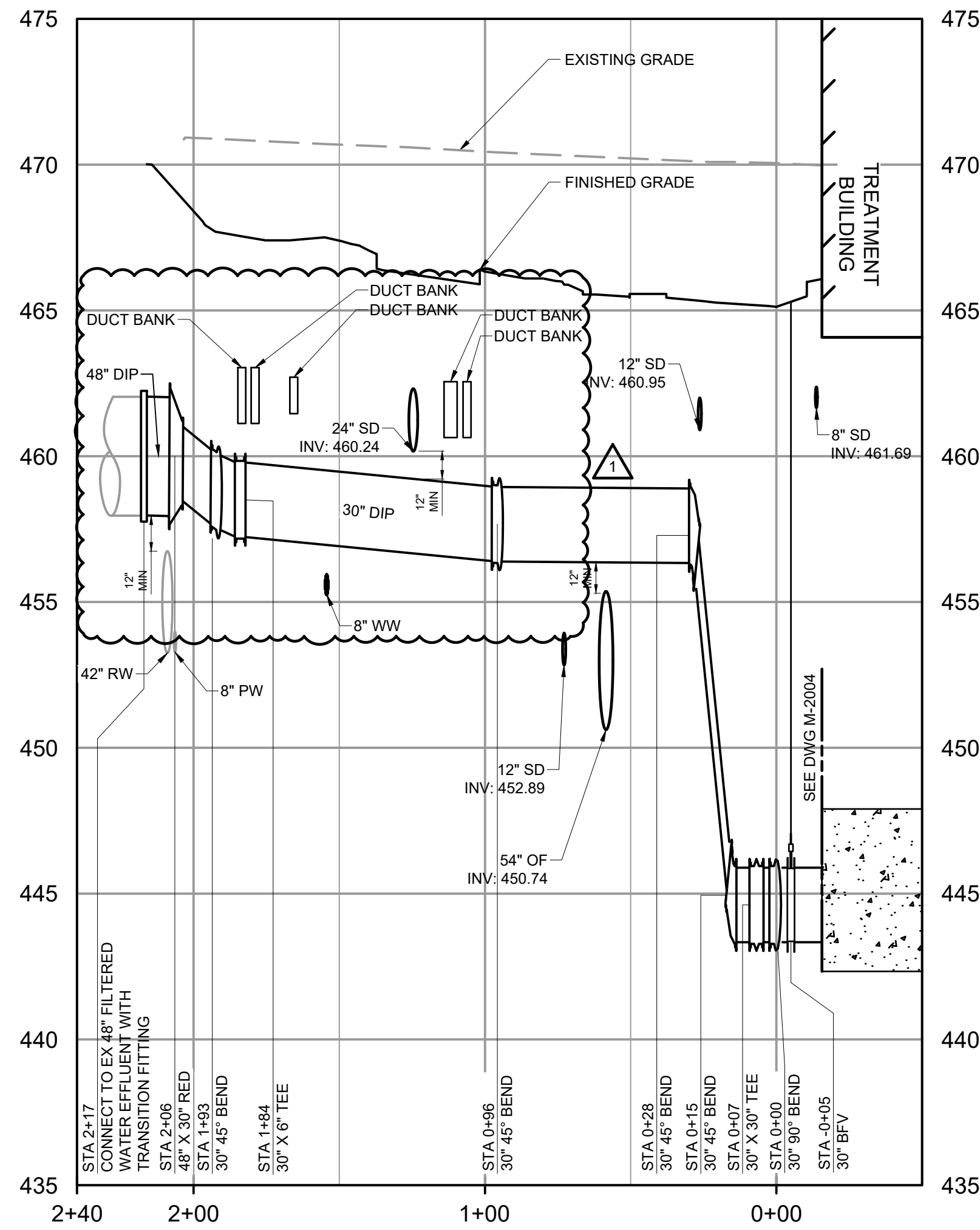
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

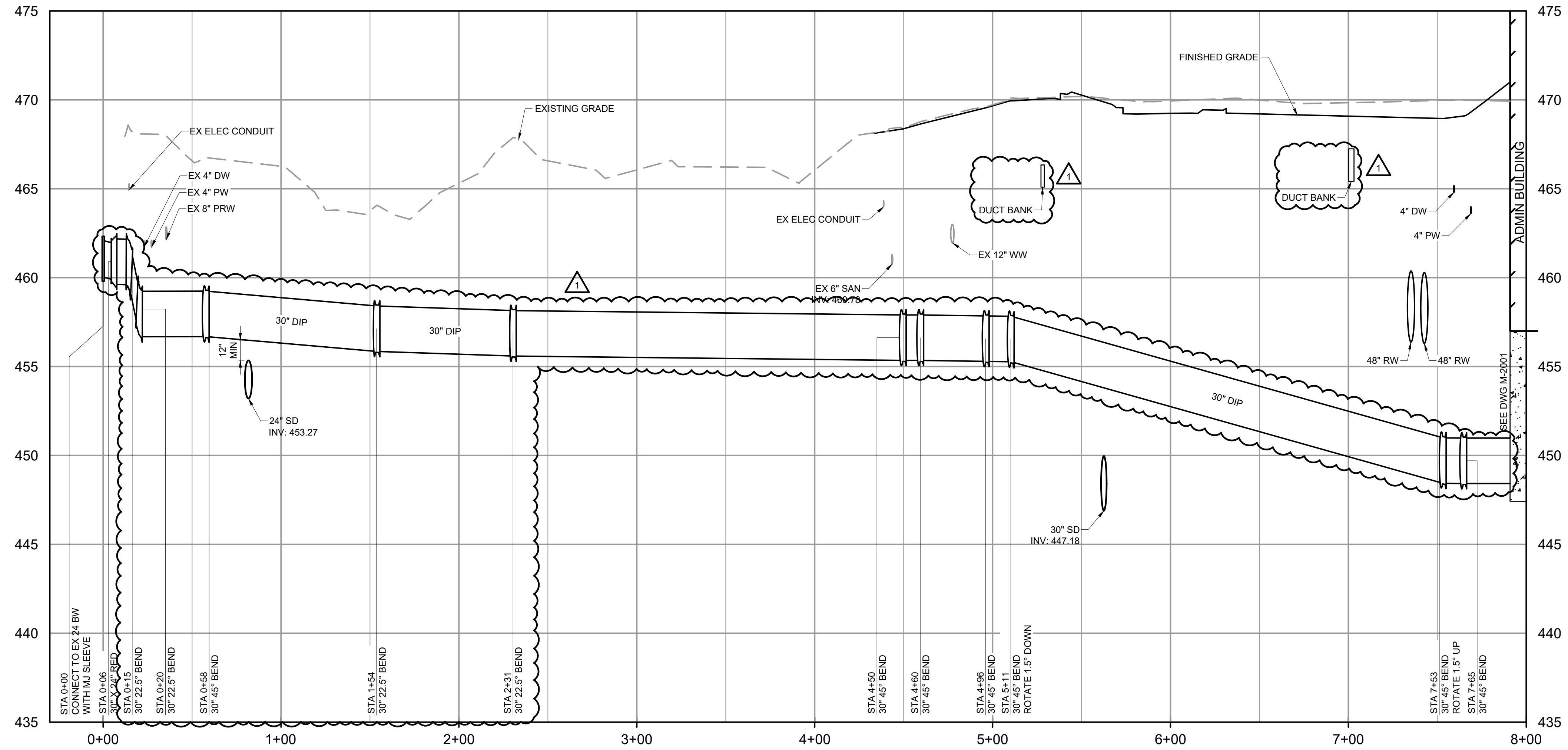
CIVIL PROCESS PIPING PROFILES SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-273

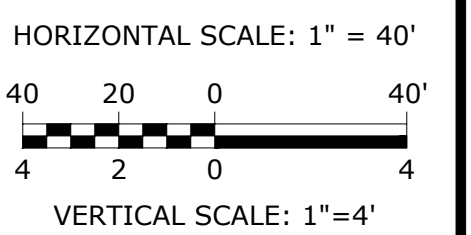
NOTE:
USE TYPE B TRENCHES FOR ALL PIPES PROFILED ON THIS DRAWING. SEE DETAIL ON DRAWING C-317.



PROFILE - BACKWASH SUPPLY (BWS)
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'
FOR PLAN VIEW, SEE DWG C-143



PROFILE - BACKWASH
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'
FOR PLAN VIEW, SEE DWGS C-141 AND C-145



File: C:\USERS\LWALLACE\PROJECT FILES\CIVIL\C-274 - Springfield Water and Sewer Commission - West Parish Filter WTP\PROJECT FILES\CIVIL\C-274 - Springfield Water and Sewer Commission - West Parish Filter WTP.dwg, Date: 3/21/2024, 2:51 PM, Plot Date: 3/21/2024, 2:51 PM, BY: LWALLACE

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	L. WALLACE
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

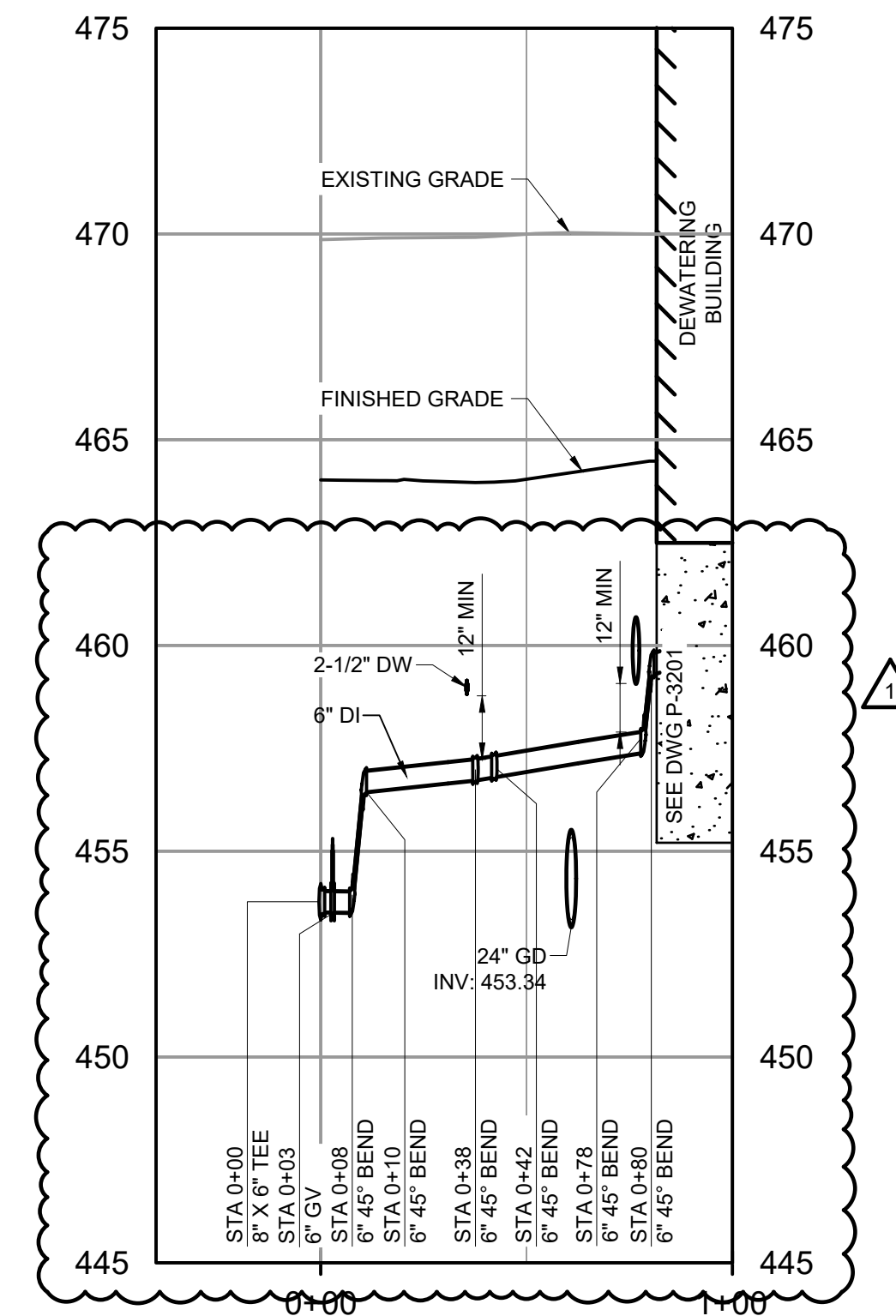
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WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL PROCESS PIPING PROFILES SHEET 2

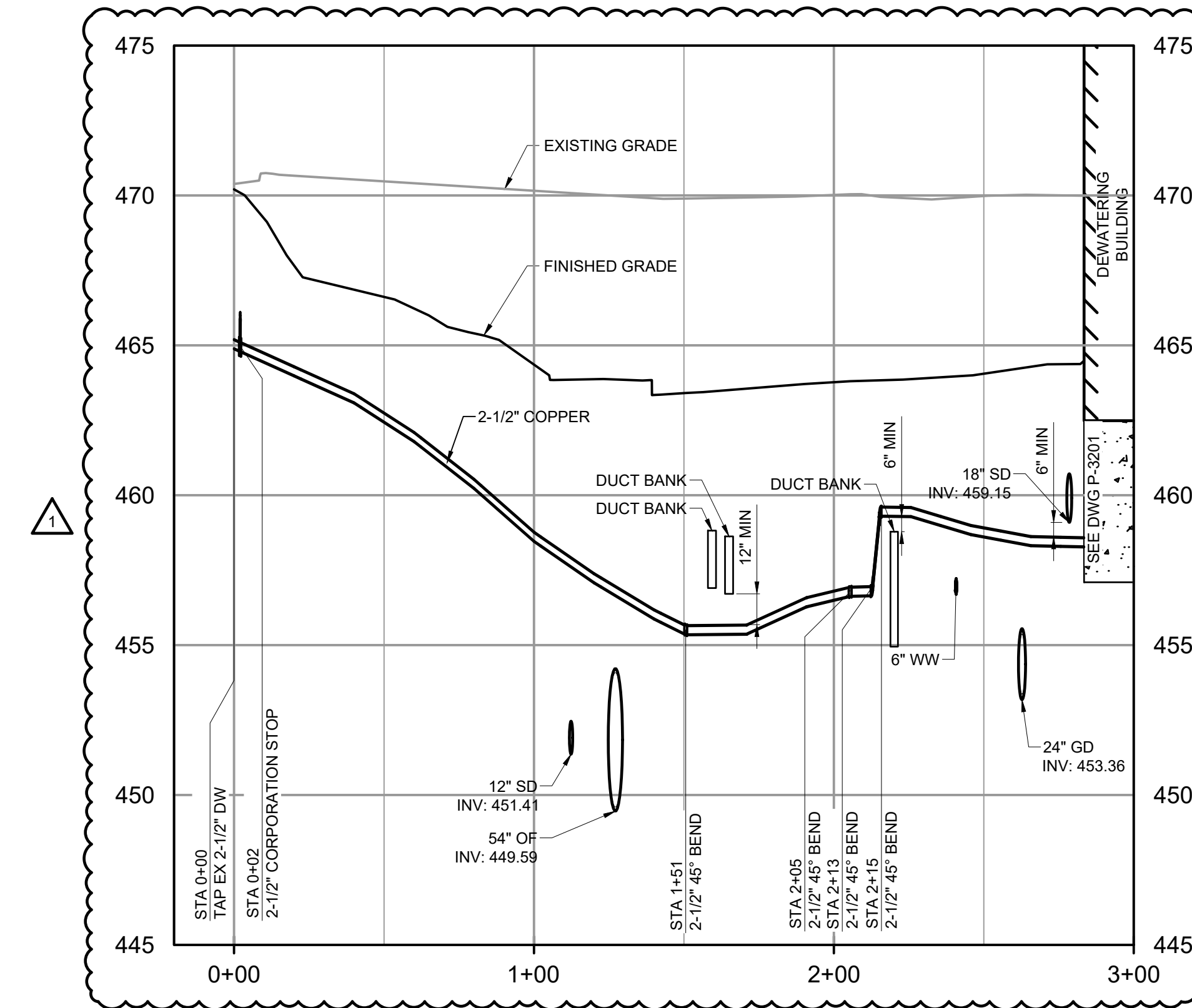
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-274

NOTE:
USE TYPE B TRENCHES FOR ALL PIPES PROFILED ON THIS DRAWING. SEE DETAIL ON DRAWING C-317.



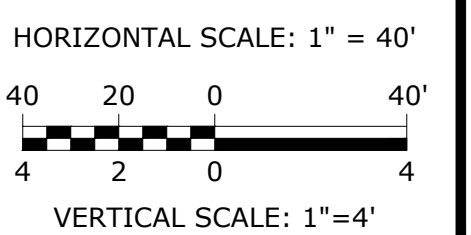
PROFILE - DEWATERING BUILDING PROCESS WATER

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'
FOR PLAN VIEW, SEE DWG C-143



PROFILE - DEWATERING BUILDING DOMESTIC WATER

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'
FOR PLAN VIEW, SEE DWG C-143



File: C:\USERS\LWALLACE\DCDC\DCS\HAZEN AND SAWYER\0398-004 WEST PARISH FILTER WTP\PROJECT FILES\CIVIL\C-276.dwg Saved by: LWALLACE Save date: 3/21/2024 5:57 PM
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1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. RIVAS
DRAWN BY:	K. ROBBINS
CHECKED BY:	D. SHEERAN

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100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

CIVIL
PROCESS AND DOMESTIC WATER PROFILES

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-276

SPRINGFIELD WATER AND SEWER COMMISSION STANDARD DETAILS

ITEM NUMBER	DRAWING NUMBER	DRAWING TITLE
1	W-01.0	UTILITY SEPARATION DETAIL
2	W-02.0	NON-PAVED AREA TRENCH DETAIL
9	W-03.0	STANDARD AIR VALVE ASSEMBLY DETAIL
12	W-04.0	END OF MAIN
14	W-05.0	STANDARD TEE INSTALLATION
16	W-06.0	REPAIR TO EXISTING WATER MAINS
25	W-07.0	STANDARD FIRE HYDRANT ASSEMBLY
29	W-08.0	VALVE BOX
30	W-08.1	REPLACE, RAISE, OR RESET VALVE BOX
34	W-10.0	FLUSHING DEVICE
35	W-11.0	NEW WATER SERVICE
52	W-13.7	32-INCH STANDARD WATER COVER
61	W-14.0	THRUST BLOCK BEHIND FITTING
62	W-14.1	THRUST BLOCKS
69	S-01.0	TRENCH DETAIL FOR SEWER PIPES
70	S-02.0	PRECAST CONCRETE SEWER MANHOLE
71	S-02.1	PRECAST CONCRETE SEWER PIPE CONNECTIONS
74	S-02.4	INTERIOR DROP MANHOLE
82	S-02.62	32-INCH STANDARD SEWER COVER
87	S-03.0	UTILITY CROSSING DETAIL
89	S-04.1	NEW SEWER MAIN TO BUILDING CONNECTION
90	S-04.2	CLEAN OUT WITH SWEEP
97	S-09.2	LOW PRESSURE SANITARY SEWER PIPE TRENCH DETAIL

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. RIVAS		
DRAWN BY:	L. WALLACE		
CHECKED BY:	D. SHEERAN		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

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WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

CIVIL
YARD PIPING DETAILS - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	C-316

GENERAL NOTES:

1. THE CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. ANY AREA OUTSIDE THE LIMITS OF DISTURBANCE IS NOT TO BE AFFECTED BY THE CONTRACT WITHOUT PRE-APPROVAL FROM THE ENGINEER. ANY AREA AFFECTED BY THE CONTRACTOR SHALL BE RESTORED AS PER THE DIRECTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL NOT DRIVE ANY VEHICLE OR STORE ANY MATERIALS WITHIN THE DRIPLINE OF ANY EXISTING TREE OR SHRUB TO BE RETAINED. FURTHERMORE, ALL SOFTSCAPE AREAS WITHIN THE WORK LIMITS SHALL BE PROTECTED FROM COMPACTION. CORRECTIVE DECOMPACTION MEASURES SHALL BE TAKEN IN THE CASE OF ANY COMPACTION AT THE DIRECTION OF THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE. ANY DAMAGE TO EXISTING TREES OR VEGETATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. TREE PROTECTION SHALL BE IN ACCORDANCE WITH SPECIFICATION 31 10 00 - CLEARING, GRUBBING, AND SITE PREPARATION AND TREE PROTECTION DETAIL ON DWG L-202.
4. THE CONTRACTOR SHALL EXCAVATE AS NEEDED AND PROVIDE TOPSOIL TO ACHIEVE FINISHED GRADES IN ALL AREAS TO BE SEEDED OR OTHERWISE PLANTED. TOPSOIL SHALL BE 6" MINIMUM IN SEEDED AREAS.
5. REFER TO DWG L-201 - L-203 FOR SEEDING AND PLANTING SCHEDULE AND DETAILS. UNLESS INDICATED ELSEWHERE, ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH GRASS SEED FOR LAWN AREAS AS INDICATED IN SPECIFICATION 32 90 00 - PLANTING.

SEEDING:

1. ALL SCHEDULE, SUBMITTALS, PRODUCTS AND METHODS FOR SEEDING OPERATIONS SHALL BE IN ACCORDANCE WITH SEEDING SCHEDULE ON DWG L-201.
2. ALL SEED SHALL BE INTERAGENCY CERTIFIED UNDER THE AUSPICES OF A STATE SEED IMPROVEMENT COOPERATIVE AND SHALL BEAR THEIR SEALS OF CERTIFICATION ON EACH BAG. PERMANENT SEED SHALL BE 75% PURE LIVE SEED MINIMUM.
3. SEED BROUGHT TO THE PROJECT SITE SHALL BE IN UNOPENED BAGS SHOWING THE NET WEIGHT, COMPOSITION OF MIX, SUPPLIERS NAME AND GUARANTEE OF ANALYSIS. SEED SHALL BE STORED IN ORIGINAL UNOPENED PACKAGES, KEPT DRY, AND NOT OPENED UNTIL NEEDED FOR USE. DAMAGED OR FAULTY PACKAGES SHALL NOT BE USED AND WILL BE REJECTED. SEED SHALL BE FRESH, RECLEANED SEED OF THE LATEST CROP AND BE IN CONFORMANCE WITH THE PLANTING SPECIFICATION. ALL SEED MATERIALS SHALL BE PROTECTED FROM DRYING OUT AND FROM WIND DAMAGE DURING DELIVERY. SEED MIXES AND RATES AS INDICATED IN SPECIFICATION 32 90 00 - PLANTING.
4. SEED MIXTURE SHALL BE INSPECTED BY THE ENGINEER UPON ARRIVAL AT THE JOB SITE AND PRIOR TO INSTALLATION. ANY MATERIALS NOT IN COMPLIANCE WITH THE PLANTING SPECIFICATION WILL NOT BE ACCEPTED AND SHALL BE REMOVED FROM THE JOB SITE IMMEDIATELY.
5. SEEDBED PREPARATIONS AND SEEDING SHALL BE AS STATED IN THE SPECIFICATION 32 90 00 - PLANTING.
6. DO NOT BROADCAST SEED BY MECHANICAL APPLICATION WHEN THE WIND VELOCITY IS SUCH TO PREVENT UNIFORM SEED DISTRIBUTION.
7. ALL SEEDED AREAS SHALL BE COVERED WITH SINGLE NET STRAW BIODEGRADABLE ROLLED EROSION CONTROL PRODUCT AS PER SPECIFICATION 31 25 00 - EROSION CONTROL MATTING DETAIL, DWG C-303.
8. SEEDED AREAS SHALL BE WATERED AT A MINIMUM OF ONCE PER WEEK UNTIL SEED HAS GERMINATED AND BECOME ESTABLISHED.
9. ACCEPTABLE SEEDING ESTABLISHMENT WILL BE 85% COVERAGE OF THE OPEN AREA WITH THE SEEDED SPECIES. ANY AREA NOT MEETING THIS REQUIREMENT SHALL BE RESEED WITH THE ORIGINAL SEED MIX AT THE CONTRACTOR'S COST.

PLANTING:

1. ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IN THE EVENT THE ACTUAL LIMITS OF SITE CLEARING AND STAGING AREAS DIFFER FROM THOSE SHOWN IN THE PLANS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PLANTINGS IN CONFORMANCE WITH THE SPECIFICATIONS. SHOP DRAWINGS FOR REVISED PLANTINGS SHALL BE SUBMITTED A MINIMUM OF 90 DAYS IN ADVANCE OF THE PLANTING SEASON WHEN PLANTING IS SCHEDULED TO OCCUR.
2. ALL PLANT MATERIAL SHALL BE VIGOROUS, FREE OF INJURY OR DEFECTS. ALL PLANT MATERIAL SHALL BE STOCK FROM AN APPROVED NURSERY AS PER THE SPECIFICATION.
3. PRIOR TO INSTALLATION, THE CONTRACTOR MUST STAKE OUT AND RECEIVE APPROVAL FROM THE ENGINEER FOR LOCATIONS OF ALL PLANTINGS.
4. PLANTS SHALL BE INSTALLED IN "DRY" CONDITIONS AND NOT WHEN PLANTING LOCATIONS ARE WET OR FROZEN.
5. THE CONTRACTOR SHALL INSTALL TEMPORARY GOOSE EXCLUSION FENCE (SEE DETAIL DRAWING L-202) AROUND THE BIORETENTION AND CONSTRUCTED WETLAND PERIMETER AS SHOWN ON THE PLANTING PLANS. TEMPORARY GOOSE EXCLUSION FENCE MUST BE INSTALLED WHILE PLANTING SUCH THAT ALL NEW PLANTINGS ARE PROTECTED BY GOOSE EXCLUSION ON THE SAME DAY. DO NOT INSTALL TEMPORARY GOOSE EXCLUSION FENCE OVER CHANNELS. TEMPORARY GOOSE EXCLUSION FENCE MUST BE INSPECTED AND REPAIRED AS OFTEN AS NECESSARY DURING THE LANDSCAPE GUARANTEE AND MONITORING PERIOD. TEMPORARY GOOSE EXCLUSION FENCE MUST BE REMOVED AT THE END OF THE MASSACHUSETTS STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PERMIT MONITORING PERIOD. THE CONTRACTOR SHALL RECEIVE WRITTEN APPROVAL BY THE ENGINEER PRIOR TO REMOVING THE TEMPORARY GOOSE EXCLUSION FENCE.
6. THE CONTRACTOR SHALL INSTALL TEMPORARY DEER EXCLUSION FENCE AND CAGES (SEE DETAIL DRAWING L-202) PRIOR TO THE INSTALLATION OF ANY TREES OR SHRUBS, SUCH THAT ALL TREES AND SHRUBS SHALL BE PROTECTED THE SAME AS INSTALLATION. THE TEMPORARY DEER EXCLUSION FENCE AND CAGE POSTS SHALL NOT BE INSTALLED INTO ANY TREE ROOTS ONE (1) INCH AND LARGER. THE CONTRACTOR SHALL STAKE OUT AND RECEIVE APPROVAL FOR FINAL LOCATION OF THE FENCE LINE FROM THE ENGINEER PRIOR TO INSTALLATION. THE TEMPORARY DEER EXCLUSION FENCE SHALL BE MAINTAINED AND REPAIRED AS OFTEN AS NECESSARY DURING THE LANDSCAPE GUARANTEE. THE TEMPORARY DEER EXCLUSION FENCE AND CAGE MUST BE REMOVED AT THE END OF THE LANDSCAPE GUARANTEE WITH WRITTEN APPROVAL BY THE ENGINEER.

LANDSCAPE SYMBOLS (PLAN)

TREE SPECIES		SHRUB SPECIES	
AC - <i>Abies concolor</i> 'Candicans'		AMC - <i>Aronia melanocarpa</i>	
AD - <i>Amelanchier canadensis</i>		CAC - <i>Clethra alnifolia</i> 'Caleb' Vanilla Spice	
AS - <i>Acer saccharum</i> 'Commemoration'		CAL - <i>Cornus alterniflora</i>	
BN - <i>Betula nigra</i> 'Dura Heat'		HPL - <i>Hydrangea paniculata</i> 'Limelight Prime'	
BP - <i>Betula nigra</i> 'Cully'		ICH - <i>Ilex Crenata</i> 'Hoogendorn'	
CC - <i>Carpinus caroliniana</i>		IVH - <i>Ilex verticillata</i>	
CR - <i>Cercis canadensis</i> alba 'Royal White'		RPL - <i>Rosa palustris</i>	
JV - <i>Juniperus virginiana</i>		RVG - <i>Rosa virginiana</i>	
MV - <i>Magnolia stellata</i>		STM - <i>Spirea tomentosa</i>	
PG - <i>Picea glauca</i>		VBD - <i>Viburnum dentatum</i>	
PA - <i>Prunus sargentii</i> x sub. 'Accolade'			
QM - <i>Quercus macrocarpa</i>			

SITE AMENITIES		FENCE TYPES	
MILLSTONE		DEER EXCLUSION CAGE	
FUTURE BENCH, BY OTHERS		DEER EXCLUSION FENCE	
		GOOSE EXCLUSION FENCE	

LANDSCAPE SITE HATCHING STYLES

GROUND COVER		BIORETENTION	
	LAWN MIX		BIORETENTION 1 - LOWER ZONE
	UPLAND MEADOW		BIORETENTION 1 - UPPER ZONE
	WET MEADOW		BIORETENTION 2 - LOWER ZONE
	RIPARIAN MIX		BIORETENTION 2 - UPPER ZONE
	PLANTED		
	CAREX RADIATA	STORMWATER WETLAND	
	MULCH		SEMI-WET
			HIGH MARSH
			LOW MARSH
HARDSCAPE			
	CONCRETE WALKWAY		
ORNAMENTAL GRASSES AND PERENNIALS			
	FGL - <i>Festuca glauca</i> 'Elijah Blue'		
	LSP - <i>Liatris spicata</i>		
	MCP - <i>Muhlenbergia capillaris</i>		
	NFW - <i>Nepeta fassenii</i> 'Walkers Low'		
	SSB - <i>Salvia x sylvestris</i> 'Blue Hill'		
	SHP - <i>Sporobolus heterolepis</i>		
	ACD - <i>Anemone canadensis</i> , PAC - <i>Polystichum acrostichoides</i>		

LANDSCAPE ABBREVIATIONS

ARCH	ARCHITECTURE
B&B	BALLED AND BURLAPPED
CONT	CONTAINER
DWGS	DRAWINGS
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
EX	EXISTING
LP	LANDSCAPE PLUG
OC	ON CENTER
SF	SQUARE FEET
STRU	STRUCTURAL
TYP	TYPICAL

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-001

DRAWING GROUPS:

- 1. L-001 GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS
- 2. L-002 DRAWING KEY AND OVERALL PLANTING PLAN
- 3. L-101 - L-108 PLANTING PLANS
- 4. L-201 - 203 PLANTING AND SEEDING SCHEDULES AND DETAILS

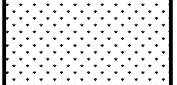
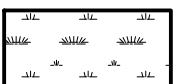


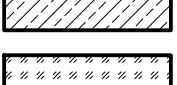
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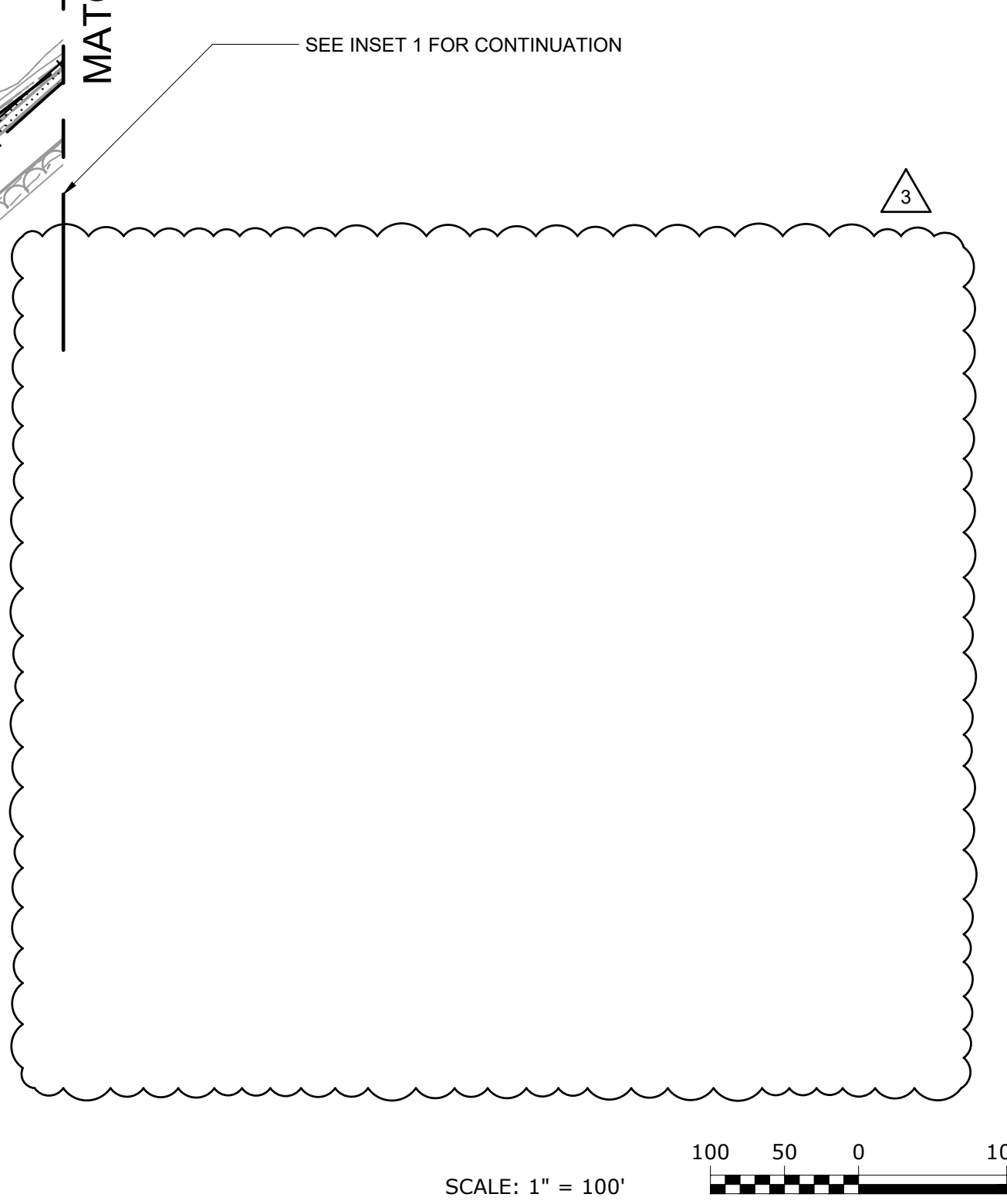
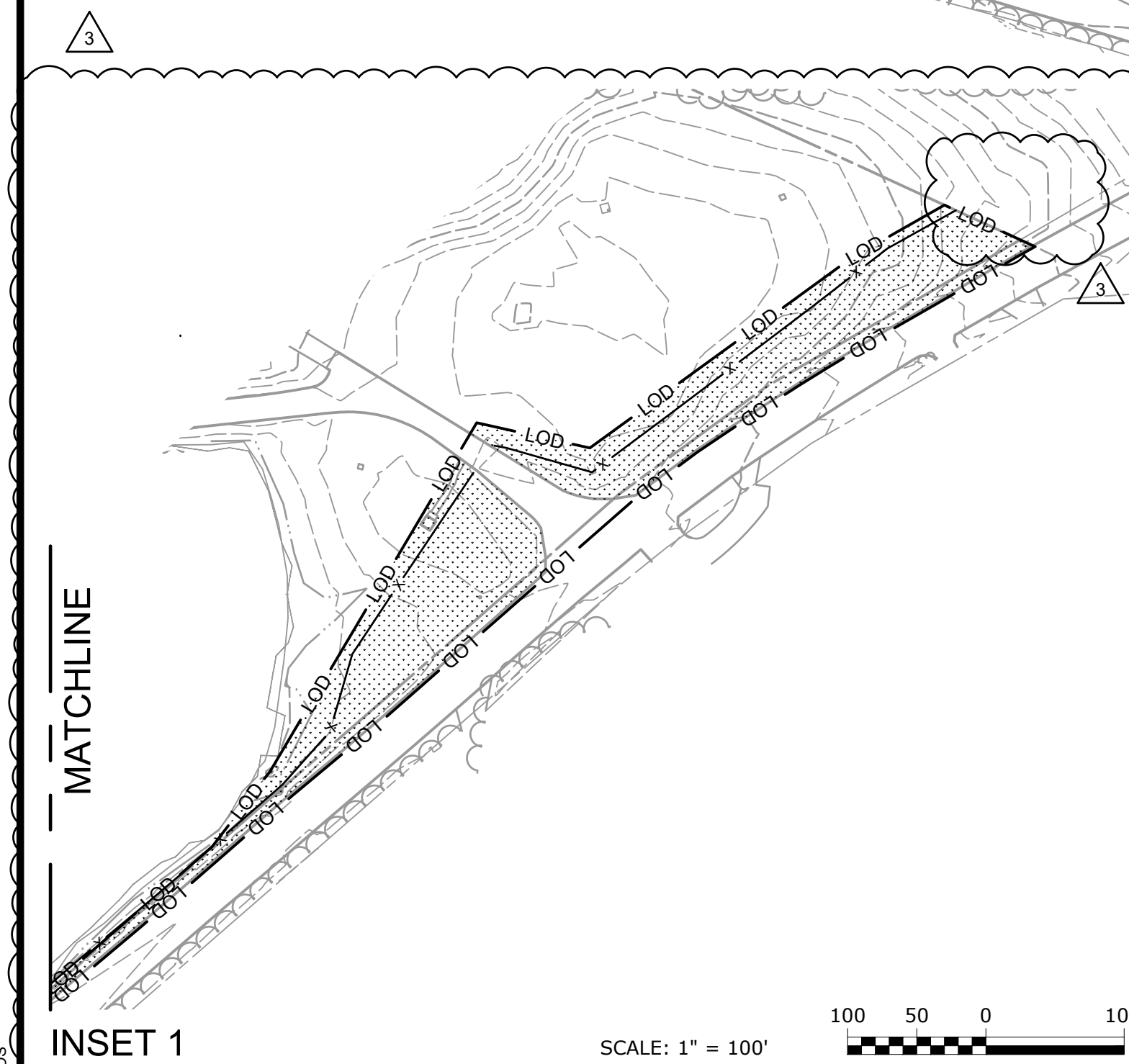
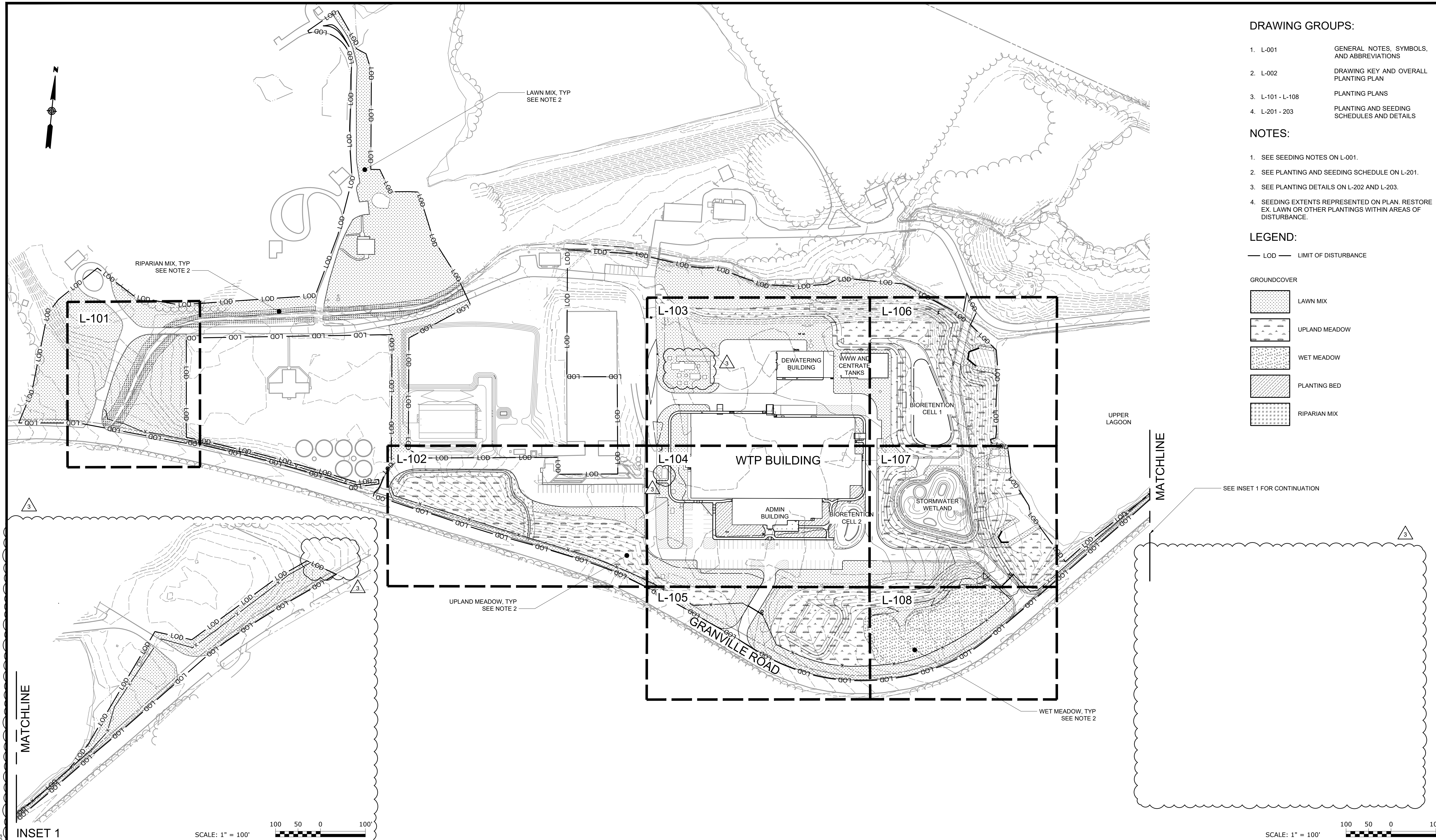
- 1. SEE SEEDING NOTES ON L-001.
- 2. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
- 3. SEE PLANTING DETAILS ON L-202 AND L-203.
- 4. SEEDING EXTENTS REPRESENTED ON PLAN. RESTORE EX. LAWN OR OTHER PLANTINGS WITHIN AREAS OF DISTURBANCE.

LEGEND:

— LOD — LIMIT OF DISTURBANCE

GROUNDCOVER

-  LAWN MIX
-  UPLAND MEADOW
-  WET MEADOW
-  PLANTING BED
-  RIPARIAN MIX



INSET 1

SCALE: 1" = 100'

3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	K. CAMPOS
DRAWN BY:	K. CAMPOS
CHECKED BY:	E. MOSKALENKO
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

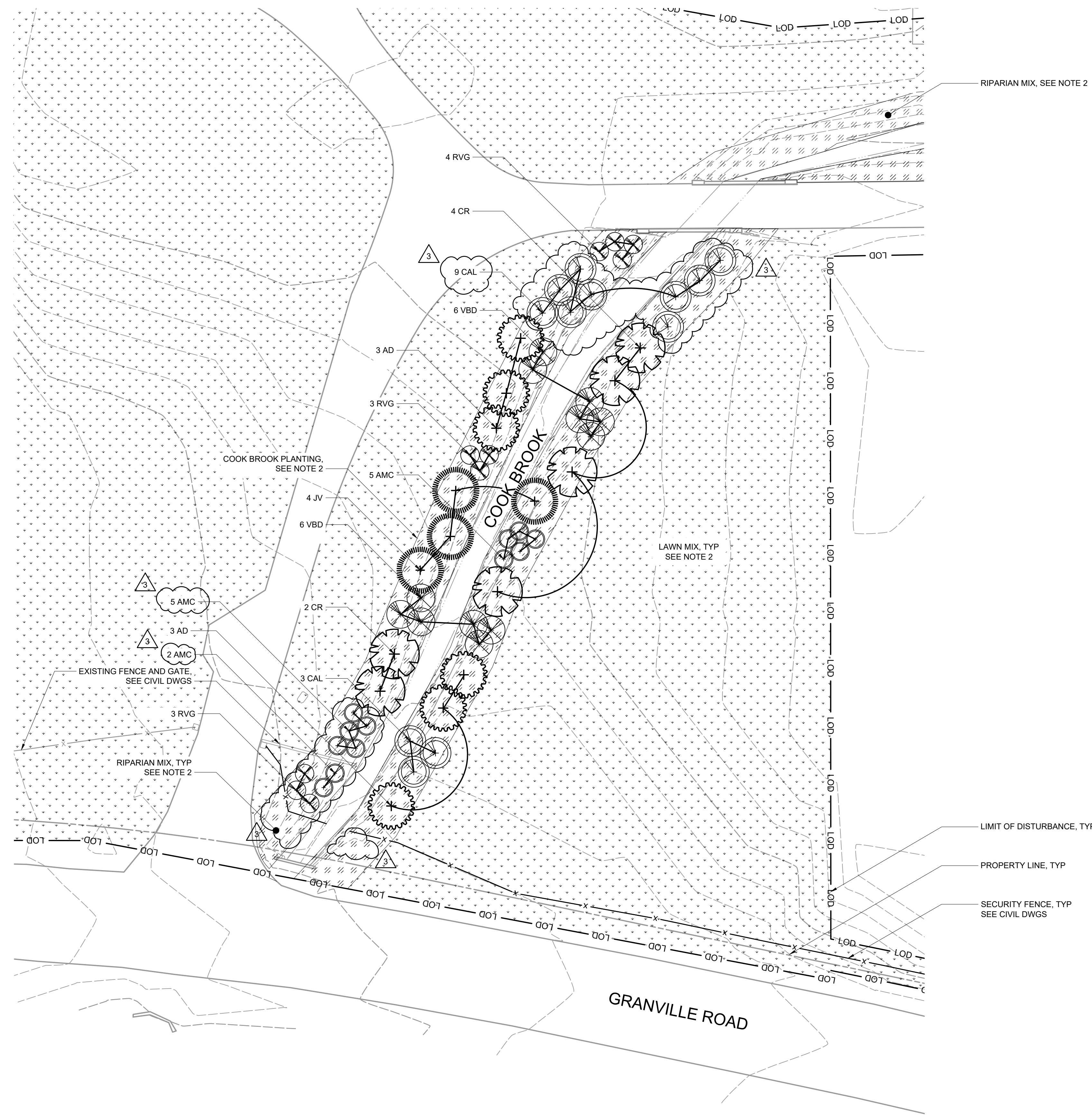
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

LANDSCAPE DRAWING KEY AND OVERALL PLANTING PLAN

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-002

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 PLOT DATE: 3/29/2024 1:15 PM BY: KCAMPOS



NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN AND RIPARIAN MIX EXTENTS.
3. COOK BROOK PLANTINGS TO BE OVERSEEDDED WITH RIPARIAN MIX. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
4. SEE PLANTING DETAILS ON L-202 AND L-203.

LEGEND:

— LOD — LIMIT OF DISTURBANCE

GROUNDCOVER

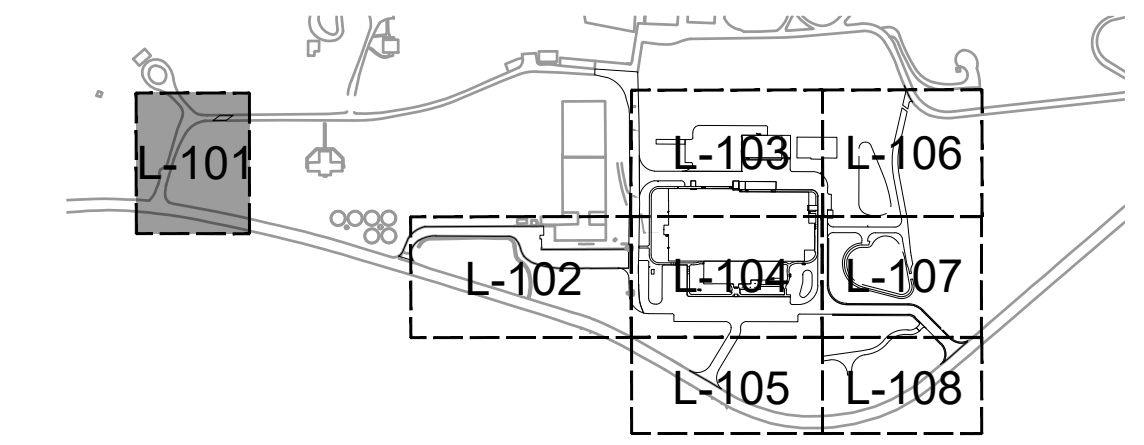
- LAWN MIX
- RIPARIAN MIX

SHRUBS

- AMC - *Aronia melanocarpa*
- CAL - *Cornus alterniflora*
- RVG - *Rosa virginiana*
- VBD - *Virburnum dentatum*

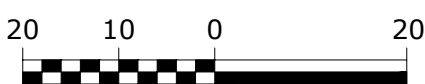
TREES

- AD - *Amelanchier canadensis*
- CR - *Carpinus caroliniana*
- JV - *Juniperus virginiana*



KEY MAP
NTS

SCALE: 1" = 20'



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PLOT DATE: 3/29/2024 1:15 PM BY: KCAMPOS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

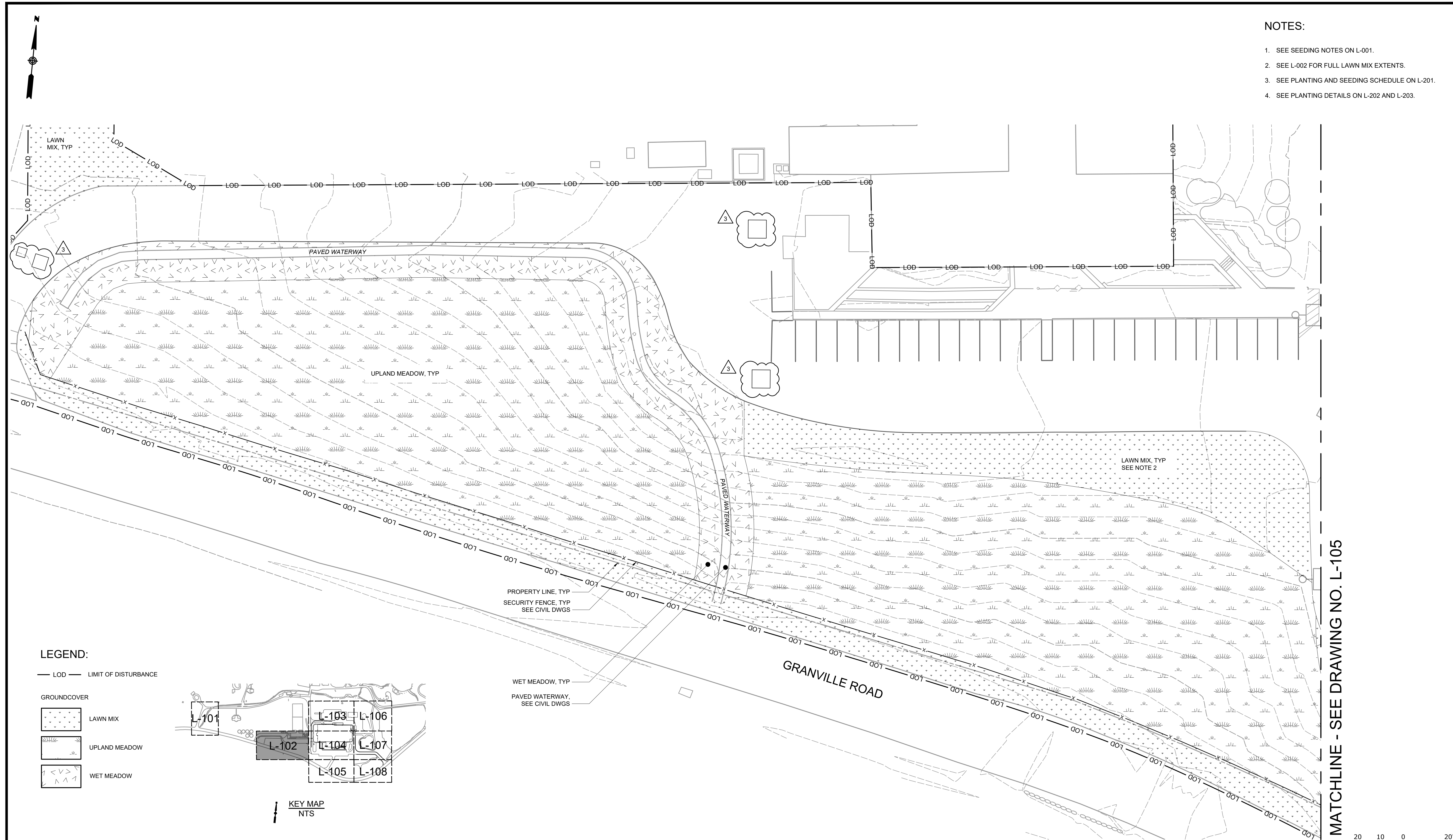
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE PLANTING PLAN - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-101

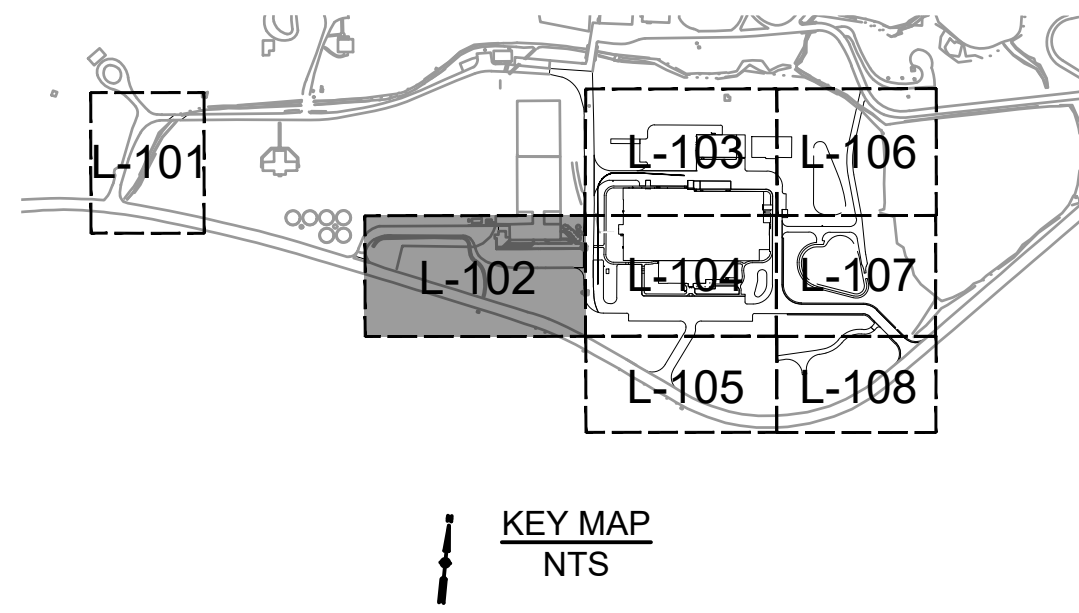
NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN MIX EXTENTS.
3. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
4. SEE PLANTING DETAILS ON L-202 AND L-203.



LEGEND:

- LOD — LIMIT OF DISTURBANCE
- GROUNDCOVER
 - LAWN MIX
 - UPLAND MEADOW
 - WET MEADOW



KEY MAP
NTS

MATCHLINE - SEE DRAWING NO. L-105

File: C:\USERS\KCAMPOS\CADD\03\HAZEN AND SAWYER\030388-004_WEST PARISH WATER TREATMENT PLANT\PROJECT FILES\LANDSCAPE\L-102.dwg Saved by KCAMPOS Save date: 3/29/2024 1:02 PM PLOT DATE: 3/29/2024 1:16 PM BY: KCAMPOS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

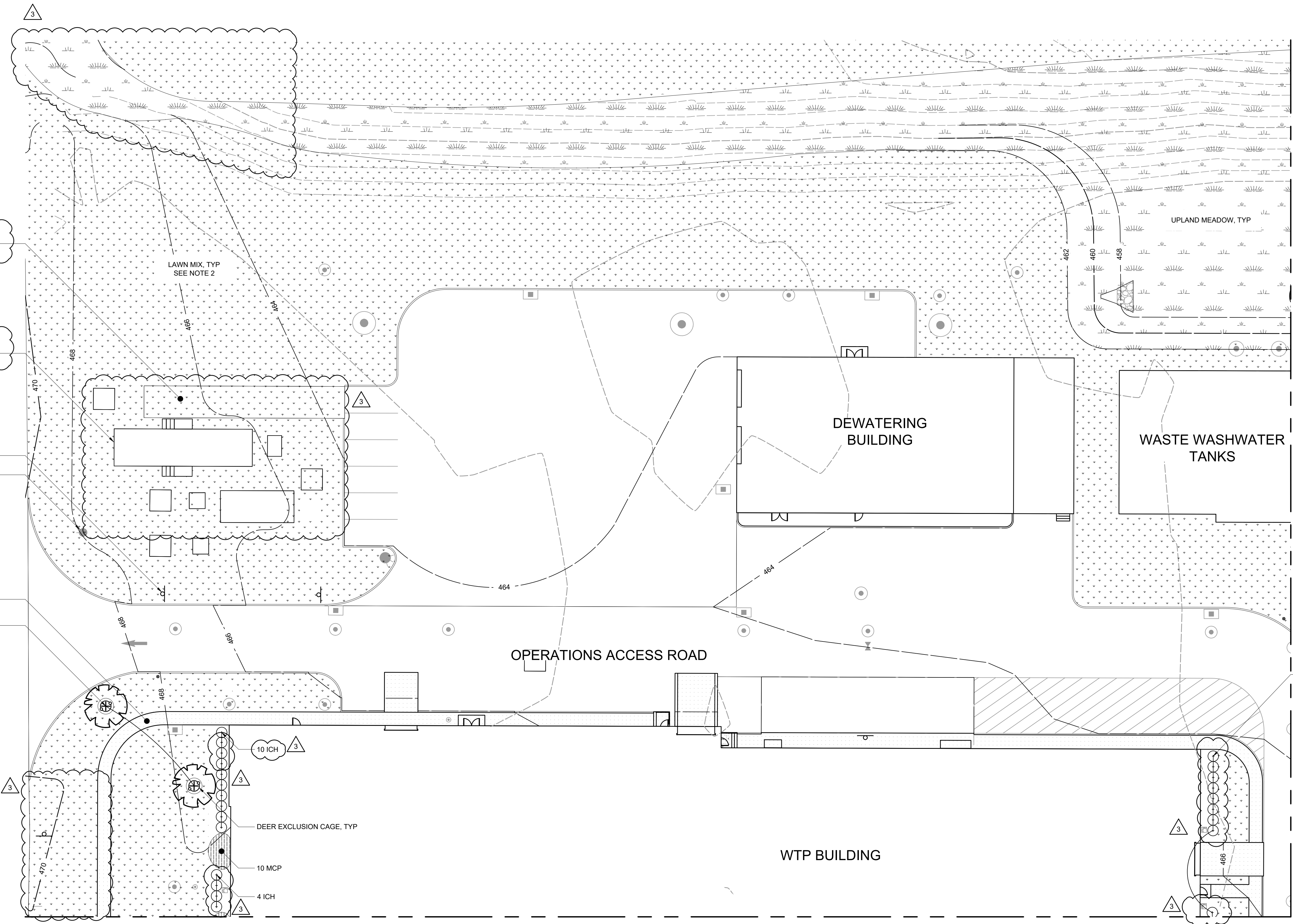


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
LANDSCAPE PLANTING PLAN - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-102

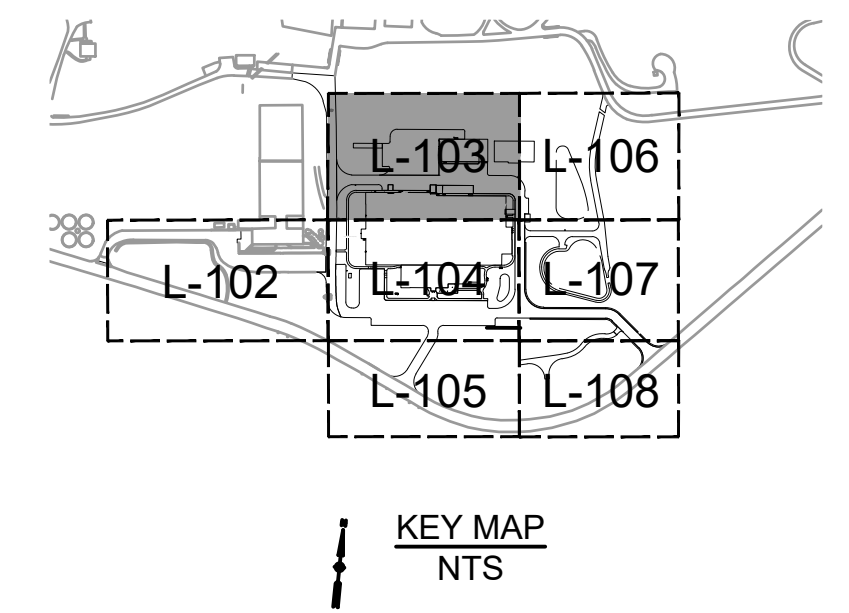


NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN MIX EXTENTS.
3. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
4. SEE PLANTING DETAILS ON L-202 AND L-203.

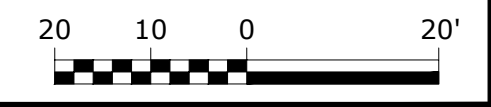
LEGEND:

- DEER PROTECTION CAGE
- HARDSCAPE
 - CONCRETE WALKWAY, SEE CIVIL DWGS
- GROUNDCOVER
 - LAWN MIX
 - UPLAND MEADOW
- ORNAMENTAL GRASSES
 - MCP - *Muhlenbergia capillaris*
- SHRUBS
 - ICH - *Ilex crenata* 'Hoogendorn'
- TREES
 - CR - *Carpinus caroliniana*



KEY MAP NTS

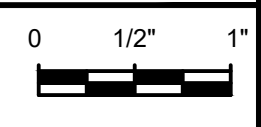
SCALE: 1" = 20'



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3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	K. CAMPOS
DRAWN BY:	K. CAMPOS
CHECKED BY:	E. MOSKALENKO
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



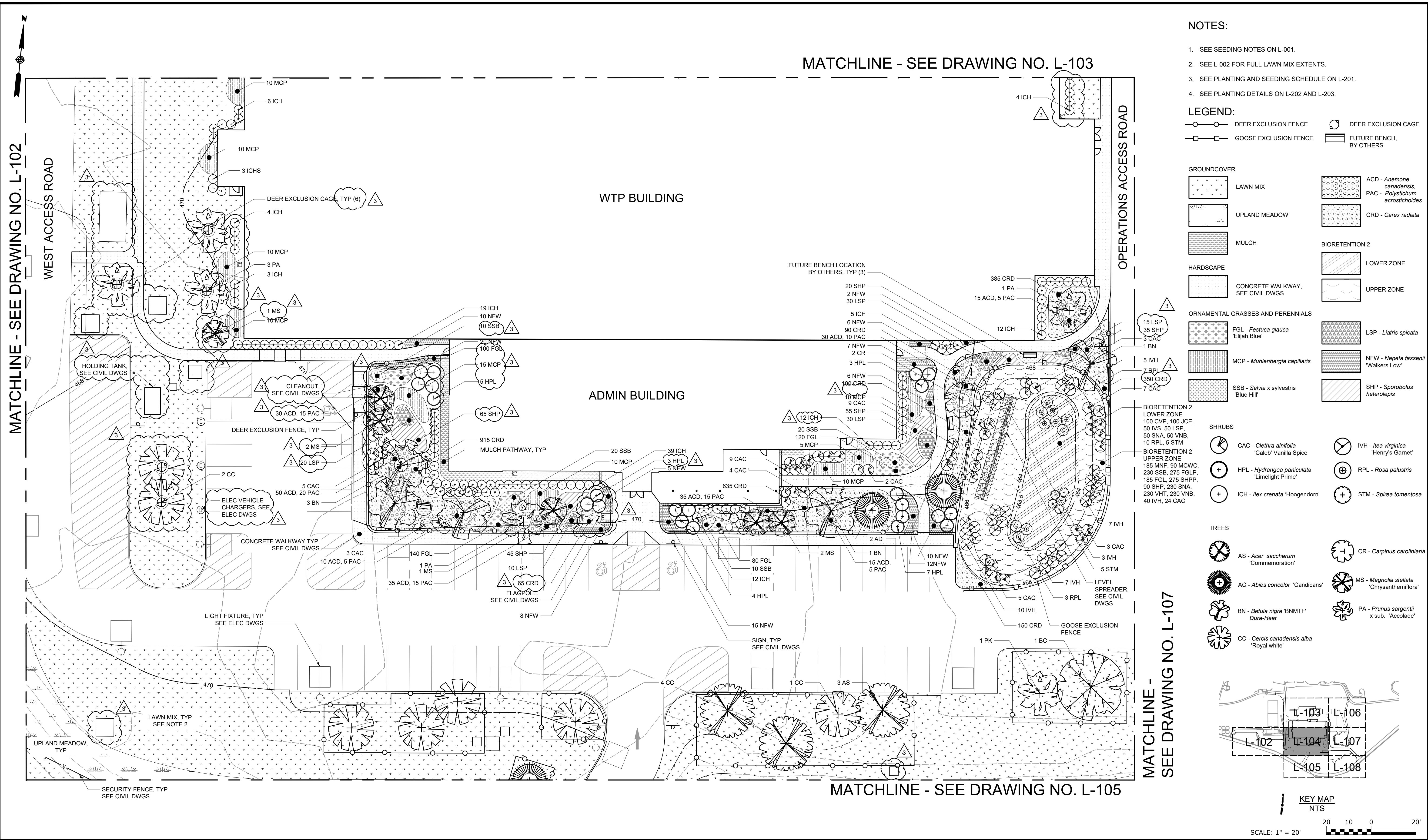
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
 WEST PARISH WATER TREATMENT PLANT

LANDSCAPE PLANTING PLAN - SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-103

File: C:\USERS\KCAMPOS\CADD\CADD\SHAZEN AND SAWYER\0398-004_WEST PARISH FILTER WTP\PROJECT FILES\LANDSCAPE\L-104.dwg
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MATCHLINE - SEE DRAWING NO. L-103

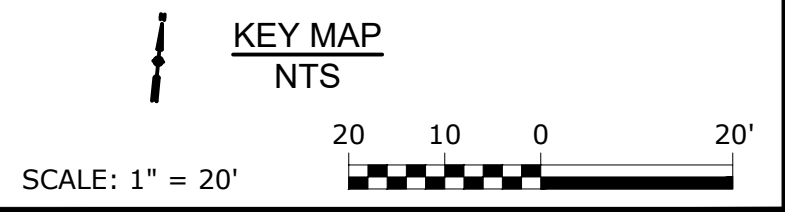
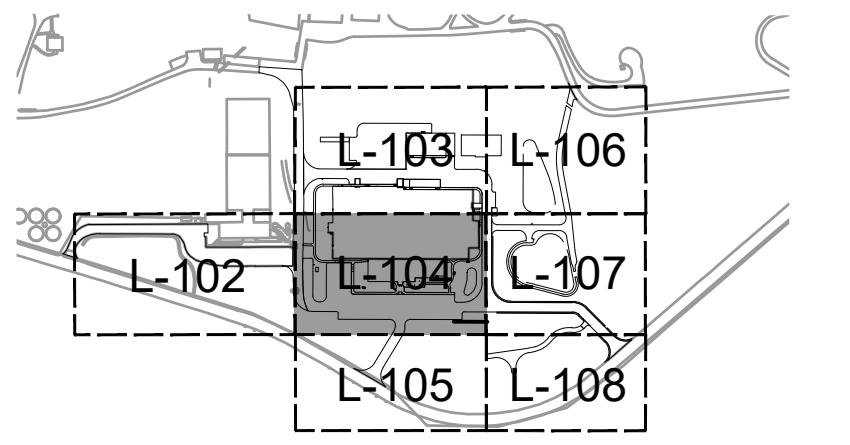
MATCHLINE - SEE DRAWING NO. L-102

MATCHLINE - SEE DRAWING NO. L-107

MATCHLINE - SEE DRAWING NO. L-105

- NOTES:**
- SEE SEEDING NOTES ON L-001.
 - SEE L-002 FOR FULL LAWN MIX EXTENTS.
 - SEE PLANTING AND SEEDING SCHEDULE ON L-201.
 - SEE PLANTING DETAILS ON L-202 AND L-203.

- LEGEND:**
- DEER EXCLUSION FENCE
 - GOOSE EXCLUSION FENCE
 - DEER EXCLUSION CAGE
 - FUTURE BENCH, BY OTHERS
- GROUNDCOVER**
- LAWN MIX
 - UPLAND MEADOW
 - MULCH
- HARDSCAPE**
- CONCRETE WALKWAY, SEE CIVIL DWGS
- ORNAMENTAL GRASSES AND PERENNIALS**
- FGL - *Festuca glauca* 'Elijah Blue'
 - MCP - *Muhlenbergia capillaris*
 - SSB - *Salvia x sylvestris* 'Blue Hill'
 - ACD - *Anemone canadensis*
 - PAC - *Polystichum acrostichoides*
 - CRD - *Carex radiata*
 - BIORETENTION 2 LOWER ZONE
 - BIORETENTION 2 UPPER ZONE
 - LSP - *Liatris spicata*
 - NFW - *Nepeta fassenii* 'Walkers Low'
 - SHP - *Sporobolus heterolepis*
- SHRUBS**
- CAC - *Clethra alnifolia* 'Caleb' Vanilla Spice
 - HPL - *Hydrangea paniculata* 'Limelight Prime'
 - ICH - *Ilex crenata* 'Hoogendorn'
 - IVH - *Itea virginica* 'Henry's Garnet'
 - RPL - *Rosa palustris*
 - STM - *Spirea tomentosa*
- TREES**
- AS - *Acer saccharum* 'Commemoration'
 - AC - *Abies concolor* 'Candicans'
 - BN - *Betula nigra* 'BNMTF' Dura-Heat
 - CC - *Cercis canadensis alba* 'Royal white'
 - CR - *Carpinus caroliniana*
 - MS - *Magnolia stellata* 'Chrysanthemiflora'
 - PA - *Prunus sargentii* x sub. 'Accolade'



PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	K. CAMPOS
DRAWN BY:	K. CAMPOS
CHECKED BY:	E. MOSKALENKO
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0 1/2" 1"	



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

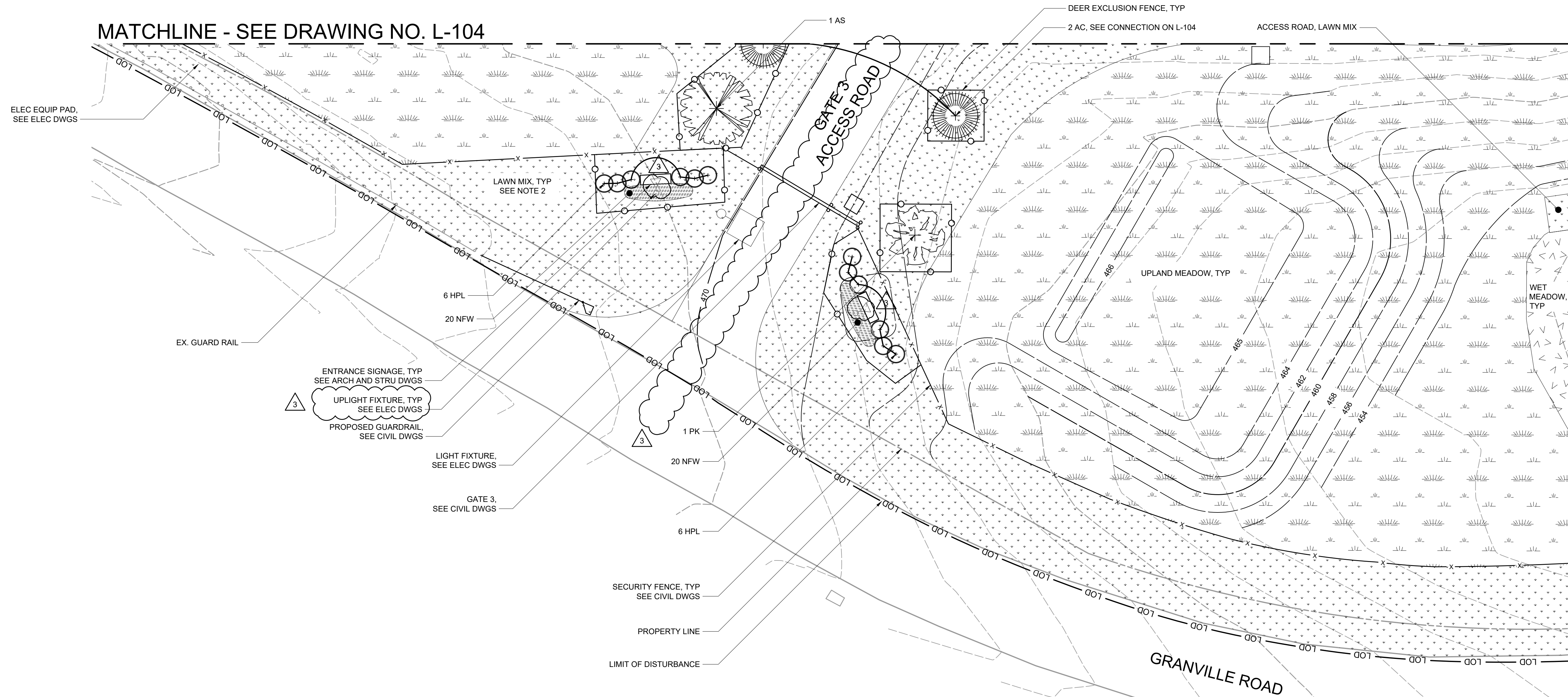
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE PLANTING PLAN - SHEET 4

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER: L-104



MATCHLINE - SEE DRAWING NO. L-104



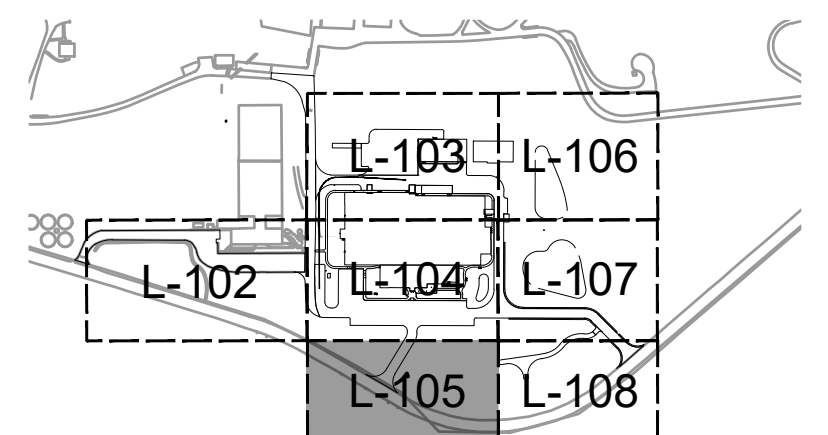
NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN MIX EXTENTS.
3. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
4. SEE PLANTING DETAILS ON L-202 AND L-203.

LEGEND:

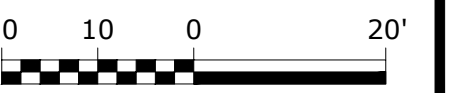
- LOD — LIMIT OF DISTURBANCE
- DEER EXCLUSION FENCE
- GROUNDCOVER
 - LAWN MIX
 - UPLAND MEADOW
 - WET MEADOW
- PERENNIALS
 - NFW - *Nepeta fassenii* 'Walkers Low'
- SHRUBS
 - HPL - *Hydrangea paniculata* 'Limelight Prime'
- TREES
 - AC - *Abies concolor* 'Candicans'
 - AS - *Acer saccharum* 'Commemoration'
 - PA - *Prunus sargentii* x sub. 'Accolade'

MATCHLINE - SEE DRAWING NO. L-108



KEY MAP
NTS

SCALE: 1" = 20'



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PLOT DATE: 3/29/2024 1:20 PM BY: KCAMPOS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

WASSACHUSETTS
ELIZABETH MOSKALENKO
REGISTERED LANDSCAPE ARCHITECT
NO. 4454
Elizabeth Moskalenko

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

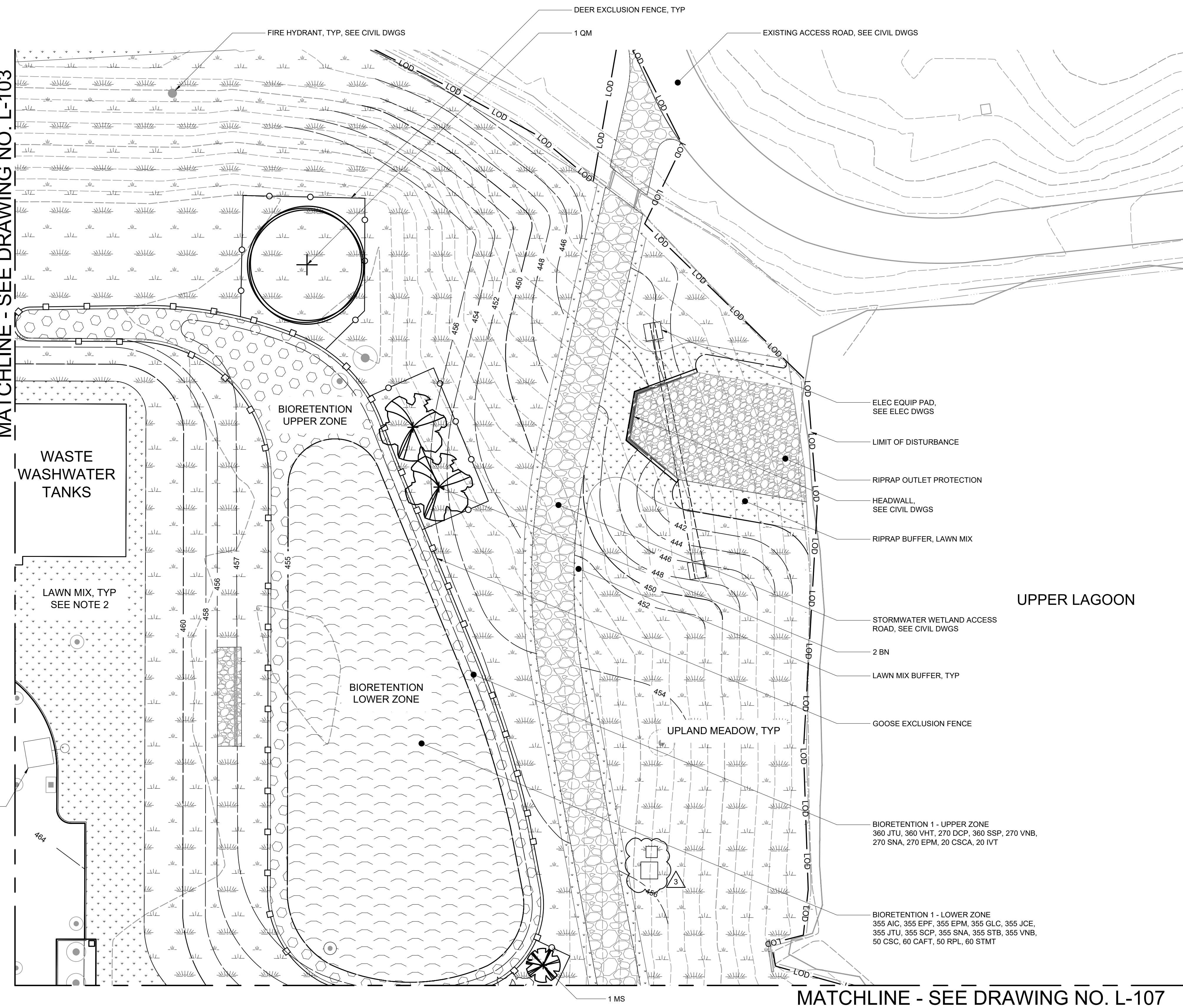
SPRINGFIELD WATER AND
SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE
PLANTING PLAN - SHEET 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-105



MATCHLINE - SEE DRAWING NO. L-103



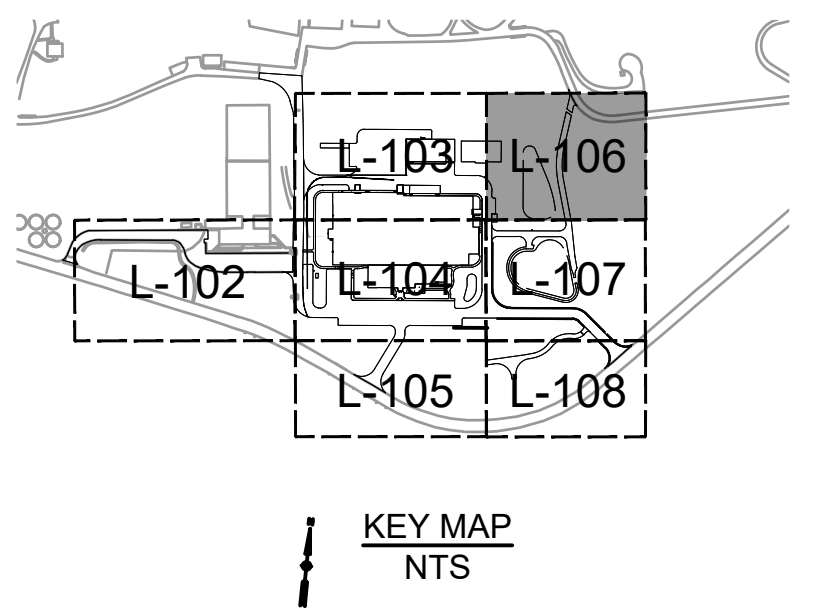
MATCHLINE - SEE DRAWING NO. L-107

NOTES:

- SEE SEEDING NOTES ON L-001.
- SEE L-002 FOR FULL LAWN MIX EXTENTS.
- SEE PLANTING AND SEEDING SCHEDULE ON L-201.
- SEE PLANTING DETAILS ON L-202 AND L-203.

LEGEND:

- LOD — LIMIT OF DISTURBANCE
 - DEER EXCLUSION FENCE
 - GOOSE EXCLUSION FENCE
- GROUNDCOVER**
- [Pattern] LAWN MIX
 - [Pattern] UPLAND MEADOW
- BIORETENTION**
- [Pattern] BIORETENTION 1 - LOWER ZONE
 - [Pattern] BIORETENTION 1 - UPPER ZONE
- TREES**
- [Symbol] BN - *Betula nigra* 'BNMTF' Dura-Heat
 - [Symbol] MS - *Magnolia stellata* 'Chrysanthemiflora'
 - [Symbol] QM - *Quercus macrocarpa*



SCALE: 1" = 20'

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PLOT DATE: 3/29/2024 1:21 PM BY: KCAMPOS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

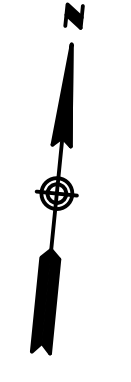


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE
PLANTING PLAN - SHEET 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-106



FIRE HYDRANT, TYP SEE CIVIL DWGS
FUTURE BENCH LOCATION BY OTHERS

FUTURE MILLSTONE LOCATION TYP (4)
SEE NOTE 5

BIORETENTION 1,
SEE L-106

1 MS
1 PA

ACCESS ROAD,
SEE CIVIL DWGS

MATCHLINE - SEE DRAWING NO. L-106

MATCHLINE - SEE DRAWING
NO. L-104

OPERATIONS ACCESS ROAD

METER
CHAMBER

RIPRAP OUTLET PROTECTION,
SEE CIVIL DWGS

RIPRAP BUFFER, LAWN MIX

LIMIT OF DISTURBANCE

UPPER LAGOON

STORMWATER
WETLAND

LAWN MIX BUFFER, TYP
GOOSE EXCLUSION FENCE
HIGH MARSH
225 CVP, 225 HMC, 225 IRS, 225 JEF,
225 LSB, 225 SSP, 225 SCP, 225 SPA,
75 COC, 50 CSC, 75 STM

LOW MARSH
190 CST, 190 CVP, 190 HMC, 190 IVC,
190 PCD, 190 SCA, 190 SPA
45 COC, 45 RPLS

SEMI-WET
16 ANV, 16 EML, 16 SRG,
16 SNA, 16 VHT, 16 200
4 CAFA, 4 CSC

2 BC
SEMI-WET
166 ANV, 166 EML, 166 SRG, 166
SNA, 166 VHT, 166 200
42 CAFA, 42 CSC

DEER EXCLUSION FENCE, TYP

1 AS
SEMI-WET
18 ANV, 18 EML, 18 SRG,
18 SNA, 18 VHT, 18 200
4 CAFA, 4 CSC

LIGHT FIXTURE, TYP
SEE ELEC DWGS

GUARD RAIL TYP
SEE CIVIL DWGS

LAWN MIX, TYP
SEE NOTE 2

UPLAND MEADOW, TYP

GATE 2,
SEE CIVIL DWGS
SECURITY FENCE,
SEE CIVIL DWGS

MATCHLINE - SEE DRAWING NO. L-108

PROPOSED ACCESS PATH,
LAWN MIX

BARRIER GATE,
SEE CIVIL DWGS

WET MEADOW, TYP

NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN MIX EXTENTS.
3. SEE PLANTING AND SEEDING SCHEDULE ON L-201.
4. SEE PLANTING DETAILS ON L-202 AND L-203.
5. FINAL LOCATION OF MILLSTONE TO BE AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT.

LEGEND:

- LOD — LIMIT OF DISTURBANCE
- ○ DEER EXCLUSION FENCE
- □ GOOSE EXCLUSION FENCE
- DEER PROTECTION CAGE
- ▭ FUTURE BENCH, BY OTHERS
- MILLSTONE

GROUND COVER

- LAWN MIX
- UPLAND MEADOW
- WET MEADOW

STORMWATER WETLAND

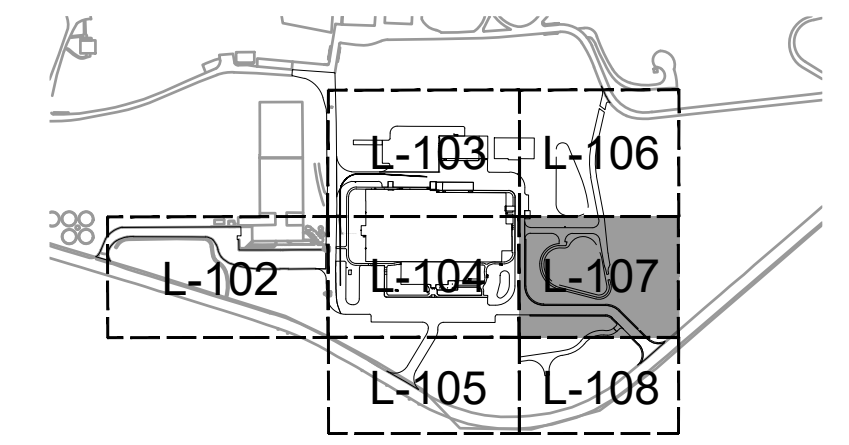
- SEMI-WET
- HIGH MARSH
- LOW MARSH

BIORETENTION

- BIORETENTION 1 UPPER ZONE

TREES

- AS - *Acer saccharum* 'Commemoration'
- BN - *Betula Nigra* 'Cully'
- CR - *Carpinus caroliniana*
- MS - *Magnolia stellata* 'Chrysanthemiflora'
- PA - *Prunus sargentii* x sub. 'Accolade'
- QM - *Quercus macrocarpa*



KEY MAP
NTS

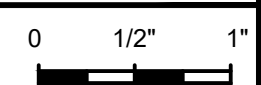
SCALE: 1" = 20'



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PLOT DATE: 3/20/2024 1:22 PM BY: KCAMPOS

REV	ISSUED FOR	DATE	BY
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	K. CAMPOS
DRAWN BY:	K. CAMPOS
CHECKED BY:	E. MOSKALENKO
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

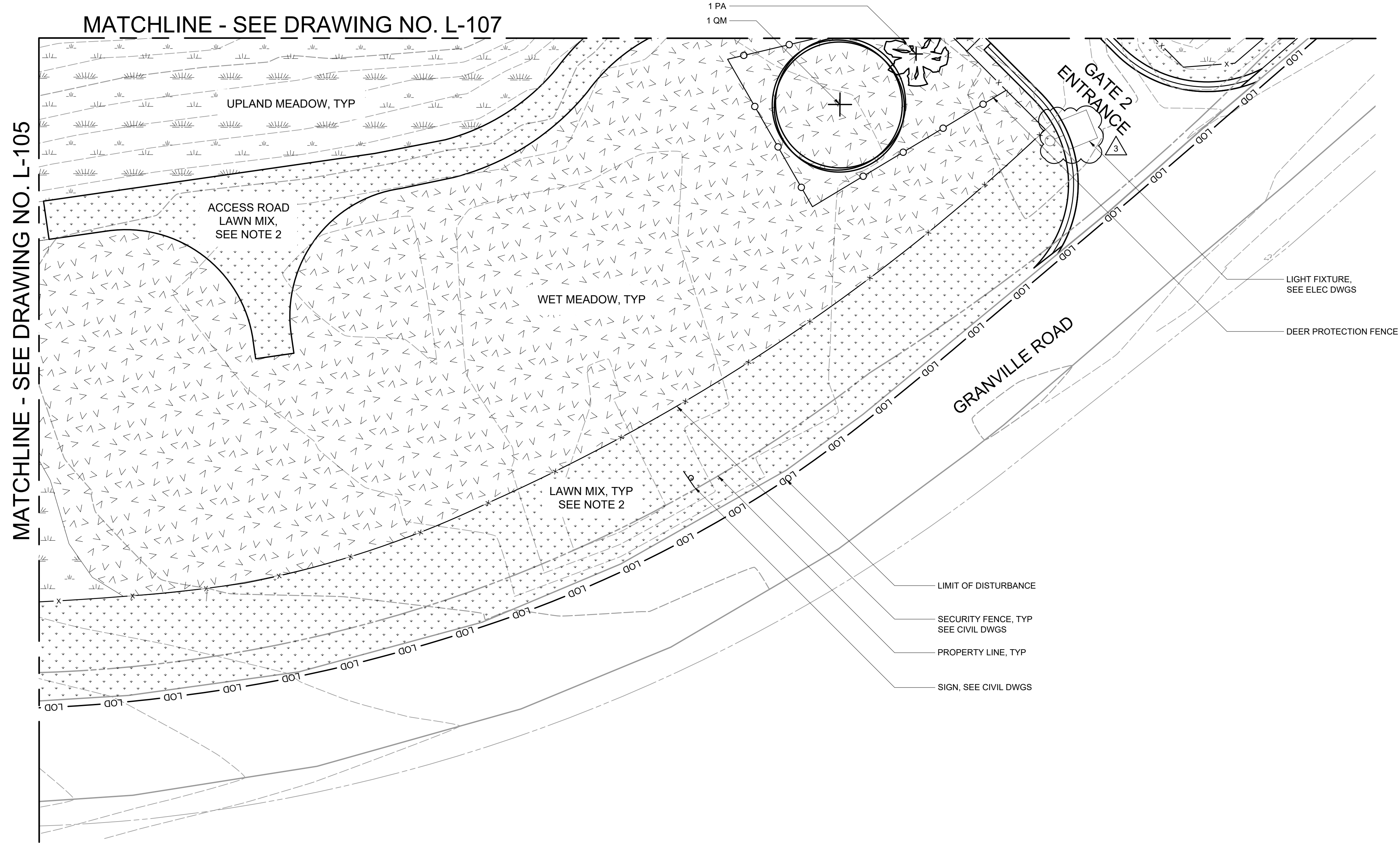


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND
SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

LANDSCAPE
PLANTING PLAN - SHEET 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	L-107



NOTES:

1. SEE SEEDING NOTES ON L-001.
2. SEE L-002 FOR FULL LAWN MIX EXTENTS.
3. SEE PLANTING SCHEDULE ON L-201 FOR PLANT QUANTITIES AND SEED MIXES.
4. SEE PLANTING DETAILS ON L-202 AND L-203.

LEGEND:

- LOD — LIMIT OF DISTURBANCE
- DEER EXCLUSION FENCE

GROUNDCOVER

- LAWN MIX
- UPLAND MEADOW
- WET MEADOW

TREES

- PA - *Prunus sargentii* x sub. 'Accolade'
- QM - *Quercus macrocarpa*

LIGHT FIXTURE,
SEE ELEC DWGS

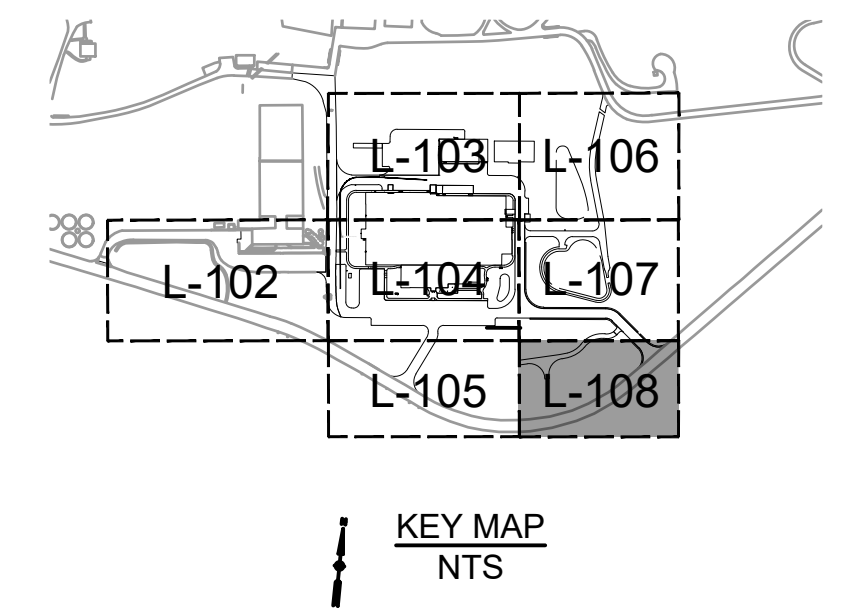
DEER PROTECTION FENCE

LIMIT OF DISTURBANCE

SECURITY FENCE, TYP
SEE CIVIL DWGS

PROPERTY LINE, TYP

SIGN, SEE CIVIL DWGS



KEY MAP
NTS

SCALE: 1" = 20'

File: C:\USERS\KCAMPOS\DRAWING\HAZEN AND SAWYER\PROJECT FILES\LANDSCAPE\L-108 Saved by KCAMPOS Save date: 3/29/2024 1:11 PM
PLOT DATE: 3/29/2024 1:22 PM BY: KCAMPOS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	K. CAMPOS		
DRAWN BY:	K. CAMPOS		
CHECKED BY:	E. MOSKALENKO		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE			
3	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

LANDSCAPE PLANTING PLAN - SHEET 8

DATE: FEBRUARY 2024

HAZEN NO.: 90398-004

CONTRACT NO.: 24-51

DRAWING NUMBER:
L-108

PLANTING SCHEDULES

QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	FORM	SPACING	COMMENTS
COOK BROOK							
Shrubs							
12	AMC	<i>Aronia melanocarpa</i>	black chokeberry	#5	cont	3' oc	
12	CAL	<i>Cornus alterniflora</i>	alternate-leaf dogwood	#5	cont	10' oc	
10	RVG	<i>Rosa virginiana</i>	Virginia rose	#5	cont	6' oc	
12	VBD	<i>Viburnum dentatum</i>	southern arrowwood	#5	cont	6' oc	
Trees							
6	AD	<i>Amelanchier canadensis</i>	serviceberry	#7	cont	as shown	
6	CR	<i>Carpinus caroliniana</i>	American hornbeam	#7	cont	as shown	
4	JV	<i>Juniperus virginiana</i>	eastern red cedar	#7	cont	as shown	Branch to ground
SITE PLANTINGS							
Forbs / Ornamental Grasses							
225	ACD	<i>Anemone canadensis</i>	windflower	LP32	plug	1.5' oc	Plant in groups of 3, 5, and 7
2,780	ERD	<i>Carex radiata</i>	eastern star sedge	LP32	plug	10' oc	
450	FGL	<i>Festuca glauca</i> 'Elijah Blue'	blue fescue 'Elijah Blue'	#1	cont	1' oc	
105	LSP	<i>Liatris spicata</i>	dense blazing star	LP32	plug	1.5' oc	
100	MCP	<i>Muhlenbergia capillaris</i>	pink muhly grass	#3	cont	3' oc	
150	NFW	<i>Nepeta fassenii</i> 'Walkers Low'	Catmint 'Walkers Low'	#1	cont	2.5' oc	
90	PAC	<i>Polystichum acrostichoides</i>	christmas fern	N/A	tubeling	1.5' oc	Plant in groups of 3, 5, and 7
185	SHP	<i>Sporobolus heterolepis</i>	prairie dropseed	#1	cont	1.5' oc	
68	SSB	<i>Salvia x sylvestris</i> 'Blue Hill'	blauhugel sage	#1	cont	1.5' oc	
Shrubs							
26	CAC	<i>Clethra alnifolia</i> 'Caleb' Vanilla Spice	Vanilla Spice summersweet	#5	cont	4' oc	Multi-stem
34	HPL	<i>Hydrangea paniculata</i> 'Limelight Prime'	Limelight prime hydrangea	#7	cont	6' oc	Multi-stem
142	ICH	<i>Ilex crenata</i> 'Hoogendorn'	Hoogendorn Japanese holly	#5	cont	4' oc	Multi-stem
Trees							
4	AC	<i>Abies concolor</i> 'Candicans'	Candicans white fir	8/10'	B&B	as shown	Branch to ground
5	AS	<i>Acer saccharum</i> 'Commemoration'	Commemoration sugar maple	2.5 - 3" cal	B&B	as shown	Limb up to 7'
4	BC	<i>Betula nigra</i> 'Cully'	Heritage river birch	7/8'	clump	as shown	Multi-stem; Limb up to 6'
7	BN	<i>Betula nigra</i> 'BNMTF Dura-Heat'	Dura Heat river birch	8/10'	clump	as shown	Multi-stem; Limb up to 6'
7	CC	<i>Cercis canadensis</i> 'Royal White'	eastern redbud 'Royal White'	8/10'	cont	as shown	Limb up to 6'
5	CR	<i>Carpinus caroliniana</i>	American hornbeam	1.5 - 2" cal	B&B	as shown	Limb up to 6'
8	MS	<i>Magnolia stellata</i> 'Chrysanthemiflora'	Chrysanthemiflora star magnolia	5/6'	clump	as shown	Limb up to 6'
10	PA	<i>Prunus sargentii</i> sub. 'Accolade'	Japanese flowering cherry 'Accolade'	2.5 - 3" cal	B&B	as shown	Limb up to 6'
3	QM	<i>Quercus macrocarpa</i>	bur oak	2 - 2.5" cal	B&B	as shown	Limb up to 7'
BIORETENTION 1 - LOWER ZONE (11,550 SF)							
355	AIC	<i>Asclepias incarnata</i>	swamp milkweed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	EPF	<i>Eupatorium perfoliatum</i>	American boneset	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	EPM	<i>Eupatorium maculatum</i>	spotted joe pye-weed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	GLC	<i>Glyceria canadensis</i>	rattlesnake manna grass	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	JCE	<i>Juncus effusus</i>	common rush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	JTU	<i>Juncus tenuis</i>	slender rush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	SCP	<i>Scirpus cyperinus</i>	wool grass	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	SNA	<i>Symphotrichum novae-angliae</i>	New England aster	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	STB	<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
355	VNB	<i>Vernonia noveboracensis</i>	New York ironweed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
50	CSCA	<i>Cornus sericea</i>	red osier dogwood	#1	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
60	CAFT	<i>Clethra alnifolia</i>	sweet pepperbush	72	tubeling	3' oc	Plant in groups of 3, 5, and 7
50	RPL	<i>Rosa palustris</i>	swamp rose	#1	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
60	STMT	<i>Spirea tomentosa</i>	steepleshub	72	tubeling	3' oc	Plant in groups of 3, 5, and 7
BIORETENTION 1 - UPPER ZONE (5,250 SF)							
Forbs / Grasses							
360	JTU	<i>Juncus tenuis</i>	slender rush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
360	VHT	<i>Verberna hastata</i>	blue vervain	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
270	DCP	<i>Eupatorium maculatum</i>	spotted joe pye-weed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
360	SSP	<i>Schizachyrium scoparium</i>	little blue stem	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
270	VNB	<i>Symphotrichum novae-angliae</i>	New England aster	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
270	SNA	<i>Verberna hastata</i>	blue vervain	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
270	EPM	<i>Eupatorium perfoliatum</i>	spotted joe pye-weed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
20	CSCA	<i>Cornus sericea</i>	red osier dogwood	#1	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
20	IVT	<i>Ilex verticillata</i>	winterberry	#1	cont	5' oc	50% male, 50% female; Multi-stem; Plant in groups of 3, 5, and 7

QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	FORM	SPACING	COMMENTS
BIORETENTION 2 - LOWER ZONE (1,600 SF)							
100	CVP	<i>Carex vulpinoidea</i>	fox sedge	LP50	plug	1.5' oc	Plant in groups of 5, 7, 9
100	JCE	<i>Juncus effusus</i>	common rush	LP50	plug	1.5' oc	Plant in groups of 5, 7, 9
230	IVS	<i>Iris versicolor</i>	bluhugel sage	LP32	plug	1.5' oc	Plant in groups of 5, 7, 9
50	LSP	<i>Liatris spicata</i>	dense blazing star	LP32	plug	1.5' oc	Plant in groups of 5, 7, 9
50	SNA	<i>Symphotrichum novae-angliae</i>	New England aster	LP32	plug	1.5' oc	Plant in groups of 5, 7, 9
50	VNB	<i>Vernonia noveboracensis</i>	New York ironweed	LP32	plug	1.5' oc	Plant in groups of 5, 7, 9
Shrubs							
10	RPL	<i>Rosa palustris</i>	swamp rose	#5	cont	as shown	Multi-stem
5	STM	<i>Spirea tomentosa</i>	steepleshub	#3	cont	as shown	Multi-stem
BIORETENTION 2 - UPPER ZONE (3,270 SF)							
185	MINF	<i>Monarda fistulosa</i>	wild bergamot	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
90	MCWC	<i>Muhlenbergia capillaris</i>	pink muhly grass	#3	cont	2.5' oc	Plant in groups of 10, 15, and 20
230	SSB	<i>Salvia x sylvestris</i> 'Blue Hill'	blauhugel sage	#1	cont	1.5' oc	Plant in groups of 10, 15, and 20
275	FGLP	<i>Festuca glauca</i> 'Elijah Blue'	blue fescue 'Elijah Blue'	LP32	plug	1' oc	Plant in groups of 10, 15, and 20
185	FGL	<i>Festuca glauca</i> 'Elijah Blue'	blue fescue 'Elijah Blue'	#1	cont	1' oc	Plant in groups of 10, 15, and 20
275	SHP	<i>Sporobolus heterolepis</i>	prairie dropseed	LP50	cont	1' oc	Plant in groups of 10, 15, and 20
90	SHP	<i>Sporobolus heterolepis</i>	prairie dropseed	#1	cont	1.5' oc	Plant in groups of 10, 15, and 20
230	SNA	<i>Symphotrichum novae-angliae</i>	New England aster	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
230	VHT	<i>Verberna hastata</i>	blue vervain	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
230	VNB	<i>Vernonia noveboracensis</i>	New York ironweed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
40	IVH	<i>Itea virginica</i> 'Henry's Garnet'	Virginia sweetspire	#3	cont	as shown	Multi-stem
24	CAC	<i>Clethra alnifolia</i> 'Caleb' Vanilla Spice	Vanilla Spice summersweet	#5	cont	as shown	Multi-stem
STORMWATER WETLAND							
Low Marsh : EL 453.5 - 454.0 (4,240 SF)							
Herbaceous							
190	CST	<i>Carex stricta</i>	tussock sedge	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	CVP	<i>Carex vulpinoidea</i>	fox sedge	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	HMC	<i>Hibiscus moscheutos</i>	marsh hibiscus	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	IVC	<i>Iris versicolor</i>	northern blue flag	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	PCD	<i>Pontederia cordata</i>	pickerel weed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	SCA	<i>Schoenoplectus acutus</i>	hardstem bulrush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
190	SPA	<i>Sparganium americanum</i>	eastern burr-reed	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
45	COC	<i>Cephalanthus occidentalis</i>	buttonbush	#3	cont	3' oc	Multi-stem; Plant in groups of 3, 5, and 7
45	RPLS	<i>Rosa palustris</i>	swamp rose	#1	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
High Marsh : EL 454.0 - 454.5 (6,240 SF)							
Herbaceous							
225	CVP	<i>Carex vulpinoidea</i>	fox sedge	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	HMC	<i>Hibiscus moscheutos</i>	marsh hibiscus	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	IRS	<i>Iris pseudacorus</i>	yellow water iris	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	JEF	<i>Juncus effusus</i>	common rush	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	LSB	<i>Lilium superbum</i>	turkscap lily	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	SSP	<i>Schoenoplectus pungens</i>	common three-square	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	SCP	<i>Scirpus cyperinus</i>	wool grass	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
225	SPA	<i>Sparganium americanum</i>	eastern burr-reed	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
75	COC	<i>Cephalanthus occidentalis</i>	buttonbush	#3	cont	3' oc	Multi-stem; Plant in groups of 3, 5, and 7
50	CSC	<i>Cornus sericea</i>	red osier dogwood	#3	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
75	STM	<i>Spirea tomentosa</i>	steepleshub	#3	cont	4' oc	Multi-stem; Plant in groups of 3, 5, and 7
Semi-wet : EL 454.5 - 457 (4,530 SF)							
Herbaceous							
200	ANV	<i>Andropogon virginicus</i>	broomsedge	LP50	plug	1.5' oc	Plant in groups of 10, 15, and 20
200	EML	<i>Eupatorium maculatum</i>	spotted joe pye-weed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
200	SRG	<i>Solidago rugosa</i>	rough goldenrod	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
200	SNA	<i>Symphotrichum novae-angliae</i>	New England aster	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
200	VHT	<i>Verberna hastata</i>	American blue vervain	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
200	VNB	<i>Vernonia noveboracensis</i>	New York ironweed	LP32	plug	1.5' oc	Plant in groups of 10, 15, and 20
Shrubs							
50	CAFA	<i>Clethra alnifolia</i>	sweet pepperbush	#3	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7
50	CSC	<i>Cornus sericea</i>	red osier dogwood	#3	cont	5' oc	Multi-stem; Plant in groups of 3, 5, and 7

SEEDING SCHEDULES

SCIENTIFIC NAME	COMMON NAME	% by wt.
RIPARIAN MIX		
<i>Elymus virginicus</i>	Virginia wildrye	25
<i>Sorghastrum nutans</i>	indiangrass	25
<i>Juncus effusus</i>	soft rush	15
<i>Ageratum altissima</i>	white snakeroot	5
<i>Eupatorium fistulosum</i>	joe pye weed	5
<i>Eupatorium perfoliatum</i>	boneset	5
<i>Eurybia divaricata</i>	white wood aster	5
<i>Rudbeckia hirta</i>	black-eyed susan	5
<i>Solidago rugosa</i>	wrinkle-leaf goldenrod	5
<i>Vernonia noveboracensis</i>	New York ironweed	5
	Total	100
Note: Riparian Mix to be seeded at a rate of 15 lbs/acre and overseeded with 15 lbs/acre of Avena sativa (oat seed) Cover Crop.		
LAWN MIX		
<i>Poa pratensis</i>	Kentucky blue grass	60
<i>Festuca spp</i>	fine fescue	20
<i>Lolium perenne</i>	perennial ryegrass	20
	Total	20
Note: Lawn Mix to be seeded at a rate of 220 lbs/acre.		
UPLAND MEADOW MIX		
<i>Schizachyrium scoparium</i>	little blue stem	20
<i>Bouteloua curtipendula</i>	sideoats grass	10
<i>Deschampsia cespitosa</i>	tufted hair grass	10
<i>Sporobolus heterolepis</i>	prairie dropseed	10
<i>Andropogon virginicus</i>	broomsedge	5
<i>Monarda punctata</i>	spotted beebalm	5
<i>Solidago nemoralis</i>	gray goldenrod	5
<i>Solidago rugosa</i>	rough stemmed goldenrod	3
<i>Liatris spicata</i>	dense blazing star	3
<i>Asclepias syriaca</i>	common milkweed	3
<i>Coreopsis lanceolata</i>	lance-leaf coreopsis	3
<i>Dalea purpurea</i>	purple prairie clover	3
<i>Monarda didyma</i>	red beebalm	3
<i>Verberna hastata</i>	blue vervain	3
<i>Vernonia noveboracensis</i>	New York ironweed	2
<i>Helianthus pauciflorus</i>	showy sunflower	2
<i>Asclepias tuberosa</i>	butterfly weed	2
<i>Echinacea pallida</i>	pale purple coneflower	2
<i>Monarda fistulosa</i>	wild bergamot	2
<i>Rudbeckia hirta</i>	black-eyed susan	2
<i>Symphotrichum oblongifolium</i>	aromatic aster	2
	Total	100
Note: Upland Meadow Mix to be seeded at a rate of 15 lbs/acre and overseeded with 15 lbs/acre of Avena sativa (oat seed) Cover Crop.		
WET MEADOW MIX		
<i>Asclepias syriaca</i>	common milkweed	3
<i>Asclepias tuberosa</i>	butterfly weed	3
<i>Bidens cernua</i>	nodding bur marigold	3
<i>Elymus virginicus</i>	Virginia wildrye	2
<i>Carex brevior</i>	plains oval sedge	2
<i>Deschampsia cespitosa</i>	tufted hair grass	10
<i>Eupatorium perfoliatum</i>	boneset	5
<i>Eupatorium maculatum</i>	spotted joe pye-weed	3
<i>Juncus dudleyi</i>	dudley's rush	5
<i>Juncus effusus</i> </		

07 42 63.3 - CEMENTITIOUS CORNER PANELS PROVIDE QUIRK MITER PANEL JOINTS AT ALL OUTSIDE CORNER CONDITIONS IN CEMENTITIOUS WALL PANEL SYSTEM.

07 42 63.4 - CEMENTITIOUS TEXTURED BAND PROVIDE UHPC TEXTURED BAND PANELS IN LOCATIONS AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

07 42 63.5 - CEMENTITIOUS CAST RETURN PROVIDE CAST RETURN IN CEMENTITIOUS WALL PANEL SYSTEM IN LOCATIONS AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

07 42 63.6 - PERFORATED METAL CLOSURE PROVIDE PERFORATED METAL CLOSURE WHERE CEMENTITIOUS PANEL SYSTEM TERMINATES AT ALL HEAD AND BASE OF WALL CONDITIONS AS WORK OF 07 42 63 CEMENTITIOUS WALL PANEL SYSTEMS. PERFORATED METAL CLOSURE TO MATCH FINISH OF ADJACENT WINDOW OR DOOR FRAME AS SELECTED BY ARCHITECT.

07 42 63.7 - SOLID METAL CLOSURE PROVIDE SOLID METAL CLOSURE WHERE CEMENTITIOUS PANEL SYSTEM TERMINATES AT ALL OPENINGS AS WORK OF 07 42 63 CEMENTITIOUS WALL PANEL SYSTEMS. SOLID METAL CLOSURE TO MATCH FINISH OF ADJACENT WINDOW OR DOOR FRAME AS SELECTED BY ARCHITECT.

07 52 00.0 BUILT-UP ROOFING - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR ROOFING AND FLASHING)

07 52 00.0 - BUILT-UP ROOFING SYSTEM PROVIDE FOUR PLY HOT ASPHALT APPLIED MODIFIED BITUMEN MEMBRANE ROOFING SYSTEM WITH MINERAL GRANULE SURFACE CAP SHEET THROUGHOUT ALL ROOF AREAS AS INDICATED ON THE ARCHITECTURAL DRAWINGS. PROVIDE ROOFING SYSTEM OVER 5/8-INCH PROTECTION BOARD, OVER TAPERED POLYISOCYANURATE INSULATION PITCHED AT 1/4-INCH PER FOOT OVER CONTINUOUS UNTAPERED POLYISOCYANURATE INSULATION OVER VAPOR RETARDER TO ACHIEVE R-30 CONTINUOUS INSULATION SYSTEM. PROVIDE SST COUNTER FLASHING AT ALL VERTICAL PENETRATIONS. VERIFY ALL FIELD CONDITIONS PRIOR TO START OF WORK.

07 52 00.1 - CRICKET PROVIDE CRICKETS AT ALL ROOF PADS AND ROOF CURBS. CRICKET SLOPE SHALL BE 1/2-INCH PER FOOT.

07 52 00.2 - DRAINAGE CRICKET PROVIDE 1/2-INCH PER FOOT CRICKET SLOPE TO ROOF DRAINS. HIGH POINT OF DRAINAGE SLOPE SHALL BE 2-INCHES ABOVE LOW POINT OF ROOF.

07 52 00.3 - COVER BOARD PROVIDE 5/8-INCH THICK GYPSUM FIBER ROOF BOARD ADHERED TO TAPERED ROOF INSULATION. ROOF COVER BOARD IS TO BE INSTALLED VERTICALLY OVER WALL INSULATION AT ALL WALLS ADJACENT TO FLAT AND SLOPED ROOFS. ROOF COVER BOARD SHALL CONTINUE VERTICALLY AT PARAPET WALLS AND OVER TOP OF PARAPET WALLS UNDER EARTH COPING.

07 52 00.4 - ROOF WALKWAY PADS PROVIDE ROOF WALKWAY PADS TO LEAD FROM ACCESS OPENING, LADDER OR STAIR TO EACH PIECE OF ROOF TOP EQUIPMENT WHETHER OR NOT SHOWN ON ARCHITECTURAL DRAWING AND AS PER 07 52 00.

07 52 00.5 - REINFORCED VAPOR RETARDER PROVIDE POLYETHYLENE-REINFORCED SELF-SEALING VAPOR RETARDER OVER PRIMED CONCRETE ROOF DECK IN ACCORDANCE WITH 07 52 00.

07 52 00.6 - ROOFING BOARD INSULATION PROVIDE MINIMUM THICKNESS OF CONTINUOUS UNTAPERED ROOF INSULATION THROUGHOUT ROOF AREA WITH 1/4-INCH PER FOOT TAPERED INSULATION LAID ONTO TOP OF UNTAPERED INSULATION TO ACHIEVE A THERMAL RESISTANCE VALUE OF NO LESS THAN R-30. PROVIDE 1/2-INCH BACK SLOPE AT WALLS TO CREATE POSITIVE DRAINAGE TO THE ROOF DRAINS AND SCUPPERS. PROVIDE MINIMUM THICKNESS OF CONTINUOUS INSULATION OF R-12.5 AT TOP OF BACK SIDE OF PARAPET. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS OVER VAPOR RETARDER ONTO STRUCTURAL ROOF SYSTEM.

07 52 00.7 - ROOF SYSTEM EXPANSION JOINT PROVIDE ROOF SYSTEM EXPANSION JOINT BETWEEN BUILDING FOR FULL EXTENT OF ROOFING SYSTEM INCLUDING BUT NOT LIMITED TO ROOF MEMBRANE SURFACE HORIZONTAL AND VERTICAL CONDITIONS UP TO AND INCLUDING THE FASCIA CONDITION. SEAL TRANSITION TO WALL CONDITION AT EXPANSION JOINT.

07 52 00.8 - ROOF RAILING AND LADDER POSTS PENETRATIONS COORDINATE VERTICAL PENETRATION OF ROOF TOP RAILINGS AND LADDERS WITH THE REQUIREMENTS OF SECTION 07 52 00 BUILT-UP ROOFING SYSTEM. REFER TO NOTE 05 52 00.1 - ALUMINUM RAILING SYSTEM AND 05 51 33.1 - ALUMINUM LADDERS.

07 52 00.9 - ROOF CURBS COORDINATE INSTALLATION OF SECTION 07 52 00 - BUILT-UP BITUMINOUS ROOFING WITH ALL ROOF EQUIPMENT CURB PROVIDED AS WORK OF DIVISION 23.

07 60 00 SHEET METAL FLASHING AND TRIM - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR ROOFING AND FLASHING)

07 60 00.0 - SHEET METAL FLASHING PROVIDE SHEET METAL FLASHING AS SPECIFIED IN SECTION 07 60 00 - FLASHING AND SHEET METAL, AS REQUIRED THROUGHOUT BUILDING ASSEMBLIES AND PENETRATIONS. FLASHING SHALL EXTEND A MINIMUM OF 8" VERTICAL RETURN AT REAR OF ASSEMBLY. REFER TO SECTIONS 04 22 23.23. PREFABRICATED CONCRETE UNIT MASONRY, 04 43 00. STONE MASONRY, 07 42 63 - CEMENTITIOUS WALL PANELS, 08 45 23 - TRANSLUCENT WALL ASSEMBLIES FOR FLASHING REQUIREMENTS AT WALL ASSEMBLIES. REFER TO NOTE 07 60 00.2 FOR WINDOW AND LOUVER CONDITIONS. PROVIDE SEPARATION FOR ALL DISSIMILAR METAL.

07 60 00.1 - CORNER FLASHING PROVIDE MITERED WELDED CORNERS AT ALL INTERIOR AND EXTERIOR CORNERS ALONG THE EXTERIOR WALL SYSTEM IN ACCORDANCE WITH SECTION 07 60 00 - FLASHING AND SHEET METAL.

07 60 00.2 - SILL FLASHING AT ALL OPENINGS/SILL CONDITIONS, PROVIDE FLASHING AS SPECIFIED IN SECTION 07 60 00 - FLASHING AND SHEET METAL. TURN UP FLASHING AT SIDE OF SILL TO ALIGN WITH UNDERSIDE OF WINDOW AND LOUVER FRAMES TO CREATE END DAM CONDITION. REFER TO SECTIONS 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONT, 08 44 13 - GLAZED ALUMINUM CURTAIN WALL SYSTEM, 08 91 20 - FIXED LOUVERS FOR SILL FLASHING REQUIREMENTS. PROVIDE SEPARATION FOR ALL DISSIMILAR METAL. SILL FLASHING TO MATCH FINISH OF ADJACENT WINDOW, DOOR, LOUVER OR TRANSLUCENT PANEL FRAME AS SELECTED BY ARCHITECT.

07 70 00 ROOF SPECIALTIES - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR ROOFING AND FLASHING)

07 70 00.0 - PARAPET COPING UNITS PROVIDE ALUMINUM COPING UNITS WITH MITERED WELDED CORNERS, SPLICE PLATES AND JOINT TRIM, RETAINER CLIPS, COMPRESSION PADS, FASTENERS, AND OTHER ACCESSORIES REQUIRED TO MAKE A COMPLETE INSTALLATION, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

07 70 00.1 - PROFILED FASCIA PROVIDE ALUMINUM PROFILED FASCIA WITH CANT DAM, MITERED WELDED CORNERS, SPLICE PLATES AND JOINT TRIM, RETAINER CLIPS, COMPRESSION PADS, FASTENERS, AND OTHER ACCESSORIES REQUIRED TO MAKE A COMPLETE INSTALLATION, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE FASCIA EXTENSION AS INDICATED ON THE ARCHITECTURAL DRAWINGS. PROVIDE PROFILE FASCIA STOP END AT TRANSITION TO WORK OF NOTE 07 70 00.2 GRAVEL STOP FASCIA.

07 70 00.2 - GRAVEL STOP FASCIA PROVIDE GRAVEL STOP FASCIA UNITS WITH MITERED WELDED CORNERS, CONCEALED SPLICE PLATES AND JOINT TRIM, RETAINER CLIPS, COMPRESSION PADS, FASTENERS, AND OTHER ACCESSORIES REQUIRED TO MAKE A COMPLETE INSTALLATION, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE FASCIA EXTENSION AS INDICATED ON THE ARCHITECTURAL DRAWINGS. PRIOR TO THE INSTALLATION OF THE FASCIA, ALLOW FOR AND COORDINATE THE INSTALLATION OF VAPOR BARRIER AND TRANSITION MEMBRANE AS WORK OF SECTION 07 27 26.

07 70 00.3 - DOWNSPOUTS PROVIDE 6-INCH SQUARE ALUMINUM DOWNSPOUTS, INCLUDING ALL ACCESSORIES FOR A COMPLETE ASSEMBLY IN ACCORDANCE WITH SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES. DOWNSPOUTS AT WEST FAÇADE OF THE WATER TREATMENT BUILDING SHALL BE 6-INCH BY 6-INCH DOWNSPOUTS THAT ARE CONNECTED TO WORK OF NOTE 07 70 00.5 OVERFLOW SCUPPERS SHALL TERMINATE A MINIMUM OF 18" ABOVE ADJACENT GRADE. PROVIDE DOWNSPOUT BOOT IN ACCORDANCE WITH SECTION 07 70 00 ROOF SPECIALTIES WHERE DOWNSPOUT CONNECTS TO UNDERGROUND STORMWATER PIPING. REFER TO CIVIL DRAWINGS FOR DOWNSPOUT BOOT TIE-IN LOCATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL OF DOWNSPOUTS CONNECTED TO WORK OF NOTE 07 70 00.6 SCUPPER COLLECTOR BOX.

07 70 00.4 - ROOF SCUPPER PROVIDE ALUMINUM ROOF SCUPPER FULLY WELDED WITH FLANGE AND INTEGRATED LIP IN ACCORDANCE WITH 07 60 00 - SHEET METAL FLASHING. PROVIDE SCUPPER COLLECTOR BOX AND DOWNSPOUT IN ACCORDANCE WITH SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES.

07 70 00.5 - OVERFLOW SCUPPER PROVIDE ALUMINUM OVERFLOW SCUPPER FULLY WELDED WITH FLANGE AND INTEGRATED LIP IN ACCORDANCE WITH 07 60 00 - SHEET METAL FLASHING. PROVIDE SCUPPER COLLECTOR BOX AND DOWNSPOUT IN ACCORDANCE WITH SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES.

07 70 00.6 - SCUPPER COLLECTOR BOX PROVIDE RAISED ALUMINUM SCUPPER COLLECTOR BOX FULLY WELDED WITH FLANGE AND INTEGRATED LIP IN ACCORDANCE WITH SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES. SCUPPER COLLECTOR BOX TO BE PROVIDED AT ROOF SCUPPERS AND OVERFLOW SCUPPERS. PROVIDE DOWNSPOUT PER NOTE 07 70 00.3 AT ALL SCUPPER COLLECTOR BOX LOCATIONS. SCUPPER COLLECTOR BOXES AT WEST FAÇADE OF THE WATER TREATMENT BUILDING SHALL BE SIZED TO ACCOMMODATE WORK OF NOTE 22 14 13.0 DOWNSPOUT NOZZLE. REFER TO ARCHITECTURAL DRAWINGS FOR SCUPPER COLLECTOR BOX SIZES.

07 70 00.7 - SPLASH BLOCK PROVIDE SPLASH BLOCK WHERE LEADERS TERMINATE AT GRADE AND AT FLAT ROOF. REFER TO SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES.

07 70 00.8 - METAL ROOF NAILER PROVIDE PREMANUFACTURED METAL ROOF NAILER ALTERNATIVE TO WOOD BLOCKING COMPLYING WITH TESTING REQUIREMENTS OF SECTION 07 70 00 - ROOF SPECIALTIES AND ACCESSORIES.

07 84 00 FIRESTOPPING

07 84 00.0 - FIRESTOPPING INSTALL SAFING INSULATION AND FIRE STOP SYSTEMS TO PROVIDE A CONTINUOUS FIRE RATED FIRE BARRIER IN AREAS SHOWN AND AT THE PERIMETER OF ALL FIRE-RATED PARTITIONS, SLABS, INTERSECTION OF FIRE RATED ASSEMBLIES, JOINTS AND POKE THROUGH FLOOR AND WALL PENETRATIONS TO MAINTAIN THE CONTINUITY OF FIRE-RATED CONSTRUCTION WHETHER OR NOT SHOWN.

07 84 00.1 - FIRESTOPPING AT MASONRY WALLS WHERE UNIT MASONRY WALLS OR PARTITIONS ARE DESIGNATED AS FIRE RATED PROVIDE UL ASSEMBLY CONSISTING OF FIRE RATED SEALANT ASSEMBLY AT BOTH SIDES OF PARTITION BOTH HORIZONTAL AND VERTICAL. FILL ALL VOIDS WITH FIRE SAFING INSULATION. FOR NON-FIRE RATED UNIT MASONRY WALL OR PARTITIONS PROVIDE COMPRESSIBLE FILLER WITHIN VOIDS WITH BOND BREAKER AND SEALANT AT BOTH SIDES OF PARTITION AND ALSO BOTH VERTICAL AND HORIZONTAL AS THE PARTITION MEETS THE BUILDING STRUCTURE OR ADJOINING PARTITIONS. PROVIDE THE SAME ASSEMBLY FOR CONTROL JOINTS IN PARTITIONS.

07 90 00 JOINT FILLERS, SEALANTS AND CAULKING

07 90 00.0 - BACKER SEAL PROVIDE BACKER SEAL AT EXTERIOR FACE GFB IN VERTICAL JOINTS AND HORIZONTAL JOINT BELOW STEEL IN MASONRY DESIGNATED WITH A CONTROL JOINT. RECESS BACKER SEAL TO RECEIVE SEALANT.

07 90 00.1 - ENTRY PANELS PROVIDE ENTRY PANELS WITH UV RESISTANT WATERPROOFING SYSTEMS AT ALL PENETRATIONS IN INTERIOR AND EXTERIOR WALLS ON BOTH SIDES. FOR FIRE RATED ASSEMBLIES, PROVIDE COMPLETE FIRE STOPPING ASSEMBLY PRIOR TO INSTALLATION OF ENTRY PANEL. PROVIDE COMPLETE ADDITIONAL SEALANT SEAL AT ROUND PENETRATIONS AND PERIMETER OF ENTRY PANELS.

07 90 00.2 - EXPANDABLE JOINT SEALER PROVIDE EXPANDABLE JOINT SEALER AT ALL EXPANSION JOINTS FOR FULL LENGTHS.

07 90 00.3 - SEALANT PROVIDE SEALANT IN ACCORDANCE WITH SECTION 07 90 00 - JOINT FILLERS, SEALANTS AND CAULKING.

07 90 00.4 - SILL SEALER PROVIDE SILL SEALER AT WORK OF NOTE 05 40 00.2 EXTERIOR METAL STUDS IN ACCORDANCE WITH SECTION 07 90 00 - JOINT FILLERS, SEALANTS AND CAULKING.

07 95 13 EXPANSION JOINT COVER ASSEMBLIES

07 95 13.0 - EXTERIOR EXPANSION JOINTS PROVIDE EXPANSION JOINT BETWEEN FAÇADE MATERIALS. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITIONS FROM UNDERSIDE OF COPING AND FASCIA TO FOUNDATION WALL CONDITION FOR FULL HEIGHT. PROVIDE FIRE RATED EXPANSION JOINT FOR WALL AND CEILING CONDITION AT OPENING. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITIONS FROM FLOOR TO WALL AND CEILING FOR FULL HEIGHT OF OPENING.

07 95 13.1 - INTERIOR EXPANSION JOINT AT WALL AND CEILING PROVIDE FIRE RATED EXPANSION JOINT WITH ALUMINUM COVER FOR ALL INTERIOR FLOOR CONDITIONS AT OPENINGS. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITION FROM FLOOR TO WALL FOR FULL CONDITION OF OPENING.

07 95 13.2 - INTERIOR EXPANSION JOINT AT FLOOR PROVIDE FIRE RATED EXPANSION JOINT WITH ALUMINUM COVER FOR ALL INTERIOR FLOOR CONDITIONS AT OPENINGS. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITION FROM FLOOR TO WALL FOR FULL CONDITION OF OPENING.

07 95 13.3 - EXPANSION JOINT AT ROOF PROVIDE CHEMICAL RESISTANT EXPANSION JOINT BETWEEN TANK WALL AND CONCRETE CURBS, COLUMNS, AND SLABS IN CHEMICAL STORAGE AREAS.

07 95 13.4 - INTERIOR EXPANSION JOINT AT TANK WALL PROVIDE CHEMICAL RESISTANT EXPANSION JOINT BETWEEN BUILDING FAÇADES AND CONCRETE SIDEWALKS, RAMPS, AND DRIVEWAYS.

DIVISION 8 DOORS AND WINDOWS

08 11 13 STEEL DOORS AND FRAMES

08 11 13.0 - STEEL DOORS AND FRAMES PROVIDE STEEL DOORS AND FRAMES AS INDICATED ON THE ARCHITECTURAL DRAWINGS. STEEL DOORS AND FRAMES FINISHED IN ACCORDANCE WITH SECTION 09 90 00 - PAINTING. HARDWARE TO BE INSTALLED IN ACCORDANCE WITH SECTION 08 71 01 - FINISH DOOR HARDWARE.

08 14 00 WOOD DOORS

08 14 00.0 - WOOD DOORS PROVIDE FLUSH WOOD DOORS AS INDICATED ON THE ARCHITECTURAL DRAWINGS. REFER TO NOTE 08 41 13.1 INTERIOR ALUMINUM STOREFRONT FOR FLUSH WOOD DOORS TO BE INSTALLED IN ALUMINUM FRAMING SYSTEM.

08 15 00 FRP DOORS AND FRAMES

08 15 00.0 - FRP DOORS AND FRAMES PROVIDE FRP DOORS WITH FRP FRAMES AS INDICATED ON THE ARCHITECTURAL DRAWINGS. HARDWARE TO BE INSTALLED IN ACCORDANCE WITH 08 71 00 - FINISH DOOR HARDWARE.

08 31 13 ACCESS DOORS AND FRAMES

08 31 13.0 - ACCESS DOORS PROVIDE 30-INCH WIDE BY 40-INCH HIGH 2 HOUR FIRE RATED ACCESS DOORS AT ALL SHAFTS AND CHASES. SET ACCESS DOOR 36-INCHES ABOVE FINISHED FLOOR AT EACH FLOOR LEVEL.

08 33 23 OVERHEAD COILING DOORS

08 33 23.0 - OVERHEAD COILING DOORS PROVIDE MOTOR OPERATED OVERHEAD COILING DOORS WITH INSULATED ALUMINUM CURTAIN SLATS, BOTTOM BAR WEATHERSTRIPPING, GALVANIZED STRUCTURAL STEEL GUIDES AND GALVANIZED DOOR HOODS.

08 41 13 ALUMINUM-FRAMED ENTRANCES AND STOREFRONT - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR METAL WINDOWS)

08 41 13.0 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONT PROVIDE THERMALLY BROKEN ALUMINUM ENTRANCE DOORS WITH INSULATED GLASS PER NOTE 08 81 03.0 AND AS SHOWN ON THE ARCHITECTURAL DRAWINGS. FRAMING TO RECEIVE ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS TO BE WORK OF 08 44 13.0 GLAZED ALUMINUM CURTAIN WALL SYSTEM.

08 41 13.1 - INTERIOR ALUMINUM STOREFRONT PROVIDE CENTER-GLAZED ALUMINUM-FRAMED ENTRANCES AND STOREFRONT SYSTEM WITH LAMINATED SAFETY GLASS PER NOTE 08 81 03.2. REFER TO NOTE 08 14 00.0 - WOOD DOORS FOR INTERIOR ALUMINUM STOREFRONT TO RECEIVE FLUSH WOOD DOORS.

08 44 13 GLAZED ALUMINUM CURTAIN WALLS - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR METAL WINDOWS)

08 44 13.0 - GLAZED ALUMINUM CURTAIN WALL SYSTEM PROVIDE THERMALLY BROKEN FRONT-GLAZED ALUMINUM CURTAIN WALL SYSTEM WITH INSULATED GLASS PER NOTE 08 81 03.0 AND AS SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO NOTE 08 44 13.2 FOR INTEGRATED SUNSHADES. ALL DOORS AND ASSOCIATED FRAMING SECURED TO GLAZED ALUMINUM CURTAIN WALL SYSTEM TO BE INCLUDED AS WORK OF 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONT DOORS AND ALL FRAMING COLOR TO MATCH GLAZED ALUMINUM CURTAIN WALL SYSTEM FRAME COLOR.

08 44 13.1 - GLAZED ALUMINUM WINDOWS PROVIDE THERMALLY BROKEN FRONT-GLAZED ALUMINUM WINDOWS WITH INSULATED GLASS PER NOTE 08 81 03.0 AND AS SHOWN ON THE ARCHITECTURAL DRAWINGS. PROVIDE OPERABLE WINDOWS WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS IN ACCORDANCE WITH SECTION 08 44 13.

08 44 13.2 - INTEGRATED SUNSHADES PROVIDE ALUMINUM SUNSHADES SECURED TO GLAZED ALUMINUM CURTAIN WALL SYSTEM AND GLAZED ALUMINUM WINDOWS. PROVIDE SUNSHADES DESIGNED TO INTEGRATE WITH GLAZED ALUMINUM CURTAIN WALL AND WINDOW SYSTEMS PROFILE WITHOUT SECONDARY SUPPORT SYSTEM. SUNSHADE COLOR TO MATCH ALUMINUM FRAME COLOR.

08 45 23 TRANSLUCENT WALL SYSTEMS

08 45 23.0 - TRANSLUCENT WALL SYSTEMS PROVIDE TRANSLUCENT THERMALLY BROKEN AND INSULATED WALL SYSTEM COMPRISED OF STRUCTURAL COMPOSITE SANDWICH PANELS SET IN ALUMINUM FRAMES WITH CORNER FINISHES. PROVIDE FLASHING IN ACCORDANCE WITH ARCHITECTURAL NOTES 07 60 00 AND 07 60 00.2. TRANSLUCENT WALL SYSTEM SHALL BE SECURED TO ALLOW FOR SEISMIC MOVEMENT TO EXTERIOR WALL SYSTEM. REFER TO STRUCTURAL DRAWINGS FOR REMOVABLE INTERMEDIATE HORIZONTAL SUPPORTS.

08 63 00 TRANSLUCENT SKYLIGHT ASSEMBLIES

08 63 00.0 - TRANSLUCENT SKYLIGHT PROVIDE INSULATED TRANSLUCENT SKYLIGHT PANEL SYSTEM INCLUDING ALUMINUM FRAMING, BATTENS, CLOSURES, TRIM, AND FLASHINGS IN ACCORDANCE WITH SECTION 08 63 00 - TRANSLUCENT SKYLIGHT ASSEMBLIES.

08 71 01 FINISH DOOR HARDWARE

08 71 01.0 - FINISH DOOR HARDWARE PROVIDE FINISH DOOR HARDWARE IN ACCORDANCE WITH SECTION 08 71 01 - FINISH DOOR HARDWARE.

08 71 01.1 - SECURITY DOOR HARDWARE PROVIDE SECURITY COMPLIANT ELECTRONIC HARDWARE, ELECTRONIC POWER TRANSFER AND ASSOCIATED ACCESSORIES WITH INTERCONNECTION TO SECURITY SYSTEM. ELECTRONIC HARDWARE LOCATED AT CONTROL AND SCADA ROOMS TO BE FAIL SECURE, ALL OTHER ELECTRONIC HARDWARE TO BY FAIL SAFE.

08 81 03 GLASS, PLASTIC AND GLAZING

08 81 03.0 - INSULATED GLAZING PROVIDE INSULATED GLASS AT ALUMINUM CURTAIN WALL SYSTEMS, ALUMINUM WINDOWS, AND ALUMINUM ENTRANCES AND STOREFRONT SYSTEMS AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

08 81 03.1 - INSULATED SPANDREL PROVIDE INSULATED SPANDREL GLASS AT ALUMINUM CURTAIN WALL SYSTEMS AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

08 81 03.2 - LAMINATED GLAZING PROVIDE LAMINATED SAFETY GLASS AT ALL DOORS, SIDELIGHTS, TRANSOMS, AND INTERIOR ALUMINUM STOREFRONT INCLUDING FIRE RATED ASSEMBLIES. LAMINATED GLAZING AT INTERIOR ALUMINUM STOREFRONT TO RECEIVE TRANSLUCENT INTERLAYER WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS.

08 81 03.3 - FIRE RATED GLAZING PROVIDE FIRE RATED GLAZING IN FIRE RATED ASSEMBLIES FOR WORK OF 08 15 00 - FRP DOORS AND FRAMES.

08 91 20 FIXED LOUVERS

08 91 20.0 - FIXED UNIT LOUVERS PROVIDE FIXED UNIT LOUVERS IN SIZES AS INDICATED BY LOUVER SCHEDULE.

08 91 20.1 - FIXED LOUVER SIZES THE LOUVER SCHEDULE INDICATES DIMENSIONAL SIZE OF LOUVERS FOR OPENING IN WALL SYSTEMS. REFER TO HVAC LOUVER OPENINGS FOR THE SIZE OF THE OPENING REQUIRED FOR VENTILATION. BLANK OFF PANELS SHALL PROVIDE CLOSURE OF THE AREA REMAINING BETWEEN THE LOUVER SIZE AND THE SIZE OF OPENING FOR VENTILATION REQUIREMENTS SHOWN ON DRAWINGS.

08 91 20.2 - LOUVER SUPPORT LOUVERS, DAMPERS, AND TRIM SECTIONS SHALL BE SUPPORTED BY AND INTEGRAL TO THE STRUCTURAL PERFORMANCE REQUIREMENTS OF THE LOUVER SYSTEM INCLUDING ACCESSORY BRACKET SUPPORT OF DAMPERS (INCLUDING MOTORIZED TYPE) AND METHOD OF ATTACHMENT TO INTERMEDIATE SUPPORTS AS PART OF THE WORK OF SECTION 23 31 13. ALL INTERMEDIATE STRUCTURAL SUPPORT AND COMPONENTS INCLUDING ANY MISCELLANEOUS SUPPORT WORK FROM FOUNDATION TO UNDERSIDE OF BEAM) REQUIRED TO PROVIDE STRUCTURAL SUPPORT FOR THE LOUVERS, DAMPERS, AND TRIMS SHALL BE PROVIDED AS WORK OF SECTION 05 14 00 WITHOUT ADDITIONAL COST TO THE OWNER.

08 91 20.3 - SEALANT AT ALL LOUVERS PROVIDE SEALANT AROUND PERIMETER OF ALL LOUVERS. REFER TO SECTION 07 90 00 FOR JOINT SEALANTS.

DIVISION 9 FINISHES

09 29 00 GYPSUM DRYWALL SYSTEMS - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR LATHING AND PLASTERING)

09 29 00.0 - GYPSUM BOARD SYSTEM PROVIDE INTERIOR GYPSUM BOARD PANEL AS SPECIFIED OVER GALVANIZED COLD-FORMED STEEL STUDS TO RUN FROM FLOOR SLAB TO UNDERSIDE OF STRUCTURE ABOVE. PROVIDE A MINIMUM OF 1/2-INCH HIGH BY 20 GAUGE SHEET METAL REINFORCING BEHIND ALL TOILET ACCESSORIES WORK OF 10 28 10.

09 29 00.1 - SHEET METAL GROUNDS REFER TO ARCHITECTURAL DRAWINGS FOR PARTITION TYPE INDICATED WITH PARTITION TAGS. IN THE EVENT THAT A PARTITION IS NOT IDENTIFIED THE CONTRACT SHALL PROVIDE A 1 HOUR FIRE RATED PARTITION WITH 5/8-INCH THICK HIGH ABUSE PAPERLESS GYPSUM BOARD PANELS ON BOTH SIDES OF 3 5/8-INCH METAL STUDS FOR FULL HEIGHT TO UNDERSIDE OF STRUCTURE ABOVE. REFER TO SECTIONS 05 40 00 COLD-FORMED METAL FRAMING AND 09 29 00 GYPSUM DRYWALL SYSTEMS.

09 29 00.2 - PARTITION TYPES PROVIDE HIGH ABUSE PAPERLESS GYPSUM PANELS OVER ALL INTERIOR WALL PARTITIONS WITH THE EXCEPTION AS NOTED OTHERWISE. PROVIDE MOISTURE RESISTANT PAPERLESS GYPSUM BOARD PANELS AT ALL WALLS WITHIN BATHROOMS, LOCKER ROOMS, SHOWERS AND TILED SURFACES.

09 29 00.3 - INTERIOR GYPSUM PANELS PROVIDE FULL HEIGHT ACOUSTIC BATT INSULATION PER NOTE 07 21 00.3 THROUGHOUT ALL PARTITIONS DESIGNATED AS "ACOUSTIC PARTITION". PROVIDE SEALANT ON BOTH SIDES OF GYPSUM PANELS AT 1/2-INCH JOINTS AT BASE AND TOP OF PARTITION. ACOUSTIC PARTITION ASSEMBLY SHALL YIELD AN STC (SOUND TRANSMISSION CLASS) OF 52. USING 5/8-INCH-THICK FULL HEIGHT PAPERLESS GYPSUM PANELS ON BOTH SIDES OF 3 5/8-INCH METAL STUD FOR FULL HEIGHT TO UNDERSIDE OF STRUCTURE ABOVE. SEAL ALL PENETRATIONS IN PARTITION ASSEMBLY IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS TO MAINTAIN THE DESIGNATED STC RATING.

09 29 00.4 - ACOUSTIC PARTITION PROVIDE SUSPENDED PARTITION FROM 1-INCHES ABOVE WORK ASSOCIATED WITH NOTE 08 41 13.2 INTERIOR ALUMINUM STOREFRONT TO UNDERSIDE OF STRUCTURE ABOVE. SUSPENDED PARTITION SHALL CONSIST OF 3 5/8-INCH METAL STUDS WITH 5/8-INCH-HIGH ABUSE GYPSUM BOARD PANEL SHEATHING AND INSULATION IN ACCORDANCE WITH NOTE 09 29 00.4. SUSPENDED PARTITION TO BE DIAGONALLY BRACED TO UNDERSIDE OF STRUCTURE ABOVE WITH 3 5/8-INCH METAL STUDS AT 48-INCHES ON CENTER.

09 29 00.5 - GYPSUM SOFFIT PROVIDE GYPSUM SOFFIT TO UNDERSIDE OF STRUCTURE ABOVE. GYPSUM SOFFIT SHALL CONSIST OF 3 5/8-INCH METAL STUDS WITH 5/8-INCH-HIGH ABUSE GYPSUM BOARD PANEL SHEATHING. GYPSUM SOFFITS TO BE DIAGONALLY BRACED TO UNDERSIDE OF STRUCTURE ABOVE WITH 3 5/8-INCH METAL STUDS AT 48-INCHES ON CENTER.

09 29 00.6 - GYPSUM BOARD CEILING PROVIDE WATER RESISTANT GYPSUM BOARD PANEL AS SPECIFIED OVER GALV COLD FORMED STEEL FRAMING TO RUN BETWEEN MASONRY WALLS. PROVIDE WATER RESISTANT GYPSUM BOARD SOFFIT OVER GALV COLD FORMED STEEL FRAMING TO RUN FROM CEILING TO UNDERSIDE OF STRUCTURE ABOVE.

09 29 00.7 - GYPSUM BOARD CEILING PROVIDE SPRING LOADED EXTRUDED ALUMINUM PARTITION GAP CLOSURE FOR ALL VERTICAL JOINTS OF PARTITIONS AND WINDOW WALLS. INSULATED ASSEMBLY SHALL ACHIEVE AN STC 56 RATING. PROVIDE EXTENDED ALUMINUM END CAP AT GYPSUM BOARD SYSTEM. LENGTHS AND CURVE TO FIT SPECIFIED OPENINGS. FINISH TO MATCH WORK OF 08 44 13.0 GLAZED ALUMINUM CURTAIN WALL SYSTEM.

09 29 00.8 - GYPSUM BOARD CEILING PROVIDE 5/8-INCH EXTERIOR GRADE GYPSUM BOARD SHEATHING AT EXTERIOR FACE OF GALVANIZED COLD FORMED STEEL STUDS AND FURRING AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH NOTES 05 40 00.2 - EXTERIOR METAL STUDS AND 05 40 00.4 - EXTERIOR FURRING. REFER TO SECTIONS 09 29 00 GYPSUM DRYWALL SYSTEM AND 05 40 00 COLD-FORMED METAL FRAMING. REFER TO NOTE 09 29 00.3 FOR INTERIOR FACE OF EXTERIOR METAL STUD WALLS.

09 29 00.9 - EXTERIOR GYPSUM SYSTEM PROVIDE "F" STYLE GYPSUM BOARD REVEAL AT LOCATIONS WHERE WORK OF NOTE 09 29 00.3 INTERIOR GYPSUM PANELS AND 03 35 00.1 EXPOSED CONCRETE FINISH INTERSECT.

09 29 00.10 - GYPSUM BOARD REVEAL PROVIDE CORNER BEAD AT ALL OUTSIDE CORNERS OF INTERIOR GYPSUM PANELS.

09 29 00.11 - CORNER BEAD

09 29 00.12 - HEAVY DUTY ALUMINUM CORNER TRIM AT OUTSIDE CORNER OF INTERIOR GYPSUM PANELS AT WORK OF 06 41 00.6 COPPER DOWR ASSEMBLY. HEAVY DUTY ALUMINUM CORNER TRIM TO HAVE MINIMUM 1 1/4-INCH EXPOSED CORNER EDGES.

09 29 00.13 - FINISHES AT SUSPENDED CEILING ALL WALL FINISHES ADJACENT TO SUSPENDED CEILING TO EXTEND TO FULL HEIGHT.

09 30 00 TILING - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR TILE)

09 29 00.14 - CEMENTITIOUS BACKER BOARD PROVIDE 5/8-INCH CEMENTITIOUS BACKER BOARD AT WALLS TO RECEIVE WORK OF 09 30 00 - INTERIOR PORCELAIN WALL TILE AND 04 43 13.4 - ADHERED STONE MASONRY.

09 30 00.0 - INTERIOR PORCELAIN WALL TILE WALL TILE SHALL BE 12-INCH BY 24-INCH AND 1-INCH BY 6-INCH PORCELAIN TILE IN PATTERNS AS INDICATED ON THE ARCHITECTURAL DRAWINGS WITH 3/16-INCH JOINTS. METAL EDGE TRIM SHALL BE PROVIDED TO FINISH WALLS WHERE INDICATED AND AT ALL CORNER CONDITIONS.

09 30 00.1 - INTERIOR PORCELAIN FLOOR TILE FLOOR TILE SHALL BE 12" X 24" IN PATTERNS AS INDICATED ON THE ARCHITECTURAL DRAWINGS WITH 3/16-INCH JOINTS. COVE BASE TO MATCH THE FLOOR TILE SHALL BE PROVIDED TO FINISH THE FLOOR WHERE REQUIRED AT ALL BASES AND FINISHED OPENING LOCATIONS. PROVIDE METAL CAP EDGE AT WAINSCOT CONDITIONS AND COVE BASE LOCATIONS WITHOUT WALL TILE.

09 30 00.2 - EXTERIOR PORCELAIN TILE EXTERIOR FLOOR TILE SHALL BE 12" X 24" INCHES IN CONFIGURATION AS INDICATED ON THE ARCHITECTURAL DRAWINGS WITH 3/16-INCH JOINTS. PROVIDE WATERPROOF MEMBRANE ON 1-1/2-INCH THICK MORTAR BED IN ACCORDANCE WITH SECTION 09 30 00. PROVIDE MOVEMENT JOINTS ALIGNED WITH SLAB CONSTRUCTION JOINTS COORDINATED WITH STRUCTURAL DRAWINGS.

09 30 00.3 - METAL EDGE PROTECTION PROVIDE PROFILED METAL EDGE PROTECTION AT PORCELAIN TILE EDGES INCLUDING BUT NOT LIMITED TO FLOORING TRANSITIONS, TILED END CAPS, TILED CORNERS, TILED WALL CAPS AND WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS IN ACCORDANCE WITH SECTION 09 30 00.

09 51 01 SUSPENDED ACOUSTICAL CEILINGS - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR ACOUSTICAL TILE)

09 51 01.0 - ACOUSTICAL PANEL CEILING PROVIDE 24-INCH SQUARE ACOUSTICAL PANEL CEILING IN 9/16-INCH CEILING GRID WITH REVEAL. PROVIDE ALL NECESSARY ACCESSORIES TO MOUNT ALL CEILING LOCATED FIXTURES WITHIN THE CEILING ASSEMBLY.

09 51 01.1 - ACOUSTICAL CEILING TRANSITION PROVIDE TRANSITION TRIM WITH END CAPS AT CEILING ELEVATION CHANGE, RECESSED LINEAR LIGHTING, AND WINDOW POCKETS WHERE INDICATED ON THE DRAWINGS. PROVIDE ALL NECESSARY ACCESSORIES TO SECURE AND SUPPORT TRANSITION TRIM IN ACCORDANCE WITH SECTION 09 51 01.

09 51 01.2 - LINEAR ACOUSTICAL CEILING PROVIDE LINEAR ACOUSTICAL HOOK-ON PANELS SPACED 12" O. C. WITH ALUMINUM SUSPENSION BAR AND AIRCRAFT CABLE SUSPENSION SYSTEM. REFER TO SECTION 09 51 01 - SUSPENDED ACOUSTICAL CEILINGS.

09 51 01.3 - CLEANROOM PANEL CEILING PROVIDE 24-INCH SQUARE CERAMIC PANEL CEILING IN 15/16-INCH CEILING GRID. PROVIDE ALL NECESSARY ACCESSORIES TO MOUNT ALL CEILING LOCATED FIXTURES WITHIN THE CEILING ASSEMBLY. CLEANROOM PANEL CEILING TO BE PROVIDED AT LABORATORY IN ADMINISTRATIVE AREA, CHEMICAL ASSAY ROOM IN TREATMENT AREA, AND SAMPLE ROOM IN DEWATERING BUILDING.

09 51 01.4 - SUSPENDED CEILING SOFFIT PROVIDE WORK OF NOTE 09 29 00.3 - INTERIOR GYPSUM PANELS ON SUSPENDED DRYWALL SUPPORT WORK OF SECTION 09 51 01 SUSPENDED ACOUSTICAL CEILINGS. PROVIDE TRANSITION TRIM BETWEEN GYPSUM PANEL AND ACOUSTICAL PANEL CEILING.

09 65 00 RESILIENT FLOORING - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR RESILIENT FLOORING)

09 65 00.0 - RESILIENT FLOORING PROVIDE RESILIENT FLOORING IN LOCATIONS SHOWN IN THE FINISH SCHEDULE AND IN ACCORDANCE WITH SECTION 09 65 00.

09 65 00.1 - RESILIENT BASE PROVIDE PROFILED RESILIENT WALL BASE AT LOCATIONS INDICATED IN THE FINISH SCHEDULE AND IN ACCORDANCE WITH SECTION 09 65 00.

09 65 00.2 - RESILIENT FLOOR EDGING PROVIDE THERMOPLASTIC RUBBER EDGE, REDUCER, OR TRANSITION IN ACCORDANCE WITH SECTION 09 65 00 - RESILIENT FLOORING.

09 68 13 CARPET

09 68 13.0 - CARPET TILE PROVIDE 24" SQUARE CARPET TILES WITH EXTRUDED ALUMINUM EDGE ACCESSORIES IN AREAS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH SECTION 09 68 13.

09 74 50 RESINOUS FLOORING

09 74 50.0 - RESINOUS FLOORING PROVIDE RESINOUS FLOORING IN LOCATIONS SHOWN IN THE FINISH SCHEDULE AND IN ACCORDANCE WITH SECTION 09 74 50.

09 90 00 PAINTING - (THIS SECTION IS PART OF THE FILED SUB BID REQUIRED FOR PAINTING)

09 90 00.0 - ROOF TOP EQUIPMENT PAINT ALL EXPOSED ROOF TOP EQUIPMENT IN ACCORDANCE WITH SECTION 09 90 00 - PAINTING.

09 90 00.1 - EXTERIOR PAINTING PAINT ALL EXTERIOR STEEL INCLUDING BUT NOT LIMITED TO BUILDING STEEL INCLUDING ALL GALVANIZED MATERIALS AND SUPPORTS. PREPARE ALL GALVANIZED MATERIALS FOR PAINT FINISH. PAINT EXPOSED WORK OF 07 21 00.5 - CONCEALED FACED INSULATED WALL PANEL.

09 90 00.2 - PAINTING PROVIDE PAINT FINISH THROUGHOUT ALL EXPOSED INTERIOR FERROUS METALS, EXPOSED DUCTWORK AND GYPSUM BOARD WALLS AND CEILINGS. REFER TO SECTION 09 90 00 FOR PAINTING SCHEDULE FOR ALL OTHER AREAS.

09 90 00.3 - ADJACENT ROOM FINISHES IF A ROOM OR SPACE DOES NOT HAVE ROOM NUMBER OR SCHEDULED FINISH THE CONTRACTOR SHALL PROVIDE THE FINISH DESIGNATED BY THE ADJOINING ROOM OR SPACE WITH AN ASSIGNED FINISH AS DIRECTED BY THE ENGINEER.

09 97 00 SPECIAL COATINGS

09 97 00.0 - CR-CT INTERIOR PROVIDE CHEMICAL-RESISTANT COATINGS IN ACCORDANCE WITH 09 97 00 CHEMICAL-RESISTANT COATINGS THROUGHOUT BUILDING, HORIZONTAL AND VERTICAL SURFACES SHALL HAVE A VAPOR BARRIER INTEGRAL TO THE CONCRETE TOPPING IN CONTAINMENT AREAS. VERTICAL SURFACES SHALL BE PROTECTED TO THE UNDERSIDE OF GRATING AND OR FULL HEIGHT OF CONCRETE CONTAINMENT WALL OR 8-INCH HIGH IN AREAS WHERE CONTAINMENT AREA IS NOT INDICATED AS SUCH. CHEMICAL-RESISTANT COATINGS SHALL RETURN INTO A CONTINUOUS 1/8-INCH SLOT IN AREAS OF CONTAINMENT.

09 97 00.1 - CR-CT EXTERIOR PROVIDE CHEMICAL-RESISTANT COATINGS IN ACCORDANCE WITH DETAILED 09 97 00 CONCRETE TOPPING THROUGHOUT HORIZONTAL AND VERTICAL SURFACE AT CONTAINMENT AREAS AND CHEMICAL FILL STATIONS. CR-CT EXTERIOR SHALL REQUIRE A VAPOR BARRIER. A UV PROTECTANT FINAL COATING SHALL BE APPLIED TO THE CONCRETE TOPPING AS SPECIFIED.

09 97 00.2 - ANCHORS IN CONCRETE TOPPING PRIOR TO THE INSTALLATION OF GRATING SUPPORT LEGS AS WORK OF 06 51 00 AND WORK OF DIVISION 15, ALL ANCHORS SHALL BE SEALED TO CONCRETE TOPPING AS WORK OF 09 61 14 CONCRETE FLOOR TOPPING.

09 97 00.3 - CR-CT 1/8-INCH SQUARE REVEAL REFER TO NOTE 09 97 00.1 FOR CHEMICAL RESISTANT CONCRETE TOPPING FOR EXTERIOR CONCRETE CONTAINMENT AREA. SUBSTRATE PREPARATION SHALL BE WORK OF DETAILED 09 97 00. PROVIDE CONTINUOUS 1/8-INCH SQUARE REVEAL AT ALL TERMINATIONS OF CONCRETE TOPPING AS WORK OF 09 97 00.

DIVISION 10 SPECIALTIES

10 14 01 IDENTIFYING DEVICES

10 14 01.0 - IDENTIFYING DEVICES PROVIDE IDENTIFYING SIGNS FOR ALL DOORS, ROOMS, WARNING SIGNS, SAFETY SIGNS, AND SIGNAGE AS INDICATED ON ARCHITECTURAL DRAWINGS AND SECTION 10 14 01 - IDENTIFYING DEVICES.

10 14 01.1 - ENTRANCE PLAQUE PROVIDE PROJECTED STUD MOUNTED ENTRANCE PLAQUE SECURED TO INTERIOR WALL IN ACCORDANCE WITH SECTION 10 14 01 - IDENTIFYING DEVICES IN LOCATION INDICATED ON THE ARCHITECTURAL DRAWINGS.

10 14 01.2 - BUILDING MOUNTED LETTERS PROVIDE PROJECTED STUD MOUNTED LETTERS SECURED TO WORK OF 10 73 16.0 ALUMINUM CANOPY IN ACCORDANCE WITH SECTION 10 14 01 - IDENTIFYING DEVICES.

10 14 01.3 - SIGN PROVIDE EXTERIOR SIGN PANEL SYSTEM WITH INTERNAL POSTS WHERE INDICATED ON THE CONTRACT DRAWINGS. SITE ENTRY SIGN SHALL INCLUDE SINGLE FACE IDENTIFYING SIGNAGE AND OWNER GRAPHIC WITH CLOSURE PANELS ON ALL SIDES.

Autodesk DocID: 609098_004_ West Parish Filter WTRF090308-004-Arch_Schedule.rvt 3/25/2024 11:48:15 AM

2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. WOJCIESKI
DRAWN BY:	M. TAWADROUS
CHECKED BY:	W. RUSSELL
IF THIS BAR DOES NOT MEASURE THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

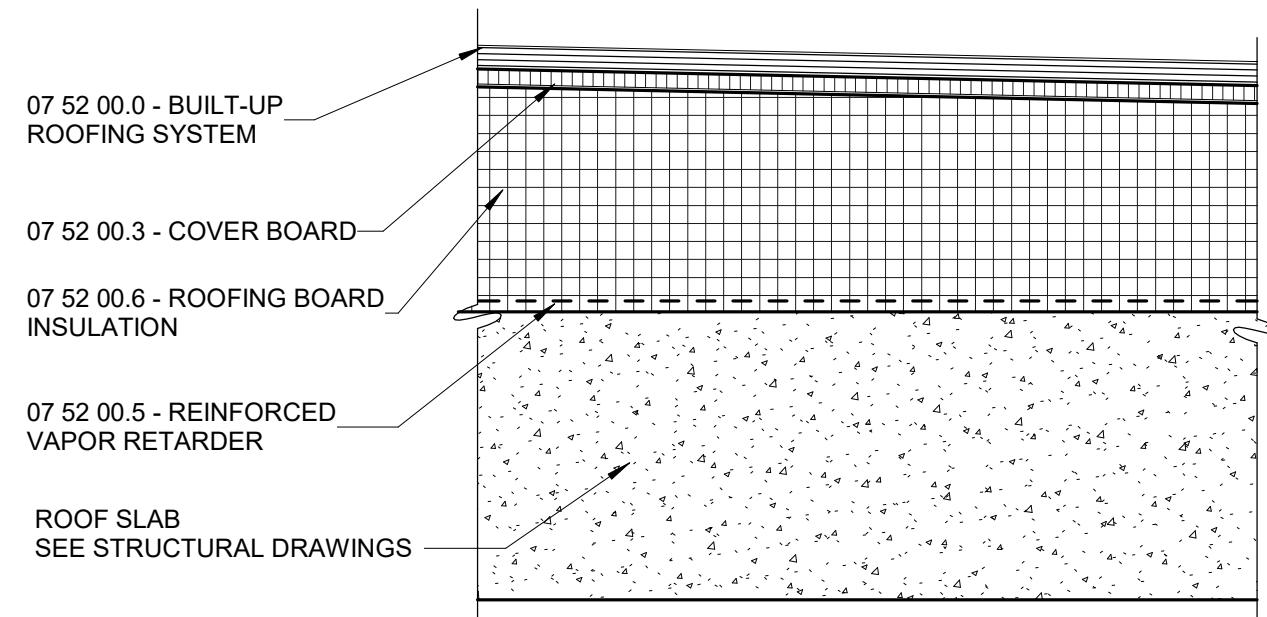


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

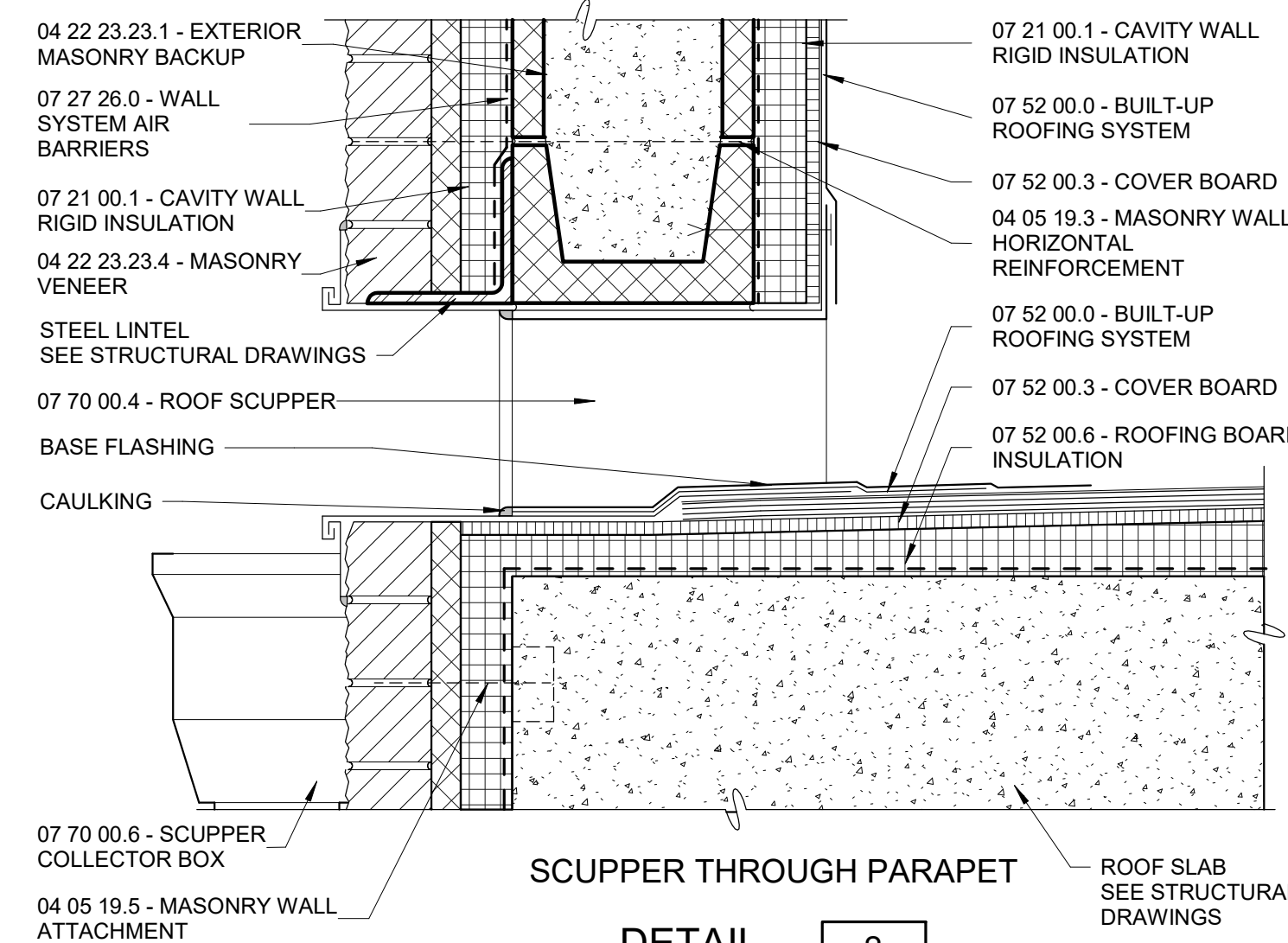
FILED SUB-BID
ARCHITECTURAL ARCHITECTURAL NOTES - SHEET 2

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER:
A-003



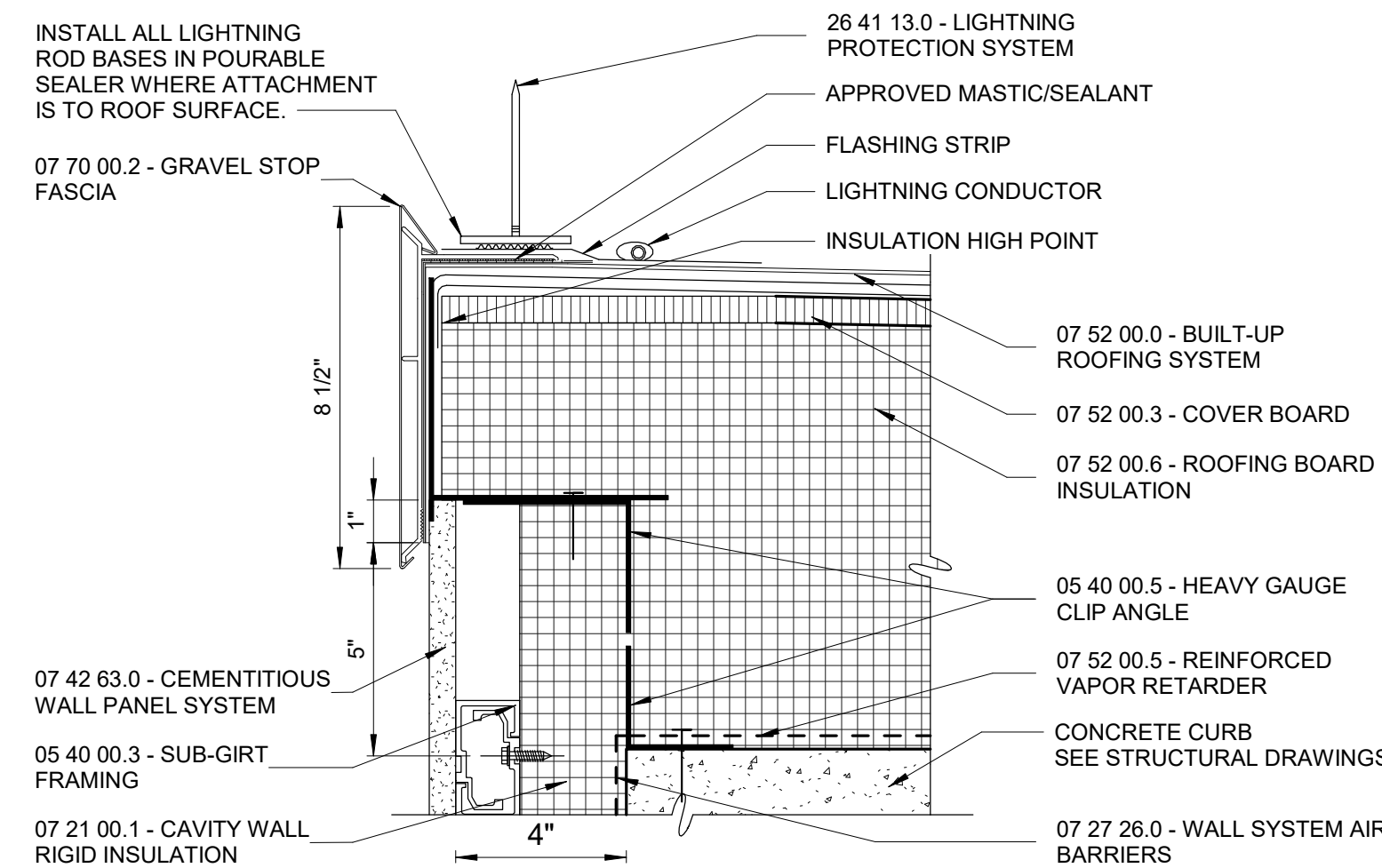
TYPICAL ROOF ASSEMBLY

DETAIL	1
1 1/2" = 1'-0"	A-005



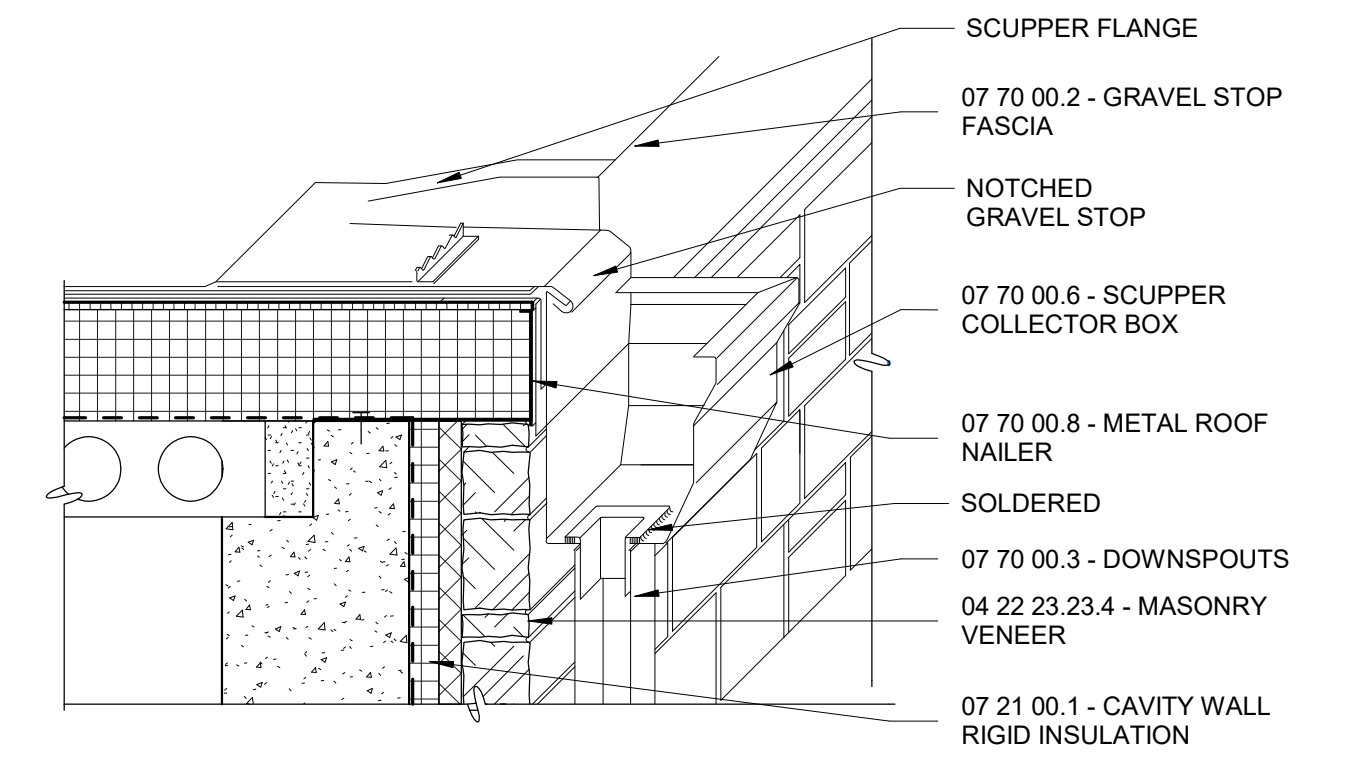
SCUPPER THROUGH PARAPET

DETAIL	2
1 1/2" = 1'-0"	A-005



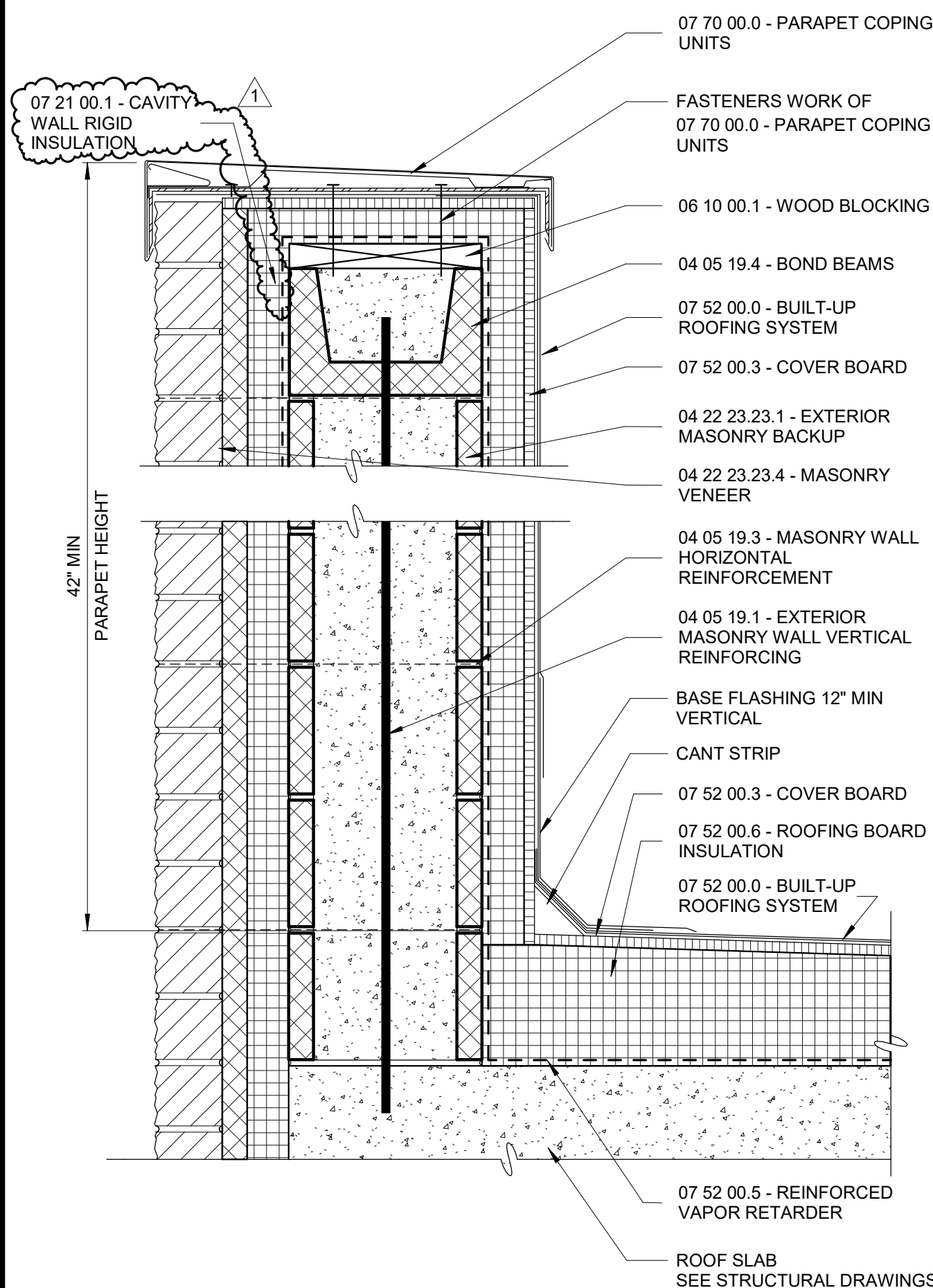
ROOF FASCIA DETAIL

DETAIL	3
3" = 1'-0"	A-005



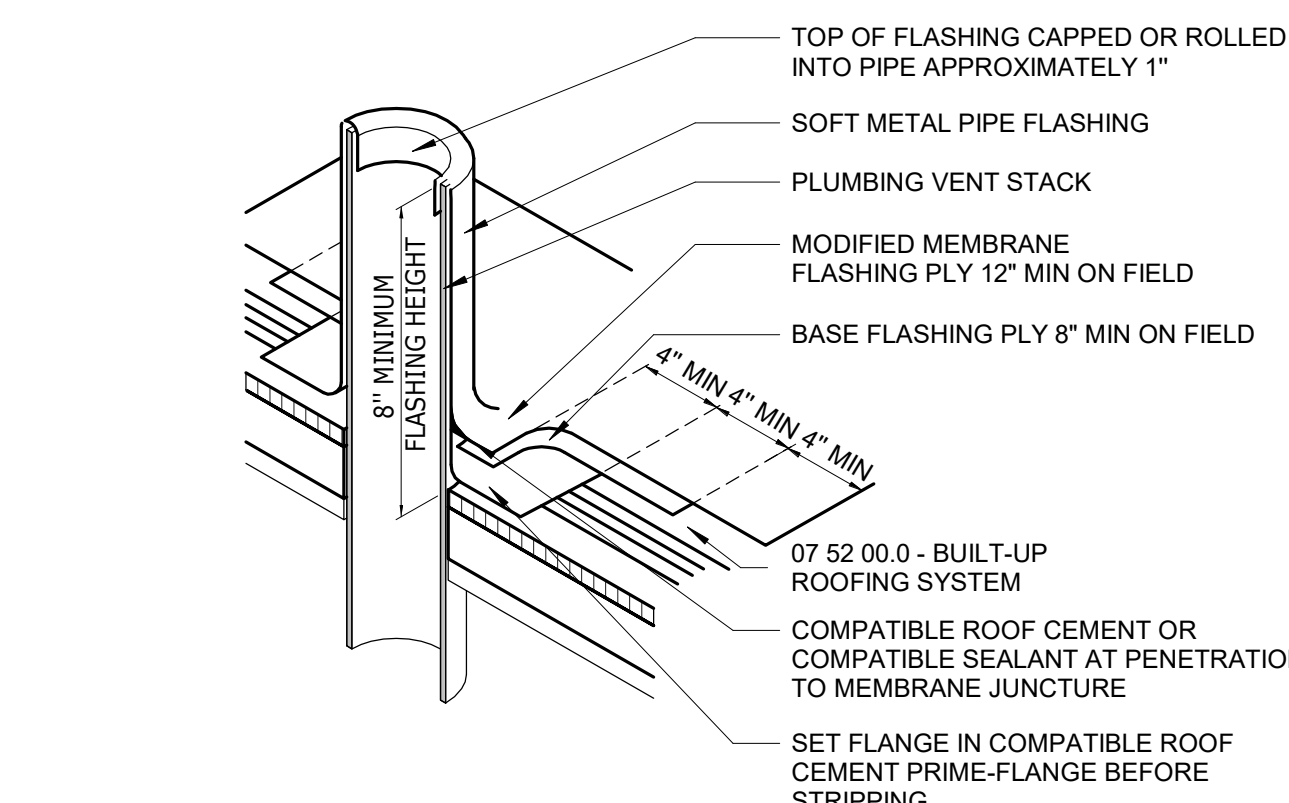
SCUPPER AT GRAVEL STOP FASCIA AT MASONRY VENEER

DETAIL	4
NTS	A-005



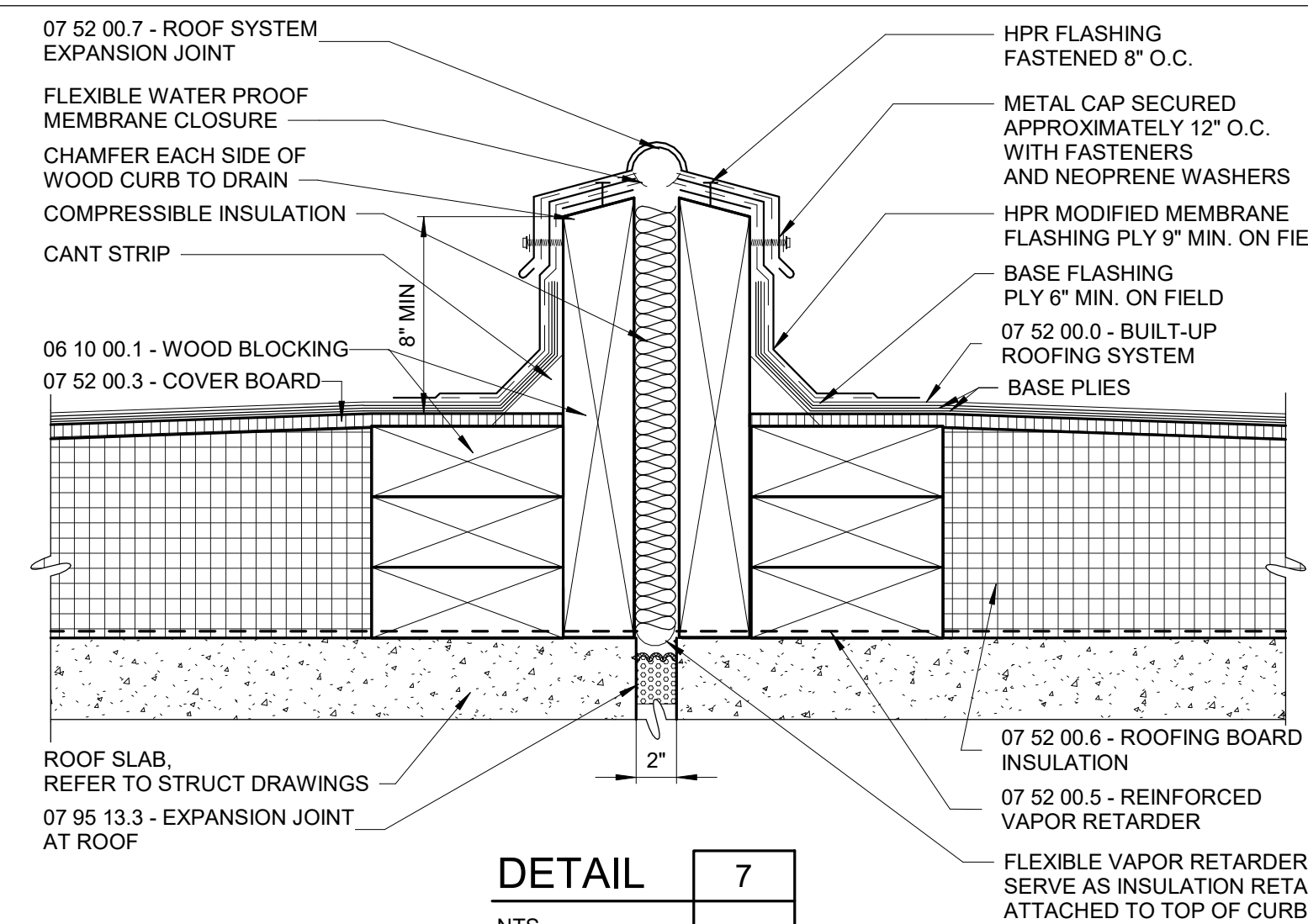
COPING AND FLASHING AT PARAPET

DETAIL	5
1 1/2" = 1'-0"	A-005



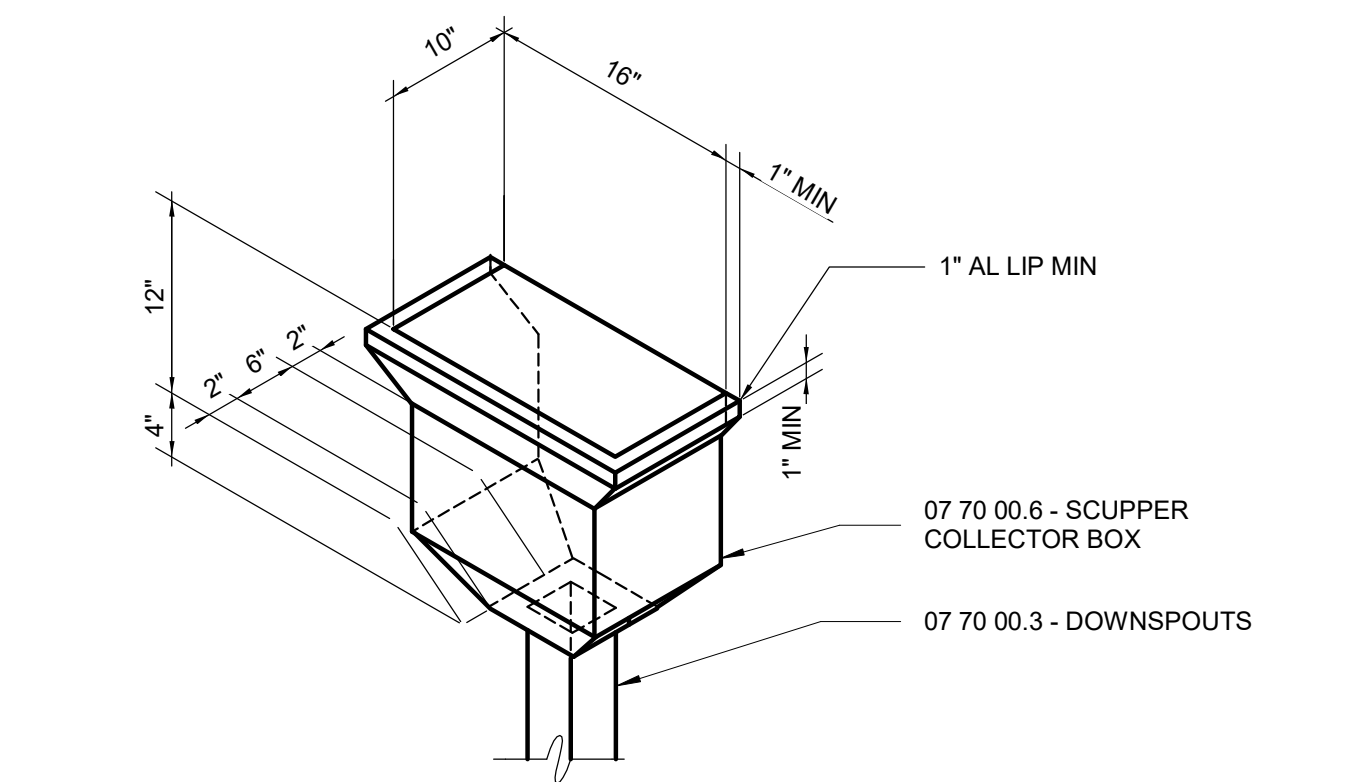
ROOF PLUMBING VENT

DETAIL	6
NTS	A-005



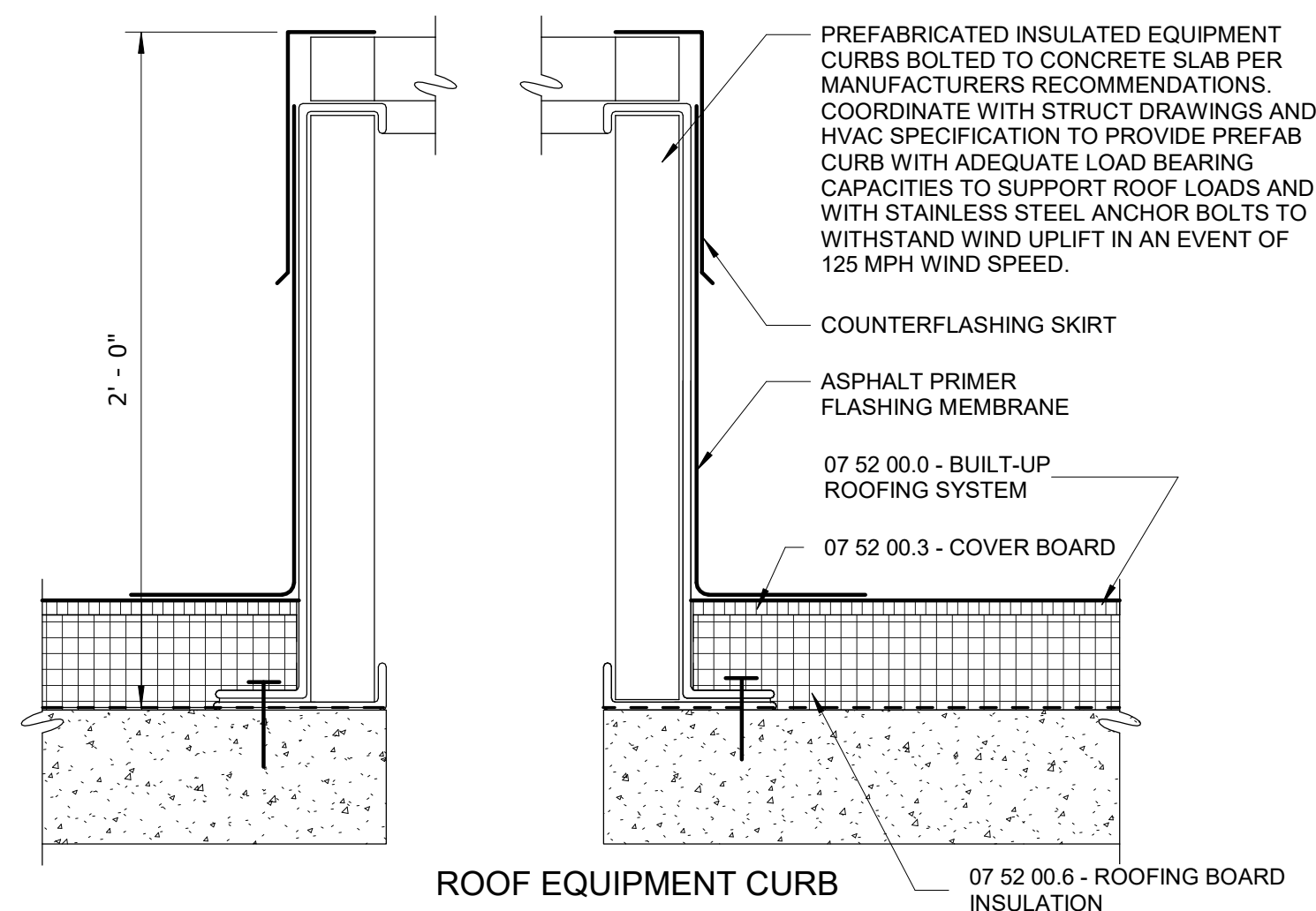
ROOF DRAIN

DETAIL	7
NTS	A-005



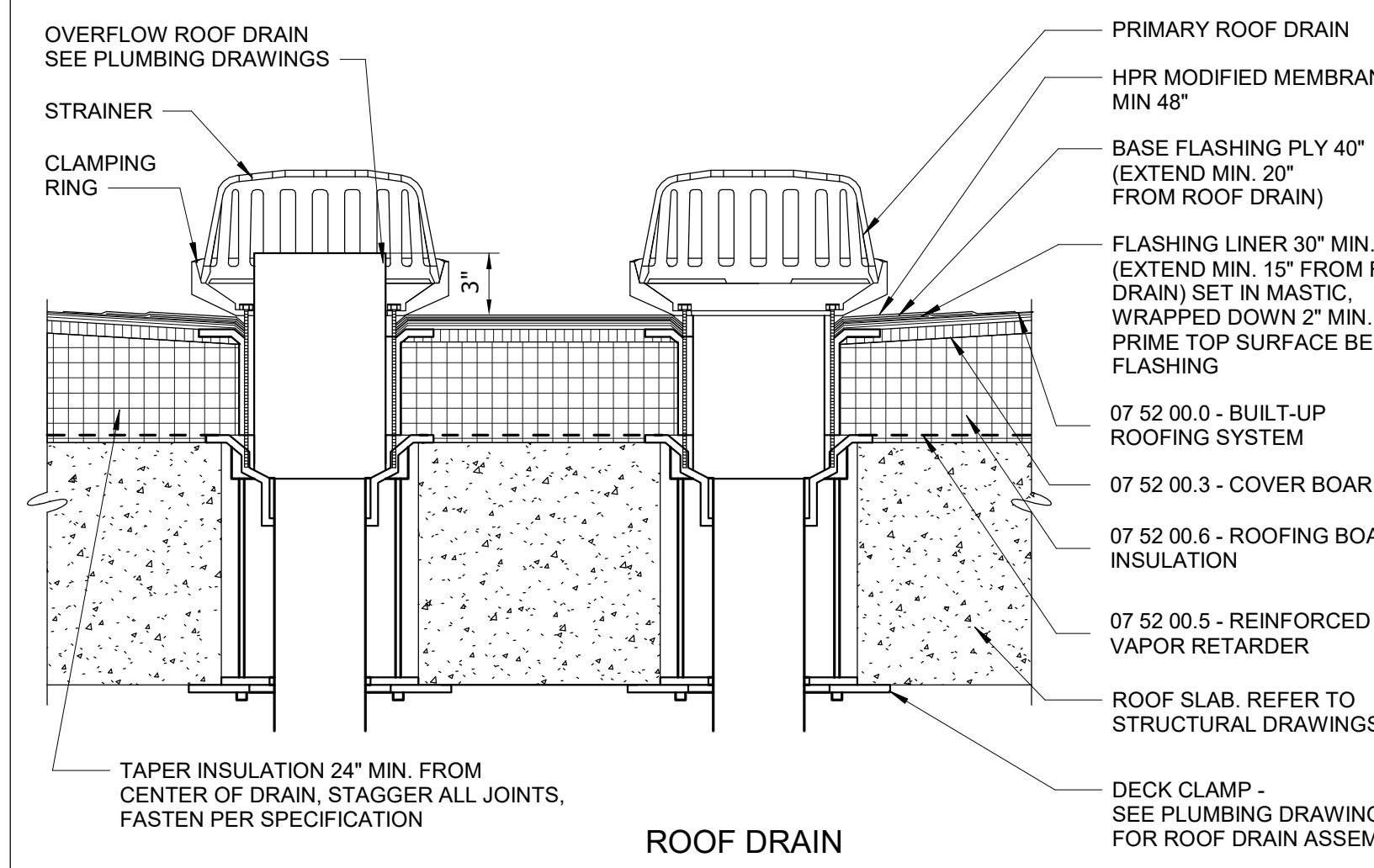
TYPICAL COLLECTION BOX

DETAIL	8
NTS	A-005



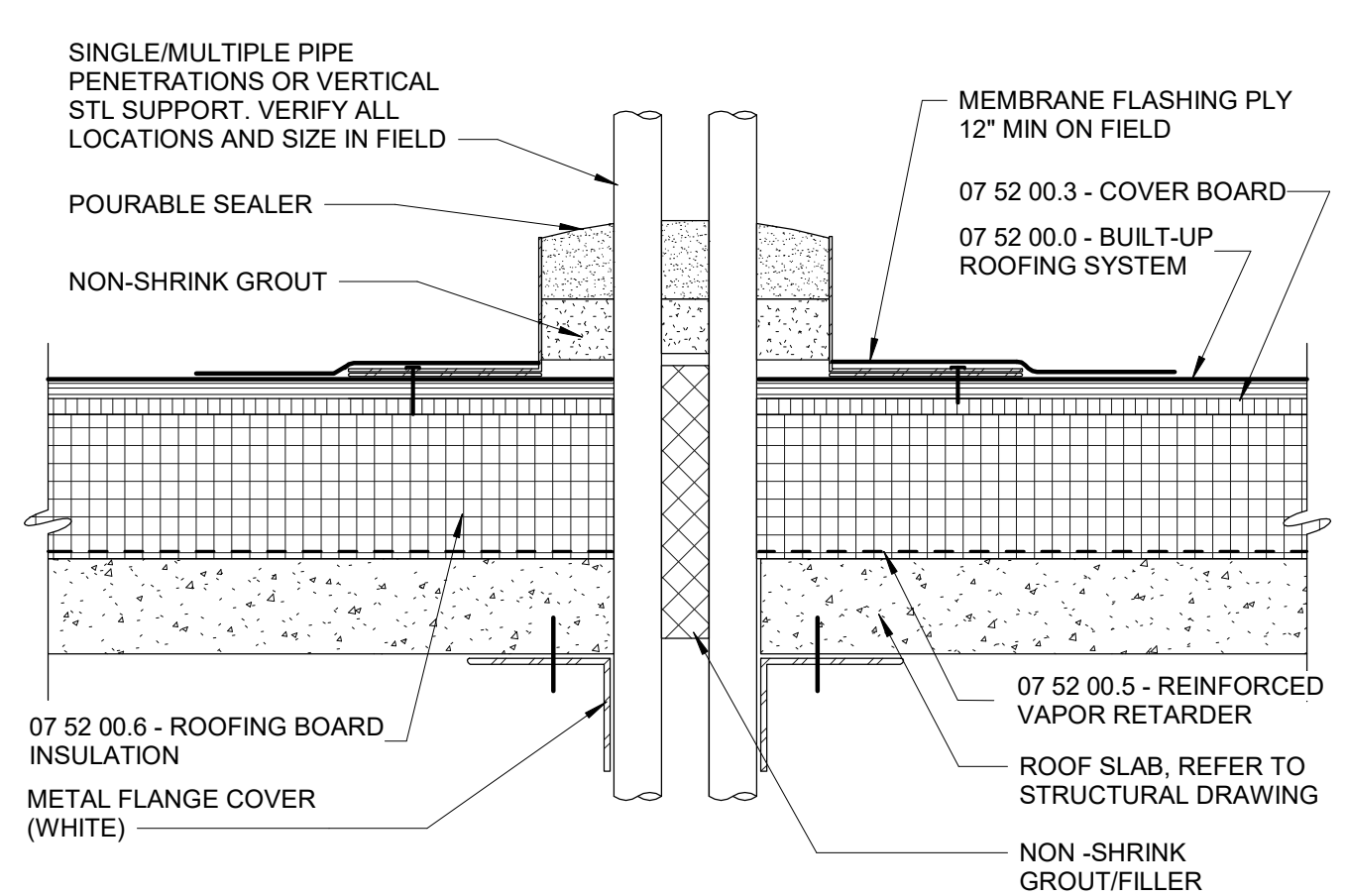
ROOF EQUIPMENT CURB

DETAIL	9
3" = 1'-0"	A-005



ROOF DRAIN

DETAIL	10
1 1/2" = 1'-0"	A-005



POURABLE SEALER POCKET

DETAIL	11
3" = 1'-0"	A-005

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1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. WOJCIESKI
DRAWN BY:	M. TAWADROUS
CHECKED BY:	W. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"



Hazen
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WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
ARCHITECTURAL ROOF DETAILS

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER: A-005

ROOM FINISH SCHEDULE

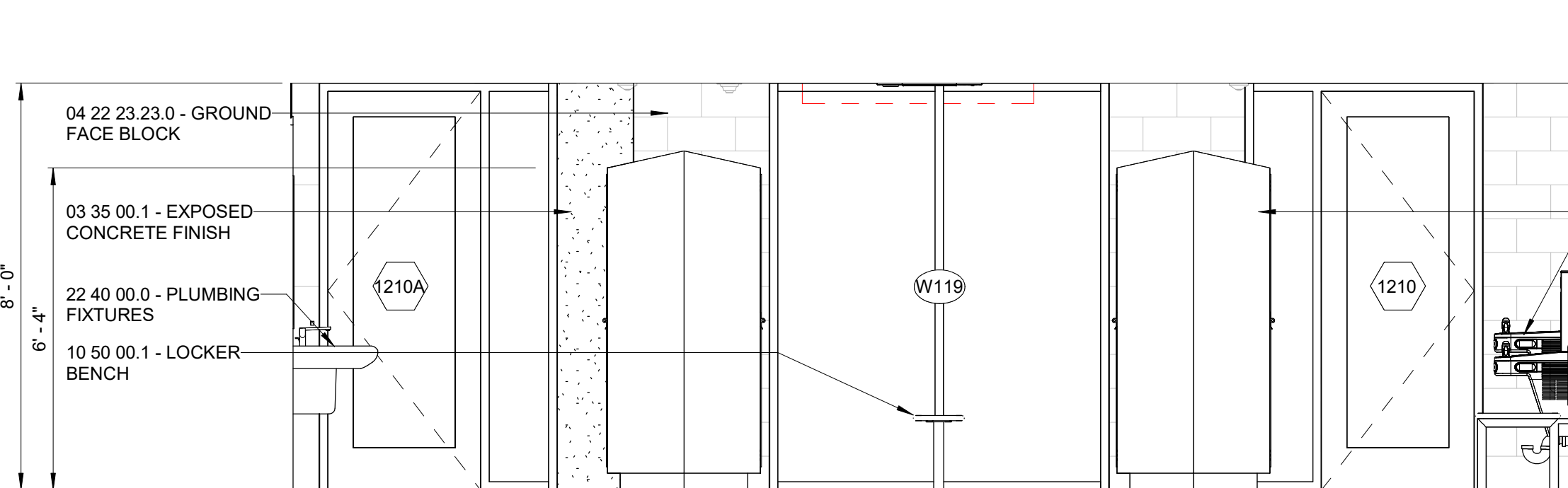
NO.	DESCRIPTION	FLOOR		BASE		WALL-NORTH		WALL-EAST		WALL-SOUTH		WALL-WEST		CEILING			REMARKS
		SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	HEIGHT	
1000 - ADMINISTRATION AREA																	
1100	LOBBY	CONC	CFS	CONC/GFB	ECF	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ACT	9' - 0"	
1101	STAIR A	CONC	CFS	CONC	ECF	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ACT	36' - 0"	
1102	ELEVATOR	CONC	CFS	MFR	MFR	MFR	MFR	MFR	MFR	MFR	MFR	MFR	MFR	MFR	MFR	49' - 8"	
1103	MECH RM	CONC	CFS	CONC	ECF	GFB	--	CONC	ECF	GFB	--	CONC	ECF	GFB	--	13' - 0"	
1200	VESTIBULE	CONC	PFT	GYP	PCB	AWS/GYP	MFR/PT	GYP	PT	AWS/GYP	MFR/PT	GYP	PT	CONC	ACT	11' - 9"	
1201	LOBBY	CONC	PFT	GYP	PCB	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	CONC	LAC/ACT	10' - 0"	
1202	BREAK ROOM	CONC	PFT	GYP	PCB	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	GYP	PT	CONC	ACT	10' - 0"	
1203	LABOR AREA	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	9' - 0"	
1204	SUPER OF WATER FACILITIES	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1205	OFFICE	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1206	OFFICE	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1207	CORRIDOR	CONC	CFS	CONC/GFB/GYP	ECF	CONC	MSC	GCW	MFR	GYP	PT	GYP	PT	CONC	ACT	9' - 0"	
1208	LABOR STO.	CONC	CFS	GYP	RB	GFB	--	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1209	ACCESSIBLE RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC/GYP	ACT/PT	8' - 0"	
1210	LOCKER ROOM	CONC	PFT	GFB/GYP	PCB	GFB	--	GYP	PWT	GYP	PWT	GYP	PWT	CONC	ACT	8' - 0"	
1211	RESTROOM	CONC	PFT	GYP	PCB	GFB	--	GYP	PWT	GYP	PWT	GYP	PWT	CONC/GYP	ACT/PT	8' - 0"	
1212	RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC/GYP	ACT/PT	8' - 0"	
1213	RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC/GYP	ACT/PT	8' - 0"	
1214	STO.	CONC	CFS	GYP	RB	GFB	--	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1215	TRAINING ROOM	CONC	PFT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1216	WELLNESS	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1217	CORRIDOR	CONC	CFS	CONC/GFB/GYP	ECF	CONC/GFB	MSC	GYP	PT	GYP	PT	GCW	MFR	CONC	ACT	8' - 0"	
1218	JANITOR RM	CONC	PFT	GFB/GYP	PCB	GFB	--	GYP	PWT	GYP	PWT	CONC	ECF	14' - 0"			
1219	LAB STOR.	CONC	RES	GYP	RES	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"			
1220	MICRO LAB	CONC	RES	GYP	RES	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	9' - 0"			
1221	LABORATORY	CONC	RES	GYP	RES	GYP	PT	AWS/GYP	MFR/PT	GYP	PT	CONC	CPC	9' - 0"			
1222	LAB MGR	CONC	RES	GYP	RES	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"			
1223	AAB RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT/PT	GYP	PWT/PT	GYP	PWT/PT	GYP	PWT/PT	CONC	ACT	8' - 0"	
1224	AAB RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT/PT	GYP	PWT/PT	GYP	PWT/PT	GYP	PWT/PT	CONC	ACT	8' - 0"	
1300	CORRIDOR	CONC	PFT	GFB/GYP	RB	GYP/GFB/AWS	PT/-MFR	GYP	PT	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	CONC	ACT	10' - 0"	
1301	INNOVATION SPACE	CONC	PFT	GYP	RB	--	--	--	--	GYP	PT	--	--	CONC	ACT	10' - 0"	
1302	LIBRARY	CONC	PFT	GYP	RB	--	--	AWS/GYP	MFR/PT	GYP	PT	--	--	CONC	ACT	10' - 0"	
1303	WATERSHED AREA	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	AWS/GYP	MFR/PT	CONC	ECF	14' - 0"	
1304	PLOTTER	CONC	CPT	GYP	RB	--	--	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	CONC	ECF	14' - 0"	
1305	OFFICE	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1306	OFFICE	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	CONC	ACT	8' - 0"	
1307	OFFICE	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	CONC	ACT	8' - 0"	
1308	OFFICE	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	GYP	PT	CONC	ACT	8' - 0"	
1309	WATERSHED STO.	CONC	CFS	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1310	STORAGE	CONC	CFS	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1311	MECH ROOM	CONC	CFS	GYP	RB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC	ECF	14' - 0"	
1312	CUBICLE AREA	CONC	PFT	GYP	RB	GYP	PT	GYP	PT	--	--	GYP	PT	CONC	ACT	8' - 0"	
1313	JANITOR RM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC	ACT	8' - 0"	
1314	MEN'S RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC	ACT	8' - 0"	
1315	WOMEN'S RESTROOM	CONC	PFT	GYP	PCB	GYP	PWT	GYP	PWT	GYP	PWT	GYP	PWT	CONC	ACT	8' - 0"	
1316	PARENTS RM	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PWT	CONC	ACT	8' - 0"	
1317	ELEC RM	CONC	CFS	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ECF	14' - 0"	
1318	PHONE RM	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1319	CONFERENCE RM	CONC	CPT	GYP	RB	GYP	PT	GYP	PT	AWS/GYP	MFR/PT	GYP	PT	CONC	ACT	8' - 0"	
1320	ELEVATOR CONTROL RM	CONC	CFS	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	14' - 0"	
1321	CORRIDOR	CONC	PFT	GYP	RB	GYP	PT	GYP	PT	GYP/GFB	PTL	GYP	PT	CONC	ACT	10' - 0"	
1322	PRINTER/PANTRY	CONC	PFT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	CONC/GYP	ACT/PT	8' - 0"			
1323	IT/SCADA	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	CONC	GYP	10' - 0"			
1324	CONTROL RM	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	AWS/GYP	-JPT	CONC	ACT	9' - 0"	
1325	ELEC CLO.	CONC	CFS	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1326	PROCESS CONTROL MGR	CONC	CPT	GYP	RB	GYP	PT	GYP	T	GYP	PT	AWS/GYP	MFR/PT	CONC	ACT	8' - 0"	
1327	DIRECTOR OF OPERATION	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1328	DEPUTY DIRECTOR OF OPERATION	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1329	PROCESS CONTROL ANALYST	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1330	WATER OPERATION MGR	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1331	MAINTENANCE COORDINATOR	CONC	CPT	GYP	RB	AWS/GYP	MFR/PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	
1332	COAT CLO.	CONC	LVT	GYP	RB	GYP	PT	GYP	PT	GYP	PT	GYP	PT	CONC	ACT	8' - 0"	

ROOM FINISH SCHEDULE

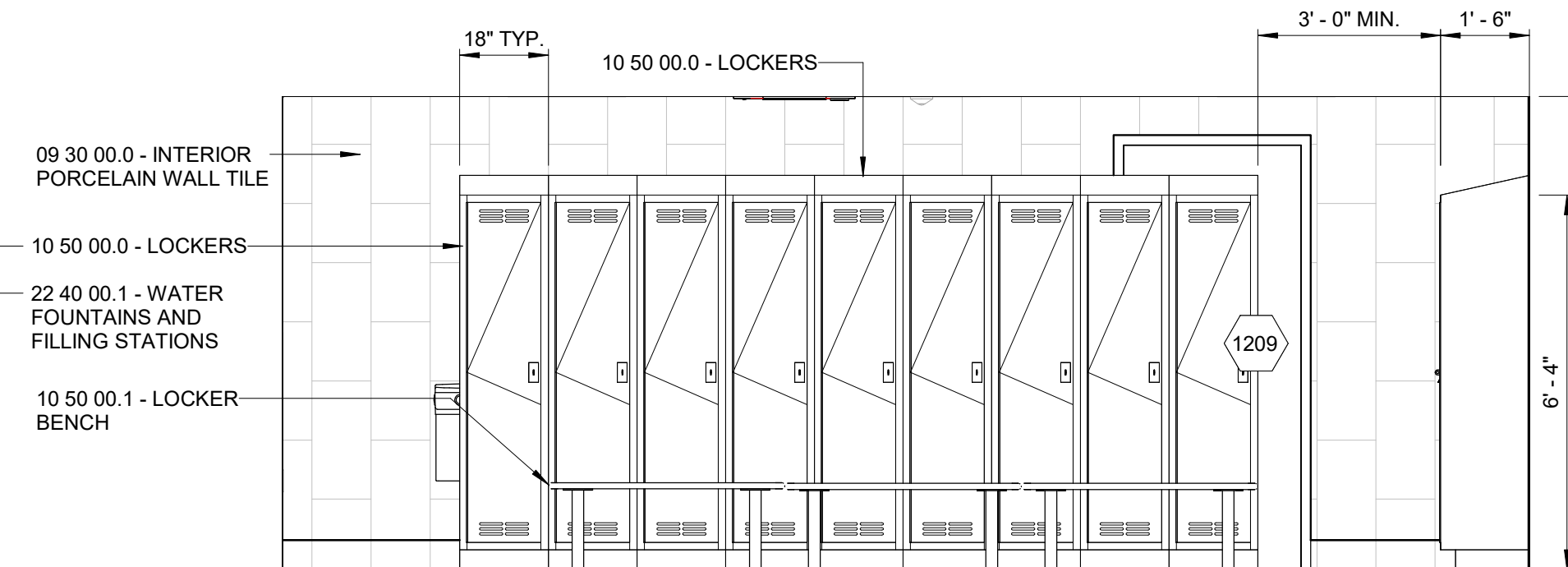
NO.	DESCRIPTION	FLOOR		BASE		WALL-NORTH		WALL-EAST		WALL-SOUTH		WALL-WEST		CEILING			REMARKS
		SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	SUBSTRATE	FINISH	HEIGHT	
2000 - TREATMENT AREAS																	
2100	CENTRAL PIPE GALLERY	CONC	CFS	CONC/GFB	ECF	CONC/GFB	ECF	CONC	ECF	CONC/GFB	ECF	CONC	ECF	CONC	ECF	27' - 0"	
2101	FILTER PIPE GALLERY	CONC	CFS	CONC/GFB	ECF	CONC/GFB	ECF	CONC	ECF	CONC/GFB	ECF	CONC	ECF	CONC	ECF	27' - 0"	
2102	STORAGE	CONC	CFS	CONC/GFB	ECF	GFB	--	CONC	ECF	GFB	--	CONC	ECF	GFB	--	13' - 0"	
2200	STAIR D	CONC	CFS	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ACT	26' - 0"	
2202	WORKSHOP AND STORAGE	CONC	CHD	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	GFB	--	17' - 6"	
2203	ELECTRICAL ROOM	CONC	CFS	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	17' - 6"	
2204	STAIR C	CONC	CFS	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	43' - 2"	
2205	RESTROOM	CONC	PFT	GFB	PCB	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ACT	9' - 0"	
2206	JANITOR RM	CONC	PFT	GFB	PCB	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ACT	17' - 6"	
2207	CHEMICAL ASSAY RM	CONC	RES	GFB	RES	GFB	--	GFB	--	GFB	--	GFB	--	CONC	CPC	9' - 0"	
2208	EQUIPMENT PLATFORM	CONC	CHD	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	17' - 6"	
2209	CORRIDOR	CONC	CHD	GFB	--	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	22' - 0"	
2210	POLYALUMINUM CHLORIDE	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	26' - 0"	
2211	SODIUM HYPOCHLORITE	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB	--	GFB	--	CONC	ECF	26' - 0"	
2212	FUTURE	CONC	CFS	CONC	ECF	GFB	--	GFB	--	GFB	--	CONC	ECF	GFB	--	26' - 0"	
2213	COAGULANT POLYMER	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB	--	CONC	ECF	GFB	--	26' - 0"	
2214	PHOSPHORIC ACID	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB	--	CONC	ECF	GFB	--	26' - 0"	
2215	SODIUM HYDROXIDE	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB	--	CONC	ECF	GFB	--	26' - 0"	
2216	FILTER AID POLYMER	CONC	CRC	CONC	CRC	GFB	--	GFB	--	GFB							

NOTES:

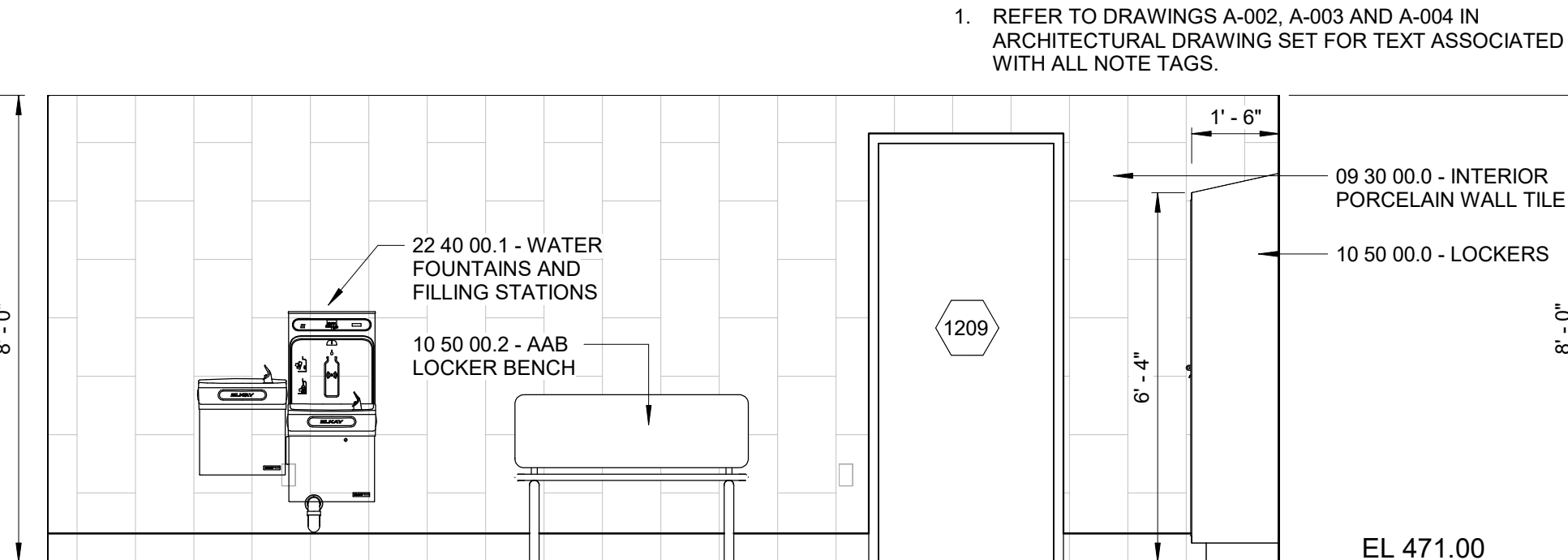
- REFER TO DRAWINGS A-002, A-003 AND A-004 IN ARCHITECTURAL DRAWING SET FOR TEXT ASSOCIATED WITH ALL NOTE TAGS.



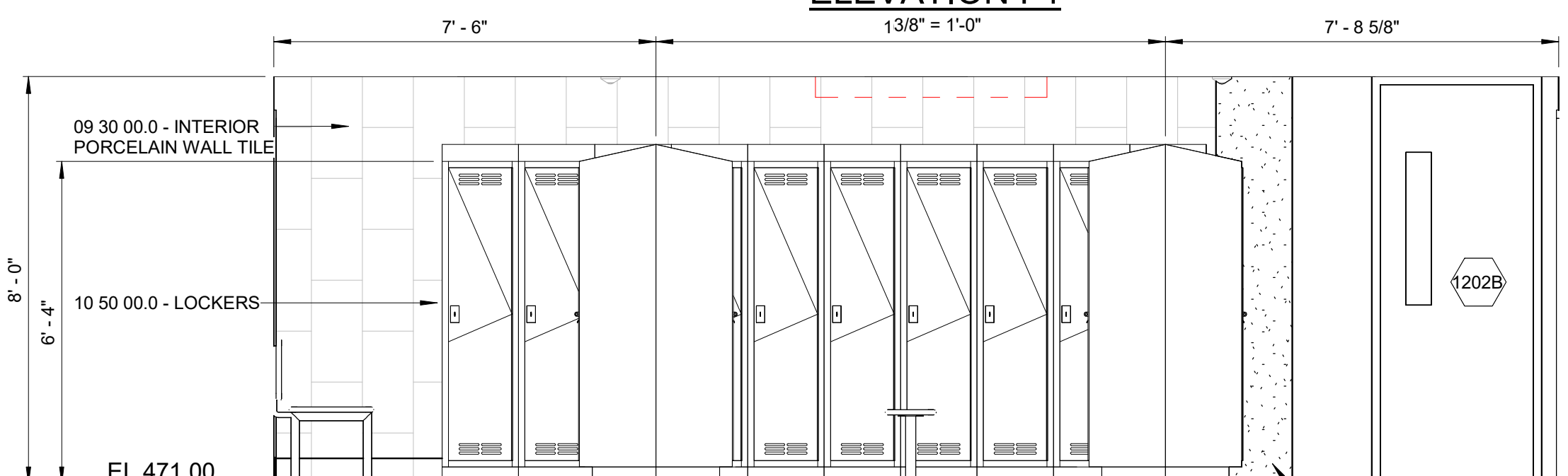
ELEVATION F1
3/8" = 1'-0"



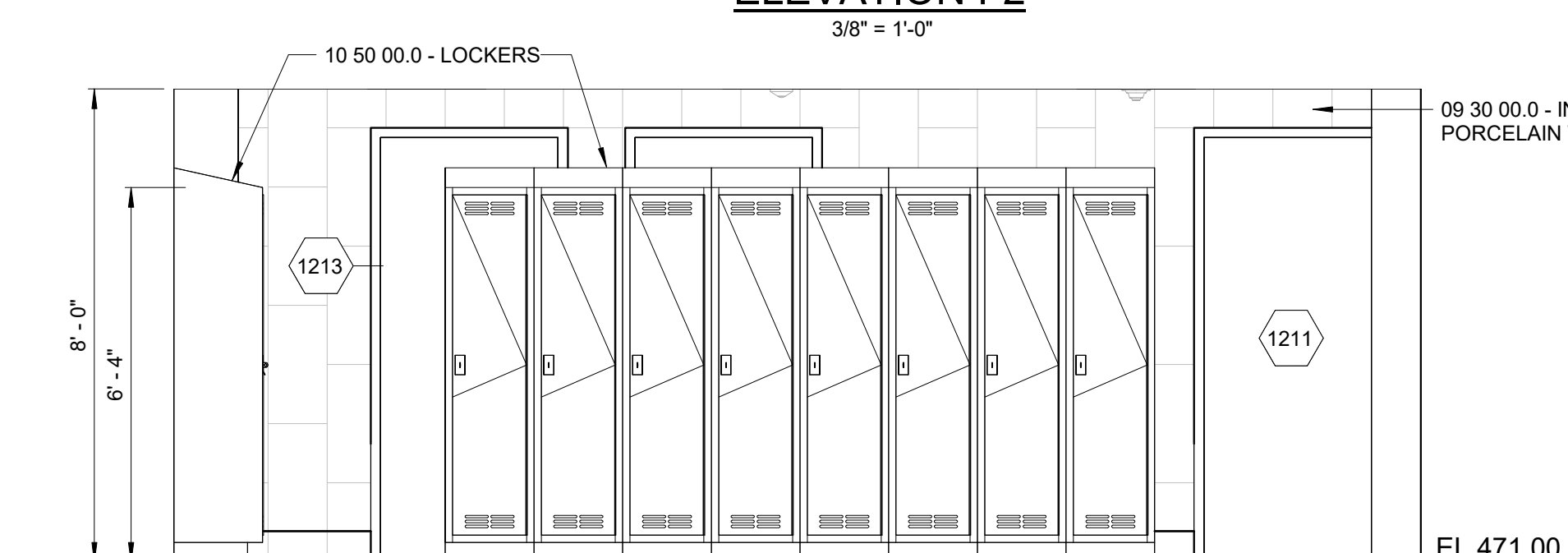
ELEVATION F2
3/8" = 1'-0"



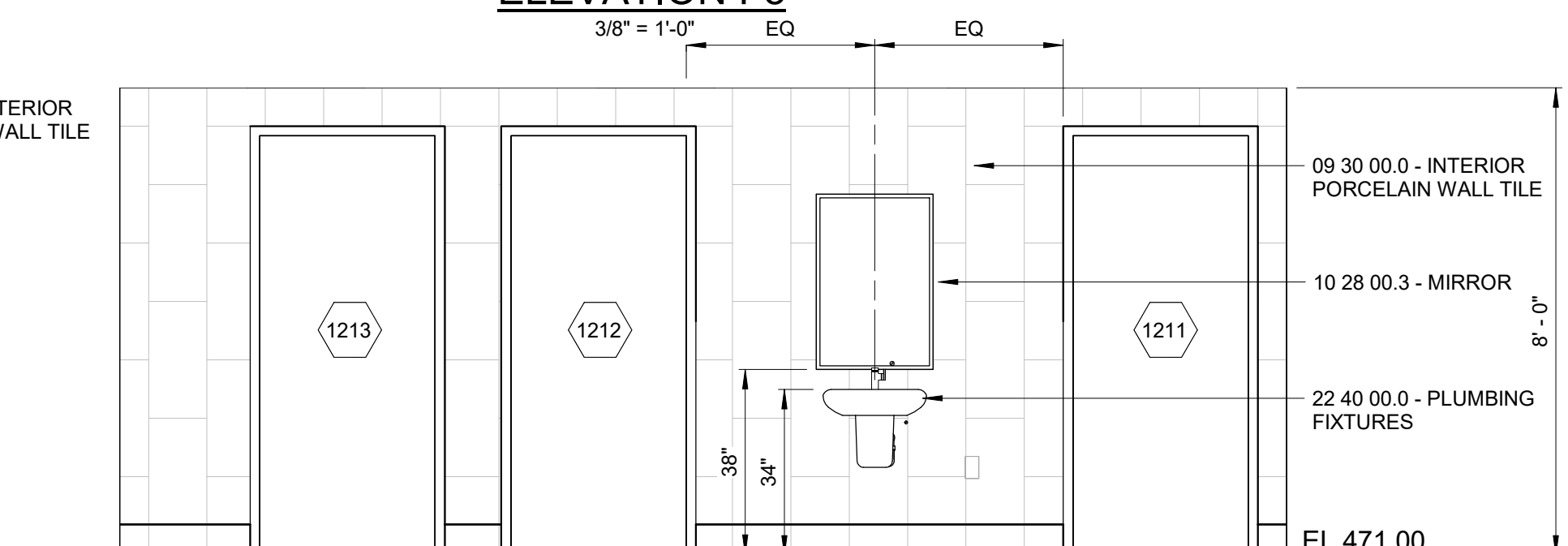
ELEVATION F5
3/8" = 1'-0"



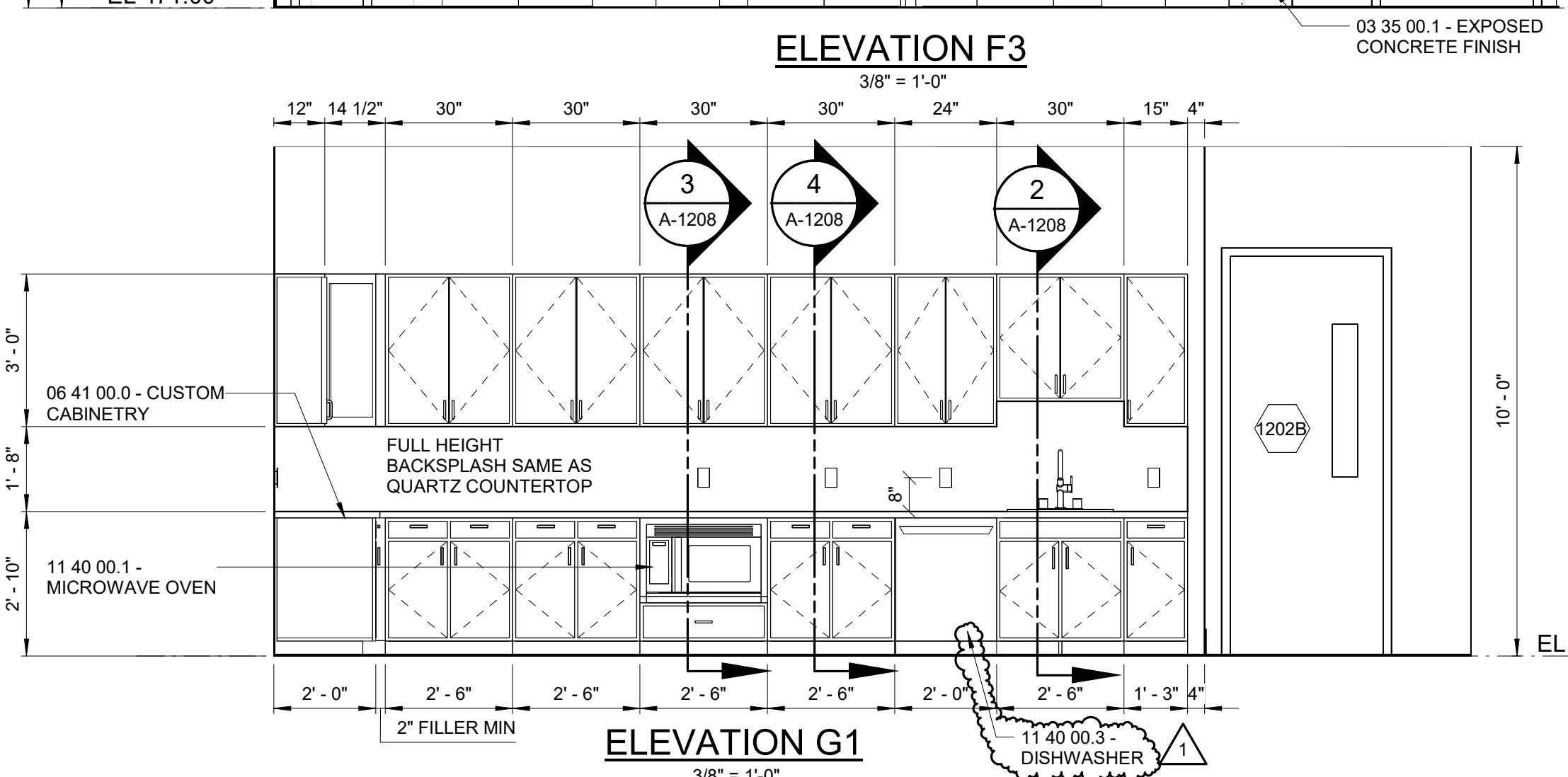
ELEVATION F3
3/8" = 1'-0"



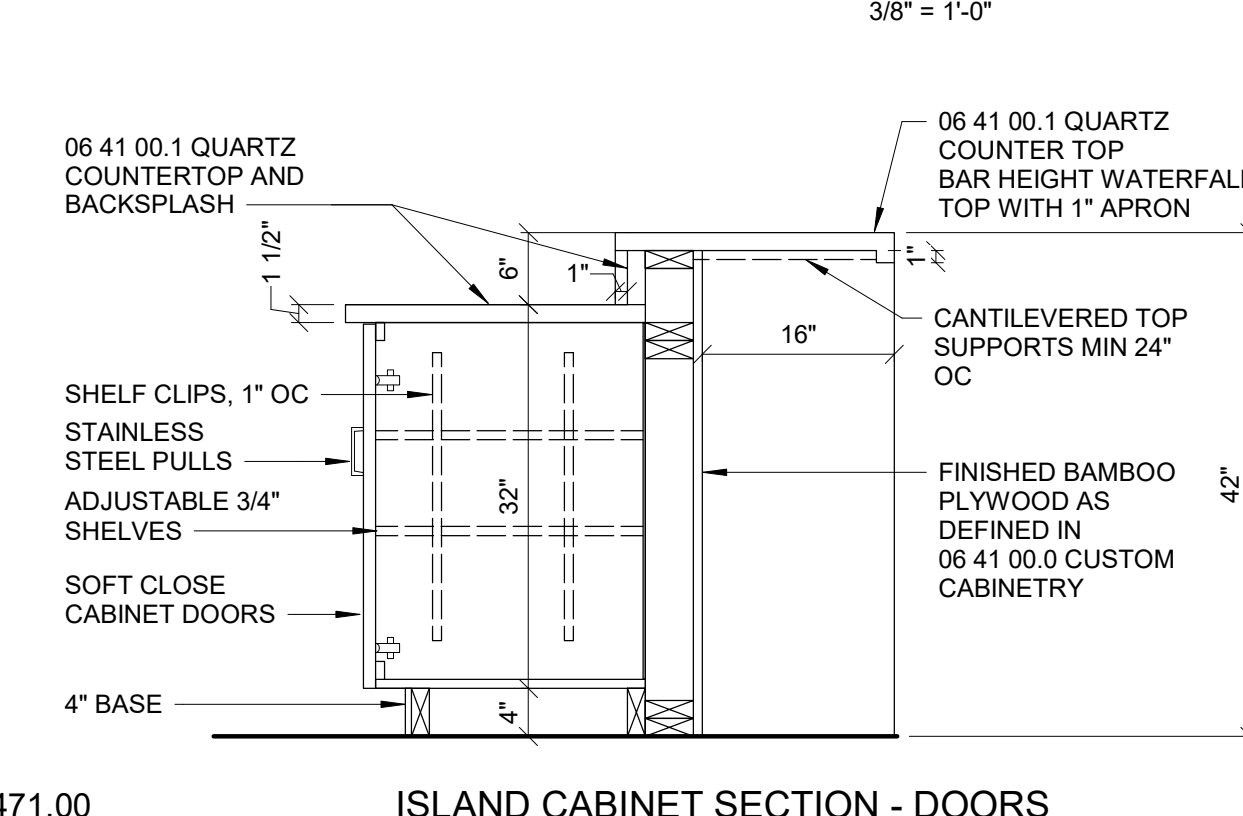
ELEVATION F4
3/8" = 1'-0"



ELEVATION F6
3/8" = 1'-0"

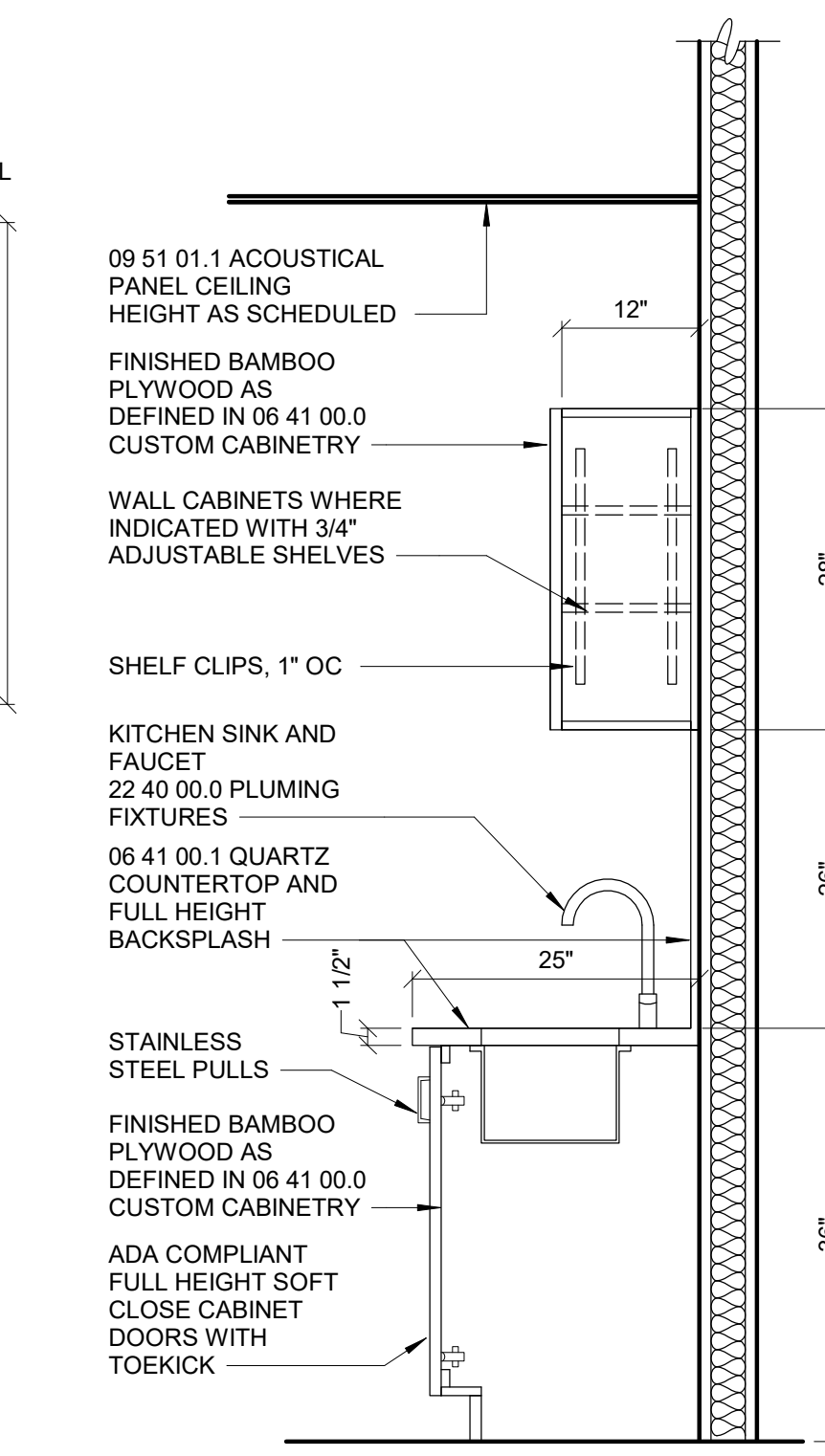


ELEVATION G1
3/8" = 1'-0"



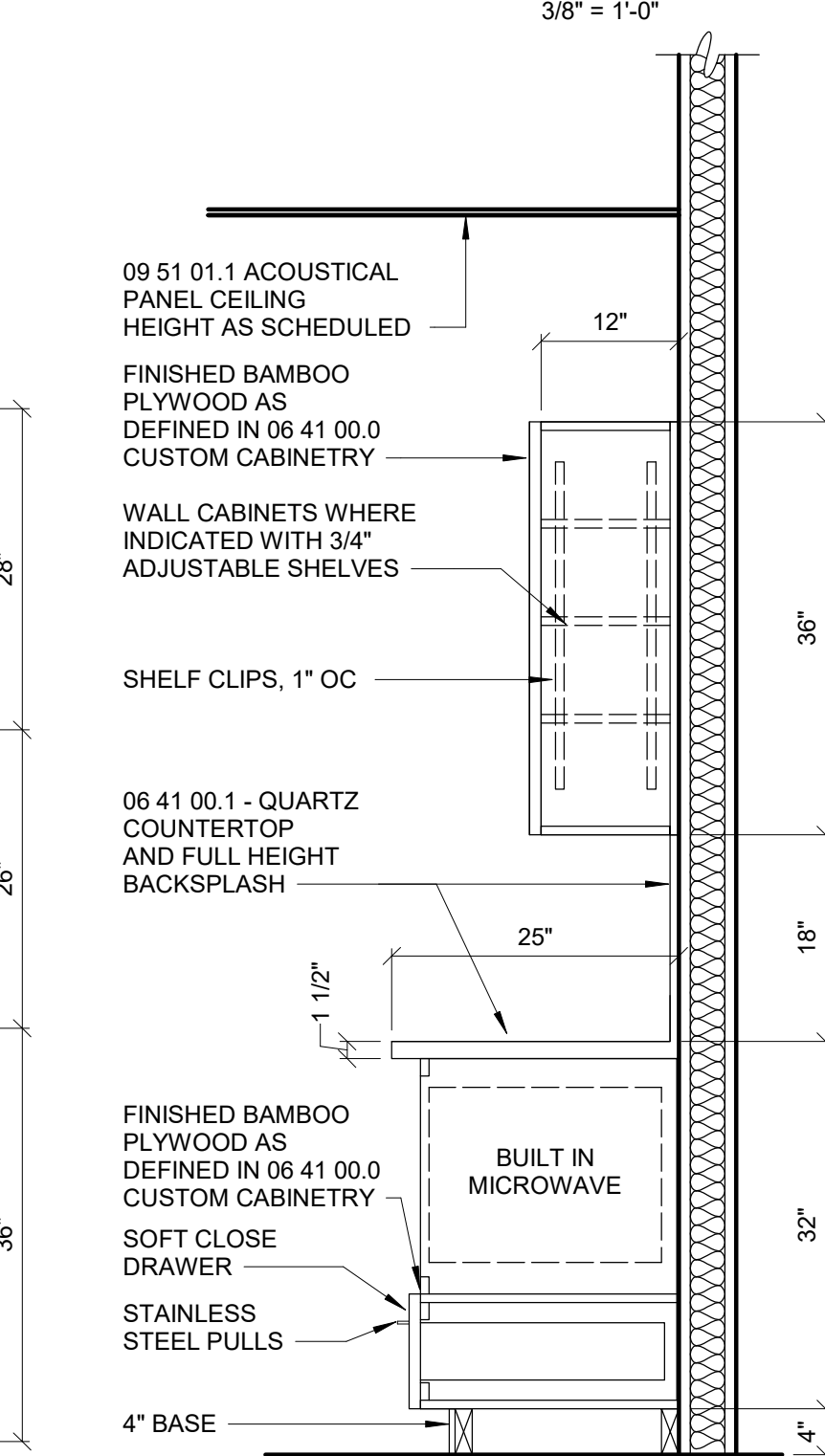
ISLAND CABINET SECTION - DOORS

DETAIL 1
3/4" = 1'-0" A-1208



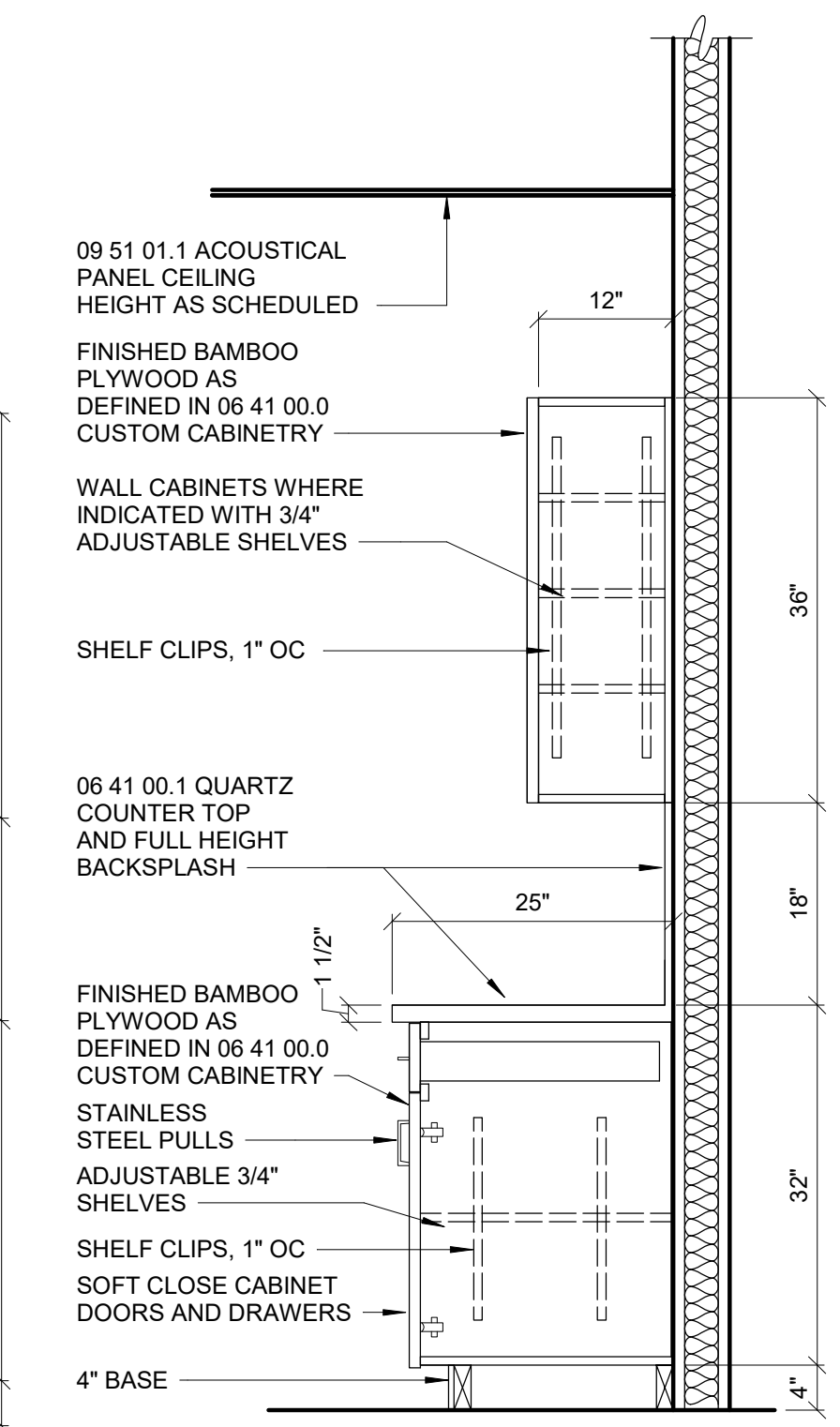
CABINET SECTION - SINK CABINET

DETAIL 2
3/4" = 1'-0" A-1208



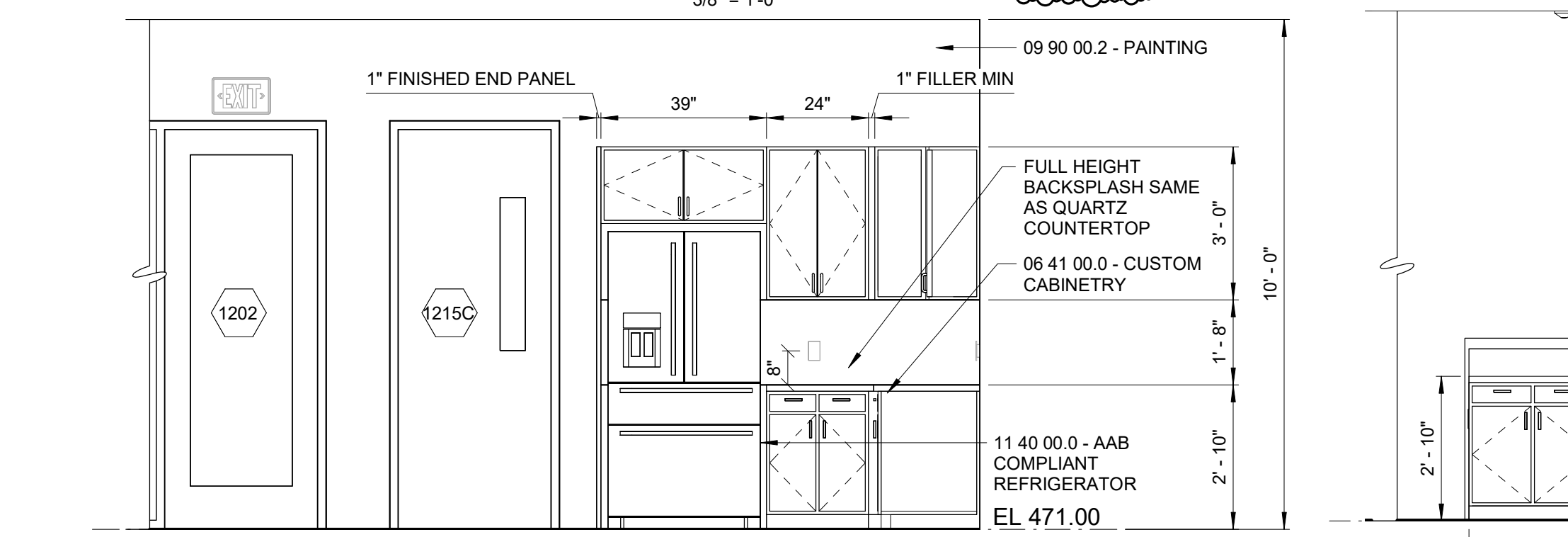
CABINET SECTION - BUILT IN MICROWAVE

DETAIL 3
3/4" = 1'-0" A-1208

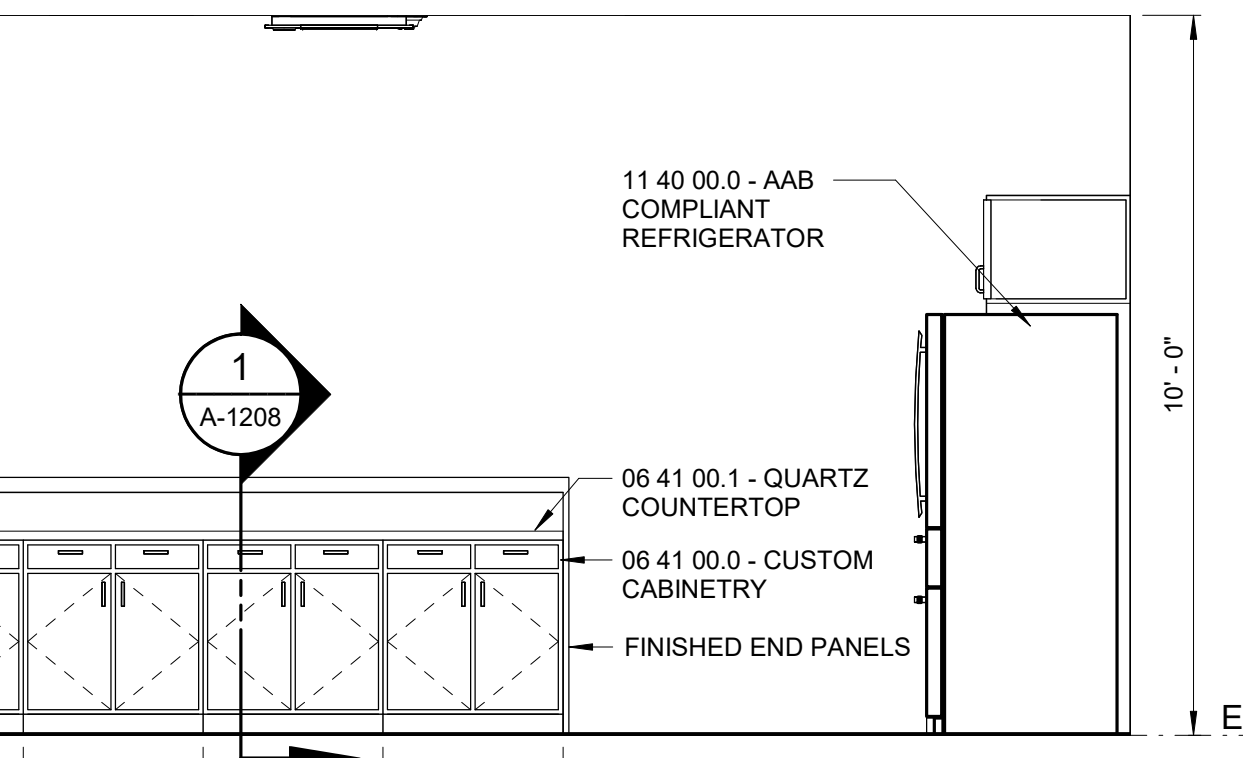


CABINET SECTION - DOORS AND DRAWER

DETAIL 4
3/4" = 1'-0" A-1208



ELEVATION G2
3/8" = 1'-0"

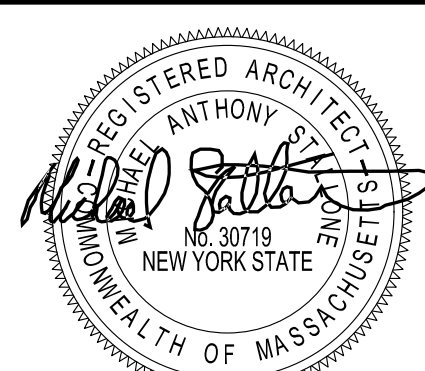


ELEVATION G3
3/8" = 1'-0"

Autodesk/Doc/060908-004_West Parish Filter WTR/060908-004-ADM-A-14 3/22/2024 2:11:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. WOJCIESKI
DRAWN BY:	M. TAWADROUS
CHECKED BY:	W. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"



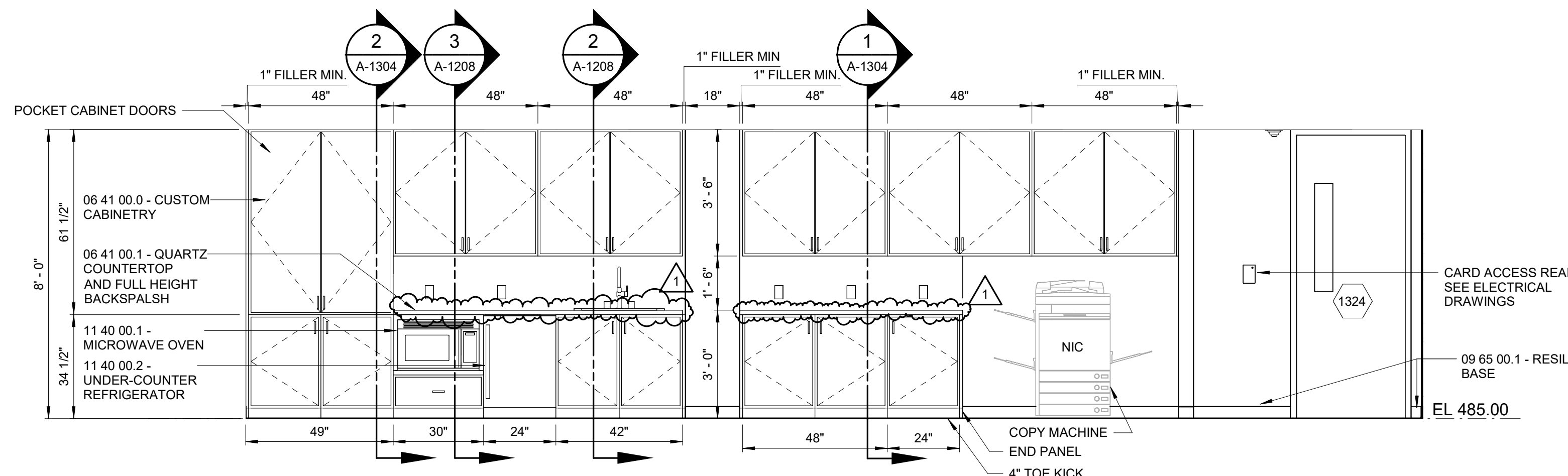
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

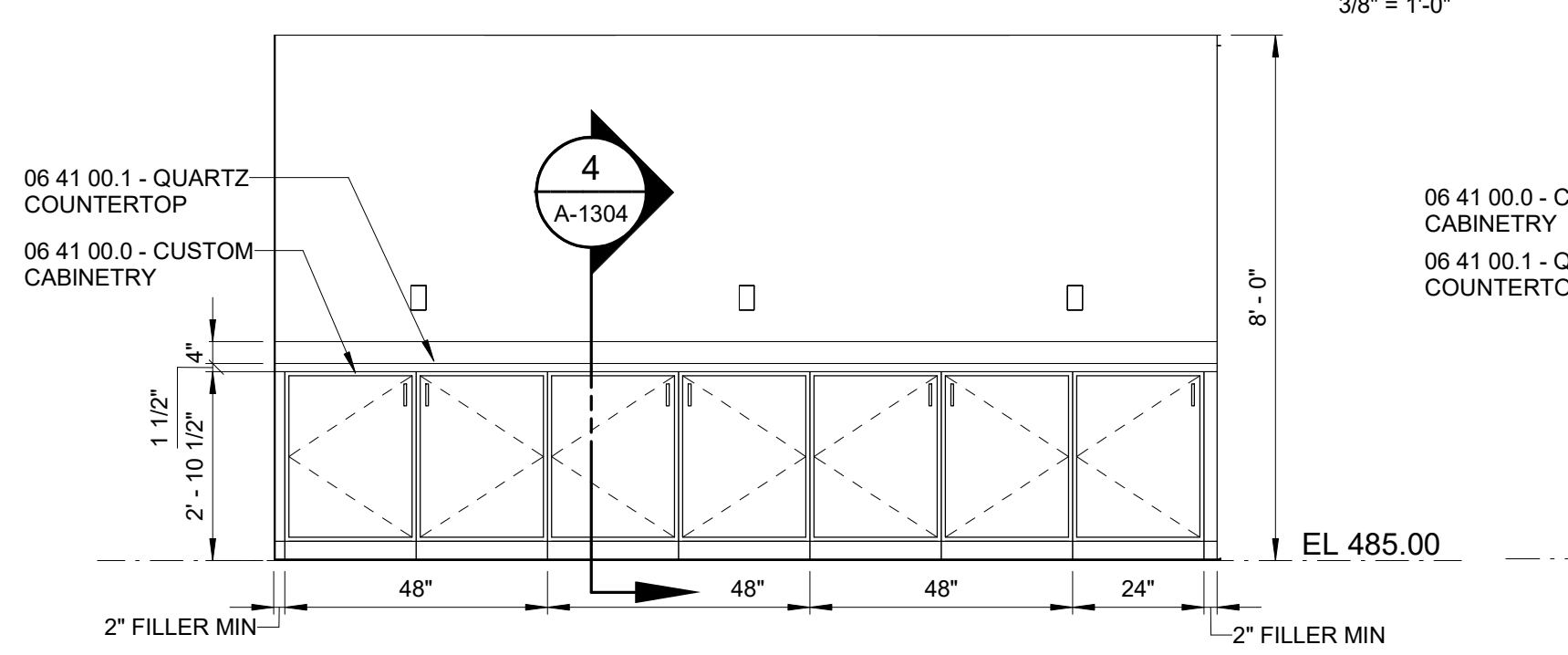
FILED SUB-BID
WATER TREATMENT BUILDING
LOCKER ROOM AND BREAK ROOM INTERIOR
ELEVATIONS AT EL 471.00 - ADMINISTRATION AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	A-1208

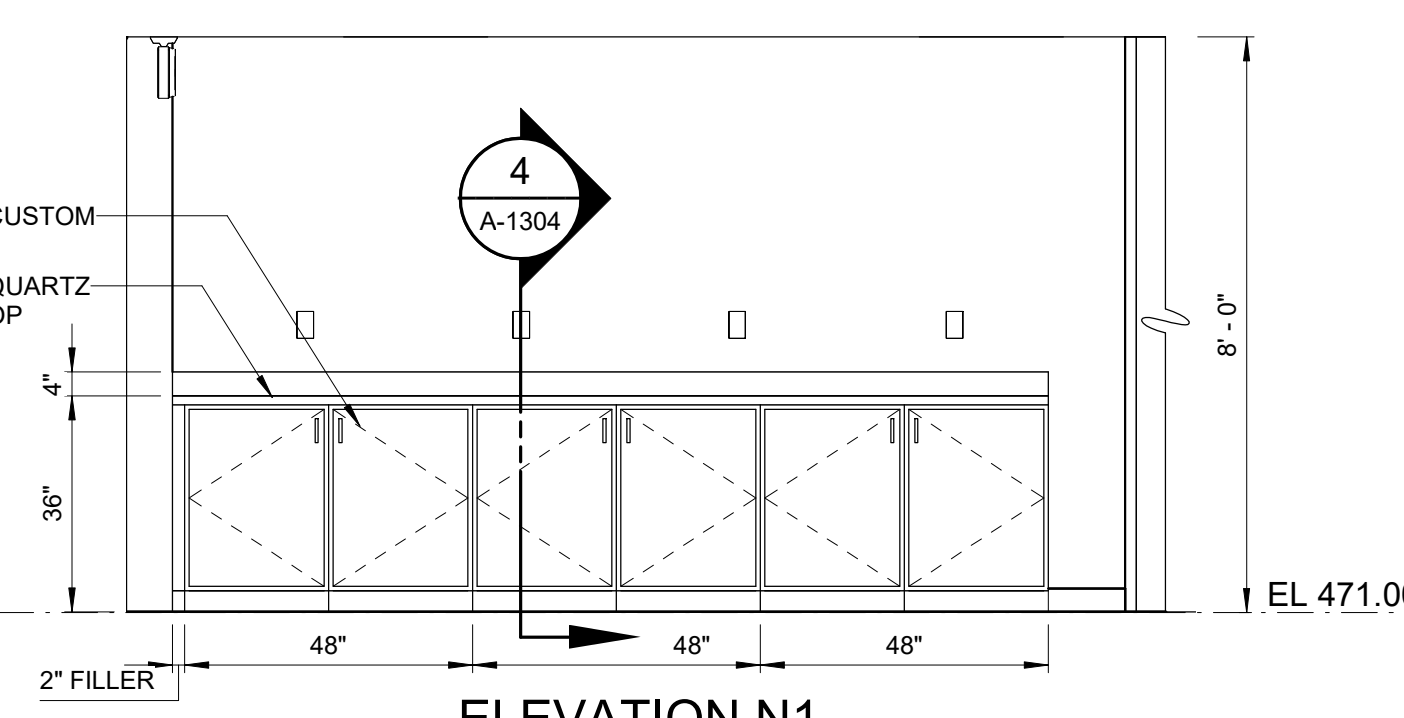
NOTES:
 1. REFER TO DRAWINGS A-002, A-003 AND A-004 IN ARCHITECTURAL DRAWING SET FOR TEXT ASSOCIATED WITH ALL NOTE TAGS.



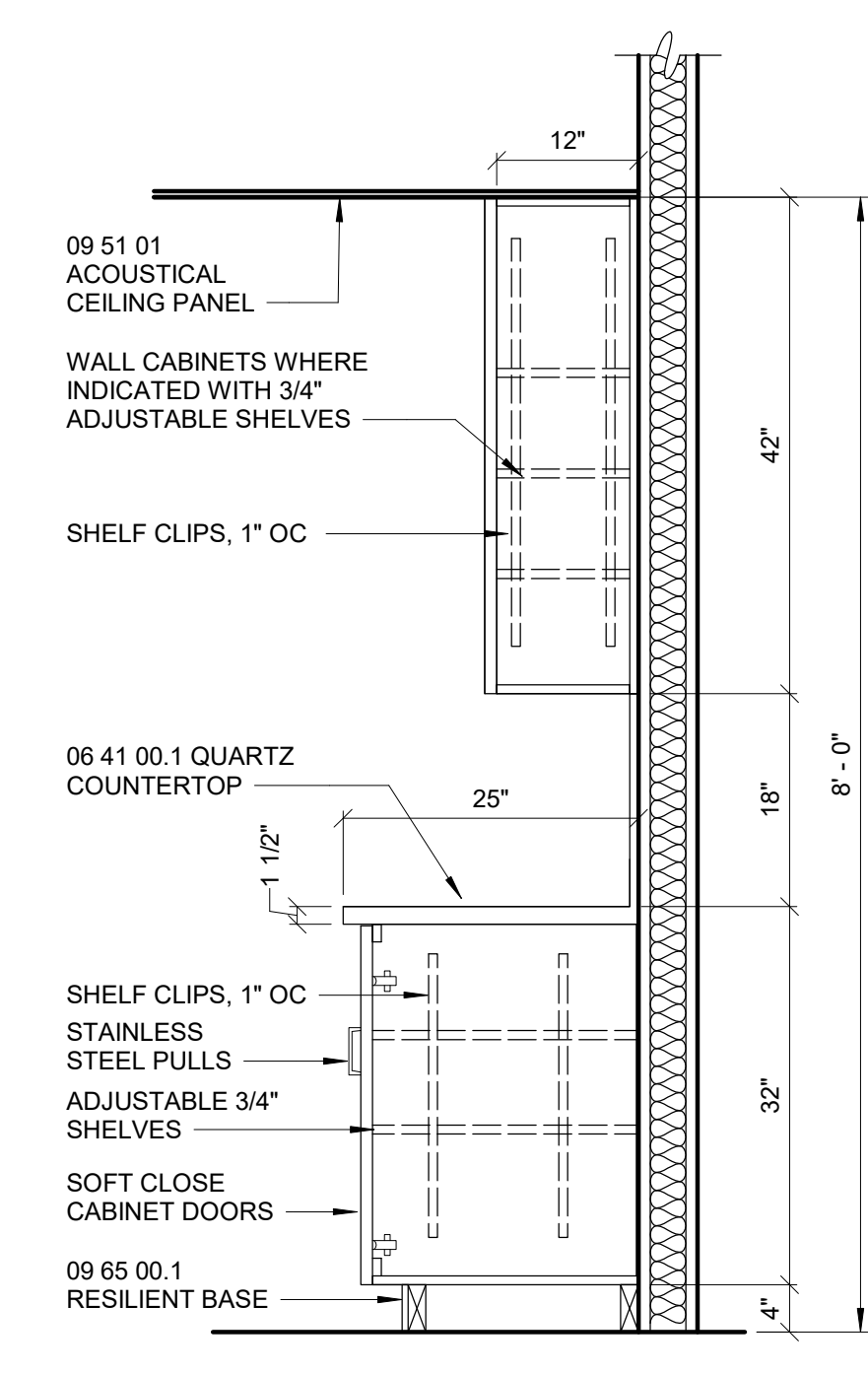
ELEVATION L1
 3/8" = 1'-0"



ELEVATION M1
 3/8" = 1'-0"

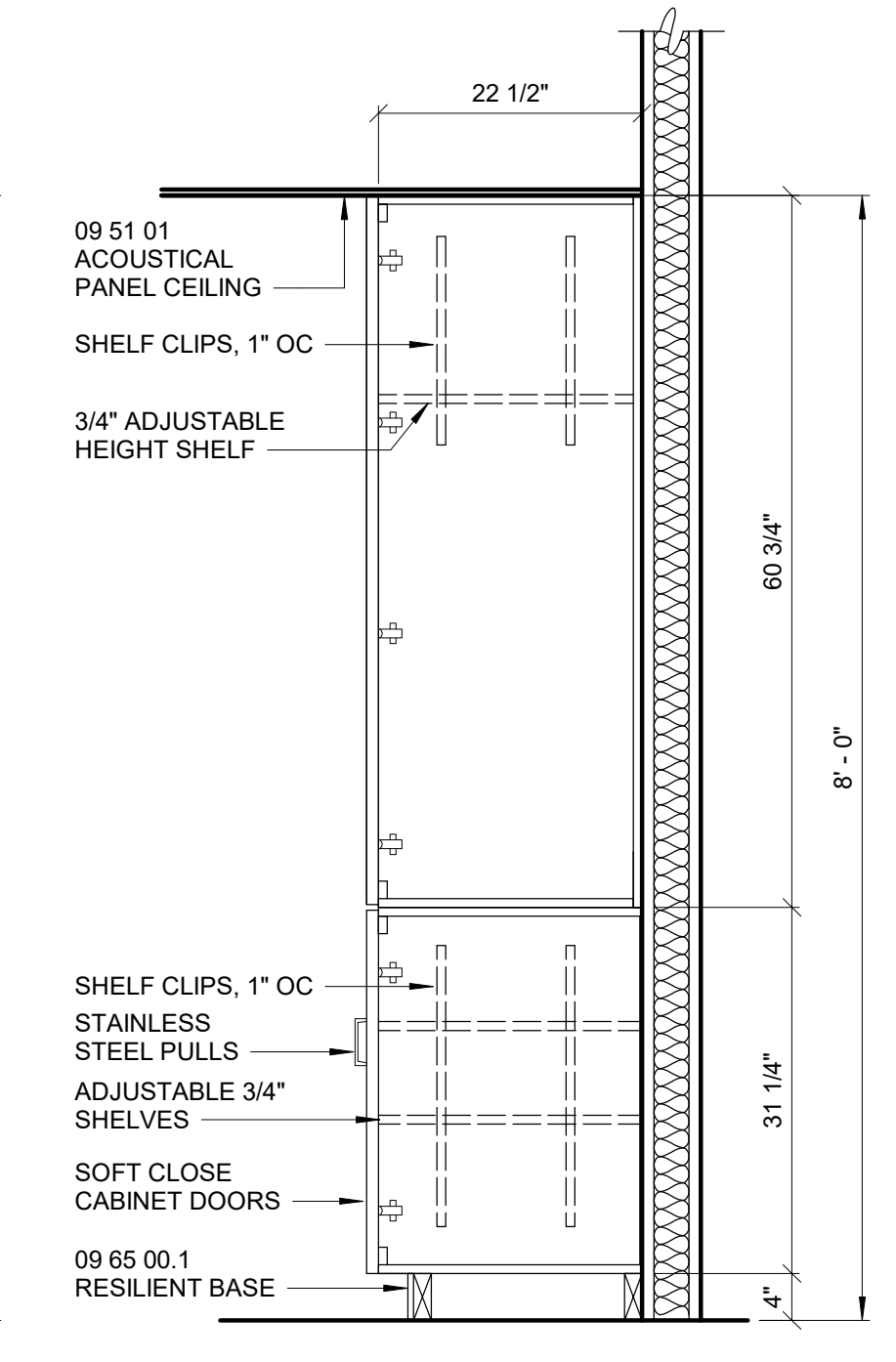


ELEVATION N1
 3/8" = 1'-0"



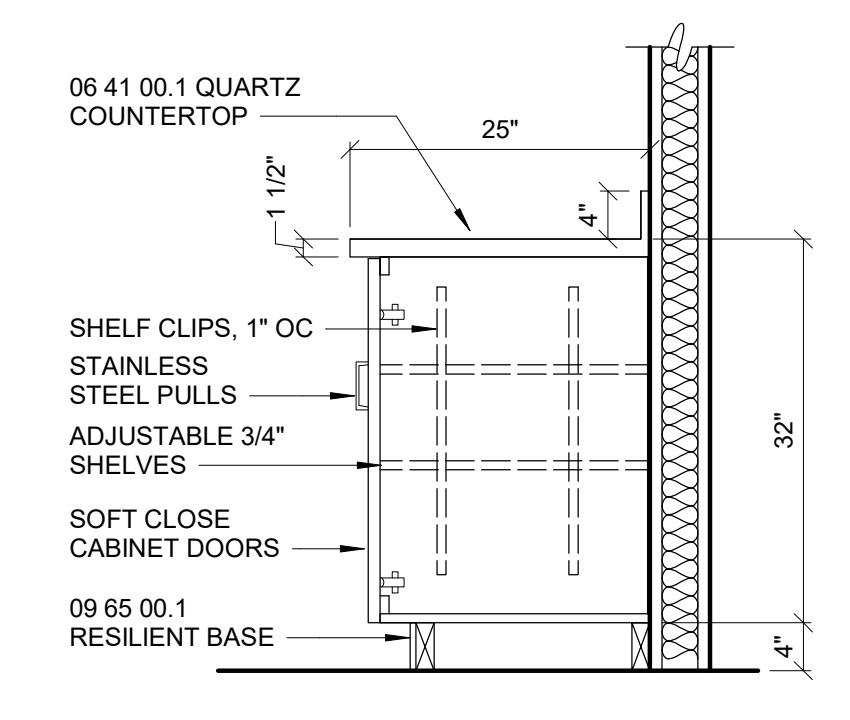
CABINET SECTION - DOORS

DETAIL	1
3/4" = 1'-0"	A-1304



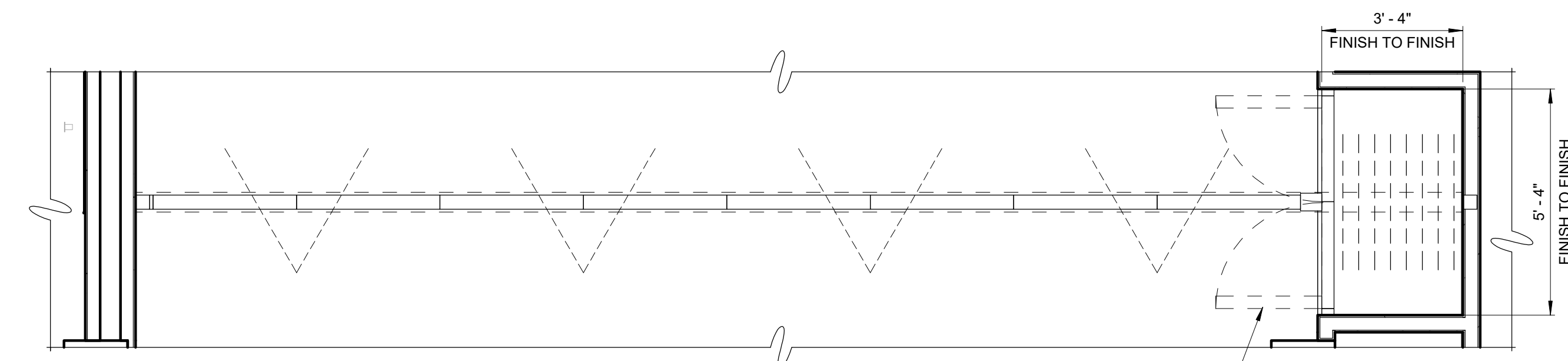
CABINET SECTION - FULL HEIGHT CABINET

DETAIL	2
3/4" = 1'-0"	A-1304

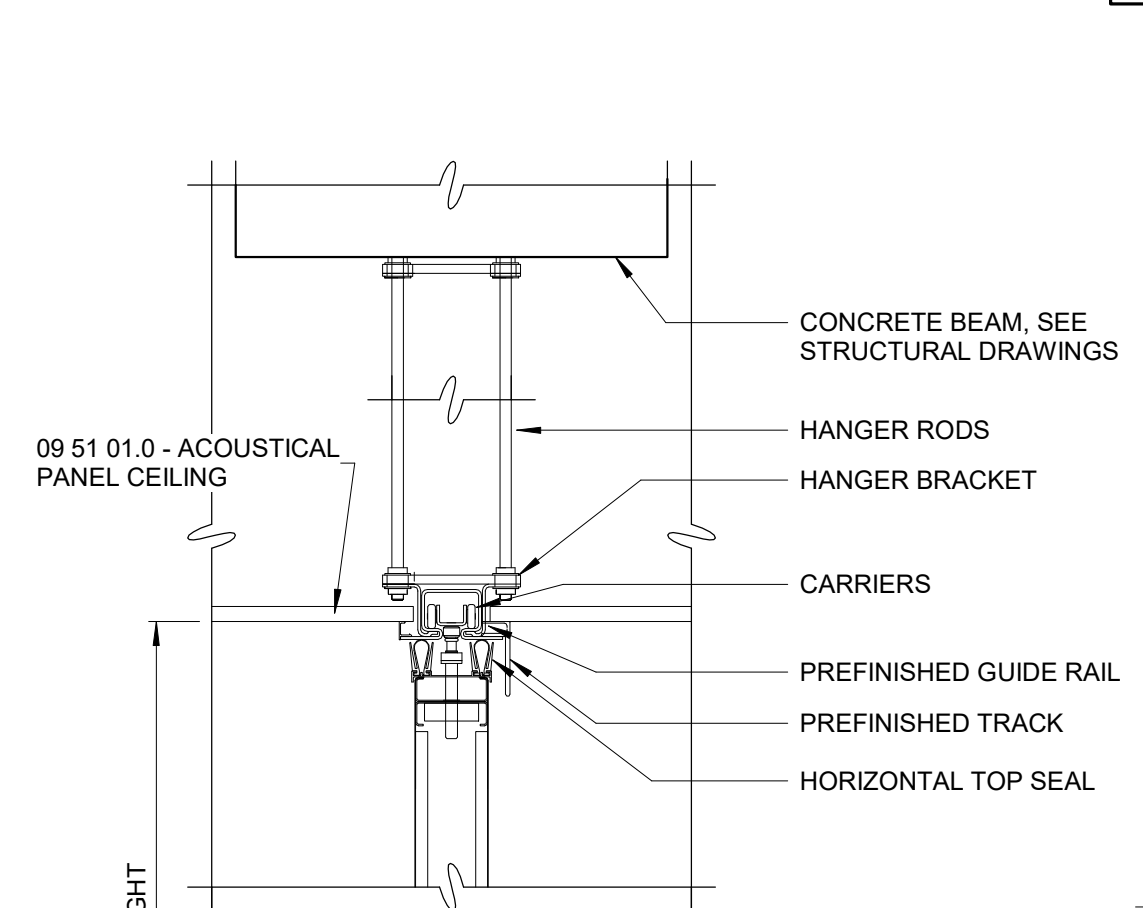


CABINET SECTION - CONFERENCE

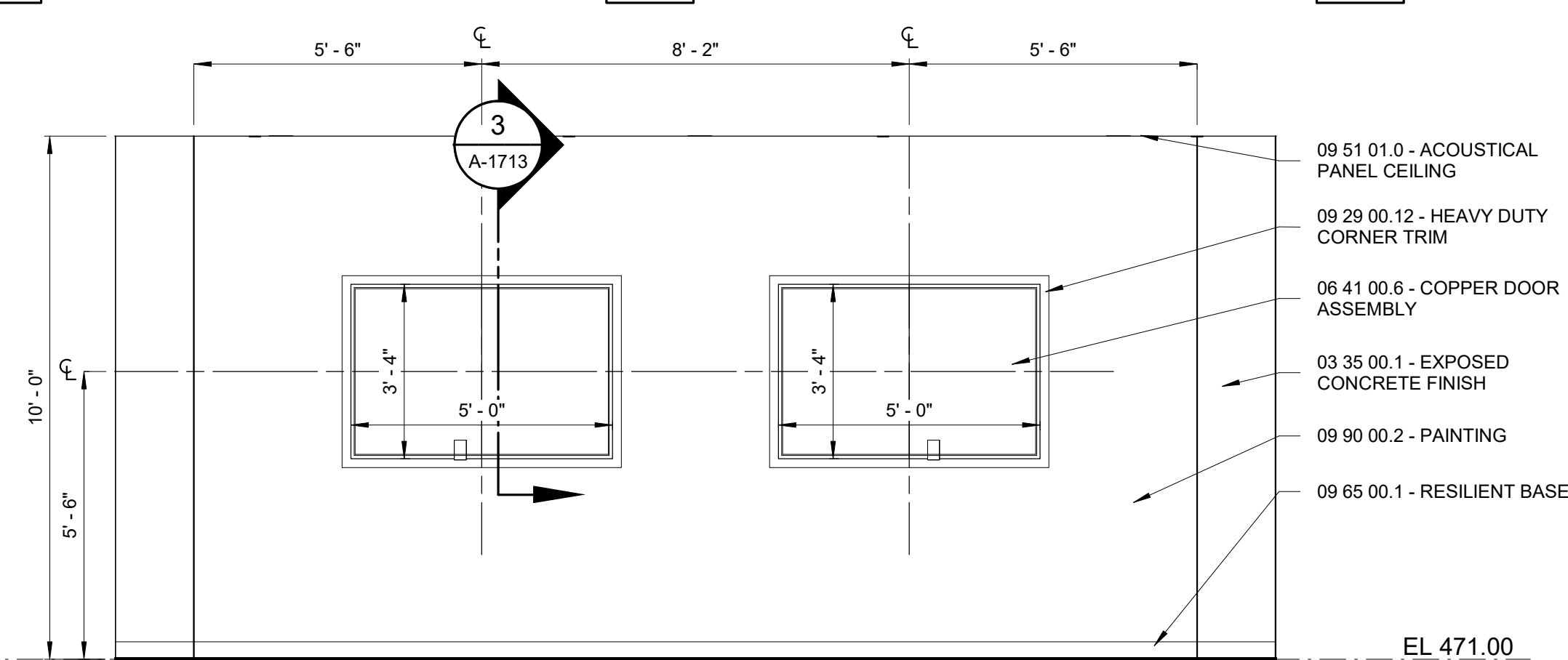
DETAIL	4
3/4" = 1'-0"	A-1304



OPERABLE PARTITION PLAN
 3/8" = 1'-0"

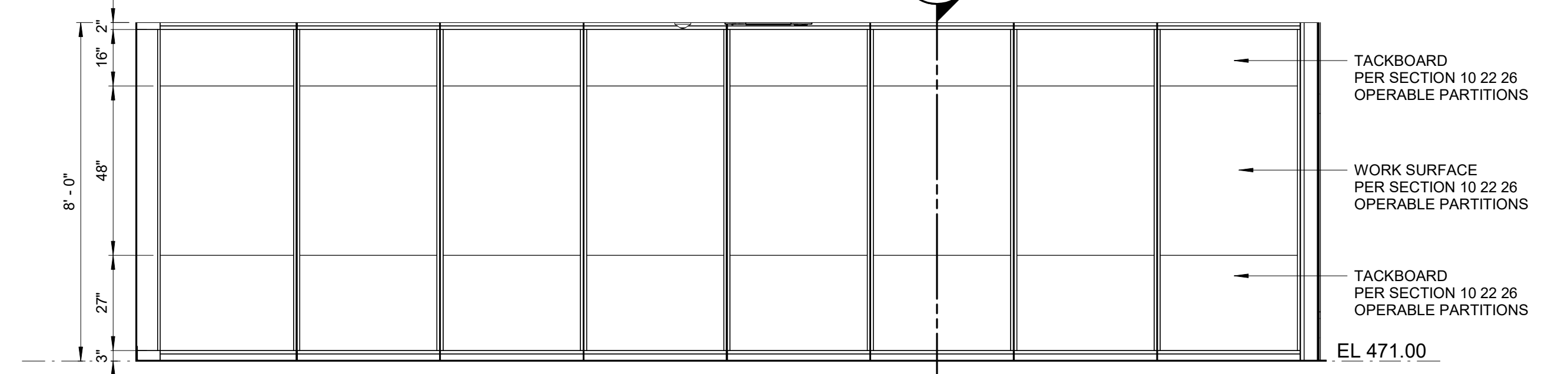


DETAIL	3
1 1/2" = 1'-0"	A-1304

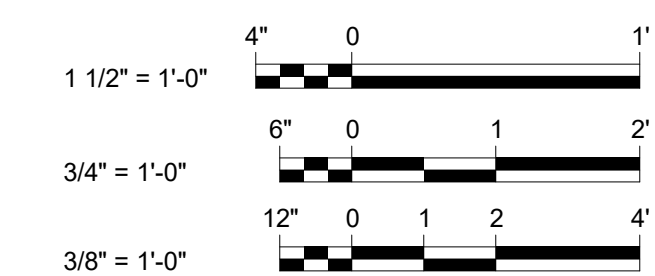


ELEVATION O1
 3/8" = 1'-0"

NOTE: COPPER DOOR ASSEMBLIES ROUGH OPENING TO BE VERIFIED IN FIELD.



ELEVATION N2
 3/8" = 1'-0"



Autodesk_Documents\09398-004_West Parish Filter WTP\90398-004-ADM-A.rvt 3/22/2024 3:31:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. WOJCIESKI
DRAWN BY:	M. TAWADROUS
CHECKED BY:	W. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

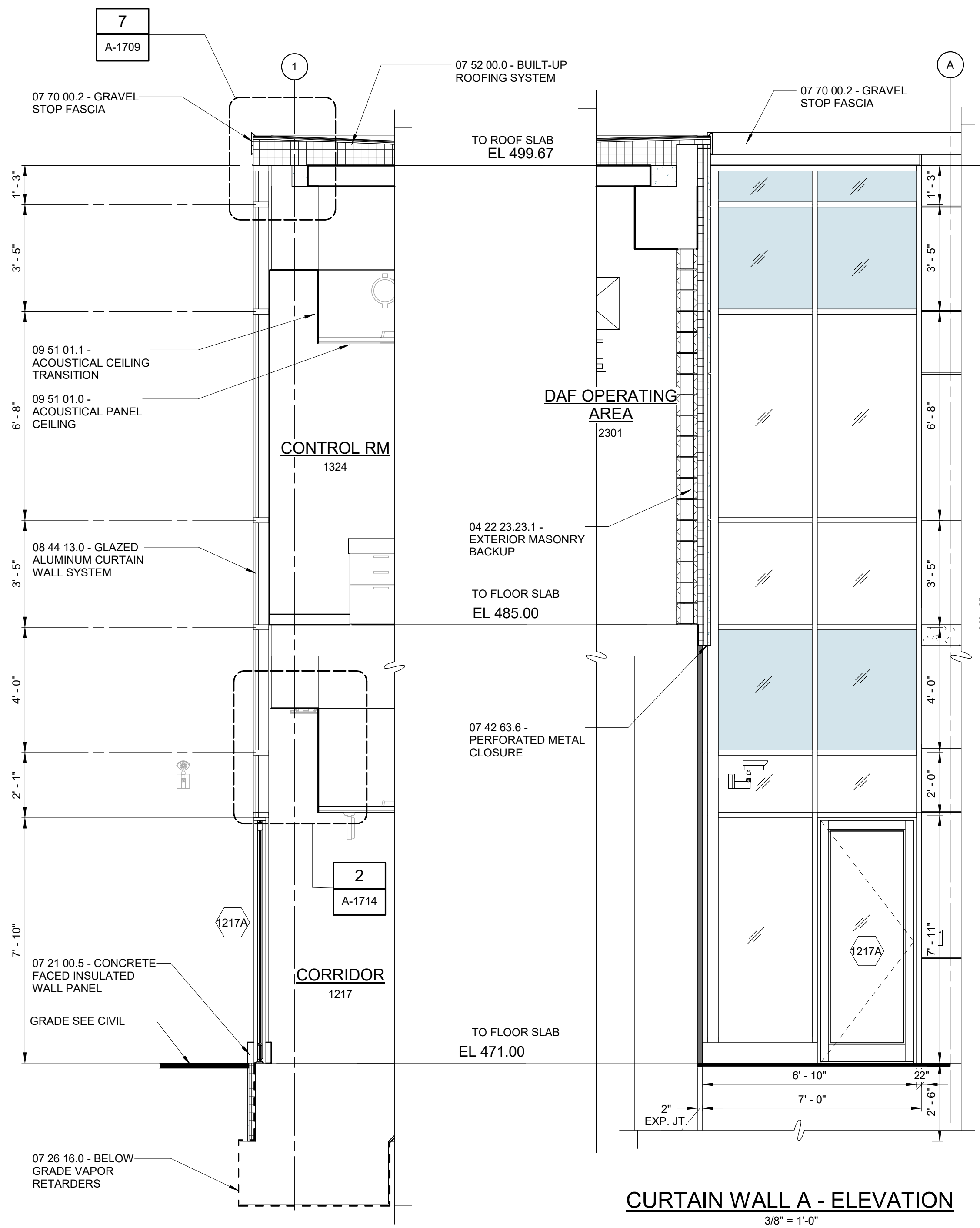
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ARCHITECTURAL
 PANTRY, CONFERENCE AND TRAINING ROOM
 INTERIOR ELEVATIONS AT EL 485.00 - ADMINISTRATION AREA

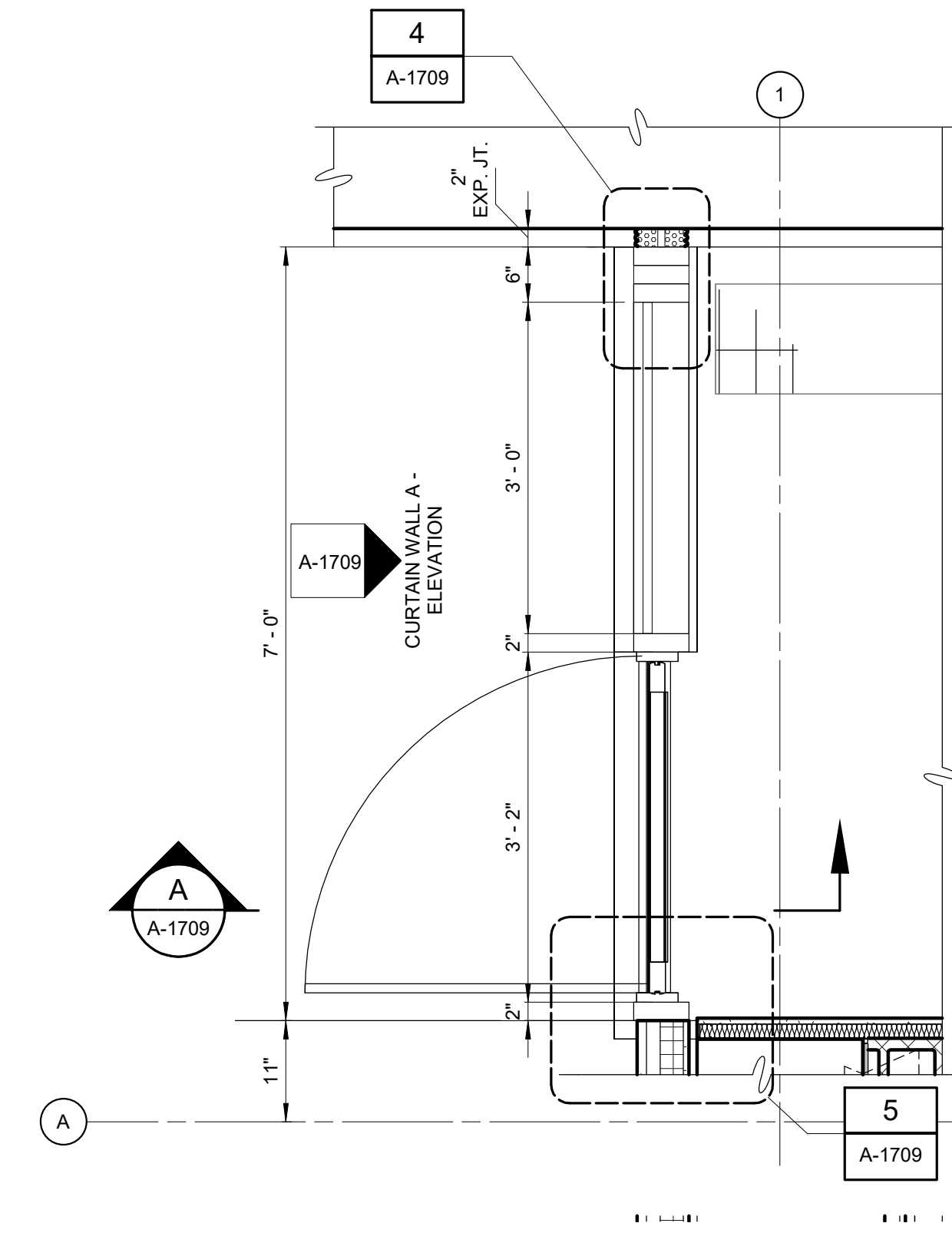
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	A-1304

NOTES:

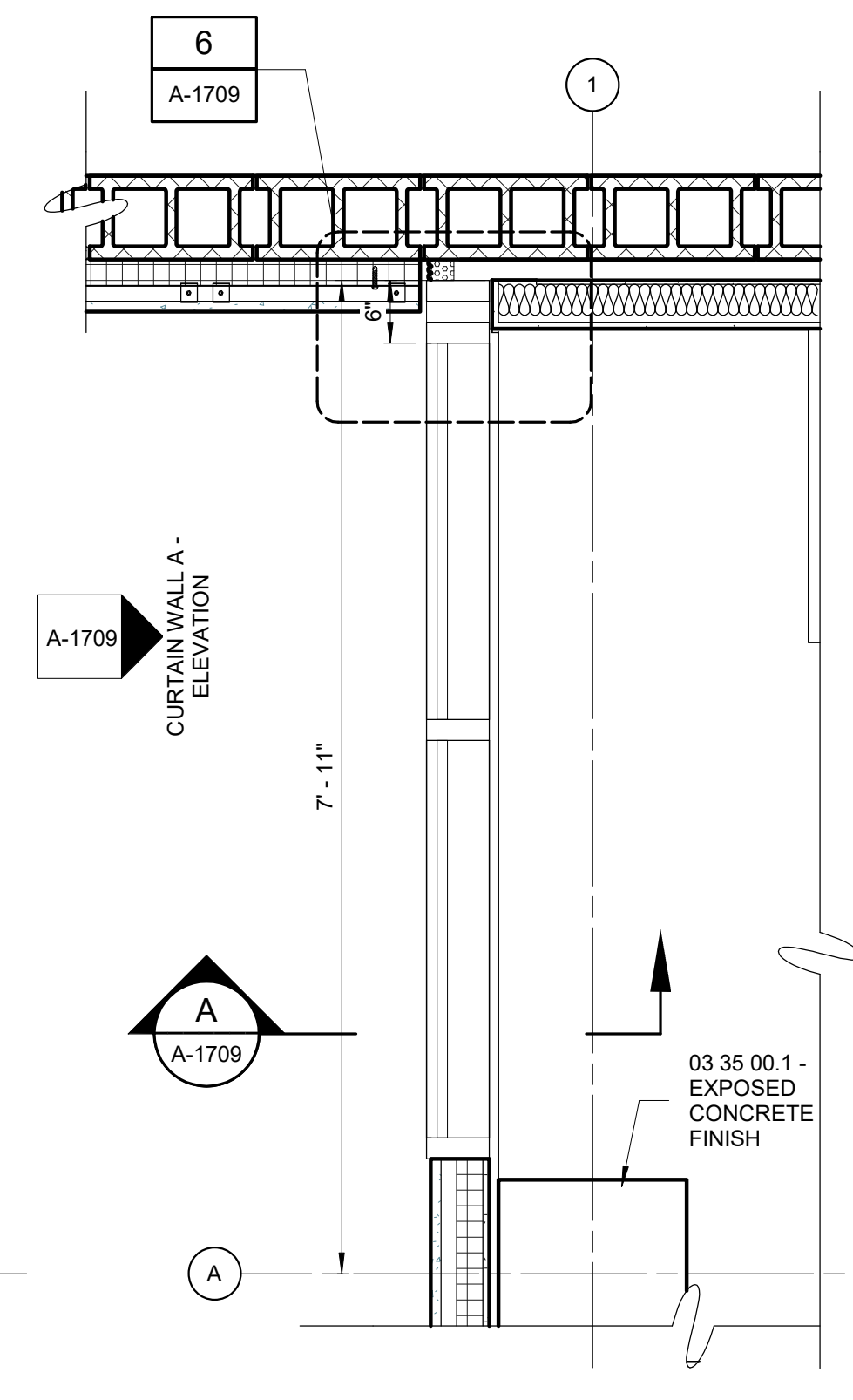
- REFER TO DRAWINGS A-002, A-003 AND A-004 IN ARCHITECTURAL DRAWING SET FOR TEXT ASSOCIATED WITH ALL NOTE TAGS.



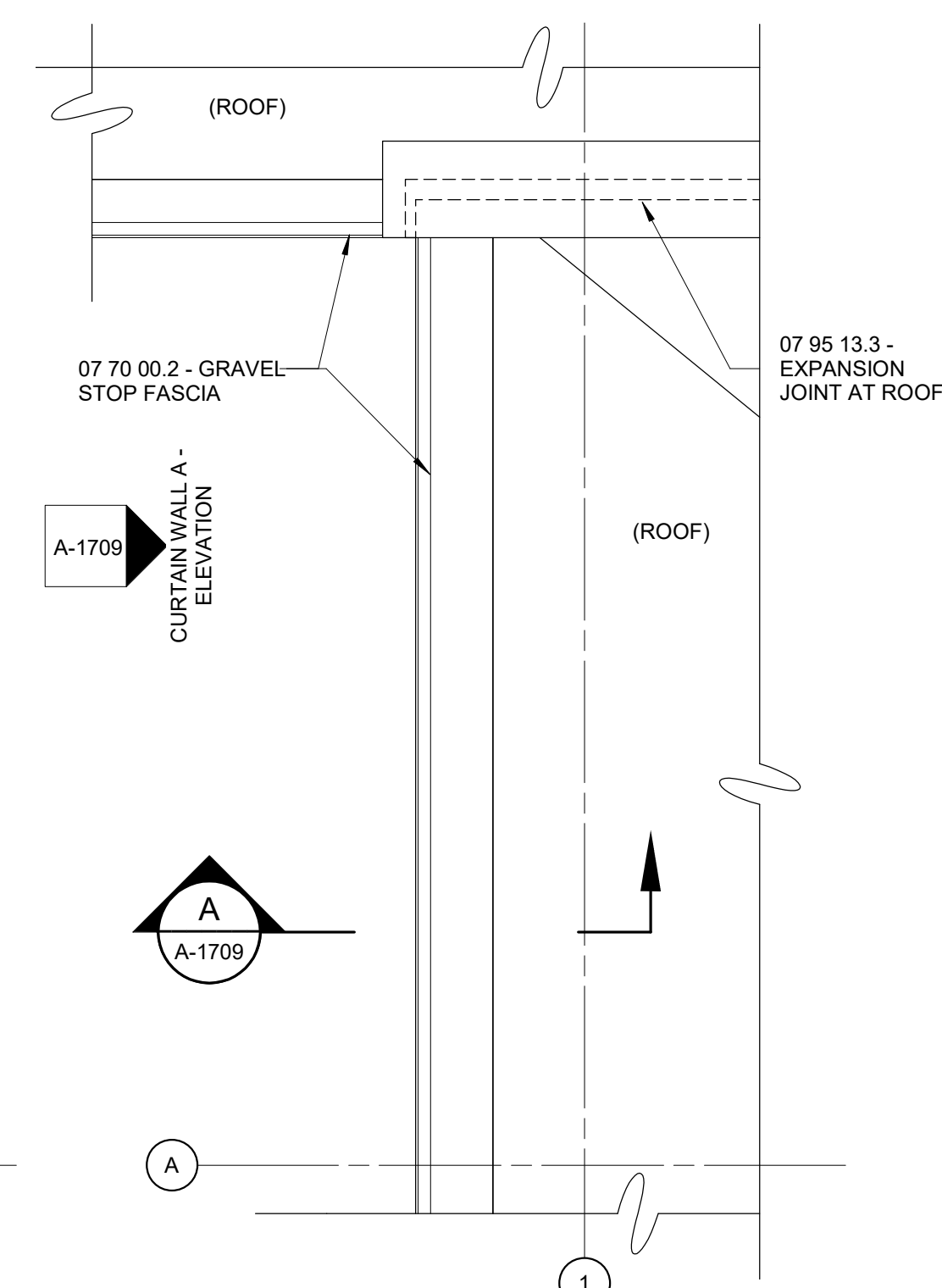
CURTAIN WALL A SECTION A
3/8" = 1'-0"



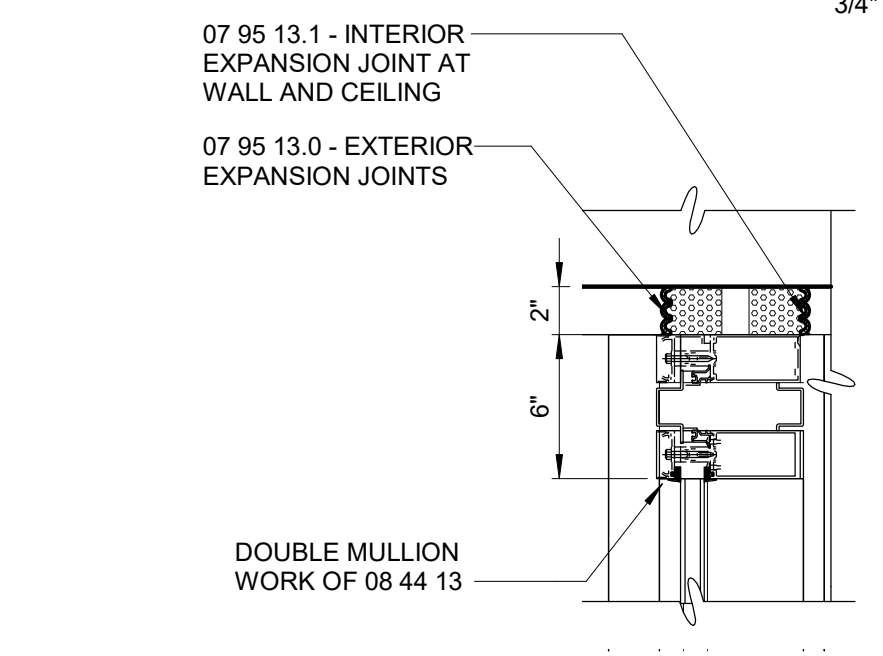
ENLARGED PLAN CURTAIN WALL A - EL 471.00
3/4" = 1'-0"



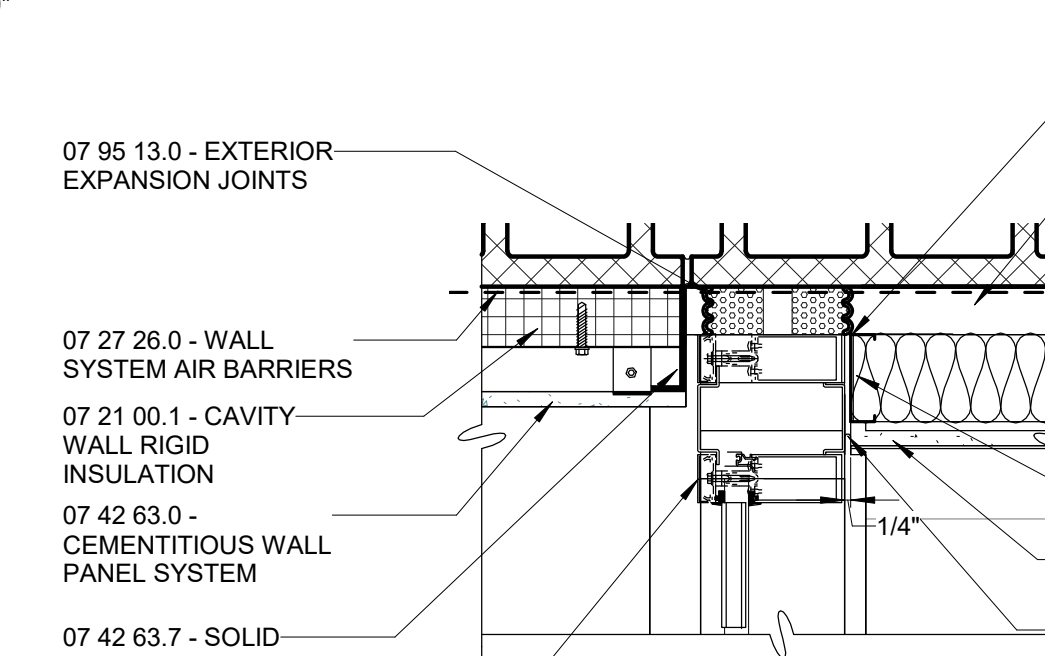
ENLARGED PLAN CURTAIN WALL A - EL 485.00
3/4" = 1'-0"



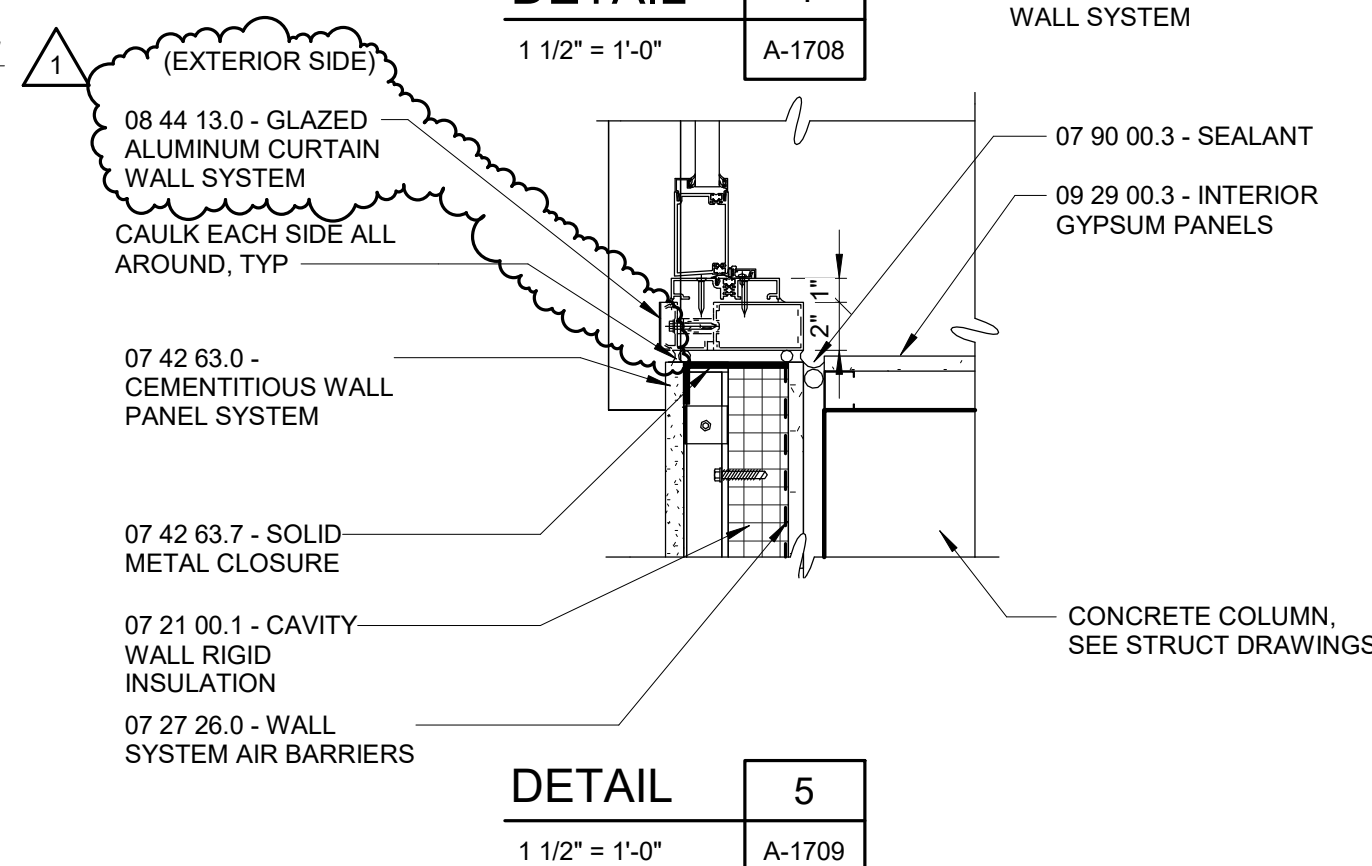
ENLARGED PLAN CURTAIN WALL A - EL 499.00
3/4" = 1'-0"



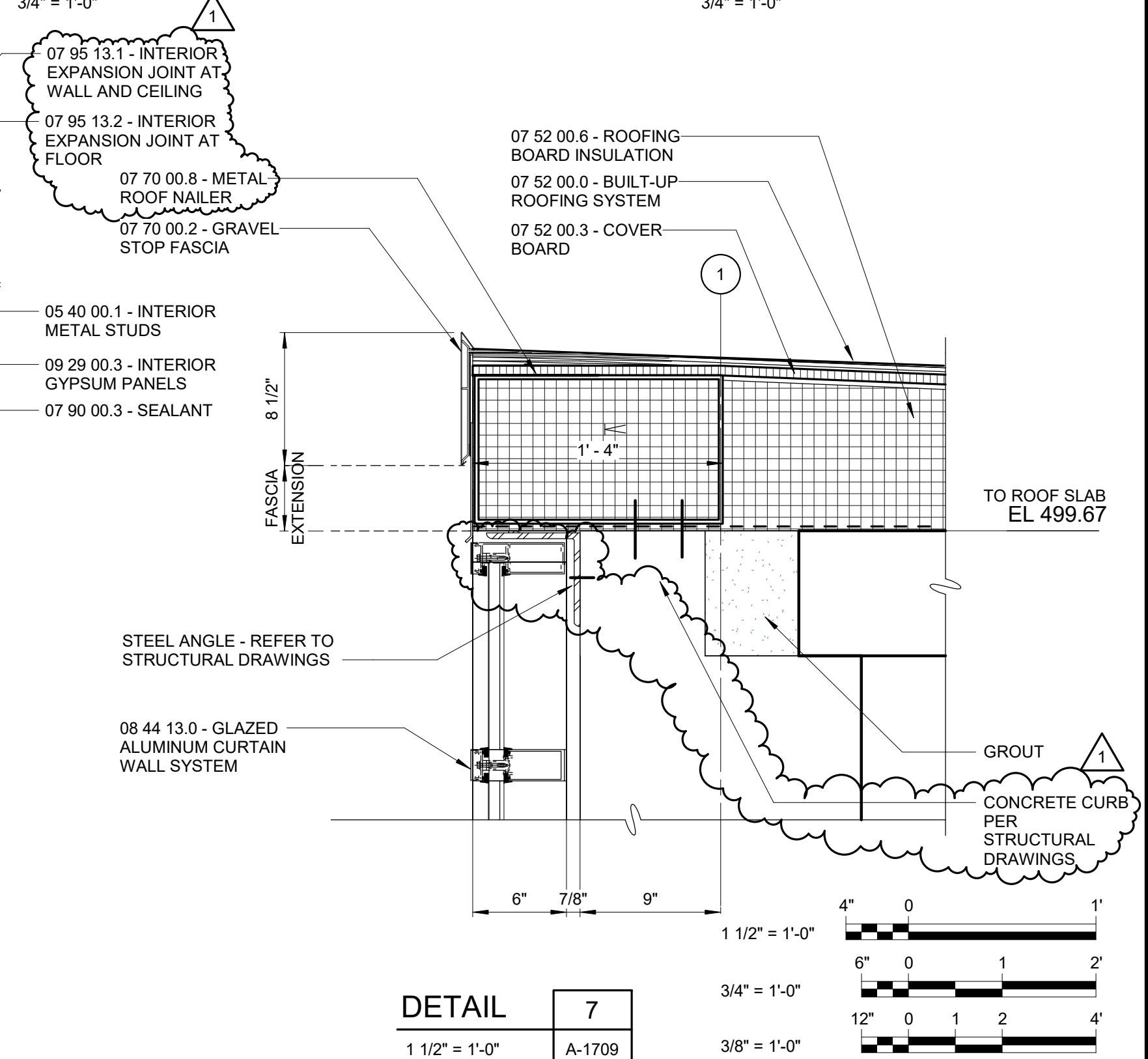
DETAIL 4
1 1/2" = 1'-0"



DETAIL 6
1 1/2" = 1'-0"



DETAIL 5
1 1/2" = 1'-0"

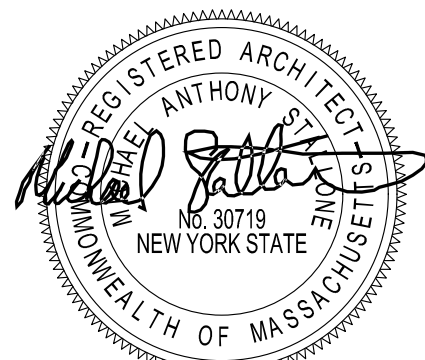


DETAIL 7
1 1/2" = 1'-0"

Autodesk Desc/090908-004 West Parish Filter WTP/90398-004-ADM-A-171 3/22/2024 3:41:29 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	J. WOJCIESKI
DRAWN BY:	M. TAWADROUS
CHECKED BY:	W. RUSSELL
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

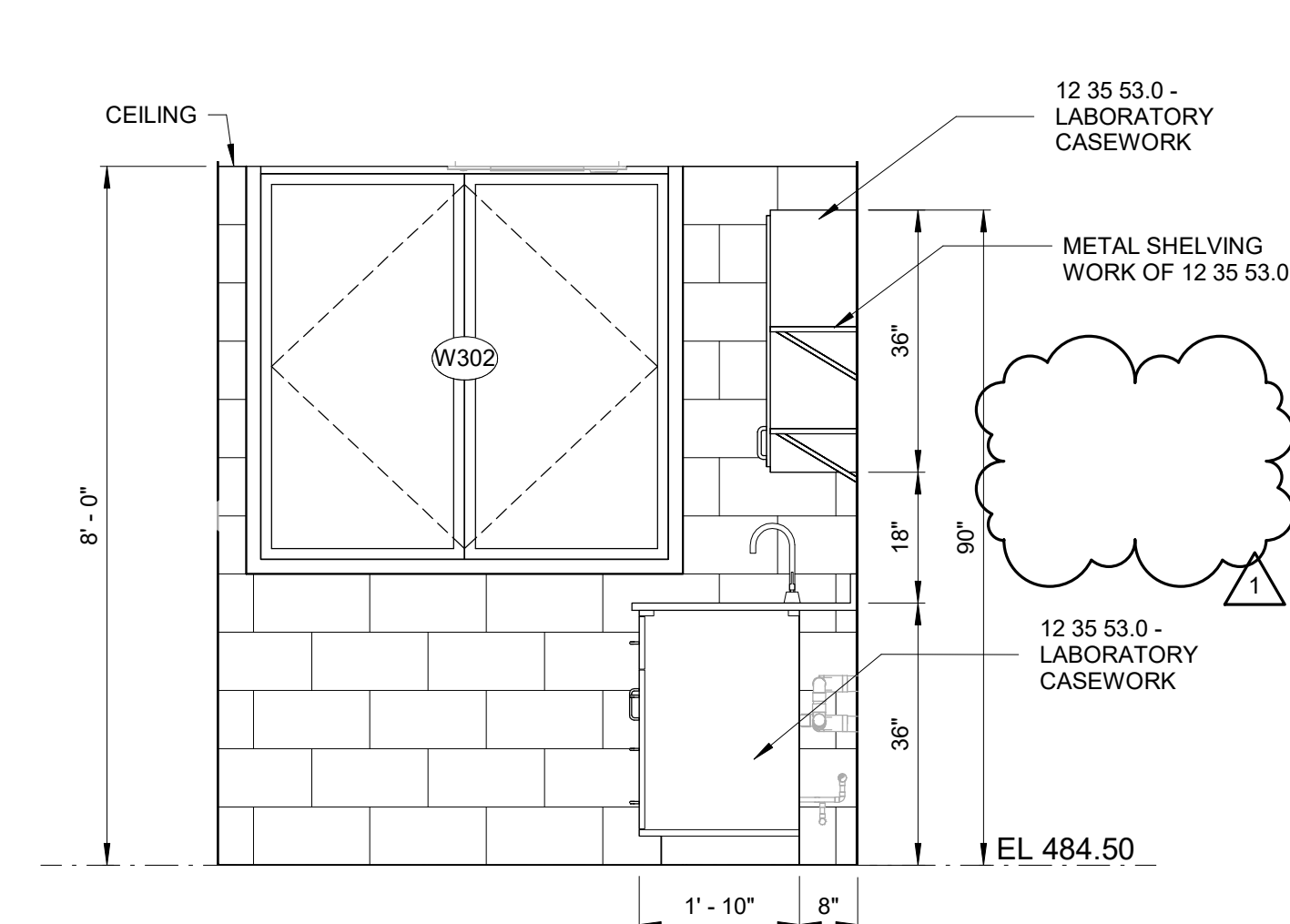
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ARCHITECTURAL
CURTAIN WALL A PLANS, ELEVATION AND SECTION - ADMINISTRATION AREAS

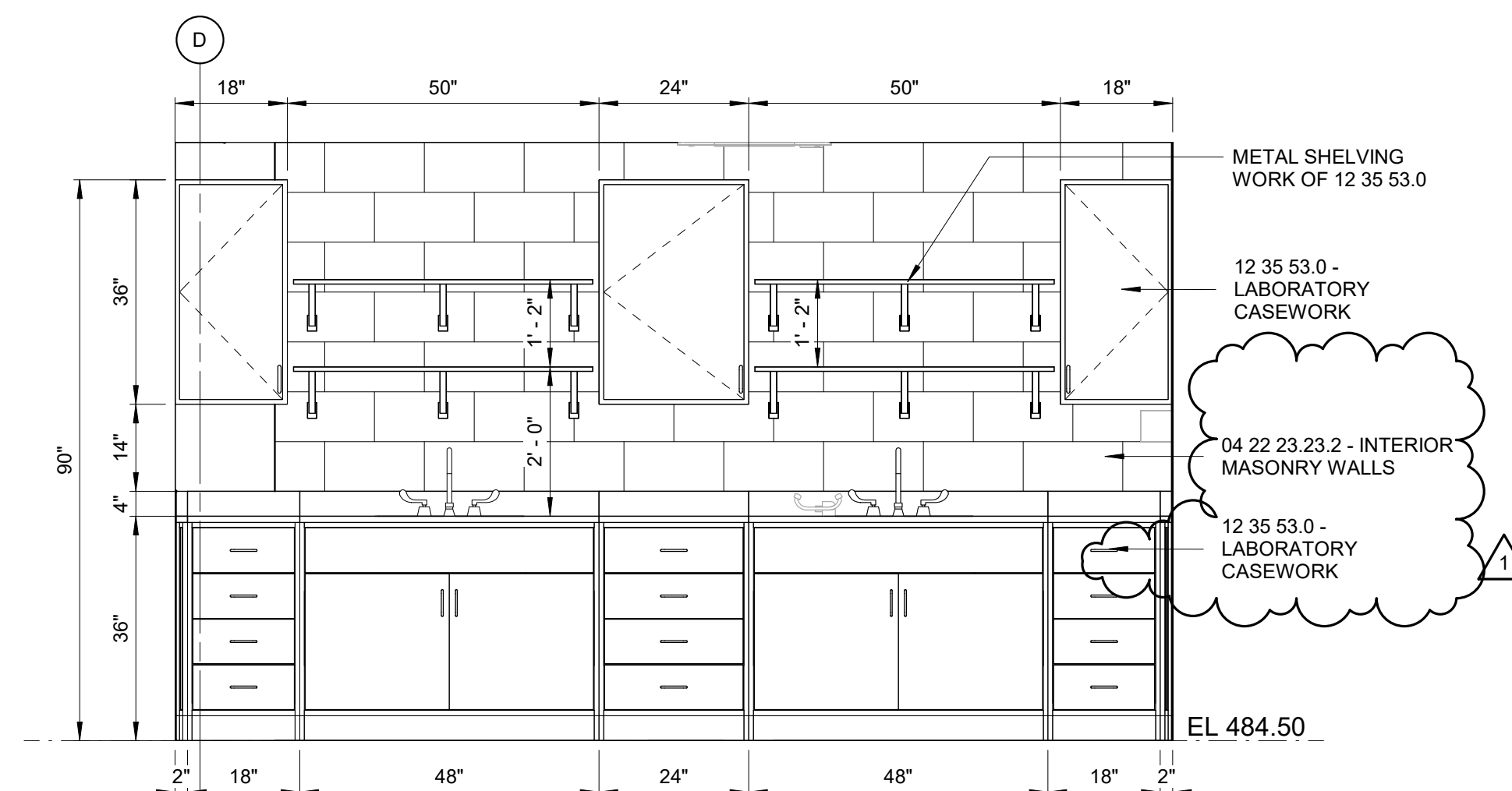
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	A-1709

NOTES:

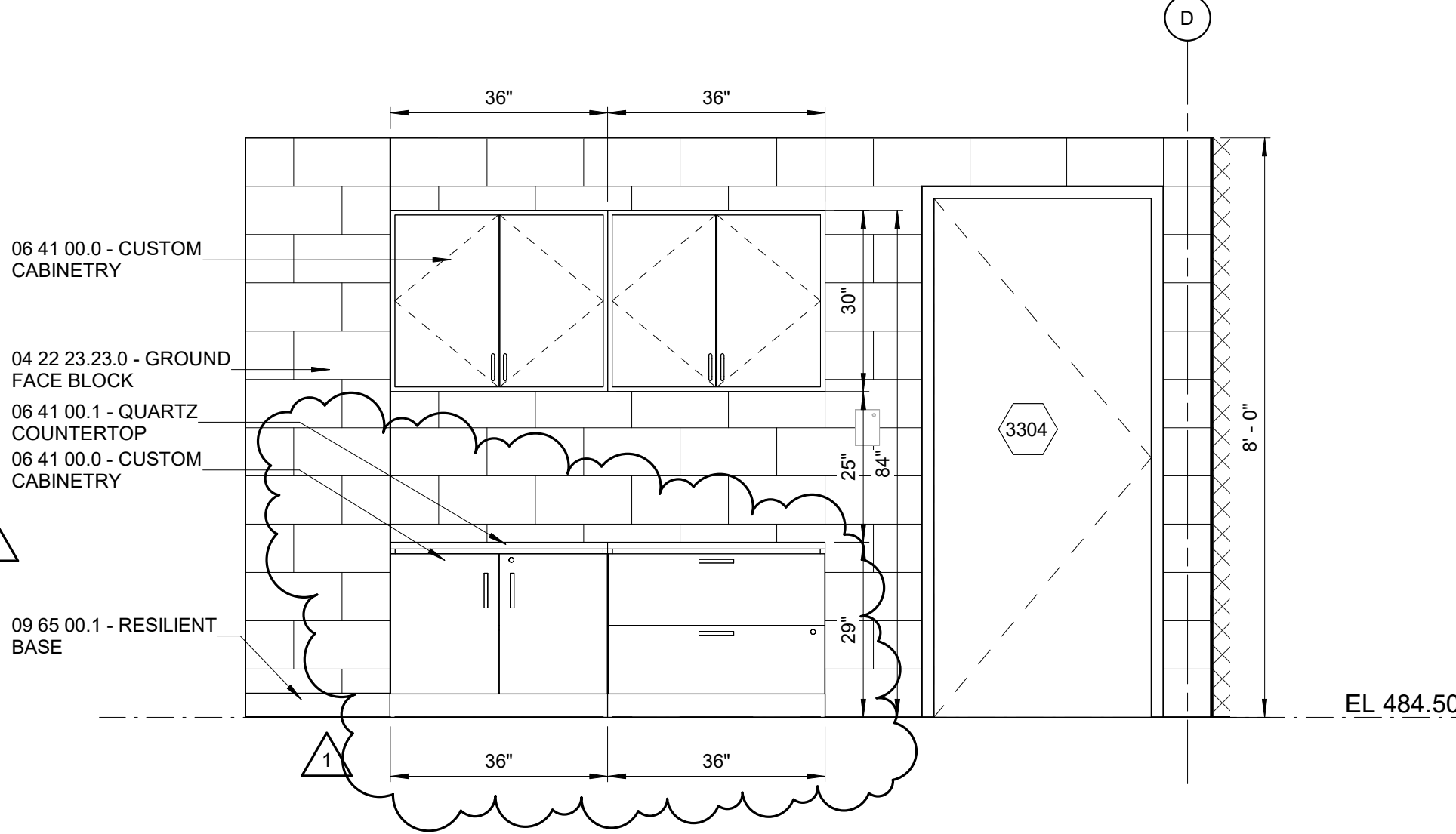
1. REFER TO DRAWINGS A-002, A-003 AND A-004 IN ARCHITECTURAL DRAWING SET FOR TEXT ASSOCIATED WITH ALL NOTE TAGS.



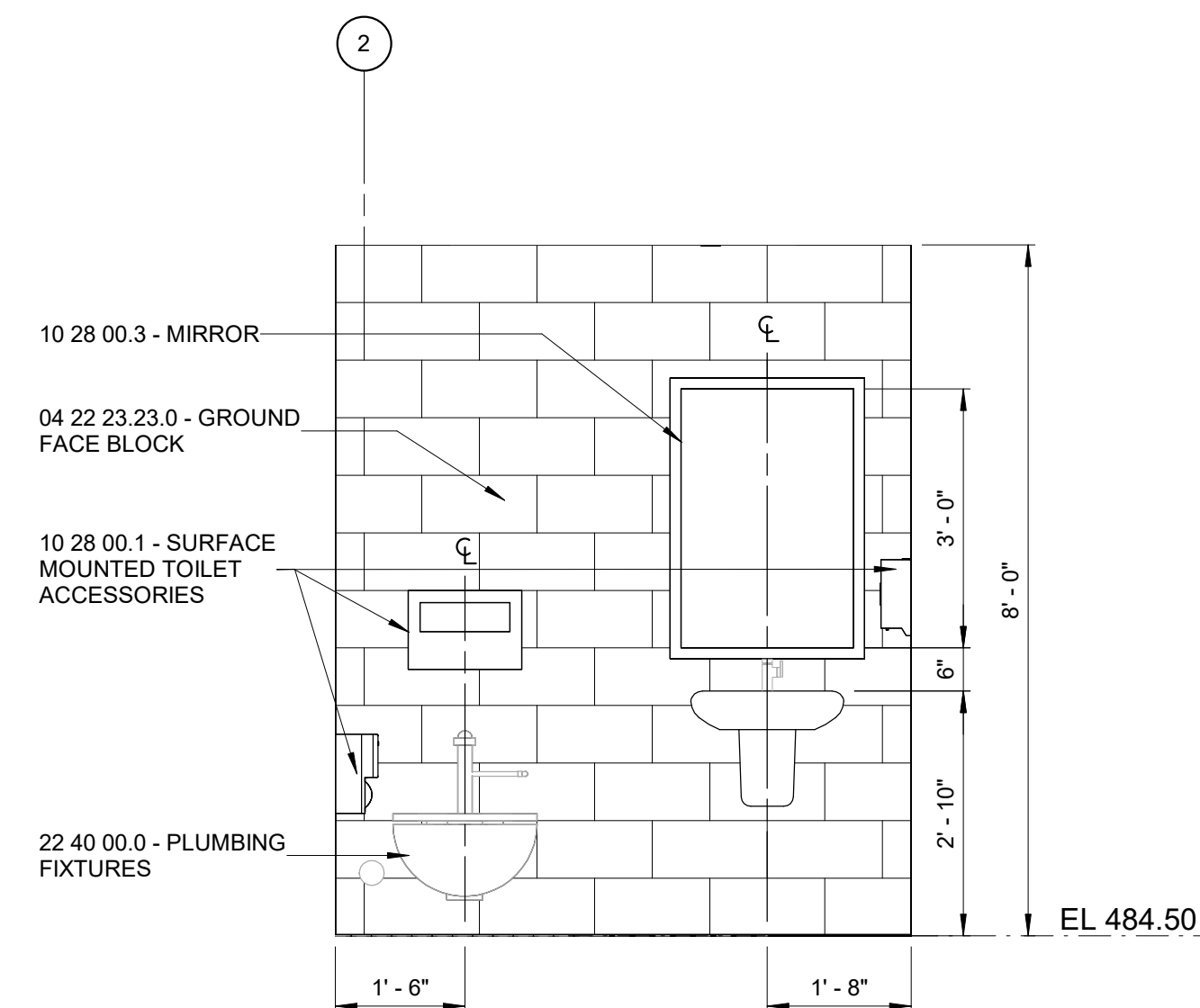
SAMPLE ROOM - ELEVATION 1
1/2" = 1'-0"



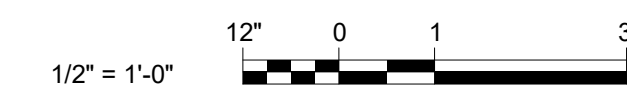
SAMPLE ROOM - ELEVATION 2
1/2" = 1'-0"



CONTROL ROOM - ELEVATION 3
1/2" = 1'-0"



RESTROOM - INTERIOR ELEVATION
1/2" = 1'-0"



Autodesk Docs/06098-004_West Parish Filter WTP/90398-004-DWB-A.rvt 3/22/2024 4:14:01 PM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	J. WOJCIESKI		
DRAWN BY:	M. TAWADROUS		
CHECKED BY:	W. RUSSELL		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

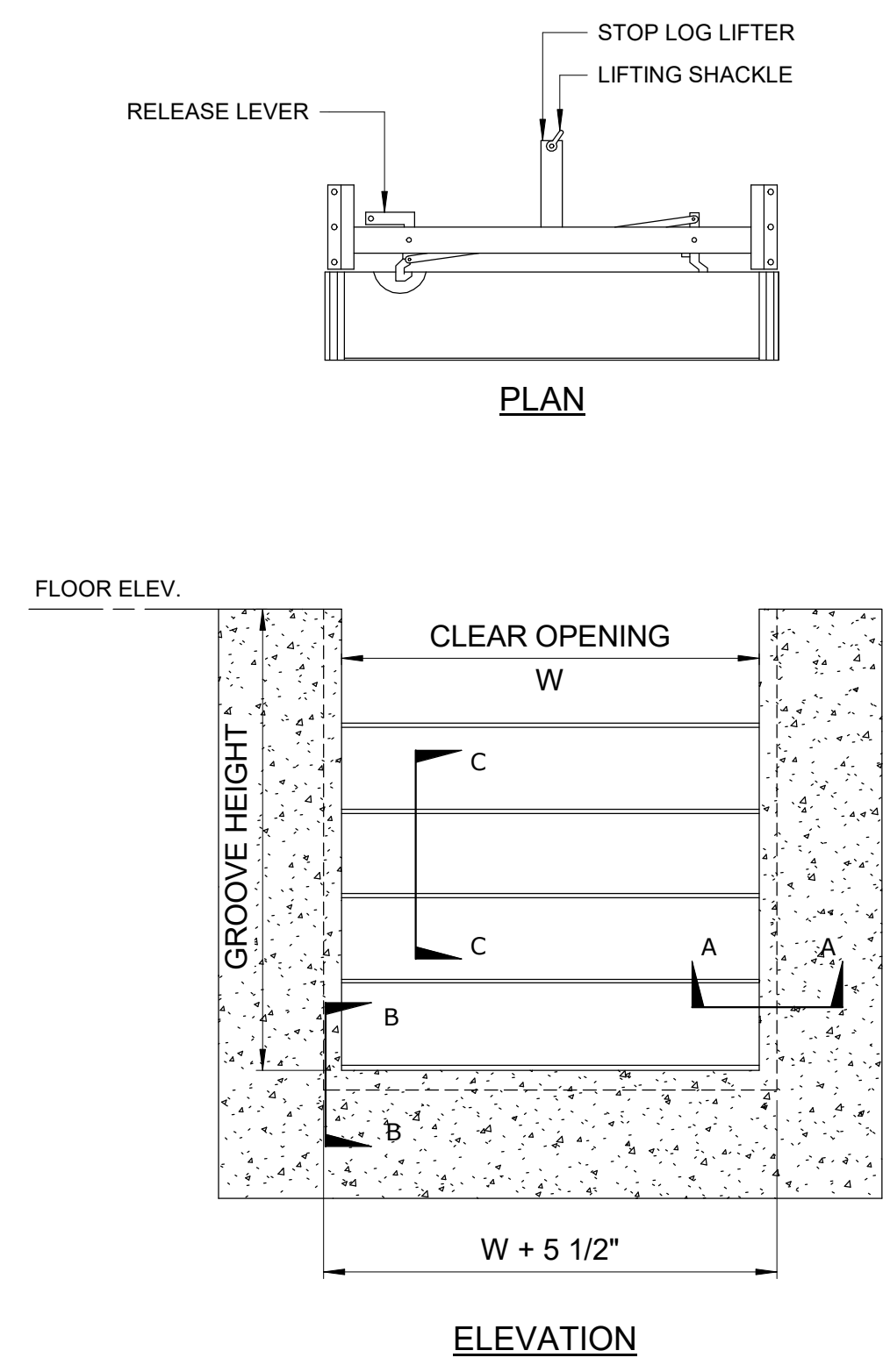
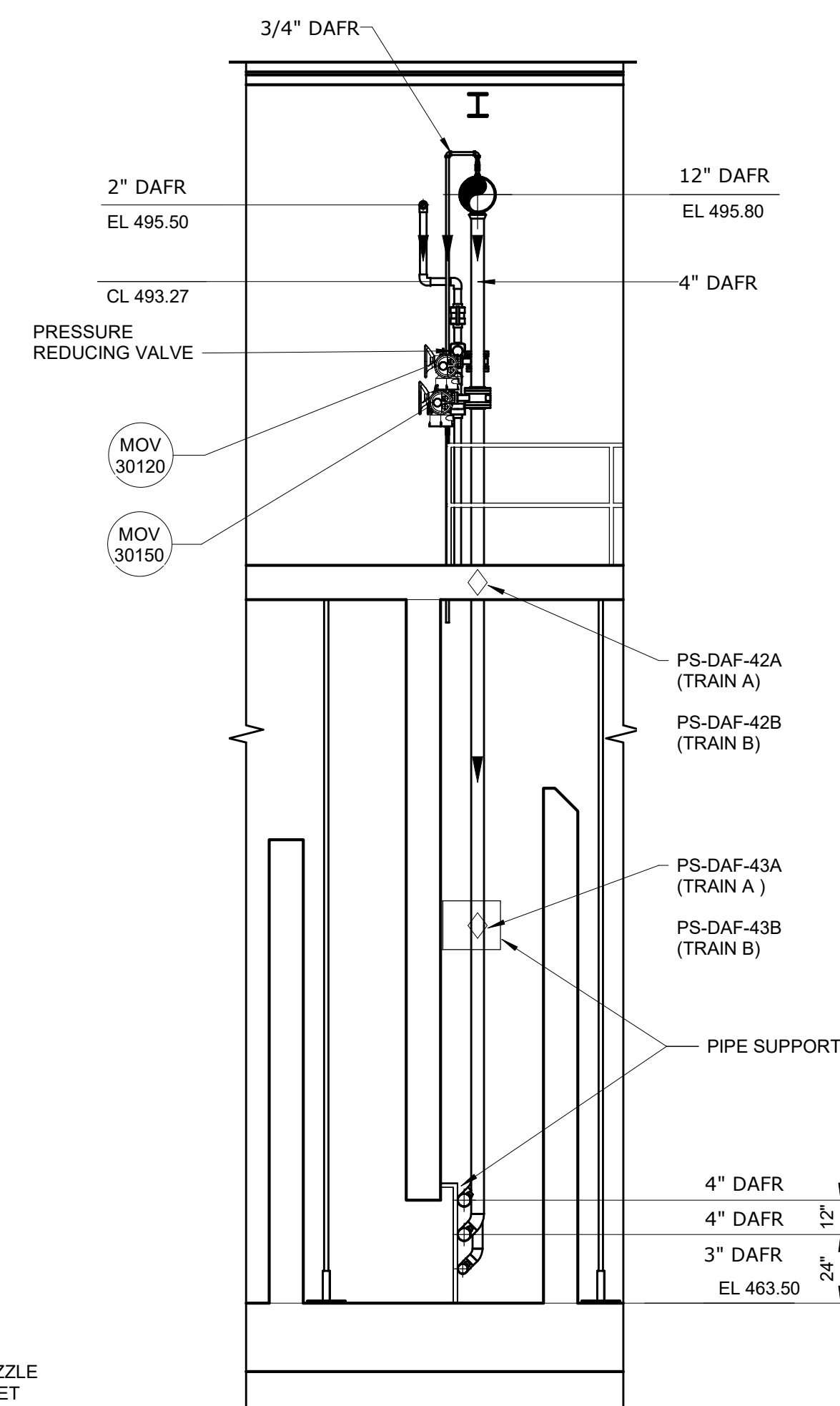
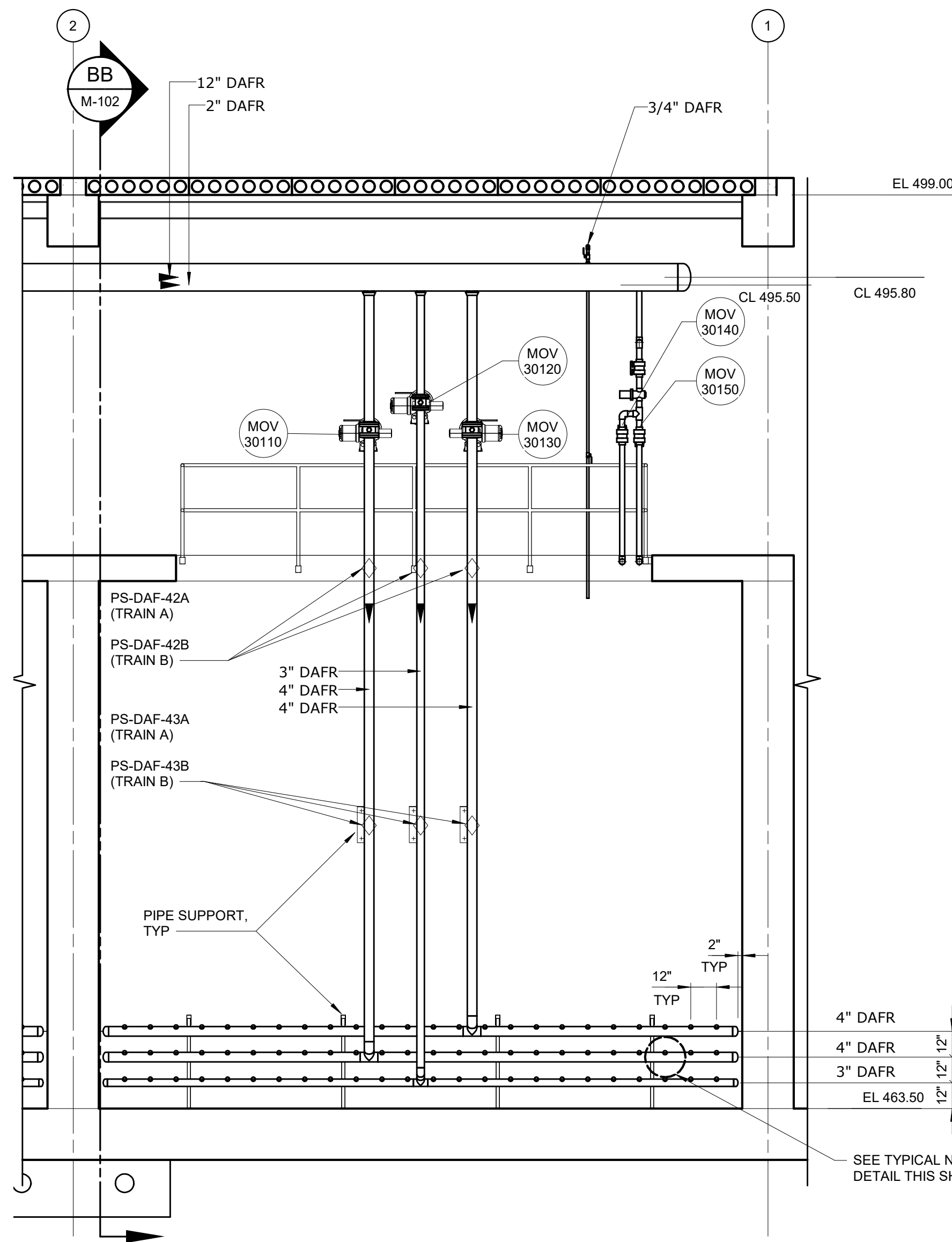


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

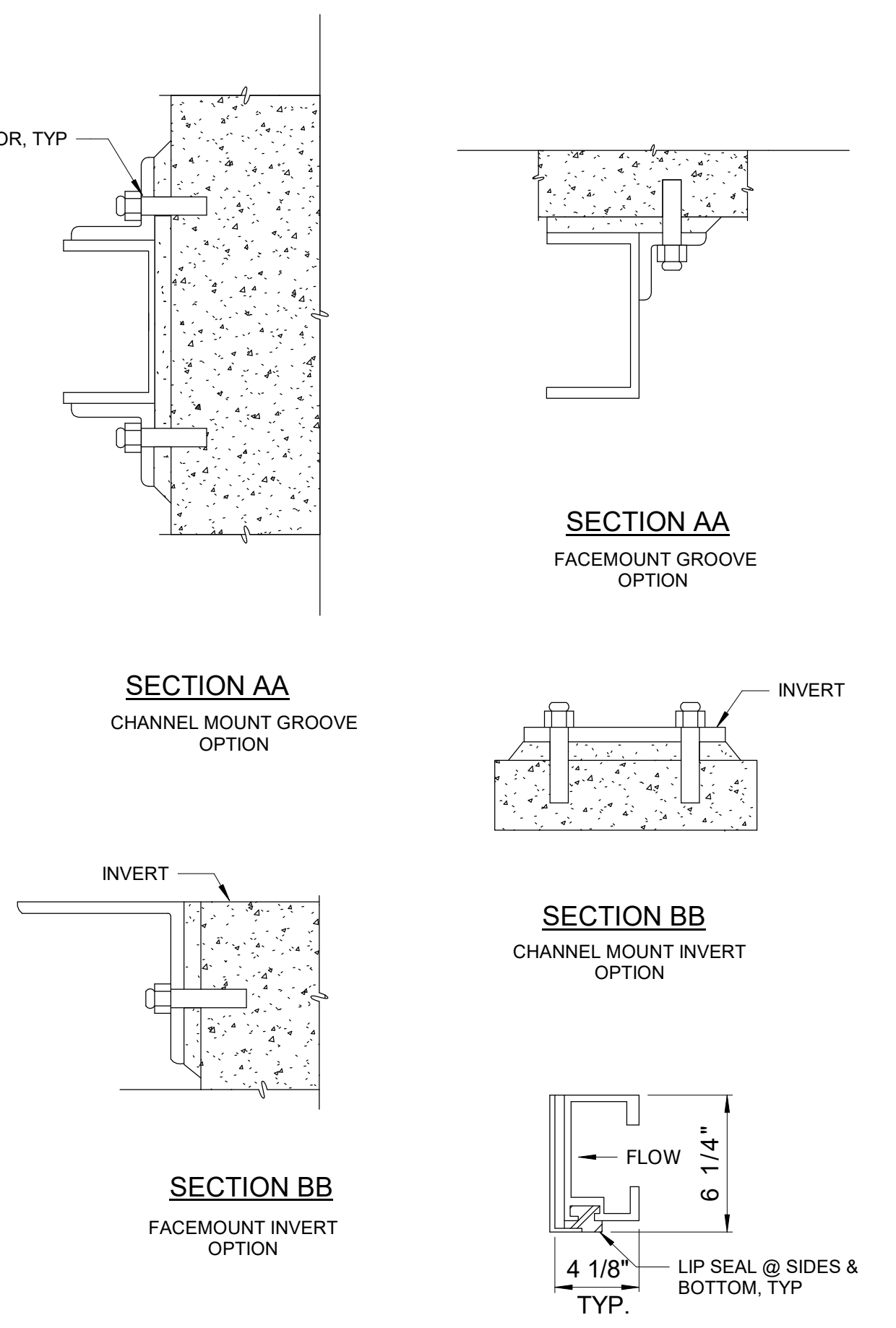
FILED SUB-BID
DEWATERING BUILDING ARCHITECTURAL INTERIOR ELEVATIONS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	A-3303



STOP LOG DETAILS

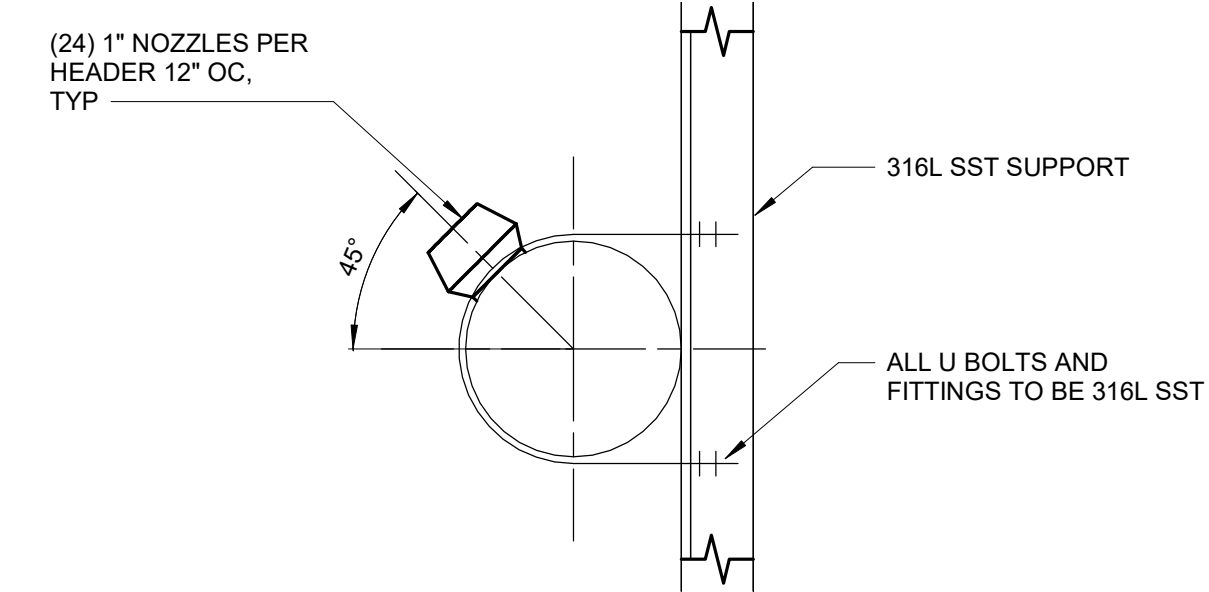
DETAIL	7
NTS	M-2102 M-2105 M-2109 M-2202 M-2205



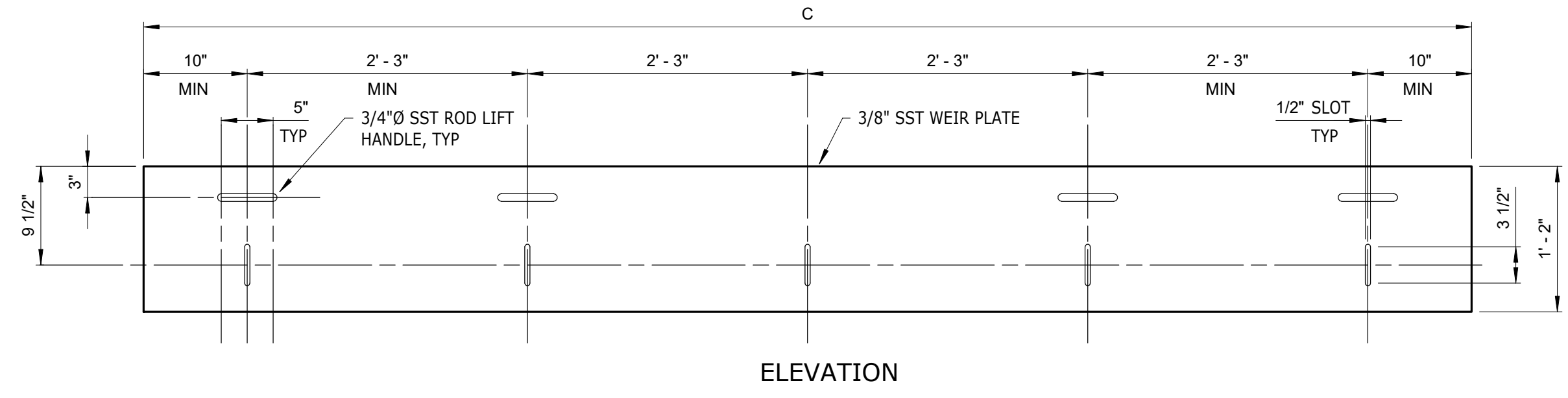
DAF DISPERSION HEADER DETAIL

DETAIL	6
NTS	M-2302 M-2303 M-2305 M-2306

NOTE: DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005



TYPICAL NOZZLE DETAIL

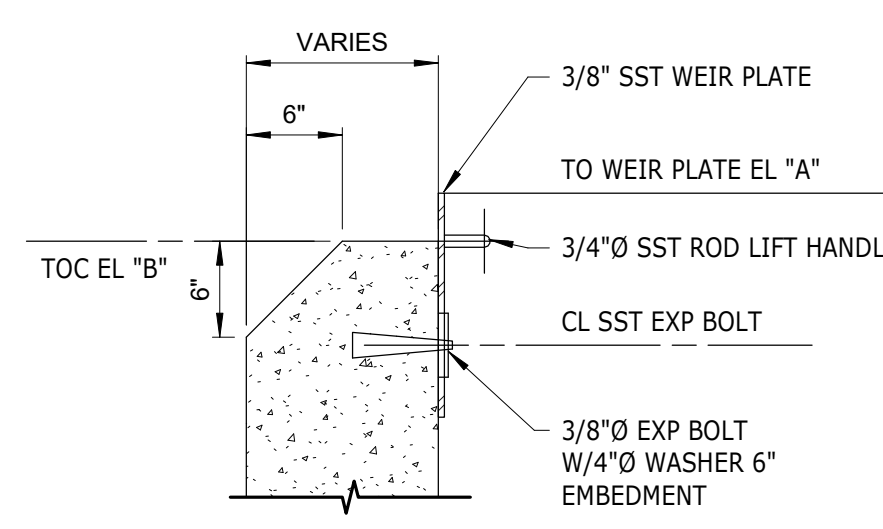


WEIR PLATE SCHEDULE				
LOCATION	QUANTITY	A	B	C
FILTERED WATER WEIR	2	EL 465.00	EL 464.83	15FT
CLARIFIED WATER WEIR	10	EL 479.60	EL 479.42	23FT

WEIR PLATE DETAIL

DETAIL	8
NTS	M-2201, M-2203 M-2204, M-2206 M-2702, M-2702 M-2709

NOTE:
1. NO SPACING SHALL BE GREATER THAN 2'-3" WHERE NECESSARY TO ACCOMMODATE LONGER WEIR PLATES, MORE SLOTS SHALL BE MADE AT EVEN SPACING.



DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)
◆ FIXED SUPPORT
◇ SLIDING SUPPORT

Autodesk Docs/060908_004_West Parish Filter WTP/90398-004-M_Constr 3/22/2024 10:44:47 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	C. THORNTON
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/28/2024

Hazen

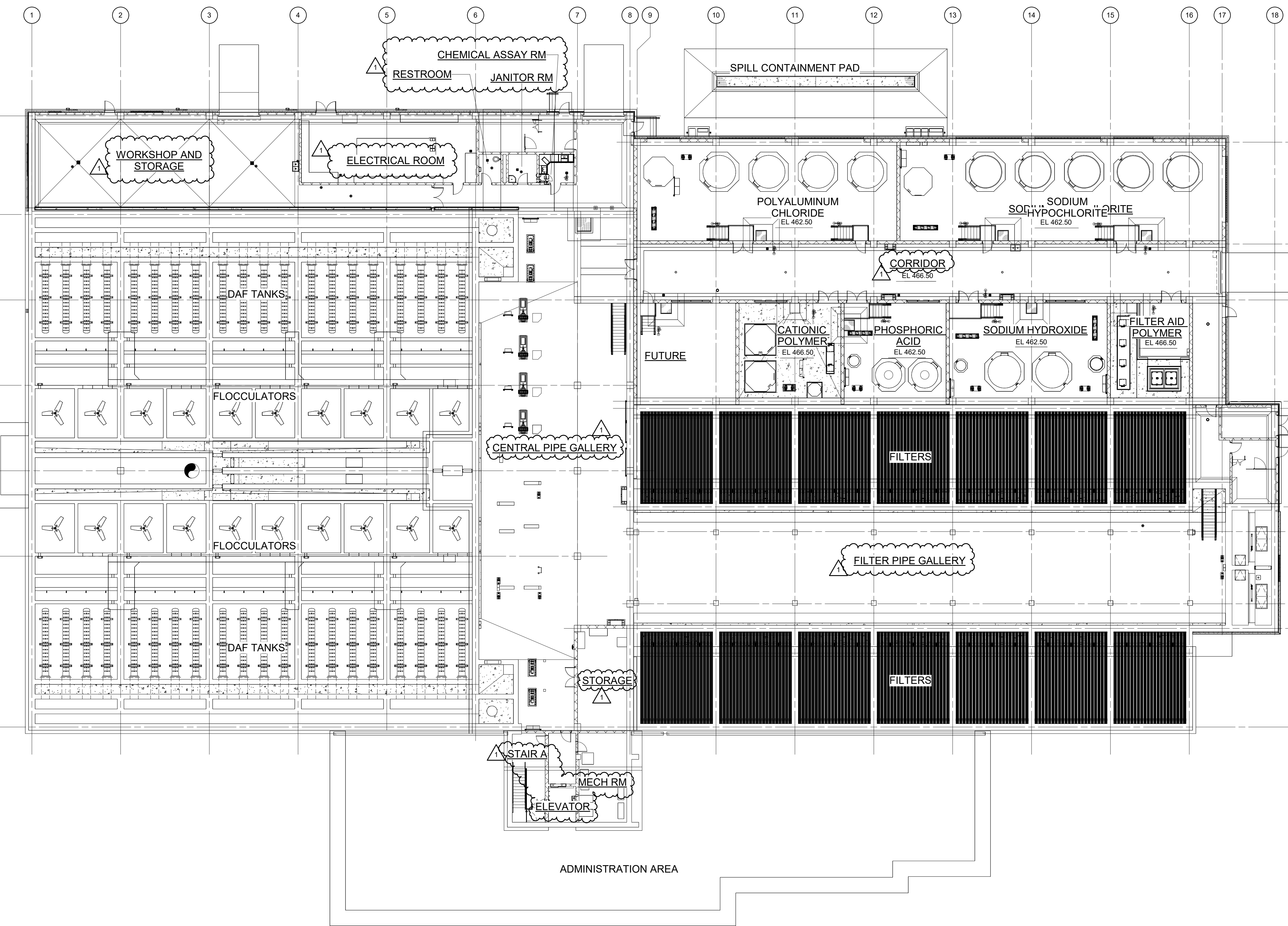
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

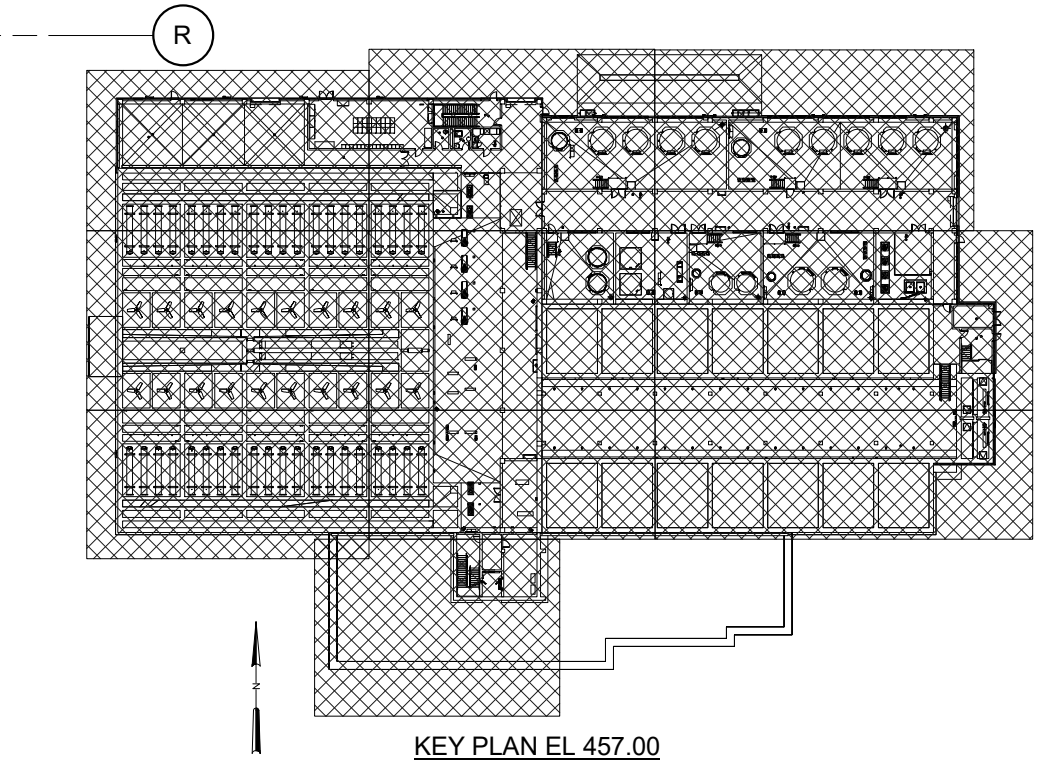
WEST PARISH WATER TREATMENT PLANT

MECHANICAL DETAILS - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-102



NOTES:
 1. A MINIMUM OF 13FT CLEARANCE IN THE CHEMICAL CORRIDOR SHALL BE PROVIDED AT THE COMPLETION OF CONSTRUCTION.




OVERALL PLAN AT EL 457.00
 1/16" = 1'-0"

KEY PLAN EL 457.00
 1/16" = 1'-0"

Autodesk Docs://09098-004_ West Parish Filter WTT9098-004-TB-M-11
 3/21/2024 2:38:59 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN


 M. MORIN
 03/28/2024

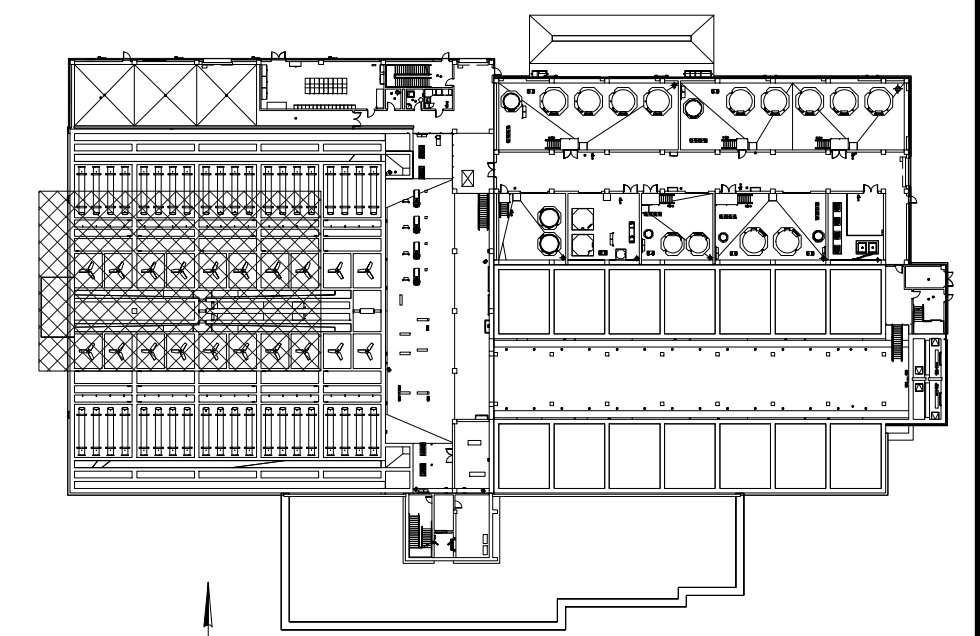
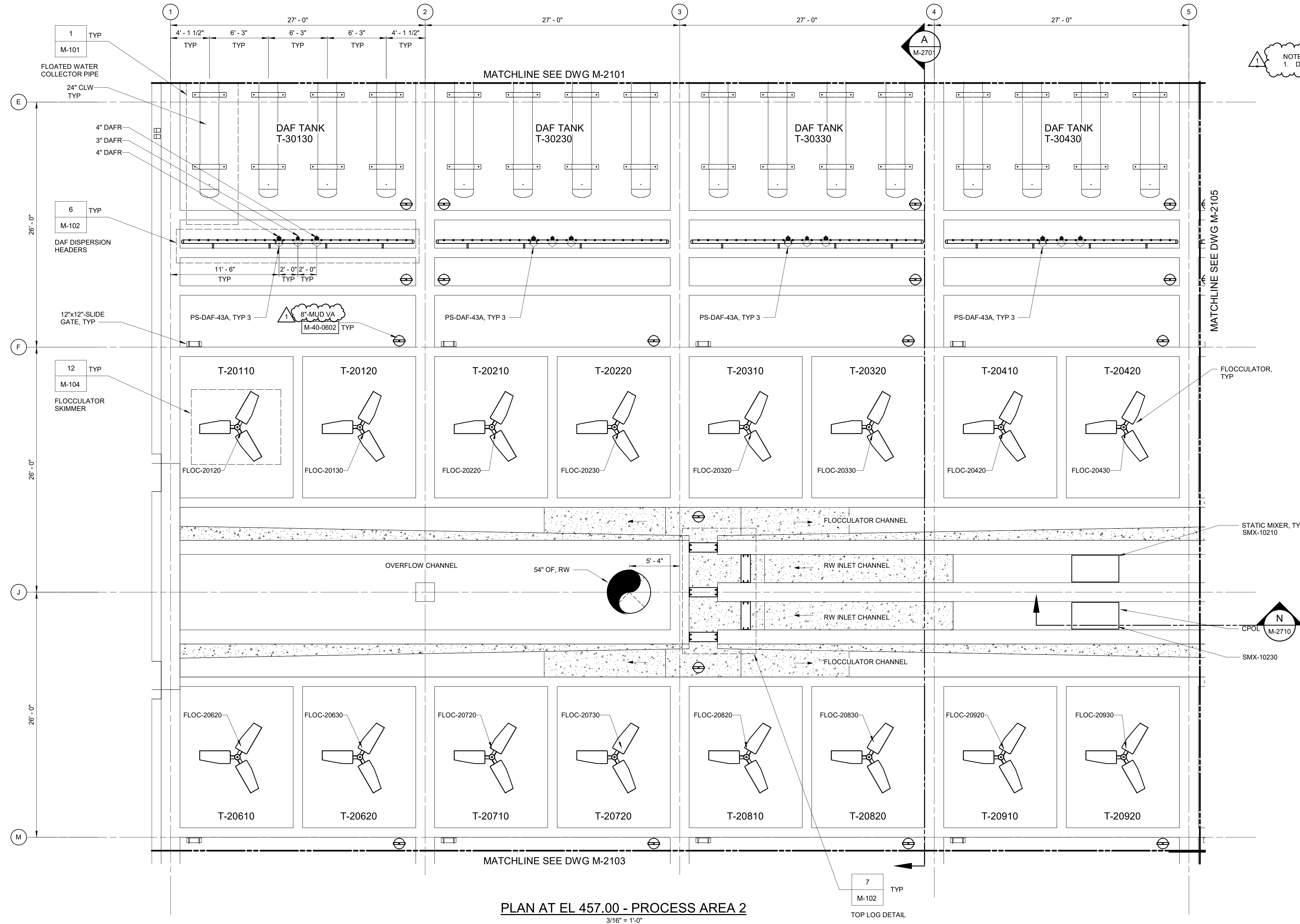

 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
OVERALL PLAN AT EL 457.00

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER:
M-2100

NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.



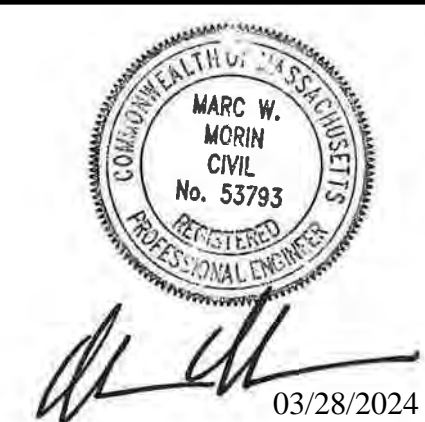
KEY PLAN EL 457.00
3/16" = 1'-0"

PLAN AT EL 457.00 - PROCESS AREA 2
3/16" = 1'-0"

Autodesk Docs/09098-004_West Parish Filter WTT/9098-004-TB-M-101
3/22/2024 10:15:35 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



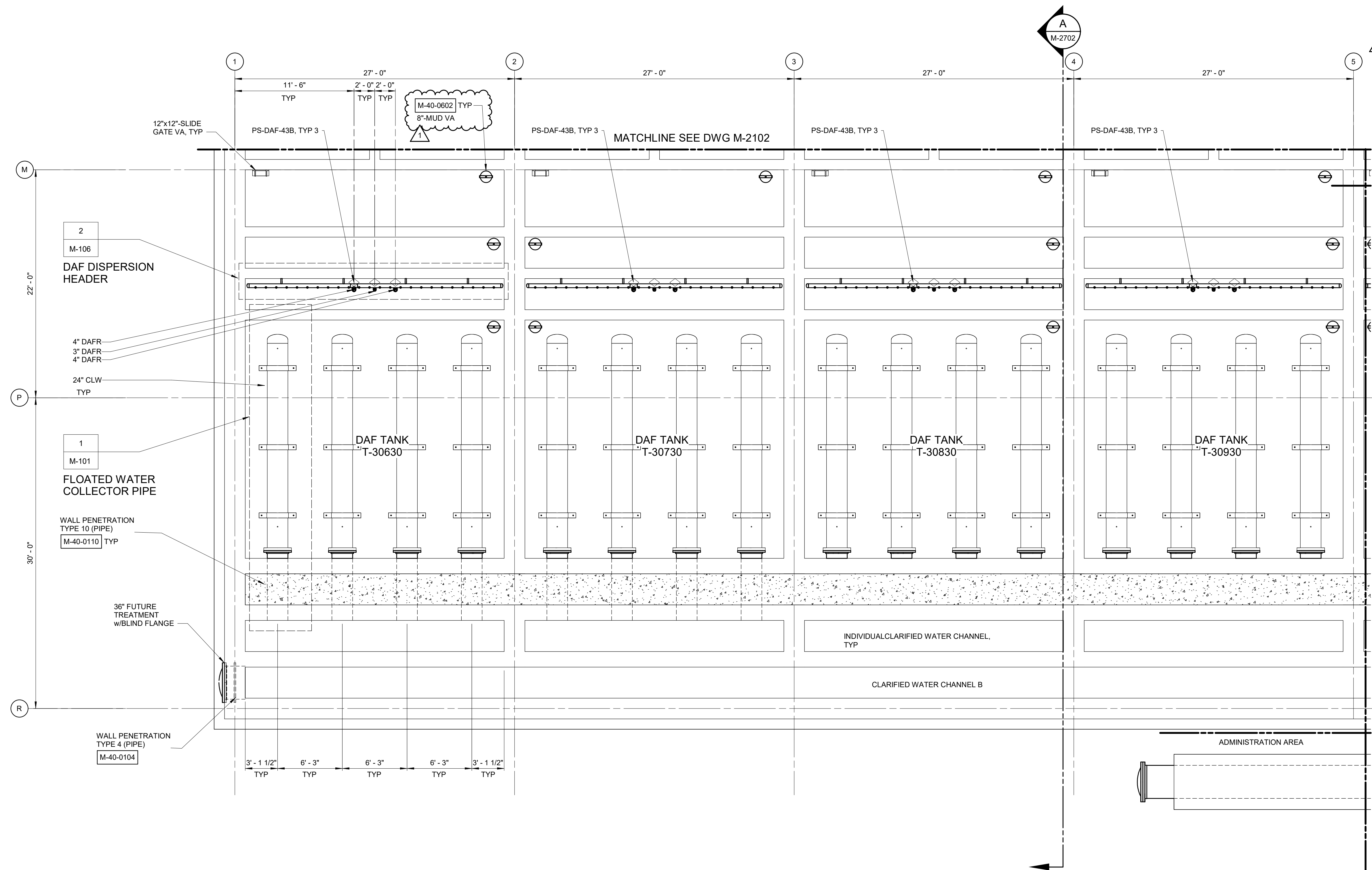
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

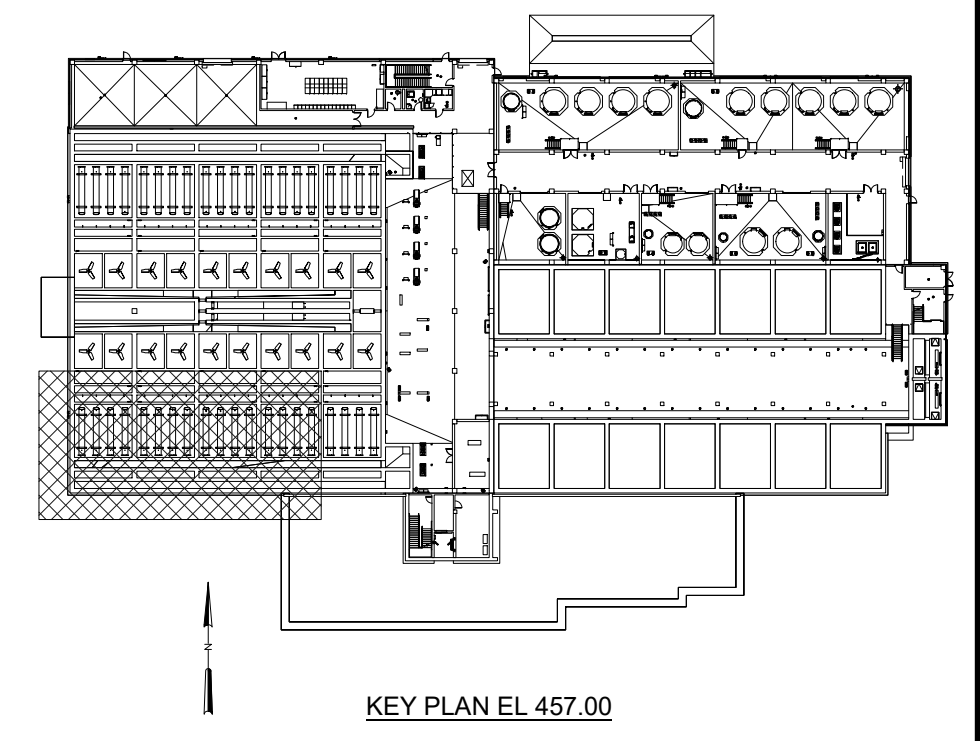
WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 457.00 - PROCESS AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2102

NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.



PLAN AT EL 457.00 - PROCESS AREA 3
3/16" = 1'-0"



Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-TB-Mat1
3/22/2024 10:15:45 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

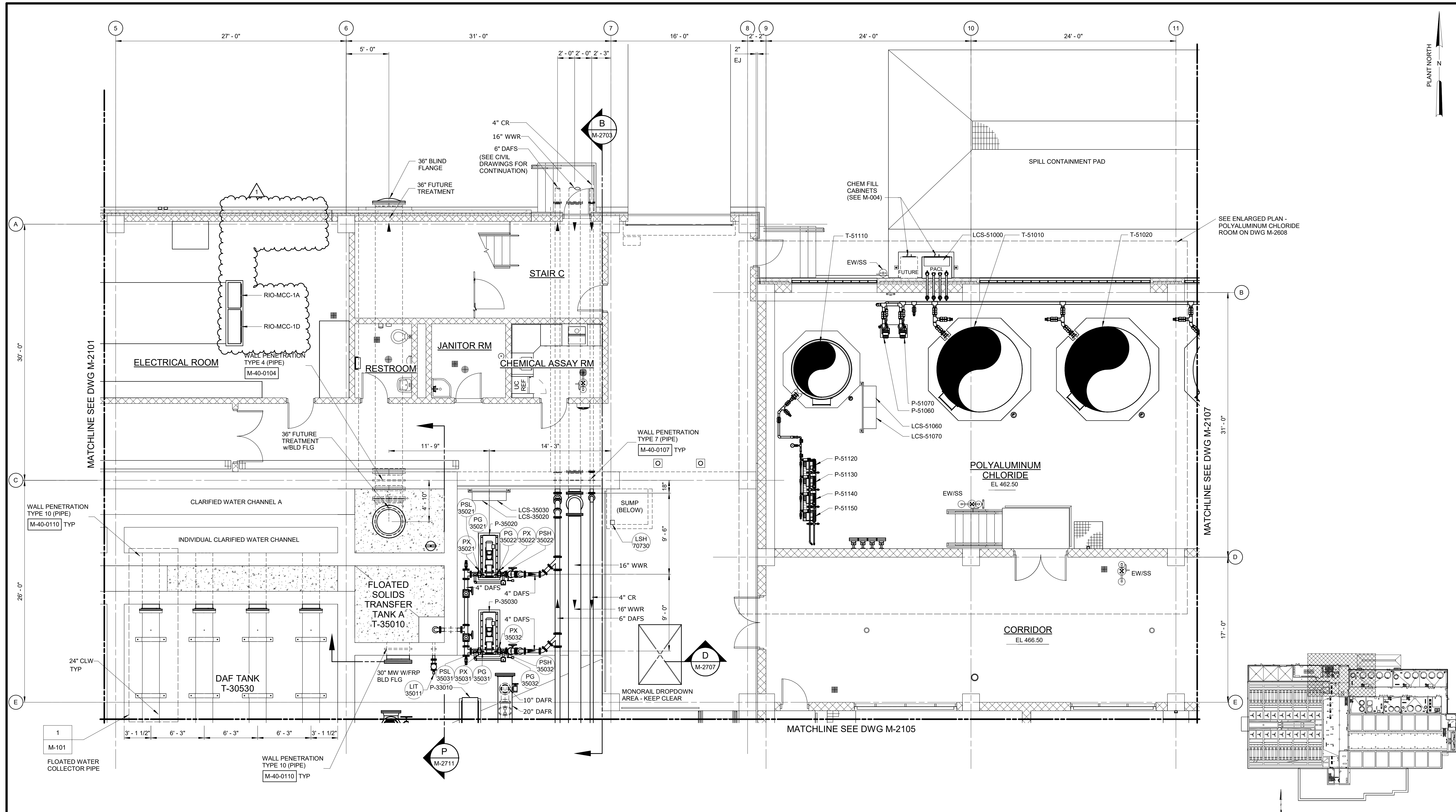


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

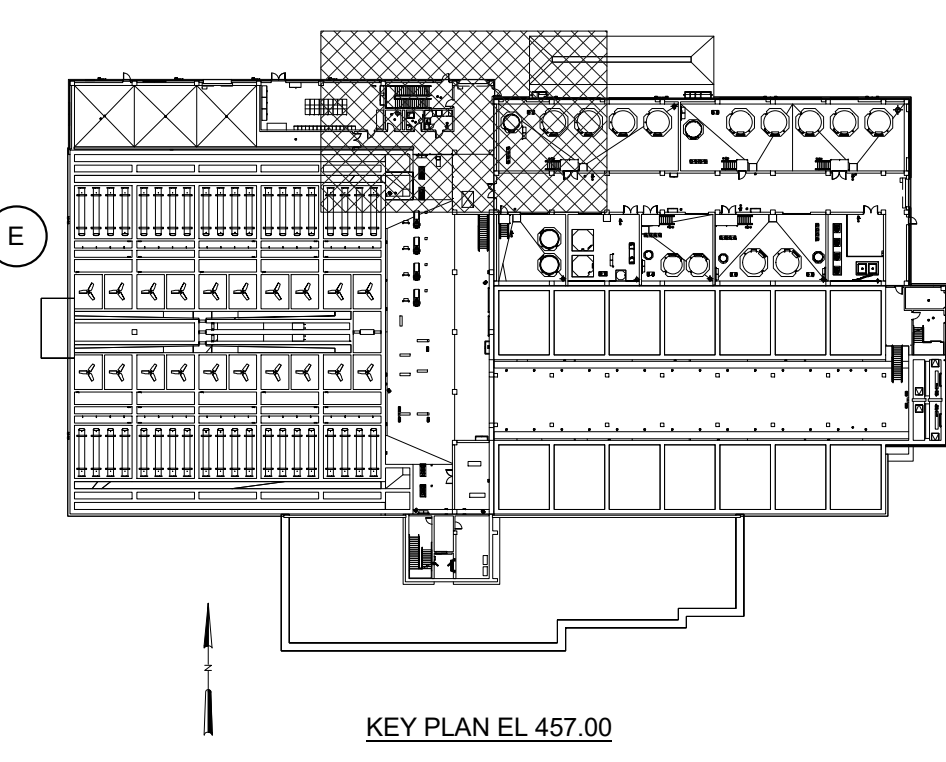
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 457.00 - PROCESS AREA 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2103



PLAN AT EL 457.00 - PROCESS AREA 4
3/16" = 1'-0"



Autodesk_Docs\060908-004_ West Parish Filter WTT90908-004-TB-Mat1
3/20/2024 2:16:29 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

03/28/2024

Hazen

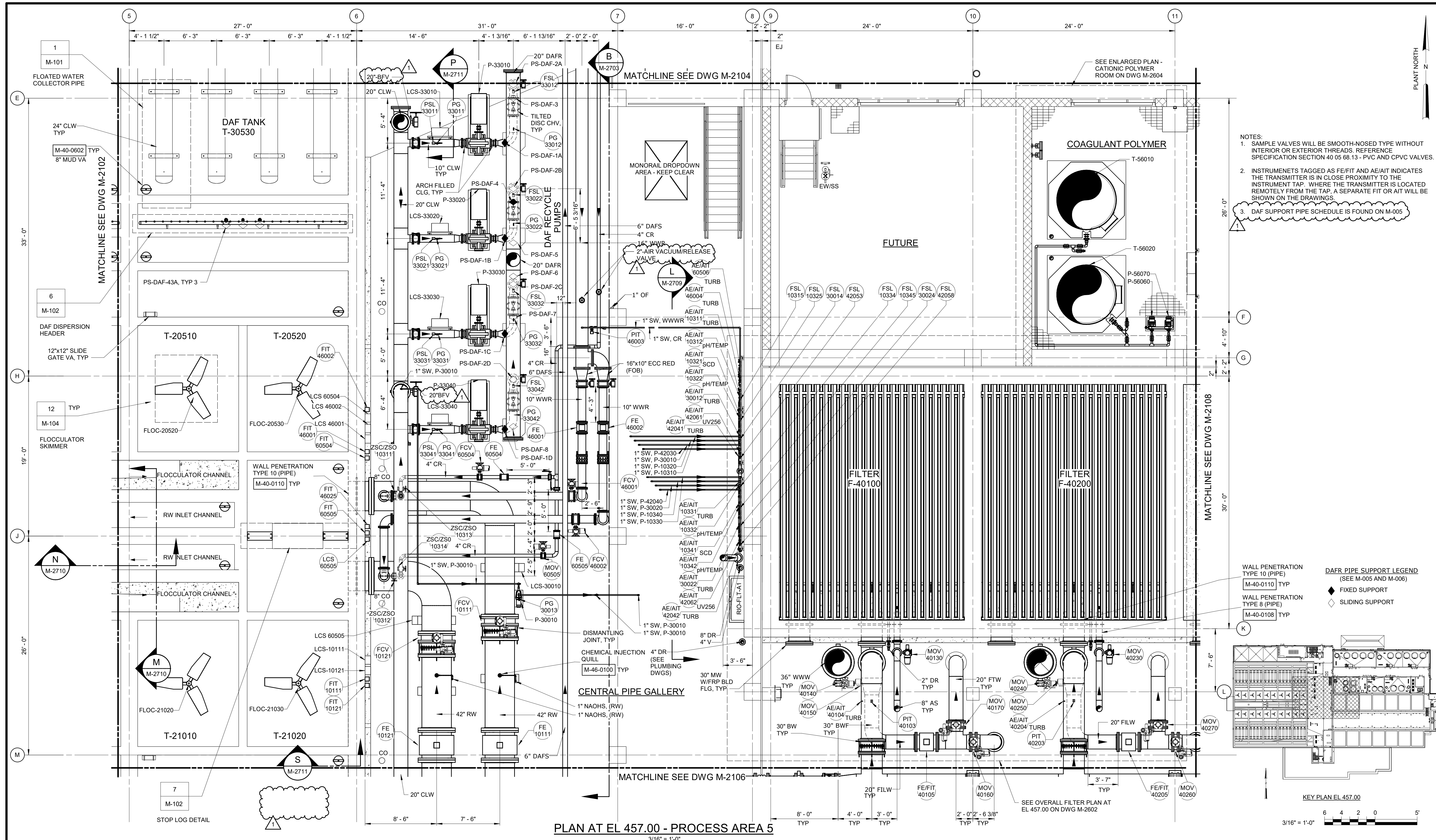
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

**WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 457.00 - PROCESS AREA 4**

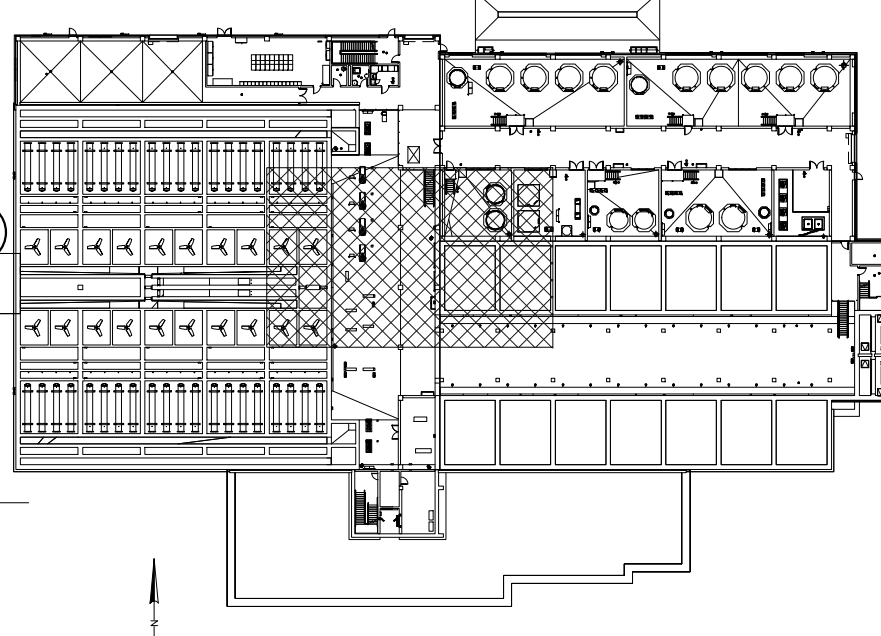
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2104



- NOTES:
1. SAMPLE VALVES WILL BE SMOOTH-NOSED TYPE WITHOUT INTERIOR OR EXTERIOR THREADS. REFERENCE SPECIFICATION SECTION 40 05 68.13 - PVC AND CPVC VALVES.
 2. INSTRUMENTS TAGGED AS FE/FIT AND AE/AIT INDICATES THE TRANSMITTER IS IN CLOSE PROXIMITY TO THE INSTRUMENT TAP. WHERE THE TRANSMITTER IS LOCATED REMOTELY FROM THE TAP, A SEPARATE FIT OR AIT WILL BE SHOWN ON THE DRAWINGS.
 3. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005

- DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)
- ◆ FIXED SUPPORT
 - ◇ SLIDING SUPPORT
- WALL PENETRATION TYPE 10 (PIPE)
M-40-0110 TYP
- WALL PENETRATION TYPE 8 (PIPE)
M-40-0108 TYP

PLAN AT EL 457.00 - PROCESS AREA 5
3/16" = 1'-0"



1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0 1/2" 1"	



03/28/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

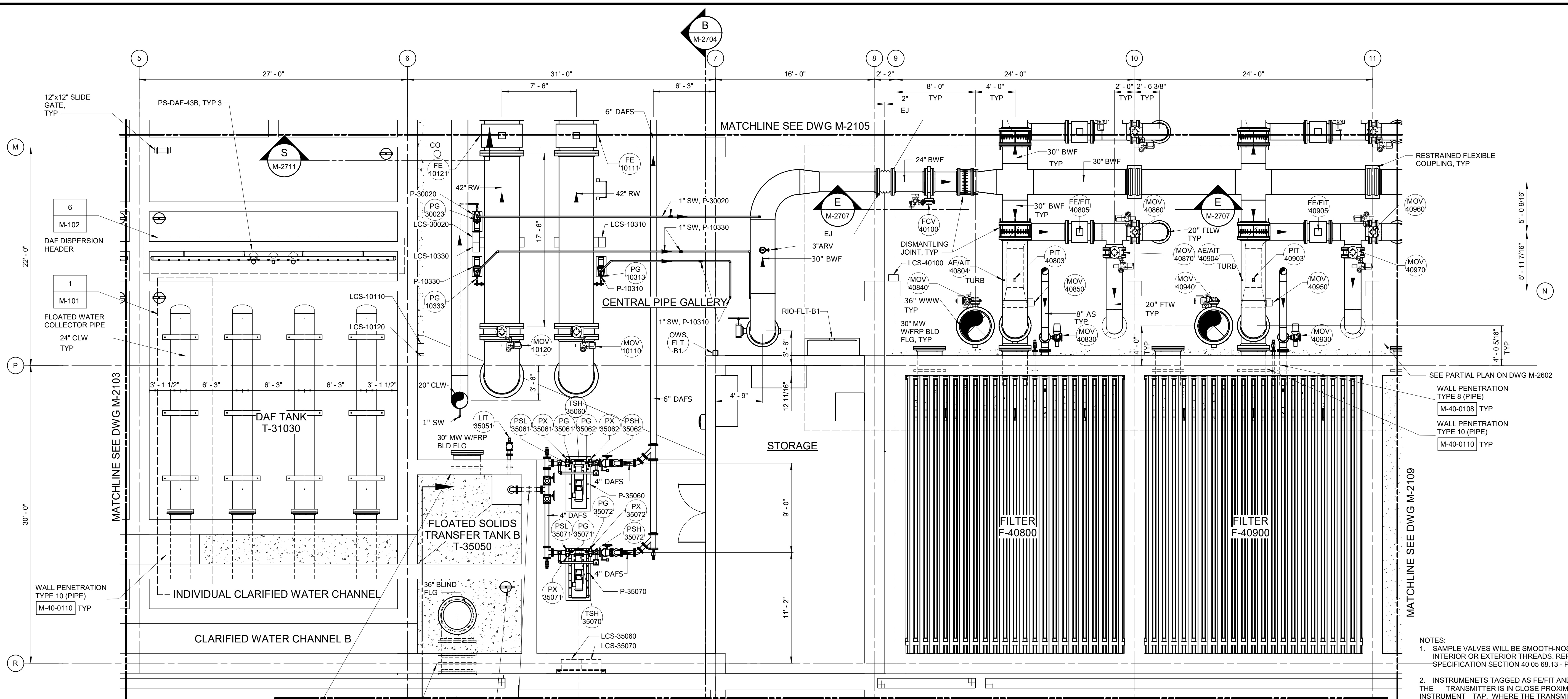
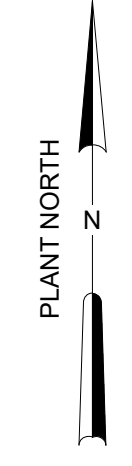
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL

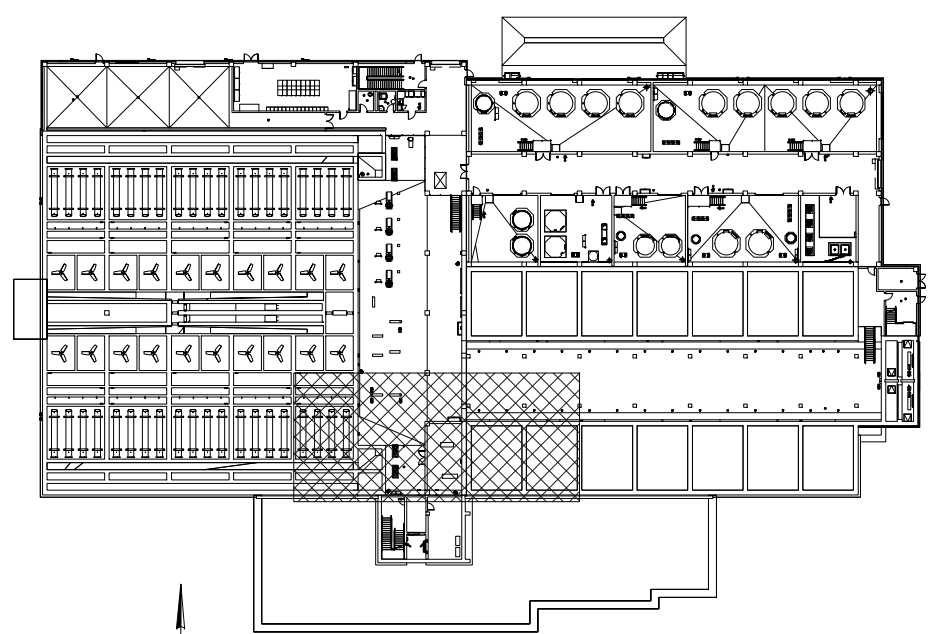
PLAN AT EL 457.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2105

Autodesk Docs/060908_004_West Parish Filter WTRF060908-004-TB-M-101 3/22/2024 10:15:25 AM



- NOTES:
- SAMPLE VALVES WILL BE SMOOTH-NOSED TYPE WITHOUT INTERIOR OR EXTERIOR THREADS. REFERENCE SPECIFICATION SECTION 40 05 68.13 - PVC AND CPVC VALVES.
 - INSTRUMENTS TAGGED AS FE/FIT AND AE/AIT INDICATES THE TRANSMITTER IS IN CLOSE PROXIMITY TO THE INSTRUMENT TAP. WHERE THE TRANSMITTER IS LOCATED REMOTELY FROM THE TAP, A SEPARATE FIT OR AIT WILL BE SHOWN ON THE DRAWINGS.



KEY PLAN EL 457.00
3/16" = 1'-0"

PLAN AT EL 457.00 - PROCESS AREA 6
3/16" = 1'-0"

Autodesk_Docs/090908-004_West Parish Filter WTT90908-004-TB-Mat1 3/22/2024 8:29:07 AM

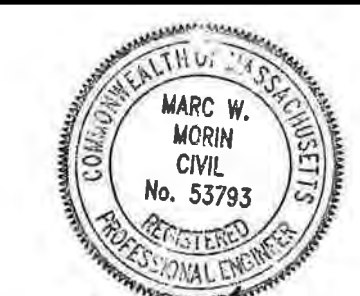
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/28/2024



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

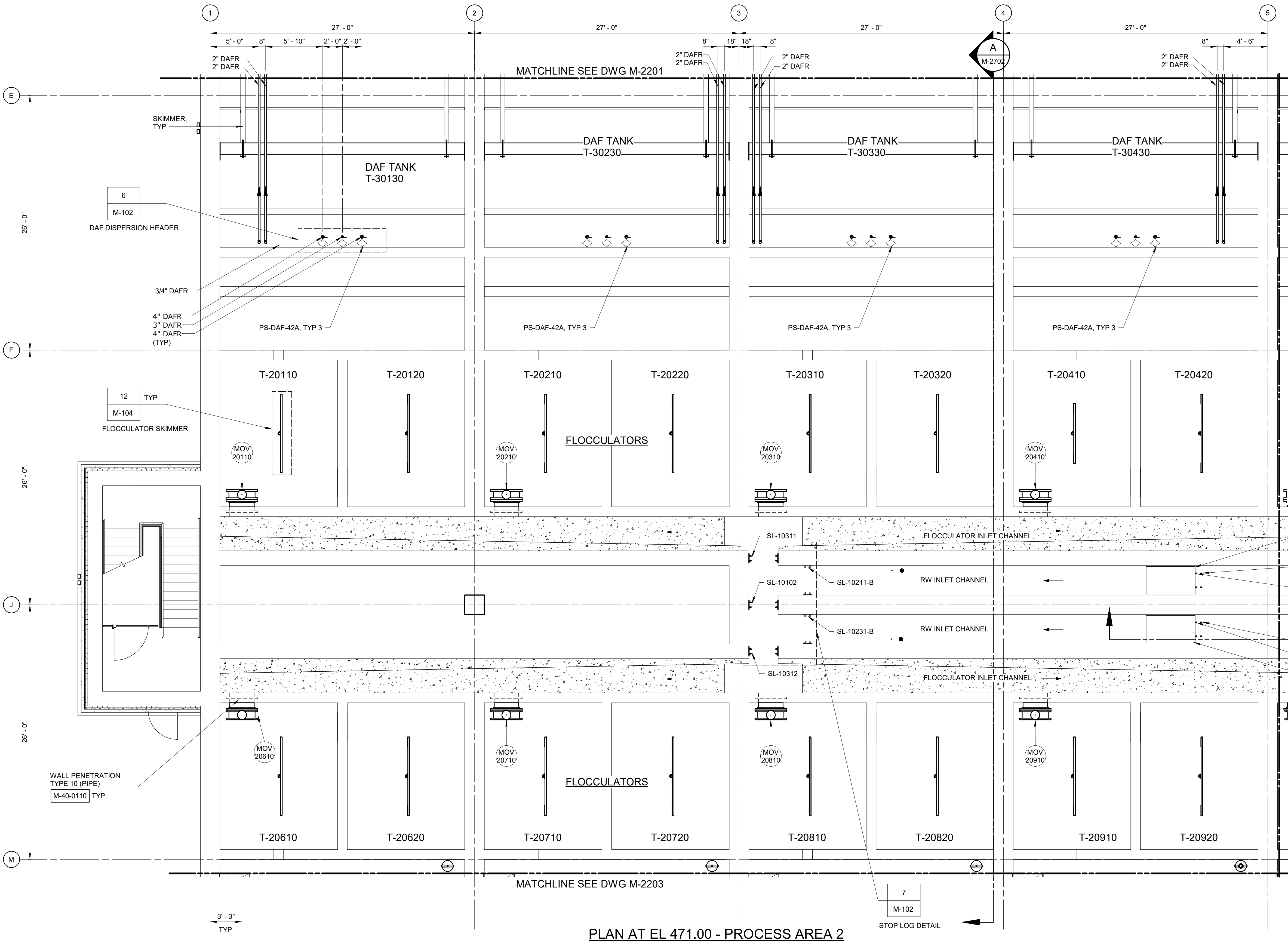
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

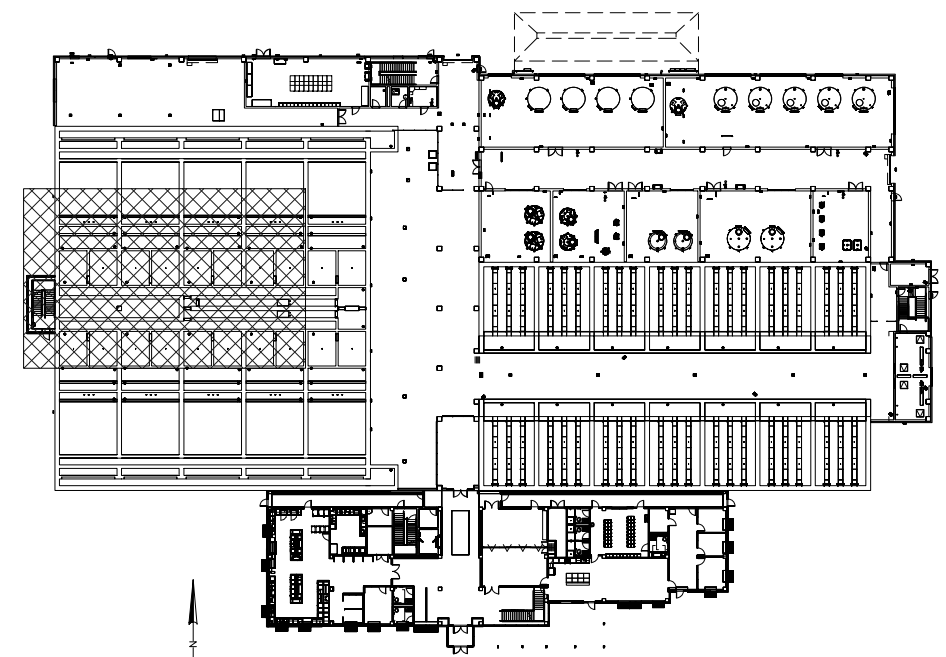
WATER TREATMENT BUILDING MECHANICAL

PLAN AT EL 457.00 - PROCESS AREA 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2106



NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.



KEY PLAN EL. 471.00

3/16" = 1'-0"

PLAN AT EL 471.00 - PROCESS AREA 2
3/16" = 1'-0"

Autodesk Docs/09098-004_West Parish Filter WTT/9098-004-TB-M-211
3/22/2024 10:26:10 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

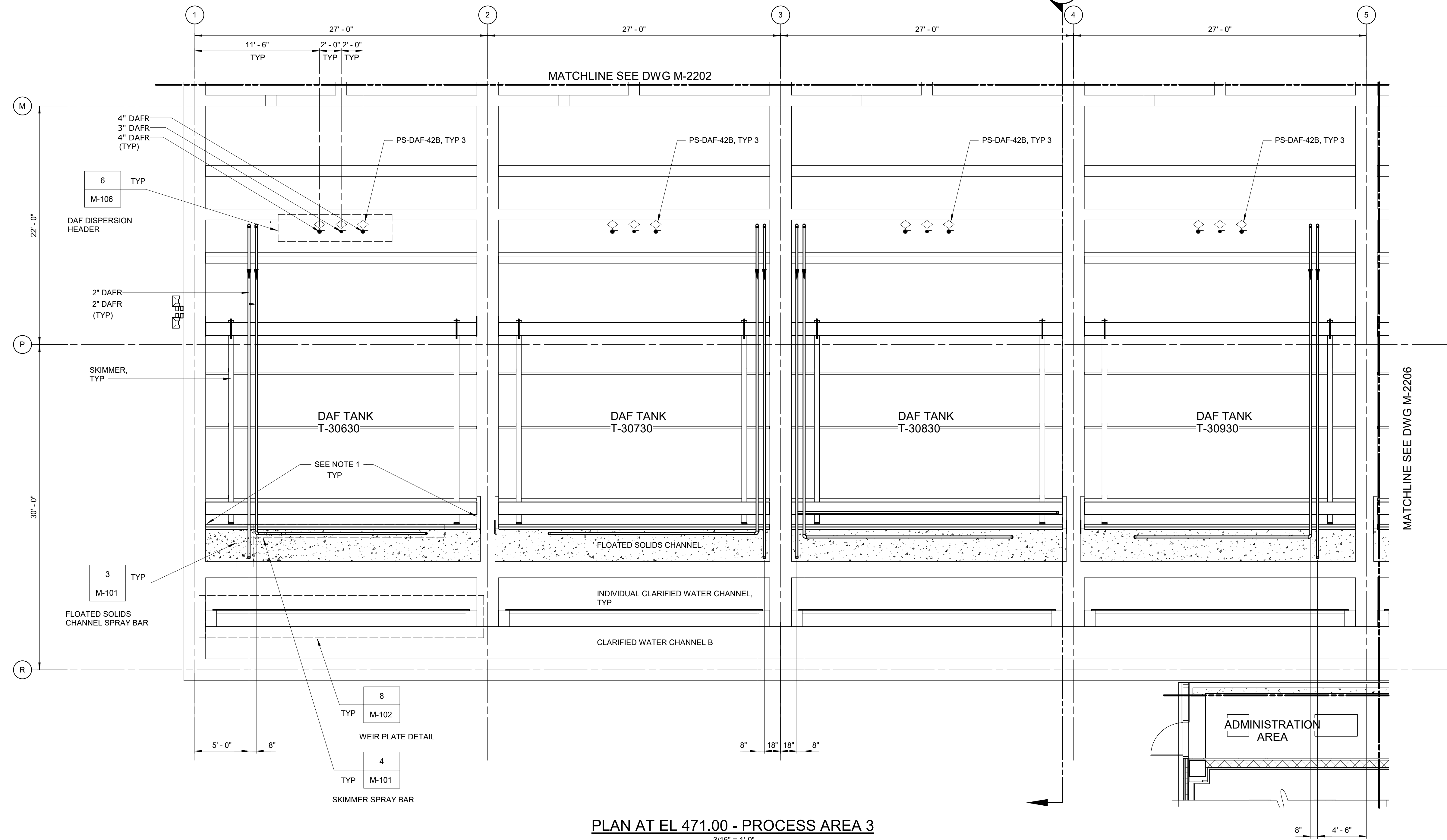
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
PLAN AT EL 471.00 - PROCESS AREA 2

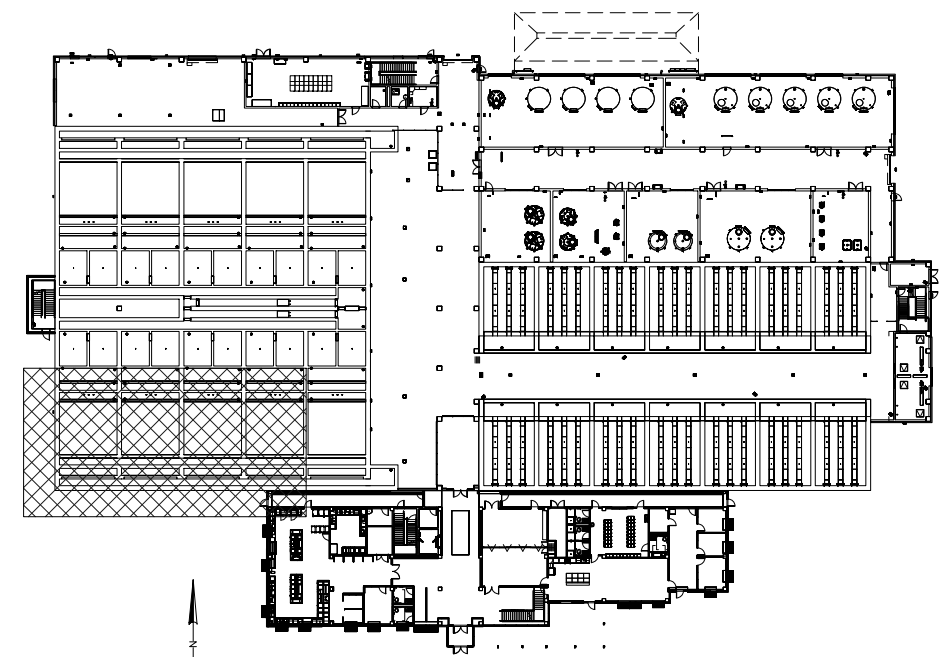
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2202

PLANT NORTH

A
M-2702



- NOTES:
- AFTER INSTALLATION OF THE CHAIN AND FLIGHT SKIMMER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEAL THE GAPS BETWEEN THE DEWATERING BEACH PLATE AND THE TANK WALLS.
 - DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.



KEY PLAN EL 471.00
3/16" = 1'-0"

PLAN AT EL 471.00 - PROCESS AREA 3
3/16" = 1'-0"

Autodesk Docs/060908-004_West Parish Filter WTT/90398-004-TB-M-203
3/22/2024 10:25:05 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

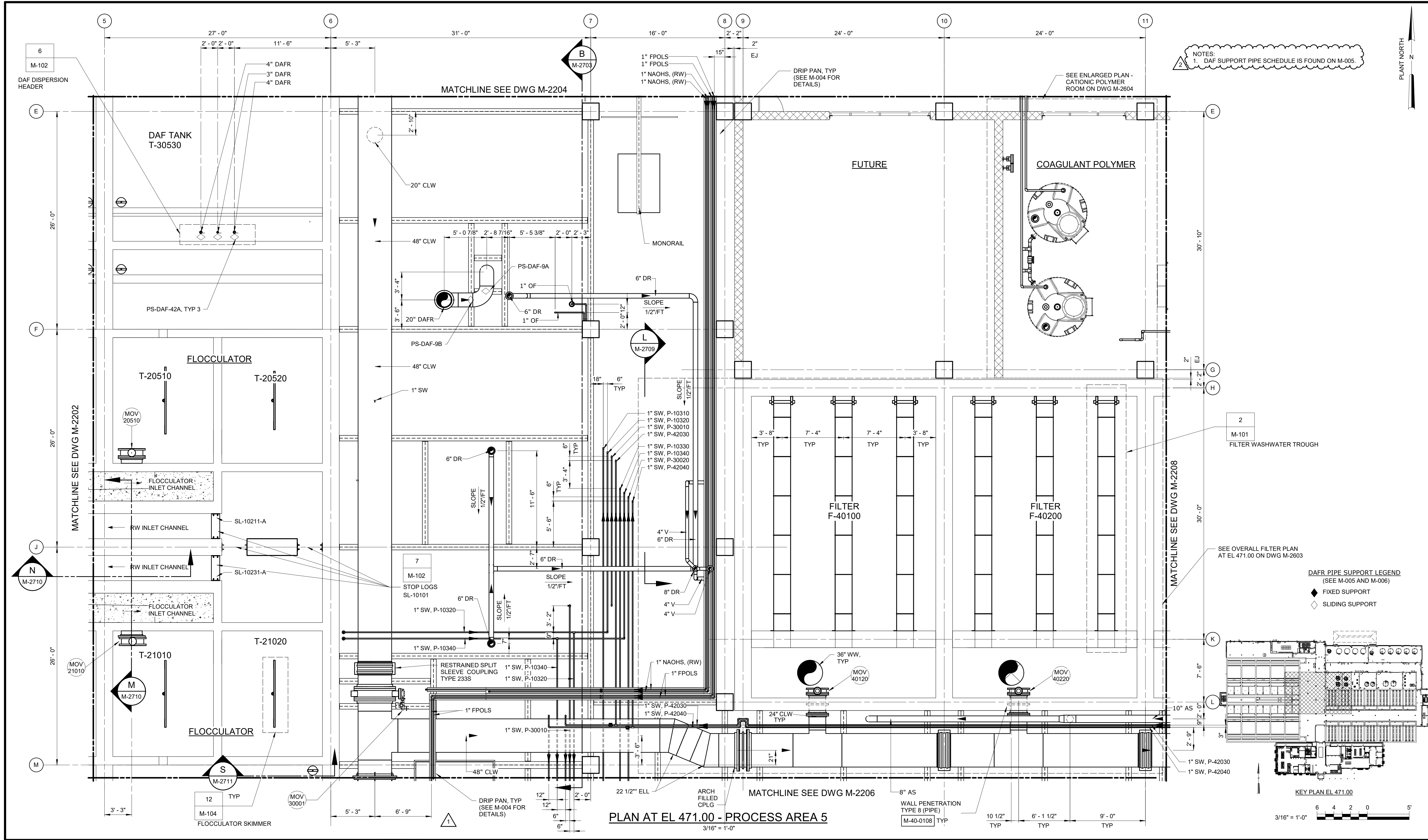


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
PLAN AT EL 471.00 - PROCESS AREA 3

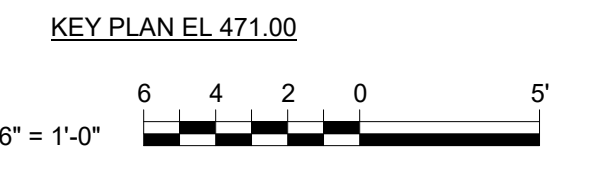
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2203



NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.

DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)
◆ FIXED SUPPORT
◇ SLIDING SUPPORT

SEE OVERALL FILTER PLAN AT EL 471.00 ON DWG M-2603



PLAN AT EL 471.00 - PROCESS AREA 5

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0 1/2" 1"	



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

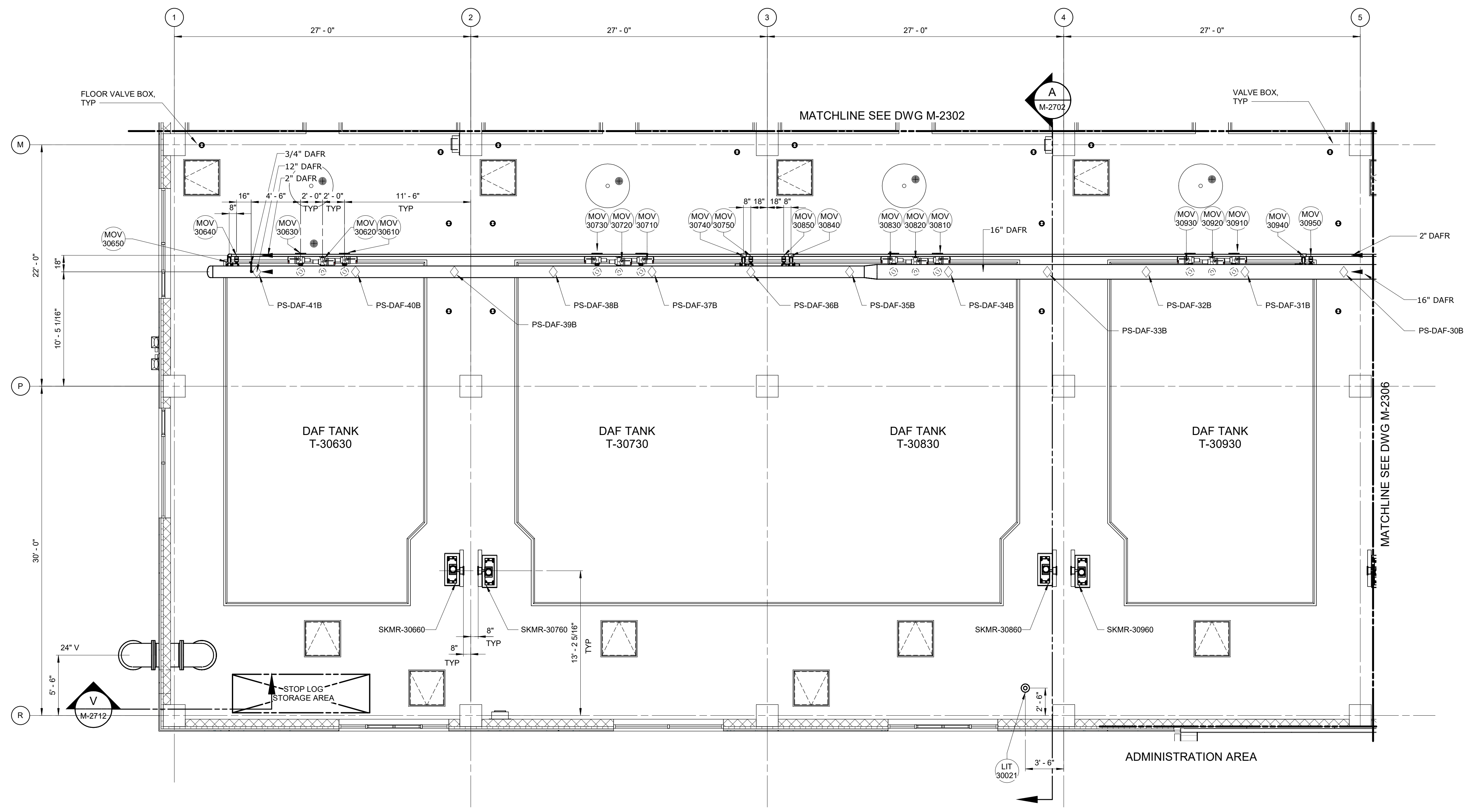
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
PLAN AT EL 471.00 - PROCESS AREA 5

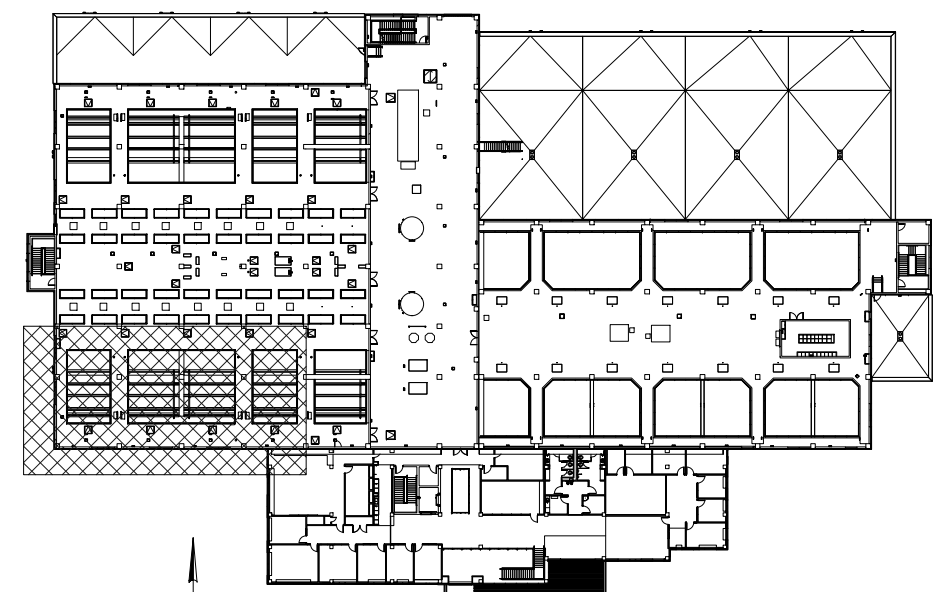
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2205

Autodesk Docs/060908_004_West Parish Filter WTT/90398-004-TB-Mat1 3/22/2024 10:23:37 AM

NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.



DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)
◆ FIXED SUPPORT
◇ SLIDING SUPPORT



KEY PLAN EL 485.00
3/16" = 1'-0"
6 4 2 0 5'

PLAN AT EL 485.00 - PROCESS AREA 3
3/16" = 1'-0"

Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-TB-Mat1
3/22/2024 10:26:32 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

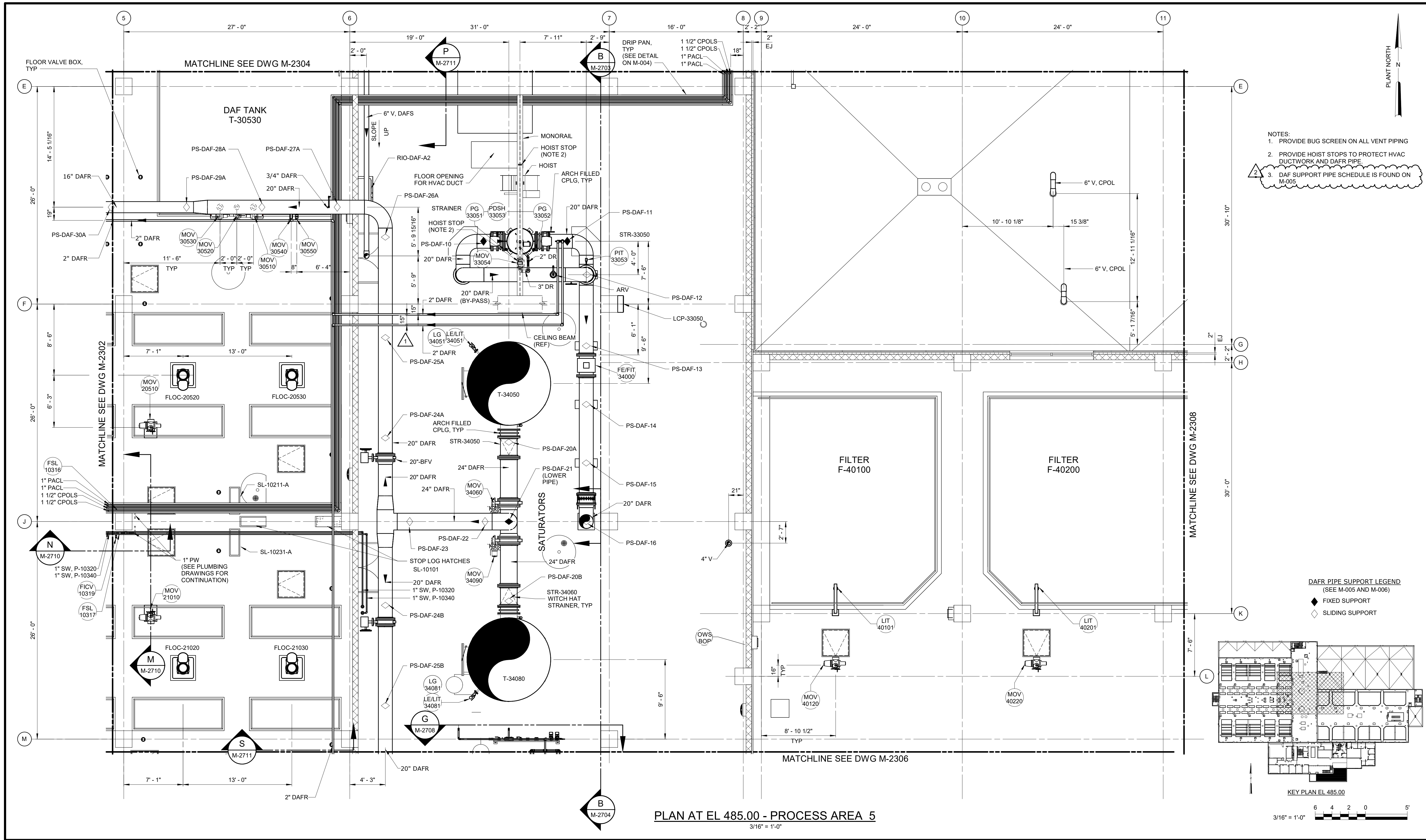


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
PLAN AT EL 485.00 - PROCESS AREA 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2303

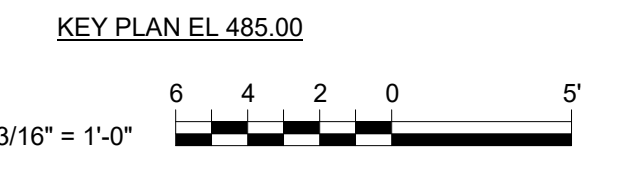


- NOTES:
1. PROVIDE BUG SCREEN ON ALL VENT PIPING
 2. PROVIDE HOIST STOPS TO PROTECT HVAC DUCTWORK AND DAFR PIPE
 3. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005

DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)

- ◆ FIXED SUPPORT
- ◇ SLIDING SUPPORT

PLAN AT EL 485.00 - PROCESS AREA 5
3/16" = 1'-0"



REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/28/2024

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

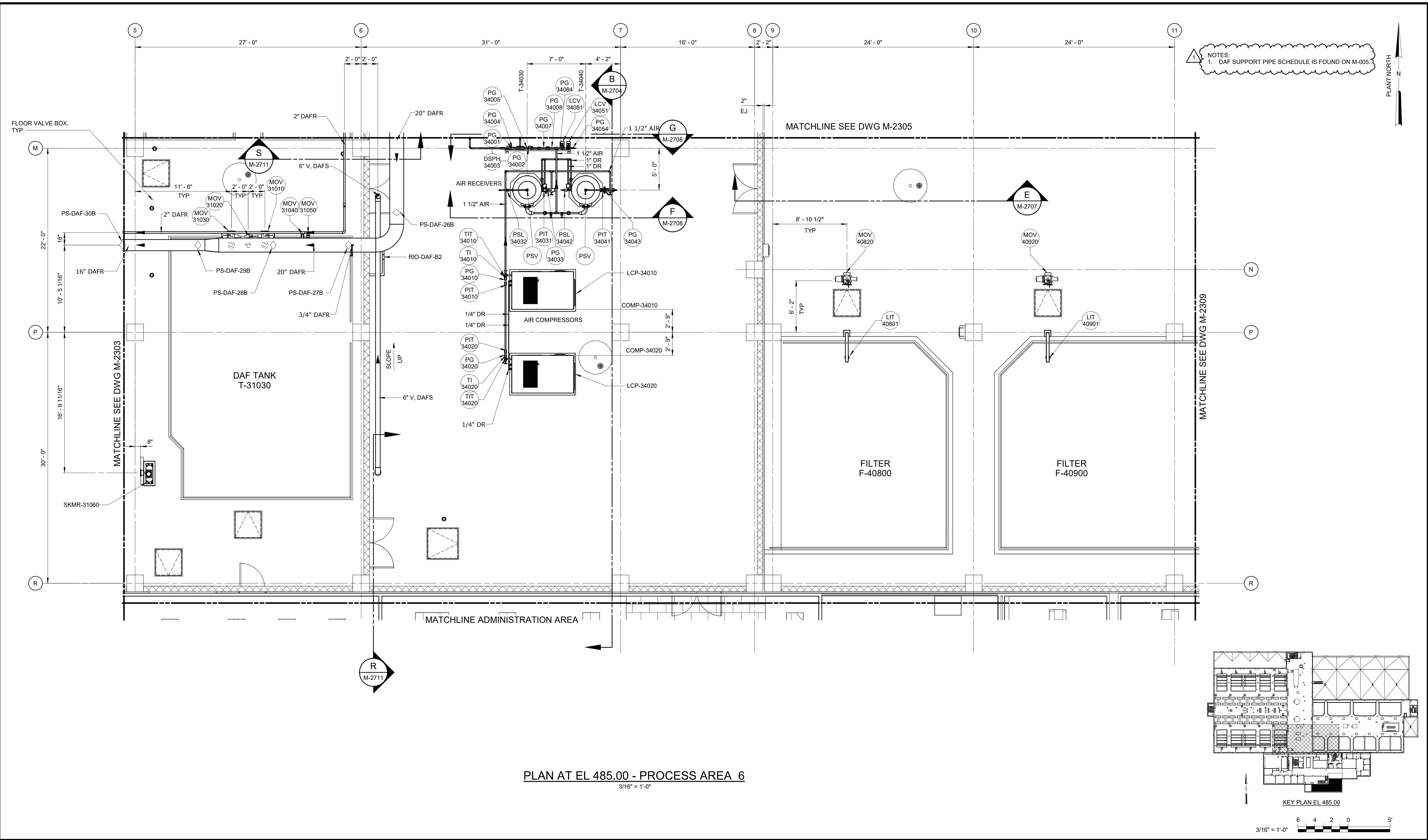
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 485.00 - PROCESS AREA 5

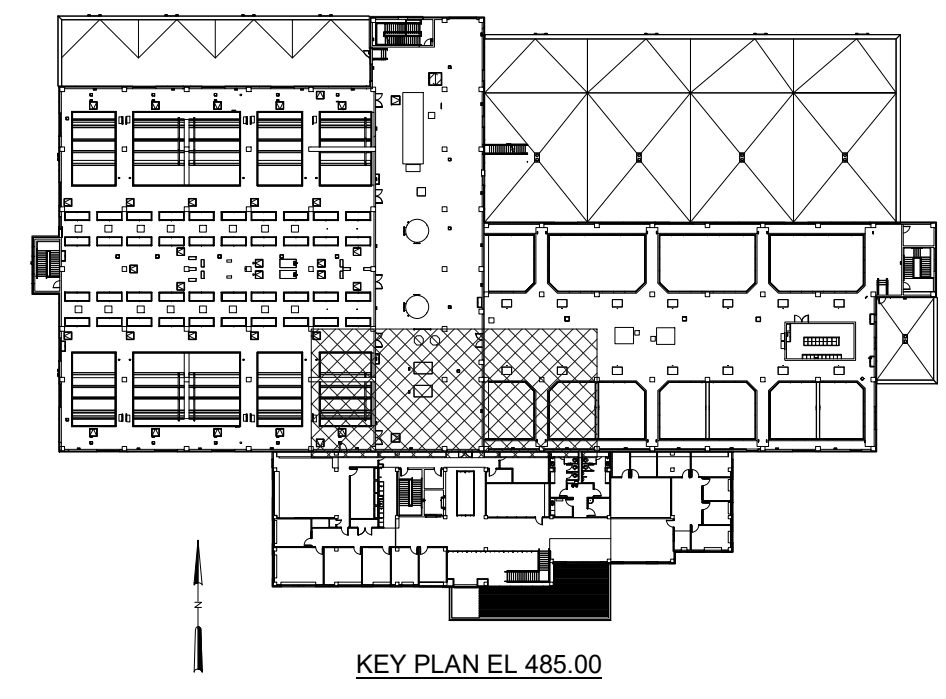
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2305

Autodesk Docs/060908-004_West Parish Filter WTT/90398-004-TB-Mat1 3/22/2024 10:28:13 AM



NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005.

PLAN AT EL 485.00 - PROCESS AREA 6
3/16" = 1'-0"



KEY PLAN EL 485.00
3/16" = 1'-0"

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



03/28/2024

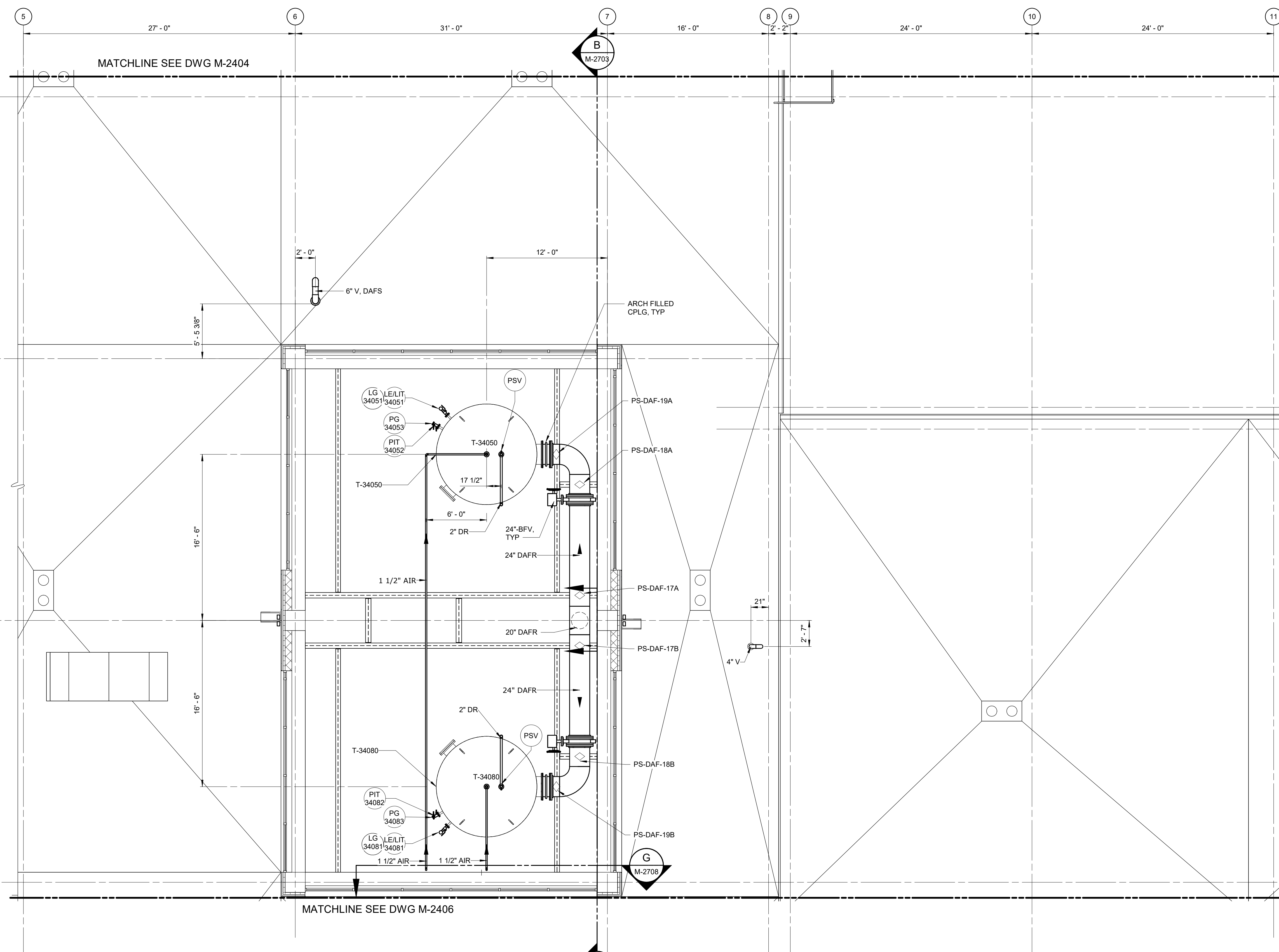
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

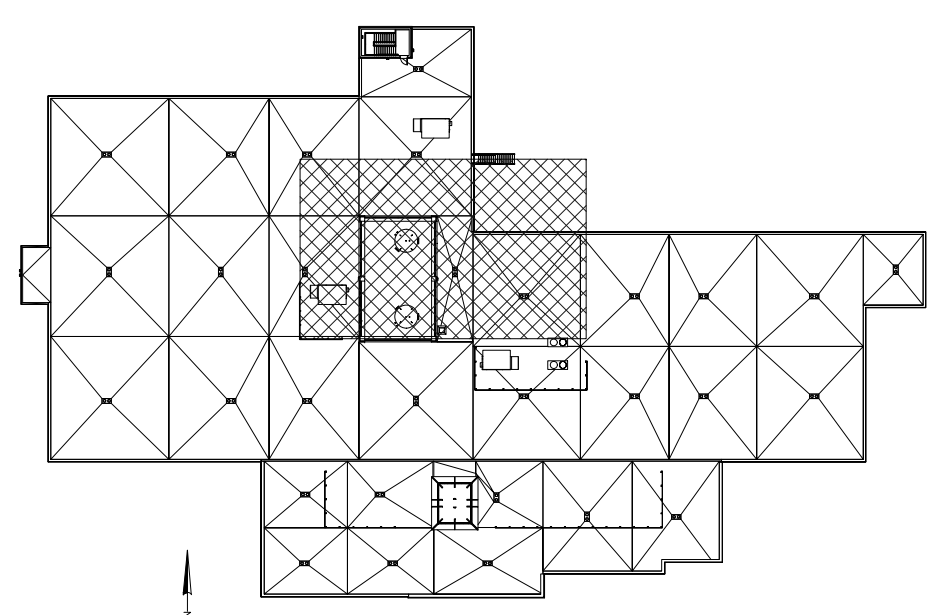
WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 485.00 - PROCESS AREA 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2306

Autodesk Docs/060908-004_West Parish Filter WTT/90398-004-TB-M-2306-20240214 10:29:43 AM



NOTES:
1. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005



KEY PLAN EL 499.00

PLAN AT EL 499.00 - PROCESS AREA 5
3/16" = 1'-0"



Autodesk Docs/060908-004_West Parish Filter WTF09098-004-TB-Mat1 3/22/2024 10:31:12 AM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN



03/28/2024

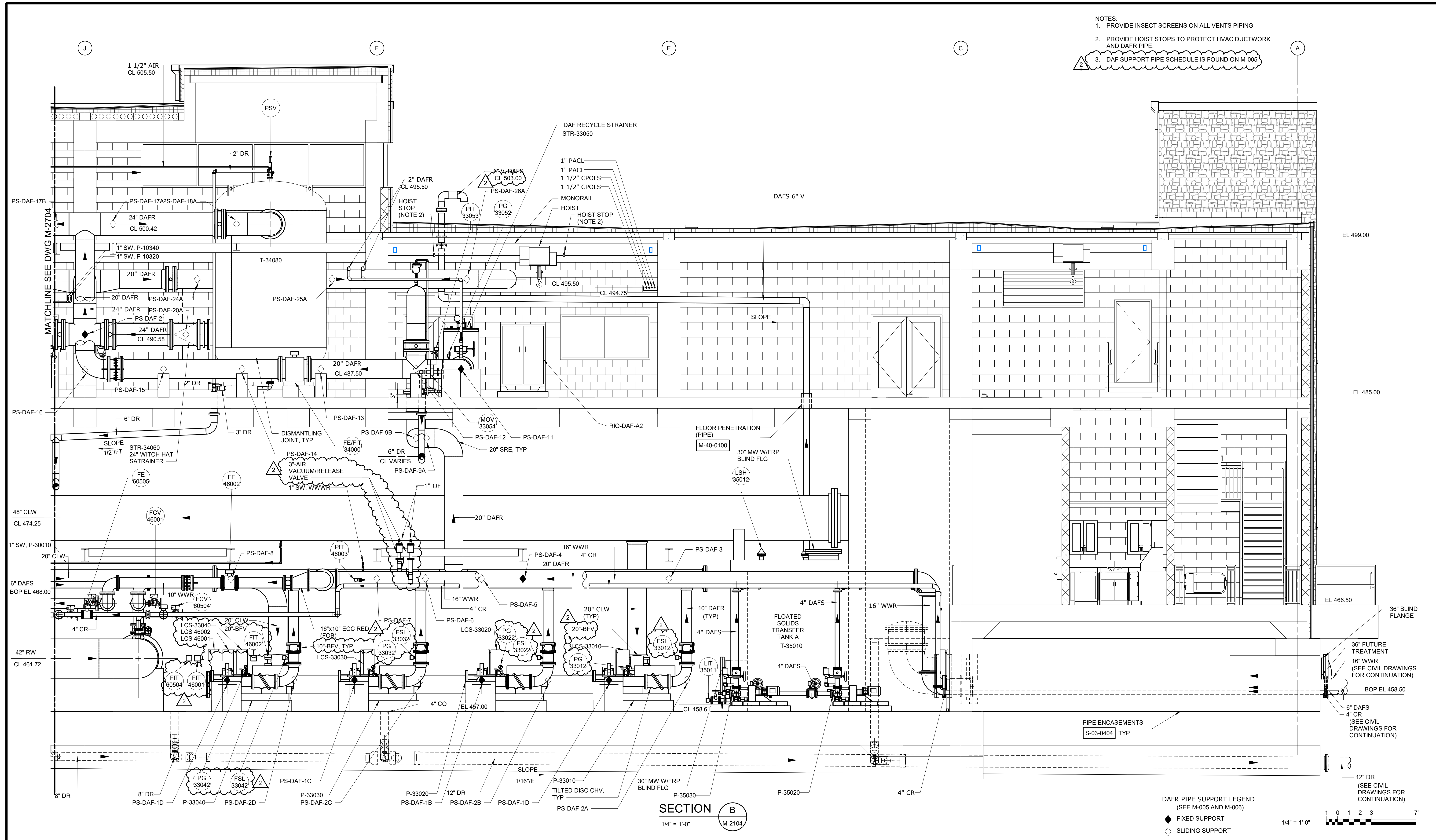
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

**WATER TREATMENT BUILDING
MECHANICAL
PLAN AT EL 499.00 - PROCESS AREA 5**

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2405

- NOTES:
1. PROVIDE INSECT SCREENS ON ALL VENTS PIPING
 2. PROVIDE HOIST STOPS TO PROTECT HVAC DUCTWORK AND DAFR PIPE
 3. DAFR SUPPORT PIPE SCHEDULE IS FOUND ON M-005



SECTION B
1/4" = 1'-0"
M-2104

DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)

- ◆ FIXED SUPPORT
- ◇ SLIDING SUPPORT



REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

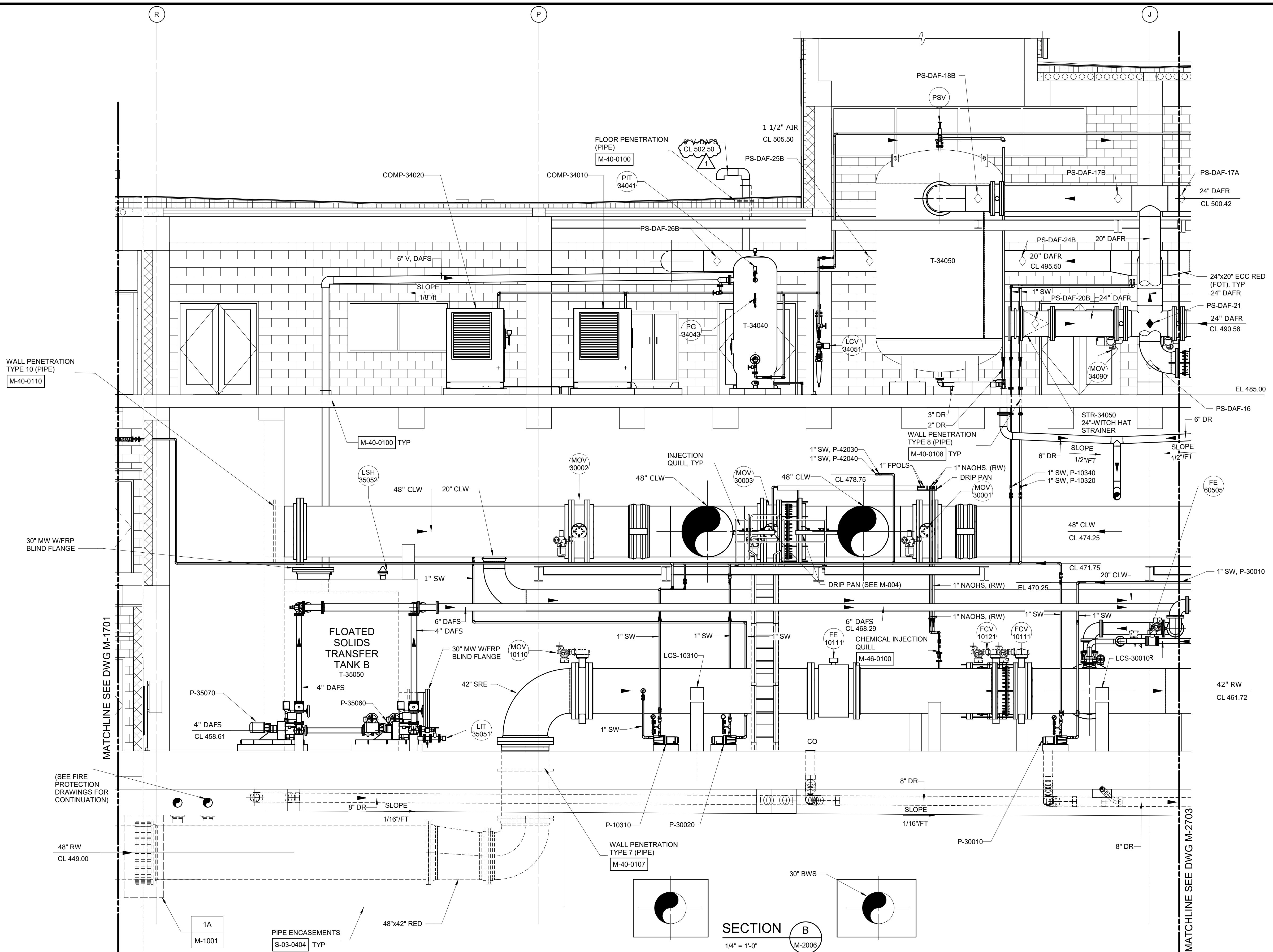
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL
SECTION - PROCESS AREA SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2703

Autodesk_DWG:06098-004 West Parish Filter WTR06098-004-TB-M-11 3/22/2024 10:32:25 AM

- NOTES:
1. PROVIDE INSECT SCREENS ON ALL VENTS PIPING
 2. DAF SUPPORT PIPE SCHEDULE IS FOUND ON M-005



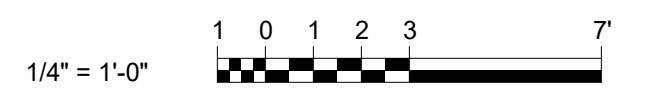
MATCHLINE SEE DWG M-1701

MATCHLINE SEE DWG M-2703

(SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION)

DAFR PIPE SUPPORT LEGEND
(SEE M-005 AND M-006)

- ◆ FIXED SUPPORT
- ◇ SLIDING SUPPORT



1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

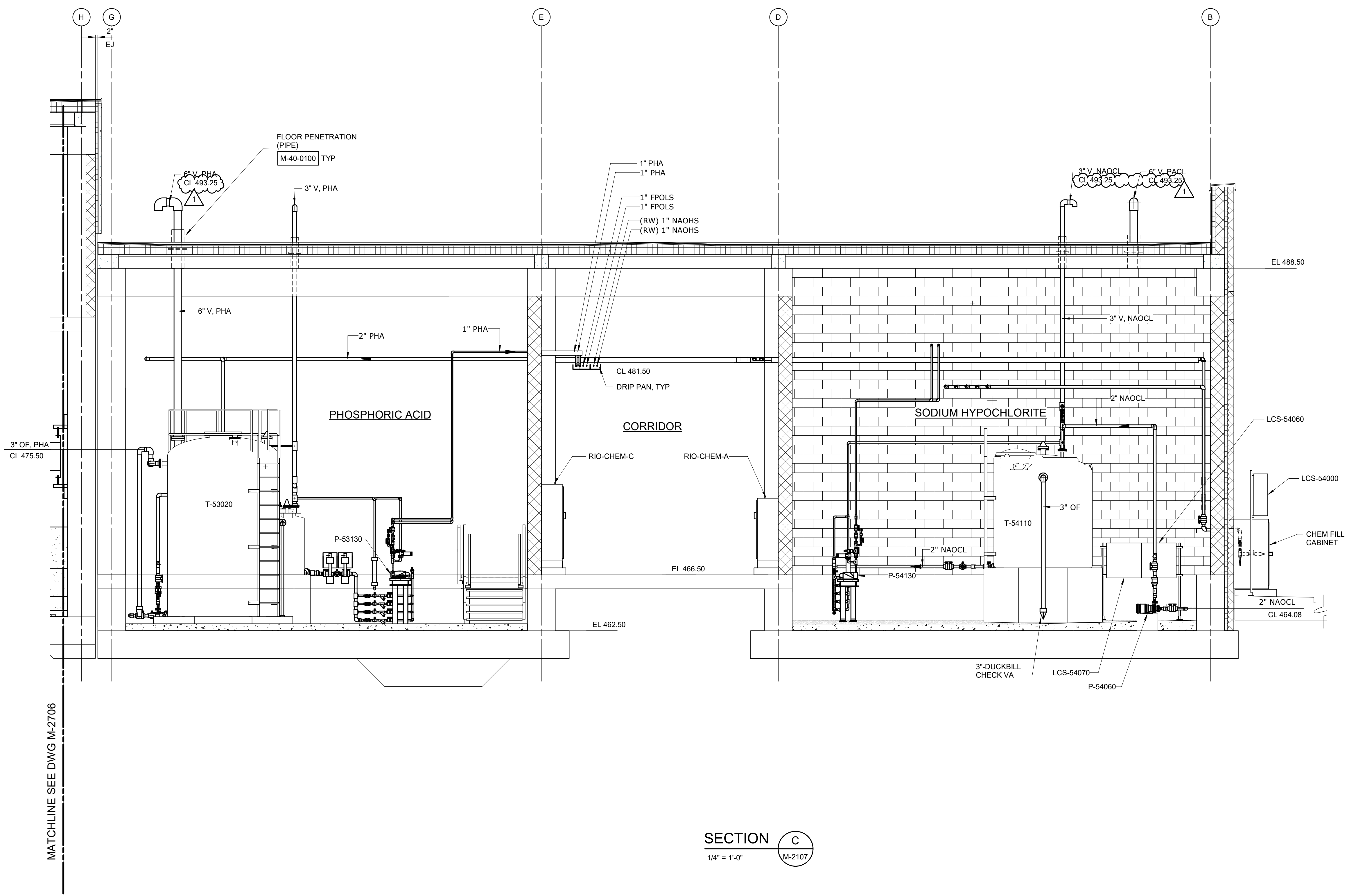
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING MECHANICAL SECTION - PROCESS AREA SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2704

Autodesk Doc/060908-004_West Parish Filter WTP/90398-004-TB-Mx1 3/22/2024 10:34:15 AM

- NOTES:
1. PROVIDE INSECT SCREENS ON ALL VENTS PIPING.
 2. A MINIMUM OF 13FT CLEARANCE IN THE CHEMICAL CORRIDOR SHALL BE PROVIDED AT THE COMPLETION OF CONSTRUCTION.



MATCHLINE SEE DWG M-2706

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



Autodesk_DocSet/090908-004_ West Parish Filter WTT/0908-004-TB-M-1 3/22/2024 9:36:55 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 11" THEN DRAWING IS NOT TO FULL SCALE	



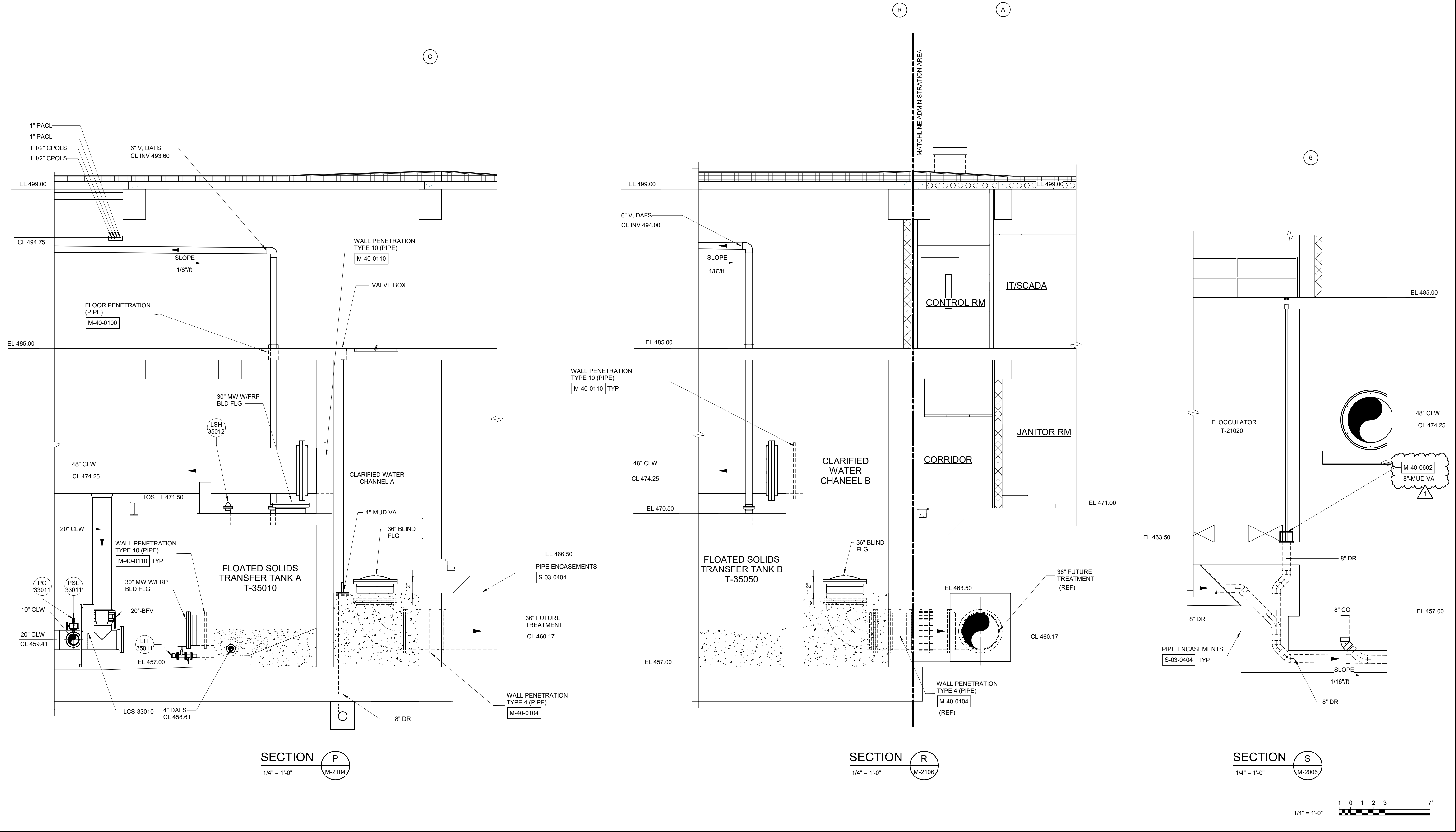
M. Morin
03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

WATER TREATMENT BUILDING
MECHANICAL
SECTION - PROCESS AREA SHEET 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2705



SECTION P
1/4" = 1'-0"
M-2104

SECTION R
1/4" = 1'-0"
M-2106

SECTION S
1/4" = 1'-0"
M-2005



Autodesk_Docs\090908-004_West Parish Filter WTT90908-004-TB-M-11 3/22/2024 8:40:03 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN



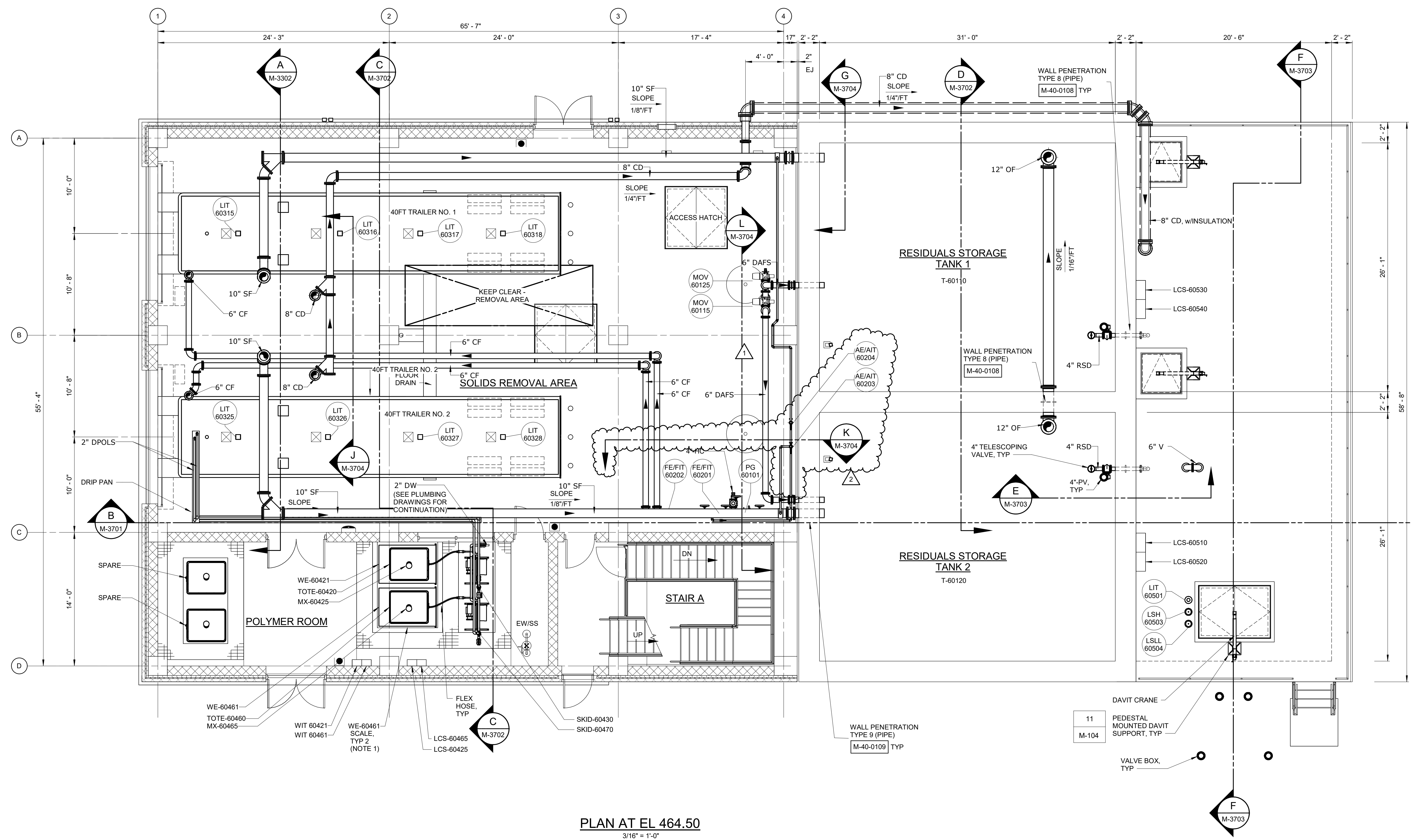
03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

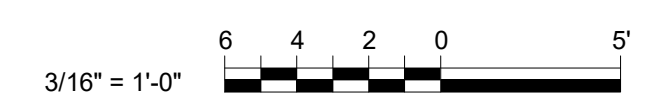
WATER TREATMENT BUILDING MECHANICAL SECTIONS - PROCESS AREA SHEET 11

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-2711



- NOTES:
- WEIGH SCALE DEPTH IS PER MANUFACTURER AND RECESSED GRATING DEPTH SHALL BE COORDINATED BY THE CONTRACTOR.
 - INSTRUMENTS TAGGED AS FE/FIT AND AE/AIT INDICATES THE TRANSMITTER IS IN CLOSE PROXIMITY TO THE INSTRUMENT TAP. WHERE THE TRANSMITTER IS LOCATED REMOTELY FROM THE TAP, A SEPARATE FIT OR AIT WILL BE SHOWN ON THE DRAWINGS.
 - MANUAL CHAIN HOISTS FOR REMOVAL OF THE TOTE MIXERS SHALL BE INSTALLED ABOVE THE TOTE MIXERS FROM THE LIFTING EYE MOUNT AND IN ACCORDANCE WITH SPECIFICATION SECTION 41 22.00.

PLAN AT EL 464.50
3/16" = 1'-0"



Autodesk Docs/06098-004 West Parish Filter WTF/90398-004/DWB-M.rvt 3/19/2024 2:17:08 PM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	M. HESLIN
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

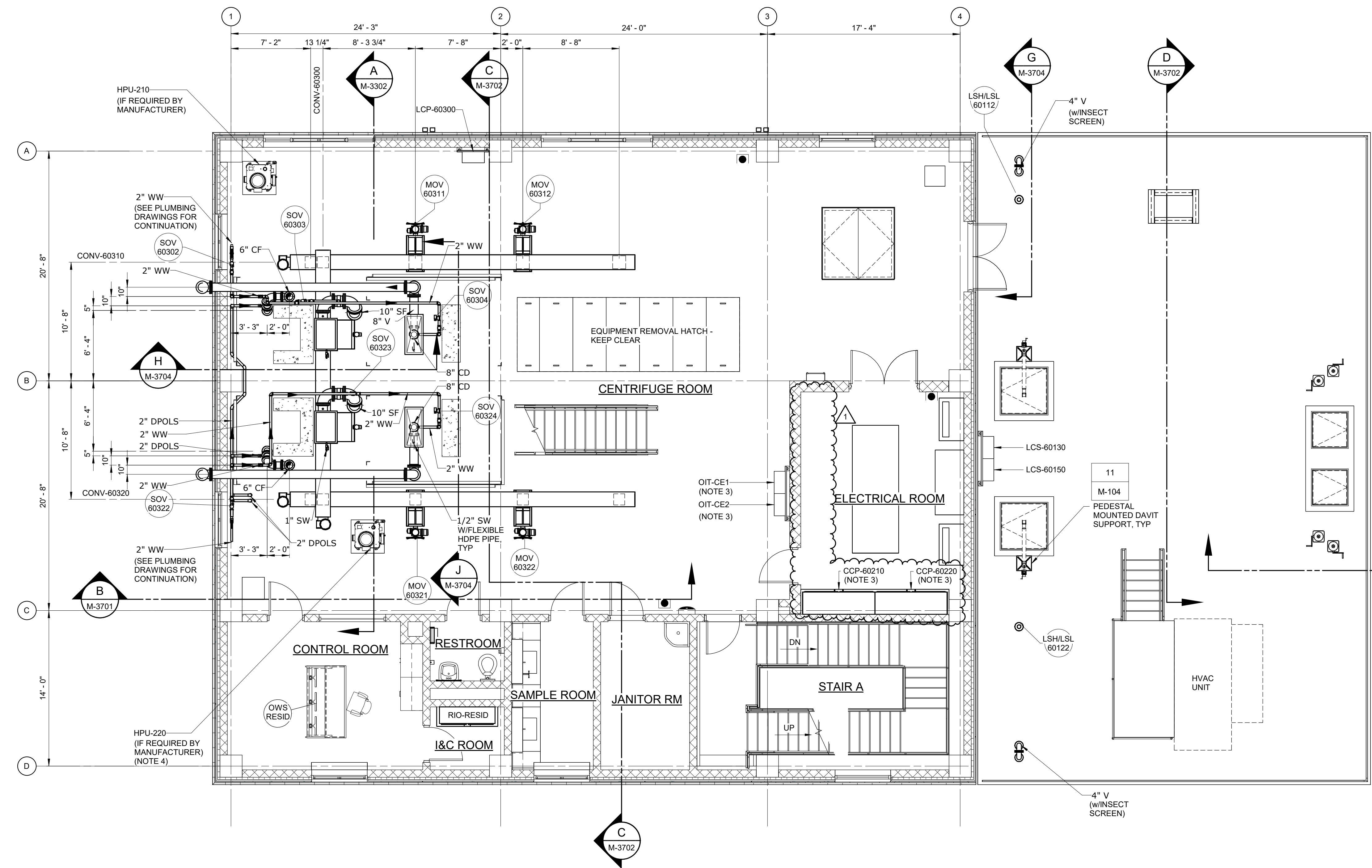


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

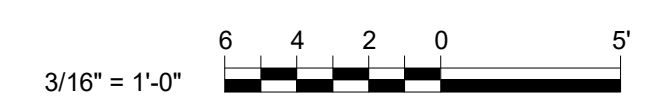
DEWATERING BUILDING
MECHANICAL
PLAN AT EL 464.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-3201



PLAN AT EL 484.50
3/16" = 1'-0"

- NOTES:
1. DEWATERING CENTRIFUGE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE. DEWATERING CENTRIFUGE SHOWN IS MANUFACTURED BY CENTRISYS AND IS FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER. DEWATERING CENTRIFUGE EQUIPMENT CLEARANCES: DEWATERING CENTRIFUGE LENGTH, DEWATERING CENTRIFUGE WIDTH, AND DEWATERING CENTRIFUGE HEIGHT SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS AND SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.
 2. EQUIPMENT PLATFORM AND DEWATERING CENTRIFUGE EQUIPMENT PEDESTALS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. THE PLATFORM ELEVATION PROVIDED IS APPROXIMATE AND PROVIDED ONLY FOR BIDDING PURPOSES AND SHALL BE COORDINATED WITH AND DICTATED BY THE CENTRIFUGE MANUFACTURER TO ENSURE THE REQUIRED ACCESS IS PROVIDED FOR OPERATION AND MAINTENANCE. A MINIMUM CLEAR HEIGHT BELOW THE PLATFORM STEEL SHALL BE 7 FEET.
 3. CENTRIFUGE POWER PANEL, CENTRIFUGE CONTROL PANEL, AND ALL ELECTRICAL APPURTENANCES SHALL BE FURNISHED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL FILED SUB-BID CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE AND THE REQUIREMENTS OF THE MANUFACTURER. CENTRIFUGE POWER PANEL AND CENTRIFUGE CONTROL PANEL ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR AND ELECTRICAL FILED SUB-BID CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER. THE ELECTRICAL FILED SUB-BID CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ELECTRICAL EQUIPMENT AND APPURTENANCES SHALL BE COORDINATED WITH THE ELECTRICAL DRAWINGS, SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.
 4. HYDRAULIC POWER UNIT (HPU) SHALL BE FURNISHED BY THE DEWATERING CENTRIFUGE MANUFACTURER, INCLUDED IN THE GENERAL CONTRACTOR BID, AND INSTALLED BY THE ELECTRICAL FILED SUB-BID CONTRACTOR ON ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND THE REQUIREMENTS OF THE CENTRIFUGE MANUFACTURER.
 5. DIVERTER GATE SHALL BE FURNISHED BY THE DEWATERING CENTRIFUGE MANUFACTURER, INCLUDED IN THE GENERAL CONTRACTOR BID, AND INSTALLED BY THE GENERAL CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND THE REQUIREMENTS OF THE CENTRIFUGE MANUFACTURER. DIVERTER GATE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.



Autodesk Docs/09098-004 West Parish Filter WTP/90398-004 DWG-M-1.rvt 3/19/2024 2:17:08 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	M. HESLIN
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
	0 1/2" 1"



03/28/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

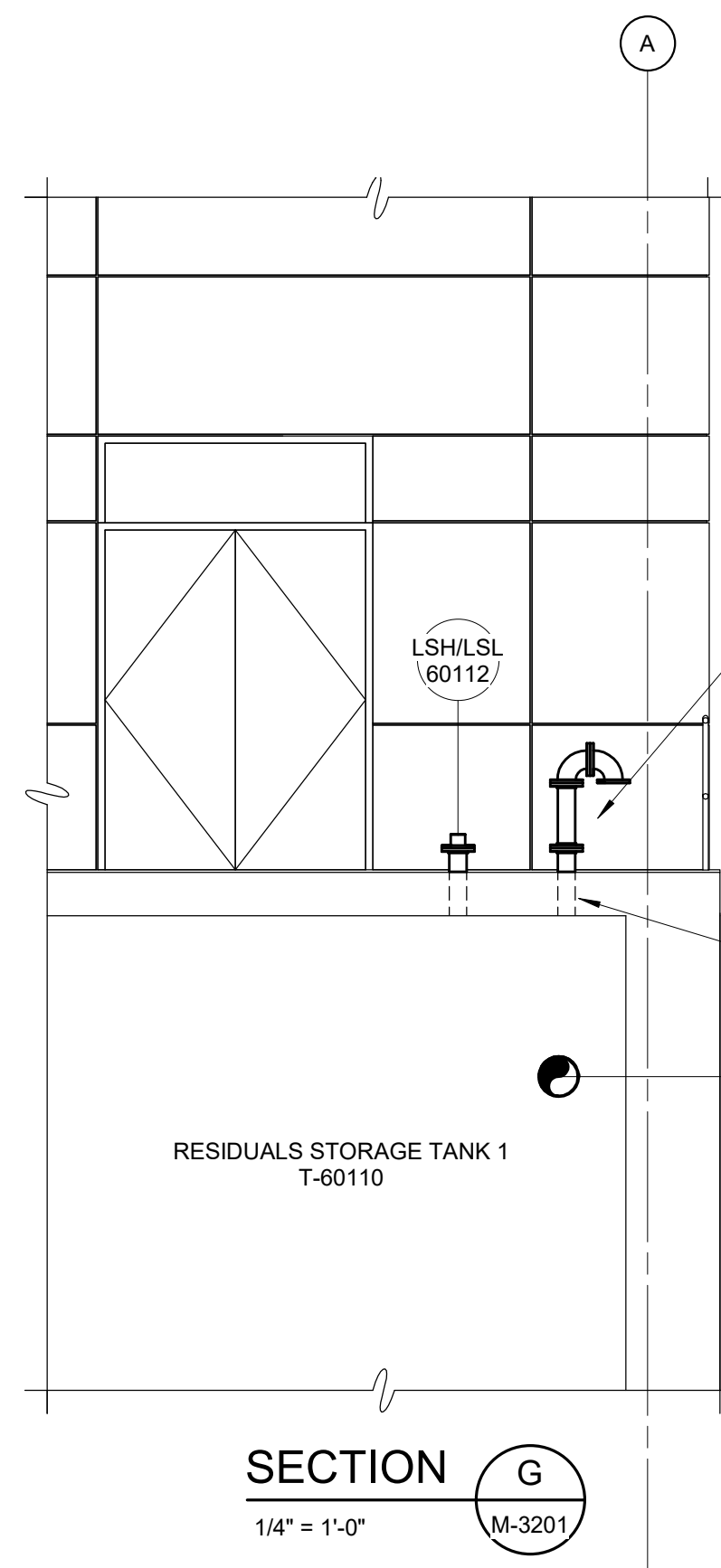
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

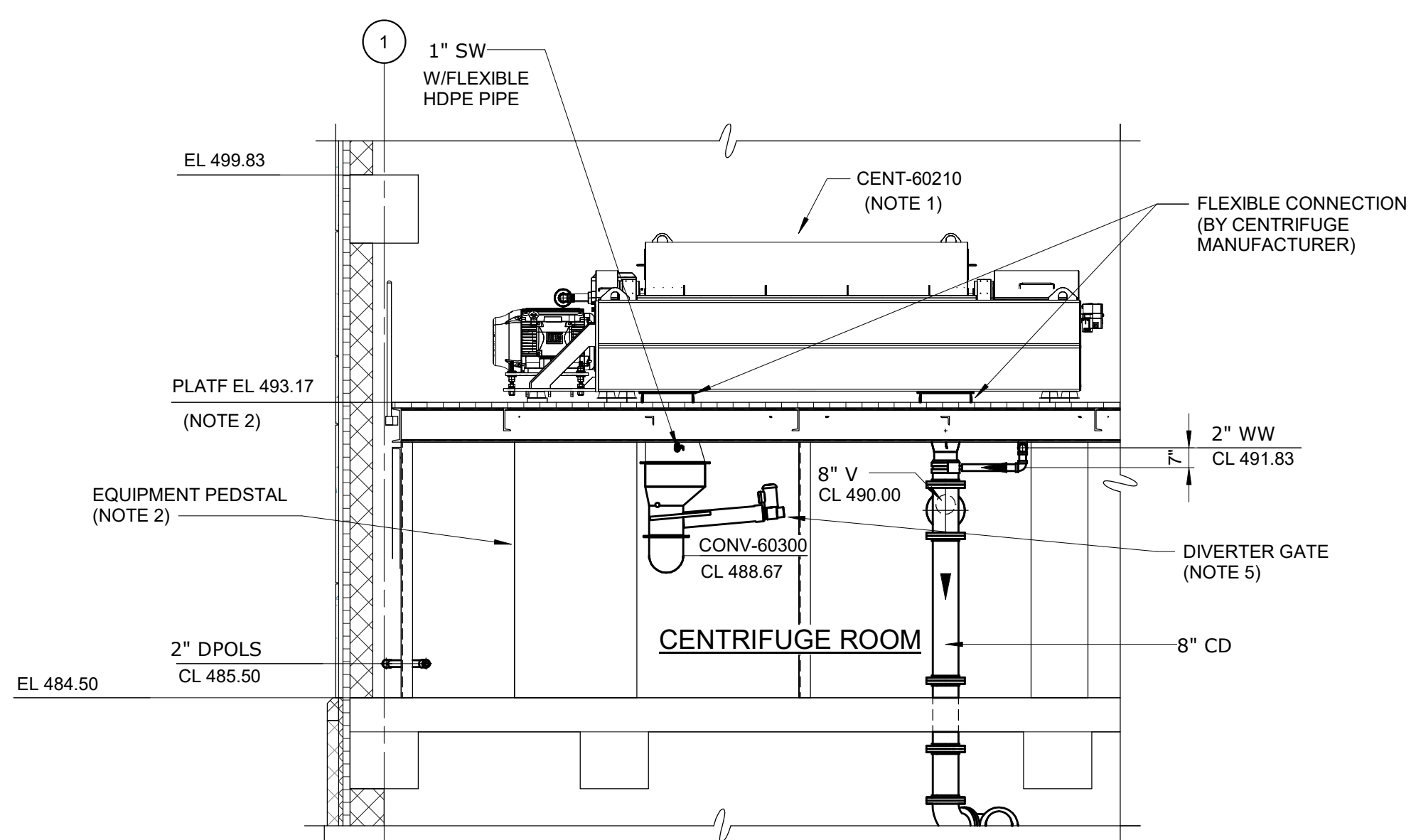
DEWATERING BUILDING MECHANICAL

PLAN AT EL 484.50

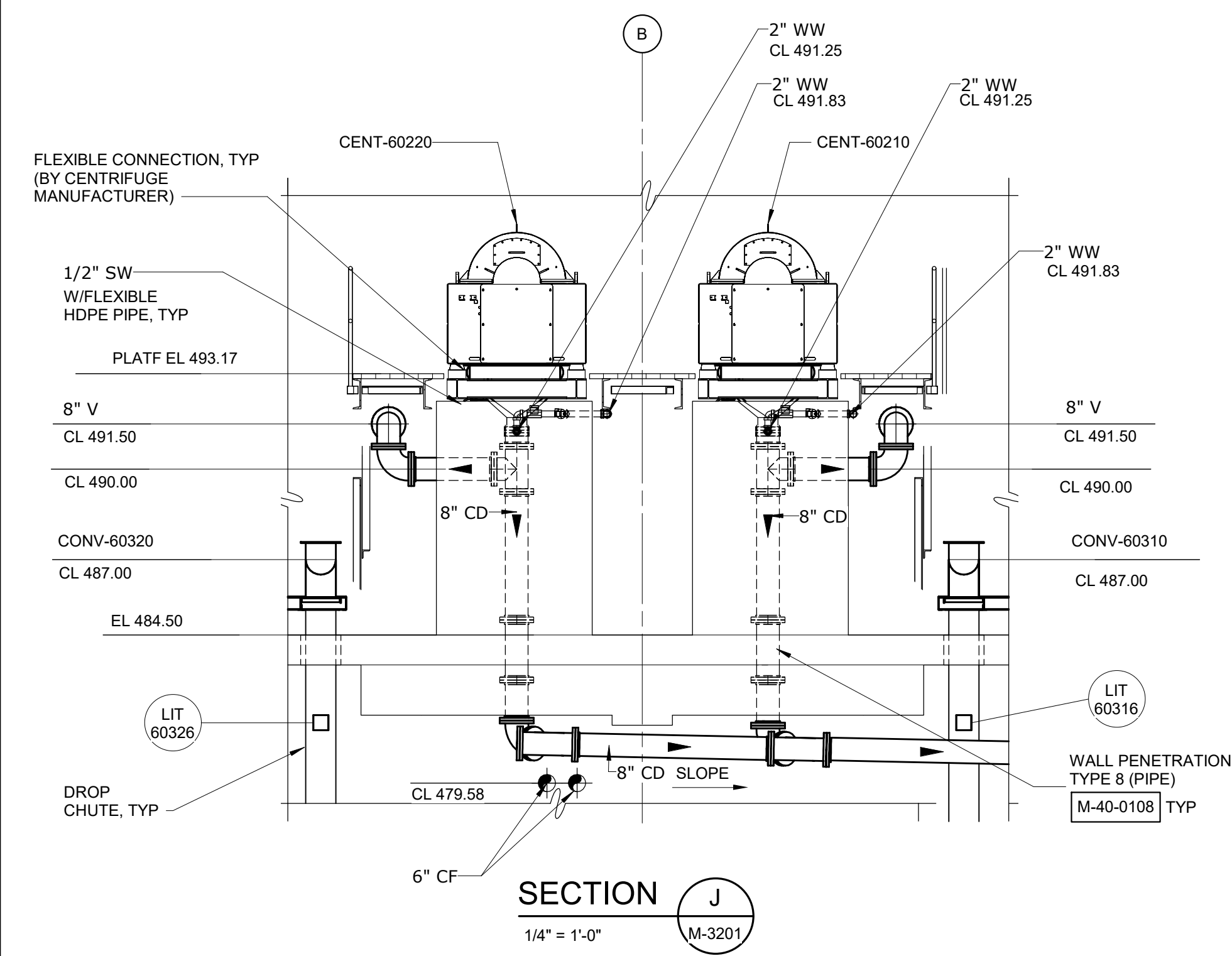
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-3301



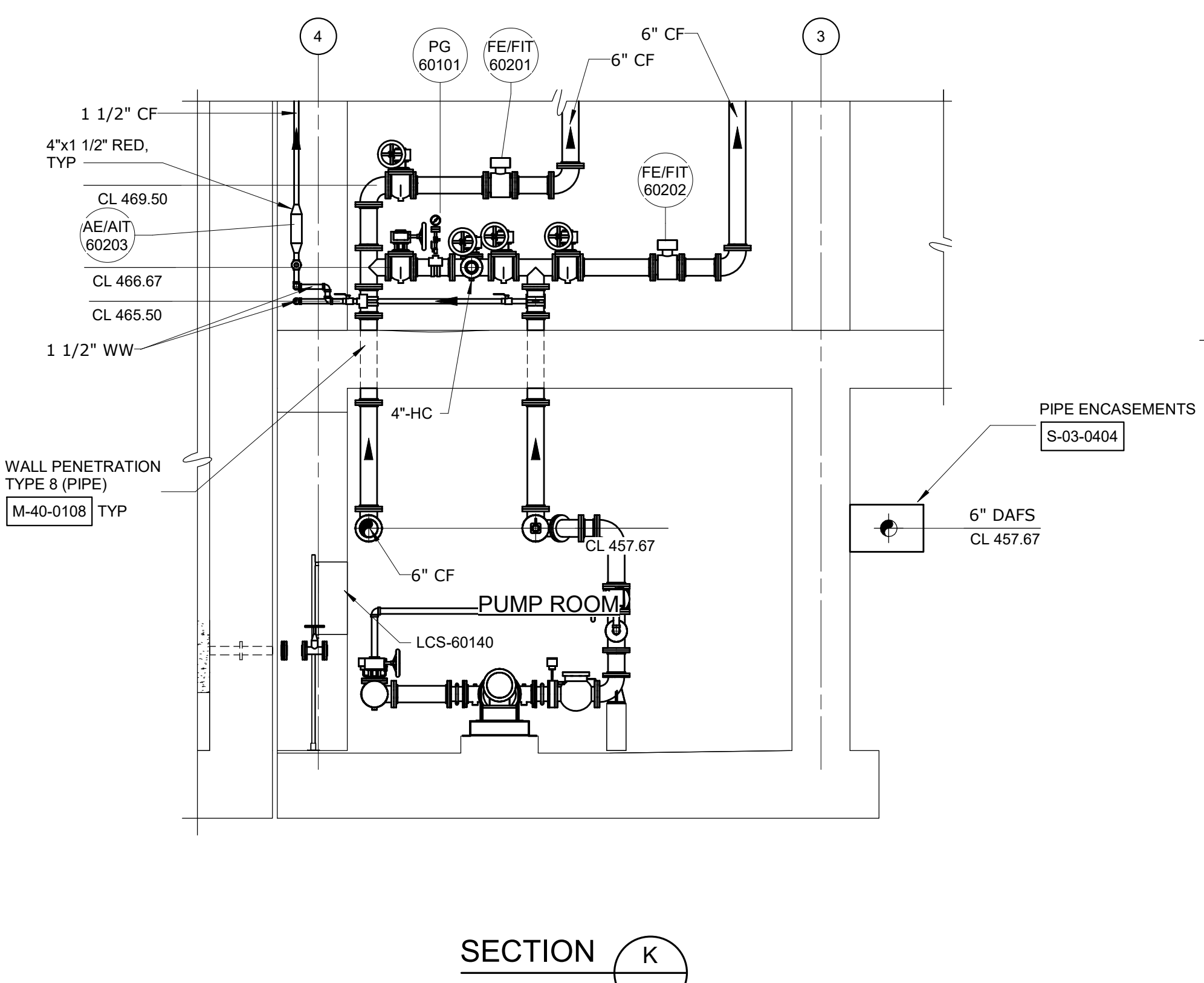
SECTION G
1/4" = 1'-0"
M-3201



SECTION H
1/4" = 1'-0"
M-3301

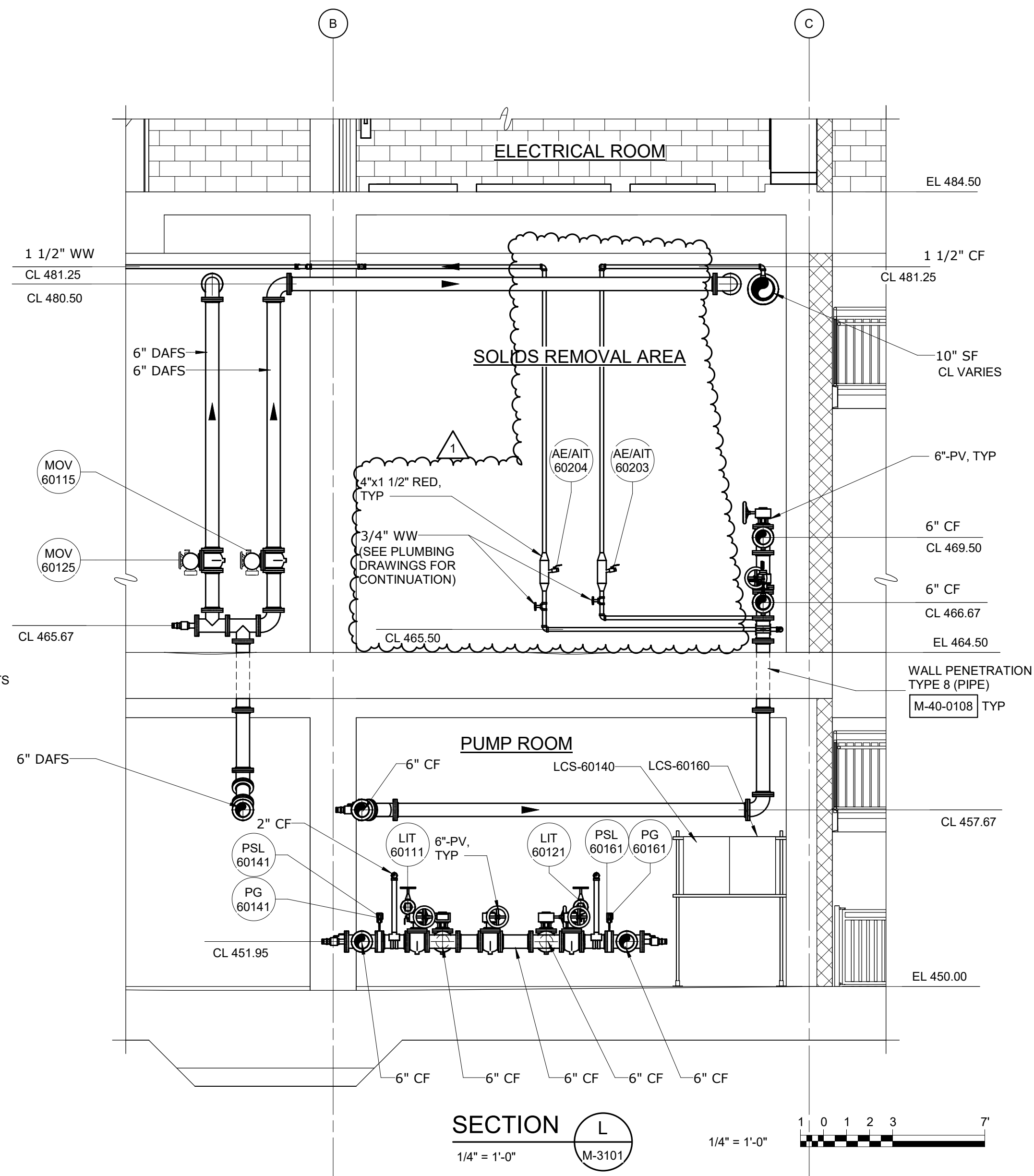


SECTION J
1/4" = 1'-0"
M-3201



SECTION K
1/4" = 1'-0"
M-3101

- NOTES:
- DEWATERING CENTRIFUGE SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE. DEWATERING CENTRIFUGE SHOWN IS MANUFACTURED BY CENTRISYS AND IS FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER. DEWATERING CENTRIFUGE LENGTH, DEWATERING CENTRIFUGE WIDTH, AND DEWATERING CENTRIFUGE HEIGHT SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS AND SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.
 - EQUIPMENT PLATFORM AND DEWATERING CENTRIFUGE EQUIPMENT PEDESTALS SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. THE PLATFORM ELEVATION PROVIDED IS APPROXIMATE AND PROVIDED ONLY FOR BIDDING PURPOSES AND SHALL BE COORDINATED WITH AND DICTATED BY THE CENTRIFUGE MANUFACTURER TO ENSURE THE REQUIRED ACCESS IS PROVIDED FOR OPERATION AND MAINTENANCE. A MINIMUM CLEAR HEIGHT BELOW THE PLATFORM STEEL SHALL BE 7 FEET.
 - CENTRIFUGE POWER PANEL, CENTRIFUGE CONTROL PANEL, AND ALL ELECTRICAL APPURTENANCES SHALL BE FURNISHED BY THE GENERAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL FILED SUB-BID CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE AND THE REQUIREMENTS OF THE MANUFACTURER. CENTRIFUGE POWER PANEL AND CENTRIFUGE CONTROL PANEL ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR AND ELECTRICAL FILED SUB-BID CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER. THE ELECTRICAL FILED SUB-BID CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ELECTRICAL EQUIPMENT AND APPURTENANCES SHALL BE COORDINATED WITH THE ELECTRICAL DRAWINGS, SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.
 - HYDRAULIC POWER UNIT (HPU) SHALL BE FURNISHED BY THE DEWATERING CENTRIFUGE MANUFACTURER, INCLUDED IN THE GENERAL CONTRACTOR BID, AND INSTALLED BY THE ELECTRICAL FILED SUB-BID CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND THE REQUIREMENTS OF THE CENTRIFUGE MANUFACTURER.
 - DIVERTER GATE SHALL BE FURNISHED BY THE DEWATERING CENTRIFUGE MANUFACTURER, INCLUDED IN THE GENERAL CONTRACTOR BID, AND INSTALLED BY THE GENERAL CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 46 76 33 - DEWATERING CENTRIFUGE, AND THE REQUIREMENTS OF THE CENTRIFUGE MANUFACTURER. DIVERTER GATE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE EQUIPMENT AND APPURTENANCES FURNISHED AND INSTALLED SHALL BE COMPATIBLE AND HAVE THE NECESSARY OPERATING CLEARANCES WITH THE STRUCTURAL ELEMENTS AND EQUIPMENT SHOWN ON THE CONTRACT DOCUMENTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER.



SECTION L
1/4" = 1'-0"
M-3101

Autodesk Docs/060908-004_West Parish Filter WTP/90398-004-DWB-M.rvt 3/19/2024 2:17:16 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	M. HESLIN
DRAWN BY:	D. KVOPKA
CHECKED BY:	M. MORIN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

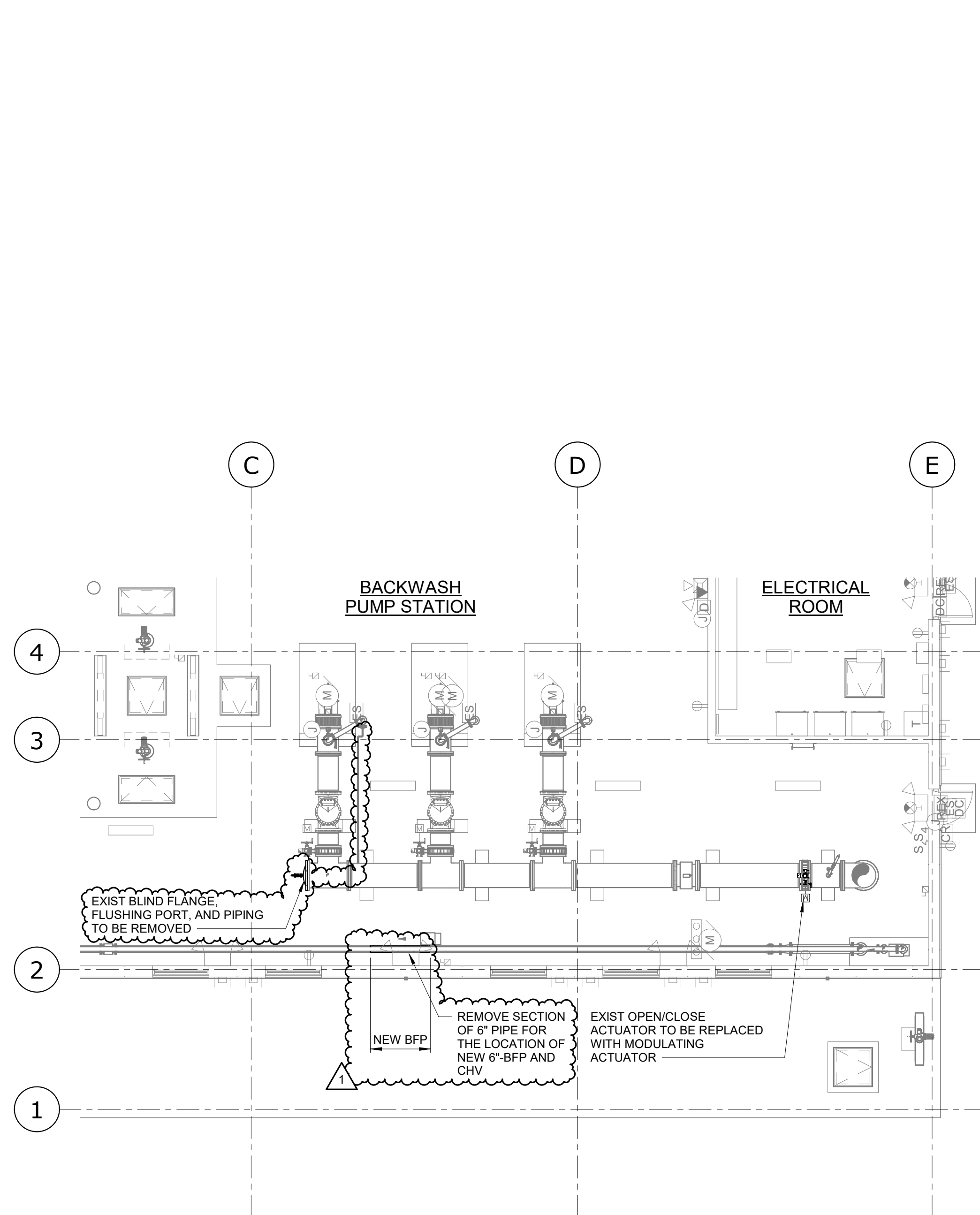
DEWATERING BUILDING MECHANICAL SECTIONS - SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-3704

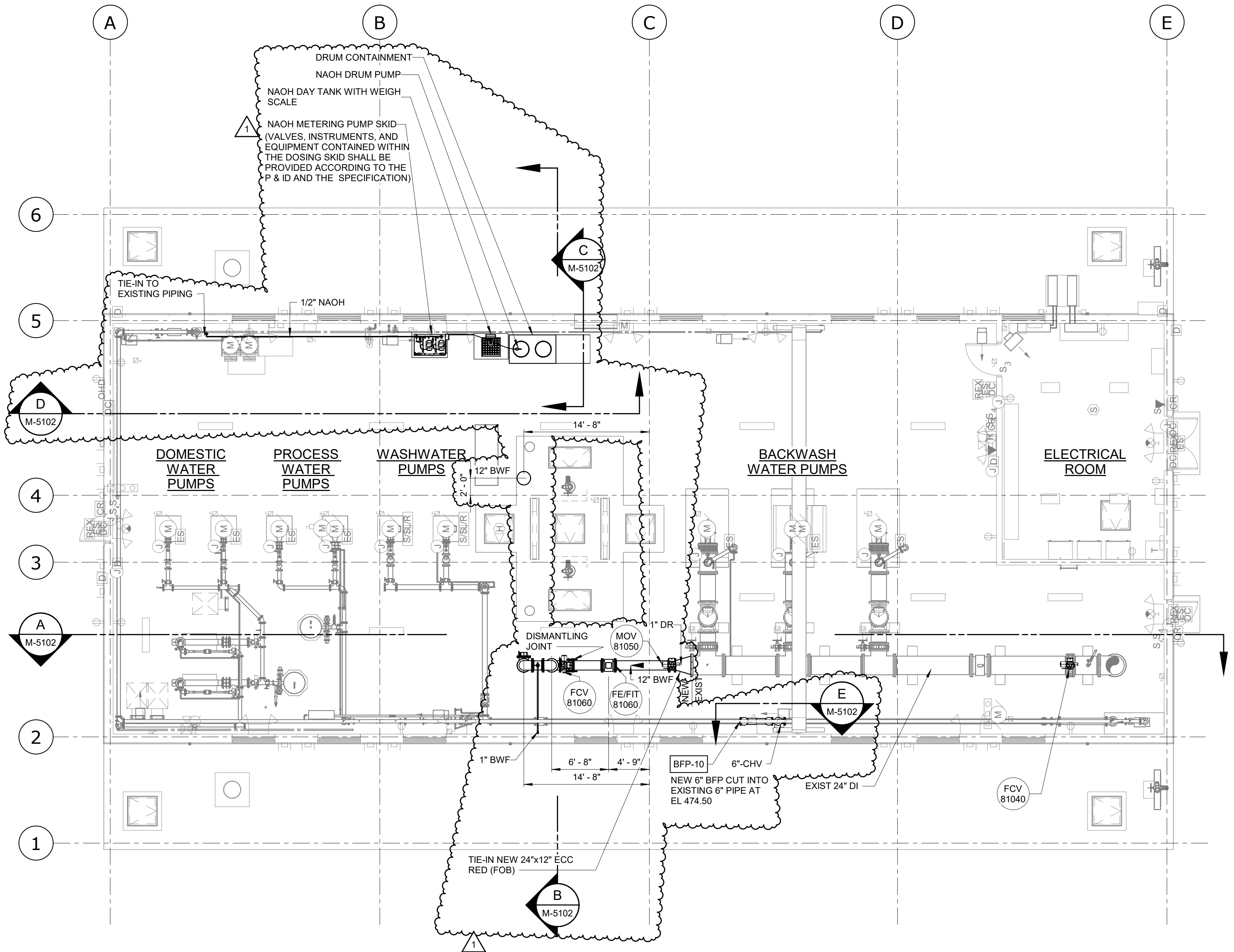
PLUMBING BACKFLOW PREVENTER ASSEMBLY SCHEDULE

TAG	QUANTITY	ASSEMBLY TYPE	SYSTEM SERVED	MAKE	MODEL	MA APPROVAL NUMBER	NOMINAL SIZE (IN)	ACCESSORIES	DRAINAGE PROVISION	DESIGN FLOW (GPM)	DESIGN PRESSURE LOSS (PSI)	INLET JOINT	OUTLET JOINT	VALVE TYPE	CROSS CONNECTION REGULATION	NOTES
BFP-10	1	REDUCED PRESSURE ZONE	BACKWASH FACILITY - WASHWATER LINE	WATTS	957-FS	P3-0717-660	6	AIR GAP FITTING	DRAIN TO BACKWASH FACILITY FLOOR	500	7	FLANGE	FLANGE	OS & Y	310 CMR 22.22 - SEE 22.22(8)(a)	1, 2

- NOTES
 1. SEE SPECIFICATION 40 05 00 AND 40 05 68.23 FOR INSTALLATION AND ACCESSORY REQUIREMENTS.
 2. ASSEMBLY SHALL CONFORM TO NSF 61 AND 372 REQUIREMENTS (LEAD FREE).



BACKWASH DEMO PLAN AT EL. 472.00
 1/8" = 1'-0"



PLAN AT EL. 472.00
 1/8" = 1'-0"

Autodesk Docs/060308-004_West Parish Filter WTP/90398-004-BWF-M.rvt 3/28/2024 8:27:29 AM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	B. HORNER
CHECKED BY:	M. MORIN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/28/2024



Hazen

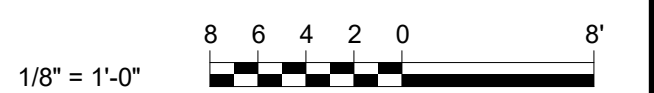
HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

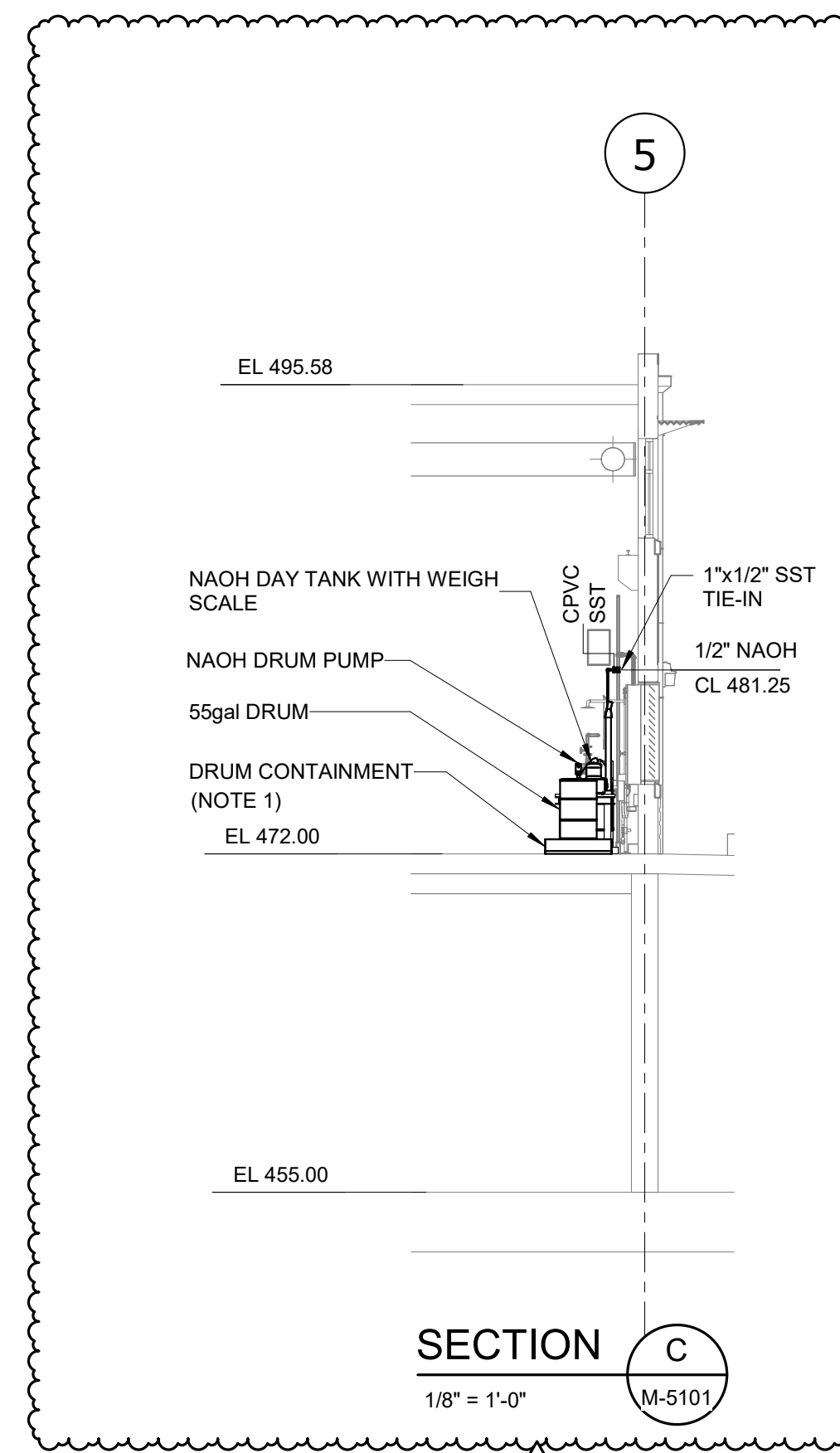
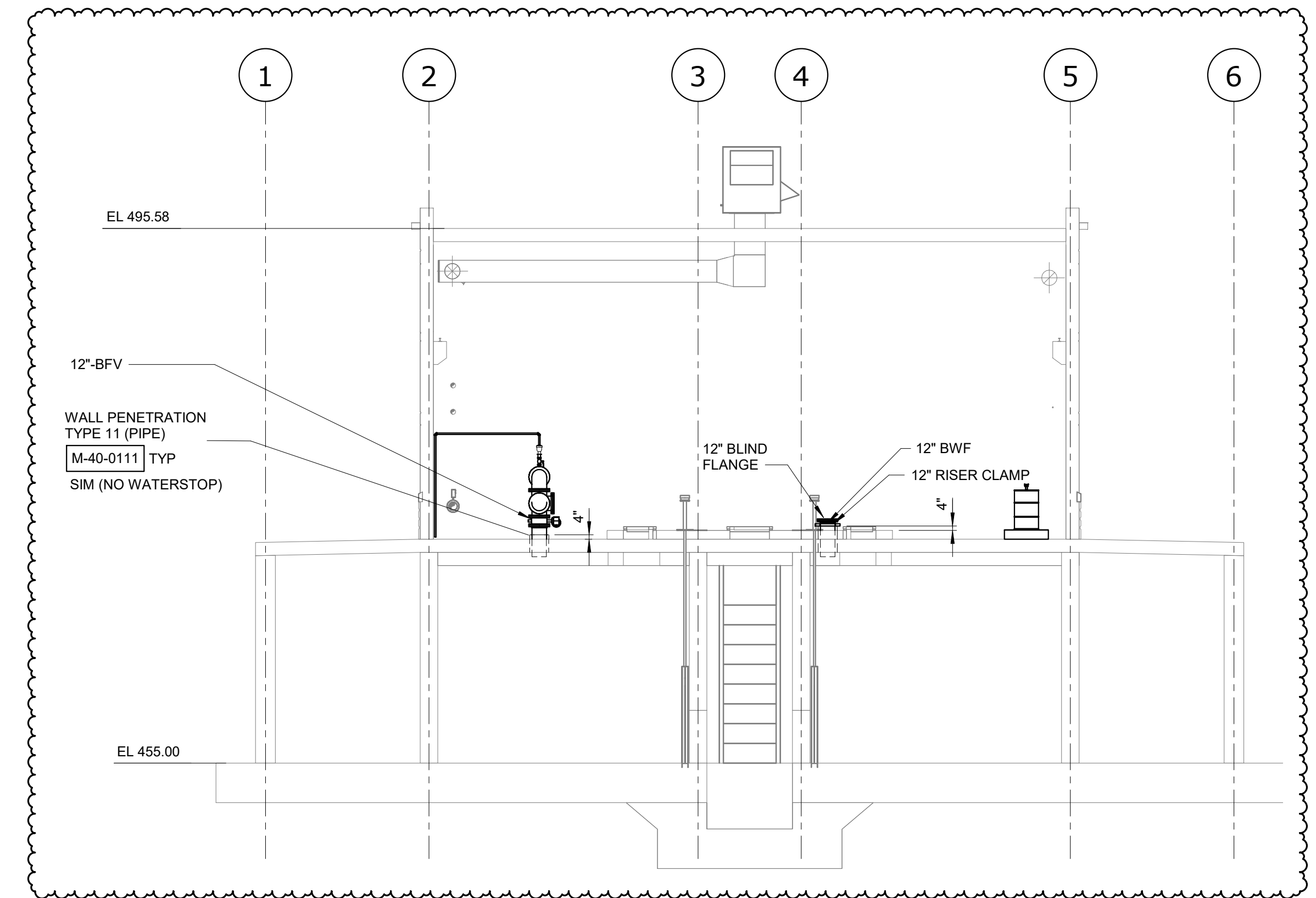
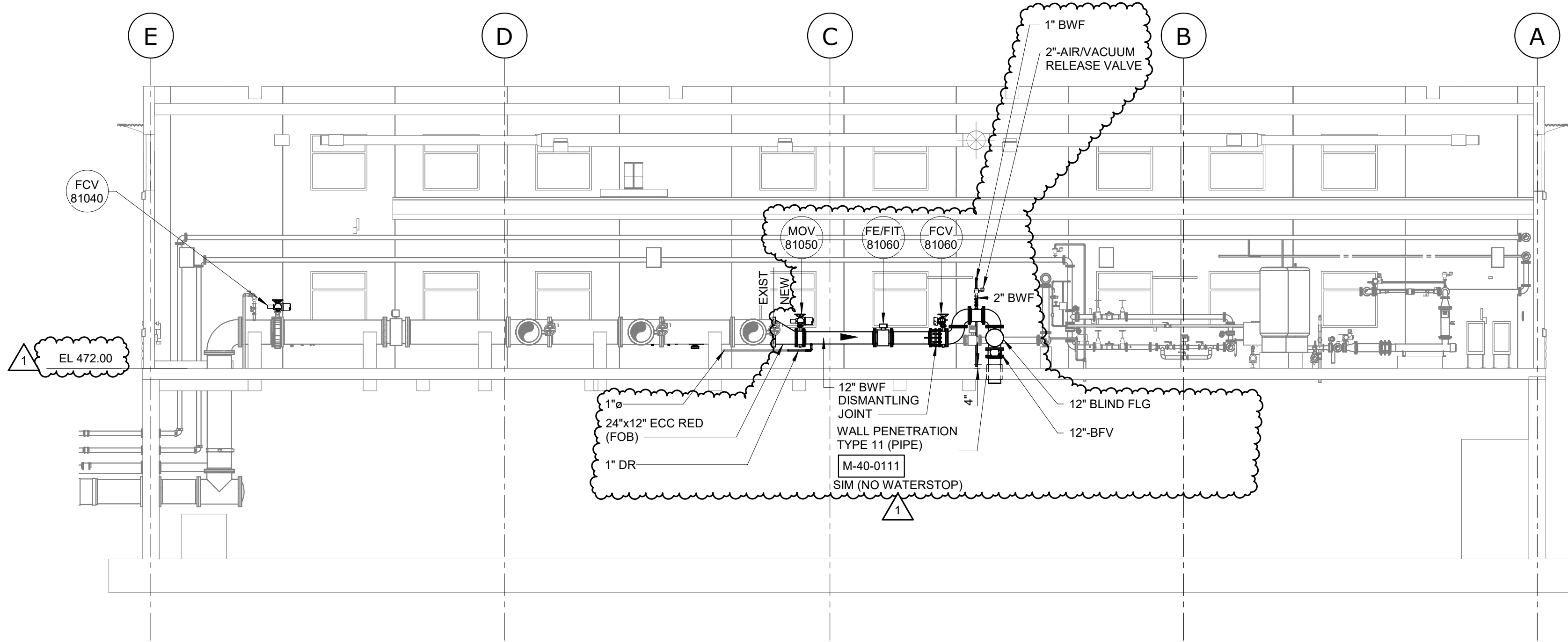
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

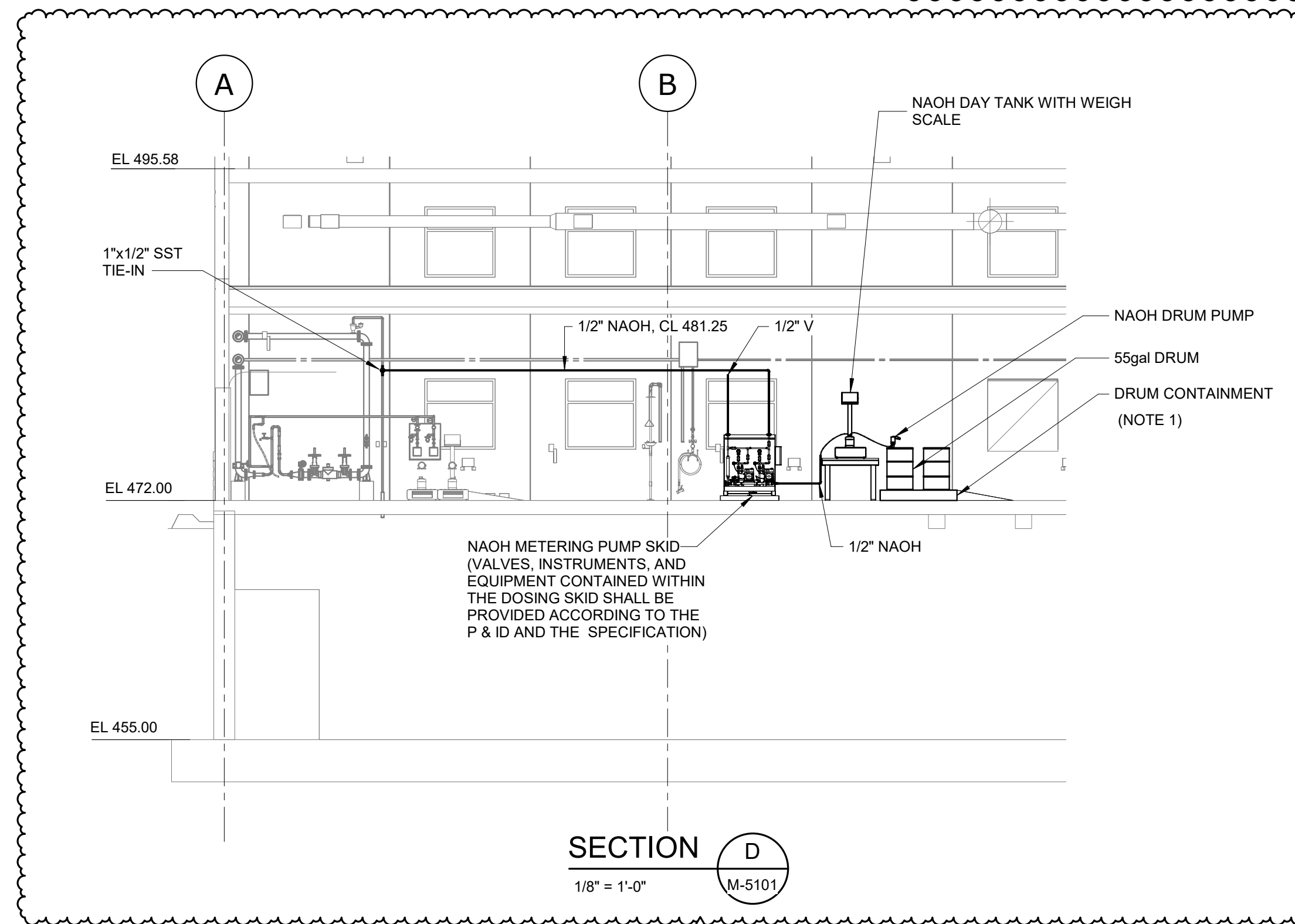
MISCELLANEOUS STRUCTURES
 MECHANICAL
 BACKWASH FACILITY - PLANS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-5101

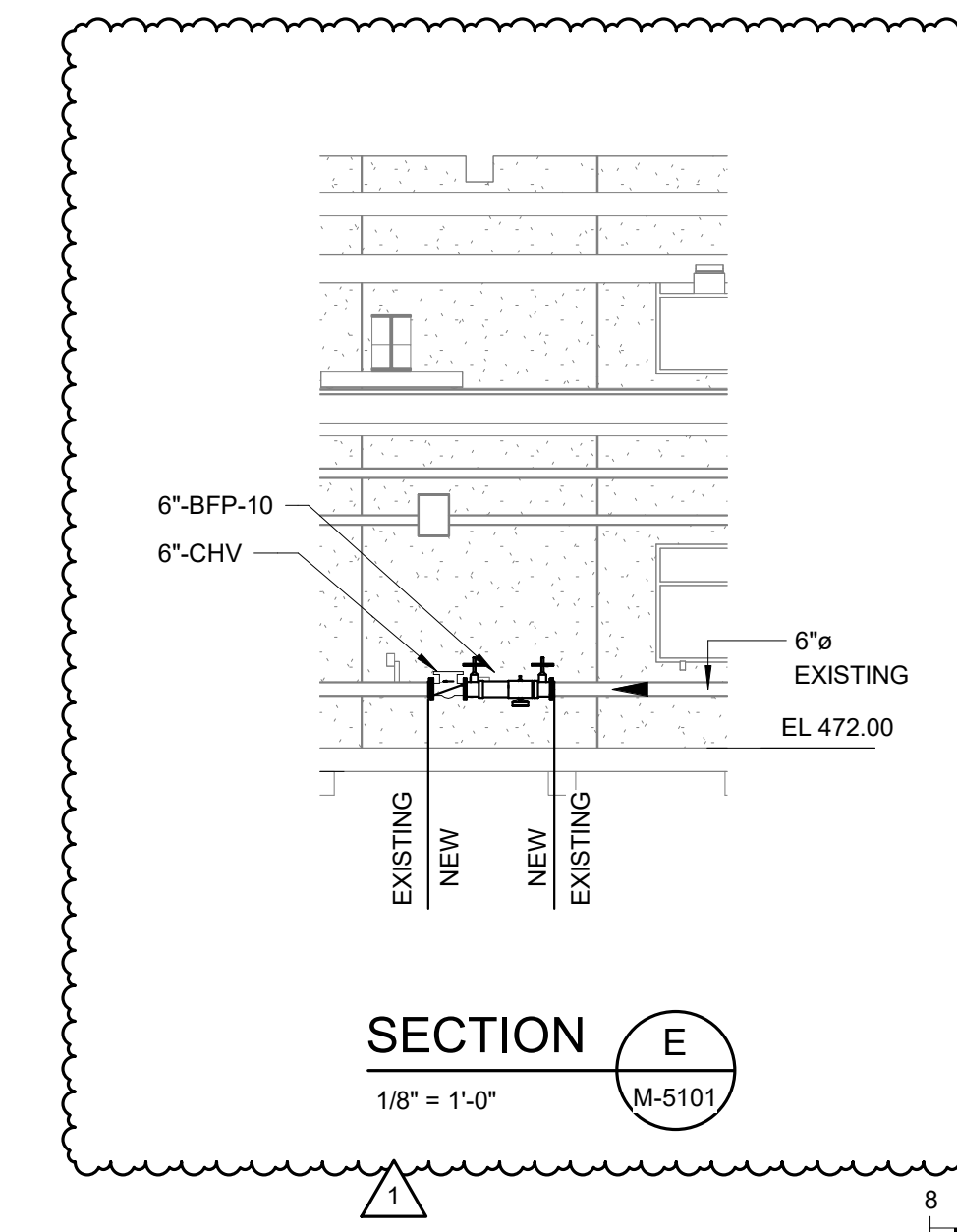




SECTION A
1/8" = 1'-0" M-5101



SECTION B
1/8" = 1'-0" M-5101



SECTION E
1/8" = 1'-0" M-5101

1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk Doc/09098-004 West Parish Filter WTR90398-004-BWF-M.rvt 3/28/2024 8:27:33 AM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	E. SEGAL
DRAWN BY:	B. HORNER
CHECKED BY:	M. MORIN



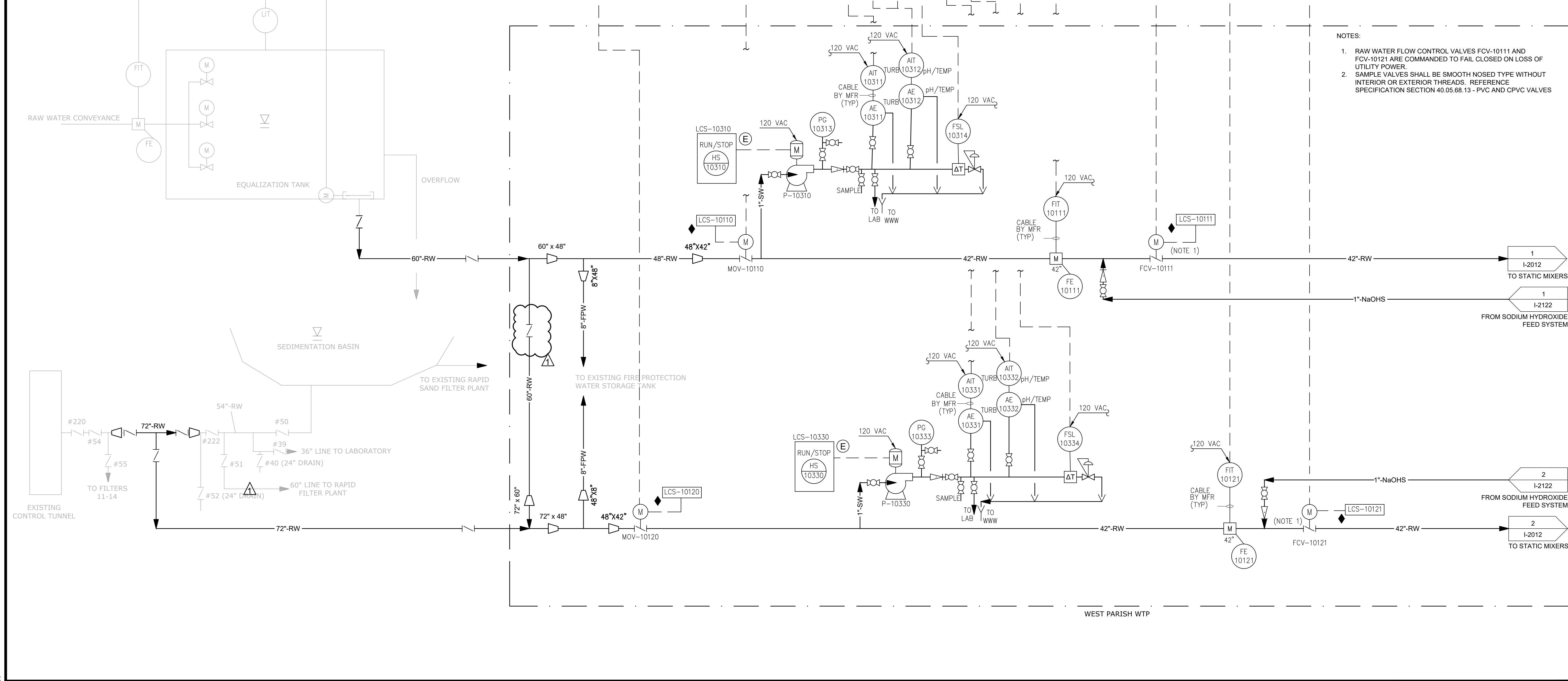
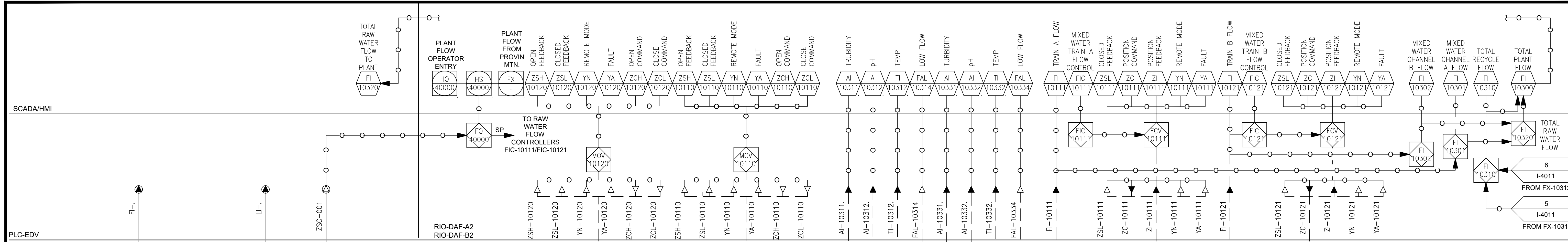
03/28/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

MISCELLANEOUS STRUCTURES
MECHANICAL
BACKWASH FACILITY - SECTIONS
M-5102

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	M-5102



- NOTES:
1. RAW WATER FLOW CONTROL VALVES FCV-10111 AND FCV-10121 ARE COMMANDED TO FAIL CLOSED ON LOSS OF UTILITY POWER.
 2. SAMPLE VALVES SHALL BE SMOOTH NOSED TYPE WITHOUT INTERIOR OR EXTERIOR THREADS. REFERENCE SPECIFICATION SECTION 40.05.68.13 - PVC AND CPVC VALVES

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

COMMONWEALTH OF MASSACHUSETTS
 GEORGE MARKOU
 ELECTRICAL
 No. 50726
 REG/ST/EX/ED
 PROFESSIONAL ENGINEER
 03/25/2024

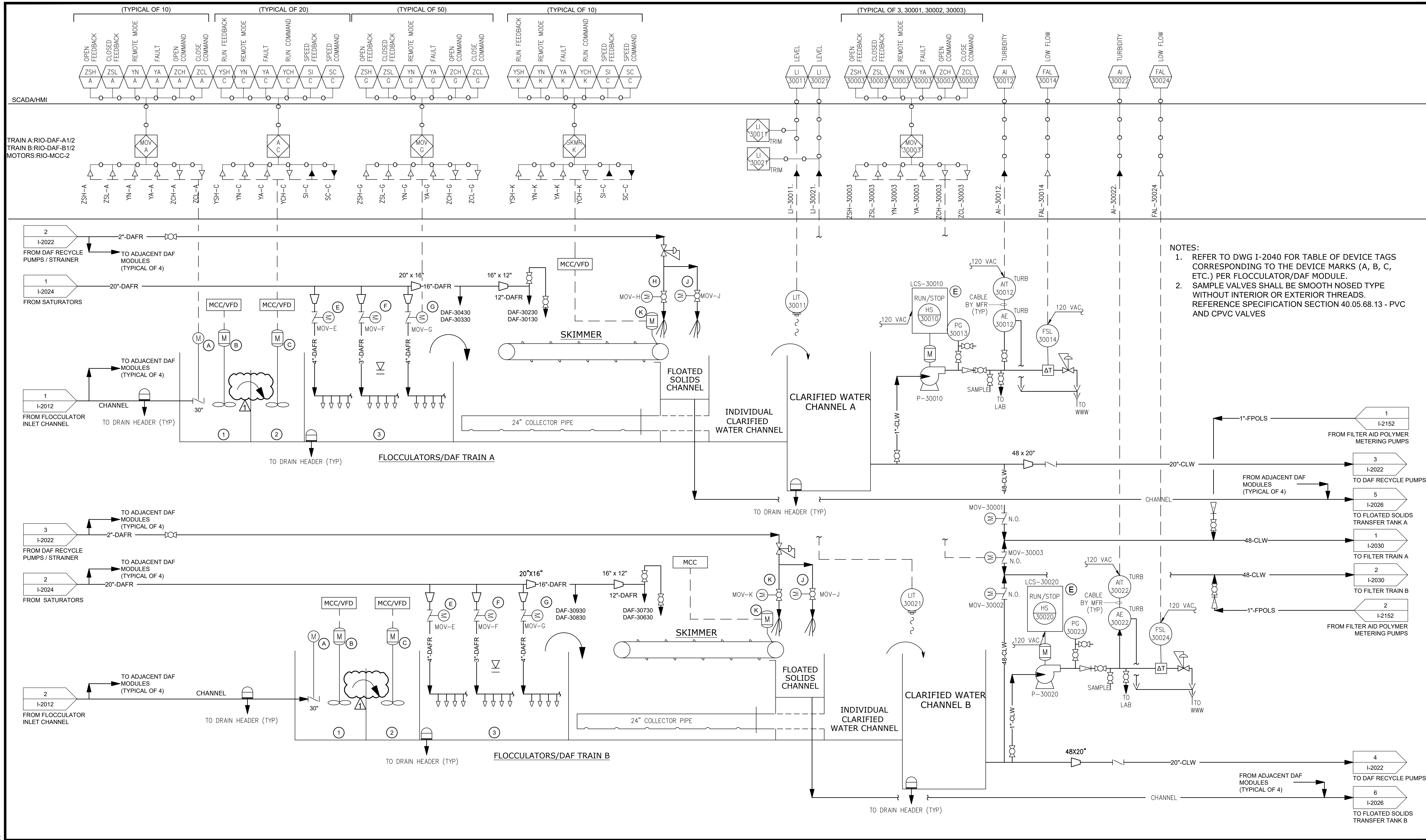
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
 INSTRUMENTATION
 RAW WATER

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2010

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT_3D\COLLABORATION\CACHE\90398\INSTPID DWG\I-2010 RAW WATER.dwg Save date: 3/22/2024 8:46 AM
 PLOT DATE: 3/22/2024 8:47 AM BY: FBEATY



- NOTES:
1. REFER TO DWG I-2040 FOR TABLE OF DEVICE TAGS CORRESPONDING TO THE DEVICE MARKS (A, B, C, ETC.) PER FLOCCULATOR/DAF MODULE.
 2. SAMPLE VALVES SHALL BE SMOOTH NOSED TYPE WITHOUT INTERIOR OR EXTERIOR THREADS. REFERENCE SPECIFICATION SECTION 40.05.68.13 - PVC AND CPVC VALVES

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 PLOT DATE: 3/22/2024 9:13 AM BY: FBEATY

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

GEORGE MARKOU
 ELECTRICAL
 No. 50726
 REG/ST/EXERCISED
 PROFESSIONAL ENGINEER

 03/25/2024

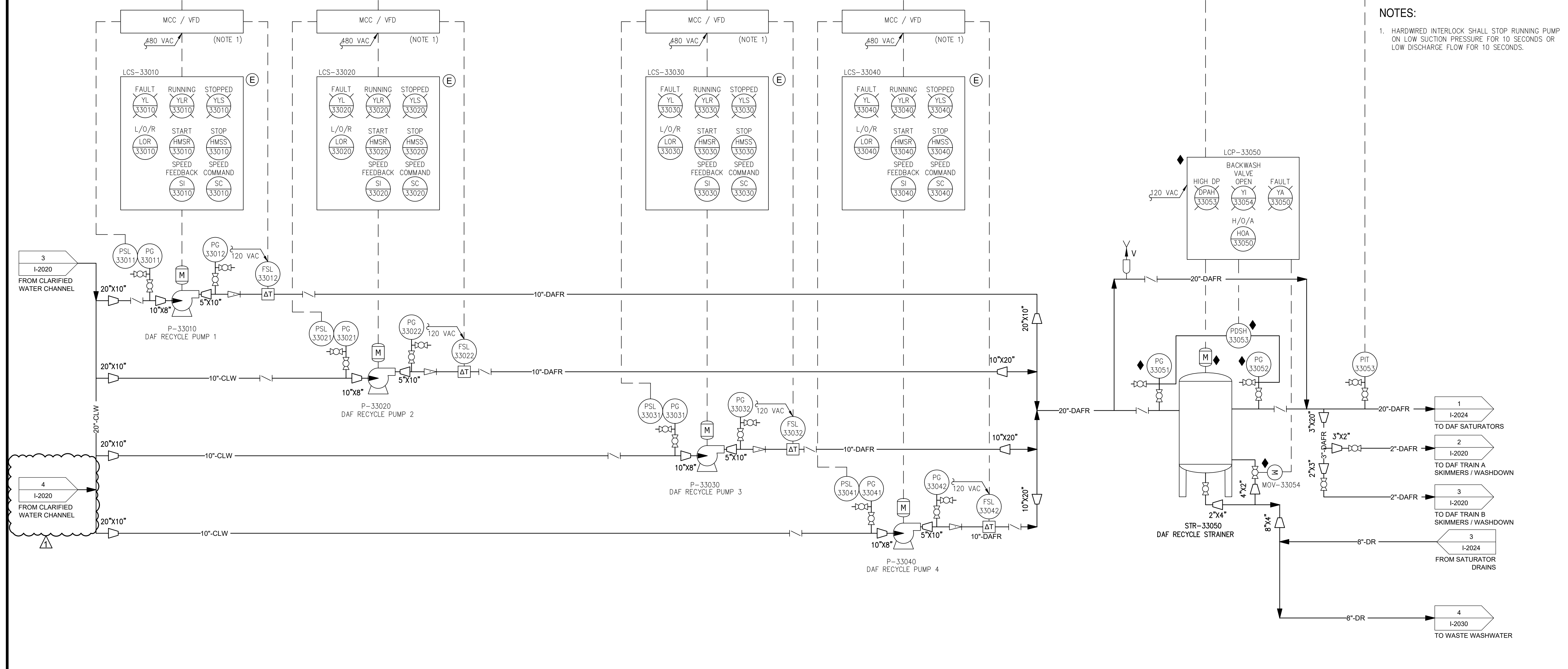
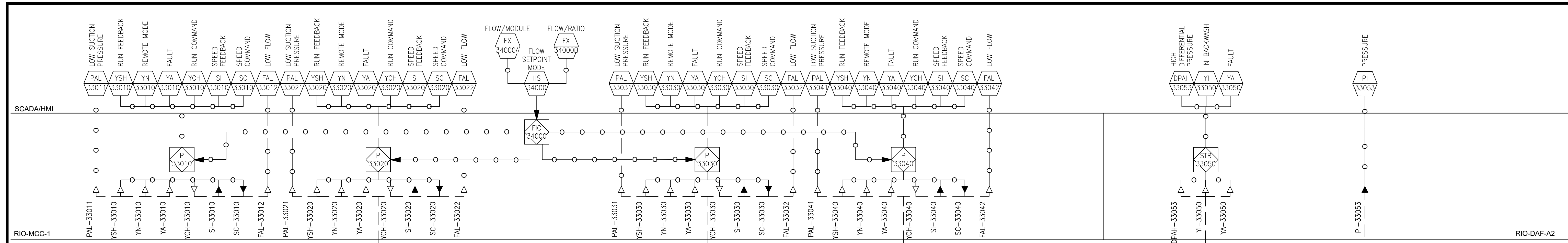
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
INSTRUMENTATION
DAF MODULE

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2020

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NOTES:
 1. HARDWIRED INTERLOCK SHALL STOP RUNNING PUMP ON LOW SUCTION PRESSURE FOR 10 SECONDS OR LOW DISCHARGE FLOW FOR 10 SECONDS.

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"



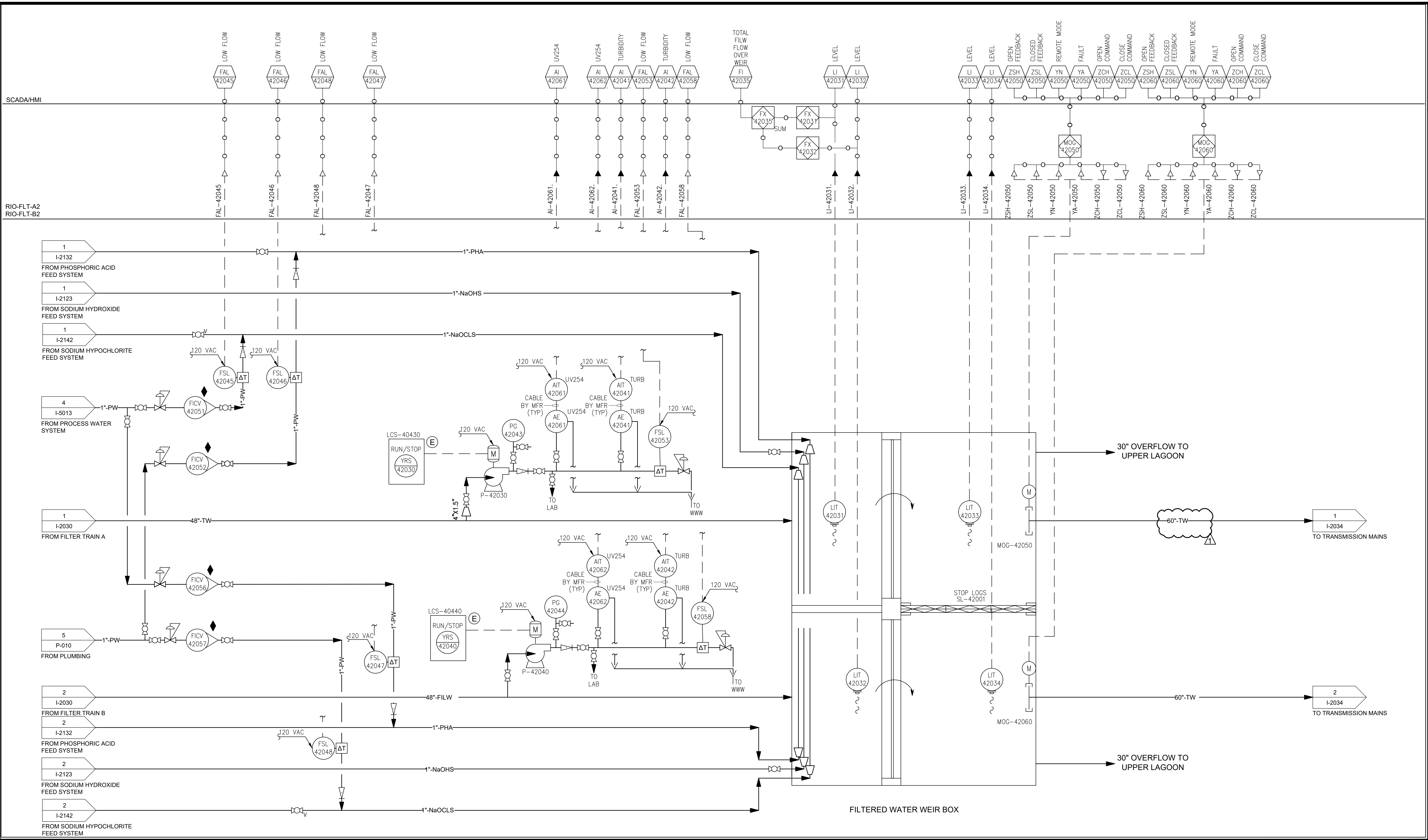
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
 INSTRUMENTATION
 DAF RECYCLE PUMPS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2022

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\COLLABORATION\CACHE\90398\INST\PID DWG\I-2032 FILTERED WATER DISCHARGE Saved by FBEATY Save date: 3/22/2024 8:50 AM
 PLOT DATE: 3/22/2024 8:51 AM BY: FBEATY



PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

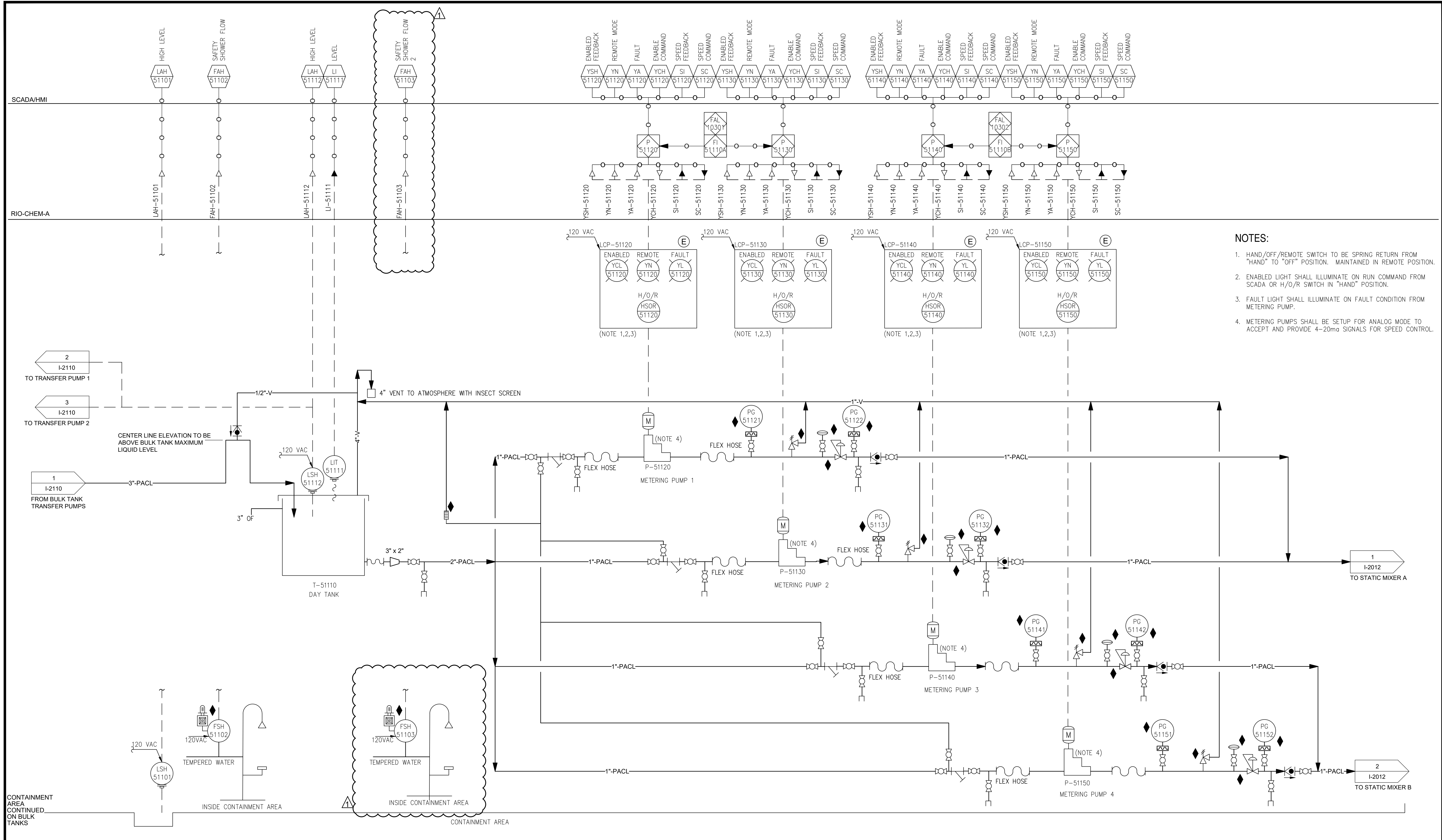
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 0 1/2" 1"

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
 INSTRUMENTATION
 FILTERED WATER DISCHARGE
I-2032

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2032



- NOTES:**
- HAND/OFF/REMOTE SWITCH TO BE SPRING RETURN FROM "HAND" TO "OFF" POSITION. MAINTAINED IN REMOTE POSITION.
 - ENABLED LIGHT SHALL ILLUMINATE ON RUN COMMAND FROM SCADA OR H/O/R SWITCH IN "HAND" POSITION.
 - FAULT LIGHT SHALL ILLUMINATE ON FAULT CONDITION FROM METERING PUMP.
 - METERING PUMPS SHALL BE SETUP FOR ANALOG MODE TO ACCEPT AND PROVIDE 4-20ma SIGNALS FOR SPEED CONTROL.

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\COLORLABORATORY\OCAD PLANT 3D\COLLABORATORY\INSTPID DWG\I-2112 PACL FEED SYSTEM Saved by FBEATY Save date: 3/19/2024 3:49 PM
 PLOT DATE: 3/19/2024 3:54 PM BY: FBEATY

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	E. CURTIS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 0 1/2" 1"

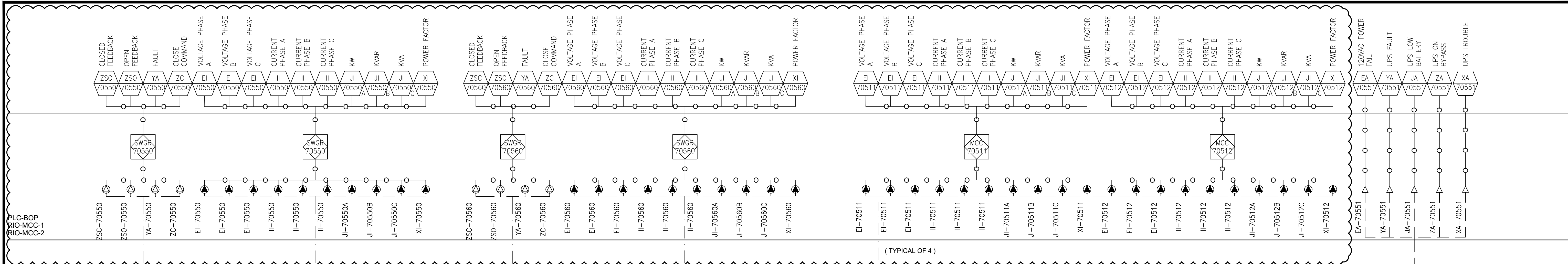


Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

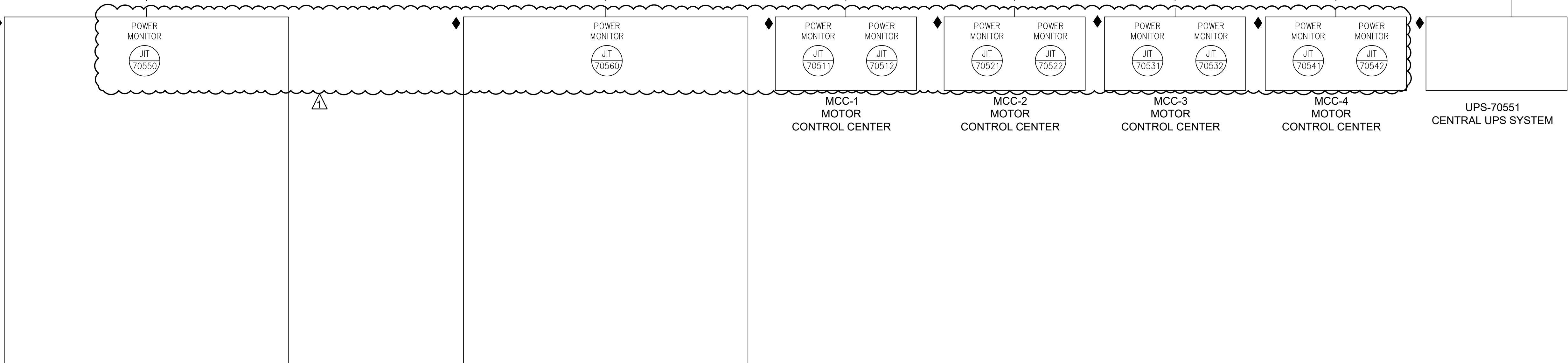
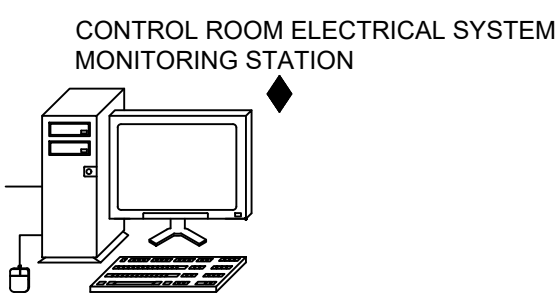
PROCESS & INSTRUMENTATION DIAGRAM
 INSTRUMENTATION
 PACL FEED SYSTEM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2112



1
I-2210
TO/FROM ELECTRICAL GENERATORS

ELECTRICAL SYSTEM MONITORING



SWGR-70550
SWITCHGEAR NO. 1

SWGR-70560
SWITCHGEAR NO. 2

MCC-1
MOTOR CONTROL CENTER

MCC-2
MOTOR CONTROL CENTER

MCC-3
MOTOR CONTROL CENTER

MCC-4
MOTOR CONTROL CENTER

UPS-70551
CENTRAL UPS SYSTEM

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
INSTRUMENTATION
ELECTRICAL SWITCHGEAR

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-2211

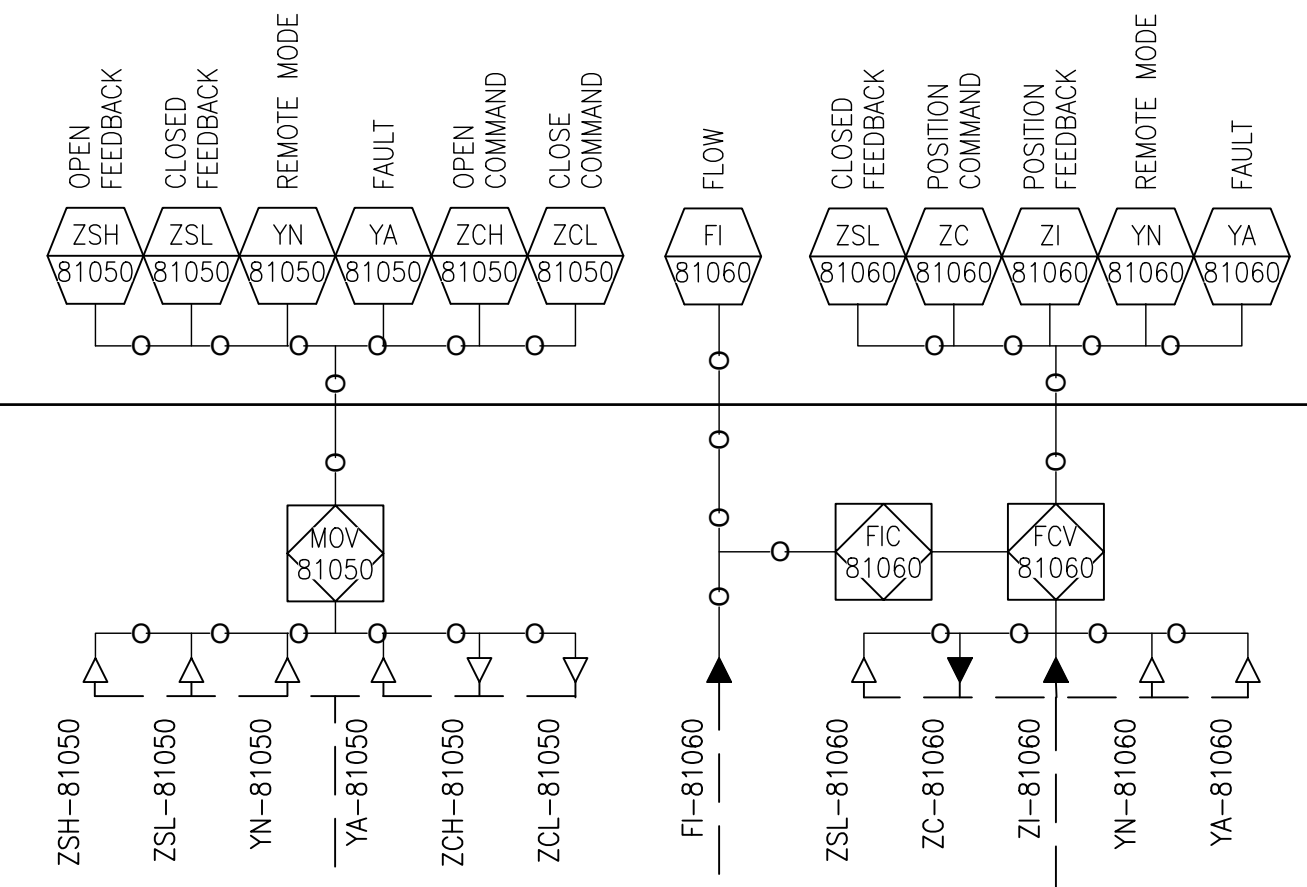
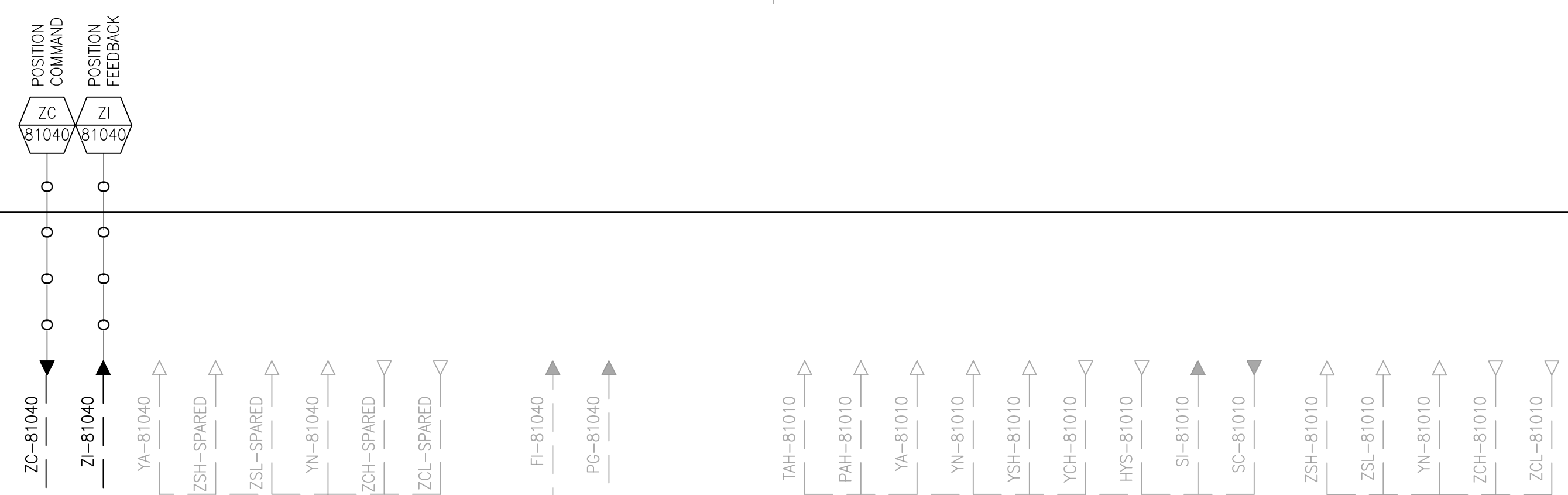
(TYP. OF 3)

SCADA/HMI

PLC-CLEARWELL-CP

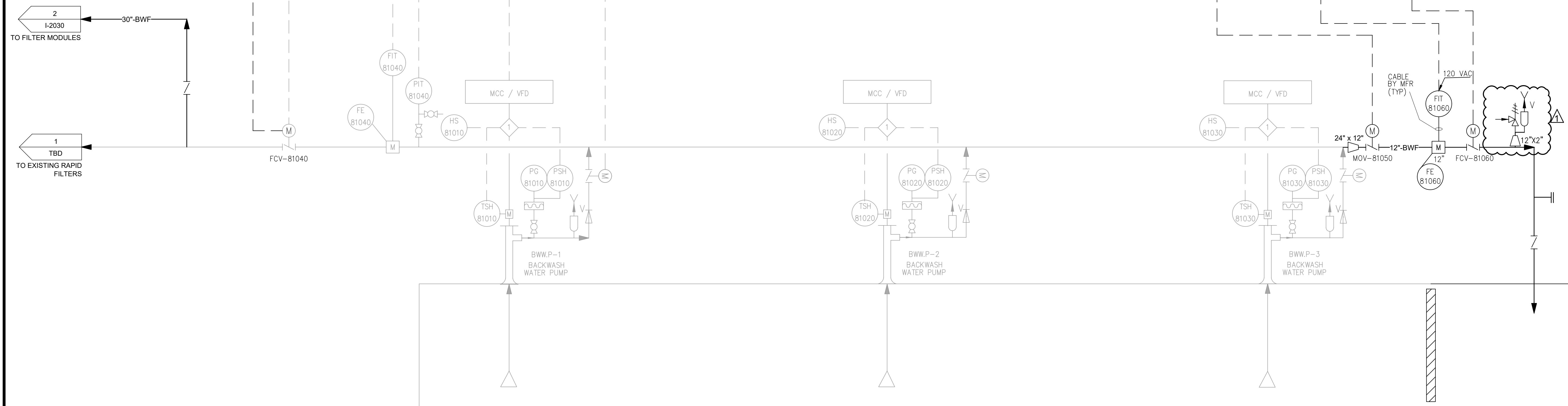
2
I-2030
TO FILTER MODULES

1
TBD
TO EXISTING RAPID FILTERS



ELECTRICAL INTERLOCKS:

- PUMP STOPS ON HIGH PRESSURE OR TEMPERATURE AND REQUIRES FAULT RESET TO RESTART. LOCKING E-STOP WILL STOP OPERATION WHEN DEPRESSED AND MUST BE PULLED OUT TO THE NORMAL POSITION TO RESTART THE PUMP.



PUMP WETWELL SECTION OF EXISTING BACKWASH TANK (CLEARWELL)
REFER TO DRAWING I-5010 FOR EXISTING BACKWASH TANK (CLEARWELL)

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT_3D\COLLABORATION\CA\CHE\90398\INST\PID DWG\I-5011 BACKWASH PUMPING SYSTEM.dwg Save date: 3/21/2024 10:14 AM PLOT DATE: 3/21/2024 10:20 AM BY: FBEATY

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

COMMONWEALTH OF MASSACHUSETTS
 GEORGE MARKOU
 ELECTRICAL
 No. 50726
 REGISTERED
 PROFESSIONAL ENGINEER
George Markou
 03/25/2024

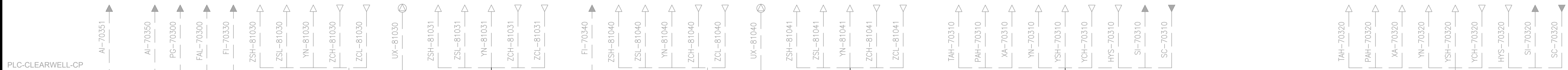
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
 INSTRUMENTATION
 BACKWASH PUMPING SYSTEM

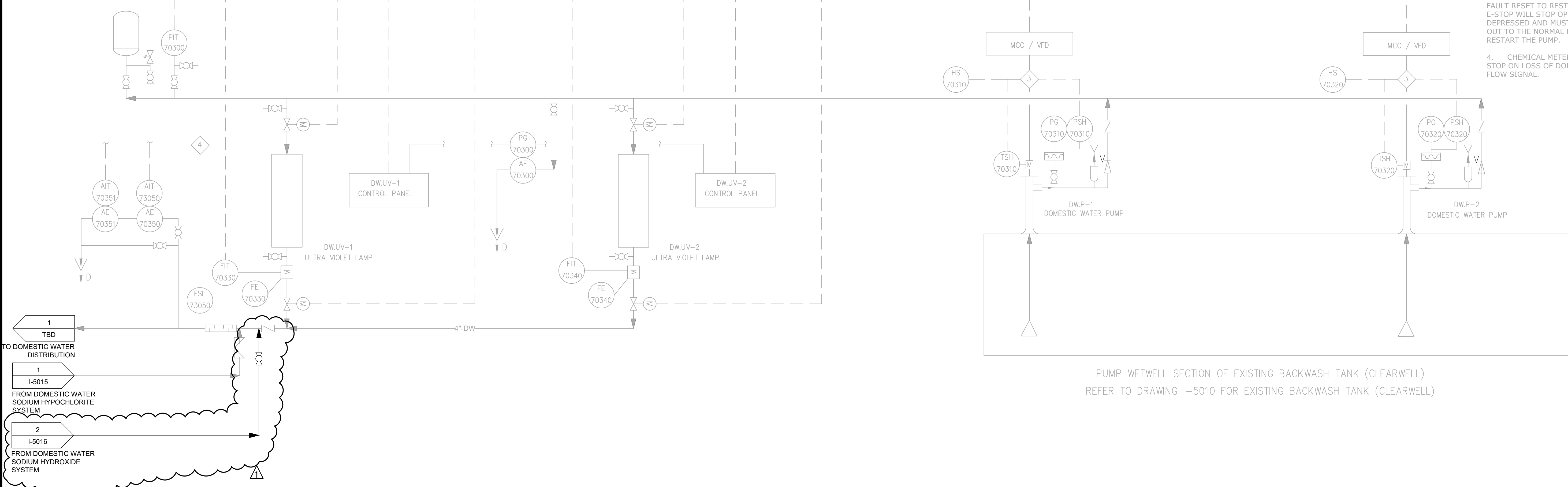
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-5011

SCADA/HMI



ELECTRICAL INTERLOCKS:

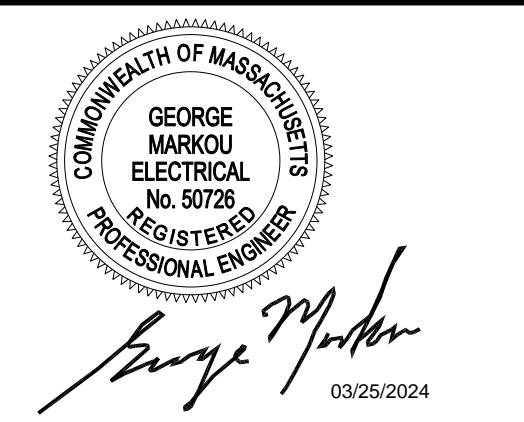
- PUMP STOPS ON HIGH PRESSURE OR TEMPERATURE AND REQUIRES FAULT RESET TO RESTART. LOCKING E-STOP WILL STOP OPERATION WHEN DEPRESSED AND MUST BE PULLED OUT TO THE NORMAL POSITION TO RESTART THE PUMP.
- CHEMICAL METERING PUMPS STOP ON LOSS OF DOMESTIC WATER FLOW SIGNAL.



PUMP WETWELL SECTION OF EXISTING BACKWASH TANK (CLEARWELL)
REFER TO DRAWING I-5010 FOR EXISTING BACKWASH TANK (CLEARWELL)

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT_3D\COLLABORATION\CACHE\90398\INST\PID DW\G1-5014_DOMESTIC WATER PUMPING SYSTEM.dwg Saved by: FBEATY Save date: 3/10/2024 3:58 PM PLOT DATE: 3/10/2024 3:58 PM BY: FBEATY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	E. CURTIS
1	ADDENDUM NO. 3 MAR 24 MWM
0	ISSUED FOR BIDS FEB 24 MWM
REV	ISSUED FOR DATE BY



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

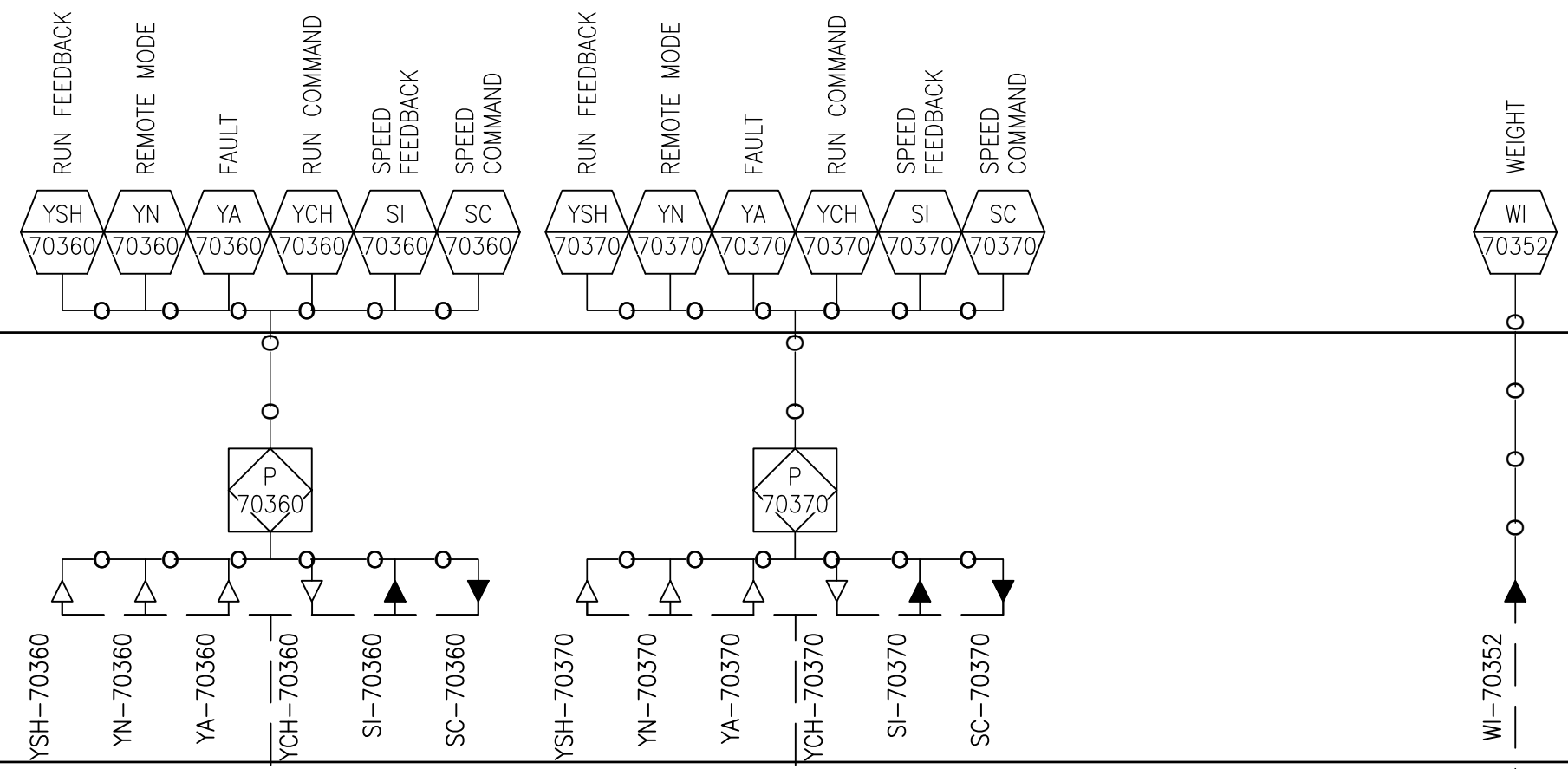
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
INSTRUMENTATION
DOMESTIC WATER PUMPING SYSTEM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-5014

SCADA/HMI

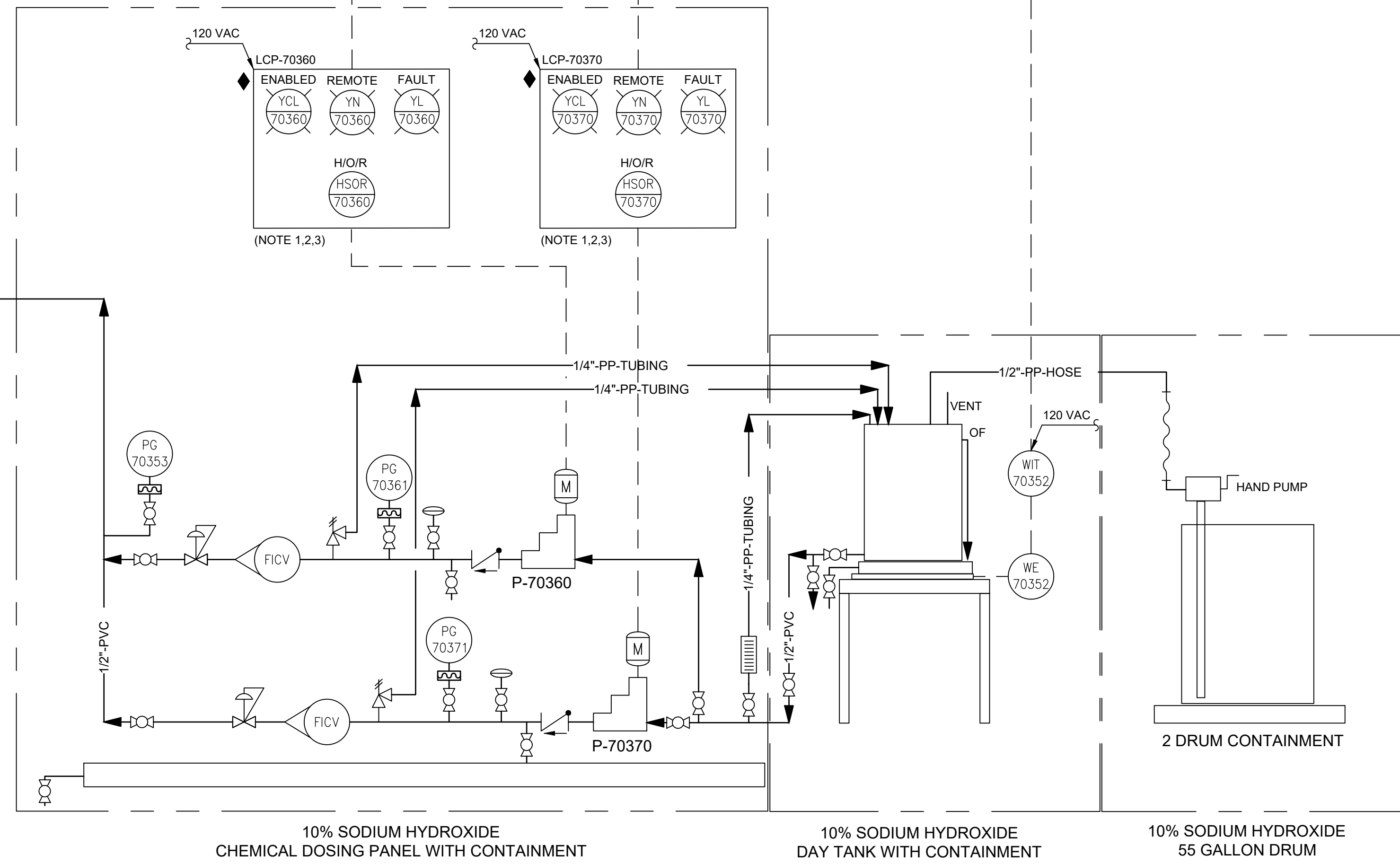
PLC-CLEARWELL-CP



NOTES:

1. HAND/OFF/REMOTE SWITCH TO BE SPRING RETURN FROM "HAND" TO "OFF" POSITION. MAINTAINED IN REMOTE POSITION.
2. ENABLED LIGHT SHALL ILLUMINATE ON RUN COMMAND FROM SCADA OR H/O/R SWITCH IN "HAND" POSITION.
3. FAULT LIGHT SHALL ILLUMINATE ON FAULT CONDITION FROM METERING PUMP.
4. METERING PUMPS SHALL BE SETUP FOR ANALOG MODE TO ACCEPT AND PROVIDE 4-20ma SIGNALS FOR SPEED CONTROL.

2
I-5014
TO DOMESTIC WATER DISTRIBUTION



10% SODIUM HYDROXIDE
CHEMICAL DOSING PANEL WITH CONTAINMENT

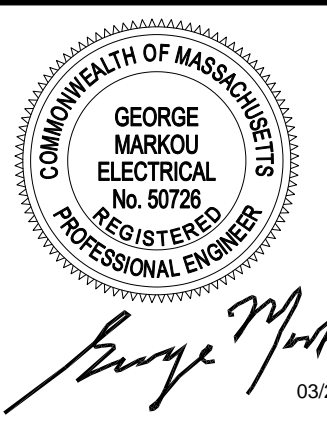
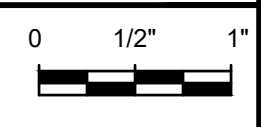
10% SODIUM HYDROXIDE
DAY TANK WITH CONTAINMENT

10% SODIUM HYDROXIDE
55 GALLON DRUM

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	E. CURTIS		
0	ADDENDUM NO. 3	MAR 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE



George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

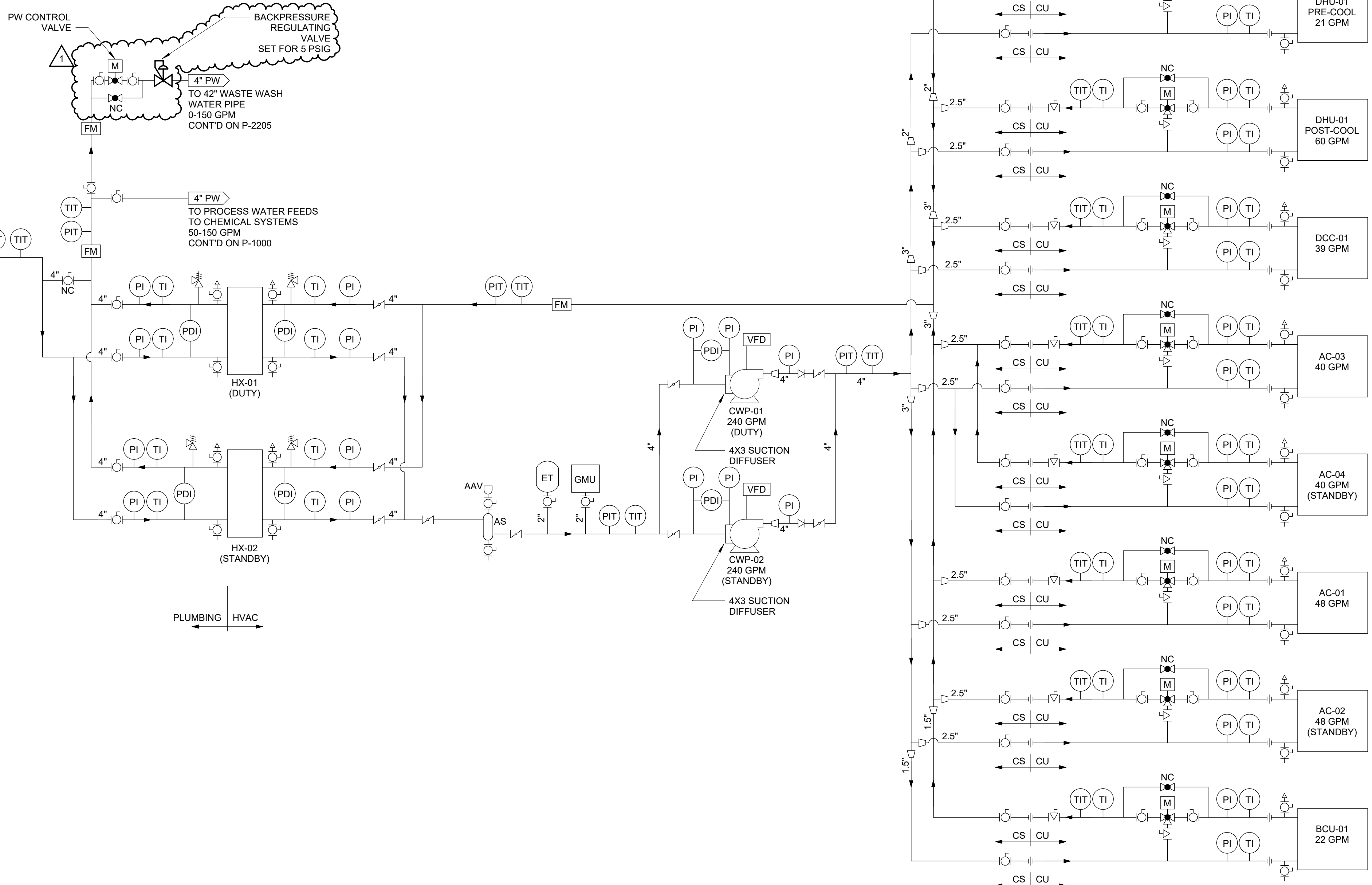
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

PROCESS & INSTRUMENTATION DIAGRAM
INSTRUMENTATION
DOMESTIC WATER CAUSTIC SYSTEM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	I-5016

COOLING WATER SYSTEM INPUT / OUTPUT LIST							
SIGNAL	HARD WIRED SIGNALS				BACNET	DISPLAY ON SYSTEM OVERVIEW SCREEN	REMARKS
	DI	DO	AI	AO			
PW ENTERING WATER TEMPERATURE			X			X	
PW ENTERING WATER PRESSURE			X			X	
PW LEAVING WATER TEMPERATURE			X			X	
PW LEAVING WATER PRESSURE			X			X	
PW FLOW RATE			X			X	
PW TO WASTE WASH WATER FLOW RATE			X			X	
PW CONTROL VALVE POSITION COMMAND				X		X	
PW CONTROL VALVE POSITION FEEDBACK			X			X	
CWP-1 VFD SPEED COMMAND				X		X	
CWP-1 VFD ENABLE		X					
CWP-1 VFD SPEED FEEDBACK					X	X	
CWP-1 VFD READY					X	X	
CWP-1 VFD FAULT					X	X	
CWP-2 VFD SPEED COMMAND				X		X	
CWP-2 VFD ENABLE		X					
CWP-2 VFD SPEED FEEDBACK					X	X	
CWP-2 VFD READY					X	X	
CWP-2 VFD FAULT					X	X	
CW PUMP SUCTION HEADER TEMPERATURE			X			X	
CW PUMP SUCTION HEADER PRESSURE			X			X	
CW SYSTEM SUPPLY TEMPERATURE			X			X	
CW SYSTEM SUPPLY PRESSURE			X			X	
CW SYSTEM RETURN TEMPERATURE			X			X	
CW SYSTEM RETURN PRESSURE			X			X	
CW SYSTEM FLOW RATE			X			X	
GLYCOL MAKEUP UNIT ALARM	X					X	
DHU-01 PRE-COOLING CONTROL VALVE POSITION COMMAND						X	
DHU-01 PRE-COOLING CONTROL VALVE POSITION FEEDBACK						X	
DHU-01 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
DHU-01 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
DC-01 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
DC-01 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
AC-01 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
AC-01 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
AC-02 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
AC-02 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
AC-03 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
AC-03 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
AC-04 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
AC-04 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
BCU-04 POST-COOLING CONTROL VALVE POSITION COMMAND						X	
BCU-04 POST-COOLING CONTROL VALVE POSITION FEEDBACK						X	
DHU-01 PRE-COOLING RETURN TEMPERATURE			X			X	
DHU-01 POST-COOLING RETURN TEMPERATURE			X			X	
DC-01 POST-COOLING RETURN TEMPERATURE			X			X	
AC-01 POST-COOLING RETURN TEMPERATURE			X			X	
AC-02 POST-COOLING RETURN TEMPERATURE			X			X	
AC-03 POST-COOLING RETURN TEMPERATURE			X			X	
AC-04 POST-COOLING RETURN TEMPERATURE			X			X	
BCU-04 POST-COOLING RETURN TEMPERATURE			X			X	

THE SIGNALS ARE SHOWN ON THE RESPECTIVE DDC IO LIST. REPEATED HERE TO INDICATE THAT SIGNAL SHALL BE SHOWN ON COOLING WATER SYSTEM OVERVIEW SCREEN



Autodesk Docs/090398-004_West Parish Filter WTF/090398-004_GENL-H1.v1 3/22/2024 5:26:32 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	D. WITTE
CHECKED BY:	S. BARRESE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE



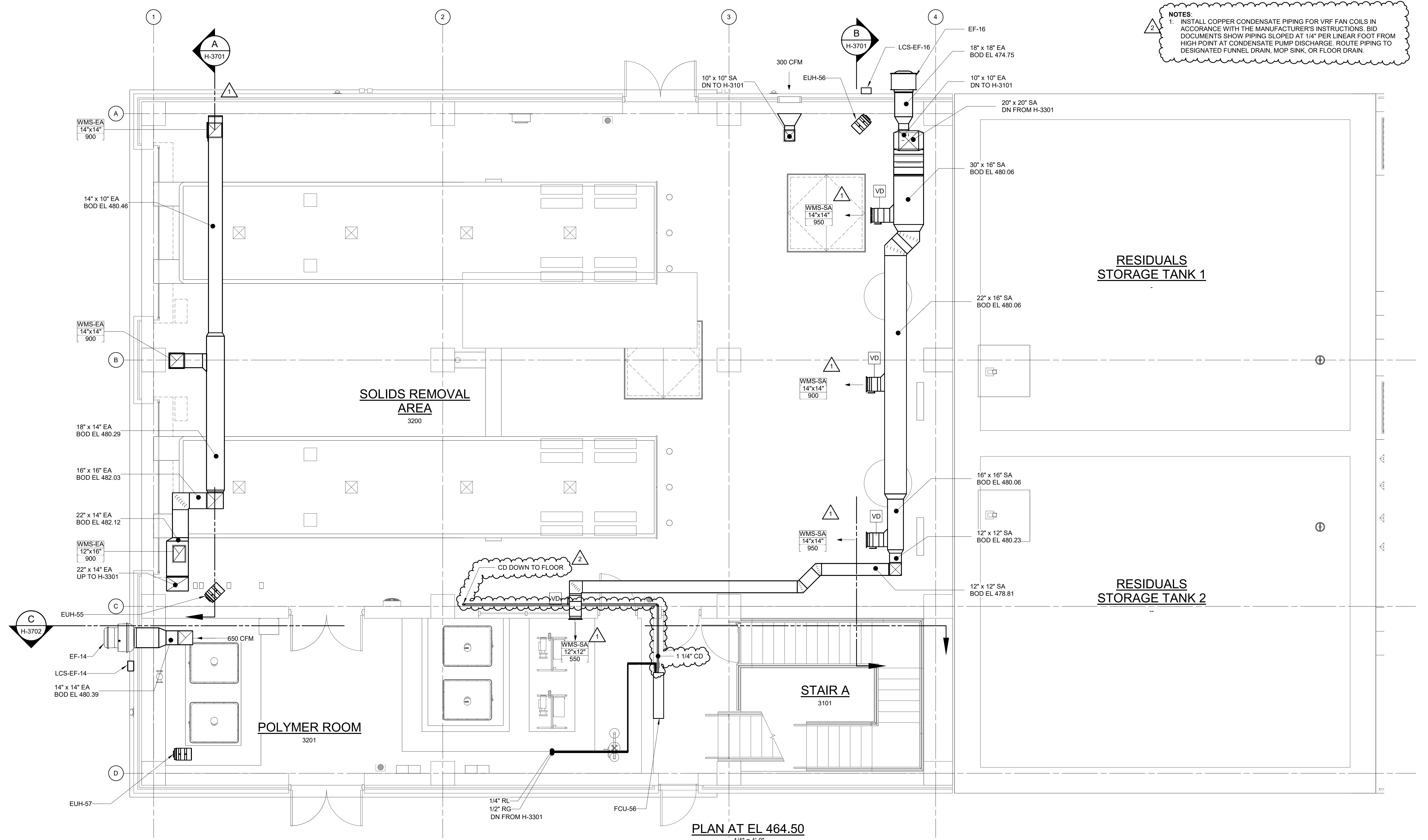
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

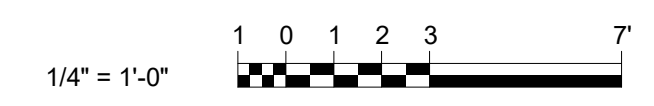
FILED SUB-BID
WATER TREATMENT BUILDING HVAC
COOLING WATER CONTROL DIAGRAM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	H-021

NOTES:
 1. INSTALL COPPER CONDENSATE PIPING FOR VRF FAN COILS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. BID DOCUMENTS SHOW PIPING SLOPED AT 1/4" PER LINEAR FOOT FROM HIGH POINT AT CONDENSATE PUMP DISCHARGE. ROUTE PIPING TO DESIGNATED FUNNEL DRAIN, MOP SINK, OR FLOOR DRAIN.



PLAN AT EL 464.50
 1/4" = 1'-0"



Autodesk Docs://06098_004_West Parish Filter WTT/90398-004-DWB-H-14
 3/21/2024 10:29:51 PM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	D. WITTE		
DRAWN BY:	R. CHIN		
CHECKED BY:	S. BARRESE		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE			
REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



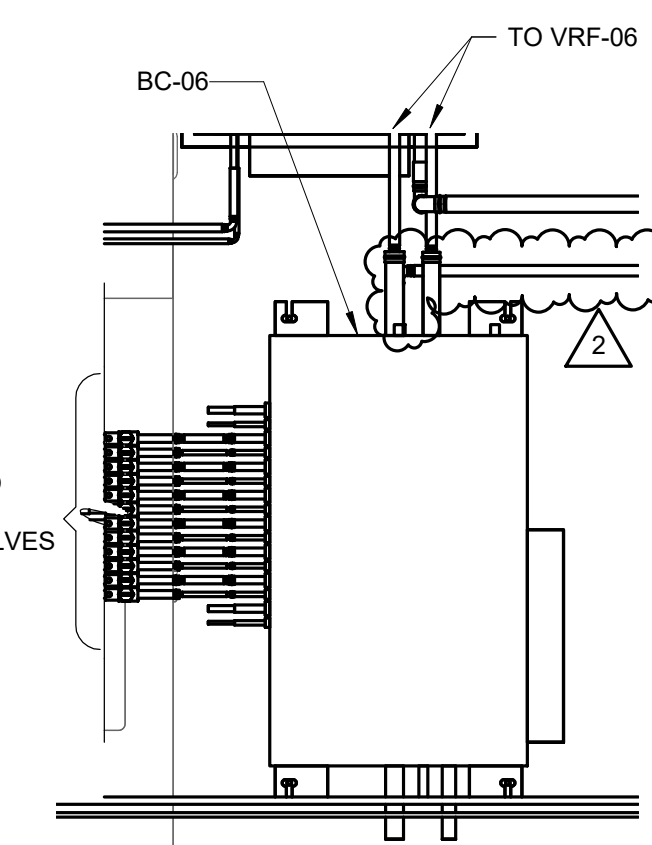
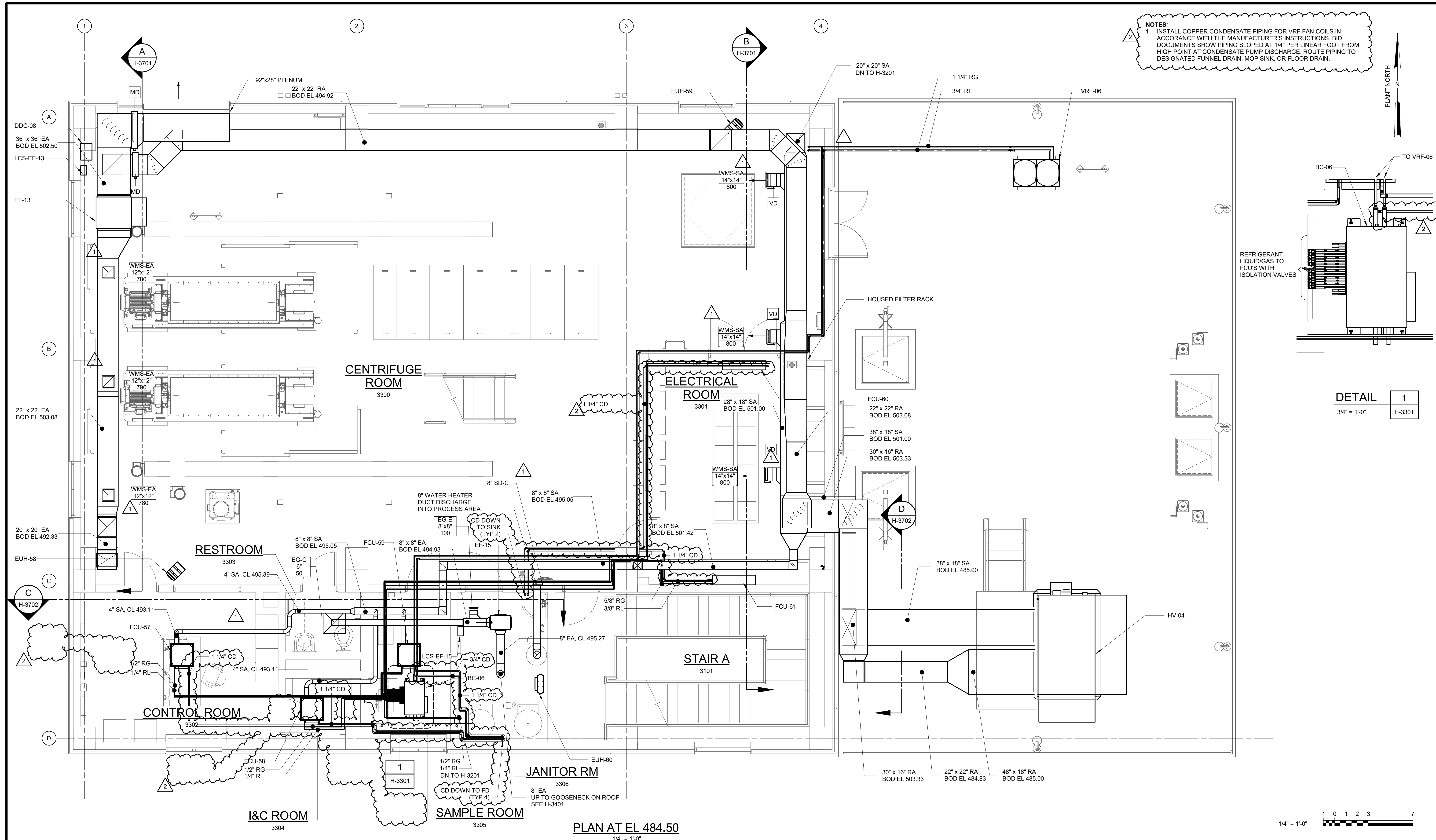
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING HVAC
PLAN AT EL 464.50

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER:
H-3201

NOTES:
 1. INSTALL COPPER CONDENSATE PIPING FOR VRF FAN COILS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. BID DOCUMENTS SHOW PIPING SLOPED AT 1/4" PER LINEAR FOOT FROM HIGH POINT AT CONDENSATE PUMP DISCHARGE. ROUTE PIPING TO DESIGNATED FUNNEL DRAIN, MOP SINK, OR FLOOR DRAIN.



DETAIL 1
 3/4" = 1'-0"
 H-3301

PLAN AT EL 484.50
 1/4" = 1'-0"



Autodesk Docs/060908_004_West Parish Filter WTR/90398-004-DWB-H-14
 3/21/2024 11:17:26 AM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	D. WITTE		
DRAWN BY:	R. CHIN		
CHECKED BY:	S. BARRESE		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

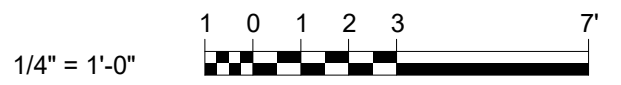
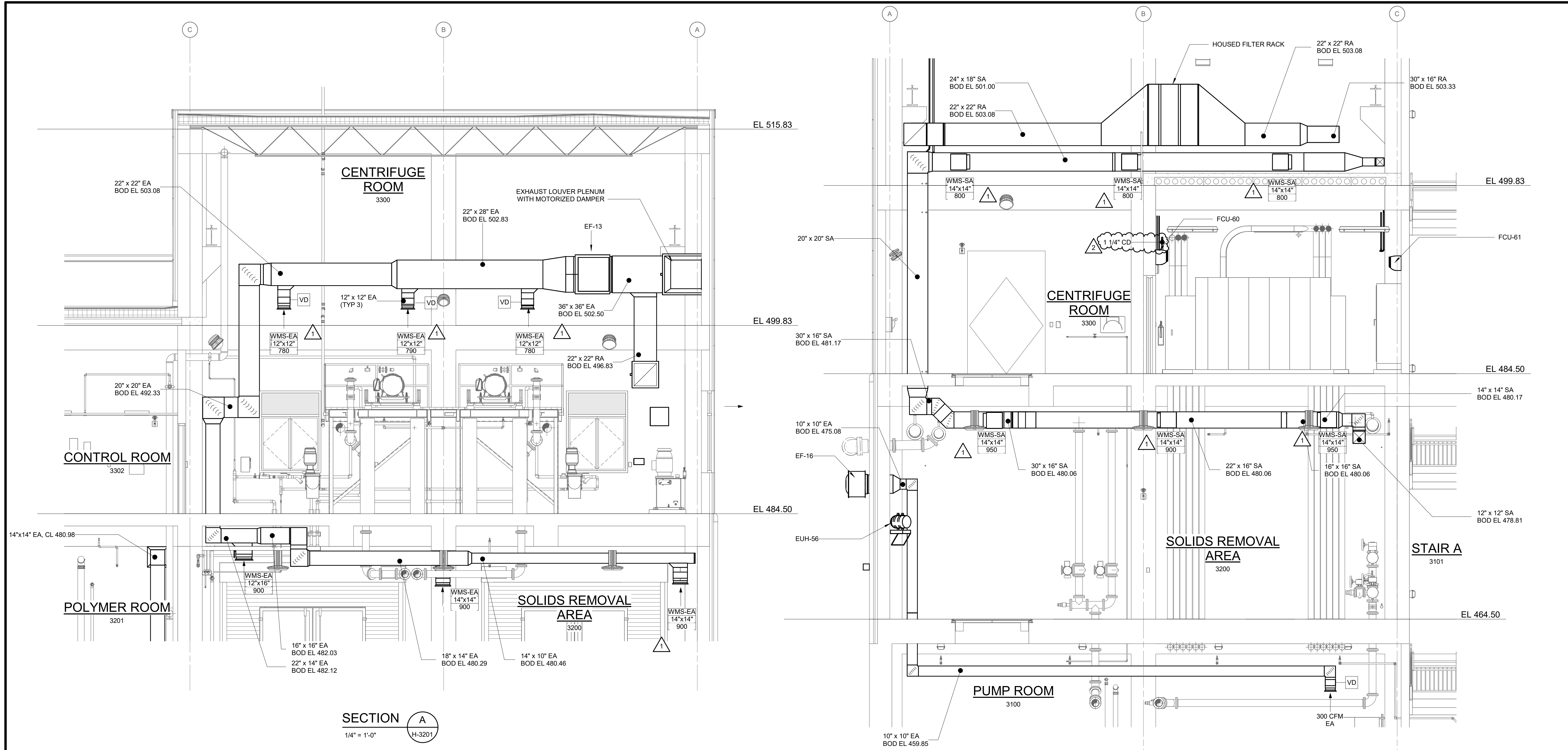


Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING HVAC
PLAN AT EL 484.50

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER:
H-3301



Autodesk Docs/06098_004_ West Parish Filter WTT/90398-004-DWB-H-1
 3/21/2024 10:46:15 PM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	R. CHIN
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

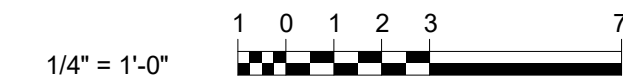
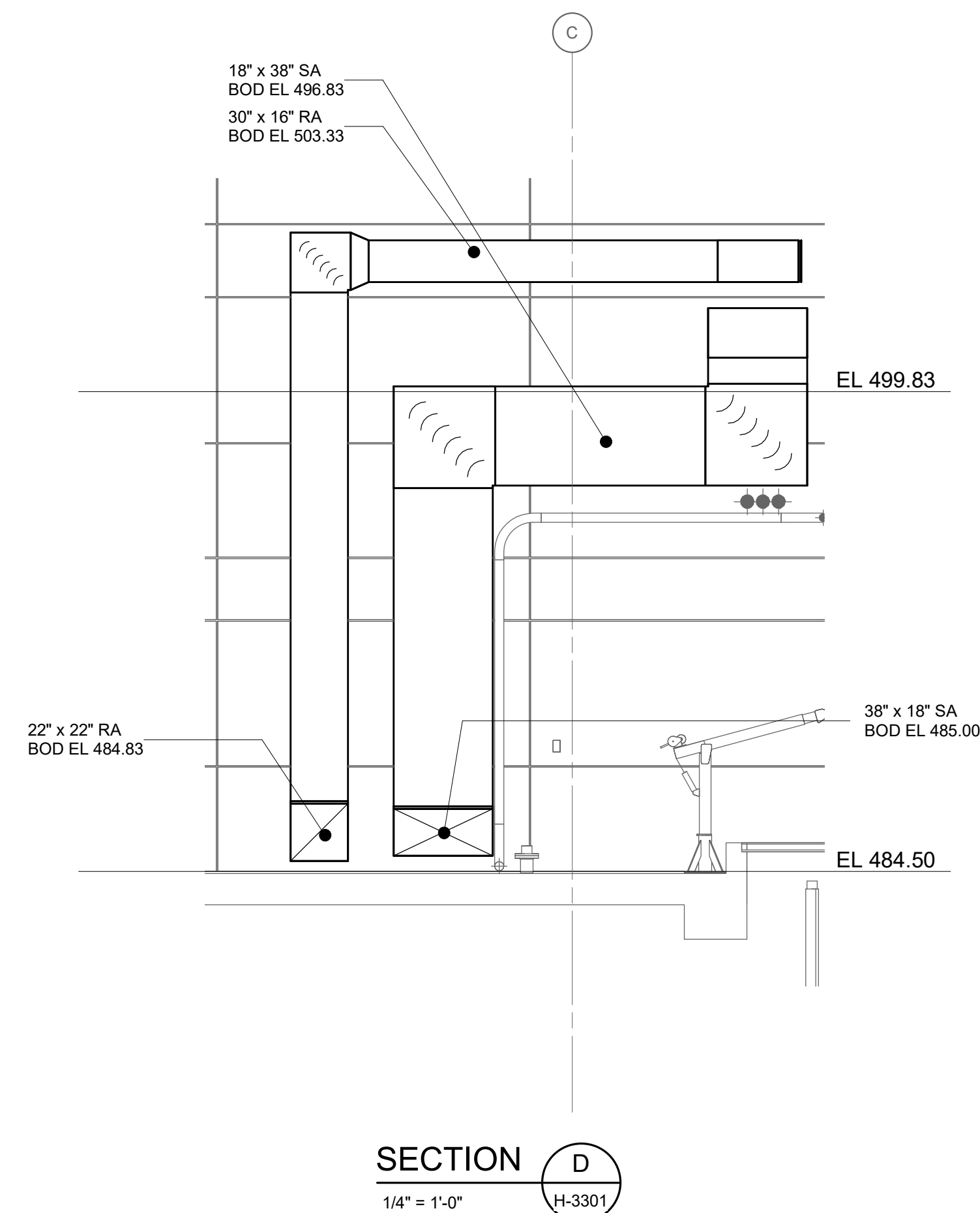
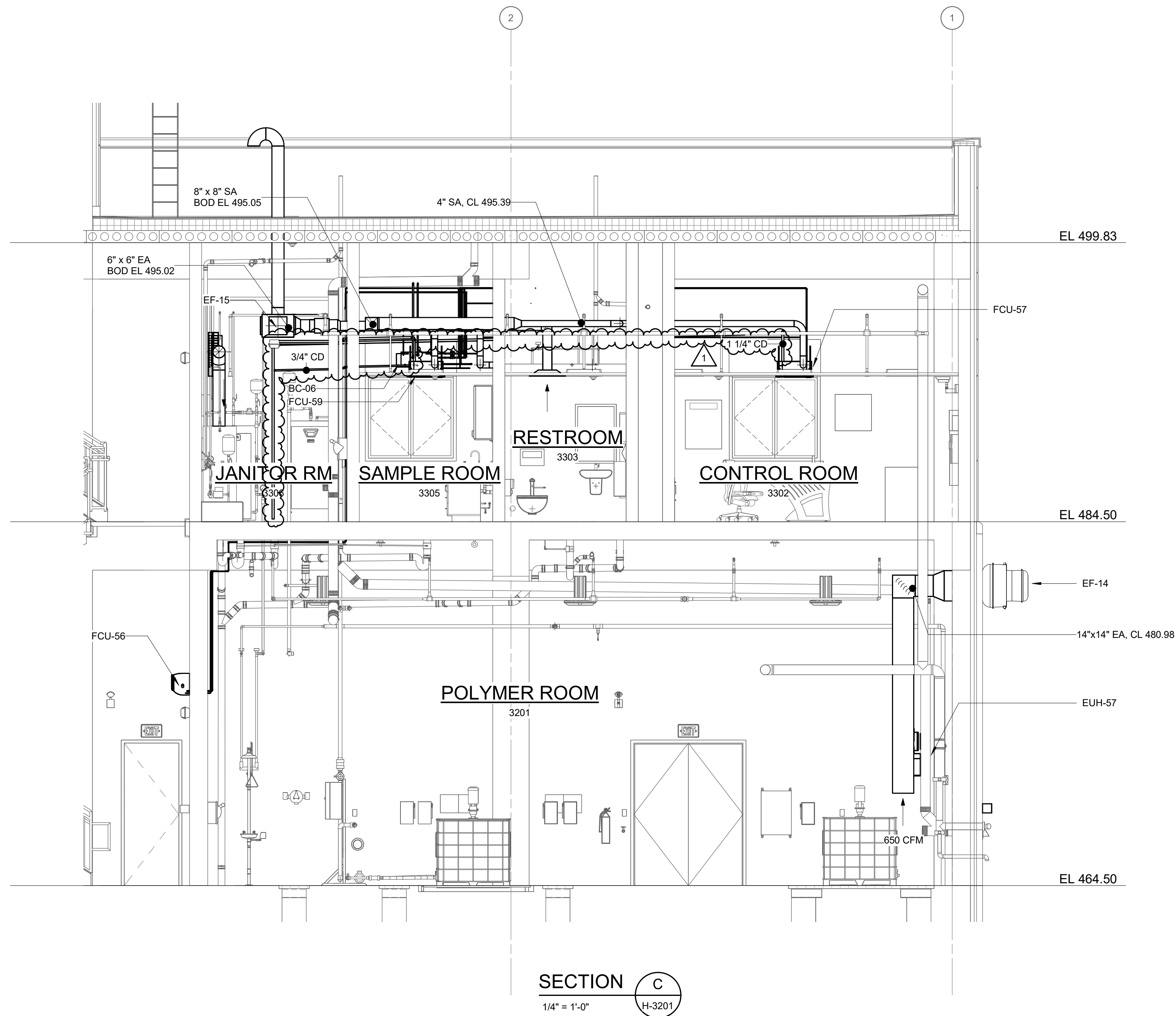


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING HVAC
SECTIONS - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	H-3701



Autodesk Docs: \\00398-004_West Parish Filter WTE\90398-004-DWB-H.rvt
 3/21/2024 10:44:38 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	R. CHIN
CHECKED BY:	S. BARRESE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 0 1/2" 1"



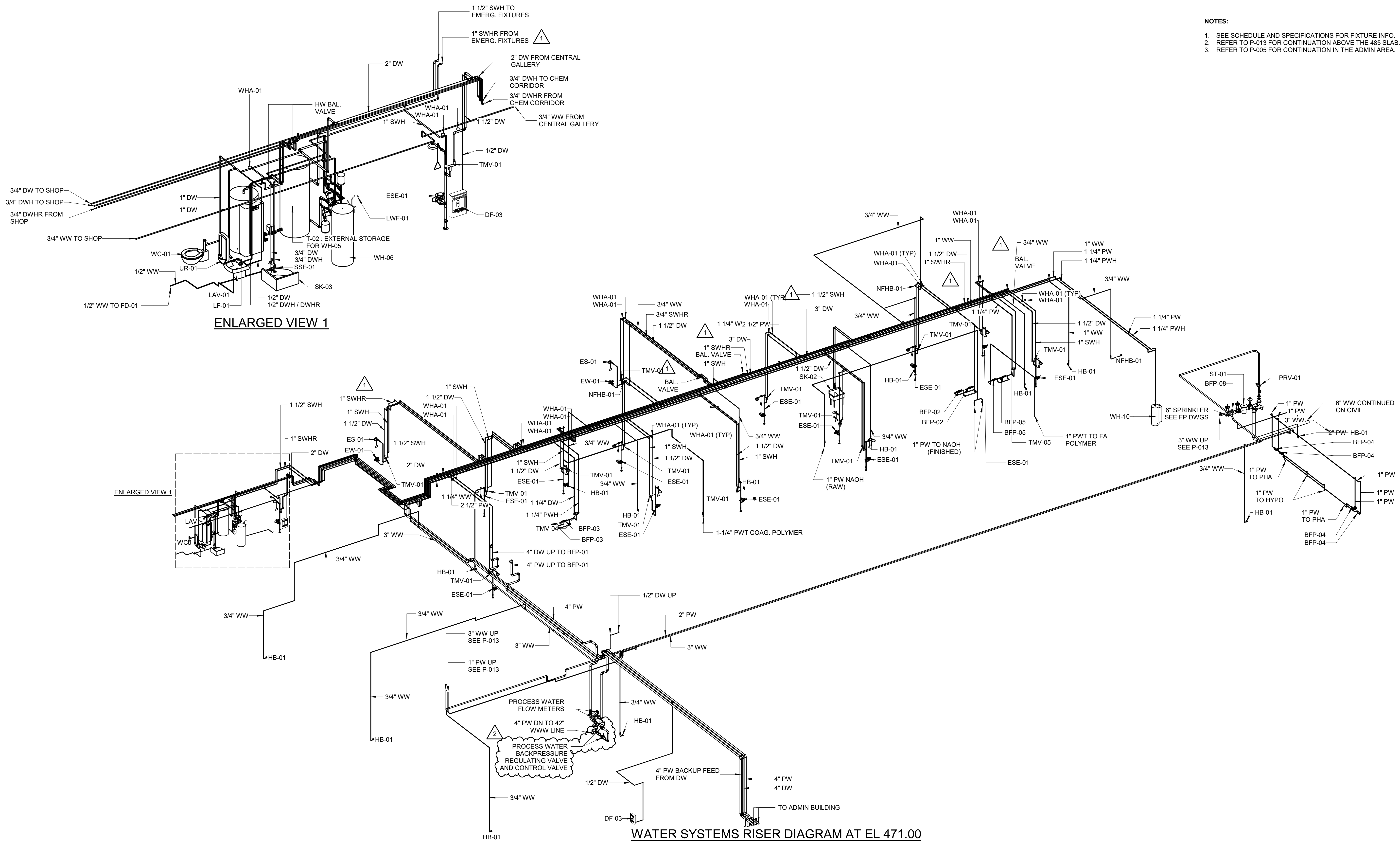
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING HVAC SECTIONS - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	H-3702

- NOTES:**
- SEE SCHEDULE AND SPECIFICATIONS FOR FIXTURE INFO.
 - REFER TO P-013 FOR CONTINUATION ABOVE THE 485 SLAB.
 - REFER TO P-005 FOR CONTINUATION IN THE ADMIN AREA.



WATER SYSTEMS RISER DIAGRAM AT EL 471.00

Autodesk Docs/09098-004_West Parish Filter WTT/9098-004-TB-P-14 3/23/2024 10:08:25 AM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	M. CONWAY
CHECKED BY:	S. BARRESE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

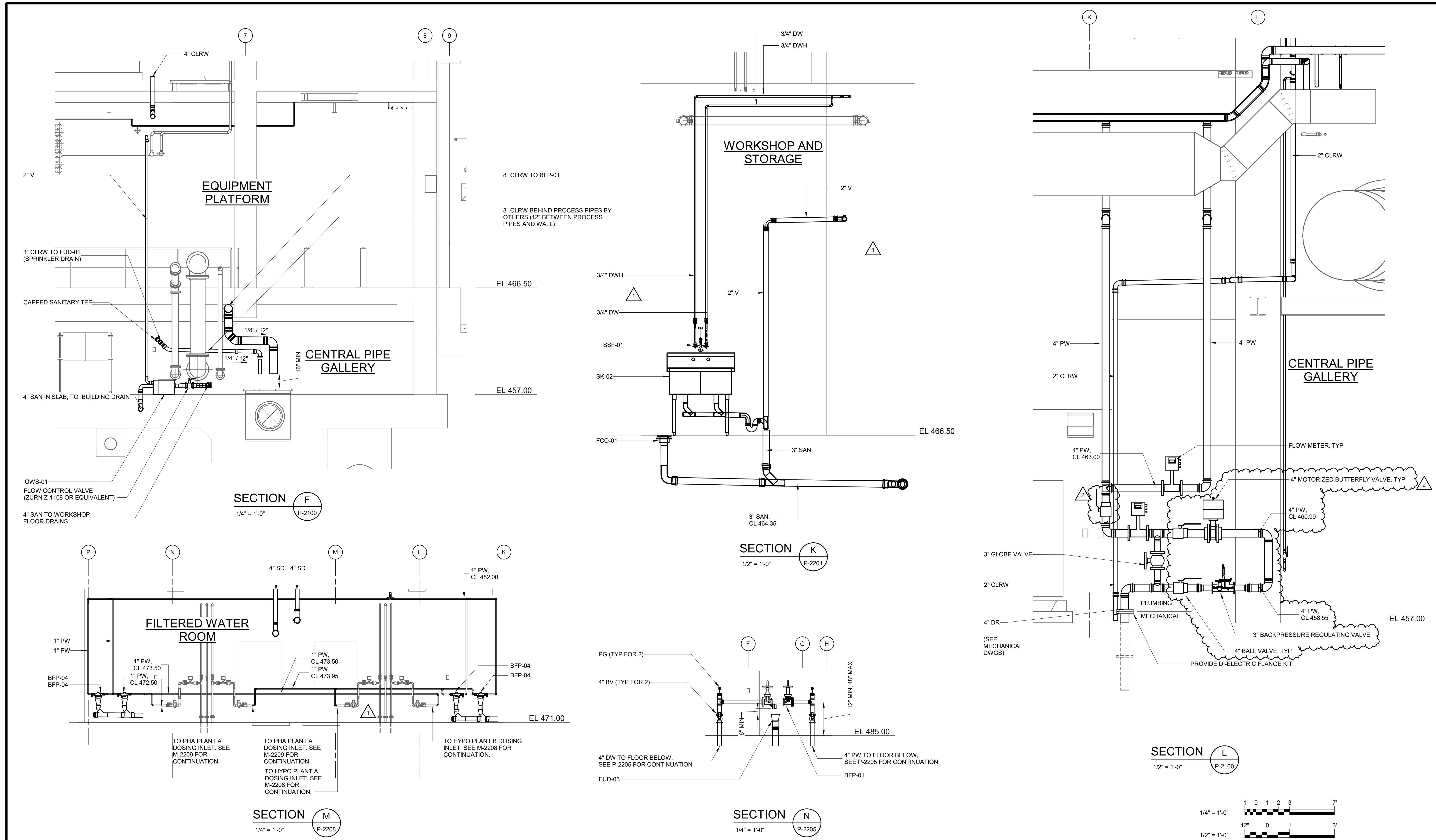


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING PLUMBING
WATER SYSTEMS RISER DIAGRAMS AT EL 471.00 - PROCESS AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	P-011



Autodesk Docs: 090398-004_ West Parish Filter WTT90398-004-TB-P-14
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REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	M. CONWAY
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

DAVID WITTE
No. 58104
PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

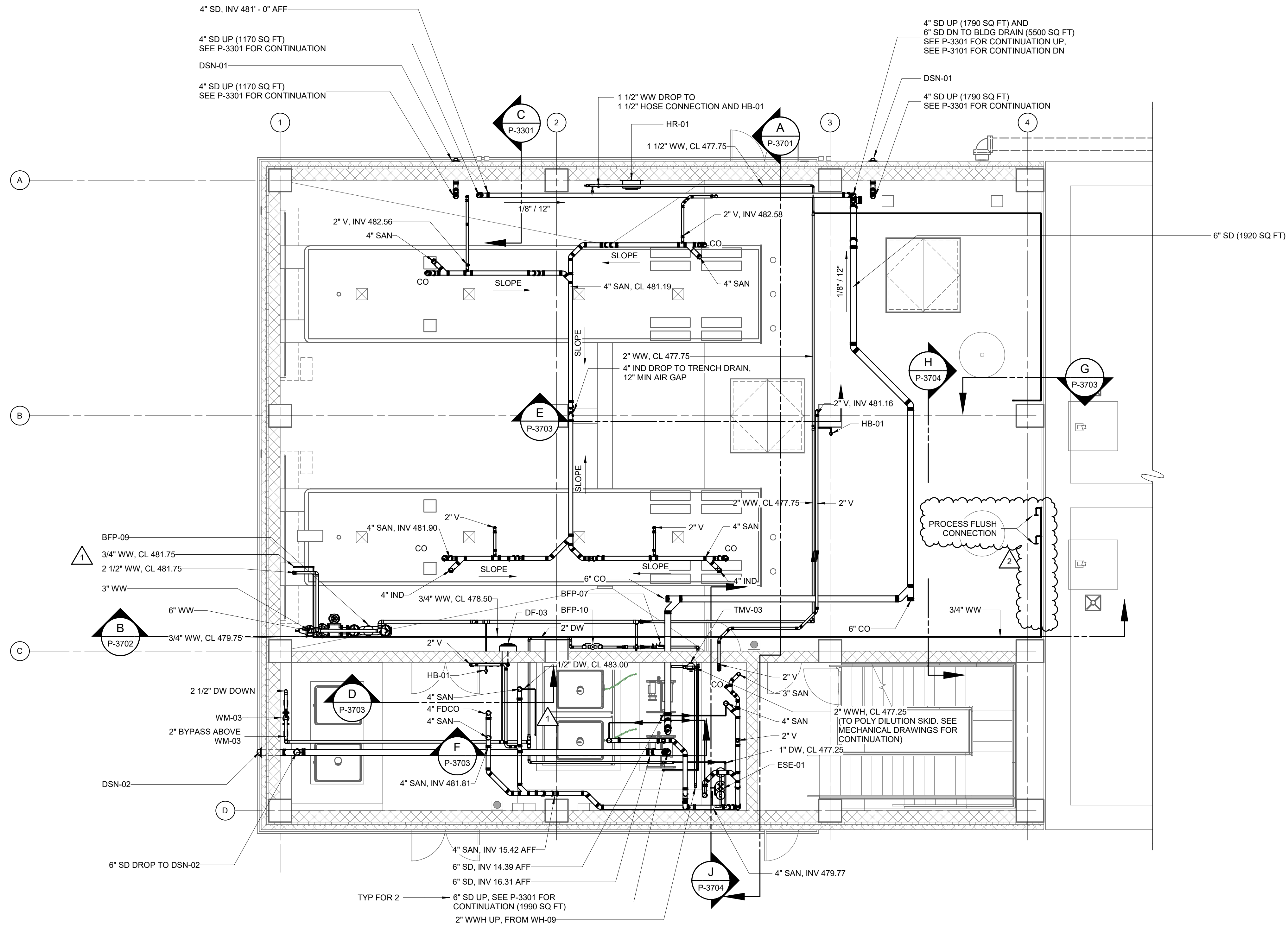
SPRINGFIELD WATER AND SEWER COMMISSION

 WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

 WATER TREATMENT BUILDING
 PLUMBING
 SECTIONS - PROCESS AREA SHEET 2

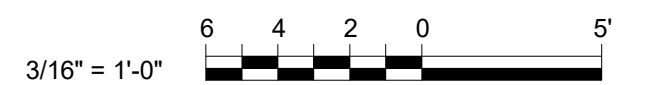
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	P-2702



NOTES

1. STORM DRAIN PIPING IN THE POLYMER STORAGE ROOM SHALL BE FACTORY-COATED WITH A FUSION OR ELECTRICALLY BONDED EPOXY COATING. COUPLING SHIELDS SHALL BE STAINLESS STEEL. REFER TO SPECIFICATION SECTION 22 13 16.
2. PLUMBING SUBCONTRACTOR IS RESPONSIBLE FOR PROCESS WATER PIPING UP TO THE POINT OF CONNECTION SHOWN ON THE MECHANICAL DRAWINGS.
3. ALL COPPER PIPING IN THE CHEMICAL STORAGE ROOMS AND THE CHEMICAL CORRIDOR SHALL BE COATED IN ACCORDANCE WITH SECTION 22 11 13.

PLAN AT EL 464.50
3/16" = 1'-0"



Autodesk Docs/060908-004_West Parish Filter WTT/90398-004-DWB-P-14 3/19/2024 2:38:05 PM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	D. KVOPKA
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

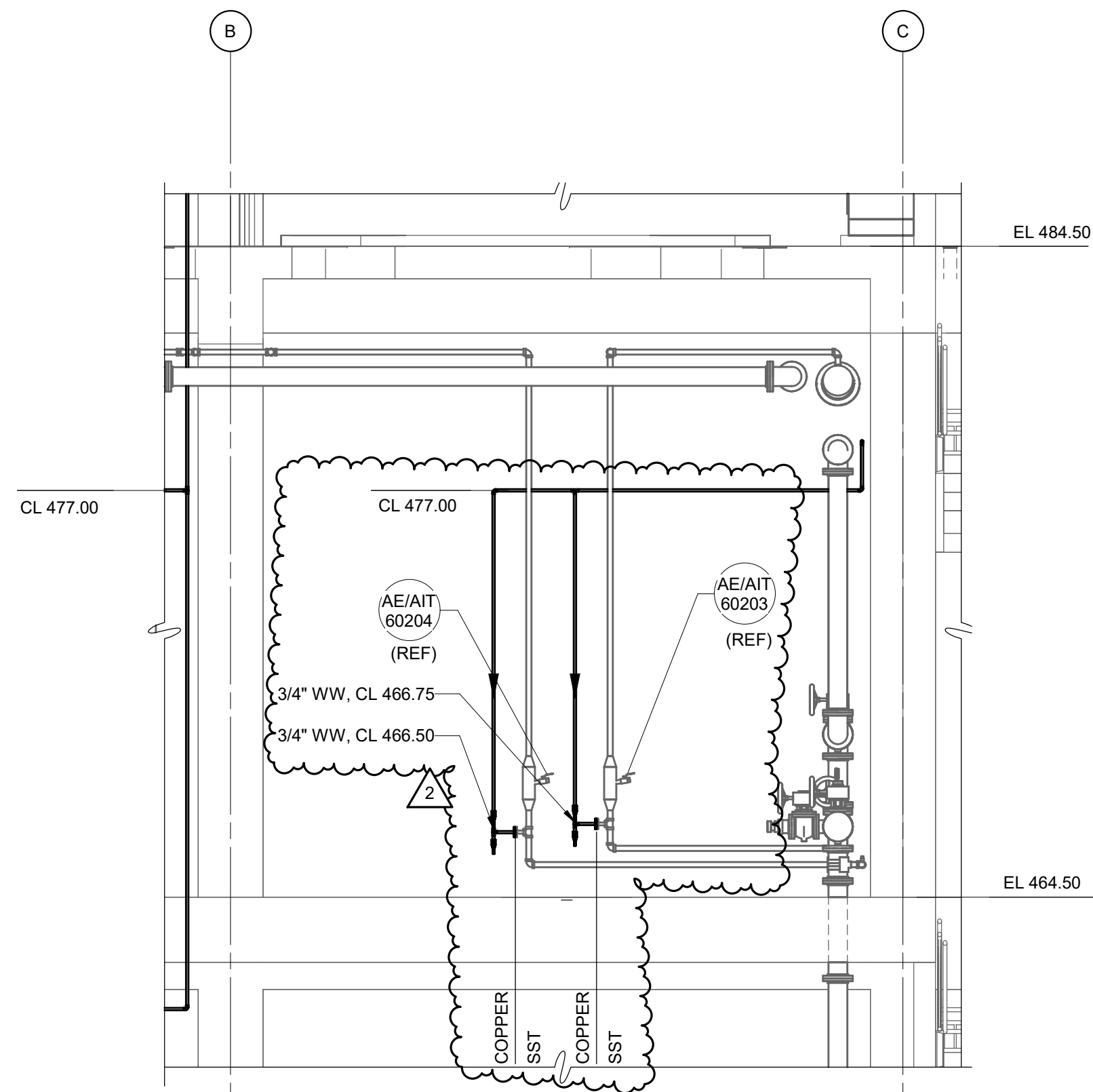


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

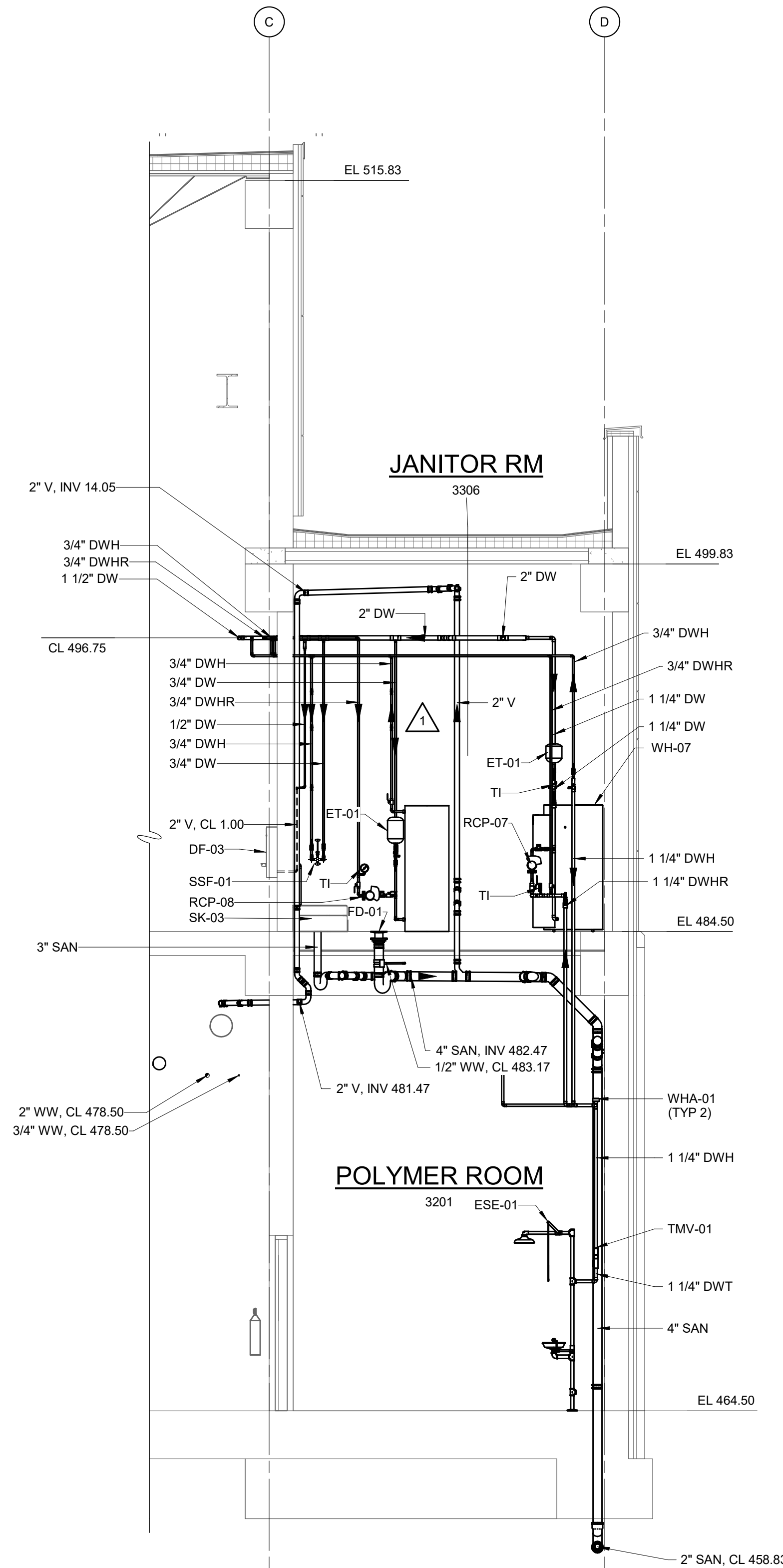
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING PLUMBING
PLAN AT EL 464.50

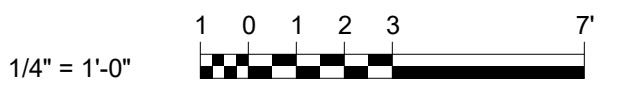
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	P-3201



SECTION H
1/4" = 1'-0"
P-3201



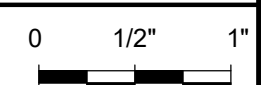
SECTION J
1/4" = 1'-0"
P-3101



Autodesk Docs/060908-004_West Parish Filter WTT/90398-004-DWB-P-14 3/19/2024 2:38:07 PM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	D. KVOPKA
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

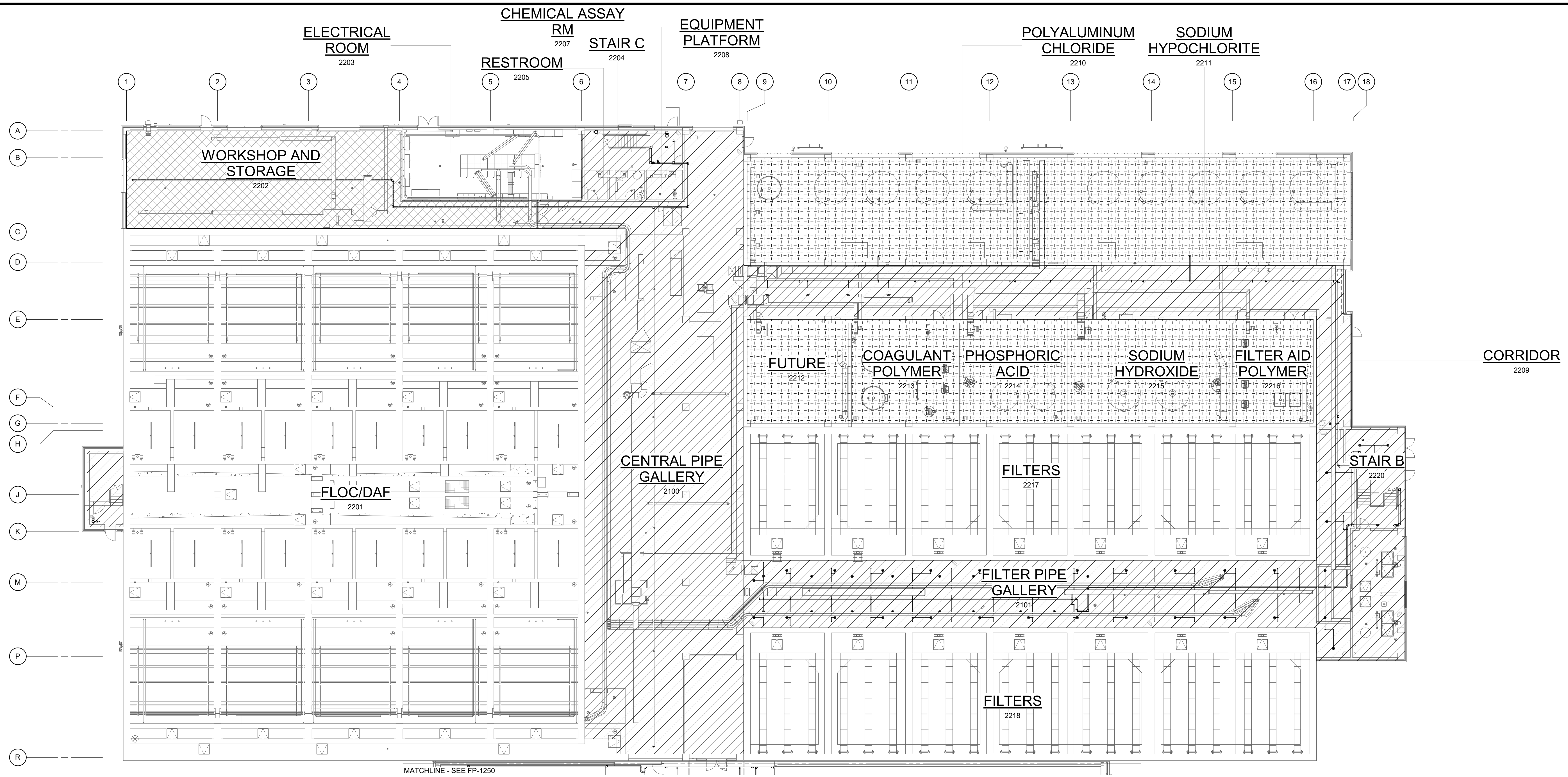


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING PLUMBING SECTIONS - SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	P-3704



LEGEND

	LIGHT HAZARD (LH) OCCUPANCY
	ORDINARY HAZARD 1 (OH-1) OCCUPANCY
	ORDINARY HAZARD 2 (OH-2) OCCUPANCY
	AREA PROTECTED BY INERT GAS SYSTEM

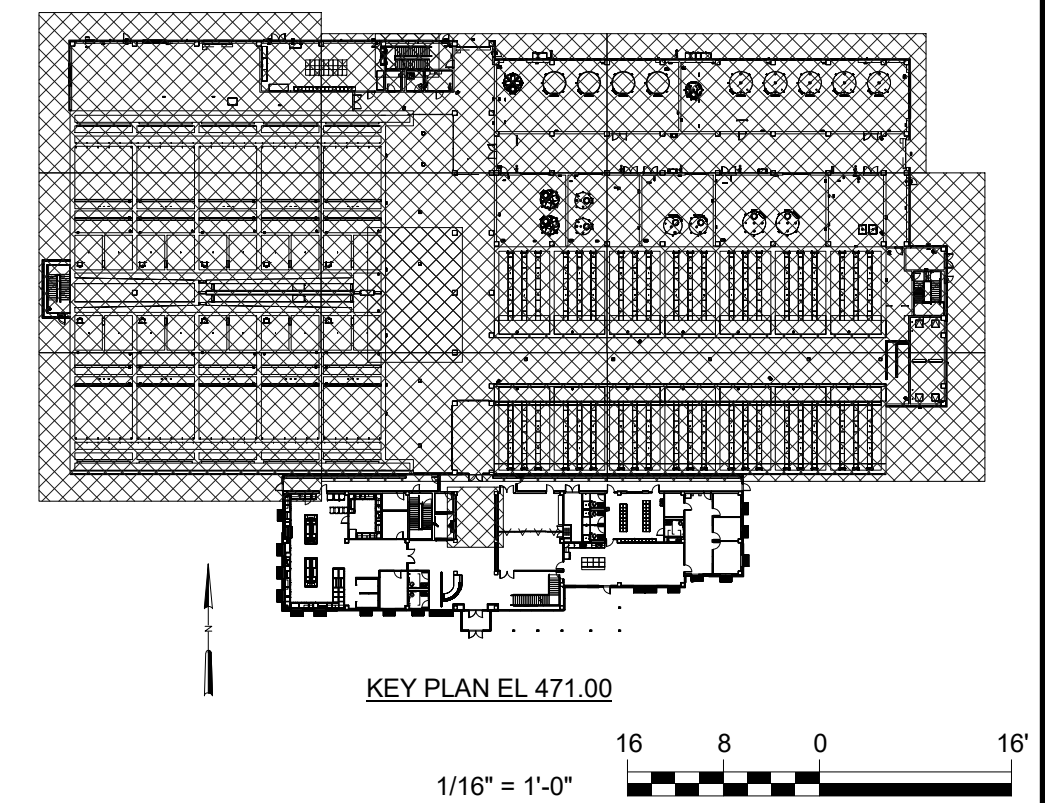
DESIGN CRITERIA

LH:	0.1 GPM/SF OVER 1,500 SF PLUS 100 GPM HOSE ALLOWANCE.
OH-1:	0.15 GPM/SF OVER 1,500 SF PLUS 250 GPM HOSE ALLOWANCE.
OH-2:	0.20 GPM/SF OVER 1,500 SF PLUS 250 GPM HOSE ALLOWANCE.
STANDPIPE:	NFPA 14 SECTION 7.10.1.1.5: 1000 GPM FOR FULLY SPRINKLERED BUILDING.
	NFPA 14 SECTION 7.10.1.2.1: 250 GPM AT 2 MOST REMOTE HOSE CONNECTIONS AND 250 GPM AT 100 PSI RESIDUAL AT TOP OUTLETS OF 2 MOST REMOTE STANDPIPES REMAINING.

GENERAL NOTES

1. THE WORK OF OTHER TRADES IS HIDDEN OR HALF-TONED FOR CLARITY. ALL WORK SHOWN IS NEW.

OVERALL SPRINKLER COVERAGE PLAN AT EL 471.00
1/16" = 1'-0"



Autodesk Docu/09098-004 West Parish Filter WTT9098-004-TB-FP.rvt 3/23/2024 7:13:16 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	J. LURIE
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

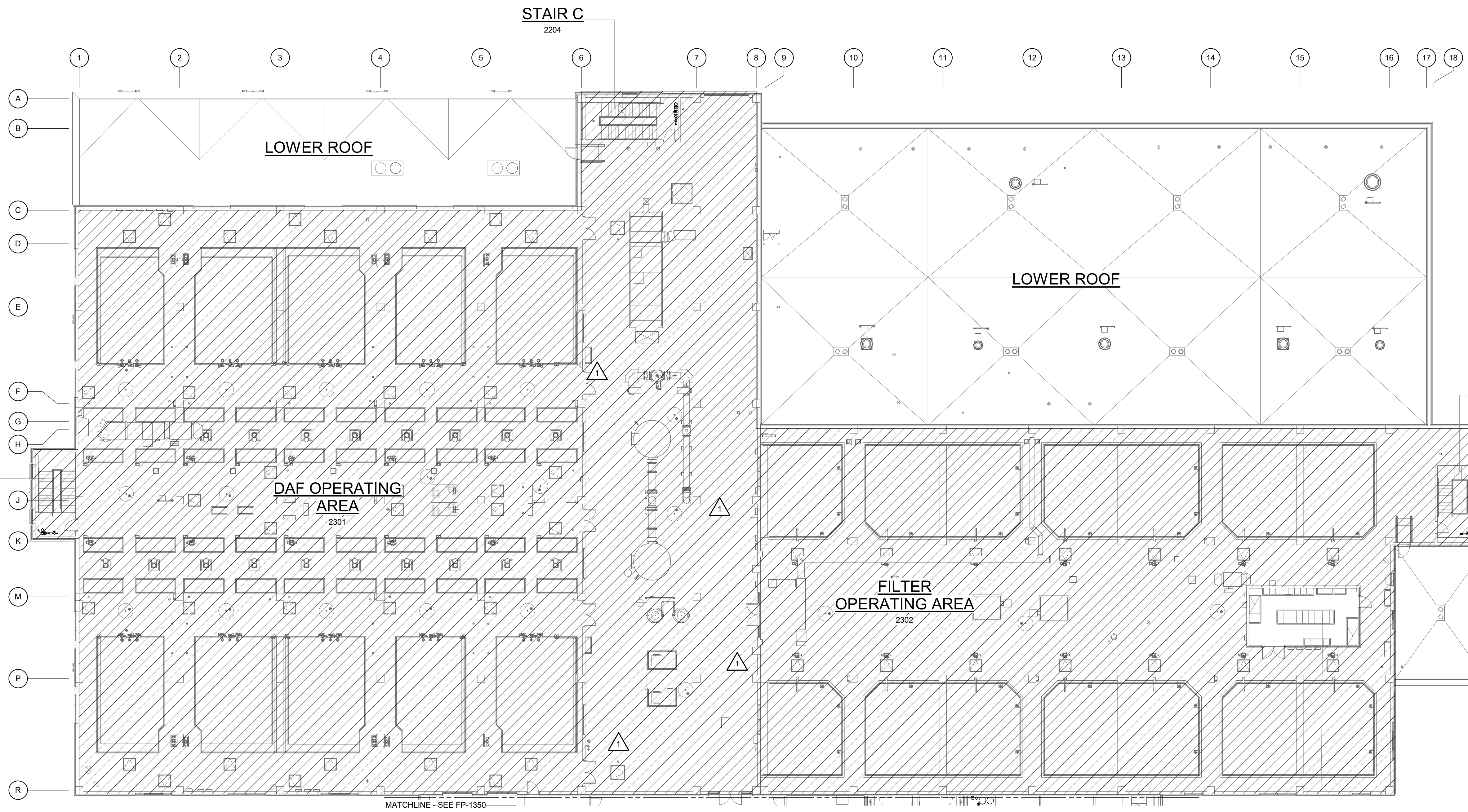


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
FIRE PROTECTION
SPRINKLER COVERAGE PLAN AT EL 471.00 -
PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	FP-2250



MATCHLINE - SEE FP-1350

LEGEND

	LIGHT HAZARD (LH) OCCUPANCY
	ORDINARY HAZARD 1 (OH-1) OCCUPANCY
	ORDINARY HAZARD 2 (OH-2) OCCUPANCY
	AREA PROTECTED BY INERT GAS SYSTEM

DESIGN CRITERIA

LH:	0.1 GPM/SF OVER 1,500 SF PLUS 100 GPM HOSE ALLOWANCE.
OH-1:	0.15 GPM/SF OVER 1,500 SF PLUS 250 GPM HOSE ALLOWANCE.
OH-2:	0.20 GPM/SF OVER 1,500 SF PLUS 250 GPM HOSE ALLOWANCE.

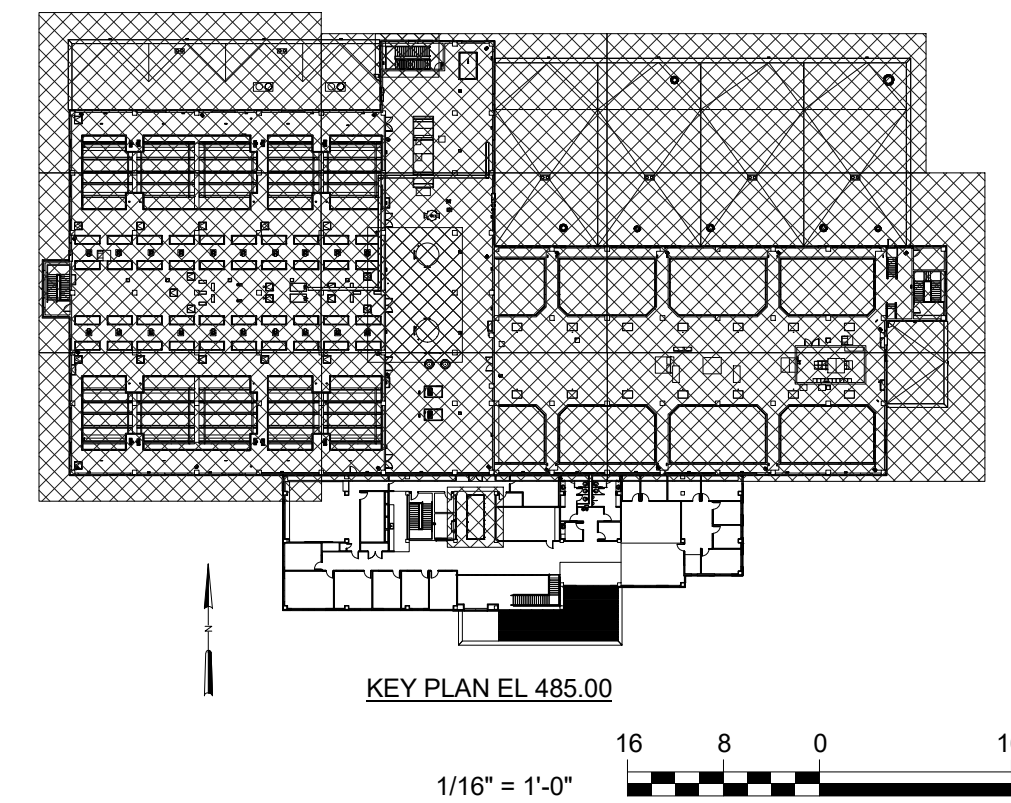
STANDPIPE: NFPA 14 SECTION 7.10.1.1.5: 1000 GPM FOR FULLY SPRINKLERED BUILDING.

NFPA 14 SECTION 7.10.1.2.1: 250 GPM AT 2 MOST REMOTE HOSE CONNECTIONS AND 250 GPM AT 100 PSI RESIDUAL AT TOP OUTLETS OF 2 MOST REMOTE STANDPIPES REMAINING.

GENERAL NOTES

1. THE WORK OF OTHER TRADES IS HIDDEN OR HALF-TONED FOR CLARITY. ALL WORK SHOWN IS NEW.

OVERALL SPRINKLER COVERAGE PLAN AT EL 485.00
1/16" = 1'-0"



Autodesk_Documents\090908-004_West Parish Filter WTT\90908-004-TB-FP.rvt 3/23/2024 7:14:52 PM

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 3	MAR 24	MWM
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	D. WITTE
DRAWN BY:	J. LURIE
CHECKED BY:	S. BARRESE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

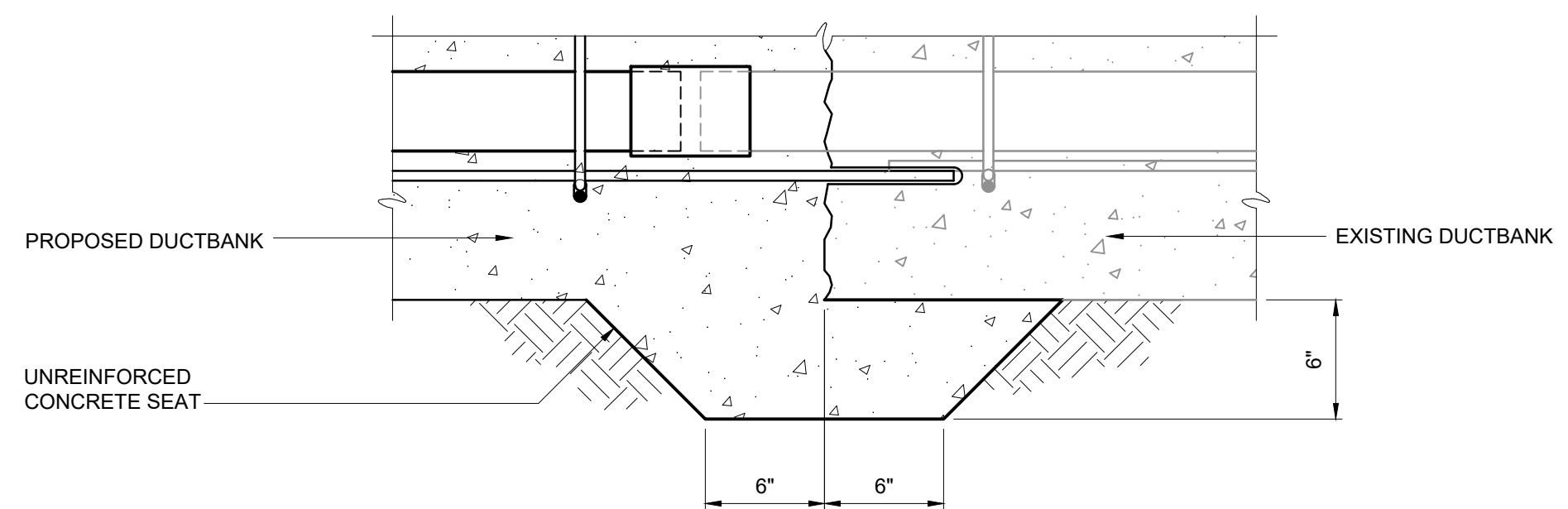


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

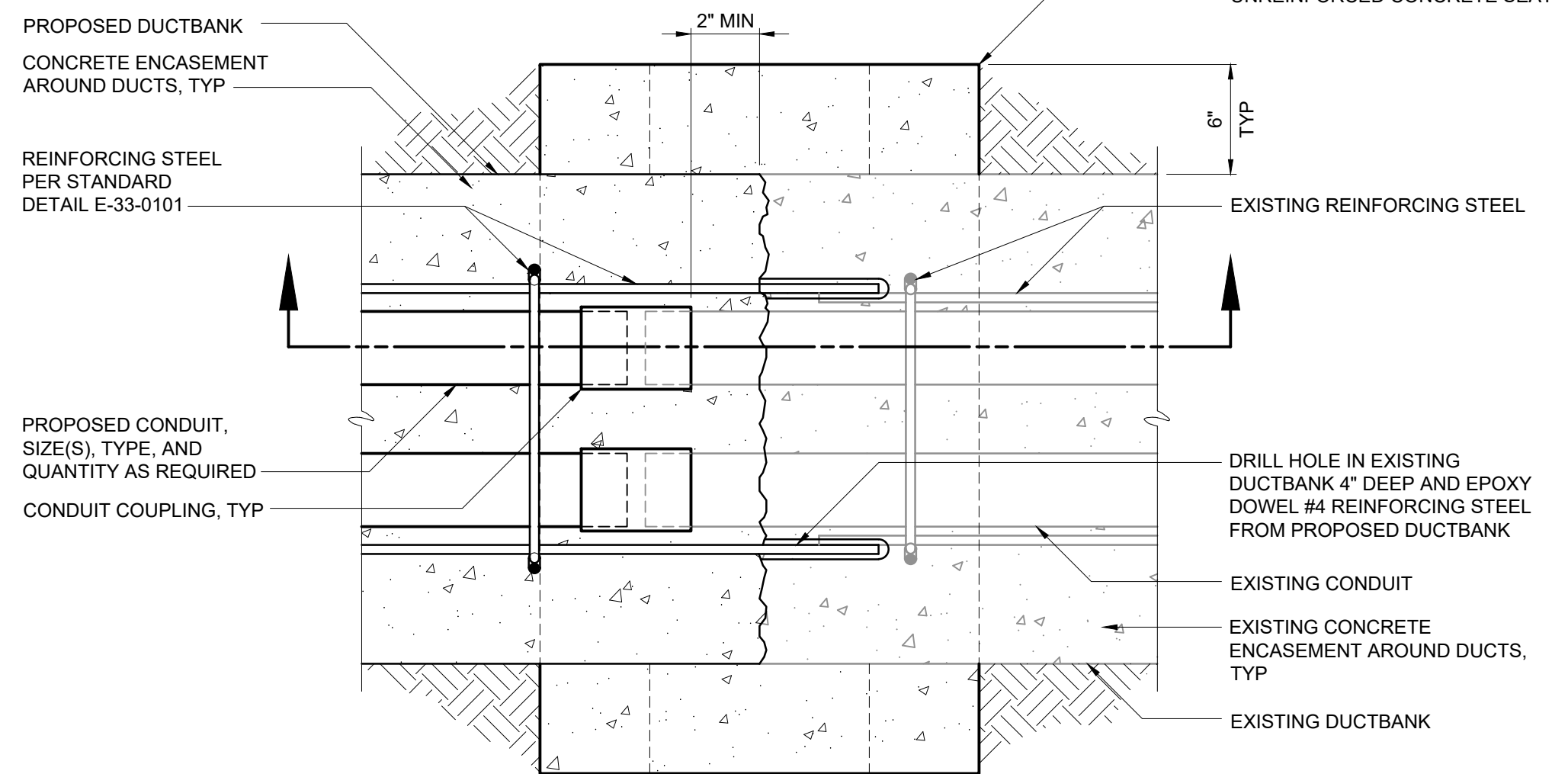
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
SPRINKLER COVERAGE PLAN AT EL 485.00 -
PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	FP-2350



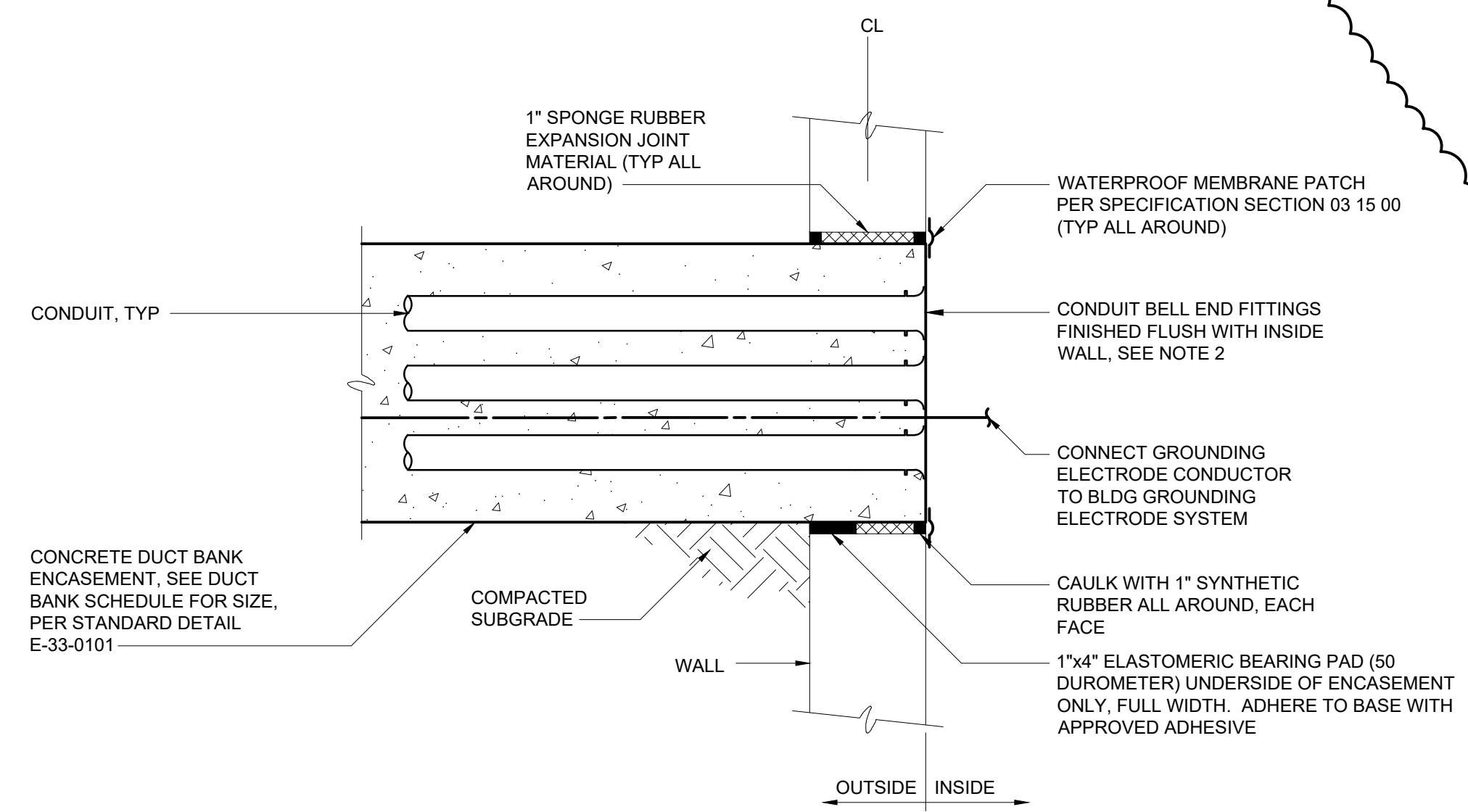
PROPOSED DUCTBANK CONNECTION TO EXISTING DUCTBANK - SECTION



PROPOSED DUCTBANK CONNECTION TO EXISTING DUCTBANK - PLAN

E-33-0105

- NOTES:
- CAREFULLY CHIP BACK CONCRETE AROUND EXISTING CONDUITS AS SHOWN.
 - PROVIDE DOWEL ADHESIVE AS REQUIRED BY SPECIFICATION SECTION 03 21 00.



NOTES:



- BLOCK-OUT IN WALL SHALL BE SMOOTH AND PLUM BUILT TO ACCOMMODATE THE REQUIRED CONCRETE DUCT BANK ENCASEMENT PLUS 1" ALL AROUND.
- INSTALL EXPANDING FOAM SEALANT IN CONDUIT AROUND CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS.

BELOW-GRADE DUCT BANK TERMINATION TO EXISTING MANHOLE

E-33-0106

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



 03/25/2024

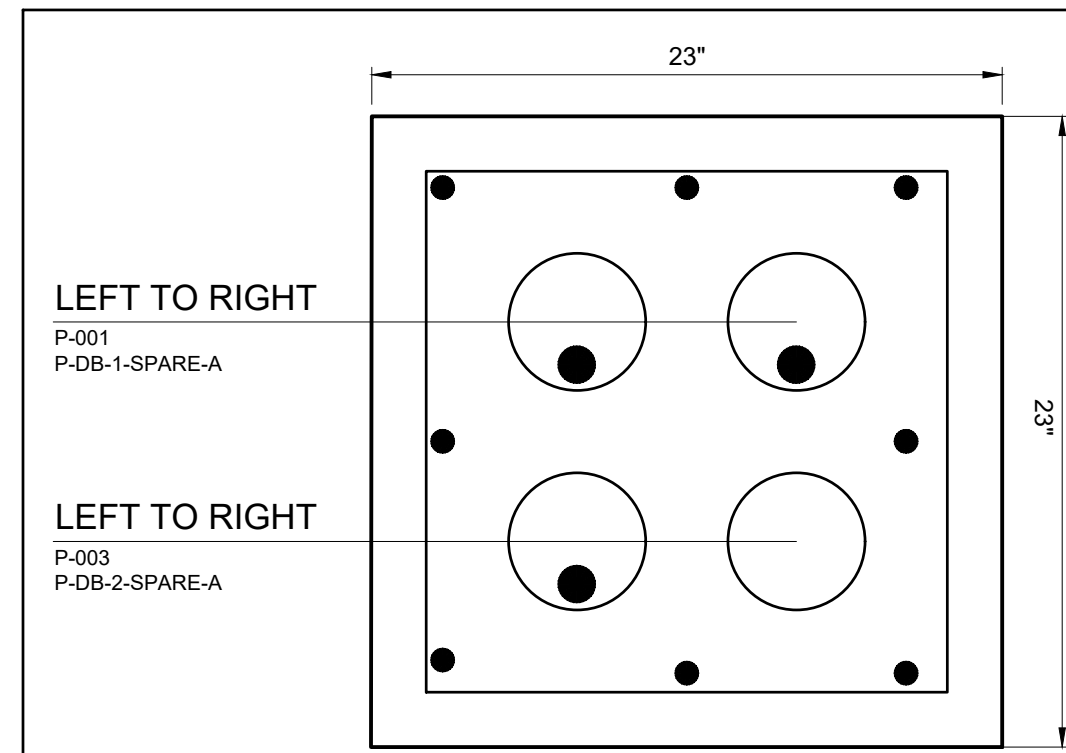

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
 WEST PARISH WATER TREATMENT PLANT

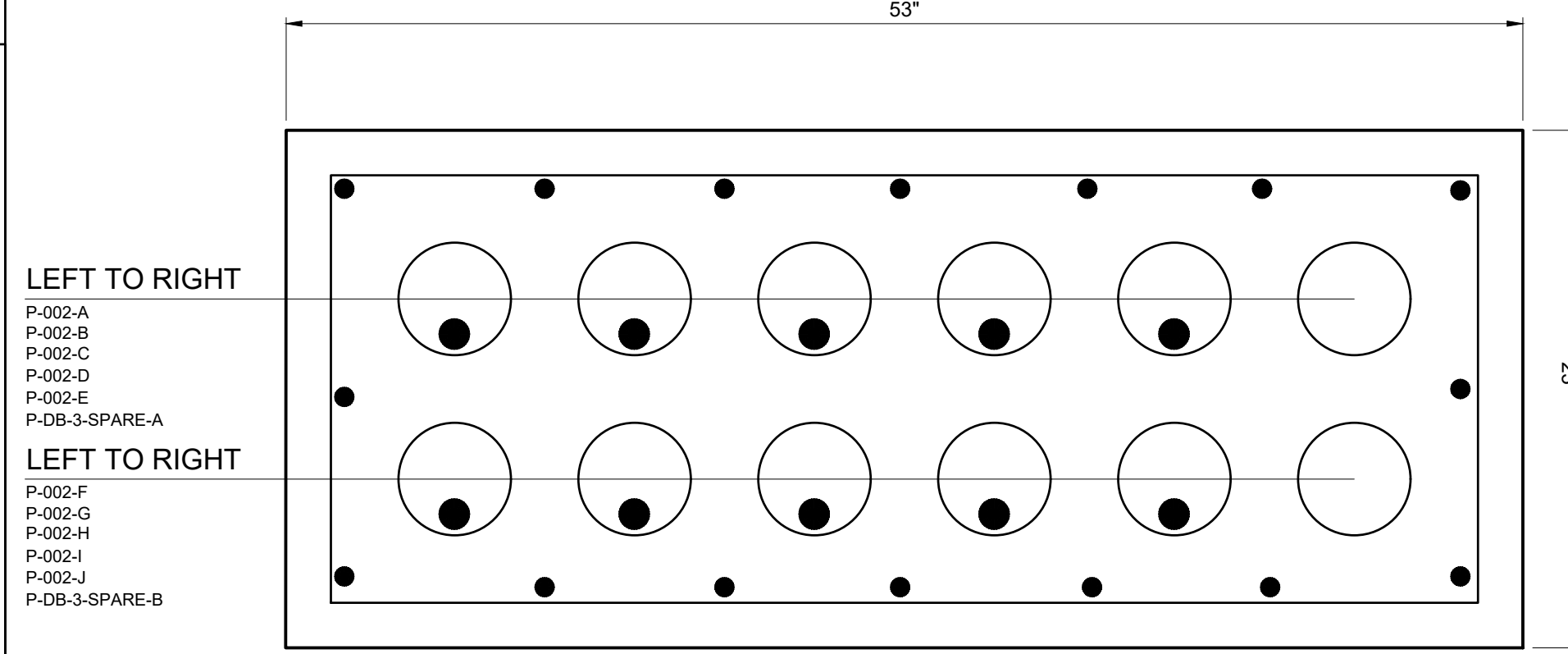
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DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-010

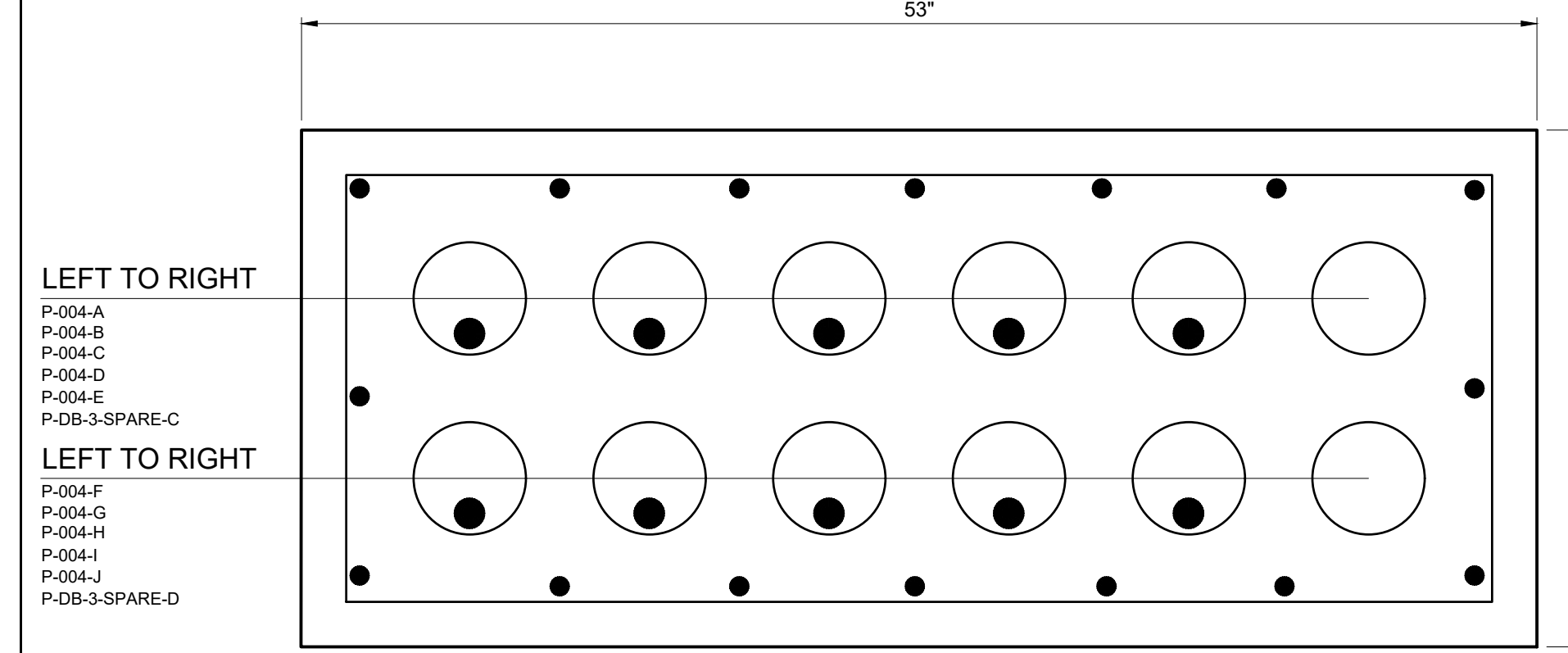
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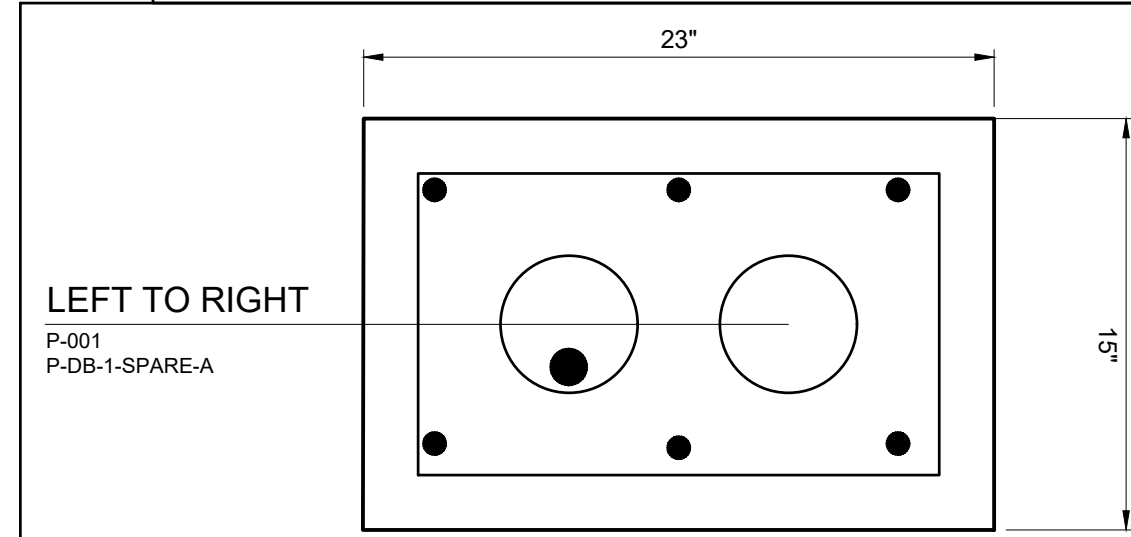
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E-012
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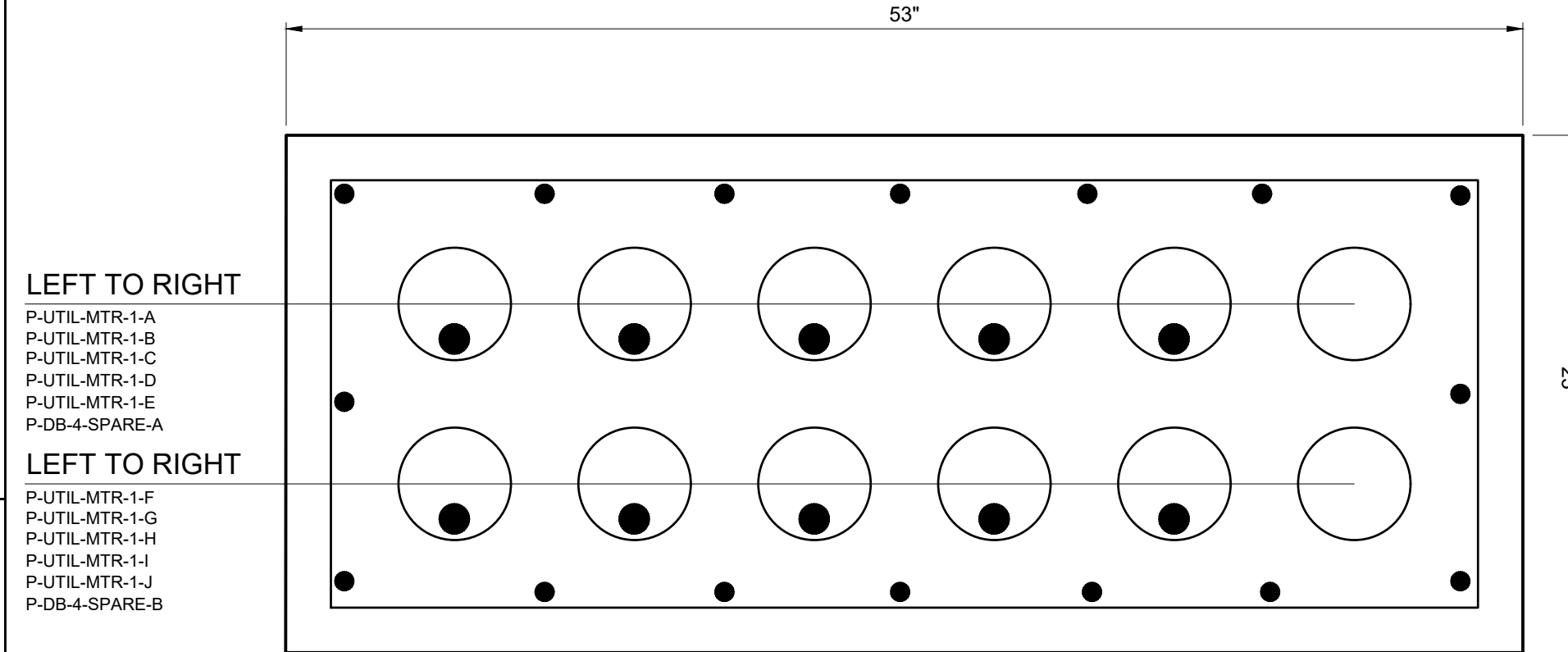
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E-012
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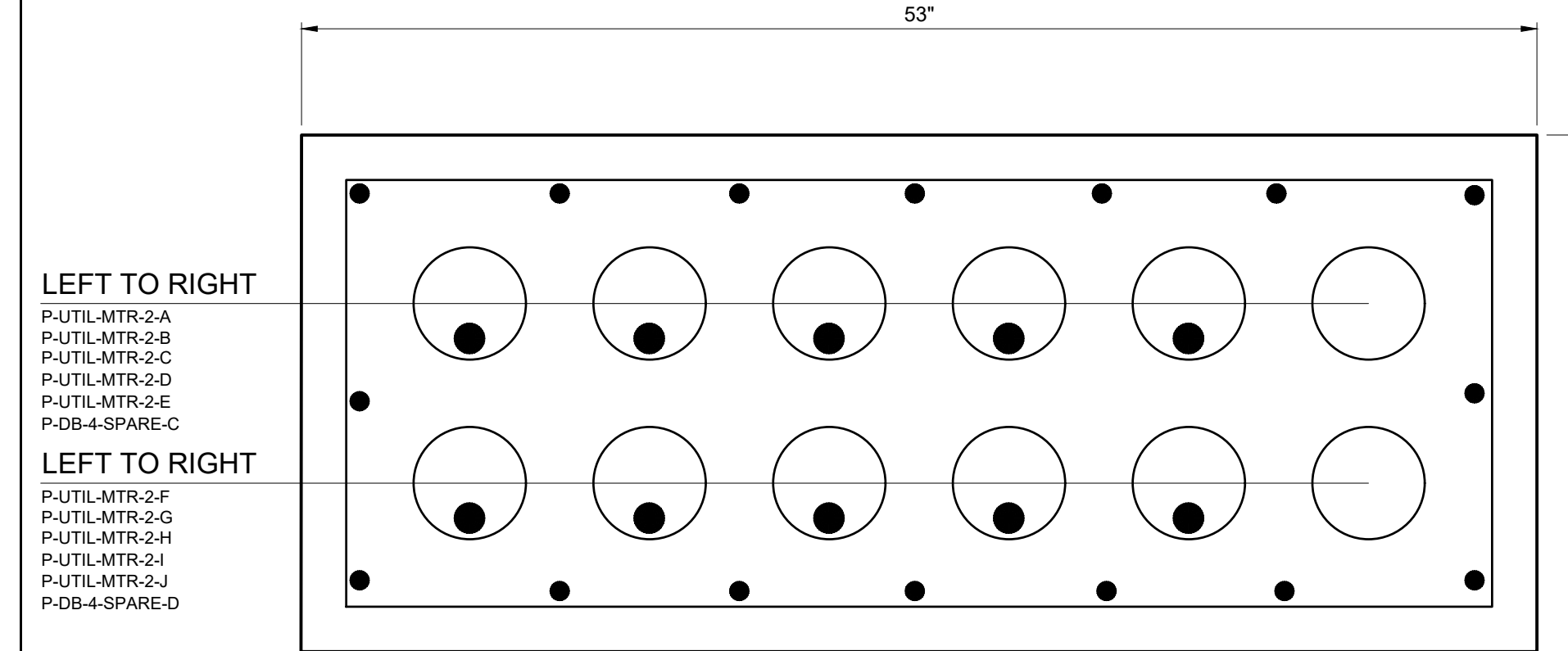
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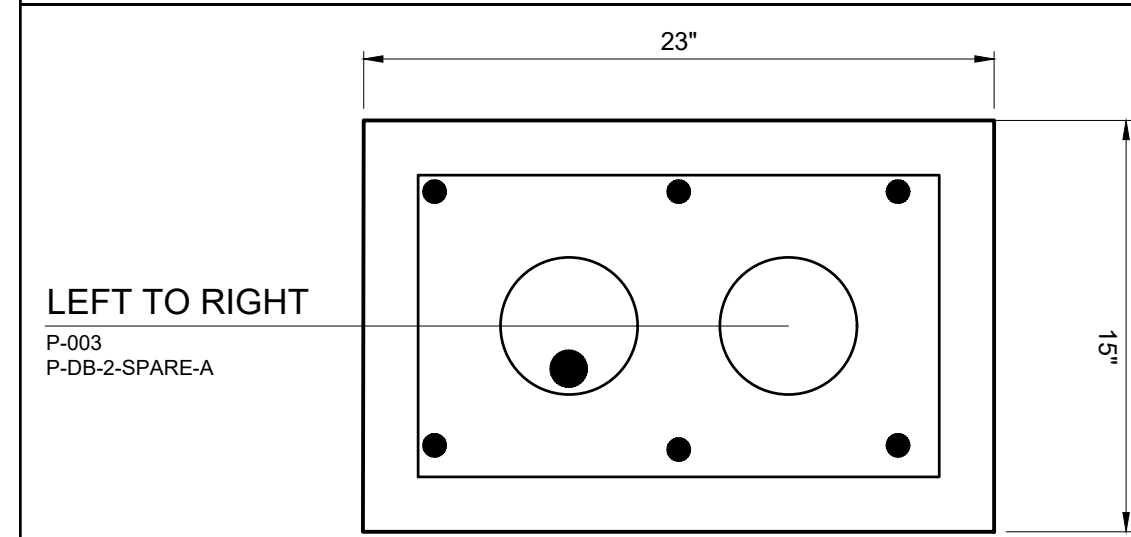
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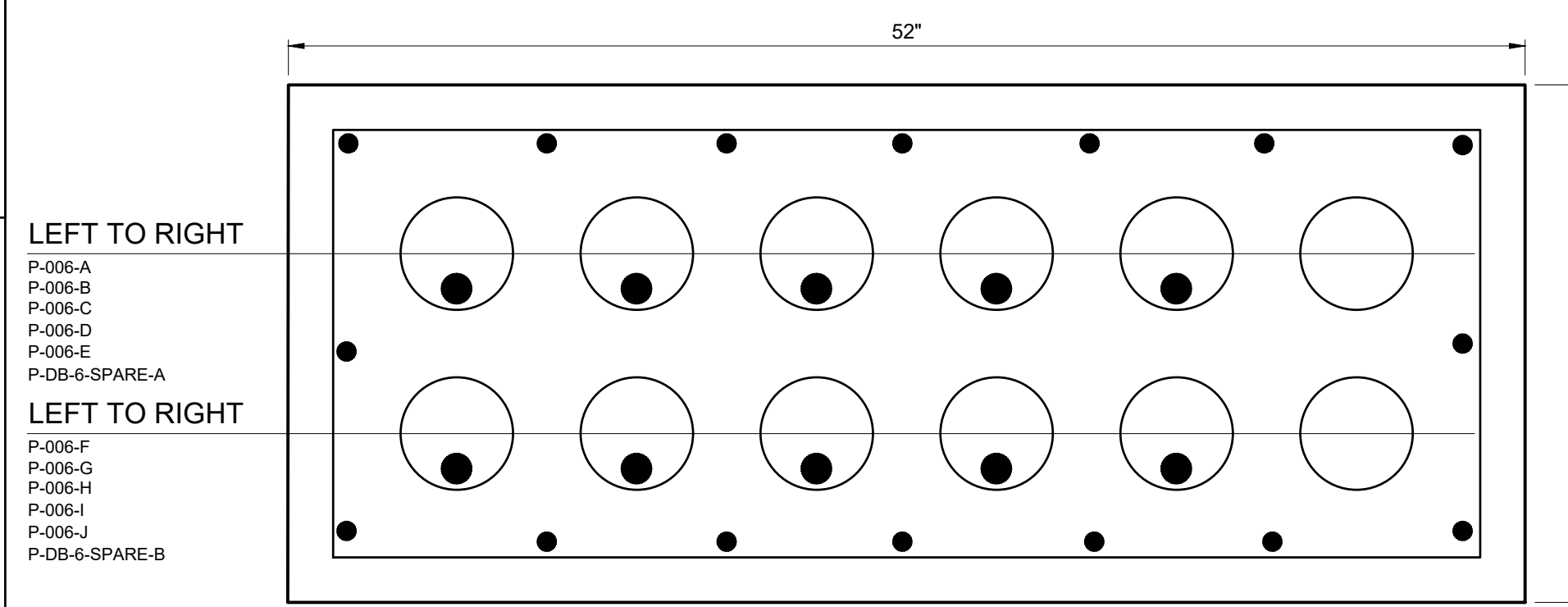
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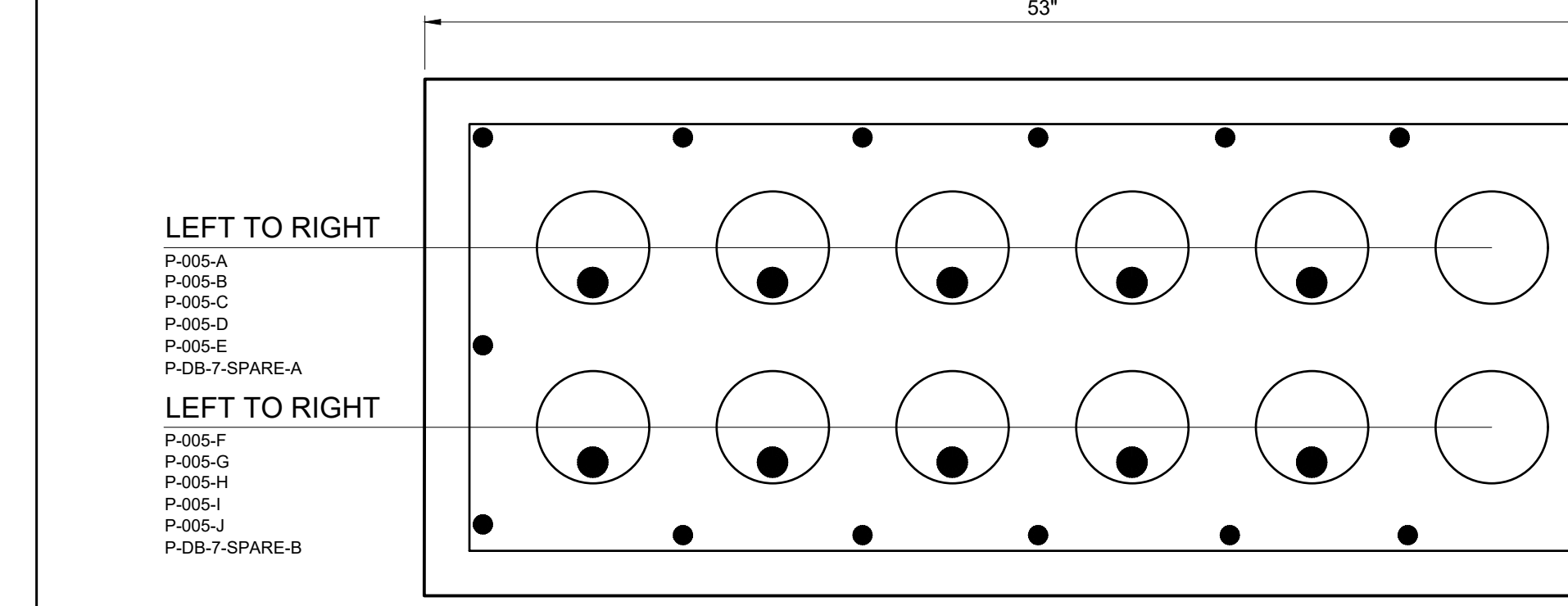
DB-4-2
E-012
NOT TO SCALE



DB-2-2
E-012
NOT TO SCALE



DB-5
E-012
NOT TO SCALE



DB-6
E-012
NOT TO SCALE

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

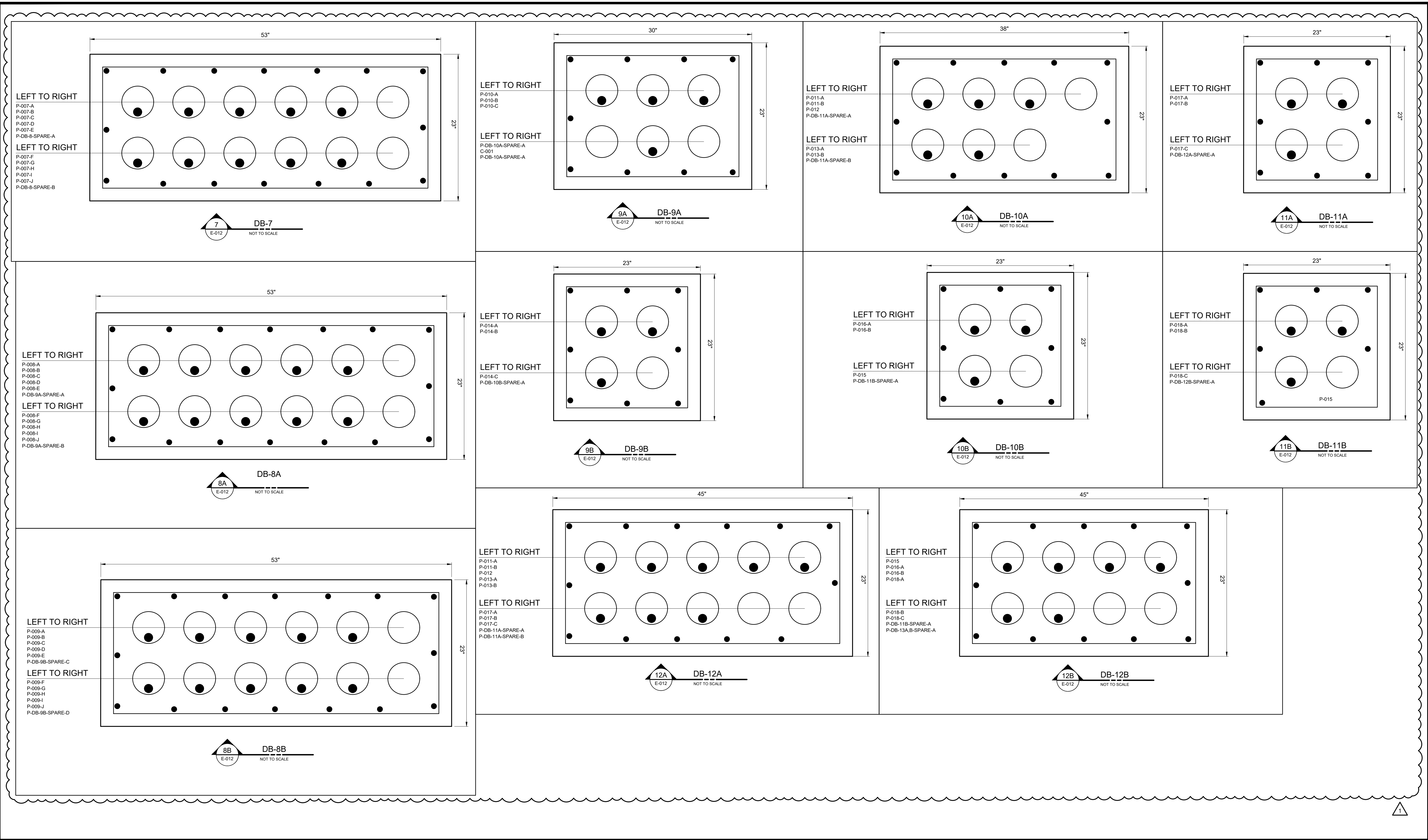
FILED SUB-BID

ELECTRICAL

MANHOLE, HANDHOLE, DUCTBANK SCHEDULES AND DETAILS - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-014

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

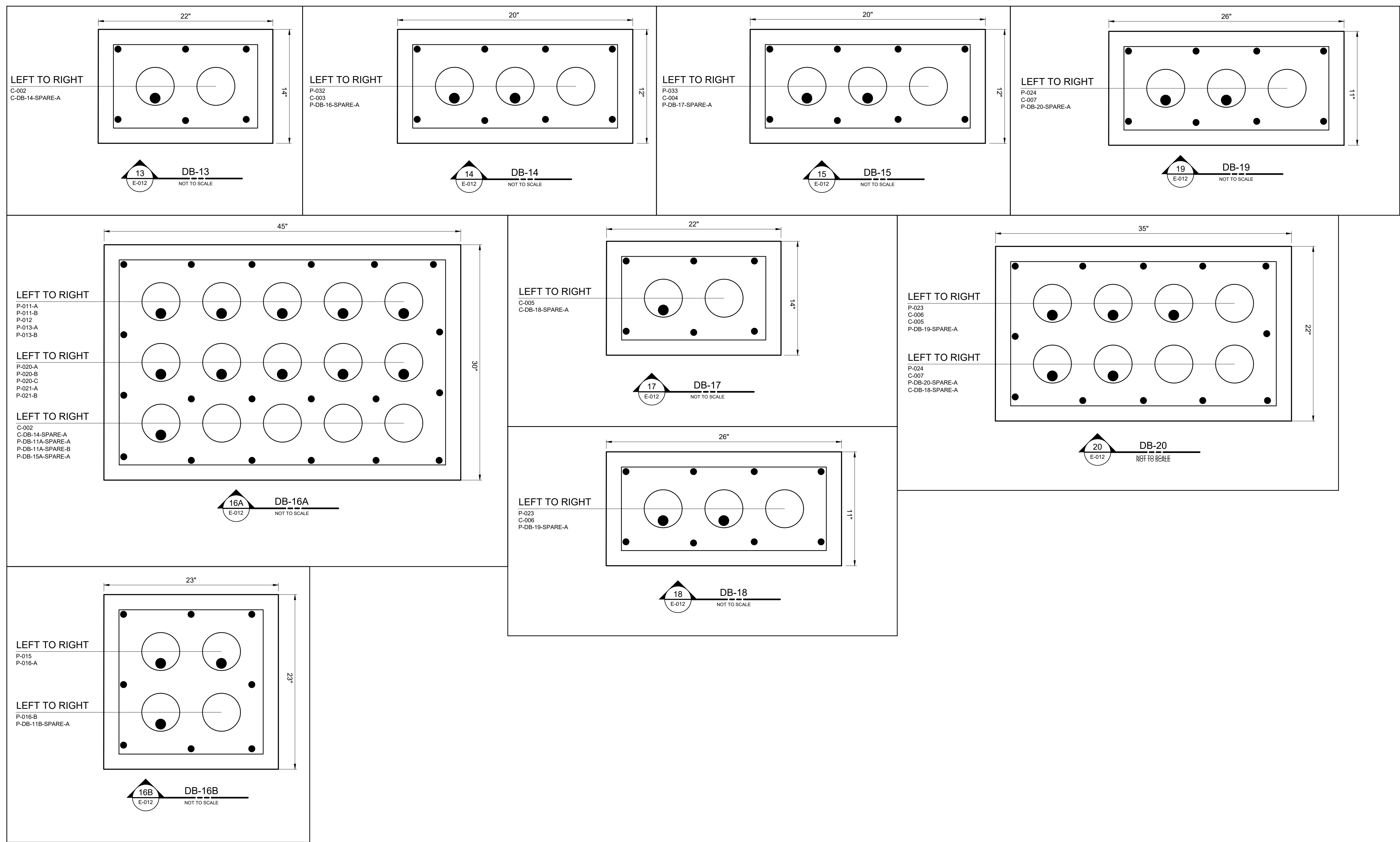
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ELECTRICAL

MANHOLE, HANDHOLE, DUCTBANK SCHEDULES AND DETAILS - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-015

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REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

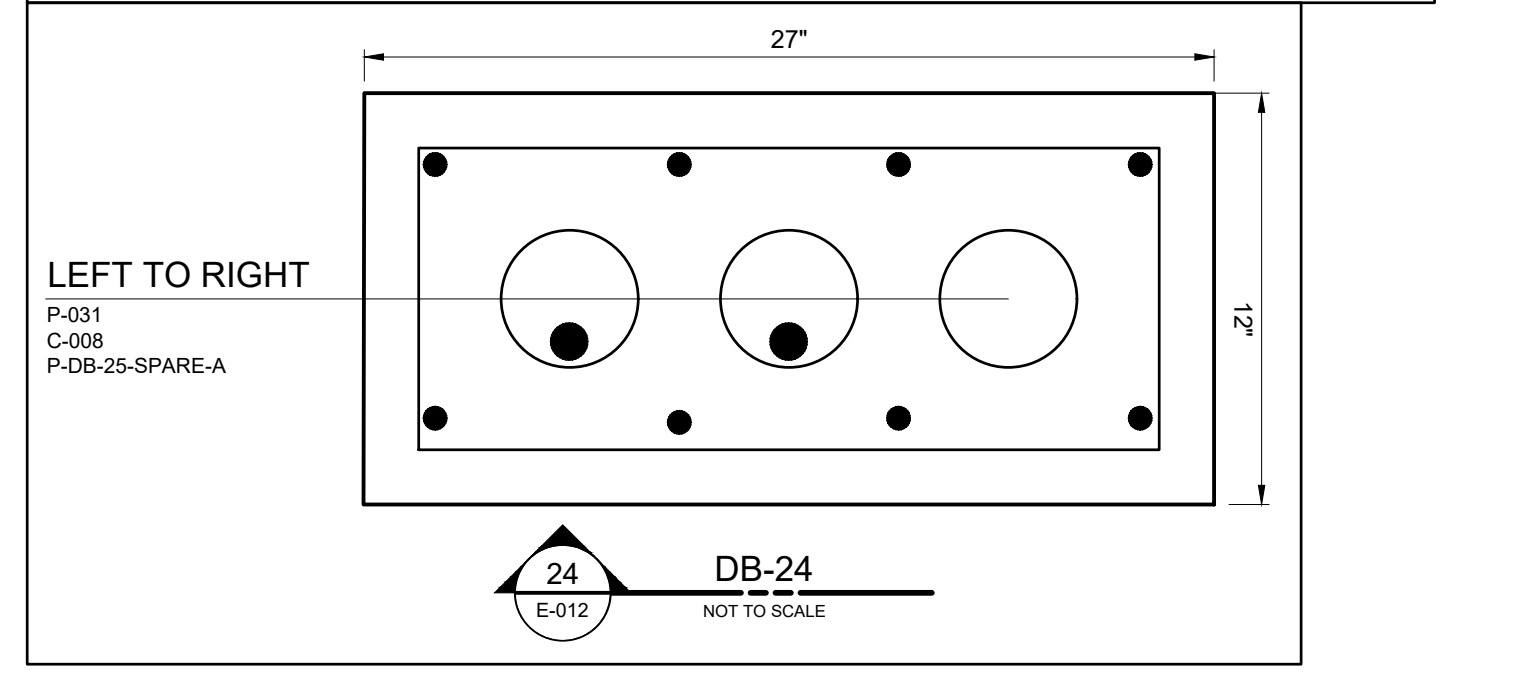
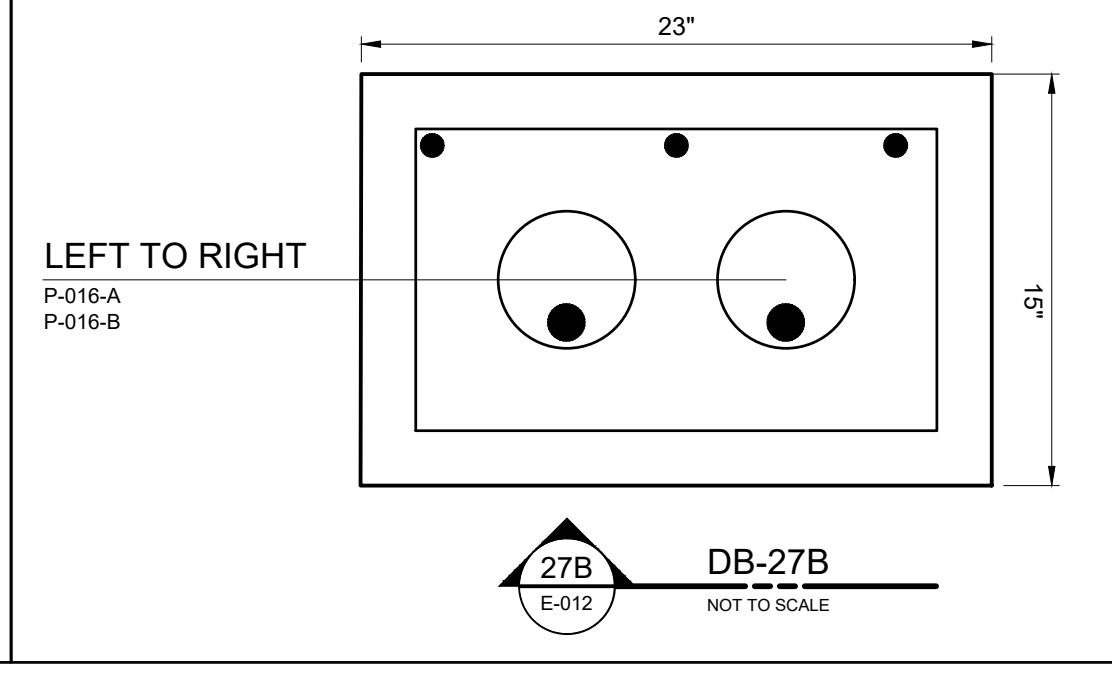
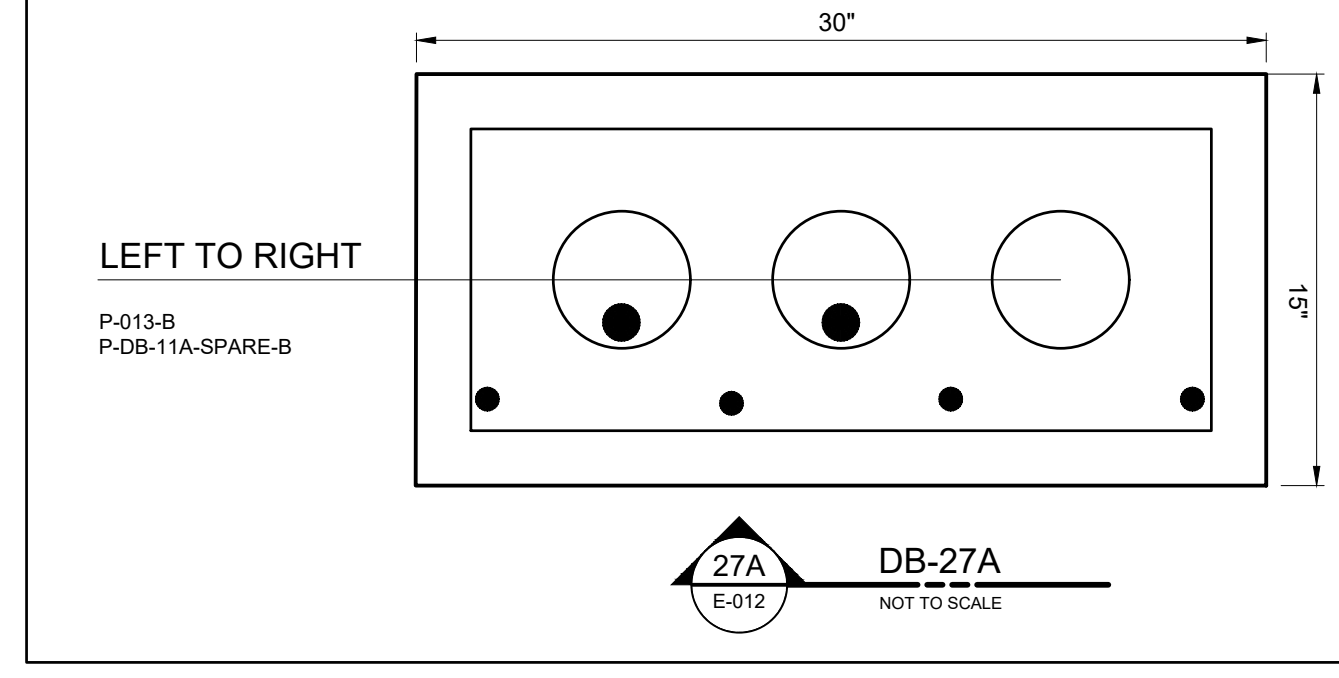
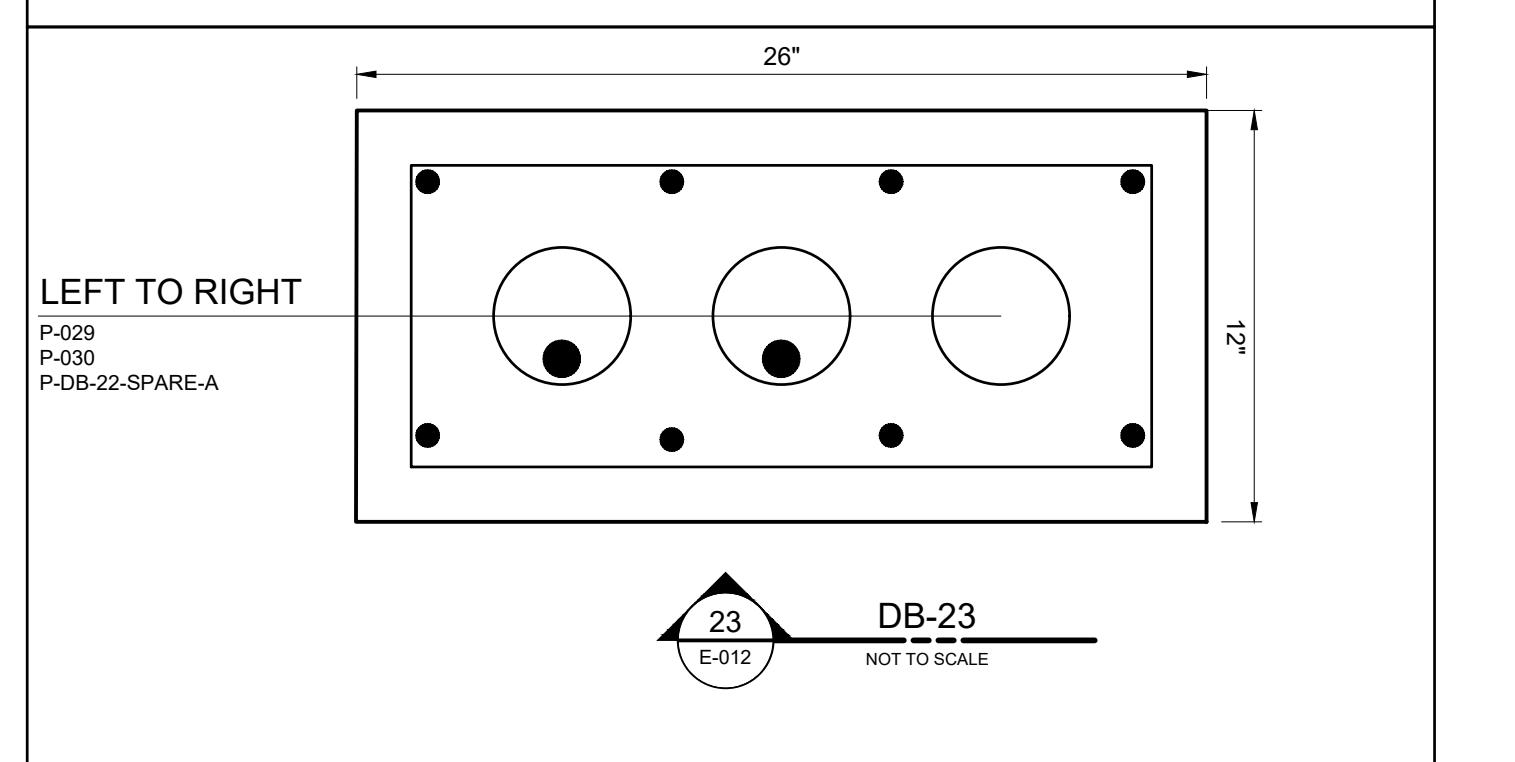
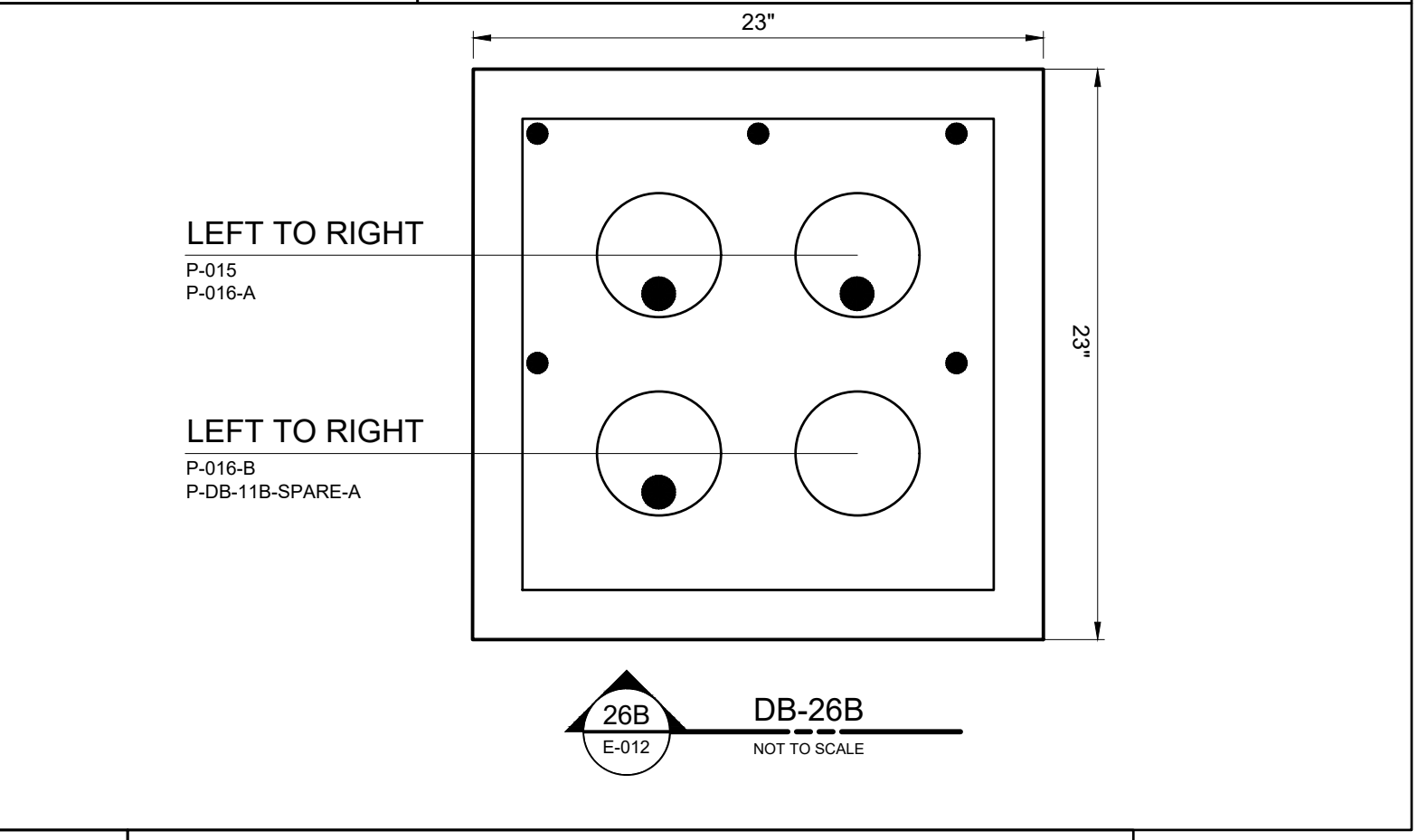
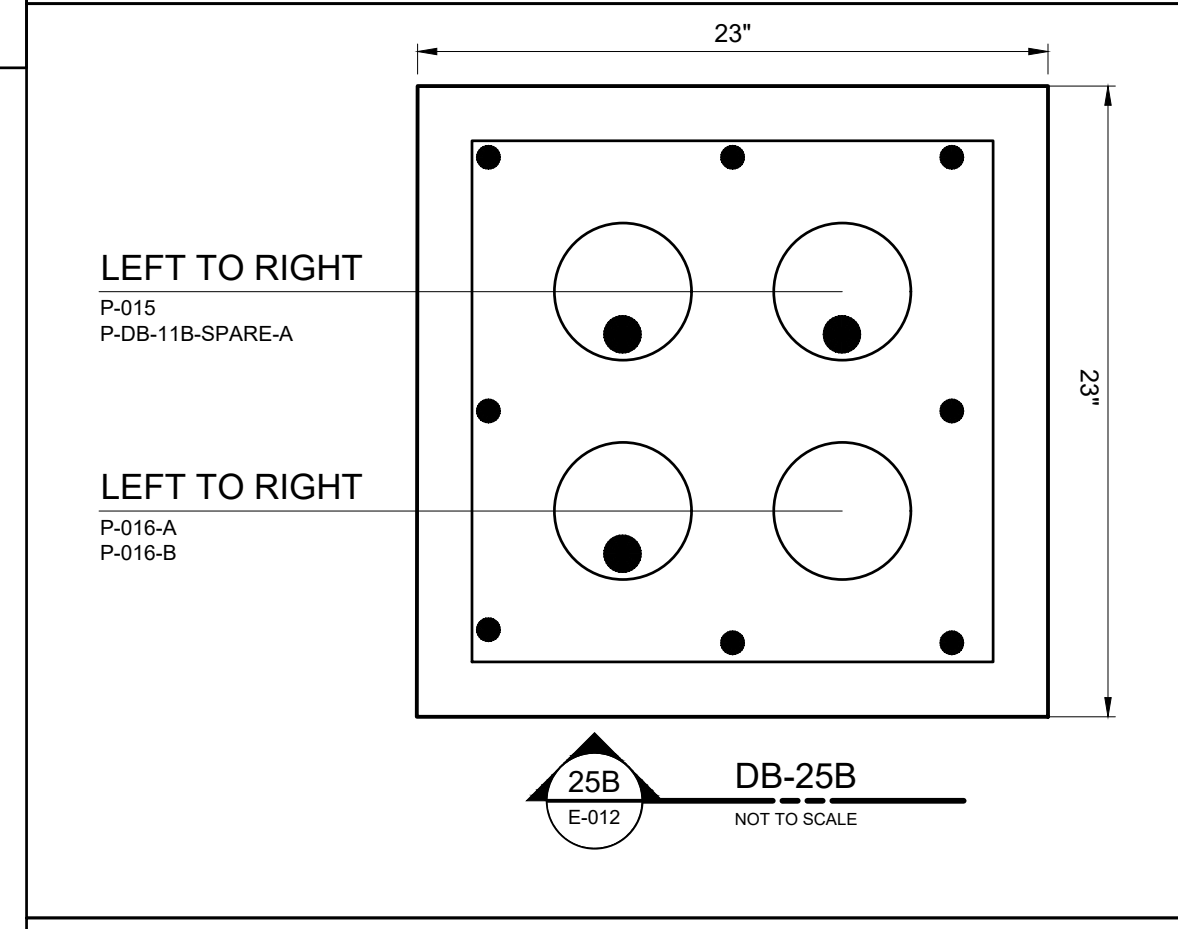
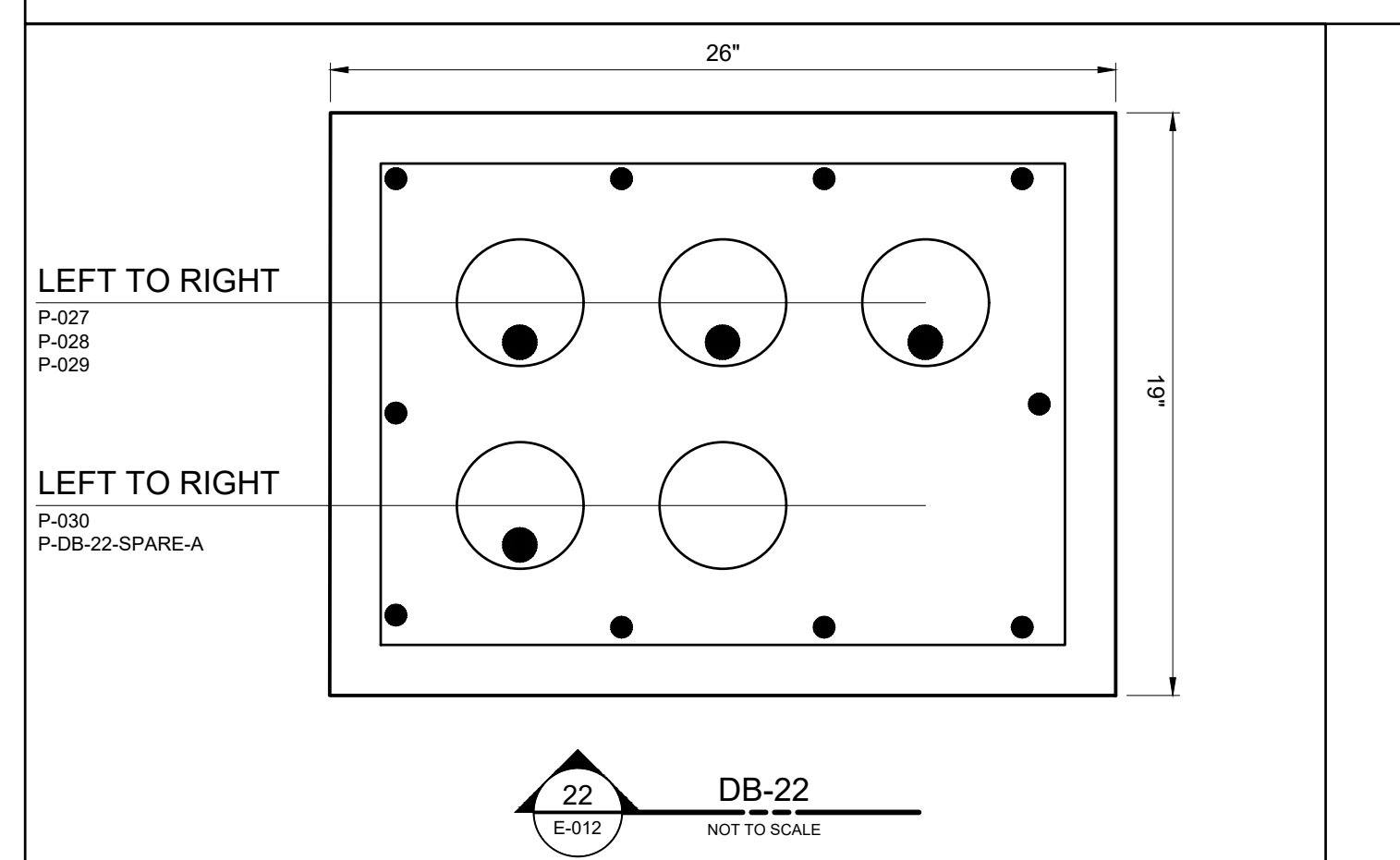
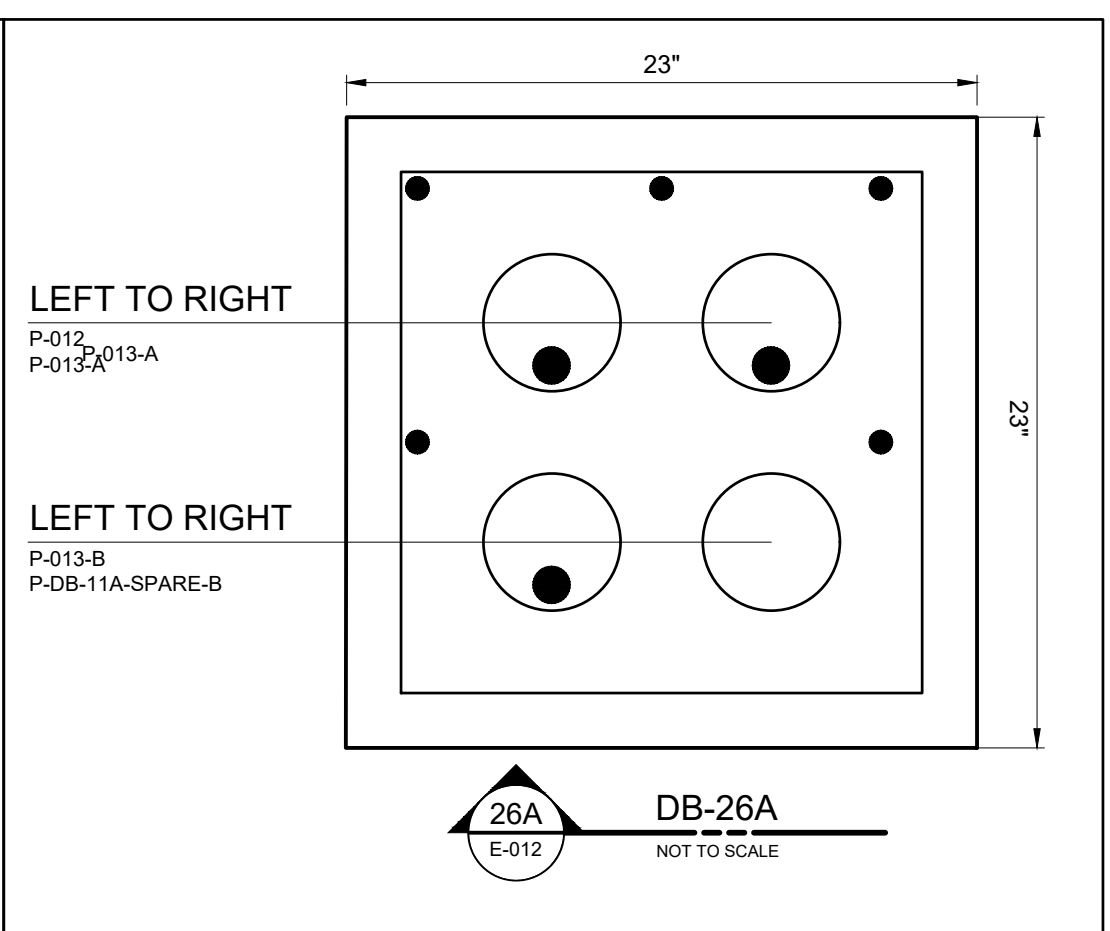
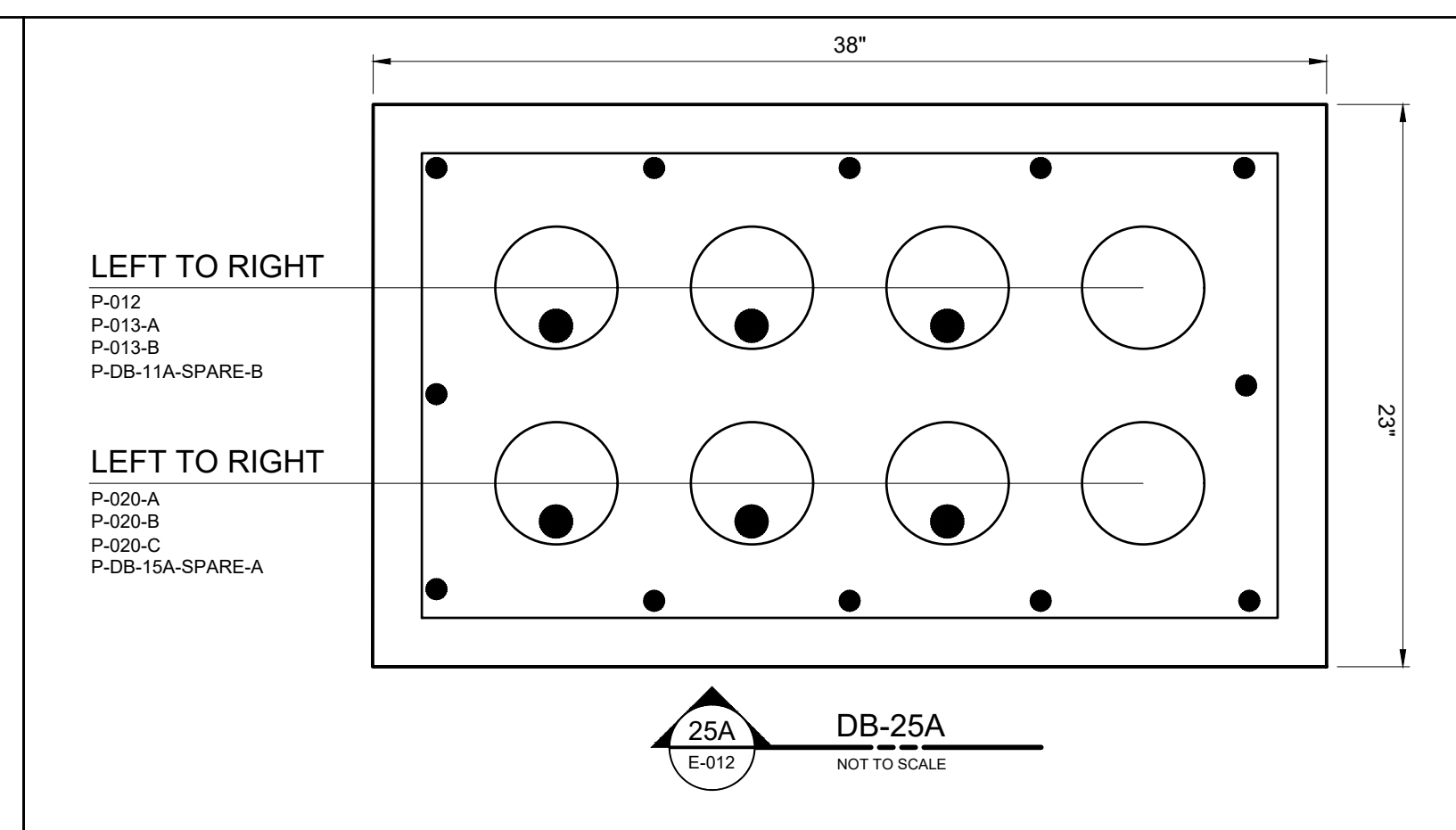
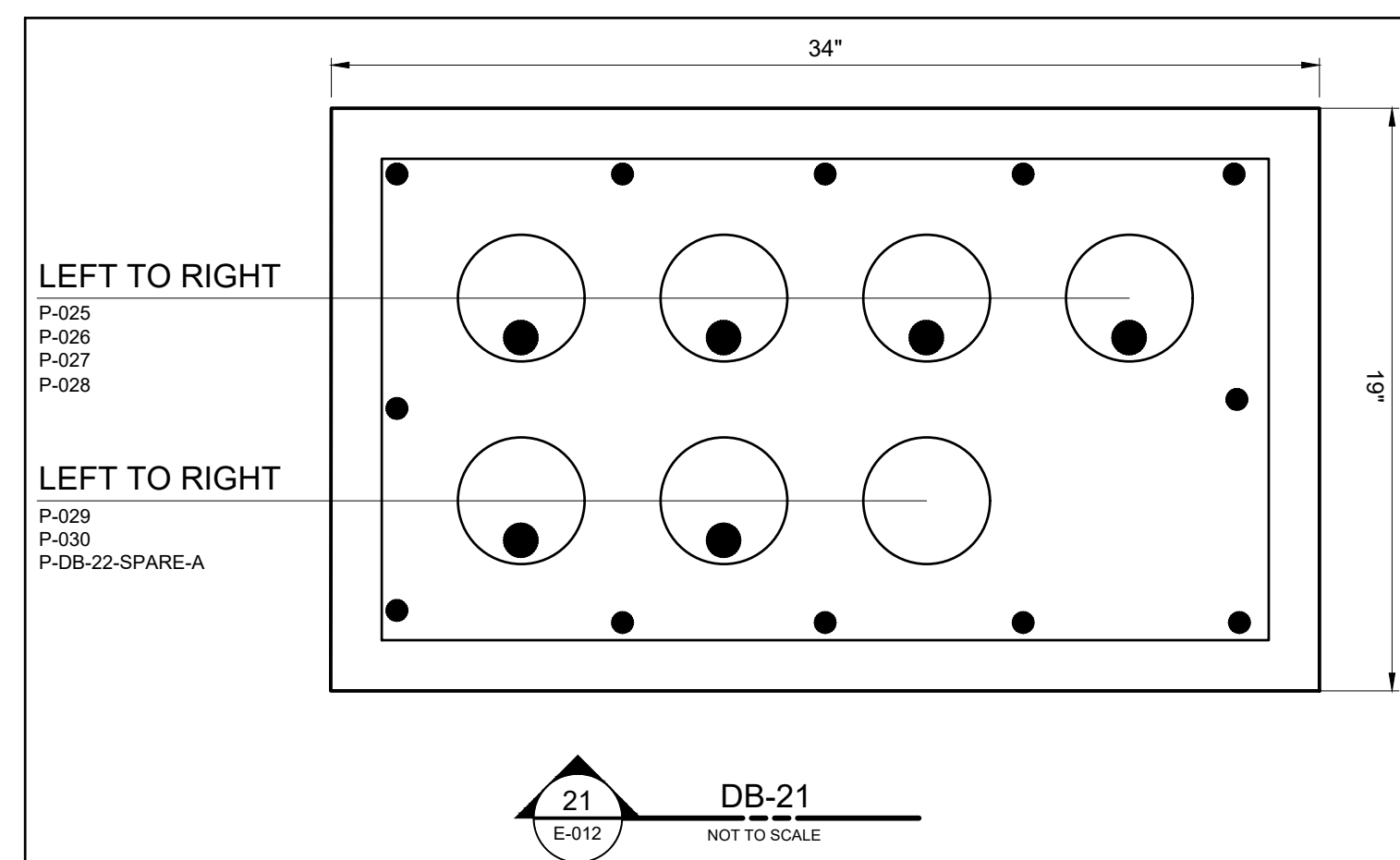
FILED SUB-BID

ELECTRICAL

MANHOLE, HANDHOLE, DUCTBANK SCHEDULES AND DETAILS - SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-016

File: C:\USERS\SHAH\DRAWINGS\HAZEN AND SAWYER\90398-004_WEST PARISH FILTER WTR PROJECT FILES\ELECTRICAL\E-017.dwg
 PLOT DATE: 3/25/2024 1:39 PM BY: DSHAH



REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 0 1/2" 1"

G. Markou
 03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

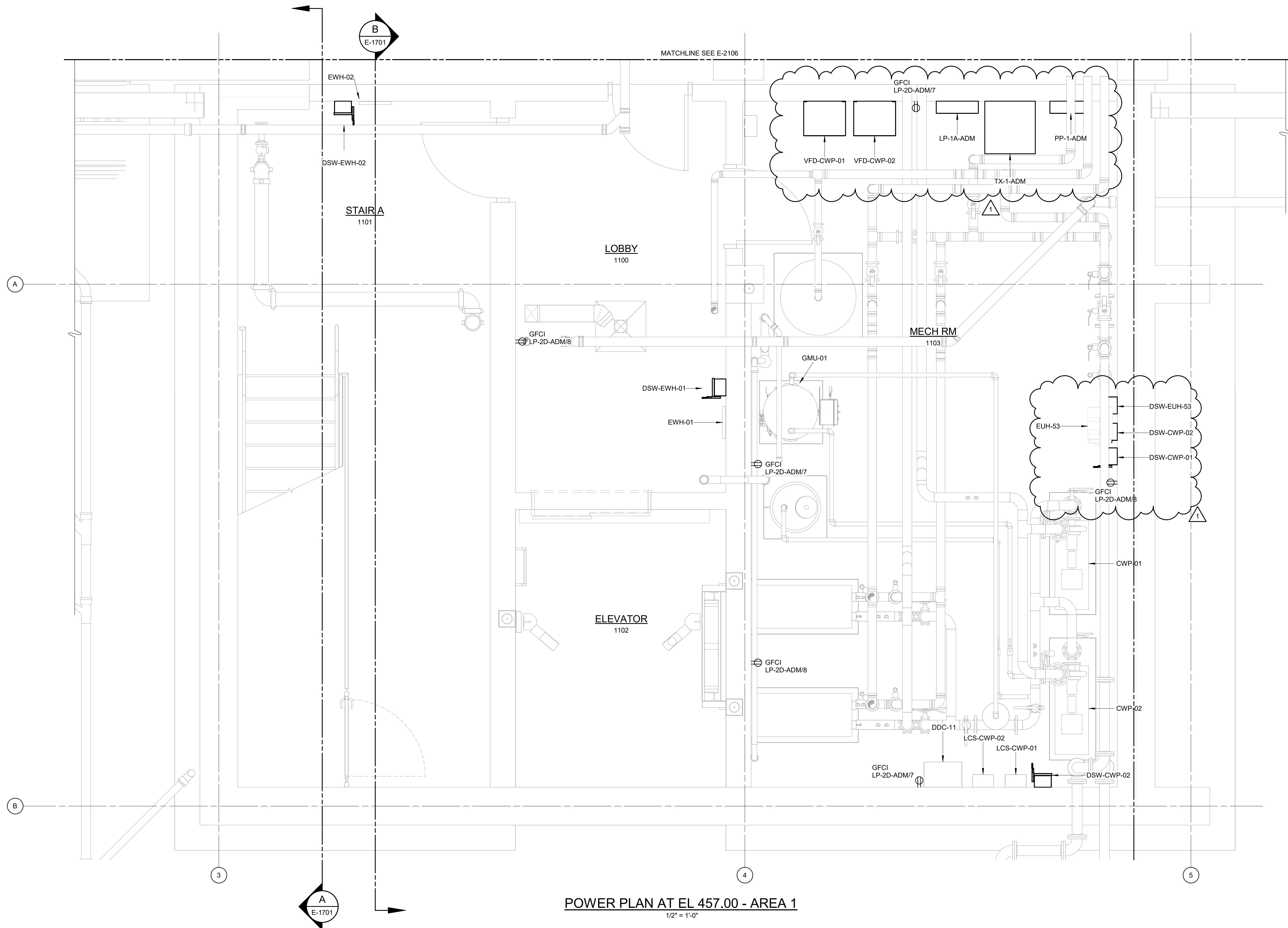
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
ELECTRICAL
MANHOLE, HANDHOLE, DUCTBANK SCHEDULES AND DETAILS - SHEET 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-017



MATCHLINE SEE E-2106



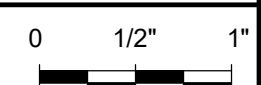
POWER PLAN AT EL 457.00 - AREA 1
1/2" = 1'-0"

3/16" = 1'-0"

Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-ADM-E-11
3/23/2024 1:47:37 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

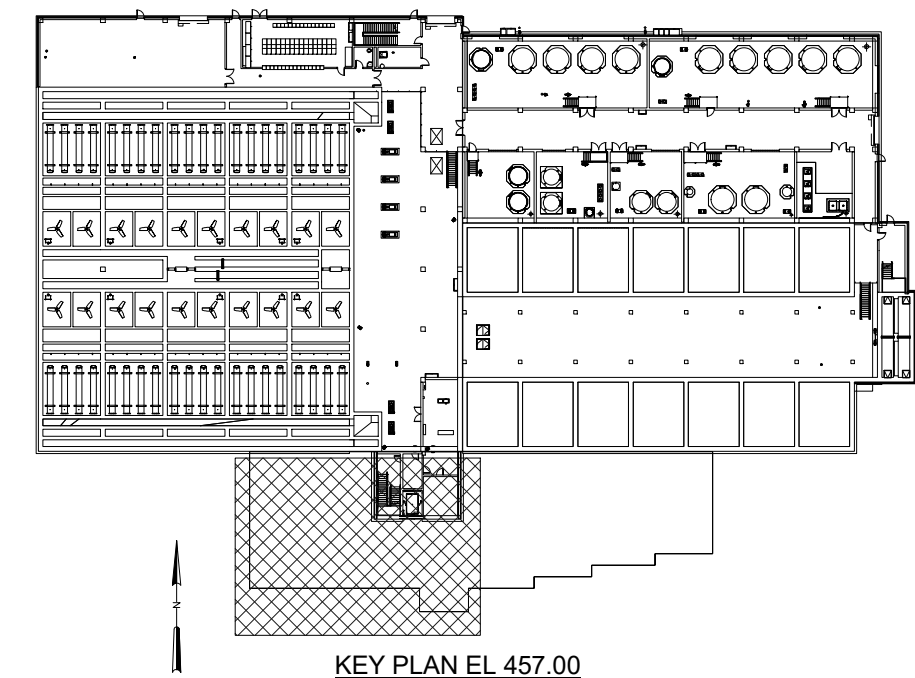
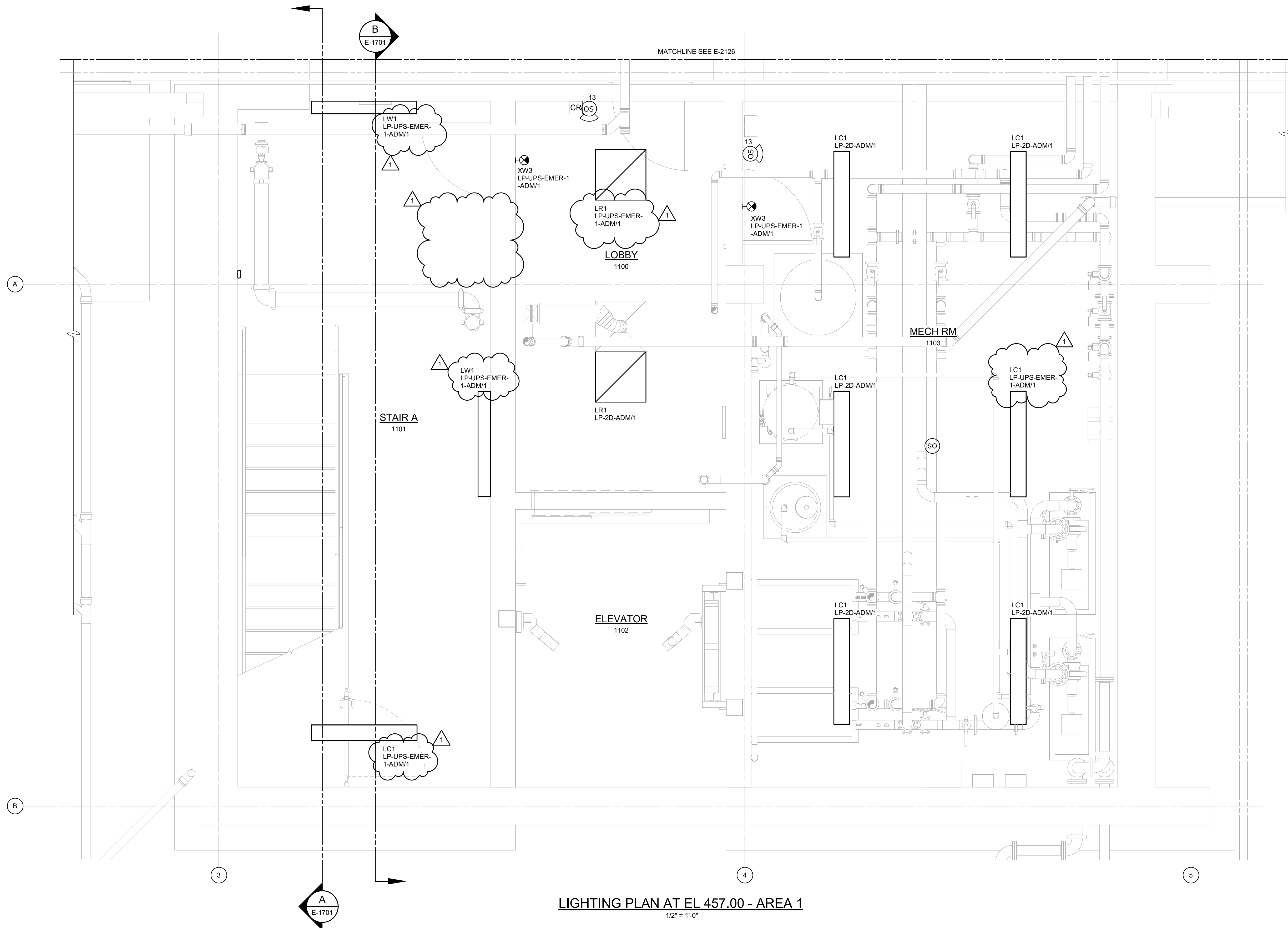
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT 457.00 - ADMINISTRATION AREA 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1101



MATCHLINE SEE E-2126



KEY PLAN EL 457.00

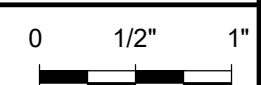
LIGHTING PLAN AT EL 457.00 - AREA 1
1/2" = 1'-0"

3/16" = 1'-0"

Autodesk DocID:109098-004 West Parish Filter WTT190398-004-ADM-E-11
3/25/2024 1:28:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



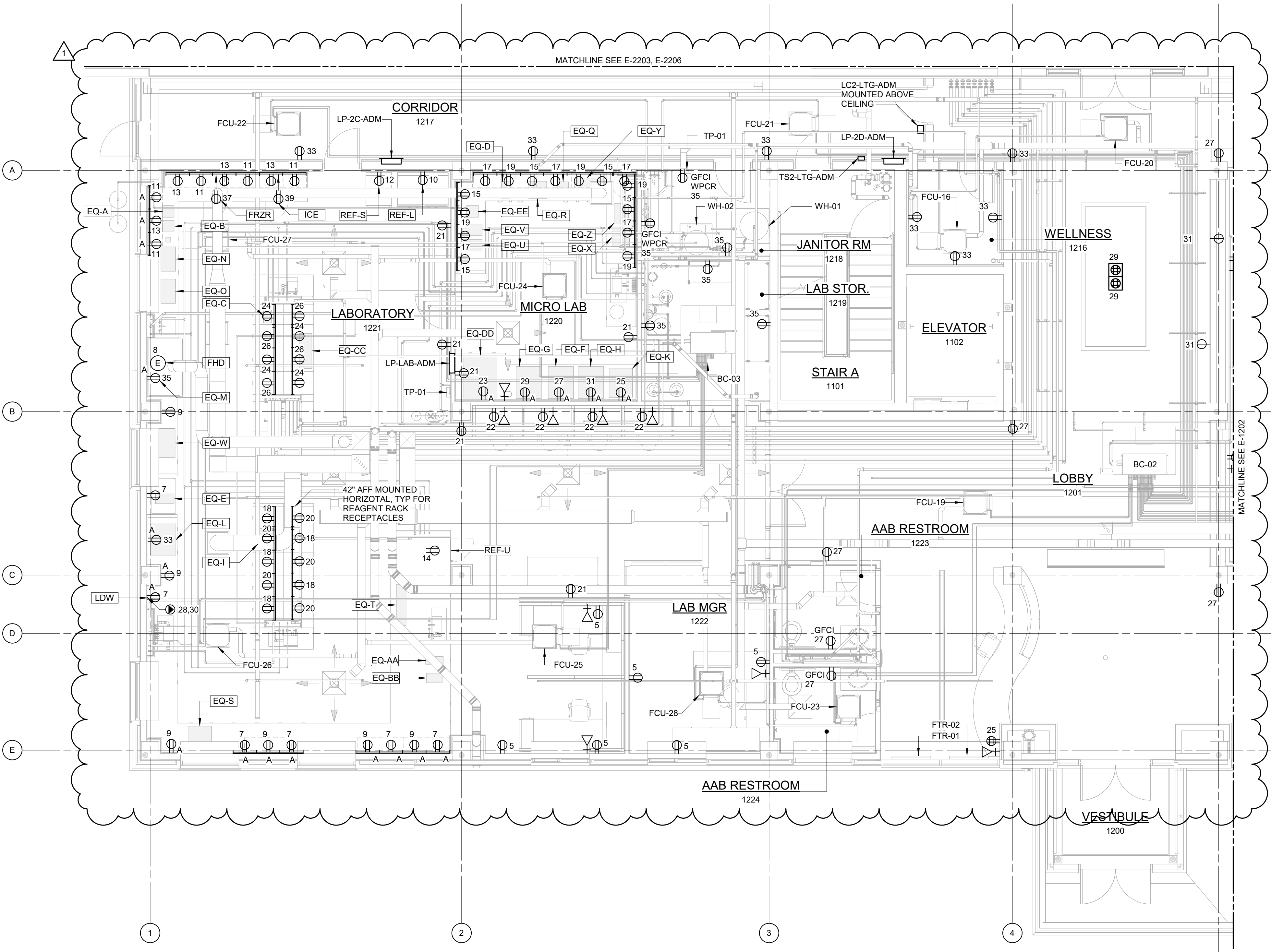
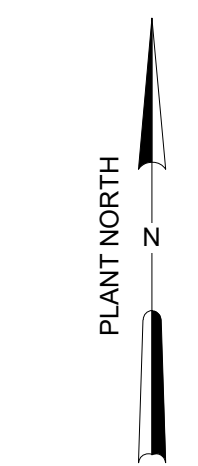
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

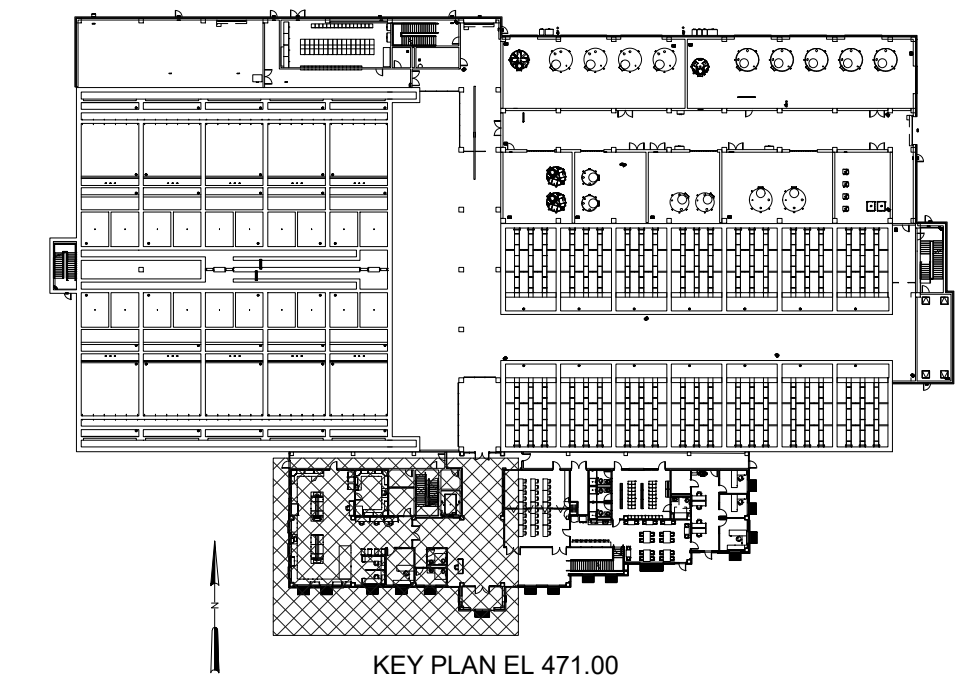
FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT 457.00 - ADMINISTRATION AREA 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1121

NOTES:
 1. RECEPTACLES IN LABORATORY 1221 & LAB MGR 1222 ON THIS SHEET SHALL BE POWERED BY "LP-LAB-ADM". ALL OTHER RECEPTACLES ON SHEET SHALL BE POWERED BY "LP-2D-ADM".



LABORATORY EQUIPMENT SCHEDULE		
MARK	NAME	REMARKS
EQ-A	A - pH METER	RELOCATED
EQ-AA	AA - TOC ANALYZER	RELOCATED
EQ-B	B - pH METER	RELOCATED
EQ-BB	BB - THM ANALYZER	RELOCATED
EQ-C	C - REACTOR BLOCK (SIR)	RELOCATED
EQ-CC	CC - WATER QUALITY TESTER	RELOCATED
EQ-D	D - ANALYTICAL BALANCE	RELOCATED
EQ-DD	DD - AUTOCLAVE	NEW
EQ-E	E - TOP LOAD BALANCE	RELOCATED
EQ-EE	EE - BUNSEN BURNER	RELOCATED
EQ-F	F - INCUBATOR	RELOCATED
EQ-G	G - INCUBATOR	RELOCATED
EQ-H	H - INCUBATOR	NEW
EQ-I	I - SPECTROPHOTOMETER	RELOCATED
EQ-K	K - AUTOCLAVE	NEW
EQ-L	L - DRYING OVEN	NEW
EQ-M	M - DRYING OVEN	RELOCATED
EQ-N	N/O - TURBIDIMETER	RELOCATED
EQ-O	O - TURBIDIMETER	RELOCATED
EQ-P	P - CONDUCTIVITY METER	RELOCATED
EQ-Q	Q - COLONY COUNTER	NEW
EQ-R	R - INCUBATOR	RELOCATED
EQ-S	S - ANALYZER	RELOCATED
EQ-T	T - JAR TESTER	RELOCATED
EQ-U	U - DISSECTING MICROSCOPE	RELOCATED
EQ-V	V - MICROSCOPE	RELOCATED
EQ-W	W - PUMP AND MANIFOLD	RELOCATED
EQ-X	X - WATER BATH	RELOCATED
EQ-Y	Y - WATER BATH	RELOCATED
EQ-Z	Z - TRAY SEALER	RELOCATED
FHD	60" FUME HOOD	NEW
FRZR	24" LH UNDER COUNTER FREEZER	NEW
ICE	24" UNDER COUNTER ICE MAKER	NEW
LDW	24" LAB DISHWASHER	NEW
REF-L	52" LAB REFRIGERATOR	NEW
REF-S	26" LAB REFRIGERATOR	NEW
REF-U	24" RH UNDER COUNTER LAB REFRIGERATOR	NEW



POWER PLAN AT EL 471.00 - AREA 1
 3/16" = 1'-0"



Autodesk Docs/090908-004_West Parish Filter WTT/90908-004-ADM-E-14 3/25/2024 1:40:12 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
 ELECTRICAL

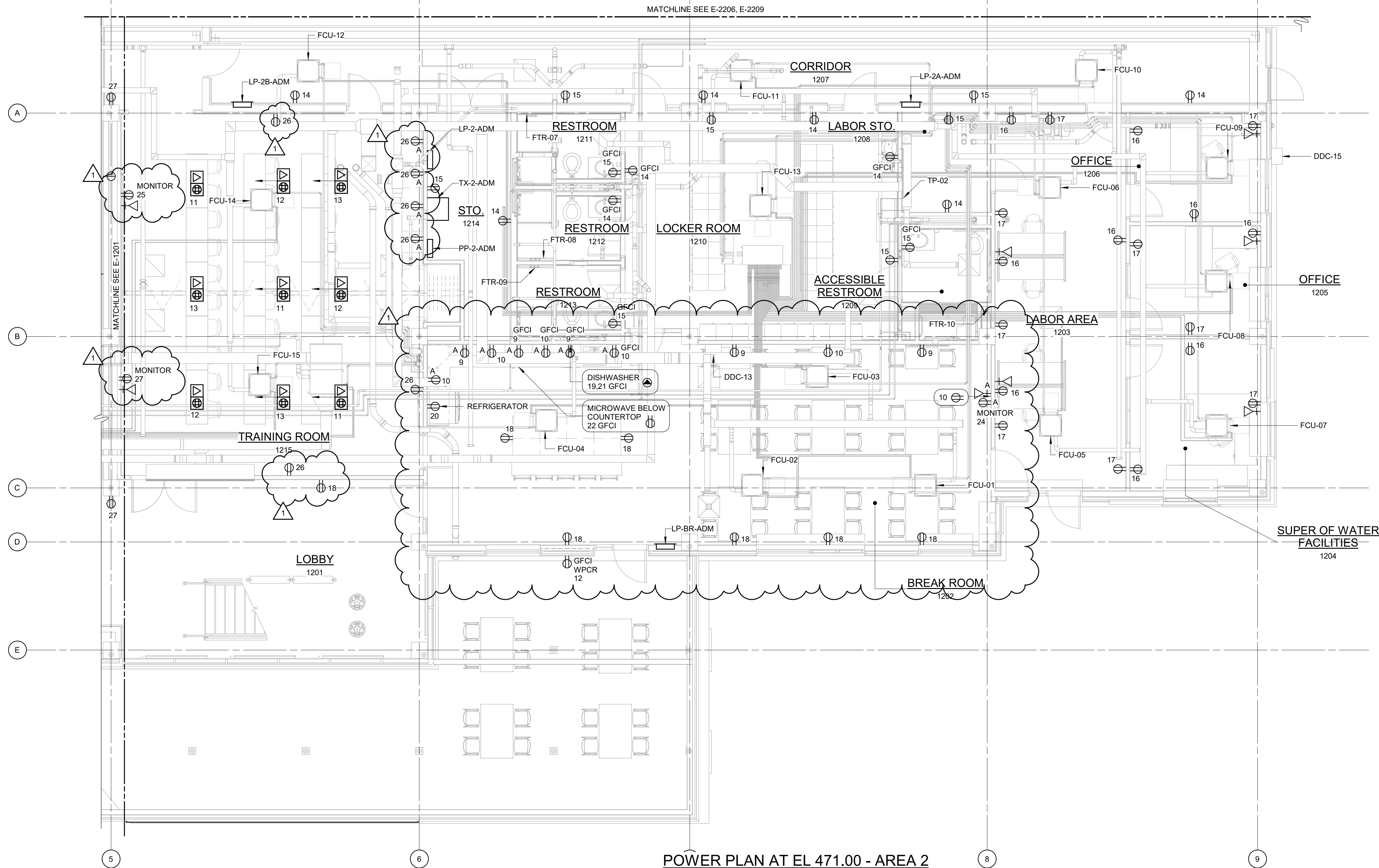
POWER PLAN AT EL 471.00 - ADMINISTRATION AREA 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1201



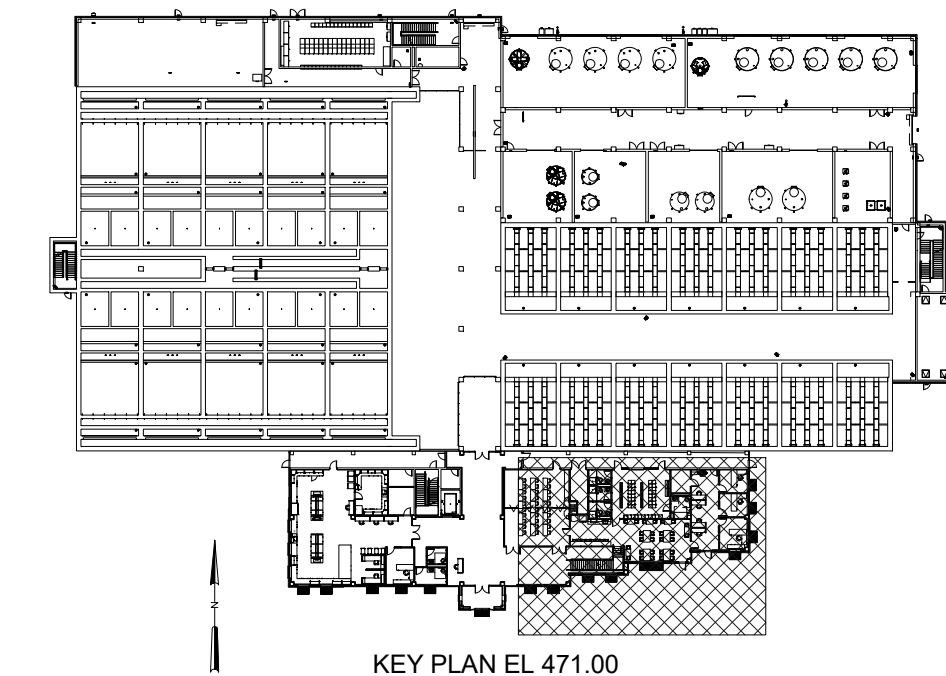
NOTES:

- 1. RECEPTACLES ON THIS SHEET SHALL BE POWERED BY LP-BR-ADM.



POWER PLAN AT EL 471.00 - AREA 2

3/16" = 1'-0"



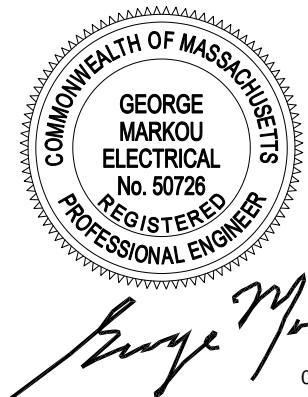
KEY PLAN EL 471.00



Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:28:11 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



George Markou
03/25/2024

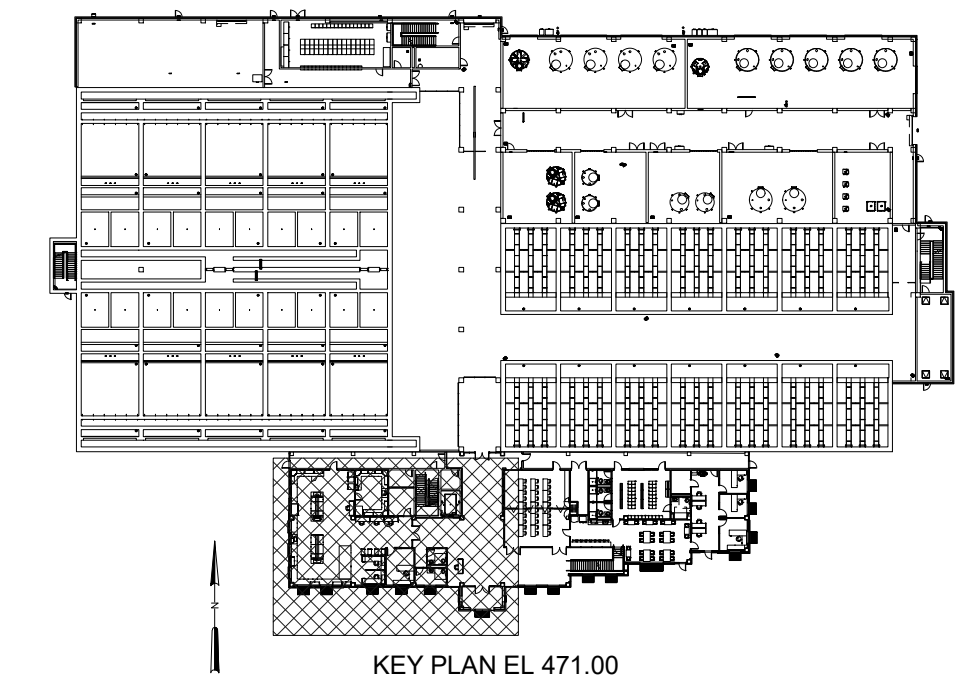
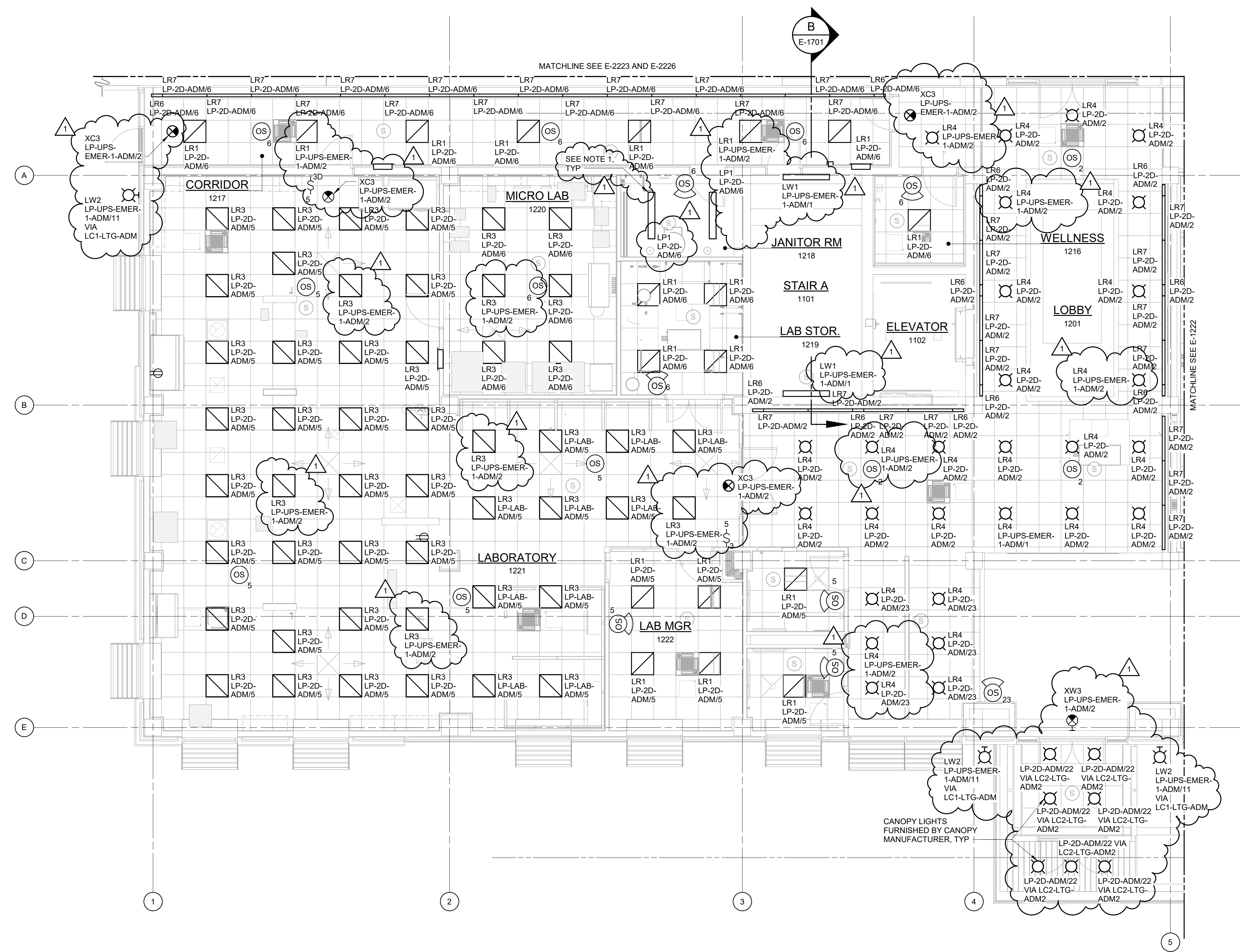
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
POWER PLAN AT EL 471.00 - ADMINISTRATION AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1202

NOTES:
 1. MOUNT FIXTURE TYPE "LP1" 12'-0" AFF.



LIGHTING PLAN AT EL 471.00 - AREA 1
 3/16" = 1'-0"

3/16" = 1'-0"
 6 4 2 0 5'

Autodesk DocID: 90398-004 West Parish File: WTT90398-004-ADM-E-1.rvt 3/25/2024 1:28:15 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"

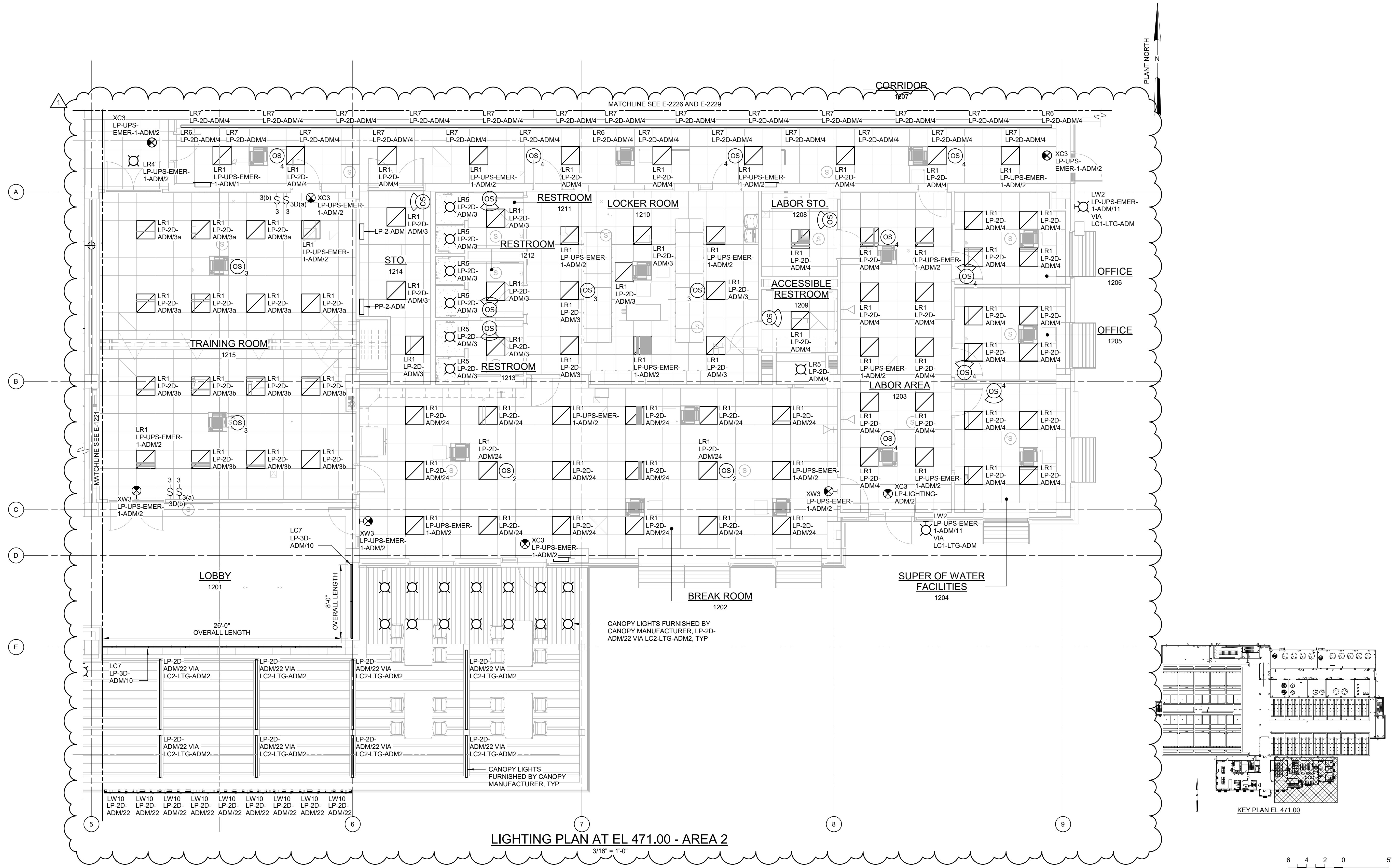
 03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
 LIGHTING PLAN AT EL 471.00 - ADMINISTRATION AREA
 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1221



LIGHTING PLAN AT EL 471.00 - AREA 2
3/16" = 1'-0"

3/16" = 1'-0"

Autodesk DocID: 90398-004 West Parish File: WTT190398-004-ADM-EL-14 3/25/2024 1:34:52 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

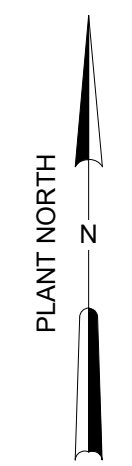


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

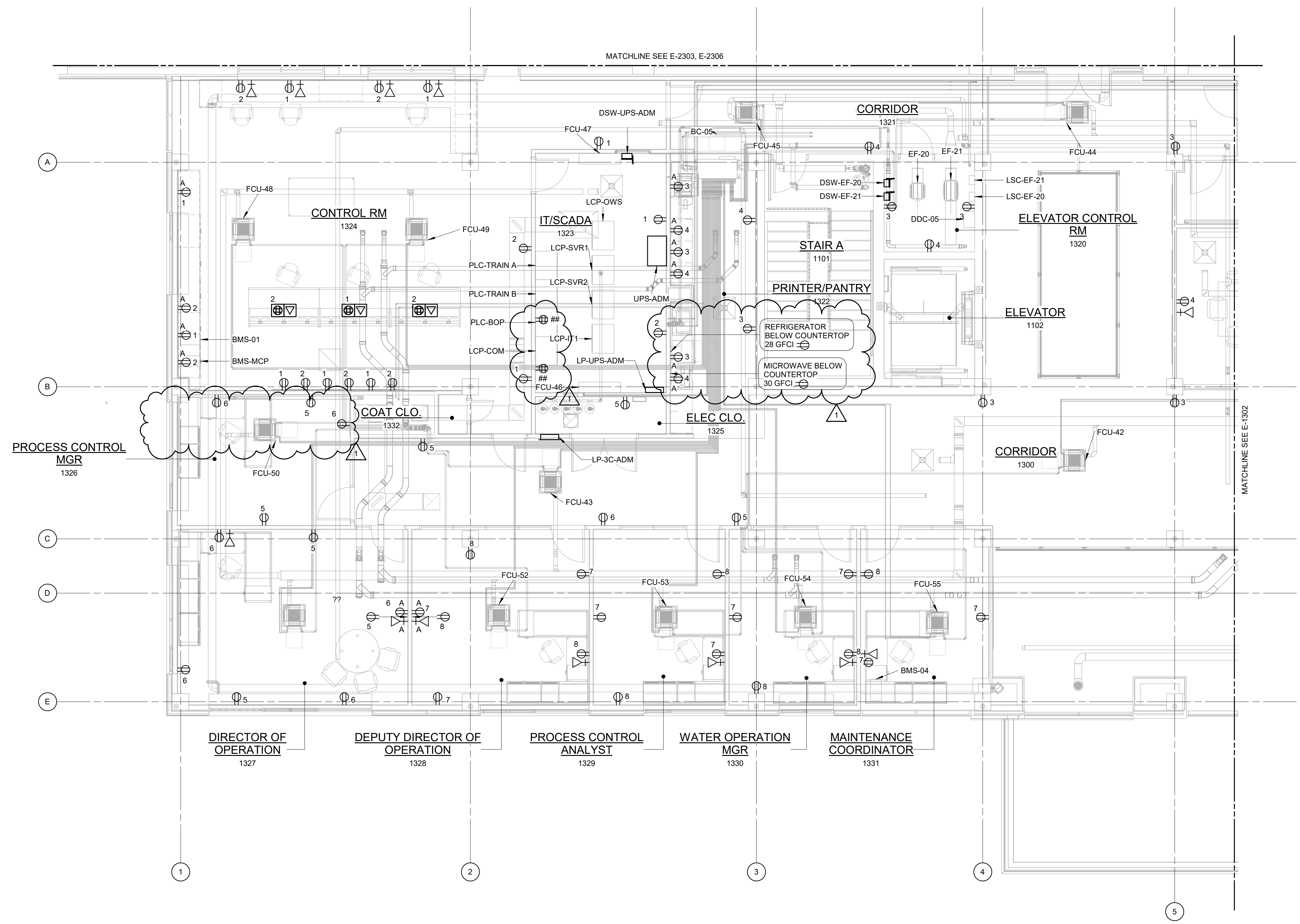
FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL 471.00 - ADMINISTRATON AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1222

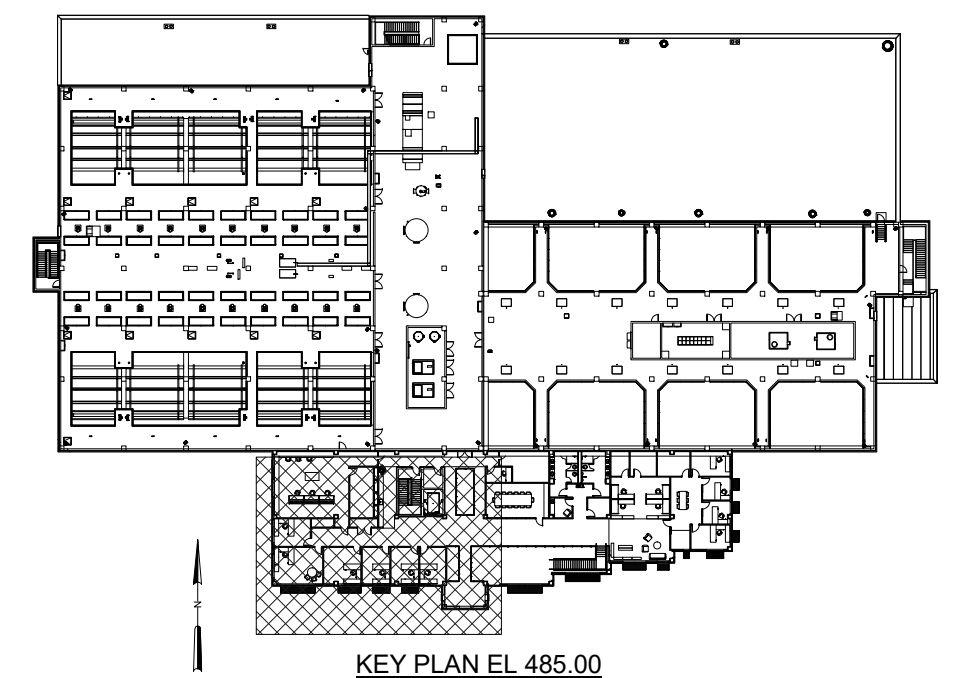


NOTES:

1. RECEPTACLES ON SHEET SHALL BE POWERED BY LP-3D-ADM.



POWER PLAN AT EL 485.00 - AREA 1
3/16" = 1'-0"



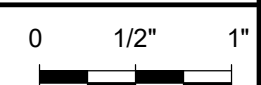
KEY PLAN EL 485.00
3/16" = 1'-0"

Autodesk DocuSign/09098-004_West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:28:37 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

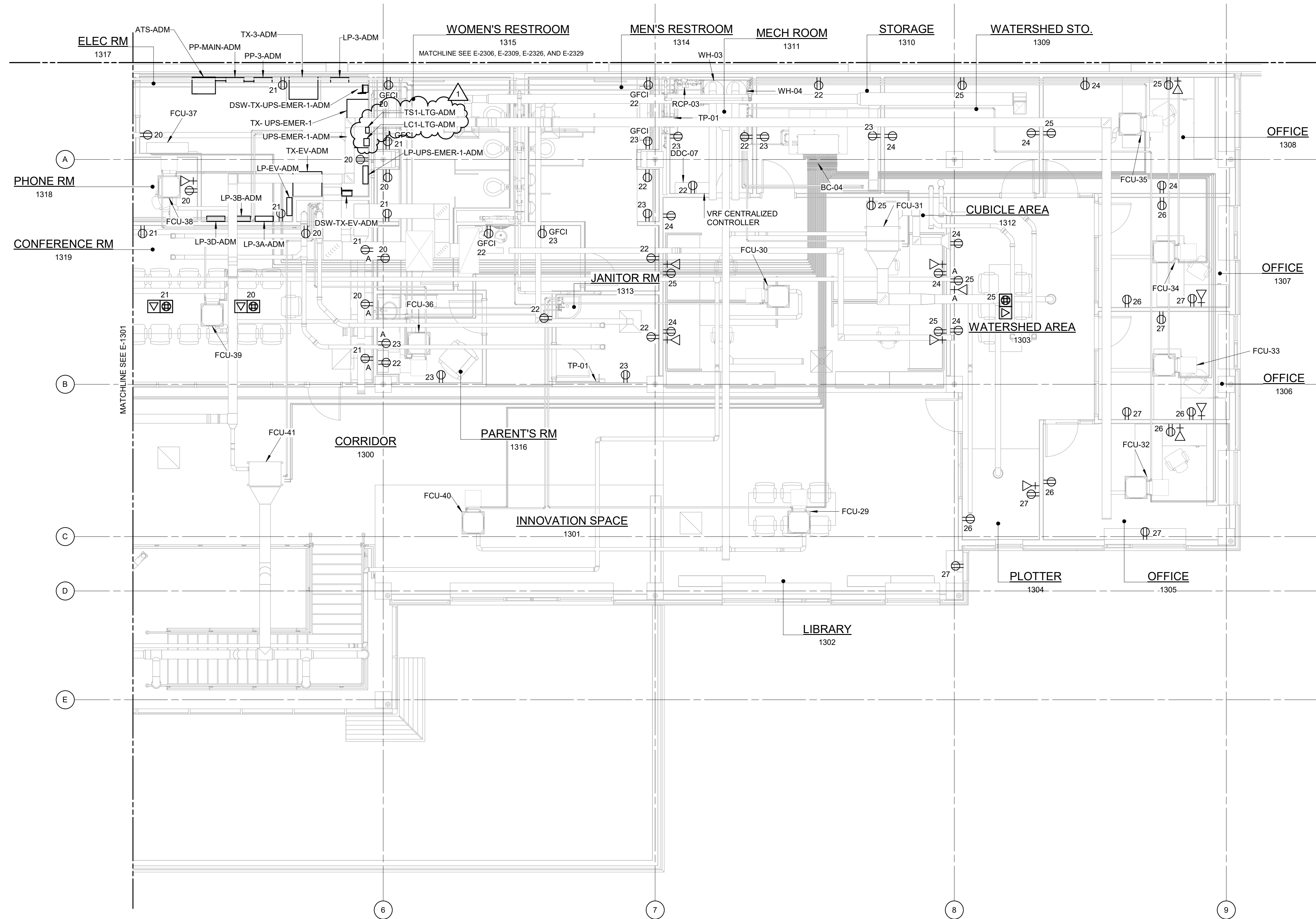


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
POWER PLAN AT EL 485.00 - ADMINISTRATION AREA 1

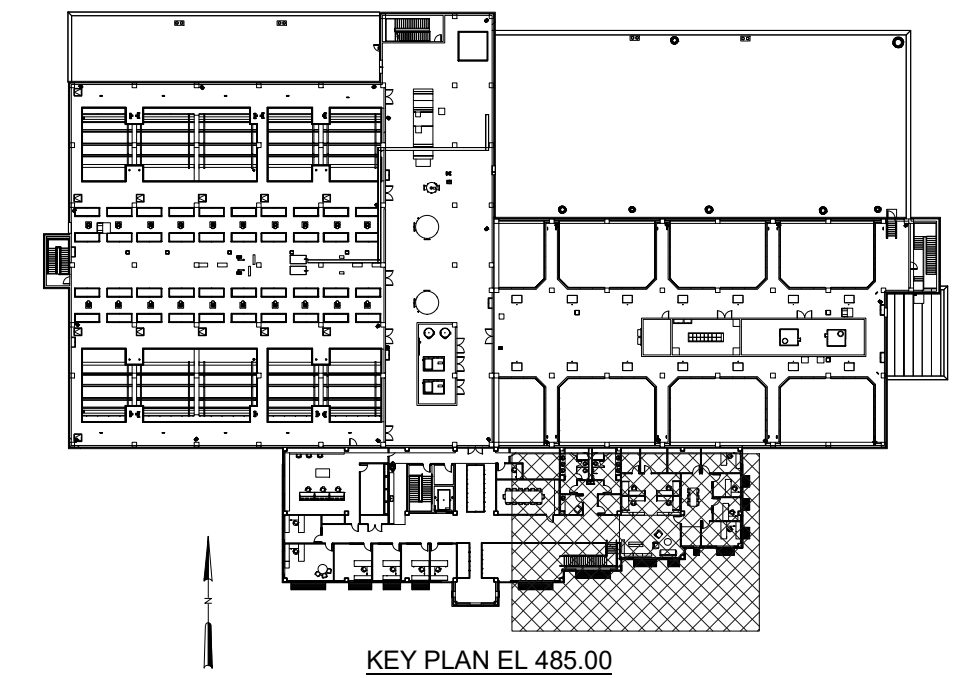
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1301



NOTES:
 1. RECEPTACLES ON SHEET SHALL BE POWERED BY LP-3D-ADM.



POWER PLAN AT 485.00 - AREA 2
 3/16" = 1'-0"



KEY PLAN EL 485.00
 3/16" = 1'-0"

Autodesk Docs://09098-004_West Parish Filter WTT/9098-004-ADM-E-14
 3/25/2024 1:34:53 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 2	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
 03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

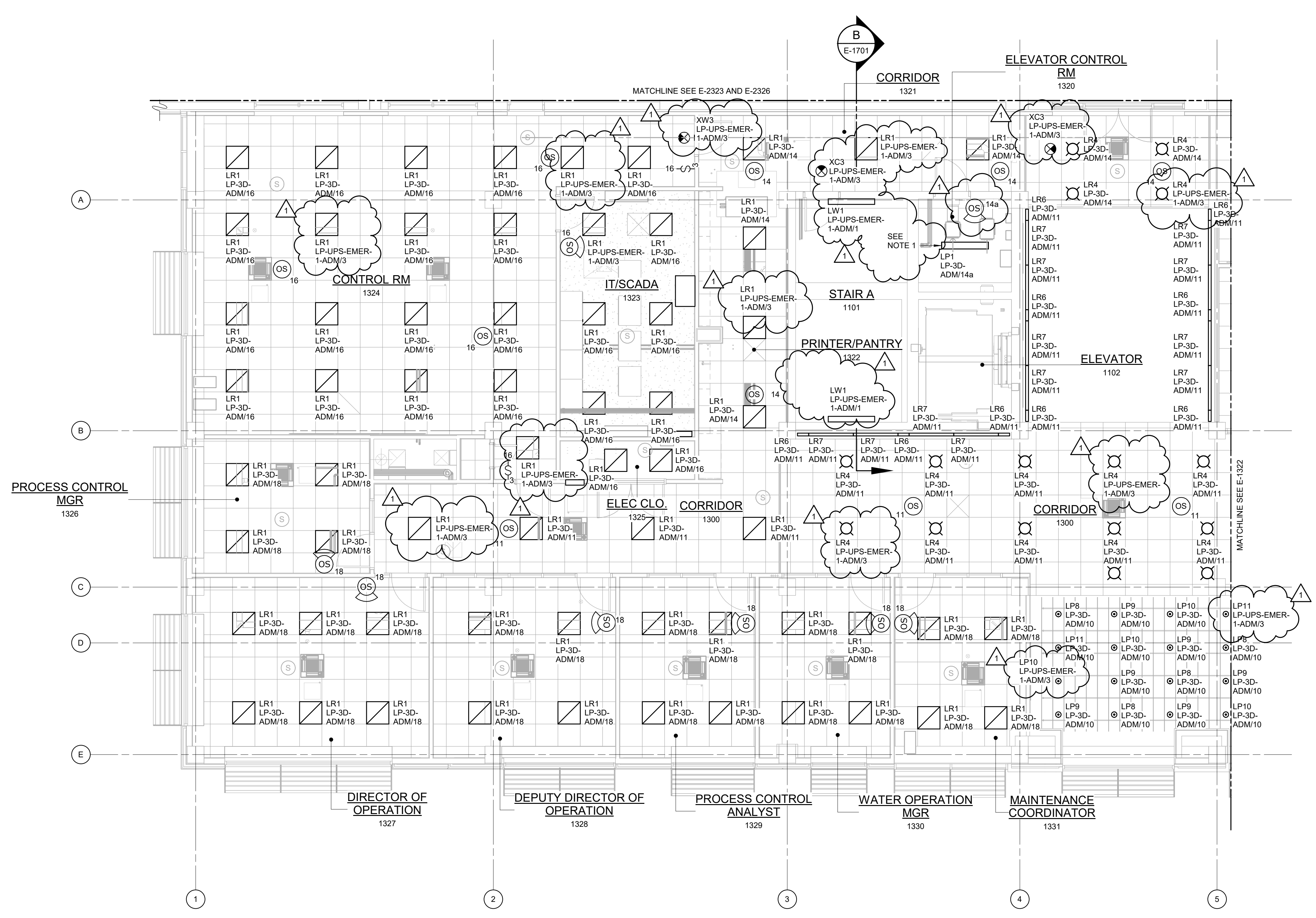
FILED SUB-BID

WATER TREATMENT BUILDING
 ELECTRICAL

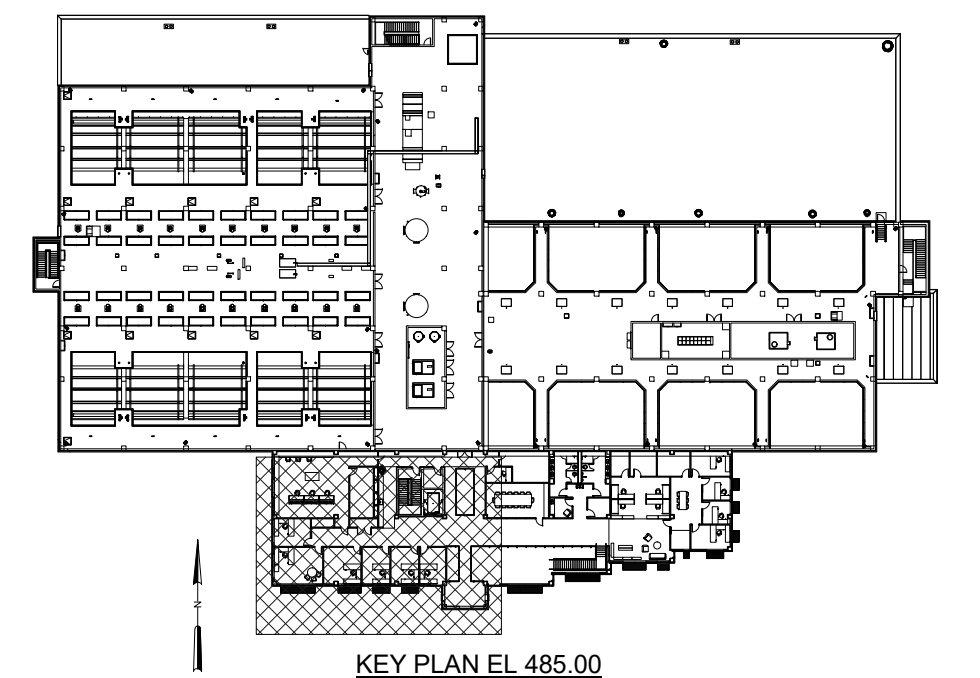
POWER PLAN AT EL 485.00 - ADMINISTRATION AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1302

NOTES:
 1. MOUNT FIXTURE TYPE "LP1" 12'-0" AFF.



LIGHTING PLAN AT EL 485.00 - AREA 1
 3/16" = 1'-0"



KEY PLAN EL 485.00
 3/16" = 1'-0"

Autodesk_Documents\090398-004_West Parish Filter WTT\90398-004-ADM-E-1.rvt 3/25/2024 1:20:01 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

03/25/2024

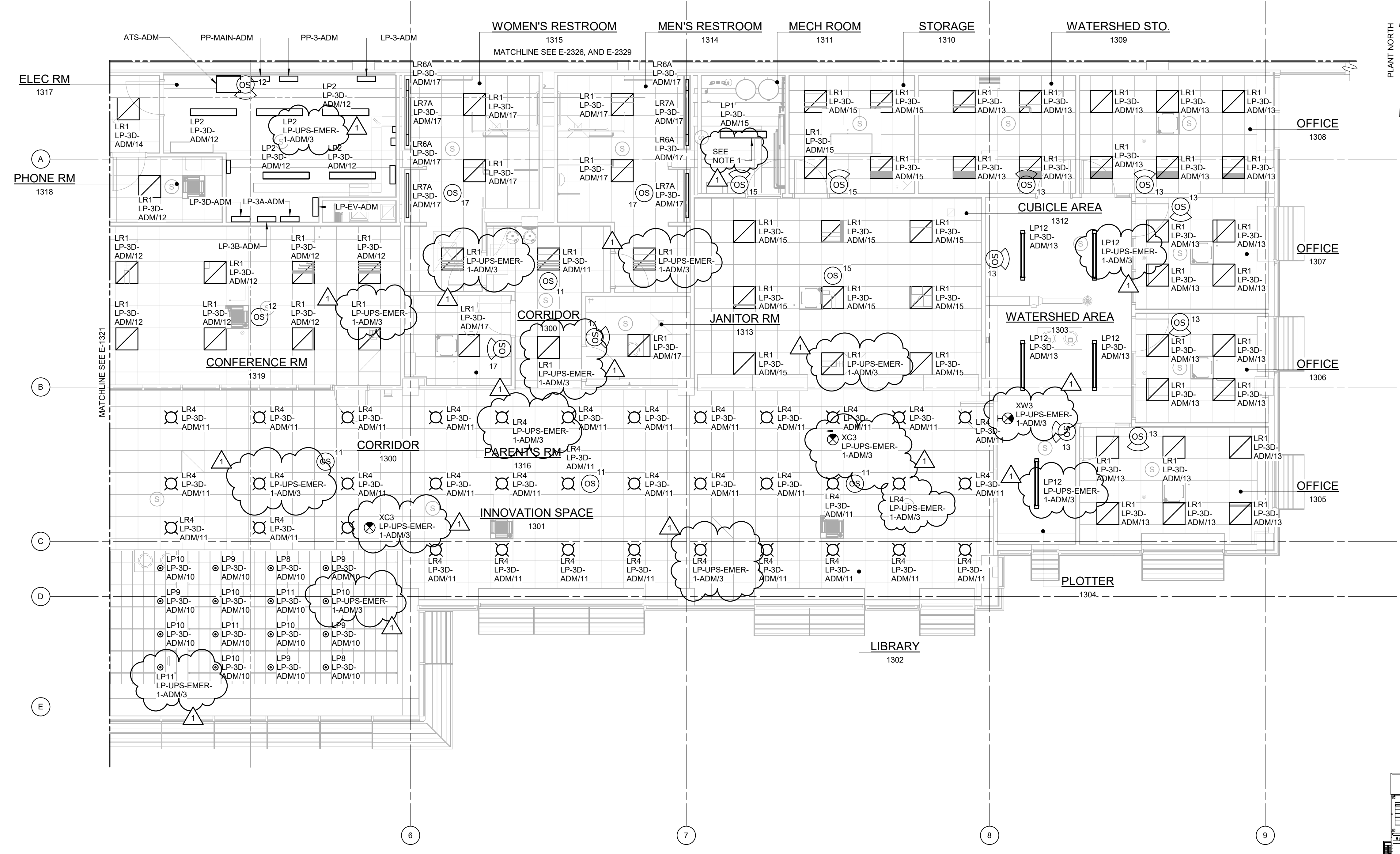
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

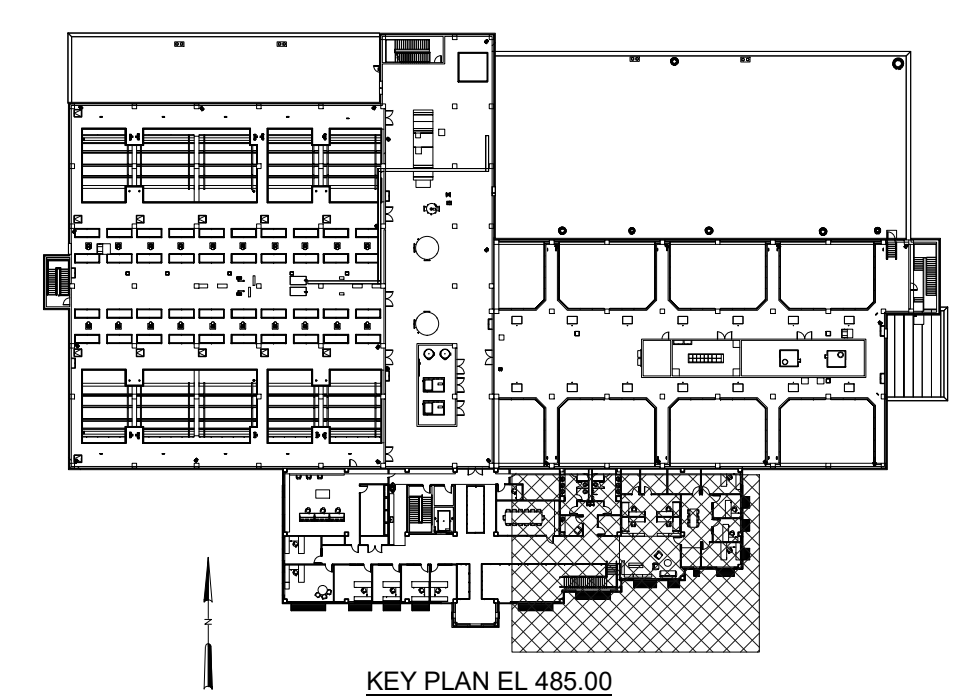
FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL 485.00 - ADMINISTRATION AREA
 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1321

NOTES:
 1. MOUNT FIXTURE TYPE "LP1" 10'-0" AFF.



LIGHTING PLAN AT EL 485.00 - AREA 2
 3/16" = 1'-0"



KEY PLAN EL 485.00
 3/16" = 1'-0"

Autodesk_Docset/090398-004_ West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:29:14 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
 ELECTRICAL

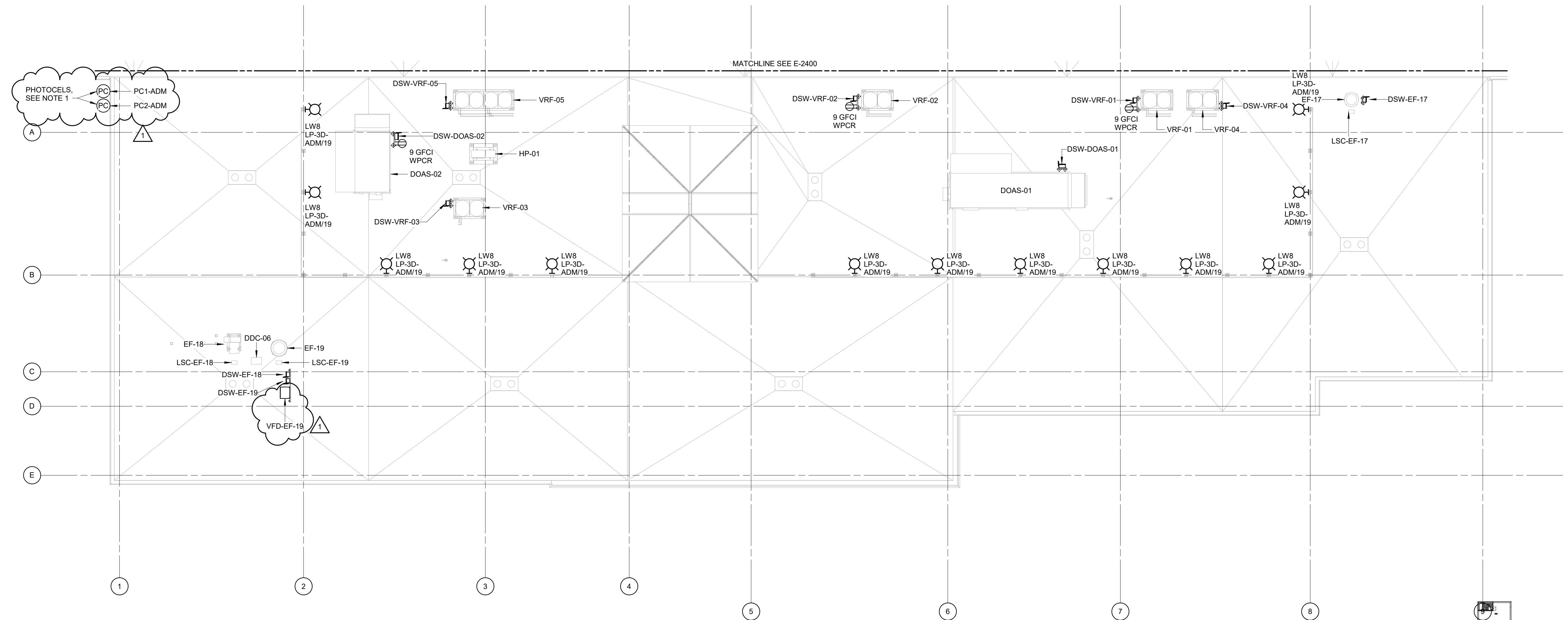
LIGHTING PLAN AT EL 485.00 - ADMINISTRATION AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1322

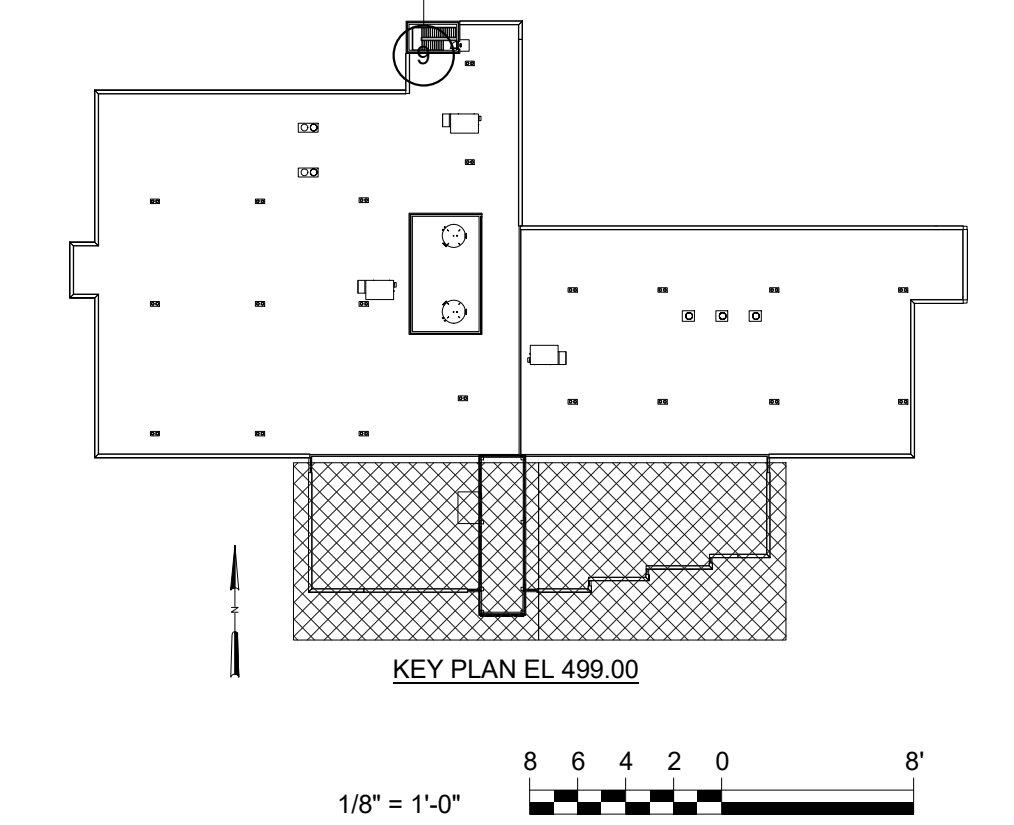


NOTES:

- RECEPTACLES ON THIS SHEET SHALL BE POWERED BY LP-3D-ADM.



POWER AND LIGHTING PLAN AT EL 499.00 - AREA 1 & 2
1/8" = 1'-0"



Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:29:20 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

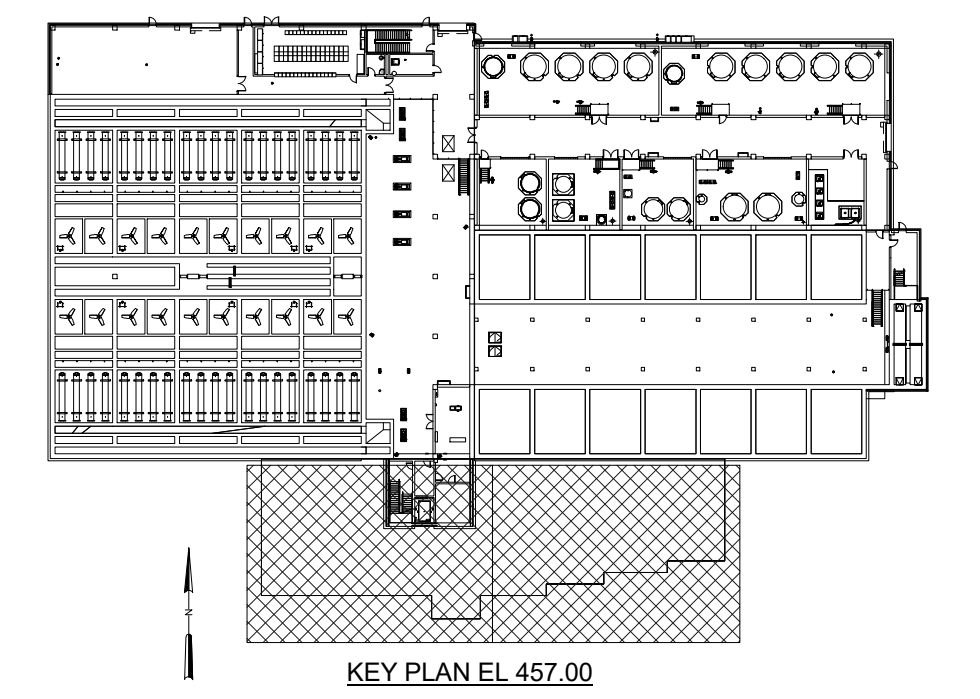
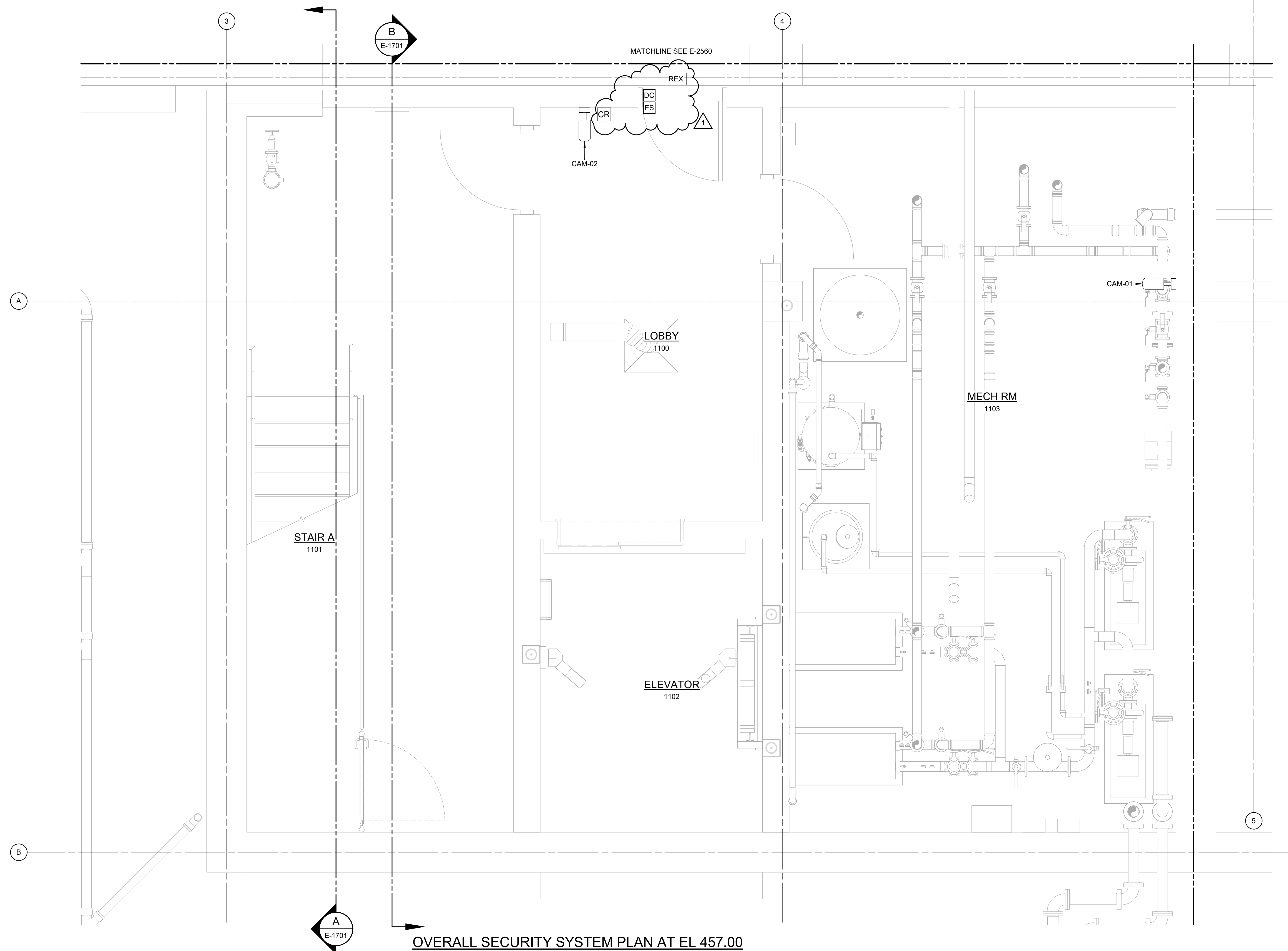
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
OVERALL POWER AND LIGHTING PLAN AT EL 499.00 - ADMINISTRATION AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1401



OVERALL SECURITY SYSTEM PLAN AT EL 457.00
1/2" = 1'-0"

3/16" = 1'-0"
6 4 2 0 5'

Autodesk DocuSign/090398-004_West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:34:54 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

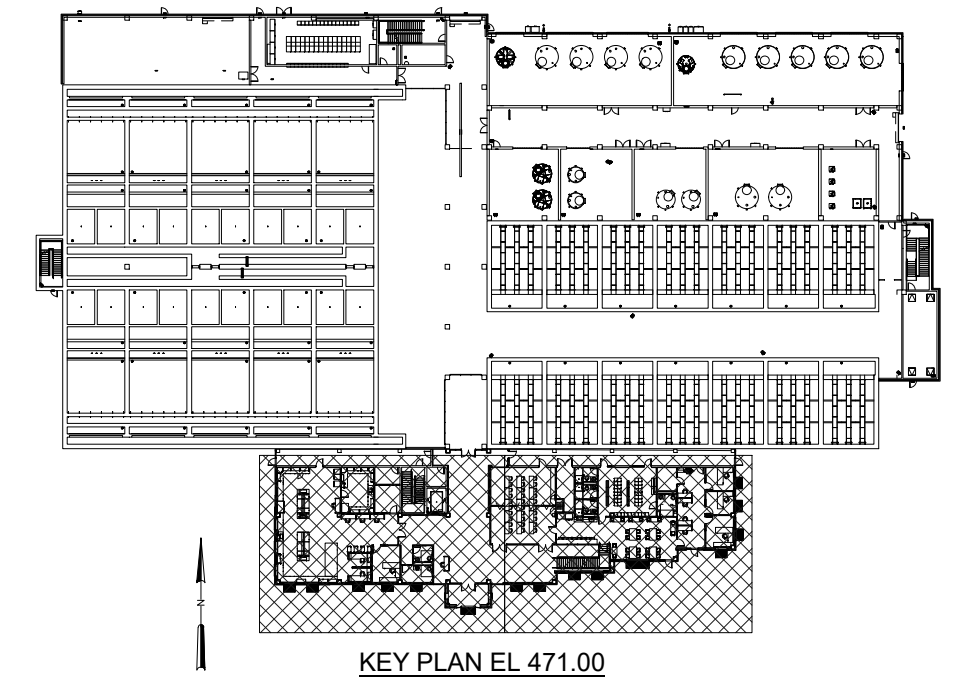
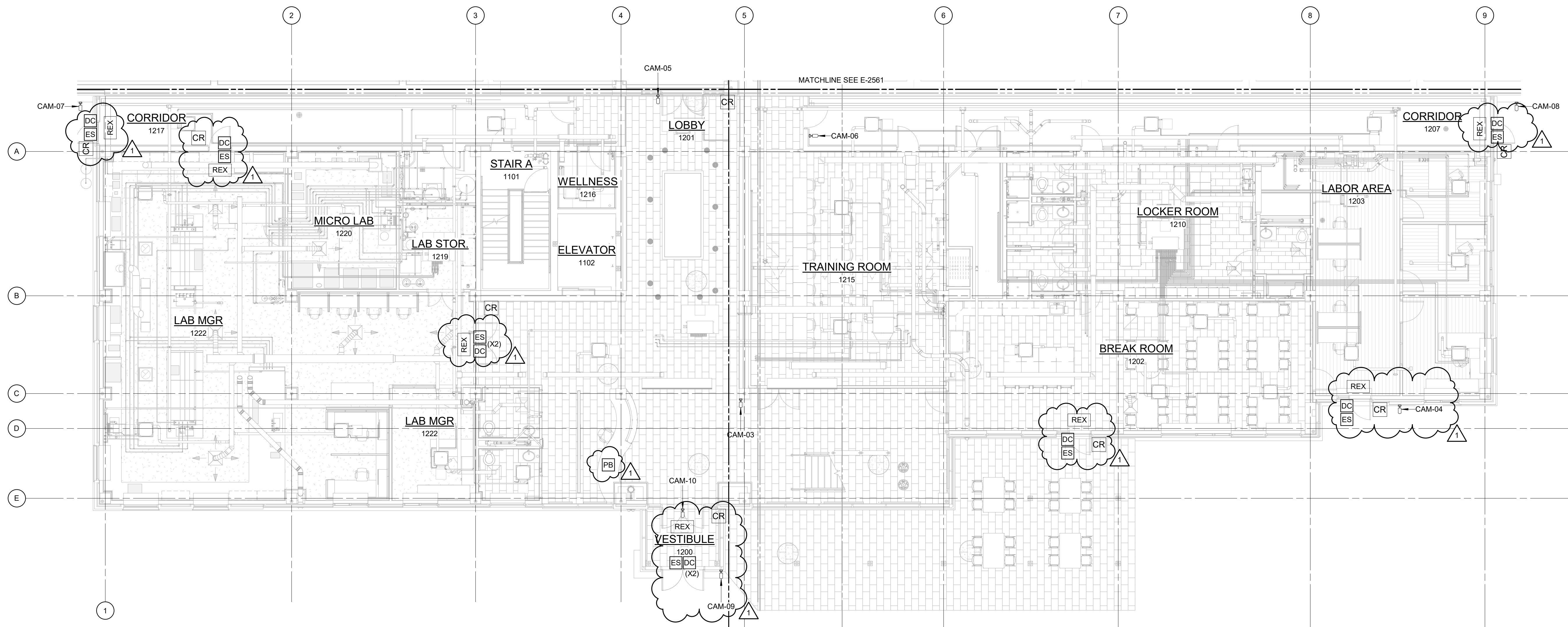
PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT EL 457.00 -
ADMINISTRATION AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1520



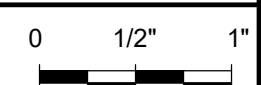
OVERALL SECURITY SYSTEM PLAN AT EL 471.00
1/8" = 1'-0"

KEY PLAN EL 471.00
1/8" = 1'-0"

Autodesk Docs/09098-004_West Parish Filter WTT/9098-004-ADM-E-14 3/25/2024 1:30:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

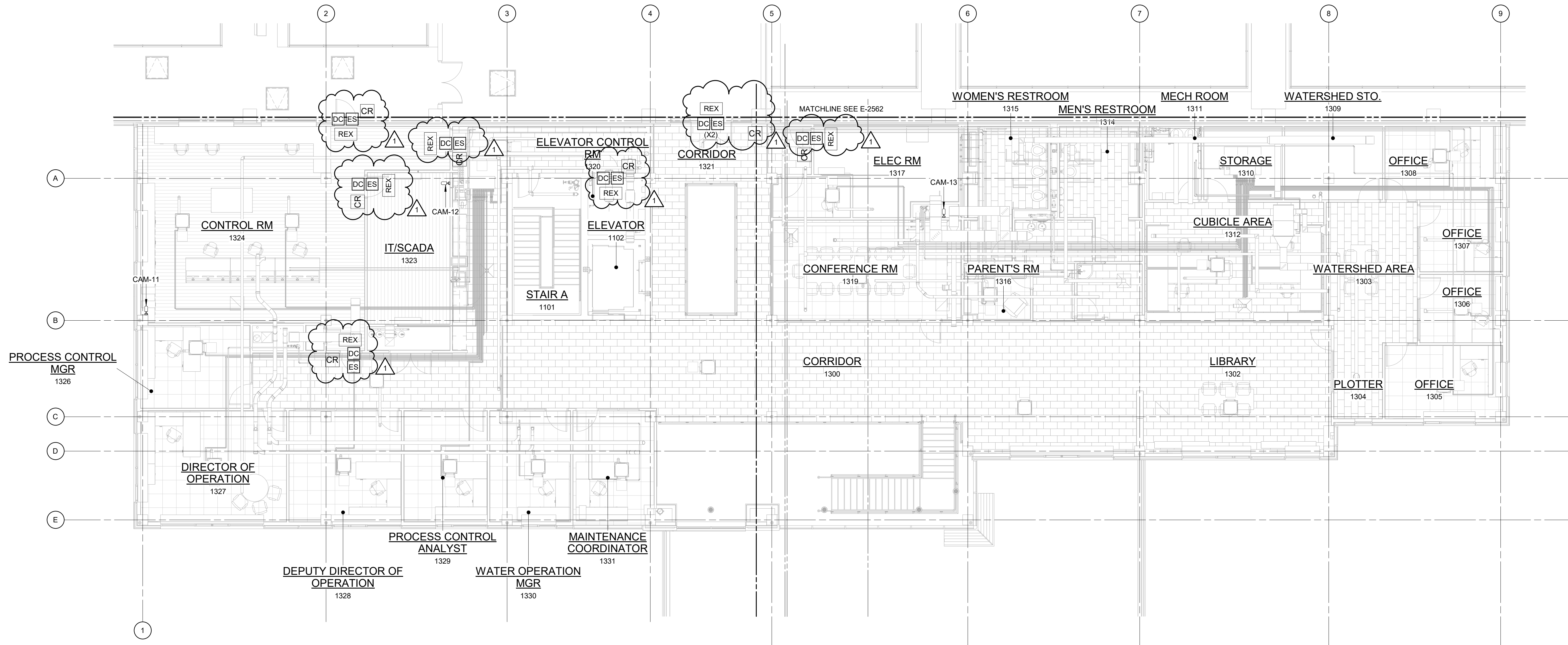


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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT EL 471.00 -
ADMINISTRATION AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1521



PROCESS CONTROL MGR 1326

DIRECTOR OF OPERATION 1327

DEPUTY DIRECTOR OF OPERATION 1328

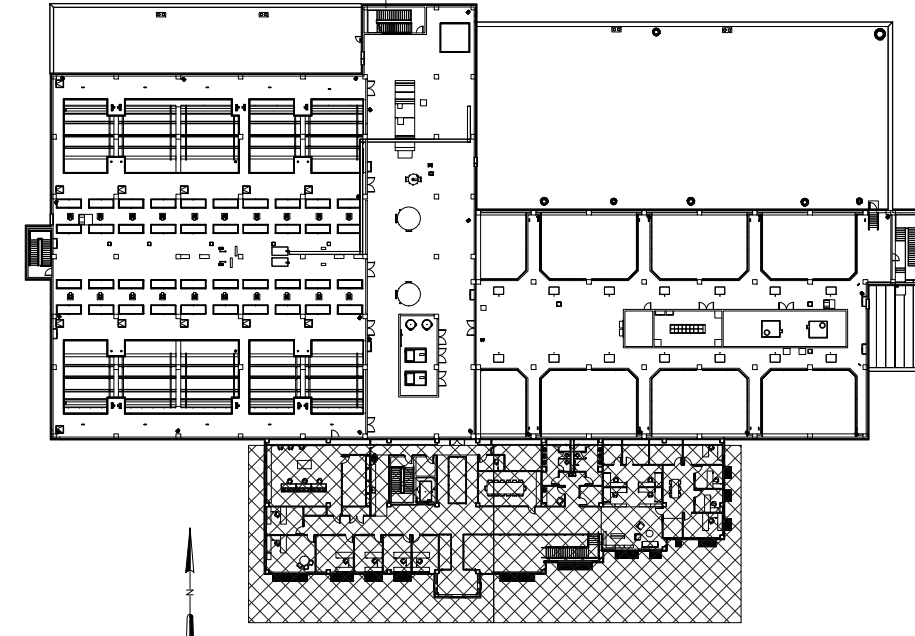
PROCESS CONTROL ANALYST 1329

WATER OPERATION MGR 1330

MAINTENANCE COORDINATOR 1331

OVERALL SECURITY SYSTEM PLAN AT EL 485.00

1/8" = 1'-0"



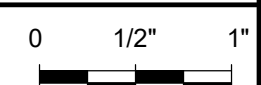
KEY PLAN EL 485.00

3/16" = 1'-0" 6 4 2 0 5'

Autodesk Docs/060398-004_West Parish Filter WTT/90398-004-ADM-E-14 3/25/2024 1:30:13 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

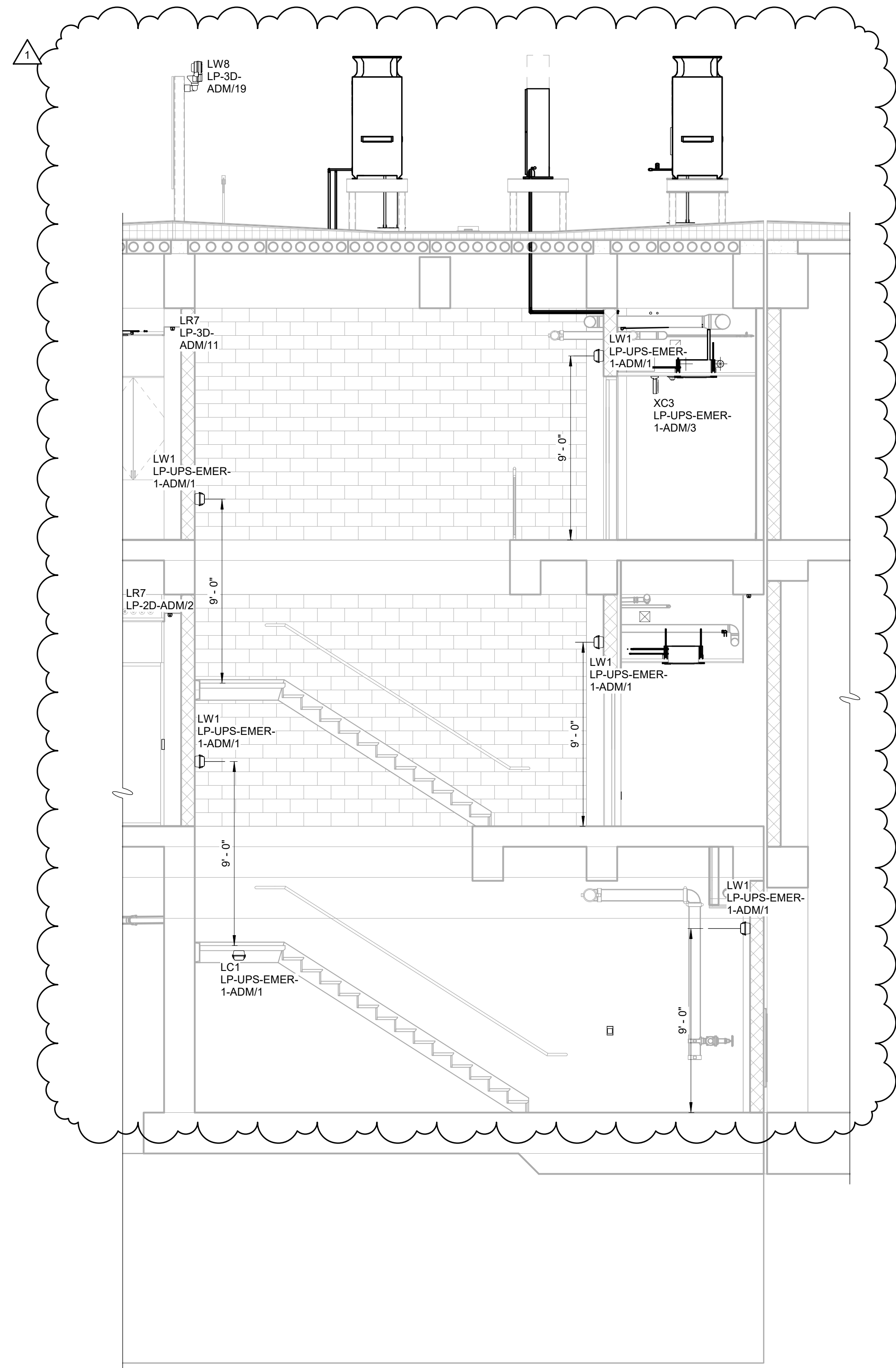


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WETHERSFIELD, CT 06109

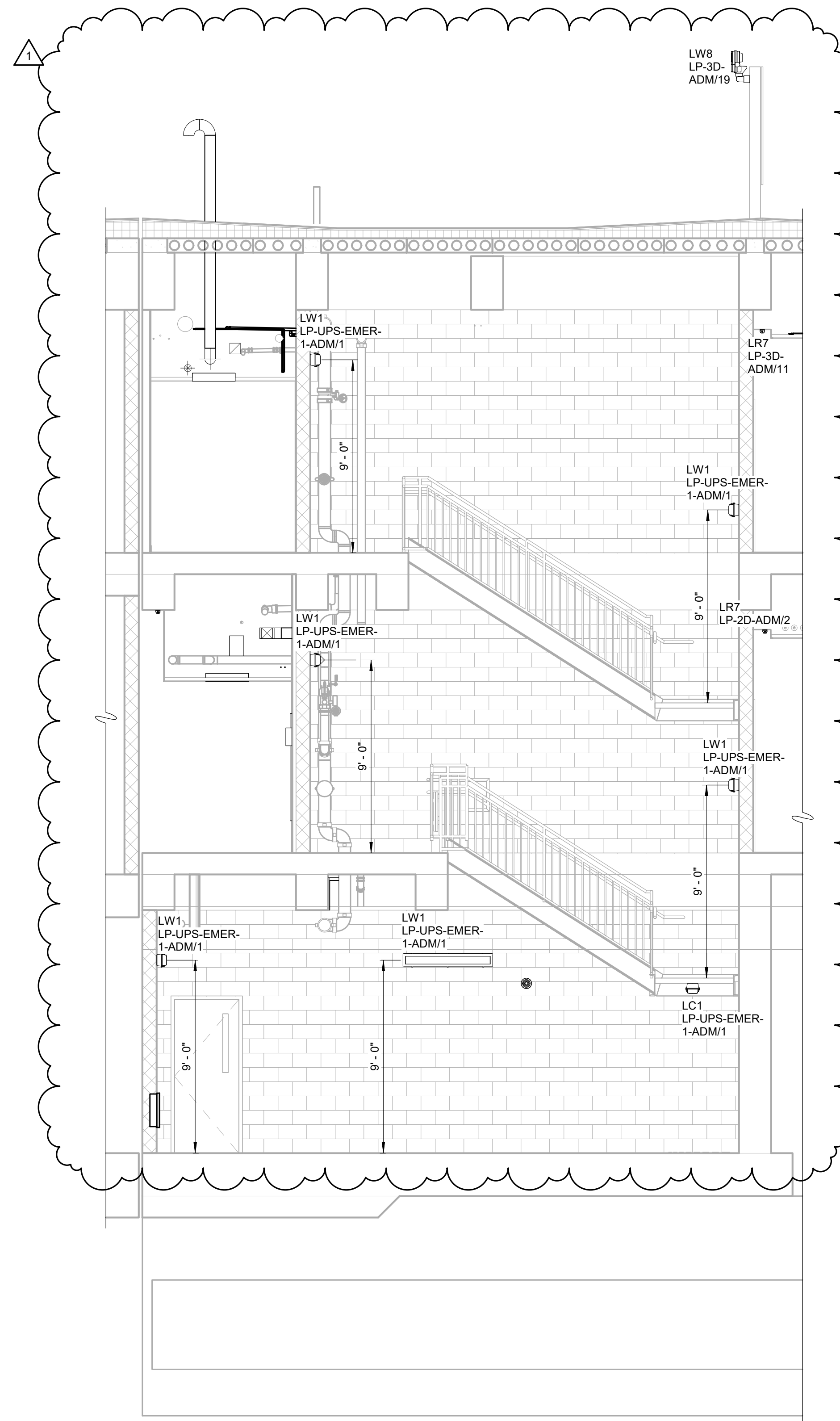
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT EL 485.00 - ADMINISTRATION AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1522



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



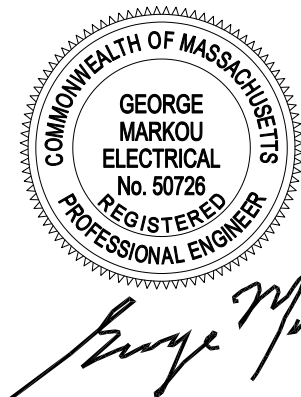
STAIR A
SECTION B
1/4" = 1'-0"

Autodesk DocuSign/09098-004 West Parish Filter WTT/90398-004-ADM-E-171
3/25/2024 1:30:20 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	M. DREN
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"



George Markou
03/25/2024

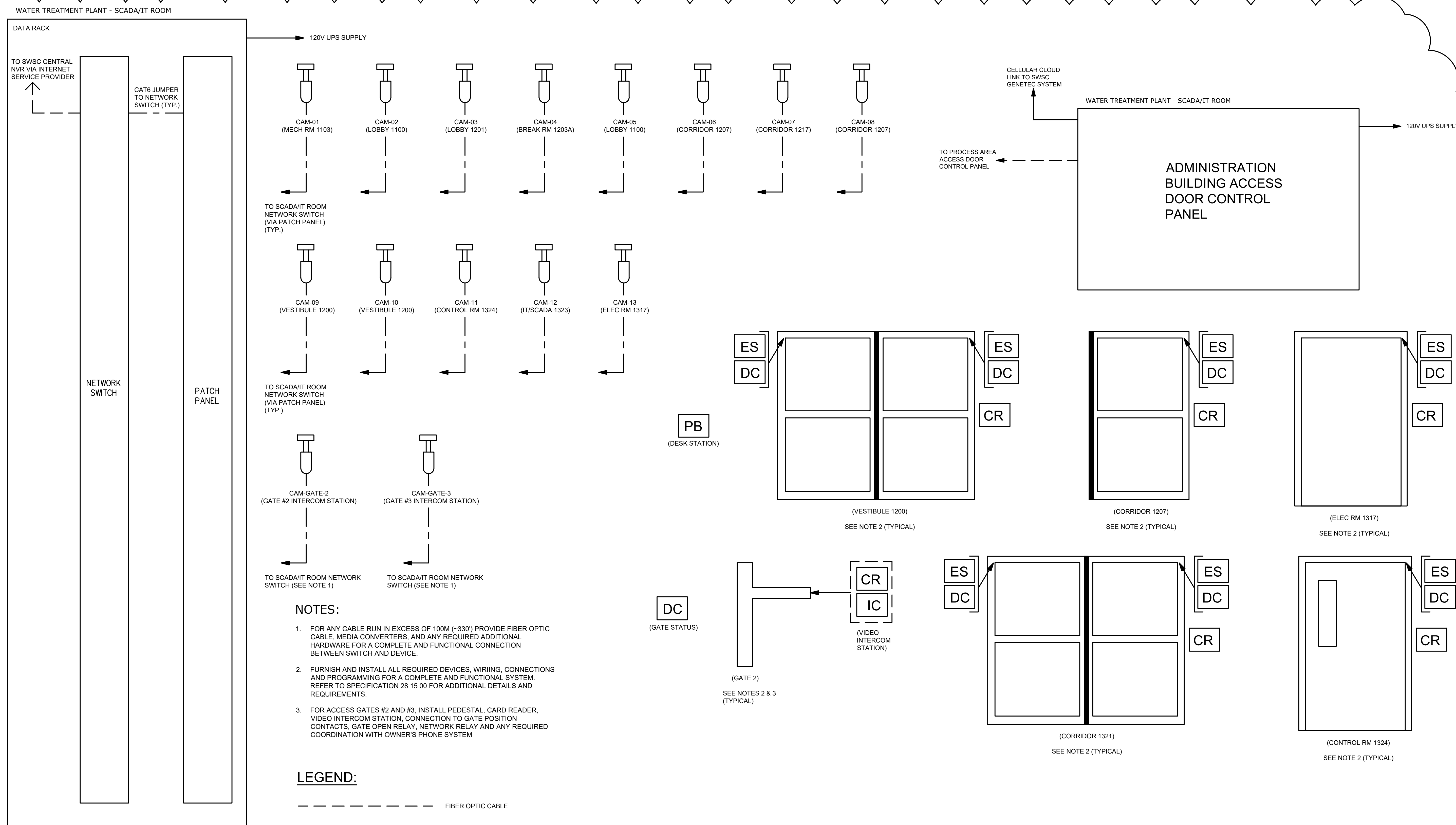
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL SECTIONS - ADMINISTRATION AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1701

File: C:\USERS\SHAH\DRAWING\Hazen and Sawyer\90398-004_WEST PARISH FILTER WTR PROJECT FILES\ELECTRICAL-1802_Saved by DKLOK\KATHIS Save date: 3/25/2024 10:00 AM
PLOT DATE: 3/25/2024 1:40 PM BY: DSHAH



- NOTES:**
- FOR ANY CABLE RUN IN EXCESS OF 100M (~330') PROVIDE FIBER OPTIC CABLE, MEDIA CONVERTERS, AND ANY REQUIRED ADDITIONAL HARDWARE FOR A COMPLETE AND FUNCTIONAL CONNECTION BETWEEN SWITCH AND DEVICE.
 - FURNISH AND INSTALL ALL REQUIRED DEVICES, WIRING, CONNECTIONS AND PROGRAMMING FOR A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPECIFICATION 28 15 00 FOR ADDITIONAL DETAILS AND REQUIREMENTS.
 - FOR ACCESS GATES #2 AND #3, INSTALL PEDESTAL, CARD READER, VIDEO INTERCOM STATION, CONNECTION TO GATE POSITION CONTACTS, GATE OPEN RELAY, NETWORK RELAY AND ANY REQUIRED COORDINATION WITH OWNER'S PHONE SYSTEM

LEGEND:

----- FIBER OPTIC CABLE

----- ETHERNET CABLE (CAT-6)

SECURITY SYSTEM RISER DIAGRAM - ADMINISTRATION AREA
SCALE: NTS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
SECURITY SYSTEM RISER DIAGRAM -
ADMINISTRATION AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-1802

POWER PANEL PP-MAIN-ADM										TYPE: NEMA 12					
480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 65 KAIC										MOUNT: SURFACE					
MAIN BREAKER : 800A 3P										LOCATION: ADMIN BLDG. ELECT RM 1317					
PANEL RATING : 800A 3P										TYPE: NEMA 12					
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION					
				A	B	C									
PP-1-ADM	200	3	1	16.40			2		200	PP-2-ADM					
			3		16.40		4								
			5			16.40		6							
PP-3-ADM	600	3	7	101.30			8		100	UPS-ADM - LP-UPS-ADM					
			9		101.30		10								
			11			101.30		12							
UPS-EMER-1-ADM - LP-UPS-EMER-1-ADM	100	3	13	0.10			14		250	LP-EV-ADM					
			15		0.10		16								
			17			0.10		18							
SPARE	20	3	19	0.00			20		20	SPARE					
			21		0.00		22								
			23			0.00		24							
SPARE	20	3	25	0.00			26		20	SPARE					
			27		0.00		28								
			29			0.00		30							
SPARE	20	3	31	0.00			32		20	SPARE					
			33		0.00		34								
			35			0.00		36							
SPARE	20	3	37	0.00			38		20	SPARE					
			39		0.00		40								
			41			0.00		42							
TOTAL				117.8	117.8	117.8	TOTAL			50.2	50.2	50.2	NOTES:		
				PHASE TOTAL						TOTAL LOAD (KVA)			65KAIC		
				168.0	168.0	168.0				504.1					
				TOTAL LOAD (A)						606.4					

POWER PANEL PP-1-ADM										TYPE: NEMA 12					
480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										MOUNT: SURFACE					
MAIN BREAKER : 200A 3P										LOCATION: ADMIN BLDG. MECH RM 1103					
PANEL RATING : 200A 3P										TYPE: NEMA 12					
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION					
				A	B	C									
CWP-01 (Free Cooling Pump 1)	30	3	1	4.87			2		30	CWP-02 (Free Cooling Pump 2) (STANDBY)					
			3		4.87		4								
			5			4.87		6							
TX-1A-ADM - LP-1A-ADM	100	3	7	2.72			8		20	SP-01 (ELEVATOR SUMP)					
			9		2.72		10								
			11			2.72		12							
EUH-53	20	3	13	1.10			14		30	ELEVATOR					
			15		1.10		16								
			17			1.10		18							
SPARE	20	3	19	0.00			20		30	SPARE					
			21		0.00		22								
			23			0.00		24							
SPARE	20	3	25	0.00			26		20	SPARE					
			27		0.00		28								
			29			0.00		30							
SPARE	20	3	31	0.00			32		20	SPARE					
			33		0.00		34								
			35			0.00		36							
SPARE	20	3	37	0.00			38		20	SPARE					
			39		0.00		40								
			41			0.00		42							
TOTAL				8.7	8.7	8.7	TOTAL			7.7	7.7	7.7	TOTAL		
				PHASE TOTAL						TOTAL LOAD (KVA)			49.2		
				16.4	16.4	16.4				59.1					
				TOTAL LOAD (A)						59.1					

POWER PANEL PP-2-ADM										TYPE: NEMA 12					
480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										MOUNT: SURFACE					
MAIN BREAKER : 200A 3P										LOCATION: ADMIN BLDG. STO. 1214					
PANEL RATING : 200A 3P										TYPE: NEMA 12					
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION					
				A	B	C									
WH-01	30	3	1	4.10			2		30	WH-02					
			3		4.10		4								
			5			4.10		6							
TX-2-ADM - LP-2-ADM	100	3	7	18.59			8		10	SPARE					
			9		18.59		10								
			11			18.59		12							
SPARE	20	3	13	0.00			14		20	SPARE					
			15		0.00		16								
			17			0.00		18							
SPARE	20	3	19	0.00			20		20	SPARE					
			21		0.00		22								
			23			0.00		24							
SPARE	20	3	25	0.00			26		20	SPARE					
			27		0.00		28								
			29			0.00		30							
SPARE	20	3	31	0.00			32		20	SPARE					
			33		0.00		34								
			35			0.00		36							
SPARE	20	3	37	0.00			38		20	SPARE					
			39		0.00		40								
			41			0.00		42							
TOTAL				22.7	22.7	22.7	TOTAL			4.1	4.1	4.1	TOTAL		
				PHASE TOTAL						TOTAL LOAD (KVA)			80.4		
				26.8	26.8	26.8				96.7					
				TOTAL LOAD (A)						96.7					

POWER PANEL PP-3-ADM										TYPE: NEMA 12					
480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										MOUNT: SURFACE					
MAIN BREAKER : 600A 3P										LOCATION: ADMIN BLDG. ELECT RM 1317					
PANEL RATING : 600A 3P										TYPE: NEMA 12					
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION					
				A	B	C									
VRF-01	40	3	1	5.83			2		30	VRF-02					
			3		5.83		4								
			5			5.83		6							
VRF-03	30	3	7	5.53			8		40	VRF-04					
			9		5.53		10								
			11			5.53		12							
VRF-05	50	3	13	9.40			14		110	DOAS-01					
			15		9.40		16								
			17			9.40		18							
DOAS-02	110	3	25	24.90			26		150	TX-3-ADM - LP-3-ADM					
			27		24.90		28								
			29			24.90		30							
EF-19	20	3	31	0.33			32		20	SPARE					
			33		0.33		34								
			35			0.33		36							
SPARE	20	3	37	0.00			38		20	SPARE					
			39		0.00		40								
			41			0.00		42							
SPARE	20	3	37	0.00			38		20	SPARE					
			39		0.00		40								
			41			0.00		42							
TOTAL				46.0	46.0	46.0	TOTAL			55.7	55.7	55.7	TOTAL		
				PHASE TOTAL						TOTAL LOAD (KVA)			304.9		
				101.6	101.6	101.6				368.8					
				TOTAL LOAD (A)						368.8					

PANEL NAME: LP-1A-ADM										TYPE: NEMA 12					
208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC										MOUNT: SURFACE					
MAIN BREAKER : 100A P										LOCATION: ADMIN MECH RM 1103					
PANEL RATING : 100A										TYPE: NEMA 12					
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION					
				A	B	C									
EWH-01	20	2	1	1.00			2		20	EWH-02					
			3		1.00		4								
			5			1.00		6							
GMU-01	20	1	5				6	1.20	20	LCS-CWP-01					
			7				8								
			9				10								
ELEVATOR #1A CONTROLLER	30	1	9				10	0.50	20	SPARE					
			11				12								
			13				14								
SPARE	20	1	13	0.00			14	0.00	20	SPARE					
			15		0.00		16								
			17			0.00		18							
SPARE	20	1	17	0.00			18	0.00	20	SPARE					
			19		0.00		20								
			21			0.00		22							
SPARE	20	1	21	0.00			22	0.00	20	SPARE					
			23		0.00		24								
			25			0.00		26							
SPARE	20	1	25	0.00			26	0.00	20	SPARE					
			27		0.00		28								
			29			0.00		30							
SPARE	20	1	29	0.00			30	0.00	20	SPARE					
			31		0.00		32								
			33			0.00		34							
SPARE	20	1	33	0.00			34	0.00	20	SPARE					
			35		0.00		36								
			37			0.00		38							
SPARE	20	1	37	0.00			38	0.00	20	SPARE					
			39		0.00		40								
			41			0.00		42							
TOTAL				2.20	1.50	1.70	TOTAL			1.12	1.00	0.12	TOTAL		
				PHASE TOTAL (KVA)						TOTAL LOAD (KVA)			7.64		
				3.32	2.50	1.82				21.21					
				PHASE TOTAL (A)						21.21					

PANEL NAME: LP-2-ADM										TYPE: NEMA 12		
208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC										MOUNT: SURFACE		
MAIN BREAKER : 250A P										LOCATION: ADMIN STO. 1214		
PANEL RATING : 400A										TYPE: NEMA 12		
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION		
				A	B	C						
LP-2A-ADM	100	3	1	1.18			2		100	LP-2B-ADM		
			3		1.18		4					
			5			1.18		6				
LP-2C-ADM	100	3	7	2.47			8		100	LP-2B-ADM		
			9		2.47		10					
			11			2.47		12				
LP-LAB-ADM	100	3	13	4.26			14		10			

208/120 VOLTS 3-PHASE, 4-WIRE 22 kAIC										PANEL NAME: LP-2D-ADM MAIN BREAKER : 100A P PANEL RATING : 100A										TYPE: NEMA 12 MOUNT: FLUSH LOCATION: ADM CORR. 1217									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C									
				A	B	C															A	B	C						
ADM LTG - (1100, 1103)	20	1	1	0.35			2	1	20	ADM LTG - (1200, 1201, 1202)	0.70			2	1	20													
ADM LTG - (1210, 1211, 1212, 1213, 1215)	20	1	3	0.50			4	1	20	ADM LTG - (1203, 1204, 1205, 1206, 1207, 1208, 1209)	0.80			4	1	20													
ADM LTG - (1221, 1222, 1223, 1224)	20	1	5		1.25		6	1	20	ADM LTG - (1216, 1217, 1218, 1219, 1220)	0.63			6	1	20													
ADM RECP - EL 457.00	20	1	7	0.54			8	1	20	ADM RECP - EL 457.00	0.54			8	1	20													
OUTDOOR LTG - ADMIN SOUTH	20	2	9		0.34		10	2	20	OUTDOOR LTG - ADMIN SOUTH	0.34			10	2	20													
OUTDOOR LTG - DWB	20	2	11		0.34		12	2	20	OUTDOOR LTG - ADMIN SOUTH	0.22			14	1	20													
ADM EAST RECP - EL 471.00	20	1	17		1.62		16	1	20	ADM EAST RECP - EL 471.00	1.62			16	1	20													
ADM EAST RECP - EL 471.00	20	1	19	1.62			20	1	20	ADM EAST RECP - EL 471.00	1.26			20	1	20													
ADM LTG - (1201)	20	1	21		1.26		22	1	20	ADM LTG - (OUTSIDE CANOPY)	0.62			22	1	20													
ADM RECP - RECP DISK EL 457.00	20	1	23		0.75		24	1	20	ADM LTG - BREAK ROOM 1202	0.00			24	1	20													
ADM WEST RECP - EL 471.00	20	1	25		1.08		26	1	20	SPARE	0.00			26	1	20													
ADM RECP - LOBY DISPLAY EL 471	20	1	29		0.72		30	1	20	SPARE	0.00			30	1	20													
ADM RECP - LOBY WALL EL 471	20	1	31	0.38			32	1	20	SPARE	0.00			32	1	20													
ADM WEST RECP - EL 471.00	20	1	33		1.26		34	1	20	SPARE	0.00			34	1	20													
ADM WEST RECP - EL 471.00	20	1	35		1.08		36	1	20	SPARE	0.00			36	1	20													
SPARE	20	1	37	0.00			38	1	20	SPARE	0.00			38	1	20													
SPARE	20	1	39		0.00		40	1	20	SPARE	0.00			40	1	20													
SPARE	20	1	41		0.00		42	1	20	SPARE	0.00			42	1	20													
TOTAL				3.96	4.78	5.05	TOTAL				2.72	1.77	2.83	TOTAL															
PHASE TOTAL (KVA)				6.68			7.83			TOTAL LOAD (KVA)				21.10															
PHASE TOTAL (A)				55.64			65.63			TOTAL LOAD (A)				86.57															

208/120 VOLTS 3-PHASE, 4-WIRE 22 kAIC										PANEL NAME: LP-BR-ADM MAIN BREAKER : 100A P PANEL RATING : 100A										TYPE: NEMA 12 MOUNT: FLUSH LOCATION: ADM BREAK RM 1202									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C									
				A	B	C															A	B	C						
FCU-01	20	2	3	0.05			4	2	20	FCU-02	0.05			2	2	20													
FCU-03	20	2	5		0.05		6	2	20	FCU-04	0.05			8	2	20													
RECP BREAK RM - EL 471.00	20	1	9		0.90		10	1	20	RECP BREAK RM - EL 471.00	1.08			10	1	20													
TRAINING RM - EL 471.00	20	1	11		1.08		12	1	20	TRAINING RM - EL 471.00	1.62			14	1	20													
ADM WEST RECP - EL 471.00	20	1	15		1.44		16	1	20	ADM WEST RECP - EL 471.00	1.62			16	1	20													
ADM WEST RECP - EL 471.00	20	1	17		1.62		18	1	20	RECP BREAK RM - EL 471.00	1.00			20	1	20													
RECP BREAK RM - DISHWASHER	30	2	19	2.40			20	1	20	RECP BREAK RM REFRIGERATOR	1.00			22	1	20													
TRAINING RM - EL 471.00	20	1	21		2.40		22	1	20	RECP BREAK RM - MICROWAVE	1.26			24	1	20													
RECP TRAINING RM - MONITOR	20	1	25	0.50			26	1	20	RECP BREAK ROOM - MONITOR	0.00			28	1	20													
RECP TRAINING RM - MONITOR	20	1	27	0.50			28	1	20	SPARE	0.00			30	1	20													
SPARE	20	1	29		0.00		30	1	20	SPARE	0.00			32	1	20													
SPARE	20	1	31	0.00			32	1	20	SPARE	0.00			34	1	20													
SPARE	20	1	33		0.00		34	1	20	SPARE	0.00			36	1	20													
SPARE	20	1	35		0.00		36	1	20	SPARE	0.00			38	1	20													
SPARE	20	1	37	0.00			38	1	20	SPARE	0.00			40	1	20													
SPARE	20	1	39		0.00		40	1	20	SPARE	0.00			42	1	20													
SPARE	20	1	41		0.00		42	1	20	SPARE	0.00			42	1	20													
TOTAL				4.08	5.20	2.75	TOTAL				3.98	3.75	2.89	TOTAL															
PHASE TOTAL (KVA)				8.06			5.64			TOTAL LOAD (KVA)				22.74															
PHASE TOTAL (A)				67.16			75.35			TOTAL LOAD (A)				47.00															

208/120 VOLTS 3-PHASE, 4-WIRE 22 kAIC										PANEL NAME: LP-LAB-ADM MAIN BREAKER : 150A P PANEL RATING : 150A										TYPE: NEMA 12 MOUNT: FLUSH LOCATION: ADM LAB 1221									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C									
				A	B	C															A	B	C						
FS (ROOM 1221)	20	1	1	0.04			2	1	20	TP-01 (ROOM 1221)	0.10			2	1	20													
LCS-70740	20	1	3		0.12		4	1	20	FS (ROOM 1220)	0.04			4	1	20													
ADM LAB RECP - EL 471.00	20	1	5		1.08		6	1	20	FSH-70001	1.50			8	1	20													
ADM LAB RECP - EL 471.00	20	1	7	1.08			8	1	20	FUME HOOD	0.68			10	1	20													
ADM LAB RECP - EL 471.00	20	1	9		1.08		10	1	20	LAB REFRIGERATOR	0.26			12	1	20													
ADM LAB RECP - EL 471.00	20	1	11		0.90		12	1	20	LAB REFRIGERATOR	1.08			14	1	20													
ADM LAB RECP - EL 471.00	20	1	13	0.72			14	1	20	RH UNDR COUNTR LAB REFRIG	0.26			16	1	20													
ADM LAB RECP - EL 471.00	20	1	15		0.90		16	1	20	ADM LAB RECP - EL 471.00	0.90			18	1	20													
ADM LAB RECP - EL 471.00	20	1	17		0.90		18	1	20	ADM LAB RECP REG RACK- EL 471	0.90			20	1	20													
ADM LAB RECP - EL 471.00	20	1	19	0.90			20	1	20	ADM LAB RECP REG RACK- EL 471	0.90			22	1	20													
ADM LAB RECP - EL 471.00	20	1	21		1.08		22	1	20	ADM LAB RECP - EL 471.00	0.72			24	1	20													
AUTOCLAVE	20	1	23		1.20		24	1	20	ADM LAB RECP REG RACK- EL 471	0.72			26	1	20													
AUTOCLAVE	20	1	25	1.00			26	1	20	ADM LAB RECP REG RACK- EL 471	0.00			28	2	30													
INCUBATOR	20	1	27		1.00		28	2	30	LAB DISHWASHER	2.40			30	2	30													
INCUBATOR	20	1	29		1.00		30	2	30	SPARE	0.00			32	1	20													
INCUBATOR	20	1	31	1.00			32	1	20	SPARE	0.00			34	1	20													
DRYING OVEN	20	1	33		1.00		34	1	20	SPARE	0.00			36	1	20													
DRYING OVEN	20	1	35		1.00		36	1	20	SPARE	0.00			38	1	20													
UNDERCOUNTER FREEZER	20	1	37	0.23			38	1	20	SPARE	0.00			40	1	20													
UNDERCOUNTER ICE MAKER	20	1	39		0.68		40	1	20	SPARE	0.00			42	1	20													
SPARE	20	1	41		0.00		42	1	20	SPARE	0.00			42	1	20													
TOTAL				5.0	5.9	6.1	TOTAL				3.5	4.9	4.6	TOTAL															
PHASE TOTAL (KVA)				8.4			10.7			TOTAL LOAD (KVA)				29.9															
PHASE TOTAL (A)				70.40			89.76			TOTAL LOAD (A)				83.0															

208/120 VOLTS 3-PHASE, 4-WIRE 22 kAIC										PANEL NAME: LP-3-ADM MAIN BREAKER : 250A P PANEL RATING : 400A										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: ADM ELECT RM 1317									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C									
				A	B	C															A	B	C						
LP-3A-ADM	100	3	1	5.58			2	1	100	LP-3B-ADM	2.78			4	3	100													
LP-3C-ADM	100	3	3	3.33			4	3	100	LP-3D-ADM	11.50			8	3	100													
SPARE	20	1	13	0.00			14	1	20	SPARE	0.00			16	1	20													
SPARE	20	1	15		0.00		16	1	20	SPARE	0.00			18	1	20													
SPARE	20	1	17		0.00		18	1	20	SPARE	0.00			20	1	20													
SPARE	20	1	19		0.00		20	1	20	SPARE	0.00			22	1	20													
SPARE	20	1	21		0.00		22	1	20	SPARE	0.00			24	1	20													
SPARE	20	1	23		0.00		24	1	20	SPARE	0.00			26	1	20													
SPARE	20	1	25		0.00		26	1	20	SPARE	0.00			28	1	20													
SPARE	20	1	27		0.00		28	1	20	SPARE	0.00			30	1	20													
SPARE	20	1	29		0.00		30	1	20	SPARE	0.00			32	1	20													
SPARE	20	1	31	0.00			32	1	20	SPARE	0.00			34	1	20													
SPARE	20	1	33		0.00		34	1	20	SPARE	0.00			36	1	20													
SPARE	20	1	35		0.00		36	1	20	SPARE	0.00			38	1	20													
SPARE	20	1	37	0.00			38	1	20	SPARE	0.00			40	1	20													
SPARE	20	1	39		0.00		40	1	20	SPARE	0.00			42	1	20													
SPARE	20	1	41		0.00		42	1	20	SPARE	0.00			42	1	20													
TOTAL				8.91	8.91	8.91	TOTAL				14.28	14.28	14.28	TOTAL															
PHASE TOTAL (KVA)				23.19			23.19			TOTAL LOAD (KVA)				69.57															

240/120 VOLTS 1-PHASE, 3-WIRE 22KAIC (MINIMUM)				PANEL NAME: LP-UPS-EMER-1-ADM MAIN BREAKER : 100A 2P PANEL RATING : 100A				TYPE: NEMA 12 MOUNT: SURFACE LOCATION: ADM ELECT RM. 1317			
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES		CKT No.	POLE	TRIP	DESCRIPTION		
				A	B						
EM/EXIT LTG - EL. 457,STAIR A (ADM)	20	1	1	0.56		2	1	20	EM/EXIT LTG - EL 471 (ADM)		
EM/EXIT LTG - EL 485 (ADM)	20	1	3		0.43	4	1	20	EM/EXIT LTG - EL. 457 RM 2101 (TB)		
EM/EXIT LTG - EL. 457 RM 2100/2102 (TB)	20	1	5	0.58		6	1	20	EM/EXIT LTG - EL. 471 RM WEST, STAIR C, STAIR D (TB)		
EM/EXIT LTG - EL. 471 RM EAST (TB)	20	1	7		1.29	8	1	20	EM/EXIT LTG - EL. 485 RM 2301 NORTH (TB)		
EM/EXIT LTG - EL. 485 RM 2300(TB)	20	1	9	0.68		10	1	20	EM/EXIT LTG - EL. 485 RM 2302/2303(TB)		
EXIT DOOR EXTERIOR ADM/TB LTG	20	1	11		0.78	12	1	20	EM/EXIT LTG - EL. 471 RM EAST, STAIR B (TB)		
TB ROOF LTG	20	1	13	1.00		14	1	20	EM/EXIT LTG - EL. 485 RM 2301 SOUTH (TB)		
TB ROOF LTG	20	1	15		0.85	16	1	20	SPARE		
SPARE	20	1	17	0.00		18	1	20	SPARE		
SPARE	20	1	19		0.00	20	1	20	SPARE		
SPARE	20	1	21	0.00		22	1	20	SPARE		
SPARE	20	1	23		0.00	24	1	20	SPARE		
SPARE	20	1	25	0.00		26	1	20	SPARE		
SPARE	20	1	27		0.00	28	1	20	SPARE		
SPARE	20	1	29	0.00		30	1	20	SPARE		
TOTAL				2.82	3.35	4.21	2.63	TOTAL			
PHASE TOTAL (KVA)				7.04	5.98	TOTAL LOAD (KVA)		13.02			
PHASE TOTAL (A)				58.64	49.85	TOTAL LOAD (A)		54.24			

208/120 VOLTS 3-PHASE, 4-WIRE 22KAIC				PANEL NAME: LP-UPS-ADM MAIN BREAKER: 100A P PANEL RATING: 100A				TYPE: NEMA 12 MOUNT: SURFACE LOCATION: ADM IT/SCADA RM 1323				
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION		
				A	B	C						
SCADA SERVER NO. 1	20	1	2	1.10			2	1	20	SCADA SERVER NO. 2		
SCADA SERVER NO. 3	20	1	4		1.10		4	1	20	OPERATOR CONSOLE & MONITOR 1		
OPERATOR CONSOLE & MONITOR 2	20	1	6			0.85	6	1	20	OPERATOR CONSOLE & MONITOR 3		
OPERATOR SCREEN & MONITORS	20	1	8	0.85			8	1	20	PLC CABINET NO. 1 (TRAIN A)		
PLC CABINET NO. 2 (TRAIN B)	20	1	10		0.21		10	1	20	PLC CABINET NO. 3 (BOP)		
IT SERVER # 1	20	1	12			1.10	12	1	20	IT SERVER # 2		
IT SERVER # 3	20	1	14	1.10			14	1	20	IT DATA DIODE		
IT FIREWALL	20	1	16		0.24		16	1	20	SCADA DATA DIODE		
NETWORK ROUTER	20	1	18			1.20	18	1	20	IT NAS2		
SCADA NAS1	20	1	20	1.10			20	1	20	PROGRAMMING STATION & MONITOR		
ETHERNET SWITCH NO. 1	20	1	22		1.10		22	1	20	ETHERNET SWITCH NO. 2		
ETHERNET SWITCH NO. 3	20	1	24			0.85	24	1	20	ETHERNET SWITCH NO. 4		
ETHERNET SWITCH NO. 5	20	1	26	0.85			26	1	20	SPARE		
SPARE	20	1	28		0.00		28	1	20	SPARE		
SPARE	20	1	30			0.00	30	1	20	SPARE		
SPARE	20	1	32	0.00			32	1	20	SPARE		
SPARE	20	1	34		0.00		34	1	20	SPARE		
SPARE	20	1	36			0.00	36	1	20	SPARE		
SPARE	20	1	38	0.00			38	1	20	SPARE		
SPARE	20	1	40		0.00		40	1	20	SPARE		
SPARE	20	1	42			0.00	42	1	20	SPARE		
TOTAL				5.0	2.7	4.0	2.8	2.1	3.9	TOTAL		
PHASE TOTAL (VA)				7.8	4.8	7.9	TOTAL LOAD (VA)		20.4			
PHASE TOTAL (A)				64.7	39.7	65.8	TOTAL LOAD (A)		56.7			

1

File: C:\USERS\SHAH\DRAWING\HAZEN AND SAWYER\90398-004_WEST PARISH FILTER WTP\PROJECT FILES\ELECTRICAL\905 Saved by MDREN Save date: 3/25/2024 1:05 PM
PLOT DATE: 3/25/2024 1:40 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0	1/2"	1"
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



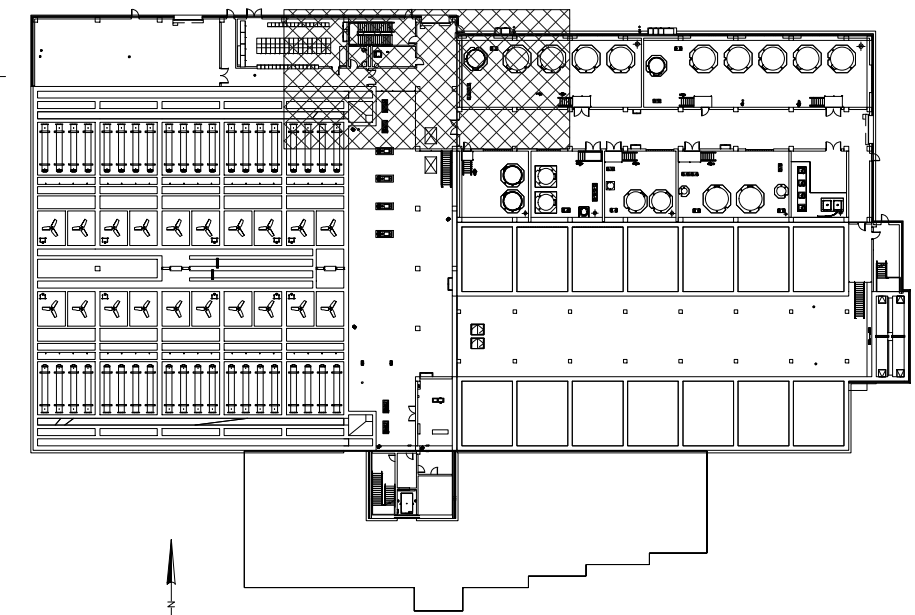
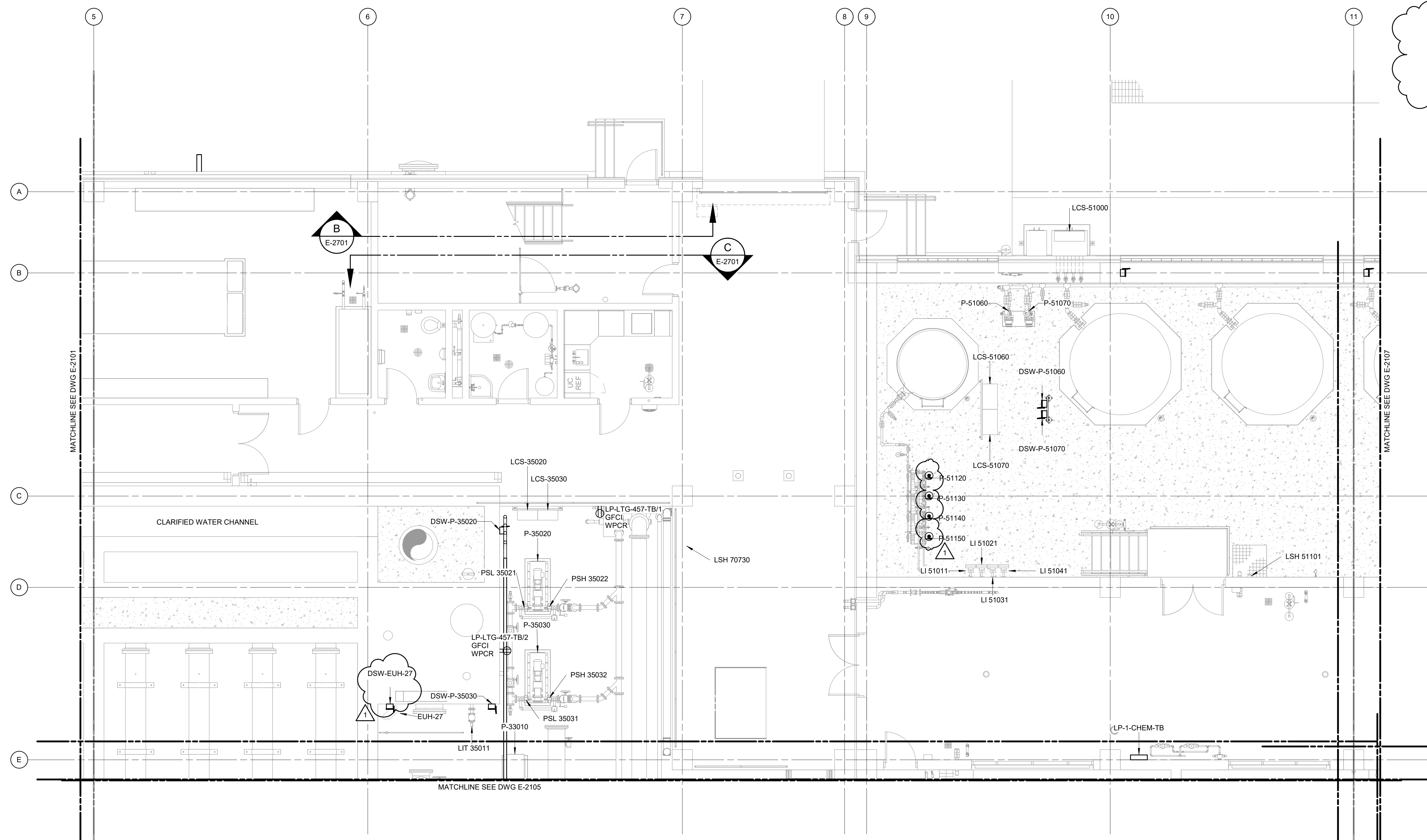
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
PANEL BOARD SCHEDULES -
ADMINISTRATION AREA SHEET 3

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER:
E-1805

NOTES:
 1. PROVIDE TWIST LOCK CONNECTOR FOR CHEMICAL FEED METERING PUMPS.



KEY PLAN EL 457.00
 1/8" = 1'-0"
 8 6 4 2 0 8'

POWER PLAN AT EL 457.00 - AREA 4

3/16" = 1'-0"

Autodesk_DocSet/09098-004_Visit Parish Filter WTT/9098-004-TB-E-14 3/25/2024 2:18:47 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

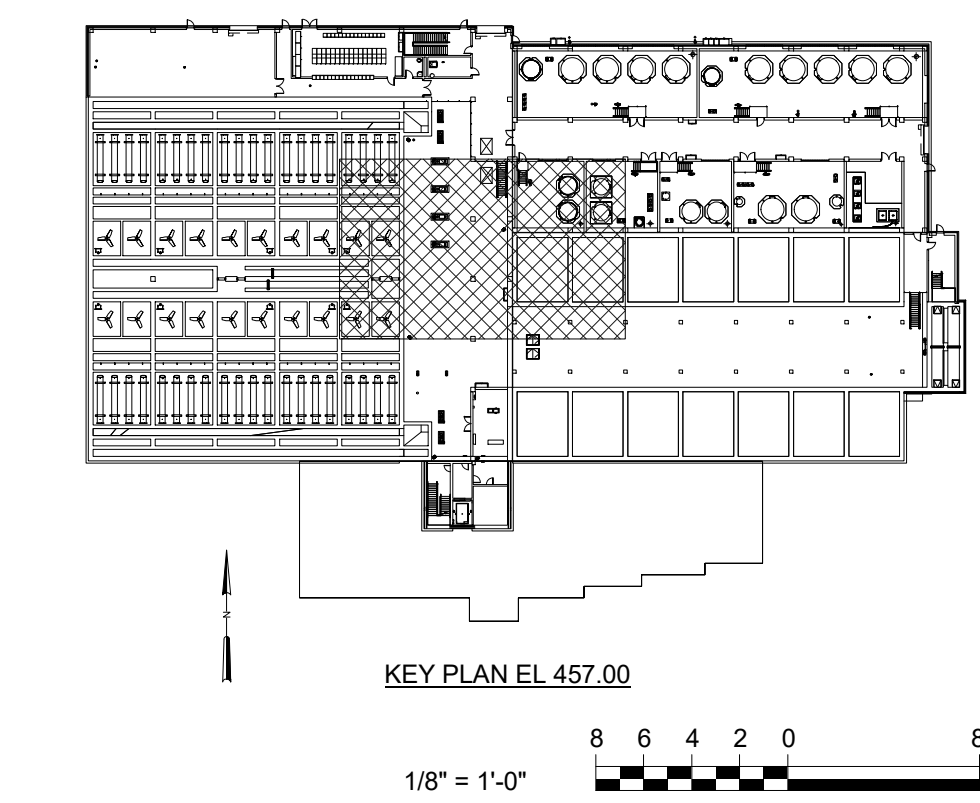
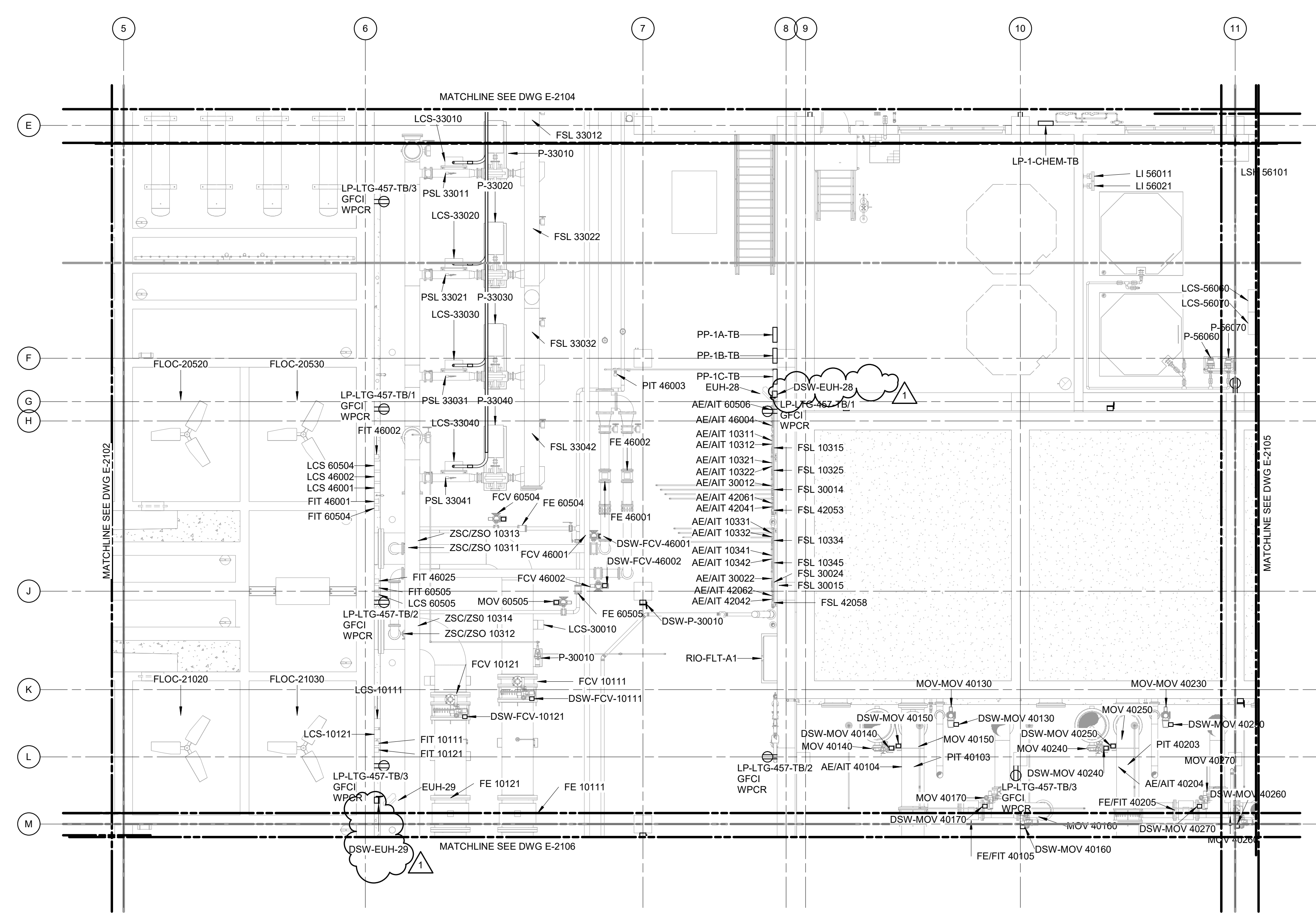
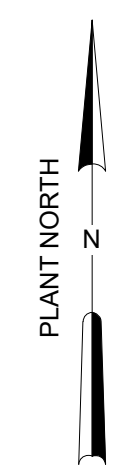
03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ELECTRICAL
 POWER PLAN AT EL 457.00 - PROCESS AREA 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2104



POWER PLAN AT EL 457.00 - AREA 5
1/8" = 1'-0"

Autodesk DocuSign/09098-004 West Parish Filter WTP/9098-004-TB-E-14
3/25/2024 2:18:49 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

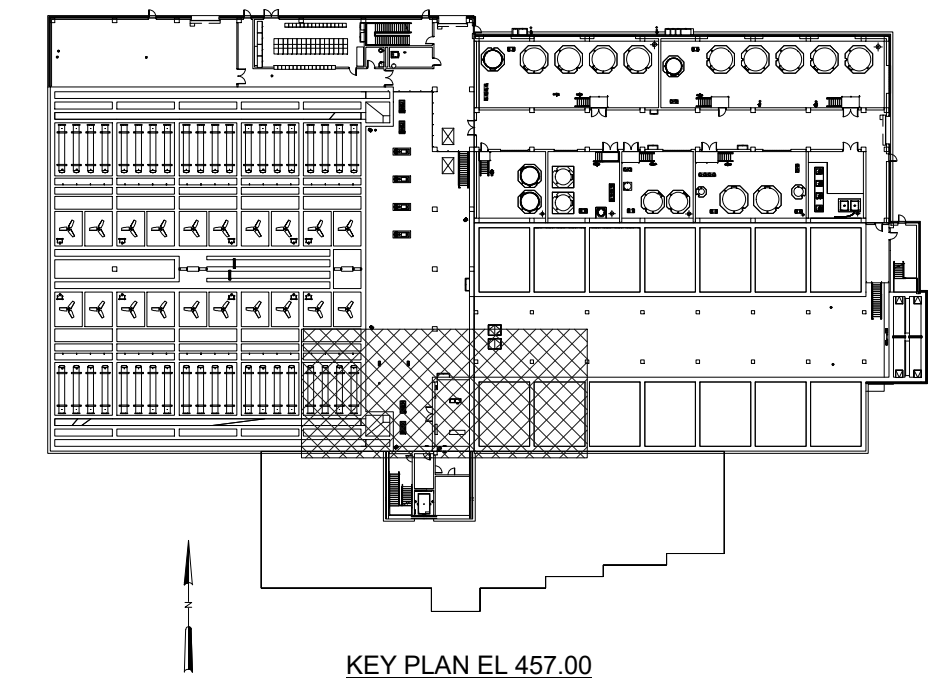
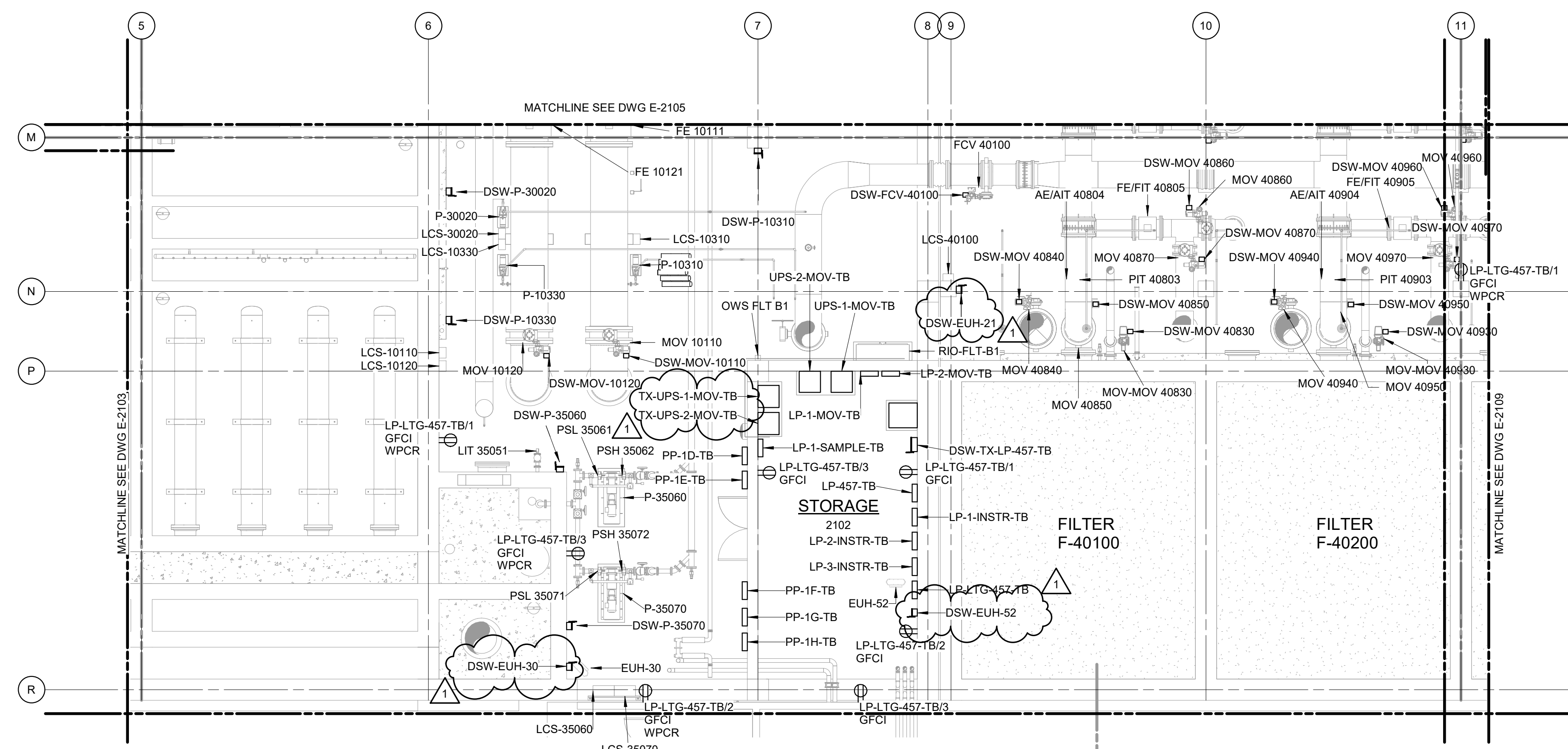
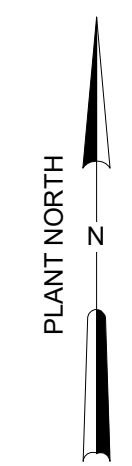
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 457.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2105



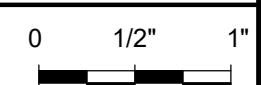
POWER PLAN AT EL 457.00 - AREA 6
1/8" = 1'-0"

1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk_Docs\090398-004_ West Parish Filter WTR090398-004-TB-E-14
3/25/2024 2:18:50 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



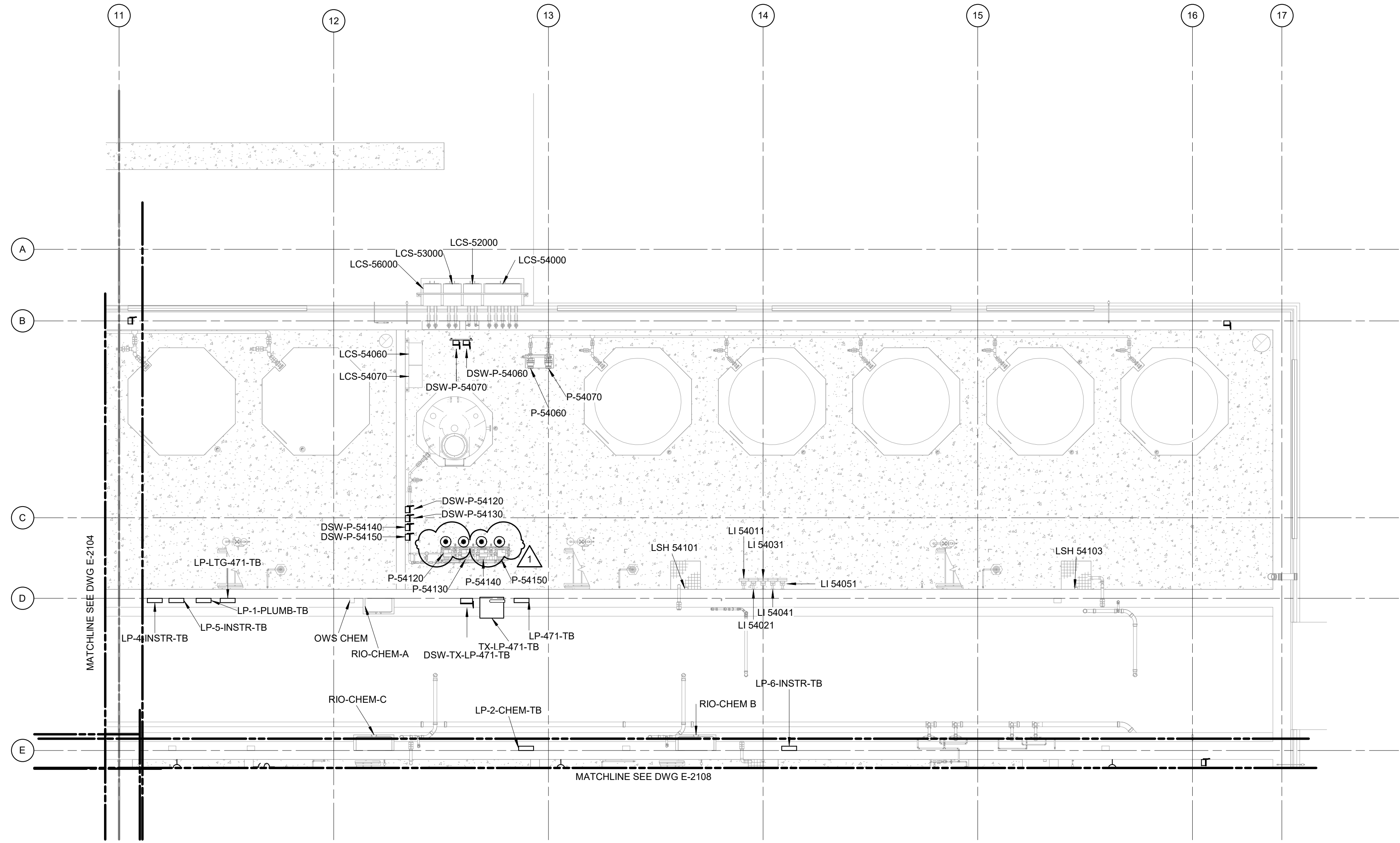
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

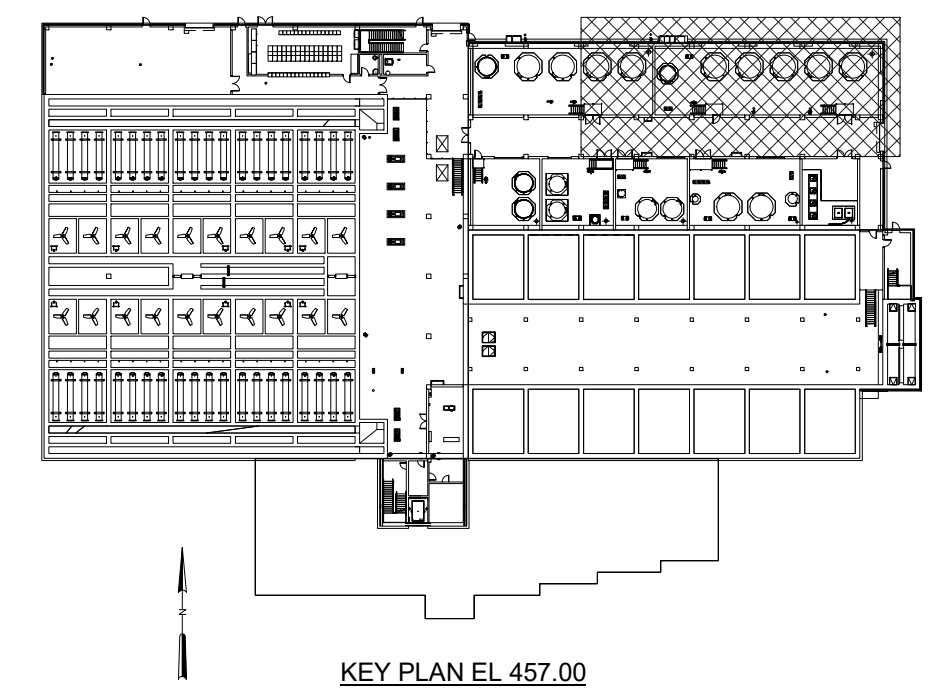
FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 457.00 - PROCESS AREA 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2106

NOTES:
 1. PROVIDE TWIST LOCK CONNECTOR FOR CHEMICAL FEED METERING PUMPS.



POWER PLAN AT EL 457.00 - AREA 7
 1/8" = 1'-0"



KEY PLAN EL 457.00
 1/8" = 1'-0"



Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ELECTRICAL
 POWER PLAN AT EL 457.00 - PROCESS AREA 7

DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER:
E-2107

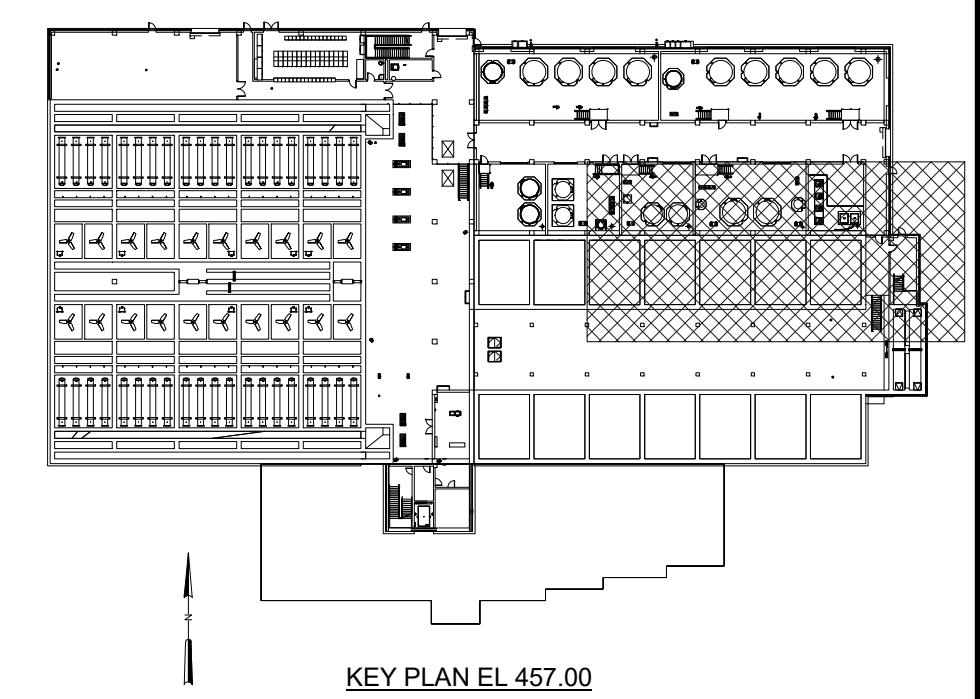
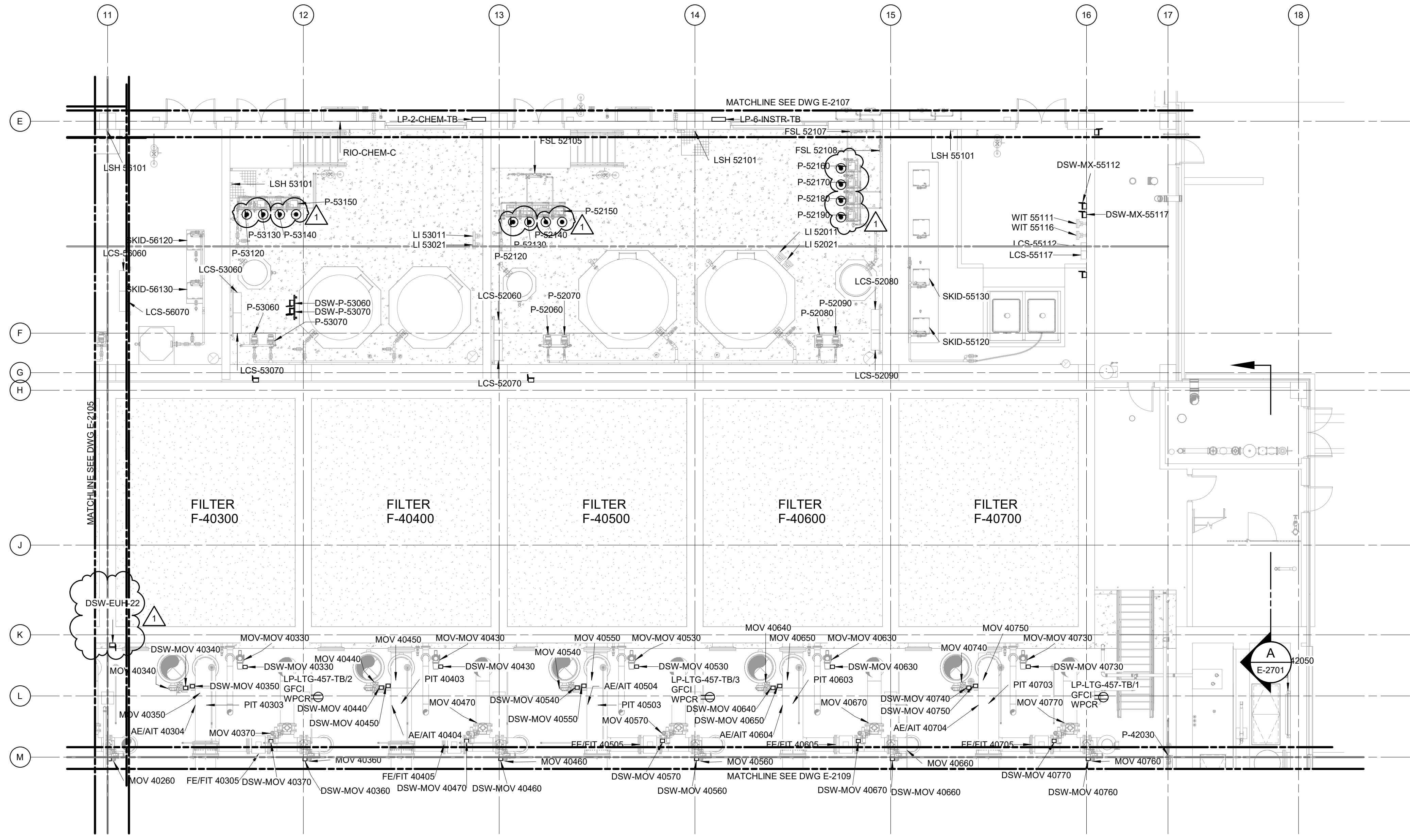
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

Autodesk DocuSign/09098-004 West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:18:52 PM

NOTES:
 1. PROVIDE TWIST LOCK CONNECTOR FOR CHEMICAL FEED METERING PUMPS.



POWER PLAN AT EL 457.00 - AREA 8
 1/8" = 1'-0"

1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk Docs://09098-004_West Parish Filter WTT9098-004-TB-E-14
 3/25/2024 2:18:55 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

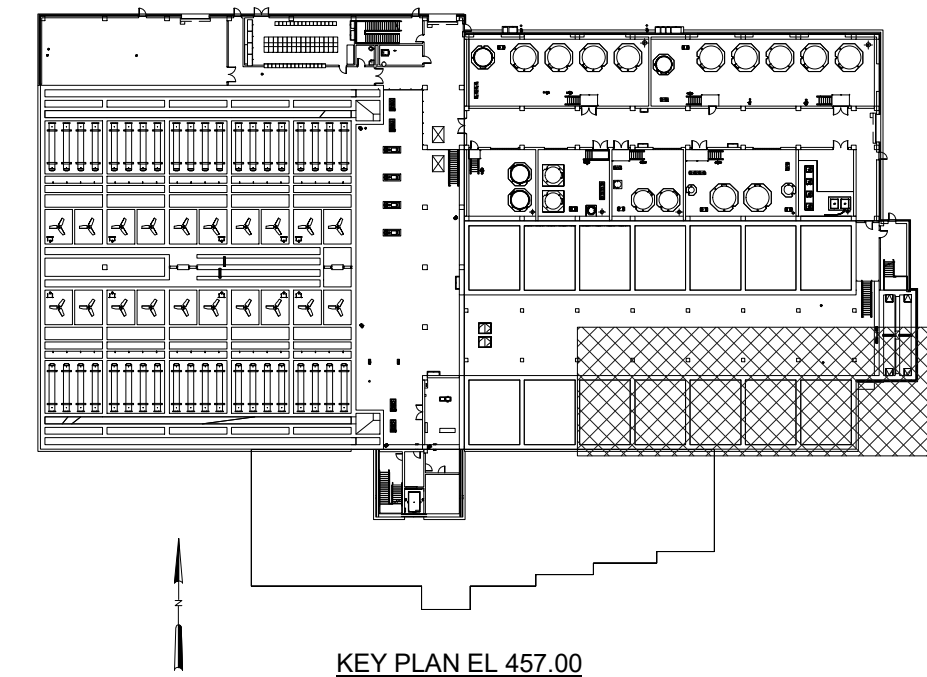
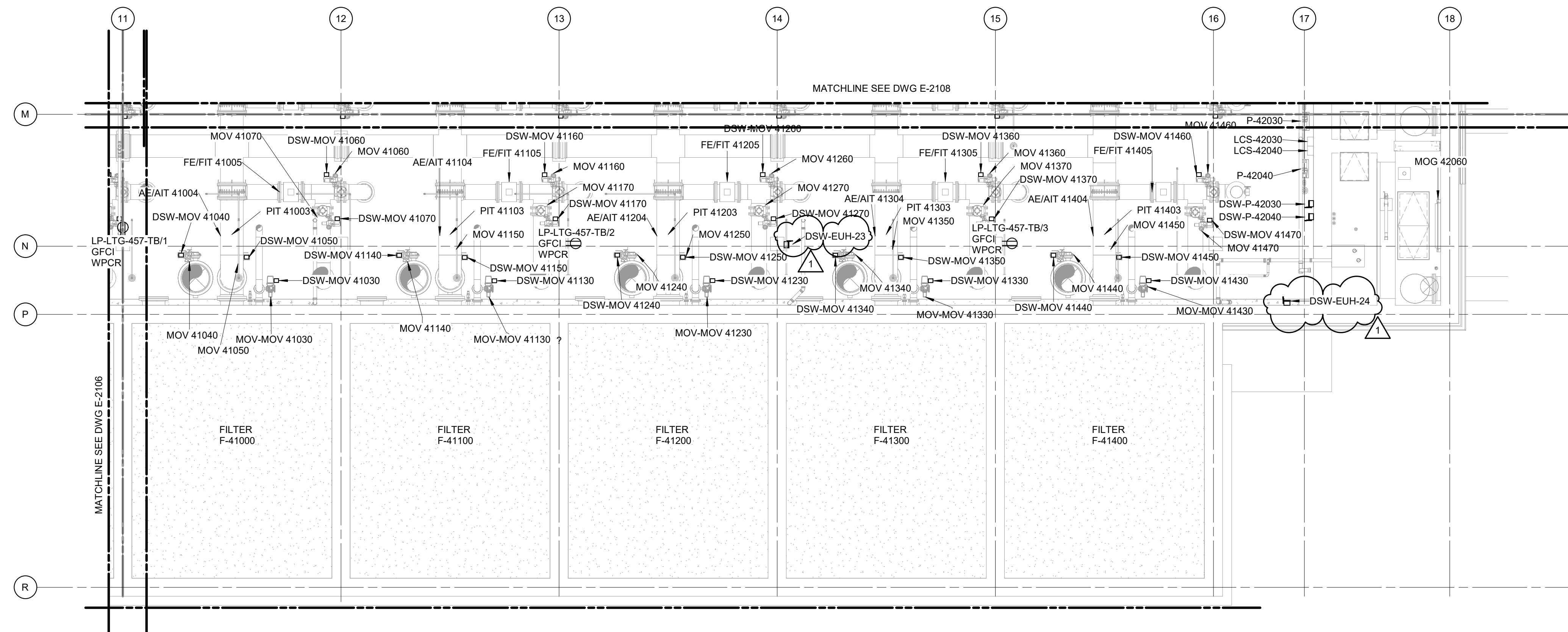
03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ELECTRICAL
 POWER PLAN AT EL 457.00 - PROCESS AREA 8

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2108



POWER PLAN AT EL 457.00 - AREA 9
1/8" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk_Docs\090908-004_West Parish Filter WTP\90908-004-TB-E-14 3/25/2024 2:18:57 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

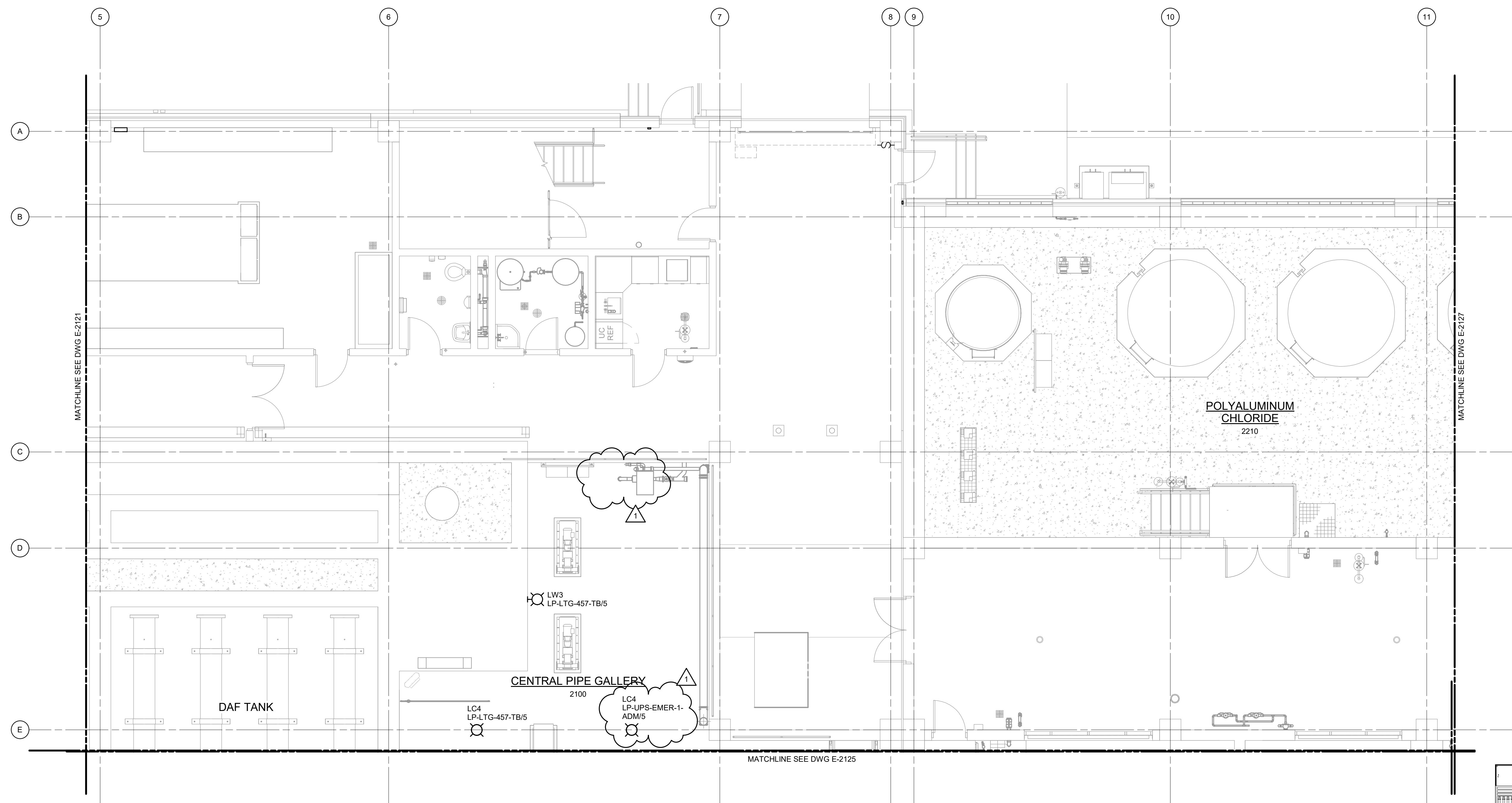
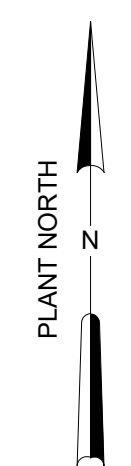


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

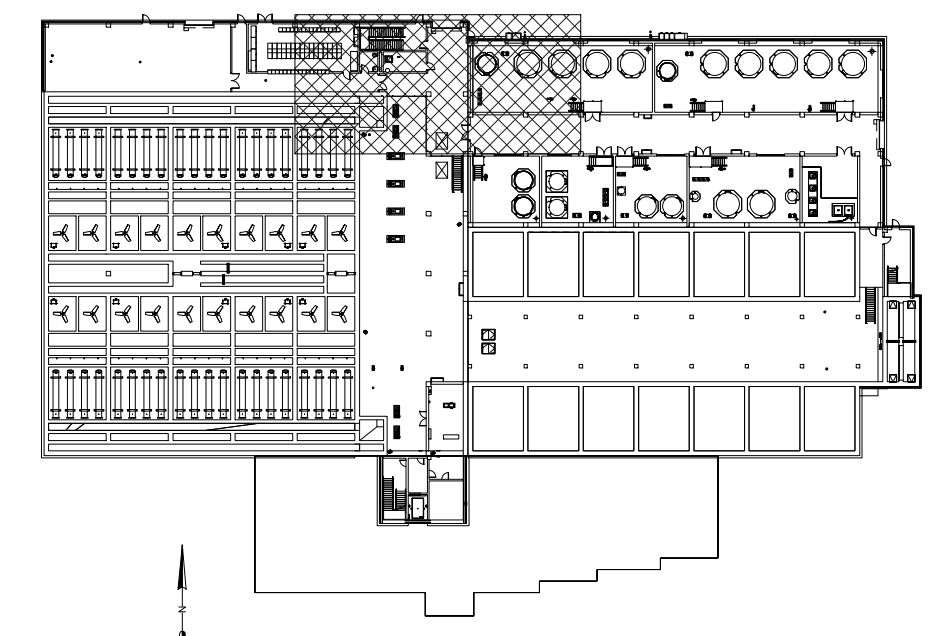
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 457.00 - PROCESS AREA 9

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2109



LIGHTING PLAN AT EL 457.00 - AREA 4
3/16" = 1'-0"



KEY PLAN EL 457.00
3/16" = 1'-0"

Autodesk Docs://09098-004_West Parish Filter WTT/90398-004-TB-E-14
 3/25/2024 2:18:58 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

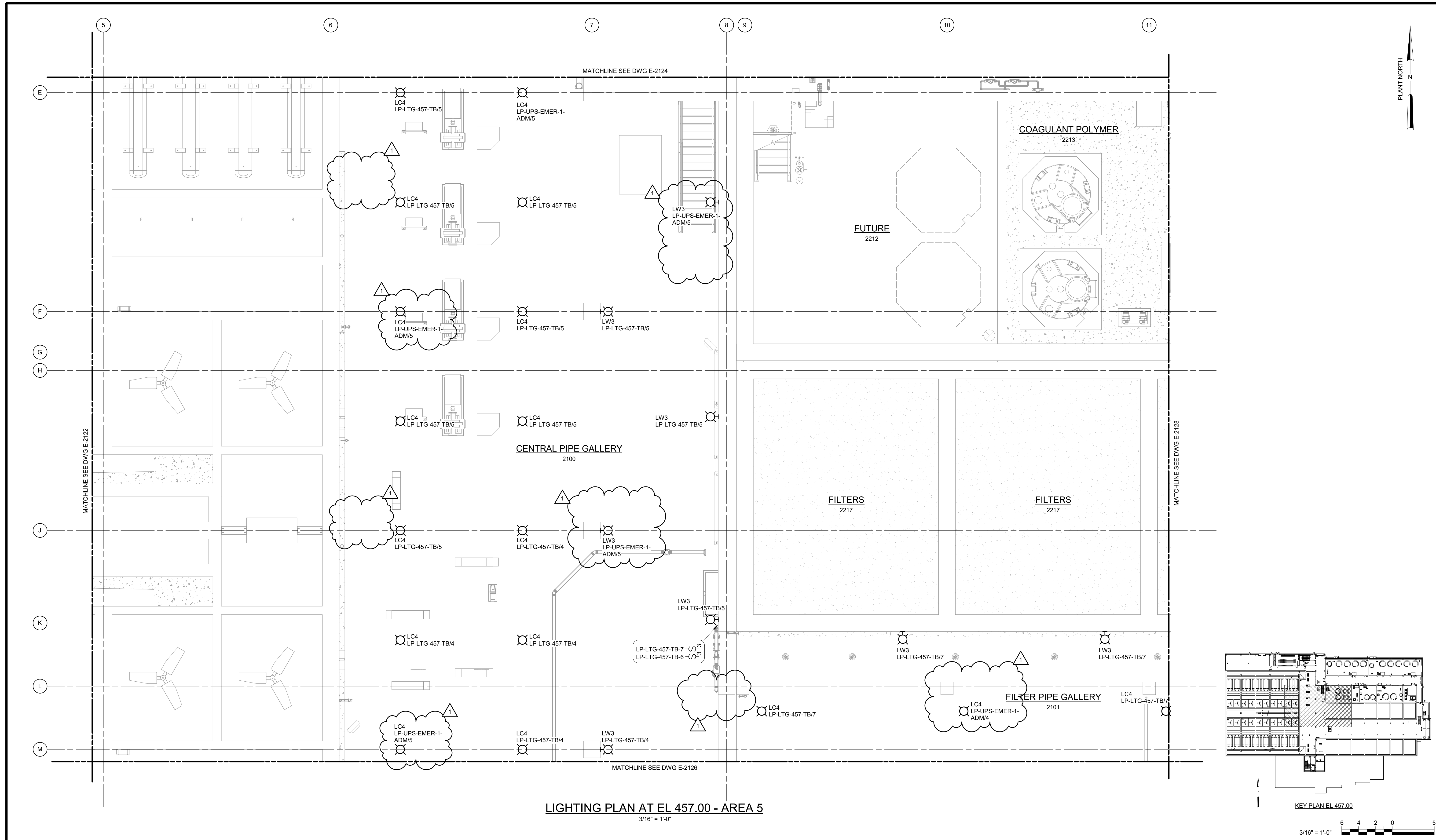
GEORGE MARKOU
 ELECTRICAL
 No. 50726
 REGISTERED PROFESSIONAL ENGINEER
 03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ELECTRICAL
 LIGHTING PLAN AT EL 457.00 - PROCESS AREA 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2124



LIGHTING PLAN AT EL 457.00 - AREA 5
3/16" = 1'-0"

KEY PLAN EL 457.00
3/16" = 1'-0"

Autodesk_Documents\90398-004_ West Parish Filter WTT\90398-004-TB-E-14 3/25/2024 2:18:59 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

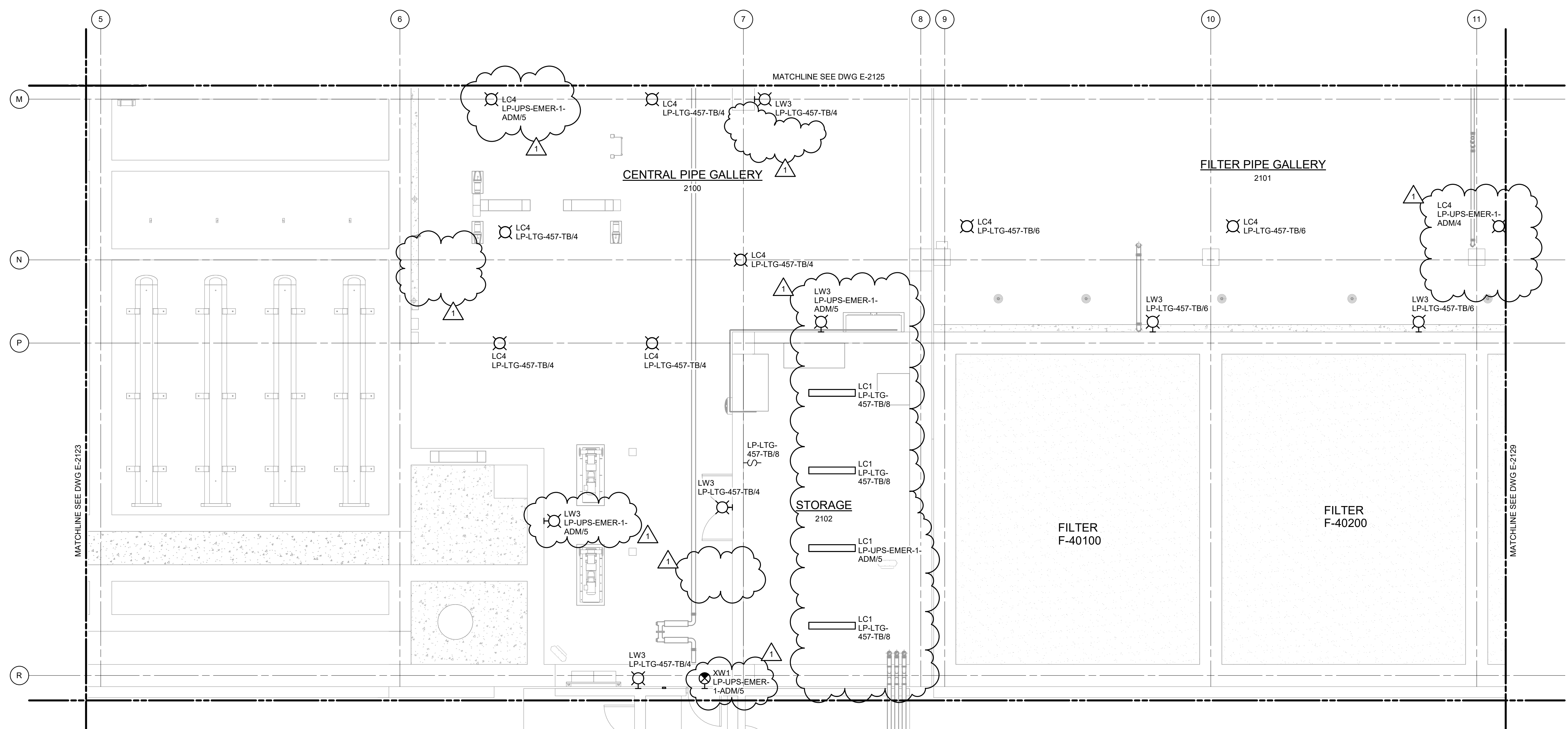
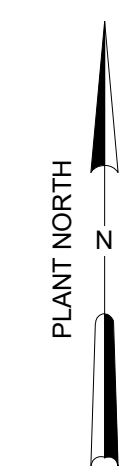
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

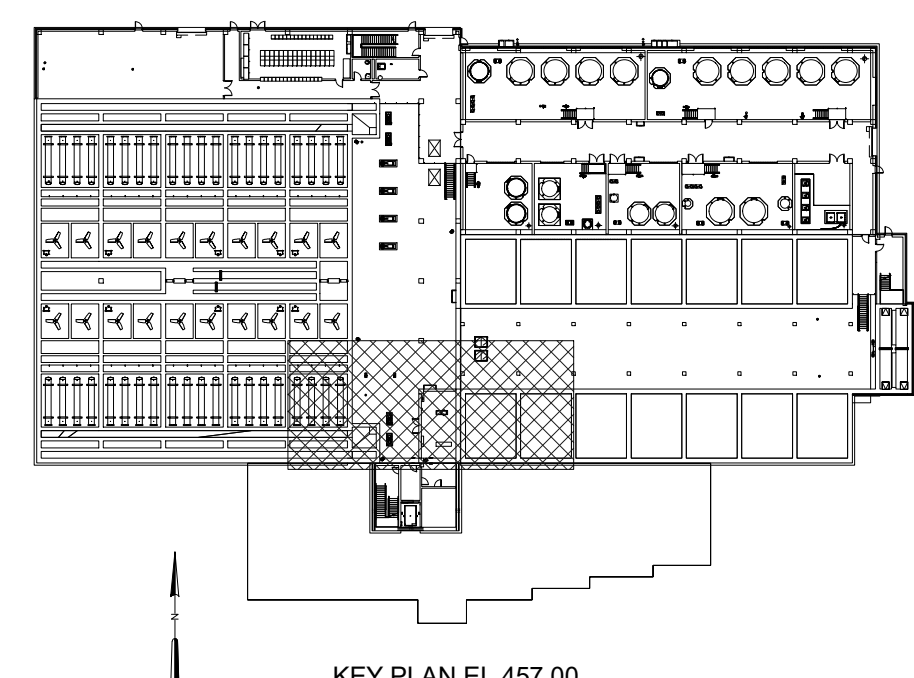
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 457.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2125



LIGHTING PLAN AT EL 457.00 - AREA 6
3/16" = 1'-0"



KEY PLAN EL 457.00
3/16" = 1'-0"

Autodesk_Docs\060908-004_West Parish Filter WTR0908-004-TB-E-14
3/25/2024 2:13:01 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

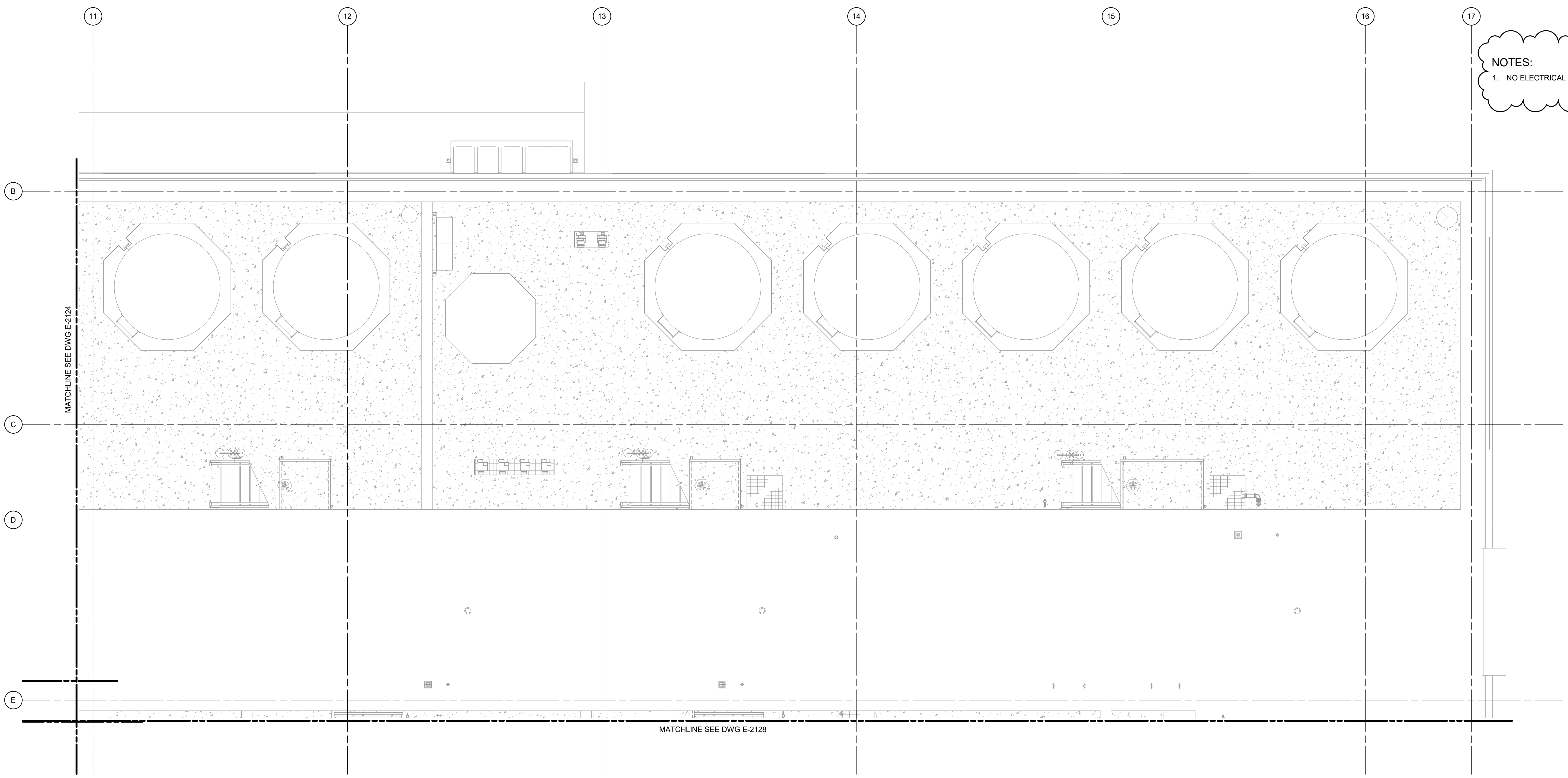
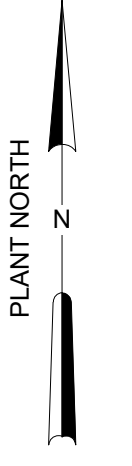
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

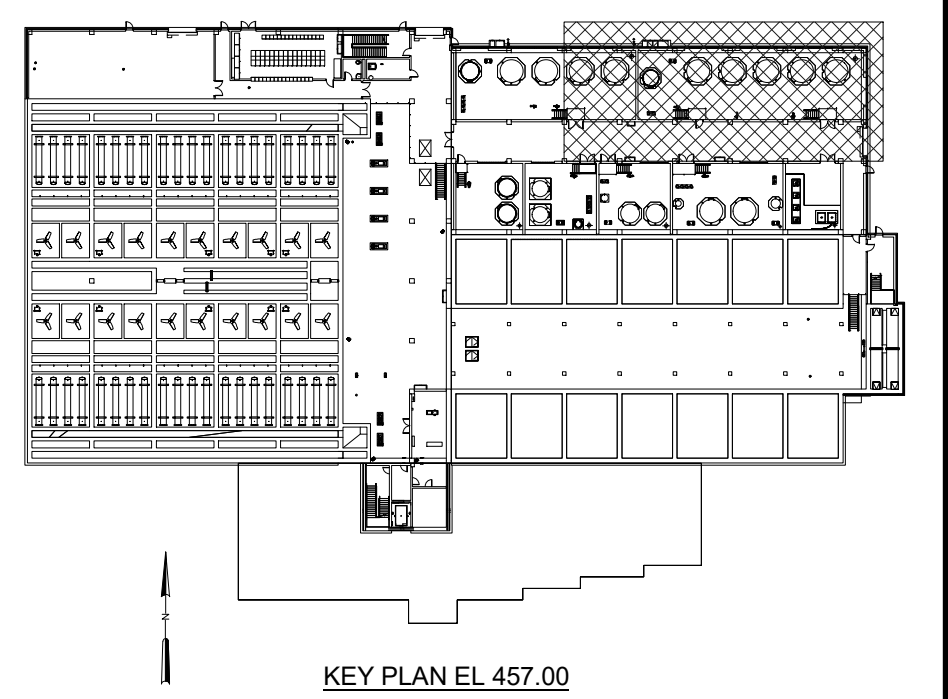
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 457.00 - PROCESS AREA 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2126

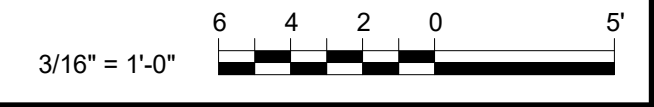
NOTES:
1. NO ELECTRICAL WORK ON THIS DRAWING.



LIGHTING PLAN AT EL 457.00 - AREA 7
3/16" = 1'-0"



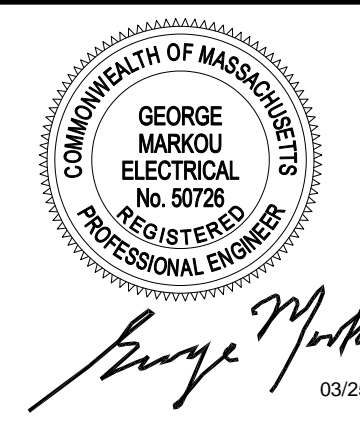
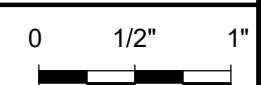
KEY PLAN EL 457.00



Autodesk_Docs\060908-004_West Parish Filter WTT\90398-004-TB-E-14 3/25/2024 2:19:01 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



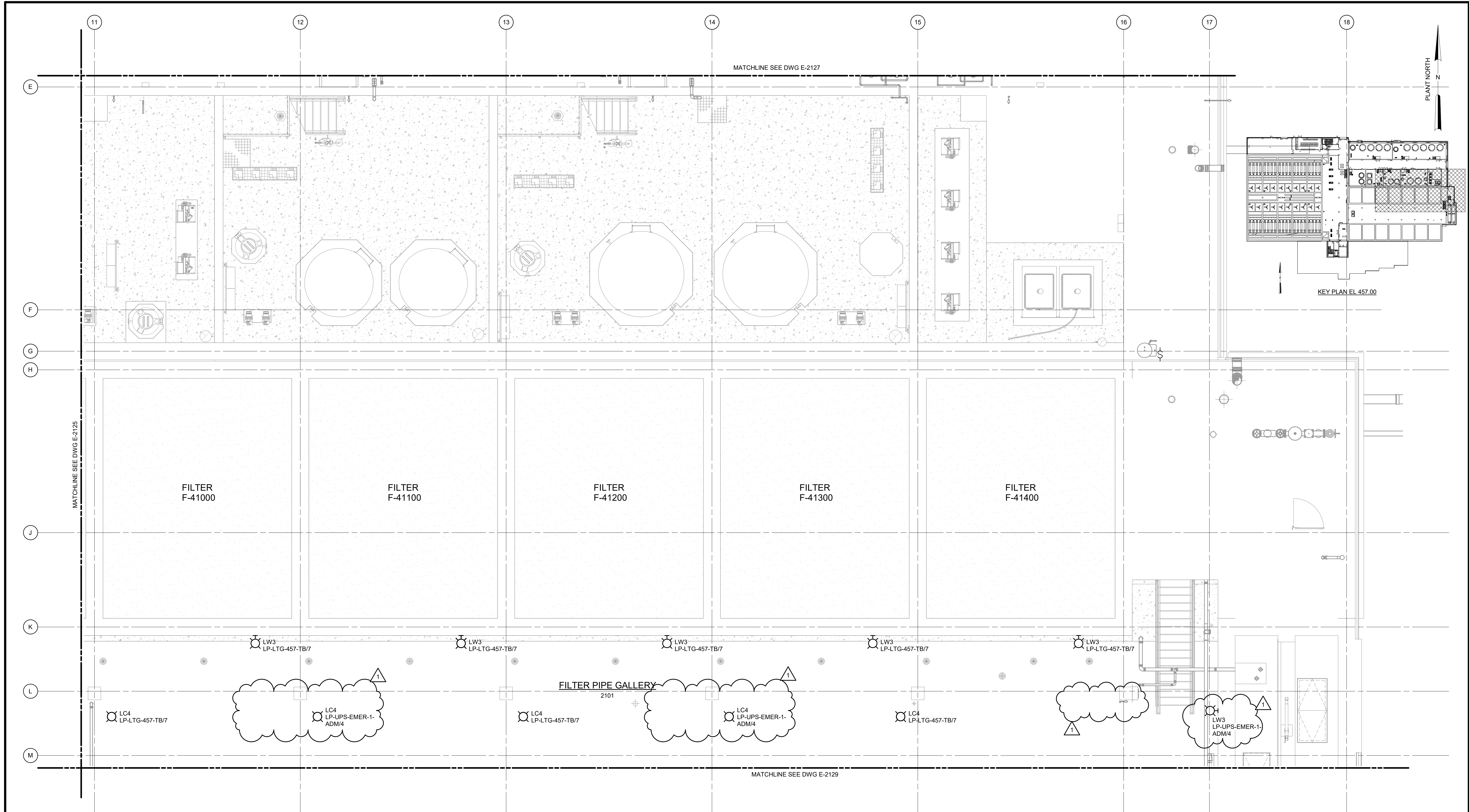
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL 457.00 - PROCESS AREA 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2127



LIGHTING PLAN AT EL 457.00 - AREA 8

3/16" = 1'-0"

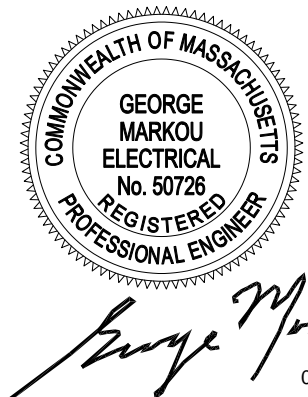
1/8" = 1'-0"

Autodesk_Docs\090398-004_ West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:19:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"



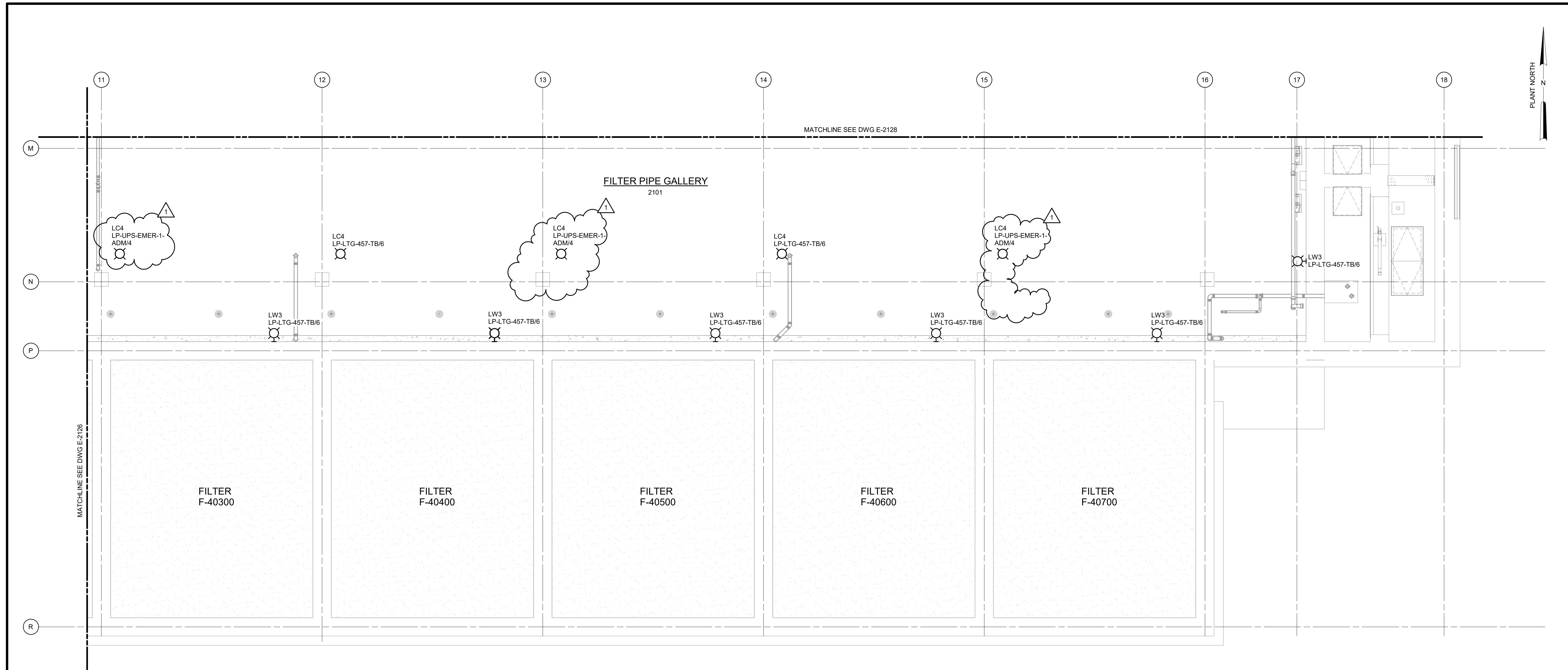
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

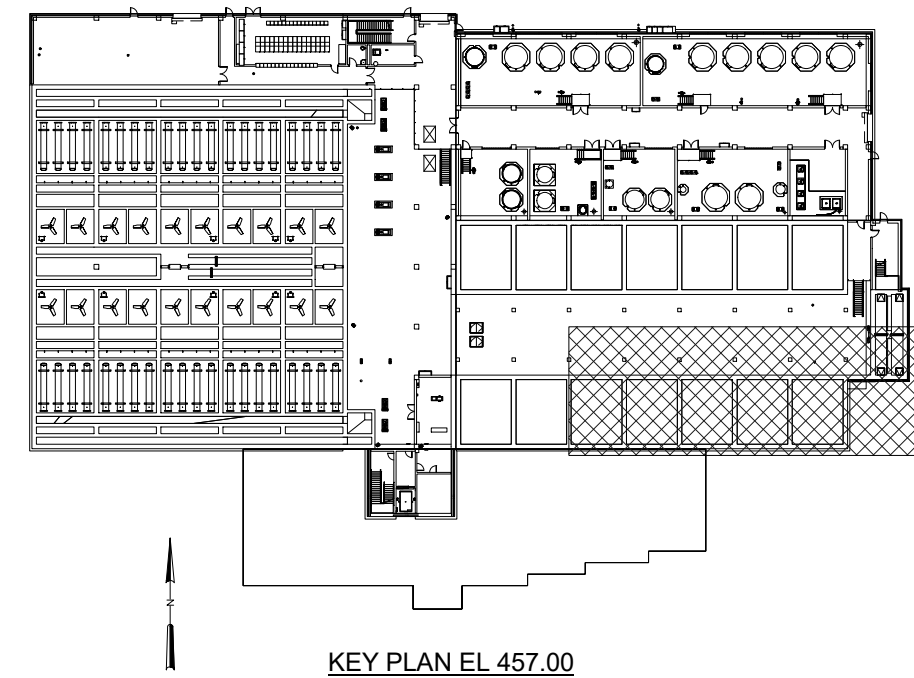
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 457.00 - PROCESS AREA 8

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2128



LIGHTING PLAN AT EL 457.00 - AREA 9
3/16" = 1'-0"



KEY PLAN EL 457.00
3/16" = 1'-0"

Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14
3/25/2024 2:13:03 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

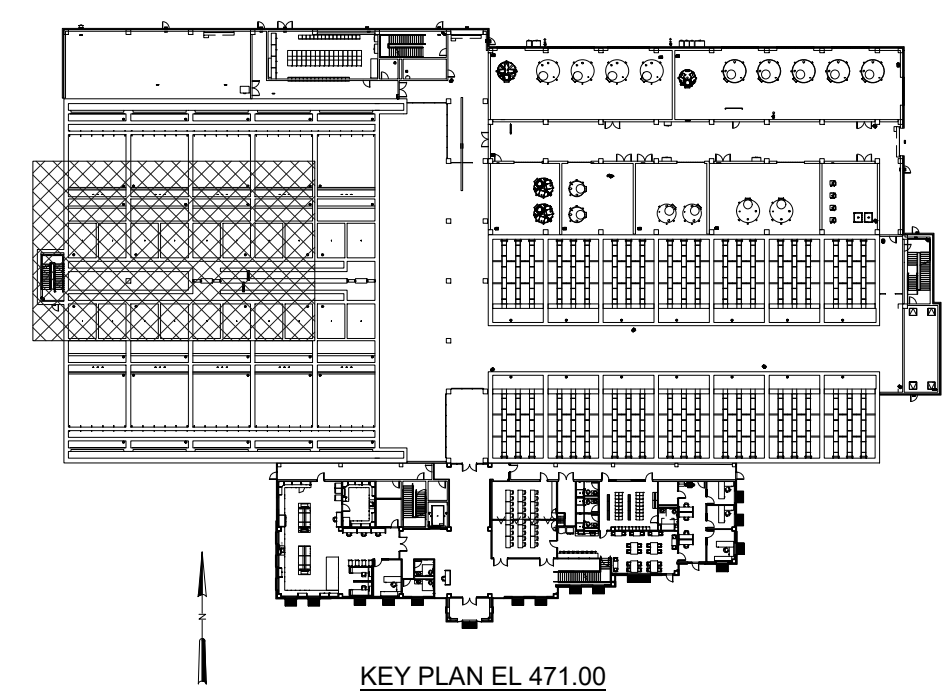
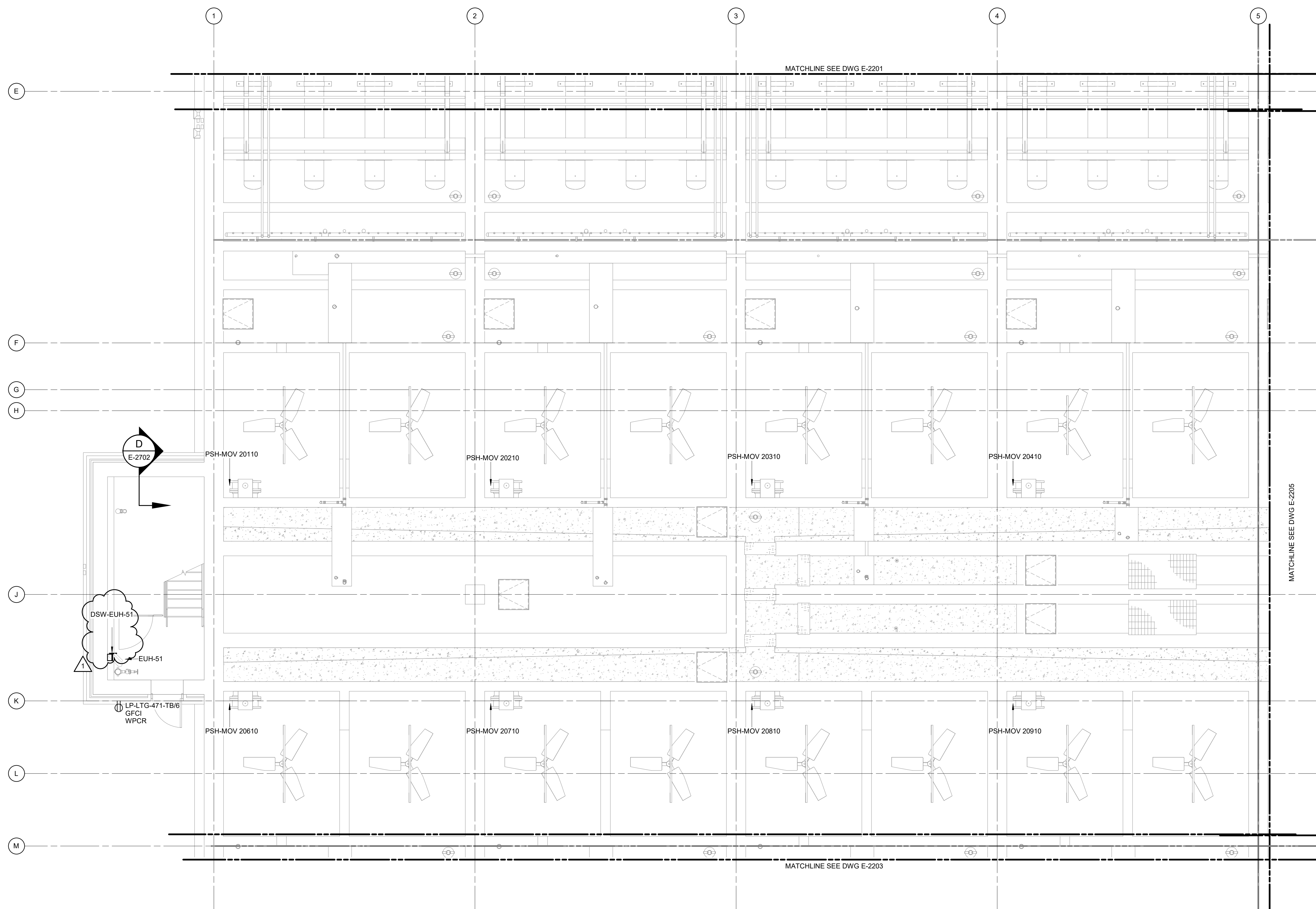
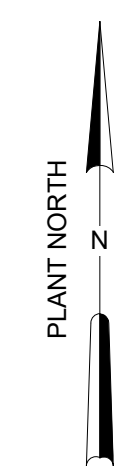
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 457.00 - PROCESS AREA 9

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2129



POWER PLAN AT EL 471.00 - AREA 2
3/16" = 1'-0"

1/8" = 1'-0"

Autodesk_Documents\90398-004_West Parish Filter WTT\90398-004-TB-E-14 3/25/2024 2:19:23 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

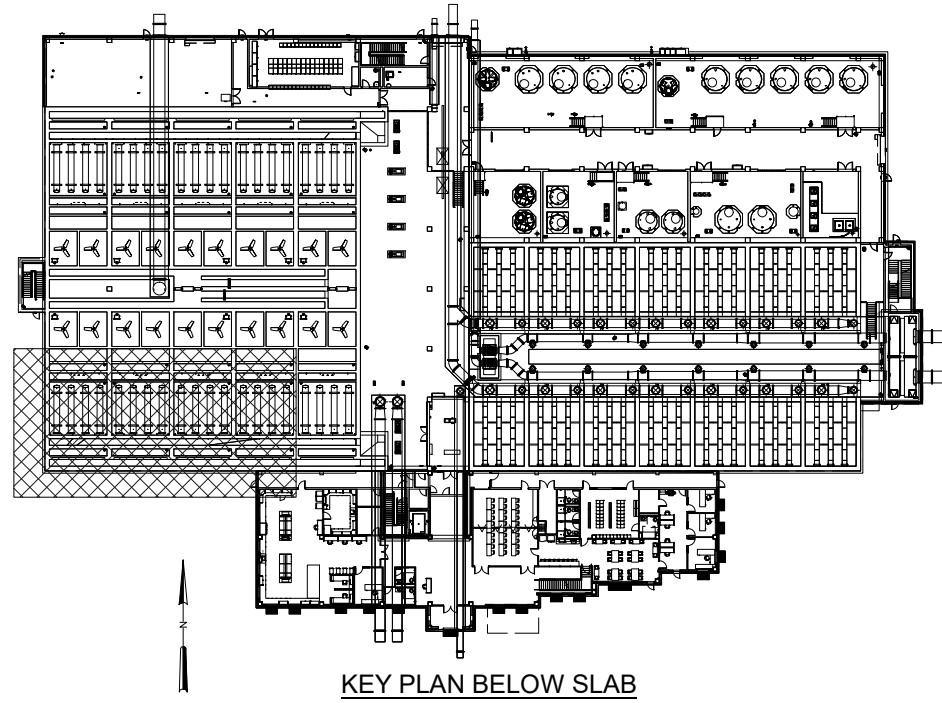
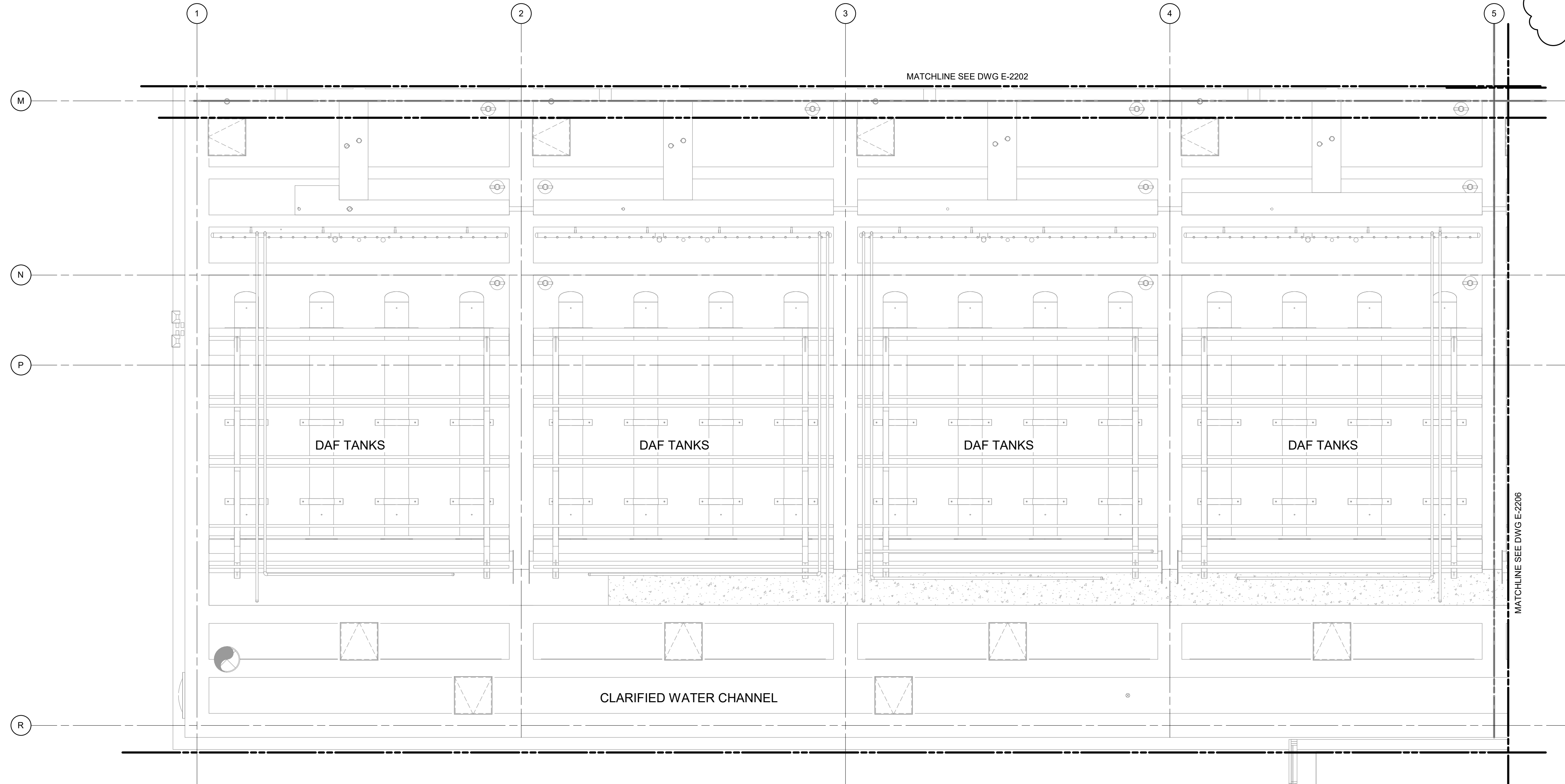
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 471.00 - PROCESS AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2202

NOTES:
1. NO ELECTRICAL WORK ON THIS DRAWING.



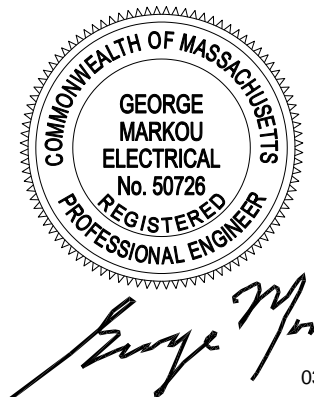
POWER PLAN AT EL 471.00 - AREA 3
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk DocuSign/09098-004_West Parish Filter WTT/90398-004-TB-E-14
3/25/2024 2:19:30 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



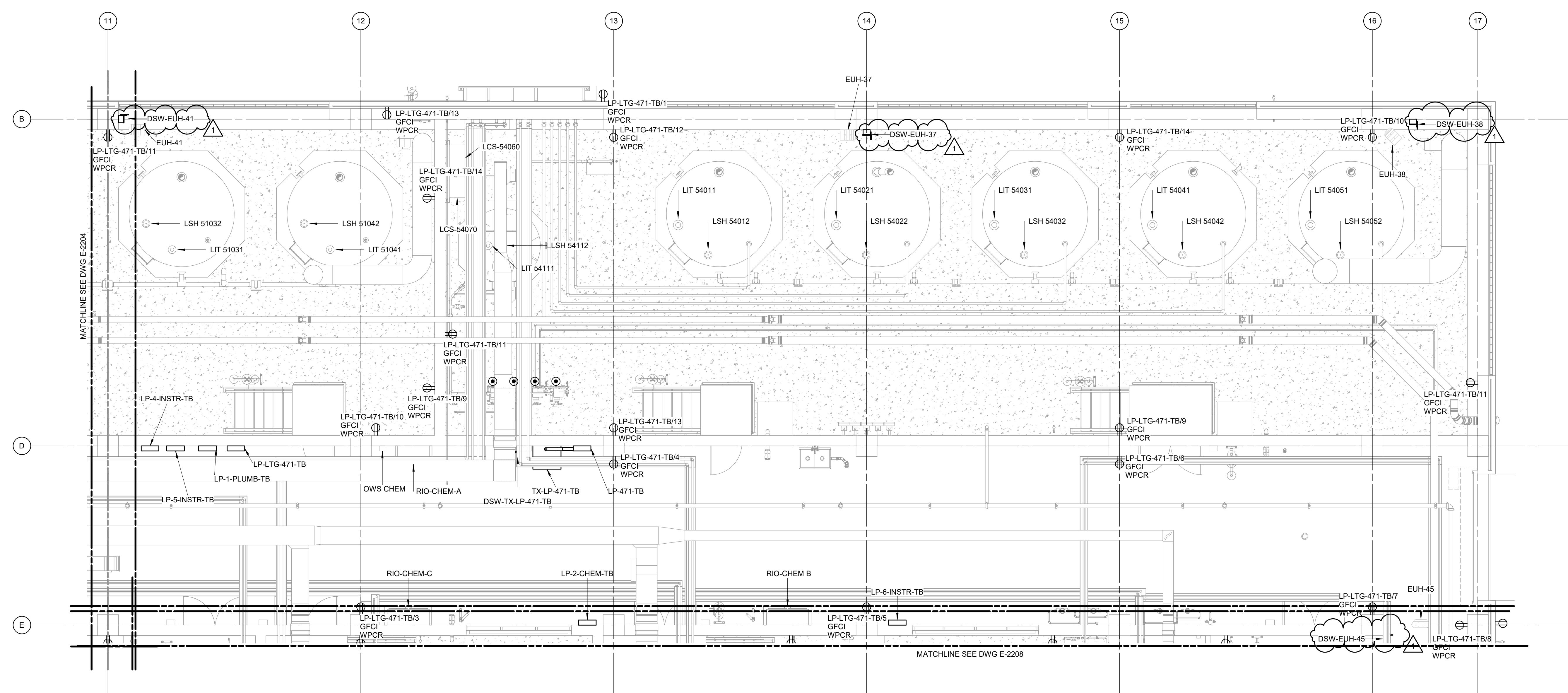
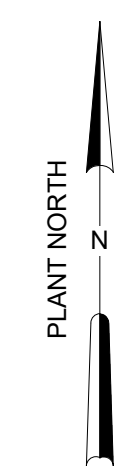
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

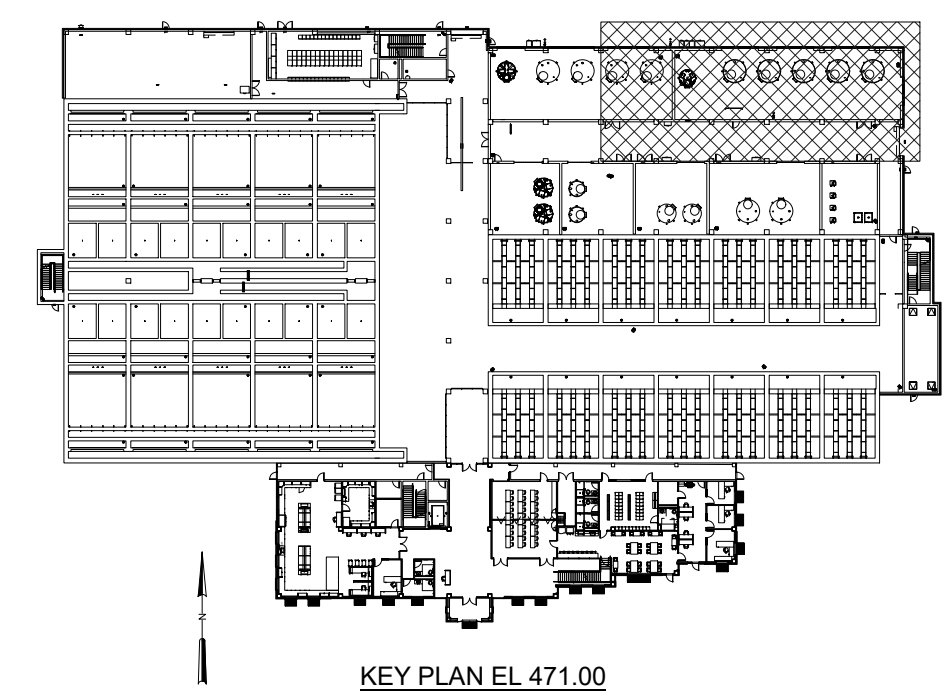
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
POWER PLAN AT EL 471.00 - PROCESS AREA 3

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER: E-2203



POWER PLAN AT EL 471.00 - AREA 7
3/16" = 1'-0"



KEY PLAN EL 471.00
1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk_Documents\90398-004_West Parish Filter WTT90398-004-TB-E-14
3/25/2024 2:20:27 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

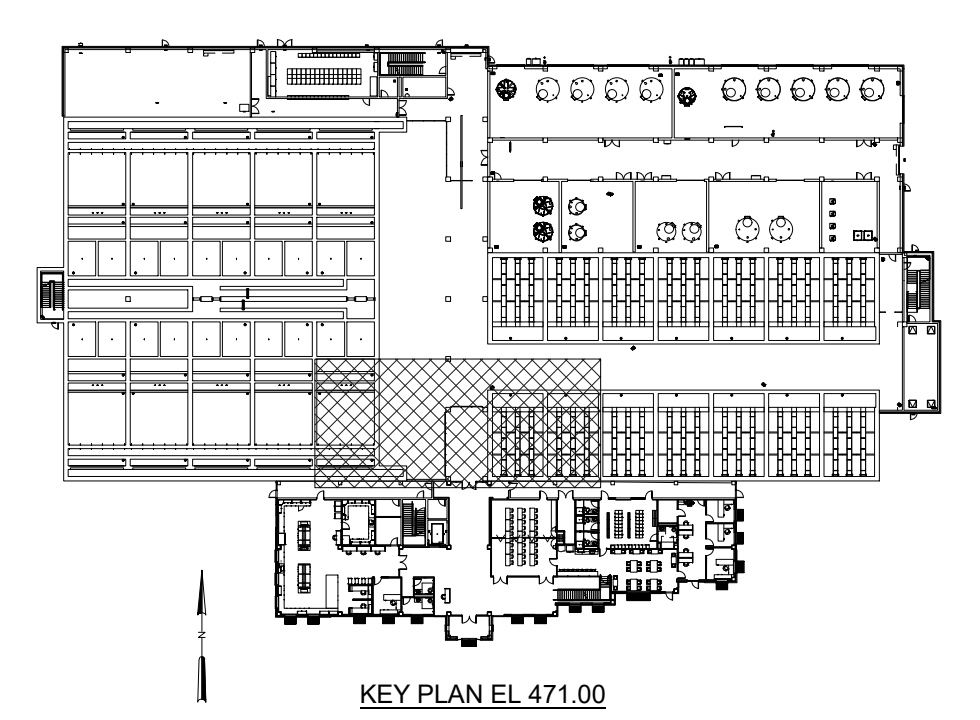
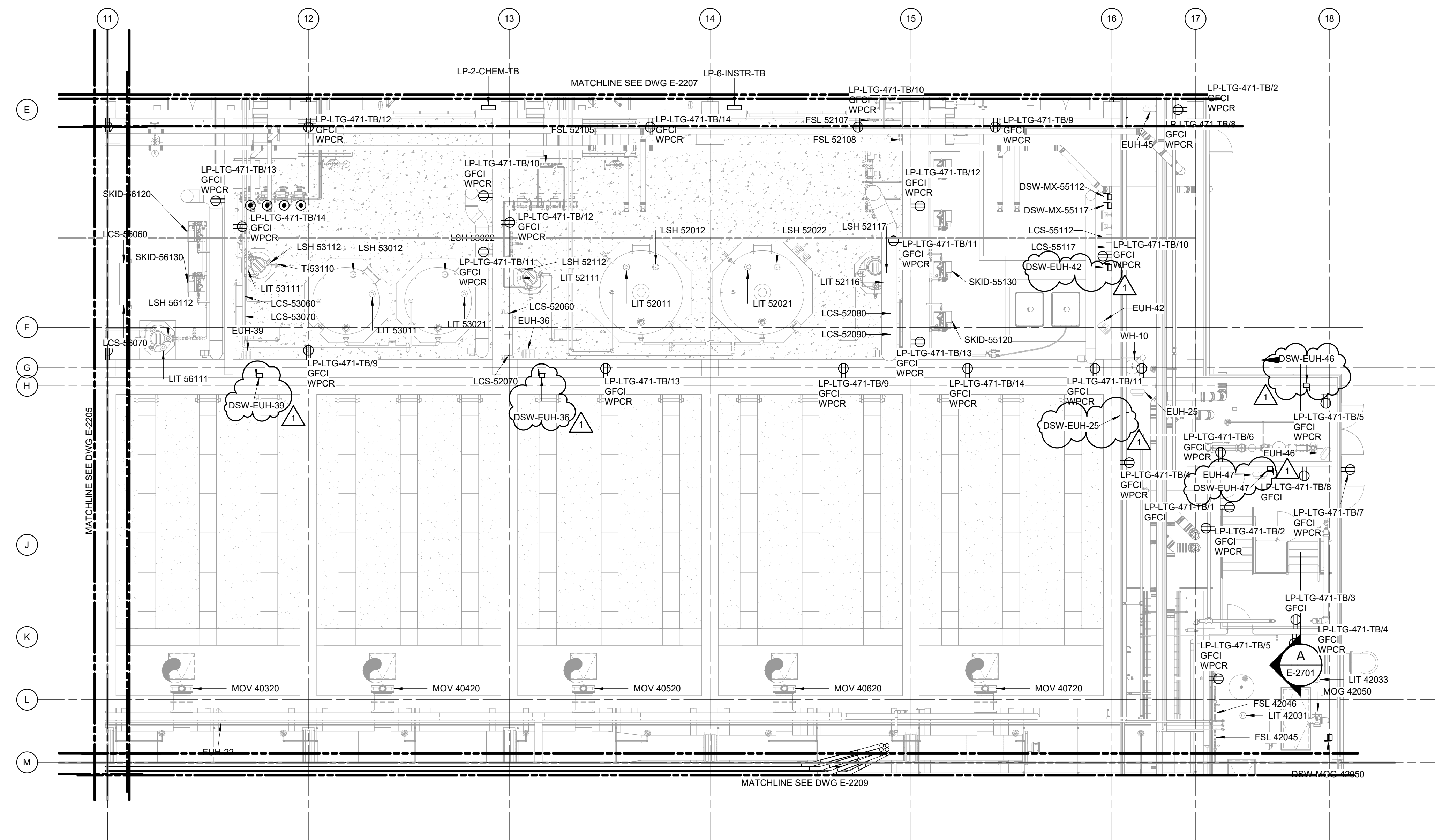
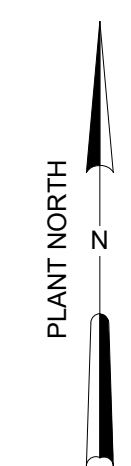
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 471.00 - PROCESS AREA 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2207



POWER PLAN AT EL 471.00 - AREA 8
1/8" = 1'-0"

1/8" = 1'-0"

Autodesk_Docs\090908-004_Web\Print\Title WTT90908-004-TB-E-14 3/25/2024 2:20:54 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

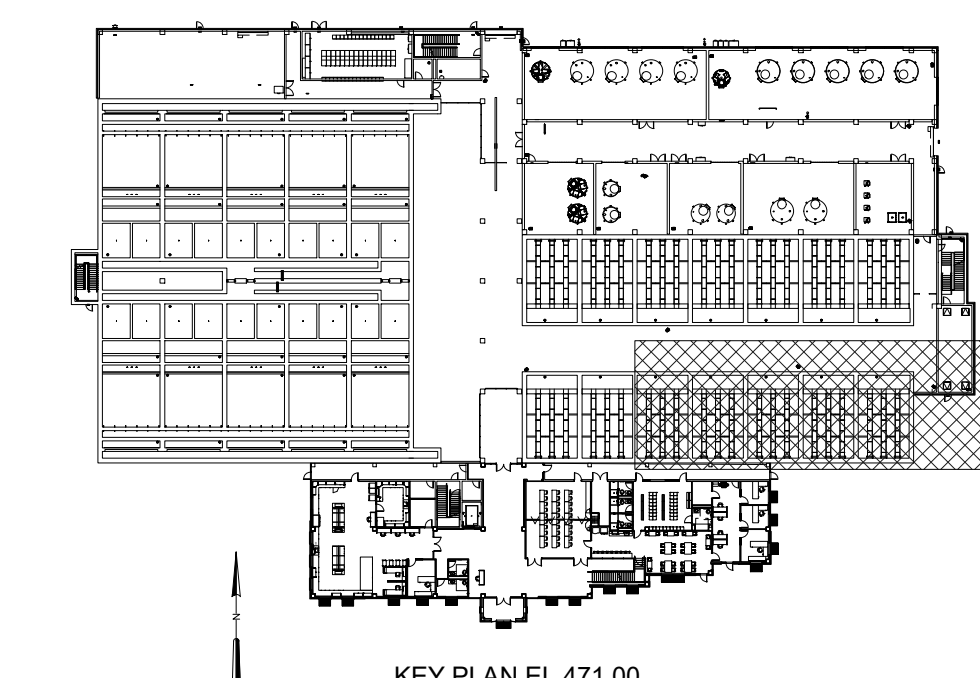
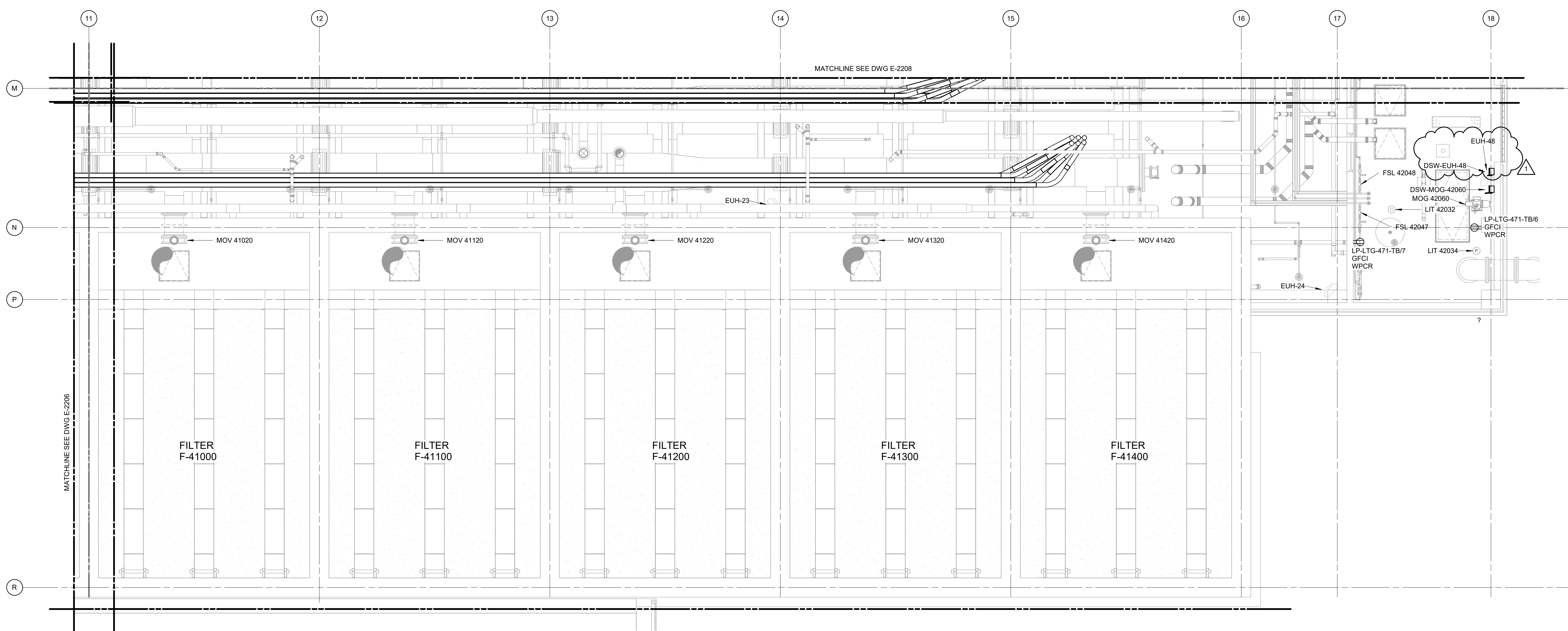
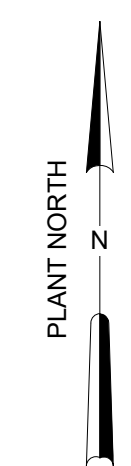


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
POWER PLAN AT EL 471.00 - PROCESS AREA 8

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2208



POWER PLAN AT EL 471.00 - AREA 9
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:21:03 PM

1	ADDENDUM NO. 3	MAR 24	MWM	PROJECT ENGINEER: K. BARRETT
0	ISSUED FOR BIDS	FEB 24	MWM	DESIGNED BY: A. PENA/ D. SHAH
				DRAWN BY: A. PENA/ D. SHAH
				CHECKED BY: G. MARKOU
REV	ISSUED FOR	DATE	BY	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

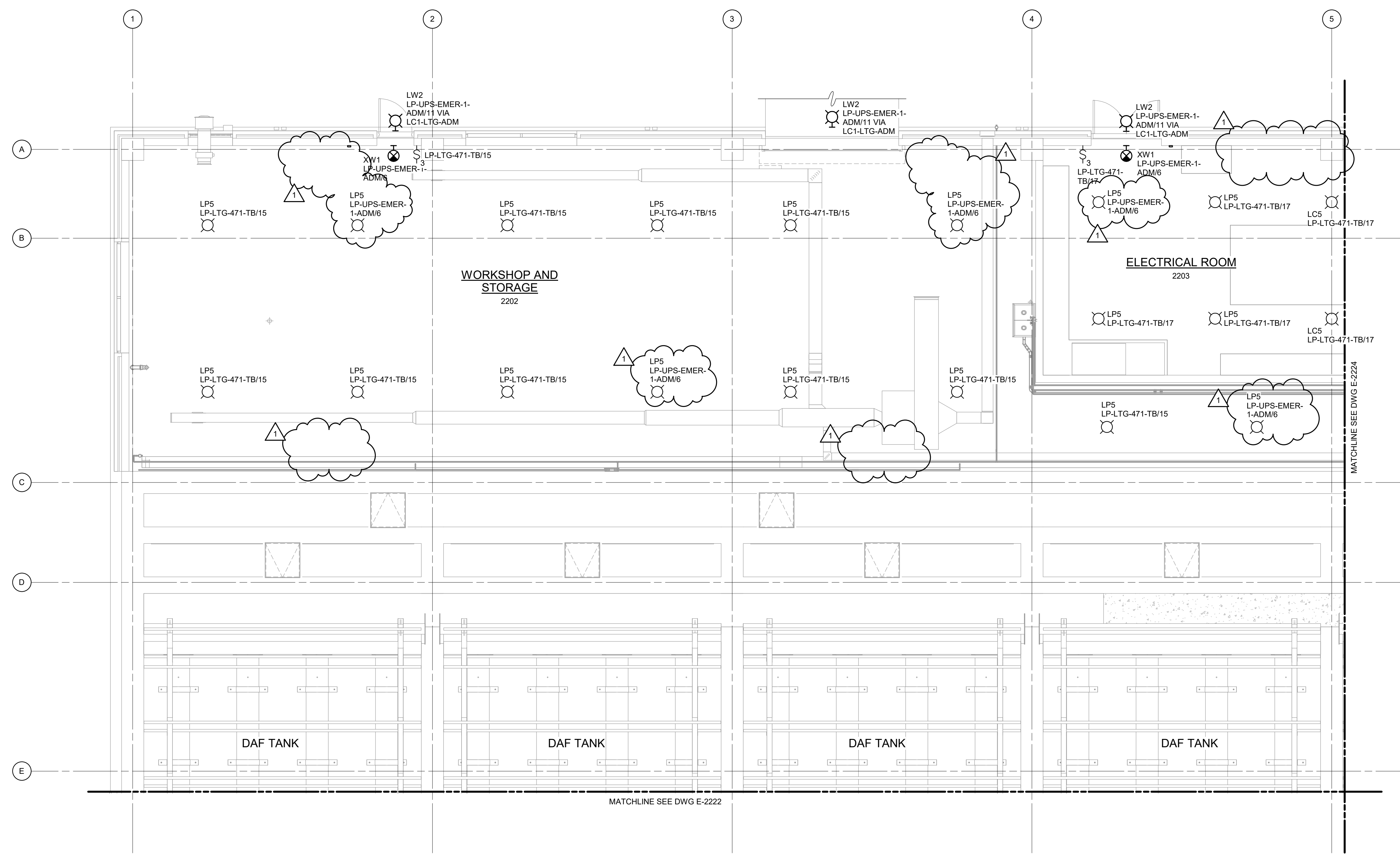
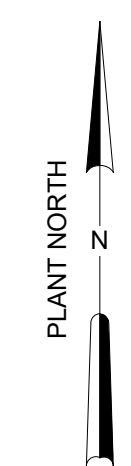
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 471.00 - PROCESS AREA 9

DATE: FEBRUARY 2024

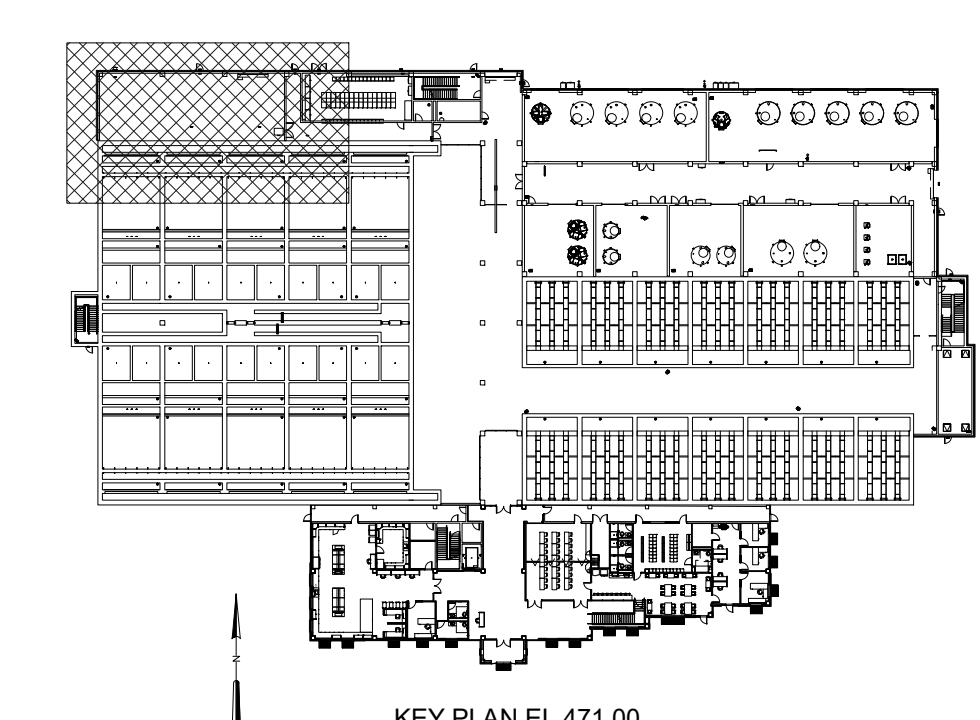
HAZEN NO.: 90398-004

CONTRACT NO.: 24-51

DRAWING NUMBER: E-2209

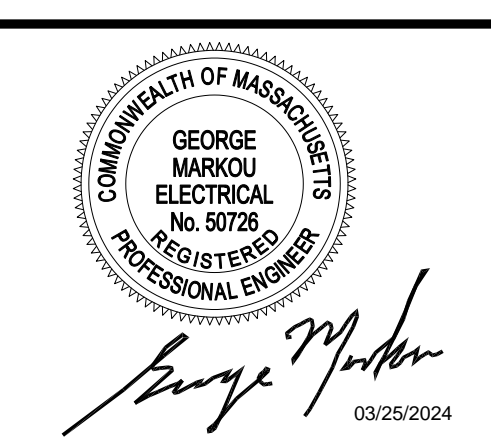


LIGHTING PLAN AT EL 471.00 - AREA 1
3/16" = 1'-0"



Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-TB-E-1 3/25/2024 2:21:17 PM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA/ D. SHAH		
DRAWN BY:	A. PENA/ D. SHAH		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0	1/2"	1"
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

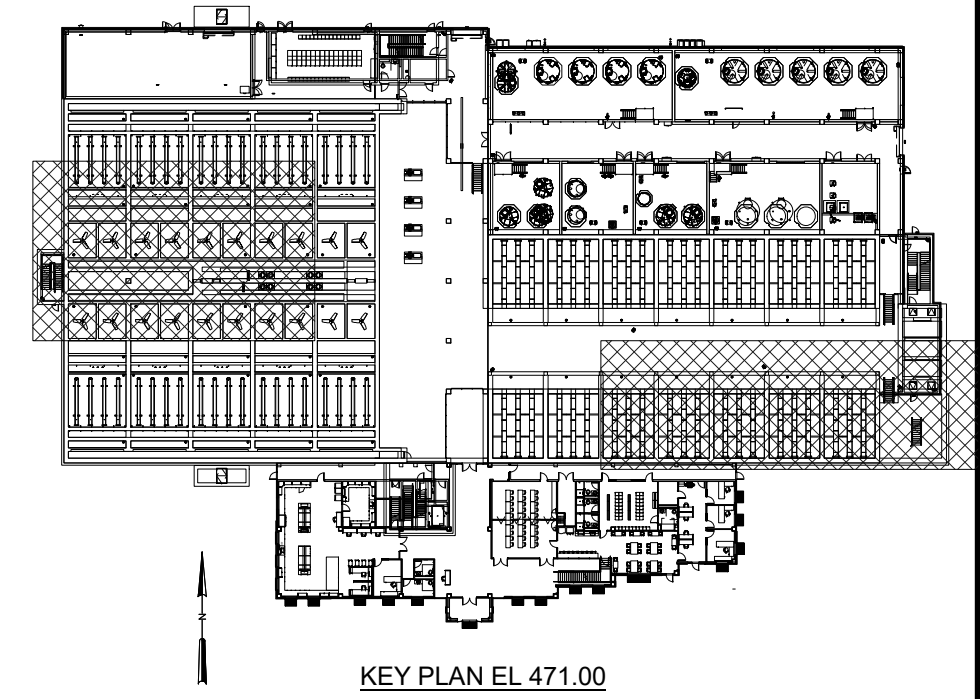
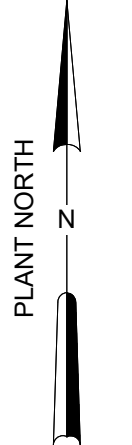
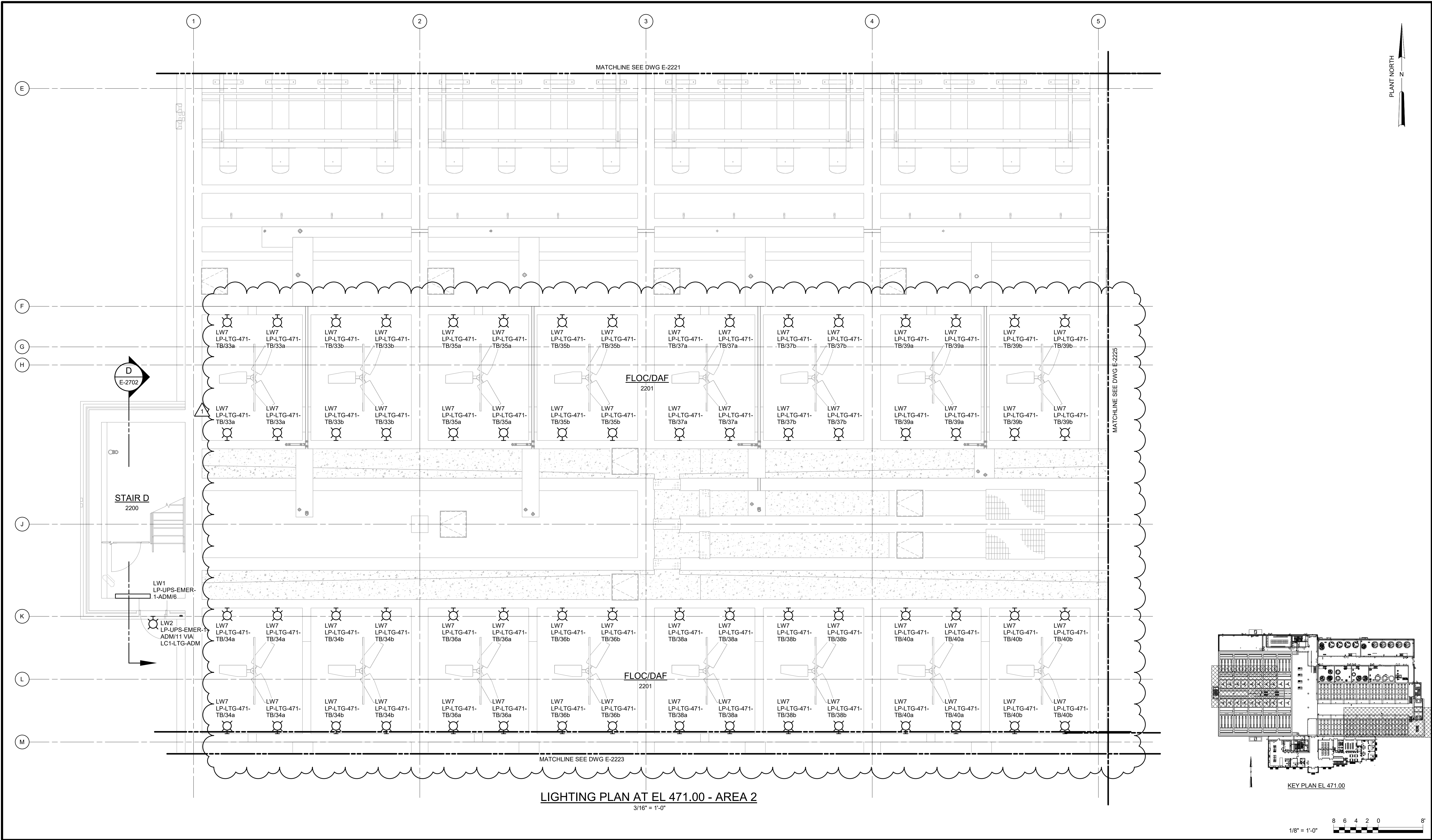


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 1

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER:
E-221



LIGHTING PLAN AT EL 471.00 - AREA 2
3/16" = 1'-0"



1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

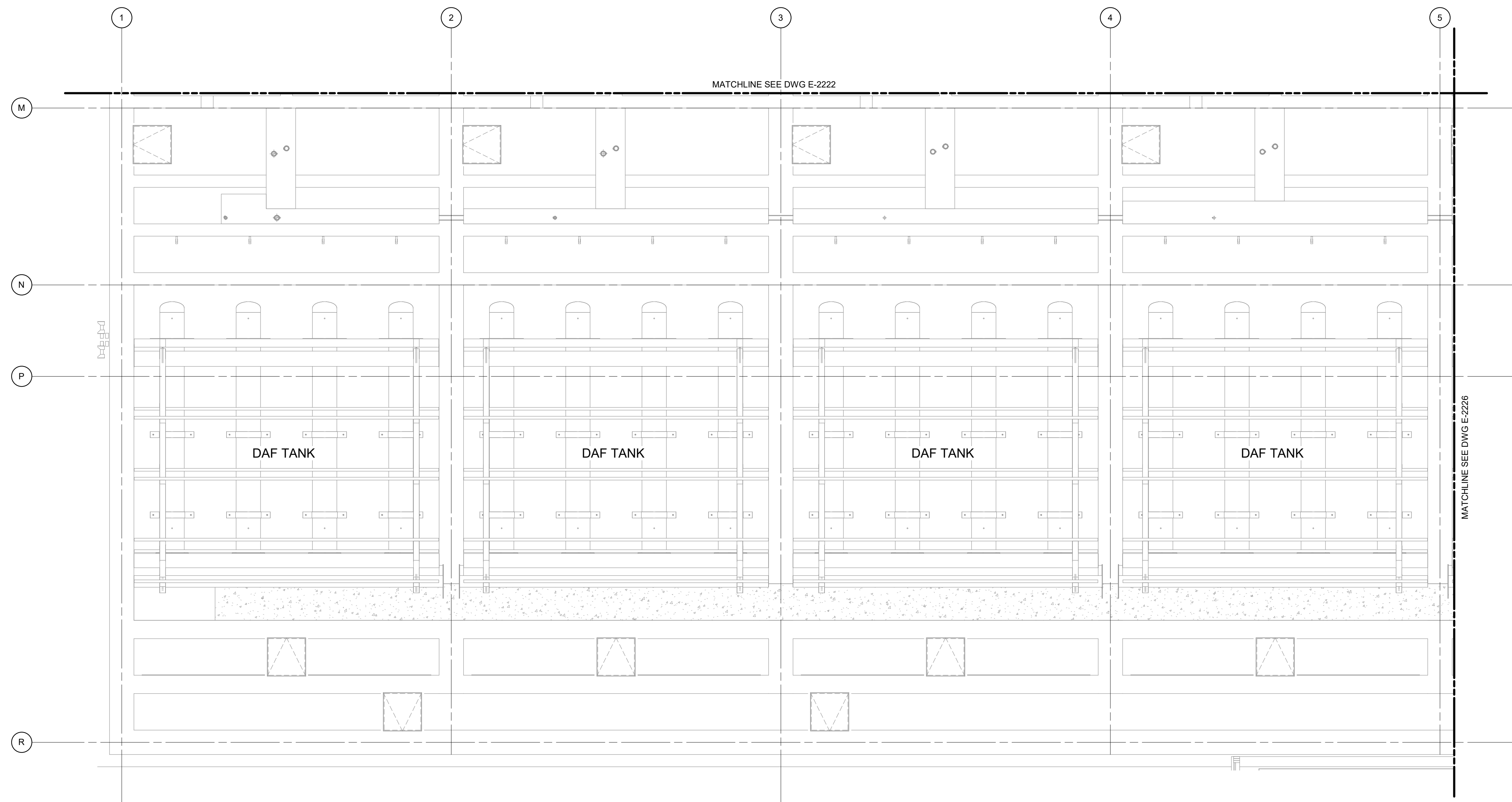
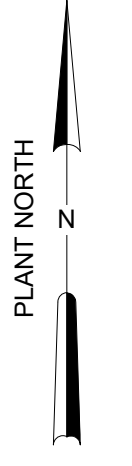
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 2

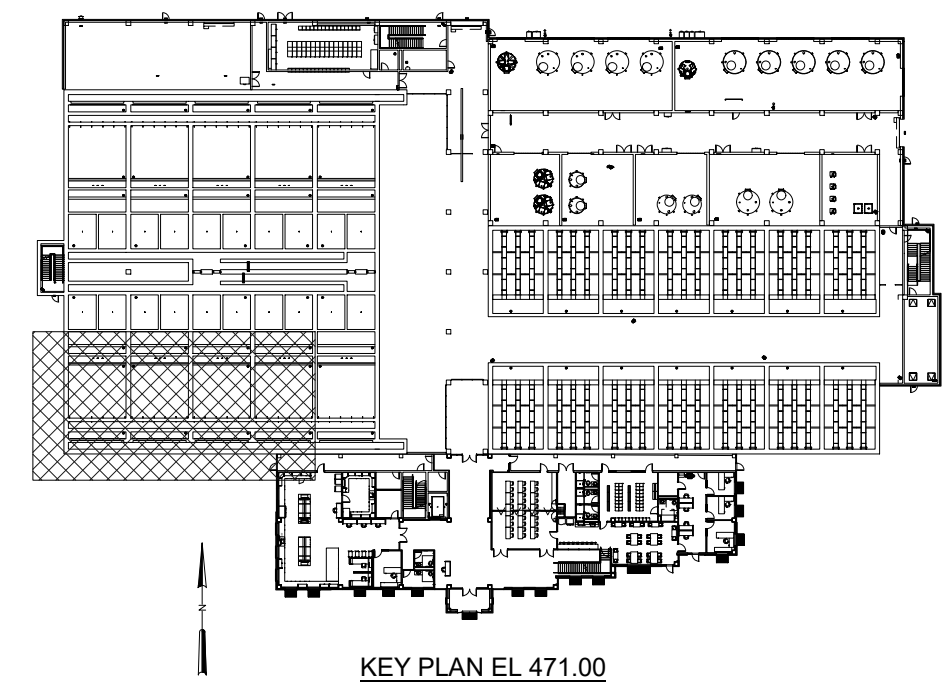
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2222

Autodesk DocuSign/090398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:21:27 PM

NOTES:
 1. NO ELECTRICAL WORK ON THIS DRAWING.



LIGHTING PLAN AT EL 471.00 - AREA 3
 3/16" = 1'-0"



KEY PLAN EL 471.00
 1/8" = 1'-0"

Autodesk Docs\060908-004_West Parish Filter WTT90398-004-TB-E-14
 3/25/2024 2:21:33 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
 03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

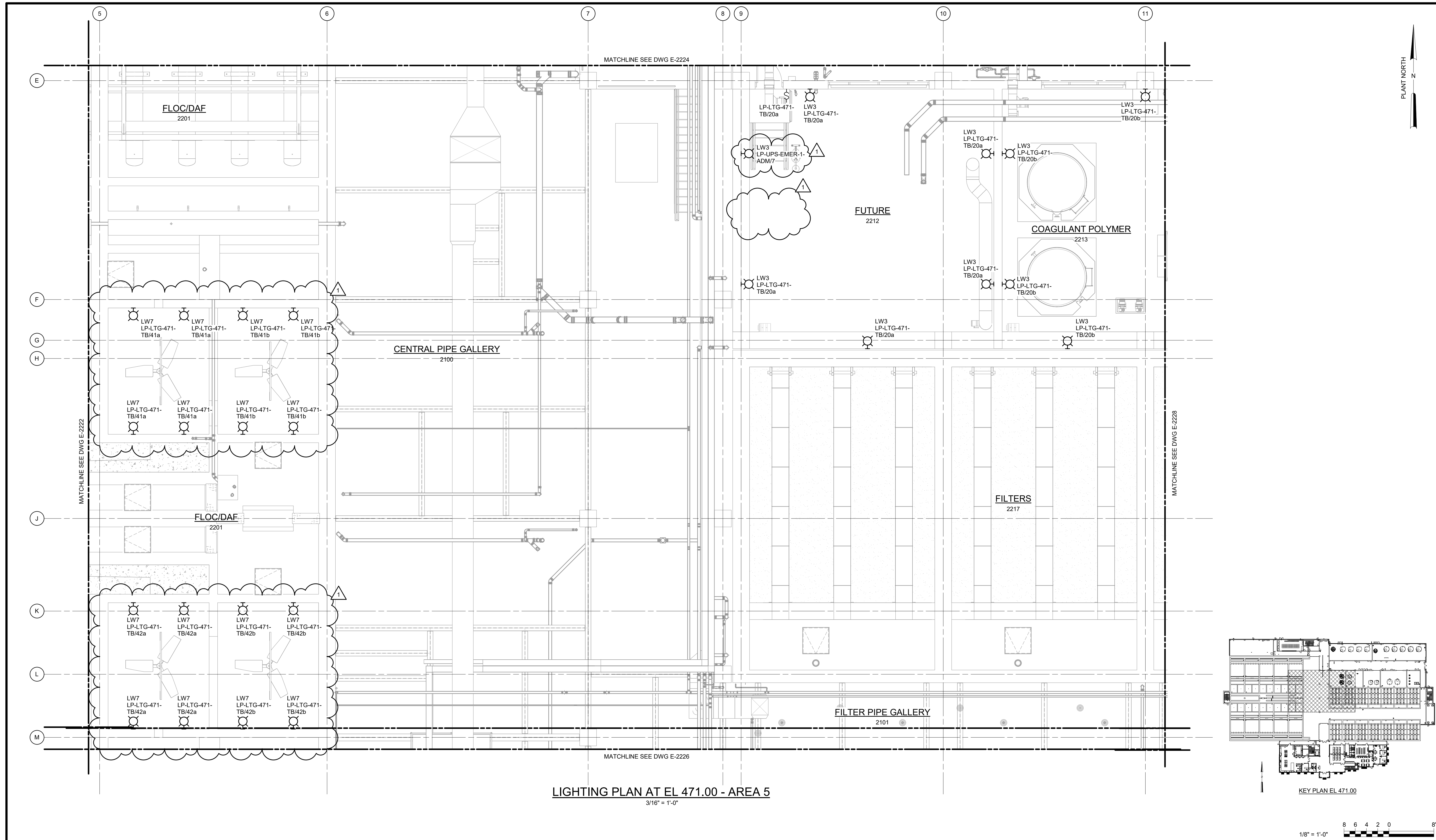
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

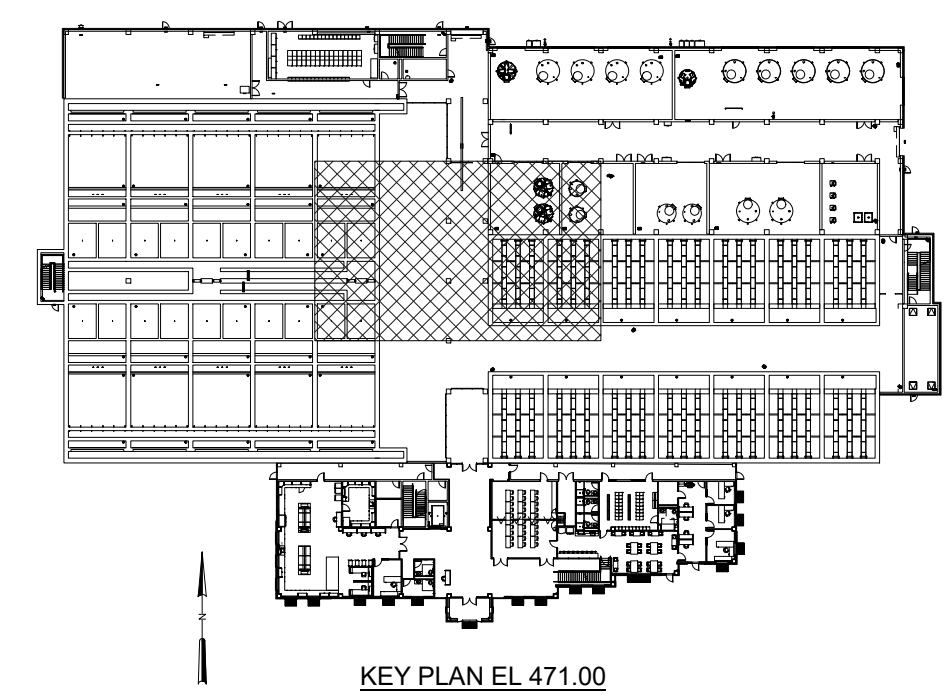
WATER TREATMENT BUILDING ELECTRICAL

LIGHTING PLAN AT EL 471.00 - PROCESS AREA 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2223



LIGHTING PLAN AT EL 471.00 - AREA 5
3/16" = 1'-0"



1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:22:03 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
	0 1/2" 1"

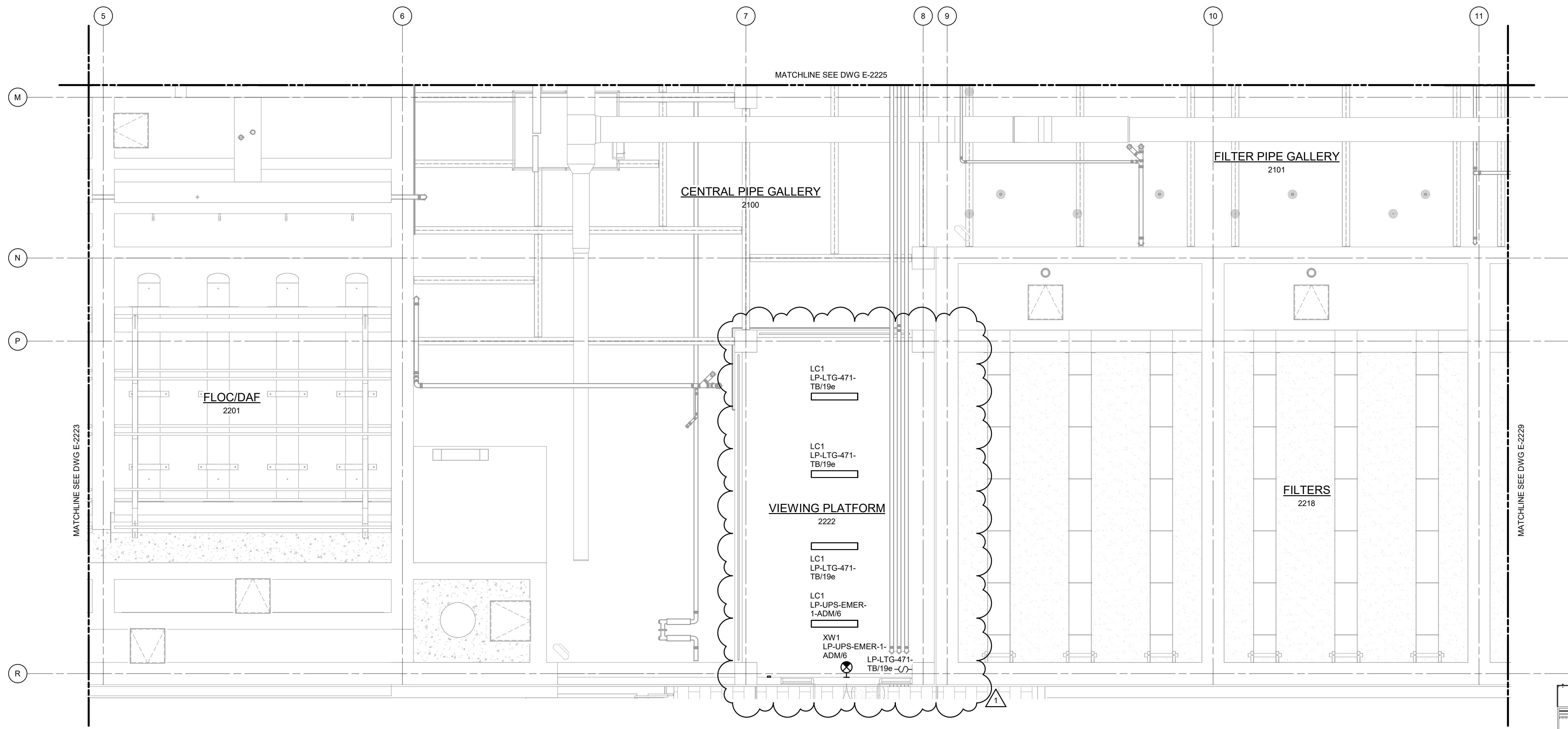
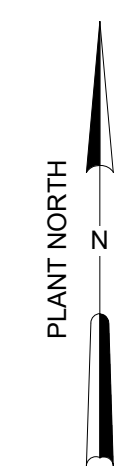


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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

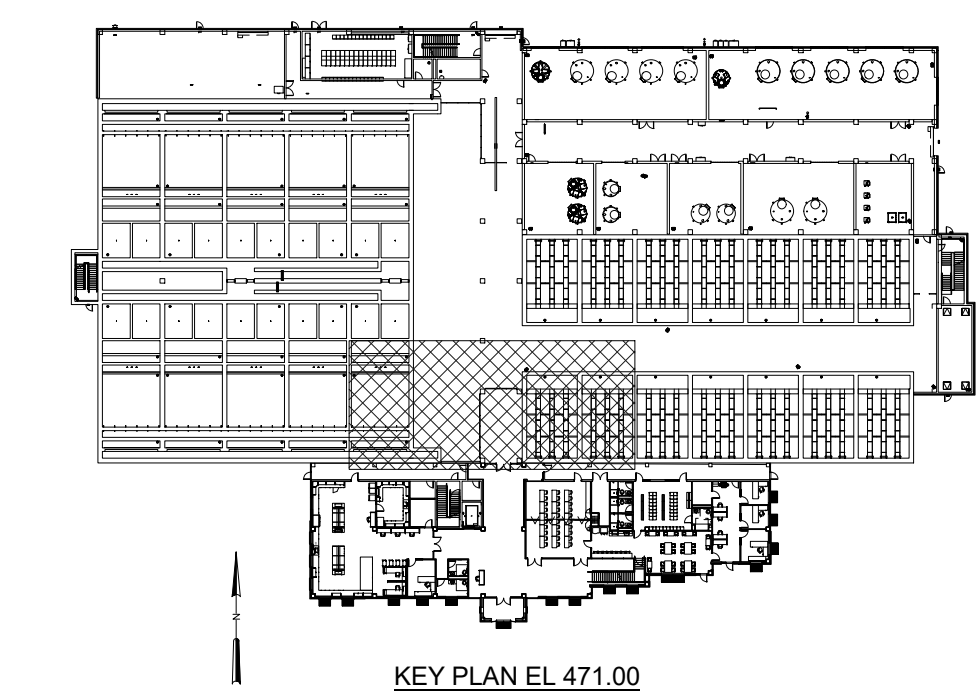
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2225



LIGHTING PLAN AT EL 471.00 - AREA 6
3/16" = 1'-0"



KEY PLAN EL 471.00
1/8" = 1'-0"

Autodesk Docs: I09098-004_West Parish Filter WTT9098-004-TB-E-14 3/25/2024 2:22:10 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

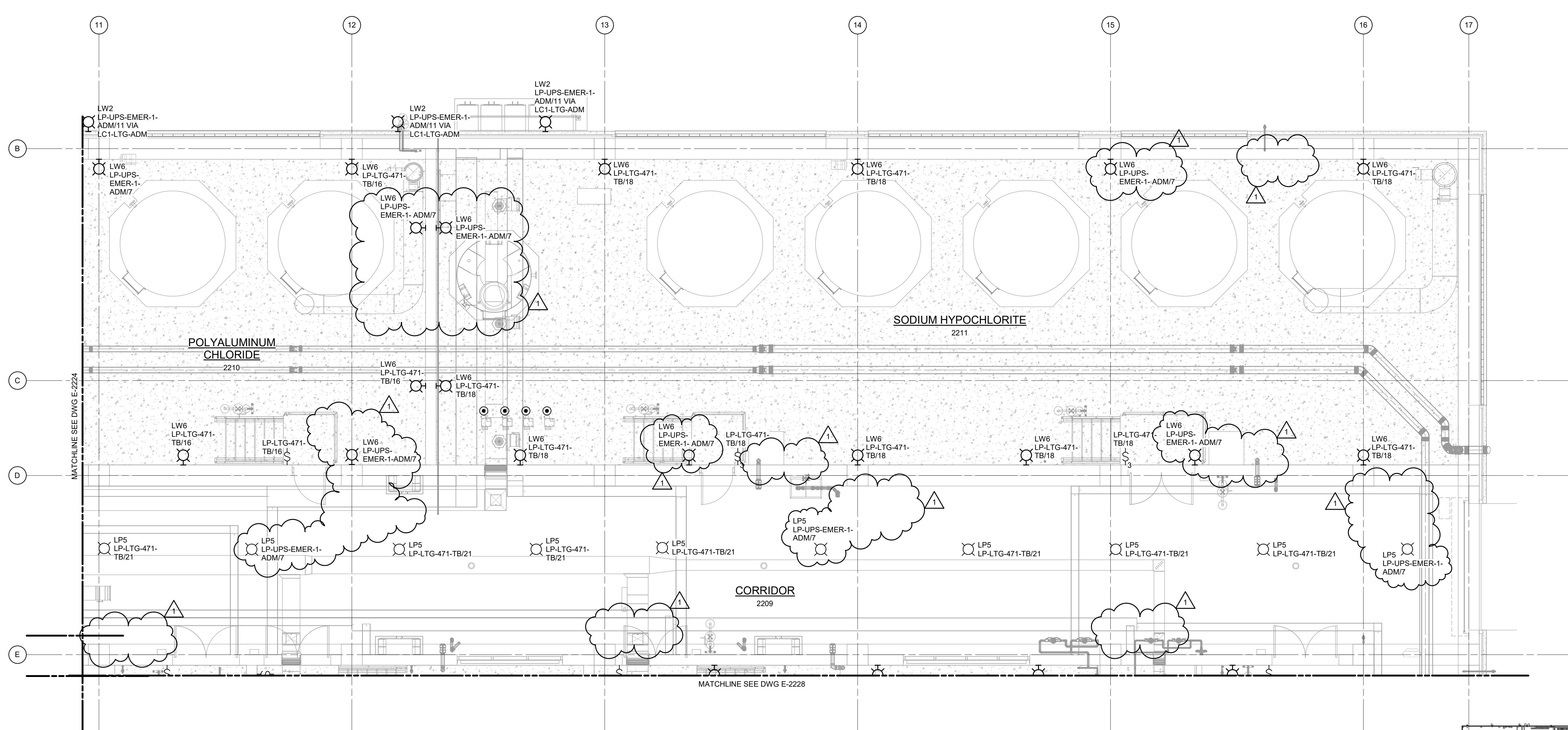
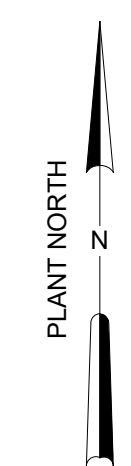
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

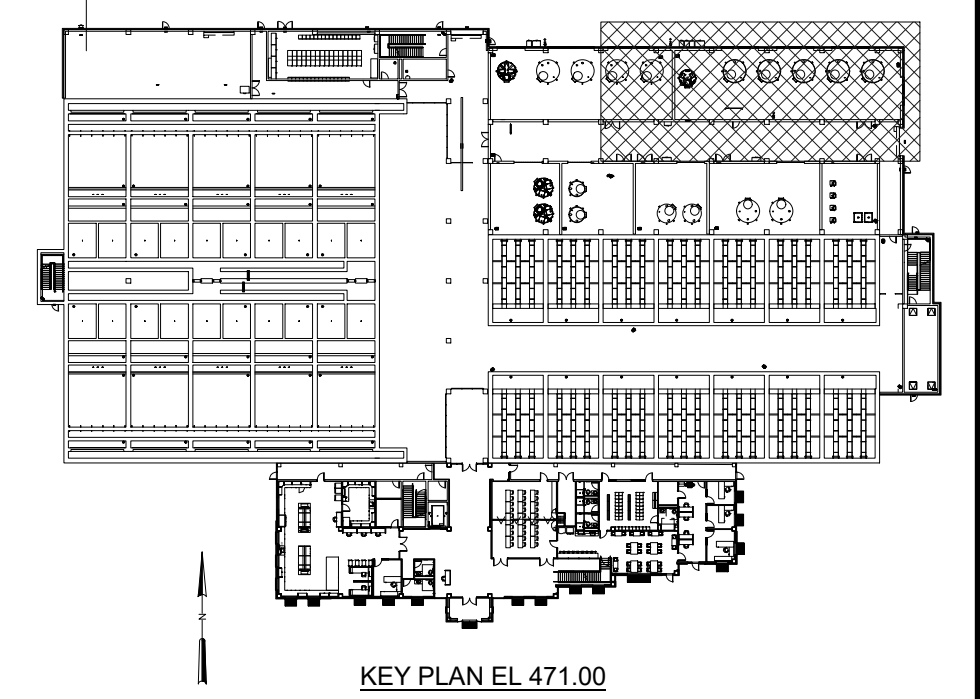
FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2226



LIGHTING PLAN AT EL 471.00 - AREA 7
3/16" = 1'-0"



1/8" = 1'-0"

Autodesk Docs/090398-004_ West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:22:16 PM

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA/ D. SHAH		
DRAWN BY:	A. PENA/ D. SHAH		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE			
REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM



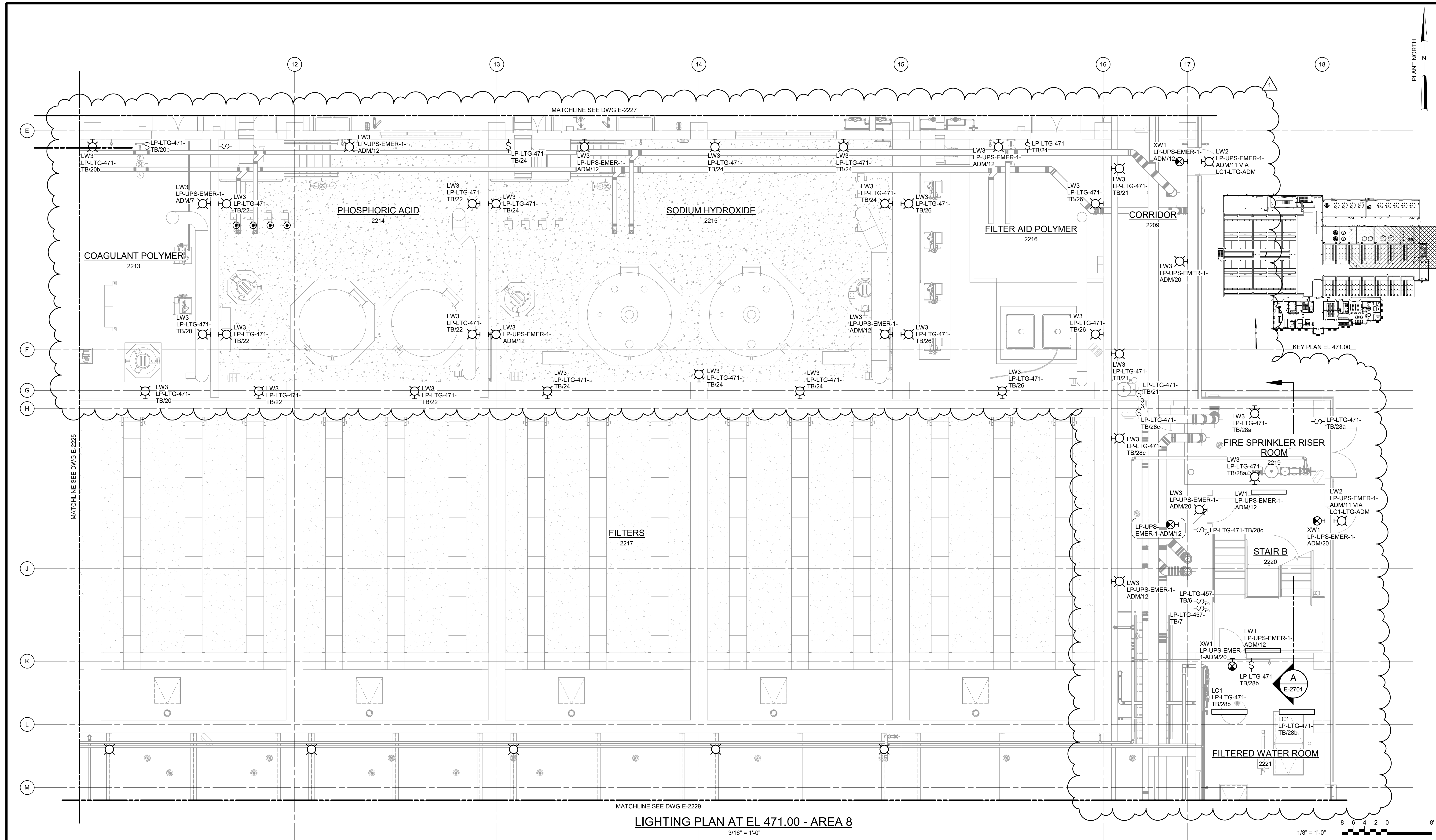
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 7

DATE: FEBRUARY 2024
HAZEN NO.: 90398-004
CONTRACT NO.: 24-51
DRAWING NUMBER: E-2227

PLANT NORTH



LIGHTING PLAN AT EL 471.00 - AREA 8
3/16" = 1'-0"

1/8" = 1'-0"

Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:22:48 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

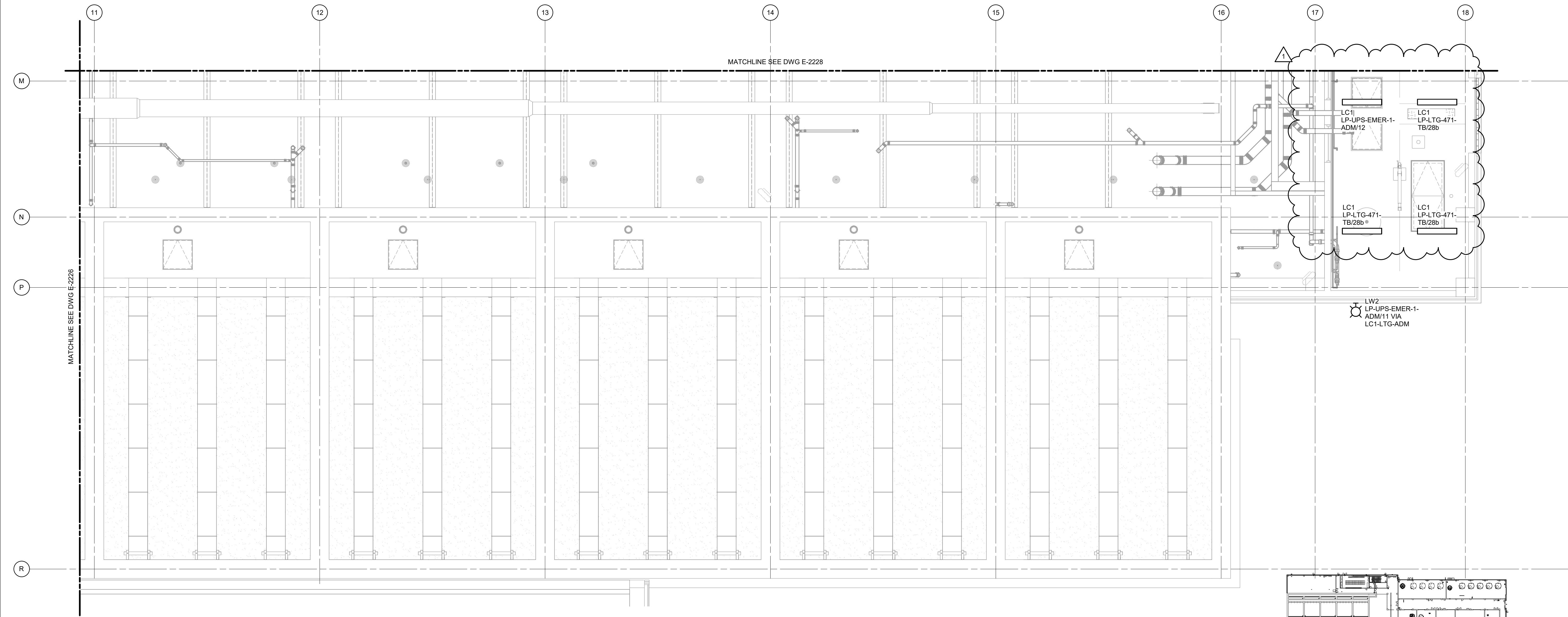
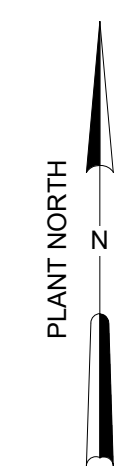
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

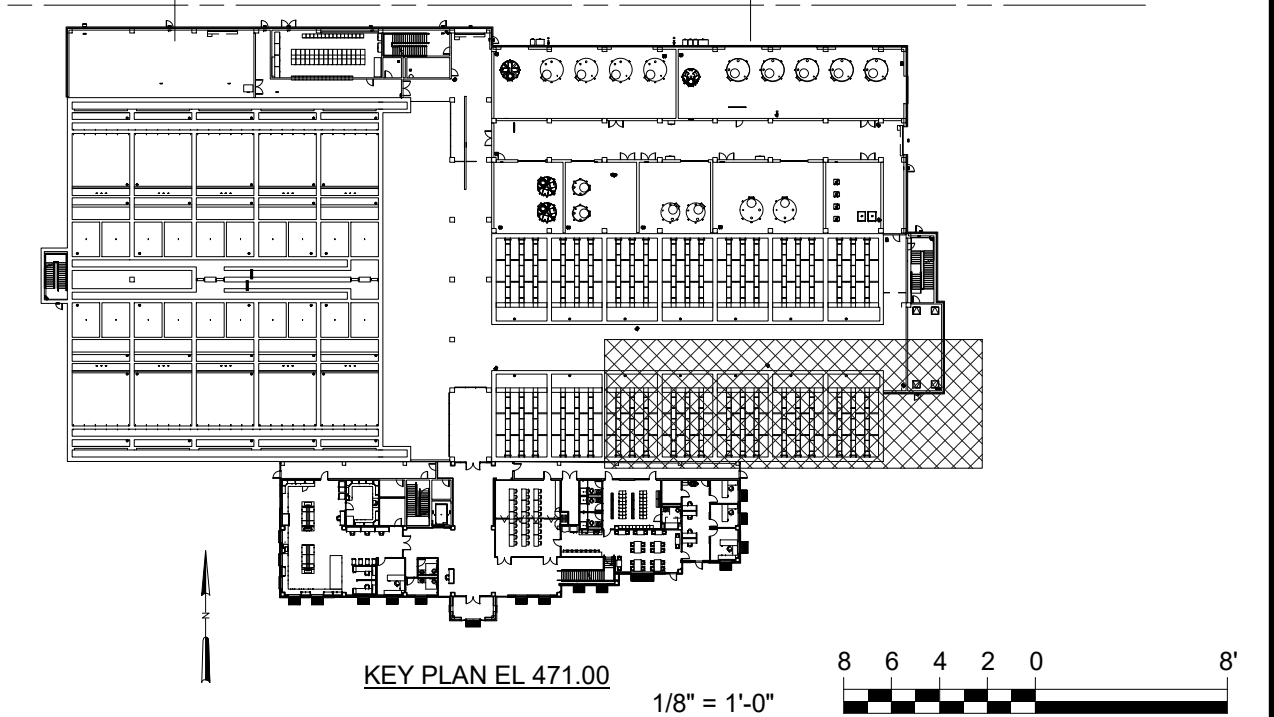
FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 8

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2228



LIGHTING PLAN AT EL 471.00 - AREA 9
3/16" = 1'-0"



Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:23:01 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

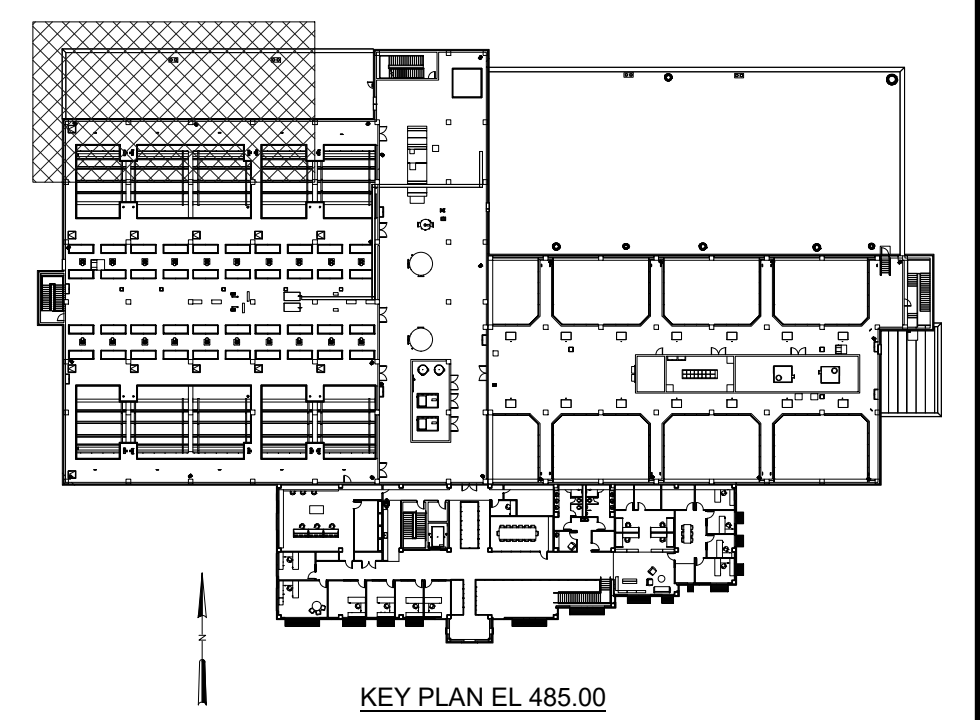
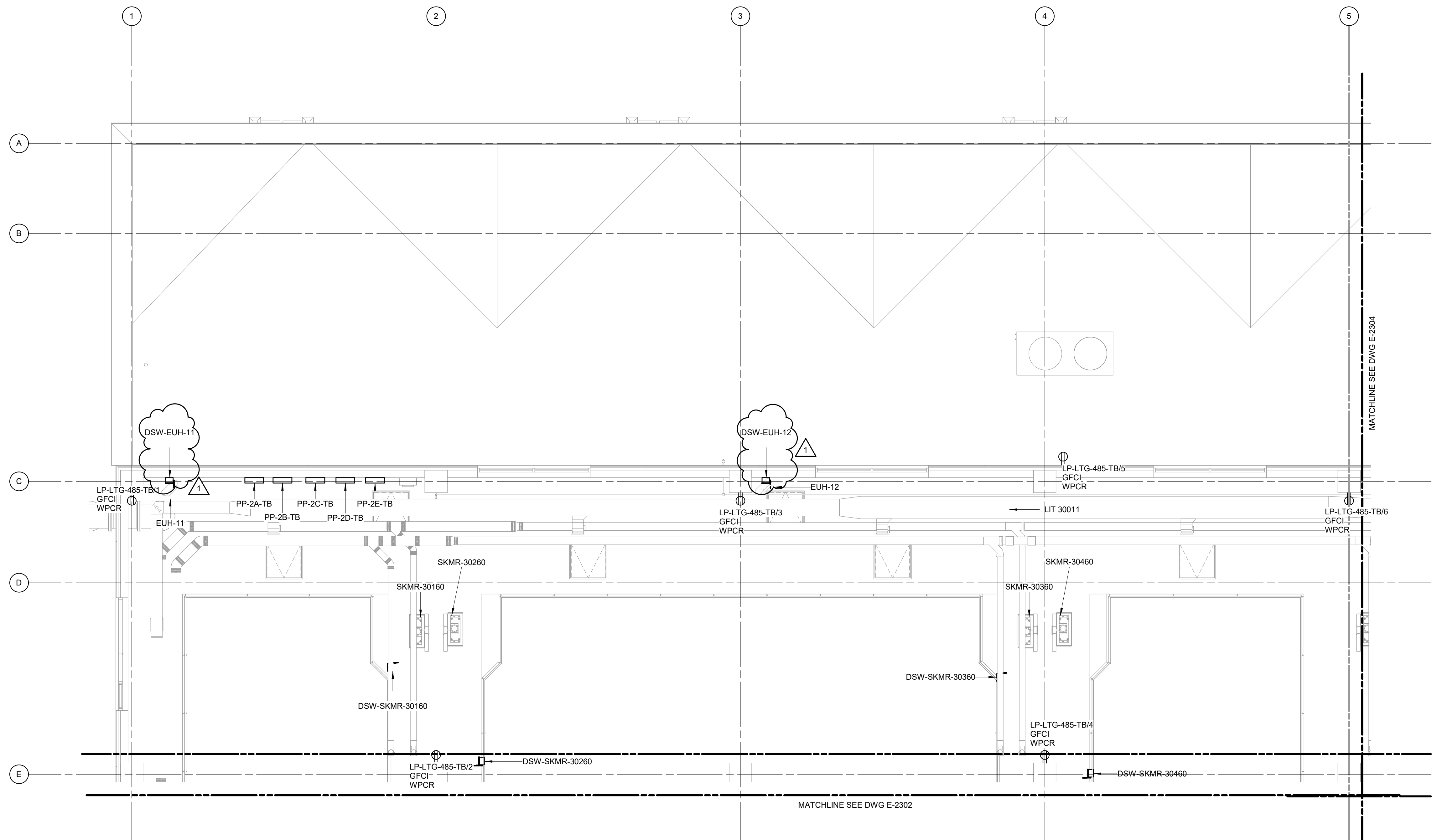
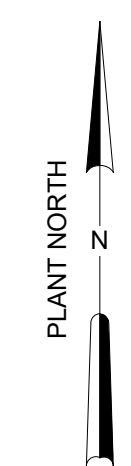


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL 471.00 - PROCESS AREA 9

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2229



POWER PLAN AT EL 485.00 - AREA 1
3/16" = 1'-0"

1/8" = 1'-0"

Autodesk Doc: \\09098-004_West Parish Filter WTT9098-004-TB-E-1 3/25/2024 2:23:08 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

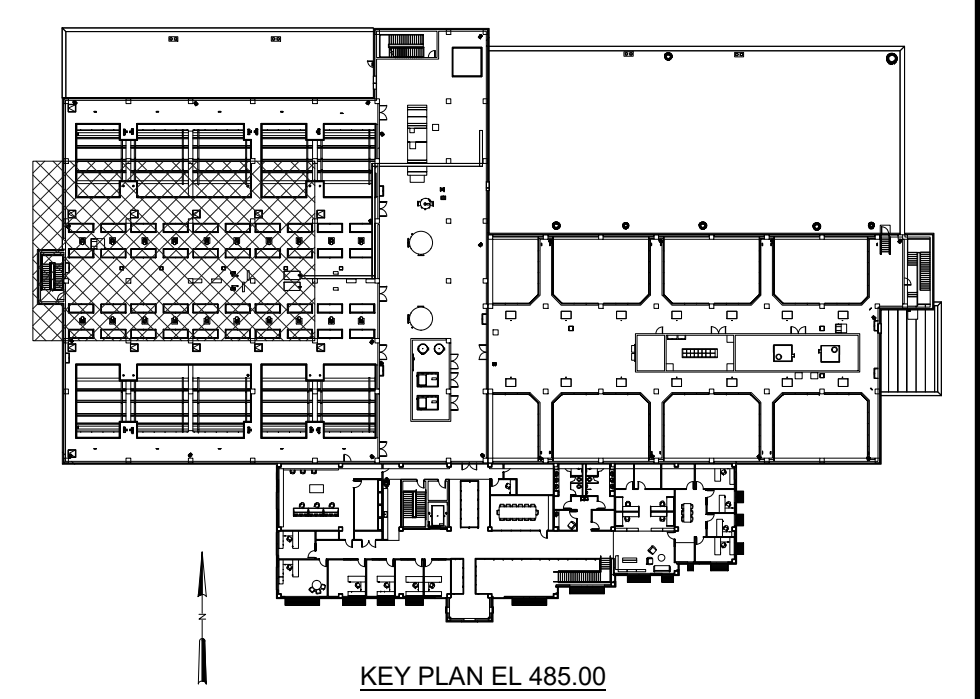
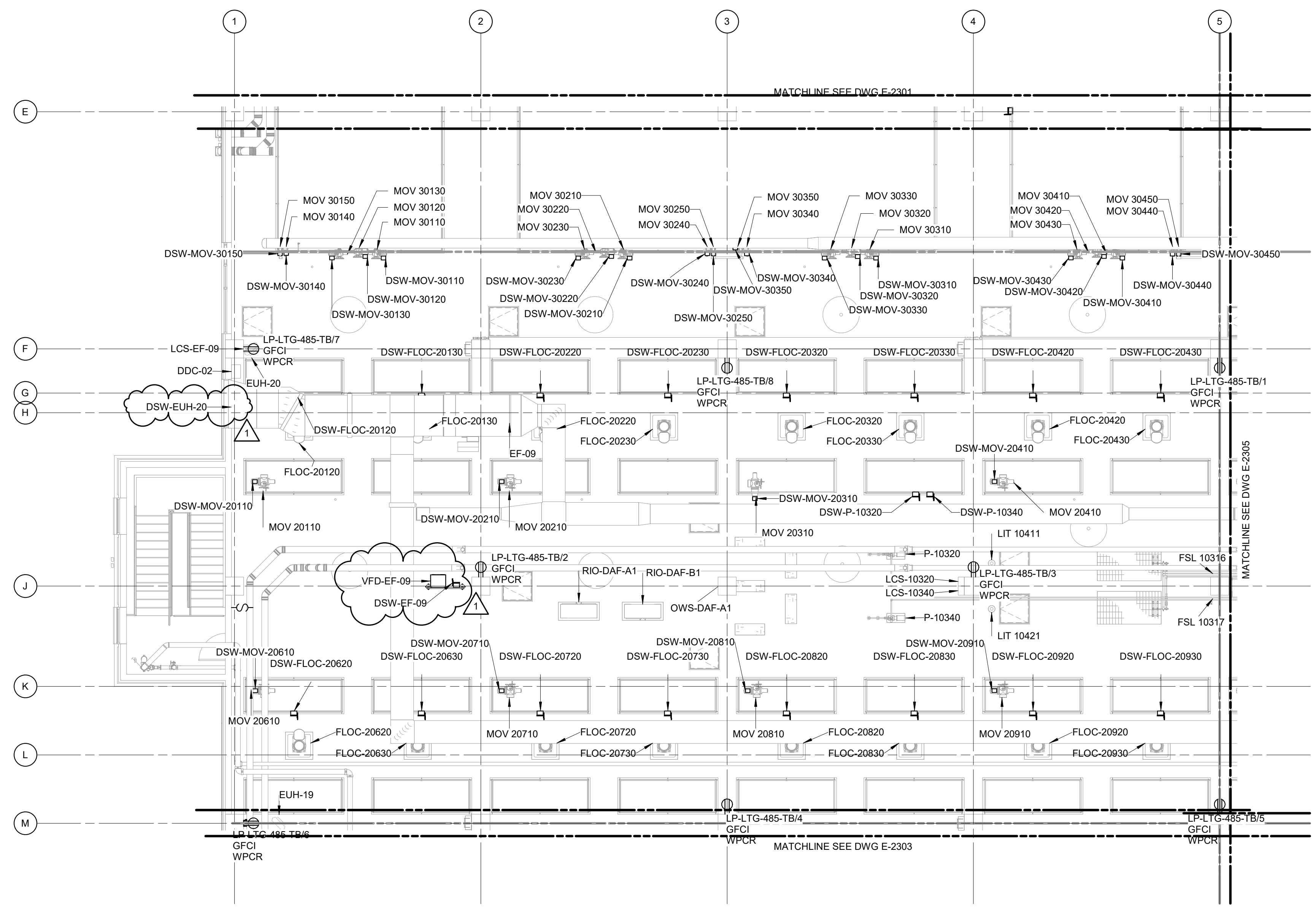
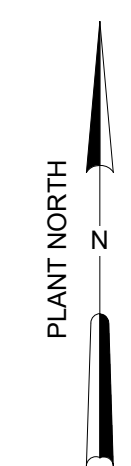
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2301



KEY PLAN EL 485.00

POWER PLAN AT EL 485.00 - AREA 2
1/8" = 1'-0"



Autodesk Doc: 09098-004 West Parish Filter WTT9098-004-TB-E-14 3/25/2024 2:23:08 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

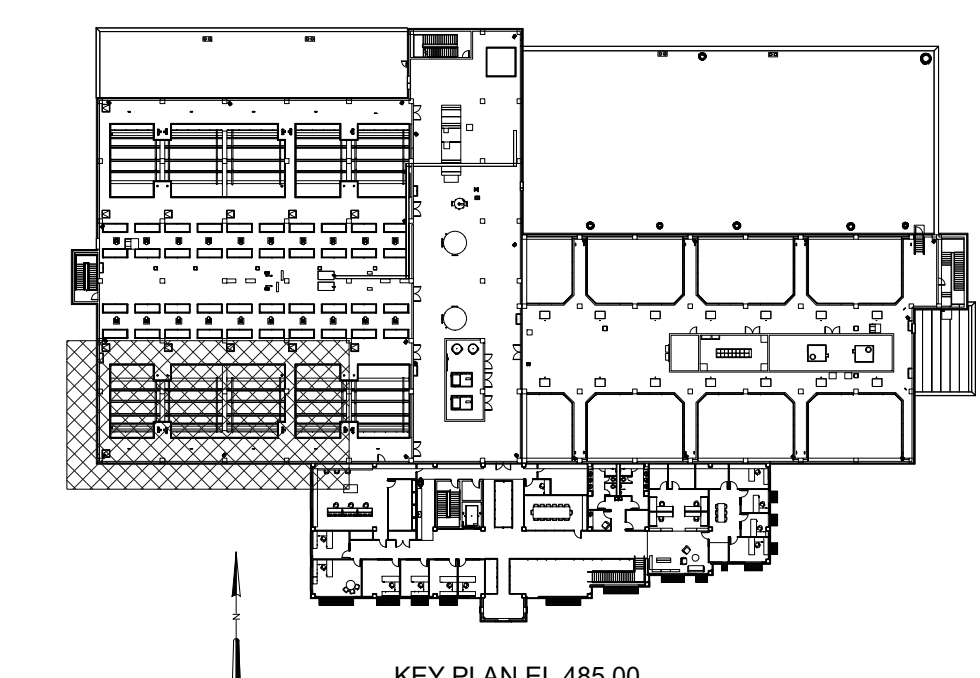
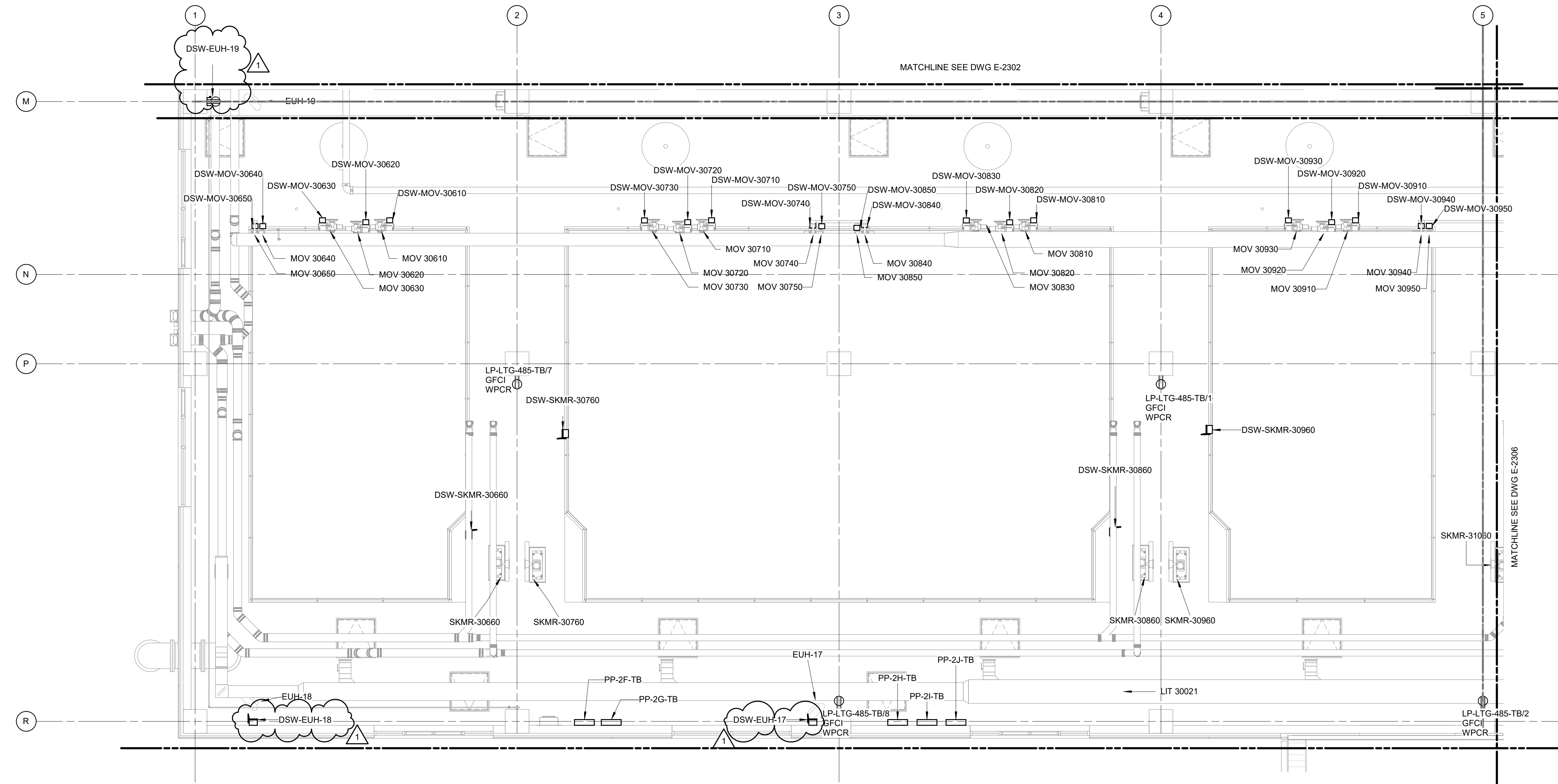
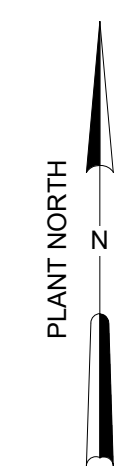
PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2302



POWER PLAN AT EL 485.00 - AREA 3
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-TB-E-14
3/25/2024 2:23:11 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

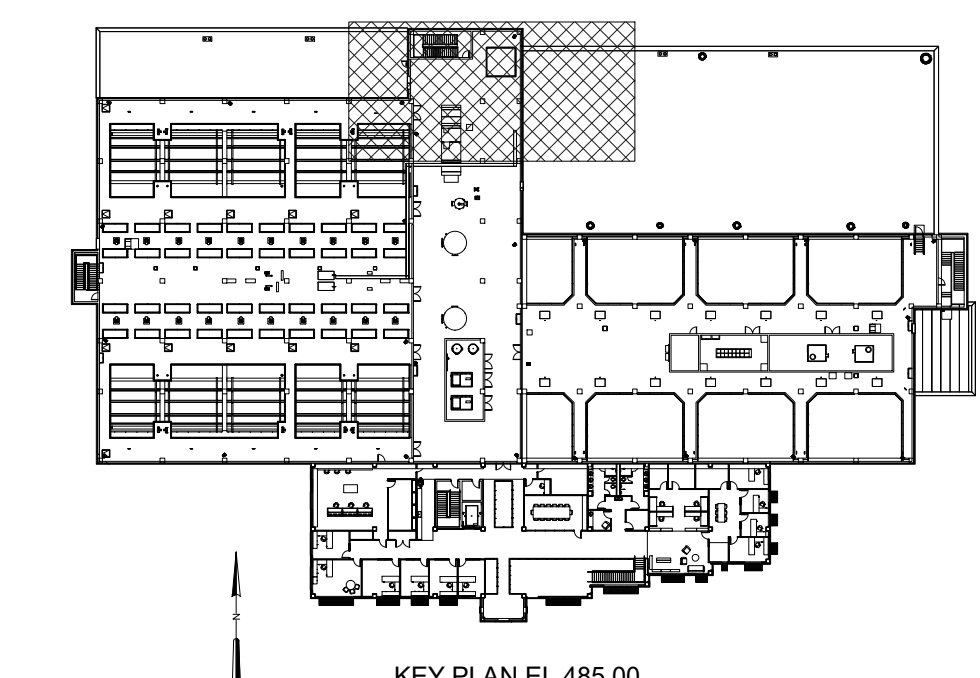
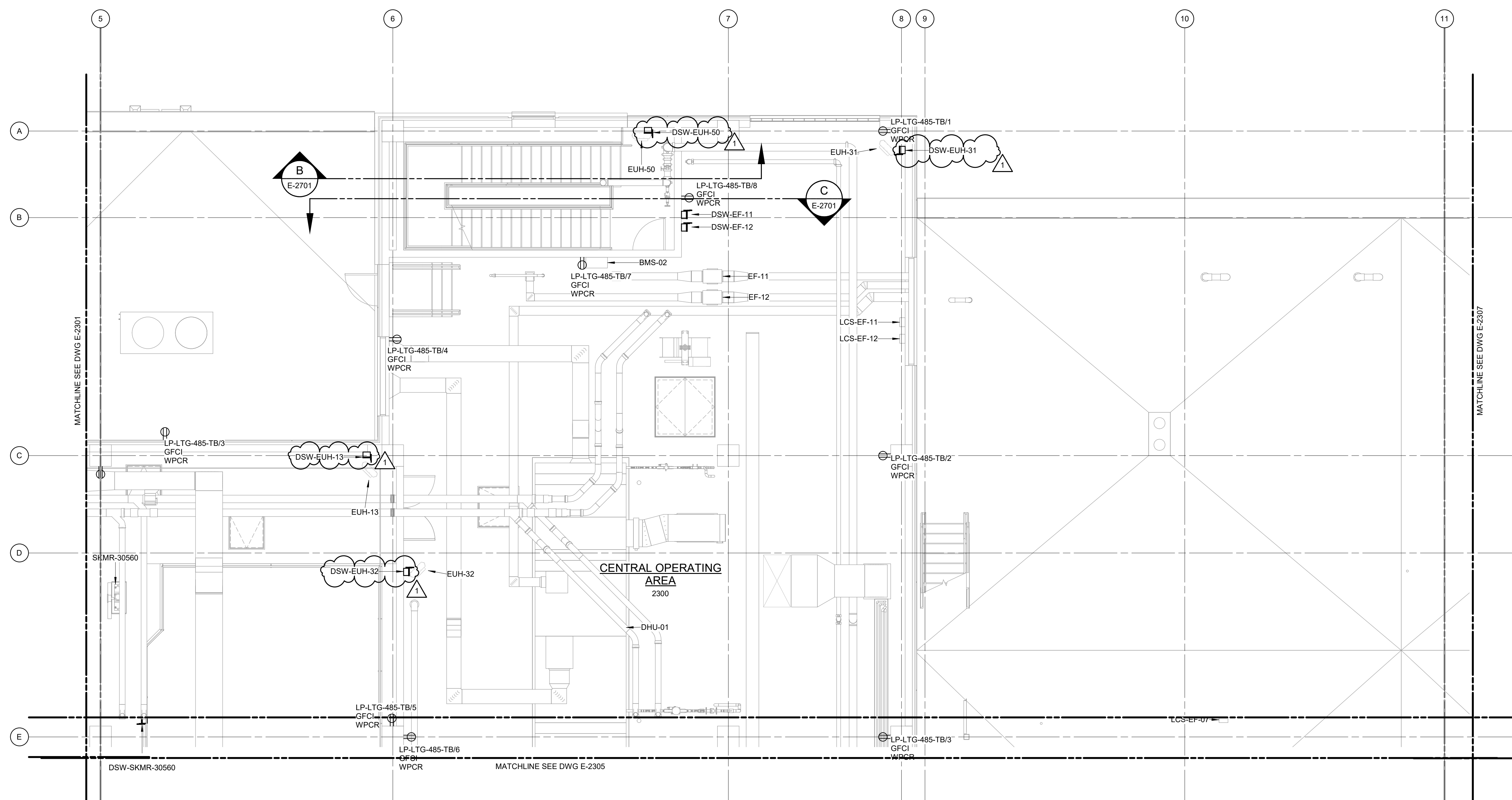
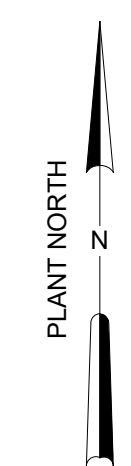
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2303



POWER PLAN AT EL 485.00 - AREA 4
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk_Docs\090398-004_West Parish Filter WTP\90398-004-TB-E-14 3/25/2024 2:23:18 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

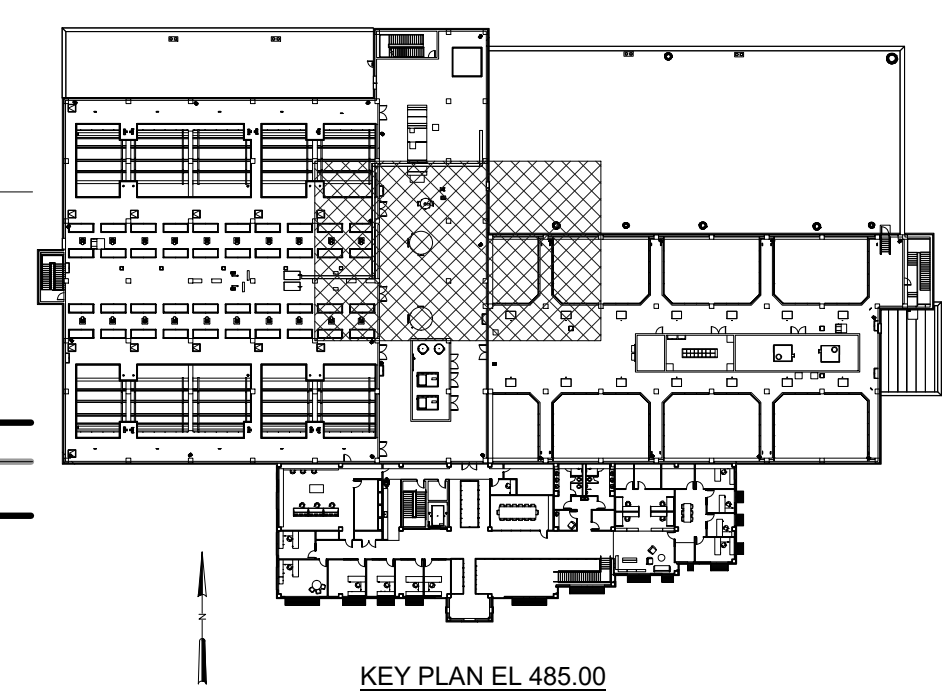
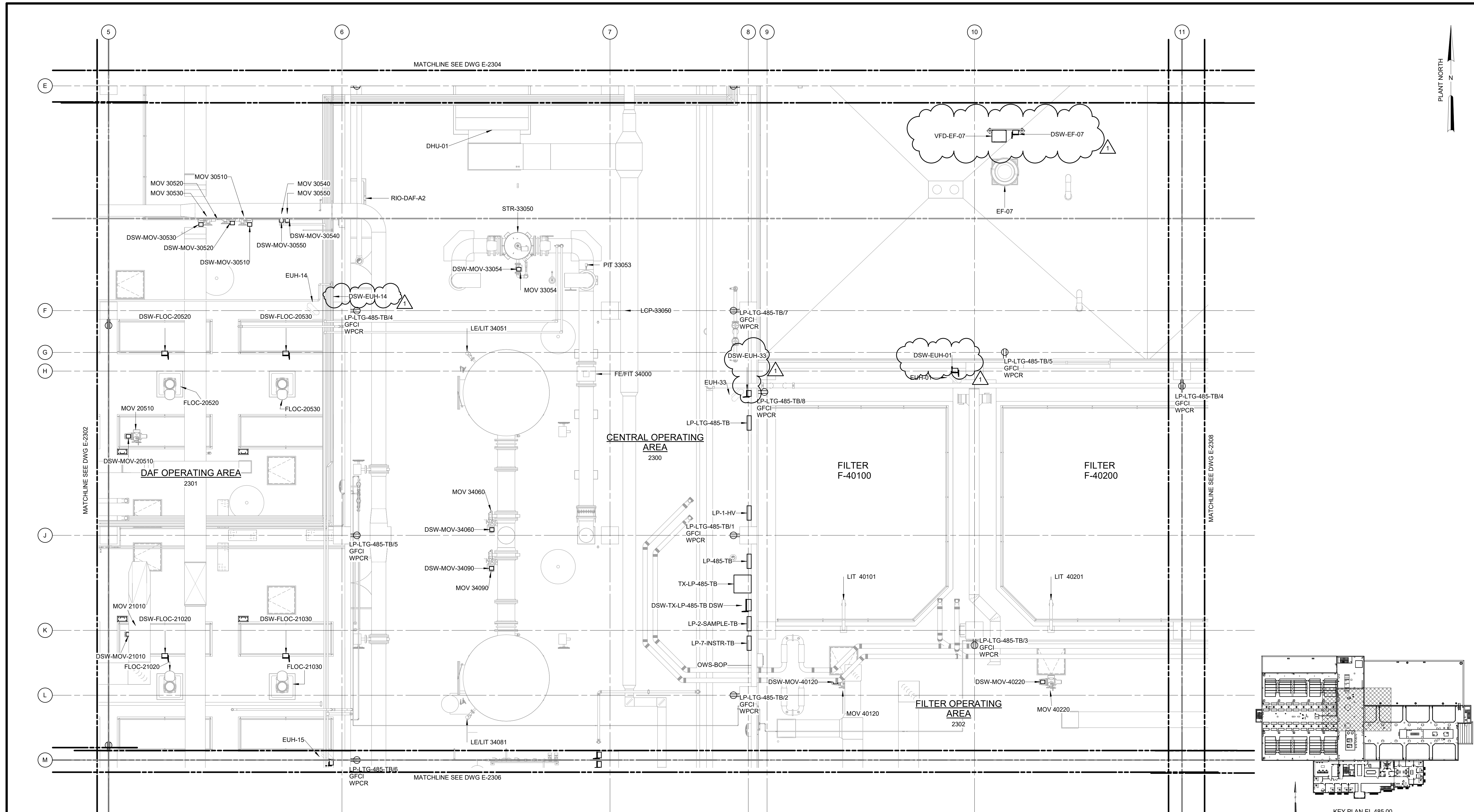
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2304




POWER PLAN AT EL 485.00 - AREA 5
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	


George Markou
 03/25/2024


 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

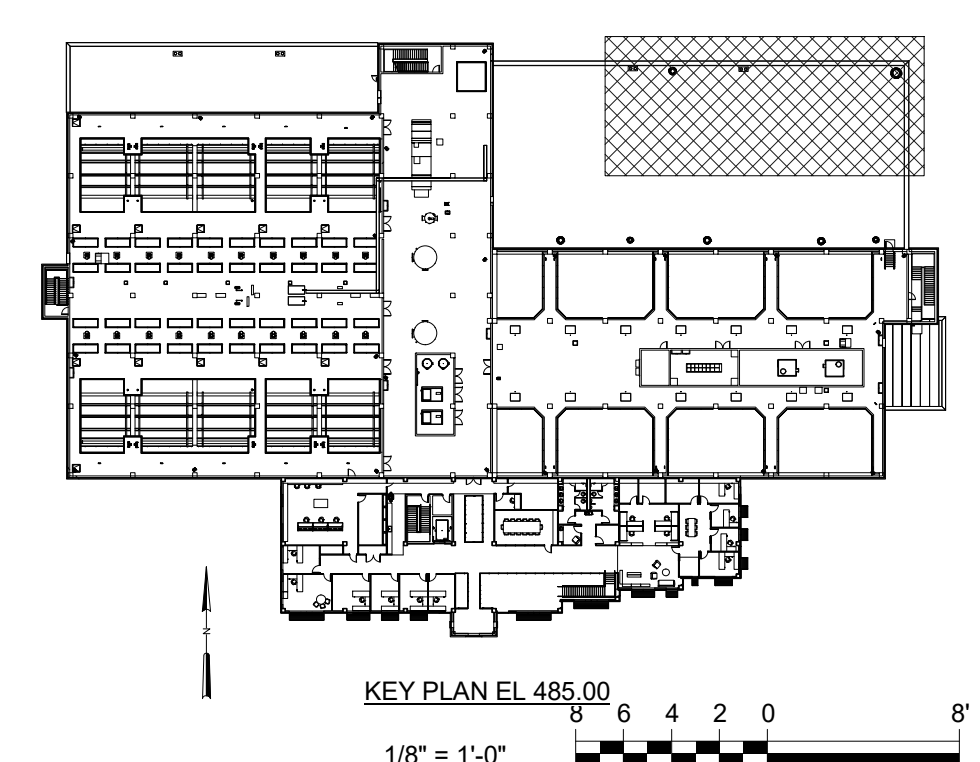
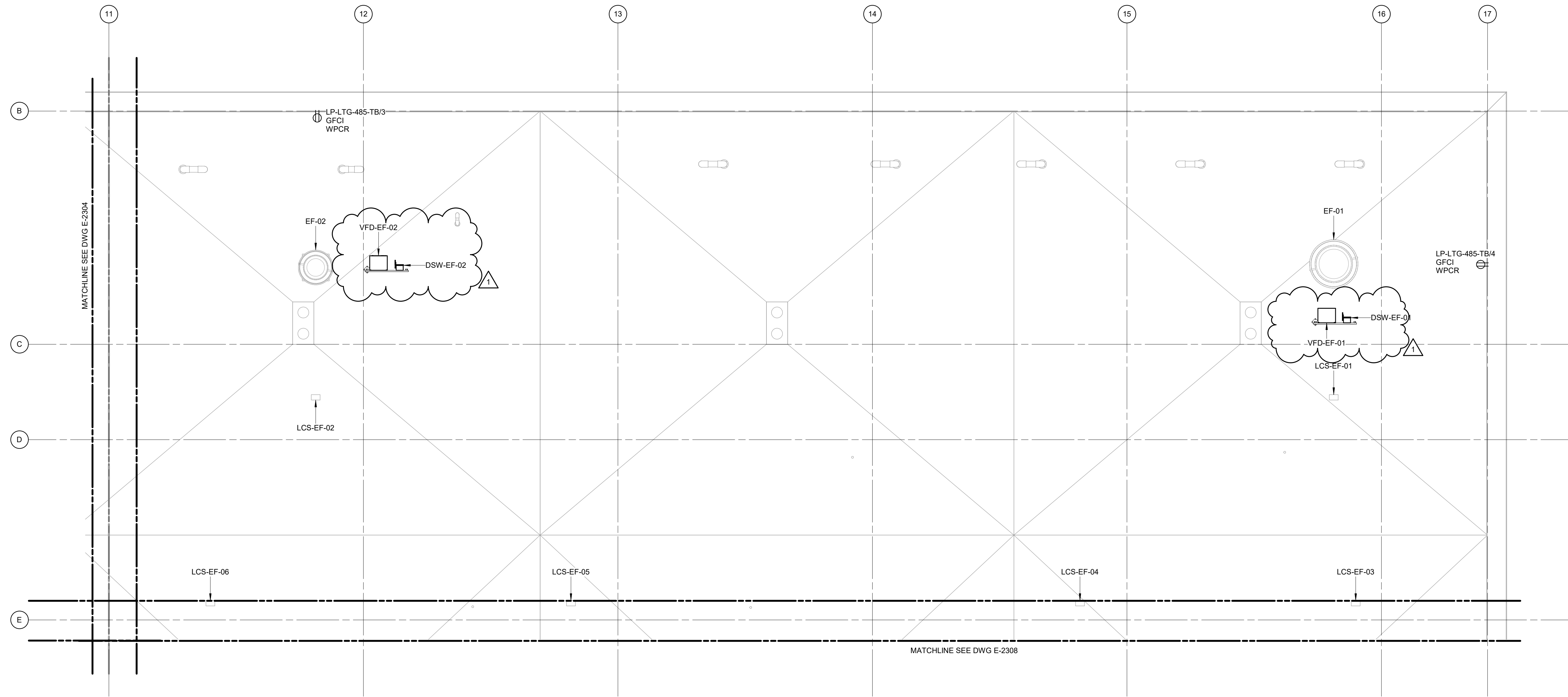
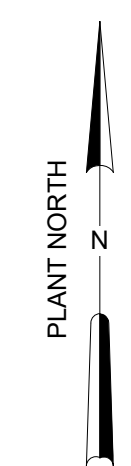
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

 WATER TREATMENT BUILDING
 ELECTRICAL
 POWER PLAN AT EL 485.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2305

AutoSave_Doc\090398-004_West Parish Filter WTP\90398-004-TB-E-14 3/25/2024 2:23:34 PM



POWER PLAN AT EL 485.00 - AREA 7
3/16" = 1'-0"

Autodesk Docs\060908-004_West Parish Filter WTRF060908-004-TB-E-14 3/25/2024 2:23:54 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

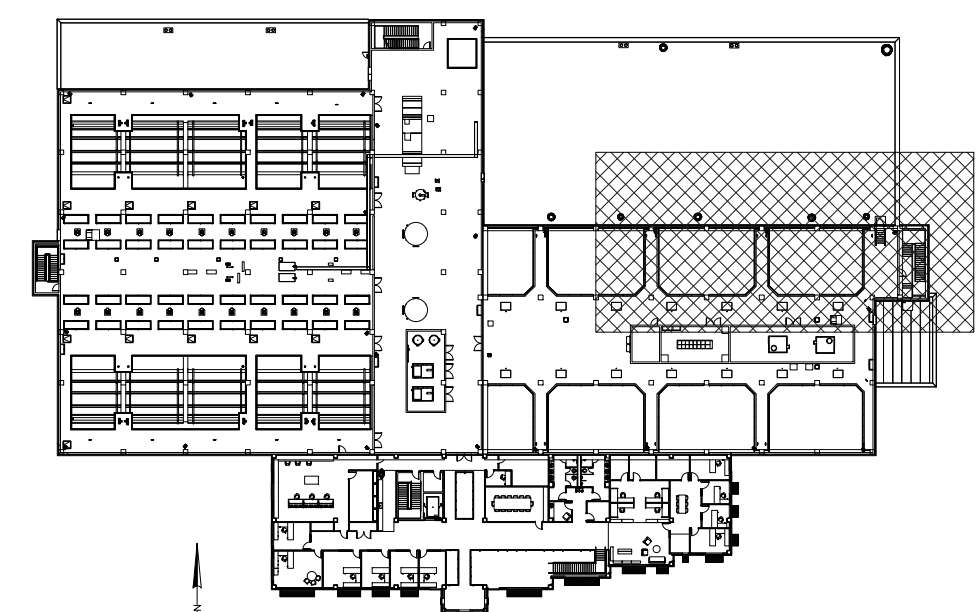
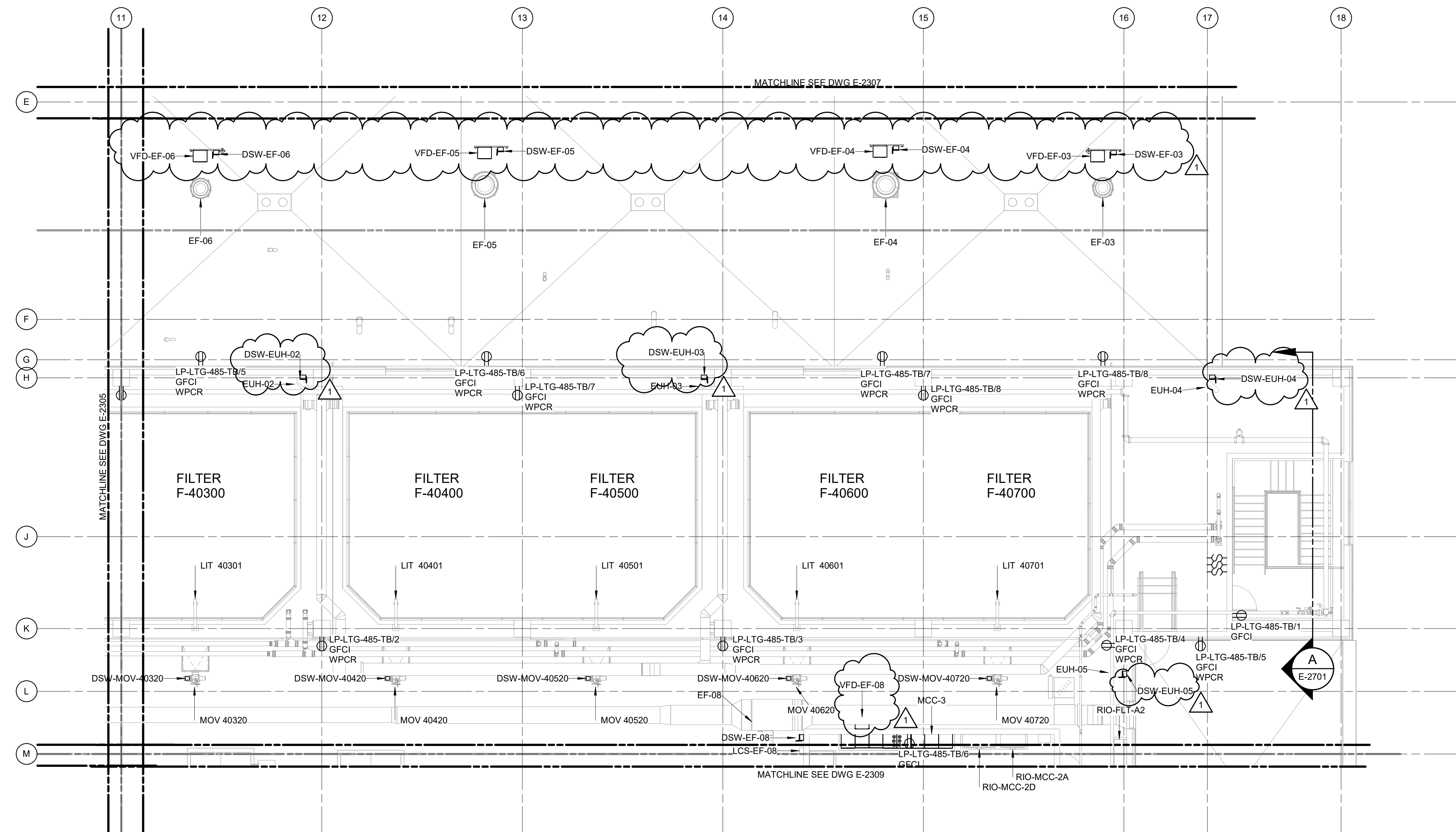
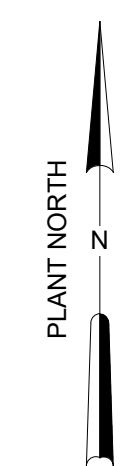
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 7

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2307



KEY PLAN EL 485.00

POWER PLAN AT EL 485.00 - AREA 8
1/8" = 1'-0"



Autodesk_Docs/090308-004_West Parish Filter WTP/90308-004-TB-E-14
3/25/2024 2:24:07 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

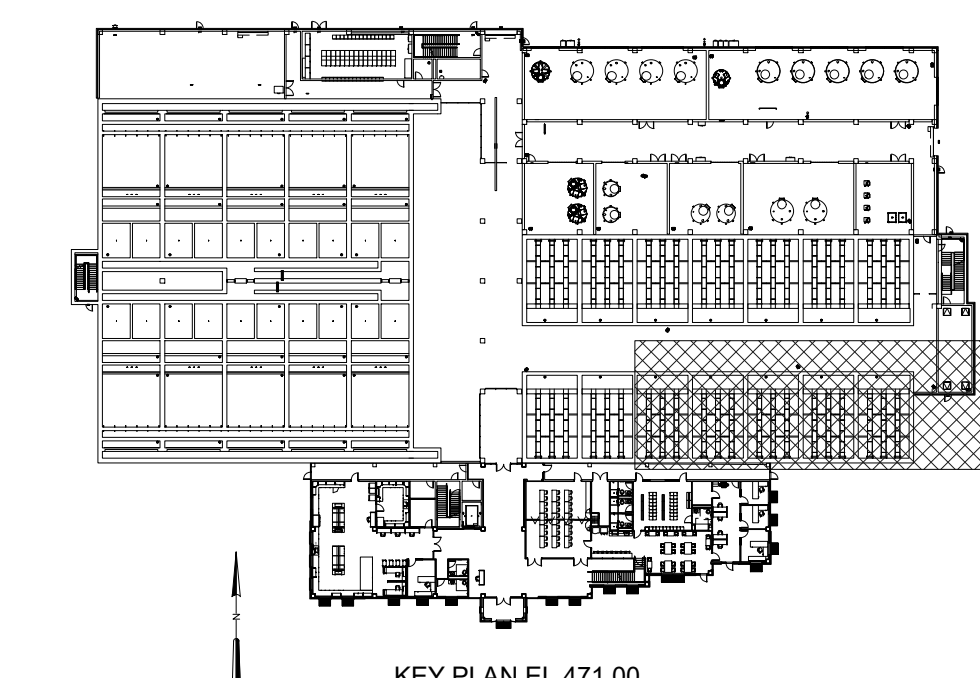
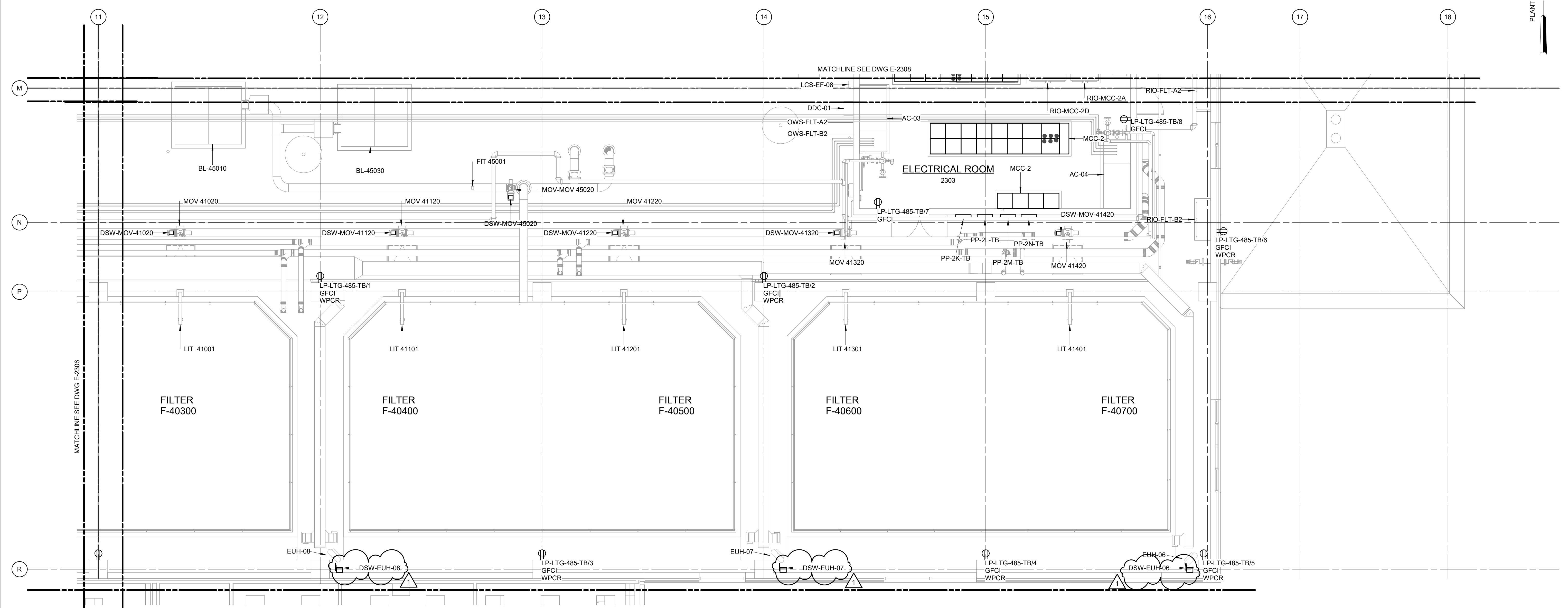
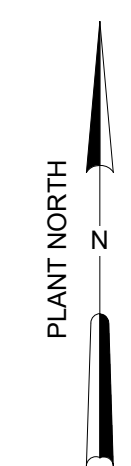
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 8

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2308



POWER PLAN AT EL 485.00 - AREA 9
3/16" = 1'-0"

1/8" = 1'-0"
8 6 4 2 0 8'

Autodesk DocuSign/090908-004_West Parish Filter WTT/90398-004-TB-E-14
3/25/2024 2:24:22 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

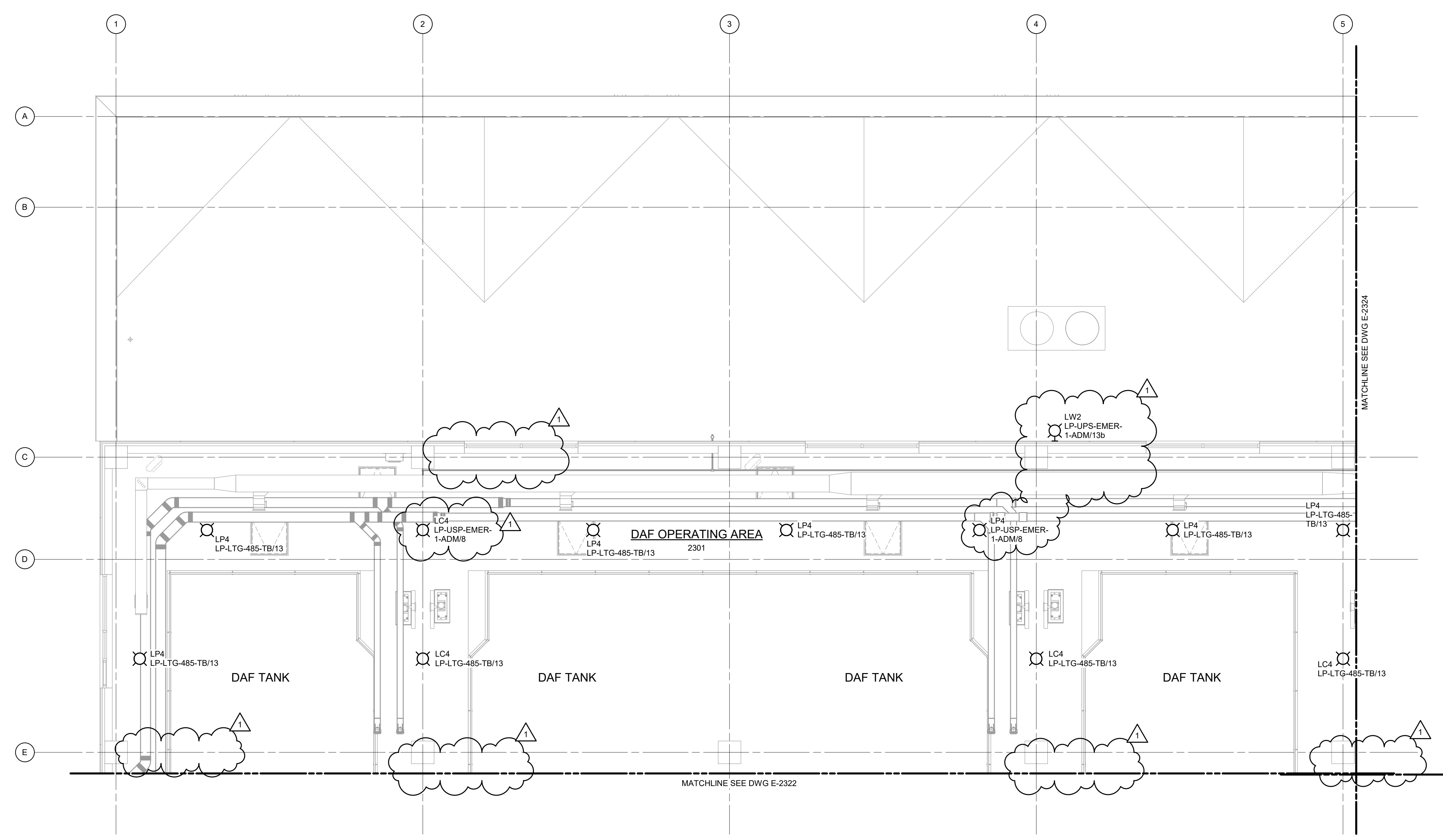
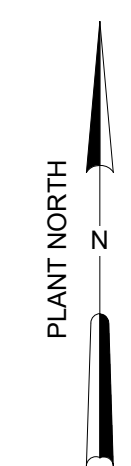
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

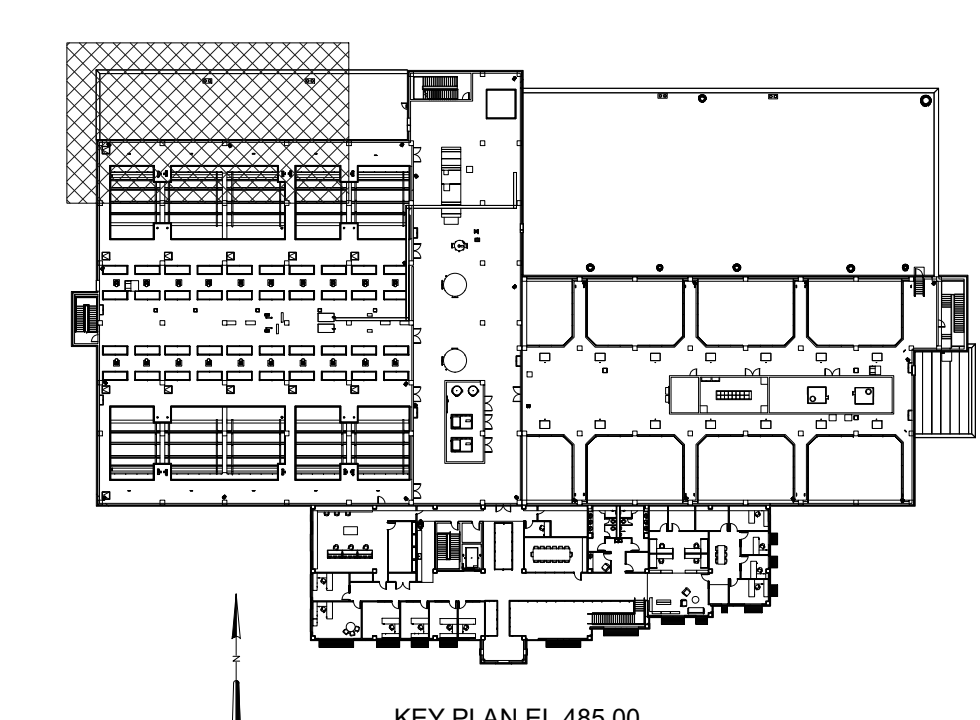
FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
POWER PLAN AT EL 485.00 - PROCESS AREA 9

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2309



LIGHTING PLAN AT EL. 485.00 - AREA 1
3/16" = 1'-0"



KEY PLAN EL. 485.00
3/16" = 1'-0"

Autodesk Docs/090398-004_West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:24:23 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

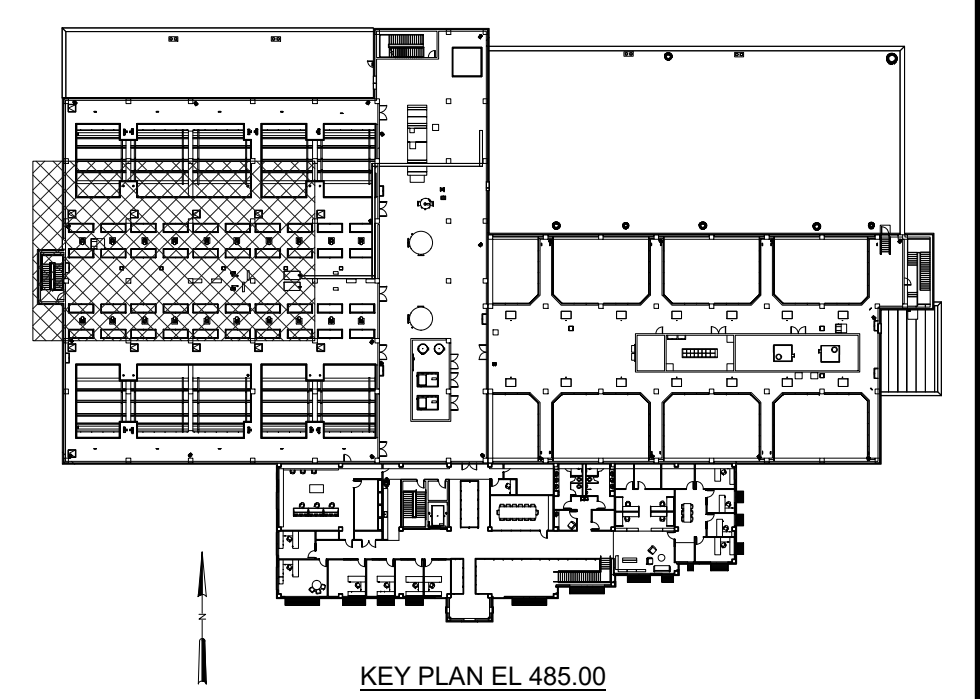
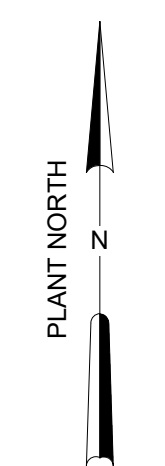
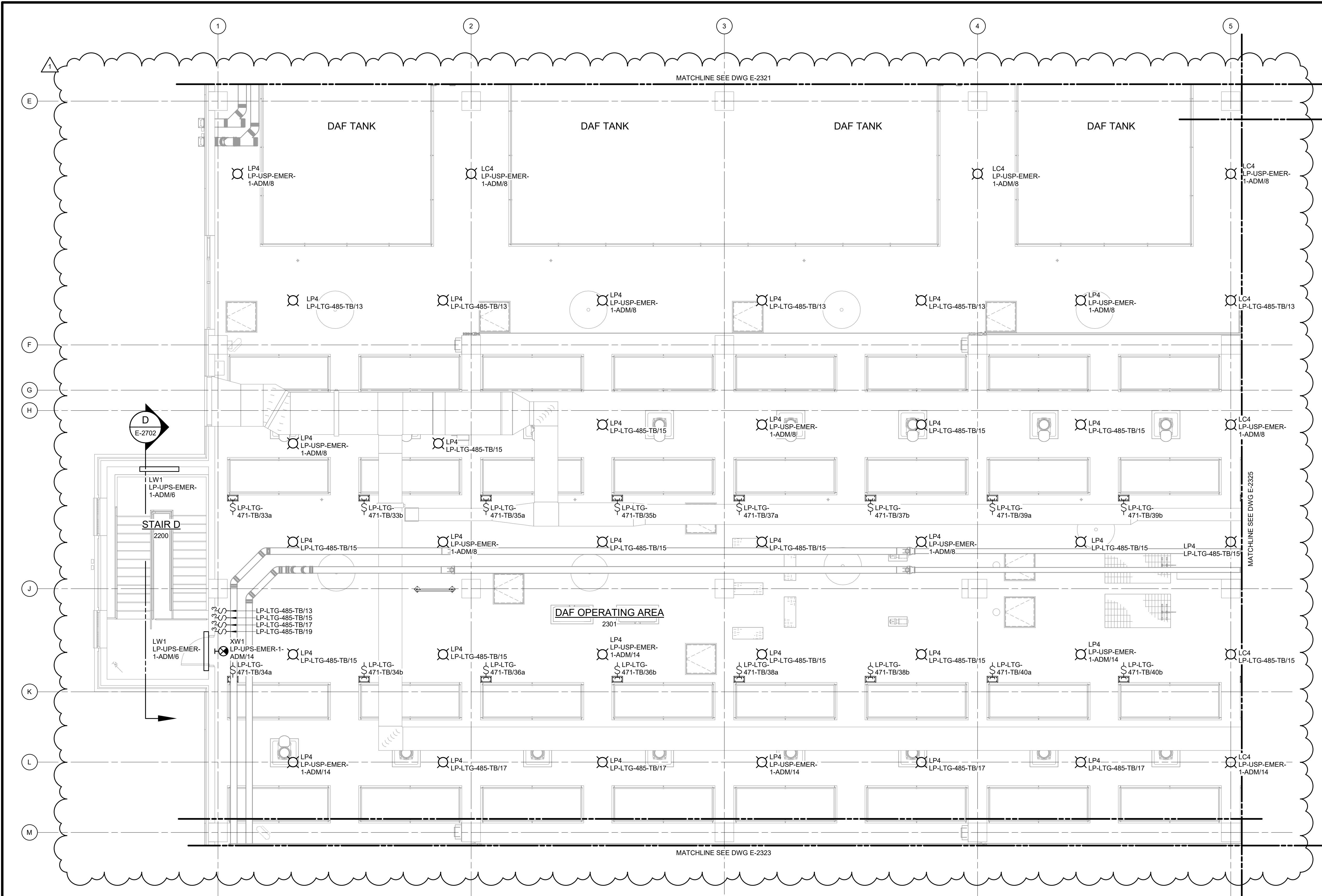


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
LIGHTING PLAN AT EL. 485.00 - PROCESS AREA 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2321



LIGHTING PLAN AT EL 485.00 - AREA 2
3/16" = 1'-0"



1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
	0 1/2" 1"



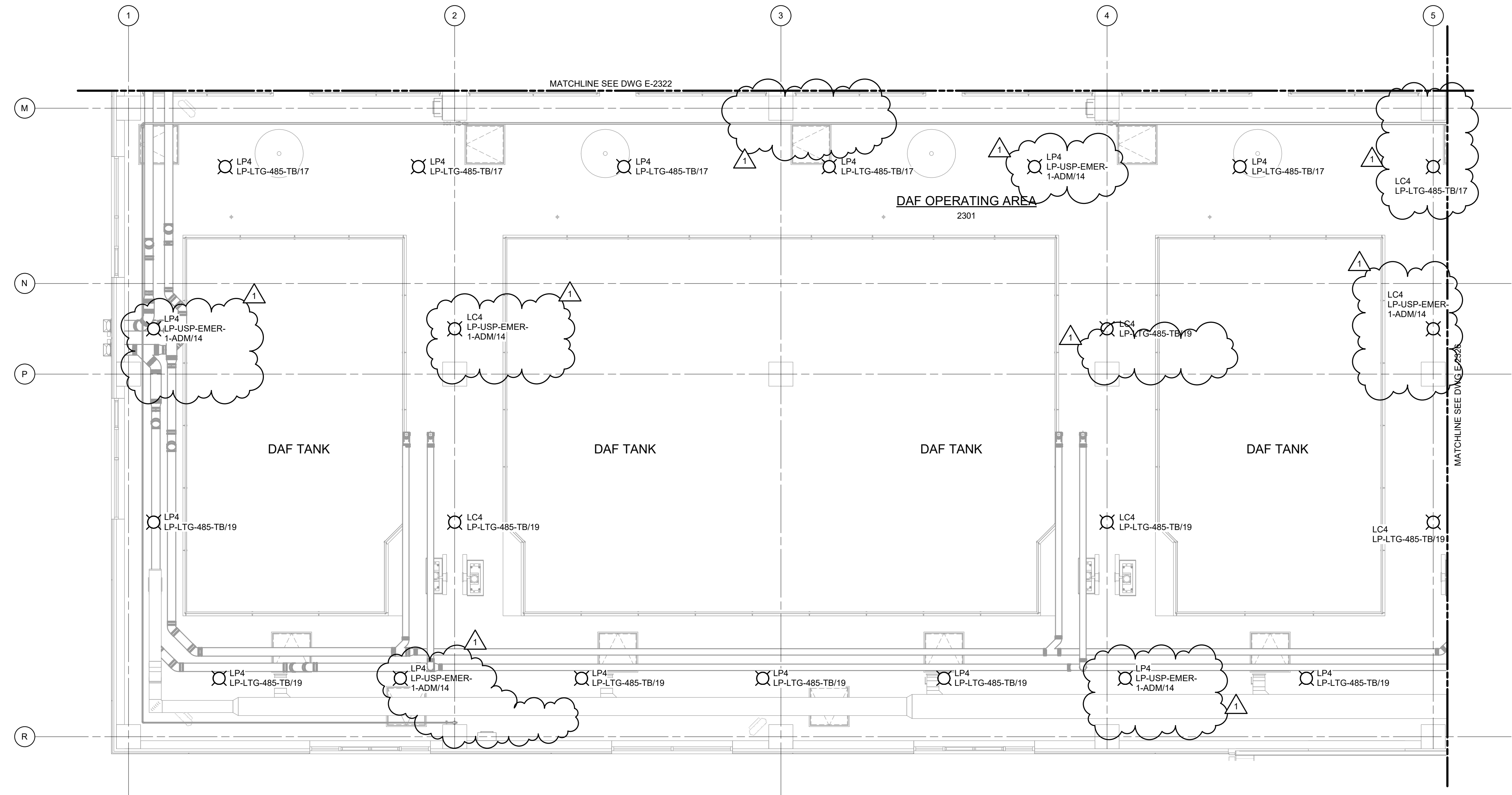
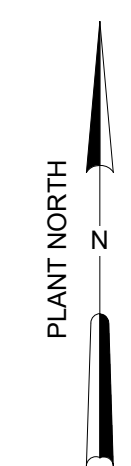
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

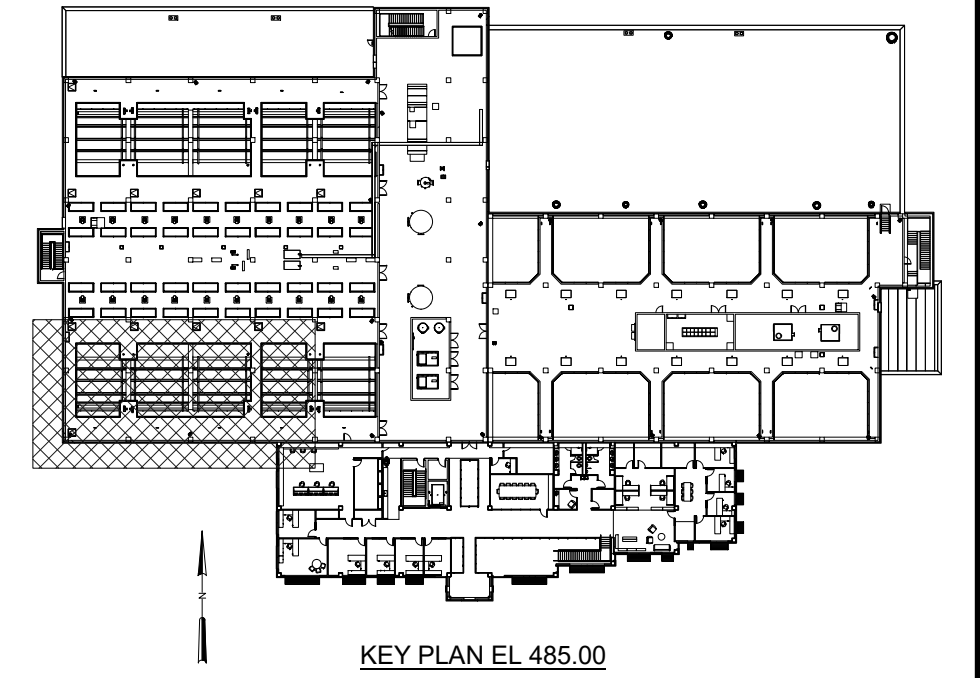
FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 485.00 - PROCESS AREA 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2322

Autodesk_Docs\060908-004_West Parish Filter WTR0608-004-TB-E-14 3/25/2024 2:24:42 PM



LIGHTING PLAN AT EL 485.00 - AREA 3
3/16" = 1'-0"



1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk DocuSign/090398-004 West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:24:59 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

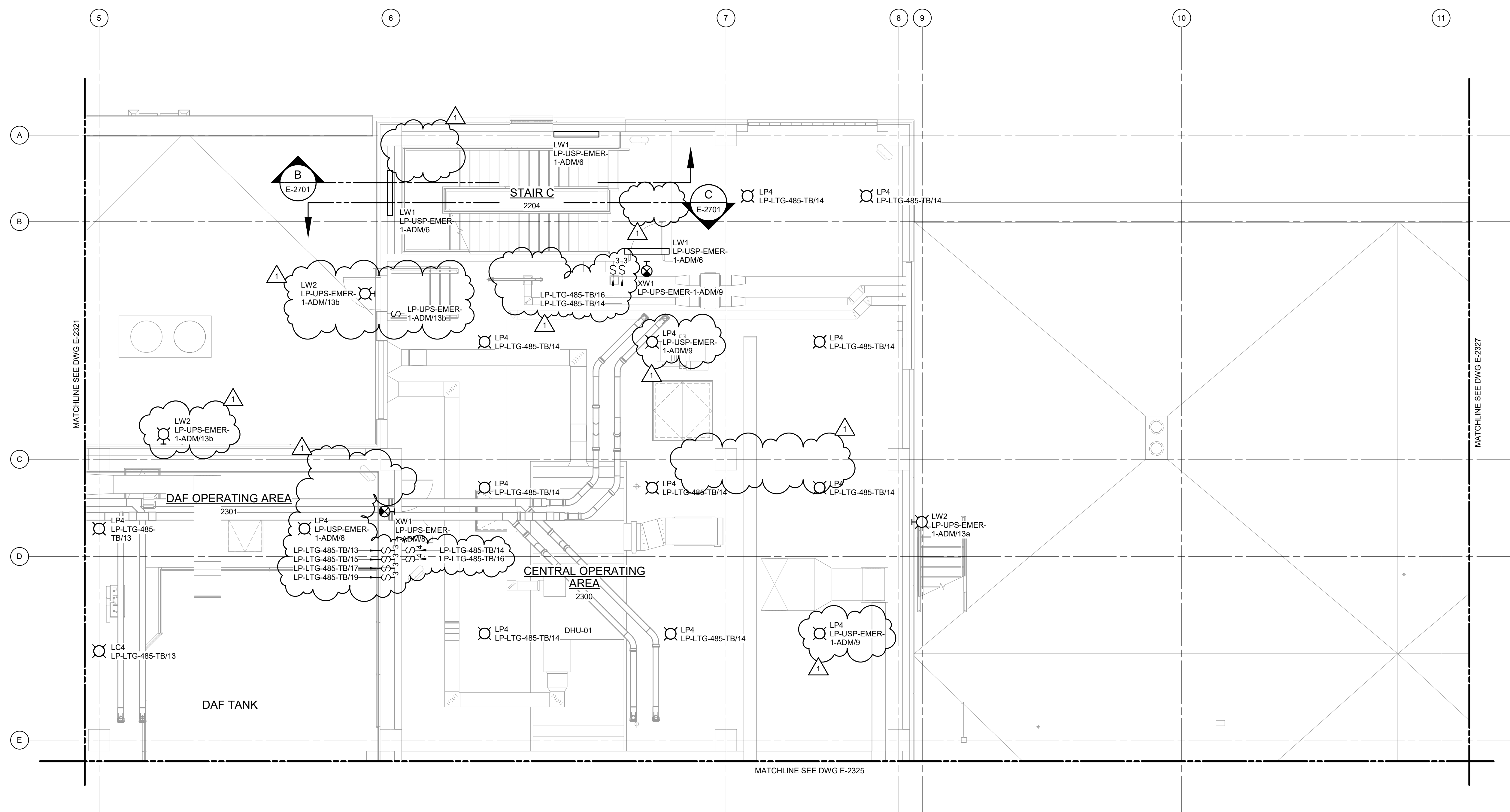
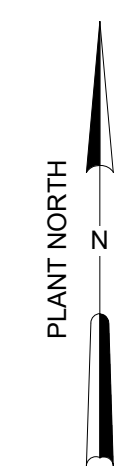
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 485.00 - PROCESS AREA 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2323

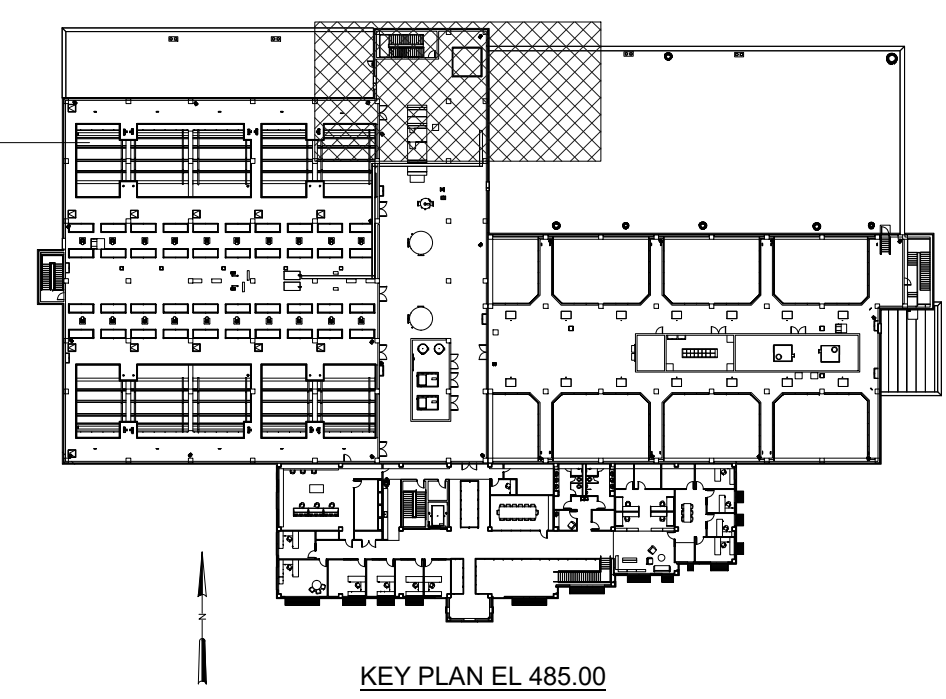


MATCHLINE SEE DWG E-2321

MATCHLINE SEE DWG E-2327

MATCHLINE SEE DWG E-2325

LIGHTING PLAN AT EL 485.00 - AREA 4
3/16" = 1'-0"



KEY PLAN EL 485.00

1/8" = 1'-0" 8 6 4 2 0 8'

Autodesk_Docset/090398-004_West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:25:04 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
	0 1/2" 1"

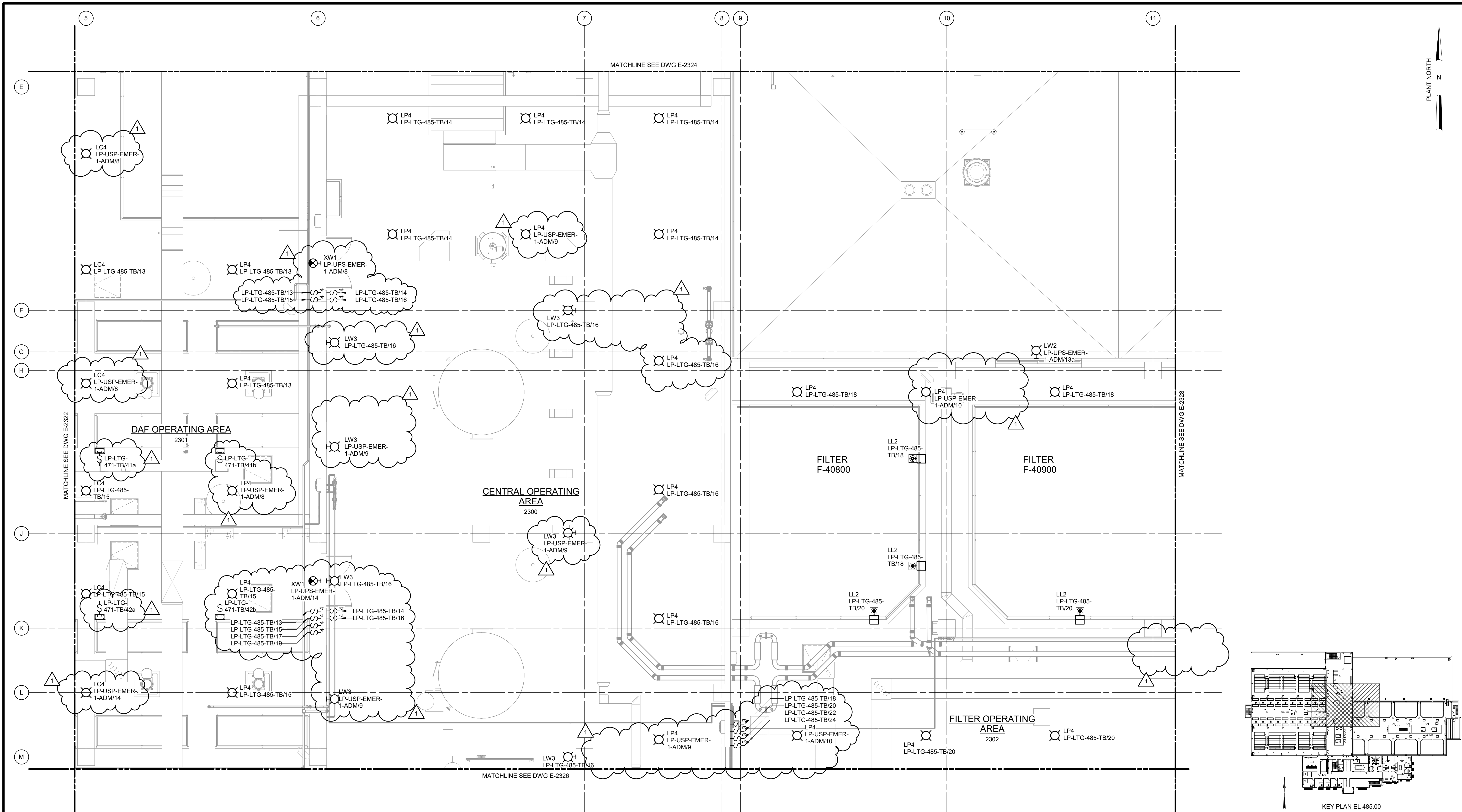


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

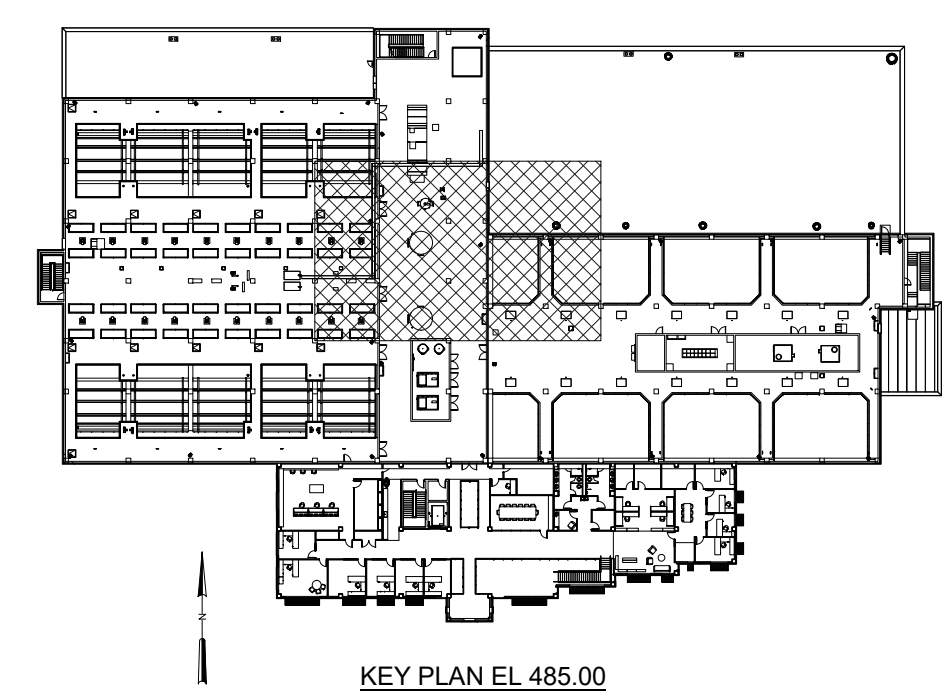
FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 485.00 - PROCESS AREA 4

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2324



LIGHTING PLAN AT EL 485.00 - AREA 5

3/16" = 1'-0"



KEY PLAN EL 485.00

1/8" = 1'-0"

Autodesk DocID: 90398-004 West Parish Filter WTT90398-004-TB-E-14 3/25/2024 2:25:07 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"



Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

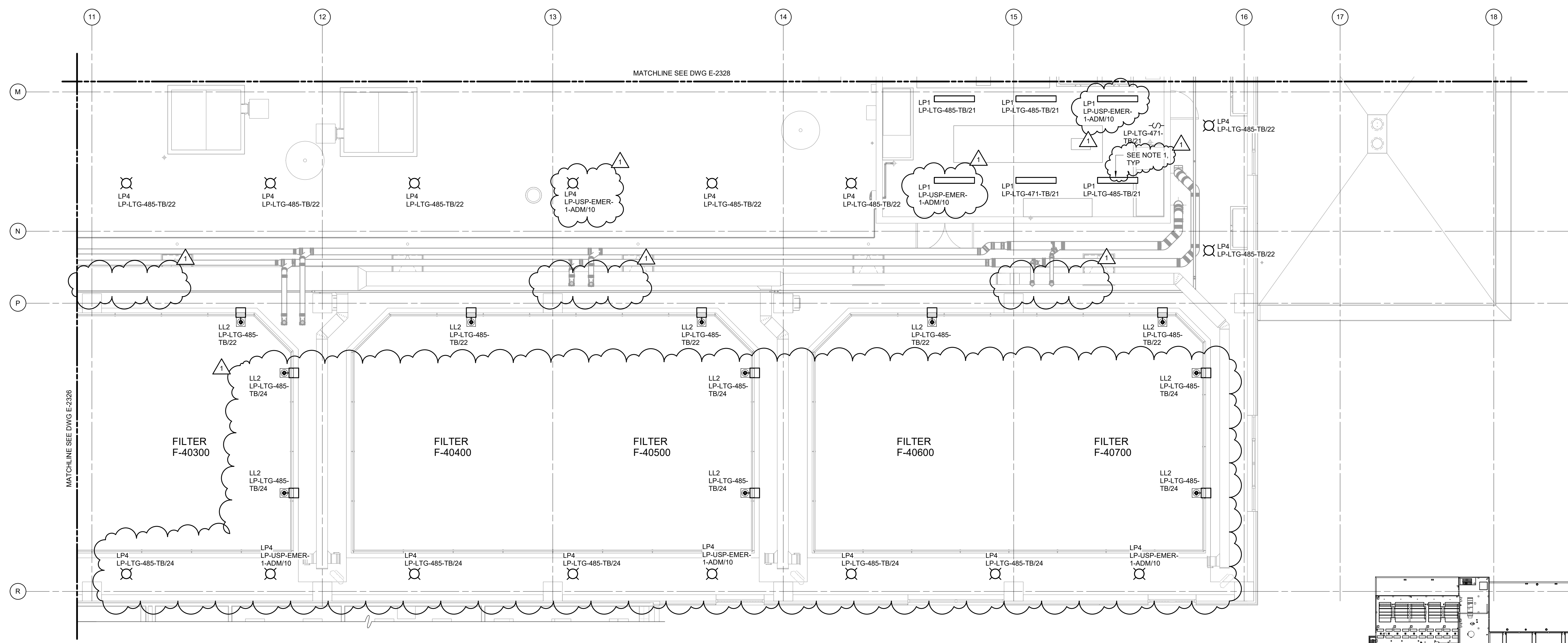
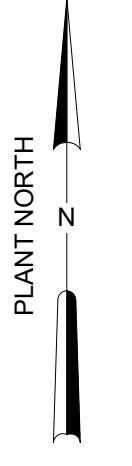
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

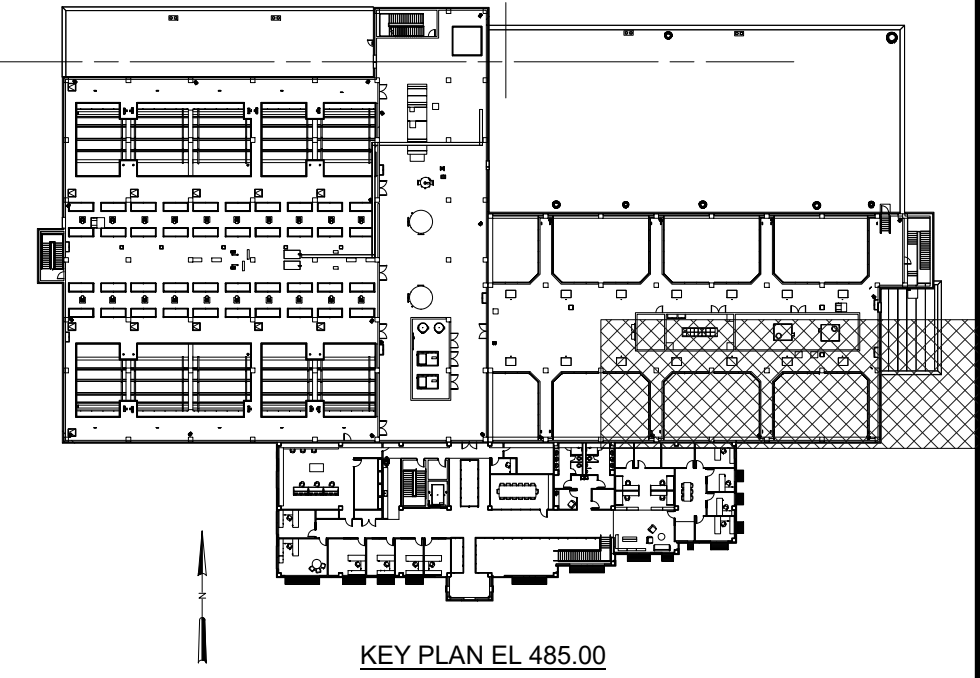
WATER TREATMENT BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 485.00 - PROCESS AREA 5

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2325

NOTES:
 1. MOUNT FIXTURE TYPE "LP1" 12'-0" AFF.



LIGHTING PLAN AT EL 485.00 - AREA 9
 3/16" = 1'-0"

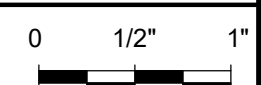


KEY PLAN EL 485.00
 1/8" = 1'-0"

Autodesk_Docs\060908-004_West Parish Filter WTT90908-004-TB-E-14 3/25/2024 2:25:33 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

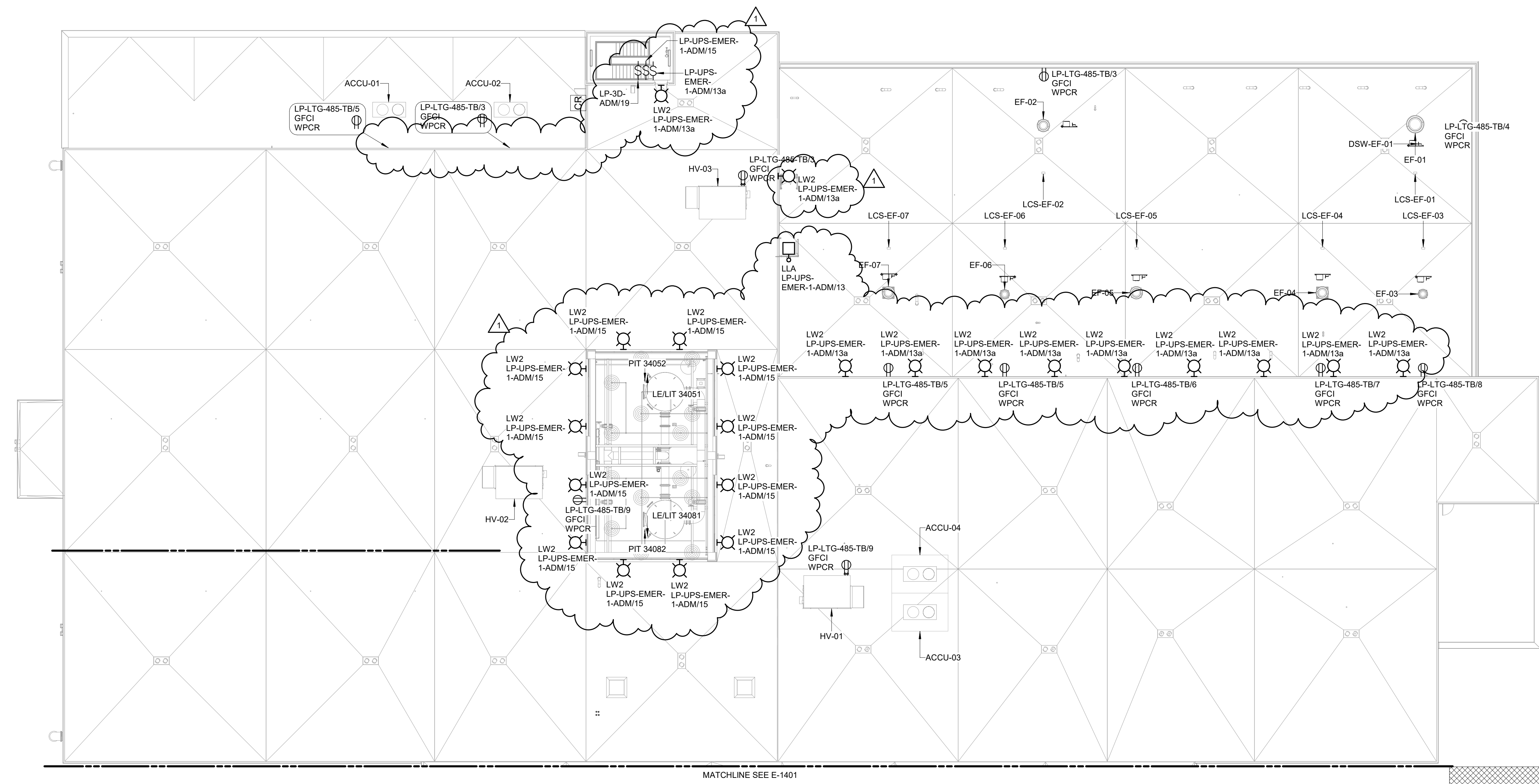


Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

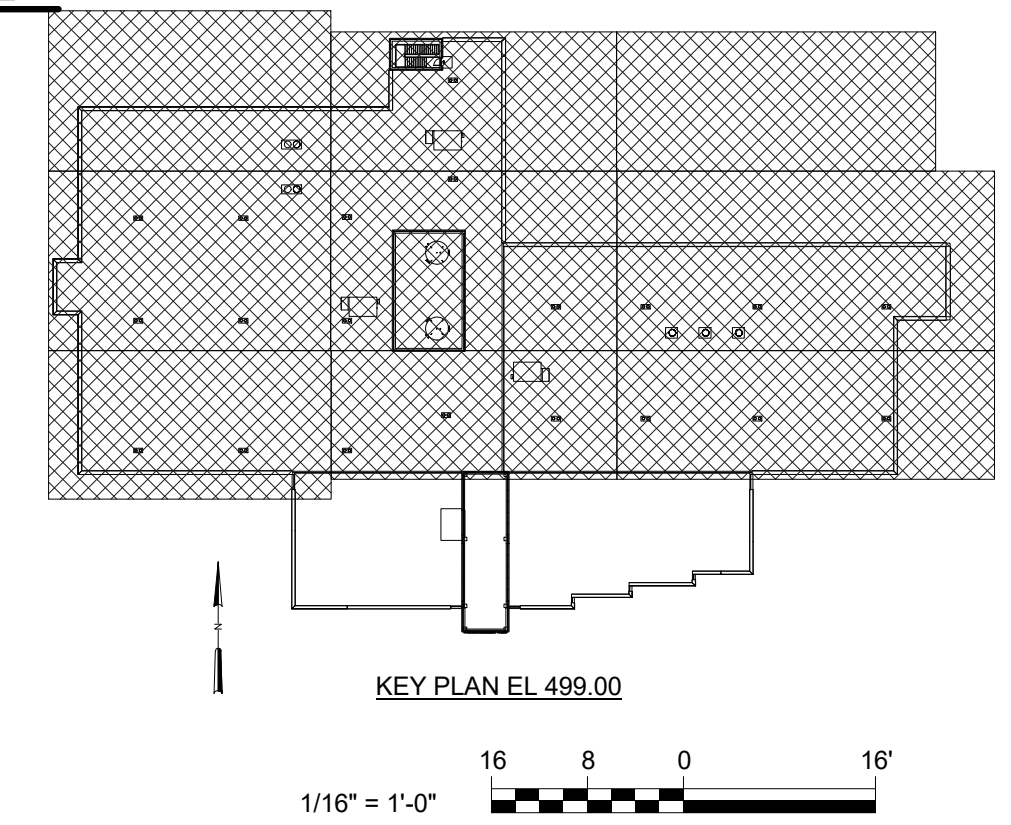
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 WATER TREATMENT BUILDING
 ELECTRICAL
 LIGHTING PLAN AT EL 485.00 - PROCESS AREA 9

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2329



EL 499.00 - OVERALL POWER AND LIGHTING PLAN
1/16" = 1'-0"



Autodesk_DocSet/060908-004_ West Parish Filter WTP/90398-004-TB-E-14
3/25/2024 2:25:41 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



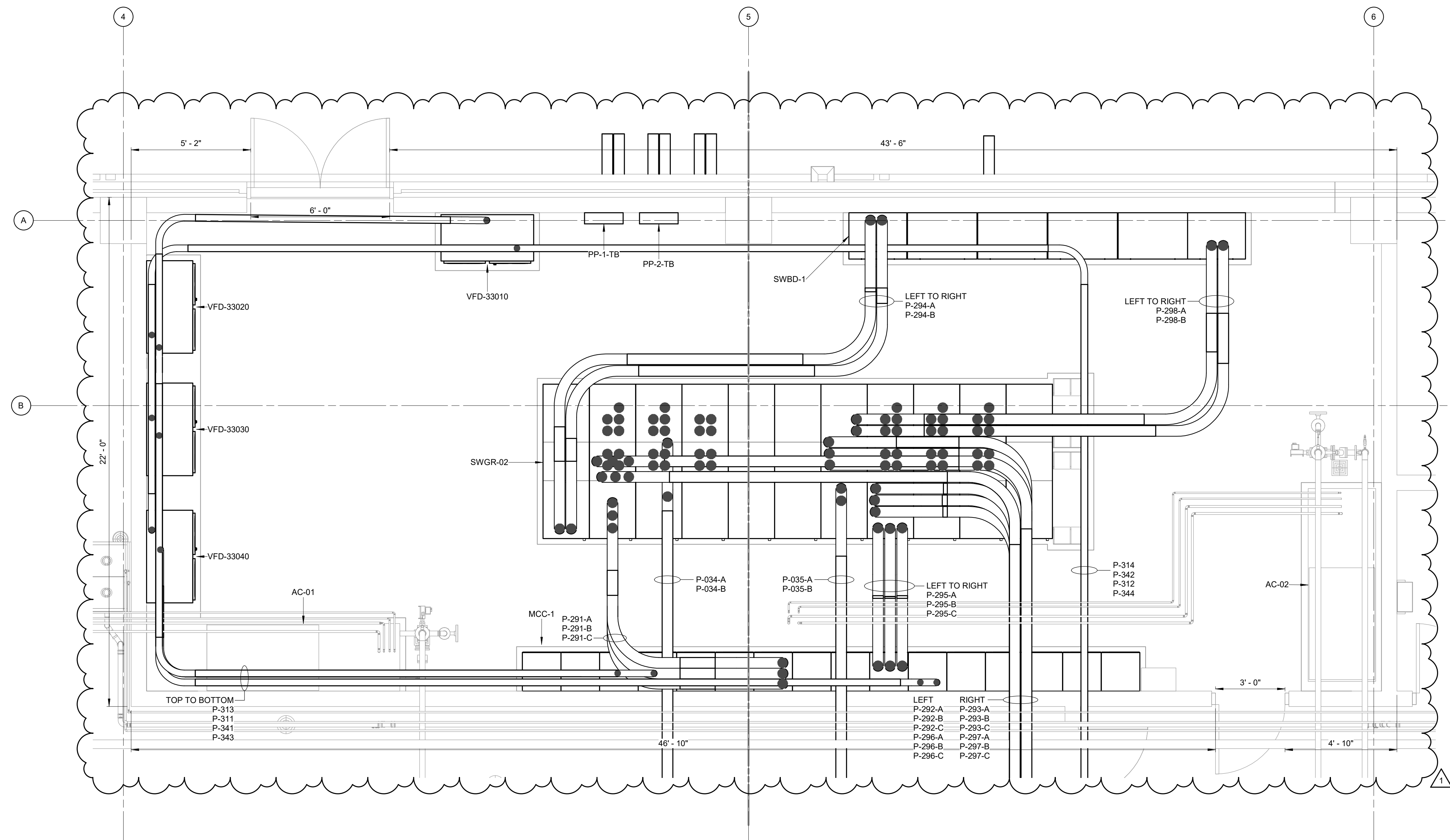
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
OVERALL ROOF PLAN AT EL 499.00 - PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2400

NOTES:
 1. COORDINATE WITH C&C SCHEDULE FOR BOTTOM FEED CONDUITS TO/FROM "SWGR-02".

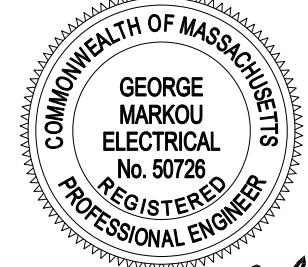


ENLARGED ELECTRICAL ROOM NO.1 AT EL 471.00
 3/8" = 1'-0"

Autodesk Docs/090398-004_ West Parish Filter WTT/90398-004-TB-E-14
 3/29/2024 11:52:53 AM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



George Markou
 03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

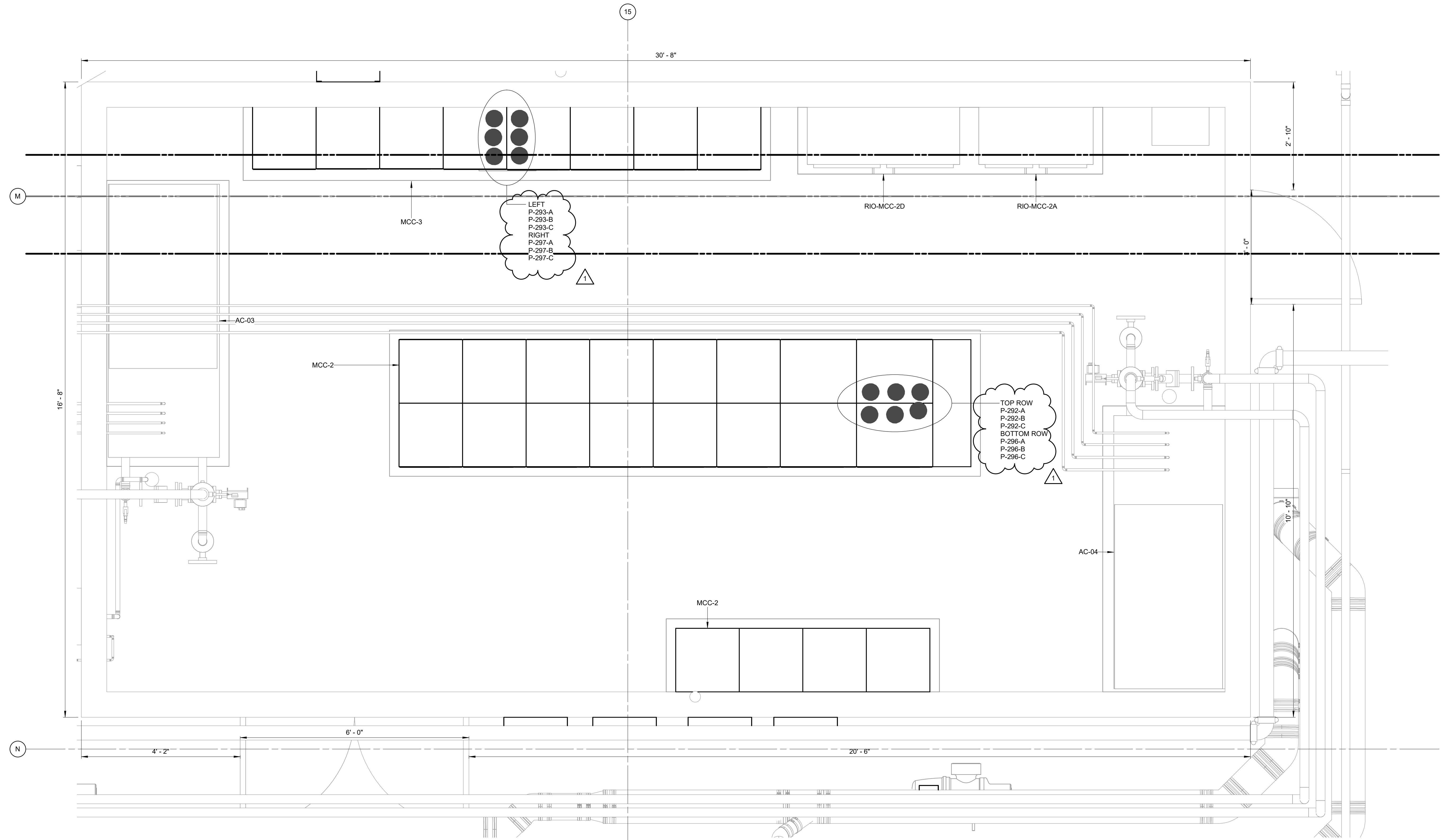
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
 ELECTRICAL
 ENLARGED PLAN - ELECTRICAL ROOM NO.1 AT EL
 471.00 - PROCESS AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2401



ENLARGED ELECTRICAL ROOM NO.2 AT EL 485.00

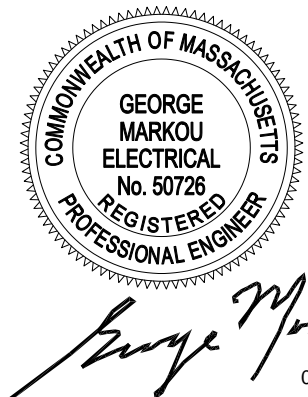
3/4" = 1'-0"

Autodesk_Docs\060908-004_ West Parish Filter WTT\90398-004-TB-E-RT 3/23/2024 1:57:16 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"



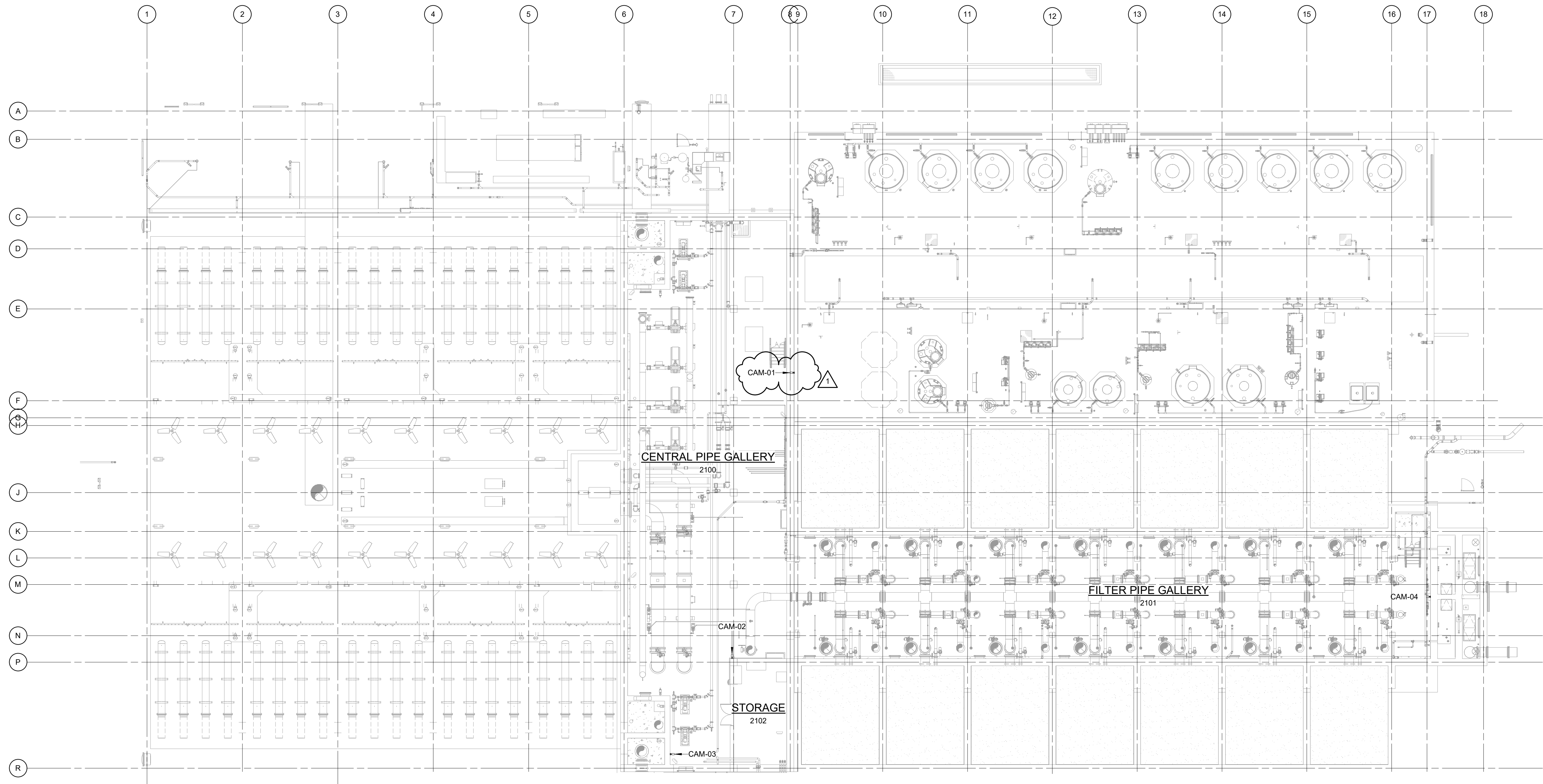
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
ENLARGED PLAN - ELECTRICAL ROOM NO.2 AT EL
485.00 - PROCESS AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2402



EL 457.00 - OVERALL SECURITY SYSTEM PLAN

1/16" = 1'-0"



Autodesk Docs/060308-004_West Parish Filter WTT/90398-004-TB-E-14
 3/25/2024 2:26:41 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

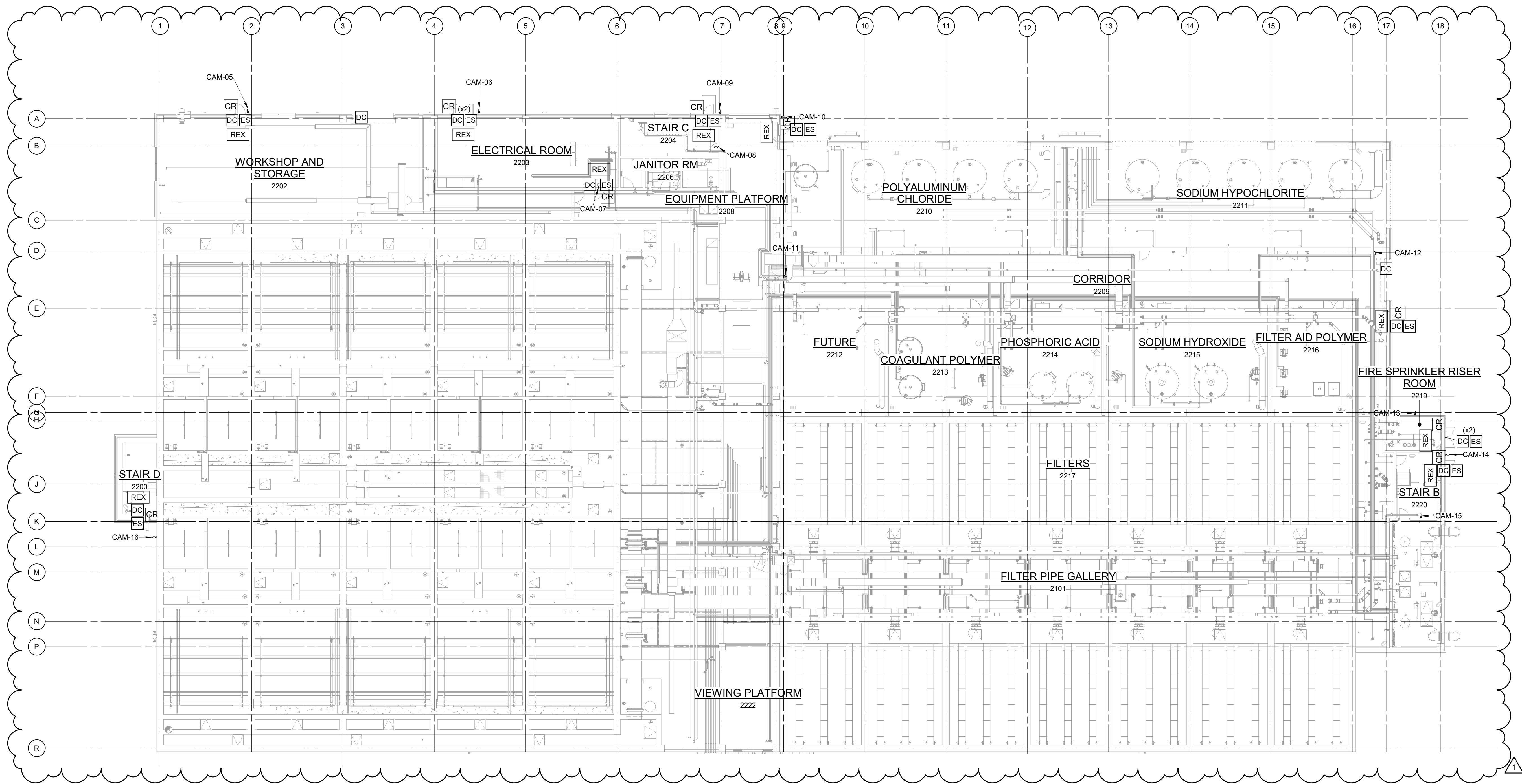
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT 457.00 -
PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2560



EL 471.00 - OVERALL SECURITY SYSTEM PLAN

1/16" = 1'-0"

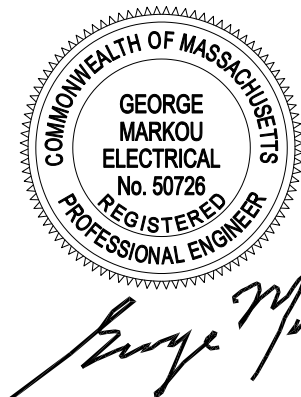
1/16" = 1'-0"

Autodesk_Docset/090398-004_West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:27:27 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"



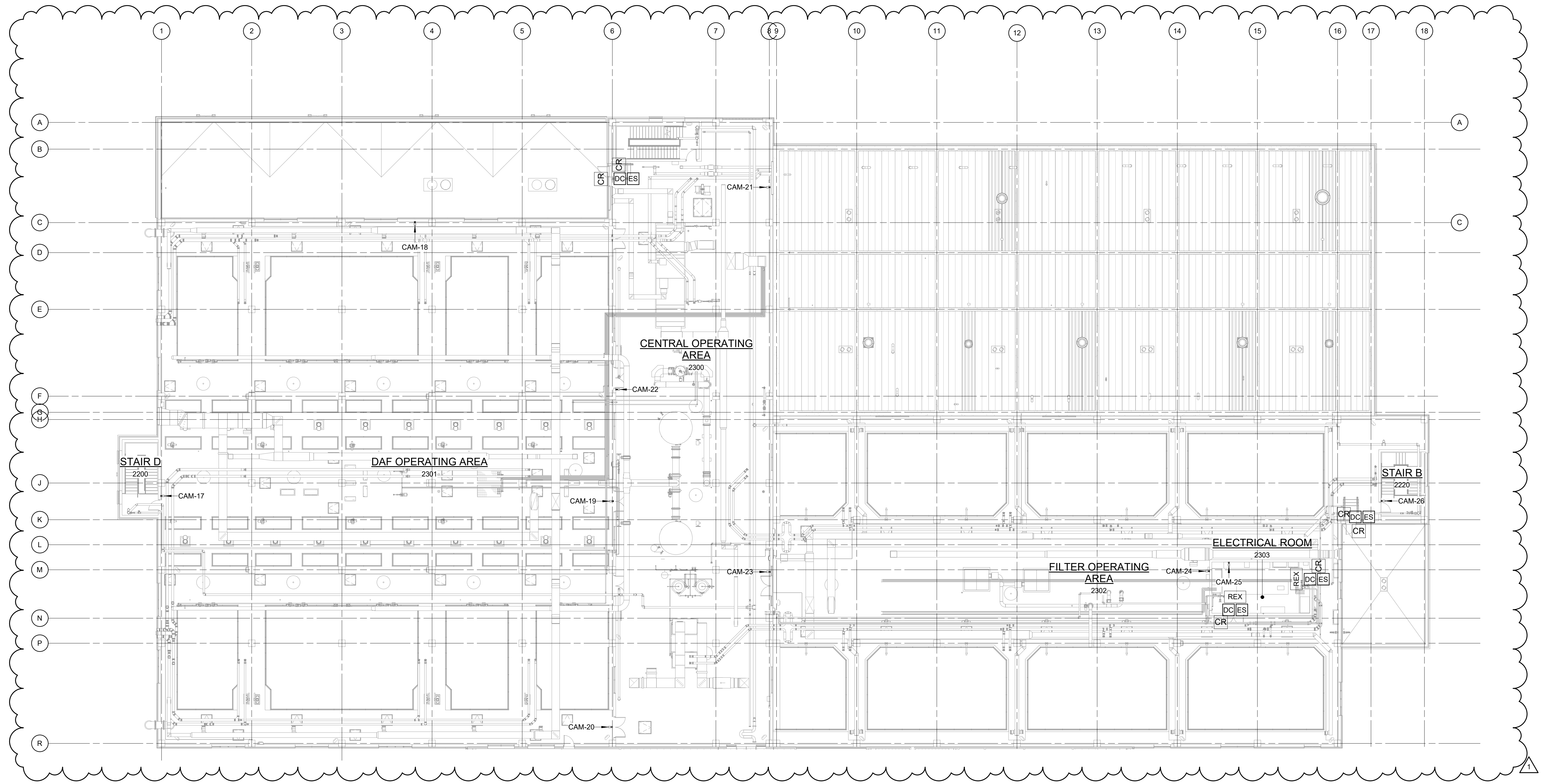
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT 471.00 - PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2561



EL 485.00 - OVERALL SECURITY SYSTEM PLAN

1/16" = 1'-0"

1/16" = 1'-0"

Autodesk_Docset/090398-004_West Parish Filter WTT/90398-004-TB-E-14 3/25/2024 2:28:15 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

George Markou
03/25/2024

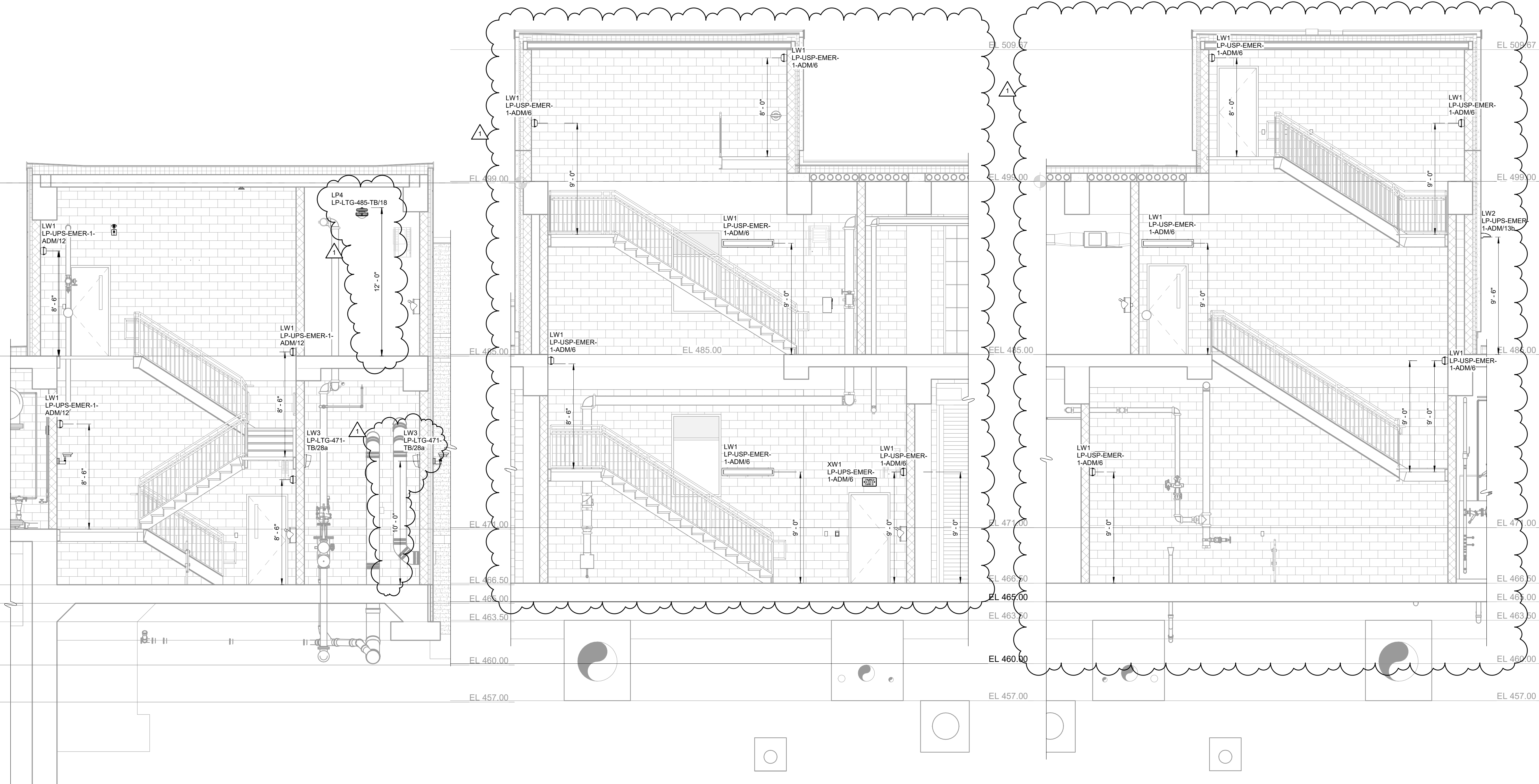
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT 485.00 - PROCESS AREAS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2562

Autodesk_Documents\090908-004_West Parish Filter WTT90908-004-TB-E-14 3/25/2024 2:28:23 PM



STAIR B
SECTION A
1/4" = 1'-0" (E-2108)

STAIR C
SECTION B
1/4" = 1'-0" (E-2104)

STAIR C
SECTION C
1/4" = 1'-0" (E-2104)

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

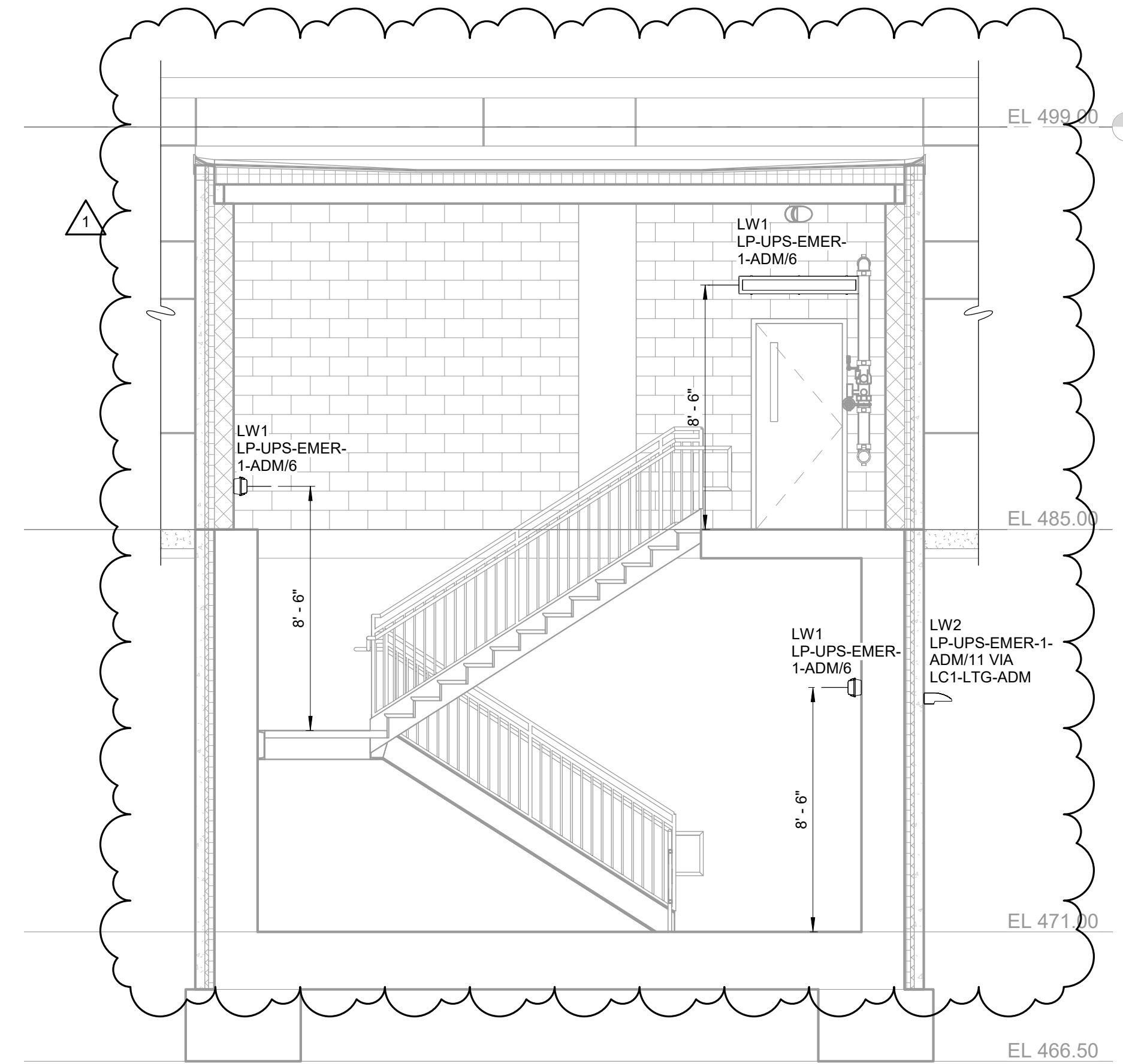


Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
SECTIONS - PROCESS AREA SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2701



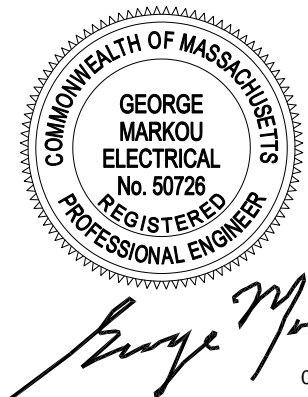
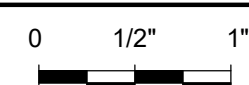
STAIR D
SECTION D
1/4" = 1'-0" E-2102

Autodesk DocuSign/090398-004_West Parish Filter WTT/90398-004-TB-E-14
3/25/2024 2:28:23 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/ D. SHAH
DRAWN BY:	A. PENA/ D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE



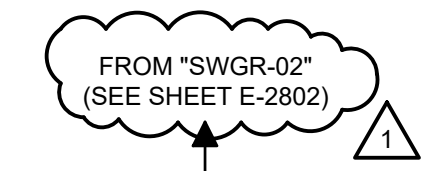
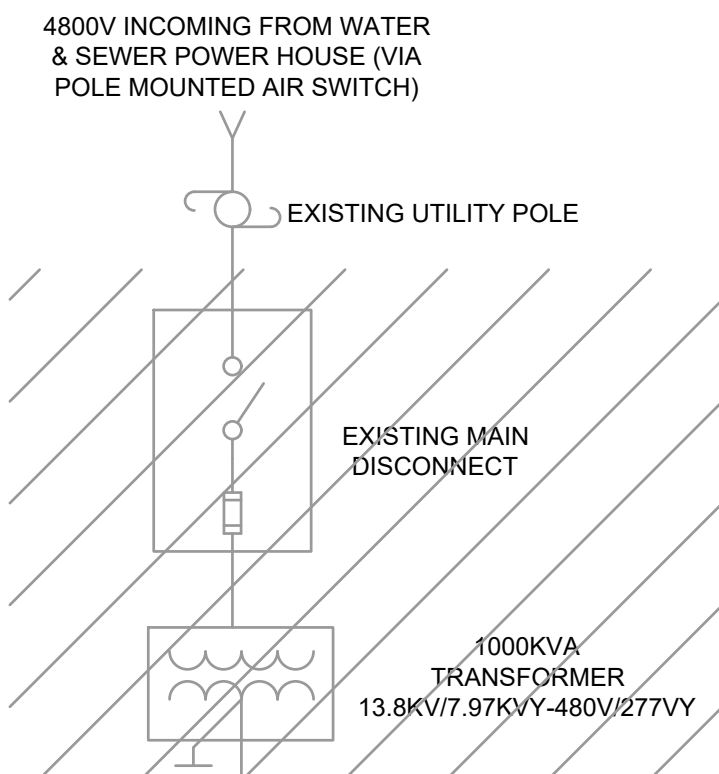
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

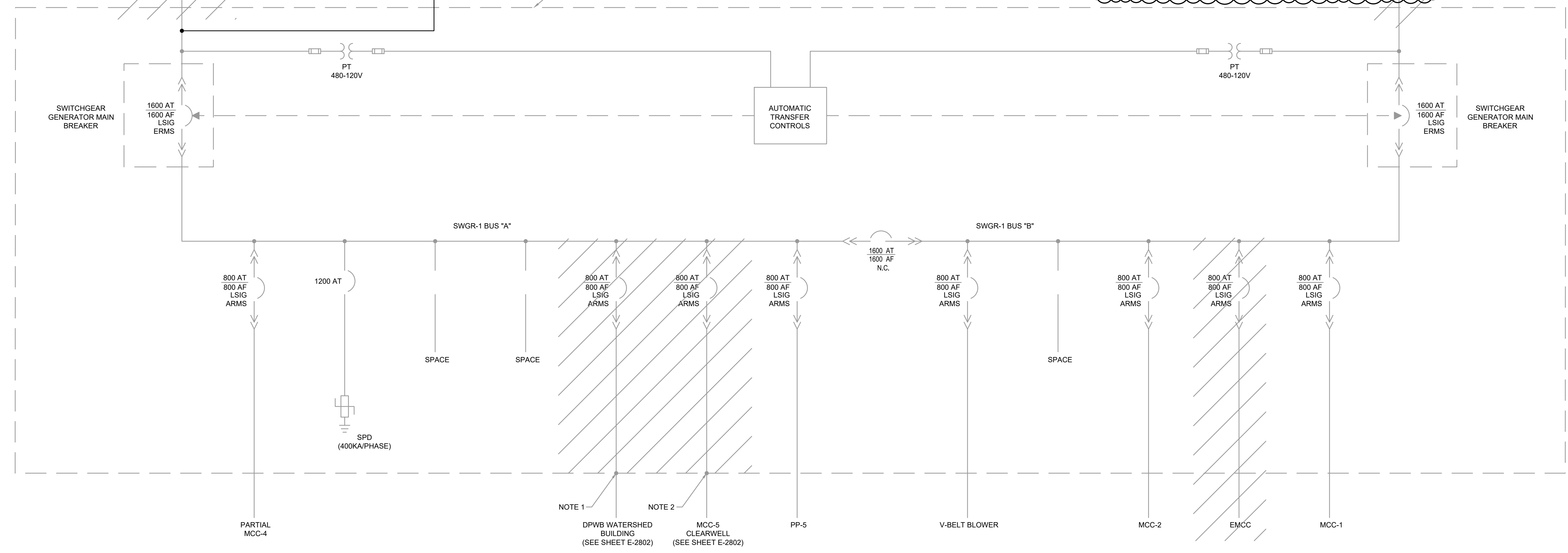
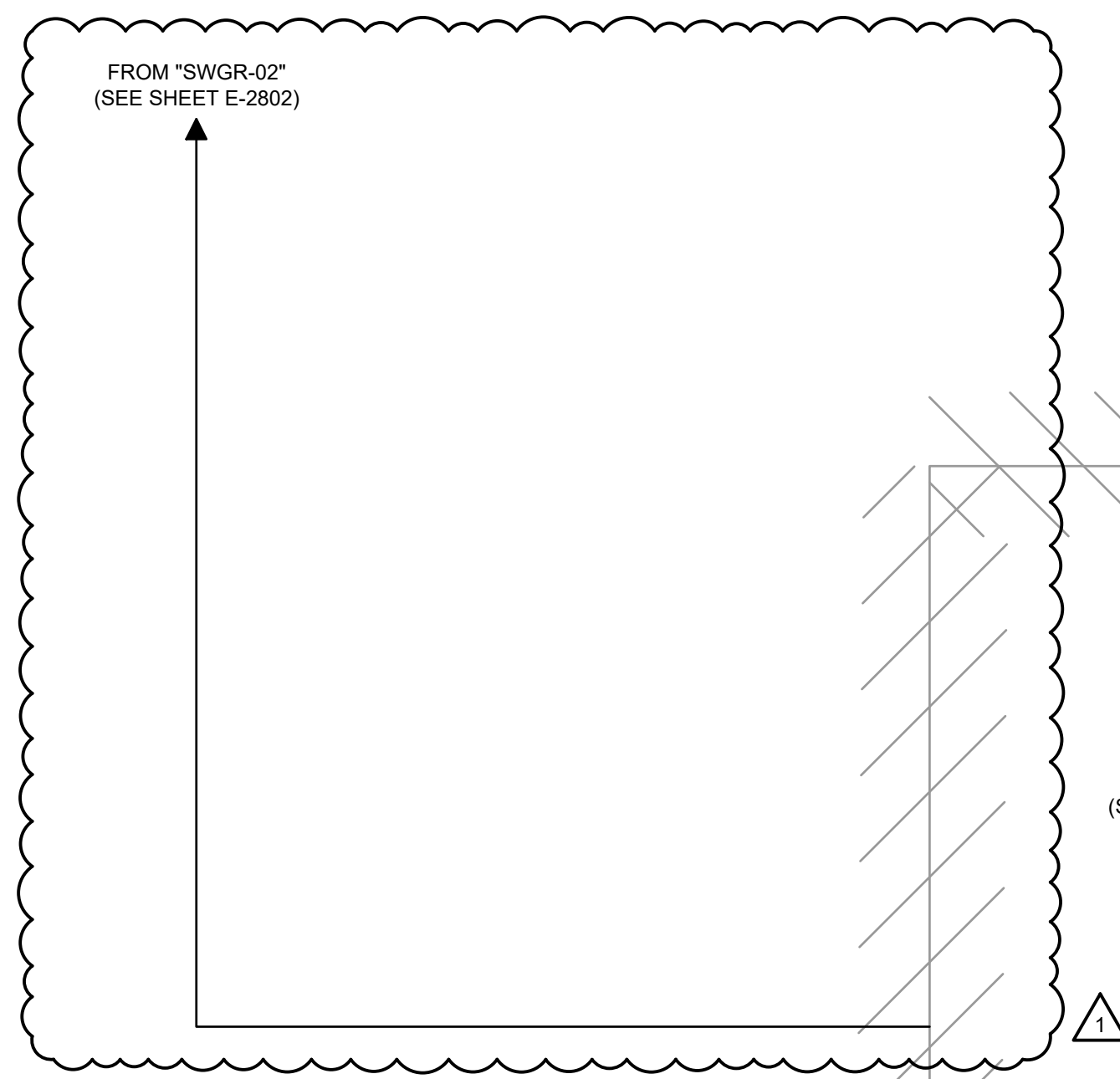
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
SECTIONS - PROCESS AREA SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2702



- NOTES:
1. TERMINATE EXISTING WIRING AND CONDUIT/DUCTBANK AND EXTEND TO EXISTING HANDHOLE # 5B IF NECESSARY. PROVIDE NEW WIRING, CONDUIT AND DUCT BANK FROM EXISTING HANDHOLE # 5B TO NEW SWITCHGEAR "SWGR-02" FOR DPWB WATERSHED BUILDING. SEE SHEET E-2802.
 2. TERMINATE EXISTING WIRING AND CONDUIT/DUCTBANK AND EXTEND TO EXISTING HANDHOLE # 5B IF NECESSARY. PROVIDE NEW WIRING, CONDUIT AND DUCT BANK FROM EXISTING HANDHOLE # 5B TO NEW SWITCHGEAR "SWGR-02" FOR MCC-5 CLEARWELL. SEE SHEET E-2802.
 3. UTILIZE EXISTING 800KW DIESEL BACKUP GENERATOR TO PROVIDE BACKUP POWER FOR DEWATERING BUILDING AND EXISTING RAPID SAND FILTER BUILDING. SEE SHEET E=2803.



OVERALL SINGLE LINE DIAGRAM - EXISTING
SCALE: NTS

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PLOT DATE: 3/25/2024 1:40 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

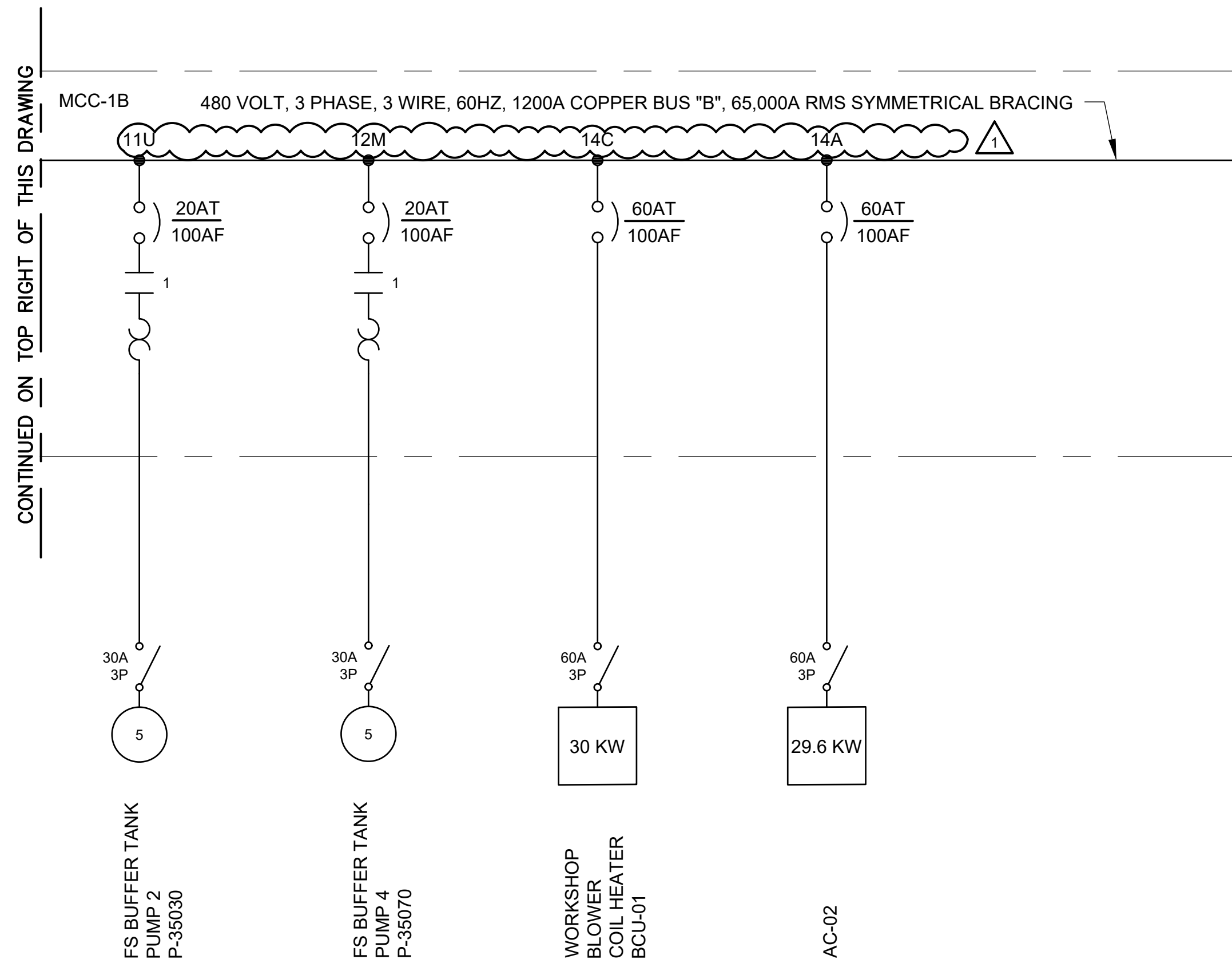
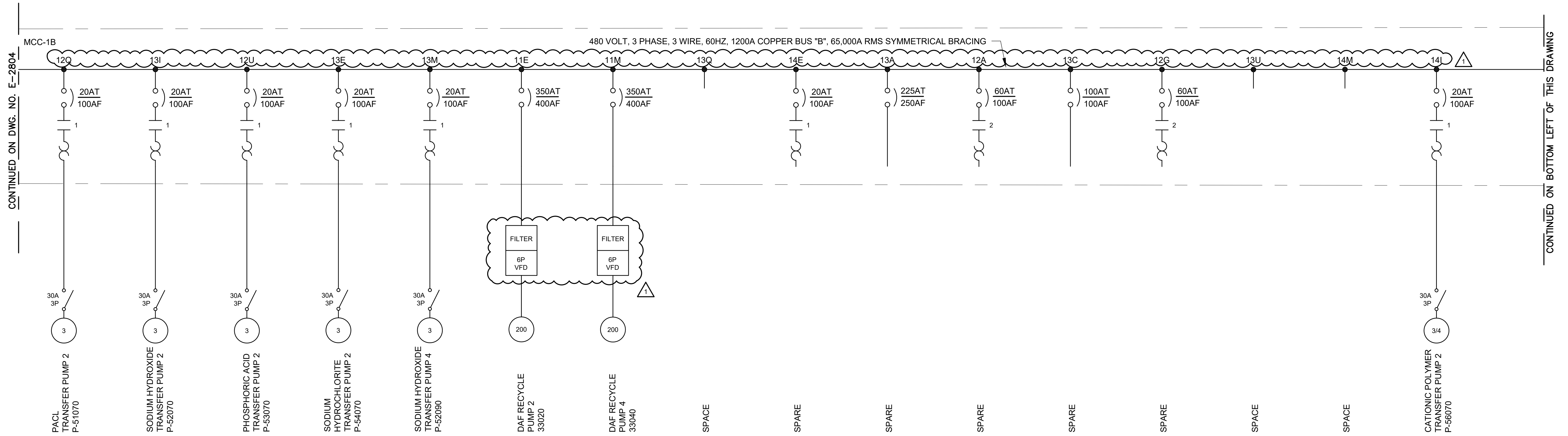
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
OVERALL SINGLE LINE DIAGRAM - EXISTING

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2801



MCC-1B SINGLE LINE DIAGRAM
SCALE: NTS

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REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

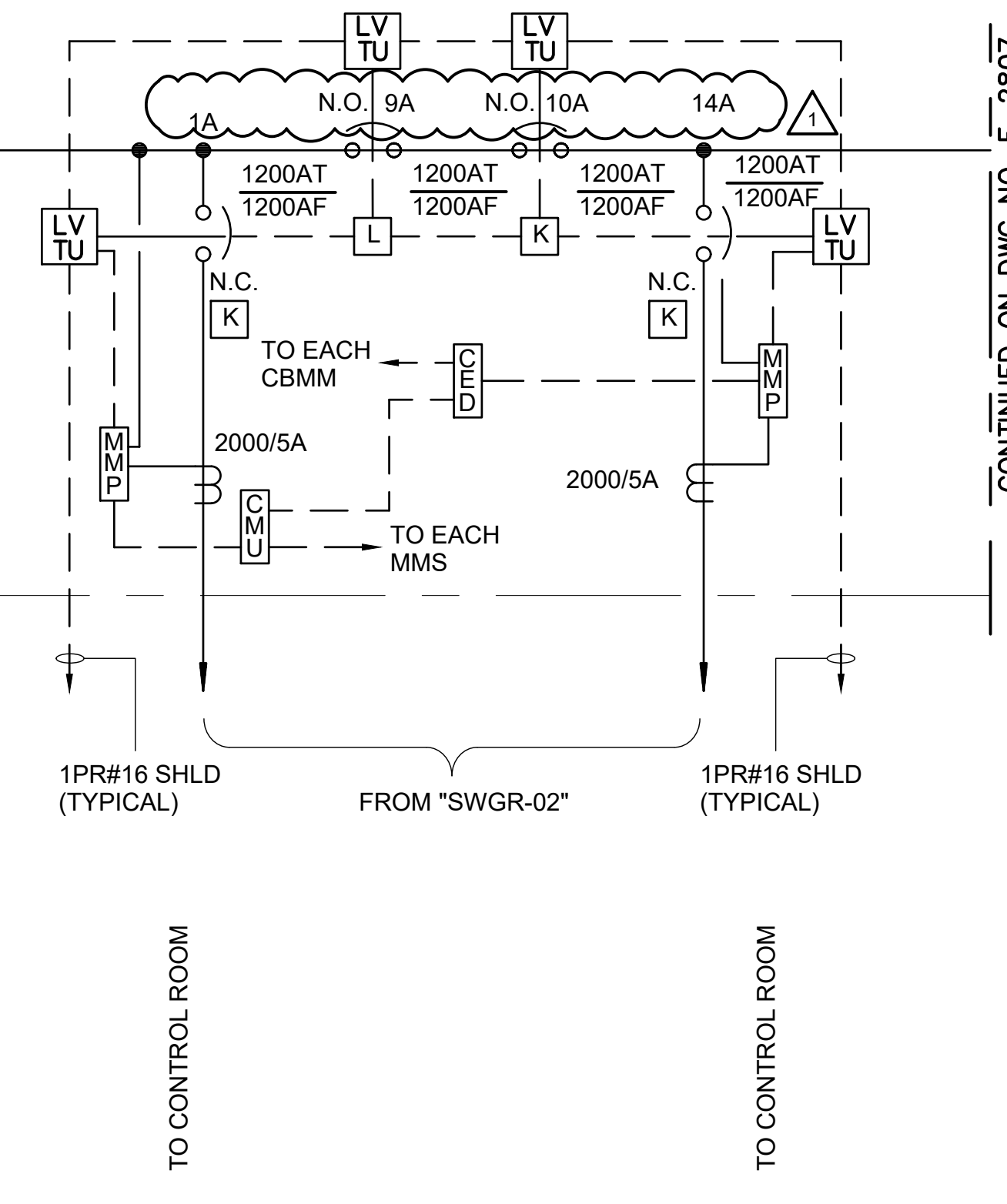
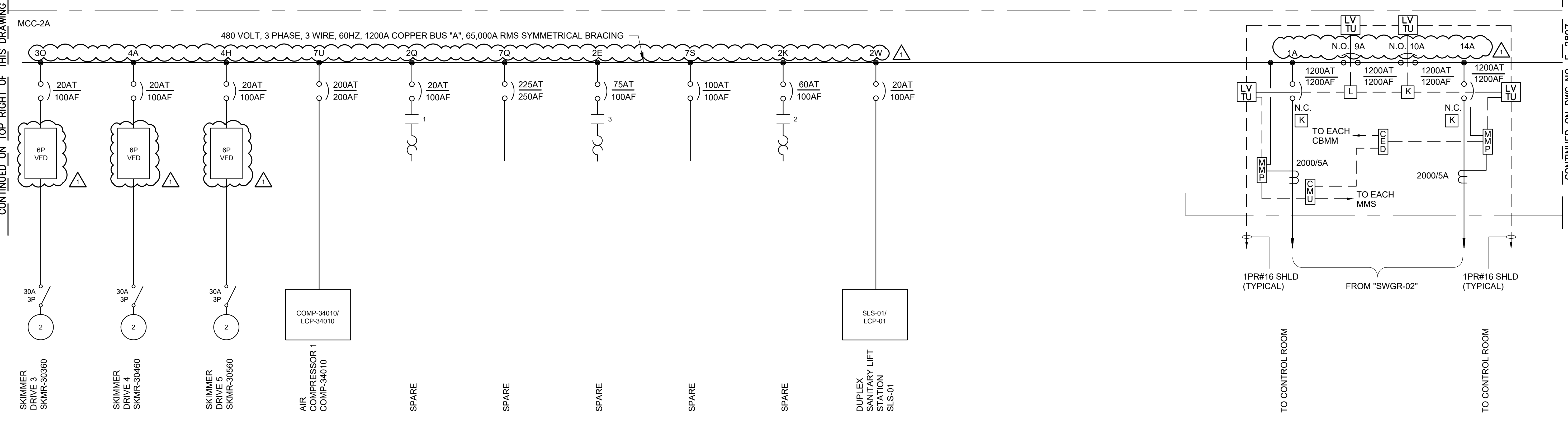
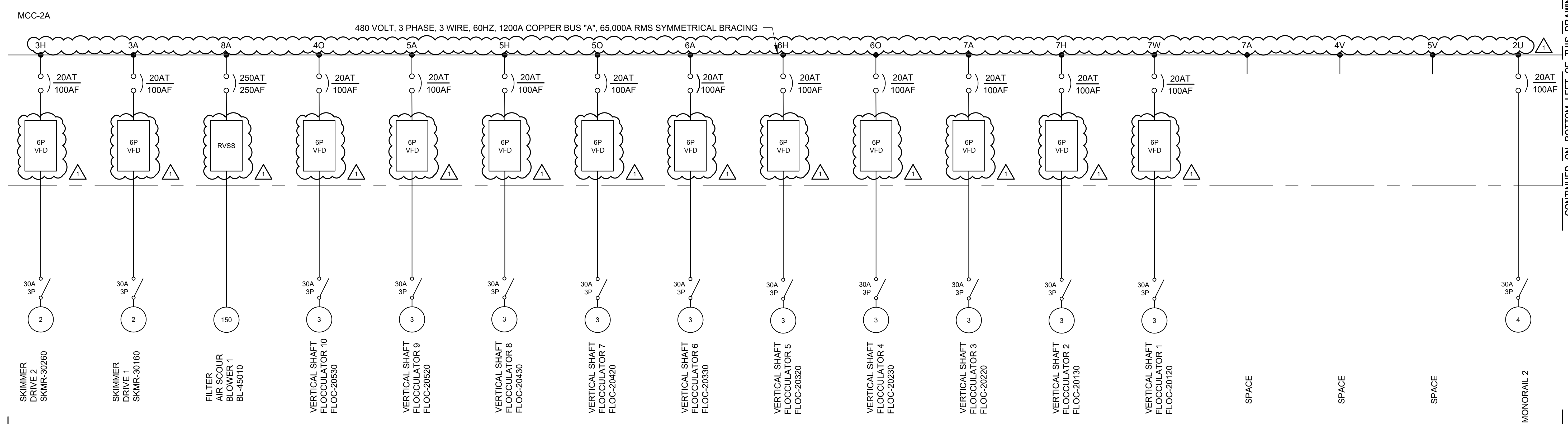
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
MCC-1 SINGLE LINE DIAGRAM - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2805

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 PLOT DATE: 3/25/2024 1:40 PM BY: DSHAH



MCC-2A SINGLE LINE DIAGRAM
SCALE: NTS

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

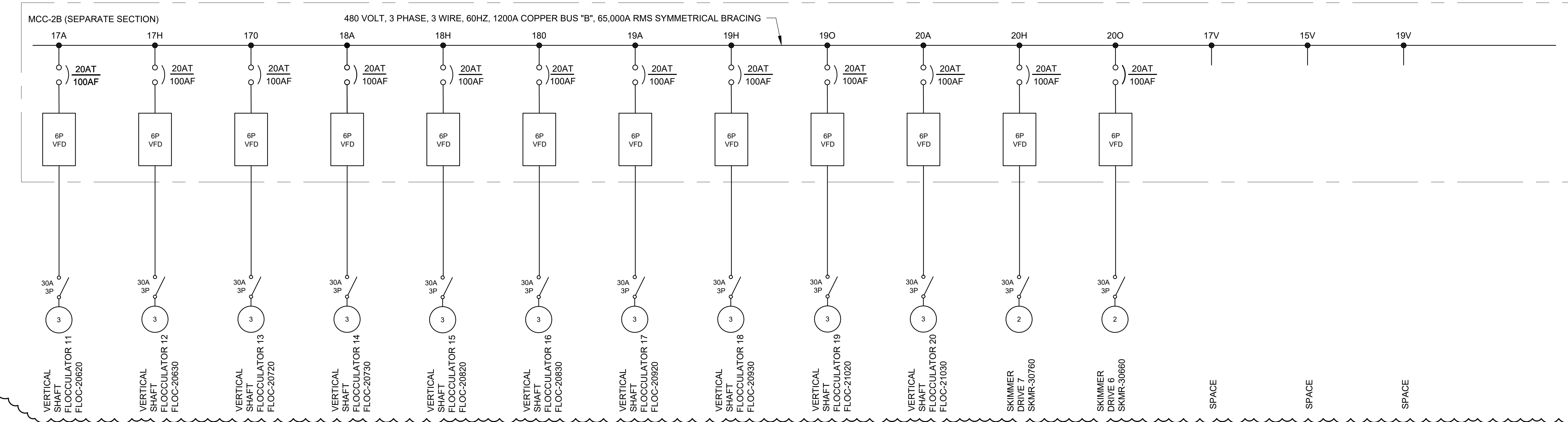
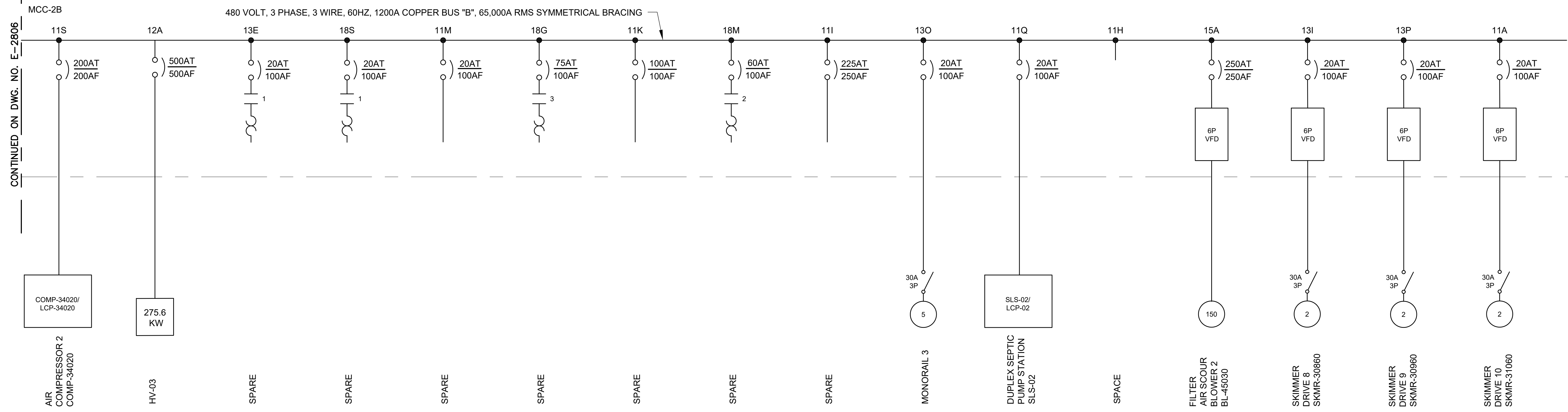
WATER TREATMENT BUILDING
ELECTRICAL
MCC-2 SINGLE LINE DIAGRAM - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2806

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CONTINUED ON DWG NO. E-2807

CONTINUED ON BOTTOM LEFT OF THIS DRAWING



MCC-2B SINGLE LINE DIAGRAM
SCALE: NTS

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1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

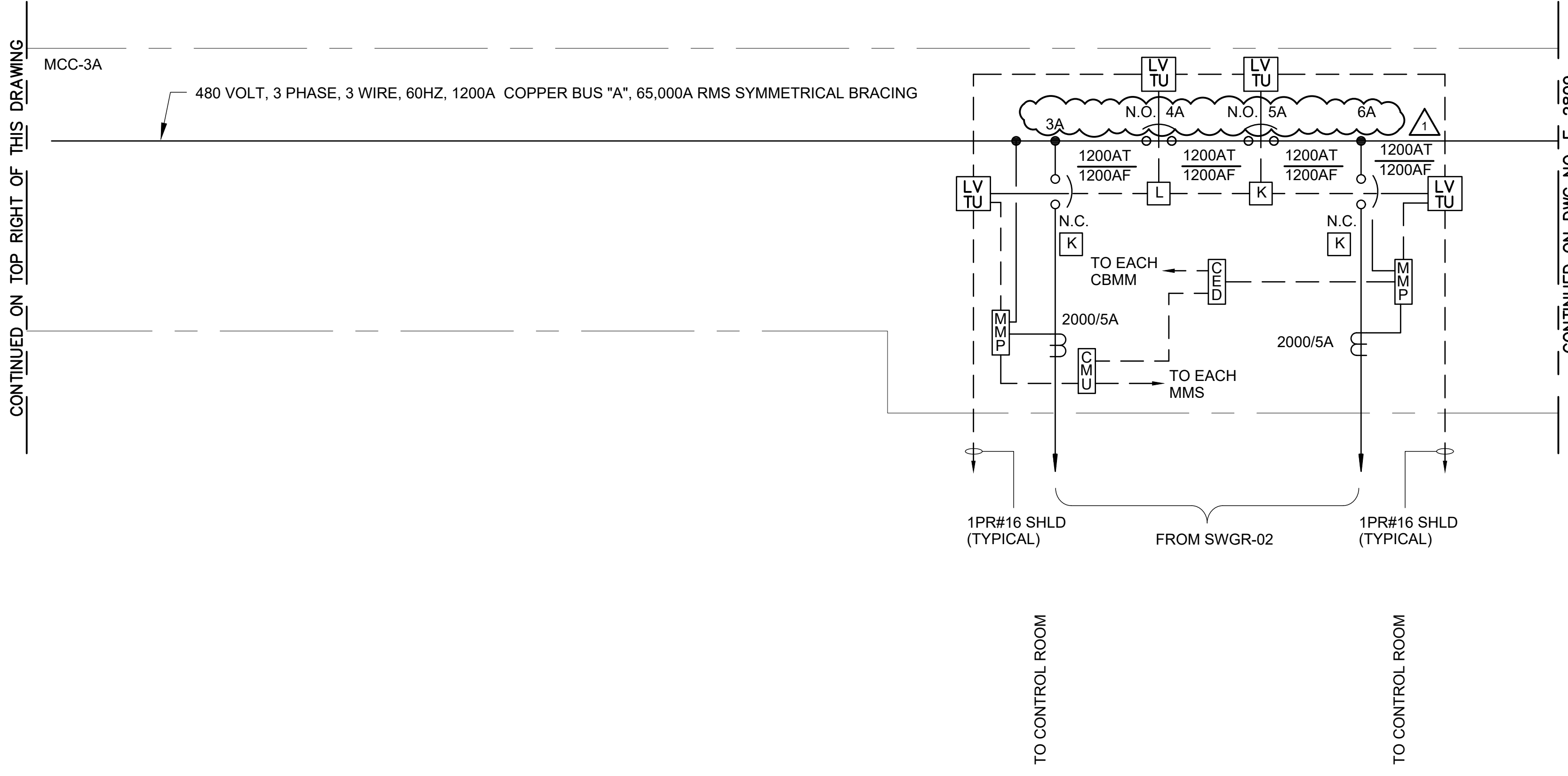
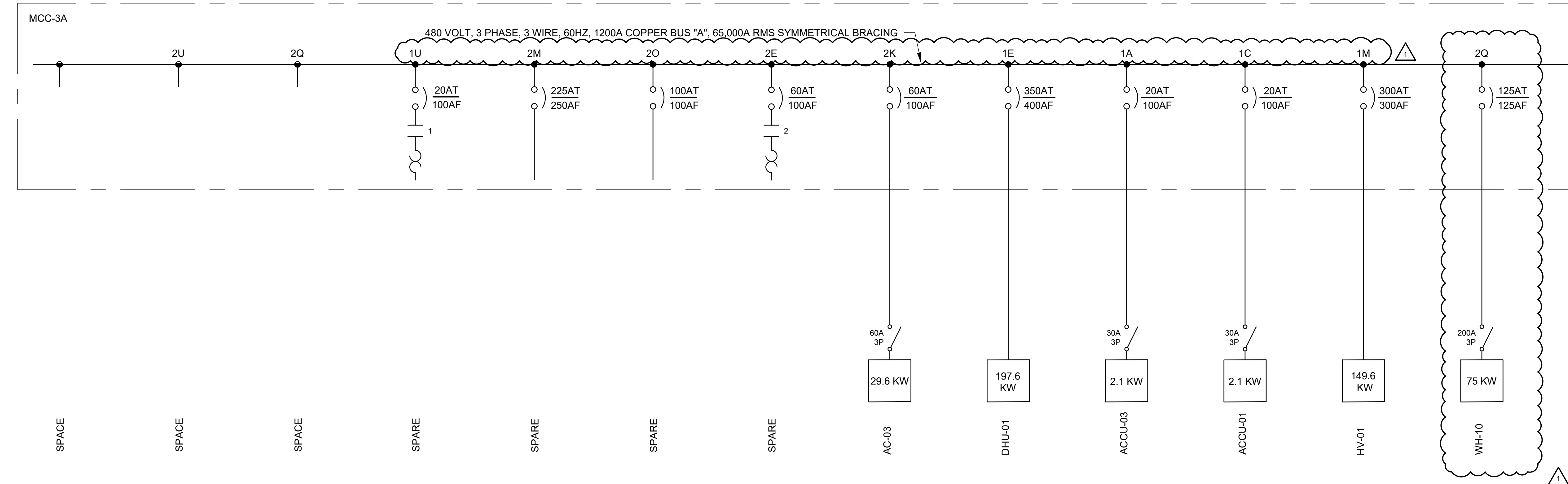
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
MCC-2 SINGLE LINE DIAGRAM - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2807

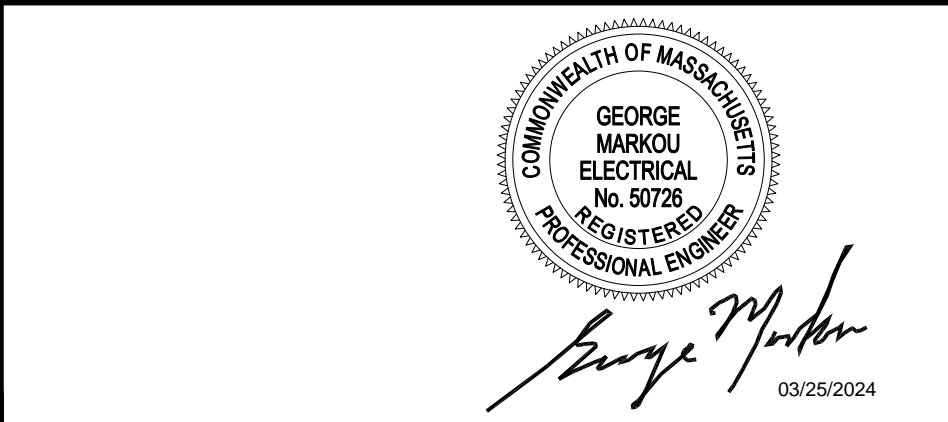
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PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH



MCC-3A SINGLE LINE DIAGRAM
SCALE: NTS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



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HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

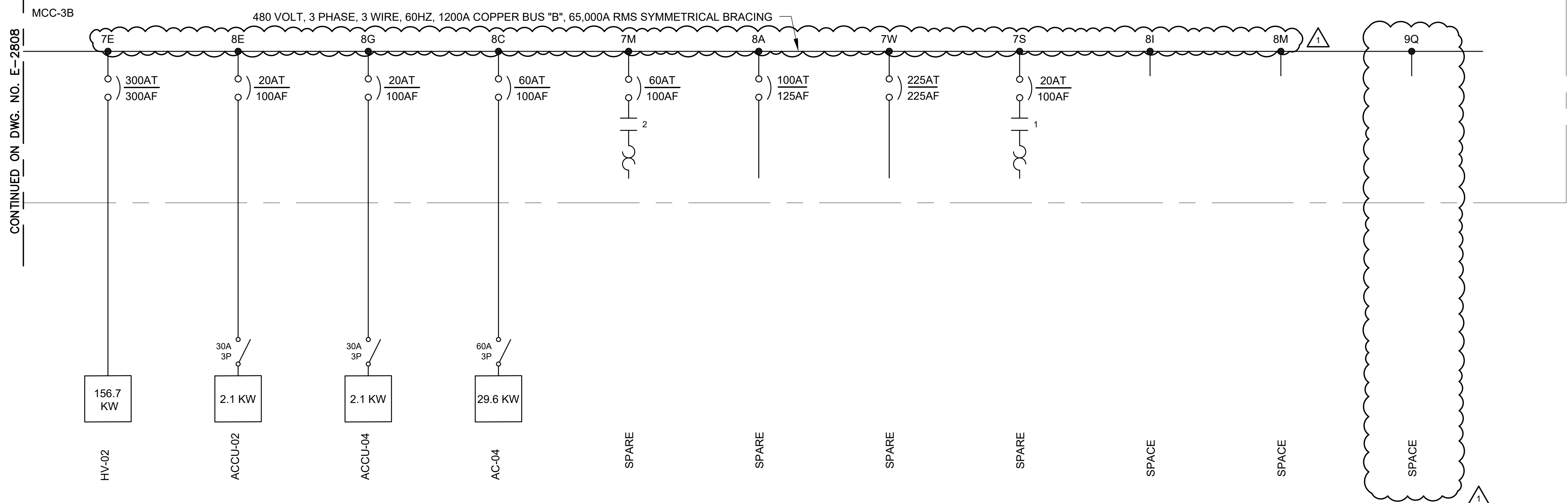
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'WATER TREATMENT BUILDING
ELECTRICAL
MCC-3 SINGLE LINE DIAGRAM - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2808

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CONTINUED ON BOTTOM LEFT OF THIS DRAWING

CONTINUED ON DWG NO. E-2809



CONTINUED ON DWG. NO. E-2808

MCC-3B SINGLE LINE DIAGRAM
SCALE: NTS

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PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

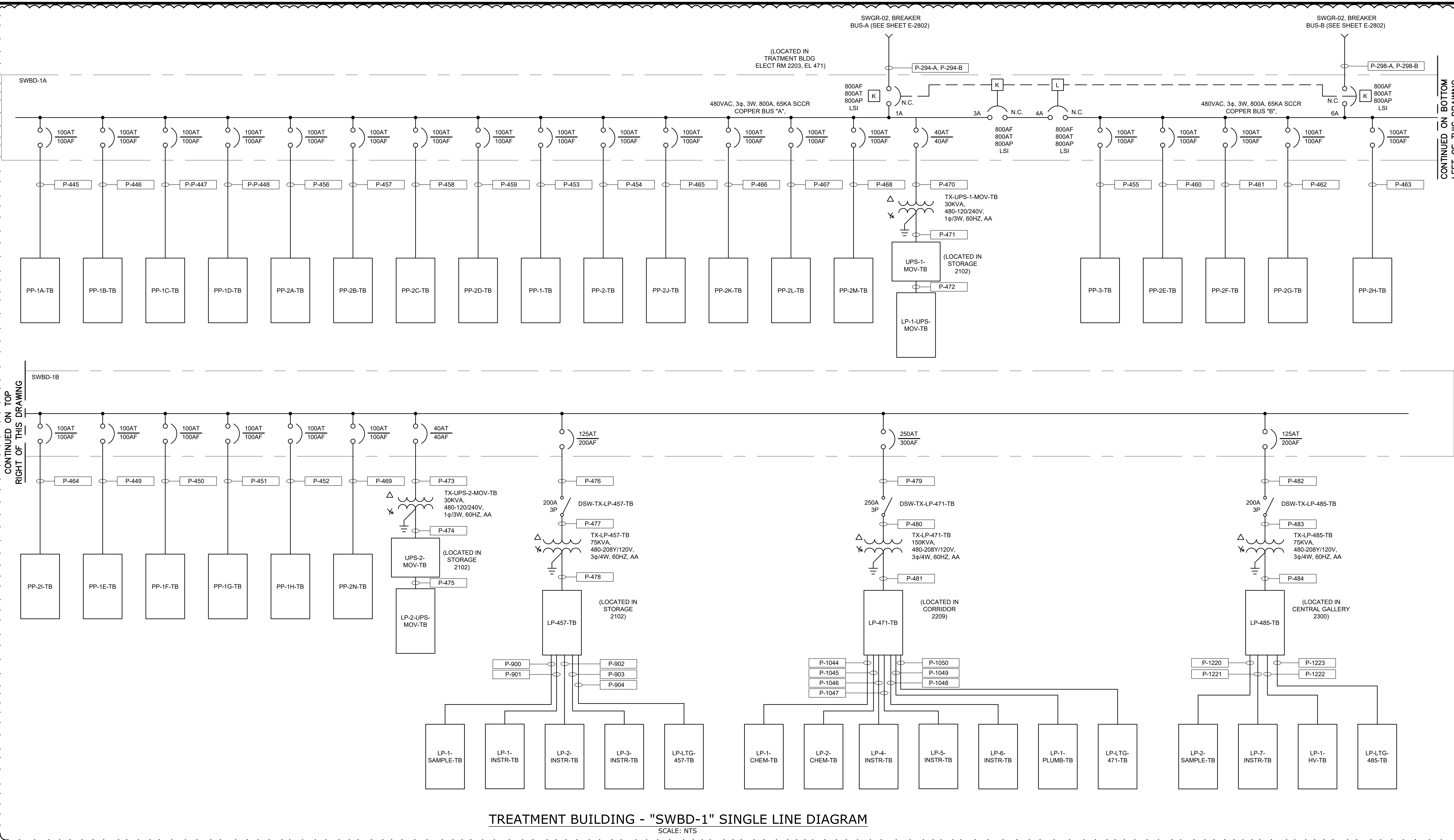
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
MCC-3 SINGLE LINE DIAGRAM - SHEET 2

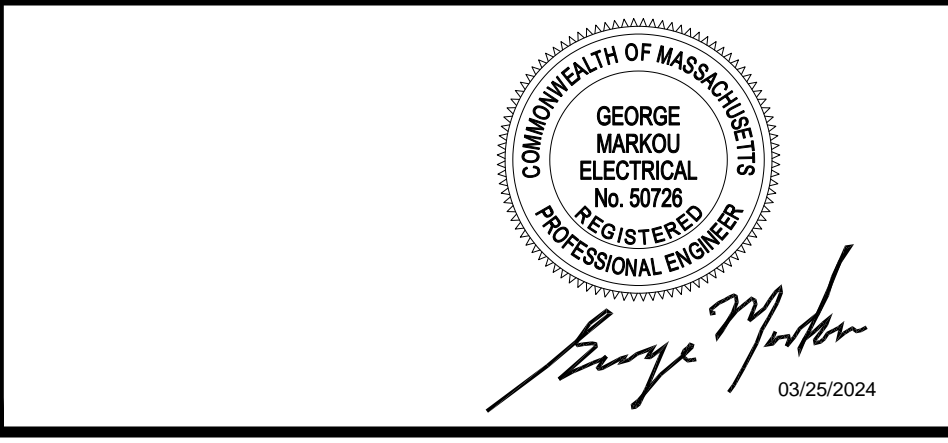
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HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2809



TREATMENT BUILDING - "SWBD-1" SINGLE LINE DIAGRAM
SCALE: NTS

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PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



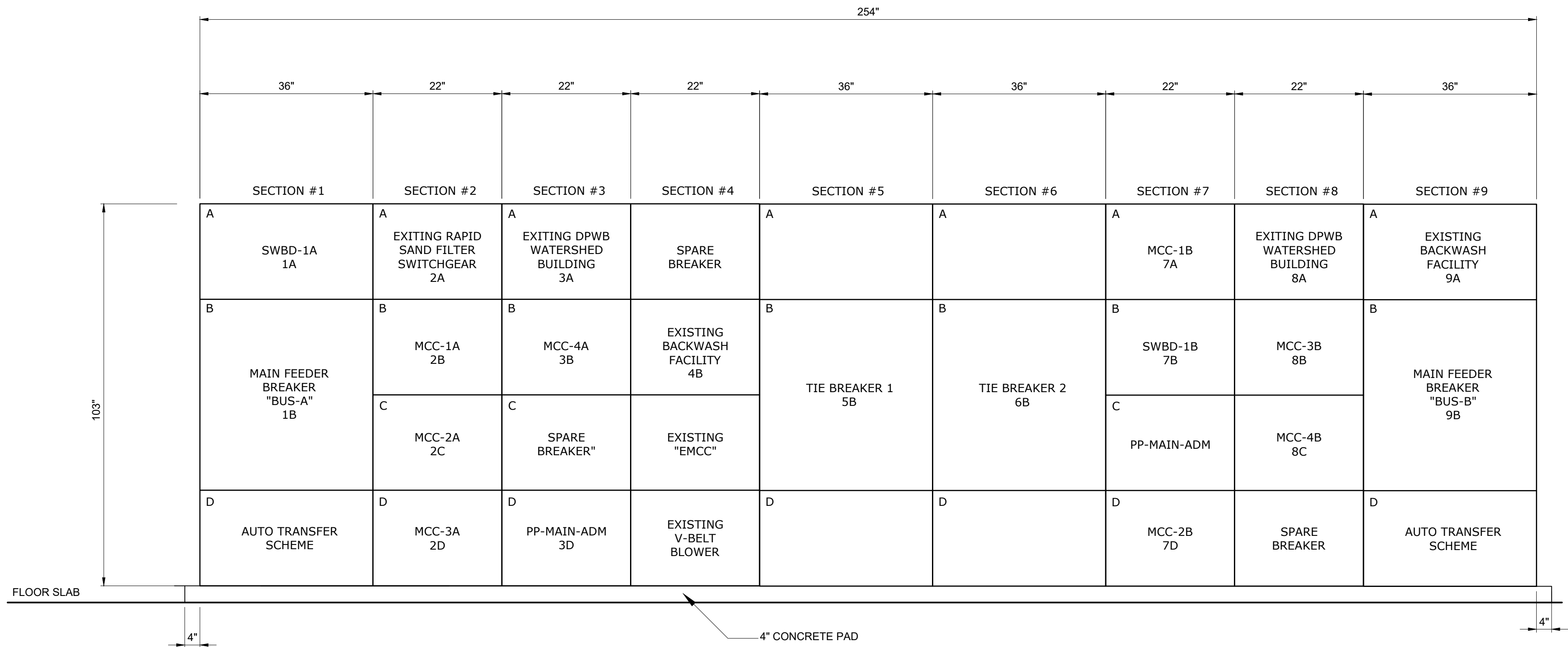
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

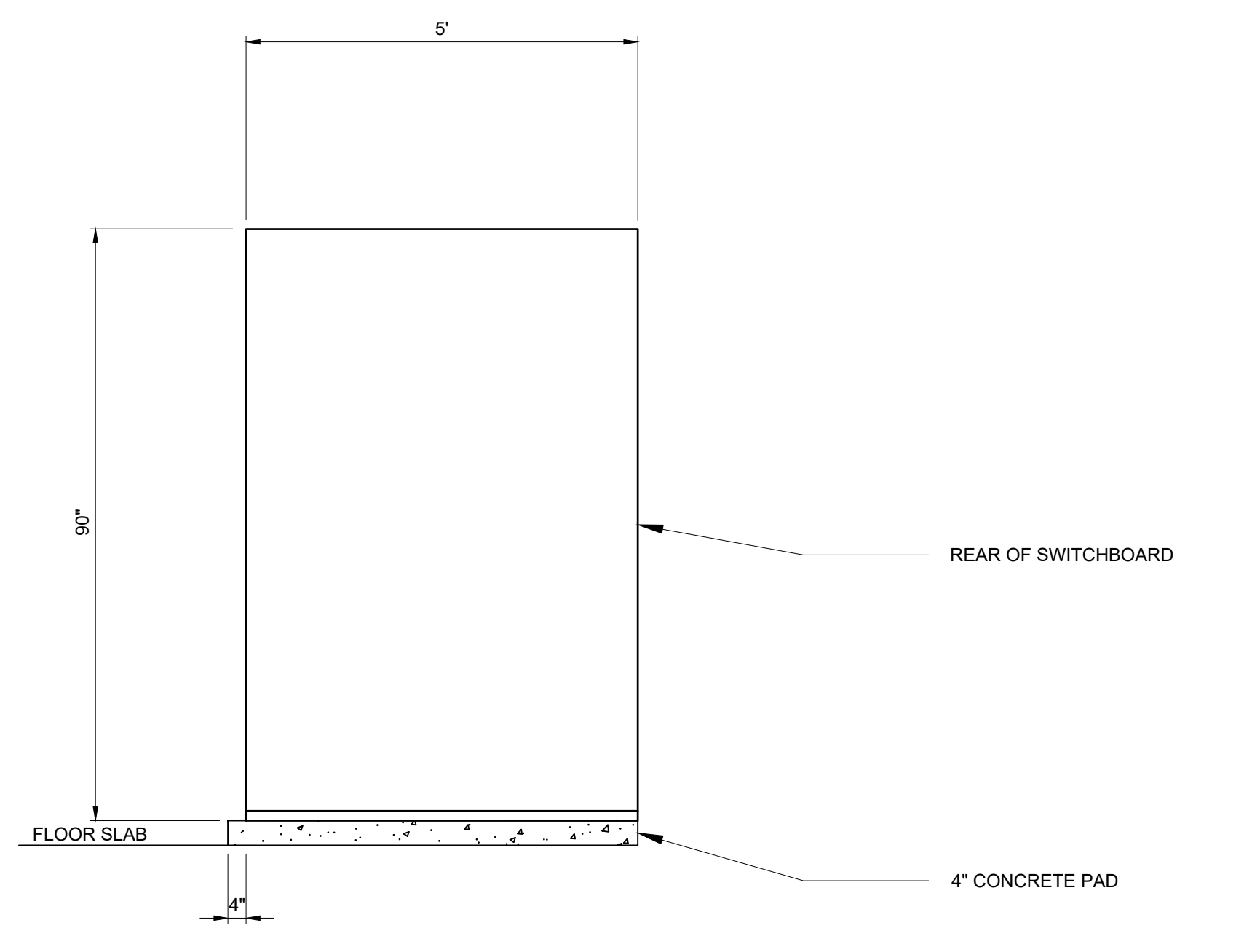
FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
SWBD-1 SINGLE LINE DIAGRAM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2810

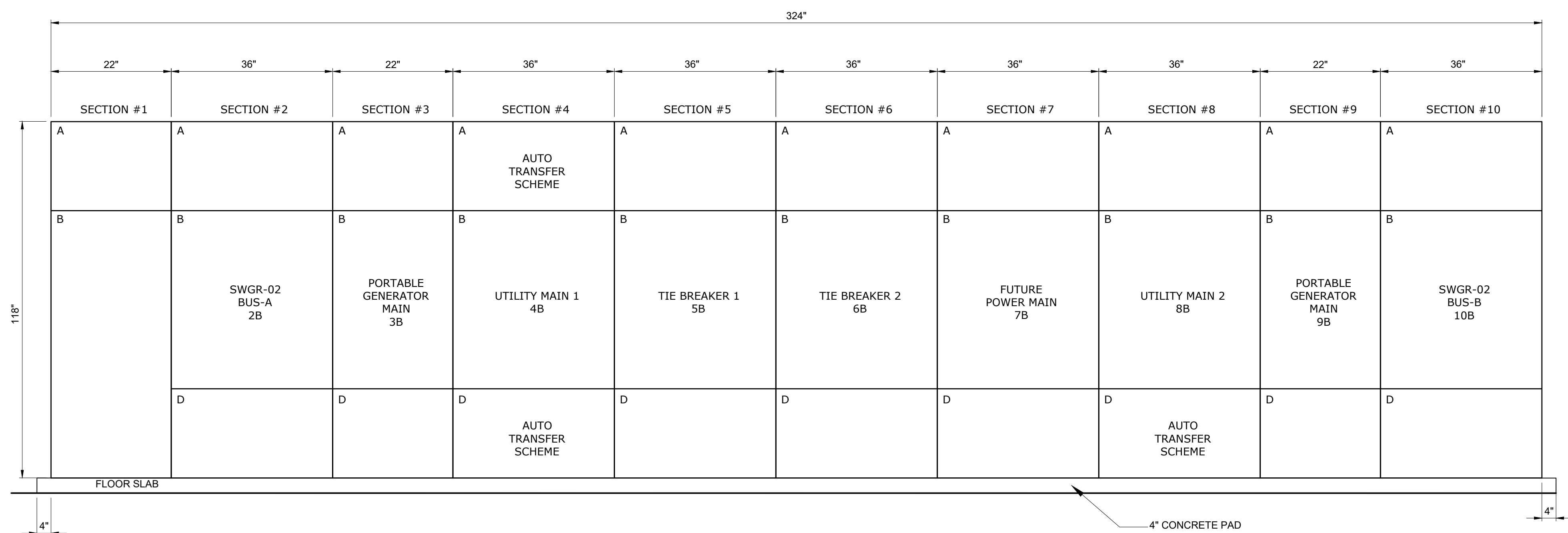
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PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH



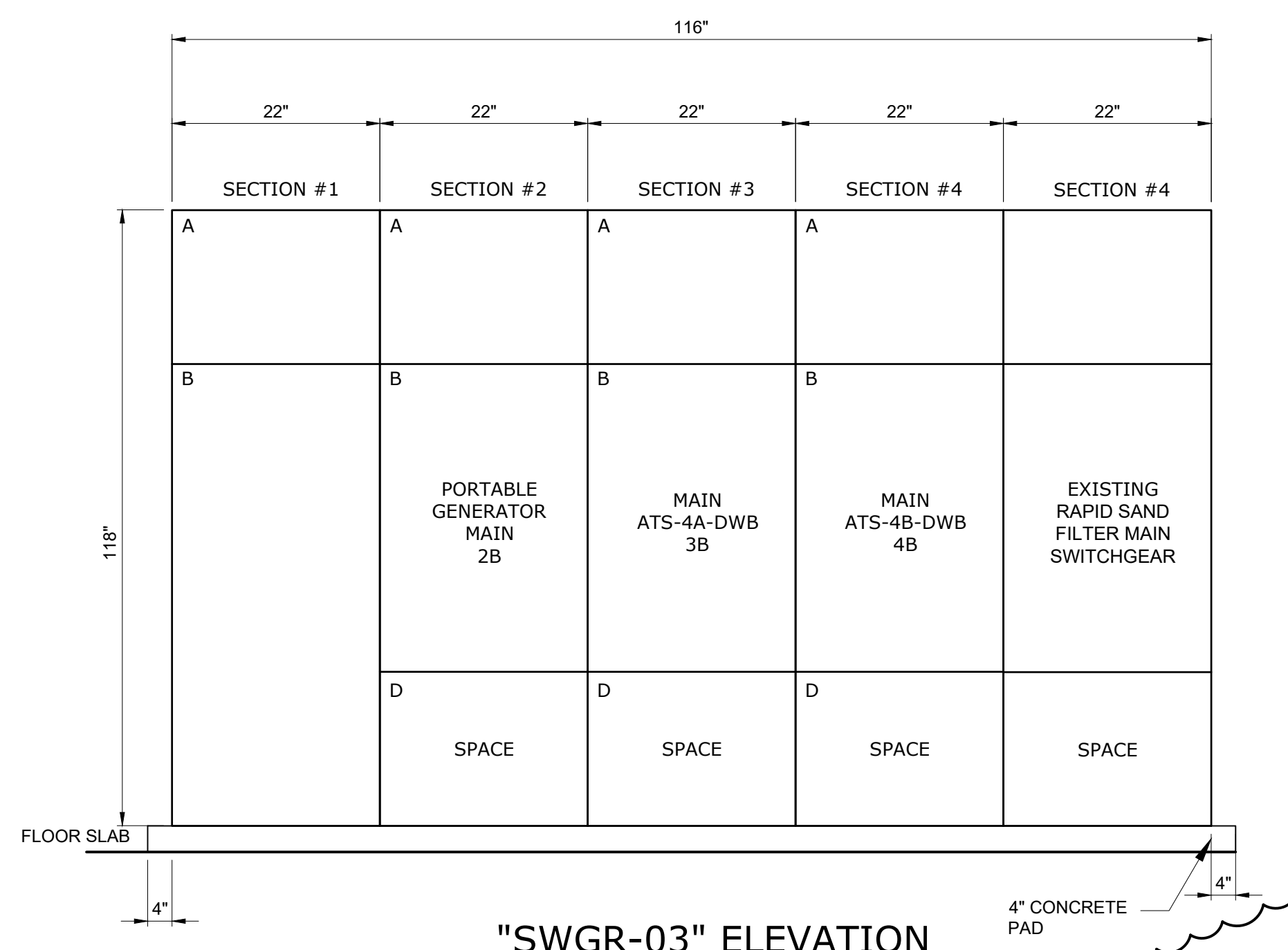
"SWGR-02" ELEVATION
SCALE: NTS



"SWGR-02" SIDE VIEW
SCALE: NTS



"SWGR-01" ELEVATION
SCALE: NTS



"SWGR-03" ELEVATION
SCALE: NTS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

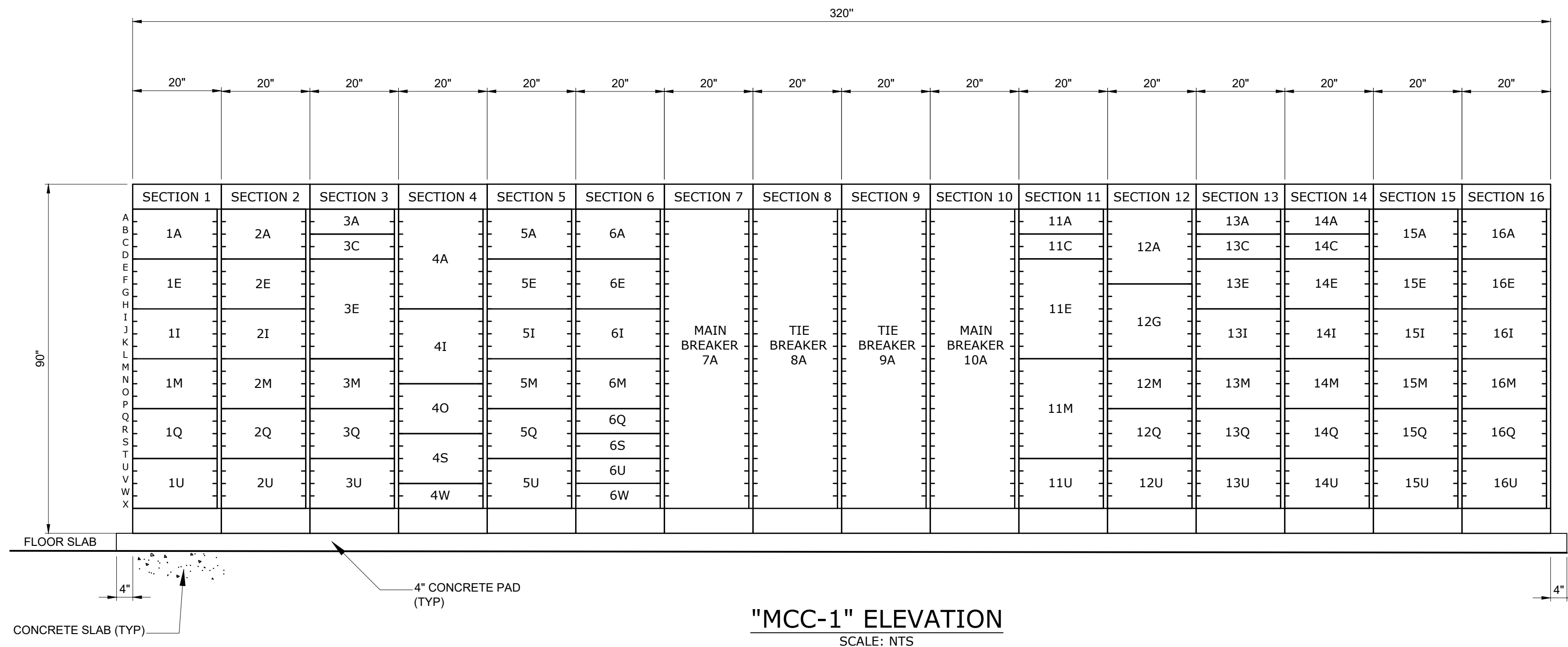
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

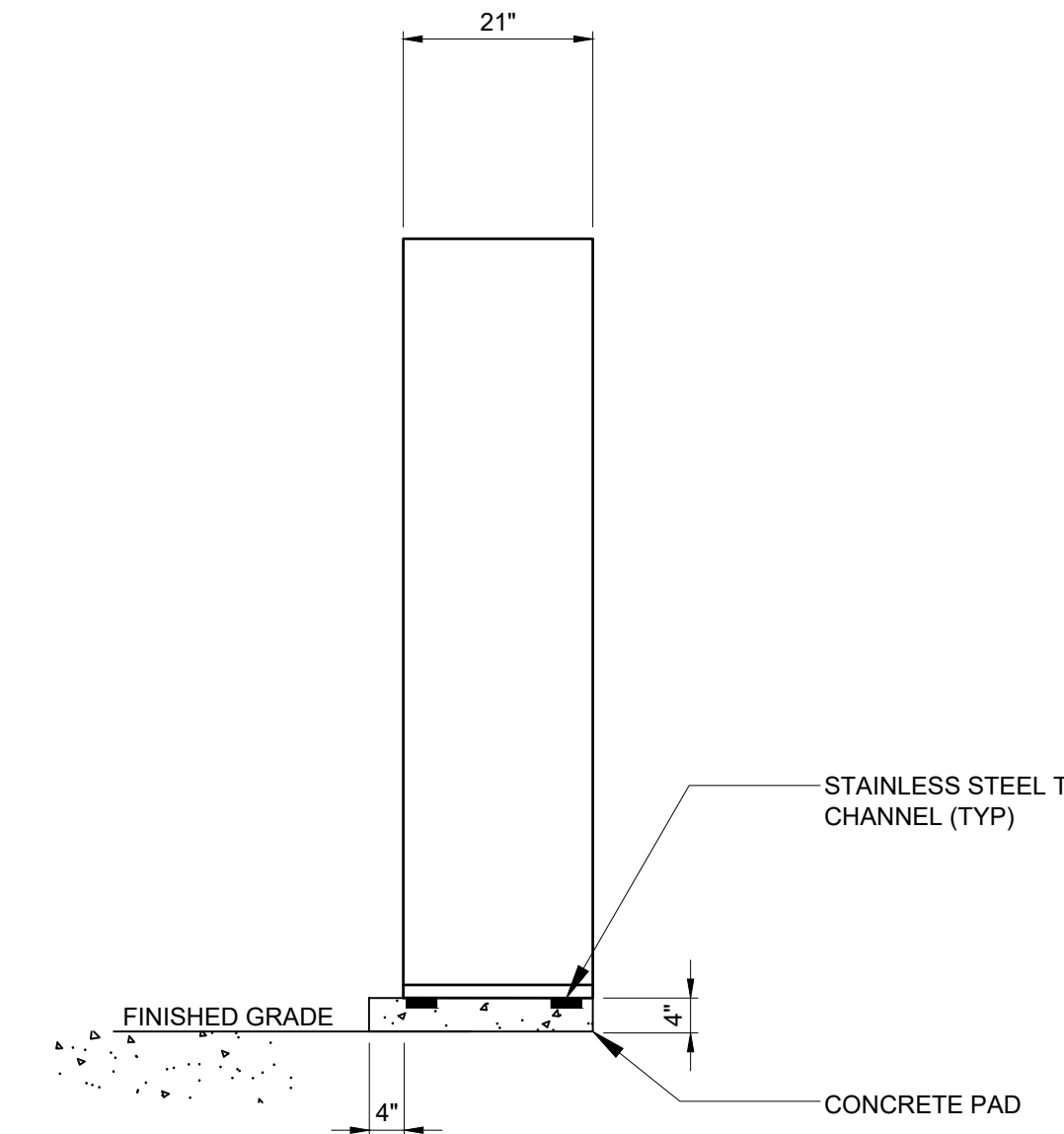
FILED SUB-BID

WATER TREATMENT BUILDING ELECTRICAL SWITCHGEAR ELEVATIONS

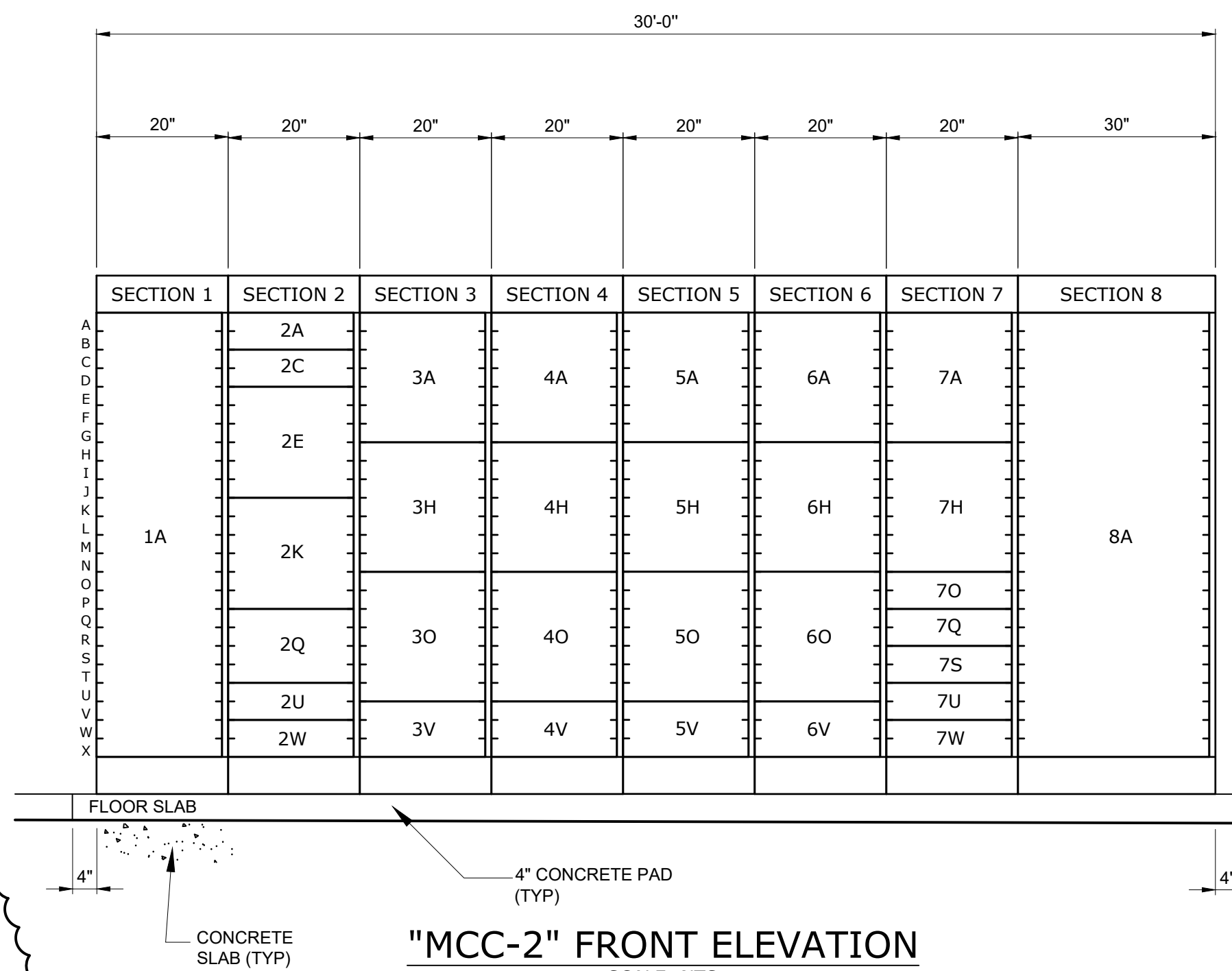
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2811



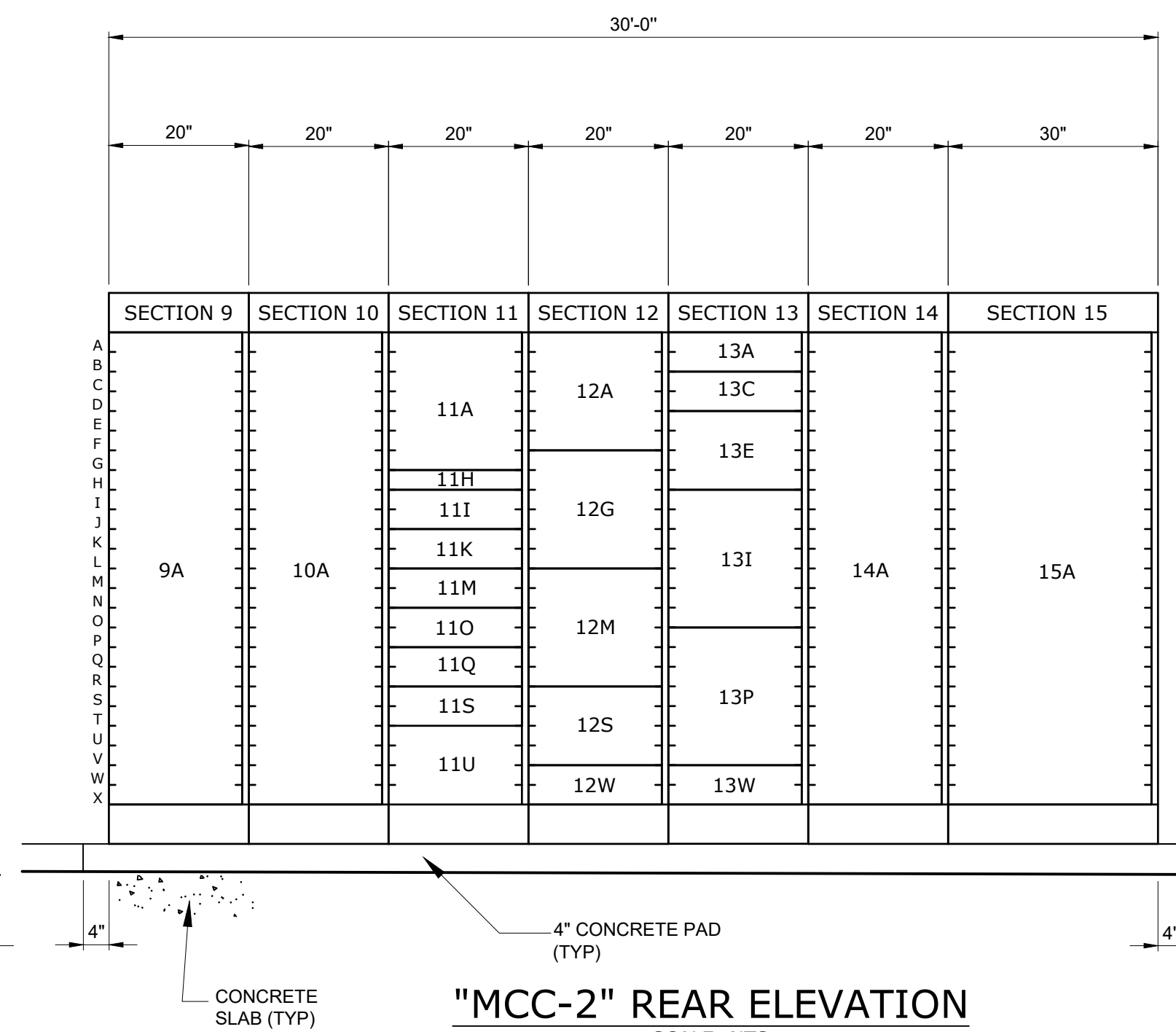
"MCC-1" ELEVATION
SCALE: NTS



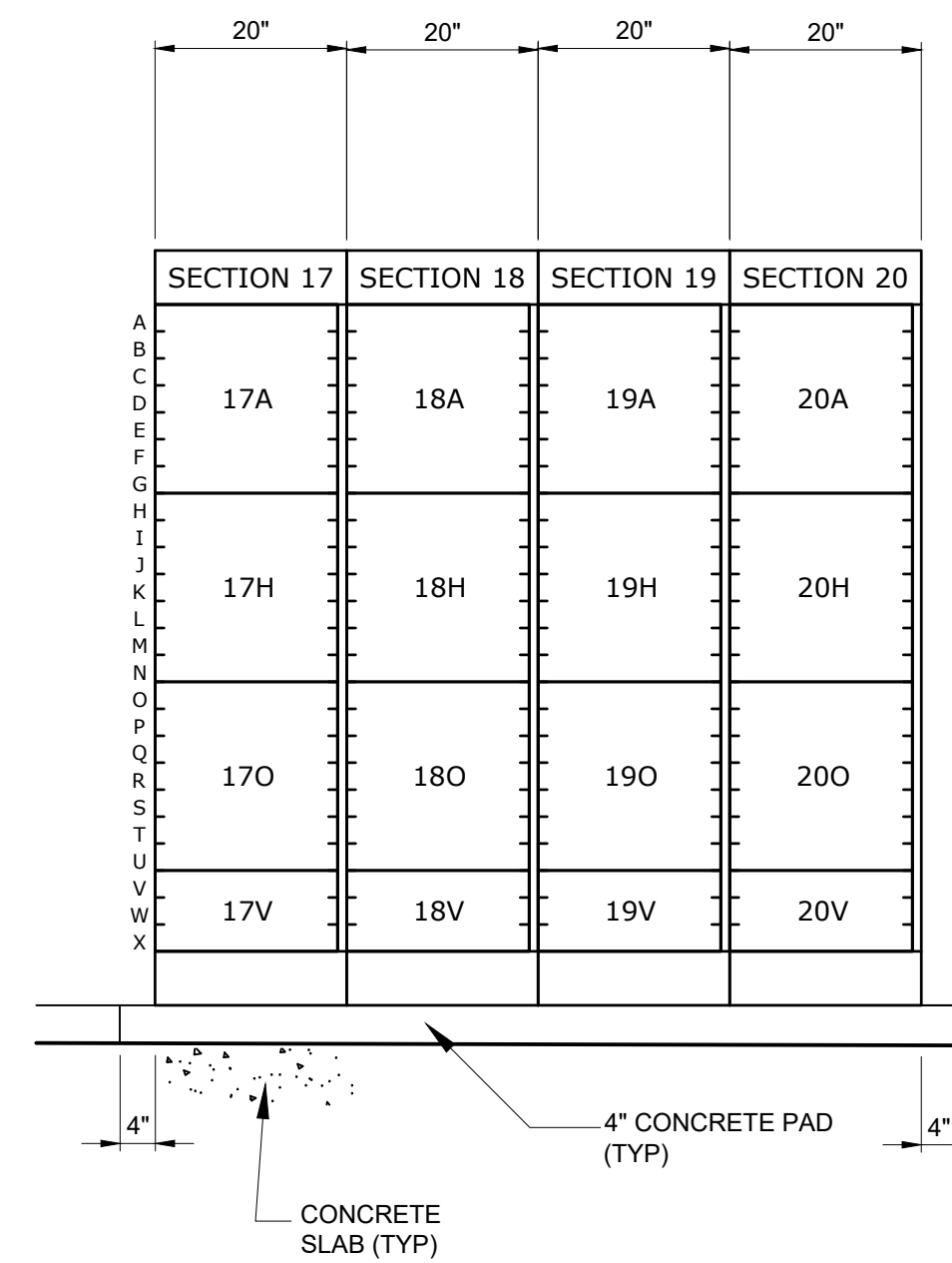
MOTOR CONTROL CENTER DETAIL (SIDE VIEW)
(NOT TO SCALE)



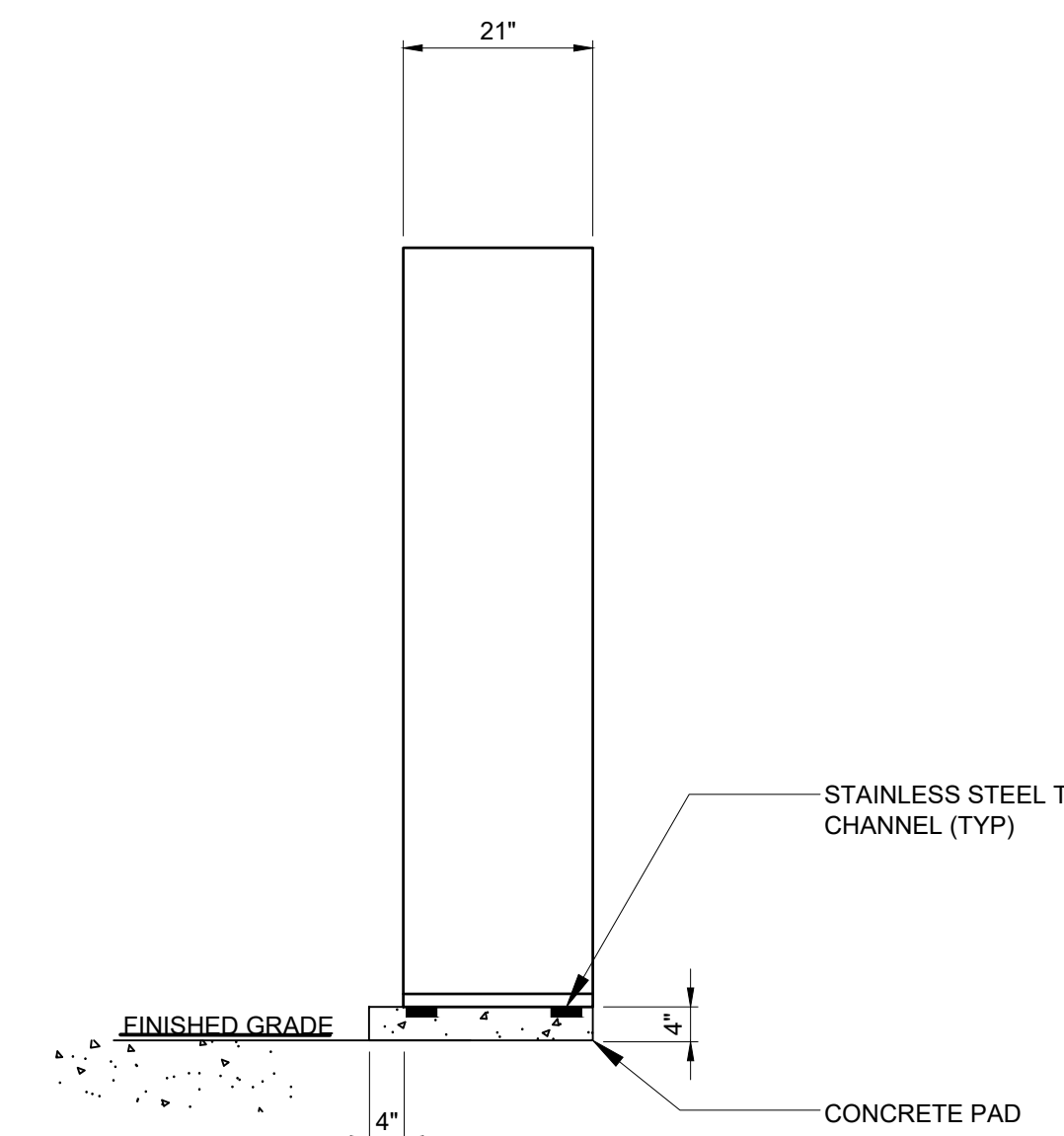
"MCC-2" FRONT ELEVATION
SCALE: NTS



"MCC-2" REAR ELEVATION
SCALE: NTS



"MCC-2" ELEVATION (SEPARATE SECTION)
SCALE: NTS



MOTOR CONTROL CENTER DETAIL (SIDE VIEW)
(NOT TO SCALE)

File: C:\USERS\DSHAH\DRAWINGS\HAZEN AND SAWYER\PROJECT FILES\ELECTRICAL\WEST PARISH FILTER WTR PROJECT FILES\ELECTRICAL\2812 Saved by DSHAH Save date: 3/25/2024 10:15 AM
 PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

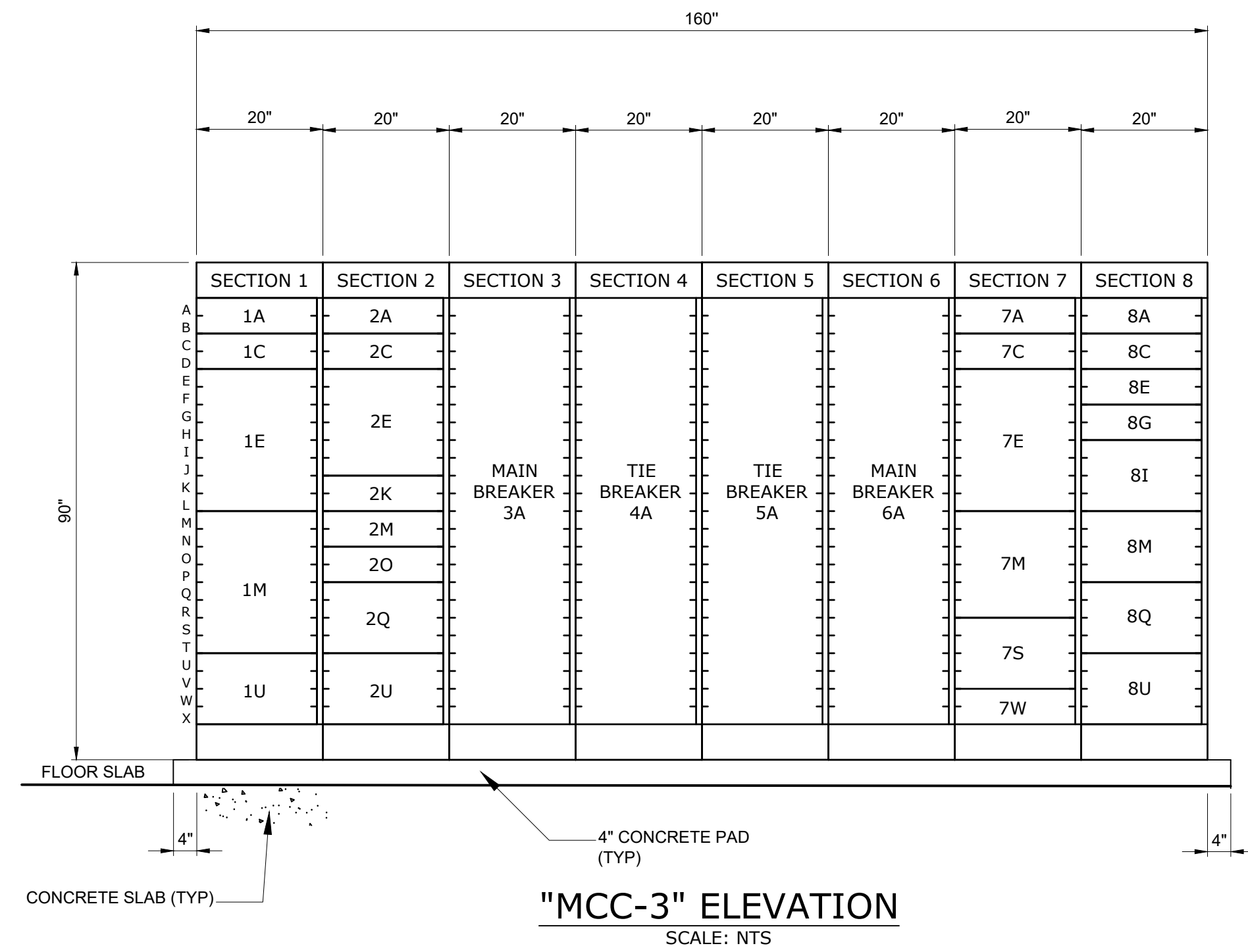
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

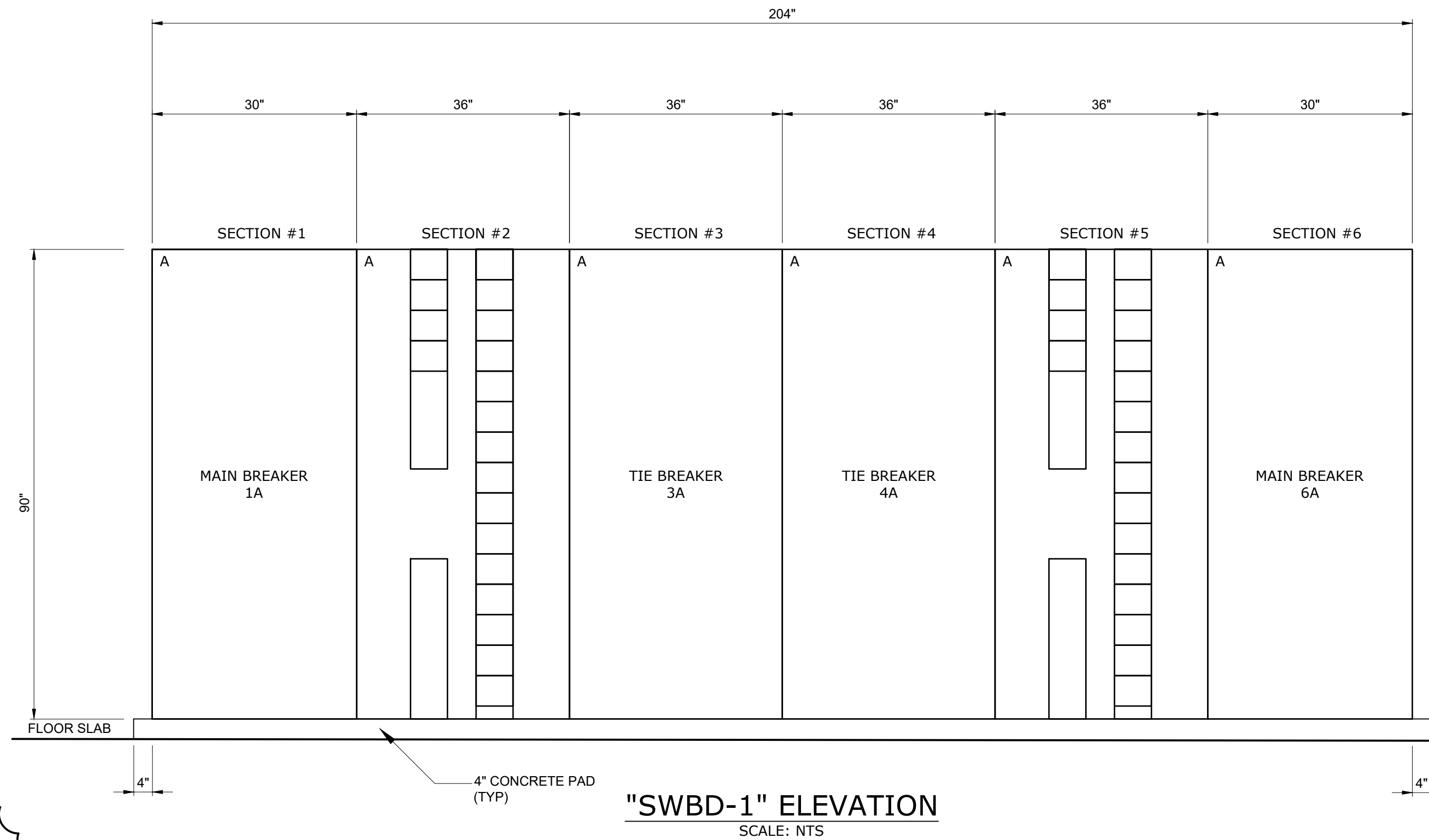
FILED SUB-BID

WATER TREATMENT BUILDING
ELECTRICAL
MCC ELEVATIONS - SHEET 1

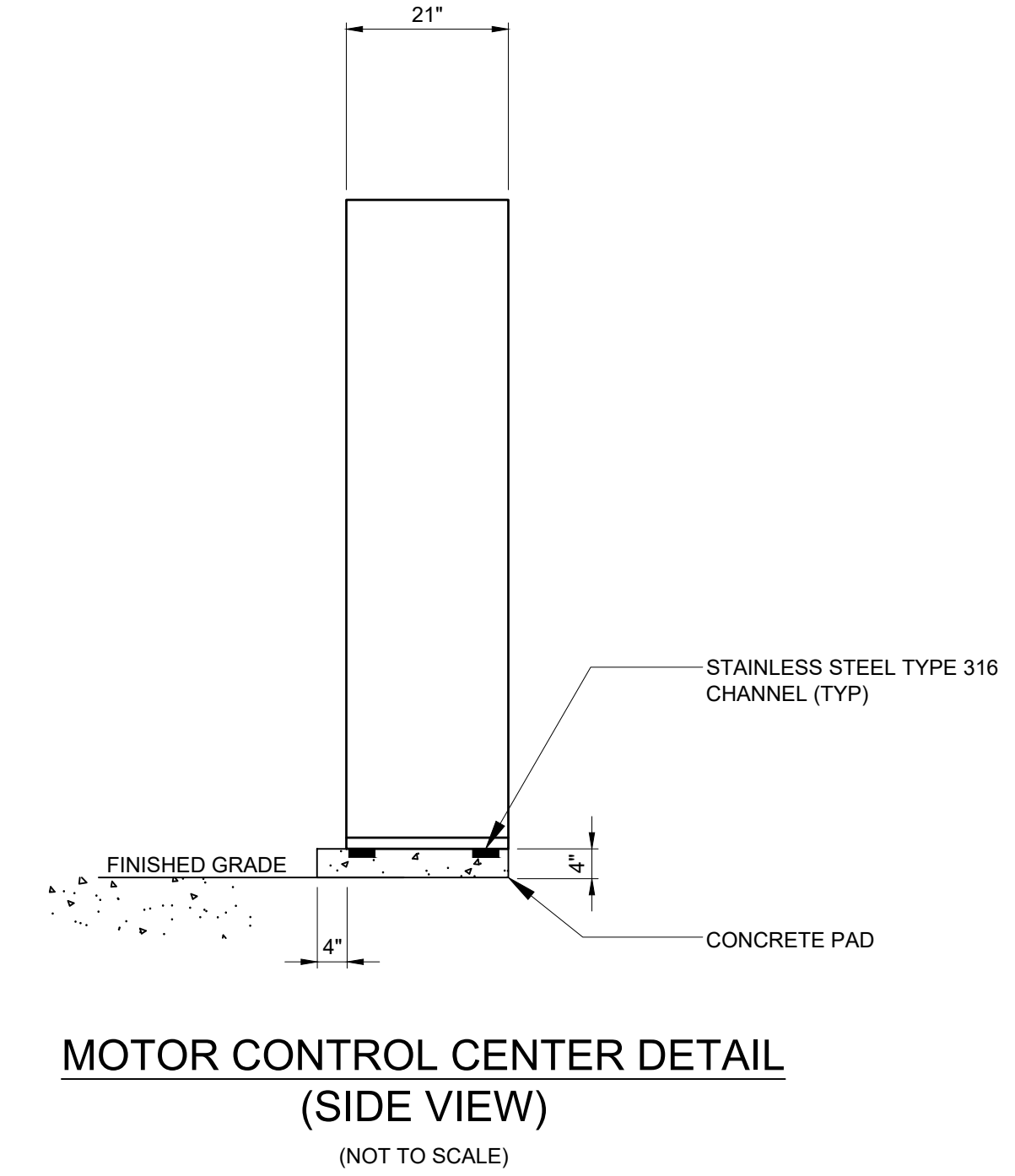
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2812



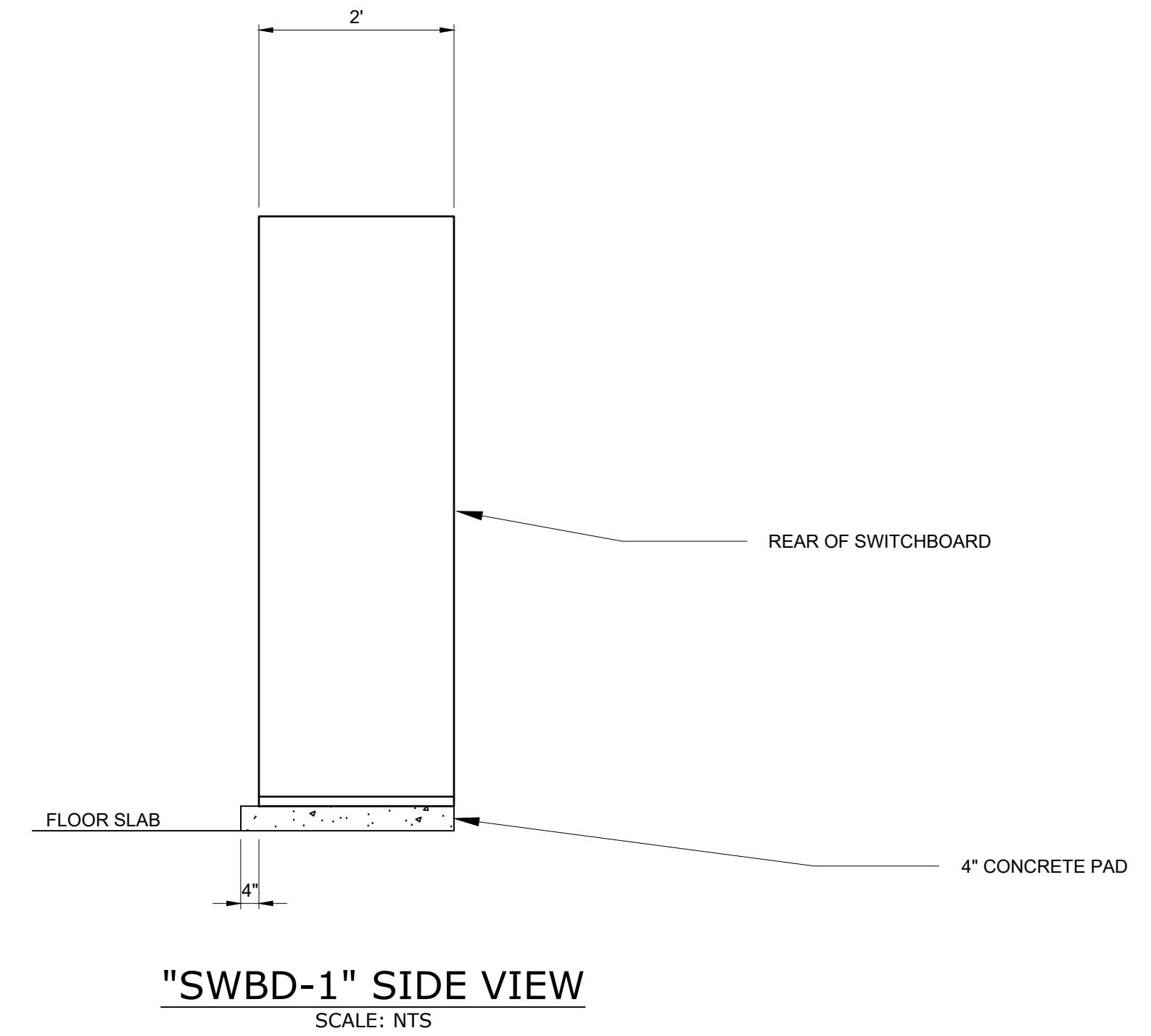
"MCC-3" ELEVATION
SCALE: NTS



"SWBD-1" ELEVATION
SCALE: NTS



MOTOR CONTROL CENTER DETAIL
(SIDE VIEW)
SCALE: NOT TO SCALE



"SWBD-1" SIDE VIEW
SCALE: NTS

File: C:\USERS\DSHAH\DRAWINGS\HAZEN AND SAWYER\PROJECT FILES\ELECTRICAL\2813 Saved by DSHAH Date: 3/25/2024 10:17 AM
PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

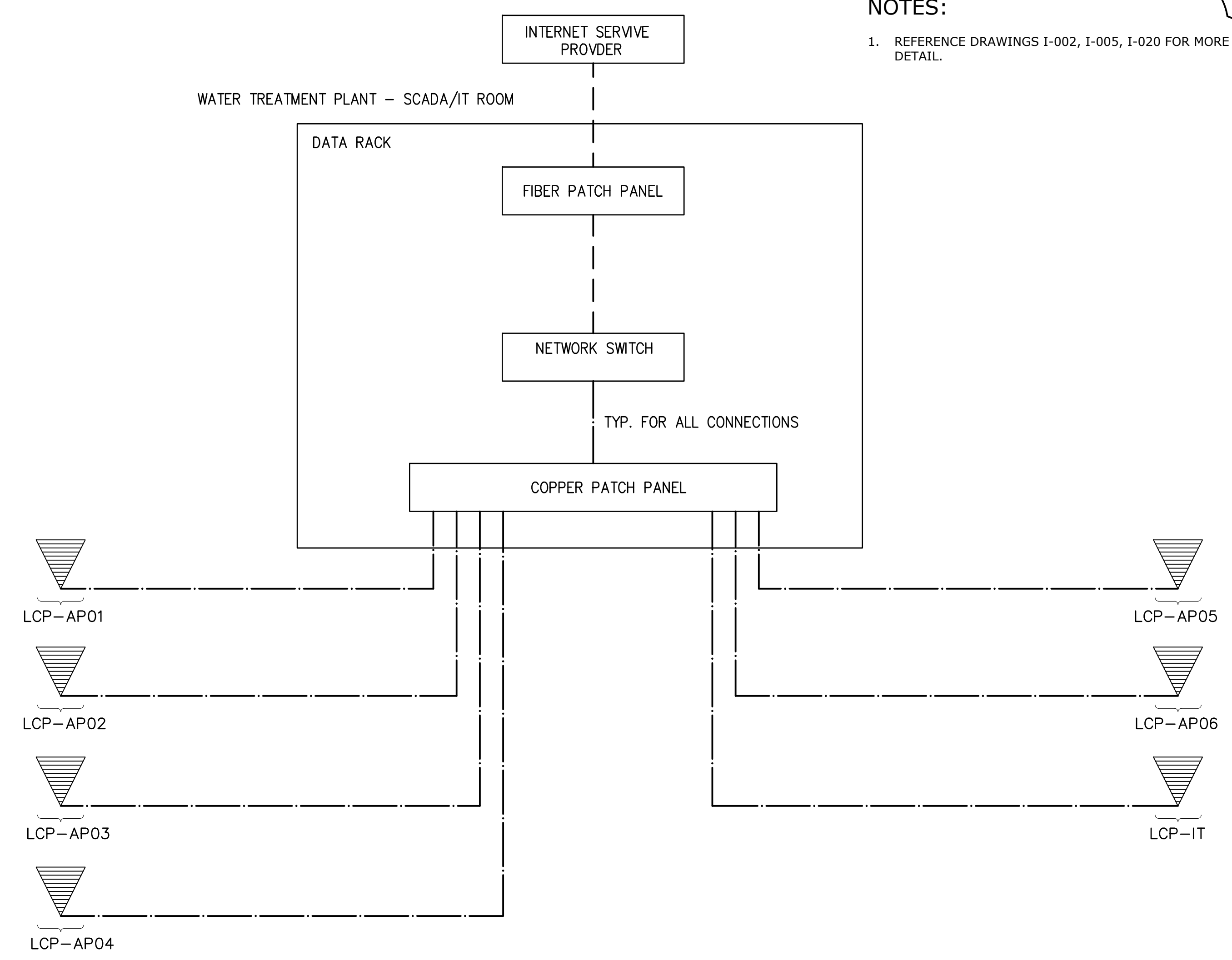
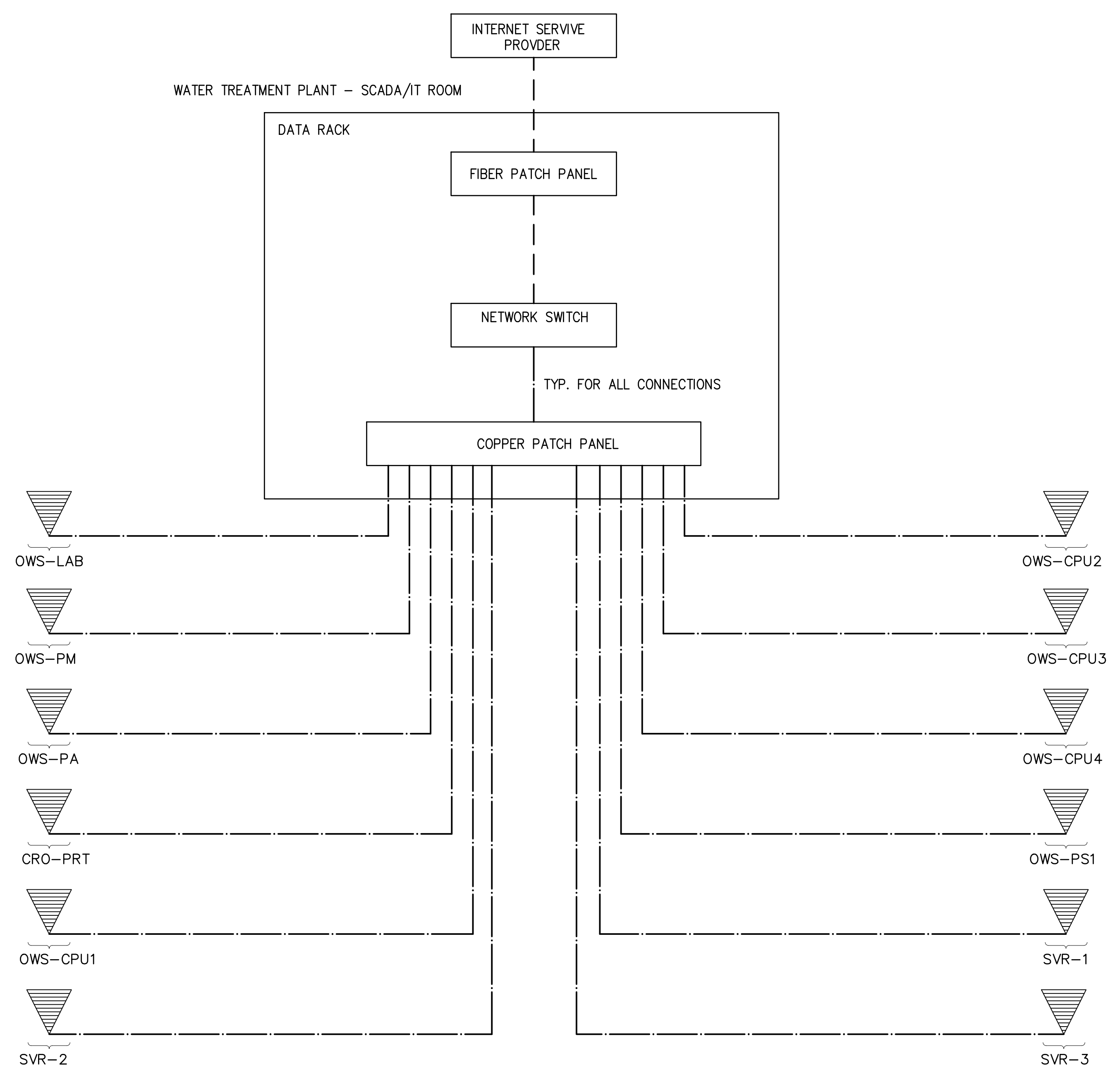
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
MCC ELEVATIONS - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2813

NOTES:

1. REFERENCE DRAWINGS I-002, I-005, I-020 FOR MORE DETAIL.





LEGEND:

- - - FIBER OPTIC CABLE
- — — ETHERNET CABLE (CAT-6)

NETWORK RISER DIAGRAMS
SCALE: NTS

File: C:\USERS\SHAH\DRAWING\HAZEN AND SAWYER\90398-004_WEST PARISH FILTER WTR\PROJECT FILES\ELECTRICAL\24-51.dwg, Date: 3/25/2024, 9:26 AM, Plot Date: 3/25/2024, 1:41 PM, BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY



 03/25/2024

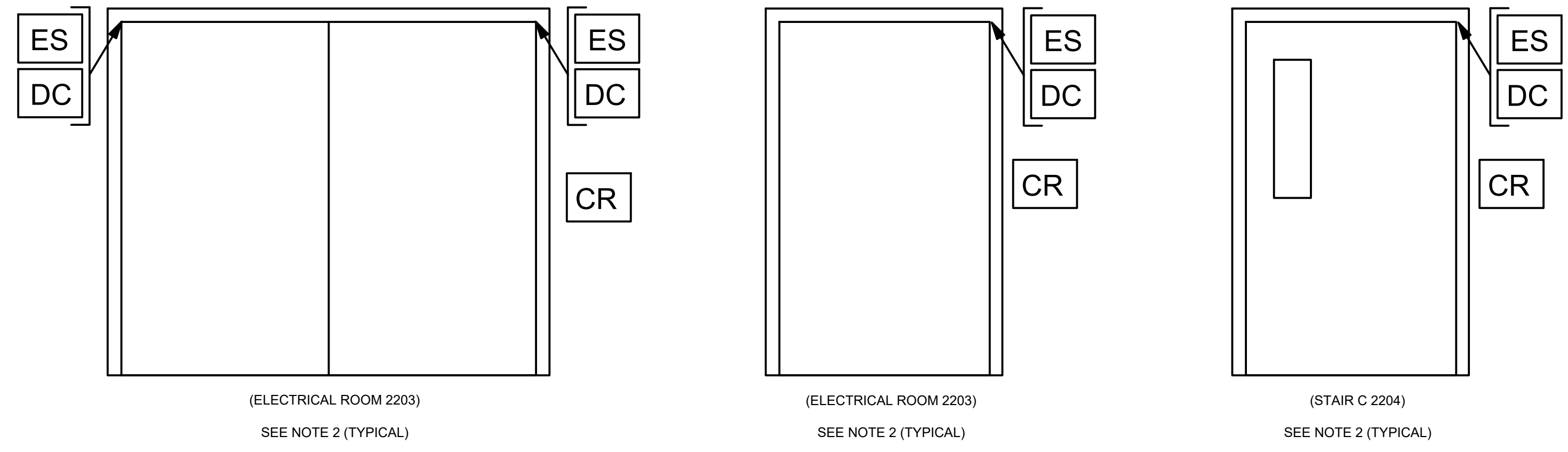
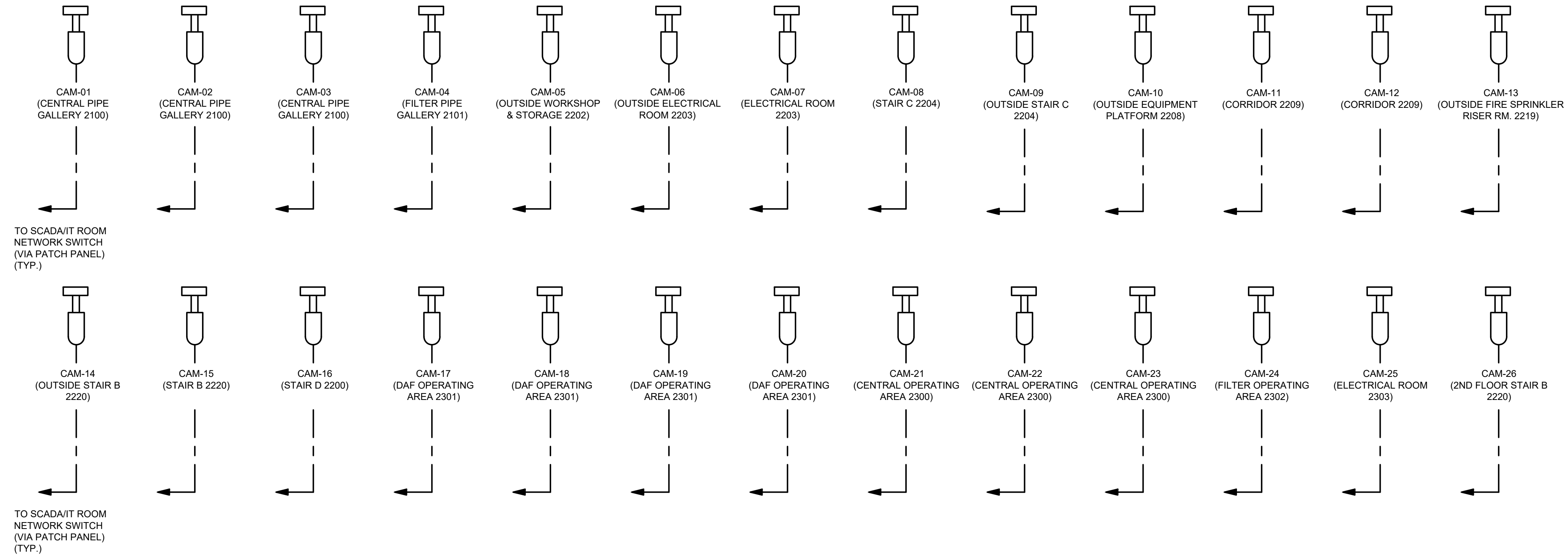
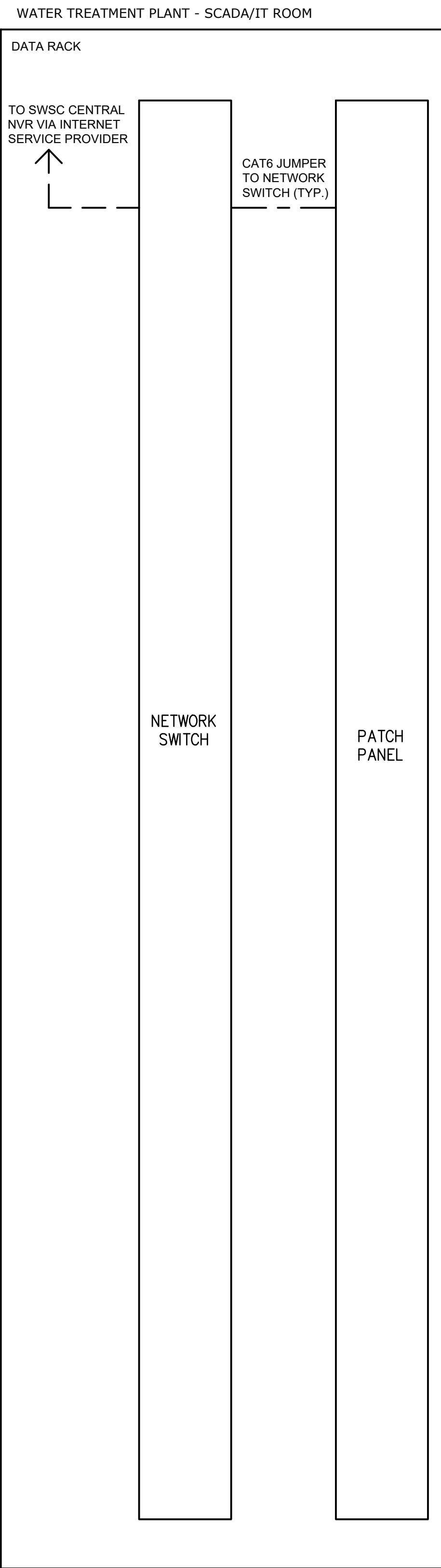

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
NETWORK RISER DIAGRAMS - PROCESS AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2814

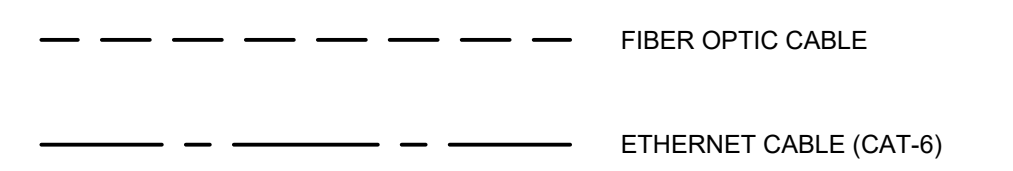
File: C:\USERS\SHAH\DCAC\DC\SHAHEN AND SAWYER\90398-004_WEST PARISH FILTER WTR PROJECT FILES\ELECIE-28 16 Saved by DKLOKAT THIS Save date: 3/25/2024 10:00 AM
PLOT DATE: 3/25/2024 1:41 PM BY: DSHAH



NOTES:

- FOR ANY CABLE RUN IN EXCESS OF 100M (~330') PROVIDE FIBER OPTIC CABLE, MEDIA CONVERTERS, AND ANY REQUIRED ADDITIONAL HARDWARE FOR A COMPLETE AND FUNCTIONAL CONNECTION BETWEEN SWITCH AND DEVICE.
- FURNISH AND INSTALL ALL REQUIRED DEVICES, WIRING, CONNECTIONS AND PROGRAMMING FOR A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPECIFICATION 28 15 00 FOR ADDITIONAL DETAILS AND REQUIREMENTS.

LEGEND:



SECURITY SYSTEM DIAGRAMS - PROCESS AREA
SCALE: NTS

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
SECURITY SYSTEM DIAGRAMS -
PROCESS AREA

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2816

POWER PANEL PP-1A-TB										TYPE: NEMA 4X										
480 VOLTS, 60 HZ										MOUNT: SURFACE										
3 PHASE, 3 WIRE										LOCATION: TB CENTRAL GALLERY 2100										
42 KAIC										PANEL RATING: 100A 3P										
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C
				A	B	C														
FCV-10111	20	3	1	0.40			2		MOV-40130											
			3		0.94		4													
			5			0.94	6													
			7	0.36			8													
MOV-40140	20	3	9		0.36		10	3	MOV-40150											
			11			0.36	12													
			13	0.30			14													
MOV-40170	20	3	15		0.30		16	3	MOV-40230											
			17			0.30	18													
			19	0.36			20													
MOV-40240	20	3	21		0.36		22	3	MOV-40250											
			23			0.36	24													
			25	0.40			26													
FCV-46001	20	3	27		0.40		28	3	FCV-46002											
			29			0.40	30													
			31	0.00			32													
SPARE	20	3	33		0.00		34	3	SPARE											
			35			0.00	36													
			37	0.00			38													
SPARE	20	3	39		0.00		40	3	SPARE											
			41			0.00	42													
TOTAL				2.4	2.4	2.4	TOTAL				1.9	1.9	1.9	TOTAL						
PHASE TOTAL				4.3	4.3	4.3	TOTAL LOAD (KVA)				12.8									
				TOTAL LOAD (A)								15.4								

POWER PANEL PP-1B-TB										TYPE: NEMA 4X										
480 VOLTS, 60 HZ										MOUNT: SURFACE										
3 PHASE, 3 WIRE										LOCATION: TB CENTRAL GALLERY 2100										
42 KAIC										PANEL RATING: 100A 3P										
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C
				A	B	C														
MOV-40270	20	3	1	0.40			2		MOV-40330											
			3		0.30		4													
			5			0.30	6													
			7	0.36			8													
MOV-40340	20	3	9		0.36		10	3	MOV-40350											
			11			0.36	12													
			13	0.30			14													
MOV-40370	20	3	15		0.30		16	3	MOV-40430											
			17			0.30	18													
			19	0.36			20													
MOV-40440	20	3	21		0.36		22	3	MOV-40450											
			23			0.36	24													
			25	0.40			26													
FCV-60504	20	3	27		0.40		28	3	FCV-60505											
			29			0.40	30													
			31	0.00			32													
SPARE	20	3	33		0.00		34	3	SPARE											
			35			0.00	36													
			37	0.00			38													
SPARE	20	3	39		0.00		40	3	SPARE											
			41			0.00	42													
TOTAL				1.7	1.7	1.7	TOTAL				1.9	1.9	1.9	TOTAL						
PHASE TOTAL				3.6	3.6	3.6	TOTAL LOAD (KVA)				10.9									
				TOTAL LOAD (A)								13.1								

POWER PANEL PP-1C-TB										TYPE: NEMA 4X										
480 VOLTS, 60 HZ										MOUNT: SURFACE										
3 PHASE, 3 WIRE										LOCATION: TB CENTRAL GALLERY 2100										
42 KAIC										PANEL RATING: 100A 3P										
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C
				A	B	C														
MOV-40470	20	3	1	0.40			2		MOV-40530											
			3		0.30		4													
			5			0.30	6													
			7	0.36			8													
MOV-40540	20	3	9		0.36		10	3	MOV-40550											
			11			0.36	12													
			13	0.30			14													
MOV-40570	20	3	15		0.30		16	3	MOV-30001											
			17			0.30	18													
			19	0.94			20													
MOV-30002	20	3	21		0.94		22	3	MOV-30003											
			23			0.94	24													
			25	0.40			26													
FCV-40100	20	3	27		0.40		28	3	SPARE											
			29			0.40	30													
			31	0.00			32													
SPARE	20	3	33		0.00		34	3	SPARE											
			35			0.00	36													
			37	0.00			38													
SPARE	20	3	39		0.00		40	3	SPARE											
			41			0.00	42													
TOTAL				2.3	2.3	2.3	TOTAL				2.6	2.6	2.6	TOTAL						
PHASE TOTAL				4.9	4.9	4.9	TOTAL LOAD (KVA)				14.8									
				TOTAL LOAD (A)								17.8								

POWER PANEL PP-1D-TB										TYPE: NEMA 4X										
480 VOLTS, 60 HZ										MOUNT: SURFACE										
3 PHASE, 3 WIRE										LOCATION: TB CENTRAL GALLERY 2100										
42 KAIC										PANEL RATING: 100A 3P										
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C
				A	B	C														
MOV-40630	20	3	1	0.40			2		MOV-40640											
			3		0.40		4													
			5			0.40	6													
			7	0.36			8													
MOV-40650	20	3	9		0.36		10	3	MOV-40670											
			11			0.36	12													
			13	0.40			14													
MOV-40730	20	3	15		0.40		16	3	MOV-40740											
			17			0.40	18													
			19	0.36			20													
MOV-40750	20	3	21		0.36		22	3	MOV-40770											
			23			0.36	24													
			25	0.00			26													
SPARE	20	3	27		0.00		28	3	SPARE											
			29			0.00	30													
			31	0.00			32													
SPARE	20	3	33		0.00		34	3	SPARE											
			35			0.00	36													
			37	0.00			38													
SPARE	20	3	39		0.00		40	3	SPARE											
			41			0.00	42													
TOTAL				1.5	1.5	1.5	TOTAL				1.3	1.3	1.3	TOTAL						
PHASE TOTAL				2.8	2.8	2.8	TOTAL LOAD (KVA)				8.5									
				TOTAL LOAD (A)								10.2								

POWER PANEL PP-1E-TB										TYPE: NEMA 4X										
480 VOLTS, 60 HZ										MOUNT: SURFACE										
3 PHASE, 3 WIRE										LOCATION: TB CENTRAL GALLERY 2100										
42 KAIC										PANEL RATING: 100A 3P										
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	CKT No.	POLE	TRIP	DESCRIPTION	A	B	C
				A	B	C														
FCV-10121	20	3	1	0.40			2		MOV-40830											
			3		0.94		4													
			5			0.94	6													
			7	0.36			8													
MOV-40840	20	3	9		0.36		10	3	MOV-40850											
			11			0.36	12													
			13	0.30			14													

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-2-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: ELECT RM 2203									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
EUH-39 (Phos Acid Rm)	20	3	1	1.10			1.67			2			EUH-40 (PACI Rm-1)																
			3		1.10		1.67		4																				
			5			1.10		1.67		6																			
			7	1.67				1.10		8																			
EUH-41 (PACI Rm-2)	20	3	9		1.67		1.10		10			EUH-42 (Filter Aid Polymer Room)																	
			11			1.67		1.10		12																			
			13	1.10				1.10		14																			
			15		1.10			1.10		16																			
EUH-43 (Cationic Polymer Rm)	20	3	17		2.50		2.50		18			EUH-44 (Future Chem Room)																	
			19	2.50			2.50		20																				
			21		2.50		2.50		22																				
			23			2.50		2.50		24																			
EUH-25 (Filter Gallery-5)	20	3	25	0.43			0.00		26			EUH-51 (Stair West 2200)																	
			27		0.43		0.00		28																				
			29			0.43		0.00		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				6.8	6.8	6.8	6.4	6.4	6.4	TOTAL																			
PHASE TOTAL				13.2			13.2			TOTAL LOAD (KVA)																			
TOTAL LOAD (A)				47.5																									

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-3-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: VIEWING PLATFORM 2222									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
EUH-21 (Filter Gallery-1)	20	3	1	2.50			2.50			2			EUH-22 (Filter Gallery-2)																
			3		2.50		2.50		4																				
			5			2.50		2.50		6																			
			7	2.50				2.50		8																			
EUH-23 (Filter Gallery-3)	20	3	9		2.50		2.50		10			EUH-24 (Filter Gallery-4)																	
			11			2.50		2.50		12																			
			13	1.67				1.67		14																			
			15		1.67			1.67		16																			
EUH-29 (Lower Central Gallery-5)	20	3	17		1.10		1.67		18			EUH-30 (Lower Central Gallery-4)																	
			19	1.10			1.67		20																				
			21		1.10		1.67		22																				
			23			1.10		1.67		24																			
EUH-46 (Sprinkler Riser Room)	20	3	25	1.10			0.00		26			EUH-47 (Stairs East)																	
			27		1.10		0.00		28																				
			29			1.10		0.00		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				8.9	8.9	8.9	8.3	8.3	8.3	TOTAL																			
PHASE TOTAL				17.2			17.2			TOTAL LOAD (KVA)																			
TOTAL LOAD (A)				62.1																									

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-2A-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB DAF OPERATING AREA 2301									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
MOV-30110	20	3	1	0.40			0.40			2			MOV-30120																
			3		0.40		0.40		4																				
			5			0.40		0.40		6																			
			7	0.40				0.40		8																			
MOV-30130	20	3	9		0.40		0.40		10			MOV-30140																	
			11			0.40		0.40		12																			
			13	0.40				0.40		14																			
			15		0.40			0.40		16																			
MOV-30150	20	3	17		0.40		0.40		18			MOV-30210																	
			19	0.40			0.40		20																				
			21		0.40		0.40		22																				
			23			0.40		0.40		24																			
MOV-30220	20	3	25	0.40			0.40		26			MOV-30250																	
			27		0.40		0.40		28																				
			29			0.40		0.40		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				2.0	2.0	2.0	2.0	2.0	2.0	TOTAL																			
PHASE TOTAL				4.0			4.0			TOTAL LOAD (KVA)																			
TOTAL LOAD (A)				14.4																									

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-2C-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB DAF OPERATING AREA 2301									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
MOV-30310	20	3	1	0.40			0.40			2			MOV-30320																
			3		0.40		0.40		4																				
			5			0.40		0.40		6																			
			7	0.40				0.40		8																			
MOV-30330	20	3	9		0.40		0.40		10			MOV-30340																	
			11			0.40		0.40		12																			
			13	0.40				0.40		14																			
			15		0.40			0.40		16																			
MOV-30350	20	3	17		0.40		0.40		18			MOV-30410																	
			19	0.40			0.40		20																				
			21		0.40		0.40		22																				
			23			0.40		0.40		24																			
MOV-30420	20	3	25	0.40			0.40		26			MOV-30450																	
			27		0.40		0.40		28																				
			29			0.40		0.40		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				2.0	2.0	2.0	2.0	2.0	2.0	TOTAL																			
PHASE TOTAL				4.0			4.0			TOTAL LOAD (KVA)																			
TOTAL LOAD (A)				14.4																									

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-2D-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB DAF OPERATING AREA 2301									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
MOV-30510	20	3	1	0.40			0.40			2			MOV-30520																
			3		0.40		0.40		4																				
			5			0.40		0.40		6																			
			7	0.40				0.40		8																			
MOV-30530	20	3	9		0.40		0.40		10			MOV-30540																	
			11			0.40		0.40		12																			
			13	0.40				0.40		14																			
			15		0.40			0.40		16																			
MOV-30550	20	3	17		0.40		0.40		18			MOV-33054																	
			19	0.00			0.00		20																				
			21		0.00		0.00		22																				
			23			0.00		0.00		24																			
SPARE	20	3	25	0.00			0.00		26			SPARE																	
			27		0.00		0.00		28																				
			29			0.00		0.00		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				1.2	1.2	1.2	1.2	1.2	1.2	TOTAL																			
PHASE TOTAL				2.4			2.4			TOTAL LOAD (KVA)																			
TOTAL LOAD (A)				8.7																									

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-2E-TB MAIN BREAKER: 100A 3P PANEL RATING: 100A 3P										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB DAF OPERATING AREA 2301									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION																
				A	B	C	A	B	C																				
MOV-20110	20	3	1	0.36			0.36			2			MOV-20210																
			3		0.36		0.36		4																				
			5			0.36		0.36		6																			
			7	0.36				0.36		8																			
MOV-20310	20	3	9		0.36		0.36		10			MOV-20410																	
			11			0.36		0.36		12																			
			13	0.36				0.36		14																			
			15		0.36			0.36		16																			
MOV-20510	20	3	17		0.36		0.36		18			SPARE																	
			19	0.00			0.00		20																				
			21		0.00		0.00		22																				
			23			0.00		0.00		24																			
SPARE	20	3	25	0.00			0.00		26			SPARE																	
			27		0.00		0.00		28																				
			29			0.00		0.00		30																			
			31	0.00			0.00		32																				
SPARE	20	3	33		0.00		0.00		34			SPARE																	
			35			0.00		0.00		36																			
			37	0.00			0.00		38																				
			39		0.00		0.00		40																				
SPARE	20	3	41			0.00		42			SPARE																		
TOTAL				1.1	1.1	1.1	0.7	0.7	0.7	TOTAL																			
PHASE TOTAL				1.8			1.8			TOTAL LOAD (KVA)																			

POWER PANEL PP-2H-TB										TYPE: NEMA 4X											
480 VOLTS, 60 HZ										MOUNT: SURFACE											
3 PHASE, 3 WIRE										LOCATION: TB DAF OPERATING AREA 2301											
42 KAIC										PANEL RATING: 100A 3P											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION
MOV-31010	20	3	1	0.40			2			MOV-31020			3	0.40			4				
			3	0.40			4						5	0.40			5				
			5				6						7	0.40			6				
			7				8						9	0.40			7				
MOV-31030	20	3	9	0.40			10			MOV-31040			11	0.40			11				
			11				12						13	0.40			12				
			13	0.40			14						15	0.40			13				
MOV-31050	20	3	15	0.40			16			LCV-34051			17	0.40			14				
			17				18						19	0.40			15				
			19	0.40			20						21	0.40			16				
LCV-34081	20	3	21				22			SWARE			23				17				
			23				24						25	0.00			18				
			25	0.00			26						27	0.00			19				
SWARE	20	3	27				28						29	0.00			20				
			29	0.00			29						31	0.00			21				
			31	0.00			32						33	0.00			22				
SWARE	20	3	33				34						35	0.00			23				
			35	0.00			36						37	0.00			24				
			37	0.00			38						39	0.00			25				
SWARE	20	3	39				40						41	0.00			26				
			41	0.00			42										27				

TOTAL	1.6	1.6	1.6
PHASE TOTAL			
TOTAL LOAD (KVA)	8.4		
TOTAL LOAD (A)			
	10.1		

POWER PANEL PP-2I-TB										TYPE: NEMA 4X											
480 VOLTS, 60 HZ										MOUNT: SURFACE											
3 PHASE, 3 WIRE										LOCATION: TB DAF OPERATING AREA 2301											
42 KAIC										PANEL RATING: 100A 3P											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION
MOV-20610	20	3	1	0.36			2			MOV-20710			3	0.36			3				
			3				4						5	0.36			4				
			5				5						7	0.36			5				
			7				6						9	0.36			6				
MOV-20810	20	3	9	0.36			10			MOV-20910			11	0.36			7				
			11				12						13	0.36			8				
			13	0.36			14						15	0.36			9				
MOV-21010	20	3	15	0.36			16			SWARE			17	0.36			10				
			17				18						19	0.00			11				
			19	0.00			19						21	0.00			12				
SWARE	20	3	21				22						23	0.00			13				
			23				24						25	0.00			14				
			25	0.00			26						27	0.00			15				
SWARE	20	3	27				28						29	0.00			16				
			29	0.00			29						31	0.00			17				
			31	0.00			32						33	0.00			18				
SWARE	20	3	33				34						35	0.00			19				
			35	0.00			36						37	0.00			20				
			37	0.00			38						39	0.00			21				
SWARE	20	3	39				40						41	0.00			22				
			41	0.00			42										23				

TOTAL	1.1	1.1	1.1
PHASE TOTAL			
TOTAL LOAD (KVA)	5.4		
TOTAL LOAD (A)			
	6.5		

POWER PANEL PP-2J-TB										TYPE: NEMA 4X											
480 VOLTS, 60 HZ										MOUNT: SURFACE											
3 PHASE, 3 WIRE										LOCATION: DAF OPERATING AREA 2301											
42 KAIC										PANEL RATING: 100A 3P											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION
EUH-15 (DAF-5)	20	3	1	1.66			2			EUH-16 (DAF-6)			3	1.66			3				
			3				4						5	1.66			4				
			5				5						7	1.66			5				
			7				6						9	1.66			6				
EUH-17 (DAF-7)	20	3	9	1.66			10			EUH-18 (DAF-8)			11	1.66			7				
			11				12						13	1.66			8				
			13	1.66			14						15	1.66			9				
EUH-19 (DAF-9)	20	3	15	1.66			16			EUH-34 (Upper Central Gallery-4)			17	1.66			10				
			17				18						19	1.00			11				
			19	1.00			20						21	1.00			12				
EUH-35 (Upper Central Gallery-5)	20	3	21	1.00			22			SF-01			23	1.00			13				
			23				24						25	0.00			14				
			25	0.00			26						27	0.00			15				
SWARE	20	3	27				28						29	0.00			16				
			29	0.00			29						31	0.00			17				
			31	0.00			32						33	0.00			18				
SWARE	20	3	33				34						35	0.00			19				
			35	0.00			36						37	0.00			20				
			37	0.00			38						39	0.00			21				
SWARE	20	3	39				40						41	0.00			22				
			41	0.00			42										23				

TOTAL	6.0	6.0	6.0
PHASE TOTAL			
TOTAL LOAD (KVA)	36.9		
TOTAL LOAD (A)			
	44.4		

POWER PANEL PP-2K-TB										TYPE: NEMA 12											
480 VOLTS, 60 HZ										MOUNT: SURFACE											
3 PHASE, 3 WIRE										LOCATION: FILTER OPERATING 2302											
42 KAIC										PANEL RATING: 100A 3P											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION
EUH-1 (Filter-1)	20	3	1	1.10			2			EUH-2 (Filter-2)			3	1.10			3				
			3				4						5	1.10			4				
			5				5						7	1.10			5				
			7				6						9	1.10			6				
EUH-3 (Filter-3)	20	3	9	1.10			10			EUH-4 (Filter-4)			11	1.10			7				
			11				12						13	1.10			8				
			13	1.10			14						15	1.10			9				
EUH-5 (Filter-5)	20	3	15	1.10			16			EUH-6 (Filter-6)			17	1.10			10				
			17				18						19	1.10			11				
			19	1.10			20						21	1.10			12				
EUH-7 (Filter-7)	20	3	21	1.10			22			EUH-8 (Filter-8)			23	1.10			13				
			23				24						25	1.10			14				

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC										PANEL NAME: LP-1-INSTR-TB MAIN BREAKER: 100A P PANEL RATING: 100A										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB EL 457.00 STORAGE 2102									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	A	B	C	A	B	C	A	B	C							
				A	B	C																	A	B	C	A	B	C	
FTT-10111	20	1	1	0.10			2	1	20	FTT-10121																			
AIT-10311	20	1	3		0.10		4	1	20	AIT-10312																			
AIT-10331	20	1	5			0.10	6	1	20	AIT-10332																			
AIT-10321	20	1	7	0.10			8	1	20	AIT-10322																			
AIT-10341	20	1	9		0.10		10	1	20	AIT-10342																			
LCS-30010	20	1	11			0.90	12	1	20	AIT-30012																			
LCS-30020	20	1	13	0.90			14	1	20	AIT-30022																			
FSL-33012	20	1	15		0.10		16	1	20	FSL-33022																			
FSL-33032	20	1	17			0.10	18	1	20	FSL-33042																			
SPARE	20	1	19	0.00			20	1	20	AIT-40104																			
FIT-40105	20	1	21		0.10		22	1	20	AIT-40204																			
FIT-40205	20	1	23			0.10	24	1	20	AIT-42041																			
AIT-42042	20	1	25	0.10			26	1	20	AIT-40304																			
RIO-FLT-B1	20	1	27		0.38		28	1	20	FIT-40305																			
SPARE	20	1	29			0.10	30	1	20	RIO-FLT-A1																			
SPARE	20	1	31	0.00			32	1	20	SPARE																			
SPARE	20	1	33		0.00		34	1	20	SPARE																			
SPARE	20	1	35			0.00	36	1	20	SPARE																			
SPARE	20	1	37	0.00			38	1	20	SPARE																			
SPARE	20	1	39			0.00	40	1	20	SPARE																			
SPARE	20	1	41			0.00	42	1	20	SPARE																			
TOTAL				1.2	0.8	1.3	TOTAL				0.5	0.5	0.8	TOTAL				TOTAL LOAD (KVA)				TOTAL							
PHASE TOTAL (KVA)				1.7			1.3			2.1			TOTAL LOAD (A)				14.0												
PHASE TOTAL (A)				14.17			10.67			17.33																			

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC										PANEL NAME: LP-2-INSTR-TB MAIN BREAKER: 100A P PANEL RATING: 100A										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB EL 457.00 STORAGE 2102									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	A	B	C	A	B	C	A	B	C							
				A	B	C																	A	B	C	A	B	C	
AIT-40404	20	1	1	0.10			2	1	20	FIT-40405																			
AIT-40504	20	1	3		0.10		4	1	20	FIT-40505																			
AIT-40604	20	1	5			0.10	6	1	20	FIT-40605																			
FSL-10314	20	1	7	0.10			8	1	20	FSL-10334																			
AIT-40704	20	1	9		0.10		10	1	20	FIT-40705																			
AIT-40804	20	1	11			0.10	12	1	20	FIT-40805																			
AIT-40904	20	1	13	0.10			14	1	20	FIT-40905																			
AIT-41004	20	1	15		0.10		16	1	20	FIT-41005																			
AIT-41104	20	1	17			0.10	18	1	20	FIT-41105																			
AIT-41204	20	1	19	0.10			20	1	20	FIT-41205																			
LCS-42030	20	1	21			0.90	22	1	20	LCS-42040																			
AIT-46004	20	1	23			0.10	24	1	20	FIT-60504																			
FIT-60505	20	1	25	0.10			26	1	20	AIT-60506																			
FSL-42053	20	1	27		0.10		28	1	20	FSL-42058																			
FSL-30014	20	1	29			0.10	30	1	20	FSL-30024																			
LSH-70730	20	1	31	0.10			32	1	20	SPARE																			
SPARE	20	1	33		0.00		34	1	20	SPARE																			
SPARE	20	1	35			0.00	36	1	20	SPARE																			
SPARE	20	1	37	0.00			38	1	20	SPARE																			
SPARE	20	1	39			0.00	40	1	20	SPARE																			
SPARE	20	1	41			0.00	42	1	20	SPARE																			
TOTAL				0.60	1.30	0.50	TOTAL				0.50	1.30	0.50	TOTAL				TOTAL LOAD (KVA)				TOTAL							
PHASE TOTAL (KVA)				1.10			2.60			1.00			TOTAL LOAD (A)				13.05												
PHASE TOTAL (A)				9.17			21.67			8.33																			

240/120 VOLTS 1-PHASE, 3-WIRE 22KAIC (MINIMUM)										PANEL NAME: LP-1-UPS-MOV-TB MAIN BREAKER: 100A 2P PANEL RATING: 100A										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: TB EL 457.00 STORAGE 2102									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	A	B	C	A	B	C	A	B	C							
				A	B	C																	A	B	C	A	B	C	
MOV-40160	20	2	3	0.31			2	2	20	MOV-40260																			
MOV-40360	20	2	5	0.31	0.31		6	2	20	MOV-40460																			
MOV-40560	20	2	9	0.31			10	2	20	MOV-40660																			
MOV-40760	20	2	13	0.31	0.31		14	2	20	MOV-10110																			
MOV-34060	20	2	19	0.41			20	2	20	SPARE																			
SPARE	20	2	23			0.00	24	2	20	SPARE																			
SPARE	20	1	25	0.00			26	1	20	SPARE																			
SPARE	20	1	27			0.00	28	1	20	SPARE																			
SPARE	20	1	29			0.00	30	1	20	SPARE																			
TOTAL				1.65	1.65		TOTAL				1.79	1.79		TOTAL				TOTAL LOAD (KVA)				TOTAL							
PHASE TOTAL (KVA)				3.44			3.44			TOTAL LOAD (A)				6.88															
PHASE TOTAL (A)				28.68			28.68																						

240/120 VOLTS 1-PHASE, 3-WIRE 22KAIC (MINIMUM)										PANEL NAME: LP-2-UPS-MOV-TB MAIN BREAKER: 100A 2P PANEL RATING: 100A										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: TB EL 457.00 STORAGE 2102									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	A	B	C	A	B	C	A	B	C							
				A	B	C																	A	B	C	A	B	C	
MOV-40860	20	2	3	0.31			2	2	20	MOV-40960																			
MOV-41060	20	2	5	0.31	0.31		6	2	20	MOV-41160																			
MOV-41260	20	2	7	0.31	0.31		8	2	20	MOV-41360																			
MOV-41460	20	2	11	0.31	0.31		12	2	20	MOV-10120																			
MOV-34090	20	2	15	0.31			16	2	20	SPARE																			
SPARE	20	2	17	0.41			18	2	20	SPARE																			
SPARE	20	2	19		0.41		20	2	20	SPARE																			
SPARE	20	2	21	0.00			22	2	20	SPARE																			
SPARE	20	1	23		0.00		24	2	20	SPARE																			
SPARE	20	1	25	0.00			26	1	20	SPARE																			
SPARE	20	1	27			0.00	28	1	20	SPARE																			
SPARE	20	1	29			0.00	30	1	20	SPARE																			
TOTAL				1.65	1.65		TOTAL				1.79	1.79		TOTAL				TOTAL LOAD (KVA)				TOTAL							
PHASE TOTAL (KVA)				3.44			3.44			TOTAL LOAD (A)				6.88															
PHASE TOTAL (A)				28.68			28.68																						

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC										PANEL NAME: LP-3-INSTR-TB MAIN BREAKER: 100A P PANEL RATING: 100A										TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB EL 457.00 STORAGE 2102									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	A	B	C	A	B	C	A	B	C	A	B	C							
				A	B	C																	A	B	C	A	B	C	
AIT-41304	20	1	1	0.10			2	1	20	FIT-41305																			
AIT-41404	20	1	3		0.10		4	1	20	FIT-41405																			
AIT-42061	20	1	5			0.10	6	1	20	AIT-42062																			
FSL-10325	20	1	7	0.10			8	1	20	FSL-10345																			
FIT-40201	20	1	9		0.10		10	1	20	FIT-40202																			
DDC-04	20	1	11			1.20	12	1	20																				

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC												PANEL NAME: LP-6-INSTR-TB MAIN BREAKER: 100A P PANEL RATING: 100A												TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB, EL 471.00 CORRIDOR 2209											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION															
				A	B	C								A	B	C																			
LCP-52120	20	1	1	0.50			2	1	20	LCP-52130			0.50			2	1	20	LCP-52130																
LCP-52140	20	1	3		0.50		4	1	20	LCP-52150			0.50			4	1	20	LCP-52150																
LSH-52117	20	1	5			0.10			6	1	20			0.50			6	1	20	LCP-52160															
LCP-52170	20	1	7	0.50					8	1	20			0.50			8	1	20	LCP-52180															
LCP-52190	20	1	9		0.50				10	1	20			0.60			10	1	20	LCS-52000															
LSH-52012	20	1	11			0.10			12	1	20			0.10			12	1	20	LSH-52022															
FSH-52101	20	1	13	0.10					14	1	20			0.10			14	1	20	LSH-52102															
LSH-52112	20	1	15		0.10				16	1	20			0.10			16	1	20	FSH-51002															
LCS-54000	20	1	17			0.60			18	1	20			0.12			18	1	20	LSH-54012															
LSH-54022	20	1	19	0.10					20	1	20			0.10			20	1	20	LSH-54032															
LSH-54042	20	1	21		0.10				22	1	20			0.10			22	1	20	LSH-54052															
LSH-54101	20	1	23			0.10			24	1	20			0.10			24	1	20	LSH-54112															
LCP-54120	20	1	25	0.50					26	1	20			0.50			26	1	20	LCP-54130															
LCP-54140	20	1	27		0.50				28	1	20			0.50			28	1	20	LCP-54150															
FSH-54102	20	1	29			0.10			30	1	20			0.29			30	1	20	RIO-MCC-1A															
RIO-MCC-1D	20	1	31	0.28					32	1	20			0.00			32	1	20	SPARE															
SPARE	20	1	33		0.00				34	1	20			0.00			34	1	20	SPARE															
SPARE	20	1	35			0.00			36	1	20			0.00			36	1	20	SPARE															
SPARE	20	1	37	0.00					38	1	20			0.00			38	1	20	SPARE															
SPARE	20	1	39		0.00				40	1	20			0.00			40	1	20	SPARE															
SPARE	20	1	41			0.00			42	1	20			0.00			42	1	20	SPARE															
TOTAL				1.88	1.70	1.00	TOTAL				1.70	1.80	1.11	TOTAL				1.70	1.80	1.11	TOTAL														
PHASE TOTAL (KVA)				3.68	3.50	2.11	TOTAL LOAD (KVA)				3.29	TOTAL LOAD (KVA)				3.29	TOTAL LOAD (KVA)																		
PHASE TOTAL (A)				30.67	29.17	17.58	TOTAL LOAD (A)				25.79	TOTAL LOAD (A)				25.79	TOTAL LOAD (A)																		

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC												PANEL NAME: LP-6-INSTR-TB MAIN BREAKER: 100A P PANEL RATING: 100A												TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB, EL 471.00 CORRIDOR 2209											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION															
				A	B	C								A	B	C																			
OWP-CHEM	20	1	1	0.84			2	1	20	SPARE			0.00			2	1	20	SPARE																
FSL-52105	20	1	3		0.12				4	1	20			0.12			4	1	20	FSL-52106															
FSL-52107	20	1	5			0.12			6	1	20			0.12			6	1	20	FSL-52108															
FSH-51003	20	1	7	0.10					8	1	20			0.10			8	1	20	FSH-51004															
LSH-55101	20	1	9			0.10			10	1	20			0.10			10	1	20	FSH-55102															
LCS-55112	20	1	11			0.50			12	1	20			0.50			12	1	20	LCS-55117															
LCP-55120	20	1	13	0.50					14	1	20			0.50			14	1	20	LCP-55130															
WIT-55111	20	1	15			0.12			16	1	20			0.12			16	1	20	WIT-55116															
RIO-CHEM-A	20	1	17			0.46			18	1	20			0.46			18	1	20	RIO-CHEM-B															
RIO-CHEM-C	20	1	19	0.35					20	1	20			0.12			20	1	20	FSL-52045															
LSH-42046	20	1	21			0.12			22	1	20			0.12			22	1	20	LSH-52047															
FSL-42048	20	1	23			0.10			24	1	20			0.00			24	1	20	SPARE															
FIT-34009	20	1	25	0.10					26	1	20			0.10			26	1	20	LSH-54103															
FSH-54104	20	1	27			0.10			28	1	20			0.12			28	1	20	LCP-AP35															
LCP-AP40	20	1	29			0.24			30	1	20			0.00			30	1	20	SPARE															
SPARE	20	1	31	0.00					32	1	20			0.00			32	1	20	SPARE															
SPARE	20	1	33		0.00				34	1	20			0.00			34	1	20	SPARE															
SPARE	20	1	35			0.00			36	1	20			0.00			36	1	20	SPARE															
SPARE	20	1	37	0.00					38	1	20			0.00			38	1	20	SPARE															
SPARE	20	1	39		0.00				40	1	20			0.00			40	1	20	SPARE															
SPARE	20	1	41			0.00			42	1	20			0.00			42	1	20	SPARE															
TOTAL				1.89	0.56	1.44	TOTAL				0.82	0.58	1.08	TOTAL				0.82	0.58	1.08	TOTAL														
PHASE TOTAL (KVA)				2.71	1.14	2.52	TOTAL LOAD (KVA)				0.37	TOTAL LOAD (KVA)				0.37	TOTAL LOAD (KVA)																		
PHASE TOTAL (A)				22.58	9.50	21.00	TOTAL LOAD (A)				17.68	TOTAL LOAD (A)				17.68	TOTAL LOAD (A)																		

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC												PANEL NAME: LP-1-PLUMB-TB MAIN BREAKER: 100A P PANEL RATING: 100A												TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB, EL 471.00 CORRIDOR 2209											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION															
				A	B	C								A	B	C																			
FS (ROOM 2207)	20	1	1	0.04			2	1	20	FS (ROOM 2210)			0.04			2	1	20	FS (ROOM 2210)																
FS (ROOM 2210)	20	1	3		0.04				4	1	20			0.04			4	1	20	FS (ROOM 2212)															
FS (ROOM 2209)	20	1	5			0.04			6	1	20			0.04			6	1	20	FS (ROOM 2209)															
FS (ROOM 2209)	20	1	7	0.04					8	1	20			0.04			8	1	20	FS (ROOM 2211)															
FS (ROOM 2211)	20	1	9			0.04			10	1	20			0.04			10	1	20	FS (ROOM 2213)															
FS (ROOM 2214)	20	1	11			0.04			12	1	20			0.04			12	1	20	FS (ROOM 2215)															
FS (ROOM 2216)	20	1	13	0.04					14	1	20			0.10			14	1	20	TP-01 (ROOM 2202)															
TP-02 (ROOM 2202)	20	1	15			0.10			16	1	20			0.10			16	1	20	TP-02 (ROOM 2206)															
RCP-05	20	1	17			0.20			18	1	20			0.20			18	1	20	RCP-06															
WH-06	30	2	19	3.00					20	1	20			0.10			20	1	20	EF-10															
LCS-EF-10	20	1	23			0.12			24	1	20			0.00			24	1	20	SPARE															
SPARE	20	1	25	0.00					26	1	20			0.50			26	1	20	SPARE															
SPARE	20	1	27		0.00				28	1	20			0.00			28	1	20	SPARE															
SPARE	20	1	29			0.00			30	1	20			0.00			30	1	20	SPARE															
SPARE	20	1	31	0.00					32	1	20			0.00			32	1	20	SPARE															
SPARE	20	1	33		0.00				34	1	20			0.00			34	1	20	SPARE															
SPARE	20	1	35			0.00			36	1	20			0.00			36	1	20	SPARE															
SPARE	20	1	37	0.00					38	1	20			0.00			38	1	20	SPARE															
SPARE	20	1	39		0.00				40	1	20			0.00			40	1	20	SPARE															
SPARE	20	1	41			0.00			42	1	20			0.00			42	1	20	SPARE															
TOTAL				3.1	3.2	0.4	TOTAL				0.8	0.2	0.3	TOTAL				0.8	0.2	0.3	TOTAL														
PHASE TOTAL (KVA)				3.9	3.4	0.7	TOTAL LOAD (KVA)				1.9	TOTAL LOAD (KVA)				1.9	TOTAL LOAD (KVA)																		
PHASE TOTAL (A)				32.50	28.00	5.67	TOTAL LOAD (A)				22.1	TOTAL LOAD (A)				22.1	TOTAL LOAD (A)																		

208/120 VOLTS 3-PHASE, 4-WIRE 22 KAIC												PANEL NAME: LP-485-TB MAIN BREAKER: 200A P PANEL RATING: 200A												TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB, CENTRAL OPERATING 2300											
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION															
				A	B	C								A	B	C																			
LP-2-SAMPLE-TB	100	3	1	1.27			2	1	100	LP-7-INSTR-TB			4.71			2	1	100	LP-7-INSTR-TB																
			3		1.27				4	3	100			4.71			4	3	100	LP-7-INSTR-TB															
			5			1.27			6					4.71			6			LP-7-INSTR-TB															
LP-1-HV-TB	100	3	7	2.50					8					8.82			8			LP-LTC-485-TB															
			9		2.50				10					8.82			10			LP-LTC-485-TB															
			11			2.50			12					8.82			12			LP-LTC-485-TB															
SPARE	20	1	13	0.00					14	1	20			0.00			14	1	20	SPARE															
SPARE	20	1	15		0.00				16	1	20			0.00			16	1	20	SPARE															
SPARE	20	1	17			0.00			18	1	20			0.00			18	1	20	SPARE															
SPARE	20	1	19	0.00					20	1	20			0.00			20	1	20	SPARE															
SPARE	20	1	21																																

208/120 VOLTS 3-PHASE, 4-WIRE 22 KVIC				PANEL NAME: LP-LTG-457-TB MAIN BREAKER : 100A P PANEL RATING : 100A				TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB EL: 457.00 STORAGE 2102			
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	
				A	B	C					
TB RECP - EL 457.00	20	1	1	1.26			2	1	20	TB RECP - EL 457.00	
TB RECP - EL 457.00	20	1	3		1.26		4	1	20	TB LTG - CENTRAL PIPE GALLERY	
TB LTG - CENTRAL PIPE GALLERY	20	1	5			0.95	6	1	20	TB LTG - FILTER PIPE GALLERY	
TB LTG - FILTER PIPE GALLERY	20	1	7	0.87			8	1	20	TB LTG - STORAGE	
SPARE	20	1	9		0.00		10	1	20	SPARE	
SPARE	20	1	11			0.00	12	1	20	SPARE	
SPARE	20	1	13	0.00			14	1	20	SPARE	
SPARE	20	1	15		0.00		16	1	20	SPARE	
SPARE	20	1	17			0.00	18	1	20	SPARE	
SPARE	20	1	19	0.00			20	1	20	SPARE	
SPARE	20	1	21		0.00		22	1	20	SPARE	
SPARE	20	1	23			0.00	24	1	20	SPARE	
SPARE	20	1	25	0.00			26	1	20	SPARE	
SPARE	20	1	27		0.00		28	1	20	SPARE	
SPARE	20	1	29			0.00	30	1	20	SPARE	
SPARE	20	1	31	0.00			32	1	20	SPARE	
SPARE	20	1	33			0.00	34	1	20	SPARE	
SPARE	20	1	35			0.00	36	1	20	SPARE	
SPARE	20	1	37	0.00			38	1	20	SPARE	
SPARE	20	1	39		0.00		40	1	20	SPARE	
SPARE	20	1	41			0.00	42	1	20	SPARE	
TOTAL				2.13	1.26	0.95	1.46	0.95	1.02	TOTAL	
PHASE TOTAL (KVA)				3.60	2.21	1.97	TOTAL LOAD (KVA)				
PHASE TOTAL (A)				29.96	18.45	16.43	TOTAL LOAD (A)				
							21.60				

208/120 VOLTS 3-PHASE, 4-WIRE 22 KVIC				PANEL NAME: LP-LTG-471-TB MAIN BREAKER : 200A P PANEL RATING : 200A				TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB: EL 471.00 CORRIDOR 2209			
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	
				A	B	C					
TB RECP - EL 471.00	20	1	1	1.44			2	1	20	TB RECP - EL 471.00	
TB RECP - EL 471.00	20	1	3		1.44		4	1	20	TB RECP - EL 471.00	
TB RECP - EL 471.00	20	1	5			1.44	6	1	20	TB RECP - EL 471.00	
TB RECP - EL 471.00	20	1	7	1.44			8	1	20	TB RECP - EL 471.00	
TB RECP - POLYALMMN CHLORIDE	20	1	9		1.44		10	1	20	TB RECP - SODIUM HYPOCHLORITE	
TB RECP - FUTURE/PHOS. ACID	20	1	11			1.44	12	1	20	TB RECP - COAG POLY	
TB RECP - SODIUM HYDROXIDE	20	1	13	1.08			14	1	20	TB RECP - FILTER AID POLYMER	
TB LTG - WORKSHOP AND STORAGE	20	1	15		1.10		16	1	20	TB LTG - POLYALMMN CHLORIDE	
TB LTG - ELECTRICAL ROOM	20	1	17			0.80	18	1	20	TB LTG - SODIUM HYPOCHLORITE	
TB LTG - EQUIPMENT PLATFORM, VIEWING PLATFORM	20	1	19	0.91			20	1	20	TB LTG - FUTURE AND COAGULENT POLYMER	
TB LTG - CORRIDOR	20	1	21		1.64		22	1	20	TB LTG - PHOSPHORIC ACID	
TB LTG - FUTURE, PHOSPHORIC ACID	20	1	23			0.94	24	1	20	TB LTG - SODIUM HYDROXIDE	
SPARE	20	1	25	0.00			26	1	20	TB LTG - FILTER AND POLYMER	
SPARE	20	1	27		0.00		28	1	20	TB LTG - FIRE/SPRINKLER, FILTERED WATER AND CORRIDOR	
SPARE	20	1	29			0.00	30	1	20	SPARE	
SPARE	20	1	31	0.00			32	1	20	SPARE	
SPARE	20	1	33			0.00	34	1	20	SPARE	
TB LTG - FLOCDAF NORTH	20	1	35		0.69		36	1	20	TB LTG - FLOCDAF SOUTH	
TB LTG - FLOCDAF NORTH	20	1	37		0.69		38	1	20	TB LTG - FLOCDAF SOUTH	
TB LTG - FLOCDAF NORTH	20	1	39		0.69		40	1	20	TB LTG - FLOCDAF SOUTH	
TB LTG - FLOCDAF NORTH	20	1	41		0.69		42	1	20	TB LTG - FLOCDAF SOUTH	
TOTAL				5.6	7.0	6.0	5.7	5.5	4.9	TOTAL	
PHASE TOTAL (KVA)				11.3	12.5	10.9	TOTAL LOAD (KVA)				
PHASE TOTAL (A)				94.04	103.99	90.67	TOTAL LOAD (A)				
							96.2				

208/120 VOLTS 3-PHASE, 4-WIRE 22 KVIC				PANEL NAME: LP-LTG-485-TB MAIN BREAKER : 150A P PANEL RATING : 150A				TYPE: NEMA 4X MOUNT: SURFACE LOCATION: TB: CENTRAL OPERATING 2300			
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			CKT No.	POLE	TRIP	DESCRIPTION	
				A	B	C					
TB RECP - EL 485.00	20	1	1	1.44			2	1	20	TB RECP - EL 485.00	
TB RECP - EL 485.00	20	1	3		1.44		4	1	20	TB RECP - EL 485.00	
TB RECP - EL 485.00	20	1	5			1.44	6	1	20	TB RECP - EL 485.00	
TB RECP - EL 485.00	20	1	7	1.44			8	1	20	TB RECP - EL 485.00	
TB RECP - EL 485.00	20	1	9		0.36		10	1	20	SPARE	
SPARE	20	1	11			0.00	12	1	20	SPARE	
TB LTG - DAF OPERATING AREA	20	1	13	1.18			14	1	20	TB LTG - CENTRAL OPERATING AREA	
TB LTG - DAF OPERATING AREA	20	1	15		1.41		16	1	20	TB LTG - CENTRAL OPERATING AREA	
TB LTG - DAF OPERATING AREA	20	1	17			0.74	18	1	20	TB LTG - FILTER OPERATING AREA	
TB LTG - DAF OPERATING AREA	20	1	19	0.81			20	1	20	TB LTG - FILTER OPERATING AREA	
TB LTG - 485 ELECTRICAL RM	20	1	21		0.27		22	1	20	TB LTG - FILTER OPERATING AREA	
SPARE	20	1	23			0.00	24	1	20	TB LTG - FILTER OPERATING AREA	
SPARE	20	1	25	0.00			26	1	20	SPARE	
SPARE	20	1	27		0.00		28	1	20	SPARE	
SPARE	20	1	29			0.00	30	1	20	SPARE	
SPARE	20	1	31	0.00			32	1	20	SPARE	
SPARE	20	1	33			0.00	34	1	20	SPARE	
SPARE	20	1	35			0.00	36	1	20	SPARE	
SPARE	20	1	37	0.00			38	1	20	SPARE	
SPARE	20	1	39		0.00		40	1	20	SPARE	
SPARE	20	1	41			0.00	42	1	20	SPARE	
TOTAL				4.88	3.47	2.18	4.88	3.65	3.73	TOTAL	
PHASE TOTAL (KVA)				9.76	7.12	5.91	TOTAL LOAD (KVA)				
PHASE TOTAL (A)				81.32	59.37	49.28	TOTAL LOAD (A)				
							63.28				

File: C:\USERS\SHAH\DCAC\DCAC\SHAH\WEST PARISH FILTER WTP\PROJECT FILES\ELECTRICAL\WEST PARISH FILTER WTP\PROJECT FILES\ELECTRICAL\2822 Saved by MDREN Save date: 3/25/2024 12:59 PM PLOT DATE: 3/25/2024 1:42 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING

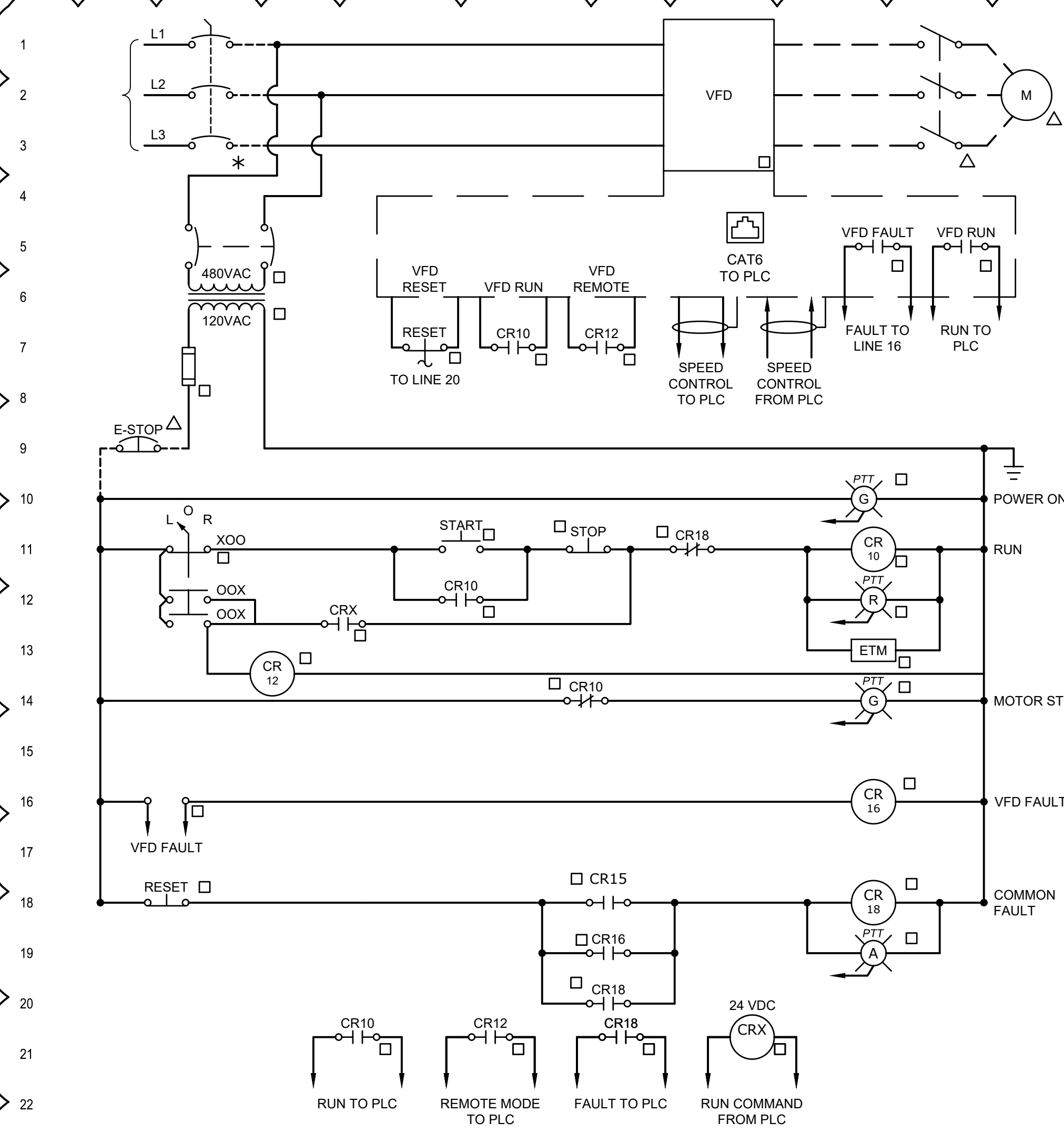
ELECTRICAL

PANEL BOARD SCHEDULES - PROCESS

AREA SHEET 6

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2822

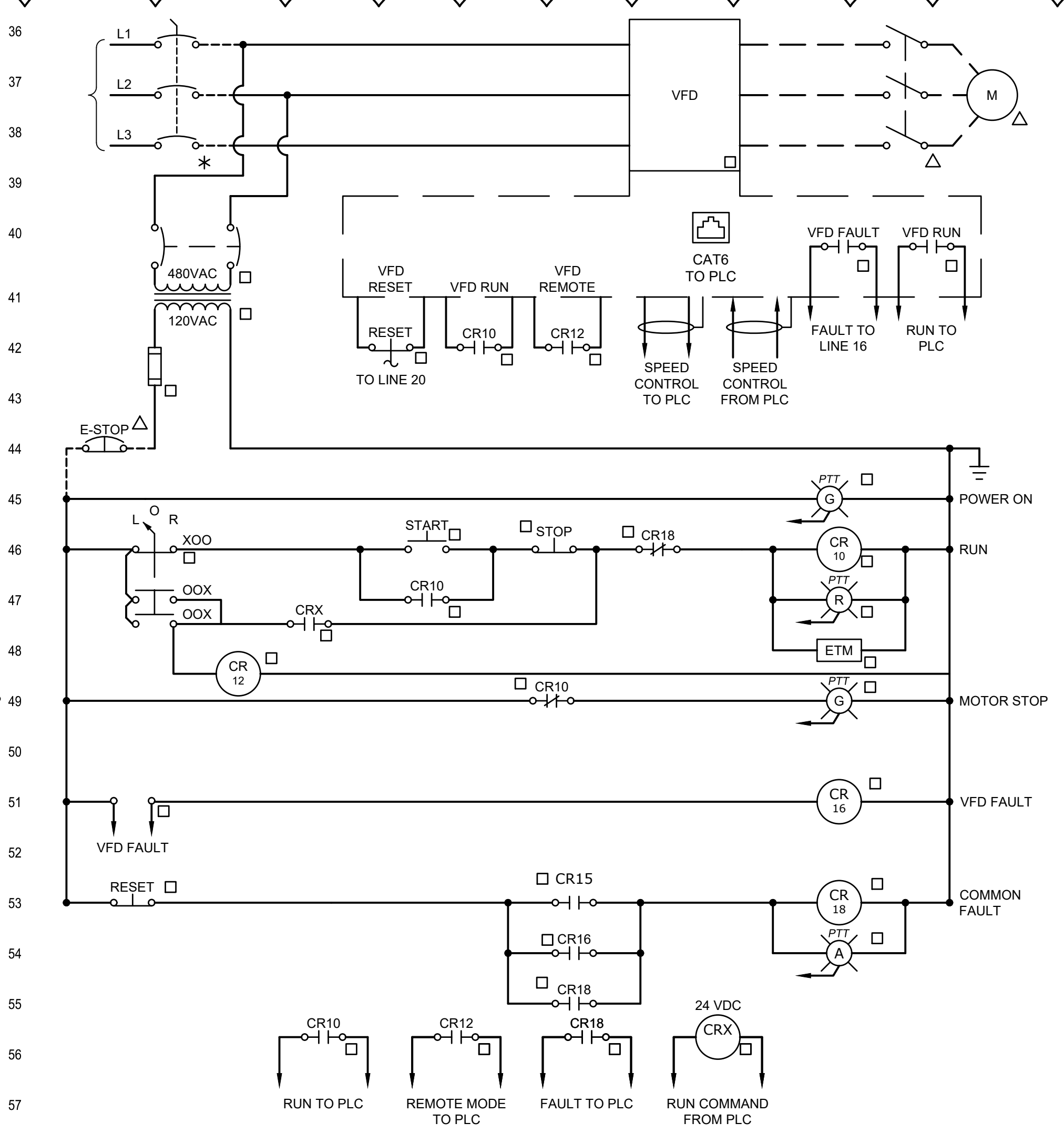
File: C:\USERS\SHAH\Documents\HAZEN AND SAWYER\90398-004_WEST PARISH FILTER WTP\PROJECT FILES\ELECTRICAL\2823 Saved by DKO\OKATHIS Save date: 3/25/2024 9:11 AM
 PLOT DATE: 3/25/2024 1:42 PM BY: DSHAH



FLOCCULATORS, FLOATED SOLIDS TRANSFER PUMPS, DAF SKIMMERS

EWD NO.1

FLOCCULATOR NO.X	FLOATED SOLIDS TRANSFER PUMP NO.X
FLOC-20120	P-35020
FLOC-20220	P-35030
FLOC-20320	P-35060
FLOC-20420	P-35070
FLOC-20520	
FLOC-20620	DAF SKIMMER NO.X
FLOC-20720	SKMR-30160
FLOC-20820	SKMR-30260
FLOC-20920	SKMR-30360
FLOC-21020	SKMR-30460
FLOC-21120	SKMR-30560
FLOC-21220	SKMR-30660
FLOC-21320	SKMR-30760
FLOC-21420	SKMR-30860
FLOC-21520	SKMR-30960
FLOC-21620	SKMR-31060
FLOC-21720	
FLOC-21820	
FLOC-21920	
FLOC-21030	



DAF RECYCLE PUMPS

EWD NO.1

DAF RECYCLE PUMPS NO.X
P-33010
P-33020
P-33030
P-33040

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

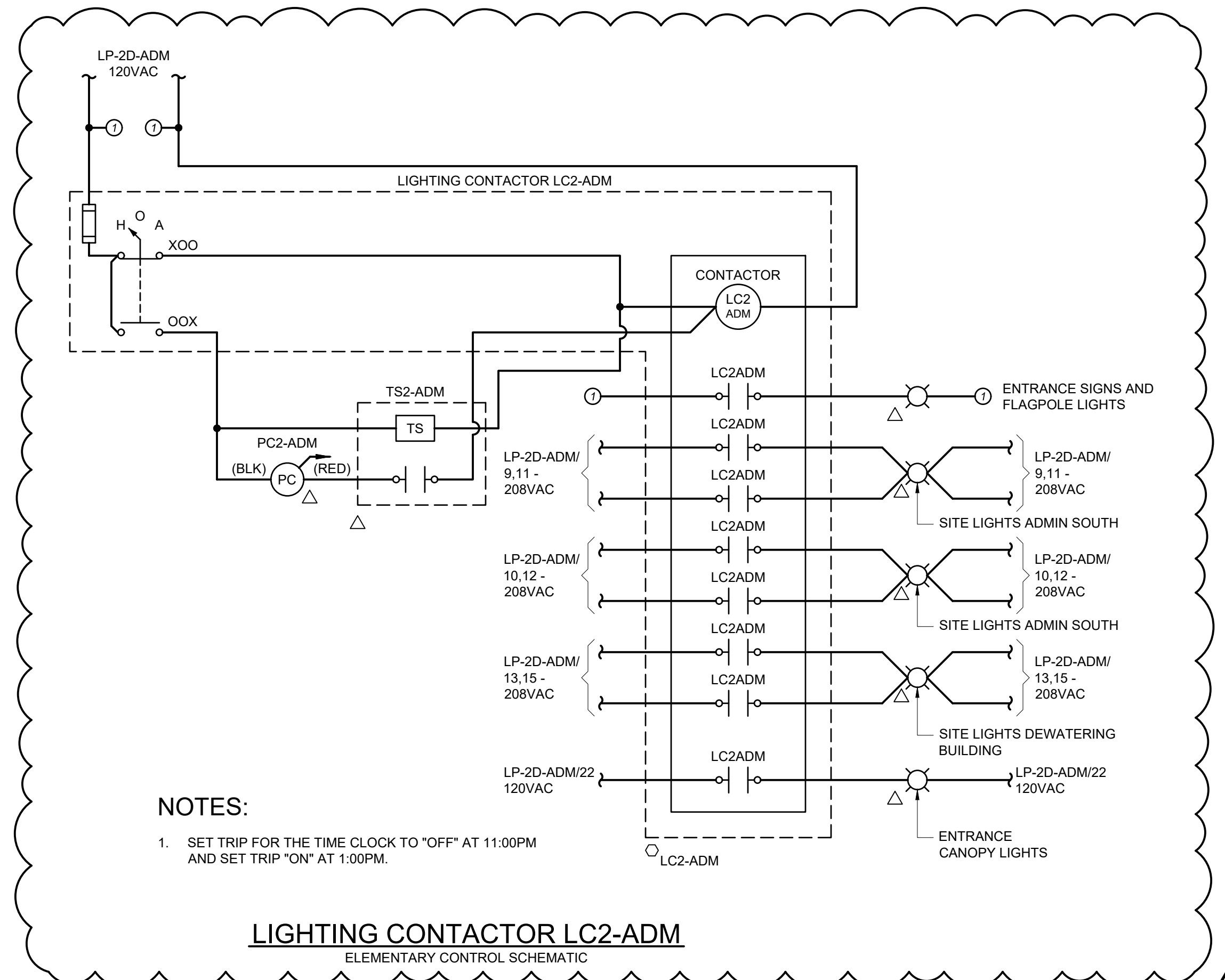
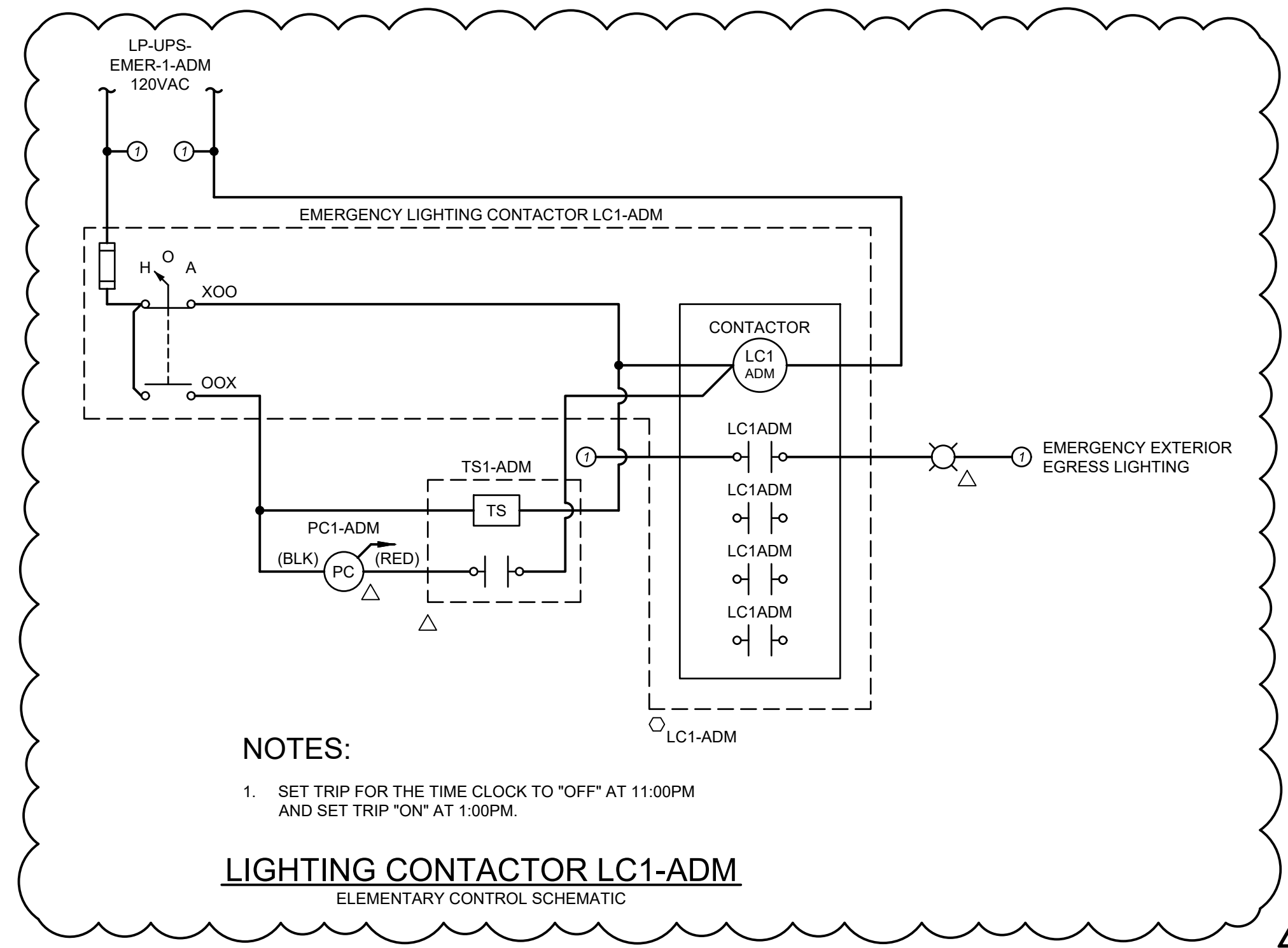
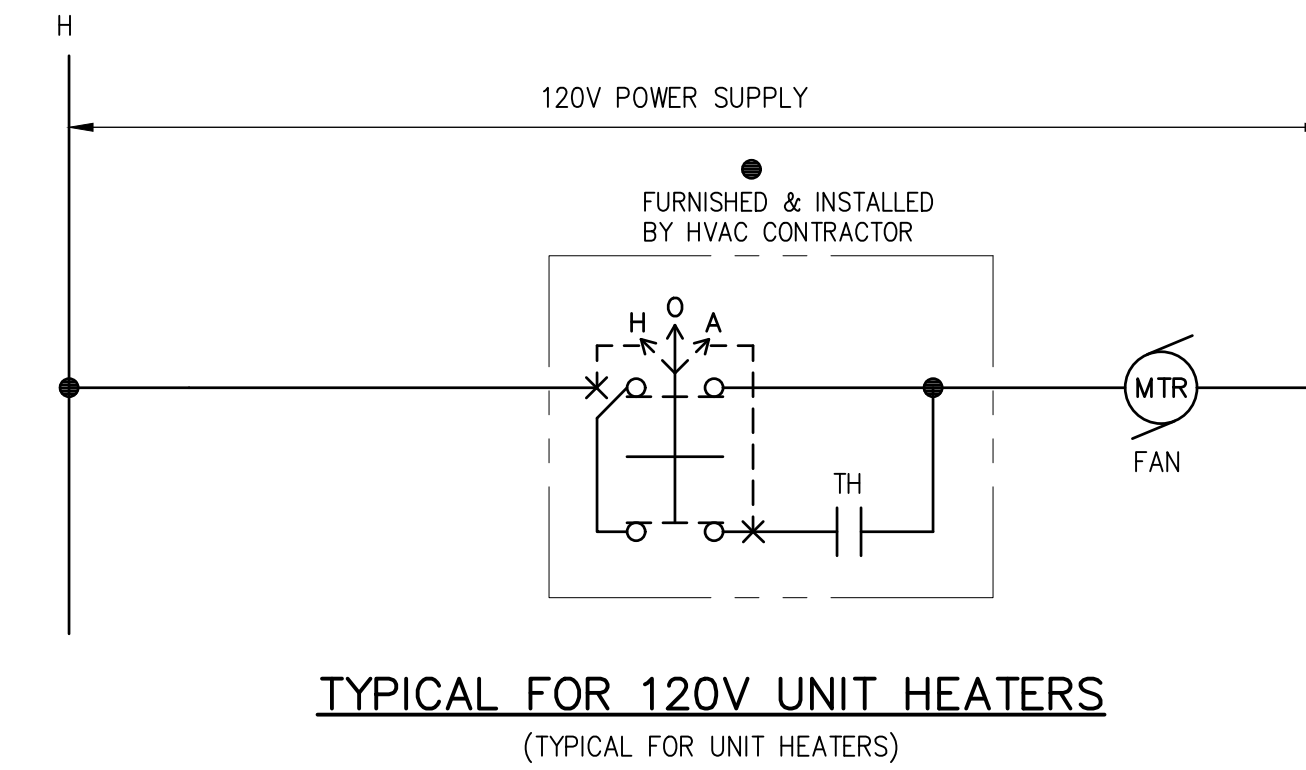
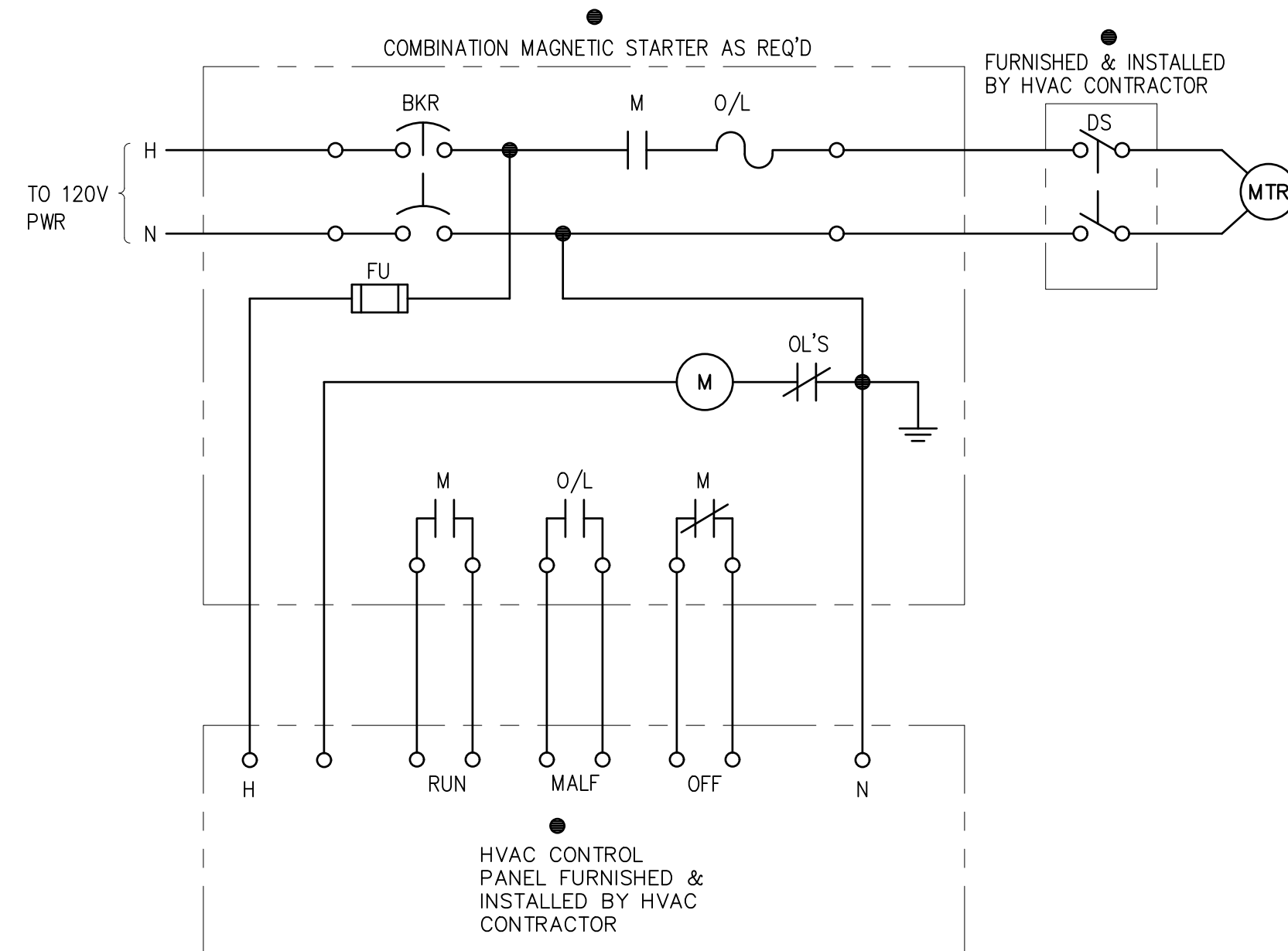
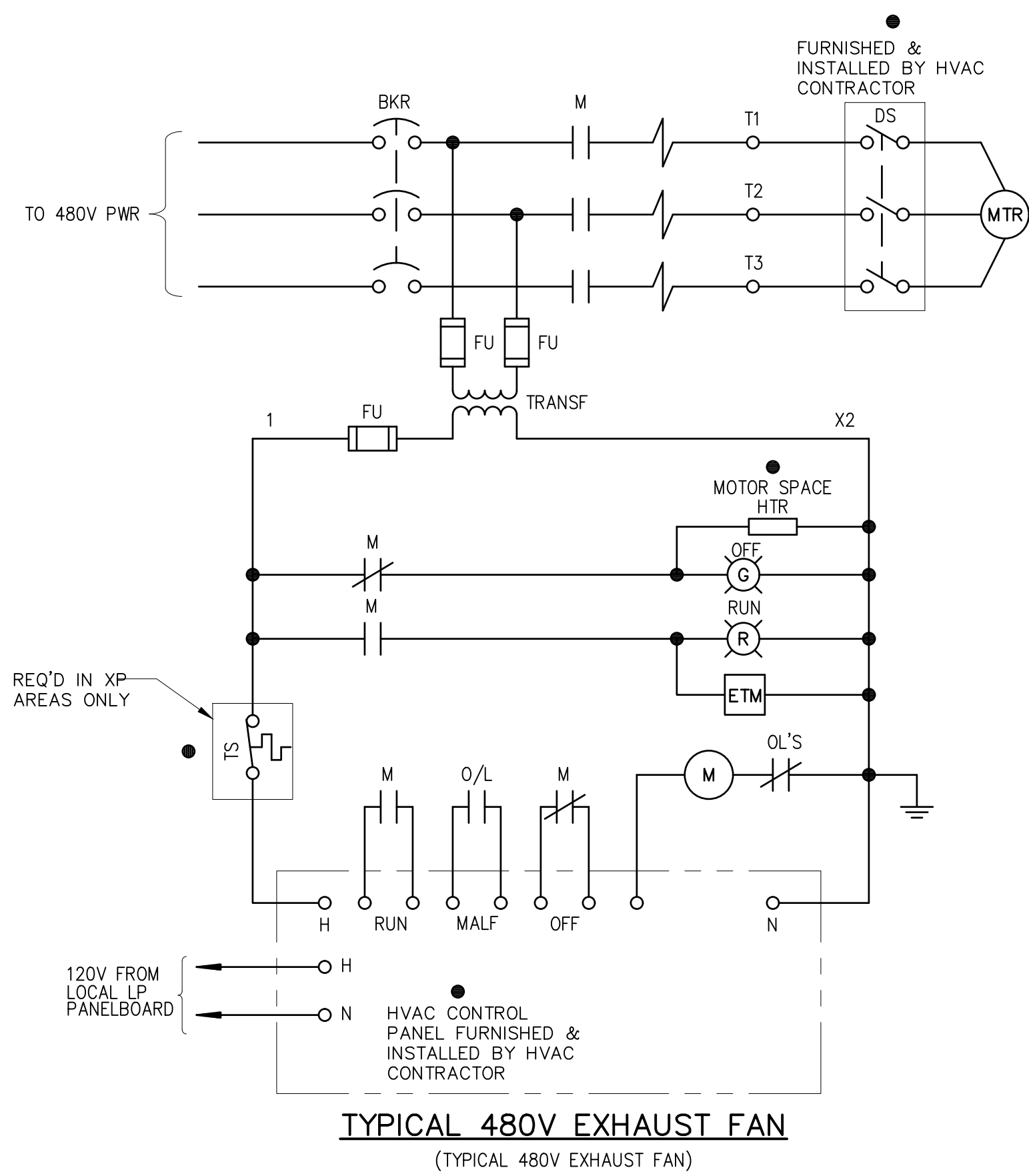
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

WATER TREATMENT BUILDING
 ELECTRICAL
 WIRING DIAGRAMS - PROCESS AREA
 SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2823



File: C:\USERS\SHAH\DC\SHAH\Hazen and Sawyer\90398-004_West Parish Filter WTP\PROJECT FILES\ELECTRICAL\2825 Saved by DKO\OKTHIS Save date: 3/25/2024 9:24 AM
 PLOT DATE: 3/25/2024 1:42 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

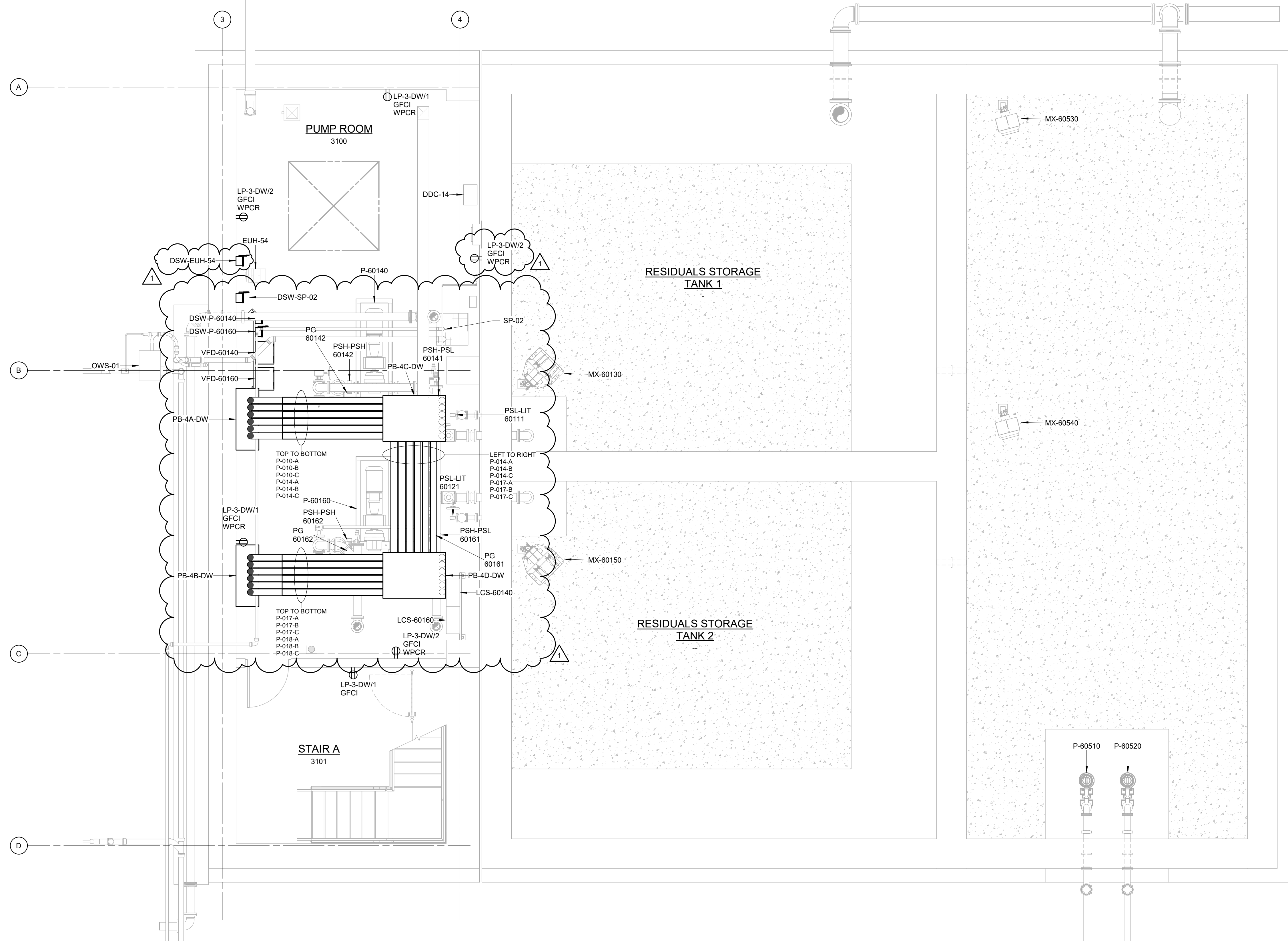
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
WATER TREATMENT BUILDING
ELECTRICAL
WIRING DIAGRAMS - PROCESS AREA
SHEET 3

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-2825




POWER PLAN AT EL 450.00
1/4" = 1'-0"



Autodesk Docs: 90398-004_West Parish Filter WTE 90398-004 DWB-E-14
 3/23/2024 11:56:40 AM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

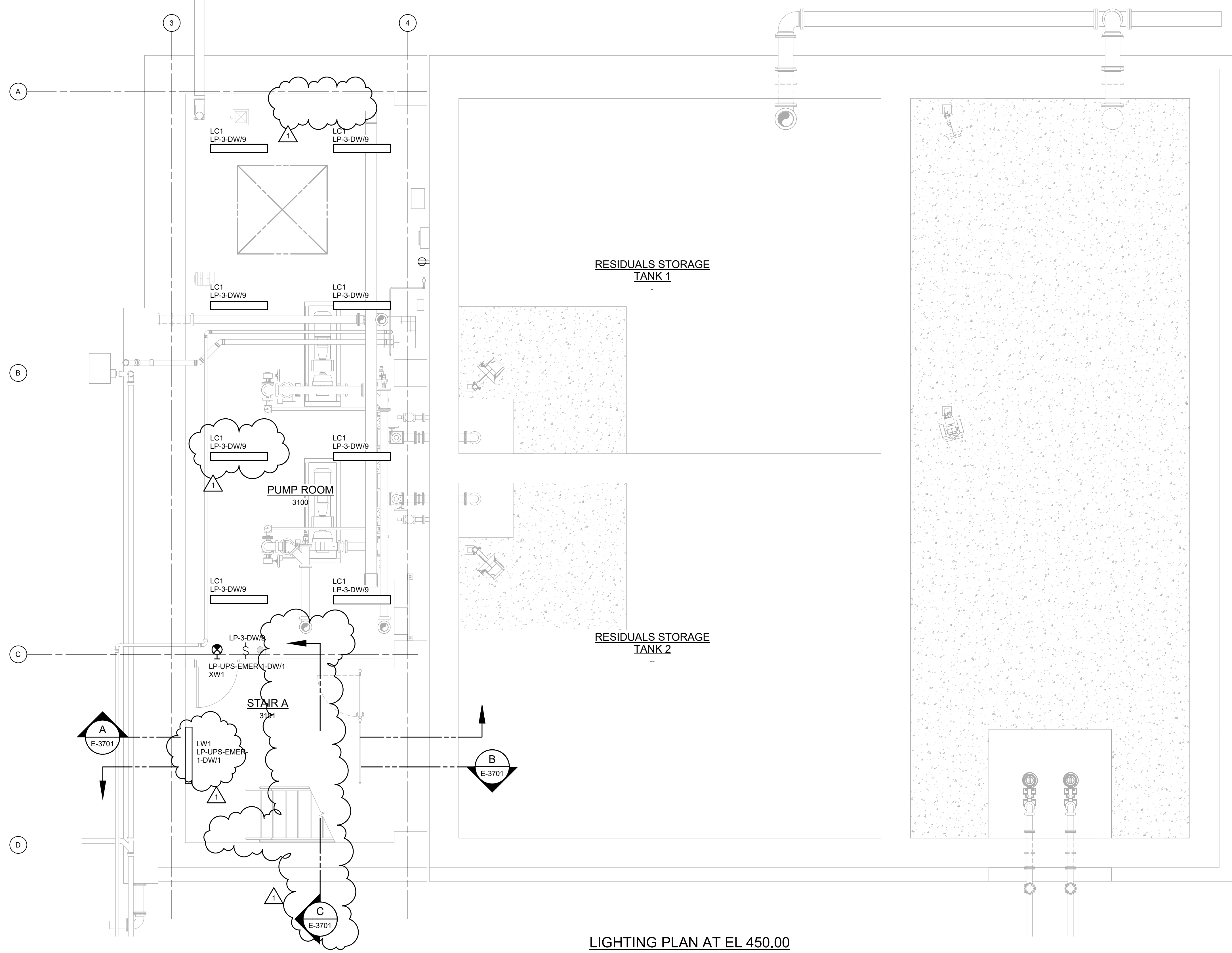

 03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING ELECTRICAL
POWER PLAN AT EL 450.00

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3101



LIGHTING PLAN AT EL 450.00
1/4" = 1'-0"



Autodesk DocuSign/90398-004_West Parish Filter WTP/90398-004-DWB-E-14 3/25/2024 2:26:07 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

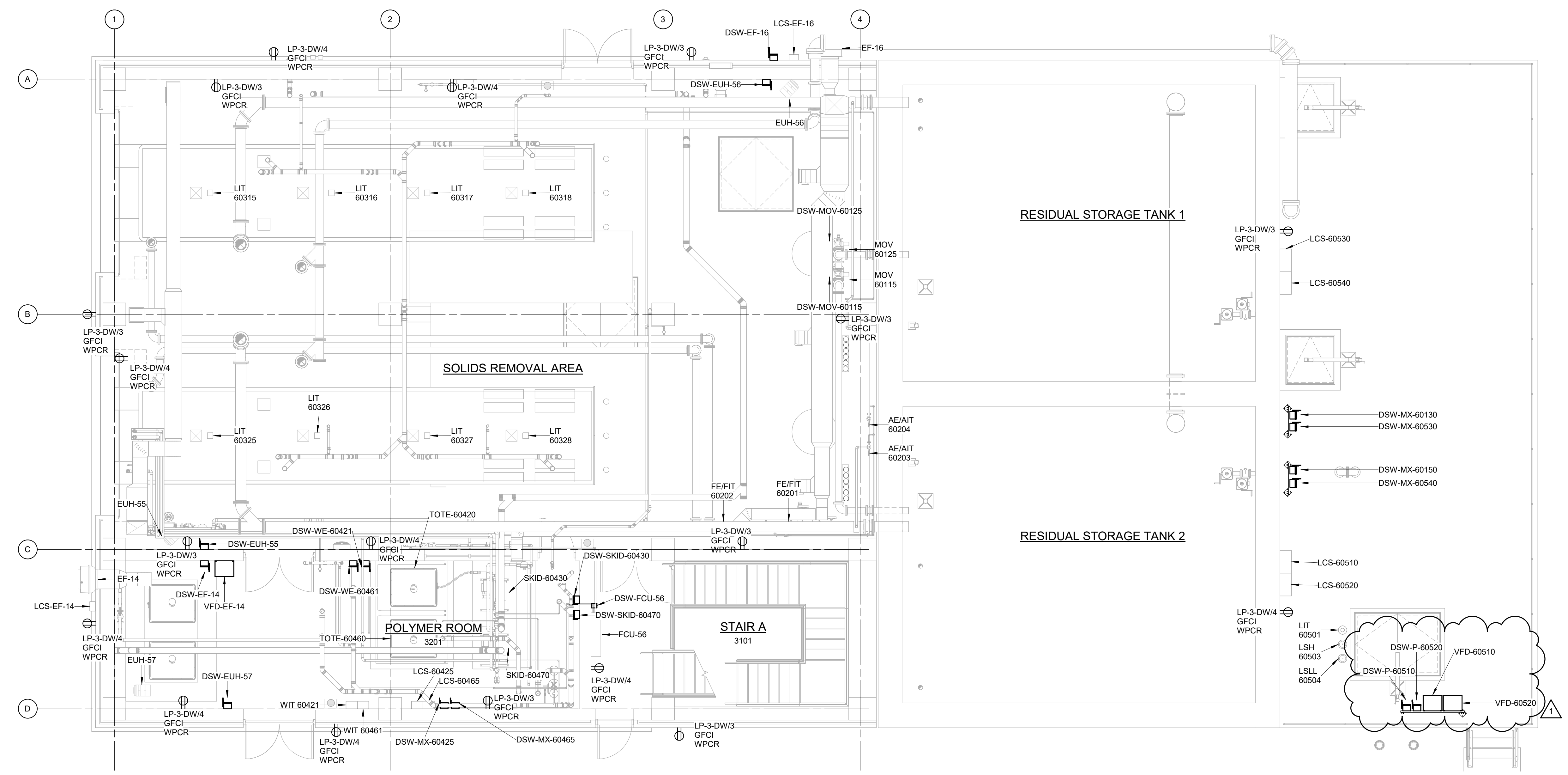
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

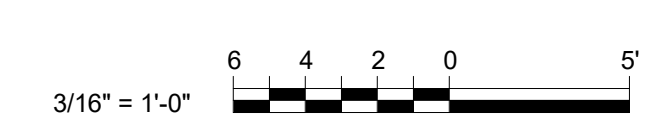
FILED SUB-BID

DEWATERING BUILDING
ELECTRICAL
LIGHTING PLAN AT EL 450.00

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3121



POWER PLAN AT 464.50
3/16" = 1'-0"



Autodesk DocID: 90398-004 West Parish Filter WTP/90398-004-DWB-E-14 3/25/2024 2:26:18 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

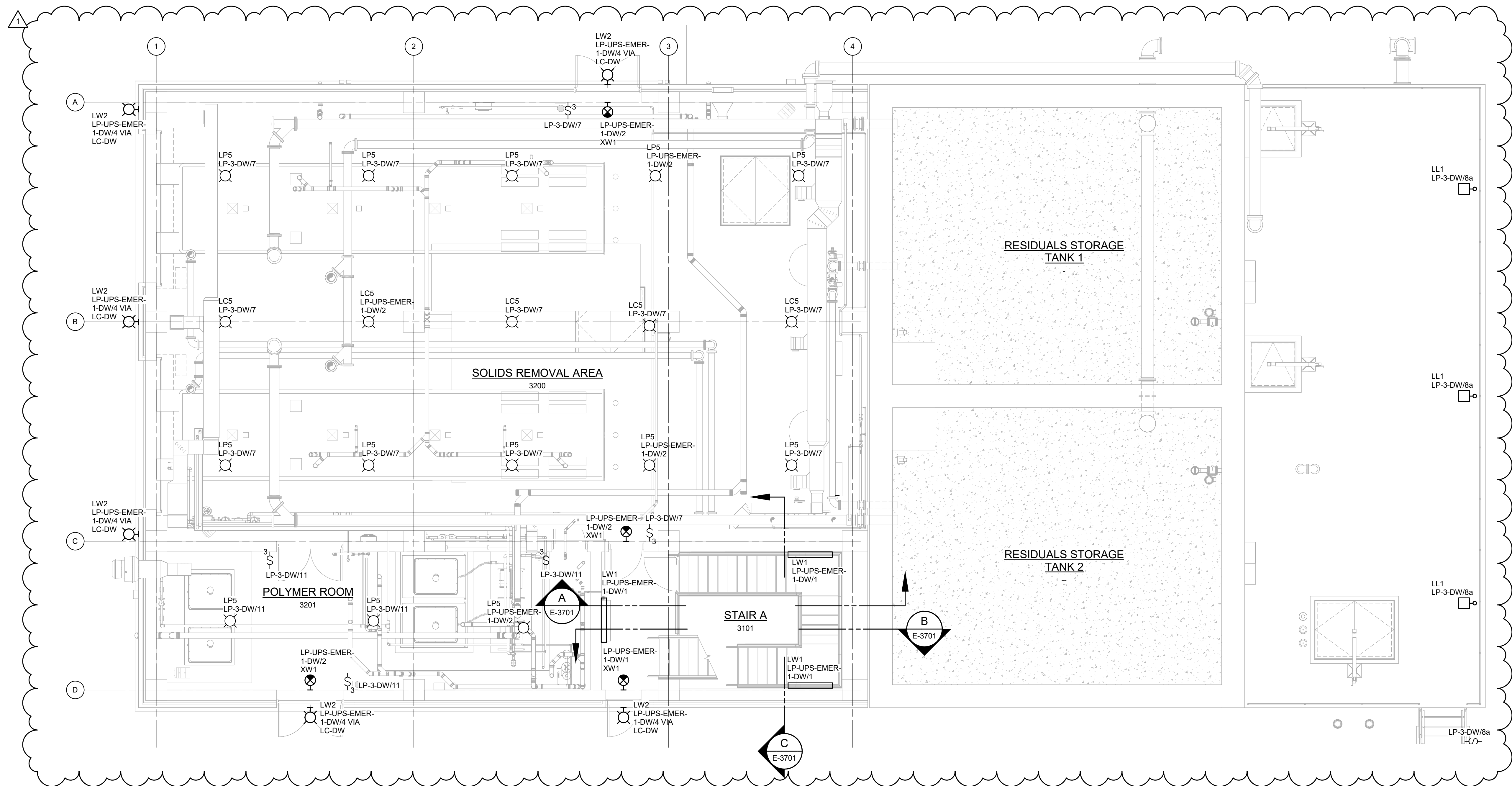
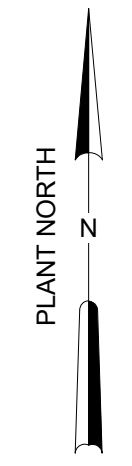
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

DEWATERING BUILDING
ELECTRICAL
POWER PLAN AT EL 464.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3201



LIGHTING PLAN AT EL 464.50
3/16" = 1'-0"



Autodesk DocID: 90398-004 West Parish Filter WTP 90398-004 DWB-E-14 3/25/2024 2:26:27 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

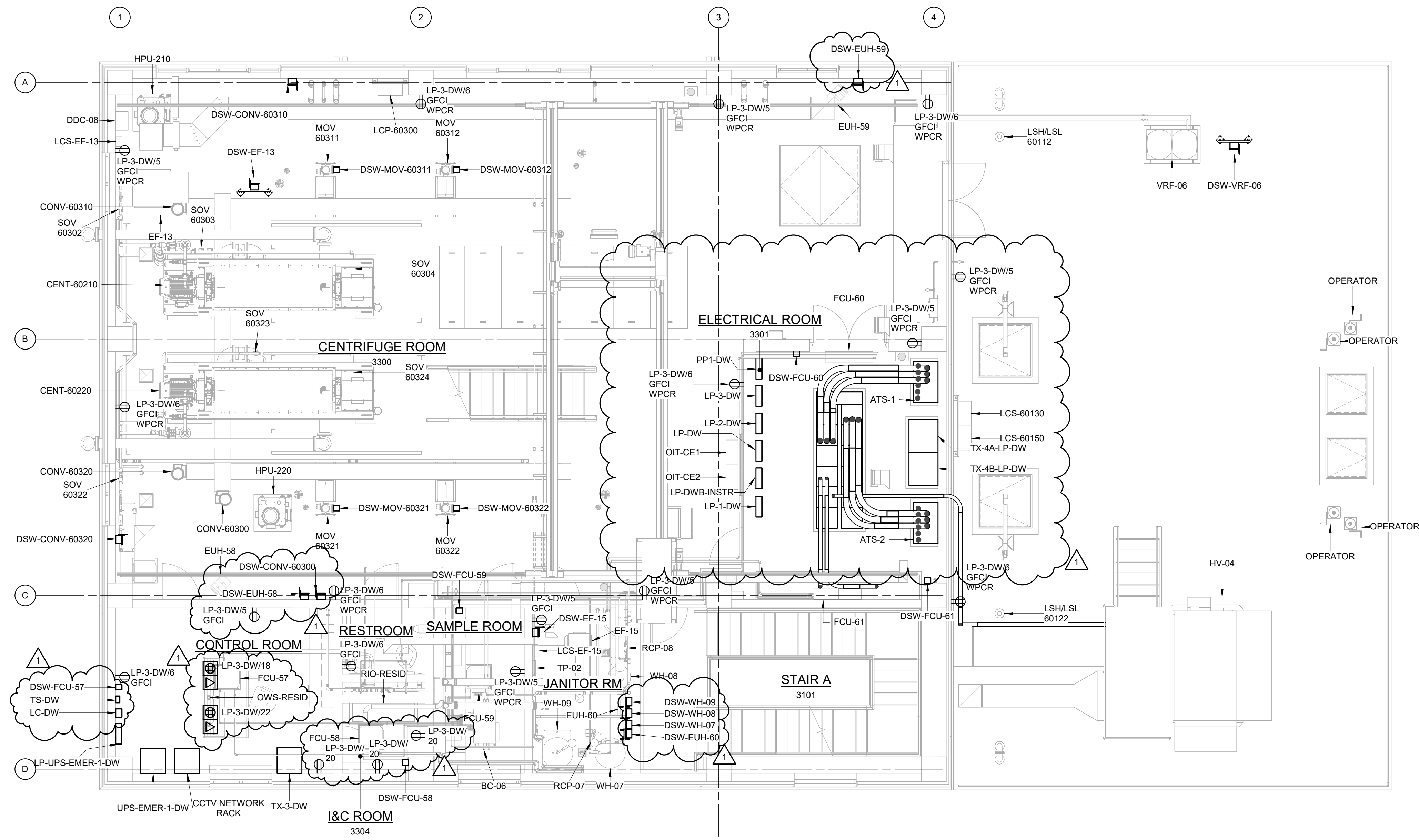
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

DEWATERING BUILDING ELECTRICAL LIGHTING PLAN AT EL 464.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3221



POWER PLAN AT EL 484.50
3/16" = 1'-0"



Autodesk Docu/06098-004 West Parish Filter WTE/90398-004-DWB-E-14 3/25/2024 2:26:38 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

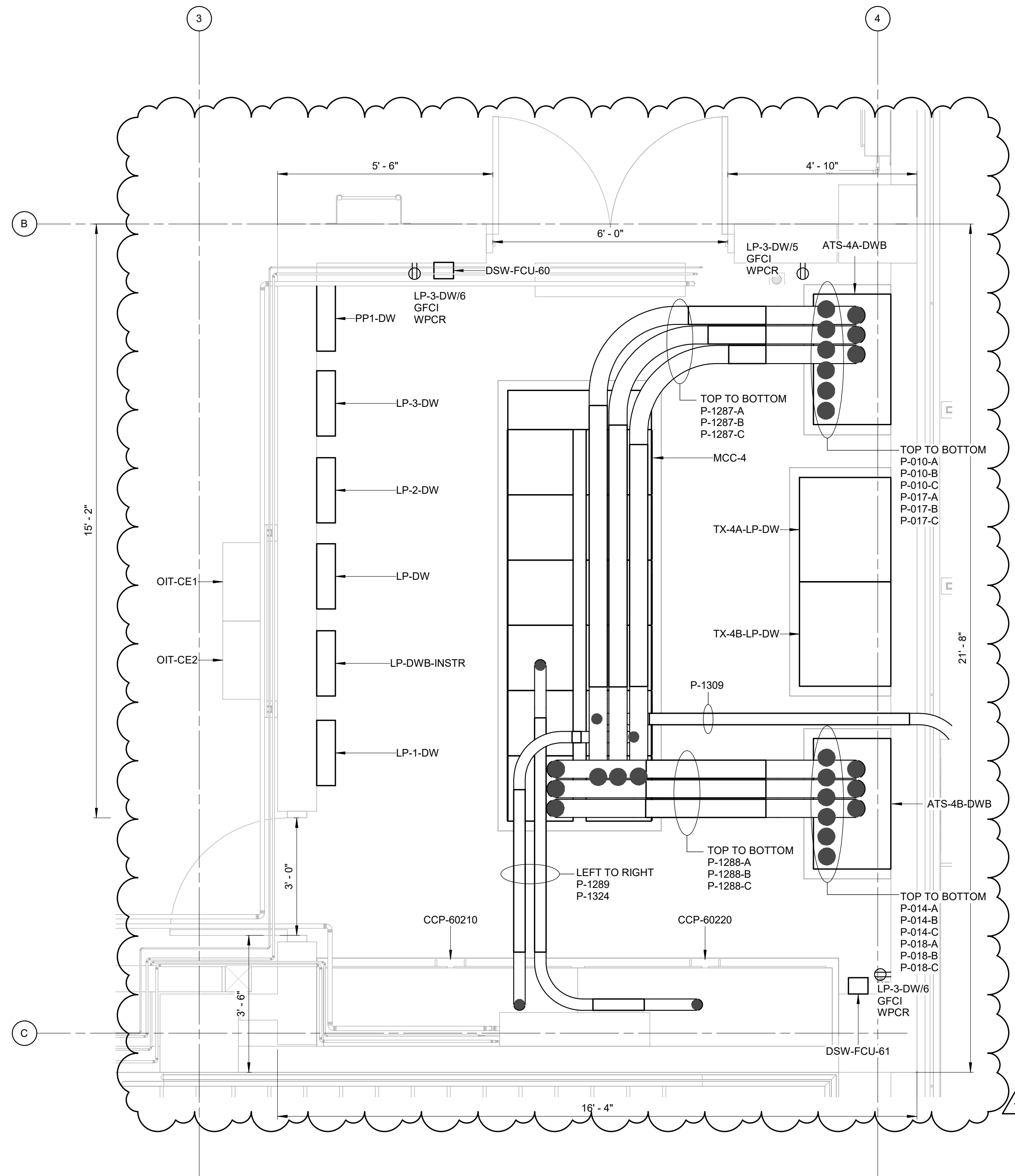
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

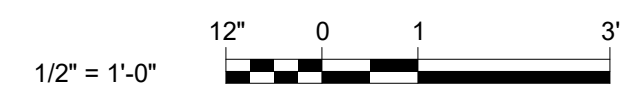
DEWATERING BUILDING
ELECTRICAL
POWER PLAN AT EL 484.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3301



EL 484.50 - ENLARGED PLAN - ELECTRICAL ROOM

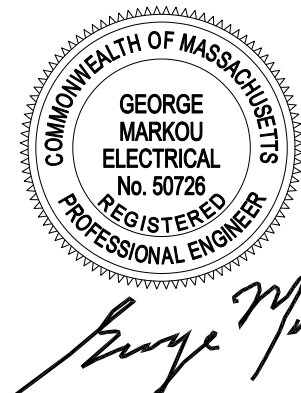
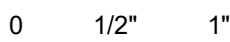
1/2" = 1'-0"



Autodesk Docs/060308_004_West Parish Filter WTR/90398-004-DWB-E-14 3/23/2024 11:57:45 AM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



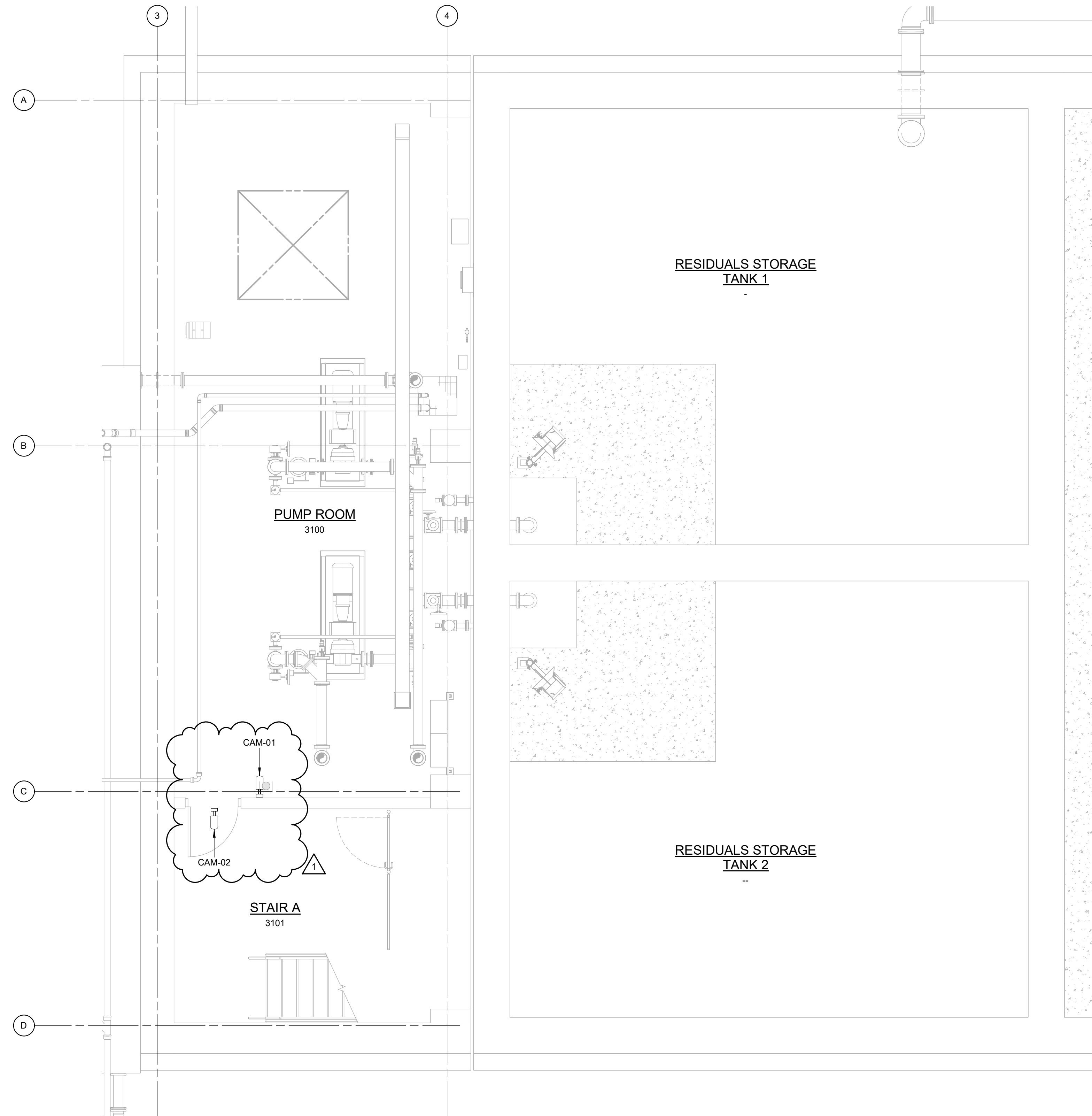
George Markou
03/25/2024

Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

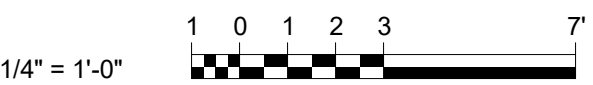
SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING ELECTRICAL
ENLARGED PLAN - ELECTRICAL ROOM AT EL 484.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3401



OVERALL SECURITY SYSTEM PLAN AT EL 450.00
1/4" = 1'-0"



Autodesk Docs/060398-004_West Parish Filter WTP/90398-004-DWB-E-14 3/25/2024 2:27:00 PM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

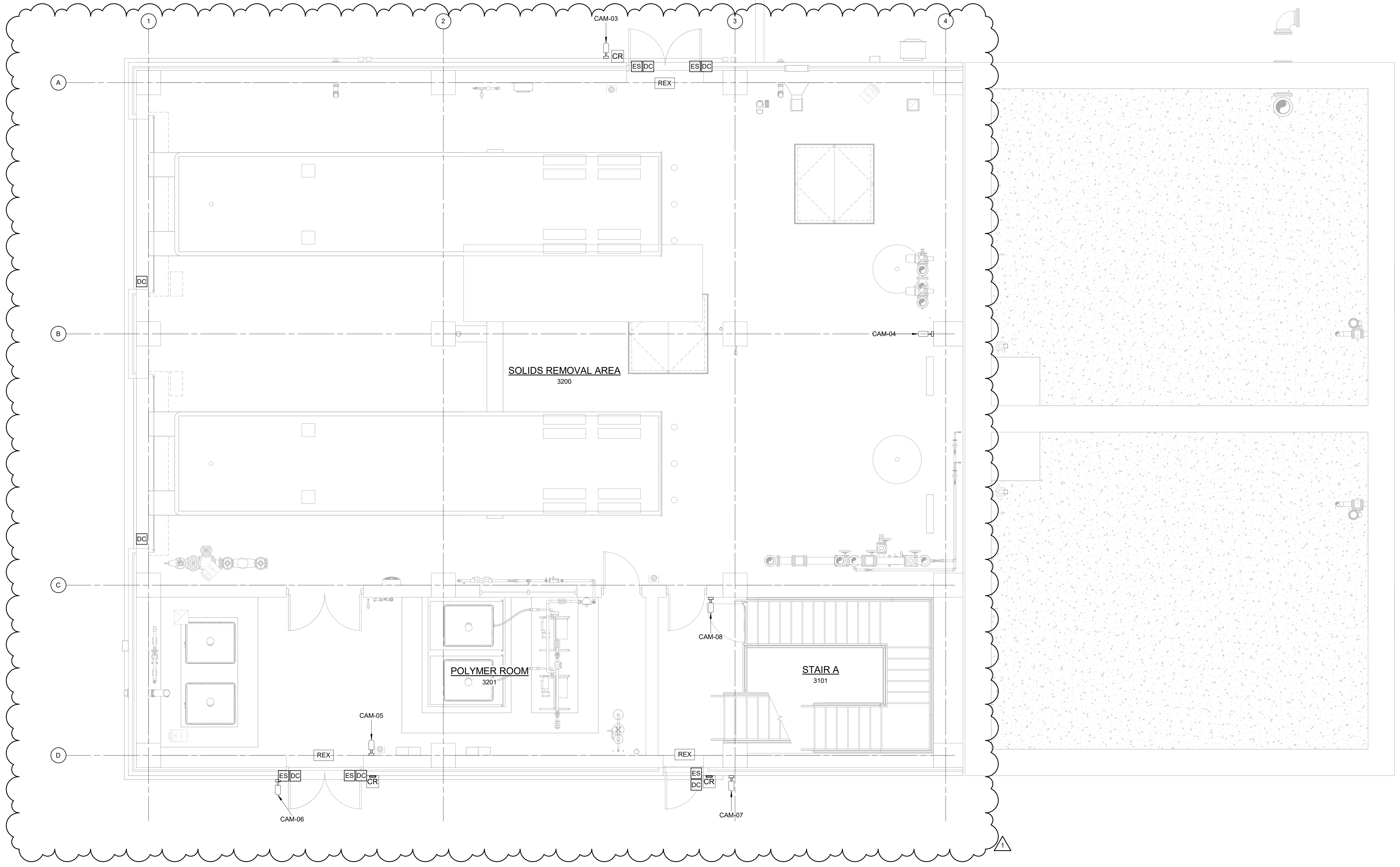
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

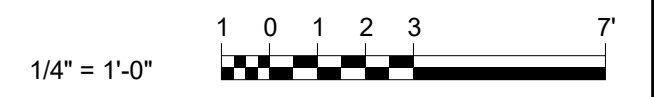
DEWATERING BUILDING
ELECTRICAL
OVERALL SECURITY SYSTEM PLAN AT EL 450.00

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3560



OVERALL SECURITY SYSTEM PLAN AT EL 464.50

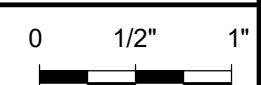
1/4" = 1'-0"



Autodesk Docs/060308-004_West Parish Filter WTP/90398-004-DWB-E-14 3/25/2024 2:27:02 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



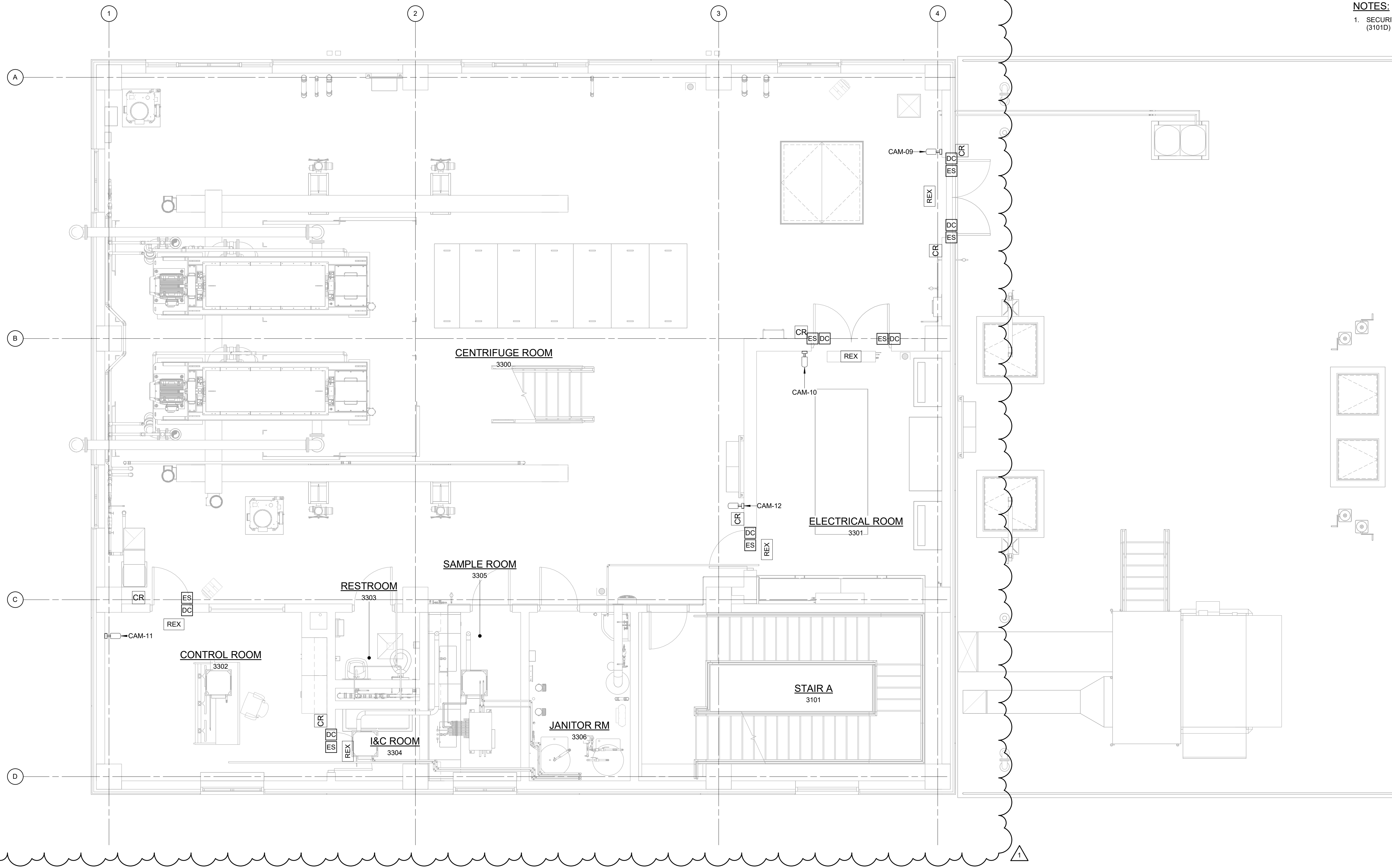
Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 DEWATERING BUILDING
 ELECTRICAL
 OVERALL SECURITY SYSTEM PLAN AT 464.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3561

NOTES:
 1. SECURITY DEVICES FOR ROOF LEVEL DOOR (3101D) SHOWN ON DWG E-3701.



OVERALL SECURITY SYSTEM PLAN AT EL. 484.50
 1/4" = 1'-0"

Autodesk Docs://06098-004_West Parish Filter WTP/90398-004-DWB-E-14
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1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA/D. SHAH
DRAWN BY:	A. PENA/D. SHAH
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

0 1/2" 1"

George Markou
 03/25/2024

Hazen

HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

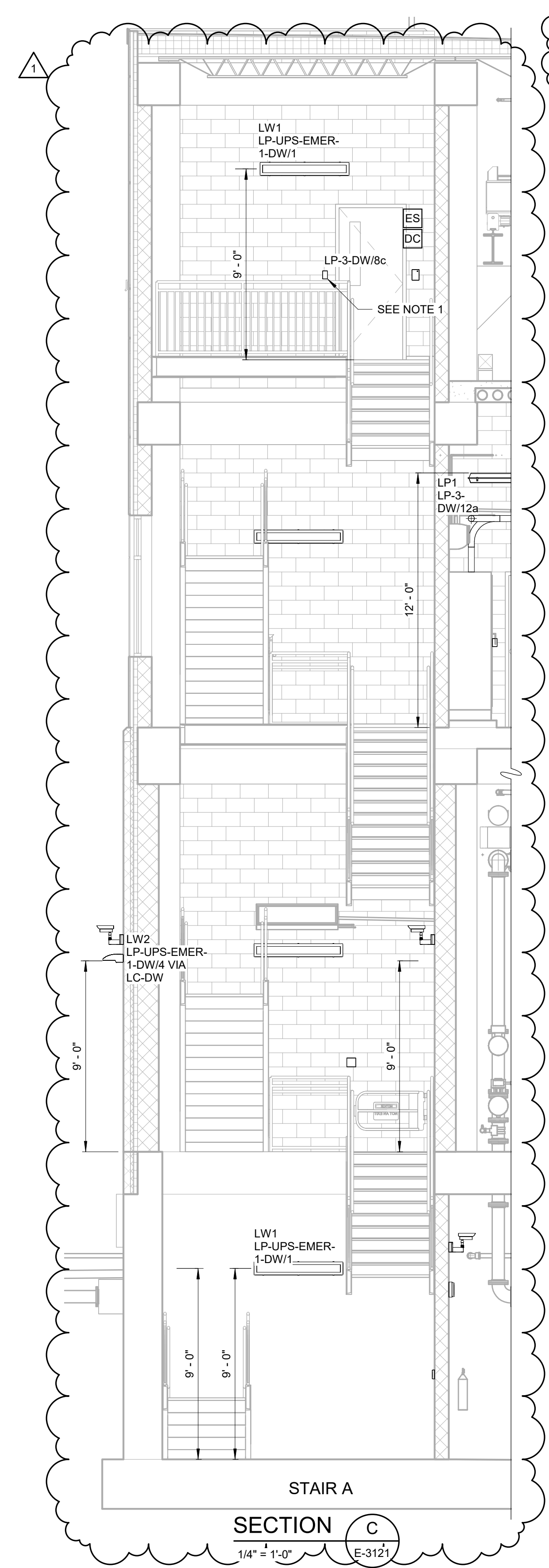
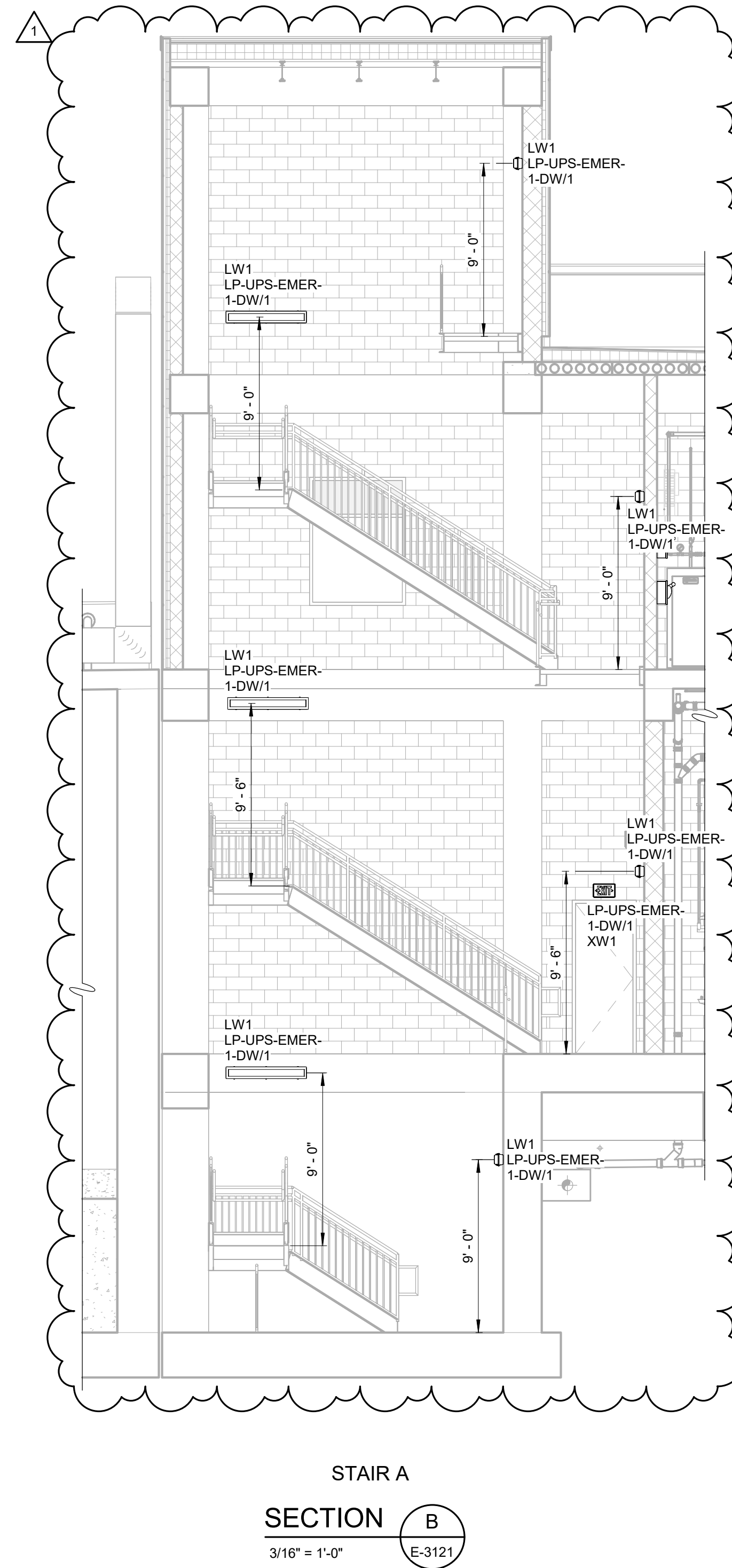
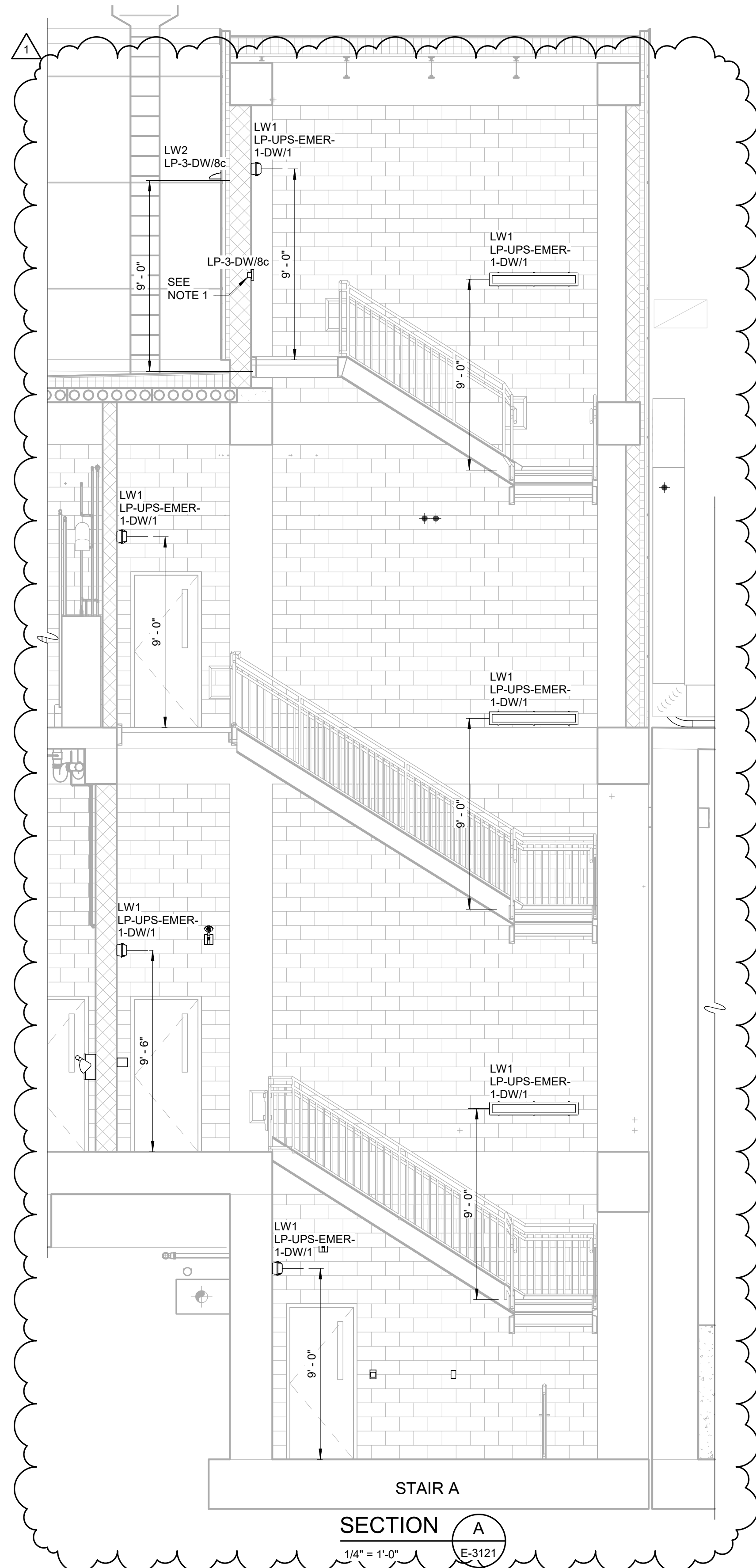
SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

DEWATERING BUILDING
 ELECTRICAL
 OVERALL SECURITY SYSTEM PLAN AT 484.50

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3562



NOTES:
1. LIGHT SWITCH TO OPERATE EXTERIOR FIXTURE LW2 ONLY. ALL OTHER LIGHT FIXTURES ON THIS CIRCUIT ARE UNSWITCHED.

Autodesk DocID: 1000000004 West Parish Filter WTP190398-004-DWB-E-14 3/25/2024 2:27:18 PM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PEN/D. SHAH
DRAWN BY:	M. DREN
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	



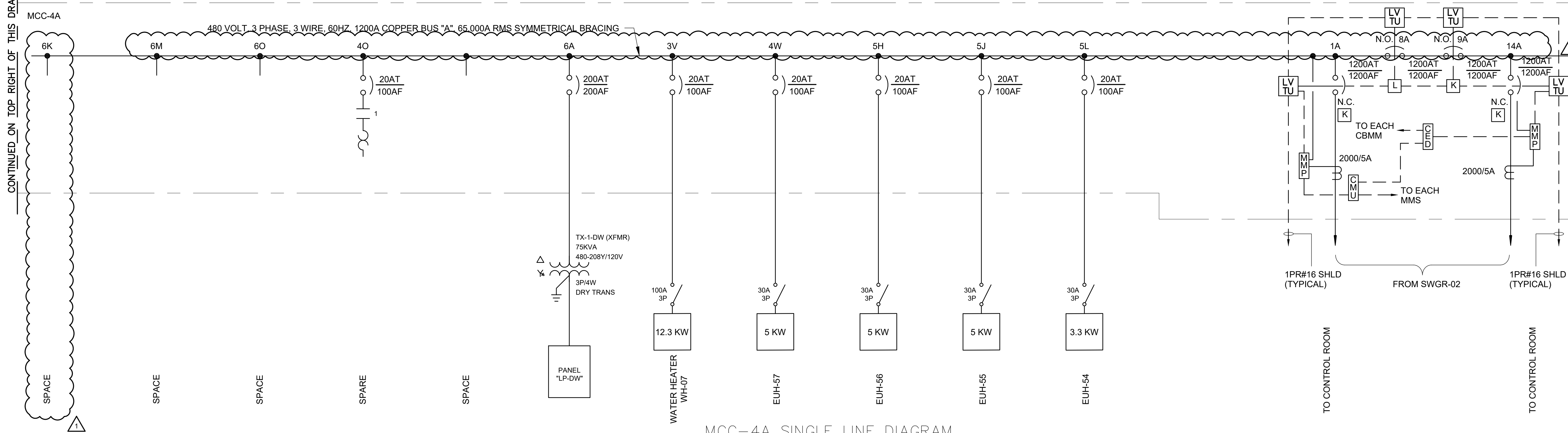
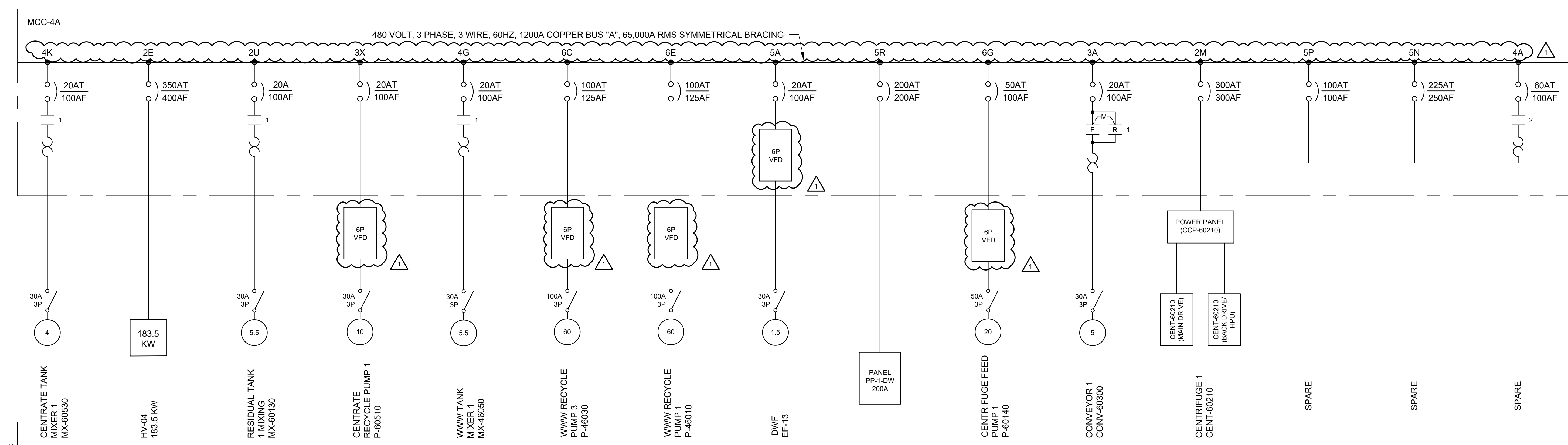
Hazen
HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING ELECTRICAL SECTIONS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3701

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PLOT DATE: 3/25/2024 1:44 PM BY: DSHAH



MCC-4A SINGLE LINE DIAGRAM

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

DEWATERING BUILDING ELECTRICAL

MCC-4 SINGLE LINE DIAGRAM - SHEET 1

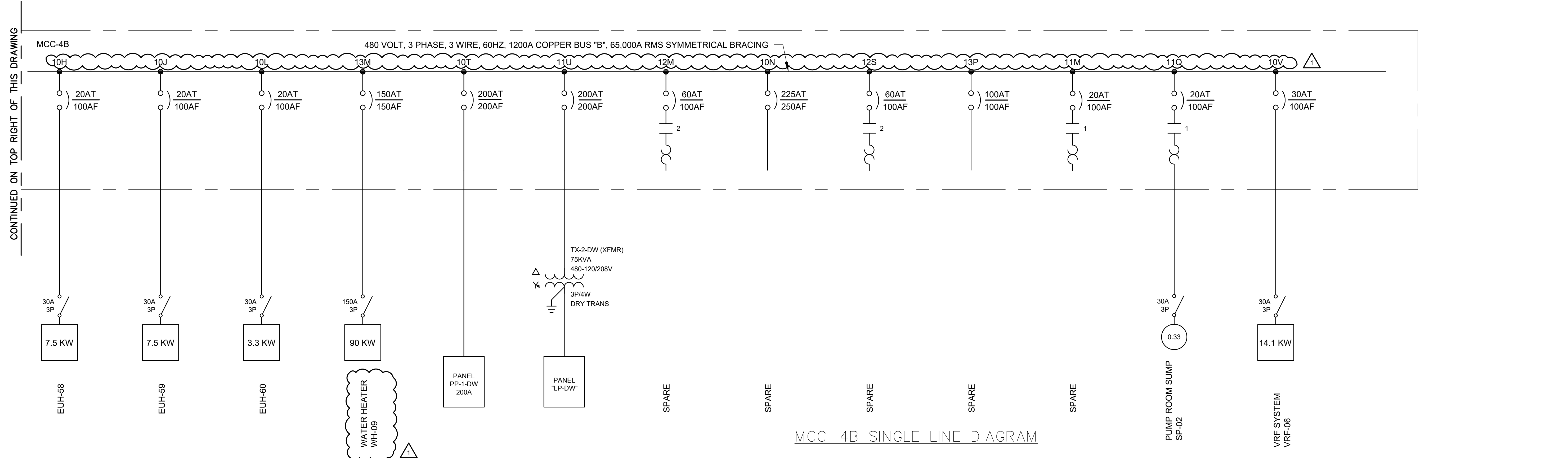
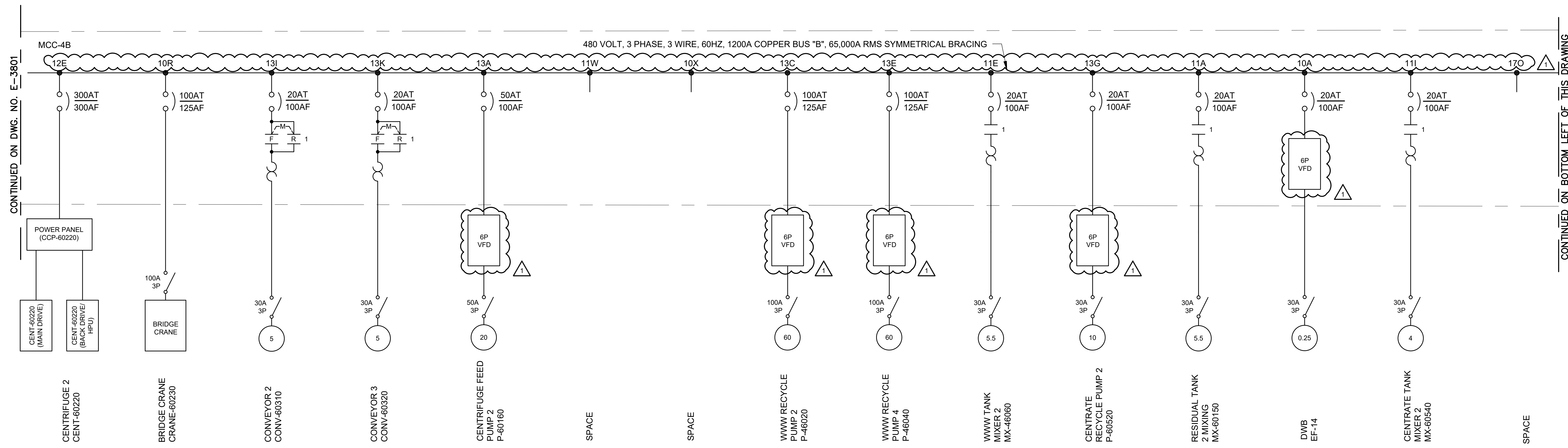
DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3801

CONTINUED ON TOP RIGHT OF THIS DRAWING

CONTINUED ON DWG NO. E-3802

CONTINUED ON BOTTOM LEFT OF THIS DRAWING

File: C:\USERS\SHAH\DCAC\DCAC\SHAHZEN AND SAWYER\90398-004_WEST PARISH FILTER WTR\PROJECT FILES\ELE-3802 Saved by DSHAH Date: 3/25/2024 1:18 PM
 PLOT DATE: 3/25/2024 1:44 PM BY: DSHAH



MCC-4B SINGLE LINE DIAGRAM

1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER: K. BARRETT
 DESIGNED BY: A. PENA / D. SHAH
 DRAWN BY: A. PENA / D. SHAH
 CHECKED BY: G. MARKOU
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 0 1/2" 1"

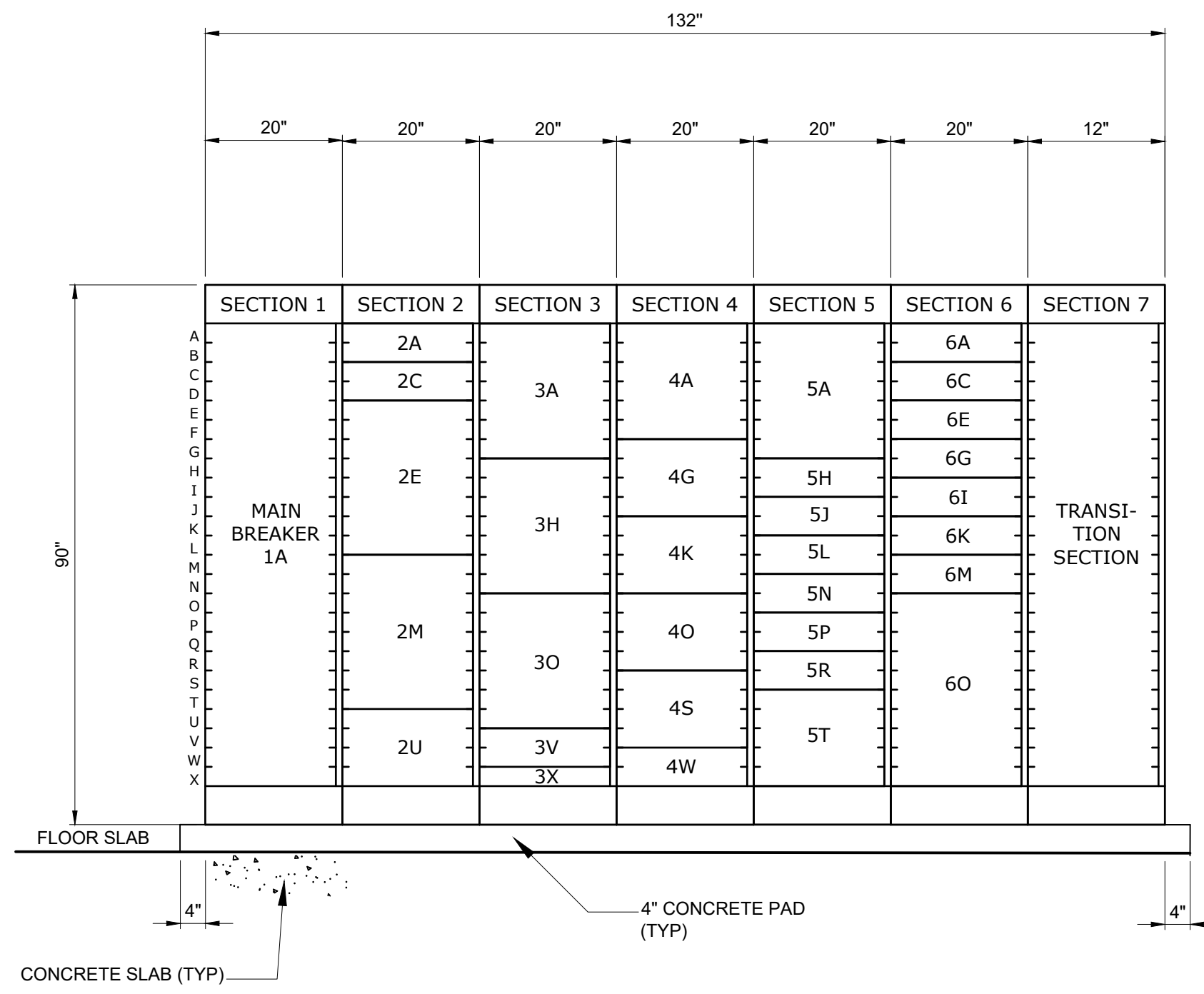


Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

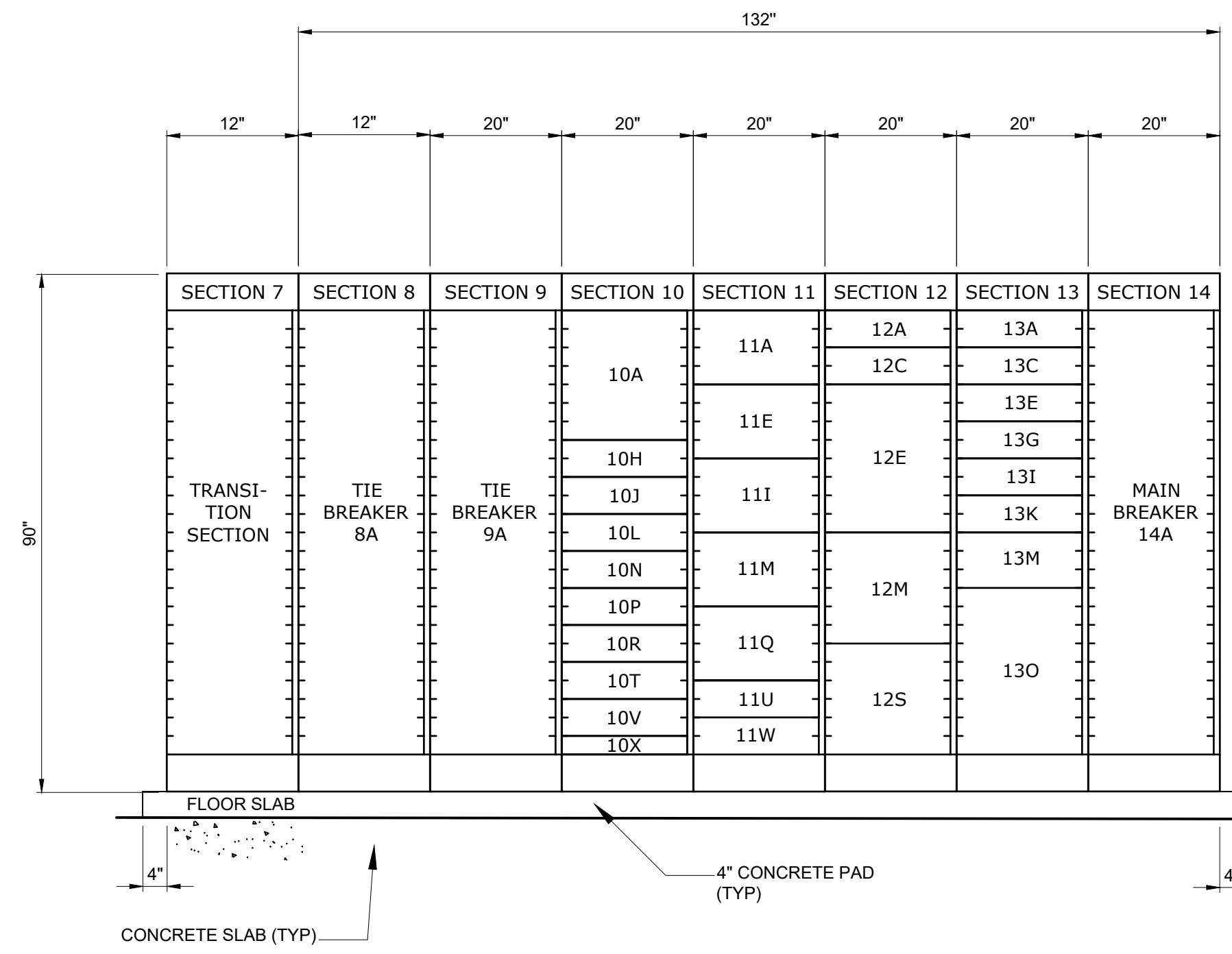
SPRINGFIELD WATER AND SEWER COMMISSION
 WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 DEWATERING BUILDING ELECTRICAL
 MCC-4 SINGLE LINE DIAGRAM - SHEET 2

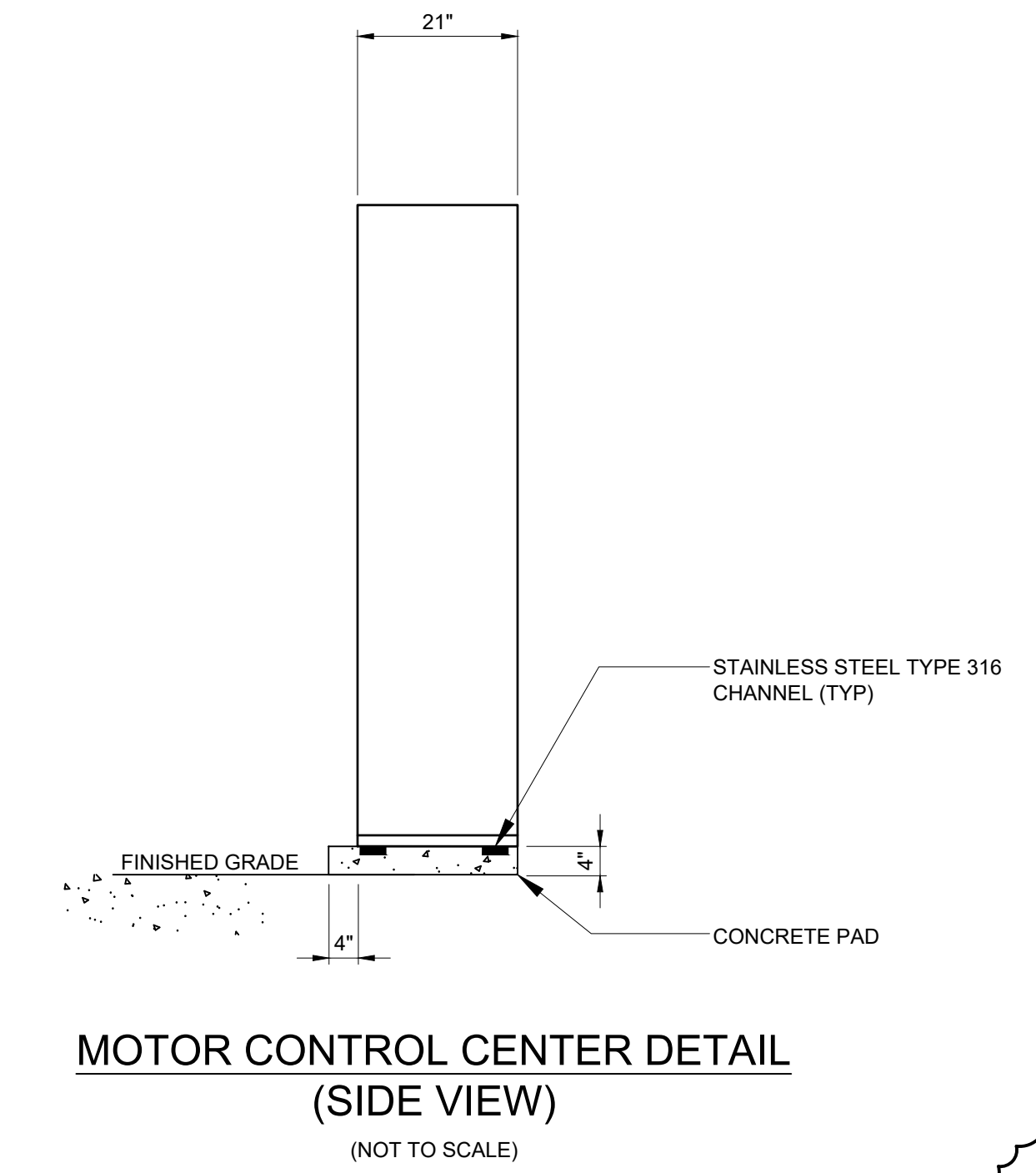
DATE: FEBRUARY 2024
 HAZEN NO.: 90398-004
 CONTRACT NO.: 24-51
 DRAWING NUMBER:
 E-3802



MCC-4 FRONT ELEVATION
(NOT TO SCALE)



MCC-4 REAR ELEVATION
(NOT TO SCALE)



MOTOR CONTROL CENTER DETAIL
(SIDE VIEW)
(NOT TO SCALE)

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PLOT DATE: 3/25/2024 1:44 PM BY: DSHAH

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2" 1"

George Markou
03/25/2024

Hazen

HAZEN AND SAWYER
100 GREAT MEADOW ROAD, SUITE 702
WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID

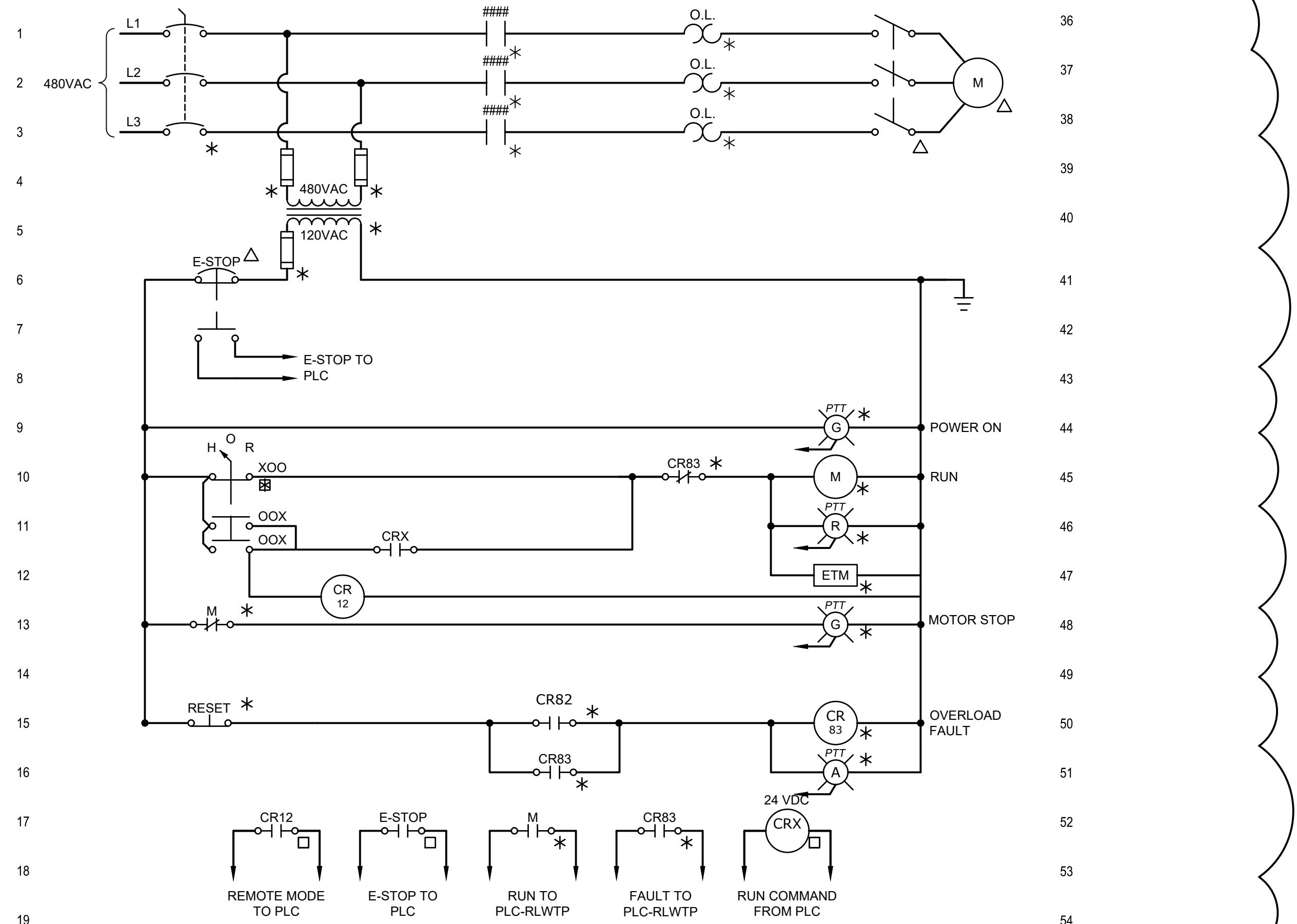
DEWATERING BUILDING ELECTRICAL

MCC-4 FRONT ELEVATIONS

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3803

480 VOLTS, 60 HZ 3 PHASE, 3 WIRE 42 KAIC										POWER PANEL PP-1-DW MAIN BREAKER : 200A 3P PANEL RATING : 200A 3P										TYPE: NEMA 12 MOUNT: SURFACE LOCATION: DWB ELECT RM 3301									
DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			A	B	C	POLE	TRIP	DESCRIPTION	TRIP	POLE	CKT No.	KILO-VOLT-AMPERES			A	B	C	POLE	TRIP	DESCRIPTION					
				A	B	C										A	B	C											
MOV-60115	20	3	1	0.40							MOV-60125	20	3	1	0.40														
ROLL-UP DOOR (DWB - WEST SIDE)	20	3	3	1.38							ROLL-UP DOOR (DWB - WEST SIDE)	20	3	3	1.38														
LCP-60300	40	3	5	6.93							MOV-60311	20	3	5	6.93														
MOV-60312	20	3	7	0.40							MOV-60321	20	3	7	0.40														
MOV-60322	20	3	9	0.40							CENT-60211 (DIVERTER GATE 1)	20	3	9	0.40														
CENT-60212 (DIVERTER GATE 2)	20	3	11	0.40							SPARE	20	3	11	0.00														
SPARE	20	3	13	0.00							SPARE	20	3	13	0.00														
SPARE	20	3	15	0.00							SPARE	20	3	15	0.00														
SPARE	20	3	17	0.00							SPARE	20	3	17	0.00														
SPARE	20	3	19	0.00							SPARE	20	3	19	0.00														
SPARE	20	3	21	0.00							SPARE	20	3	21	0.00														
SPARE	20	3	23	0.00							SPARE	20	3	23	0.00														
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SPARE	20	3	35	0.00							SPARE	20	3	35	0.00														
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SPARE	20	3	39	0.00							SPARE	20	3	39	0.00														
SPARE	20	3	41	0.00							SPARE	20	3	41	0.00														
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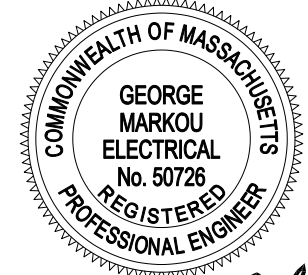



WASTE WASHWATER AND RESIDUAL STORAGE TANK MIXERS
 EWD NO.2

WASTE WASHWATER MIXER NO.X	RESIDUAL STORAGE TANK MIXING PUMPS NO.X
MX-46050	MX-60530
MX-46060	MX-60540

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU



 03/25/2024

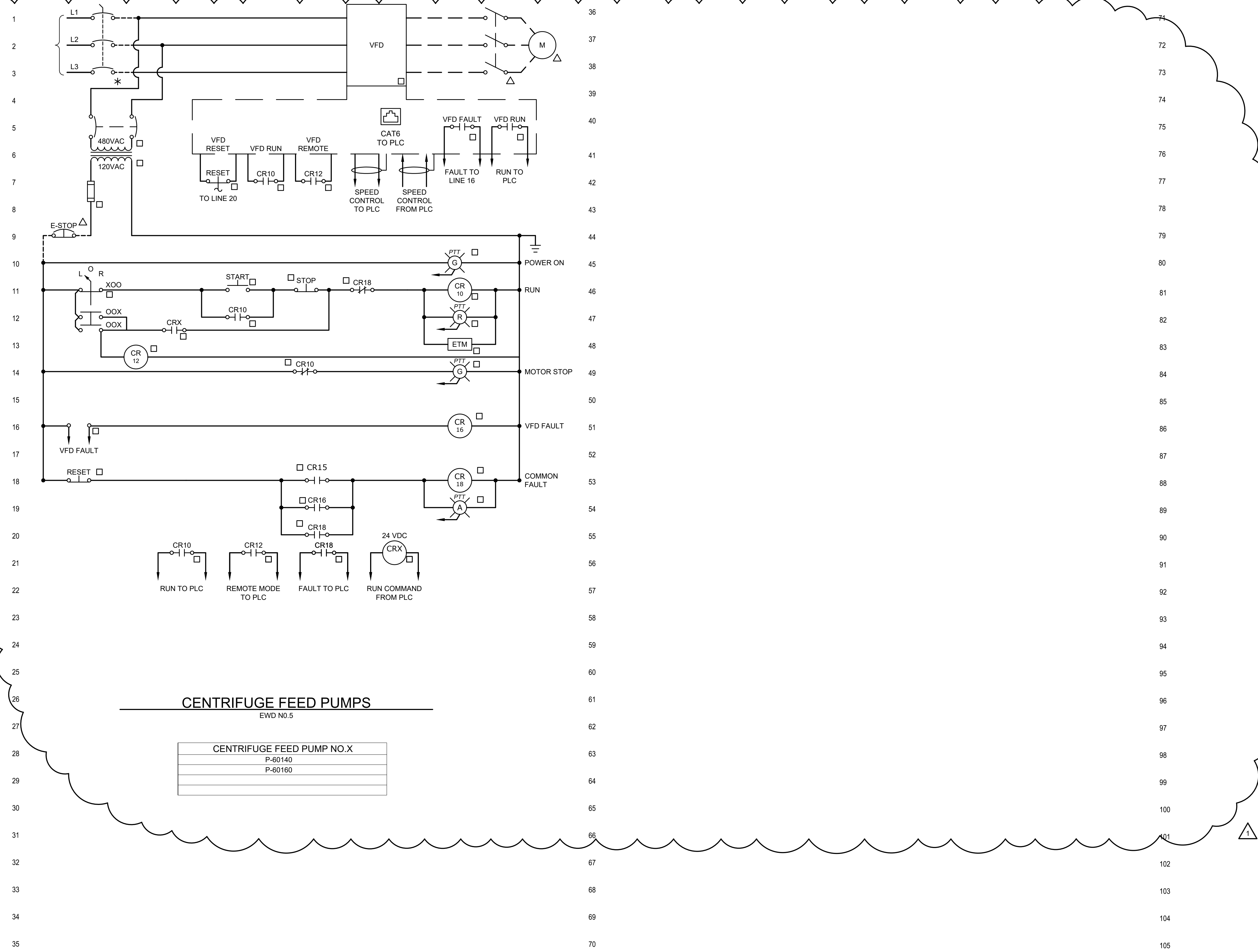

 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
 WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
 DEWATERING BUILDING ELECTRICAL
 WIRING DIAGRAMS - SHEET 1

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3806

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 PLOT DATE: 3/25/2024 1:44 PM BY: DSHAH





CENTRIFUGE FEED PUMPS
EWD NO.5

CENTRIFUGE FEED PUMP NO.X	
P-60140	
P-60160	

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM

PROJECT ENGINEER:	K. BARRETT
DESIGNED BY:	A. PENA / D. SHAH
DRAWN BY:	A. PENA / D. SHAH
CHECKED BY:	G. MARKOU


 GEORGE MARKOU
 ELECTRICAL
 No. 50726
 REGISTERED PROFESSIONAL ENGINEER

 03/25/2024

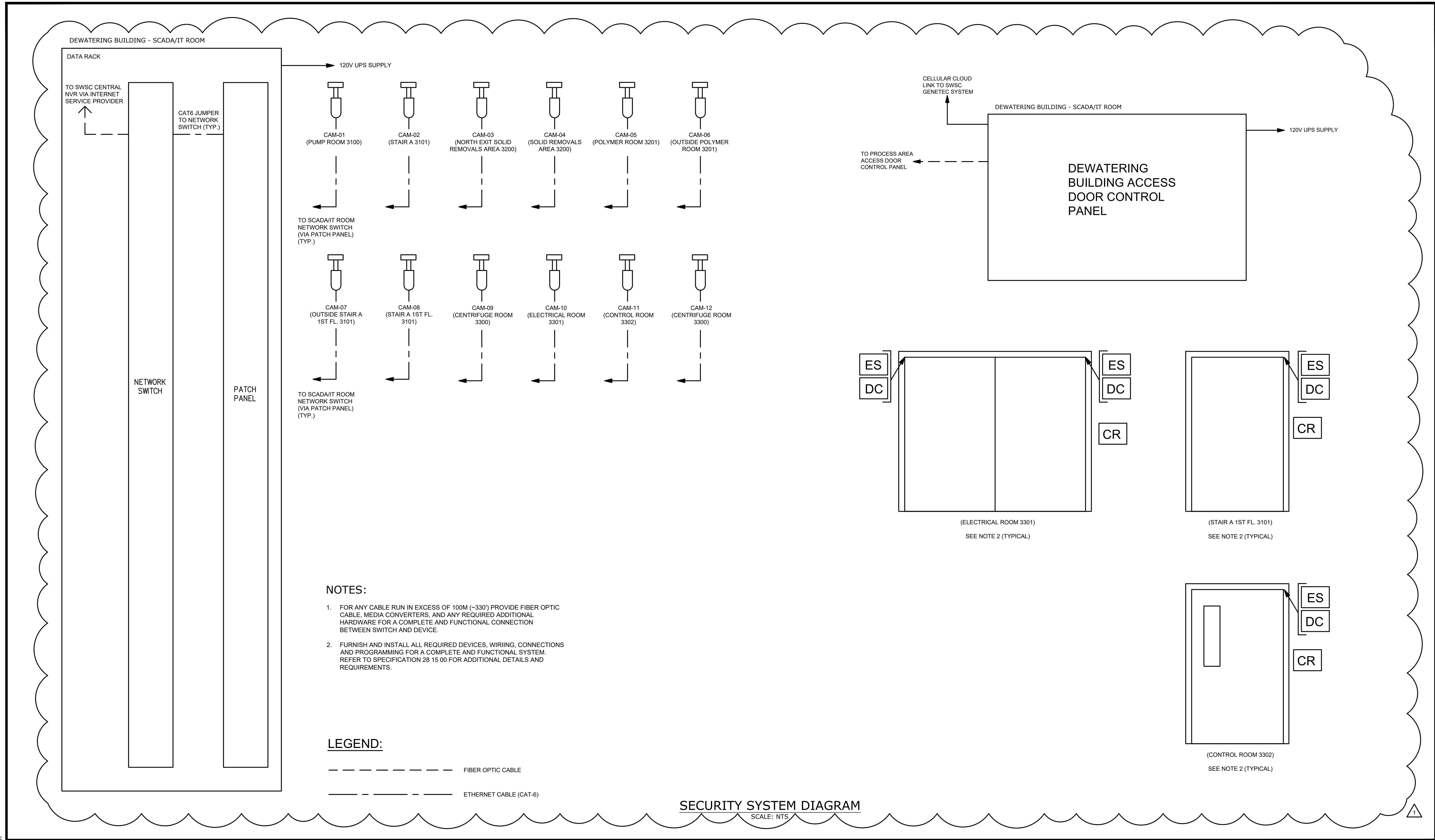

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION
WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING
ELECTRICAL
WIRING DIAGRAMS - SHEET 2

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3807

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 PLOT DATE: 3/25/2024 1:44 PM BY: DSHAH



- NOTES:**
- FOR ANY CABLE RUN IN EXCESS OF 100M (~330') PROVIDE FIBER OPTIC CABLE, MEDIA CONVERTERS, AND ANY REQUIRED ADDITIONAL HARDWARE FOR A COMPLETE AND FUNCTIONAL CONNECTION BETWEEN SWITCH AND DEVICE.
 - FURNISH AND INSTALL ALL REQUIRED DEVICES, WIRING, CONNECTIONS AND PROGRAMMING FOR A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO SPECIFICATION 28 15 00 FOR ADDITIONAL DETAILS AND REQUIREMENTS.

LEGEND:

----- FIBER OPTIC CABLE

----- ETHERNET CABLE (CAT-6)

SECURITY SYSTEM DIAGRAM
SCALE: NTS

PROJECT ENGINEER:	K. BARRETT		
DESIGNED BY:	A. PENA / D. SHAH		
DRAWN BY:	A. PENA / D. SHAH		
CHECKED BY:	G. MARKOU		
1	ADDENDUM NO. 3	MAR 24	MWM
0	ISSUED FOR BIDS	FEB 24	MWM
REV	ISSUED FOR	DATE	BY

03/25/2024

Hazen
 HAZEN AND SAWYER
 100 GREAT MEADOW ROAD, SUITE 702
 WETHERSFIELD, CT 06109

SPRINGFIELD WATER AND SEWER COMMISSION

WEST PARISH WATER TREATMENT PLANT

FILED SUB-BID
DEWATERING BUILDING
ELECTRICAL
SECURITY SYSTEM DIAGRAM

DATE:	FEBRUARY 2024
HAZEN NO.:	90398-004
CONTRACT NO.:	24-51
DRAWING NUMBER:	E-3810

Attachment B – Notice of Award

SECTION 00 51 00
NOTICE OF AWARD¹

To: _____ Date: _____, 2024

The Springfield Water and Sewer Commission, herein called Owner, represented by the undersigned has considered the Bid submitted by you for the Work and any adopted alternatives in response to its Invitation to Bid and Instructions to Bidders dated _____, 2024.

Determined to be in Owner's best interest, the Owner accepts your Bid in the amount of _____ and intends to execute the Agreement for this Work. You are hereby notified that your Bid has been accepted for the Work. You are required by the Instructions to Bidders to execute the formal Agreement with the undersigned Owner and to furnish the required Contractor's Performance Bond and Payment Bond, proper Insurance Certificate and other required Contract Documents within five (5) days from the date of delivery of this Notice to you. **You are required to return an acknowledged copy of this Notice of Intent to Award and all copies of the signed Agreement (leave dates blank) to the Owner for execution.**

If you fail to execute said Agreement and to furnish said bonds and certificates within 15 days from the date of delivery of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Security. The Owner will be entitled to such other rights as may be granted by law and to award the Work covered by your Bid to another, or to re-advertise the Work or otherwise dispose thereof as the Owner may see fit.

Dated this _____ day of _____, 2024.

Owner

By: _____

¹ Addendum No.3

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged this

_____ day of _____, 2024.

By: _____

Title: _____

END OF NOTICE OF AWARD

Attachment C – 09 90 00 Painting Table

Table 2: Product Listing¹

Ref.	System	Purpose	Product			
			Tnemec Series	PPG	CARBOLINE	Sherwin-Williams
101	Acrylic filler	Primer-sealer	130-6601	BLOXFIL 400BF	Sanitile 100	Pro-Industrial Heavy Duty Block Filler
102	Epoxy polyamide	Finish coat semi-gloss or gloss	N69	AMERLOCK 600 (SEMI-GLOSS)	Carboguard 890	Macropoxy 646
103	Acrylic latex	Sealer	1028/1029	PITT TECH PLUS	Carbocrylic 3359DTM	DTM Acrylic Primer/Finish
104	Epoxy Polyamide – metal	Primer	66	AMERCOAT 600	Carboguard 893SG	Macropoxy 646
105	Epoxy polyamide	Primer/Finish	L140	AMERLOCK 2 VOC	Carboguard 61/891VOC	Macropoxy 646 PW
106	Coal tar epoxy	Finish high-coat build	46H-413	AMERCOAT 78HB	Bitumastic 300M	TarGuard Coal Tar Epoxy
107	Coal tar	Sealer	46-465	AMERCOAT 78HB	Bitumastic 300M	TarGuard Coal Tar Epoxy
108	Alkyd-medium oil	Finish coat	2H	HP INDUSTRIAL ALKYD 4308	Carbocoat 8215	Industrial Enamel
109	Alkyd-long oil	Finish coat	1029	HP INDUSTRIAL ALKYD 4308	Carbocoat 8215	Industrial Enamel
110	Epoxy polyamide	Primer	66-1211	AMERCOAT 600	Carboguard 893SG	Macropoxy 646
112	Epoxy polyamide	Sealer	66-1211	AMERLOCK SEALER	Carboguard 893SG	Macropoxy 920 Pre-Prime
113	Urethane	Barrier coat	530	AMERLOCK SEALER	Rustbond	Corothane I Mio-Aluminum
114	Polyamine Epoxy	Intermediate coat	27	AMERLOCK 600	Carboguard 893SG	Pro Industrial High Performance Epoxy
115	Aliphatic Polyurethane	Finish coat	1094 or 1095	PITTHANE ULTRA SERIES	Carbothane 134HG	Acrolon 218HS
116	Acrylic epoxy	Finish coat	113 or 114	AQUAPON WB EP	Sanitile 255	Pro-Industrial Water-Based Catalyzed Epoxy
117	Epoxy block filler	Sealer	1254	AMERLOCK 400BF	Sanitile 500	Kem Cati-Coat HS Epoxy Filler
118	Catalyzed epoxy	Finish coat	84	AMERLOCK 2/400	Carboguard 890	Macropoxy 646
119	High solids epoxy	Finish coat	104	AMERLOCK 240	Carboguard 890	Dura-Plate 235
120	Epoxy	Top coat	N69	AMERLOCK 240	Carboguard 890	Macropoxy 646 Fast Cure Epoxy

END OF SECTION

Attachment D – 26 06 11 Cable and Conduit Schedule

DIVISION 26
ELECTRICAL
(FILED SUB BID REQUIRED)

SECTION 26 06 11
CABLE AND CONDUIT SCHEDULE¹

PART 1 – GENERAL

1.01 FILED SUB-BID REQUIREMENTS

- A. This Section is part of the filed sub-bid for Division 26 – Electrical. See Section 26 05 00.

1.02 THE REQUIREMENT

- A. The cable and conduit schedule lists conduit number, size, cable quantity and size, from/to destinations, circuit purpose and remarks.
- B. The Contractor shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install wires, cables and conduit complete and operational.
- C. All wiring, cable and conduit shall be furnished and installed under this Contract, unless specifically noted otherwise.
- D. The definition of the term conduit shall include all types of raceway provided under this Contract.
- E. In all cases where the word “install” or “installed” refers to conduit, it shall mean install all conduit, raceways, fittings, supports, boxes and appurtenances. In addition, it shall include all grounding and bonding. Drag lines are to be pulled upon completion of each raceway.
- F. Where install or installed refers to cable it shall include pulling the cable and testing the cable for insulation resistance, continuity and absence from grounds, as well as terminating all conductors and testing for proper connection.
- G. The conduit and cable schedule is attached.

1 Addendum No.3

1.03 DEFINITIONS

- A. Conduits are categorized by the circuit type of the wiring to be installed inside. Conduits are defined as follows:
1. Power Conduits – Conduits that carry AC or DC power wiring from a source to a load. Conduits that carry lighting and receptacle wiring.
 2. Control Conduits – Conduits that carry AC or DC discrete control wiring between devices and/or equipment. Conduits that carry fiber optic cables between devices and/or equipment.
 3. Instrumentation Conduits – Conduits that carry AC or DC analog signal wiring between devices and/or equipment. Conduits that carry Category 5e or Category 6 unshielded twisted-pair cables.
- B. Conduit categories are indicated on the cable and conduit schedule by the leading letter of the conduit tag. Conduit tag leading letters are defined as follows:
1. P – Power Conduit
 2. C – Control Conduit
 3. I – Instrumentation Conduit

PART 2 –

CABLE AND CONDUIT SCHEDULE - WEST PARISH WTF

CONDUIT NO.	SIZE	CABLE & SIZE	CONDUIT TYPE	FROM	TO	PURPOSE	REMARKS
OUTDOOR C&C							
P-001	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	EXISTING UTILITY POLE	TX-UTIL-01	23KV Power	PROVIDED BY UTILITY
P-DB-1- SPARE-A	5"	SPARE	PVC Schedule 40	EXISTING UTILITY POLE	TX-UTIL-01	23KV Power	
P-002-A	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-B	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-C	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-D	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-E	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-F	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-G	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-H	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-I	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-002-J	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	PROVIDED BY UTILITY
P-DB-3- SPARE-A	5"	SPARE	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	
P-DB-3- SPARE-B	5"	SPARE	PVC Schedule 40	TX-UTIL-01	UTILITY METER AND CABINET #1	480V Power	

P-003	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	EXISTING UTILITY POLE	TX-UTIL-02	23KV Power	PROVIDED BY UTILITY
P-DB-2- SPARE-A	5"	SPARE	PVC Schedule 40	EXISTING UTILITY POLE	TX-UTIL-02	23KV Power	
P-004-A	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-B	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-C	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-D	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-E	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-F	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-G	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-H	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-I	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-004-J	5"	3 - #1 AWG & 1 - #4/0 GND	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	PROVIDED BY UTILITY
P-DB-3- SPARE-C	5"	SPARE	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	
P-DB-3- SPARE-D	5"	SPARE	PVC Schedule 40	TX-UTIL-02	UTILITY METER AND CABINET #2	480V Power	
P-UTIL- MTR-1-A	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL- MTR-1-B	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL- MTR-1-C	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL- MTR-1-D	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	

P-UTIL-MTR-1-E	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-1-F	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-1-G	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-1-H	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-1-I	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-1-J	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-DB-4-SPARE-A	5"	SPARE	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-DB-4-SPARE-B	5"	SPARE	PVC Schedule 40	UTILITY METER AND CABINET #1	SWGR-01	480V Power	
P-UTIL-MTR-2-A	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-B	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-C	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-D	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-E	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-F	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-G	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-H	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-I	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-UTIL-MTR-2-J	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	

P-DB-4-SPARE-C	5"	SPARE	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-DB-4-SPARE-D	5"	SPARE	PVC Schedule 40	UTILITY METER AND CABINET #2	SWGR-01	480V Power	
P-005-A	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-B	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-C	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-D	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-E	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-F	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-G	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-H	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-I	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-005-J	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	

P-DB-7-SPARE-A	5"	SPARE	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-DB-7-SPARE-B	5"	SPARE	PVC Schedule 40	2000 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-006-A	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-B	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-C	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-D	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-E	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-F	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-G	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-H	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-I	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-006-J	5"	4 - #600 KCMIL W 1#500 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-DB-6-SPARE-A	5"	SPARE	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-DB-6-SPARE-B	5"	SPARE	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-01	480V Power	
P-007-A	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-B	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-C	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	

P-007-D	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-E	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-F	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-G	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-H	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-I	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-007-J	5"	SPARE	PVC Schedule 40	MH # 2 (FUTURE POWER SOURCE)	SWGR-01	480V Power	
P-DB-8- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-01	MH # (FUTURE POWER SOURCE)	480V Power	
P-DB-8- SPARE-B	5"	SPARE	PVC Schedule 40	SWGR-01	MH # (FUTURE POWER SOURCE)	480V Power	
P-008-A	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-B	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-C	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-D	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-E	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-F	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-G	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-H	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-008-I	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	

P-008-J	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-DB-9A- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-DB-9A- SPARE-B	5"	SPARE	PVC Schedule 40	SWGR-01	SWGR-02 BUS "A"	480V Power	
P-009-A	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-B	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-C	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-D	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-E	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-F	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-G	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-H	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-I	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-009-J	5"	3 - #600 KCMIL W 1#500 GND	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-DB-9B- SPARE-C	5"	SPARE	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-DB-9B- SPARE-D	5"	SPARE	PVC Schedule 40	SWGR-01	SWGR-02 BUS "B"	480V Power	
P-010-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	ATS-4A-DWB	480V Power	
P-010-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	ATS-4A-DWB	480V Power	
P-010-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	ATS-4A-DWB	480V Power	

P-DB-10A-SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-02 BUS "A"	ATS-4A-DWB/MCC-4A	480V Power	
P-011-A	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING RAPID SAND FILTER MAIN SWITCHGEAR	480V Power	
P-011-B	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING RAPID SAND FILTER MAIN SWITCHGEAR	480V Power	
P-DB-11A-SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING RAPID SAND FILTER MAIN SWITCHGEAR	480V Power	
P-012	5"	3 - #600 KCMIL W 1#3 GND	PVC Schedule 40	SWGR-02 BUS "A"	ATS-WATERSHED	480V Power	
P-013-A	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING MCC-5 BACKWASH FACILITY	480V Power	
P-013-B	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING MCC-5 BACKWASH FACILITY	480V Power	
P-DB-11A-SPARE-B	5"	SPARE	PVC Schedule 40	SWGR-02 BUS "A"	EXISTING MCC-5 BACKWASH FACILITY	480V Power	
P-014-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "B"	ATS-4B-DWB	480V Power	
P-014-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "B"	ATS-4B-DWB	480V Power	
P-014-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-02 BUS "B"	ATS-4B-DWB	480V Power	
P-DB-10B-SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-02 BUS "B"	ATS-4B-DWB/MCC-4B	480V Power	
P-015	5"	3 - #600 KCMIL W 1#3 GND	PVC Schedule 40	SWGR-02 BUS "B"	ATS-WATERSHED	480V Power	
P-DB-11B-SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-02 BUS "B"	ATS-WATERSHED	480V Power	

P-016-A	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "B"	EXISTING MCC-5 BACKWASH FACILITY	480V Power	
P-016-B	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-02 BUS "B"	EXISTING MCC-5 BACKWASH FACILITY	480V Power	
P-017-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4A-DWB	480V Power	
P-017-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4A-DWB	480V Power	
P-017-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4A-DWB	480V Power	
P-018-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4B-DWB	480V Power	
P-018-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4B-DWB	480V Power	
P-018-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	SWGR-03	ATS-4B-DWB	480V Power	
P-DB- 12A- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-03	ATS-4A-DWB	480V Power	
P-DB- 12B- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-03	ATS-4B-DWB	480V Power	
P-DB- 13A- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-03	ATS-4A-DWB	480V Power	
P-DB- 13B- SPARE-A	5"	SPARE	PVC Schedule 40	SWGR-03	ATS-4B-DWB	480V Power	
P-019-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	EXISTING 800 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-019-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	EXISTING 800 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	

P-019-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	EXISTING 800 KW STANDBY GENERATOR	GENERATOR MANUAL TRANSFER SWITCH	480V Power	
P-020-A	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-03	480V Power	
P-020-B	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-03	480V Power	
P-020-C	5"	3 - #600 KCMIL W 1#3/0 GND	PVC Schedule 40	GENERATOR MANUAL TRANSFER SWITCH	SWGR-03	480V Power	
P-DB- 15A- SPARE-A	5"	SPARE	PVC Schedule 40	800 KW GENERATOR MANUAL TRANSFER SWITCH	SWGR-03	480V Power	
P-021-A	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-03	EXISTING RAPID SAND FILTER MAIN SWITCHGEAR	480V Power	
P-021-B	5"	3 - #600 KCMIL W 1#1/0 GND	PVC Schedule 40	SWGR-03	EXISTING RAPID SAND FILTER MAIN SWITCHGEAR	480V Power	
P-022	5"	3 - #600 KCMIL W 1#3 GND	PVC Schedule 40	ATS-WATERSHED	EXISTING DPWB WATERSHED BUILDING	480V Power	
P-023	1"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	ADMIN BUILDING	GATE 3	208V Power	
P-DB-19- SPARE-A	1"	SPARE	PVC Schedule 40	ADMIN BUILDING	GATE 3	208V Power	
P-023.1	1"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	ADMIN BUILDING	GATE 4	208V Power	
P-DB-19- SPARE-B	1"	SPARE	PVC Schedule 40	ADMIN BUILDING	GATE 4	208V Power	
P-024	1"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	ADMIN BUILDING	GATE 2	208V Power	
P-DB-20- SPARE-A	1"	SPARE	PVC Schedule 40	ADMIN BUILDING	GATE 2	208V Power	
P-025	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 1	208V Power	

P-026	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 2	208V Power	
P-027	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 3	208V Power	
P-028	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 4	208V Power	
P-029	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 5	208V Power	
P-030	1"	2 - 6 AWG W 1#10 GND	PVC Schedule 40	ADMIN BUILDING	EV CHARGER 6	208V Power	
P-DB-22- SPARE-A	1"	SPARE	PVC Schedule 40	ADMIN BUILDING	EV CHARGER	208V Power	
P-031	2"		PVC Schedule 40	DEWATERING BUILDING	WASTE WASHWATER TANK (WWT)		
P-DB-25- SPARE-A	2"	SPARE	PVC Schedule 40	DEWATERING BUILDING	WASTE WASHWATER TANK (WWT)		
P-032	1"	3 - #12 AWG W 1#12 GND	PVC Schedule 40	MCC-2A	SLS-01/LCP-01	480V Power	
P-DB-16- SPARE-A	1"	SPARE	PVC Schedule 40	MCC-2A	SLS-01	480V Power	
P-033	1"	3 - #12 AWG W 1#12 GND	PVC Schedule 40	MCC-2B	SLS-02/LCP-02	480V Power	
P-DB-17- SPARE-A	1"	SPARE	PVC Schedule 40	MCC-2B	SLS-02	480V Power	
P-033.1	1 1/2"	4 - #2 AWG W 1#8 GND	PVC Schedule 40	LP-1-CHEM-TB	GENERATOR PANEL	208V Power	
ADMIN C&C							
P-034-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	ATS-MAIN-ADM	480V Power	
P-034-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	ATS-MAIN-ADM	480V Power	
P-035-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	ATS-MAIN-ADM	480V Power	

P-035-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	ATS-MAIN-ADM	480V Power	
P-036-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	ATS-MAIN-ADM	PP-MAIN-ADM	480V Power	
P-036-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	ATS-MAIN-ADM	PP-MAIN-ADM	480V Power	
P-037	2"	3 - #4/0 AWG W 1#6 GND	RGS	PP-MAIN-ADM	PP-1-ADM	480V Power	
P-038	2"	3 - #4/0 AWG W 1#6 GND	RGS	PP-MAIN-ADM	PP-2-ADM	480V Power	
P-039-A	3"	3 - #350 KCMIL W 1#1 GND	RGS	PP-MAIN-ADM	PP-3-ADM	480V Power	
P-039-B	3"	3 - #350 KCMIL W 1#1 GND	RGS	PP-MAIN-ADM	PP-3-ADM	480V Power	
P-040	2"	3 - #2 AWG W 1#8 GND	RGS	PP-MAIN-ADM	DSW-UPS-ADM	480V Power	
P-042	2"	3 - #2 AWG W 1#8 GND	RGS	DSW-UPS-ADM	UPS-ADM	240V Power	
P-043	2"	3 - #2 AWG W 1#8 GND	RGS	UPS-ADM	LP-UPS-ADM	240V Power	
P-044	1"	3 - #6 AWG W 1#10 GND	RGS	PP-MAIN-ADM	DSW-TX-UPS-EMER- 1-ADM	480V Power	
P-045	1"	3 - #6 AWG W 1#10 GND	RGS	DSW-TX-UPS-EMER-1- ADM	TX-UPS-EMER-1-ADM	480V Power	
P-046	1 1/2"	4 - #3 AWG W 1#8 GND	RGS	TX-UPS-EMER-1-ADM	UPS-EMER-1-ADM	240V Power	
P-047	1 1/2"	4 - #3 AWG W 1#8 GND	RGS	UPS-EMER-1-ADM	LP-UPS-EMER-1-ADM	240V Power	
P-047.1	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	PP-MAIN-ADM	DSW-TX-EV-ADM	480V Power	
P-047.2	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	DSW-TX-EV-ADM	TX-EV-ADM	480V Power	
P-047.3	2 1/2"	4 - #250 KCMIL W 1#4 GND	RGS	TX-EV-ADM	LP-EV-ADM	208V Power	
P-048	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-1-ADM	DSW-CWP-01	480V Power	

P-048.1	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-CWP-01	VFD-CWP-01	480V Power	
P-049	3/4"	3 - #10 AWG W 1#10 GND	RGS	VFD-CWP-01	CWP-01	480V Power	
P-050	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-1-ADM	DSW-CWP-02 (STANDBY)	480V Power	
P-050.1	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-CWP-02 (STANDBY)	VFD-CWP-02 (STANDBY)	480V Power	
P-051	3/4"	3 - #10 AWG W 1#10 GND	RGS	VFD-CWP-02 (STANDBY)	CWP-02 (STANDBY)	480V Power	
P-052	1"	3 - #3 AWG W 1#8 GND	RGS	PP-1-ADM	TX-1-ADM	480V Power	
P-053	1"	4 - #3 AWG W 1#8 GND	RGS	TX-1-ADM	LP-1A-ADM	208V Power	
P-054	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-ADM	DSW-SP-01	480V Power	
P-055	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SP-01	SP-01	480V Power	
P-056	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-ADM	DSW-EUH-53	480V Power	
P-057	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-53	EUH-53	480V Power	
P-058	1"	3 - #8 AWG W 1#10 GND	RGS	PP-1-ADM	DSW-ELEVATOR	480V Power	
P-059	1"	3 - #8 AWG W 1#10 GND	RGS	DSW-ELEVATOR	ELEVATOR	480V Power	
P-060	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-2-ADM	DSW-WH-01	480V Power	
P-061	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-WH-01	WH-01	480V Power	
P-062	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-2-ADM	DSW-WH-02	480V Power	
P-063	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-WH-02	WH-02	480V Power	
P-064	2"	3 - #3/0 AWG W 1#6 GND	RGS	PP-2-ADM	TX-2-ADM	480V Power	

P-065	2 1/2"	4 - #250 KCMIL W 1#4 GND	RGS	TX-2-ADM	LP-2-ADM	480V Power	
P-066	3/4"	3 - #8 AWG W 1#10 GND	RGS	PP-3-ADM	DSW-VRF-01	480V Power	
P-067	3/4"	3 - #8 AWG W 1#10 GND	RGS	DSW-VRF-01	VRF-01	480V Power	
P-068	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-3-ADM	DSW-VRF-02	480V Power	
P-069	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-VRF-02	VRF-02	480V Power	
P-070	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-3-ADM	DSW-VRF-03	480V Power	
P-071	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-VRF-03	VRF-03	480V Power	
P-072	3/4"	3 - #8 AWG W 1#10 GND	RGS	PP-3-ADM	DSW-VRF-04	480V Power	
P-073	3/4"	3 - #8 AWG W 1#10 GND	RGS	DSW-VRF-04	VRF-04	480V Power	
P-074	3/4"	3 - #10 AWG W 1#10 GND	RGS	PP-3-ADM	DSW-VRF-05	480V Power	
P-075	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-VRF-05	VRF-05	480V Power	
P-076	1 1/2"	3 - #2 AWG W 1#6 GND	RGS	PP-3-ADM	DSW-DOAS-01	480V Power	
P-077	1 1/2"	3 - #2 AWG W 1#6 GND	RGS	DSW-DOAS-01	DOAS-01	480V Power	
P-078	1 1/2"	3 - #2 AWG W 1#6 GND	RGS	PP-3-ADM	DSW-DOAS-02	480V Power	
P-079	1 1/2"	3 - #2 AWG W 1#6 GND	RGS	DSW-DOAS-02	DOAS-02	480V Power	
P-080	2"	3 - #3/0 AWG W 1#6 GND	RGS	PP-3-ADM	TX-3-ADM	480V Power	
P-081	2 1/2"	4 - #250 KCMIL W 1#4 GND	RGS	TX-3-ADM	LP-3-ADM	480V Power	
P-082	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-3-ADM	DSW-EF-19	480V Power	

P-083	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EF-19	EF-19	480V Power	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
P-086	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	DSW-EWH-01	208V Power	
P-087	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EWH-01	EWH-01	208V Power	
P-088	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	DSW-EWH-02	208V Power	
P-089	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EWH-02	EWH-02	208V Power	
P-090	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	GMU-01	120V Power	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
P-094	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	ELEVATOR F/A CONTROLLER	120V Power	
P-095	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	DDC-11	120V Power	
P-096	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	LCS-CWP-01	120V Power	
P-097	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1A-ADM	LCS-CWP-02	120V Power	
P-098	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-2-ADM	LP-2A-ADM	208V Power	
P-099	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-2-ADM	LP-2B-ADM	208V Power	
P-100	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-2-ADM	LP-2C-ADM	208V Power	
P-101	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-2-ADM	LP-BR-ADM	208V Power	
P-102	2"	4 - #1/0 AWG W 1#6 GND	RGS	LP-2-ADM	LP-LAB-ADM	208V Power	

P-103	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-2-ADM	LP-2D-ADM	208V Power	
P-104	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	BC-01	208V Power	
P-105	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FTR-07	208V Power	
P-106	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FTR-08	208V Power	
P-107	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FTR-09	208V Power	
P-108	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FTR-10	208V Power	
P-109	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-05	208V Power	
P-110	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-06	208V Power	
P-111	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-07	208V Power	
P-112	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-08	208V Power	
P-113	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-09	208V Power	
P-114	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-10	208V Power	
P-115	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-11	208V Power	
P-116	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-12	208V Power	
P-117	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	FCU-13	208V Power	
P-118	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2A-ADM	TP-02 (ROOM 1208)	120V Power	
P-119	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	BC-02	208V Power	
P-120	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-01	208V Power	

P-121	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-02	208V Power	
P-122	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-03	208V Power	
P-123	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-04	208V Power	
P-124	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-05	208V Power	
P-125	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FTR-06	208V Power	
P-126	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-14	208V Power	
P-127	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-15	208V Power	
P-128	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-16	208V Power	
P-129	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-17	208V Power	
P-130	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-18	208V Power	
P-131	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-19	208V Power	
P-132	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-20	208V Power	
P-133	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2B-ADM	FCU-23	208V Power	
P-134	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-21	120V Power	
P-135	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-22	120V Power	
P-136	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	WPS-01	120V Power	
P-137	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	RCP-01	120V Power	
P-138	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	TP-01 (ROOM 1218)	120V Power	

P-139	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	BC-03	208V Power	
P-140	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	RCP-02	120V Power	
-	-	-	-	-	-	-	-
P-142	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	DDC-13	120V Power	
P-143	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	DDC-15	120V Power	
P-143.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	LCP-AP01	120V Power	
P-143.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	LCP-AP02	120V Power	
P-143.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	LCP-AP03	120V Power	
P-143.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-24	208V Power	
P-143.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-25	208V Power	
P-143.6	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-26	208V Power	
P-143.7	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-27	208V Power	
P-143.8	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2C-ADM	FCU-28	208V Power	
P-144	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1100, 1101, 1103)	120V Power	
P-145	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1210, 1211, 1212, 1213,1214, 1215)	120V Power	
P-146	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1221, 1222, 1223, 1224)	120V Power	
P-147	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM RECP - EL.457.00	120V Power	

P-148	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	LP-2D-ADM	OUTDOOR LTG - ADMIN SOUTH	208V Power	
P-149	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	LP-2D-ADM	OUTDOOR LTG - DWB	208V Power	
P-150	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1200, 1201, 1202)	120V Power	
P-151	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1203, 1204, 1205, 1206, 1207, 1208, 1209)	120V Power	
P-152	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1216, 1217, 1218, 1219, 1220)	120V Power	
P-153	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM RECP - EL.457.00	120V Power	
P-154	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	LP-2D-ADM	OUTDOOR LTG - ADMIN SOUTH	208V Power	
P-155	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 40	LP-2D-ADM	OUTDOOR LTG - LB1/LB2	120V Power	
P-155.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM EAST RECP - EL.471.00	120V Power	
P-155.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM EAST RECP - EL.471.00	120V Power	
P-155.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM EAST RECP - EL.471.00	120V Power	
P-155.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1201)	120V Power	
P-155.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM EAST RECP - EL.471.00	120V Power	
P-155.6	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM EAST RECP - EL.471.00	120V Power	
P-155.7	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM LTG - (1200, 1201, 1202)	120V Power	
P-155.8	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM RECP - RECPT DSK EL.457.00	120V Power	
P-155.9	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM WEST RECP - EL.471.00	120V Power	

P-155.10	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM RECP - LOBY DISPLAY EL.471	120V Power	
P-155.11	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM RECP - LOBY WALL EL.471	120V Power	
P-155.12	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-155.13	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2D-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-156	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	FCU-01	208V Power	
P-157	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	FCU-02	208V Power	
P-158	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	FCU-03	208V Power	
P-159	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	FCU-04	208V Power	
P-160	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECP BREAK RM - EL.471.00	120V Power	
P-161	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	TRAINING RM - EL.471.00	120V Power	
P-162	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	TRAINING RM - EL.471.00	120V Power	
P-163	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-163.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-163.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECP BREAK RM - EL.471.00	120V Power	
P-163.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	TRAINING RM - EL.471.00	120V Power	
P-163.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-163.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	ADM WEST RECP - EL.471.00	120V Power	
P-164	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-BR-ADM	RECP BREAK RM - DISHWASHER	208V Power	

P-165	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECP BREAK RM - EL.471.00	120V Power
P-166	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECP BREAK RM REFRIGERATOR	120V Power
P-167	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECP BREAK RM - MICROWAVE	120V Power
P-168	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-BR-ADM	RECEP BREAK ROOM - MONITOR	120V Power
P-169	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	TP-01 (Room 1221)	120V Power
P-170	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	FS (Room 1220)	120V Power
P-171	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	FS (Room 1221)	120V Power
P-172	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	FSH-70001	120V Power
P-173	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	LCS-70740	120V Power
P-173.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.6	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.7	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.8	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power
P-173.9	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power

P-173.10	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	AUTOCLAVE	120V Power	
P-173.11	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	AUTOCLAVE	120V Power	
P-173.12	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	INCUBATOR	120V Power	
P-173.13	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	INCUBATOR	120V Power	
P-173.14	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	INCUBATOR	120V Power	
P-173.15	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	DRYING OVEN	120V Power	
P-173.16	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	DRYING OVEN	120V Power	
P-173.17	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	UNDECOUNTER FREEZER	120V Power	
P-173.18	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	UNDERCOUNTER ICE MAKER	120V Power	
P-173.19	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	FUME HOOD	120V Power	
P-173.20	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	LAB REFRIGERATOR	120V Power	
P-173.21	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	LAB REFRIGERATOR	120V Power	
P-173.22	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	RH UNDR COUNTR LAB REFRIG	120V Power	
P-173.23	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power	
P-173.24	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP REG RACK- EL.471	120V Power	
P-173.25	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP REG RACK- EL.471	120V Power	
P-173.26	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP - EL.471.00	120V Power	
P-173.27	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP REG RACK- EL.471	120V Power	

P-173.28	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LAB-ADM	ADM LAB RECP REG RACK- EL.471	120V Power	
P-173.29	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-LAB-ADM	LAB DISHWASHER	208V Power	
P-174	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-3-ADM	LP-3A-ADM	208V Power	
P-175	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-3-ADM	LP-3B-ADM	208V Power	
P-176	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-3-ADM	LP-3C-ADM	208V Power	
P-177	2 1/2"	4 - #4/0 AWG W 1#6 GND	RGS	LP-3-ADM	LP-3D-ADM	208V Power	
P-178	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-29	208V Power	
P-179	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-30	208V Power	
P-180	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-31	208V Power	
P-181	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-32	208V Power	
P-182	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-33	208V Power	
P-183	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-34	208V Power	
P-184	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-35	208V Power	
P-185	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	FCU-36	208V Power	
P-186	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	BC-04	208V Power	
P-187	1"	2 - #8 AWG W 1#10 GND	RGS	LP-3A-ADM	WH-03	208V Power	
P-188	1"	2 - #8 AWG W 1#10 GND	RGS	LP-3A-ADM	WH-04	208V Power	
P-189	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	TP-01 (Room 1311)	120V Power	

P-190	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	TP-01 (Room 1313)	120V Power	
P-191	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	DOAS-1	120V Power	
P-192	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	RCP-03	120V Power	
P-193	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	DSW-EF-17	120V Power	
P-194	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-17	EF-17	120V Power	
P-195	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3A-ADM	DDC-07	120V Power	
P-196	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-37	208V Power	
P-197	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-38	208V Power	
P-198	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-39	208V Power	
P-199	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-40	208V Power	
P-200	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-41	208V Power	
P-201	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-42	208V Power	
P-202	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-43	208V Power	
P-203	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-44	208V Power	
P-204	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	FCU-45	208V Power	
P-205	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	BC-05	208V Power	
P-206	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	DOAS-2	208V Power	
P-207	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	BMS-01	120V Power	

P-208	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	BMS-MCP	120V Power	
P-209	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	LCS-EF-21	120V Power	
P-210	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	VRF CENTRALIZED CONTROLLER	120V Power	
P-211	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	LCS-EF-20	120V Power	
P-212	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	BMS-04	120V Power	
P-212.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	LCP-AP04	120V Power	
P-212.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	LCP-AP05	120V Power	
P-212.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3B-ADM	LCP-AP06	120V Power	
P-213	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-46	208V Power	
P-214	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-47	208V Power	
P-215	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-48	208V Power	
P-216	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-49	208V Power	
P-217	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-50	208V Power	
P-218	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-51	208V Power	
P-219	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-52	208V Power	
P-220	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-53	208V Power	
P-221	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-54	208V Power	
P-222	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-55	208V Power	

P-223	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	FCU-56	208V Power	
P-224	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-3C-ADM	HP-01	208V Power	
P-225	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	DSW-EF-18	120V Power	
P-226	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-18	EF-18	120V Power	
P-227	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	DSW-EF-20	120V Power	
P-228	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-20	EF-20	120V Power	
P-229	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	DSW-EF-21	120V Power	
P-230	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-21	EF-21	120V Power	
P-231	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	DDC-05	120V Power	
P-231.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	DDC-06	120V Power	
P-232	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	LCS-EF-17	120V Power	
P-233	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	LCS-EF-18	120V Power	
P-234	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3C-ADM	LCS-EF-19	120V Power	
P-235	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-236	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-237	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-238	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-239	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	

P-240	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-241	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-242	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM WEST RECP - EL.485.00	120V Power	
P-243	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM RECP - EL.499.00	120V Power	
P-244	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1300,1301,1302)	120V Power	
P-245	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1303,1304,1305,1306, 1307,1308,1309)	120V Power	
P-246	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1310,1311,1312)	120V Power	
P-247	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1313,1314,1315,1316)	120V Power	
P-248	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM LTG - ROOF	120V Power	
P-249	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1300)	120V Power	
P-250	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1317,1318,1319)	120V Power	
P-251	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1320,1321,1322)	120V Power	
P-252	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1323,1324,1325)	120V Power	
P-253	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	LTG - (1326,1327,1328,1329, 1330,1331)	120V Power	
P-253.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	

P-253.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.6	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.7	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.8	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	ADM EAST RECP - EL.485.00	120V Power	
P-253.9	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	RECP BREAK RM REFRIGERATOR	120V Power	
P-253.10	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3D-ADM	RECP BREAK RM - MICROWAVE	120V Power	
P-254	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 457,STAIR A (ADM)	120V Power	
P-255	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL 485 (ADM)	120V Power	
P-256	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 457 RM 2100/2102 (TB)	120V Power	
P-257	3/4"	2 - #12 AWG W 1#12 GND	RGS/PVC COATED RGS/PVC SCH 80	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 471 RM EAST(TB)	120V Power	PVC COATED RGS OR PVC SCHEDULE 80 WHERE APPLICABL E
P-258	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 485 RM 2300(TB)	120V Power	
P-259	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EXIT DOOR EXTERIOR ADM/TB LTG	120V Power	
P-260	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	TB ROOF LTG	120V Power	

P-261	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	TB ROOF LTG	120V Power	
P-262	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL 471 (ADM)	120V Power	
P-263	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 457 RM 2101 (TB)	120V Power	
P-264	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 471 RM WEST, STAIR C, STAIR D (TB)	120V Power	
P-265	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 485 RM 2301 NORTH (TB)	120V Power	
P-265.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 485 RM 2302/2303(TB)	120V Power	
P-265.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 471 RM EAST, STAIR B (TB)	120V Power	
P-265.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-ADM	EM/EXIT LTG - EL. 485 RM 2301 SOUTH (TB)	120V Power	
P-266	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	SCADA SERVER NO. 1	120V Power	
P-267	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	SCADA SERVER NO. 2	120V Power	
P-268	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	SCADA SERVER NO. 3	120V Power	
P-269	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	OPERATOR CONSOLE & MONITOR 1	120V Power	
P-270	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	OPERATOR CONSOLE & MONITOR 2	120V Power	
P-271	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	OPERATOR CONSOLE & MONITOR 3	120V Power	

P-272	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	OPERATOR SCREEN & MONITORS	120V Power	
P-273	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	PLC CABINET NO. 1 (TRAIN A)	120V Power	
P-274	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	PLC CABINET NO. 2 (TRAIN B)	120V Power	
P-275	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	PLC CABINET NO. 3 (BOP)	120V Power	
P-276	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT SERVER # 1	120V Power	
P-277	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT SERVER # 2	120V Power	
P-278	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT SERVER # 3	120V Power	
P-279	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT DATA DIODE	120V Power	
P-280	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT FIREWALL	120V Power	
P-281	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	SCADA DATA DIODE	120V Power	
P-282	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	NETWORK ROUTER	120V Power	
P-283	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	IT NAS2	120V Power	
P-284	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	SCADA NAS1	120V Power	
P-285	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	PROGRAMMING STATION & MONITOR	120V Power	
P-286	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	ETHERNET SWITCH NO. 1	120V Power	
P-287	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	ETHERNET SWITCH NO. 2	120V Power	
P-288	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	ETHERNET SWITCH NO. 3	120V Power	
P-289	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	ETHERNET SWITCH NO. 4	120V Power	

P-290	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-ADM	ETHERNET SWITCH NO. 5	120V Power	
TB C&C							
P-291-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-1A	480V Power	
P-291-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-1A	480V Power	
P-291-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-1A	480V Power	
P-292-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-2A	480V Power	
P-292-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-2A	480V Power	
P-292-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-2A	480V Power	
P-293-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-3A	480V Power	
P-293-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-3A	480V Power	
P-293-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	MCC-3A	480V Power	
P-294-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	SWBD-1A	480V Power	
P-294-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	SWBD-1A	480V Power	
P-295-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-1B	480V Power	
P-295-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-1B	480V Power	
P-295-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-1B	480V Power	
P-296-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-2B	480V Power	

P-296-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-2B	480V Power	
P-296-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-2B	480V Power	
P-297-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-3B	480V Power	
P-297-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-3B	480V Power	
P-297-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	MCC-3B	480V Power	
P-298-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	SWBD-1B	480V Power	
P-298-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	SWBD-1B	480V Power	
P-299-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	SPARE BREAKER	480V Power	
P-299-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "A"	SPARE BREAKER	480V Power	
P-300-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	SPARE BREAKER	480V Power	
P-300-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	SPARE BREAKER	480V Power	
P-300-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "A"	SPARE BREAKER	480V Power	
P-301-A	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	SPARE BREAKER	480V Power	
P-301-B	5"	3 - #600 KCMIL W 1#1/0 GND	RGS	SWGR-02 BUS "B"	SPARE BREAKER	480V Power	
P-302-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	SPARE BREAKER	480V Power	
P-302-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	SPARE BREAKER	480V Power	
P-302-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	SWGR-02 BUS "B"	SPARE BREAKER	480V Power	
P-303	3/4"	3 - #10 AWG W 1#10 GND	RGS	MCC-1A	DSW-MONORAIL 1	480V Power	

P-304	3/4"	3 - #10 AWG W 1#10 GND	RGS	DSW-MONORAIL 1	MONORAIL 1	480V Power	
P-305	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1A	DSW-WH-05	480V Power	
P-306	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-WH-05	WH-05	480V Power	
P-307	1"	3 - #8 AWG W 1#10 GND	RGS	MCC-1A	DSW-DHC-01	480V Power	
P-308	1"	3 - #8 AWG W 1#10 GND	RGS	DSW-DHC-01	DHC-01	480V Power	
P-309	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	MCC-1A	DSW-P-56060	480V Power	
P-310	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-P-56060	P-56060	480V Power	
P-311	3"	3 - #500 KCMIL W 1#3 GND	RGS	MCC-1A	VFD-33030	480V Power	
P-312	3"	3 - #500 KCMIL W 1#3 GND	RGS	VFD-33030	P-33030	480V Power	
P-313	3"	3 - #500 KCMIL W 1#3 GND	RGS	MCC-1A	VFD-33010	480V Power	
P-314	3"	3 - #500 KCMIL W 1#3 GND	RGS	VFD-33010	P-33010	480V Power	
P-315	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1A	DSW-P-52080	480V Power	
P-316	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-52080	P-52080	480V Power	
P-317	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1A	DSW-P-54060	480V Power	
P-318	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-54060	P-54060	480V Power	
P-319	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1A	DSW-P-53060	480V Power	
P-320	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-53060	P-53060	480V Power	
P-321	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1A	DSW-P-52060	480V Power	

P-322	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-52060	P-52060	480V Power
P-323	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	MCC-1A	DSW-P-51060	480V Power
P-324	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-P-51060	P-51060	480V Power
P-325	1"	3 - #6 AWG W 1#10 GND	RGS	MCC-1A	DSW-AC-01	480V Power
P-326	1"	3 - #6 AWG W 1#10 GND	RGS	DSW-AC-01	AC-01	480V Power
P-327	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1A	DSW-P-35020	480V Power
P-328	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35020	P-35020	480V Power
P-329	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1A	DSW-P-35060	480V Power
P-330	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35060	P-35060	480V Power
P-331	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	MCC-1B	DSW-P-51070	480V Power
P-332	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-P-51070	P-51070	480V Power
P-333	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1B	DSW-P-52070	480V Power
P-334	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-52070	P-52070	480V Power
P-335	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1B	DSW-P-53070	480V Power
P-336	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-53070	P-53070	480V Power
P-337	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1B	DSW-P-54070	480V Power
P-338	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-54070	P-54070	480V Power
P-339	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	MCC-1B	DSW-P-52090	480V Power

P-340	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-P-52090	P-52090	480V Power
P-341	3"	3 - #500 KCMIL W 1#3 GND	RGS	MCC-1B	VFD-33020	480V Power
P-342	3"	3 - #500 KCMIL W 1#3 GND	RGS	VFD-33020	P-33020	480V Power
P-343	3"	3 - #500 KCMIL W 1#3 GND	RGS	MCC-1B	VFD-33040	480V Power
P-344	3"	3 - #500 KCMIL W 1#3 GND	RGS	VFD-33040	P-33040	480V Power
P-345	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1B	DSW-P-35030	480V Power
P-346	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35030	P-35030	480V Power
P-347	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1B	DSW-P-35070	480V Power
P-348	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35070	P-35070	480V Power
P-349	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	MCC-1B	DSW-P-56070	480V Power
P-350	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-P-56070	P-56070	480V Power
P-351	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1B	DSW-P-35030	480V Power
P-352	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35030	P-35030	480V Power
P-353	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-1B	DSW-P-35070	480V Power
P-354	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-35070	P-35070	480V Power
P-355	1"	3 - #6 AWG W 1#10 GND	RGS	MCC-1B	DSW-BCU-01	480V Power
P-356	1"	3 - #6 AWG W 1#10 GND	RGS	DSW-BCU-01	BCU-01	480V Power
P-357	1"	3 - #6 AWG W 1#10 GND	RGS	MCC-1B	DSW-AC-02	480V Power

P-358	1"	3 - #6 AWG W 1#10 GND	RGS	DSW-AC-02	AC-02	480V Power	
P-359	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A	DSW-MONORAIL 2	480V Power	
P-360	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MONORAIL 2	MONORAIL 2	480V Power	
P-361	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20120	DSW-FLOC-20120	480V Power	
P-362	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20120	FLOC-20120	480V Power	
P-363	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20130	DSW-FLOC-20130	480V Power	
P-364	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20130	FLOC-20130	480V Power	
P-365	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20220	DSW-FLOC-20220	480V Power	
P-366	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20220	FLOC-20220	480V Power	
P-367	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20230	DSW-FLOC-20230	480V Power	
P-368	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20230	FLOC-20230	480V Power	
P-369	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20320	DSW-FLOC-20320	480V Power	
P-370	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20320	FLOC-20320	480V Power	
P-371	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20330	DSW-FLOC-20330	480V Power	
P-372	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20330	FLOC-20330	480V Power	
P-373	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20420	DSW-FLOC-20420	480V Power	
P-374	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20420	FLOC-20420	480V Power	
P-375	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20430	DSW-FLOC-20430	480V Power	

P-376	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20430	FLOC-20430	480V Power
P-377	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20520	DSW-FLOC-20520	480V Power
P-378	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20520	FLOC-20520	480V Power
P-379	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-20530	DSW-FLOC-20530	480V Power
P-380	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20530	FLOC-20530	480V Power
P-381	2"	3 - #250 KCMIL W 1#4 GND	RGS	MCC-2A	BL-45010	480V Power
P-382	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-30160	DSW-SKMR-30160	480V Power
P-383	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30160	SKMR-30160	480V Power
P-384	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-30260	DSW-SKMR-30260	480V Power
P-385	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30260	SKMR-30260	480V Power
P-386	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-30360	DSW-SKMR-30360	480V Power
P-387	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30360	SKMR-30360	480V Power
P-388	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-30460	DSW-SKMR-30460	480V Power
P-389	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30460	SKMR-30460	480V Power
P-390	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2A/VFD-30560	DSW-SKMR-30560	480V Power
P-391	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30560	SKMR-30560	480V Power
P-392	2"	3 - #3/0 AWG W 1#6 GND	RGS	MCC-2A	LCP-34010/COMP- 34010	480V Power
P-393	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20620	DSW-FLOC-20620	480V Power

P-394	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20620	FLOC-20620	480V Power	
P-395	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20630	DSW-FLOC-20630	480V Power	
P-396	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20630	FLOC-20630	480V Power	
P-397	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20720	DSW-FLOC-20720	480V Power	
P-398	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20720	FLOC-20720	480V Power	
P-399	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20730	DSW-FLOC-20730	480V Power	
P-400	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20730	FLOC-20730	480V Power	
P-401	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20820	DSW-FLOC-20820	480V Power	
P-402	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20820	FLOC-20820	480V Power	
P-403	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20830	DSW-FLOC-20830	480V Power	
P-404	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20830	FLOC-20830	480V Power	
P-405	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20920	DSW-FLOC-20920	480V Power	
P-406	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20920	FLOC-20920	480V Power	
P-407	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-20930	DSW-FLOC-20930	480V Power	
P-408	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-20930	FLOC-20930	480V Power	
P-409	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-21020	DSW-FLOC-21020	480V Power	
P-410	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-21020	FLOC-21020	480V Power	
P-411	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-21030	DSW-FLOC-21030	480V Power	

P-412	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FLOC-21030	FLOC-21030	480V Power
P-413	2"	3 - #250 KCMIL W 1#4 GND	RGS	MCC-2B	BL-45030	480V Power
P-414	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-30660	DSW-SKMR-30660	480V Power
P-415	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30660	SKMR-30660	480V Power
P-416	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-30760	DSW-SKMR-30760	480V Power
P-417	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30760	SKMR-30760	480V Power
P-418	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-30860	DSW-SKMR-30860	480V Power
P-419	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30860	SKMR-30860	480V Power
P-420	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-30960	DSW-SKMR-30960	480V Power
P-421	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-30960	SKMR-30960	480V Power
P-422	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B/VFD-31060	DSW-SKMR-31060	480V Power
P-423	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SKMR-31060	SKMR-31060	480V Power
P-424	2"	3 - #3/0 AWG W 1#6 GND	RGS	MCC-2B	LCP-34020/COMP- 34020	480V Power
P-425-A	3"	3 - #250 KCMIL W 1#2 GND	RGS	MCC-2B	HV-03	480V Power
P-425-B	3"	3 - #250 KCMIL W 1#2 GND	RGS	MCC-2B	HV-03	480V Power
P-426	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-2B	DSW-MONORAIL 3	480V Power
P-427	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MONORAIL 3	MONORAIL 3	480V Power
P-428	3"	3 - #350 KCMIL W 1#4 GND	RGS	MCC-3A	HV-01	480V Power

P-429	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-3A	DSW-ACCU-01	480V Power	
P-430	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-ACCU-01	ACCU-01	480V Power	
P-431	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-3A	DSW-ACCU-03	480V Power	
P-432	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-ACCU-03	ACCU-03	480V Power	
P-433	4"	3 - #600 KCMIL W 1#3 GND	RGS	MCC-3A	DHU-01	480V Power	
P-434	3/4"	3 - #6 AWG W 1#10 GND	RGS	MCC-3A	DSW-AC-03	480V Power	
P-435	3/4"	3 - #6 AWG W 1#10 GND	RGS	DSW-AC-03	AC-03	480V Power	
P-436	1"	3 - #3 AWG W 1#8 GND	RGS	MCC-3A	DSW-WH-10	480V Power	
P-437	1"	3 - #3 AWG W 1#8 GND	RGS	DSW-WH-10	WH-10	480V Power	
P-438	3"	3 - #350 KCMIL W 1#4 GND	RGS	MCC-3B	HV-02	480V Power	
P-439	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-3B	DSW-ACCU-02	480V Power	
P-440	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-ACCU-02	ACCU-02	480V Power	
P-441	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-3B	DSW-ACCU-04	480V Power	
P-442	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-ACCU-04	ACCU-04	480V Power	
P-443	3/4"	3 - #6 AWG W 1#10 GND	RGS	MCC-3B	DSW-AC-04	480V Power	
P-444	3/4"	3 - #6 AWG W 1#10 GND	RGS	DSW-AC-04	AC-04	480V Power	
P-445	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-1A-TB	480V Power	
P-446	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-1B-TB	480V Power	

P-447	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-1C-TB	480V Power
P-448	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-1D-TB	480V Power
P-449	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-1E-TB	480V Power
P-450	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-1F-TB	480V Power
P-451	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-1G-TB	480V Power
P-452	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-1H-TB	480V Power
P-453	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-1-TB	480V Power
P-454	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-2-TB	480V Power
P-455	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-3-TB	480V Power
P-456	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	SWBD-1A	PP-2A-TB	480V Power
P-457	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	SWBD-1A	PP-2B-TB	480V Power
P-458	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	SWBD-1A	PP-2C-TB	480V Power
P-459	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	SWBD-1A	PP-2D-TB	480V Power
P-460	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2E-TB	480V Power
P-461	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2F-TB	480V Power
P-462	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2G-TB	480V Power
P-463	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2H-TB	480V Power
P-464	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2I-TB	480V Power

P-465	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-2J-TB	480V Power	
P-466	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-2K-TB	480V Power	
P-467	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-2L-TB	480V Power	
P-468	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1A	PP-2M-TB	480V Power	
P-469	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	SWBD-1B	PP-2N-TB	480V Power	
P-470	3/4"	3 - #8 AWG W 1#10 GND	RGS	SWBD-1A	TX-UPS-1-MOV-TB	480V Power	
P-471	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	TX-UPS-1-MOV-TB	UPS-1-MOV-TB	240V Power	
P-472	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	UPS-1-MOV-TB	LP-1-UPS-MOV-TB	240V Power	
P-473	3/4"	3 - #8 AWG W 1#10 GND	RGS	SWBD-1B	TX-UPS-2-MOV-TB	480V Power	
P-474	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	TX-UPS-2-MOV-TB	UPS-2-MOV-TB	240V Power	
P-475	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	UPS-2-MOV-TB	LP-2-UPS-MOV-TB	240V Power	
P-476	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	SWBD-1B	DSW-TX-LP-457-TB	480V Power	
P-477	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	DSW-TX-LP-457-TB	TX-LP-457-TB	480V Power	
P-478	2"	4 - #3/0 AWG W 1#6 GND	RGS	TX-LP-457-TB	LP-457-TB	208V Power	
P-479	2 1/2"	3 - #300 KCMIL W 1# 4GND	RGS	SWBD-1B	DSW-TX-LP-471-TB	480V Power	
P-480	2 1/2"	3 - #300 KCMIL W 1# 4GND	RGS	DSW-TX-LP-471-TB	TX-LP-471-TB	480V Power	
P-481	3"	4 - #600 KCMIL W 1# 3GND	RGS	TX-LP-471-TB	LP-471-TB	208V Power	
P-482	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	SWBD-1B	DSW-TX-LP-485-TB	480V Power	

P-483	1 1/2"	3 - #1 AWG W 1#6 GND	RGS	DSW-TX-LP-485-TB	TX-LP-485-TB	480V Power	
P-484	2 1/2"	4 - #4/0 AWG W 1#6 GND	RGS	TX-LP-485-TB	LP-485-TB	208V Power	
P-485	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-FCV-10111	480V Power	
P-486	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-10111	FCV-10111	480V Power	
P-487	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40130	480V Power	
P-488	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40130	MOV-40130	480V Power	
P-489	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40140	480V Power	
P-490	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40140	MOV-40140	480V Power	
P-491	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40150	480V Power	
P-492	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40150	MOV-40150	480V Power	
P-493	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40170	480V Power	
P-494	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40170	MOV-40170	480V Power	
P-495	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40230	480V Power	
P-496	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40230	MOV-40230	480V Power	
P-497	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40240	480V Power	
P-498	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40240	MOV-40240	480V Power	
P-499	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-MOV-40250	480V Power	
P-500	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40250	MOV-40250	480V Power	

P-501	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-FCV-46001	480V Power	
P-502	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-46001	FCV-46001	480V Power	
P-503	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1A	DSW-FCV-46002	480V Power	
P-504	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-46002	FCV-46002	480V Power	
P-505	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40270	480V Power	
P-506	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40270	MOV-40270	480V Power	
P-507	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40330	480V Power	
P-508	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40330	MOV-40330	480V Power	
P-509	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40340	480V Power	
P-510	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40340	MOV-40340	480V Power	
P-511	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40350	480V Power	
P-512	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40350	MOV-40350	480V Power	
P-513	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40370	480V Power	
P-514	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40370	MOV-40370	480V Power	
P-515	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40430	480V Power	
P-516	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40430	MOV-40430	480V Power	
P-517	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40440	480V Power	
P-518	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40440	MOV-40440	480V Power	

P-519	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-MOV-40450	480V Power	
P-520	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40450	MOV-40450	480V Power	
P-521	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-FCV-60504	480V Power	
P-522	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-60504	FCV-60504	480V Power	
P-523	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1B	DSW-FCV-60505	480V Power	
P-524	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-60505	FCV-60505	480V Power	
P-525	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-40470	480V Power	
P-526	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40470	MOV-40470	480V Power	
P-527	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-40530	480V Power	
P-528	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40530	MOV-40530	480V Power	
P-529	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-40540	480V Power	
P-530	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40540	MOV-40540	480V Power	
P-531	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-40550	480V Power	
P-532	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40550	MOV-40550	480V Power	
P-533	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-40570	480V Power	
P-534	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40570	MOV-40570	480V Power	
P-535	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-30001	480V Power	
P-536	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30001	MOV-30001	480V Power	

P-537	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-30002	480V Power	
P-538	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30002	MOV-30002	480V Power	
P-539	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-MOV-30003	480V Power	
P-540	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30003	MOV-30003	480V Power	
P-541	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1C	DSW-FCV-40100	480V Power	
P-542	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-40100	FCV-40100	480V Power	
P-543	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40630	480V Power	
P-544	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40630	MOV-40630	480V Power	
P-545	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40640	480V Power	
P-546	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40640	MOV-40640	480V Power	
P-547	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40650	480V Power	
P-548	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40650	MOV-40650	480V Power	
P-549	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40670	480V Power	
P-550	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40670	MOV-40670	480V Power	
P-551	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40730	480V Power	
P-552	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40730	MOV-40730	480V Power	
P-553	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40740	480V Power	
P-554	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40740	MOV-40740	480V Power	

P-555	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40750	480V Power	
P-556	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40750	MOV-40750	480V Power	
P-557	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1D	DSW-MOV-40770	480V Power	
P-558	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40770	MOV-40770	480V Power	
P-559	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-FCV-10121	480V Power	
P-560	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-FCV-10121	FCV-10121	480V Power	
P-561	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40830	480V Power	
P-562	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40830	MOV-40830	480V Power	
P-563	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40840	480V Power	
P-564	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40840	MOV-40840	480V Power	
P-565	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40850	480V Power	
P-566	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40850	MOV-40850	480V Power	
P-567	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40870	480V Power	
P-568	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40870	MOV-40870	480V Power	
P-569	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40930	480V Power	
P-570	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40930	MOV-40930	480V Power	
P-571	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40940	480V Power	
P-572	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40940	MOV-40940	480V Power	

P-573	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1E	DSW-MOV-40950	480V Power	
P-574	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40950	MOV-40950	480V Power	
P-575	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-40970	480V Power	
P-576	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40970	MOV-40970	480V Power	
P-577	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41030	480V Power	
P-578	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41030	MOV-41030	480V Power	
P-579	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41040	480V Power	
P-580	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41040	MOV-41040	480V Power	
P-581	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41050	480V Power	
P-582	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41050	MOV-41050	480V Power	
P-583	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41070	480V Power	
P-584	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41070	MOV-41070	480V Power	
P-585	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41130	480V Power	
P-586	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41130	MOV-41130	480V Power	
P-587	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41140	480V Power	
P-588	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41140	MOV-41140	480V Power	
P-589	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41150	480V Power	
P-590	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41150	MOV-41150	480V Power	

P-591	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1F	DSW-MOV-41170	480V Power	
P-592	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41170	MOV-41170	480V Power	
P-593	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41230	480V Power	
P-594	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41230	MOV-41230	480V Power	
P-595	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41240	480V Power	
P-596	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41240	MOV-41240	480V Power	
P-597	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41250	480V Power	
P-598	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41250	MOV-41250	480V Power	
P-599	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41270	480V Power	
P-600	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41270	MOV-41270	480V Power	
P-601	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41330	480V Power	
P-602	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41330	MOV-41330	480V Power	
P-603	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41340	480V Power	
P-604	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41340	MOV-41340	480V Power	
P-605	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41350	480V Power	
P-606	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41350	MOV-41350	480V Power	
P-607	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1G	DSW-MOV-41370	480V Power	
P-608	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41370	MOV-41370	480V Power	

P-609	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOV-41430	480V Power	
P-610	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41430	MOV-41430	480V Power	
P-611	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOV-41440	480V Power	
P-612	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41440	MOV-41440	480V Power	
P-613	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOV-41450	480V Power	
P-614	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41450	MOV-41450	480V Power	
P-615	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOV-41470	480V Power	
P-616	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41470	MOV-41470	480V Power	
P-617	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOG-42050	480V Power	
P-618	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOG-42050	MOG-42050	480V Power	
P-619	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-MOG-42060	480V Power	
P-620	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOG-42060	MOG-42060	480V Power	
P-621	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1H	DSW-EUH-52	480V Power	
P-622	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-52	EUH-52	480V Power	
P-623	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	DSW-EUH-26 (LOWER CENTRAL GALLERY-1)	480V Power	
P-624	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-26 (LOWER CENTRAL GALLERY-1)	EUH-26 (LOWER CENTRAL GALLERY- 1)	480V Power	

P-625	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	DSW-EUH-27 (LOWER CENTRAL GALLERY-2)	480V Power	
P-626	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-27 (LOWER CENTRAL GALLERY-2)	EUH-27 (LOWER CENTRAL GALLERY- 2)	480V Power	
P-627	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	DSW-EUH-45 (CHEMICAL CORRIDOR)	480V Power	
P-628	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-45 (CHEMICAL CORRIDOR)	EUH-45 (CHEMICAL CORRIDOR)	480V Power	
P-629	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	DSW-EUH-49 (STAIRS NORTH)	480V Power	
P-630	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-49 (STAIRS NORTH)	EUH-49 (STAIRS NORTH)	480V Power	
P-631	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	DSW-EUH-28 (LOWER CENTRAL GALLERY-3)	480V Power	
P-632	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-28 (LOWER CENTRAL GALLERY-3)	EUH-28 (LOWER CENTRAL GALLERY- 3)	480V Power	
P-633	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-1	DSW-EUH-36 (CAUSTIC RM)	480V Power	
P-634	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EUH-36 (CAUSTIC RM)	EUH-36 (CAUSTIC RM)	480V Power	
P-635	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-1	DSW-EUH-37 (HYPO RM-1)	480V Power	
P-636	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EUH-37 (HYPO RM-1)	EUH-37 (HYPO RM-1)	480V Power	
P-637	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-1	DSW-EUH-38 (HYPO RM-2)	480V Power	
P-638	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EUH-38 (HYPO RM-2)	EUH-38 (HYPO RM-2)	480V Power	
P-639	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	ROLL-UP DOOR (WTP CHEMICAL)	480V Power	

					CORRIDOR - EAST SIDE)		
P-640	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-1	ROLL-UP DOOR (WTP WTP GALLERY - NORTH SIDE)	480V Power	
P-641	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2	DSW-EUH-39 (PHOS ACID RM)	480V Power	
P-642	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EUH-39 (PHOS ACID RM)	EUH-39 (PHOS ACID RM)	480V Power	
P-643	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2	DSW-EUH-40 (PACI RM-1)	480V Power	
P-644	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EUH-40 (PACI RM-1)	EUH-40 (PACI RM-1)	480V Power	
P-645	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2	DSW-EUH-41 (PACI RM-2)	480V Power	
P-646	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EUH-41 (PACI RM-2)	EUH-41 (PACI RM-2)	480V Power	
P-647	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2	DSW-EUH-42 (FILTER AID POLY RM)	480V Power	
P-648	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EUH-42 (FILTER AID POLY RM)	EUH-42 (FILTER AID POLY RM)	480V Power	
P-649	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2	DSW-EUH-43 (CATIONIC POLY Rm)	480V Power	
P-650	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EUH-43 (CATIONIC POLY Rm)	EUH-43 (CATIONIC POLY Rm)	480V Power	
P-651	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2	DSW-EUH-44 (FUTURE CHEM RM)	480V Power	
P-652	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EUH-44 (FUTURE CHEM RM)	EUH-44 (FUTURE CHEM RM)	480V Power	
P-653	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2	DSW-EUH-51 (STAIR WEST)	480V Power	
P-654	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-51 (STAIR WEST)	EUH-51 (STAIR WEST)	480V Power	
P-655	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2	DSW-EUH-25 (FILTER GALLERY-5)	480V Power	

P-656	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-25 (FILTER GALLERY-5)	EUH-25 (FILTER GALLERY-5)	480V Power	
P-657	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2	ROLL-UP DOOR (WTP WORKSHOP - NORTH SIDE)	480V Power	
P-658	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-21 (FILTER GALLERY-1)	480V Power	
P-659	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-21 (FILTER GALLERY-1)	EUH-21 (FILTER GALLERY-1)	480V Power	
P-660	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-22 (FILTER GALLERY-2)	480V Power	
P-661	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-22 (FILTER GALLERY-2)	EUH-22 (FILTER GALLERY-2)	480V Power	
P-662	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-23 (FILTER GALLERY-3)	480V Power	
P-663	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-23 (FILTER GALLERY-3)	EUH-23 (FILTER GALLERY-3)	480V Power	
P-664	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-24 (FILTER GALLERY-4)	480V Power	
P-665	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-24 (FILTER GALLERY-4)	EUH-24 (FILTER GALLERY-4)	480V Power	
P-666	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-29 (LOWER CENTRAL GALLERY-4)	480V Power	
P-667	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-29 (LOWER CENTRAL GALLERY-4)	EUH-29 (LOWER CENTRAL GALLERY- 4)	480V Power	
P-668	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-30 (LOWER CENTRAL GALLERY-5)	480V Power	
P-669	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-30 (LOWER CENTRAL GALLERY-5)	EUH-30 (LOWER CENTRAL GALLERY- 5)	480V Power	
P-670	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-46 (SPRINKLER RISER ROOM)	480V Power	

P-671	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-46 (SPRINKLER RISER ROOM)	EUH-46 (SPRINKLER RISER ROOM)	480V Power	
P-672	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-47 (STAIRS EAST)	480V Power	
P-673	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-47 (STAIRS EAST)	EUH-47 (STAIRS EAST)	480V Power	
P-674	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-3	DSW-EUH-48 (FILTERED WATER ROOM)	480V Power	
P-675	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-48 (FILTERED WATER ROOM)	EUH-48 (FILTERED WATER ROOM)	480V Power	
P-676	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30110	480V Power	
P-677	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30110	MOV-30110	480V Power	
P-678	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30120	480V Power	
P-679	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30120	MOV-30120	480V Power	
P-680	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30130	480V Power	
P-681	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30130	MOV-30130	480V Power	
P-682	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30140	480V Power	
P-683	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30140	MOV-30140	480V Power	
P-684	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30150	480V Power	
P-685	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30150	MOV-30150	480V Power	
P-686	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30210	480V Power	

P-687	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30210	MOV-30210	480V Power	
P-688	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30220	480V Power	
P-689	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30220	MOV-30220	480V Power	
P-690	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30230	480V Power	
P-691	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30230	MOV-30230	480V Power	
P-692	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30240	480V Power	
P-693	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30240	MOV-30240	480V Power	
P-694	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2A	DSW-MOV-30250	480V Power	
P-695	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30250	MOV-30250	480V Power	
P-696	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30310	480V Power	
P-697	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30310	MOV-30310	480V Power	
P-698	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30320	480V Power	
P-699	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30320	MOV-30320	480V Power	
P-700	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30330	480V Power	
P-701	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30330	MOV-30330	480V Power	
P-702	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30340	480V Power	
P-703	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30340	MOV-30340	480V Power	
P-704	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30350	480V Power	

P-705	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30350	MOV-30350	480V Power	
P-706	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30410	480V Power	
P-707	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30410	MOV-30410	480V Power	
P-708	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30420	480V Power	
P-709	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30420	MOV-30420	480V Power	
P-710	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30430	480V Power	
P-711	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30430	MOV-30430	480V Power	
P-712	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30440	480V Power	
P-713	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30440	MOV-30440	480V Power	
P-714	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2B	DSW-MOV-30450	480V Power	
P-715	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30450	MOV-30450	480V Power	
P-716	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-30510	480V Power	
P-717	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30510	MOV-30510	480V Power	
P-718	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-30520	480V Power	
P-719	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30520	MOV-30520	480V Power	
P-720	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-30530	480V Power	
P-721	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30530	MOV-30530	480V Power	
P-722	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-30540	480V Power	

P-723	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30540	MOV-30540	480V Power	
P-724	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-30550	480V Power	
P-725	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30550	MOV-30550	480V Power	
P-725.1	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2C	DSW-MOV-33054	480V Power	
P-725.2	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-33054	MOV-33054	480V Power	
P-726	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2D	DSW-MOV-20110	480V Power	
P-727	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20110	MOV-20110	480V Power	
P-728	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2D	DSW-MOV-20210	480V Power	
P-729	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20210	MOV-20210	480V Power	
P-730	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2D	DSW-MOV-20310	480V Power	
P-731	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20310	MOV-20310	480V Power	
P-732	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2D	DSW-MOV-20410	480V Power	
P-733	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20410	MOV-20410	480V Power	
P-734	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2D	DSW-MOV-20510	480V Power	
P-735	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20510	MOV-20510	480V Power	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
P-738	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-11 (DAF-1)	480V Power	

P-739	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-11 (DAF-1)	EUH-11 (DAF-1)	480V Power	
P-740	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-12 (DAF-2)	480V Power	
P-741	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-12 (DAF-2)	EUH-12 (DAF-2)	480V Power	
P-742	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-13 (DAF-3)	480V Power	
P-743	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-13 (DAF-3)	EUH-13 (DAF-3)	480V Power	
P-744	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-14 (DAF-4)	480V Power	
P-745	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-14 (DAF-4)	EUH-14 (DAF-4)	480V Power	
P-746	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-20 (DAF-10)	480V Power	
P-747	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-20 (DAF-10)	EUH-20 (DAF-10)	480V Power	
P-748	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-31 (UPPER CENTRAL GALLERY-1)	480V Power	
P-749	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-31 (UPPER CENTRAL GALLERY-1)	EUH-31 (UPPER CENTRAL GALLERY-1)	480V Power	
P-750	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-32 (UPPER CENTRAL GALLERY-2)	480V Power	
P-751	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-32 (UPPER CENTRAL GALLERY-2)	EUH-32 (UPPER CENTRAL GALLERY-2)	480V Power	
P-752	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EUH-33 (UPPER CENTRAL GALLERY-3)	480V Power	
P-753	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-33 (UPPER CENTRAL GALLERY-3)	EUH-33 (UPPER CENTRAL GALLERY-3)	480V Power	

P-754	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2E	DSW-EF-09 (DAF ROOM EF/RF)	480V Power	
P-754.1	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EF-09 (DAF ROOM EF/RF)	VFD-EF-09 (DAF ROOM EF/RF)	480V Power	
P-755	3/4"	3 - #12 AWG W 1#12 GND	RGS	VFD-EF-09 (DAF ROOM EF/RF)	EF-09 (DAF ROOM EF/RF)	480V Power	
P-756	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30610	480V Power	
P-757	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30610	MOV-30610	480V Power	
P-758	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30620	480V Power	
P-759	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30620	MOV-30620	480V Power	
P-760	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30630	480V Power	
P-761	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30630	MOV-30630	480V Power	
P-762	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30640	480V Power	
P-763	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30640	MOV-30640	480V Power	
P-764	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30650	480V Power	
P-765	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30650	MOV-30650	480V Power	
P-766	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30710	480V Power	
P-767	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30710	MOV-30710	480V Power	
P-768	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30720	480V Power	
P-769	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30720	MOV-30720	480V Power	
P-770	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30730	480V Power	

P-771	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30730	MOV-30730	480V Power	
P-772	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30740	480V Power	
P-773	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30740	MOV-30740	480V Power	
P-774	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2F	DSW-MOV-30750	480V Power	
P-775	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30750	MOV-30750	480V Power	
P-776	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30810	480V Power	
P-777	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30810	MOV-30810	480V Power	
P-778	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30820	480V Power	
P-779	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30820	MOV-30820	480V Power	
P-780	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30830	480V Power	
P-781	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30830	MOV-30830	480V Power	
P-782	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30840	480V Power	
P-783	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30840	MOV-30840	480V Power	
P-784	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30850	480V Power	
P-785	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30850	MOV-30850	480V Power	
P-786	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30910	480V Power	
P-787	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30910	MOV-30910	480V Power	
P-788	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30920	480V Power	

P-789	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30920	MOV-30920	480V Power	
P-790	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30930	480V Power	
P-791	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30930	MOV-30930	480V Power	
P-792	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30940	480V Power	
P-793	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30940	MOV-30940	480V Power	
P-794	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2G	DSW-MOV-30950	480V Power	
P-795	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-30950	MOV-30950	480V Power	
P-796	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-LCV-34051	480V Power	
P-797	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-LCV-34051	LCV-34051	480V Power	
P-798	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-MOV-31010	480V Power	
P-799	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-31010	MOV-31010	480V Power	
P-800	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-MOV-31020	480V Power	
P-801	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-31020	MOV-31020	480V Power	
P-802	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-MOV-31030	480V Power	
P-803	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-31030	MOV-31030	480V Power	
P-804	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-MOV-31040	480V Power	
P-805	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-31040	MOV-31040	480V Power	
P-806	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-MOV-31050	480V Power	

P-807	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-31050	MOV-31050	480V Power	
P-808	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2H	DSW-LCV-34081	480V Power	
P-809	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-LCV-34081	LCV-34081	480V Power	
P-810	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2I	DSW-MOV-20610	480V Power	
P-811	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20610	MOV-20610	480V Power	
P-812	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2I	DSW-MOV-20710	480V Power	
P-813	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20710	MOV-20710	480V Power	
P-814	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2I	DSW-MOV-20810	480V Power	
P-815	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20810	MOV-20810	480V Power	
P-816	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2I	DSW-MOV-20910	480V Power	
P-817	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-20910	MOV-20910	480V Power	
P-818	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2I	DSW-MOV-21010	480V Power	
P-819	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-21010	MOV-21010	480V Power	
P-820	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-15 (DAF-5)	480V Power	
P-821	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-15 (DAF-5)	EUH-15 (DAF-5)	480V Power	
P-822	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-16 (DAF-6)	480V Power	
P-823	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-16 (DAF-6)	EUH-16 (DAF-6)	480V Power	
P-824	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-17 (DAF-7)	480V Power	

P-825	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-17 (DAF-7)	EUH-17 (DAF-7)	480V Power	
P-826	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-18 (DAF-8)	480V Power	
P-827	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-18 (DAF-8)	EUH-18 (DAF-8)	480V Power	
P-828	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-19 (DAF-9)	480V Power	
P-829	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-19 (DAF-9)	EUH-19 (DAF-9)	480V Power	
P-830	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-34 (UPPER CENTRAL GALLERY- 4)	480V Power	
P-831	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-34 (UPPER CENTRAL GALLERY-4)	EUH-34 (UPPER CENTRAL GALLERY- 4)	480V Power	
P-832	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-EUH-35 (UPPER CENTRAL GALLERY- 5)	480V Power	
P-833	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-35 (UPPER CENTRAL GALLERY-5)	EUH-35 (UPPER CENTRAL GALLERY- 5)	480V Power	
P-833.1	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2J	DSW-SF-01	480V Power	
P-833.2	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SF-01	SF-01	480V Power	
P-834	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-1 (FILTER- 1)	480V Power	
P-835	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-1 (FILTER-1)	EUH-1 (FILTER-1)	480V Power	
P-836	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-2 (FILTER- 2)	480V Power	
P-837	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-2 (FILTER-2)	EUH-2 (FILTER-2)	480V Power	
P-838	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-3 (FILTER- 3)	480V Power	

P-839	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-3 (FILTER-3)	EUH-3 (FILTER-3)	480V Power
P-840	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-4 (FILTER-4)	480V Power
P-841	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-4 (FILTER-4)	EUH-4 (FILTER-4)	480V Power
P-842	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-5 (FILTER-5)	480V Power
P-843	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-5 (FILTER-5)	EUH-5 (FILTER-5)	480V Power
P-844	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-6 (FILTER-6)	480V Power
P-845	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-6 (FILTER-6)	EUH-6 (FILTER-6)	480V Power
P-846	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-7 (FILTER-7)	480V Power
P-847	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-7 (FILTER-7)	EUH-7 (FILTER-7)	480V Power
P-848	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-8 (FILTER-8)	480V Power
P-849	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-8 (FILTER-8)	EUH-8 (FILTER-8)	480V Power
P-850	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-9 (FILTER-9)	480V Power
P-851	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-9 (FILTER-9)	EUH-9 (FILTER-9)	480V Power
P-852	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2K	DSW-EUH-10 (FILTER-10)	480V Power
P-853	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-10 (FILTER-10)	EUH-10 (FILTER-10)	480V Power
P-854	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2L	DSW-EF-01 (Hypo Rm)	480V Power
P-854.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EF-01 (Hypo Rm)	VFD-EF-01 (Hypo Rm)	480V Power
P-855	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	VFD-EF-01 (Hypo Rm)	EF-01 (Hypo Rm)	480V Power

P-856	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2L	DSW-EF-02 (PACI Rm)	480V Power	
P-856.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EF-02 (PACI Rm)	VFD-EF-02 (PACI Rm)	480V Power	
P-857	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	VFD-EF-02 (PACI Rm)	EF-02 (PACI Rm)	480V Power	
P-858	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2L	DSW-EF-03 (Filter Aid Poly Rm)	480V Power	
P-858.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EF-03 (Filter Aid Poly Rm)	VFD-EF-03 (Filter Aid Poly Rm)	480V Power	
P-859	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	VFD-EF-03 (Filter Aid Poly Rm)	EF-03 (Filter Aid Poly Rm)	480V Power	
P-860	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2L	DSW-EF-04 (Caustic Rm)	480V Power	
P-860.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EF-04 (Caustic Rm)	VFD-EF-04 (Caustic Rm)	480V Power	
P-861	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	VFD-EF-04 (Caustic Rm)	EF-04 (Caustic Rm)	480V Power	
P-862	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2L	DSW-EF-05 (Phos Acid Rm)	480V Power	
P-862.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EF-05 (Phos Acid Rm)	VFD-EF-05 (Phos Acid Rm)	480V Power	
P-863	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	VFD-EF-05 (Phos Acid Rm)	EF-05 (Phos Acid Rm)	480V Power	
P-864	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	PANEL PP-2L	DSW-EF-06 (Coag Poly Rm)	480V Power	
P-864.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-EF-06 (Coag Poly Rm)	VFD-EF-06 (Coag Poly Rm)	480V Power	
P-865	3/4"	3 - #12 AWG W 1#12 GND	PVC Coated RGS	VFD-EF-06 (Coag Poly Rm)	EF-06 (Coag Poly Rm)	480V Power	
P-866	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	PANEL PP-2L	DSW-EF-07 (Future Rm)	480V Power	
P-866.1	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	DSW-EF-07 (Future Rm)	VFD-EF-07 (Future Rm)	480V Power	
P-867	3/4"	3 - #12 AWG W 1#12 GND	PVC Schedule 80	VFD-EF-07 (Future Rm)	EF-07 (Future Rm)	480V Power	

P-868	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2L	DSW-EF-08 (Filter Room EF/RF)	480V Power	
P-868.1	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EF-08 (Filter Room EF/RF)	VFD-EF-08 (Filter Room EF/RF)	480V Power	
P-869	3/4"	3 - #12 AWG W 1#12 GND	RGS	VFD-EF-08 (Filter Room EF/RF)	EF-08 (Filter Room EF/RF)	480V Power	
P-870	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40120	480V Power	
P-871	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40120	MOV-40120	480V Power	
P-872	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40220	480V Power	
P-873	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40220	MOV-40220	480V Power	
P-874	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40320	480V Power	
P-875	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40320	MOV-40320	480V Power	
P-876	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40420	480V Power	
P-877	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40420	MOV-40420	480V Power	
P-878	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40520	480V Power	
P-879	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40520	MOV-40520	480V Power	
P-880	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40620	480V Power	
P-881	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40620	MOV-40620	480V Power	
P-882	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2M	DSW-MOV-40720	480V Power	
P-883	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40720	MOV-40720	480V Power	
P-884	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-40820	480V Power	

P-885	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40820	MOV-40820	480V Power
P-886	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-40920	480V Power
P-887	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40920	MOV-40920	480V Power
P-888	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-41020	480V Power
P-889	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41020	MOV-41020	480V Power
P-890	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-41120	480V Power
P-891	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41120	MOV-41120	480V Power
P-892	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-41220	480V Power
P-893	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41220	MOV-41220	480V Power
P-894	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-41320	480V Power
P-895	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41320	MOV-41320	480V Power
P-896	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-41420	480V Power
P-897	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41420	MOV-41420	480V Power
P-898	3/4"	3 - #12 AWG W 1#12 GND	RGS	PANEL PP-2N	DSW-MOV-45020	480V Power
P-899	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-45020	MOV-45020	480V Power
P-900	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-457-TB	LP-1-SAMPLE-TB	208V Power
P-901	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-457-TB	LP-1-INSTR-TB	208V Power
P-902	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-457-TB	LP-2-INSTR-TB	208V Power

P-903	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-457-TB	LP-3-INSTR-TB	208V Power	
P-904	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-457-TB	LP-LTG-457-TB	208V Power	
P-905	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-10310	230V Power	
P-906	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-10310	P-10310	230V Power	
P-907	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-10330	230V Power	
P-908	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-10330	P-10330	230V Power	
P-909	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-42030	230V Power	
P-910	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-42030	P-42030	230V Power	
P-911	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-42040	230V Power	
P-912	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-42040	P-42040	230V Power	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
P-917	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-30010	230V Power	
P-918	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-30010	P-30010	230V Power	
P-919	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	DSW-P-30020	230V Power	
P-920	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-30020	P-30020	230V Power	
P-921	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2101)	120V Power	

P-922	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2101)	120V Power	
P-923	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2101)	120V Power	
P-924	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2101)	120V Power	
P-925	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2100)	120V Power	
P-926	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-SAMPLE-TB	TP-01 (RM 2100)	120V Power	
P-927	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40160	230V Power	
P-928	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40160	MOV-40160	230V Power	
P-929	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40260	230V Power	
P-930	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40260	MOV-40260	230V Power	
P-931	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40360	230V Power	
P-932	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40360	MOV-40360	230V Power	
P-933	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40460	230V Power	
P-934	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40460	MOV-40460	230V Power	
P-935	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40560	230V Power	
P-936	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40560	MOV-40560	230V Power	
P-937	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40660	230V Power	
P-938	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40660	MOV-40660	230V Power	
P-939	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-40760	230V Power	

P-940	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40760	MOV-40760	230V Power	
P-941	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-10110	230V Power	
P-942	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-10110	MOV-10110	230V Power	
P-943	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-UPS-MOV-TB	DSW-MOV-34060	230V Power	
P-944	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-34060	MOV-34060	230V Power	
P-945	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-40860	230V Power	
P-946	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40860	MOV-40860	230V Power	
P-947	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-40960	230V Power	
P-948	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-40960	MOV-40960	230V Power	
P-949	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-41060	230V Power	
P-950	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41060	MOV-41060	230V Power	
P-951	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-41160	230V Power	
P-952	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41160	MOV-41160	230V Power	
P-953	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-41260	230V Power	
P-954	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41260	MOV-41260	230V Power	
P-955	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-41360	230V Power	
P-956	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41360	MOV-41360	230V Power	
P-957	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-41460	230V Power	

P-958	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MOV-41460	MOV-41460	230V Power	
P-959	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-10120	230V Power	
P-960	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-10120	MOV-10120	230V Power	
P-961	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-UPS-MOV-TB	DSW-MOV-34090	230V Power	
P-962	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-34090	MOV-34090	230V Power	
P-963	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FIT-10111	120V Power	
P-964	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FIT-10121	120V Power	
P-965	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10311	120V Power	
P-966	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10312	120V Power	
P-967	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10331	120V Power	
P-968	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10332	120V Power	
P-969	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10321	120V Power	
P-970	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10322	120V Power	
P-971	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10341	120V Power	
P-972	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-10342	120V Power	
P-973	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-30012	120V Power	
P-974	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-30022	120V Power	
P-975	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FSL-33012	120V Power	

P-976	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FSL-33022	120V Power	
P-977	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FSL-33032	120V Power	
P-978	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FSL-33042	120V Power	
P-979	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-40104	120V Power	
P-980	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FIT-40105	120V Power	
P-981	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-40204	120V Power	
P-982	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FIT-40205	120V Power	
P-983	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-42041	120V Power	
P-984	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-42042	120V Power	
P-985	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	AIT-40304	120V Power	
P-986	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	FIT-40305	120V Power	
-	-	-	-	-	-	-	-
P-988	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	RIO-FLT-A1	120V Power	
P-989	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-INSTR-TB	RIO-FLT-B1	120V Power	
P-990	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40404	120V Power	
P-991	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40504	120V Power	
P-992	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40604	120V Power	
P-993	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40704	120V Power	

P-994	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40804	120V Power	
P-995	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-40904	120V Power	
P-996	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-41004	120V Power	
P-997	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-41104	120V Power	
P-998	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-41204	120V Power	
P-999	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40405	120V Power	
P-1000	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40505	120V Power	
P-1001	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40605	120V Power	
P-1002	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40705	120V Power	
P-1003	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40805	120V Power	
P-1004	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-40905	120V Power	
P-1005	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-41005	120V Power	
P-1006	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-41105	120V Power	
P-1007	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-41205	120V Power	
P-1008	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-10314	120V Power	
P-1009	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-10334	120V Power	
P-1010	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	LCS-42030	120V Power	
P-1011	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	LCS-42040	120V Power	

P-1012	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-46004	120V Power	
P-1013	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-60504	120V Power	
P-1014	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FIT-60505	120V Power	
P-1015	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	AIT-60506	120V Power	
P-1016	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-42053	120V Power	
P-1017	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-42058	120V Power	
P-1018	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-30014	120V Power	
P-1019	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	FSL-30024	120V Power	
P-1019.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-INSTR-TB	LSH-70730	120V Power	
P-1020	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	AIT-41304	120V Power	
P-1021	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	AIT-41404	120V Power	
P-1022	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FIT-41305	120V Power	
P-1023	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FIT-41405	120V Power	
P-1024	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	AIT-42061	120V Power	
P-1025	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	AIT-42062	120V Power	
P-1026	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FSL-10325	120V Power	
P-1027	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FSL-10345	120V Power	
P-1028	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FIT-46001	120V Power	

P-1029	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	FIT-46002	120V Power	
P-1030	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	DDC-04	120V Power	
P-1031	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	DDC-12	120V Power	
P-1032	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	ESD-07	120V Power	
P-1033	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	BMS-03	120V Power	
P-1034	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	DDC-09	120V Power	
P-1035	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	ESD-02	120V Power	
P-1035.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	LCP-AP45	120V Power	
P-1035.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	LCP-AP50	120V Power	
P-1035.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	LCP-AP55	120V Power	
P-1035.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	LCP-AP60	120V Power	
P-1035.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	OWS-FLT-A1	120V Power	
P-1035.6	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-INSTR-TB	OWS-FLT-B1	120V Power	
P-1036	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB RECP - EL. 457.00	120V Power	
P-1037	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB RECP - EL. 457.00	120V Power	
P-1038	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB LTG - CENTRAL PIPE GALLERY	120V Power	
P-1039	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB LTG - FILTER PIPE GALLERY	120V Power	
P-1040	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB RECP - EL. 457.00	120V Power	

P-1041	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB LTG - CENTRAL PIPE GALLERY	120V Power	
P-1042	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB LTG - FILTER PIPE GALLERY	120V Power	
P-1043	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-457-TB	TB LTG - STORAGE	120V Power	
P-1044	2"	4 - #4/0 AWG W 1#6 GND	RGS	LP-471-TB	LP-1-CHEM-TB	208V Power	
P-1045	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-471-TB	LP-2-CHEM-TB	208V Power	
P-1046	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-471-TB	LP-4-INSTR-TB	208V Power	
P-1047	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-471-TB	LP-5-INSTR-TB	208V Power	
P-1048	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-471-TB	LP-6-INSTR-TB	208V Power	
P-1049	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-471-TB	LP-1-PLUMB-TB	208V Power	
P-1050	2"	4 - #4/0 AWG W 1# 6GND	RGS	LP-471-TB	LP-LTG-471-TB	208V Power	
P-1051	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	P-51120	230V Power	
P-1052	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	P-51130	230V Power	
P-1053	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	P-51140	230V Power	
P-1054	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	P-51150	230V Power	
P-1055	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-CHEM-TB	P-52120	230V Power	
P-1056	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-CHEM-TB	P-52130	230V Power	
P-1057	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-CHEM-TB	P-52140	230V Power	
P-1058	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-CHEM-TB	P-52150	230V Power	

P-1059	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	SKID-55120	120V Power	
P-1060	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	SKID-55130	120V Power	
P-1060.1	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	SKID-56120	120V Power	
P-1060.2	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	SKID-56130	120V Power	
P-1061	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	DSW-MX-55112	120V Power	
P-1062	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-MX-55112	MX-55112	120V Power	
P-1063	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-CHEM-TB	DSW-MX-55117	120V Power	
P-1064	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	DSW-MX-55117	MX-55117	120V Power	
P-1064.1	1 1/2"	4 - #2 AWG W 1# 8GND	RGS	LP-1-CHEM-TB	GENERATOR PANEL	208V Power	
P-1065	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-52160	230V Power	
P-1066	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-52170	230V Power	
P-1067	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-52180	230V Power	
P-1068	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-52190	230V Power	
P-1069	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-53120	230V Power	
P-1070	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-53130	230V Power	
P-1071	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-53140	230V Power	
P-1072	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-53150	230V Power	
P-1073	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-54120	230V Power	

P-1074	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-54130	230V Power	
P-1075	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-54140	230V Power	
P-1076	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-2-CHEM-TB	P-54150	230V Power	
P-1077	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-4-INSTR-TB	LCS-51000	120V Power	
P-1078	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51012	120V Power	
P-1079	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51022	120V Power	
P-1080	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51032	120V Power	
P-1081	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51042	120V Power	
P-1082	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51101	120V Power	
P-1083	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	FSH-51102	120V Power	
P-1083.1	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	FSH-51103	120V Power	
P-1084	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-51112	120V Power	
P-1085	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-51120	120V Power	
P-1086	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-51130	120V Power	
P-1087	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-51140	120V Power	
P-1088	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-51150	120V Power	
P-1089	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-4-INSTR-TB	FSH-51001	120V Power	
P-1090	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-4-INSTR-TB	LCS-56000	120V Power	

P-1091	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	FSH-56102	120V Power	
P-1092	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-56012	120V Power	
P-1093	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-56022	120V Power	
P-1094	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-56101	120V Power	
P-1095	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LSH-56112	120V Power	
P-1096	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-56120	120V Power	
P-1097	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-4-INSTR-TB	LCP-56130	120V Power	
P-1098	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-4-INSTR-TB	LCS-53000	120V Power	
P-1099	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LSH-53012	120V Power	
P-1100	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LSH-53022	120V Power	
P-1101	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	FSH-53102	120V Power	
P-1102	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LSH-53101	120V Power	
P-1103	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LSH-53112	120V Power	
P-1104	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LCP-53120	120V Power	
P-1105	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LCP-53130	120V Power	
P-1106	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LCP-53140	120V Power	
P-1107	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-4-INSTR-TB	LCP-53150	120V Power	
P-1108	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52120	120V Power	

P-1109	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52130	120V Power	
P-1110	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52140	120V Power	
P-1111	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52150	120V Power	
P-1112	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52160	120V Power	
P-1113	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52170	120V Power	
P-1114	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52180	120V Power	
P-1115	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-52190	120V Power	
P-1116	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-5-INSTR-TB	LCS-52000	120V Power	
P-1117	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-52012	120V Power	
P-1118	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-52022	120V Power	
P-1119	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	FSH-52101	120V Power	
P-1120	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-52102	120V Power	
P-1121	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-52112	120V Power	
P-1121.1	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-52117	120V Power	
P-1122	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-5-INSTR-TB	FSH-51002	120V Power	
P-1123	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-5-INSTR-TB	LCS-54000	120V Power	
P-1124	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54012	120V Power	
P-1125	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54022	120V Power	

P-1126	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54032	120V Power	
P-1127	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54042	120V Power	
P-1128	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54052	120V Power	
P-1129	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54112	120V Power	
P-1130	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LSH-54101	120V Power	
P-1131	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	FSH-54102	120V Power	
P-1132	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-54120	120V Power	
P-1133	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-54130	120V Power	
P-1134	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-54140	120V Power	
P-1135	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-5-INSTR-TB	LCP-54150	120V Power	
P-1136	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-5-INSTR-TB	RIO-MCC-1A	120V Power	
P-1137	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-5-INSTR-TB	RIO-MCC-1D	120V Power	
P-1137.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	OWP-CHEM	120V Power	
P-1138	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	FSL-52105	120V Power	
P-1139	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	FSL-52106	120V Power	
P-1140	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	FSL-52107	120V Power	
P-1141	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	FSL-52108	120V Power	
P-1142	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSH-51003	120V Power	

P-1143	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSH-51004	120V Power	
P-1144	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	LSH-55101	120V Power	
P-1145	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	FSH-55102	120V Power	
P-1146	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	LCS-55112	120V Power	
P-1147	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	LCS-55117	120V Power	
P-1148	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	LCP-55120	120V Power	
P-1149	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	LCP-55130	120V Power	
P-1150	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	WIT-55111	120V Power	
P-1151	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-6-INSTR-TB	WIT-55116	120V Power	
P-1152	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	RIO-CHEM-A	120V Power	
P-1153	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	RIO-CHEM-B	120V Power	
P-1154	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	RIO-CHEM-C	120V Power	
P-1155	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSL-42045	120V Power	
P-1156	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSL-42046	120V Power	
P-1157	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSL-42047	120V Power	
P-1158	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FSL-42048	120V Power	
-	-	-	-	-	-	-	-
P-1160	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	FIT-34009	120V Power	

P-1161	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	LSH-54103	120V Power	
P-1162	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-6-INSTR-TB	FSH-54104	120V Power	
P-1162.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	LCP-AP35	120V Power	
P-1162.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-6-INSTR-TB	LCP-AP40	120V Power	
P-1163	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	FS (RM 2207)	120V Power	
P-1164	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-PLUMB	FS (RM 2210)	120V Power	
P-1165	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-PLUMB	FS (RM 2210)	120V Power	
P-1166	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-PLUMB	FS (RM 2212)	120V Power	
P-1167	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	FS (RM 2209)	120V Power	
P-1168	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	FS (RM 2209)	120V Power	
P-1169	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	FS (RM 2209)	120V Power	
P-1170	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-PLUMB	FS (RM 2211)	120V Power	
P-1171	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-PLUMB	FS (RM 2211)	120V Power	
P-1172	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-PLUMB	FS (RM 2213)	120V Power	
P-1173	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-PLUMB	FS (RM 2214)	120V Power	
P-1174	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-1-PLUMB	FS (RM 2215)	120V Power	
P-1175	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-1-PLUMB	FS (RM 2216)	120V Power	
P-1176	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	TP-01 (RM 2202)	120V Power	

P-1177	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	TP-02 (RM 2202)	120V Power	
P-1178	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	TP-02 (RM 2206)	120V Power	
P-1179	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	RCP-05	120V Power	
P-1180	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	RCP-06	120V Power	
P-1181	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-1-PLUMB	WH-06	208V Power	
P-1182	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	DSW-EF-10	120V Power	
P-1183	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-10	EF-10	120V Power	
P-1184	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-PLUMB	LCS-EF-10	120V Power	
P-1185	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1186	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1187	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1188	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1189	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1190	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1191	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1192	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB RECP - EL. 471.00	120V Power	
P-1193	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-LTG-471-TB	TB RECP - POLYALMNM CHLORIDE	120V Power	

P-1194	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB RECP - FUTURE/PHOS. ACID	120V Power	
P-1195	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB RECP - SODIUM HYDROXIDE	120V Power	
P-1196	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB RECP - SODIUM HYPOCHLORITE	120V Power	
P-1197	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-LTG-471-TB	TB RECP - COAG POLY	120V Power	
P-1198	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-LTG-471-TB	TB RECP - FILTER AID POLYMER	120V Power	
P-1199	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - WORKSHOP AND STORAGE	120V Power	
P-1200	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - ELECTRICAL ROOM	120V Power	
P-1201	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - EQUIPMENT PLATFORM, VIEWING PLATFORM	120V Power	
P-1202	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - CORRIDOR	120V Power	
P-1203	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB LTG - FUTURE, PHOSPHORIC ACID	120V Power	
P-1204	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-LTG-471-TB	TB LTG - POLYALMNM CHLORIDE	120V Power	
P-1205	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB LTG - SODIUM HYPOCHLORITE	120V Power	
P-1206	3/4"	2 - #12 AWG W 1#12 GND	PVC Coated RGS	LP-LTG-471-TB	TB LTG - FILTER AID POLYMER, COAG POLY	120V Power	
P-1207	3/4"	2 - #12 AWG W 1#12 GND	PVC Schedule 80	LP-LTG-471-TB	TB LTG - SODIUM HYDROXIDE	120V Power	
P-1208	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FIRE SPINK, FLTR WTR	120V Power	
P-1209	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	

P-1210	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	
P-1211	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	
P-1212	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	
P-1213	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	
P-1214	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF NORTH	120V Power	
P-1215	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF SOUTH	120V Power	
P-1216	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF SOUTH	120V Power	
P-1217	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF SOUTH	120V Power	
P-1218	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-471-TB	TB LTG - FLOC/DAF SOUTH	120V Power	
-	-	-	-	-	-	-	-
P-1220	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-485-TB	LP-2-SAMPLE-TB	208V Power	
P-1221	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-485-TB	LP-7-INSTR-TB	208V Power	
P-1222	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-485-TB	LP-1-HV-TB	208V Power	
P-1223	2"	4 - #2/0 AWG W 1#6 GND	RGS	LP-485-TB	LP-LTG-485-TB	208V Power	
P-1224	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-SAMPLE-TB	DSW-P-10320	230V Power	
P-1225	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-10320	P-10320	230V Power	
P-1226	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-SAMPLE-TB	DSW-P-10340	230V Power	
P-1227	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-10340	P-10340	230V Power	

P-1228	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-SAMPLE-TB	DSW-STR-33050	120V Power	
P-1229	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-STR-33051	STR-33050	120V Power	
P-1230	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-SAMPLE-TB	T-34030	120V Power	
P-1231	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-SAMPLE-TB	T-34040	120V Power	
P-1232	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	FIT-34000	120V Power	
P-1233	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	FIT-45001	120V Power	
P-1234	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	FSL-10316	120V Power	
P-1235	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	FSL-10317	120V Power	
P-1236	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-DAF-A1	120V Power	
P-1237	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-DAF-B1	120V Power	
P-1238	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-DAF-A2	120V Power	
P-1239	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-DAF-B2	120V Power	
P-1240	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-FLT-A2	120V Power	
P-1241	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-FLT-B2	120V Power	
P-1242	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-MCC-2A	120V Power	
P-1243	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	RIO-MCC-2D	120V Power	
P-1244	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	DDC-02	120V Power	
P-1245	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	BMS-02	120V Power	

P-1246	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-11	120V Power	
P-1247	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	DDC-03	120V Power	
P-1248	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-01	120V Power	
P-1249	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-03	120V Power	
P-1250	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-05	120V Power	
P-1251	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-08	120V Power	
P-1252	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-09	120V Power	
P-1253	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-07	120V Power	
P-1254	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-12	120V Power	
P-1255	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-SF-01	120V Power	
P-1256	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-02	120V Power	
P-1257	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-04	120V Power	
P-1258	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	LCS-EF-06	120V Power	
P-1259	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	DDC-01	120V Power	
P-1259.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	OWS-DAF-A1	120V Power	
P-1259.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	OWS-DAF-B1	120V Power	
P-1259.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	OWS-FLT-A2	120V Power	
P-1259.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	OWS-FLT-B2	120V Power	

P-1259.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-7-INSTR-TB	OWS-BOP	120V Power	
P-1260	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	HV-1	120V Power	
P-1261	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	HV-2	120V Power	
P-1262	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	HV-3	120V Power	
P-1263	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	DSW-EF-11	120V Power	
P-1264	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-11	EF-11	120V Power	
P-1265	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	DSW-EF-12	120V Power	
P-1266	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-12	EF-12	120V Power	
P-1266.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	LCP-AP10	120V Power	
P-1266.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	LCP-AP15	120V Power	
P-1266.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	LCP-AP20	120V Power	
P-1266.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	LCP-AP25	120V Power	
P-1266.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-HV-TB	LCP-AP30	120V Power	
P-1267	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1268	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1269	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1270	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1271	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	

P-1272	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1273	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1274	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 485.00	120V Power	
P-1275	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB RECP - EL. 499.00	120V Power	
P-1276	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - DAF OPERATING AREA	120V Power	
P-1277	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - DAF OPERATING AREA	120V Power	
P-1278	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - DAF OPERATING AREA	120V Power	
P-1279	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - DAF OPERATING AREA	120V Power	
P-1280	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - 485 ELECTRICAL RM	120V Power	
P-1281	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - FILTER OPERATING AREA	120V Power	
P-1282	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - CENTRAL OPERATING AREA	120V Power	
P-1283	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - CENTRAL OPERATING AREA	120V Power	
P-1284	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - FILTER OPERATING AREA	120V Power	
P-1285	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - FILTER OPERATING AREA	120V Power	
P-1286	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-LTG-485-TB	TB LTG - FILTER OPERATING AREA	120V Power	
DWB & WWT C&C							
P-1287-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1A-DWB	MCC-4A	480V Power	

P-1287-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1A-DWB	MCC-4A	480V Power	
P-1287-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1A-DWB	MCC-4A	480V Power	
P-1288-A	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1B-DWB	MCC-4B	480V Power	
P-1288-B	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1B-DWB	MCC-4B	480V Power	
P-1288-C	5"	3 - #600 KCMIL W 1#3/0 GND	RGS	ATS-1B-DWB	MCC-4B	480V Power	
P-1289	3"	3 - #350 KCMIL W 1#4 GND	RGS	MCC-4A	CCP-60210	480V Power	
P-1290	3"	3 - #350 KCMIL W 1#4 GND	RGS	CCP-60210	CENT-60210 (MAIN DRIVE)	480V Power	
P-1291	3"	3 - #350 KCMIL W 1#4 GND	RGS	CCP-60210	CENT-60210 (BACK DRIVE/HPU)	480V Power	
P-1292	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-CONV-60300	480V Power	
P-1293	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-CONV-60300	CONV-60300	480V Power	
P-1294	3/4"	3 - #8 AWG W 1#10 GND	RGS	MCC-4A	VFD-60140	480V Power	
P-1294.1	3/4"	3 - #8 AWG W 1#10 GND	RGS	VFD-60140	DSW-P-60140	480V Power	
P-1295	3/4"	3 - #8 AWG W 1#10 GND	RGS	DSW-P-60140	P-60140	480V Power	
P-1296	2"	3 - #3/0 AWG W 1#6 GND	RGS	MCC-4A	PANEL PP-1-DW	480V Power	
P-1297	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A/VFD-EF-13	DSW-EF-13	480V Power	
P-1298	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EF-13	EF-13	480V Power	
P-1299	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	MCC-4A	VFD-46010	480V Power	
P-1299.1	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	VFD-46010	DSW-P-46010	480V Power	

P-1300	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	DSW-P-46010	P-46010	480V Power
P-1301	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	MCC-4A	VFD-46030	480V Power
P-1301.1	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	VFD-46030	DSW-P-46030	480V Power
P-1302	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	DSW-P-46030	P-46030	480V Power
P-1303	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-MX-46050	480V Power
P-1304	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-46050	MX-46050	480V Power
P-1305	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A/VFD-60510	DSW-P-60510	480V Power
P-1306	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-60510	P-60510	480V Power
P-1307	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-MX-60130	480V Power
P-1308	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-60130	MX-60130	480V Power
P-1309	3"	3 - #500 KCMIL W 1#3 GND	RGS	MCC-4A	HV-04	480V Power
P-1310	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-MX-60530	480V Power
P-1311	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-60530	MX-60530	480V Power
P-1312	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-WH-07	480V Power
P-1313	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-WH-06	WH-07	480V Power
P-1314	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-EUH-57	480V Power
P-1315	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-57	EUH-57	480V Power
P-1316	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-EUH-56	480V Power

P-1317	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-56	EUH-56	480V Power
P-1318	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-EUH-55	480V Power
P-1319	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-55	EUH-55	480V Power
P-1320	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4A	DSW-EUH-54	480V Power
P-1321	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-54	EUH-54	480V Power
P-1322	2"	3 - #1 AWG W 1#6 GND	RGS	MCC-4A	TX-4A-LP-DW	480V Power
P-1323	2"	4 - #3/0 AWG W 1#6 GND	RGS	TX-4A-LP-DW	LP-DW	208V Power
P-1324	3"	3 - #350 KCMIL W 1#4 GND	RGS	MCC-4B	CCP-60220	480V Power
P-1325	3"	3 - #350 KCMIL W 1#4 GND	RGS	CCP-60220	CENT-60220 (MAIN DRIVE)	480V Power
P-1326	3"	3 - #350 KCMIL W 1#4 GND	RGS	CCP-60220	CENT-60220 (BACK DRIVE/HPU)	480V Power
P-1327	1"	3 - #3 AWG W 1#8 GND	RGS	MCC-4B	DSW-CRANE-60230	480V Power
P-1328	1"	3 - #3 AWG W 1#8 GND	RGS	DSW-CRANE-60230	CRANE-60230	480V Power
P-1329	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-CONV-60310	480V Power
P-1330	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-CONV-60310	CONV-60310	480V Power
P-1331	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-CONV-60320	480V Power
P-1332	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-CONV-60320	CONV-60320	480V Power
P-1333	3/4"	3 - #8 AWG W 1#10 GND	RGS	MCC-4B	VFD-60160	480V Power
P-1333.1	3/4"	3 - #8 AWG W 1#10 GND	RGS	VFD-60160	DSW-P-60160	480V Power

P-1334	3/4"	3 - #8 AWG W 1#10 GND	RGS	DSW-P-60160	P-60160	480V Power
P-1335	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	MCC-4B	VFD-46020	480V Power
P-1335.1	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	VFD-46020	DSW-P-46020	480V Power
P-1336	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	DSW-P-46020	P-46020	480V Power
P-1337	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	MCC-4B	VFD-46040	480V Power
P-1337.1	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	VFD-46040	DSW-P-46040	480V Power
P-1338	1 1/2"	3 - #3 AWG W 1#8 GND	RGS	DSW-P-46040	P-46040	480V Power
P-1339	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-MX-46060	480V Power
P-1340	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-46060	MX-46060	480V Power
P-1341	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B/VFD-60520	DSW-P-60520	480V Power
P-1342	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-P-60520	P-60520	480V Power
P-1343	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-MX-60150	480V Power
P-1344	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-60150	MX-60150	480V Power
P-1345	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B/VFD-EF-14	DSW-EF-14	480V Power
P-1346	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EF-14	EF-14	480V Power
P-1347	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-MX-60540	480V Power
P-1348	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MX-60540	MX-60540	480V Power
P-1349	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-EUH-58	480V Power

P-1350	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-58	EUH-58	480V Power
P-1351	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-EUH-59	480V Power
P-1352	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-59	EUH-59	480V Power
P-1353	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-EUH-60	480V Power
P-1354	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-EUH-60	EUH-60	480V Power
P-1355	1 1/2"	3 - #1/0 AWG W 1#6 GND	RGS	MCC-4B	DSW-WH-09	480V Power
P-1356	1 1/2"	3 - #1/0 AWG W 1#6 GND	RGS	DSW-WH-09	WH-09	480V Power
P-1357	2"	3 - #3/0 AWG W 1#6 GND	RGS	MCC-4B	PANEL PP-1-DW	480V Power
P-1358	2"	3 - #1 AWG W 1#6 GND	RGS	MCC-4B	TX-4B-LP-DW	480V Power
P-1359	2"	4 - #3/0 AWG W 1#6 GND	RGS	TX-4B-LP-DW	LP-DW	208V Power
P-1360	3/4"	3 - #12 AWG W 1#12 GND	RGS	MCC-4B	DSW-SP-02	480V Power
P-1361	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-SP-02	SP-02	480V Power
P-1362	3/4"	3 - #8 AWG W 1#10 GND	RGS	MCC-4B	DSW-VRF-06	480V Power
P-1363	3/4"	3 - #8 AWG W 1#10 GND	RGS	DSW-VRF-06	VRF-06	480V Power
P-1364	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60115	480V Power
P-1365	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60115	MOV-60115	480V Power
P-1366	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60125	480V Power
P-1367	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60125	MOV-60125	480V Power

P-1368	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	ROLL-UP-DOOR (DWB - WEST SIDE)	480V Power	
P-1369	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	ROLL-UP-DOOR (DWB - WEST SIDE)	480V Power	
P-1370	3/4"	3 - #8 AWG W 1#10 GND	RGS	PP-1-DW	LCP-60300	480V Power	
P-1371	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60311	480V Power	
P-1372	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60311	MOV-60311	480V Power	
P-1373	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60312	480V Power	
P-1374	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60312	MOV-60312	480V Power	
P-1375	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60321	480V Power	
P-1376	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60321	MOV-60321	480V Power	
P-1377	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	DSW-MOV-60322	480V Power	
P-1378	3/4"	3 - #12 AWG W 1#12 GND	RGS	DSW-MOV-60322	MOV-60322	480V Power	
P-1379	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	CENT-60211 (DIVERTER GATE 1)	480V Power	
P-1380	3/4"	3 - #12 AWG W 1#12 GND	RGS	PP-1-DW	CENT-60212 (DIVERTER GATE 2)	480V Power	
P-1381	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-DW	LP-1-DW	208V Power	
P-1382	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-DW	LP-2-DW	208V Power	
P-1383	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-DW	LP-3-DW	208V Power	
P-1385	1 1/2"	4 - #2 AWG W 1#8 GND	RGS	LP-DW	LP-INSTR-DW	208V Power	
P-1385.1	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	LP-DW	TX-3-DW	208V Power	

P-1385.2	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	TX-3-DW	UPS-EMER-1-DW	240V Power	
P-1385.3	1 1/2"	3 - #2 AWG W 1#8 GND	RGS	UPS-EMER-1-DW	LP-UPS-EMER-1-DW	240V Power	
P-1386	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	DSW-MX-60425	120V Power	
P-1387	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MX-60425	MX-60425	120V Power	
P-1388	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	DSW-MX-60465	120V Power	
P-1389	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-MX-60465	MX-60465	120V Power	
P-1390	3/4"	2 - #8 AWG W 1#10 GND	RGS	LP-1-DW	DSW-SKID-60430	120V Power	
P-1391	3/4"	2 - #8 AWG W 1#10 GND	RGS	DSW-SKID-60430	SKID-60430	120V Power	
P-1392	3/4"	2 - #8 AWG W 1#10 GND	RGS	LP-1-DW	DSW-SKID-60470 (STANDBY)	120V Power	
P-1393	3/4"	2 - #8 AWG W 1#10 GND	RGS	DSW-SKID-60470 (STANDBY)	SKID-60470 (STANDBY)	120V Power	
P-1394	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	DSW-P-60410	120V Power	
P-1395	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-60410	P-60410	120V Power	
P-1396	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	DSW-P-60450 (STANDBY)	120V Power	
P-1397	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-P-60450 (STANDBY)	P-60450 (STANDBY)	120V Power	
P-1398	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	WE-60421	120V Power	
P-1399	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-1-DW	WE-60461	120V Power	
P-1400	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-1-DW	CCP-60210	120V Power	
P-1401	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-1-DW	CCP-60220 (STANDBY)	120V Power	

P-1402	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60302	120V Power	
P-1403	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60303	120V Power	
P-1404	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60304	120V Power	
P-1405	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60322	120V Power	
P-1406	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60323	120V Power	
P-1407	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-1-DW	SOV-60324	120V Power	
P-1408	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-57	208V Power	
P-1409	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-58	208V Power	
P-1410	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-59	208V Power	
P-1411	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-60	208V Power	
P-1412	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-61	208V Power	
P-1413	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	FCU-62	208V Power	
P-1414	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	BC-06	208V Power	
P-1415	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	RCP-06	120V Power	
P-1416	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	RCP-07	120V Power	
P-1417	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	HV-4	120V Power	
P-1418	3/4"	3 - #12 AWG W 1#12 GND	RGS	LP-2-DW	TP-02	120V Power	
P-1419	3/4"	2 - #10 AWG W 1#10 GND	RGS	LP-2-DW	DSW-WH-08	208V Power	

P-1420	3/4"	2 - #8 AWG W 1#10 GND	RGS	DSW-WH-08	WH-08	208V Power	
P-1421	3/4"	2 - #8 AWG W 1#10 GND	RGS	LP-2-DW	DSW-EF-15	120V Power	
P-1422	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-15	EF-15	120V Power	
P-1423	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	DSW-EF-16	120V Power	
P-1424	3/4"	2 - #12 AWG W 1#12 GND	RGS	DSW-EF-16	EF-16	120V Power	
P-1425	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	LCS-EF-13	120V Power	
P-1426	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	LCS-EF-14	120V Power	
P-1427	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	LCS-EF-16	120V Power	
P-1428	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	DDC-14	120V Power	
P-1429	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	DDC-08	120V Power	
P-1430	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-2-DW	LCS-EF-15	120V Power	
P-1431	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 450.00	120V Power	
P-1432	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 464.50	120V Power	
P-1433	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 484.50	120V Power	
P-1434	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 450.00	120V Power	
P-1435	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 464.50	120V Power	
P-1436	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - EL. 484.50	120V Power	
P-1437	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - SOLIDS REMOVAL	120V Power	

P-1438	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - PUMP ROOM	120V Power	
P-1439	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - POLYMER ROOM	120V Power	
P-1440	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - JANITOR ROOM	120V Power	
P-1441	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - RESTROOM	120V Power	
P-1442	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - EXTERIOR	120V Power	
P-1443	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - CENT ROOM	120V Power	
P-1444	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - ELEC ROOM	120V Power	
P-1445	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - SAMPLE ROOM	120V Power	
P-1446	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB LTG - CONTROL ROOM	120V Power	
P-1446.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - CONTROL ROOM	120V Power	
P-1446.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - CONTROL ROOM	120V Power	
P-1446.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	DWB RECP - CTRL AND I&C RMS	120V Power	
P-1446.4	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	WAST WASHWATER TANK - REC	120V Power	
P-1446.5	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-3-DW	WAST WASHWATER TANK - LTG	120V Power	
P-1447	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	TSH-60140	120V Power	
P-1448	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	TSH-60160	120V Power	
P-1449	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	FIT-60201	120V Power	
P-1450	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	FIT-60202	120V Power	

P-1451	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	FIT-60301	120V Power	
P-1452	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	FIT-60401	120V Power	
P-1453	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCS-60425	120V Power	
P-1454	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCS-60465	120V Power	
P-1455	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	WIT-60421	120V Power	
P-1456	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	WIT-60461	120V Power	
P-1457	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCP-60430	120V Power	
P-1458	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCP-60470	120V Power	
P-1459	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	RIO-RESIDUALS	120V Power	
P-1460	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	AIT-60203	120V Power	
P-1461	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	AIT-60204	120V Power	
P-1461.1	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCP-AP65	120V Power	
P-1461.2	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	LCP-AP70	120V Power	
P-1461.3	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-INSTR-DW	OWP-RESID	120V Power	
P-1462	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-DW	EM/EXIT LTG - EL. 450.00, STAIR A	120V Power	
P-1463	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-DW	EM/EXIT LTG - EL. 464.50	120V Power	
P-1464	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-DW	EM/EXIT LTG - EL. 484.50	120V Power	
P-1465	3/4"	2 - #12 AWG W 1#12 GND	RGS	LP-UPS-EMER-1-DW	DWB LTG - EXTERIOR	120V Power	

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BACKWASH FACILITY C&C							
P-1467	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	FCV-81040	120V Power	
P-1468	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	MOV-81050	120V Power	
P-1469	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	FCV-81060	120V Power	
P-1470	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	FIT-81060	120V Power	
P-1471	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	LCP-70360	120V Power	
P-1472	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	LCP-70370	120V Power	
P-1473	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	P-70360	120V Power	
P-1474	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	P-70370	120V Power	
P-1475	3/4"	2 - #12 AWG W 1#12 GND	RGS	PANEL LP1 (EXISTING PANEL)	WIT-70352	120V Power	

CABLE AND CONDUIT SCHEDULE - WEST PARISH WTF						
CONDUIT NO.	SIZE	CABLE	CONDUIT TYPE	FROM	TO	REMARKS
OUTDOOR C&C						
C-001	4"	SINGLE MODE FIBER	PVC Schedule 40	SWGR-02-A	ATS-1A	
C-002	4"	SINGLE MODE FIBER	PVC Schedule 40	RAPID SAND FILTER BUILDING	ADMIN BUILDING	
C-003	1"	SINGLE MODE FIBER	PVC Schedule 40	DDC-12	SLS-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-004	1"	SINGLE MODE FIBER	PVC Schedule 40	DDC-15	SLS-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-005	4"	SINGLE MODE FIBER	PVC Schedule 40	EXISTING POLE	ADMIN BUILDING	
C-006	1"	SINGLE MODE FIBER	PVC Schedule 40	ADMIN BUILDING	GATE 3	
C-006.1	1"	SINGLE MODE FIBER	PVC Schedule 40	ADMIN BUILDING	GATE 4	
C-007	1"	SINGLE MODE FIBER	PVC Schedule 40	ADMIN BUILDING	GATE 2	
C-008	2"	SINGLE MODE FIBER	PVC Schedule 40	DEWATERING BUILDING	WASTE WASHWATER TANK (WWT)	

C-DWB-ATS-A	2"	SINGLE MODE FIBER	PVC Schedule 40	SWGR-01	ATS-4A-DWB	
C-DWB-ATS-B	2"	SINGLE MODE FIBER	PVC Schedule 40	SWGR-01	ATS-4B-DWB	
C-DB-10A-SPARE-A	4"	SPARE	PVC Schedule 40	SWGR-02-A	ATS-1A	
C-DB-14-SPARE-A	4"	SPARE	PVC Schedule 40	ADMIN BUILDING	RAPID SAND FILTER BUILDING	
C-DB-18-SPARE-A	4"	SPARE	PVC Schedule 40	EXISTING POLE	ADMIN BUILDING	
ADMIN C&C						
C-009	1"	CAT6 CABLE	RGS	NETWORK SERVER RACK	PLC-TRAIN-A	
C-010	1"	CAT6 CABLE	RGS	NETWORK SERVER RACK	PLC-TRAIN-B	
C-011	1"	CAT6 CABLE	RGS	NETWORK SERVER RACK	PLC-BOP	
C-012	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	RIO-WQSB	
C-013	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	RIO-WQTH	
C-014	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	CENT-PLC-001	
C-015	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	CENT-PLC-002	

C-016	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	EDV-CP	
C-017	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	CLEARWELL-CP	
C-018	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	EXISTING SCADA SYSTEM FAST SAND FILTER BUILDING	
C-019	1"	SINGLE MODE FIBER	RGS	NETWORK SERVER RACK	OWS-BOP	
C-020	3/4"	2 #14	RGS	RIO-DAF-B2	FIRE ALARM PANEL	XA-70410
C-021	3/4"	2 #14	RGS	RIO-DAF-B2	HVAC CONTROL PANEL	XA-TBD
C-022	3/4"	2 #14	RGS	RIO-DAF-B2	FSH-70001	FAH-70001
C-023	3/4"	2 #14	RGS	LCS-70740	LSH-70742	
C-024	3/4"	2 #14	RGS	DOAS-01 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-025	3/4"	2 #14	RGS	DDC-05	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-026	3/4"	2 #14	RGS	DOAS-02 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-027	3/4"	2 #14	RGS	DDC-06	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-028	3/4"	8 #14	RGS	DDC-05	EF-17	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-029	3/4"	8 #14	RGS	DDC-06	EF-18	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-030	3/4"	CAT6 CABLE	RGS	DDC-11	VFD-CWP-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-031	3/4"	CAT6 CABLE	RGS	DDC-11	VFD-CWP-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-032	3/4"	CAT6 CABLE	RGS	DDC-06	VFD-EF-19	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS

C-033	3/4"	2#14	RGS	DDC-11	VFD-CWP-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-034	3/4"	2#14	RGS	DDC-11	VFD-CWP-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-035	3/4"	2#14	RGS	DDC-06	VFD-EF-19	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-036	3/4"	8 #14	RGS	DDC-05	EF-20	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-037	3/4"	8 #14	RGS	DDC-05	EF-21	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-038	3/4"	6 #14	RGS	DDC-13	SP-01 VCP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
TB C&C						
C-039	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-A	RIO-DAF-A1	
C-040	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-A	RIO-FLT-A1	
C-041	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-A	RIO-DAF-A2	
C-042	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-A	RIO-FLT-A2	
C-043	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-B	RIO-DAF-B1	
C-044	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-B	RIO-FLT-B1	
C-045	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-B	RIO-DAF-B2	

C-046	1"	SINGLE MODE FIBER	RGS	PLC-TRAIN-B	RIO-FLT-B2	
C-047	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-CHEM-A	
C-048	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-CHEM-B	
C-049	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-CHEM-C	
C-050	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-MCC-1D	
C-051	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-MCC-2D	
C-052	1"	CAT 6 CABLE	RGS	RIO-MCC-1D	RIO-MCC-1A	
C-053	1"	CAT 6 CABLE	RGS	RIO-MCC-2D	RIO-MCC-2A	
C-054	1"	12 #14	RGS	RIO-DAF-B2	MOV-10120	ZSH-10120, ZSL-10120, YN-10120, YA-10120, ZCH-10120, ZCL-10120
C-055	1"	SINGLE MODE FIBER	RGS	RIO-DAF-A1	OWS-DAF-A1	
C-056	1"	SINGLE MODE FIBER	RGS	RIO-DAF-B1	OWS-DAF-B1	
C-057	1"	SINGLE MODE FIBER	RGS	RIO-FLT-A2	OWS-FLT-A2	
C-058	1"	SINGLE MODE FIBER	RGS	RIO-FLT-B2	OWS-FLT-B2	

C-059	1"	SINGLE MODE FIBER	RGS	RIO-CHEM-A	OWP-CHEM	
C-060	3/4"	2 #14	RGS	MOV-10120	LCS-10120	
C-061	1"	12 #14	RGS	RIO-DAF-A2	MOV-10110	ZSH-10110, ZSL-10110, YN-10110, YA-10110, ZCH-10110, ZCL-10110
C-062	3/4"	2 #14	RGS	MOV-10110	LCS-10110	
C-063	3/4"	4 #14	RGS	LCS-10310	P-10310	
C-064	3/4"	4 #14	RGS	LCS-10330	P-10330	
C-065	3/4"	2 #14	RGS	RIO-DAF-A2	FSL-10314	
C-066	3/4"	2 #14	RGS	RIO-DAF-B2	FSL-10334	
C-067	3/4"	6 #14	RGS	RIO-DAF-A2	FCV-10111	ZSL-10111, YN-10111, YA-10111
C-068	3/4"	2 #14	RGS	FCV-10111	LCS-10111	
C-069	3/4"	6 #14	RGS	RIO-DAF-B2	FCV-10121	ZSL-10121, YN-10121, YA-10121
C-070	3/4"	2 #14	RGS	FCV-10121	LCS-10121	
C-071	3/4"	4 #14	RGS	RIO-DAF-A2	ZSO-10313	ZSO-10313, ZSC-10313
C-072	3/4"	4 #14	RGS	RIO-DAF-B2	ZSO-10314	ZSO-10314, ZSC-10314
C-073	3/4"	4 #14	RGS	RIO-DAF-A2	ZSO-10311	ZSO-10311, ZSC-10311
C-074	3/4"	4 #14	RGS	RIO-DAF-B2	ZSO-10312	ZSO-10312, ZSC-10312
C-075	3/4"	2 #14	RGS	RIO-DAF-A2	FSL-10316	FAL-10316
C-076	3/4"	2 #14	RGS	RIO-DAF-B2	FSL-10317	FAL-10317
C-077	3/4"	4 #14	RGS	LCS-10320	P-10320	
C-078	3/4"	4 #14	RGS	LCS-10340	P-10340	
C-079	3/4"	2 #14	RGS	RIO-DAF-A2	FSL-10325	FAH-10325
C-080	3/4"	2 #14	RGS	RIO-DAF-B2	FSL-10345	FAL-10345
C-081	1"	12 #14	RGS	RIO-DAF-A1	MOV-20110	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-082	1"	12 #14	RGS	RIO-DAF-A1	MOV-20210	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-083	1"	12 #14	RGS	RIO-DAF-A1	MOV-20310	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-084	1"	12 #14	RGS	RIO-DAF-A2	MOV-20410	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A

C-085	1"	12 #14	RGS	RIO-DAF-A2	MOV-20510	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-086	1"	12 #14	RGS	RIO-DAF-B1	MOV-20610	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-087	1"	12 #14	RGS	RIO-DAF-B1	MOV-20710	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-088	1"	12 #14	RGS	RIO-DAF-B1	MOV-20810	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-089	1"	12 #14	RGS	RIO-DAF-B2	MOV-20910	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-090	1"	12 #14	RGS	RIO-DAF-B2	MOV-21010	ZSH-A, ZSL-A, YN-A, YA-A, ZCH-A, ZCL-A
C-091	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20120	YSH-B, YN-B, YA-B, YCH-B
C-092	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20220	YSH-B, YN-B, YA-B, YCH-B
C-093	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20320	YSH-B, YN-B, YA-B, YCH-B
C-094	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20420	YSH-B, YN-B, YA-B, YCH-B
C-095	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20520	YSH-B, YN-B, YA-B, YCH-B
C-096	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20620	YSH-B, YN-B, YA-B, YCH-B
C-097	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20720	YSH-B, YN-B, YA-B, YCH-B
C-098	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20820	YSH-B, YN-B, YA-B, YCH-B
C-099	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20920	YSH-B, YN-B, YA-B, YCH-B
C-100	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-21020	YSH-B, YN-B, YA-B, YCH-B
C-101	3/4"	8 #14	RGS	VFD-20120	FLOC-20120	
C-102	3/4"	8 #14	RGS	VFD-20220	FLOC-20220	
C-103	3/4"	8 #14	RGS	VFD-20320	FLOC-20320	
C-104	3/4"	8 #14	RGS	VFD-20420	FLOC-20420	
C-105	3/4"	8 #14	RGS	VFD-20520	FLOC-20520	
C-106	3/4"	8 #14	RGS	VFD-20620	FLOC-20620	
C-107	3/4"	8 #14	RGS	VFD-20720	FLOC-20720	
C-108	3/4"	8 #14	RGS	VFD-20820	FLOC-20820	
C-109	3/4"	8 #14	RGS	VFD-20920	FLOC-20920	
C-110	3/4"	8 #14	RGS	VFD-21020	FLOC-21020	
C-111	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20130	YSH-C, YN-C, YA-C, YCH-C

C-112	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20230	YSH-C, YN-C, YA-C, YCH-C
C-113	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20330	YSH-C, YN-C, YA-C, YCH-C
C-114	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20430	YSH-C, YN-C, YA-C, YCH-C
C-115	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20530	YSH-C, YN-C, YA-C, YCH-C
C-116	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20630	YSH-C, YN-C, YA-C, YCH-C
C-117	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20730	YSH-C, YN-C, YA-C, YCH-C
C-118	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20830	YSH-C, YN-C, YA-C, YCH-C
C-119	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-20930	YSH-C, YN-C, YA-C, YCH-C
C-120	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-21030	YSH-C, YN-C, YA-C, YCH-C
C-121	3/4"	8 #14	RGS	VFD-20130	FLOC-20130	
C-122	3/4"	8 #14	RGS	VFD-20230	FLOC-20230	
C-123	3/4"	8 #14	RGS	VFD-20330	FLOC-20330	
C-124	3/4"	8 #14	RGS	VFD-20430	FLOC-20430	
C-125	3/4"	8 #14	RGS	VFD-20530	FLOC-20530	
C-126	3/4"	8 #14	RGS	VFD-20630	FLOC-20630	
C-127	3/4"	8 #14	RGS	VFD-20730	FLOC-20730	
C-128	3/4"	8 #14	RGS	VFD-20830	FLOC-20830	
C-129	3/4"	8 #14	RGS	VFD-20930	FLOC-20930	
C-130	3/4"	8 #14	RGS	VFD-21030	FLOC-21030	
C-131	1"	12 #14	RGS	RIO-DAF-A1	MOV-30110	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-132	1"	12 #14	RGS	RIO-DAF-A1	MOV-30210	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-133	1"	12 #14	RGS	RIO-DAF-A1	MOV-30310	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-134	1"	12 #14	RGS	RIO-DAF-A2	MOV-30410	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-135	1"	12 #14	RGS	RIO-DAF-A2	MOV-30510	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-136	1"	12 #14	RGS	RIO-DAF-B1	MOV-30610	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-137	1"	12 #14	RGS	RIO-DAF-B1	MOV-30710	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E

C-138	1"	12 #14	RGS	RIO-DAF-B1	MOV-30810	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-139	1"	12 #14	RGS	RIO-DAF-B2	MOV-30910	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-140	1"	12 #14	RGS	RIO-DAF-B2	MOV-31010	ZSH-E, ZSL-E, YN-E, YA-E, ZCH-E, ZCL-E
C-141	1"	12 #14	RGS	RIO-DAF-A1	MOV-30120	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-142	1"	12 #14	RGS	RIO-DAF-A1	MOV-30220	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-143	1"	12 #14	RGS	RIO-DAF-A1	MOV-30320	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-144	1"	12 #14	RGS	RIO-DAF-A2	MOV-30420	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-145	1"	12 #14	RGS	RIO-DAF-A2	MOV-30520	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-146	1"	12 #14	RGS	RIO-DAF-B1	MOV-30620	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-147	1"	12 #14	RGS	RIO-DAF-B1	MOV-30720	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-148	1"	12 #14	RGS	RIO-DAF-B1	MOV-30820	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-149	1"	12 #14	RGS	RIO-DAF-B2	MOV-30920	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-150	1"	12 #14	RGS	RIO-DAF-B2	MOV-31020	ZSH-F, ZSL-F, YN-F, YA-F, ZCH-F, ZCL-F
C-151	1"	12 #14	RGS	RIO-DAF-A1	MOV-30130	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-152	1"	12 #14	RGS	RIO-DAF-A1	MOV-30230	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-153	1"	12 #14	RGS	RIO-DAF-A1	MOV-30330	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-154	1"	12 #14	RGS	RIO-DAF-A2	MOV-30430	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-155	1"	12 #14	RGS	RIO-DAF-A2	MOV-30530	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G

C-156	1"	12 #14	RGS	RIO-DAF-B1	MOV-30630	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-157	1"	12 #14	RGS	RIO-DAF-B1	MOV-30730	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-158	1"	12 #14	RGS	RIO-DAF-B1	MOV-30830	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-159	1"	12 #14	RGS	RIO-DAF-B2	MOV-30930	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-160	1"	12 #14	RGS	RIO-DAF-B2	MOV-31030	ZSH-G, ZSL-G, YN-G, YA-G, ZCH-G, ZCL-G
C-161	1"	12 #14	RGS	RIO-DAF-A1	MOV-30140	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-162	1"	12 #14	RGS	RIO-DAF-A1	MOV-30240	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-163	1"	12 #14	RGS	RIO-DAF-A1	MOV-30340	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-164	1"	12 #14	RGS	RIO-DAF-A2	MOV-30440	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-165	1"	12 #14	RGS	RIO-DAF-A2	MOV-30540	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-166	1"	12 #14	RGS	RIO-DAF-B1	MOV-30640	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-167	1"	12 #14	RGS	RIO-DAF-B1	MOV-30740	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-168	1"	12 #14	RGS	RIO-DAF-B1	MOV-30840	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-169	1"	12 #14	RGS	RIO-DAF-B2	MOV-30940	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-170	1"	12 #14	RGS	RIO-DAF-B2	MOV-31040	ZSH-H, ZSL-H, YN-H, YA-H, ZCH-H, ZCL-H
C-171	1"	12 #14	RGS	RIO-DAF-A1	MOV-30150	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL- J
C-172	1"	12 #14	RGS	RIO-DAF-A1	MOV-30250	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL- J
C-173	1"	12 #14	RGS	RIO-DAF-A1	MOV-30350	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL- J

C-174	1"	12 #14	RGS	RIO-DAF-A2	MOV-30450	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-175	1"	12 #14	RGS	RIO-DAF-A2	MOV-30550	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-176	1"	12 #14	RGS	RIO-DAF-B1	MOV-30650	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-177	1"	12 #14	RGS	RIO-DAF-B1	MOV-30750	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-178	1"	12 #14	RGS	RIO-DAF-B1	MOV-30850	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-179	1"	12 #14	RGS	RIO-DAF-B2	MOV-30950	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-180	1"	12 #14	RGS	RIO-DAF-B2	MOV-31050	ZSH-J, ZSL-J, YN-J, YA-J, ZCH-J, ZCL-J
C-181	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30160	YSH-K, YN-K, YA-K, YCH-K
C-182	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30260	YSH-K, YN-K, YA-K, YCH-K
C-183	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30360	YSH-K, YN-K, YA-K, YCH-K
C-184	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30460	YSH-K, YN-K, YA-K, YCH-K
C-185	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30560	YSH-K, YN-K, YA-K, YCH-K
C-186	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30660	YSH-K, YN-K, YA-K, YCH-K
C-187	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30760	YSH-K, YN-K, YA-K, YCH-K
C-188	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30860	YSH-K, YN-K, YA-K, YCH-K
C-189	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-30960	YSH-K, YN-K, YA-K, YCH-K
C-190	3/4"	8 #14	RGS	RIO-MCC-2D	VFD-31060	YSH-K, YN-K, YA-K, YCH-K
C-191	3/4"	8 #14	RGS	VFD-30160	SKMR-30160	
C-192	3/4"	8 #14	RGS	VFD-30260	SKMR-30260	
C-193	3/4"	8 #14	RGS	VFD-30360	SKMR-30360	
C-194	3/4"	8 #14	RGS	VFD-30460	SKMR-30460	
C-195	3/4"	8 #14	RGS	VFD-30560	SKMR-30560	
C-196	3/4"	8 #14	RGS	VFD-30660	SKMR-30660	
C-197	3/4"	8 #14	RGS	VFD-30760	SKMR-30760	
C-198	3/4"	8 #14	RGS	VFD-30860	SKMR-30860	
C-199	3/4"	8 #14	RGS	VFD-30960	SKMR-30960	

C-200	3/4"	8 #14	RGS	VFD-31060	SKMR-30960	
C-201	1"	12 #14	RGS	RIO-DAF-A2	MOV-30001	ZSH-30001, ZSL-30001, YN-30001, YA-30001, ZCH-30001, ZCL-30001
C-202	1"	12 #14	RGS	RIO-DAF-B2	MOV-30002	ZSH-30002, ZSL-30002, YN-30002, YA-30002, ZCH-30002, ZCL-30002
C-203	1"	12 #14	RGS	RIO-DAF-A2	MOV-30003	ZSH-30003, ZSL-30003, YN-30003, YA-30003, ZCH-30003, ZCL-30003
C-204	3/4"	4 #14	RGS	LCS-30010	P-30010	
C-205	3/4"	4 #14	RGS	LCS-30020	P-30020	
C-206	3/4"	2 #14	RGS	RIO-MCC-2D	FSL-30014	FAL-30014
C-207	3/4"	2 #14	RGS	RIO-MCC-2D	FSL-30024	FAL-30024
C-208	1"	12 #14	RGS	RIO-MCC-1D	VFD-33010	PSL-33011, YSH-33010, YN-33010, YA-33010, YCH-33010, FSL-33012
C-209	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-33011	
C-210	1"	12#14	RGS	VFD-33010	LCS-33010	
C-211	3/4"	2 #14	RGS	RIO-MCC-1D	FSL-33012	
C-212	1"	12 #14	RGS	RIO-MCC-1D	VFD-33020	PSL-33021, YSH-33020, YN-33020, YA-33020, YCH-33020, FSL-33022
C-213	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-33021	
C-214	1"	12#14	RGS	VFD-33020	LCS-33020	
C-215	3/4"	2 #14	RGS	RIO-MCC-1D	FSL-33022	
C-216	1"	12 #14	RGS	RIO-MCC-1D	VFD-33030	PSL-33031, YSH-33030, YN-33030, YA-33030, YCH-33030, FSL-33032
C-217	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-33031	
C-218	1"	12#14	RGS	VFD-33030	LCS-33030	
C-219	3/4"	2 #14	RGS	RIO-MCC-1D	FSL-33032	
C-220	1"	12 #14	RGS	RIO-MCC-1D	VFD-33040	PSL-33041, YSH-33040, YN-33040, YA-33040, YCH-33040, FSL-33042
C-221	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-33041	
C-222	1"	12#14	RGS	VFD-33040	LCS-33040	
C-223	3/4"	2 #14	RGS	RIO-MCC-1D	FSL-33042	
C-224	3/4"	6 #14	RGS	RIO-DAF-A2	LCP-33050	DPAH-33050, YI-33050, YA-33050
C-225	3/4"	2 #14	RGS	LCP-33050	STR-33050	

C-226	3/4"	2 #14	RGS	LCP-33050	PDSH-33053	
C-227	3/4"	2 #14	RGS	LCP-33050	MOV-33054	
C-228	3/4"	8 #14	RGS	RIO-MCC-2D	LCP-34010/COMP-34010	YSH-34010, YA-34010, PAL-34010, TAH-34010
C-229	3/4"	8 #14	RGS	RIO-MCC-2D	LCP-34020/COMP-34020	YSH-34020, YA-34020, PAL-34020, TAH-34020
C-230	3/4"	2 #14	RGS	RIO-MCC-2D	PSL-34032	PAL-34032
C-231	3/4"	2 #14	RGS	RIO-MCC-2D	PSL-34042	PAL-34042
C-232	3/4"	2 #14	RGS	RIO-DAF-A2	DPSL-34006	PDAH-34006
C-233	3/4"	2 #14	RGS	RIO-DAF-A2	DPSL-34003	PDAH-34003
C-234	3/4"	8 #14	RGS	RIO-DAF-A2	LCV-34051	YSH-34051, YN-34051, YA-34051, YCH-34051
C-235	3/4"	8 #14	RGS	RIO-DAF-A2	MOV-34060	YSH-34060, YN-34060, YA-34060, YCH-34060
C-236	3/4"	8 #14	RGS	RIO-DAF-B2	LCV-34081	YSH-34081, YN-34081, YA-34081, YCH-34081
C-237	3/4"	8 #14	RGS	RIO-DAF-B2	MOV-34090	YSH-34090, YN-34090, YA-34090, YCH-34090
C-238	3/4"	2 #14	RGS	RIO-DAF-A2	LSH-35012	
C-239	1"	12 #14	RGS	RIO-MCC-1D	MCC-1	PSL-35021, YSH-35020, YN-35020, YA- 35020, YCH-35020, PSH-35022
C-240	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-35021	
C-241	1"	12 #14	RGS	MCC-1	LCS-35020	
C-242	3/4"	2 #14	RGS	LCS-35020	TSH-35020	
C-243	3/4"	2 #14	RGS	RIO-MCC-1D	PSH-35022	
C-244	1"	12 #14	RGS	RIO-MCC-1D	MCC-1	PSL-35031, YSH-35030, YN-35030, YA- 35030, YCH-35030, PSH-35032
C-245	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-35031	
C-246	1"	12 #14	RGS	MCC-1	LCS-35030	
C-247	3/4"	2 #14	RGS	LCS-35030	TSH-35030	
C-248	3/4"	2 #14	RGS	RIO-MCC-1D	PSH-35032	
C-249	3/4"	2 #14	RGS	RIO-DAF-B2	LSH-35052	

C-250	1"	12 #14	RGS	RIO-MCC-1D	MCC-1	PSL-35061, YSH-35060, YN-35060, YA-35060, YCH-35060, PSH-35062
C-251	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-35061	
C-252	1"	12 #14	RGS	MCC-1	LCS-35060	
C-253	3/4"	2 #14	RGS	LCS-35060	TSH-35060	
C-254	3/4"	2 #14	RGS	RIO-MCC-1D	PSH-35062	
C-255	1"	12 #14	RGS	RIO-MCC-1D	MCC-1	PSL-35071, YSH-35070, YN-35070, YA-35070, YCH-35070, PSH-35072
C-256	3/4"	2 #14	RGS	RIO-MCC-1D	PSL-35071	
C-257	1"	12 #14	RGS	MCC-1	LCS-35070	
C-258	3/4"	2 #14	RGS	LCS-35070	TSH-35070	
C-259	3/4"	2 #14	RGS	RIO-MCC-1D	PSH-35072	
C-260	1"	12 #14	RGS	RIO-FLT-A1	MOV-40120	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-261	1"	12 #14	RGS	RIO-FLT-A1	MOV-40220	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-262	1"	12 #14	RGS	RIO-FLT-A1	MOV-40320	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-263	1"	12 #14	RGS	RIO-FLT-A1	MOV-40420	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-264	1"	12 #14	RGS	RIO-FLT-A2	MOV-40520	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-265	1"	12 #14	RGS	RIO-FLT-A2	MOV-40620	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-266	1"	12 #14	RGS	RIO-FLT-A2	MOV-40720	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-267	1"	12 #14	RGS	RIO-FLT-B1	MOV-40820	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-268	1"	12 #14	RGS	RIO-FLT-B1	MOV-40920	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-269	1"	12 #14	RGS	RIO-FLT-B1	MOV-41020	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-270	1"	12 #14	RGS	RIO-FLT-B1	MOV-41120	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA

C-271	1"	12 #14	RGS	RIO-FLT-B2	MOV-41220	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-272	1"	12 #14	RGS	RIO-FLT-B2	MOV-41320	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-273	1"	12 #14	RGS	RIO-FLT-B2	MOV-41420	ZSH-AA, ZSL-AA, YN-AA, YA-AA, ZCH-AA, ZCL-AA
C-274	1"	12 #14	RGS	RIO-FLT-A1	MOV-40130	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-275	1"	12 #14	RGS	RIO-FLT-A1	MOV-40230	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-276	1"	12 #14	RGS	RIO-FLT-A1	MOV-40330	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-277	1"	12 #14	RGS	RIO-FLT-A1	MOV-40430	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-278	1"	12 #14	RGS	RIO-FLT-A2	MOV-40530	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-279	1"	12 #14	RGS	RIO-FLT-A2	MOV-40630	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-280	1"	12 #14	RGS	RIO-FLT-A2	MOV-40730	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-281	1"	12 #14	RGS	RIO-FLT-B1	MOV-40830	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-282	1"	12 #14	RGS	RIO-FLT-B1	MOV-40930	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-283	1"	12 #14	RGS	RIO-FLT-B1	MOV-41030	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-284	1"	12 #14	RGS	RIO-FLT-B1	MOV-41130	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-285	1"	12 #14	RGS	RIO-FLT-B2	MOV-41230	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-286	1"	12 #14	RGS	RIO-FLT-B2	MOV-41330	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-287	1"	12 #14	RGS	RIO-FLT-B2	MOV-41430	ZSH-BB, ZSL-BB, YN-BB, YA-BB, ZCH-BB, ZCL-BB
C-288	1"	12 #14	RGS	RIO-FLT-A1	MOV-40140	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC

C-289	1"	12 #14	RGS	RIO-FLT-A1	MOV-40240	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-290	1"	12 #14	RGS	RIO-FLT-A1	MOV-40340	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-291	1"	12 #14	RGS	RIO-FLT-A1	MOV-40440	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-292	1"	12 #14	RGS	RIO-FLT-A2	MOV-40540	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-293	1"	12 #14	RGS	RIO-FLT-A2	MOV-40640	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-294	1"	12 #14	RGS	RIO-FLT-A2	MOV-40740	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-295	1"	12 #14	RGS	RIO-FLT-B1	MOV-40840	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-296	1"	12 #14	RGS	RIO-FLT-B1	MOV-40940	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-297	1"	12 #14	RGS	RIO-FLT-B1	MOV-41040	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-298	1"	12 #14	RGS	RIO-FLT-B1	MOV-41140	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-299	1"	12 #14	RGS	RIO-FLT-B2	MOV-41240	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-300	1"	12 #14	RGS	RIO-FLT-B2	MOV-41340	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-301	1"	12 #14	RGS	RIO-FLT-B2	MOV-41440	ZSH-CC, ZSL-CC, YN-CC, YA-CC, ZCH-CC, ZCL-CC
C-302	1"	12 #14	RGS	RIO-FLT-A1	MOV-40150	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-303	1"	12 #14	RGS	RIO-FLT-A1	MOV-40250	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-304	1"	12 #14	RGS	RIO-FLT-A1	MOV-40350	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-305	1"	12 #14	RGS	RIO-FLT-A1	MOV-40450	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-306	1"	12 #14	RGS	RIO-FLT-A2	MOV-40550	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG

C-307	1"	12 #14	RGS	RIO-FLT-A2	MOV-40650	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-308	1"	12 #14	RGS	RIO-FLT-A2	MOV-40750	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-309	1"	12 #14	RGS	RIO-FLT-B1	MOV-40850	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-310	1"	12 #14	RGS	RIO-FLT-B1	MOV-40950	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-311	1"	12 #14	RGS	RIO-FLT-B1	MOV-41050	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-312	1"	12 #14	RGS	RIO-FLT-B1	MOV-41150	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-313	1"	12 #14	RGS	RIO-FLT-B2	MOV-41250	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-314	1"	12 #14	RGS	RIO-FLT-B2	MOV-41350	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-315	1"	12 #14	RGS	RIO-FLT-B2	MOV-41450	ZSH-GG, ZSL-GG, YN-GG, YA-GG, ZCH-GG, ZCL-GG
C-316	3/4"	8 #14	RGS	RIO-FLT-A1	FCV-40100	ZSH-40100, ZSL-40100, YN-40100, YA- 40100
C-317	3/4"	4 #14	RGS	FCV-40100	LCS-40100	
C-318	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40160	ZSL-MM, YN-MM, YA-MM
C-319	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40260	ZSL-MM, YN-MM, YA-MM
C-320	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40360	ZSL-MM, YN-MM, YA-MM
C-321	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40460	ZSL-MM, YN-MM, YA-MM
C-322	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40560	ZSL-MM, YN-MM, YA-MM
C-323	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40660	ZSL-MM, YN-MM, YA-MM
C-324	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40760	ZSL-MM, YN-MM, YA-MM
C-325	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-40860	ZSL-MM, YN-MM, YA-MM
C-326	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-40960	ZSL-MM, YN-MM, YA-MM
C-327	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-41060	ZSL-MM, YN-MM, YA-MM
C-328	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-41160	ZSL-MM, YN-MM, YA-MM
C-329	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41260	ZSL-MM, YN-MM, YA-MM
C-330	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41360	ZSL-MM, YN-MM, YA-MM

C-331	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41460	ZSL-MM, YN-MM, YA-MM
C-332	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40170	ZSL-NN, YN-NN, YA-NN
C-333	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40270	ZSL-NN, YN-NN, YA-NN
C-334	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40370	ZSL-NN, YN-NN, YA-NN
C-335	3/4"	6 #14	RGS	RIO-FLT-A1	MOV-40470	ZSL-NN, YN-NN, YA-NN
C-336	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40570	ZSL-NN, YN-NN, YA-NN
C-337	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40670	ZSL-NN, YN-NN, YA-NN
C-338	3/4"	6 #14	RGS	RIO-FLT-A2	MOV-40770	ZSL-NN, YN-NN, YA-NN
C-339	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-40870	ZSL-NN, YN-NN, YA-NN
C-340	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-40970	ZSL-NN, YN-NN, YA-NN
C-341	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-41070	ZSL-NN, YN-NN, YA-NN
C-342	3/4"	6 #14	RGS	RIO-FLT-B1	MOV-41170	ZSL-NN, YN-NN, YA-NN
C-343	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41270	ZSL-NN, YN-NN, YA-NN
C-344	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41370	ZSL-NN, YN-NN, YA-NN
C-345	3/4"	6 #14	RGS	RIO-FLT-B2	MOV-41470	ZSL-NN, YN-NN, YA-NN
C-346	3/4"	2 #14	RGS	RIO-FLT-A2	FSL-42045	FAL-42045
C-347	3/4"	2 #14	RGS	RIO-FLT-A2	FSL-42046	FAL-42046
C-348	3/4"	2 #14	RGS	RIO-FLT-B2	FSL-42047	FAL-42048
C-349	3/4"	2 #14	RGS	RIO-FLT-B2	FSL-42048	FAL-42047
C-350	3/4"	4 #14	RGS	LCS-40430	P-42030	
C-351	3/4"	4 #14	RGS	LCS-40440	P-42040	
C-352	3/4"	2 #14	RGS	RIO-FLT-A2	FSL-42053	FAL-42053
C-353	3/4"	2 #14	RGS	RIO-FLT-B2	FSL-42058	FAL-42058
C-354	1"	12 #14	RGS	RIO-FLT-A2	MOG-42050	ZSH-42050, ZSL-42050, YN-42050, YA-42050, ZCH-42050, ZCL-42050
C-355	1"	12 #14	RGS	RIO-FLT-B2	MOG-42060	ZSH-42060, ZSL-42060, YN-42060, YA-42060, ZCH-42060, ZCL-42060
C-356	1"	14 #14	RGS	RIO-MCC-2D	MCC-2	YSH-45010, YN-45010, YA-45010, YCH-45010, PAH-45010, TAH-45010, YAK-45010
C-357	1"	18 #14	RGS	MCC-2	LCP-45010	
C-358	3/4"	8 #14	RGS	LCP-45010	BL-45010	

C-359	1"	14 #14	RGS	RIO-MCC-2D	MCC-2	YSH-45030, YN-45030, YA-45030, YCH-45030, PAH-45030, TAH-45030, YAH-45030
C-360	1"	18 #14	RGS	MCC-2	LCP-45030	
C-361	3/4"	8 #14	RGS	LCP-45030	BL-45030	
C-362	1"	12 #14	RGS	RIO-MCC-2D	MOV-45020	ZSH-45020, ZSL-45020, YN-45020, YA- 45020, ZCH-45020, ZCL-45020
C-363	3/4"	10 #14	PVC Coated RGS	RIO-MCC-1D	LCS-51000	LAH-51012, LAH-51022, LAH-51032, LAH-51042, LAH-51101
C-364	3/4"	2 #14	PVC Coated RGS	LCS-51000	LSH-51012	
C-365	3/4"	2 #14	PVC Coated RGS	LCS-51000	LSH-51022	
C-366	3/4"	2 #14	PVC Coated RGS	LCS-51000	LSH-51032	
C-367	3/4"	2 #14	PVC Coated RGS	LCS-51000	LSH-51042	
C-368	3/4"	2 #14	RGS	RIO-CHEM-A	FSH-51001	FAH-51001
C-369	3/4"	2 #14	RGS	RIO-CHEM-A	FSH-51002	FAH-51002
C-370	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-51060, YAK-51060, YA-51060
C-371	1"	12 #14	PVC Coated RGS	MCC-1	LCS-51060	
C-372	3/4"	2 #14	PVC Coated RGS	LSH-51112	LCS-51060	FROM PACL DAY TANK
C-373	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-51070, YAK-51070, YA-51070
C-374	1"	12 #14	PVC Coated RGS	MCC-1	LCS-51070	

C-375	3/4"	2 #14	PVC Coated RGS	LSH-51112	LCS-51070	FROM PACL DAY TANK
C-376	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-A	LSH-51101	LAH-51101
C-377	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-A	FSH-51102	FAH-51102
C-377.1	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-A	FSH-51103	FAH-51103
C-378	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-A	LSH-51112	LAH-51112
C-379	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-A	LCP-51120	YSH-51120, YN-51120, YA-51120, YCH-51120
C-380	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-A	LCP-51130	YSH-51130, YN-51130, YA-51130, YCH-51130
C-381	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-A	LCP-51140	YSH-51140, YN-51140, YA-51140, YCH-51140
C-382	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-A	LCP-51150	YSH-51150, YN-51150, YA-51150, YCH-51150
C-383	3/4"	6 #14	PVC Schedule 80	RIO-MCC-1D	LCS-52000	LAH-52012, LAH-52022, LAH-52101
C-384	3/4"	2 #14	PVC Schedule 80	LCS-52000	LSH-52012	
C-385	3/4"	2 #14	PVC Schedule 80	LCS-52000	LSH-52022	

C-386	3/4"	2 #14	RGS	RIO-CHEM-A	FSH-51003	FAH-51003
C-387	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-52060, YAK-52060, YA-52060
C-388	1"	12 #14	PVC Schedule 80	MCC-1	LCS-52060	
C-389	3/4"	2 #14	PVC Schedule 80	LSH-52112	LCS-52060	FROM DAY TANK
C-390	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-52070, YAK-52070, YA-52070
C-391	1"	12 #14	PVC Schedule 80	MCC-1	LCS-52070	
C-392	3/4"	2 #14	PVC Schedule 80	LSH-52112	LCS-52070	FROM DAY TANK
C-393	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-52080, YAK-52080, YA-52080
C-394	1"	12 #14	PVC Schedule 80	MCC-1	LCS-52080	
C-395	3/4"	2 #14	PVC Schedule 80	LSH-52117	LCS-52080	FROM DAY TANK
C-396	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-52090, YAK-52090, YA-52090
C-397	1"	12 #14	PVC Schedule 80	MCC-1	LCS-52090	
C-398	3/4"	2 #14	PVC Schedule 80	LSH-52117	LCS-52090	FROM DAY TANK
C-399	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	LSH-52101	LAH-52101
C-400	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	FSH-52102	FAH-52102

C-401	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	LSH-52112	LAH-52112
C-402	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52120	YSH-52120, YN-52120, YA-52120, YCH-52120
C-403	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52130	YSH-52130, YN-52130, YA-52130, YCH-52130
C-404	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52140	YSH-52140, YN-52140, YA-52140, YCH-52140
C-405	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52150	YSH-52150, YN-52150, YA-52150, YCH-52150
C-406	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	FSL-52105	FAL-52105
C-407	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	FSL-52106	FAL-52106
C-408	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	LSH-52117	LAH-52117
C-409	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52160	YSH-52160, YN-52160, YA-52160, YCH-52160
C-410	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52170	YSH-52170, YN-52170, YA-52170, YCH-52170
C-411	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52180	YSH-52180, YN-52180, YA-52180, YCH-52180
C-412	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-B	LCP-52190	YSH-52190, YN-52190, YA-52190, YCH-52190

C-413	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	FSL-52107	FAL-52107
C-414	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-B	FSL-52108	FAL-52108
C-415	3/4"	6 #14	PVC Schedule 80	RIO-MCC-1D	LCS-53000	LAH-53012, LAH-53022, LAH-53101
C-416	3/4"	2 #14	PVC Schedule 80	LCS-53000	LSH-53012	
C-417	3/4"	2 #14	PVC Schedule 80	LCS-53000	LSH-53022	
C-418	3/4"	2 #14	RGS	RIO-CHEM-A	FSH-51004	FAH-51004
C-419	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-53060, YAK-53060, YA-53060
C-420	1"	12 #14	PVC Schedule 80	MCC-1	LCS-53060	
C-421	3/4"	2 #14	PVC Schedule 80	LSH-53112	LCS-53060	FROM DAY TANK
C-422	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-53070, YAK-53070, YA-53070
C-423	1"	12 #14	PVC Schedule 80	MCC-1	LCS-53070	
C-424	3/4"	2 #14	PVC Schedule 80	LSH-53112	LCS-53070	FROM DAY TANK
C-425	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-C	LSH-53101	LAH-53101
C-426	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-C	FSH-53102	FAH-53102

C-427	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-C	LSH-53112	LAH-53112
C-428	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-C	LCP-53120	YSH-53120, YN-53120, YA-53120, YCH-53120
C-429	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-C	LCP-53130	YSH-53130, YN-53130, YA-53130, YCH-53130
C-430	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-C	LCP-53140	YSH-53140, YN-53140, YA-53140, YCH-53140
C-431	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-C	LCP-53150	YSH-53150, YN-53150, YA-53150, YCH-53150
C-432	1"	12 #14	PVC Schedule 80	RIO-MCC-1D	LCS-54000	LAH-54012, LAH-54022, LAH-54032, LAH-54042, LAH-54052, LAH-54101
C-433	3/4"	2 #14	PVC Schedule 80	LCS-54000	LSH-54012	
C-434	3/4"	2 #14	PVC Schedule 80	LCS-54000	LSH-54022	
C-435	3/4"	2 #14	PVC Schedule 80	LCS-54000	LSH-54032	
C-436	3/4"	2 #14	PVC Schedule 80	LCS-54000	LSH-54042	
C-437	3/4"	2 #14	PVC Schedule 80	LCS-54000	LSH-54052	
C-438	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-54060, YAK-54060, YA-54060

C-439	1"	12 #14	PVC Schedule 80	MCC-1	LCS-54060	
C-440	3/4"	2 #14	PVC Schedule 80	LSH-54112	LCS-54060	FROM DAY TANK
C-441	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-54070, YAK-54070, YA-54070
C-442	1"	12 #14	PVC Schedule 80	MCC-1	LCS-54070	
C-443	3/4"	2 #14	PVC Schedule 80	LSH-54112	LCS-54070	FROM DAY TANK
C-444	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-A	LSH-54101	LAH-54101
C-445	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-A	FSH-54102	FAH-54102
C-446	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-A	LSH-54103	LAH-54103
C-447	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-A	FSH-54104	FAH-54104
C-448	3/4"	2 #14	PVC Schedule 80	RIO-CHEM-A	LSH-54112	LAH-54112
C-449	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-A	LCP-54120	YSH-54120, YN-54120, YA-54120, YCH-54120
C-450	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-A	LCP-54130	YSH-54130, YN-54130, YA-54130, YCH-54130

C-451	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-A	LCP-54140	YSH-54140, YN-54140, YA-54140, YCH-54140
C-452	3/4"	8 #14	PVC Schedule 80	RIO-CHEM-A	LCP-54150	YSH-54150, YN-54150, YA-54150, YCH-54150
C-453	3/4"	4 #14	PVC Coated RGS	LCS-55112	MX-55112	
C-454	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-B	LSH-55101	LAH-55101
C-455	3/4"	4 #14	PVC Coated RGS	LCS-55117	MX-55117	
C-456	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-B	FSH-55102	FAH-55102
C-457	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-B	SKID-55120	YSH-55120, YN-55120, YA-55120, YCH-55120
C-458	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-B	SKID-55130	YSH-55130, YN-55130, YA-55130, YCH-55130
C-459	3/4"	6 #14	PVC Coated RGS	RIO-MCC-1D	LCS-56000	LAH-56012, LAH-56022, LAH-56101
C-460	3/4"	2 #14	PVC Coated RGS	LCS-56000	LSH-56012	
C-461	3/4"	2 #14	PVC Coated RGS	LCS-56000	LSH-56022	
C-462	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-56060, YAK-56060, YA-56060

C-463	1"	12 #14	PVC Coated RGS	MCC-1	LCS-56060	
C-464	3/4"	2 #14	PVC Coated RGS	LSH-56112	LCS-56060	FROM DAY TANK
C-465	3/4"	6 #14	RGS	RIO-MCC-1D	MCC-1	YSH-56070, YAK-56070, YA-56070
C-466	1"	12 #14	PVC Coated RGS	MCC-1	LCS-56070	
C-467	3/4"	2 #14	PVC Coated RGS	LSH-56112	LCS-56070	FROM DAY TANK
C-468	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-B	LSH-56101	LAH-56101
C-469	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-B	LSH-56112	LAH-56112
C-470	3/4"	2 #14	PVC Coated RGS	RIO-CHEM-B	FSH-56102	FAH-56102
C-471	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-B	SKID-56120	YSH-56120, YN-56120, YA-56120, YCH-56120
C-472	3/4"	8 #14	PVC Coated RGS	RIO-CHEM-B	SKID-56130	YSH-56130, YN-56130, YA-56130, YCH-56130
C-473	1"	CAT6 CABLE	RGS	PLC-BOP	GEN-70501	YLR-70501, XA-70501, YA-70501, XI-70501
C-474	1"	6 #14	RGS	RIO-MCC-1D	BKR-70510	ZSC-70510, ZSO-70510, YA-70510
C-475	1"	CAT6 CABLE	RGS	PLC-BOP	GEN-70520	YLR-70520, XA-70520, YA-70520, XI-70520
C-476	1"	CAT6 CABLE	RGS	GEN-70520	ELECTRICAL SYSTEM MONITORING	

C-477	1"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	CONTROL ROOM ELECTRICAL SYSTEM MONITORING STATION	
C-478	1"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	ZSC-70550, ZSO-70550, YA-70550, ZC-70550
C-479	1"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	ZSC-70560, ZSO-70560, YA-70560, ZC-70560
C-480	1"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	SWGR-70550 (SWGR NO. 1)	ZSC-70550, ZSO-70550, YA-70550, ZC-70550
C-481	1"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	SWGR-70560 (SWGR NO. 2)	ZSC-70560, ZSO-70560, YA-70560, ZC-70560
C-482	3/4"	10 #14	RGS	PLC-BOP	UPS-ADM	EA-70551, YA-70551, JA-70551, ZA-70551, XA-70551
C-483	3/4"	2 #14	RGS	RIO-DAF-B2	LSH-70730	LAH-70730
C-484	3/4"	2 #14	RGS	HV-01 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-485	3/4"	2 #14	RGS	DDC-01	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-486	3/4"	2 #14	RGS	HV-02 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-487	3/4"	2 #14	RGS	BCU-01 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-488	3/4"	2 #14	RGS	DDC-02	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-489	3/4"	2 #14	RGS	DHU-01 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-490	3/4"	2 #14	RGS	SF-01 EC CONTROLLER	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-491	3/4"	2 #14	RGS	DDC-03	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-492	3/4"	2 #14	RGS	HV-03 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-493	3/4"	2 #14	RGS	DDC-04	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS

C-494	3/4"	CAT6 CABLE	RGS	DDC-04	VFD-EF-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-495	3/4"	CAT6 CABLE	RGS	DDC-04	VFD-EF-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-496	3/4"	CAT6 CABLE	RGS	DDC-04	VFD-EF-03	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-497	3/4"	CAT6 CABLE	RGS	DDC-04	VFD-EF-04	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-498	3/4"	CAT6 CABLE	RGS	DDC-04	VFD-EF-05	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-499	3/4"	CAT6 CABLE	RGS	DDC-01	VFD-EF-06	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-500	3/4"	CAT6 CABLE	RGS	DDC-01	VFD-EF-07	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-501	3/4"	CAT6 CABLE	RGS	DDC-01	VFD-EF-08	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-502	3/4"	CAT6 CABLE	RGS	DDC-02	VFD-EF-09	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-503	3/4"	2 #14	RGS	DDC-04	VFD-EF-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-504	3/4"	2 #14	RGS	DDC-04	VFD-EF-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-505	3/4"	2 #14	RGS	DDC-04	VFD-EF-03	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-506	3/4"	2 #14	RGS	DDC-04	VFD-EF-04	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-507	3/4"	2 #14	RGS	DDC-04	VFD-EF-05	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-508	3/4"	2 #14	RGS	DDC-01	VFD-EF-06	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-509	3/4"	2 #14	RGS	DDC-01	VFD-EF-07	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-510	3/4"	2 #14	RGS	DDC-01	VFD-EF-08	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-511	3/4"	2 #14	RGS	DDC-02	VFD-EF-09	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS

C-512	3/4"	8 #14	RGS	DDC-02	EF-10	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-513	3/4"	8 #14	RGS	DDC-02	EF-11	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-514	3/4"	8 #14	RGS	DDC-02	EF-12	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-515	3/4"	2 #14	RGS	DDC-03	COMP-1	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-516	3/4"	2 #14	RGS	DDC-03	COMP-2	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-517	3/4"	CAT6 CABLE	RGS	DDC-7	WH-10 VCP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
DWB & WWT C&C						
C-518	1"	SINGLE MODE FIBER	RGS	PLC-BOP	RIO-RESIDUALS	
C-519	1"	SINGLE MODE FIBER	RGS	RIO-RESIDUALS	OWS-RESID	
C-520	1"	12 #14	RGS	RIO-RESIDUALS	MOV-60115	ZSH-60115, ZSL-60115, YN-60115, YA-60115, ZCH-60115, ZCL-60115
C-521	3/4"	2 #14	RGS	RIO-RESIDUALS	LSH-60112	
C-522	3/4"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-60130, YN-60130, YA-60130, YCH-60130, YAK-60130
C-523	3/4"	10 #14	RGS	MCC-4	LCS-60130	
C-524	3/4"	2 #14	RGS	CENT-60210	VFD-60140	FROM DEWATERING CENTRIFUGE NO.1
C-525	3/4"	2 #14	RGS	RIO-RESIDUALS	PSL-60141	
C-526	3/4"	2 #14	RGS	RIO-RESIDUALS	LSL-60112	
C-527	1"	12 #14	RGS	VFD-60140	LCS-60140	
C-528	3/4"	2 #14	RGS	LCS-60140	TSH-60140	
C-529	3/4"	2 #14	RGS	RIO-RESIDUALS	PSH-60142	

C-530	1"	12 #14	RGS	RIO-RESIDUALS	MOV-60125	ZSH-60125, ZSL-60125, YN-60125, YA-60125, ZCH-60125, ZCL-60125
C-531	3/4"	2 #14	RGS	RIO-RESIDUALS	LSH-60122	
C-532	3/4"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-60150, YN-60150, YA-60150, YCH-60150, YAK-60150
C-533	3/4"	10 #14	RGS	MCC-4	LCS-60150	
C-534	3/4"	2 #14	RGS	CENT-60220	VFD-60160	FROM DEWATERING CENTRIFUGE NO.2
C-535	3/4"	2 #14	RGS	RIO-RESIDUALS	PSL-60161	
C-536	1"	12 #14	RGS	VFD-60160	LCS-60160	
C-537	3/4"	2 #14	RGS	LCS-60160	TSH-60160	
C-538	3/4"	2 #14	RGS	LCS-60160	LSL-60122	
C-539	3/4"	2 #14	RGS	RIO-RESIDUALS	PSH-60162	
C-540	1 1/2"	SINGLE MODE FIBER	RGS	RIO-RESIDUALS	CENT-60210	
C-541	1 1/2"	SINGLE MODE FIBER	RGS	RIO-RESIDUALS	CENT-60220	
C-542	3/4"	2 #14	RGS	RIO-RESIDUALS	FSH-60301	FAH-60301
C-543	3/4"	2 #14	RGS	CENT-60210	LCP-60300	
C-544	3/4"	2 #14	RGS	CENT-60220	LCP-60300	
C-545	3/4"	2 #14	RGS	LCP-60300	YSK-60321	
C-546	3/4"	2 #14	RGS	LCP-60300	YSK-60311	
C-547	3/4"	2 #14	RGS	LCP-60300	YSK-60301	
C-548	3/4"	2 #14	RGS	LCP-60300	YSK-60302	
C-549	3/4"	2 #14	RGS	LCP-60300	SSL-60312	
C-550	3/4"	2 #14	RGS	LCP-60300	SSL-60320	
C-551	3/4"	2 #14	RGS	LCP-60300	CONV-60300	
C-552	3/4"	2 #14	RGS	LCP-60300	MOV-60311	
C-553	3/4"	2 #14	RGS	LCP-60300	MOV-60321	
C-554	3/4"	2 #14	RGS	LCP-60300	MOV-60312	
C-555	3/4"	2 #14	RGS	LCP-60300	MOV-60322	

C-556	3/4"	2 #14	RGS	LCP-60300	CONV-60310	
C-557	3/4"	2 #14	RGS	LCP-60300	CONV-60320	
C-558	3/4"	2 #14	RGS	RIO-RESIDUALS	FSH-60401	FAH-60401
C-559	3/4"	4 #14	RGS	LCS-60425	MX-60425	
C-560	3/4"	4 #14	RGS	LCS-60425	MX-60465	
C-561	3/4"	8 #14	RGS	RIO-RESIDUALS	SKID-60430	YSH-60430, YN-60430, YA-60430, YCH-60430
C-562	3/4"	2 #14	RGS	CENT-60210	SKID-60430	FROM DEWATERING CENTRIFUGE NO.1
C-563	3/4"	8 #14	RGS	RIO-RESIDUALS	SKID-60470	YSH-60470, YN-60470, YA-60470, YCH-60470
C-564	3/4"	2 #14	RGS	CENT-60220	SKID-60470	FROM DEWATERING CENTRIFUGE NO.2
C-565	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-60510	YSH-60510, YN-60510, YA-60510, YCH-60510, YAK-60510
C-566	1"	12 #14	RGS	VFD-60510	LCS-60510	
C-567	3/4"	2 #14	RGS	LCS-60510	TSH-60510	
C-568	3/4"	2#14	RGS	LCS-60510	LSLL-60504	
C-569	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-60520	YSH-60520, YN-60520, YA-60520, YCH-60520, YAK-60520
C-570	1"	12 #14	RGS	VFD-60520	LCS-60520	
C-571	3/4"	2 #14	RGS	LCS-60520	TSH-60520	
C-572	3/4"	2#14	RGS	LCS-60520	LSLL-60504	
C-573	3/4"	2 #14	RGS	RIO-RESIDUALS	LSH-60503	
C-574	1"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-60530, YN-60530, YA-60530, YCH-60530, YAK-60530
C-575	1"	10 #14	RGS	MCC-4	LCS-60530	
C-576	1"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-60540, YN-60540, YA-60540, YCH-60540, YAK-60540
C-577	1"	10 #14	RGS	MCC-4	LCS-60540	
C-578	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-46010	YSH-46010, YN-46010, YA-46010, YCH-46010, YAK-46010
C-579	1"	12 #14	RGS	VFD-46010	LCS-46010	

C-580	3/4"	2 #14	RGS	LCS-46010	TSH-46010	
C-581	3/4"	2 #14	RGS	LCS-46010	LSLL-46013	
C-582	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-46020	YSH-46020, YN-46020, YA-46020, YCH-46020, YAK-46020
C-583	1"	12 #14	RGS	VFD-46020	LCS-46020	
C-584	3/4"	2 #14	RGS	LCS-46020	TSH-46020	
C-584.1	3/4"	2 #14	RGS	LCS-46020	LSLL-46013	
C-585	3/4"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-46050, YN-46050, YA-46050, YCH-46050, YAK-46050
C-586	3/4"	10 #14	RGS	MCC-4	LCS-46050	
C-587	3/4"	2 #14	RGS	RIO-RESIDUALS	LSH-46012	LAH-46012
C-588	3/4"	4 #14	RGS	RIO-RESIDUALS	ZSO-46070/SLG-46070	ZSH-46070, ZSL-46070
C-589	3/4"	4 #14	RGS	RIO-RESIDUALS	ZSC-46070/SLG-46070	ZSH-46070, ZSL-46070
C-590	3/4"	2 #14	RGS	RIO-RESIDUALS	LSH-46022	LAH-46022
C-591	3/4"	10 #14	RGS	RIO-RESIDUALS	MCC-4	YSH-46060, YN-46060, YA-46060, YCH-46060, YAK-46060
C-592	3/4"	10 #14	RGS	MCC-4	LCS-46060	
C-593	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-46030	YSH-46030, YN-46030, YA-46030, YCH-46030, YAK-46030
C-594	1"	12 #14	RGS	VFD-46030	LCS-46030	
C-595	3/4"	2 #14	RGS	LCS-46030	TSH-46030	
C-595.1	3/4"	2 #14	RGS	LCS-46030	LSLL-46023	
C-596	3/4"	10 #14	RGS	RIO-RESIDUALS	VFD-46040	YSH-46040, YN-46040, YA-46040, YCH-46040, YAK-46040
C-597	1"	12 #14	RGS	VFD-46040	LCS-46040	
C-598	3/4"	2 #14	RGS	LCS-46040	TSH-46040	
C-599	3/4"	2 #14	RGS	LCS-46040	LSLL-46023	
C-600	3/4"	6 #14	RGS	RIO-DAF-A2	FCV-46001	ZSL-46001, YN-46001, YA-46001
C-601	3/4"	2 #14	RGS	FCV-46001	LCS-46001	
C-602	3/4"	6 #14	RGS	RIO-DAF-B2	FCV-46002	ZSL-46002, YN-46002, YA-46002
C-603	3/4"	2 #14	RGS	FCV-46002	LCS-46002	
C-604	3/4"	6 #14	RGS	RIO-DAF-A2	FCV-60504	ZSL-60504, YN-60504, YA-60504

C-605	3/4"	2 #14	RGS	FCV-60504	LCS-60504	
C-606	3/4"	6 #14	RGS	RIO-DAF-B2	FCV-60505	ZSL-60505, YN-60505, YA-60505
C-607	3/4"	2 #14	RGS	FCV-60505	LCS-60505	
C-608	3/4"	2 #14	RGS	HV-04 VCP	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-609	3/4"	2 #14	RGS	DDC-08	FACP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-610	3/4"	CAT6 CABLE	RGS	DDC-08	VFD-EF-13	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-611	3/4"	CAT6 CABLE	RGS	DDC-08	VFD-EF-14	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-612	3/4"	2 #14	RGS	DDC-08	VFD-EF-13	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-613	3/4"	2 #14	RGS	DDC-08	VFD-EF-14	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-614	3/4"	8 #14	RGS	DDC-08	EF-15	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-615	3/4"	8 #14	RGS	DDC-08	EF-16	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-616	3/4"	6 #14	RGS	DDC-14	SP-02 VCP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
C-617	3/4"	CAT6 CABLE	RGS	DDC-16	WH-09 VCP	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
BACKWASH FACILITY C&C						
C-618	1"	12 #14	RGS	PLC-CLEARWELL-CP	MOV-81050	ZSH-81050, ZSL-81050, YN-81050, YA-81050, ZCH-81050, ZCL-81050
C-619	3/4"	6 #14	RGS	PLC-CLEARWELL-CP	FCV-81060	ZSL-81060, YN-81060, YA-81060
C-620	3/4"	8 #14	RGS	PLC-CLEARWELL-CP	LCP-70360	YSH-70360, YN-70360, YA-70360, YCH-70360
C-621	3/4"	8 #14	RGS	PLC-CLEARWELL-CP	LCP-70370	YSH-70370, YN-70370, YA-70370, YCH-70370

CABLE AND CONDUIT SCHEDULE - WEST PARISH WTF						
CONDUIT NO.	SIZE	CABLE	CONDUIT TYPE	FROM	TO	REMARKS
ADMIN C&C						
I-001	3/4"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	JI-70511, JI-70512
I-002	3/4"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	JI-70521, JI-70522
I-003	3/4"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	JI-70531, JI-70532
I-004	3/4"	CAT6 CABLE	RGS	PLC-BOP	ELECTRICAL SYSTEM MONITORING	JI-70541, JI-70542
I-005	3/4"	2/C #16TSH	RGS	LOCAL-BOP	LCS-70740	LI-70741
I-006	3/4"	2/C #16TSH	RGS	LCS-70740	LIT-70741	
I-007	3/4"	2/C #16TSH	RGS	DDC-11	VFD-CWP-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-008	3/4"	2/C #16TSH	RGS	DDC-11	VFD-CWP-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-009	3/4"	2/C #16TSH	RGS	DDC-06	VFD-EF-19	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS

TB C&C

I-010	3/4"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	MCC-1	JI-70511, JI-70512
I-011	3/4"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	MCC-2	JI-70521, JI-70522
I-012	3/4"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	MCC-3	JI-70531, JI-70532
I-013	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	AIT-10311	AI-10311
I-014	3/4"	MANF. PROV. CABLE	RGS	AIT-10311	AE-10311	
I-015	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	AIT-10312	AI-10312, TI-10312
I-016	3/4"	MANF. PROV. CABLE	RGS	AIT-10312	AE-10312	
I-017	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	AIT-10331	AI-10331
I-018	3/4"	MANF. PROV. CABLE	RGS	AIT-10331	AE-10331	
I-019	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	AIT-10332	AI-10332, TI-10332
I-020	3/4"	MANF. PROV. CABLE	RGS	AIT-10332	AE-10332	
I-021	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	FIT-10111	FI-10111

I-022	3/4"	MANF. PROV. CABLE	RGS	FIT-10111	FE-10111	
I-023	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	FCV-10111	ZC-10111, ZI-10111
I-024	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	FIT-10121	FI-10121
I-025	3/4"	MANF. PROV. CABLE	RGS	FIT-10121	FE-10121	
I-026	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	FCV-10121	ZC-10121, ZI-10121
I-027	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	AIT-10321	
I-028	3/4"	MANF. PROV. CABLE	RGS	AIT-10321	AE-10321	
I-029	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	AIT-10322	AI-10322, TI-10322
I-030	3/4"	MANF. PROV. CABLE	RGS	AIT-10322	AE-10322	
I-031	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	AIT-10341	
I-032	3/4"	MANF. PROV. CABLE	RGS	AIT-10341	AE-10341	
I-033	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	AIT-10342	AI-10342, TI-10342
I-034	3/4"	MANF. PROV. CABLE	RGS	AIT-10342	AE-10342	

I-035	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	LIT-10421	LI-10421
I-036	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	LIT-10411	LI-10411
I-037	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20120	SI-B, SC-B
I-038	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20220	SI-B, SC-B
I-039	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20320	SI-B, SC-B
I-040	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20420	SI-B, SC-B
I-041	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20520	SI-B, SC-B
I-042	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20620	SI-B, SC-B
I-043	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20720	SI-B, SC-B
I-044	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20820	SI-B, SC-B
I-045	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20920	SI-B, SC-B
I-046	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-21020	SI-B, SC-B

I-047	1"	2/C 2#16TS H	RGS	VFD-20120	FLOC-20120	
I-048	1"	2/C 2#16TS H	RGS	VFD-20220	FLOC-20220	
I-049	1"	2/C 2#16TS H	RGS	VFD-20320	FLOC-20320	
I-050	1"	2/C 2#16TS H	RGS	VFD-20420	FLOC-20420	
I-051	1"	2/C 2#16TS H	RGS	VFD-20520	FLOC-20520	
I-052	1"	2/C 2#16TS H	RGS	VFD-20620	FLOC-20620	
I-053	1"	2/C 2#16TS H	RGS	VFD-20720	FLOC-20720	
I-054	1"	2/C 2#16TS H	RGS	VFD-20820	FLOC-20820	
I-055	1"	2/C 2#16TS H	RGS	VFD-20920	FLOC-20920	
I-056	1"	2/C 2#16TS H	RGS	VFD-21020	FLOC-21020	
I-057	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20130	SI-C, SC-C
I-058	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20230	SI-C, SC-C

I-059	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20330	SI-C, SC-C
I-060	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20430	SI-C, SC-C
I-061	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20530	SI-C, SC-C
I-062	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20630	SI-C, SC-C
I-063	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20730	SI-C, SC-C
I-064	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20830	SI-C, SC-C
I-065	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-20930	SI-C, SC-C
I-066	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-21030	SI-C, SC-C
I-067	1"	2/C 2#16TS H	RGS	VFD-20130	FLOC-20130	
I-068	1"	2/C 2#16TS H	RGS	VFD-20230	FLOC-20230	
I-069	1"	2/C 2#16TS H	RGS	VFD-20330	FLOC-20330	
I-070	1"	2/C 2#16TS H	RGS	VFD-20430	FLOC-20430	

I-071	1"	2/C 2#16TS H	RGS	VFD-20530	FLOC-20530	
I-072	1"	2/C 2#16TS H	RGS	VFD-20630	FLOC-20630	
I-073	1"	2/C 2#16TS H	RGS	VFD-20730	FLOC-20730	
I-074	1"	2/C 2#16TS H	RGS	VFD-20830	FLOC-20830	
I-075	1"	2/C 2#16TS H	RGS	VFD-20930	FLOC-20930	
I-076	1"	2/C 2#16TS H	RGS	VFD-21030	FLOC-21030	
I-077	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30160	SI-C, SC-C
I-078	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30260	SI-C, SC-C
I-079	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30360	SI-C, SC-C
I-080	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30460	SI-C, SC-C
I-081	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30560	SI-C, SC-C
I-082	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30660	SI-C, SC-C

I-083	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30760	SI-C, SC-C
I-084	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30860	SI-C, SC-C
I-085	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-30960	SI-C, SC-C
I-086	1"	2/C 2#16TS H	RGS	RIO-MCC-2A	VFD-31060	SI-C, SC-C
I-087	1"	2/C 2#16TS H	RGS	VFD-30160	SKMR-30160	
I-088	1"	2/C 2#16TS H	RGS	VFD-30260	SKMR-30260	
I-089	1"	2/C 2#16TS H	RGS	VFD-30360	SKMR-30360	
I-090	1"	2/C 2#16TS H	RGS	VFD-30460	SKMR-30460	
I-091	1"	2/C 2#16TS H	RGS	VFD-30560	SKMR-30560	
I-092	1"	2/C 2#16TS H	RGS	VFD-30660	SKMR-30660	
I-093	1"	2/C 2#16TS H	RGS	VFD-30760	SKMR-30760	
I-094	1"	2/C 2#16TS H	RGS	VFD-30860	SKMR-30860	

I-095	1"	2/C 2#16TS H	RGS	VFD-30960	SKMR-30960	
I-096	1"	2/C 2#16TS H	RGS	VFD-31060	SKMR-31060	
I-097	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	LIT-30011	
I-098	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	LIT-30021	
I-099	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	AIT-30012	
I-100	3/4"	MANF. PROV. CABLE	RGS	AIT-30012	AE-30012	
I-101	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	AIT-30022	
I-102	3/4"	MANF. PROV. CABLE	RGS	AIT-30022	AE-30022	
I-103	1"	2/C 2#16TS H	RGS	RIO-MCC-1A	VFD-33010	SI-33010, SC-33010
I-104	1"	2/C 2#16TS H	RGS	VFD-33010	LCS-33010	
I-105	1"	2/C 2#16TS H	RGS	RIO-MCC-1A	VFD-33020	SI-33020, SC-33020
I-106	1"	2/C 2#16TS H	RGS	VFD-33020	LCS-33020	
I-107	1"	2/C 2#16TS H	RGS	RIO-MCC-1A	VFD-33030	SI-33030, SC-33030

I-108	1"	2/C 2#16TS H	RGS	VFD-33030	LCS-33030	
I-109	1"	2/C 2#16TS H	RGS	RIO-MCC-1A	VFD-33040	SI-33040, SC-33040
I-110	1"	2/C 2#16TS H	RGS	VFD-33040	LCS-33040	
I-111	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	PIT-33053	PI-33053
I-112	3/4"	2/C #16TSH	RGS	RIO-MCC-2A	PIT-34031	PG-34031
I-113	3/4"	2/C #16TSH	RGS	RIO-MCC-2A	PIT-34041	PG-34041
I-114	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	FIT-34000	FI-34000
I-115	3/4"	MANF. PROV. CABLE	RGS	FIT-34000	FE-34000	
I-116	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	FIT-34009	FI-34009
I-117	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	LIT-34051	LI-34051
I-118	3/4"	MANF. PROV. CABLE	RGS	LIT-34051	LE-34051	
I-119	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	LCV-34051	ZI-34051, ZC-34051
I-120	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	PIT-34052	PG-34052
I-121	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	MOV-34060	ZI-34060, ZC-34060

I-122	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	LIT-34081	
I-123	3/4"	MANF. PROV. CABLE	RGS	LIT-34081	LE-34081	
I-124	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	LCV-34081	ZI-34081, ZC-34081
I-125	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	PIT-34082	PG-34082
I-126	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	MOV-34090	ZI-34090, ZC-34090
I-127	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	LIT-35011	
I-128	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	LIT-35051	
I-129	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	LIT-40101	LI-DD
I-130	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	LIT-40201	LI-DD
I-131	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	LIT-40301	LI-DD
I-132	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	LIT-40401	LI-DD
I-133	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	LIT-40501	LI-DD
I-134	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	LIT-40601	LI-DD
I-135	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	LIT-40701	LI-DD
I-136	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	LIT-40801	LI-DD
I-137	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	LIT-40901	LI-DD

I-138	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	LIT-41001	LI-DD
I-139	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	LIT-41101	LI-DD
I-140	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	LIT-41201	LI-DD
I-141	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	LIT-41301	LI-DD
I-142	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	LIT-41401	LI-DD
I-143	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	FCV-40100	ZCH-40100, ZI-40100
I-144	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	PIT-40103	PI-FF
I-145	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	PIT-40203	PI-FF
I-146	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	PIT-40303	PI-FF
I-147	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	PIT-40403	PI-FF
I-148	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	PIT-40503	PI-FF
I-149	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	PIT-40603	PI-FF
I-150	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	PIT-40703	PI-FF
I-151	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	PIT-40803	PI-FF
I-152	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	PIT-40903	PI-FF
I-153	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	PIT-41003	PI-FF
I-154	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	PIT-41103	PI-FF

I-155	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	PIT-41203	PI-FF
I-156	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	PIT-41303	PI-FF
I-157	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	PIT-41403	PI-FF
I-158	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	AIT-40104	AI-JJ
I-159	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	AIT-40204	AI-JJ
I-160	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	AIT-40304	AI-JJ
I-161	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	AIT-40404	AI-JJ
I-162	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	AIT-40504	AI-JJ
I-163	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	AIT-40604	AI-JJ
I-164	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	AIT-40704	AI-JJ
I-165	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	AIT-40804	AI-JJ
I-166	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	AIT-40904	AI-JJ
I-167	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	AIT-41004	AI-JJ
I-168	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	AIT-41104	AI-JJ
I-169	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	AIT-41204	AI-JJ
I-170	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	AIT-41304	AI-JJ
I-171	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	AIT-41404	AI-JJ

I-172	3/4"	MANF. PROV. CABLE	RGS	AIT-40104	AE-40104	
I-173	3/4"	MANF. PROV. CABLE	RGS	AIT-40204	AE-40204	
I-174	3/4"	MANF. PROV. CABLE	RGS	AIT-40304	AE-40304	
I-175	3/4"	MANF. PROV. CABLE	RGS	AIT-40404	AE-40404	
I-176	3/4"	MANF. PROV. CABLE	RGS	AIT-40504	AE-40504	
I-177	3/4"	MANF. PROV. CABLE	RGS	AIT-40604	AE-40604	
I-178	3/4"	MANF. PROV. CABLE	RGS	AIT-40704	AE-40704	
I-179	3/4"	MANF. PROV. CABLE	RGS	AIT-40804	AE-40804	
I-180	3/4"	MANF. PROV. CABLE	RGS	AIT-40904	AE-40904	
I-181	3/4"	MANF. PROV. CABLE	RGS	AIT-41004	AE-41004	
I-182	3/4"	MANF. PROV. CABLE	RGS	AIT-41104	AE-41104	
I-183	3/4"	MANF. PROV. CABLE	RGS	AIT-41204	AE-41204	

I-184	3/4"	MANF. PROV. CABLE	RGS	AIT-41304	AE-41304	
I-185	3/4"	MANF. PROV. CABLE	RGS	AIT-41404	AE-41404	
I-186	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	FIT-40105	FI-LL
I-187	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	FIT-40205	FI-LL
I-188	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	FIT-40305	FI-LL
I-189	3/4"	2/C #16TSH	RGS	RIO-FLT-A1	FIT-40405	FI-LL
I-190	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	FIT-40505	FI-LL
I-191	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	FIT-40605	FI-LL
I-192	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	FIT-40705	FI-LL
I-193	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	FIT-40805	FI-LL
I-194	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	FIT-40905	FI-LL
I-195	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	FIT-41005	FI-LL
I-196	3/4"	2/C #16TSH	RGS	RIO-FLT-B1	FIT-41105	FI-LL
I-197	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	FIT-41205	FI-LL
I-198	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	FIT-41305	FI-LL
I-199	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	FIT-41405	FI-LL

I-200	3/4"	MANF. PROV. CABLE	RGS	FIT-40105	FE-40105	
I-201	3/4"	MANF. PROV. CABLE	RGS	FIT-40205	FE-40205	
I-202	3/4"	MANF. PROV. CABLE	RGS	FIT-40305	FE-40305	
I-203	3/4"	MANF. PROV. CABLE	RGS	FIT-40405	FE-40405	
I-204	3/4"	MANF. PROV. CABLE	RGS	FIT-40505	FE-40505	
I-205	3/4"	MANF. PROV. CABLE	RGS	FIT-40605	FE-40605	
I-206	3/4"	MANF. PROV. CABLE	RGS	FIT-40705	FE-40705	
I-207	3/4"	MANF. PROV. CABLE	RGS	FIT-40805	FE-40805	
I-208	3/4"	MANF. PROV. CABLE	RGS	FIT-40905	FE-40905	
I-209	3/4"	MANF. PROV. CABLE	RGS	FIT-41005	FE-41005	
I-210	3/4"	MANF. PROV. CABLE	RGS	FIT-41105	FE-41105	
I-211	3/4"	MANF. PROV. CABLE	RGS	FIT-41205	FE-41205	

I-212	3/4"	MANF. PROV. CABLE	RGS	FIT-41305	FE-41305	
I-213	3/4"	MANF. PROV. CABLE	RGS	FIT-41405	FE-41405	
I-214	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40160	ZC-MM, ZI-MM
I-215	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40260	ZC-MM, ZI-MM
I-216	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40360	ZC-MM, ZI-MM
I-217	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40460	ZC-MM, ZI-MM
I-218	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40560	ZC-MM, ZI-MM
I-219	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40660	ZC-MM, ZI-MM
I-220	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40760	ZC-MM, ZI-MM
I-221	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-40860	ZC-MM, ZI-MM
I-222	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-40960	ZC-MM, ZI-MM
I-223	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-41060	ZC-MM, ZI-MM

I-224	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-41160	ZC-MM, ZI-MM
I-225	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41260	ZC-MM, ZI-MM
I-226	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41360	ZC-MM, ZI-MM
I-227	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41460	ZC-MM, ZI-MM
I-228	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40170	ZC-NN, ZI-NN
I-229	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40270	ZC-NN, ZI-NN
I-230	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40370	ZC-NN, ZI-NN
I-231	1"	2/C 2#16TS H	RGS	RIO-FLT-A1	MOV-40470	ZC-NN, ZI-NN
I-232	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40570	ZC-NN, ZI-NN
I-233	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40670	ZC-NN, ZI-NN
I-234	1"	2/C 2#16TS H	RGS	RIO-FLT-A2	MOV-40770	ZC-NN, ZI-NN
I-235	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-40870	ZC-NN, ZI-NN

I-236	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-40970	ZC-NN, ZI-NN
I-237	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-41070	ZC-NN, ZI-NN
I-238	1"	2/C 2#16TS H	RGS	RIO-FLT-B1	MOV-41170	ZC-NN, ZI-NN
I-239	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41270	ZC-NN, ZI-NN
I-240	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41370	ZC-NN, ZI-NN
I-241	1"	2/C 2#16TS H	RGS	RIO-FLT-B2	MOV-41470	ZC-NN, ZI-NN
I-242	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	AIT-42061	AI-42061
I-243	3/4"	MANF. PROV. CABLE	RGS	AIT-42061	AE-42061	
I-244	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	AIT-42062	AI-42062
I-245	3/4"	MANF. PROV. CABLE	RGS	AIT-42062	AE-42062	
I-246	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	AIT-42041	AI-42041
I-247	3/4"	MANF. PROV. CABLE	RGS	AIT-42041	AE-42041	
I-248	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	AIT-42042	AI-42042

I-249	3/4"	MANF. PROV. CABLE	RGS	AIT-42042	AE-42042	
I-250	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	LIT-42031	LI-42031
I-251	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	LIT-42032	LI-42032
I-252	3/4"	2/C #16TSH	RGS	RIO-FLT-A2	LIT-42033	LI-42033
I-253	3/4"	2/C #16TSH	RGS	RIO-FLT-B2	LIT-42034	LI-42034
I-254	3/4"	2/C #16TSH	RGS	RIO-WQSB	AX-43061	AI-43061
I-255	3/4"	MANF. PROV. CABLE	RGS	AIX43061	AE-43061	
I-256	3/4"	2/C #16TSH	RGS	RIO-WQSB	AX-43062	AI-43062
I-257	3/4"	MANF. PROV. CABLE	RGS	AX-43062	AE-43062	
I-258	3/4"	2/C #16TSH	RGS	RIO-WQSB	AX-43063	AI-43063
I-259	3/4"	MANF. PROV. CABLE	RGS	AX-43063	AE-43063	
I-260	3/4"	2/C #16TSH	RGS	RIO-WQTH	AX-43051	AI-43051
I-261	3/4"	MANF. PROV. CABLE	RGS	AX-43051	AE-43051	
I-262	3/4"	2/C #16TSH	RGS	RIO-WQTH	AX-43052	AI-43052
I-263	3/4"	MANF. PROV. CABLE	RGS	AX-43052	AE-43052	

I-264	3/4"	2/C #16TSH	RGS	RIO-WQTH	AX-43053	AI-43053
I-265	3/4"	MANF. PROV. CABLE	RGS	AX-43053	AE-43053	
I-266	3/4"	2/C #16TSH	RGS	RIO-MCC-2A	FIT-45001	FI-45001
I-267	1 1/2"	2/C 4#16TS H	PVC Coated RGS	RIO-CHEM-A	LCS-51000	LI-51011, LI-51021, LI-51031, LI-51041
I-268	3/4"	2/C #16TSH	PVC Coated RGS	LCS-51000	LIT-51011	
I-269	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-51011	LI-51011	
I-270	3/4"	2/C #16TSH	PVC Coated RGS	LCS-51000	LIT-51021	
I-271	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-51021	LI-51021	
I-272	3/4"	2/C #16TSH	PVC Coated RGS	LCS-51000	LIT-51031	
I-273	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-51031	LI-51031	
I-274	3/4"	2/C #16TSH	PVC Coated RGS	LCS-51000	LIT-51041	
I-275	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-51041	LI-51041	

I-276	3/4"	2/C #16TSH	PVC Coated RGS	RIO-CHEM-A	LIT-51111	LI-51111
I-277	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-A	P-51120	SI-51120, SC-51120
I-278	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-A	P-51130	SI-51130, SC-51130
I-279	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-A	P-51140	SI-51140, SC-51140
I-280	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-A	P-51150	SI-51150, SC-51150
I-281	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	LCS-52000	LI-52011, LI-52021
I-282	3/4"	2/C #16TSH	PVC Schedule 80	LCS-52000	LIT-52011	
I-283	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-52011	LI-52011	
I-284	3/4"	2/C #16TSH	PVC Schedule 80	LCS-52000	LIT-52021	
I-285	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-52021	LI-52021	
I-286	3/4"	2/C #16TSH	PVC Schedule 80	RIO-CHEM-B	LIT-52111	LI-52111
I-287	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52120	SI-52120, SC-52120

I-288	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52130	SI-52130, SC-52130
I-289	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52140	SI-52140, SC-52140
I-290	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52150	SI-52150, SC-52150
I-291	3/4"	2/C #16TSH	PVC Schedule 80	RIO-CHEM-B	LIT-52116	LI-52116
I-292	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52160	SI-52160, SC-52160
I-293	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52170	SI-52170, SC-52170
I-294	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52180	SI-52180, SC-52180
I-295	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-B	P-52190	SI-52190, SC-52190
I-296	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-C	LCS-53000	LI-53011, LI-53021
I-297	3/4"	2/C #16TSH	PVC Schedule 80	LCS-53000	LIT-53011	
I-298	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-53011	LI-53011	
I-299	3/4"	2/C #16TSH	PVC Schedule 80	LCS-53000	LIT-53021	

I-300	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-53021	LI-53021	
I-301	3/4"	2/C #16TSH	PVC Schedule 80	RIO-CHEM-C	LIT-53111	LI-53111
I-302	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-C	P-53120	SI-53120, SC-53120
I-303	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-C	P-53130	SI-53130, SC-53130
I-304	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-C	P-53140	SI-53140, SC-53140
I-305	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-C	P-53150	SI-53150, SC-53150
I-306	1 1/2"	2/C 5#16TS H	PVC Schedule 80	RIO-CHEM-A	LCS-54000	LI-54011, LI-54021, LI-54031, LI-54041, LI-54051
I-307	3/4"	2/C #16TSH	PVC Schedule 80	LCS-54000	LIT-54011	
I-308	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-54011	LI-54011	
I-309	3/4"	2/C #16TSH	PVC Schedule 80	LCS-54000	LIT-54021	
I-310	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-54021	LI-54021	
I-311	3/4"	2/C #16TSH	PVC Schedule 80	LCS-54000	LIT-54031	

I-312	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-54031	LI-54031	
I-313	3/4"	2/C #16TSH	PVC Schedule 80	LCS-54000	LIT-54041	
I-314	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-54041	LI-54041	
I-315	3/4"	2/C #16TSH	PVC Schedule 80	LCS-54000	LIT-54051	
I-316	3/4"	MANF. PROV. CABLE	PVC Schedule 80	LIT-54051	LI-54051	
I-317	3/4"	2/C #16TSH	PVC Schedule 80	RIO-CHEM-A	LIT-54111	LI-54111
I-318	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-A	P-54120	SI-54120, SC-54120
I-319	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-A	P-54130	SI-54130, SC-54130
I-320	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-A	P-54140	SI-54140, SC-54140
I-321	1"	2/C 2#16TS H	PVC Schedule 80	RIO-CHEM-A	P-54150	SI-54150, SC-54150
I-322	3/4"	2/C #16TSH	PVC Coated RGS	RIO-CHEM-B	WIT-55111	WI-55111
I-323	3/4"	MANF. PROV. CABLE	PVC Coated RGS	WIT-55111	WE-55111	

I-324	3/4"	2/C #16TSH	PVC Coated RGS	RIO-CHEM-B	WIT-55116	WI-55116
I-325	3/4"	MANF. PROV. CABLE	PVC Coated RGS	WIT-55116	WE-55116	
I-326	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-B	SKID-55120	SI-55120, SC-55120
I-327	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-B	SKID-55130	SI-55130, SC-55130
I-328	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-C	LCS-56000	LI-56011, LI-56021
I-329	3/4"	2/C #16TSH	PVC Coated RGS	LCS-56000	LIT-56011	
I-330	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-56011	LI-56011	
I-331	3/4"	2/C #16TSH	PVC Coated RGS	LCS-56000	LIT-56021	
I-332	3/4"	MANF. PROV. CABLE	PVC Coated RGS	LIT-56021	LI-56021	
I-333	3/4"	2/C #16TSH	PVC Coated RGS	RIO-CHEM-C	LIT-56111	LI-56111
I-334	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-C	SKID-56120	SI-56120, SC-56120
I-335	1"	2/C 2#16TS H	PVC Coated RGS	RIO-CHEM-C	SKID-56130	SI-56130, SC-56130

I-336	3/4"	2/C #16TSH	RGS	DDC-04	VFD-EF-01	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-337	3/4"	2/C #16TSH	RGS	DDC-04	VFD-EF-02	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-338	3/4"	2/C #16TSH	RGS	DDC-04	VFD-EF-03	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-339	3/4"	2/C #16TSH	RGS	DDC-04	VFD-EF-04	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-340	3/4"	2/C #16TSH	RGS	DDC-04	VFD-EF-05	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-341	3/4"	2/C #16TSH	RGS	DDC-01	VFD-EF-06	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-342	3/4"	2/C #16TSH	RGS	DDC-01	VFD-EF-07	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-343	3/4"	2/C #16TSH	RGS	DDC-01	VFD-EF-08	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-344	3/4"	2/C #16TSH	RGS	DDC-02	VFD-EF-09	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
DWB & WWT C&C						
I-345	3/4"	CAT6 CABLE	RGS	ELECTRICAL SYSTEM MONITORING	MCC-4	JI-70541, JI-70542
I-345.1	1"	2/C 2#16TS H	RGS	VFD-60140	LCS-60140	
I-346	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	LIT-60111	LI-60111
I-346.1	1"	2/C 2#16TS H	RGS	VFD-60160	LCS-60160	
I-347	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	LIT-60121	LI-60121
I-348	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	AIT-60203	AI-60203

I-349	3/4"	MANF. PROV. CABLE	RGS	AIT-60203	AE-60203	
I-350	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	AIT-60204	AI-60204
I-351	3/4"	MANF. PROV. CABLE	RGS	AIT-60204	AE-60204	
I-352	3/4"	2/C #16TSH	RGS	CENT-60210	FIT-60201	
I-353	3/4"	MANF. PROV. CABLE	RGS	FIT-60201	FE-60201	
I-354	3/4"	2/C #16TSH	RGS	CENT-60220	FIT-60202	
I-355	3/4"	MANF. PROV. CABLE	RGS	FIT-60202	FE-60202	
I-356	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	WIT-60421	WI-60421
I-357	3/4"	MANF. PROV. CABLE	RGS	WIT-60421	WE-60421	
I-358	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	WIT-60461	WI-60421
I-359	3/4"	MANF. PROV. CABLE	RGS	WIT-60461	WE-60461	
I-360	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	SKID-60430	SI-60430, SC-60430
I-361	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	SKID-60470	SI-60470, SC-60470
I-362	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	LIT-60501	LI-60501

I-363	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-60510	SI-60510, SC-60510
I-364	1"	2/C 2#16TS H	RGS	VFD-60510	LCS-60510	
I-365	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-60520	SI-60520, SC-60520
I-366	1"	2/C 2#16TS H	RGS	VFD-60520	LCS-60520	
I-367	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	PIT-46003	PI-46003
I-368	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	AIT-46004	AI-46004
I-369	3/4"	MANF. PROV. CABLE	RGS	AIT-46004	AE-46004	
I-370	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-46010	SI-46010, SC-46010
I-371	1"	2/C 2#16TS H	RGS	VFD-46010	LCS-46010	
I-372	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-46020	SI-46020, SC-46020
I-373	1"	2/C 2#16TS H	RGS	VFD-46020	LCS-46020	
I-374	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	LIT-46011	LI-46011
I-375	3/4"	2/C #16TSH	RGS	RIO-RESIDUALS	LIT-46021	LI-46021

I-376	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-46030	SI-46030, SC-46030
I-377	1"	2/C 2#16TS H	RGS	VFD-46030	LCS-46030	
I-378	1"	2/C 2#16TS H	RGS	RIO-RESIDUALS	VFD-46040	SI-46040, SC-46040
I-379	1"	2/C 2#16TS H	RGS	VFD-46040	LCS-46040	
I-380	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	FIT-46001	FI-46001
I-381	3/4"	MANF. PROV. CABLE	RGS	FIT-46001	FE-46001	
I-382	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	FCV-46001	ZC-46001, ZI-46001
I-383	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	FIT-46002	FI-46002
I-384	3/4"	MANF. PROV. CABLE	RGS	FIT-46002	FE-46002	
I-385	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	FCV-46002	ZC-46002, ZI-46002
I-386	3/4"	2/C #16TSH	RGS	RIO-DAF-A2	FIT-60504	FI-60504
I-387	3/4"	MANF. PROV. CABLE	RGS	FIT-60504	FE-60504	
I-388	1"	2/C 2#16TS H	RGS	RIO-DAF-A2	FCV-60504	ZC-60504, ZI-60504

I-389	1"	2/C #16TSH	RGS	RIO-DAF-A2	AIT-60506	AI-60506
I-390	3/4"	MANF. PROV. CABLE	RGS	AIT-60506	AE-60506	
I-391	3/4"	2/C #16TSH	RGS	RIO-DAF-B2	FIT-60505	FI-60505
I-392	3/4"	MANF. PROV. CABLE	RGS	FIT-60505	FE-60505	
I-393	1"	2/C 2#16TS H	RGS	RIO-DAF-B2	FCV-60505	ZC-60505, ZI-60505
I-394	3/4"	2/C #16TSH	RGS	DDC-08	VFD-EF-13	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
I-395	3/4"	2/C #16TSH	RGS	DDC-08	VFD-EF-14	REFER TO H-DRAWINGS (DWG H-003) FOR BLOCK DIAGRAMS
BACKWASH FACILITY C&C						
I-396	1"	2/C 2#16TS H	RGS	PLC- CLEARWELL-CP	FCV-81040	ZC-81040, ZI-81040
I-397	3/4"	2/C #16TSH	RGS	PLC- CLEARWELL-CP	FIT-81060	FI-81060
I-398	3/4"	MANF. PROV. CABLE	RGS	FIT-81060	FE-81060	
I-399	1"	2/C 2#16TS H	RGS	PLC- CLEARWELL-CP	FCV-81060	ZC-81060, ZI-81060
I-400	1"	2/C 2#16TS H	RGS	PLC- CLEARWELL-CP	P-70360	SI-70360, SC-70360
I-401	1"	2/C 2#16TS H	RGS	PLC- CLEARWELL-CP	P-70370	SI-70370, SC-70370

I-402	3/4"	2/C #16TSH	RGS	PLC- CLEARWELL-CP	WIT-70352	WI-TBD
I-403	3/4"	MANF. PROV. CABLE	RGS	WIT-70352	WE-70352	

END OF SECTION

Attachment E – 26 50 00 Lighting

G. Fixtures shall be as specified in the schedule below¹

Fixture Type	Fixture Wattage	Description	Basis of Design Mfr. and Model
LC1/ LP1/ LW1	67W (max)	Ceiling/Pendant/Wall-mounted (as indicated on the Drawings), 120-277VAC, LED light fixture, color temperature of 4000K, lineal ribbed frosted polycarbonate lens, medium distribution, gasketed frosted polycarbonate housing, stainless steel latches, 54-inch, 8000 lumen minimum. Wet location Listed. Mount LP1/LW1 9'-0" AFF unless otherwise noted on drawings.	Holophane EVT4 LED Series, or engineer approved equal.
LP2	49W (max)	Ceiling/Pendant/Wall-mounted (as indicated on the Drawings), 120-277VAC, LED light fixture, color temperature of 4000K, lineal ribbed frosted polycarbonate lens, wide distribution, gasketed frosted polycarbonate housing, stainless steel latches, 54-inch, 6000 lumen minimum. Wet location Listed. Mount LP2 12'-0" AFF.	Holophane EVT4 LED Series, or engineer approved equal.
LW2	71W (max)	Wall-mounted, 120-277VAC, full-cutoff LED light fixture, color temperature of 3000K, IESNA Type 3 Medium distribution, bronze A360-cast aluminum housing, 'P30' LED package, 7800 lumen minimum, and wet location Listed. Mount LW2 9'-0" AFF unless otherwise noted on drawings.	Holophane HLWPC2 Series, or engineer approved equal.
LW3	72W (max)	Wall-mounted, 120-277VAC, LED light fixture, color temperature of 4000K, prismatic borosilicate glass lens, IESNA Type III Medium distribution, gray die-cast aluminum housing, 8500 lumen minimum, and wet location Listed. Mount LW3 10'-0" AFF unless otherwise noted on drawings.	Holophane WCNG WallConnect LED, or engineer approved equal.
LW4	74W (max)	Wall-mounted with 35° universal arm mount, 120-277VAC, LED light fixture, color temperature of 4000K, 80 CRI, prismatic borosilicate frosted glass lens, wide distribution with uplight, corrosion-resistant gray cast aluminum housing, 10000 lumen minimum, and wet location listed. Mount LW4 10'-0" AFF unless otherwise noted on drawings.	Holophane Petrolux PXLW Series, or engineer approved equal.
LC4/ LP4	74W (max)	Ceiling/Pendant-mounted, 120-277VAC, LED light fixture, color temperature of 4000K, 80 CRI, prismatic borosilicate glass lens, wide distribution with uplight, corrosion-resistant gray cast aluminum housing, 10000 lumen minimum, and wet location listed. Mount LP4 12'-0" AFF unless otherwise noted on drawings.	Holophane Petrolux PXLW Series, or engineer approved equal.

1 Addendum No.3

Fixture Type	Fixture Wattage	Description	Basis of Design Mfr. and Model
LC5/ LP5	100W (max)	Ceiling/Pendant-Mounted, 120-277VAC, LED light fixture, color temperature of 4000K, 80 CRI, frosted, prismatic borosilicate glass lens, medium Distribution, gray cast aluminum housing, 12,000 lumen minimum, (Pendant mount) - furnish with hook and cord, L5-15P plug, and L5-15R receptacle, damp location listed. Mount LP5 15'-6" AFF to bottom of fixture unless otherwise noted on drawings.	Holophane Phuzion PHZ Series, or engineer approved equal.
LW6	83W (max)	Wall-mounted with 35° universal arm mount, 120-277VAC, LED light fixture, color temperature of 4000K, 80 CRI, prismatic borosilicate frosted glass lens, medium distribution <u>with</u> upright, corrosion-resistant gray cast aluminum housing, 12,000 lumen minimum, and wet location Listed. Mount LW6 13'-6" AFF unless otherwise noted on drawings.	Holophane Petrolux PXHW Series, or engineer approved equal.
LW7	86W (max)	Wall mounted recessed LED pool/basin light fixture, suitable for underwater mounting, 120VAC, housing and door shall be heavy wall cast bronze construction, all hardware and niche to be stainless steel, cord to be submersible rated, provided with temperature sensing low water cut off, color temperature of 4100K, warm white, convex linear spread lens, wide flood distribution, 8700 lumen minimum, IP 68 rated up to three meters. Mount LW7 14'-0" above tank bottom.	Hydrel 4426 series, or engineer approved equal
LR1	15.9W (max)	Recessed troffer 120-277VAC, 2ft x 2ft LED light fixture, 3000K color temperature, 80CRI, 2000 lumen minimum, cold rolled steel, pre-painted housing, ribbed reflector, acrylic linear prismatic diffuser.	Lithonia 2VTL2 Series, or engineer approved equal.
LR2	23.2W (max)	Recessed troffer 120-277VAC, 2ft x 4ft LED light fixture, 3000K color temperature, 80CRI, 3200 lumen minimum, cold rolled steel, pre-painted housing, ribbed reflector, acrylic linear prismatic diffuser.	Lithonia 2VTL4 Series, or engineer approved equal.
LR3	27.7W (max)	Recessed troffer 120-277VAC, 2ft x 2ft LED light fixture, 35K/40K/50K switchable white color temperature, 80CRI, switchable 2500LM, 3200LM, 4000LM lumen output, cold rolled steel, pre-painted housing, ribbed reflector, satin white lens.	Lithonia CPX LED Switchable Series, or engineer approved equal.
LR4	8W (max)	Ceiling mounted LED light fixture, 120-277VAC with 0-10V dimming, color temperature of 3000K, 80 CRI, diffuse lens, aluminum frame with white finish with white flange, hyperbolic medium trim, 800 lumen minimum.	Indy LLP4 Series, or engineer approved equal.

Fixture Type	Fixture Wattage	Description	Basis of Design Mfr. and Model
LR5	15W (max)	Ceiling (junction box) mounted LED light fixture, 120VAC, color temperature of 3000K, 90 CRI, diffuse lens, tapered surface/box mount disc fixture, aluminum frame with white finish, 990 lumen minimum. Contractor shall install per manufacturer requirements when located in wet locations such as restrooms or shower areas.	Juno SlimBasics JSBT Series, or approved equal.
LC6	6W per linear foot (max)	Ceiling mounted linear LED light fixture, Length as indicated on drawings, 120-277VAC, color temperature of 3000K, 80CRI, frosted clear acrylic lens, medium distribution, aluminum frame, architect selected finish, 600 lumen per linear foot minimum	Mark Architectural Lighting Slot 2 S2SD Series, or engineer approved equal.
LR6	5W (max)	Cove mounted linear LED light fixture, 1'-0" Length, 120-277VAC, color temperature of 3000K-5000K tunable white, 80CRI, frosted clear acrylic lens, wall wash distribution, aluminum frame with white finish, 600 lumen per linear foot minimum	Mark Architectural Lighting MKS101 Series, or engineer approved equal.
LR6A	14W (max)	Cove mounted linear LED light fixture, 1'-0" Length, 120-277VAC, color temperature of 3000K-5000K tunable white, 80CRI, frosted clear acrylic lens, wall 40x60, aluminum frame with white finish, 250 lumen per linear foot minimum	Mark Architectural Lighting MKS101 Series, or engineer approved equal.
LC7	6W per linear foot (max)	Ceiling mounted linear LED light fixture, Length as indicated on drawings, 120-277VAC, color temperature of 3000K, 80CRI, frosted clear acrylic lens, medium distribution, aluminum frame, architect selected finish, 600 lumen per linear foot minimum	Mark Architectural Lighting Slot 2 S2SD Series, or engineer approved equal.
LR7	32W (max)	Cove mounted linear LED light fixture, 4'-0" Length, 120-277VAC, color temperature of 3000K, 80CRI, frosted clear acrylic lens, wall wash distribution, aluminum frame with white finish, 600 lumen per linear foot minimum	Mark Architectural Lighting MKS101 Series, or engineer approved equal.
LR7A	14W (max)	Cove mounted linear LED light fixture, 4'-0" Length, 120-277VAC, color temperature of 3000K, 80CRI, frosted clear acrylic lens, 40x60 distribution, aluminum frame with white finish, 250 lumen per linear foot minimum	Mark Architectural Lighting MKS101 Series, or engineer approved equal.
LP8	15W (max)	Pendant-mounted, 120-277VAC, LED light fixture, tube style decorative architectural fixture, color temperature 3000K, 80CRI, 1.5" diameter, 30" fixture length with an overall height including power cable 8'-0", clear silver aluminum gasketed housing,	Camman P8700 Tano Series, or engineer approved equal

Fixture Type	Fixture Wattage	Description	Basis of Design Mfr. and Model
LW8	37W (max)	Wall (yoke) mounted, 120-277VAC, LED light fixture, color temperature of 3000K, prismatic borosilicate glass lens, wide flood, 6x6 distribution, 5500 lumen minimum, bronze die cast aluminum housing, wet location Listed. Furnish and install fixture on equipment screening Pole. Mount LW8 7'-0" AFF.	Holophane Predator PSLED Series, or engineer approved equal.
LP9	15W (max)	Pendant-mounted, 120-277VAC, LED light fixture, tube style decorative architectural fixture, color temperature 3000K, 80CRI, 1.5" diameter, 30" fixture length with an overall height including power cable 9'-0", clear silver aluminum gasketed housing.	Camman P8700 Tano Series, or engineer approved equal
LP10	15W (max)	Pendant-mounted, 120-277VAC, LED light fixture, tube style decorative architectural fixture, color temperature 3000K, 80CRI, 1.5" diameter, 30" fixture length with an overall height including power cable 10'-0", clear silver aluminum gasketed housing,	Camman P8700 Tano Series, or engineer approved equal
LW10	8W (max)	Wall mounted linear flood LED light fixture, 3'-0" Length, 120-277VAC, color temperature of 3000K tunable white, 80CRI, frosted clear acrylic lens, 40x60 distribution, aluminum frame with bronze finish, 650 lumen per linear foot minimum. Mount LW10 above sign.	Hydrel HLF501 series, or engineer approved equal
LP11	15W (max)	Pendant-mounted, 120-277VAC, LED light fixture, tube style decorative architectural fixture, color temperature 3000K, 80CRI, 1.5" diameter, 30" fixture length with an overall height including power cable 11'-0", clear silver aluminum gasketed housing.	Camman P8700 Tano Series, or engineer approved equal
LP12	40W (max)	Pendant mounted linear LED light fixture, 4'-0" Length, 120VAC, color temperature of 3000K, 80CRI, frosted clear acrylic lens, direct distribution, aluminum frame with white finish, 400 lumen per linear foot minimum. Mount LP12 10'-0" to bottom of fixture.	Peerless Round 4 RD4MS Series, or engineer approved equal
LB1	65W (max)	Base-mounted 7'-0" away from flagpole, MVOLT, LED flagpole light fixture, specialty architectural flood, color temperature 3000K, 80CRI, clear watershed lens, 20 deg distribution, bronze aluminum housing, pole with knuckle mount, 8330 lumen minimum. Wet location Listed	Hydrel SAF14 LED series, or engineer approved equal
LB2	11W (max)	Base-mounted, 120VAC, LED sign light fixture, specialty architectural flood, color temperature 3000K, 80CRI, clear watershed lens, 45 deg distribution, bronze aluminum housing, pole with knuckle mount, 600 lumen minimum. Wet location Listed	Hydrel ASPEN series, or engineer approved equal

Fixture Type	Fixture Wattage	Description	Basis of Design Mfr. and Model
LL1	74W (max)	Pole-mounted, 120-277VAC, LED light fixture, color temperature of 3000K, 80 CRI, prismatic borosilicate glass lens, forward throw, corrosion-resistant gray cast aluminum housing, gray upright shield, 10,000 lumen minimum, and wet location Listed. Furnish and install fixture on Pole Type C, reference Pole Schedule.	Holophane Petrolux PXLW Series, or engineer approved equal.
LL1A	74W (max)	Pole-mounted, 120-277VAC, LED light fixture, color temperature of 3000K, 80 CRI, prismatic borosilicate glass lens, medium distribution, corrosion-resistant gray cast aluminum housing, gray upright shield, 10,000 lumen minimum, and wet location Listed. Furnish and install fixture on Pole Type B, reference Pole Schedule.	Holophane Petrolux PXLW Series, or engineer approved equal.
LL2	74W (max)	Pole-mounted with 35° universal arm mount, 120-277VAC, LED light fixture, color temperature of 4000K, 80 CRI, prismatic borosilicate glass lens, wide distribution, corrosion-resistant gray cast aluminum housing, gray upright shield, 10,000 lumen minimum, and wet location Listed. Furnish and install fixture on Pole Type B, reference Pole Schedule.	Holophane Petrolux PXLW Series, or engineer approved equal.
LL3	67W (max)	Pole-mounted, 120-277VAC, full-cutoff LED light fixture, color temperature of 3000K, IESNA roadway Type 3 distribution, bronze die cast aluminum housing, 10,500 lumen minimum, house-side shield, wet location Listed. Furnish and install fixture on Pole Type A, reference Pole Schedule.	AEL Autobahn ATB0 Series, or Engineer approved equal.
XW1/ XC1	5W (sign)	Wall/ceiling mounted, red LED exit sign, 120/277VAC, black die cast aluminum housing, gasketed impact resistant polycarbonate cover, brushed aluminum stencil with field-selectable chevrons, single/double face as indicated on the drawings, brownout and surge protected, wet location Listed. Mount XW1 0'-6" above door.	Holophane DeLeon DLT LX Series, Chloride Hz Series or Emergilite IL Series.
XW3/ XC3	5W (sign)	Wall/ceiling mounted, red LED exit sign, 120/277VAC, extruded brushed aluminum finish, clear acrylic panels, red letters on mirrored panel, field-selectable chevrons, single/double face as indicated on the drawings, brownout and surge protected, damp location Listed. Mount XW3 0'-6" above door.	Lithonia EDG/EDGR Series, or Engineer approved equal.

Attachment F – 28 13 00 Access Control

SECTION 28 13 00
ACCESS CONTROL¹

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. Furnish and install a complete access control system for the Water Treatment Building and Dewatering Building, including but not limited to control panels, communications, power supplies, proximity badge readers, door contact devices, vehicle pedestals, conduit, wiring, programming, and other components as required for a complete and operational system. Any material, equipment or service not specifically mentioned in this specification or shown on the Drawings, but required for proper performance and operation shall be provided.
- B. The Contractor shall coordinate all interfacing of this system with SWSC's existing cloud-based Genetec Security Center access control system. Functionality of the new access control additions shall match that of the existing system. All equipment and programming necessary to achieve the above shall be completely in the Contractor's scope.
- C. The Contractor shall include in his bid all costs for the access control system, as well as all of the necessary conduit, wire, supports, installation, etc.
- D. All components used for the access control system shall be suitable for the area in which they are installed. System design shall utilize appropriate components (e.g. weatherproof devices, explosion-proof devices, etc.) as required, even if required components are not specifically indicated within Part 2 – Products herein.
- E. Reference Division 08 Openings, Division 26 Electrical, and Division 40 Process Interconnections.

1.02 CODES AND STANDARDS

- A. The system shall comply with all Federal, State/Commonwealth, and County laws or ordinances, as well as all applicable codes, standards, regulations, and/or regulatory agency requirements including the partial listing below:
 - 1. UL 294 Access Control.

1.03 SUBMITTALS

- A. In accordance with the procedures and requirements set forth in Division 01 the Contractor shall obtain from the equipment manufacturer and submit the following:

¹ Addendum No.3

1. Shop Drawings,
2. Operation and Maintenance Manuals,
3. Spare Parts List,
4. Manufacturer's Field Start-up Report, and
5. Manufacturer's Representative's Certification.

1.04 SHOP DRAWINGS

- A. Each submittal shall be complete in all respects, incorporating all information and data listed herein and all additional information required for evaluation of the proposed equipment's compliance with the Contract Documents.
- B. Partial, incomplete or illegible submissions will be returned to the Contractor without review for re-submittal.
- C. Shop drawings for each system shall include but not be limited to:
 1. Control panel interior wiring diagrams, point-to-point wiring diagram showing the point of connection and terminal used for all electrical field connections in the system and field wiring color-coded scheme.
 2. Descriptive bulletins and product data sheets for all devices in sufficient detail to permit comparison with the specifications inclusive of: manufacturer's literature, illustrations, specifications, materials of construction, related engineering, data, and compliance with standards.
 3. Location and layout drawings for all equipment associated with the equipment. Include control panel and device designations where applicable.
 4. An input/output matrix defining the system operation. This matrix shall cross-reference each device to its corresponding opening(s) and indicate system operation.
 5. Power supply, standby battery, and battery charger calculations for each power supply, configuration of standby batteries in the system, identifying both the non-alarm and alarm load associated with each, and demonstrating conformance to the requirements of these specifications relative to sizing/capacity of power supplies, chargers, and standby batteries as applicable.
 6. Assembly and installation drawings.
 7. Spare parts list.
 8. Manufacturer's warranty statement.

9. A Compliance, Deviations, and Exceptions (CD&E) letter. If the shop drawings are submitted without this CD&E letter, the submittal will be rejected. The letter shall include all comments, deviations and exceptions taken to the Drawings and Specifications by the Contractor AND Equipment Manufacturer/Supplier. This letter shall include a copy of this Specification Section. In the left margin beside each and every paragraph/item, a letter "C", "D", or "E" shall be typed or written in. The letter "C" shall be for full compliance with the requirement. The letter "D" shall be for a deviation from the requirement. The letter "E" shall be for taking exception to a requirement. Any requirements with the letter "D" or "E" beside them shall be provided with a full typewritten explanation of the deviation/exception. Handwritten explanation of the deviations/exceptions is not acceptable. The CD&E letter shall also address deviations, and exceptions taken to each Drawing related to this Specification Section.
- D. The shop drawing information shall be complete and organized in such a way that the Engineer can determine if the requirements of these specifications are being met. Copies of technical bulletins, technical data sheets from "soft-cover" catalogs, and similar information which is "highlighted" or somehow identifies the specific equipment items the Contractor intends to provide are acceptable and shall be submitted.
- E. If standard data and catalog literature is supplied, all furnished options shall be carefully highlighted and options not being furnished shall be carefully deleted with 'strikethrough' notations. Unclear information will cause rejection of the entire submittal.

1.05 OPERATION AND MAINTENANCE MANUALS

- A. The Contractor shall submit Operation and Maintenance manuals in accordance with the procedures and requirements set forth in Division 01. The manuals shall include:
 1. Instruction books, descriptive bulletins, technical bulletins, application data booklets, and other applicable instructional information.
 2. Recommended spare parts list.
 3. Final as-built construction drawings included in the shop drawings incorporating all changes made during the completion of the project.

1.06 SPARE PARTS

- A. The access control system shall be furnished with all spare parts as recommended by the equipment manufacturer. Spare parts shall be furnished in accordance with Division 01.
- B. In addition to the manufacturer recommended spare parts, the Contractor shall furnish the following minimum spare parts:

No. Required	Description
5% (minimum of 1)	Each type of door controller
5% (minimum of 1)	Each type of card reader
5% (minimum of 1)	Each type of card reader interface device
5% (minimum of 1)	Each type of input board
5% (minimum of 1)	Each type of output board
5% (minimum of 1)	Each type of power supply
5% (minimum of 1)	Each type of video intercom station
5% (minimum of 1)	Each type of request-to-exit motion device
5% (minimum of 1)	Each type of door contact device

- C. The spare parts shall be packed in containers suitable for long-term storage, bearing labels clearly designating the contents and the pieces of equipment for which they are intended.
- D. Spare parts shall be delivered at the same time as the equipment to which they pertain. The Contractor shall properly store and safeguard such spare parts until completion of the Work, at which time they shall be delivered to the Owner.
- E. Spare parts lists, included with the shop drawing submittal shall indicate specific sizes, quantities, and part numbers of the items to be furnished. Terms such as "1 lot of packing material" are not acceptable.
- F. Parts shall be completely identified with a numerical system to facilitate parts inventory control and stocking. Each part shall be properly identified by a separate number. Those parts which are identical for more than one size shall have the same parts number.
- G. Spare parts shall be identical and interchangeable with corresponding parts of installed system.

1.07 IDENTIFICATION

- A. Each system component shall be identified with a unique identification number. A nameplate shall be securely affixed in a conspicuous place on each device. Nameplates shall be as specified in Section 26 05 53 – Identification for Electrical Systems.
- B. Major components of equipment shall be identified with a permanently affixed nameplate bearing the manufacturer's name and address, and type or style and catalog number of the item.

Keys and locks shall be furnished with tags bearing stamped identification numbers. Cable and conduit runs shall be identified in accordance with Section 26 05 33.13 – Conduit for Electrical

Systems, Section 26 05 19 – Low-Voltage Conductors and Cables, and Section 40 66 00 – Network and Communication Cable and Infrastructure.

1.08 QUALIFICATIONS OF INSTALLER

- A. Prior to installation, the Contractor shall submit data proving that he has successfully installed access control systems of the same type and design as specified herein. Submit the names and locations of at least two installations where such systems have been installed. The Contractor shall indicate the type and design of these systems and certify that these systems have performed satisfactorily.

PART 2 – PRODUCTS

2.01 INTEGRATOR

- A. For installation and integration of all items listed within this section, utilize one of the following approved Access Control Integrators for equipment and system integration:
1. Siemens Industry, Inc. (Bill.Dennehy@siemens.com, 860.262.3723).
 2. Security 101 (john.santry@security101ne.com, 860.406.0438).
 3. Aaron Associates (Carlos Nunez, 475.222.2711).

2.02 ACCESS CONTROL SYSTEM EQUIPMENT

- A. Water Treatment Building Control Panel and Dewatering Building Control Panels:
1. Control panels shall consist of a microprocessor-based controller, card reader interface devices, input/output boards, power supply, batteries, power distribution, wiring, and cable management housed in a single lockable enclosure. Control panel shall contain a 12 VDC battery back-up system. Provide system alert upon low battery.
 2. Control panels shall have the capability to accept as a minimum all devices as shown on the Drawings for each system.
 3. Control panels shall have a 12 VDC power supply and battery back-up system mounted in the panel enclosure.
 4. Control panels shall communicate to the Genetec Security Center via a Genetec Synergis Cloudlink device. Alternatively, control panels can network together utilizing fiber connectivity with only a single panel connecting to Security Center with the Cloudlink device.
 5. The controller(s) shall continuously monitor for system faults and indicate a fault to the central system. The controller(s) shall also be provided with a fire alarm

system interface for automatic engaging or dis-engaging of security hardware during an alarm condition.

B. Proximity Card Readers

1. Readers shall be UL294 Outdoor and Indoor rated, IP65.
2. Readers shall generally be of standard width mounted in single-gang boxes. For readers installed for aluminum frame storefront openings, utilize narrow-profile readers for mounting on door mullions.
3. Reader shall have a nominal card reading range of 4 inches.
4. Reader shall communicate to card reader interface device (or controller) via RS-485.

C. Interconnecting Cable

1. Interconnecting cable shall be provided and installed per the manufacturer's specifications. Bundled cable assemblies shall be acceptable.
2. Interconnecting cable shall be watertight and suitable for outdoor use.
3. Shall be NEC Type CM or CL3.
4. Shall be UL Listed.

D. Magnetic Door Contact

1. Provide double-pole, double-throw magnetic-type door switch devices. Maximum switching conditions shall be 175 VDC and 400mA.
2. Coordinate door contact devices with provided door hardware.

E. Request to Exit (REX) Device

1. Passive Infrared REX device shall have wide angle, long range lens to detect motion of exiting personnel.
2. Device shall operate at 9-16 VDC and utilize form-C output contacts for signaling to the respective card reader interface device.

F. Vehicle Pedestal

1. Pedestal shall contain provisions for dual proximity badge reader mounting.
 - a. Upper proximity reader shall be at a mounting height of 80".
 - b. Lower proximity reader shall be at a mounting height of 39".

- c. Provide a weather hood compatible with the proximity badge reader and vehicle pedestal.

G. Power Requirements

1. Power supply to all components of the system shall be as required, furnished and installed by the Contractor.
2. Booster power supplies shall be furnished and installed where required.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. The access control system shall be furnished and installed as shown on the Drawings and in accordance with the manufacturer's installation instructions. One (1) copy of these instructions shall be included with the equipment at time of shipment.
- B. System and Control Wiring
 1. All system wiring shall be furnished and installed by the Contractor. All wiring shall be installed in conduit in accordance with Section 26 05 33.13 – Conduit for Electrical Systems. System wiring shall be installed separate from all other building wiring.
 2. All system components shall be securely supported independent of the conduit system. Runs of conduit shall be straight, neatly arranged, properly supported, installed parallel and perpendicular to walls and partitions.
 3. The sizes of the conductors shall be those specified by the manufacturer. Color coded wire shall be used. All wires shall be tagged at all junction points and shall be free from short circuits, earth connections (unless so noted on the system drawings), and crosses between conductors. Final terminations between the Access Control panels and the system field devices shall be made under the direct supervision of a factory trained representative.
 4. All wiring shall be installed by qualified individuals, in a neat and workmanlike manner, to conform to the Massachusetts Electrical Code.
 5. The complete system electrical installation, and all auxiliary components, shall be connected to earth ground in accordance with the Massachusetts Electrical Code.
- C. After completion of the installation, the Contractor shall clean the inside and the outside of the access control equipment and shall remove all dirt and debris from the site.

3.02 TESTING

- A. All tests shall be performed in accordance with the requirements of the General Requirements and Division 01. The following tests are required:
1. Witnessed Shop Tests
 - a. None required.
 2. Certified Shop Tests and Reports
 - a. Submit description of proposed testing methods, procedures, and apparatus.
 - b. Submit certified copies of all factory test reports.
 3. Field Tests
 - a. Field testing shall be done in accordance with the requirements specified in the General Conditions, Division 01 and the requirements of all applicable codes and standards.
 - b. Reference Section 26 05 00 – Basic Electrical Requirements.
 - c. All tests shall be performed in the presence of the Engineer and Owner. The Contractor shall notify the Engineer at least 14 days before the performance and acceptance tests are to be conducted. A complete test report and letter of completion shall be submitted to the Engineer. The tests shall be performed by, or under the supervision of a qualified representative of the fire alarm system manufacturer and shall include the following:
 - 1) Verify that the system is free of grounds or open circuits.
 - 2) Verify that all devices, stations, and transmitters are functioning as specified.
 - 3) Test each device and circuit. Individually activate each station and verify correct operation, control panel response, and corresponding door hardware response.
 - 4) Test battery backup systems for specified function and capacity.
 - d. Upon acceptance by the Owner, the completed system(s) shall be placed into service.

3.03 SERVICES OF MANUFACTURER'S REPRESENTATIVE

- A. The Contractor shall provide the services of a qualified manufacturer's factory-trained technical representative who shall adequately supervise the installation and startup of the equipment furnished under this Contract. The manufacturer's representative shall

certify in writing that the equipment has been installed in accordance with the manufacturer's recommendations. No further testing or equipment startup may take place until this certification is accepted by the Owner.

- B. The manufacturer's technical representative shall perform all startup and field acceptance testing as specified herein.
- C. The Contractor shall provide training for the Owner's personnel. Training shall be conducted by the manufacturer's factory-trained representative who shall instruct Owner's personnel in operation and maintenance of all equipment provided under this Section. Training shall be provided for two (2) sessions of two (2) hours each. Training shall not take place until after the motor controllers have been installed and tested. Training shall be conducted at times coordinated with the Owner.
- D. The services of the manufacturer's representative shall be provided for a period of not less than as follows:
 - 1. One (1) trip of two (2) working days during installation of the access control system.
 - 2. One (1) trip of two (2) working days to perform field acceptance testing of the access control system.
 - 3. One (1) trip of one (1) working day two (2) months before the warranty expiration to identify any issues to be corrected under warranty.
 - 4. One (1) trip of one (1) working day to perform training as specified herein.
- E. Any additional time required to achieve successful installation and operation shall be at the expense of the Contractor.

3.04 MANUFACTURER'S CERTIFICATION

- A. A qualified, factory-trained manufacturer's representative shall certify in writing that the equipment has been installed, adjusted, and tested in accordance with the manufacturer's recommendations.

END OF SECTION

Attachment G – 28 23 00 Video Surveillance

SECTION 28 23 00
VIDEO SURVEILLANCE¹

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. Furnish and install a complete video surveillance system for the Water Treatment Building and Dewatering Building, including but not limited to cameras, controls, communications, fiber optic transmission and termination equipment, network equipment, power supplies, camera mounts, conduit, wiring, programming, and other components as required for a complete and operational system. Any material, equipment or service not specifically mentioned in this specification or shown on the Drawings, but required for proper performance and operation shall be provided.
- B. The Contractor shall coordinate all interfacing of this system with SWSC's existing Genetec Video Management system. Functionality of the new video surveillance additions shall match that of the existing system. All equipment and programming necessary to achieve the above shall be completely in the Contractor's scope.
- C. The Contractor shall include in his bid all costs for the video surveillance system, as well as all of the necessary conduit, wire, supports, installation, etc.
- D. All components used for the video surveillance system shall be suitable for the area in which they are installed. System design shall utilize appropriate components (e.g. weatherproof devices, explosion-proof devices, etc.) as required, even if required components are not specifically indicated within Part 2 – Products herein.
- E. Reference Division 26 Electrical, and Division 40 Process Interconnections.

1.02 CODES AND STANDARDS

- A. The system shall comply with all Federal, State/Commonwealth, and County laws or ordinances, as well as all applicable codes, standards, regulations, and/or regulatory agency requirements.

1.03 SUBMITTALS

- A. In accordance with the procedures and requirements set forth in Division 01 the Contractor shall obtain from the equipment manufacturer and submit the following:
 - 1. Shop Drawings,
 - 2. Operation and Maintenance Manuals,

¹ Addendum No.3

3. Spare Parts List,
4. Manufacturer's Field Start-up Report, and
5. Manufacturer's Representative's Certification.

1.04 SHOP DRAWINGS

- A. Each submittal shall be complete in all respects, incorporating all information and data listed herein and all additional information required for evaluation of the proposed equipment's compliance with the Contract Documents.
- B. Partial, incomplete or illegible submissions will be returned to the Contractor without review for re-submittal.
- C. Shop drawings for each system shall include but not be limited to:
 1. Descriptive bulletins and product data sheets for all devices in sufficient detail to permit comparison with the specifications inclusive of: manufacturer's literature, illustrations, specifications, materials of construction, related engineering, data, and compliance with standards.
 2. Location and layout drawings for all equipment associated with the equipment. Include panel and device designations where applicable.
 3. Video storage calculations for each provided recorder (where applicable), demonstrating conformance to the requirements of these specifications and those of the SWSC.
 4. Assembly and installation drawings.
 5. Spare parts list.
 6. Manufacturer's warranty statement.
 7. A Compliance, Deviations, and Exceptions (CD&E) letter. If the shop drawings are submitted without this CD&E letter, the submittal will be rejected. The letter shall include all comments, deviations and exceptions taken to the Drawings and Specifications by the Contractor AND Equipment Manufacturer/Supplier. This letter shall include a copy of this Specification Section. In the left margin beside each and every paragraph/item, a letter "C", "D", or "E" shall be typed or written in. The letter "C" shall be for full compliance with the requirement. The letter "D" shall be for a deviation from the requirement. The letter "E" shall be for taking exception to a requirement. Any requirements with the letter "D" or "E" beside them shall be provided with a full typewritten explanation of the deviation/exception. Handwritten explanation of the deviations/exceptions is not acceptable. The CD&E letter shall also address deviations, and exceptions taken to each Drawing related to this Specification Section.

- D. The shop drawing information shall be complete and organized in such a way that the Engineer can determine if the requirements of these specifications are being met. Copies of technical bulletins, technical data sheets from "soft-cover" catalogs, and similar information which is "highlighted" or somehow identifies the specific equipment items the Contractor intends to provide are acceptable and shall be submitted.
- E. If standard data and catalog literature is supplied, all furnished options shall be carefully highlighted and options not being furnished shall be carefully deleted with 'strikethrough' notations. Unclear information will cause rejection of the entire submittal.

1.05 OPERATION AND MAINTENANCE MANUALS

- A. The Contractor shall submit Operation and Maintenance manuals in accordance with the procedures and requirements set forth in Division 01. The manuals shall include:
 - 1. Instruction books, descriptive bulletins, technical bulletins, application data booklets, and other applicable instructional information.
 - 2. Recommended spare parts list.
 - 3. Final as-built construction drawings included in the shop drawings incorporating all changes made during the completion of the project.

1.06 SPARE PARTS

- A. The access control system shall be furnished with all spare parts as recommended by the equipment manufacturer. Spare parts shall be furnished in accordance with Division 01.
- B. In addition to the manufacturer recommended spare parts, the Contractor shall furnish the following minimum spare parts:

No. Required	Description
5% (minimum of 1)	Each type of camera
5% (minimum of 1)	Each type of camera mount

- C. The spare parts shall be packed in containers suitable for long-term storage, bearing labels clearly designating the contents and the pieces of equipment for which they are intended.
- D. Spare parts shall be delivered at the same time as the equipment to which they pertain. The Contractor shall properly store and safeguard such spare parts until completion of the Work, at which time they shall be delivered to the Owner.

- E. Spare parts lists, included with the shop drawing submittal shall indicate specific sizes, quantities, and part numbers of the items to be furnished. Terms such as "1 lot of packing material" are not acceptable.
- F. Parts shall be completely identified with a numerical system to facilitate parts inventory control and stocking. Each part shall be properly identified by a separate number. Those parts which are identical for more than one size shall have the same parts number.
- G. Spare parts shall be identical and interchangeable with corresponding parts of installed system.

1.07 IDENTIFICATION

- A. Each system component shall be identified with a unique identification number. A nameplate shall be securely affixed in a conspicuous place on each device. Nameplates shall be as specified in Section 26 05 53 – Identification for Electrical Systems.
- B. Major components of equipment shall be identified with a permanently affixed nameplate bearing the manufacturer's name and address, and type or style and catalog number of the item.
- C. Cable and conduit runs shall be identified in accordance with Section 26 05 33.13 – Conduit for Electrical Systems and Section 40 66 00 – Network and Communication Cable and Infrastructure.

1.08 QUALIFICATIONS OF INSTALLER

- A. Prior to installation, the Contractor shall submit data proving that he has successfully installed video surveillance systems of the same type and design as specified herein. Submit the names and locations of at least two installations where such systems have been installed. The Contractor shall indicate the type and design of these systems and certify that these systems have performed satisfactorily.

PART 2 – PRODUCTS

2.01 INTEGRATOR

- A. For installation and integration of all items listed within this section, utilize one of the following approved Video Surveillance Integrators for equipment and system integration:
 - 1. Siemens Industry, Inc. (Bill.Dennehy@siemens.com, 860.262.3723).
 - 2. Security 101 (john.santry@security101ne.com, 860.406.0438).
 - 3. Aaron Associates (Carlos Nunez, 475.222.2711).

2.02 VIDEO SURVEILLANCE SYSTEM EQUIPMENT

A. Video Surveillance System:

1. Head-end equipment for Water Treatment Building and Dewatering Building shall include the following:
 - a. Patch panels, surge protection, and POE network switch(es) as required and as approved by SWSC. Switches will mount in rack enclosures provided under Division 40.
 - b. Rack-mounted NVR with storage sized per 1.04(C)3 of this specification.

B. Security camera

1. Cameras shall be suitable for installation outdoors, vandal resistant, and with minimum IP rating of IP65.
2. Cameras shall have at a minimum the following features and/or performance:
 - a. Operate and transmit data utilizing Power Over Ethernet (POE).
 - b. RGB CMOS image sensor.
 - c. Fixed lens with IR-corrected fixed focus and digital pan-tilt-zoom.
 - d. On-board memory and deep learning processing unit.
 - e. Horizontal Resolution: maximum 1920 x 1080.
 - f. Supported network protocols shall include: IPv4, IPv6, HTTP, HTTPS, HTTP/2, FTP, SMTP, UPnP, DNS, NTP, NTS, TCP, IGMP(v1/v2/v3), RTCP.
 - g. Video Streams: Minimum of 2.
 - h. Frame Rates: Up to 30 frames per second.
 - i. Video Encoding: H.264, H.265, or MJPEG.
 - j. Motion Detector: Built-in digital.
 - k. Be equipped with true day/night functionality.
 - l. Comply with all state and federal requirements for video surveillance equipment in municipal facilities.
 - m. Genetec equipment license.

C. Interconnecting Cable

1. For cameras <100 meters from the head-end equipment, connect cameras utilizing Category 6 cable as specified in 40 66 00 - Network and Communication Cable and Infrastructure.
2. For cameras >100 meters from the head-end equipment, connect cameras utilizing fiber cable as specified in 40 66 00 – Network and Communication Cable and infrastructure with media conversion devices as specified in 40 66 00.01 - Network and Communication Equipment.

D. Camera Mount

1. Provide wall mounts compatible with the security cameras specified in 2.02(B).
2. Camera mounts shall be finished with products suitable for the installation environment. Coordinate color selection with the Engineer.

E. Power Requirements

1. Power supply to all components of the system shall be as required, furnished, and installed by the Contractor.
2. Booster power supplies shall be furnished and installed where required.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. The video surveillance system shall be furnished and installed as shown on the Drawings and in accordance with the manufacturer's installation instructions. One (1) copy of these instructions shall be included with the equipment at time of shipment.
- B. System Wiring
 1. All system wiring shall be furnished and installed by the Contractor. All wiring shall be installed in conduit in accordance with Section 26 05 33.13 – Conduit for Electrical Systems. System wiring shall be installed separate from all other building wiring.
 2. All system components shall be securely supported independent of the conduit system. Runs of conduit shall be straight, neatly arranged, properly supported, installed parallel and perpendicular to walls and partitions.
 3. The sizes of the conductors shall be those specified by the manufacturer. Color coded wire shall be used. All wires shall be tagged at all junction points and shall be free from short circuits, earth connections (unless so noted on the system drawings), and crosses between conductors.

4. All wiring shall be installed by qualified individuals, in a neat and workmanlike manner, to conform to the Massachusetts Electrical Code.
 5. The complete system electrical installation, and all auxiliary components, shall be connected to earth ground in accordance with the Massachusetts Electrical Code.
- C. After completion of the installation, the Contractor shall clean the inside and the outside of the video surveillance equipment and shall remove all dirt and debris from the site.

3.02 TESTING

- A. All tests shall be performed in accordance with the requirements of the General Requirements and Division 01. The following tests are required:
1. Witnessed Shop Tests
 - a. None required.
 2. Certified Shop Tests and Reports
 - a. Submit description of proposed testing methods, procedures, and apparatus.
 - b. Submit certified copies of all factory test reports.
 3. Field Tests
 - a. Field testing shall be done in accordance with the requirements specified in the General Conditions, Division 01 and the requirements of all applicable codes and standards.
 - b. Reference Section 26 05 00 – Basic Electrical Requirements.
 - c. All tests shall be performed in the presence of the Engineer and Owner. The Contractor shall notify the Engineer at least 14 days before the performance and acceptance tests are to be conducted. A complete test report and letter of completion shall be submitted to the Engineer. The tests shall be performed by, or under the supervision of a qualified representative of the fire alarm system manufacturer and shall include the following:
 - 1) Verify that the system is free of grounds or open circuits.
 - 2) Verify that all devices and network equipment are functioning as specified.
 - 3) Test each device and circuit.
 - 4) Test battery backup systems for specified function and capacity.

- d. Upon acceptance by the Owner, the completed system(s) shall be placed into service.

3.03 SERVICES OF MANUFACTURER'S REPRESENTATIVE

- A. The Contractor shall provide the services of a qualified manufacturer's factory-trained technical representative who shall adequately supervise the installation and startup of the equipment furnished under this Contract. The manufacturer's representative shall certify in writing that the equipment has been installed in accordance with the manufacturer's recommendations. No further testing or equipment startup may take place until this certification is accepted by the Owner.
- B. The manufacturer's technical representative shall perform all startup and field acceptance testing as specified herein.
- C. The Contractor shall provide training for the Owner's personnel. Training shall be conducted by the manufacturer's factory-trained representative who shall instruct Owner's personnel in operation and maintenance of all equipment provided under this Section. Training shall be provided for two (2) sessions of two (2) hours each. Training shall not take place until after the motor controllers have been installed and tested. Training shall be conducted at times coordinated with the Owner.
- D. The services of the manufacturer's representative shall be provided for a period of not less than as follows:
 - 1. One (1) trip of two (2) working days to perform field acceptance testing of the video surveillance system.
 - 2. One (1) trip of one (1) working day two (2) months before the warranty expiration to identify any issues to be corrected under warranty.
 - 3. One (1) trip of one (1) working day to perform training as specified herein.
- E. Any additional time required to achieve successful installation and operation shall be at the expense of the Contractor.

3.04 MANUFACTURER'S CERTIFICATION

- A. A qualified, factory-trained manufacturer's representative shall certify in writing that the equipment has been installed, adjusted, and tested in accordance with the manufacturer's recommendations.

END OF SECTION

Attachment H – 33 56 34 Industrial Wastewater Holding Tank

**SECTION 33 56 34
INDUSTRIAL WASTEWATER HOLDING TANK¹**

PART 1 – GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall furnish, deliver, install, test and place in satisfactory operation one 600-gallon fiberglass, double-wall, reinforced plastic (FRP) storage tank, complete with all necessary accessories, as shown on the Drawings and as specified herein.
- B. Equipment shall be provided in accordance with the requirements of Section 46 00 00 – Equipment General Provisions.
- C. Th FRP tank shall be furnished and installed complete with all required accessories including, but not limited to laboratory sanitary drain (LSAN), interstitial monitor, liquid level instrument, pump hookup, mountings, anchor bolts, manway, anchor straps, and reinforced concrete deadmen anchors.
 - 1. The Contractor shall furnish, install, test and place in satisfactory operation an integrated industrial wastewater management system, to include control panels, level indication, tank monitoring system, signal inputs/outputs, controls and alarms as specified herein and indicated in the Drawings.
- D. The FRP tank shall be suitable for storage of the liquids specified herein.
- E. The FRP tank and appurtenances shall be provided by one Manufacturer with sole responsibility for the satisfactory manufacture, delivery, supervision during installation and start-up, compatibility and performance of the items furnished. Contractor shall comply with Manufacturer’s recommendations for delivery, storage, and tank handling.

1.02 CONDITIONS OF SERVICE/STORAGE TANK SCHEDULE

Design Parameter	Industrial Wastewater Holding Tank
Number of Tanks	One (1)
Tank Identification No.	T-70740
Max Solution Concentration	Varies
Specific Gravity	Varies
Freezing Point	Varies
Design Temperature	40-120 degrees F

¹ Addendum No.3

Design Parameter	Industrial Wastewater Holding Tank
Design Pressure	Atmospheric / As Req'd for Flanged Vent
pH	Varies
Type	Horizontal, Cylindrical
Useable Capacity	600 gallons
Maximum Diameter	4'-0"
Maximum Straight Shell Length	7'-0"
Maximum Overall Length	7'-4"
a) Manway Location and Diameter	Top 22"
Secondary Containment	Double-Wall

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Shall be as specified in Section 01 42 00 – References.
- B. American Concrete Institute (ACI)
 - 1. ACI 318 – Building Code Requirements for Structural Concrete
- C. American Society for Testing and Materials (ASTM)
 - 1. ASTM C 581 – Chemical Resistance of Thermosetting Resins Used in Glass Fiber Reinforced Structures
 - 2. ASTM C 582 – Contact-Molded Reinforced Thermosetting Plastic Laminates for Corrosion-Resistant Equipment
 - 3. ASTM D 3299 (current edition) – Filament-Wound Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks
 - 4. ASTM D 4097 (current edition) – Contact-Molded Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks
 - 5. ASTM E 1067 – Standard Practice for Acoustic Emission Examination of Fiberglass Reinforced Plastic Resin (FRP) Tanks/Vessels
 - 6. ASTM D 2563 (current edition) – Standard Practice for Classifying Visual Defects in Glass-Reinforced Plastic Laminate Parts
 - 7. ASTM D 2583 (current edition) – Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
- D. American Water Works Association
 - 1. AWWA D120 – Thermosetting Fiberglass-Reinforced Plastic Tanks

- E. NBS Voluntary Product Standard PS15-69 – Custom Contact-Molded Reinforced-Polyester Chemical-Resistant Process Equipment
- F. American Society of Mechanical Engineers (ASME)
 - 1. ASME RTP-1 – Reinforced Thermoset Plastic Corrosion Resistant Equipment
- G. Fiberglass Reinforced Plastics Institute (FRPI)
 - 1. FRPI SP9000 – Laminating Process Certification
 - 2. FRPI SP9100 – Laminate Certification
 - 3. FRP LS600 – Brominated Bis-A Epoxy Vinyl Ester Laminates with One (1) C-Glass Veil and MEKP/CoNap Cure System
- H. Massachusetts Department of Environmental Protection
 - 1. 310 CMR 18.00 – Industrial Wastewater Holding Tank and Container Construction, Operation, and Record Keeping Requirements
- I. National Fire Protection Association (NFPA)
 - 1. NFPA 704 – Hazard Identification System
- J. All reference specifications, codes, and standards shall be the current version available at the time of Bid.

1.04 SUBMITTALS

- A. The following items shall be submitted with the Shop Drawings in accordance with, or in addition to, the submittal requirements specified in Section 01 33 00 – Submittal Procedures and Section 46 00 00 – Equipment General Provisions:
 - 1. List of at least five similar installations of the tank type, size, industrial wastewater service, and location conditions being proposed, including date installed, contact name, address and phone number.
 - 2. Warranty.
 - 3. Detailed Shop Drawings of each tank complete with all accessories supplied by the Manufacturer.
 - 4. Dimensions of tank and dimensions, location, and orientation of openings, fittings, accessories, attachments, restraints and supports, anchor bolts, manways, and flexible connections.
 - 5. Weight of tank.

6. Detailed instructions for pipe connections and bolt torque values.
7. Design calculations supplied by the tank Manufacturer, signed by a Professional Engineer, for tank design.
8. Design calculations supplied by the tank Manufacturer or Contractor as applicable, signed by a Professional Engineer, for tank restraint system to withstand seismic and buoyancy conditions as required, including details for anchorage, lateral restraint, foundation requirements, and anchor bolt sizes, depth of embedment, shear, and pullout strength.
9. A complete Manufacturer's specification of the resins used.
10. The resin manufacturer's recommendation, including the recommended resins, type of veil, plies of veil, total thickness of the corrosion barrier, and any post cure requirements.
11. Statement that fabrication is in accordance with these Specifications.
12. Instructions for handling, storage, loading and unloading, and installation of tank.
13. Inspection and testing reports as specified in Part 3 – Execution.
14. Operation and maintenance manual in accordance with Section 01 78 23 – Operation and Maintenance Data.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. The FRP storage tank shall be as manufactured by Containment Solutions, Inc., Xerxes Corporation, ZCL Composites, or approved equal.
- B. The FRP tank Manufacturer shall specialize in manufacture, assembly, and field service of FRP industrial wastewater storage tanks with a minimum of ten years of experience.

2.02 GENERAL

- A. The Contractor is responsible for the coordination and selection of corrosion-resistant materials for industrial wastewater. The FRP storage tank Manufacturer shall become familiar with the characteristics of the industrial wastewater and guarantee the suitability of the materials used in manufacturing of the tank and appurtenances. The Contractor and Manufacturer shall include all features as necessary for satisfactory operation of the tank system for all specified industrial wastewater characteristics. Refer to the attachment at the end of this Section for a summary of industrial wastewater sources and characteristics.

- B. All tank capacities (volumes) specified shall include only that volume in the straight shell below the maximum tank fill level (generally 6” below the overflow pipe invert elevation) and above the top of the outlet pipe. At least four inches of freeboard shall be provided between the top of the overflow pipe and the top of the straight shell.
- C. The tank Manufacturer shall be fully responsible for the structural design and integrity and watertightness of the tank, including all connections.
- D. Tank shall be anchored to the concrete deadmen by the Contractor as specified herein.

2.03 MATERIALS AND CONSTRUCTION

A. Construction

- 1. Tank construction shall be as follows:

	Industrial Wastewater Holding Tank
Corrosion Barrier Layer	
Resin	One ply of Nexus veil, or equal
Resin Cure System	As recommended by Manufacturer
Liner Reinforcement	Chopped strand ECR acid-resistant glass, or equal
Structural Layer	
Resin	INEOS Derakane Signia 411 epoxy vinyl ester, or equal
Resin Cure System	As recommended by Manufacturer

- 2. Double-wall vessel as specified and shown on Drawings.
- 3. The tank size, fittings and accessories shall be as shown on Drawings.
- 4. Tank shall be manufactured with structural ribs which are fabricated as an integral part of the tank wall.
- 5. Tank shall be manufactured with a laminate consisting of resin and glass fiber reinforcement only. No sand/silica fillers or resin extenders shall be used.
- 6. Tank shall be vented to atmospheric pressure.

B. Loading Conditions – Tank shall meet the following design criteria:

- 1. Internal Load – Tank shall be designed to withstand a 5 psig air-pressure test with a 5:1 safety factor.
- 2. Surface Loads – Tank shall be designed to withstand surface H-20 loads.

3. External Hydrostatic Pressure – Tank shall be designed for 7 feet of overburden over the top of the tank, the hole fully flooded, and a safety factor of 5:1 against general buckling.

C. Interstitial Space

1. The interstitial space between the tank walls shall be constructed with a glass reinforcement material such as Parabeam, which provides a structural bond between the tank walls, while creating a defined interstice that allows for free flow of liquid.
2. The interstice of the tank shall be designed to withstand 20 psig pressure.

D. Resin

1. The resin for the FRP storage tank shall be a commercial-grade, corrosion-resistant thermoset that has either been evaluated in a laminate by testing in accordance with ASTM C-581 or that has been determined by previous documented service to be acceptable for the service conditions.
2. The resin used shall not contain any fillers, pigments, dyes, or colorants, which may interfere with visual inspection of laminate quality, except as required for viscosity control. The limit of filler shall be 5 percent by weight. No fillers or bulking agents shall be used in the exterior structural layer to decrease the glass loading ratio. Resin pastes used to fill crevices before overlay are permitted.
3. The initiators used will be of the type, manufacturing origin, and amounts specified by the resin manufacturer.

E. Reinforcement

1. The reinforcing material shall be a commercial grade glass fiber having a coupling agent which shall provide a suitable bond between the glass reinforcement and the resin and shall be suitable for the fabrication method used. The reinforcing material shall be comparable to that used to generate corrosion resistance.
2. Chopped Strand Mat – Chopped strand mat shall be constructed from chopped commercial-grade E-type glass strands bonded together using a binder. The strands should be treated with a sizing that is chemically compatible with the resin system used.
3. Continuous Roving – Continuous roving shall be a commercial-grade E-type glass fiber with a sizing that is chemically compatible with the resin system used.
4. Woven Roving – Woven roving shall be in accordance with referenced ASTM Specifications.

5. Surface Mat – The reinforcement used for the inner surface shall be either a commercial-grade chemical resistant glass surface mat as recommended by the resin manufacturer for the intended service.

F. Laminate Construction

1. The laminate comprising the structural tank (bottom, cylindrical shell, top head) shall consist of a corrosion-resistant barrier comprised of an inner surface, interior layer, and a structural layer.
2. The inner surface exposed to the industrial wastewater environment shall be resin-rich, not less than 0.01-inch thick, and reinforced with chemically resistant surfacing material. The surface shall be smooth, glossy, and free of pits. The inner surface of the tank shall have one or two layers of 'C' glass veil or a polyester synthetic veil (Nexus or equal) depending on the industrial wastewater environment. Material used as reinforcing on the surface exposed to industrial wastewater attack shall be a commercial grade chemical-resistant glass fiber having a coupling agent.
3. The interior layer shall be not less than 0.1-inch thick and composed of resin, reinforced only with noncontinuous glass strands applied in a minimum of two plies of chopped strand mat or in a minimum of two passes by the spray-up process. Glass strands shall not be shorter than 1.0 inch or longer than 2.0 inches. Glass content of the inner liner and interior layer combined shall be 27% +/- 5% by weight.
4. Before the reinforcement of the exterior layer is applied, the interior layer shall be allowed to cure completely so that the thickness of the corrosion barrier, consisting of the inner surface and interior layer, will not be reduced. Cure systems for corrosion barrier and structural layers shall be as specified above. The degree of cure of the laminate, after post cure, shall be such as to exhibit a Barcol hardness on the inner surface of at least 90% of the resin manufacturer's minimum specified hardness for the cured laminate. Post cure of the tank shall be provided when recommended by the resin manufacturer for a particular service; post cure shall be provided in accordance with the resin manufacturer's guidelines.
5. The structural layer shall provide additional strength necessary to meet the tensile and flexural requirements. The reinforcement shall be filament wound, contact molded or a combination of both and may consist of continuous roving, woven roving, chopped strand mat or chopped strands. Where separate layers of reinforcement are used, all layers shall be lapped a minimum of 1.0 inch. Laps shall be staggered as much as possible. If woven roving or cloth is used in successive layers, it shall be alternated with a layer of chopped strand glass.
6. Glass content of the filament-wound structural layer shall be 50 to 80 percent by weight. The thickness of the filament wound portion of the tank shell may vary with tank height, provided that all stress and other requirements are met at any height

level. All reinforcement used shall be resistant to corrosion by the industrial wastewater stored in the tank.

7. The outer surface shall consist of chopped strands or surfacing mat, or both, over which shall be applied a resin-rich coating. The outer surface shall not be pigmented, painted or dyed except to prevent ultraviolet degradation of the tank contents, as applicable. This surface shall be at least 0.02 inch thick.
8. The tank top shall be flat with openings and connections as shown and specified. The tank top shall be able to support a 250-pound load on a 4-inch by 4-inch area.
9. Tank bottom attachment to tank wall shall be per ASTM D 3299 and D 4097.

2.04 CONNECTIONS AND ACCESSORIES

- A. All flanged fittings shall be of hand lay-up construction with pipe stub molded integrally with the pipe flange. All connections/openings shall be flanged in accordance with ANSI B16.5 150 pounds and provided with flanged gasket. Flanged connections, fittings, and openings shall be FRP gusseted and flat face. All pipe supports, hardware, accessories, etc. shall be provided. All piping connected to the tank shall be perpendicular or parallel to the straight shell of the tank. All piping into the tank shall be supported such that no weight is placed on the tank and its connections. Piping supports requiring holes through the side wall of the tank shall not be allowed.
- B. If recommended by tank manufacturer, each tank outlet connection shall be provided with a flexible connector, supplied by the tank manufacturer, resistant to the industrial wastewater to allow for expansion and contraction of the tank and to isolate the tank from vibration.
- C. Vent lines shall be top-mounted. Each vent shall be extended to the atmosphere and shall have a 180 degree return and a stainless-steel vent insect screen. Vent lines shall be supplied and furnished by the Contractor as required or as directed by the Engineer.
- D. Each tank shall be provided with a camlock type quick connect coupling as shown on the Drawings for connection to a hauling vehicle. Quick connect coupling shall be provided by the Contractor.
- E. Each tank shall be provided with a radar level instrument in accordance with Section 40 72 23.01 – Radar Level Meters – Two/Three Wire. The mounting and connecting requirements, including mounting flange diameter, required clearance between mounting flange and tank wall, and height above liquid level, shall be coordinated with the Instrument Supplier.
- F. Each tank shall be provided with flat-faced flanged manway with gasket, blind flange, and bolts that are constructed of materials resistant to corrosion by the industrial wastewater.

- G. Each tank shall be provided with a minimum of one lifting lug. Lifting lugs shall be capable of withstanding weight of an empty tank with a safety factor of 3 to 1.
- H. Each tank shall be provided with a minimum of two fiberglass hold-down straps and all necessary turnbuckles and anchors. The tank hold-down straps shall withstand seismic load, calculated in accordance with current UBC code, and buoyancy of empty tank subjected to full height groundwater conditions.
 - 1. The hold-down straps shall be designed and supplied by the tank manufacturer. The hold-down straps shall be as supplied by tank manufacturer and designed for a maximum load of 25,000 lb.
 - 2. Galvanized turnbuckles shall be supplied by the tank manufacturer.
 - 3. The tank manufacturer shall submit calculations, sealed by a Professional Engineer, to verify that the hold-down straps can withstand buoyancy and seismic activity.
- I. Each tank shall be provided with a minimum of two reinforced concrete deadmen of size as determined by the manufacturer to satisfy the seismic and buoyancy conditions specified herein.
 - 1. Prefabricated concrete deadmen shall be supplied by the tank manufacturer, designed to the ACI 318 standard, manufactured with 4,000 psi concrete, and shall have adjustable anchor points.
- J. The tank shall be provided with a permanently attached label providing the following information:
 - 1. Resin, cure system, and liner reinforcement for corrosion barrier layer
 - 2. Resin and cure system for structural layer
 - 3. Tank dimensions and capacity
 - 4. Maximum temperature rating of tank
 - 5. Manufacturer
 - 6. Date of manufacture
 - 7. "Non-Hazardous Industrial Wastewater"
- K. All metallic parts, fasteners, brackets, mounting hardware, and accessories provided by the tank manufacturer shall be constructed of corrosion resistant metals as specified in the Tank Schedule.
- L. The tank shall be equipped with the following accessories:

1. Interstitial Monitoring System
 - a. Tank shall be continuously monitored with a hydrostatic leak monitoring system.
 - b. The continuous monitoring system shall include monitoring fluid factory-installed in the interstitial space and within a fiberglass tank-top mounted reservoir.
 - c. The monitoring system shall be recognized by the National Work Group on Leak Detection Evaluations (NWGLDE) as continuous leak detection and as a precision tank test.
 - d. The monitoring system shall be independently tested by a qualified third-party and verified to be capable of detecting leaks as small as 0.05 gallons per hour when proper tank tightness test procedures are followed.
 - e. The continuous monitoring system shall be designed to detect a leak in either the primary or secondary wall at all times, regardless of the water table conditions at the installation site.
2. Manway
 - a. The standard manway shall be flanged, 22 inches inside diameter, and complete with gaskets, bolts, and cover.
 - b. Manway openings shall be designed to withstand 5 psig test pressure with a 5:1 safety factor.
3. Flanged Fittings
 - a. The tank shall be equipped with factory-installed flanged fittings as shown on the Drawings.
 - b. Flanged fittings shall be flat-faced and conform to Class 150 bolting patterns in accordance with ANSI/ASME B16.5.
4. Containment Collars and Sumps
 - a. The tank shall have factory-installed 42-inch-diameter containment collar.
 - b. Containment sump in 42-inch diameter shall be provided by the tank Manufacturer and be designed for mounting on the containment collar.
 - c. Adhesive shall be provided by the tank Manufacturer with each containment collar and sump.

- d. Containment collar and sump shall be designed and supplied as a containment system. Only containment collar and sump provided by the tank Manufacturer shall be allowed.

2.05 PIPING SUPPORT

- A. For vertical piping interior to the tank, all pipe supports, hardware, accessories, etc., shall be provided for connections. Vertical piping into the tank shall be supported every five feet and shall be parallel to the tank wall. Support locations for piping installed within the tank shall be coordinated with equipment to be installed within the tank.
- B. All piping into the tank shall be supported such that no weight is placed on the tank or its connections.

PART 3 – EXECUTION

3.01 MANUFACTURER’S FIELD SERVICES

- A. The services of a qualified manufacturer's technical representative shall be provided in accordance with Section 46 00 00 – Equipment General Provisions and shall include the following site visits:

Service	Number of Trips	Number of Days/Trip
Installation	1	1
Inspection and Field Testing	1	1

3.02 INSTALLATION

- A. The Contractor shall furnish and install the FRP storage tank and related items in accordance with the manufacturers' recommendations and in accordance with Section 46 00 00 – Equipment General Provisions.
- B. A manufacturer’s field representative shall be on site when each tank is installed to observe installation and verify that each tank has been installed per manufacturer’s recommendations. The manufacturer shall provide a report certifying that each tank has been installed properly.
- C. All piping, valves, fittings, conduit, wiring, etc., required to interconnect system components shall be furnished and installed by the Contractor. Unless otherwise noted, piping shall be Fire Retardant Polypropylene (FRPP) as specified in Section 22 13 16 – Sanitary Waste and Vent Piping.
- D. All metallic fasteners, brackets, mounting hardware, and accessories shall be constructed of corrosion-resistant metals as specified in the Tank Schedule.

3.03 INSPECTION AND TESTING

- A. A 3-stage inspection process shall be performed on the tank during various stages in the fabrication process. The first inspection shall be performed at the completion of the corrosion barrier and before structural winding occurs. The second inspection will be performed after the tank is removed from the mandrel and before any fittings are attached. The third inspection shall be a final inspection prior to shipment of the tank and shall be performed by an inspector with at least 5 years of experience with FRP vessels.
- B. Field testing shall be performed by the Contractor in accordance with Section 46 00 00 – Equipment General Provisions.
- C. Upon completion of installation of tank and prior to connecting piping, the Contractor shall provide blind flanges or other suitable plugs for all openings in the side wall of the tank, fill tank with potable water from a source approved by the Engineer and conduct a leakage test. Tank shall be filled up to the top of the straight shell and left to sit over a 5-consecutive day test period. There shall be no leakage over the test period. Leakage tests shall be repeated for any replaced or repaired tank. Upon satisfactory completion of leakage test, Contractor shall drain, thoroughly clean, and dry the tank and dispose of water in a suitable manner.
- D. Degree of surface cure shall be tested per the referenced ASTM specifications.
- E. Quality control for visual defects shall be per the referenced ASTM specifications.
- F. After the tank has completed a successful field hydrostatic test, the tank shall undergo a mechanical integrity test using Acoustical Emission Test (AE Test) in accordance with the latest version of ASTM E 1067. The Contractor shall secure the services of Non-Destructive Evaluation International (Indian Trail, NC) or an equally qualified firm to perform the AE testing. Firms shall be considered equally qualified by demonstrating the following:
 - 1. The firm shall specialize in AE testing.
 - 2. The firm shall have all necessary equipment to perform AE testing.
 - 3. The firm shall have a minimum of five (5) years of experience in AE testing and shall provide a list of AE tests performed to demonstrate experience.
 - 4. The firm's testing staff shall have a minimum of five (5) years of experience with AE testing.
- G. Contractor shall provide all labor and materials necessary for completing AE testing including water to fill tanks with during testing. After testing is completed, a final report shall be submitted to the Engineer. In the event the AE test results indicate repairs are required; the tank manufacturer shall promptly repair all faulty areas of the tank as identified by the test. The tank shall then be re-tested using the hydrostatic test and the

AE test. The second AE test report shall be submitted to the Engineer. Any tank failing the second hydrostatic test or the AE test shall be removed from the project site and replaced with a new tank at no cost to the Owner. The replacement tank shall undergo hydrostatic and AE testing and shall be subject to the same acceptance criteria as the initial tank. This process shall be repeated until all tanks provided to the project pass the AE test.

END OF SECTION

INDUSTRIAL WASTEWATER SOURCES AND CHARACTERISTICS

Attachment I – 40 61 93 Process Control System Input - Output List Part 3

40 61 93 - Part 3 Input/Output Schedule¹

Key	PLC/RIO	Process	Signal Type	Rack	Slot	Point	IO TAG	Drawing Reference	Associated Field Device	Function	Control Panel	Service Description	IO List Comment	Furnished By
177005	CLEARWELL-CP	SODIUM HYDROXIDE	AI				WI-70352	I-5016	WIT-70352	WEIGHT		WIT-70352, WEIGHT	ADDENDUM3	AA
168763	CLEARWELL-CP	SODIUM HYDROXIDE	AI				SI-70370	I-5016	P-70360	SPEED FEEDBACK		P-70360, SPEED FEEDBACK	ADDENDUM3	AA
168907	CLEARWELL-CP	SODIUM HYDROXIDE	AI				SI-70370	I-5016	P-70370	SPEED FEEDBACK		P-70370, SPEED FEEDBACK	ADDENDUM3	AA
168767	CLEARWELL-CP	SODIUM HYDROXIDE	AO				SC-70360	I-5016	P-70360	SPEED COMMAND		P-70360, SPEED COMMAND	ADDENDUM3	AA
168860	CLEARWELL-CP	SODIUM HYDROXIDE	AO				SC-70370	I-5016	P-70370	SPEED COMMAND		P-70370, SPEED COMMAND	ADDENDUM3	AA
168735	CLEARWELL-CP	SODIUM HYDROXIDE	DI				DI	I-5016	YA-70360	FAULT		P-70360, FAULT	ADDENDUM3	AA
168731	CLEARWELL-CP	SODIUM HYDROXIDE	DI				YH-70360	I-5016	P-70360	REMOTE MODE		P-70360, REMOTE MODE	ADDENDUM3	AA
168727	CLEARWELL-CP	SODIUM HYDROXIDE	DI				YSH-70360	I-5016	P-70360	RUN FEEDBACK		P-70360, RUN FEEDBACK	ADDENDUM3	AA
168878	CLEARWELL-CP	SODIUM HYDROXIDE	DI				YA-70370	I-5016	P-70370	FAULT		P-70370, FAULT	ADDENDUM3	AA
168856	CLEARWELL-CP	SODIUM HYDROXIDE	DI				YN-70370	I-5016	P-70370	REMOTE MODE		P-70370, REMOTE MODE	ADDENDUM3	AA
168852	CLEARWELL-CP	SODIUM HYDROXIDE	DI				YSH-70370	I-5016	P-70370	RUN FEEDBACK		P-70370, RUN FEEDBACK	ADDENDUM3	AA
168739	CLEARWELL-CP	SODIUM HYDROXIDE	DO				YCH-70360	I-5016	P-70360	RUN COMMAND		P-70360, RUN COMMAND	ADDENDUM3	AA
168882	CLEARWELL-CP	SODIUM HYDROXIDE	DO				YCH-70370	I-5016	P-70370	RUN COMMAND		P-70370, RUN COMMAND	ADDENDUM3	AA
151708	LOCAL-BOP	SWITCHEAR	DAI				EI-70511	I-2211	MCC-1A	VOLTAGE PHASE A		MCC-1A, VOLTAGE PHASE A	ADDENDUM3	AA
151710	LOCAL-BOP	SWITCHEAR	DAI				EI-70511	I-2211	MCC-1A	VOLTAGE PHASE B		MCC-1A, VOLTAGE PHASE B	ADDENDUM3	AA
171510	LOCAL-BOP	SWITCHEAR	DAI				EI-70511	I-2211	MCC-1A	VOLTAGE PHASE C		MCC-1A, VOLTAGE PHASE C	ADDENDUM3	AA
171517	LOCAL-BOP	SWITCHEAR	DAI				II-70511	I-2211	MCC-1A	CURRENT PHASE A		MCC-1A, CURRENT PHASE A	ADDENDUM3	AA
171524	LOCAL-BOP	SWITCHEAR	DAI				II-70511	I-2211	MCC-1A	CURRENT PHASE B		MCC-1A, CURRENT PHASE B	ADDENDUM3	AA
171531	LOCAL-BOP	SWITCHEAR	DAI				II-70511	I-2211	MCC-1A	CURRENT PHASE C		MCC-1A, CURRENT PHASE C	ADDENDUM3	AA
171538	LOCAL-BOP	SWITCHEAR	DAI				JI-70511A	I-2211	MCC-1A	KW		MCC-1A, KW	ADDENDUM3	AA
171545	LOCAL-BOP	SWITCHEAR	DAI				JI-70511B	I-2211	MCC-1A	KVAR		MCC-1A, KVAR	ADDENDUM3	AA
171554	LOCAL-BOP	SWITCHEAR	DAI				JI-70511C	I-2211	MCC-1A	KVA		MCC-1A, KVA	ADDENDUM3	AA
171561	LOCAL-BOP	SWITCHEAR	DAI				XI-70511	I-2211	MCC-1A	POWER FACTOR		MCC-1A, POWER FACTOR	ADDENDUM3	AA
171569	LOCAL-BOP	SWITCHEAR	DAI				EI-70512	I-2211	MCC-1B	VOLTAGE PHASE A		MCC-1B, VOLTAGE PHASE A	ADDENDUM3	AA
171573	LOCAL-BOP	SWITCHEAR	DAI				EI-70512	I-2211	MCC-1B	VOLTAGE PHASE B		MCC-1B, VOLTAGE PHASE B	ADDENDUM3	AA
171577	LOCAL-BOP	SWITCHEAR	DAI				EI-70512	I-2211	MCC-1B	VOLTAGE PHASE C		MCC-1B, VOLTAGE PHASE C	ADDENDUM3	AA
171581	LOCAL-BOP	SWITCHEAR	DAI				II-70512	I-2211	MCC-1B	CURRENT PHASE A		MCC-1B, CURRENT PHASE A	ADDENDUM3	AA
171585	LOCAL-BOP	SWITCHEAR	DAI				II-70512	I-2211	MCC-1B	CURRENT PHASE B		MCC-1B, CURRENT PHASE B	ADDENDUM3	AA
171589	LOCAL-BOP	SWITCHEAR	DAI				II-70512	I-2211	MCC-1B	CURRENT PHASE C		MCC-1B, CURRENT PHASE C	ADDENDUM3	AA
171593	LOCAL-BOP	SWITCHEAR	DAI				JI-70512A	I-2211	MCC-1B	KW		MCC-1B, KW	ADDENDUM3	AA
171597	LOCAL-BOP	SWITCHEAR	DAI				JI-70512B	I-2211	MCC-1B	KVAR		MCC-1B, KVAR	ADDENDUM3	AA
171602	LOCAL-BOP	SWITCHEAR	DAI				JI-70512C	I-2211	MCC-1B	KVA		MCC-1B, KVA	ADDENDUM3	AA
171606	LOCAL-BOP	SWITCHEAR	DAI				XI-70512	I-2211	MCC-1B	POWER FACTOR		MCC-1B, POWER FACTOR	ADDENDUM3	AA
171704	LOCAL-BOP	SWITCHEAR	DAI				EI-70521	I-2211	MCC-2A	VOLTAGE PHASE A		MCC-2A, VOLTAGE PHASE A	ADDENDUM3	AA
171708	LOCAL-BOP	SWITCHEAR	DAI				EI-70521	I-2211	MCC-2A	VOLTAGE PHASE B		MCC-2A, VOLTAGE PHASE B	ADDENDUM3	AA
171714	LOCAL-BOP	SWITCHEAR	DAI				EI-70521	I-2211	MCC-2A	VOLTAGE PHASE C		MCC-2A, VOLTAGE PHASE C	ADDENDUM3	AA
171726	LOCAL-BOP	SWITCHEAR	DAI				II-70521	I-2211	MCC-2A	CURRENT PHASE A		MCC-2A, CURRENT PHASE A	ADDENDUM3	AA
171730	LOCAL-BOP	SWITCHEAR	DAI				II-70521	I-2211	MCC-2A	CURRENT PHASE B		MCC-2A, CURRENT PHASE B	ADDENDUM3	AA
171734	LOCAL-BOP	SWITCHEAR	DAI				II-70521	I-2211	MCC-2A	CURRENT PHASE C		MCC-2A, CURRENT PHASE C	ADDENDUM3	AA
171738	LOCAL-BOP	SWITCHEAR	DAI				JI-70521A	I-2211	MCC-2A	KW		MCC-2A, KW	ADDENDUM3	AA
171742	LOCAL-BOP	SWITCHEAR	DAI				JI-70521B	I-2211	MCC-2A	KVAR		MCC-2A, KVAR	ADDENDUM3	AA
171746	LOCAL-BOP	SWITCHEAR	DAI				JI-70521C	I-2211	MCC-2A	KVA		MCC-2A, KVA	ADDENDUM3	AA
171750	LOCAL-BOP	SWITCHEAR	DAI				XI-70521	I-2211	MCC-2A	POWER FACTOR		MCC-2A, POWER FACTOR	ADDENDUM3	AA
171754	LOCAL-BOP	SWITCHEAR	DAI				EI-70522	I-2211	MCC-2B	VOLTAGE PHASE A		MCC-2B, VOLTAGE PHASE A	ADDENDUM3	AA
171758	LOCAL-BOP	SWITCHEAR	DAI				EI-70522	I-2211	MCC-2B	VOLTAGE PHASE B		MCC-2B, VOLTAGE PHASE B	ADDENDUM3	AA
171762	LOCAL-BOP	SWITCHEAR	DAI				EI-70522	I-2211	MCC-2B	VOLTAGE PHASE C		MCC-2B, VOLTAGE PHASE C	ADDENDUM3	AA
171766	LOCAL-BOP	SWITCHEAR	DAI				II-70522	I-2211	MCC-2B	CURRENT PHASE A		MCC-2B, CURRENT PHASE A	ADDENDUM3	AA
171770	LOCAL-BOP	SWITCHEAR	DAI				II-70522	I-2211	MCC-2B	CURRENT PHASE B		MCC-2B, CURRENT PHASE B	ADDENDUM3	AA
171774	LOCAL-BOP	SWITCHEAR	DAI				II-70522	I-2211	MCC-2B	CURRENT PHASE C		MCC-2B, CURRENT PHASE C	ADDENDUM3	AA
171778	LOCAL-BOP	SWITCHEAR	DAI				JI-70522A	I-2211	MCC-2B	KW		MCC-2B, KW	ADDENDUM3	AA
171782	LOCAL-BOP	SWITCHEAR	DAI				JI-70522B	I-2211	MCC-2B	KVAR		MCC-2B, KVAR	ADDENDUM3	AA
171784	LOCAL-BOP	SWITCHEAR	DAI				XI-70522	I-2211	MCC-2B	POWER FACTOR		MCC-2B, POWER FACTOR	ADDENDUM3	AA
171854	LOCAL-BOP	SWITCHEAR	DAI				EI-70531	I-2211	MCC-CA	VOLTAGE PHASE A		MCC-CA, VOLTAGE PHASE A	ADDENDUM3	AA
171858	LOCAL-BOP	SWITCHEAR	DAI				EI-70531	I-2211	MCC-CA	VOLTAGE PHASE B		MCC-CA, VOLTAGE PHASE B	ADDENDUM3	AA
171862	LOCAL-BOP	SWITCHEAR	DAI				EI-70531	I-2211	MCC-CA	VOLTAGE PHASE C		MCC-CA, VOLTAGE PHASE C	ADDENDUM3	AA
171824	LOCAL-BOP	SWITCHEAR	DAI				II-70531	I-2211	MCC-CA	CURRENT PHASE A		MCC-CA, CURRENT PHASE A	ADDENDUM3	AA
171828	LOCAL-BOP	SWITCHEAR	DAI				II-70531	I-2211	MCC-CA	CURRENT PHASE B		MCC-CA, CURRENT PHASE B	ADDENDUM3	AA
171832	LOCAL-BOP	SWITCHEAR	DAI				II-70531	I-2211	MCC-CA	CURRENT PHASE C		MCC-CA, CURRENT PHASE C	ADDENDUM3	AA
171836	LOCAL-BOP	SWITCHEAR	DAI				JI-70531A	I-2211	MCC-CA	KW		MCC-CA, KW	ADDENDUM3	AA
171840	LOCAL-BOP	SWITCHEAR	DAI				JI-70531B	I-2211	MCC-CA	KVAR		MCC-CA, KVAR	ADDENDUM3	AA
171844	LOCAL-BOP	SWITCHEAR	DAI				JI-70531C	I-2211	MCC-CA	KVA		MCC-CA, KVA	ADDENDUM3	AA
171848	LOCAL-BOP	SWITCHEAR	DAI				XI-70531	I-2211	MCC-CA	POWER FACTOR		MCC-CA, POWER FACTOR	ADDENDUM3	AA
171785	LOCAL-BOP	SWITCHEAR	DAI				EI-70532	I-2211	MCC-3B	VOLTAGE PHASE A		MCC-3B, VOLTAGE PHASE A	ADDENDUM3	AA
171789	LOCAL-BOP	SWITCHEAR	DAI				EI-70532	I-2211	MCC-3B	VOLTAGE PHASE B		MCC-3B, VOLTAGE PHASE B	ADDENDUM3	AA
171793	LOCAL-BOP	SWITCHEAR	DAI				EI-70532	I-2211	MCC-3B	VOLTAGE PHASE C		MCC-3B, VOLTAGE PHASE C	ADDENDUM3	AA
171797	LOCAL-BOP	SWITCHEAR	DAI				II-70532	I-2211	MCC-3B	CURRENT PHASE A		MCC-3B, CURRENT PHASE A	ADDENDUM3	AA
171802	LOCAL-BOP	SWITCHEAR	DAI				II-70532	I-2211	MCC-3B	CURRENT PHASE B		MCC-3B, CURRENT PHASE B	ADDENDUM3	AA
171806	LOCAL-BOP	SWITCHEAR	DAI				II-70532	I-2211	MCC-3B	CURRENT PHASE C		MCC-3B, CURRENT PHASE C	ADDENDUM3	AA
171810	LOCAL-BOP	SWITCHEAR	DAI				JI-70532A	I-2211	MCC-3B	KW		MCC-3B, KW	ADDENDUM3	AA
171814	LOCAL-BOP	SWITCHEAR	DAI				JI-70532B	I-2211	MCC-3B	KVAR		MCC-3B, KVAR	ADDENDUM3	AA
171818	LOCAL-BOP	SWITCHEAR	DAI				JI-70532C	I-2211	MCC-3B	KVA		MCC-3B, KVA	ADDENDUM3	AA
171822	LOCAL-BOP	SWITCHEAR	DAI				XI-70532	I-2211	MCC-3B	POWER FACTOR		MCC-3B, POWER FACTOR	ADDENDUM3	AA
171871	LOCAL-BOP	SWITCHEAR	DAI				EI-70541	I-2211	MCC-4A	VOLTAGE PHASE A		MCC-4A, VOLTAGE PHASE A	ADDENDUM3	AA
171875	LOCAL-BOP	SWITCHEAR	DAI				EI-70541	I-2211	MCC-4A	VOLTAGE PHASE B		MCC-4A, VOLTAGE PHASE B	ADDENDUM3	AA
171824	LOCAL-BOP	SWITCHEAR	DAI				EI-70541	I-2211	MCC-4A	VOLTAGE PHASE C		MCC-4A, VOLTAGE PHASE C	ADDENDUM3	AA
171928	LOCAL-BOP	SWITCHEAR	DAI				II-70541	I-2211	MCC-4A	CURRENT PHASE A		MCC-4A, CURRENT PHASE A	ADDENDUM3	AA
171932	LOCAL-BOP	SWITCHEAR	DAI				II-70541	I-2211	MCC-4A	CURRENT PHASE B		MCC-4A, CURRENT PHASE B	ADDENDUM3	AA
171936	LOCAL-BOP	SWITCHEAR	DAI				II-70541	I-2211	MCC-4A	CURRENT PHASE C		MCC-4A, CURRENT PHASE C	ADDENDUM3	AA
171940	LOCAL-BOP	SWITCHEAR	DAI				JI-70541A	I-2211	MCC-4A	KW		MCC-4A, KW	ADDENDUM3	AA
171944	LOCAL-BOP	SWITCHEAR	DAI				JI-70541B	I-2211	MCC-4A	KVAR		MCC-4A, KVAR	ADDENDUM3	AA
171948	LOCAL-BOP	SWITCHEAR	DAI				JI-70541C	I-2211	MCC-4A	KVA		MCC-4A, KVA	ADDENDUM3	AA
171881	LOCAL-BOP	SWITCHEAR	DAI				XI-70541	I-2211	MCC-4A	POWER FACTOR		MCC-4A, POWER FACTOR	ADDENDUM3	AA
171885	LOCAL-BOP	SWITCHEAR	DAI				EI-70542	I-2211	MCC-4B	VOLTAGE PHASE A		MCC-4B, VOLTAGE PHASE A	ADDENDUM3	AA
171889	LOCAL-BOP	SWITCHEAR	DAI				EI-70542	I-2211	MCC-4B	VOLTAGE PHASE B		MCC-4B, VOLTAGE PHASE B	ADDENDUM3	AA
171893	LOCAL-BOP	SWITCHEAR	DAI				EI-70542	I-2211	MCC-4B	VOLTAGE PHASE C		MCC-4B, VOLTAGE PHASE C	ADDENDUM3	AA
171897	LOCAL-BOP	SWITCHEAR	DAI				II-70542	I-2211	MCC-4B	CURRENT PHASE A		MCC-4B, CURRENT PHASE A	ADDENDUM3	AA
171902	LOCAL-BOP	SWITCHEAR	DAI				II-70542	I-2211	MCC-4B	CURRENT PHASE B		MCC-4B, CURRENT PHASE B	ADDENDUM3	AA
171906	LOCAL-BOP	SWITCHEAR	DAI				II-70542	I-2211	MCC-4B	CURRENT PHASE C		MCC-4B, CURRENT PHASE C	ADDENDUM3	AA
171910	LOCAL-BOP	SWITCHEAR	DAI				JI-70542A	I-2211	MCC-4B	KW		MCC-4B, KW	ADDENDUM3	AA
171914	LOCAL-BOP	SWITCHEAR	DAI				JI-70542B	I-2211	MCC-4B	KVAR		MCC-4B, KVAR	ADDENDUM3	AA
171918	LOCAL-BOP	SWITCHEAR	DAI				JI-70542C	I-2211	MCC-4B	KVA		MCC-4B, KVA	ADDENDUM3	AA
171922	LOCAL-BOP	SWITCHEAR	DAI				XI-70542	I-2211	MCC-4B	POWER FACTOR		MCC-4B, POWER FACTOR	ADDENDUM3	AA
172354	LOCAL-BOP	SWITCHEAR	DAI				EI-70550	I-2211	SWGR01	VOLTAGE PHASE A		SWGR01, VOLTAGE PHASE A	ADDENDUM3	AA

40 61 93 - Part 3 Input/Output Schedule

Addendum #3

Key	PLC/RIO	Process	Signal Type	Rack	Slot	Point	I/O TAG	Drawing Reference	Associated Field Device	Function	Control Panel	Service Description	I/O List Comment	Furnished By
172358	LOCAL-BOP	SWITCHGEAR	DAI				EI-70550	I-2211	SWGR01	VOLTAGE PHASE B		SWGR01, VOLTAGE PHASE B	ADDENDUM3	AA
172362	LOCAL-BOP	SWITCHGEAR	DAI				EI-70550	I-2211	SWGR01	VOLTAGE PHASE C		SWGR01, VOLTAGE PHASE C	ADDENDUM3	AA
172366	LOCAL-BOP	SWITCHGEAR	DAI				I-70550	I-2211	SWGR01	CURRENT PHASE A		SWGR01, CURRENT PHASE A	ADDENDUM3	AA
172370	LOCAL-BOP	SWITCHGEAR	DAI				I-70550	I-2211	SWGR01	CURRENT PHASE B		SWGR01, CURRENT PHASE B	ADDENDUM3	AA
172374	LOCAL-BOP	SWITCHGEAR	DAI				I-70550	I-2211	SWGR01	CURRENT PHASE C		SWGR01, CURRENT PHASE C	ADDENDUM3	AA
172378	LOCAL-BOP	SWITCHGEAR	DAI				J-70550A	I-2211	SWGR01	KV		SWGR01, KV	ADDENDUM3	AA
172382	LOCAL-BOP	SWITCHGEAR	DAI				J-70550B	I-2211	SWGR01	KVAR		SWGR01, KVAR	ADDENDUM3	AA
172386	LOCAL-BOP	SWITCHGEAR	DAI				J-70550C	I-2211	SWGR01	KVA		SWGR01, KVA	ADDENDUM3	AA
172291	LOCAL-BOP	SWITCHGEAR	DAI				X0-70550	I-2211	SWGR01	POWER FACTOR		SWGR01, POWER FACTOR	ADDENDUM3	AA
172181	LOCAL-BOP	SWITCHGEAR	DAI				EI-70560	I-2211	SWGR-2	VOLTAGE PHASE A		SWGR-2, VOLTAGE PHASE A	ADDENDUM3	AA
172185	LOCAL-BOP	SWITCHGEAR	DAI				EI-70560	I-2211	SWGR-2	VOLTAGE PHASE B		SWGR-2, VOLTAGE PHASE B	ADDENDUM3	AA
172189	LOCAL-BOP	SWITCHGEAR	DAI				EI-70560	I-2211	SWGR-2	VOLTAGE PHASE C		SWGR-2, VOLTAGE PHASE C	ADDENDUM3	AA
172193	LOCAL-BOP	SWITCHGEAR	DAI				I-70560	I-2211	SWGR-2	CURRENT PHASE A		SWGR-2, CURRENT PHASE A	ADDENDUM3	AA
172197	LOCAL-BOP	SWITCHGEAR	DAI				I-70560	I-2211	SWGR-2	CURRENT PHASE B		SWGR-2, CURRENT PHASE B	ADDENDUM3	AA
172214	LOCAL-BOP	SWITCHGEAR	DAI				I-70560	I-2211	SWGR-2	CURRENT PHASE C		SWGR-2, CURRENT PHASE C	ADDENDUM3	AA
172206	LOCAL-BOP	SWITCHGEAR	DAI				J-70560B	I-2211	SWGR-2	KVAR		SWGR-2, KVAR	ADDENDUM3	AA
172210	LOCAL-BOP	SWITCHGEAR	DAI				J-70560C	I-2211	SWGR-2	KVA		SWGR-2, KVA	ADDENDUM3	AA
172218	LOCAL-BOP	SWITCHGEAR	DAI				J-70560A	I-2211	SWGR-2	KW		SWGR-2, KW	ADDENDUM3	AA
172202	LOCAL-BOP	SWITCHGEAR	DAI				X0-70560	I-2211	SWGR-2	POWER FACTOR		SWGR-2, POWER FACTOR	ADDENDUM3	AA
170410	RIO-CHEM-A	PAUL	DI				FAH-S1103	I-2112	FSH-S1103	SAFETY SHOWER FLOW 2		FSH-S1103, SAFETY SHOWER FLOW 2	ADDENDUM3	AA