

October 21, 2026

ADDENDUM No. 1

RE: Sludge Handling Improvements
Town of Putnam
Putnam, Connecticut

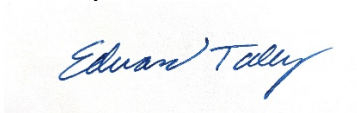
TO ALL PROSPECTIVE BIDDERS:

Enclosed is a copy of Addendum No. 1 for the referenced project. Please retain this with your Contract Documents. Information provided herein shall be considered part of the Contract Documents.

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated September 2026. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

Include the costs associated with the work of this Addendum in the Bid.

Sincerely,

A handwritten signature in blue ink that reads "Ed Tally". The signature is written in a cursive, flowing style.

Ed Tally
Project Manager

Enclosure

SLUDGE HANDLING IMPROVEMENTS
TOWN OF PUTNAM
PUTNAM, CT

ADDENDUM NO. 1

LIST OF CONTENTS

- 1.) Extension of Bid Due Date
 - a. Bids for the construction of the Project will be received at the **Putnam Town Hall** located at, **200 School Street, Putnam, CT 06260 ATTN: Elaine Sistare, P.E.**, until **November 6, 2026, at 11:00 am** local time. At that time the Bids received will be publicly opened and read.
 - b. Questions received less than seven days prior to the date of the bid opening may not be answered.
- 2.) Question and Answers from Prospective Bidders
- 3.) Revisions to Contract Documents
- 4.) Attachments:
 - a. Pre-Bid Meeting Materials
 - i. Pre-Bid Meeting Agenda
 - ii. Pre-Bid Meeting Attendance Sheet
 - b. Revisions to Contract Documents:
 - i. Project Manual Specifications:
 - ii. Contract Drawings:

PRE-BID MEETING

A mandatory pre-bid meeting for Sludge Handling Improvements was held on October 1, 2026, at 10:00 AM. A copy of the meeting agenda and sign-in sheet are provided in **Attachment A**.

QUESTIONS AND ANSWERS FROM PRE-BID MEETING

Q-1: Town provided clarification regarding site access.

A-1: The site is accessible during normal hours of operation. Reasonable requests for access outside of normal hours will be accommodated and must be coordinated by the Contractor with the Town.

Q-2: Where is the trailer location and utility hookups?

A-2: The location of the trailer is at the discretion of the Contractor. Drawing CS-104 has been revised depicting locations that may be suitable for the trailer and laydown areas. The location of the trailer, stored materials, and laydown materials shall not interfere with normal plant operations. The Contractor is

responsible for providing necessary utilities to complete the work. Any coordination of utility connection with the Town is the responsibility of the Contractor.

Q-3: Sludge bypass is a concern. What are the daily flows and standard operating times. How long can the facility go without processing (1 day)

A-3: The Contractor will be responsible for ensuring maintenance of plant operations in accordance with the Contract Documents.

The existing gravity thickener's sludge transfer to the dewatering press must remain in service, must be available at all times, and must be controllable with a variable flow output. Contractor should submit a plan for temporary bypass sludge pumping to the dewatering press to maintain:

- Flow to the press needs to be variable from 20 gallons a minute to 100 gallons a minute and is currently controlled using the Moyno pump variable speed drive and control panel.
- Generally, the dewatering press is operated four (4) days a week, but there have been times when the press must operate seven (7) days per week.
- Run times fluctuate from four (4) hours to ten (10) hours during the first operating shift, and operation depends on plant loading and characteristics of sludge.

Q-4: Contractor inquired about the necessity of sheeting in access road and one lane traffic.

A-4: The road can be reduced to accommodate the sheeting but at least one lane of traffic is required to be maintained. It will be the Contractor's responsibility to provide necessary traffic controls and safety barriers on the access road. Please see the attached revised drawing CS-103 - Site Plan and CS-104 - Proposed Restoration Site Plan.

Q-5: What depth is groundwater anticipated at the site?

A-5: Please reference the Project Manual - Section 00 31 32 – Geotechnical Information and subsequent Geotechnical Study for groundwater levels.

Q-6: The Town has requested to add a **bid alternative to furnish and install replacement Moyno pump and base for existing sludge pump**. Please see the revised bid schedule for

A-6: Please refer to revised Bid Schedule and Payment Items specifications for existing Moyno Pump replacement (Bid Alternate No 1).

QUESTIONS AND ANSWERS FROM PROSPECTIVE BIDDERS

Q-1: Is the town of Putnam waving the building permit fee on this project?

A-1: Yes the building permit fee will be waived. However, the Contractor is responsible for obtaining all required permits.

Q-2: Where is the engineers trailer located on the site? Can we use plant power for the trailer?

A-2: The location of the trailer is at the discretion of the Contractor. The site plan has been revised depicting locations that may be suitable for the trailer and laydown areas. The location of the trailer, stored materials, and laydown materials shall not interfere with normal plant operations. The Contractor is responsible for providing necessary utilities to complete the work. Any coordination of utility connection with the Town is the responsibility of the Contractor.

Q-3: Do we need to provide temporary piping and electrical to the existing gravity thickener during construction of the new unit? If so, what is the flow rate of the existing gravity thickener? How long can the existing gravity thickener be shut down?

A-3: The Contractor will be responsible to ensure maintenance of plant operations in accordance with the Contract Documents.

The existing gravity thickener's sludge transfer to the dewatering press must remain in service, must be available at all times, and must be controllable with a variable flow output. Contractor should submit a plan for temporary bypass sludge pumping to the dewatering press to maintain:

- Flow to the press needs to be variable from 20 gallons a minute to 100 gallons a minute and is currently controlled using the Moyno pump variable speed drive and control panel.
- Generally, the dewatering press is operated four (4) days a week, but there have been times when the press must operate seven (7) days per week.
- Run times fluctuate from four (4) hours to ten (10) hours during the first operating shift, and operation depends on plant loading and characteristics of sludge.

Q-4: Steel sheeting needs to be installed around the perimeter of the new proposed gravity thickener with a clearance of 5' to 10' around the perimeter for the site excavation. The line of sheeting will be out into the existing plant access road. Can the access road be closed down to one lane during construction of the unit? Do we need to provide traffic controls and safety barriers on the access road?

A-4: Yes, the road width can be reduced to accommodate the sheeting. One lane of traffic is required to be maintained. It will be the Contractors responsibility to provide necessary traffic controls and safety barriers on the access road. Please see the attached revised drawing CS-103 - Site Plan and CS-104 - Proposed Restoration Site Plan.

Q-5: Who is the current instrumentation contractor for the plant?

A-5: The instrumentation contractor is: Imperium Systems Integrators LLC. Contact: Robert George.

Q-6: Please clarify the amount requested for the Bid Bond, Project Manual indicates 5% Bond while the Pre-Bid Agenda states 10%.

A-6: The project manual Bid Bond amount of 5% is correct.

Q-7: Please provide Specification section “43 21 00 Moyno Pump” which is listed in the Table of Contents but does not appear to be included in the project manual.

A-7: The specification is attached.

Q-8: Please clarify the amount if liquated damages, section 4.05 of the agreement states \$1,000/day while the Pre-Bid Agenda states \$1,500/day.

A-8: The Project Manual carries the correct liquated damages amount of \$1,000/day.

Q-9: Please clarify if there are any Minority or Small Business contractor utilization requirements or set-aside goals.

A-9: Response to this question will be included in Addendum # 2.

Q-10: Please confirm there are no alternates for this project. Section 05 52 13 references items as alternates.

A-10: Please see the revised section 05 52 13. However, the Town has requested to add an alternate for the replacement of the existing Moyno Pump, refer to Q-6 from the Pre-Bid meeting.

Q-11: Please clarify if this project is subject to CT DAS requirements.

A-11: This project is not subject to CT DAS requirements.

Q-12: Please confirm drawing scale for the following sheets: Sheets MSH-101, MSH-102, MSH-103, EA-103 – Are stated as 1”=20’ but appear to be 1:20. Sheet S-001 – Stated as 1/8” = 1’-0” – appears to be 1/4” = 1’-0”.

A-12: The scales have been updated as follows:

- **MSH-101:** 1/2” = 1’-0”
- **MSH-102:** 1/2” = 1’-0”
- **MSH-103:** 1/2” = 1’-0”
- **EA-103:** 1/2” = 1’-0”
- **S-001:** 1/4” = 1’-0”

Q-13: Please confirm the degree of bend on bend fittings labeled on Sheets MSH-102 & MSH-103. The bends appear to be mislabeled regarding the 22, 45, & 90 degree bends.

A-13: Pipe fittings labels on MSH-102 & MSH-103 have been corrected.

Q-14: Please clarify if the Moyno pump will be furnished by the owner or is to be supplied by the GC.

A-14: The Moyno pump is to be furnished and installed by the Contractor.

Q-15: Please clarify if the Moyno pump is to be sole sourced or there are acceptable as-equal products.

A-15: The Moyno pump is to be sole sourced for this project, or substitute pump product will be accepted.

Q-16: Can the bid extension date be extended?

A-16: The bidding schedule has been extended two weeks the Bid Opening will now be on November 6th, 2026 at 11:00am. The bids are to still be received by **Elaine Sistare, P.E.** and the opening will still take place at **Putnam Town Hall** located at, **200 School Street, Putnam, CT 06260.**

Q-17: Please provide insurance limits and requirements. Supplementary Conditions appear to be blank in relevant section.

A-17: Supplementary conditions will be addressed in Addendum # 2.

REVISIONS TO CONTRACT DOCUMENTS**1.) Revisions to the Project Manual Specifications:****a. Section 05 52 13 – Pipe and Tube Railing**

Revised specification to remove bid alternative language.

b. Section 43 21 00 - Moyno Pump

Added Moyno Pump Specification.

Added pages 43 21 00 - 1 to 43 21 00 - 8 (Addendum No. 1) that are attached to this addendum to the project manual.

c. Section 00 41 10 – Bid Schedule

Revised bid schedule to include Bid Alt. 1 to replace existing Moyno Pump.

Added pages 00 41 10 – 4 to 00 41 10 – 6 (Addendum No. 1) that are attached to this addendum to the project manual.

d. Section 01 2050 – Payment Items

Revised payment items to include Bid Alt. 1 to replace existing Moyno Pump.

Added pages 01 20 50 – 1 to 01 20 50 – 4 (Addendum No. 1) that are attached to this addendum to the project manual.

1.) Revisions to the Contract Drawings:**a. Sheet CS-103 - Revised Site Plan**

Added revised sheeting reinforcement to be provided around the proposed gravity thickener.

b. Sheet CS-104 - Restoration Plan

Added additional restoration site plan.

c. Sheets MSH-101, MSH-102, MSH-103, EA-103, S-001– Scale Correction

Revised scales to accurately reflect the drawings.

d. Sheets MSH-102 & MSH-103 – Fitting Corrections

Revised pipe fitting labels.

e. S-001 – Additional Slab Details

Added details to showcase the requirements for the MOYNO Pump slab.

Attachment A – Pre-Bid Meeting Materials

A G E N D A

Town of Putnam Sludge Handling Improvements Project Mandatory Pre-Bid Meeting

Thursday, October 1, 2026 - 10:00 AM

I. OPENING REMARKS

- A. Introductions
- B. Attendance Sheet – Please indicate Prime Contractor or Supplier along with name, email, phone number, and how did you hear of the bid.
- C. Contract Document Procurement:
 - 1. Contract documents, including project Plans and Specifications, are available on the Town of Putnam Website: <https://www.putnamct.us> with the project documents located at [Town of Putnam WPCA: Sludge Handling Improvements](#).
 - 2. Addenda, if issued, will be posted to the Town of Putnam Website. It shall be the sole responsibility of the Contractor to ascertain the existence of any and all addenda. Hard copies of addenda will not be mailed or faxed.
 - 3. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.
- D. Project Owners:
 - 1. Town of Putnam
- E. Project Overview:
 - 1. This project consists of furnishing and installing one (1) 30-ft diameter gravity thickener tank and mechanism, second Moyno Sludge Pump in lower level of solids handling building, reinforced fiberglass cover, SCADA and electrical improvements, yard piping, valves, water main relocation, and associated site restoration.

PROJECT COORDINATION

- A. Existing Utilities Coordination
 - 1. The Contractor shall be responsible for complying with all applicable Call Before you Dig Safe Rules.

2. Contact Call Before You Dig (811 or 800-922-4455) at least 72 business hours before excavation on public and private property, rights of ways and easements (excluding weekends and holidays), to mark out the utility locations.

II. WORK RESTRICTIONS

- A. Work Hours
 1. Schedule activities for Monday through Friday exclusive of holidays, between the hours of 7:00 a.m. and 3:30 p.m. Should it be necessary to have access to the facilities at other times, special arrangements must be made through the Owner.

III. PROJECT REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

IV. BIDDER BRIEFING

- A. Bid Opening: **2:00 P.M. Friday, October 23, 2026**, at 200 School Street, Putnam, CT 06260 ATTN: Elaine Sistare, P.E., Sealed Bids plainly marked "BID ENCLOSED" will be opened publicly and read aloud immediately after the specific closing time. No late submissions shall be accepted.
- B. Bid Form
 1. The bid package consists of the following forms:
 - 00411 Bid Form (Based on EJCDC C-410-2013)
 - 00431 Bid Bond (Based on EJCDC C-430-2013)
 - 00451 Qualifications of Bidder
 - 00455 Non-Collusion Affidavit of Bidder (Based on EJCDC C-451-2013)
- C. Owner reserves the right to reject any or all Bids.
- D. Owner is exempt from Connecticut Sales and Use Taxes on material and equipment to be incorporated in the Work (Exemption No. **06-6002071**); do not include taxes in the Contract Price.
- E. Bonds and Insurance – Owner and Engineer shall be named as additional insureds under the Contractor's general liability policies.
- F. Performance Bond and Payment Bond bonds must be written on EJCDC forms as provided in the Contract Documents.
- G. Substantial Completion date is **365 days after Notice to Proceed**. Multiple crews may need to be mobilized to meet the schedule.
- H. Liquidated damages are **\$1,500** for each consecutive calendar day thereafter.

- I. State of CT Prevailing Wage Rates apply to this project- See Section 00820 of Project Manual:
 - 1. Submit certification form to Dept. of Labor
 - 2. Submit monthly payroll forms to the inspector
- J. Testing: Engage a qualified testing agency to perform tests and inspections. Cost of testing services shall be borne by the Contractor.
- K. Permitting and Fees: Contractor responsible for permitting fees (building permit, etc.).
- L. Contractor to obtain staging and laydown areas.

V. VISIT TO SITE

- A. Bidders are encouraged to conduct a Site visit during normal working hours and shall not disturb any ongoing operations at the Site.

VI. BID SECURITY

- A. Each bidder must deposit, with his bid, security in the form of bid bond or certified check for the amount of 10% of the bid subject to the conditions provided in the Information for Bidders.

VII. ADDENDA BEING PREPARED

- A. Questions received less than **seven days** prior to the date of the bid opening may not be answered.
- B. Prepare bid based on written information, not verbal information. Only questions answered by Addenda will be binding.
- C. Ensure all addenda have been incorporated into bid and certify receipt on bid package.
- D. Schedule
 - 1. Submit RFIs/questions in writing (email acceptable albert.wait@fando.com) to Albert Wait by 5:00 PM on **October 15, 2026**.
 - 2. Final addenda will be issued by the end of the day **October 16, 2025**, by email.

VIII. QUESTIONS AND ANSWERS

IX. CLOSING

**Sludge Handling Improvements Project
Putnam, CT
Mandatory Prebid Meeting
October 1, 2026**

NAME	Company	PHONE #	EMAIL
Hayden Brown	R.H. White Construction	508-832-3295	estimating@RHWhite.com
Salam Abod	ACC	860-324-2779	saboaccgc.com
David Allen	Kovacs Const. Corp	203-793-9022	dallen@kocavs.com
Mike Didato	Putnam WPCA	860-608-2107	Michael.didato@putnamct.us
Brian Lynch	Putnam WPCA	860-373-8967	Brian.lynch@putnamct.us
Brian Oliveira	CB Utility	401-487-7590	tsimbro@cbutility.com
Laura Marcolini	Fuss & O'Neill	401-533-4235	laura.marcolini@fando.com
Ed Tally	Fuss & O'Neill	401-447-6895	edward.tally@fando.com

Attachment B – Revisions to Contract Documents

SECTION 05 52 13
PIPE AND TUBE RAILING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:
 - 1. Aluminum pipe railings.

1.03 UNIT PRICES

- A. General: Pipe and tube railings installed under Base Bid will be paid for by the linear foot.
- B. Installation of railing under Base Bid shall include the removal and disposal of existing railings; patching of the remaining post holes with grout; and the materials, labor and equipment required to install new pipe railings as designated in the plans.

1.04 COORDINATION

- A. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- B. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.05 SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
 - 3. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of exposed finish required.
 - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.
 - 2. Fittings and brackets.
 - 3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
 - a. Show method of connecting members at intersections.
- D. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- E. Qualification Data: For testing agency.
- F. Welding certificates.
- G. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.
- H. Evaluation Reports: For post-installed anchors, from ICC-ES.

1.06 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to concrete construction.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F.

2.02 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.03 ALUMINUM

- A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.
- B. Extruded Bars and Tubing: ASTM B 221 (ASTM B 221M), Alloy 6063-T5/T52.
- C. Extruded Structural Pipe and Round Tubing: ASTM B 429/B 429M, Alloy 6063-T6.
 - 1. Provide Standard Weight (Schedule 40) pipe unless otherwise indicated.
- D. Drawn Seamless Tubing: ASTM B 210 (ASTM B 210M), Alloy 6063-T832.
- E. Plate and Sheet: ASTM B 209 (ASTM B 209M), Alloy 6061-T6.
- F. Die and Hand Forgings: ASTM B 247 (ASTM B 247M), Alloy 6061-T6.
- G. Castings: ASTM B 26/B 26M, Alloy A356.0-T6.

2.04 FASTENERS

- A. General: Provide the following:
 - 1. Aluminum Railings: Type 304 stainless-steel fasteners.
 - 2. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:
 - 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.

- D. Post-Installed Anchors: chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
1. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.05 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
1. For aluminum railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- C. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.06 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with either welded or nonwelded connections unless otherwise indicated.
- H. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- J. Form Changes in Direction as Follows:
1. By flush bends or by inserting prefabricated flush-elbow fittings.
- K. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of railing members with prefabricated end fittings.
- M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.07 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A41.

PART 3 - EXECUTION

3.01 INSTALLATION - GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.02 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches of post.

3.03 ADJUSTING AND CLEANING

- A. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.

3.04 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION

SECTION 43 21 00
MOYNO PUMP

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The work in this section shall include furnishing and placing into operation one (1) horizontally mounted sewage pump system(s) complete with submersible motor, stand and cable as specified herein and as indicated on the drawings.
- B. The CONTRACTOR shall provide a control panel for the pump with a communications gateway for the pump with integrated pump control system (IPS).

1.02 REFERENCES

- A. American Society for testing and material (ASTM) International
 - 1. A 48: Standard Specification for Gray Iron Castings.
 - 2. A743: Standard Specification Iron-Chromium Nickel, Corrosion Resistant.
- B. American National Standards Institute (ANSI):
 - 1. B16.1: Standard for Cast Iron Pipe Flanges and Flanged Fittings, 125 lb.
- C. Hydraulic Institute: Current Standards.
 - 1. HI 14.6: Hydrodynamic Pumps for Hydraulic Performance Acceptance Tests.
- D. UL 508A and 698A
- E. NFPA 70 - NEC (2017)
- F. NFPA 820
- G. ISA 5.1 and 5.4

1.03 SUBMITTALS

- A. Submittal data shall be provided to show compliance with these specifications, plans or other specifications that will influence the proper operation of the pumps.
- B. Standard submittal data for approval must consist of:
 - 1. Pump Performance Curves.
 - 2. Pump Outline Drawing.
 - 3. Station Drawing for Accessories.
 - 4. Electrical Motor Data.
 - 5. Typical Installation Guides.
 - 6. Technical Manuals.
 - 7. Parts List.
 - 8. Printed Warranty.
 - 9. Management system certificate ISO 9001.
 - 10. Manufacturer's Equipment Storage Recommendations.
 - 11. Manufacturer's Standard Recommended Start-Up Report Form.
- C. Project specific submittals shall include but not be limited to the following:
 - 1. Shop drawings
 - 2. Bill of Material (BOM)
 - 3. Wiring diagrams
 - 4. Outline and dimension drawings
 - 5. Enclosure mounting details

1.04 QUALIFICATION REQUIREMENTS

- A. The manufacturer shall provide data on alternate equipment manufacturer's experience. Only Manufacturers with 10 or more years of experience who have furnished at least 5 similar pumps shall be considered.

- B. After installation, a pump start-up shall be performed by the installing contractor under the supervision of the manufacturer's authorized representative. A minimum of three (3), eight (8)-hour days of field service shall be provided by an authorized, factory trained representative of the pump manufacturer. Services shall include, but not be limited to: inspection of the completed pump installation to ensure that it has been performed in accordance with the manufacturer's instructions and recommendations, supervision of all field-testing and activation of the Pump Manufacturer's Warranty. The test shall demonstrate to the satisfaction of the Owner that the equipment meets all specified performance criteria, is properly installed and anchored, and operates smoothly without exceeding the full load amperage rating of the motor. The Contractor shall be responsible for coordinating the required field services with the Pump Manufacturer.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products to site under provisions of equipment submittal recommendations.
- B. Store in a clean, dry space.
- C. Lift only with lugs provided for the purpose.
- D. Handle carefully to avoid damage to internal components, enclosure and finish.
- E. Conduct required maintenance while in storage as recommended by the manufacturer.

1.06 INSTALLATION

- A. Installation shall be in accordance to manufacturer's instructions.
- B. All electrical work performed shall be in full accordance to the requirements of the Division 26 (Electrical) Specifications.
- C. Warranty - When installed in accordance with all the provisions of this section and related sections, the warranty on the control panel and pump shall be five (5) years against defects in materials and or workmanship. The warranty shall be in printed form, included with the product submittal, and previously published as the manufacturer's standard warranty for all similar units manufactured.
- D. The warranty period shall start from the date of equipment delivery to the job site.

1.07 OPERATIONAL REQUIREMENTS

- A. The pump bearings and suction housings shall be thick-walled cast iron. All cast parts will be free of sand holes, blow holes, and other defects. The suction housing shall incorporate two rectangular inspection ports, 180° apart, to permit access to the suction housing interior without disconnecting piping.
- B. The suction and discharge connections shall be flat face flanges with bolt hole dimensions and spacing to ANSI Standards. The suction flange(s) shall be 125 lb., the discharge flange(s) 125 lb.
- C. The alloy steel shall be a machined and polished single helix with a nominal chrome plate thickness of .010 inches for maximum abrasion resistance.
- D. The stator shall be of double helix configuration with the molded nitrile elastomer chemically bonded to a steel tube. The stator shall be fastened to the suction housing and discharge flange with removable clamp rings to facilitate stator removal. The stator seals shall be designed to prevent the material being pumped from contacting the stator bonding and tube.
- E. The gear joints shall be of the grease lubricated crowned gear type, totally enclosed and protected by a wire reinforced elastomeric seal. Mechanical components of the gear joints shall be designed to operate for 10,000 hours at the manufacturer's published maximum speeds and pressures.

- F. A rigid, splined connecting rod shall connect the gear joints of the drive shaft and eccentrically moving rotor. The connecting rod shall pass through the shaft seal area inside the hollow drive shaft quill so that no eccentric loads are imparted on the shaft seal area.
- G. The connecting rod shall be protected from the accumulation of rags and stringy material by a fiber deflector. The fiber deflector shall be designed to operate similar to an end face-type mechanical seal. The stationary portion of the deflector shall ride against a polished disk rotating with the gear joint shell.
- H. The drive shaft shall be of one-piece construction through the bearings and shaft seal area. This design shall permit disassembly of the universal joints without affecting the alignment of the shaft in the shaft sealing area.
- I. The bearings shall be grease lubricated, tapered roller bearing type with diverging pressure angles for maximum shaft stability. Bearings are to be designed for a minimum B-10 life of 30,000 hours under maximum operating conditions and will not require periodic relubrication. The bearings shall be protected from contaminants by means of a bearing cover plate bolted to the bearing housing.
- J. The stuffing box shall be equipped with a split packing gland and split teflon lantern ring to permit repacking of the pump without removing the bearings or drive shaft components. Fittings will be provided for grease lubrication of the packing.
- K. The quill portion of the shaft shall be hard chrome plated.
- L. Each pump shall be capable of lifting 349 US gpm at a total dynamic head of 25 feet.

PART 2 - PRODUCTS

2.01 SEWAGE PUMP

- A. Pumps shall be provided by the following manufacturers:
 - 1. Hayes Pump, Inc.
- B. The pump shall be a equipped Moyno Model 1G115Q1 Progressive Cavity Pump with CI Housing, Nitrile Stator, Chrome Plated Rotor, Single Cartridge Mechanical Seal, Fiber Guard, Steel Base, In Line Gear Reducer, 7.5hp 3/60/230-460 TEFC Motor.
- C. The pump shall be capable to operate without any limitation between 50% and 150% of the Best efficiency point (B.E.P) of the performance curve.

Static head: 25 ft	Flow in USgpm	TDH in feet	Hydraulic efficiency %	NPSHre in feet
Required Duty Point	349	25	> 62.2	< 12.8
Guaranteed duty point acc. HI <10kW B	349	25	> 60	< 13

- D. The motor shall be capable of operating the pump at continuous duty (S1) in an ambient temperature up to 104°F. Operational restrictions or the demand of auxiliary cooling systems like fans or blowers are not acceptable.
- E. The pump shall be operated by a synchronous motor and an integrated control system and be capable of running at constant power at any point of the performance field without being overloaded. Motor shall utilize a permanent magnet rotor to maintain synchronous speed.
- F. The motor shall withstand at least 60 starts per hour.
- G. The discharge flange of the pump shall be 8" and the suction flange shall be 8". Both shall be drilled according to ANSI.
- H. The volute shall have conveniently located drain to aid with inspection and or maintenance operations.

- I. The impeller shall be mounted on the motor shaft. Couplings shall not be accepted.
- J. An integrated pump control system installed in the pump/motor housing shall start the pump by gradually increasing the pump speed. The starting current shall not be higher than the rated current.
- K. An integrated pump control system installed in the pump/motor housing shall secure that the direction of the impeller rotation is always correct. There shall be no need for any human intervention to ensure that the impeller is rotating in the correct direction within the volute. The integrated control system shall be inside the motor and encapsulated to protect it against moisture ingress, and vibration.
- L. The motor and the pump control system shall receive sufficient cooling from the pumped liquid to operate the pump at continuous duty in a liquid with a temperature with 104°F. Operational restrictions on the liquid temperature below 104°F or the demand of auxiliary cooling systems like fans or blowers are not acceptable. The Stator shall be inverter duty rated in accordance with NEMA MG1, Part 31 and be insulated according to class H (356°F).
- M. Motor, pump and control system shall be designed and supplied by the pump manufacturer.
- N. The control system shall continuously monitor the leakage sensor in the stator housing and the temperature of the motor. It shall be impossible to overload the motor. If the motor temperature is too high, the pump shall continue to operate at reduced power until conditions are normalized. External trips or overload devices for motor protection shall not be required.
- O. The operator shall be able to modify the setting of the control system to decide if the active leakage signal shall stop or not stop the pump.
- P. The pump shall incorporate a "pump-cleaning" function to remove debris from the impeller. The cleaning function shall be initiated when the integral control system senses an increase in current draw due to debris in the pump. The cleaning function shall consist of forced stopping, reversal and forward runs timed to allow for debris to fall from the impeller. After cleaning cycle is complete, the pump shall resume to automatic operation. If the pump impeller/volute does not clear itself after the programmed number of attempts, the control shall initiate and alarm to notify that the pump inlet / volute is blocked by large debris.
- Q. It shall be possible to access and adjust the pump system with a Human Machine Interface (HMI) ranging from basic monochrome displays to full-color touch screen units and smartphone or tablet. It shall enable the operator to view and control entire pump system and logged operational data like number of starts, avoided clogging instances, pump run-time, motor power, motor current, power factor, temperature, pump leakage etc.
- R. The shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a single row ball bearing to handle radial loads. The lower bearing shall be a double row angular contact ball bearing to handle the thrust and radial forces. Single row lower bearings are not acceptable. The minimum L10 bearing life shall be 50,000 hours at any usable portion of the pump performance field.
- S. The shaft shall be sealed by a tandem mechanical shaft seal system consisting of two seals, each having an independent spring system. The seals shall require neither maintenance nor adjustment and shall be capable of operating in either clockwise or counterclockwise direction of rotation without damage or loss of seal function.
- T. Where a seal cavity is present in the seal chamber, the area about the exterior of the lower mechanical seal in the cast iron housing shall have cast in an integral concentric spiral groove. This groove shall protect the seals by causing abrasive particulate entering the seal cavity to be forced out away from the seal due to centrifugal action.
- U. The Materials of construction shall be as follows:
 - 1. Pump housing: ASTM A-48, Class 35B
 - 2. Impeller and insert ring: A 532 ALLOY III A (25% chrome)

3. Stator housing: GD-AL SI 12 or ASTM B85A 413
 4. Shaft: ASTM A479 S43100-T.
 5. Shaft seal: Pump side: - Corrosion resistant Tungsten carbide WCCR
 6. Shaft seal Motor side: - Corrosion resistant Tungsten carbide WCCR
- V. All castings must be blasted before coating. All wet surfaces are to be coated with two-pack oxyrane ester Duasolid 50. The total layer thickness should be at least 120 microns. Zink dust primer shall not be used.
- W. Each completed and assembled pump/motor unit shall undergo the following factory tests at the manufacturer's plant prior to shipment:
1. Hydraulic performance test
 2. No-Leak seal integrity test
- X. In case the pump manufacturer cannot meet the specified performance and control functions with a pump model, the control panel shall be equipped with Variable Frequency Drives (VFD) with bypass starters and a PLC programmed to meet the above specified performance field, housed in an enclosure equipped with fans, louvers sized to ensure proper ASD operation. Five (5) spare louver filters and one (1) spare fan shall be provided per panel.

2.02 SUPPORT STAND AND SERVICE CART FOR PUMPS

- A. Each Pump shall have an integral 316 stainless steel suction service inlet for ease of inspection and visual verification of impeller clearance using a feeler gage. All service inlet devices shall be hydrostatically tested and integrally mounted to the pump volute for the pump working pressure. Pumps that rely on externally adjusted wear plates risk non-uniform adjustment, bearing damage, and which do not facilitate visual impeller inspection will not be acceptable. The use of pipe expansion joints to facilitate impeller gap adjustment shall not be acceptable. A ¼" pressure gauge connection shall be included standard on the suction service inlet.
- B. The suction flange shall be 8" and drilled according ANSI B16.1-89; tab.5.
- C. Each motor shall be assembled on a 316 stainless steel service cart with rollers and 2 rails. The cart shall provide a rigid support and enable the removal of the rotating assembly from volute without disturbing volute or piping and without the need for hoists or lifting apparatus during impeller maintenance. The service cart and the rails to pull out motor with the impeller to enable wear ring, impeller, and lower seal replacement without the need for hoists, cables, or pulley systems.
- D. It shall be possible to rotate the pump housing in steps of 45° to connect the discharge flange to the discharge pipe without the demand of additional elbows.

2.03 CABLE CONNECTION BOX

- A. The cable of the pump shall be connected to the wall mounted Power & monitoring cables in a cable connection box to ease the installation and disassembling of the pumps.
- B. The cable connection box shall be submersible NEMA 6P, 4X, or 3R

2.04 PUMPING SYSTEM CONTROL

- A. Each pump shall be equipped with 1 Pump control which shall include the following interfaces: 1 x USB, 1 x RS485 1 x Ethernet RJ 45 1 x Display interface, 4 x Digital outputs, 4 x Digital inputs, 1 x Analog input & output.
- B. It shall supply the following pump data:
1. Start and stop commands
 2. Power consumption information
 3. Operating speed
 4. Running status
 5. Fault information
- C. The housing shall be isolated according to protection class IP 20 applicable to operate in ambient temperature: -20 °C to +60°C.

- D. It shall be applicable for 24 V DC Power supply.
- E. The Pump controller shall allow the Owner to control the pump through I/O or Modbus RTU or TCP.
- F. It shall have emergency run relay functionality which secures that the pump will operate when the main controller fails.
- G. The unit shall be tested and approved in accordance with international standards CE, UL, RCM and CSA and be designed and manufactured by the pump supplier.

2.05 INTRINSICALLY SAFE BARRIERS

- A. Provide intrinsically safe barriers for all IO that enters the wet well.

2.06 UPS

- A. Provide a 24VDC power supply with battery backup capable of running all DC loads for a minimum of 1 hour.

PART 3 - EXECUTION

3.01 GENERAL

- A. Perform installation in accordance with Contract Documents and manufacturers specifications.

3.02 EXAMINATION

- A. A factory trained technician shall examine the work area prior to beginning work and check the following:
 - 1. The environment is safe to begin working in
 - 2. All surfaces are ready to receive work
 - 3. All tools are in the proper location and are in good condition
 - 4. Grounding of the system

3.03 FIELD QUALITY CONTROL

- A. The follow field tests shall be performed by a factory trained technician
 - 1. Point to point wiring verification
 - 2. Utility power verification
 - 3. Site acceptance testing
 - 4. System demonstration
- B. Point to Point I/O Verification
 - 1. After installation of the pumps and the control panel, a factory trained technician shall prepare the I/O checklist. The checklist shall include the following:
 - a. All inputs and outputs connected to the control panel
 - b. All alarms that can be generated by the control panel
 - 2. The technician shall follow a test procedure to test all I/O and alarms.
 - a. All digital inputs shall be tested from point of origin unless it is unsafe.
 - b. All digital outputs shall be tested by running a simulation test from the controller or by simulating the fault condition.
 - c. All analog inputs shall be tested from the point of origin where possible and by use of a signal generator otherwise.
 - d. All analog outputs shall be tested by running a simulation program or by forcing the output to a value.
 - 3. The technician shall follow a test procedure to ensure the system operation parameters are met.
- C. Configuration Verification
 - 1. The factory trained technician shall document the settings using a factory provided configuration checklist. Each parameter shall be verified prior to the beginning of testing and then again after testing is completed.

2. The configuration of the pump station manager as well as the IPS gateways shall be documented.
3. The pump station manager configuration shall be saved to a factory provided SD card after testing is completed.

3.04 FACTORY TRAINED SUPERVISION

- A. The contractor shall procure a factory trained technician to check over equipment prior to putting the equipment into operation.
- B. Point to point test of all wiring.
- C. Functional test of all equipment alarms and controls.

3.05 CERTIFICATION OF TESTING

- A. All tests shall be performed in the presence of a duly authorized representative of the Owner. If the presence is waived, certified results shall be provided by the Contractor to the Engineer.
- B. Written notice of all tests shall be given two weeks in advance.

3.06 TEST EQUIPMENT

- A. All test equipment shall be provided by the Contractor.

3.07 TRAINING

- A. Training shall be a minimum of four (4) hours and cover the complete Pumping System and related controls.
- B. Training shall be conducted by a manufacturer's representative with experience conducting training with the installed pump for wastewater applications.
- C. Trainer shall have a minimum of five (5) years of experience and a resume will be required prior to training activities.

END OF SECTION

THIS PAGE

IS

INTENTIONALLY

LEFT BLANK

**SECTION 004110
BID SCHEDULE**

Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.

BID ITEMS

Item No.	Item and Unit Price		Engineer's Estimate of Quantity	Computed Total
BID ITEMS				
1	Mobilization and Project Closeout at the Lump Sum Price of	LS	1	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
2	Field Office at the per Month Price of	MO	12	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
3	Silt Fence at the per Linear Foot Price of	LF	400	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
4	Straw Waddles / Silt Sock at the per Linear Foot Price of	LF	400	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
5	Record Drawings at the Lump Sum Allowance of	LS	1	
	Five Thousand _____ Dollars			\$ 5,000.00
	and _____ zero _____ Cents (\$5,000.00)			

BID ITEMS

Item No.	Item and Unit Price		Engineer's Estimate of Quantity	Computed Total
6	Test Pits at the per Cubic Yard Price of	CY	50	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
7	Rock Excavation at the per Cubic Yard Price of	CY	50	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
8	Selective Demolition at the Lump Sum Price of	LS	1	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
9	Gravity Thickener and Appurtenances at the Lump Sum Price of	LS	1	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
10	Electrical Modifications at the Lump Sum Price of	LS	1	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			
11	Yard Piping Modifications at the Lump Sum Price of	LS	1	
	_____ Dollars			\$ _____
	and _____ Cents (\$ _____)			

FUSS & O'NEILL, INC.
1998386.P91

ADDENDUM NO. 1
TOWN OF PUTNAM
SLUDGE HANDLING IMPROVEMENTS

BID ITEMS

Item No.	Item and Unit Price	Engineer's Estimate of Quantity	Computed Total
12	SCADA & Controls Allowance at the Lump Sum Price of	LS	1
	<u>Twenty Thousand</u> Dollars		\$ <u>20,000.00</u>
	and <u>zero</u> Cents (\$20,000.00)		

TOTAL BASE BID \$ _____

BID ITEMS ALTERNATE NO. 1

Item No.	Item and Unit Price	Engineer's Estimate of Quantity	Computed Total
A.1.1	Replace Existing Moyno Pump at the Lump Sum Price of	LS 1	
	_____ Dollars		\$ _____
	and _____ Cents (\$ _____)		

TOTAL BID ALTERNATE NO. 1 \$ _____

FUSS & O'NEILL, INC.
1998386.P91

ADDENDUM NO. 1
TOWN OF PUTNAM
SLUDGE HANDLING IMPROVEMENTS

TOTAL BASE BID \$ _____

TOTAL BID ALTERNATE NO. 1 \$ _____

**TOTAL BID BASE BID PLUS ALTERNATE
NO.1** \$ _____

END OF BID SCHEDULE

THIS PAGE

IS

INTENTIONALLY

LEFT BLANK

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1— Defined Terms.....	1
Article 2— Bidding Documents	1
Article 3— Qualifications of Bidders.....	2
Article 4— Pre-Bid Conference	2
Article 5— Site and Other Areas; Existing Site Conditions; Examination of Site; Owner’s Safety Program; Other Work at the Site.....	2
Article 6— Bidder’s Representations and Certifications.....	3
Article 7— Interpretations and Addenda	4
Article 8— Bid Security	4
Article 9— Contract Times	5
Article 10— Substitute and “Or Equal” Items.....	5
Article 11— Subcontractors, Suppliers, and Others	5
Article 12— Preparation of Bid	6
Article 13— Basis of Bid	7
Article 14— Submittal of Bid.....	7
Article 15— Modification and Withdrawal of Bid.....	7
Article 16— Opening of Bids	8
Article 17— Bids to Remain Subject to Acceptance	8
Article 18— Evaluation of Bids and Award of Contract	8
Article 19— Bonds and Insurance.....	9
Article 20— Signing of Agreement.....	9
Article 21— Sales and Use Taxes	9

PAGE

IS

INTENTIONALLY

LEFT BLANK

ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 *Electronic Documents*
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version [2025.001.20693] or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.
- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information

that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
- A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.
- 3.02 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Proposals will not be accepted from Bidders who do not attend the conference. It is each Bidder's responsibility to sign in at the pre-bid conference to verify its participation. Bidders must sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the pre-bid conference and are eligible to submit a Bid for this Project will be issued in an Addendum.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 5.01 *Site and Other Areas*
- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.
- 5.02 *Existing Site Conditions*
- A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
 2. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- 5.03 *Site Visit and Testing by Bidders*
- A. A Site visit is scheduled following the pre-bid conference. Maps to the Site will be available at the pre-Bid conference.
 - B. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner or Engineer contact for visiting the Site.
 - C. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- 5.04 *Owner's Safety Program*
- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.
- 5.05 *Other Work at the Site*
- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and

certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:
 - A. **Albert Wait, Project Engineer**
Fuss &O'Neill, Inc.
1 Financial Plaza, 15th Floor
Hartford, CT 06103
albert.wait@fando.com
(860) 783-4666
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **Five (5)** percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the

Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND “OR EQUAL” ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or “or-equal” items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or “or-equal” item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable

to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such

certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 *Unit Price*

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

13.02 *Allowances*

- A. For cash allowances the Bid price must include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.
- 14.02 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted

prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 18.05 *Evaluation of Bids*
 - A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After

determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

- C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.07 If the Contract is to be awarded, Owner will consider the funding available, and will award the Contract, to the successful bidder of one of the following combinations of Base Bid and Alternates.
- A. BASE BID or.
 - B. BASE BID plus ALTERNATE 1
- 18.08 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 21—SALES AND USE TAXES

- 21.01 Owner is exempt from **Connecticut** state sales and use taxes on materials and equipment to be incorporated in the Work. (Exemption No. **06-6002071**). Said taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

**SECTION 01205
PAYMENT ITEMS**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes measurement and payment paragraphs for
 - 1. Base Bid payment items (lump sum and unit price).
- B. Related Sections of the Specifications include the following:
 - 1. Division 1 through 50 Sections for detailed procedural, material, and installation requirements associated with the Work of each payment item.
 - 2. Work not specified in the bid items below should be considered incidental to the work and not measured separately for payment.
- C. Related Requirements in the Specifications:
 - 1. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.03 DEFINITIONS

- A. Payment Items: The Owner's distribution of the Contract Price through listed work items.
 - 1. Each item is specified to include a defined scope of services. However, not all materials, labor, equipment, or services of a payment item are guaranteed to be listed or specified.
 - 2. Include costs associated with items of work required to complete the defined scope of services within the appropriately specified payment item.
 - 3. Payment items include all necessary material, plus cost for delivery, installation, applicable taxes, overhead, and profit.
- B. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Price by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.
- C. Payment for Work associated with individual Work Segments will not be released until such Work Segment is Substantially Complete, including site restoration and site improvements of that Work Segment and has been approved as such by the Site Manager.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 PARTICIPATING PAYMENT ITEMS (BASE BID)

- A. Item No. 1 – Mobilization and Project Closeout
 - 1. Will not be measured for payment.
 - 2. This item will be paid for at the Contract lump sum price per "Mobilization and Project Closeout (Base Bid)" including coordination, materials, equipment, tools, and labor incidental to the Work.
 - 1. Payment will be earned in proportion to "double" the amount of work completed as determined by the Engineer, thus paying up to 90% of the value of the complete item value when 45% of the contract value is complete. The remaining 10% value will be paid as part of the final payment.

- B. Item No. 2 – Field Office
 - 1. Measured by the month. Measurement shall not begin until the facilities, equipment, supplies, and services have been provided to the satisfaction of the Engineer.
 - 2. Paid for at the Contract unit price per month for “Field Office” including facilities with parking area, equipment, supplies, janitorial services, electricity, telephone, internet and other services incidental to the Work.
- C. Item No. 3 – Silt Fence
 - 1. Measured by the linear foot along top of silt fence actually installed and accepted.
 - 2. Paid for by the linear foot installed and accepted including materials, equipment, tools, and labor incidental to the Work, and the following:
 - 1. Maintenance and replacement of silt fence as directed;
 - 2. Removing and disposing of silt fence and accumulated sediment; and
 - 3. Restoration and grading of the areas to the satisfaction of the Engineer.
- D. Item No. 4 – Straw Waddle / Silt Sock
 - 1. Measured by the linear foot along top of silt sock actually installed and accepted.
 - 2. Paid for by the linear foot of “Straw Waddle / Silt Socks” that are installed and accepted including materials, equipment, tools, and labor incidental to the Work, and the following:
 - 1. Maintenance and replacement of haybales as directed;
 - 2. Removing and disposing of haybale material and accumulated sediment; and
 - 3. Restoration and grading of the areas to the satisfaction of the Engineer.
- E. Item No. 5 – Record Drawings
 - 1. Will not be measured for payment.
 - 2. This item will be paid for at the Contract fixed lump sum price per “Record Drawings” including coordination, materials, equipment, tools, and labor incidental to the Work.
 - 1. The Lump Sum shall be paid for at the contract item price that is shown in the bid schedule.
 - 2. Payment will be made upon the satisfactory completion and acceptance of the Record Drawings.
- F. Item No. 6 – Test Pits
 - 1. Measured by the cubic yard of test pit excavated and backfilled.
 - 1. The test pit excavation shall be no larger than 3ft by 3ft.
 - 2. Only expand the limits of the test pit if required for proper OSHA trench stabilization or as directed by the Engineer.
 - 2. Paid for at the Contract Unit price per cubic yard of “Test Pits” for excavating and backfilling test pits with suitable material, repaving and restoring area to existing conditions or better, and removing and disposing of unsuitable material, as directed by the Engineer, including materials, equipment, tools and labor incidental to the Work.
- G. Item No. 7 – Rock Excavation
 - 1. Measured by the cubic yard of rock excavated, measured in original position, but not to exceed the following:
 - 1. From the top of the exposed rock prior to blasting/removal operations.
 - 2. 24 inches outside of precast concrete structures, and outside of concrete forms other than at footings and 8 inches below concrete bases.
 - 3. 6 inches minimum beneath bottom of concrete slabs on grade.
 - 4. 6 inches beneath pipe in trenches, inner pipe diameter plus two feet on either side for trench width, and 3 feet horizontally at the ends of building connections and stubs as indicated on the Drawings.
 - 5. Incidental concrete structures that are to be removed will be measured as rock by measuring the actual side walls and tops and bottoms of structures. The internal hollow space will not be measured for payment.

2. Paid for at the Contract Unit price per cubic yard excavated as detailed that is measured and accepted for removing and disposing of rock, backfilling with satisfactory soil material, as directed by the Engineer, including materials, equipment, tools and labor incidental to the Work.
 1. Rock excavation shall also include the work required to provide and place suitable backfill material in the amount equal to replace the rock which is excavated.
- H. Item No. 8 – Selective Demolition
 1. This work will not be measured for payment.
 2. This item will be paid for at the Contract lump sum price per “Selective Demolition” as shown on the plans and including but not limited to the removal and proper disposal of existing pavement, odor control equipment system and piping, existing electrical conduit, existing sludge draw off piping, existing sanitary manhole, 12-inch CI sanitary sewer piping, 6-inch CI sludge thickener bypass piping, sludge, 6-inch water main, a light pole, electrical & controls/SCADA conduit and wiring, hydrant assembly, and 4-inch water main for relocation.
- I. Item No. 9 - Gravity Thickener and Appurtenances
 1. This work will not be measured for payment.
 1. Schedule of values will be prepared by the Contractor and approved by the Engineer.
 2. Paid by the Contract lump sum for “Gravity Thickener and Appurtenances” that includes the site work, excavation, backfill (except for rock), structural fill, stone bedding, shoring, cast-in-place concrete tank, mechanism, grouting, FRP Cover, Moyno Sludge Pump, valves, piping, including materials, equipment, tools, and labor incidental to the Work. Payment will be made in accordance with the approved Schedule of Values. Work. Payment will be made in accordance with the approved schedule of Values.
- J. Item No. 10 – Electrical Modifications
 1. This work will not be measured for payment.
 1. Schedule of values will be prepared by the Contractor and approved by the Engineer.
 2. Paid by the Contract lump sum for “Electrical Modifications” that includes the modification of the following: lighting conduit and wiring back to the Primary Clarifier, conduit and conductors back to the source for the existing thickener and provide temporary power, remove conduit and wiring for odor control system back to the building, remove lighting circuit conduit and wiring as part of relocation. Provide new conduit and wiring as shown on Contract Drawings for new Gravity Thickener and Existing Gravity Thickener, lighting, new receptacles, New motor for new Gravity Thickener, junction boxes for the installation, handholes, new seal offs for conduits, and connections to the existing Motor Control Center and cabinets in the Sludge Handling Building cabinets.
- K. Item No. 11 - Yard Piping Modifications
 1. This work will not be measured for payment.
 1. Schedule of values will be prepared by the Contractor and approved by the Engineer.
 2. Paid by the Contract lump sum for “Yard Piping Modifications” that include relocation of the existing water main, installation of new sludge bypass piping, installation of sanitary manhole for feeding the gravity thickeners, installation of new sludge draw off piping for both the existing and the new gravity thickener, valves for the piping for sludge drawoff and for bypass piping, and the installation of a new hydrant as shown on the Contract Drawings.

L. Item No. 12 – SCADA Modifications

1. This work will not be measured for payment.
 1. Schedule of values will be prepared by the Contractor and approved by the Engineer.
2. Paid by the Contract lump sum for “SCADA Allowance” that includes the integration of the gravity thickener, integration of the Moyno pump, and SCADA modification as specified in the Specifications.

3.02 ALTERNATE PAYMENT ITEMS

A. Bid Alternate No. 1

1. Item No. A.1.1– Replace Existing Moyno Pump
 1. This work will not be measured for payment.
 - 1) Schedule of values will be prepared by the Contractor and approved by the Engineer.
 2. Paid by the Contractor lump sum for “Replace Existing Moyno Pump”: that includes removal and proper disposal of existing Moyno Pump, removal of existing concrete pad, install new concrete pad, furnish and install a new Moyno Pump, maintain existing controls, wiring fitting and valves associated with the existing pump, maintenance of wastewater flow; including materials, equipment, tools, and labor incidental to the Work. Payment will be made in accordance with the approved schedule of Values.
 - 1) Schedule of values will be prepared by the Contractor and approved by the Engineer.

END OF SECTION

File: J:\DWG\9898386\9898386.dwg User: Albert.Walt
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3: STE/CTB: FO STB
MS VIEW: LAYER STATE: 1 10/09/2026 SHEETING TO ENCOMPASS NEW GRAVITY THICKENER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1	10/09/2026	SHEETING TO ENCOMPASS NEW GRAVITY THICKENER	AW	LM



SEAL

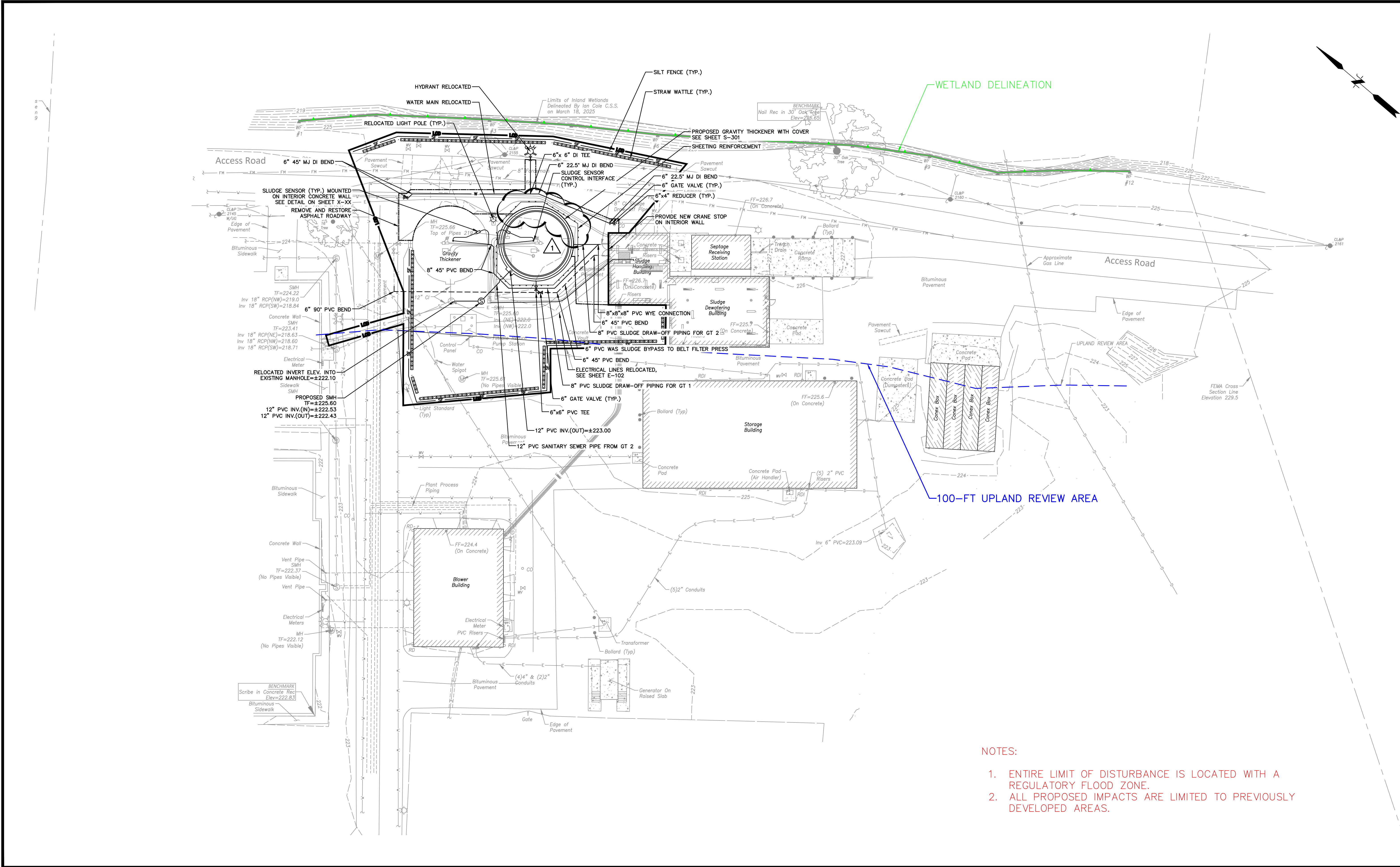
SEAL

SCALE:
HORIZ.: 1" = 20'
VERT.: -
DATUM:
HORIZ.: -
VERT.: -
GRAPHIC SCALE
0 10' 20' 40'

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

TOWN OF PUTNAM
PROPOSED SITE PLAN
SLUDGE HANDLING IMPROVEMENTS
CONNECTICUT

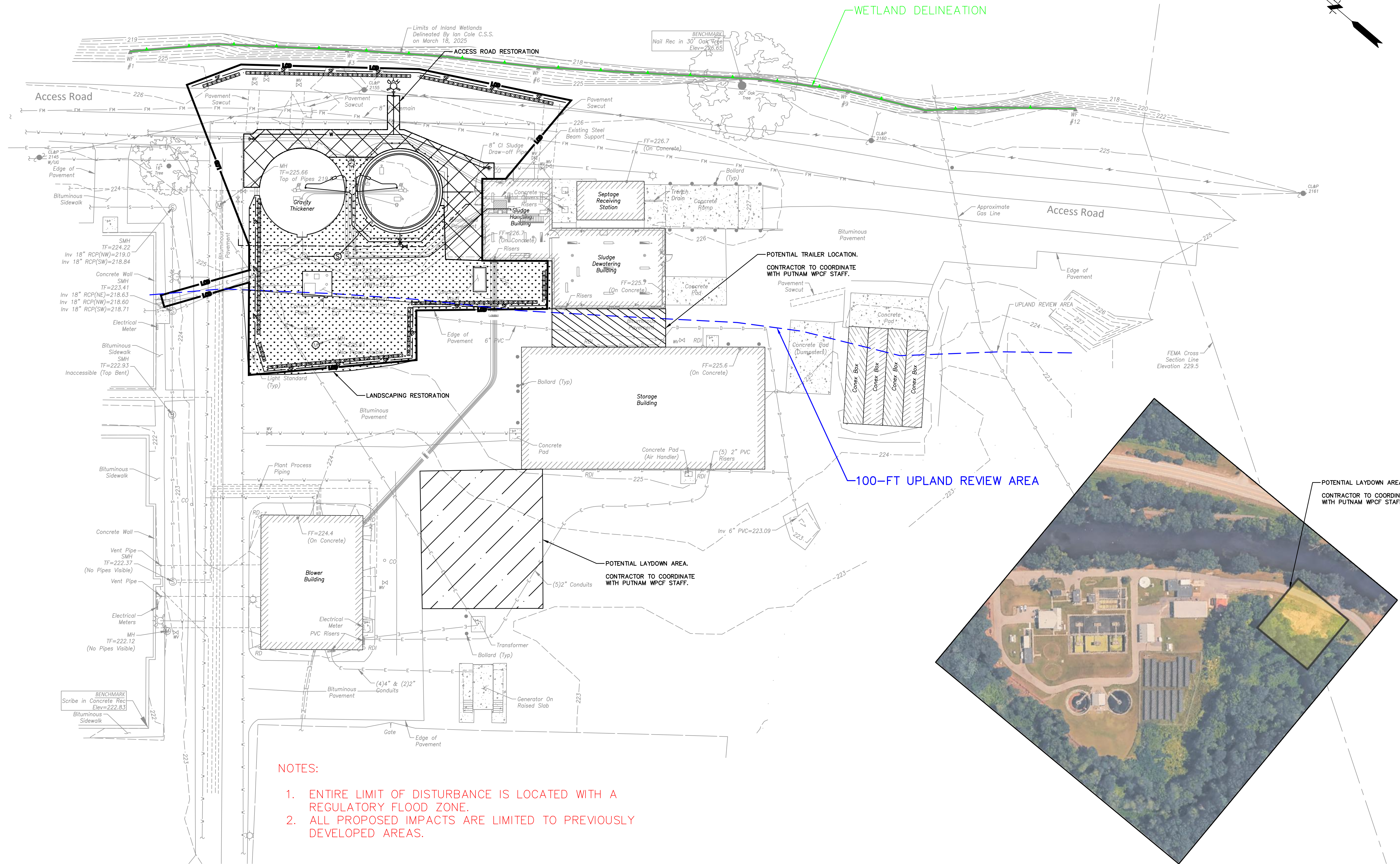
PROJ. No.: 1998386.P91
DATE: SEPTEMBER 2026
CS-103



- NOTES:
- ENTIRE LIMIT OF DISTURBANCE IS LOCATED WITH A REGULATORY FLOOD ZONE.
 - ALL PROPOSED IMPACTS ARE LIMITED TO PREVIOUSLY DEVELOPED AREAS.

File: J:\DWG\198\98386\198386.dwg Layout: CS-104 Plotted: 2026-10-21 3:18 PM Saved: 2026-10-21 3:14 PM User: Albert.Walt
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3: STE/CTB: FO STB
MS VIEW: LAYER STATE:

1



- NOTES:
1. ENTIRE LIMIT OF DISTURBANCE IS LOCATED WITH A REGULATORY FLOOD ZONE.
 2. ALL PROPOSED IMPACTS ARE LIMITED TO PREVIOUSLY DEVELOPED AREAS.

AERIAL SITE VIEW
NTS

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1	10/09/2026	ADDITIONAL RESTORATION SITE PLAN	AW	ET



SEAL

SEAL

SCALE:
HORIZ.: 1" = 20'
VERT.: -
DATUM:
HORIZ.: -
VERT.: -
GRAPHIC SCALE
0 10' 20' 40'

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

TOWN OF PUTNAM
PROPOSED RESTORATION SITE PLAN
SLUDGE HANDLING IMPROVEMENTS
CONNECTICUT

PROJ. No.: 1998386.P91
DATE: SEPTEMBER 2026
CS-104

File: J:\DWG\9898386P01\MEP\Process\1998386P01_SLDGHANDBLDG.dwg Layout: MSH-101 Plotted: 2026-10-15 3:15 PM Saved: 2026-10-15 3:07 PM User: Albert Wait
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION) PC3: STB/CTB: FO STB
MS VIEW: LAYER STATE:

####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
1	10/14/2026	ADDENDUM 1 - SCALE CLARIFICATION		AW	ET
No.	DATE	DESCRIPTION		DESIGNER	REVIEWER



SEAL

SEAL

SEAL

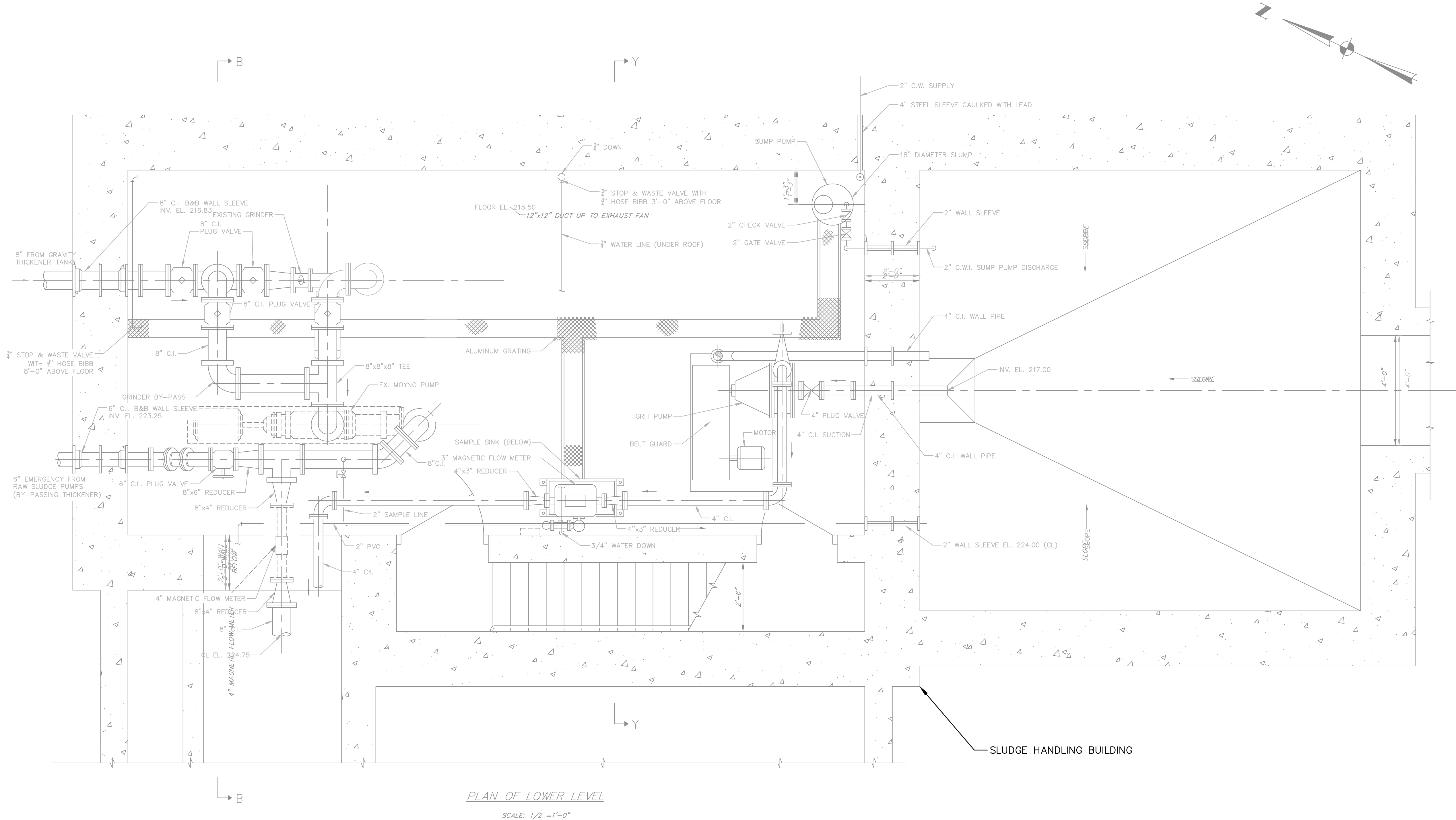
SEAL

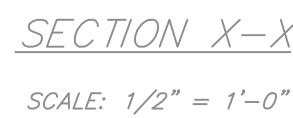
SCALE:
HORZ.: 1/2" = 1' - 0"
VERT.:
NATURAL
HORZ.:
VERT.:
0 1' 2' 4'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

TOWN OF PUTNAM
SLUDGE HANDLING BUILDING
EXISTING SITE PLAN
SLUDGE HANDLING IMPROVEMENTS
PUTNAM
CONNECTICUT

PROJ. No.: 1998386.C91
DATE: SEPTEMBER 2026
MSH-101





1 MOYN
1" = 20'

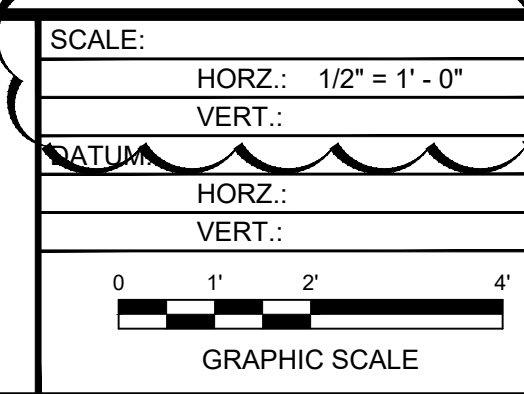


② $\frac{\text{MOYN}}{1'' = 20'}$

####	####
####	####
####	####
####	####
####	####
####	####
####	####
AW	ET
AW	ET
DESIGNER	REVIEWER



SEAL



**FUSS &
O'NEILL**

ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

PUTNAM

TOWN OF PUTNAM
SLUDGE HANDLING BUILDING
MOYNO PUMP PROFILE VIEWS
SLUDGE HANDLING IMPROVEMENTS

CONNECTICUT

PROJ. No.: 1998386.C91
DATE: SEPTEMBER 2026

MSH-103

THE WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED IN ACCORDANCE WITH THE STRUCTURAL REQUIREMENTS FOR THE 2022 CONNECTICUT STATE BUILDING CODE, EXCEPT AS AMENDED, ALTERED OR DELETED BY THE ADDITIONAL PROVISIONS IN THE CONNECTICUT SUPPLEMENT.

LATERAL EARTH PRESSURES:

	ACTIVE =	35 PCF
	AT-REST =	55 PCF

ROOF SNOW:	GROUND SNOW LOAD,	$P_g = 40$ PSF
	FLAT—ROOF SNOW LOAD,	$P_f = 27$ PSF
	SNOW EXPOSURE FACTOR,	$C_e = 0.9$
SNOW LOAD IMPORTANCE FACTOR,	$I_s = 1.0$	
	THERMAL FACTOR,	$C_t = 1.2$
MINIMUM ROOF DESIGN SNOW LOAD	$= 30$ PSF	

WIND: BASIC WIND SPEED (3-SECOND GUST), $V = 129$ MPH
BUILDING CATEGORY = II
WIND IMPORTANCE FACTOR, $I_w = 1.00$
WIND EXPOSURE CATEGORY = C
INTERNAL PRESSURE COEFFICIENT, $GC_{pi} = \pm$

SEISMIC:	SEISMIC USE GROUP	= III
	SEISMIC IMPORTANCE FACTOR, I_e	= 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS,	S_s	= 0.184
	S_1	= 0.055
SITE CLASS SPECTRAL RESPONSE COEFFICIENTS,	S_{ps}	= 0.196
	S_{pi}	= 0.088
	SEISMIC DESIGN CATEGORY	= B

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
3. REBARS SHALL HAVE A MINIMUM CONCRETE COVER AS FOLLOWS:
CONCRETE DEPOSITED AGAINST GROUND.....3 IN.
CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
FOR BARS #5 AND LARGER.....2 IN.
FOR BARS SMALLER THAN #5.....1½ IN.
CONCRETE NOT EXPOSED TO THE WEATHER OR THE GROUND:
SLABS AND WALLS.....¾ IN.
4. ALL REINFORCING BARS SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 48 BAR DIAMETERS AT ALL SPLICES, CORNERS, AND INTERSECTIONS UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE SECURELY TIED IN ITS PROPOSED LOCATION PRIOR TO AND DURING PLACEMENT OF CONCRETE USING APPROVED CHAIRS, SPACERS AND THE WIRE AS REQUIRED. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD WITHOUT THE APPROVAL OF THE ENGINEER.
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185, WITH A MINIMUM YIELD STRENGTH OF 75 KSI. LAP EDGES AND ENDS OF FABRIC SHEETS A MINIMUM OF ONE MESH SPACING PLUS 2 INCHES, AND WIRE TOGETHER. ALTERNATIVELY, SLABS-ON-GRADE MAY BE REINFORCED WITH FIBER REINFORCEMENT, SUCH AS FIBERMESH, APPLIED AT A DOSAGE RATE OF NO LESS THAN 1.5 LBS/CU YD.
7. CONCRETE PROTECTION FOR REINFORCEMENT SHALL IN ALL CASES BE AT LEAST EQUAL TO THE DIAMETER OF THE BAR EXCEPT FOR CONCRETE SLABS.
8. CONCRETE FOR WALLS, PIERS, AND FOOTINGS SHALL BE NORMAL WEIGHT CONCRETE AND SHALL DEVELOP A COMPRESSIVE STRENGTH OF 4,500 PSI IN 28 DAYS, UNLESS OTHERWISE NOTED. CONCRETE SHALL HAVE A MAXIMUM AGGREGATE SIZE OF ¾ INCH, A MINIMUM CEMENT CONTENT OF 560 LBS/CU YD., AND A MAXIMUM SLUMP OF 4 INCHES. CONCRETE MIX SHALL INCLUDE A CRYSTALLINE WATERPROOFING ADMIXTURE TO CREATE INTERNAL WATERPROOFING MEMBRANE.
9. ALL FOOTINGS AND PIERS SHALL BE CENTERED BELOW THE MEMBERS WHICH THEY SUPPORT UNLESS SHOWN OTHERWISE.
10. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A ¾ INCH CHAMFER UNLESS NOTED OTHERWISE.
11. ALL CONCRETE EXPOSED TO THE WEATHER SHALL BE AIR-ENTRAINED.
12. SIZES AND LOCATIONS OF ALL REQUIRED EMBEDDED ITEMS FOR ALL TRADES SUCH AS ANCHOR BOLTS, PIPING SLEEVES, HOLDOWN ANCHORS, ETC., SHALL BE COORDINATED BY THE CONTRACTOR WITH OTHER TRADES.
13. CONSTRUCTION JOINTS SHALL BE DETAILED AND LOCATED ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER. UNLESS SHOWN OTHERWISE, CONSTRUCTION JOINTS ARE TO BE KEVED AND PROVIDE FOR CONTINUITY OF REINFORCING STEEL. CONSTRUCTION JOINTS ARE TO BE LOCATED WHERE CONSTRUCTION OPERATIONS ARE SUSPENDED FOR 30 MINUTES OR MORE.
14. CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED AT THE CONVENIENCE OF THE CONTRACTOR MID-WAY BETWEEN BUTTRESSES, BUT NOT LESS THAN 4'-0" FROM ANY OPENING, EXCEPT WHERE SPECIFICALLY SHOWN ON PLAN OR APPROVED BY THE ENGINEER. IN NO EVENT SHALL A STRAIGHT RUN LONGER THAN 80'-0" BE PLACED WITHOUT A JOINT.
15. NO HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED IN WALLS, OTHER THAN SHOWN IN DETAILS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LIMITING POURS TO MINIMIZE SHRINKAGE CRACKING. IN GENERAL, WALLS SHALL NOT BE POURED IN CONTINUOUS LENGTHS EXCEEDING 30 FEET WITHOUT CONTRACTION (CONTROL) JOINTS. THE LOCATION AND CONFIGURATION OF JOINTS EXPOSED TO VIEW SHALL BE COORDINATED WITH THE ARCHITECT. CONTRACTION JOINTS IN SLAB-ON-GRADE SHOULD NOT EXCEED 20 FEET IN ANY DIRECTION. TYPICAL CONTRACTION JOINT PATTERNS ARE INDICATED ON FOUNDATION PLANS.
17. IF SHALLOW FOUNDATION WALLS, EXTENDED PLATFORMS, ETC. ARE POURED SEPARATELY FROM THE MAIN FOUNDATION WALLS, PROVIDE 2½ INCH DEEP KEY (FULL AREA) AND DOWEL ALL REINFORCEMENT.
18. MASONRY DOWELS: PROVIDE, PLACE, AND SPACE TO MATCH MASONRY REINFORCING.

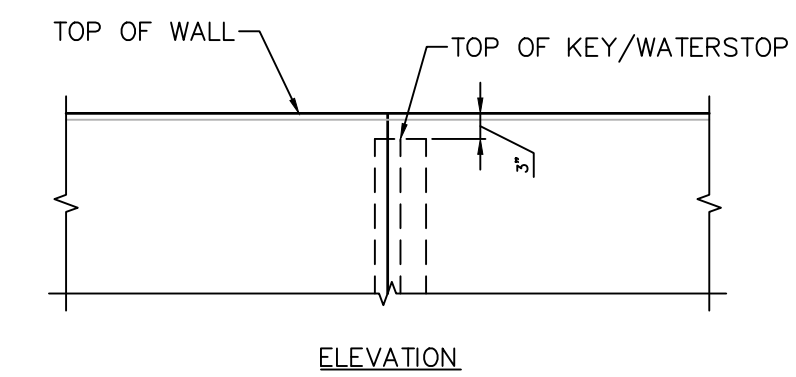
6" RIBBED PVC
WATERSTOP w/
CENTER-BULB (TYP.)

HORIZ. REINF.

CONC. WALL

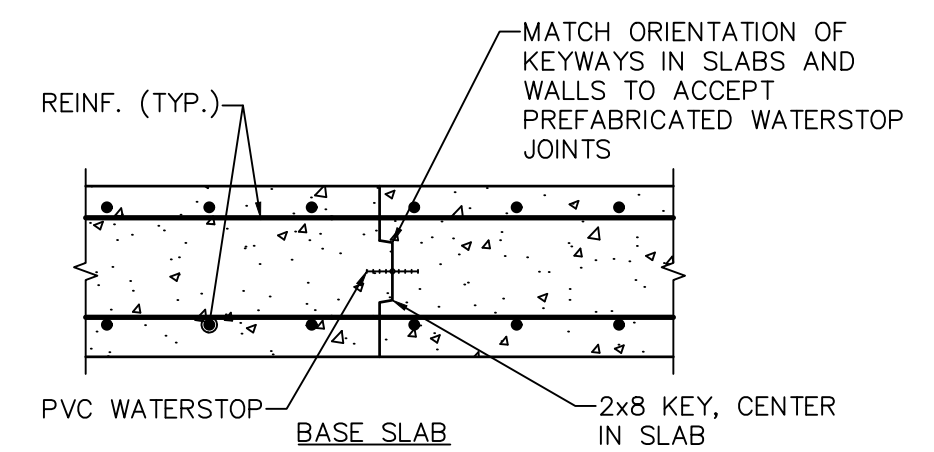
2x6 KEYWAY
CENTERED IN WALL

GRAVITY THICKENER WALL – PLAN

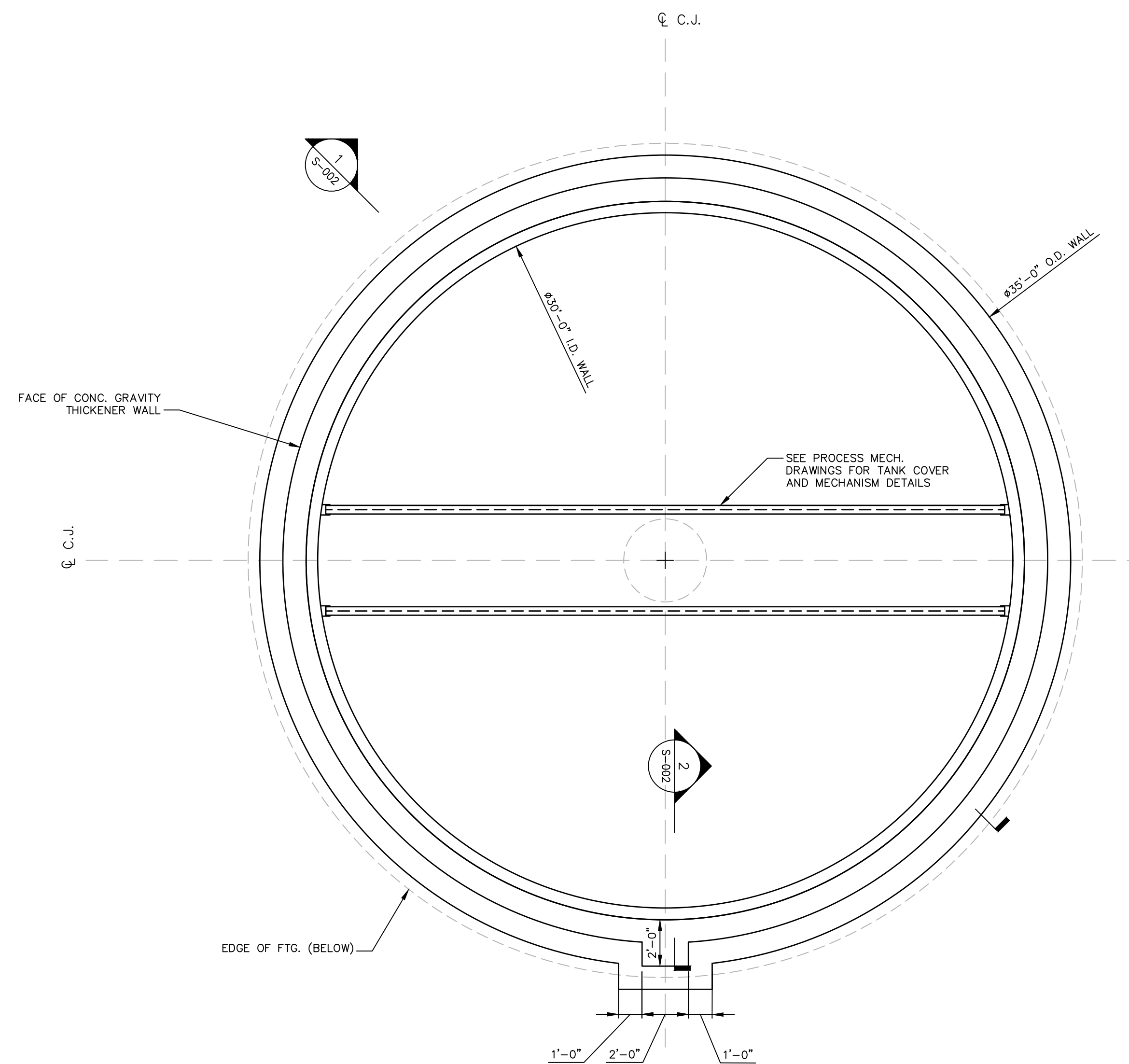


NOTE: RAILING NOT SHOWN

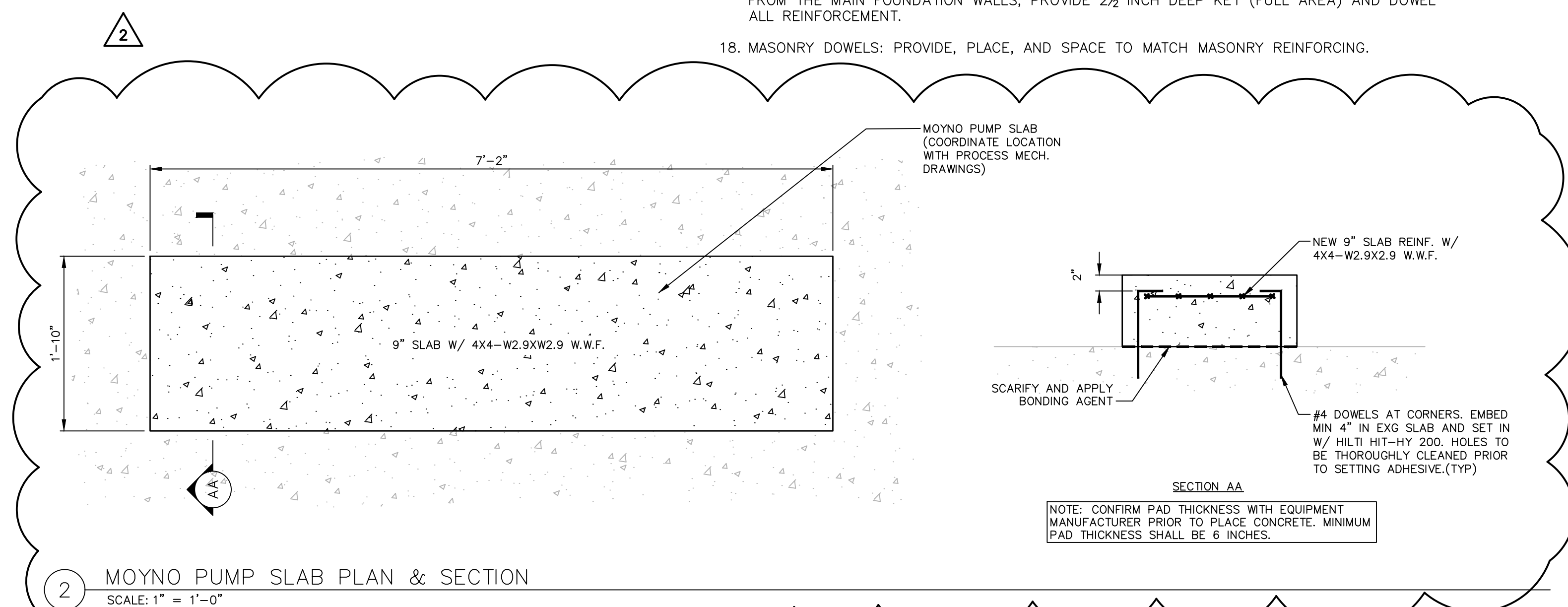
SCALE: N.T.S.



SCALE: N.T.S.



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



2	10/16/2026	MOYNO PUMP SLAB PLAN & SECTION	SK	JL
1	10/14/2026	SCALE CLARIFICATION	AW	ET
No.	DATE	DESCRIPTION	DESIGNER	REVIEWER



SEAL

SCALE:	
	HORZ.: AS NOTED
	VERT.:
DATUM:	
	HORZ.: -
	VERT.: -

**FUSS &
O'NEILL**
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

TOWN OF PUTNAM

STRUCTURAL NOTES AND DETAILS

SLUDGE HANDLING IMPROVEMENTS

PUTNAM

CONNECTICUT

PROJ. No.: 199898386.P91
DATE: SEPTEMBER 2026

S-001