

ADDENDUM NO. 2

**South River Fish Passage and
Veterans Memorial Park Improvements Project
Marshfield, MA**

September 11, 2024

PREPARED BY:

Fuss and O'Neill, Inc.
317 Iron Horse Way, Suite 204
Providence, RI 02908

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 2

Prospective Bidders and all concerned are hereby notified of the following amendments and interpretations to the Contract Documents of the SOUTH RIVER FISH PASSAGE AND VETERANS MEMORIAL PARK IMPROVEMENTS PROJECT, MARSHFIELD, MA dated September 11, 2024. These amendments and interpretations shall be incorporated in and shall become an integral part of the Contract Documents. The addendum number (No. 2) and date (September 11, 2024) of this addendum must be entered into the space provided on the Bid Form.

GENERAL INFORMATION

1. Bidders are advised of the following requirements/conditions applying to the work, which are to be incorporated into prepared bids.

SECTION 00 01 10 – TABLE OF CONTENTS

2. Delete *Section 00 01 10 – Table of Contents* in its entirety and replace with the revised Table of Contents provided in Attachment A. The revised Table of Contents reflects the addition of Section 22 14 29 – Supplemental Water Supply Pump.

SECTION 01 22 19 – PAYMENT ITEMS

3. Delete Paragraph 3.1.1.1.e of Section 01 22 19 – Payment Items in its entirety and replace with the following:
 - “e. Includes, but is not limited to: Preliminary and final surveys of lagoon and river channel dredge areas; dredging, testing, transportation, and stockpiling of dredge material within temporary staging area as indicated on the Contract Drawings and/or as directed by the Engineer. This item includes all dredging completed within the lagoon and river channel located within the project limits. Also includes transportation to and/or reused in an onsite location identified within project limits or designated area identified within the Town of Marshfield. Includes all labor, materials, equipment, survey and positioning, tools, and all other incidentals required to complete the work.”

SECTION 22 14 29 – SUPPLEMENTAL WATER SUPPLY PUMP

4. Insert *Section 22 14 29 – Supplemental Water Supply Pump* specification provided in Attachment B.

CONSTRUCTION DRAWING SET

5. Delete Sheets CS-105, CD-502, CD-503, and CD-508 of the Contract Drawings and replace with respective revised sheets provided in Attachment C.
 - A. Sheet CS-105 and CD-502 depict a conversion of the 8” blowoff pipe to ductile iron and a revised lagoon outlet control structure, Sheet CD-503 depicts the addition of a submersible pump detail, and Sheet CD-508 depicts the addition of anticipated pump on/off elevations for the proposed level transmitters (note that these elevations will be reviewed in the field during construction and may be adjusted by the Town).

QUESTIONS AND RESPONSES

Responses to respective questions received after distribution of Addendum No. 1 are listed below.

6. Question #1 – There are (2) submersible pumps called out for to be installed on the (2) cistern units but I don't see any specs called out on what type of pumps should be installed – may you provide a submersible pump unit equivalent or let me know if it's in the project solicitation.

Please refer to Items 4 and 5 above. Note that there is only one pump called for on Sheets CS-105 and CD-508. Note also that a revision on Sheet CS-105 indicates that the pipe connecting the cisterns is 6" diameter and at EL 3.0.

7. Question #2 – The specification for River Channel Dredging states material would be either re-used on-site or transported off-site.

Should separate bid line items for this unit be included as it is cheaper for the material to be reused on-site vs. paying for the material to be transported and disposed of at a licensed facility which there are only a few in the state.

Dredged material shall be re-used on-site where such material meets respective specification requirements for the nature-like fishway - as stone/cobble channel benthic substrate, sediment infilling voids of boulder weirs and channel/riverbank stone armor, and as protective/native benthic substrate over the lagoon's clay liner.

Dredge material unable to be reused on-site is to be transported off-site to a Town-owned parcel located at 2160 Ocean Street (Parcel G08-05-02, depicted on the figure below). Testing or disposal at an out-of-town licensed disposal facility will not be required.



Dredge Material Off-Site Stockpile Area

Dredge material transported to this location shall be covered with 10 mil. reinforced poly sheeting and fully enclosed around its perimeter by biodegradable fiber roll (see fiber roll detail on Sheet CD-503) at the end of each working day and at the completion of the project.

All dredge material that cannot be used on-site as outlined above shall be thoroughly and properly decanted (i.e., with appropriate environmental controls to prevent sedimentation onto adjacent areas) prior to being transported to the identified off-site location.

The Contractor shall maximize the duration that dredged material is stockpiled/ maintained at the project site to allow the Town of Marshfield to complete preparatory work (survey, clearing, etc.) at the 2160 Ocean Street site before receipt of dredge material. Dredge material stockpiled at the project site shall be covered with 10 mil. reinforced poly sheeting and fully enclosed around its perimeter by biodegradable fiber roll (see fiber roll detail on Sheet CD-503) at the end of each working day.

For purposes of bidding, it shall be assumed that the dredge material can be managed/handled under three general categories for reuse:

- 1) Highly Organic Sediment (anticipated to be located within the upper horizons of the river channel upstream of the dam and within the lagoon)*
- 2) Streambed Sand/Gravel Cobble Material (anticipated to be located downstream of the dam), and*
- 3) Mineral Sediment (non-organic sediment at lower horizons within the river channel and lagoon, which is expected to include silt/sand/gravel).*

The Contractor shall segregate and manage materials per the above designations and decant materials on-site prior to reuse or being transported to the indicated off-site location.

It is anticipated that materials falling into Categories 1) and 2) above will be substantially or entirely reused within the project site, such that existing native benthic material in the river and lagoon will be returned to respective areas to provide native benthic substrates. Excess sediment will be transported to the indicated off-site location.

It is anticipated that excess mineral sediment (Category 3) will be transported to the indicated off-site location.

ISSUED BY: _____ **Date: 9/11/24**
Engineer's Signature

END OF ADDENDUM NO. 2

Attachment A

Updated Table of Contents

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Construction Drawing Set

Exhibits

- A Town of Marshfield/Legacy Team LLC Easement
- B Permit Authorizations and Conditions
- C Geotechnical Data
- D Sediment Test Data
- E Buy America Requirements
- F National Fish and Wildlife Foundation Grant Agreement

Attachment B

Division 22 Specification

SECTION 22 14 29 - SUPPLEMENTAL WATER SUPPLY PUMP

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes submersible pumps, piping and valves.

1.3 SUBMITTALS

- A. General: Transmit submittals together as one submittal. Individual submittals will not be accepted.
- B. Shop Drawings: Show submersible pump and piping in precast concrete cistern with support brackets, piping connections, flows and provisions for inspection and maintenance.
- C. Product Data: Include the following and appurtenances associated with this pump.
 - 1. Pumps (including pump curve).
 - 2. Piping and fittings that allow for pump removal via guide rails.
 - 3. Solvet cement
 - 4. Guide rails, chain, support brackets, and components.
- D. Operation and Maintenance Data: For pumps and controls, to include in operation and maintenance manuals.
- E. Manufacturer qualifications.
- F. Pump installer qualifications.
- G. Spare parts list.
- H. Sample warranty.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative of pump manufacturer for installation and maintenance of units required for this Project.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. UL Compliance: Comply with UL 778 for motor-operated water pumps.

- D. The pump equipment specified herein shall be the design and fabrication of a single manufacturer, which shall have sole source responsibility for said equipment. The manufacturer shall have electric submersible equipment of this design and of comparable capacity in successful operation for a minimum of 5 years. References and records of experiences shall be provided to the Engineer.
- E. Pump Warranty: The pump manufacturer shall warrant the units being supplied to the Owner against defects in workmanship and material for a one (1) year.
- F. Standard Specifications: Shall mean the most recent version of the "Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highways and Bridges, 2024 Edition", and Supplemental Specifications (March 31, 2024).

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.
- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written rigging instructions for handling.
- D. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- E. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.6 COORDINATION

- A. Coordinate sizes and locations of concrete bases with actual equipment provided.

PART 2 - PRODUCTS

2.1 SUBMERSIBLE PUMP

- A. Submersible, Quick-Disconnect, Dual-Seal Submersible Pumps:
 - 1. Manufacturers: Subject to compliance with capacity and characteristics, and upon approval by the Engineer.
 - 2. Wetted parts shall be stainless steel or coated with 100% baked-on powder coated epoxy finish for corrosion resistance.
- B. Description: Submersible pump, with quick-disconnect system, controls and piping. Include a cast iron, two vane, semi open, nonclog vortex impeller; and hermetically sealed motor with moisture-sensing probe, mechanical seals, and waterproof power cable.
 - 1. Include quick-disconnect system.
- C. Seal: The motor shall be protected by two independent sets of mechanical shaft seals mounted in tandem on the pump shaft. The out mechanical seal shall be constructed of silicon carbide verses silicon carbide sealing faces. The inner mechanical seal shall be constructed of carbon verses

ceramic sealing faces. Each set (upper and lower) shall be tensioned by an independent spring system constructed of series 300 stainless steel metal components and Buna-N elastomers. The mechanical seals shall be located in a completely isolated seal oil chamber, which will provide lubrication for the seal faces while simultaneously acting as an isolation zone for the stator chamber.

- D. Motor: Hermetically sealed; with built-in overload protection with automatic reset, lifting eye or lug, and cable-sealing assembly for connection at pump.
1. Shall be sized large enough so driven load will not require motor to operate in service factor range above 1.0.
 2. Name Plate: Indicate manufacturer's name, trademark or symbol, phase, voltage, frequency, RPM, rated load current, and locked rotor current or code letter.
 - a. Mount plates on motor.
 3. Power Cable: Designed specifically for use with submersible pumps; sized according to the National Electrical Code (NEC) and the Insulated Cable Engineers Association (ICEA); rated for 600 volts and 194°F with a 104°F ambient temperature and shall be approved by Factory Mutual (FM).
 - a. Outer Jacket: Lubricant resistant chlorinated polyethylene rubber.
 - b. Copper Conductors: Insulated with ethylene-propylene rubber (EPR). The filler and conductor separator materials shall be of nonwicking vulcanized rubber.
 - c. Length: 15 feet
 4. Stator Windings: Insulate with moisture resistant Class H insulation rated for 356 degrees F.
 5. Cooling System: Provide for continuous pump operation in liquid temperature of up to 104 degrees F.
- E. Capacities and Characteristics:
1. Performance requirements for each pump shall be as follows:
 - a. Capacity: 50 gpm (minimum) at 8-foot of Total Dynamic Head.
 - b. Solids Handling Capability: 5/8-inch.
 - c. Speed: 1,750 rpm.
 - d. Discharge Pipe Size: 2-inch.
 - e. Motor Horsepower: 0.5.
 - f. Electrical Characteristics:
 - 1) Volts: 240
 - 2) Phases: Single.
 - 3) Hertz: 60.
 - 4) Electrical plug.

2.2 GUIDE RAILS

- A. Rails: Stainless steel pipe, adequately sized to support pump.
- B. Brackets and Bolts: Stainless steel.
- C. Guide Rail Bases: Complete with lower guide bar, holder, discharge elbow and flange.
 - 1. Pump manufacturer to provide guide rail base elbow system.

2.3 LIFTING CHAINS

- A. Chain: Stainless steel, sized according to pump weight, of sufficient length to extend from top of pump unit to top of wet well.
 - 1. Provide with each pump.
- B. Hook: Provide with pump to secure lifting chain to top slab of cistern in location shown on the Drawings when not in use.

2.4 PIPING

- A. Discharge Conduit: PVC schedule 80, ASTM 1785
 - 1. 1. PVC, Schedule 80 Socket Fittings: ASTM D 2467.
- B. Solvent Cements for Joining PVC Piping:
 - 1. ASTM D 2564. Include primer according to ASTM F 656.
- C. Transition Fittings
 - 1. Transition Fittings, General: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.

2.5 SOURCE QUALITY CONTROL

- A. Test and inspect pumps according to HI 11.6, "Submersible Pump Test." Include test recordings that substantiate correct performance of pumps design head, capacity, suction lift, speed, and horsepower. Include performance curve with a minimum of seven points including shut-off head and maximum capacity.
- B. Test accessories and controls through complete cycle. Include test data that substantiate correct performance.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

- B. Examine roughing-in of piping systems to verify actual locations of piping connections before packaged pumping station installation.
 - 1. Field verify location and invert elevation of piping in relation to underground structures.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Pump Installation Standards:
 - 1. Installation shall be to the manufacturer's recommendations and Drawings.
 - 2. Install pump equipment under supervision of manufacturer's service representative.
 - 3. Guide Rails: Anchor rails to wall with brackets and bolts as required by manufacturer.
- B. Piping Installation
 - 1. Install piping free of sags and bends.
 - 2. Install fittings for changes in direction and branch connections.
 - 3. Select system components with pressure rating equal to or greater than system operating pressure.

3.3 PIPING JOINT CONSTRUCTION

- A. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- B. Plastic Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 - 1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
 - 2. PVC Pressure Piping: Join schedule number ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
 - 1. Perform visual and mechanical inspections.

2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Pumps and controls will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

F. All testing must be performed in presence of Engineer.

3.5 STARTUP SERVICE

A. Complete installation and startup checks according to manufacturer's written instructions.

1. Adjust pump, accessory, and control settings.

3.6 ADJUSTING

A. Adjust pumps to function smoothly, and lubricate as recommended by manufacturer.

B. Adjust control set points.

3.7 DEMONSTRATION

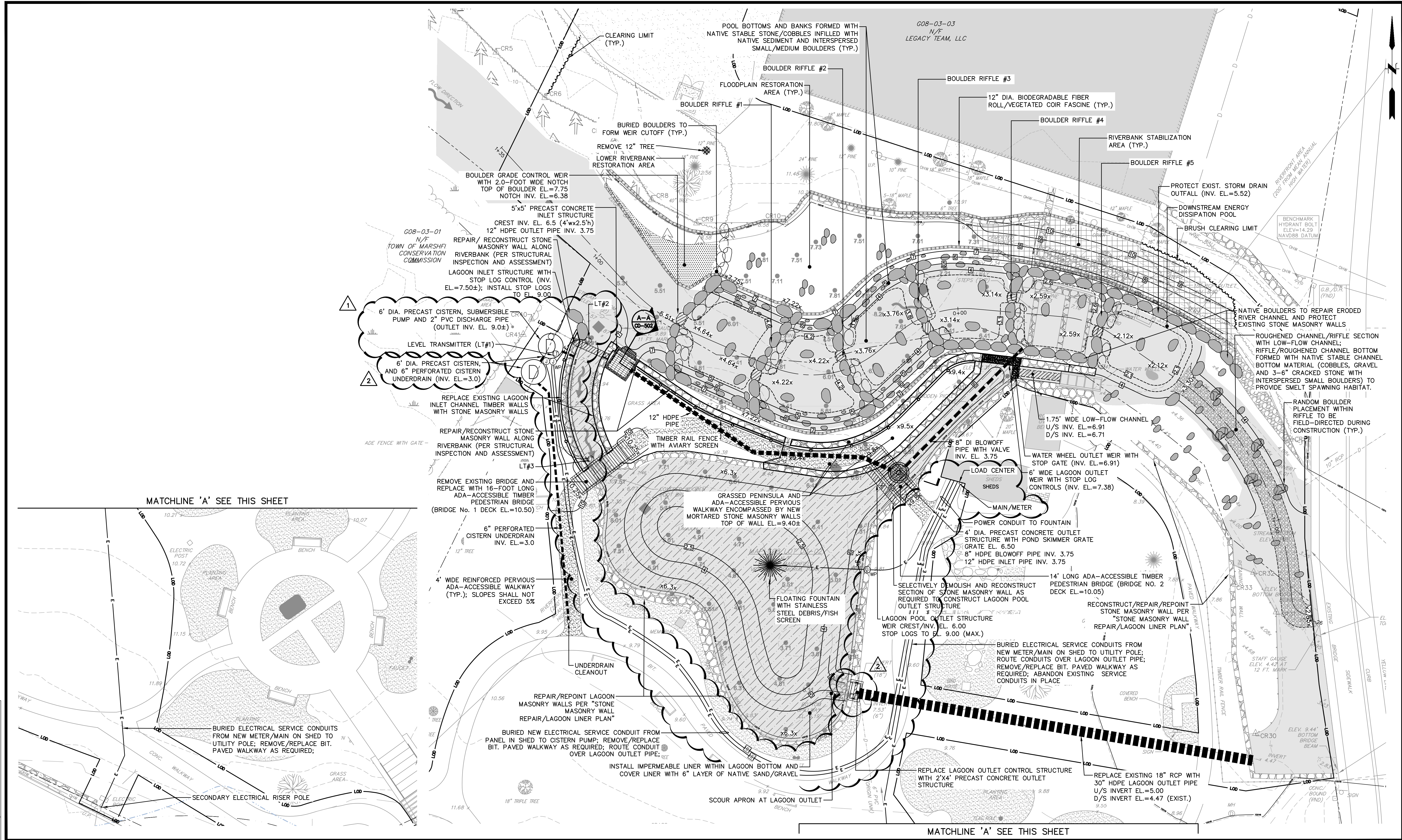
A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controls and pumps.

END OF SECTION

Attachment C

Revised Drawing Sheets

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MATCHLINE 'A' SEE THIS SHEET

MATCHLINE 'A' SEE THIS SHEET

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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1.	8/23/2024	ADDENDUM NO. 1	DRN/SDA	NSW
0.	8/2/2024	ISSUED FOR BIDDING	DRN/SDA	NSW

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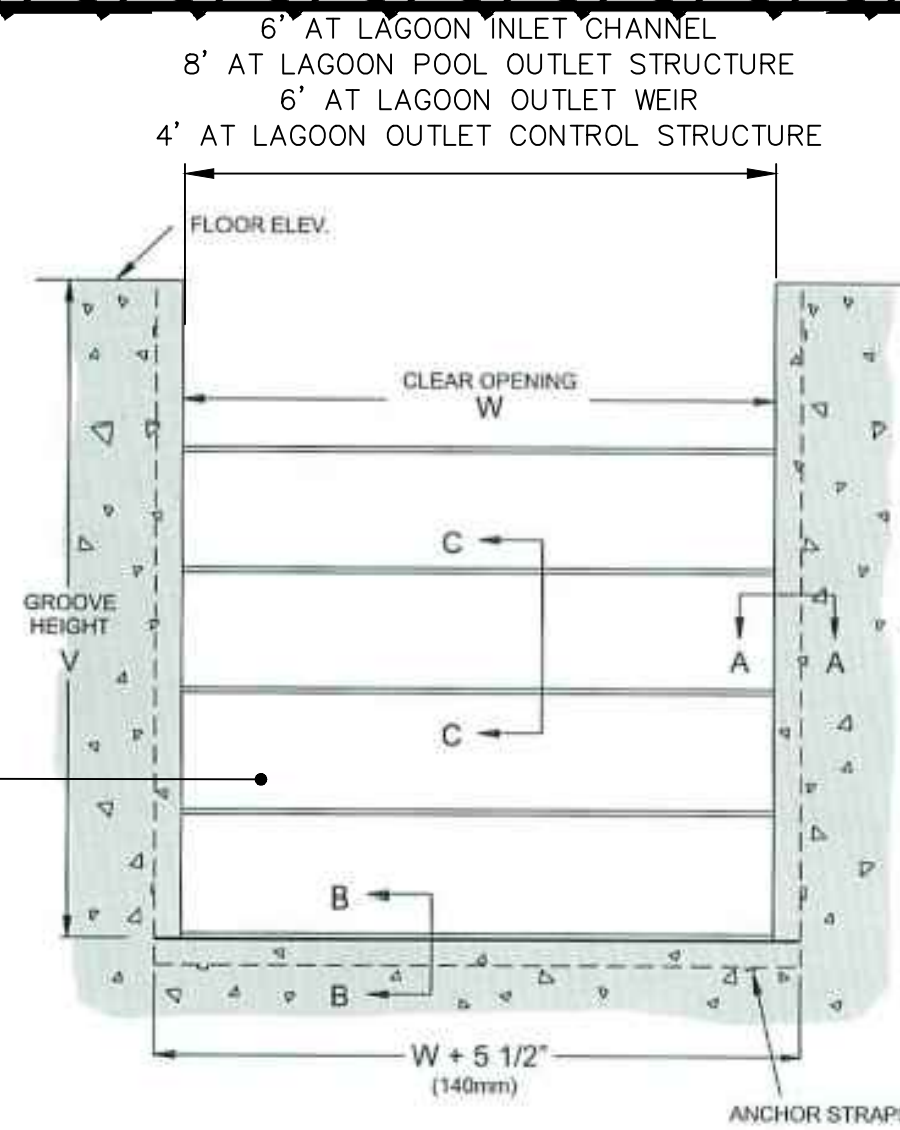
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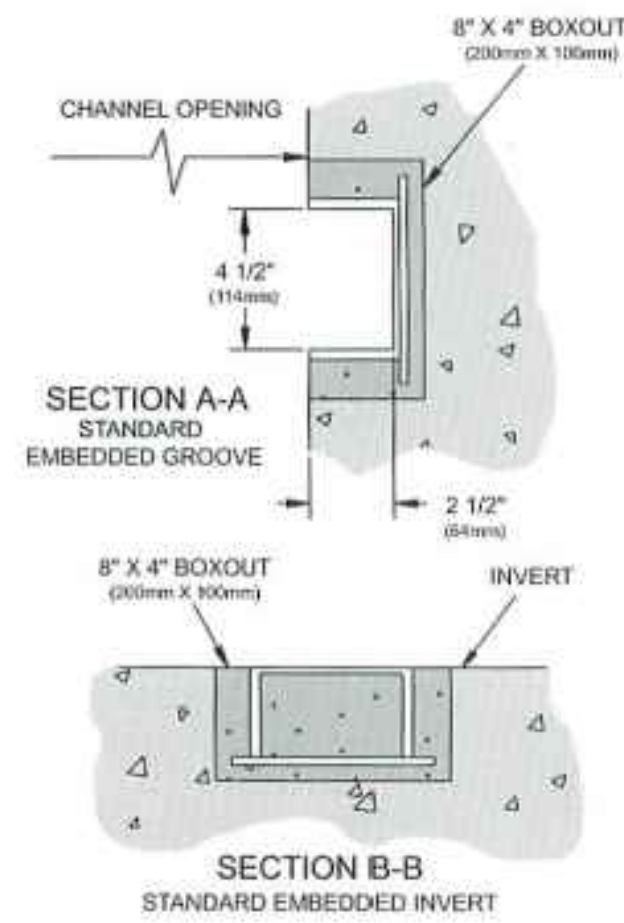
TOWN OF MARSHFIELD
 DIVISION OF ECOLOGICAL RESTORATION
 SOUTH RIVER FISH PASSAGE AND PARK
 LAGOON IMPROVEMENTS PLAN
 SOUTH RIVER FISH PASSAGE AND VETERANS MEMORIAL
 PARK IMPROVEMENTS PROJECT - CONTRACT NO. 2025-02
 MARSHFIELD MASSACHUSETTS

PROJ. No.: 20180319.A23
 DATE: AUGUST 2, 2024
CS-105
 7 OF 21

- STOP LOG NOTES:**
- STOP LOGS SHALL BE 6" HIGH ALUMINUM STOP LOGS (MODEL 509 AS MANUFACTURED BY WHIPPS, INC. OR APPROVED EQUAL).
 - STOP LOG EMBEDDED CHANNELS SHALL BE CONSTRUCTED OF FORMED STAINLESS STEEL AND SHALL BE FORMED AND WELDED WITH INTEGRAL CONCRETE ANCHORS FOR EMBEDDED APPLICATIONS.



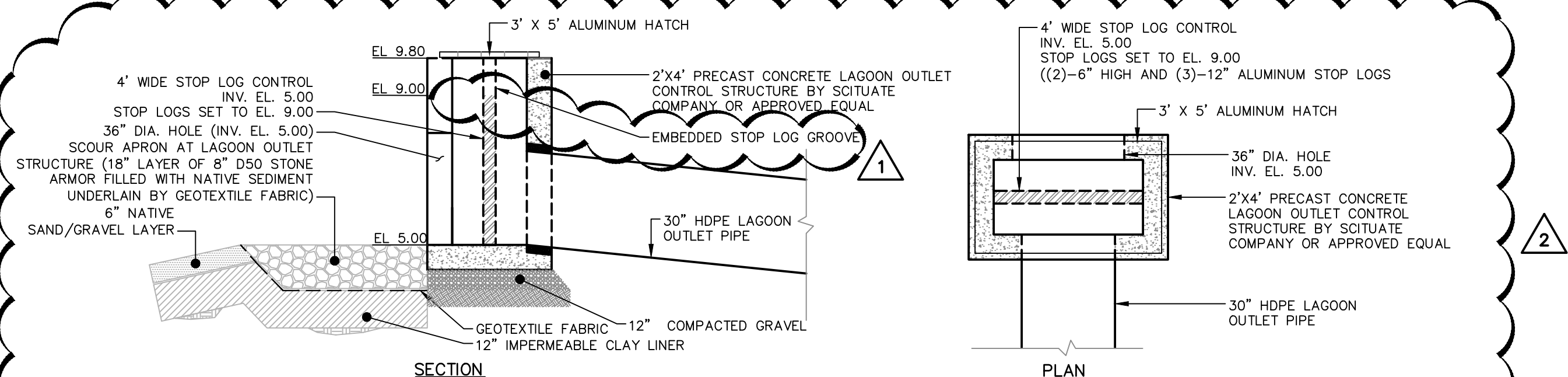
TYPICAL STOP LOG SECTION



EMBEDDED STOP LOG CHANNEL AND INVERT DETAILS

TYPICAL STOP LOG CONTROL STRUCTURE DETAILS

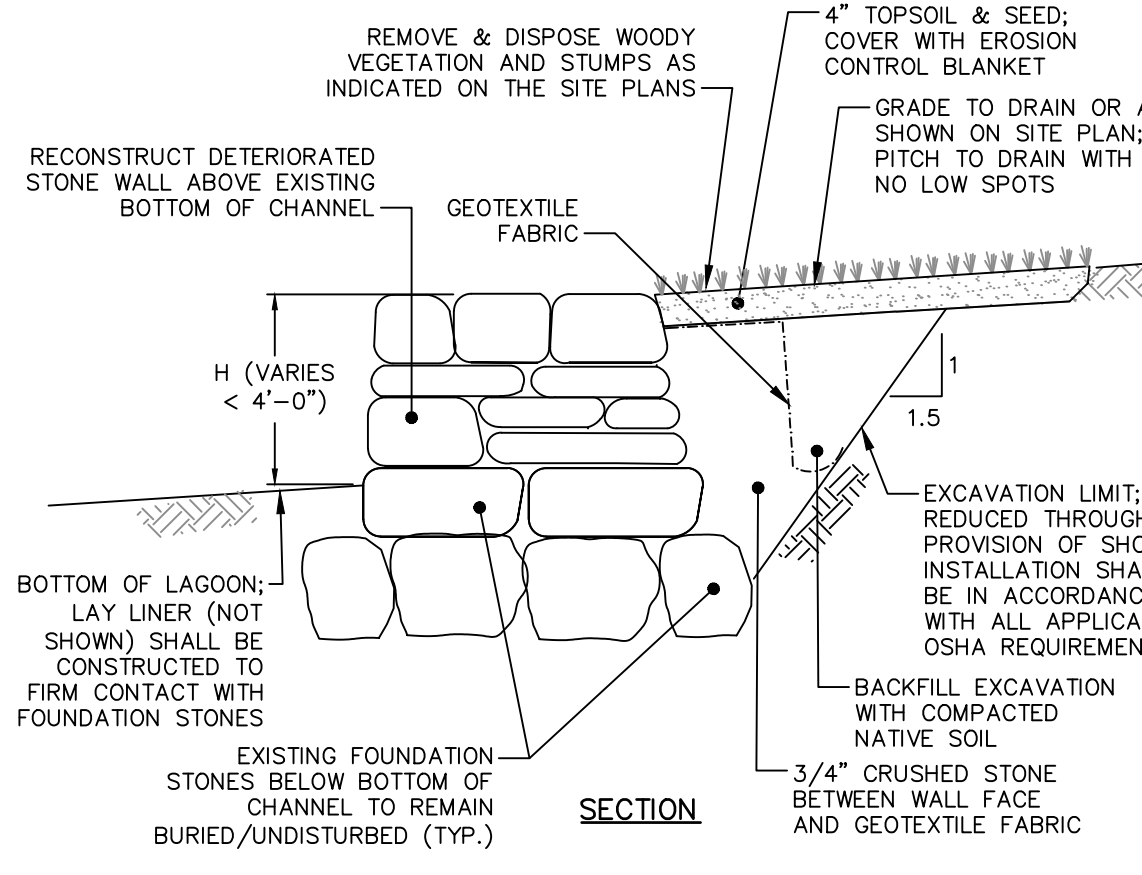
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LAGOON OUTLET CONTROL STRUCTURE

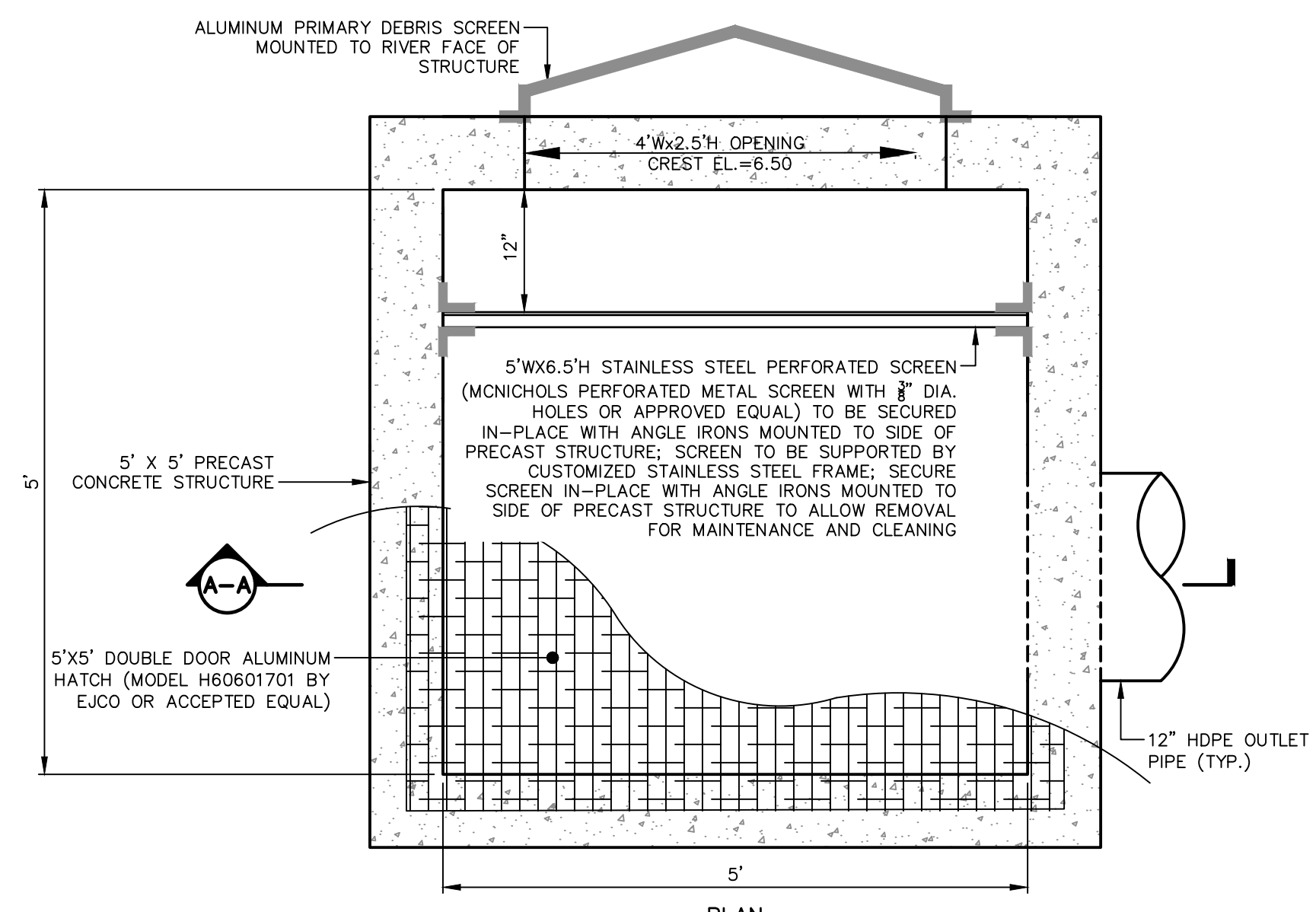
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- LOW STONE WALL REPAIR NOTES:**
- THE SIZE, COURSE, ORIENTATION, AND PLACEMENT OF STONES SHALL MATCH THE EXISTING STONES AND BLEND WITH ADJACENT WALL SECTIONS. THE CONTRACTOR SHALL TAKE PRECONSTRUCTION PHOTOGRAPHS OF THE COMPLETE SURFACE OF EACH WALL TO BE REPAIRED FOR ARCHIVAL AND COMPARISON PURPOSES.
 - GENERAL CHINK WALL/RESET MISSING STONE CONSTRUCTION SEQUENCE:
 - INSTALL SECONDARY WATER CONTROL WITHIN WORK AREA AS REQUIRED.
 - REMOVE WOODY VEGETATION INCLUDING STUMPS AND ROOTS.
 - EXCAVATE BEHIND WALL AND DISASSEMBLE STONES, CLEAN AND STOCKPILE FOR REUSE. CONDUCT EXCAVATION AND STONE DISASSEMBLY SIMULTANEOUSLY IN ONE-FOOT INCREMENTS. HORIZONTAL LIMIT OF STONE DISASSEMBLY SHALL EXTEND FIVE FEET PAST OUTERMOST LIMIT OF WALL RECONSTRUCTION OR UNTIL STRUCTURALLY SOUND SEGMENT OF WALL IS REACHED, WHICHEVER IS GREATER. VERTICAL LIMIT OF EXCAVATION SHALL EXTEND STRUCTURALLY SOUND FOUNDATION STONES.
 - LOCATE AND PROTECT EXISTING LINER AND UNDERDRAIN PIPE BEHIND EXISTING WALL FORMING THE PERIMETER OF THE LAGOON.
 - MONITOR GROUNDWATER AND DEWATER AS NECESSARY.
 - RESET STOCKPILED STONES, BACKFILL, AND COMPACT BACKFILL IN ONE-FOOT INCREMENTS. CHINK ANY VOIDS GREATER THAN 4" IN ANY TWO DIMENSIONS.
 - INSTALL TOPSOIL AND SEED.
 - REMOVE DEBRIS AND SEDIMENT FROM CHANNEL RESULTING FROM REPAIR.
 - RECONSTRUCT SECONDARY WATER CONTROL.



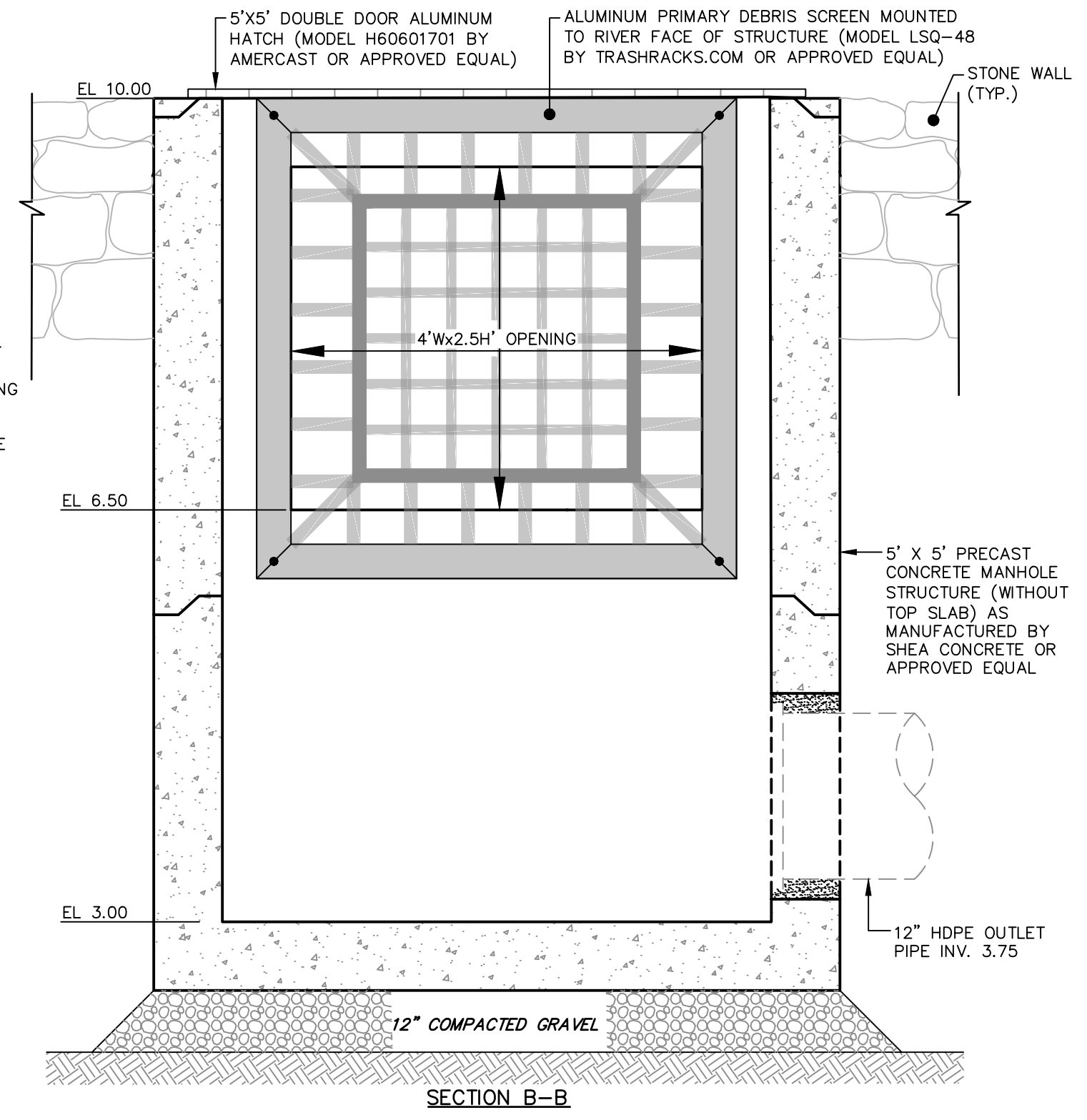
RECONSTRUCT/CONSTRUCT LOW STONE WALL

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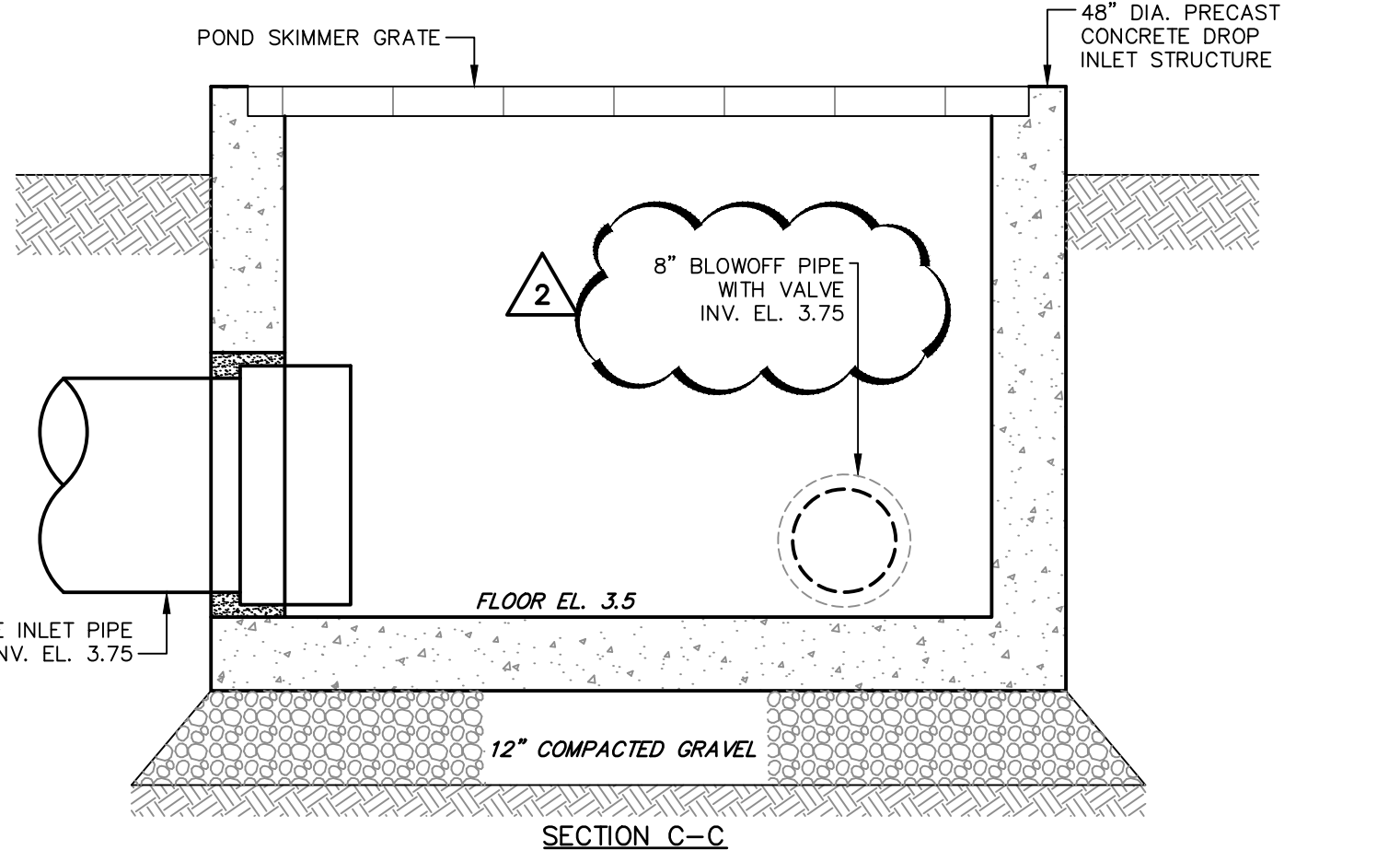
5'X5' PRECAST CONCRETE INLET STRUCTURE

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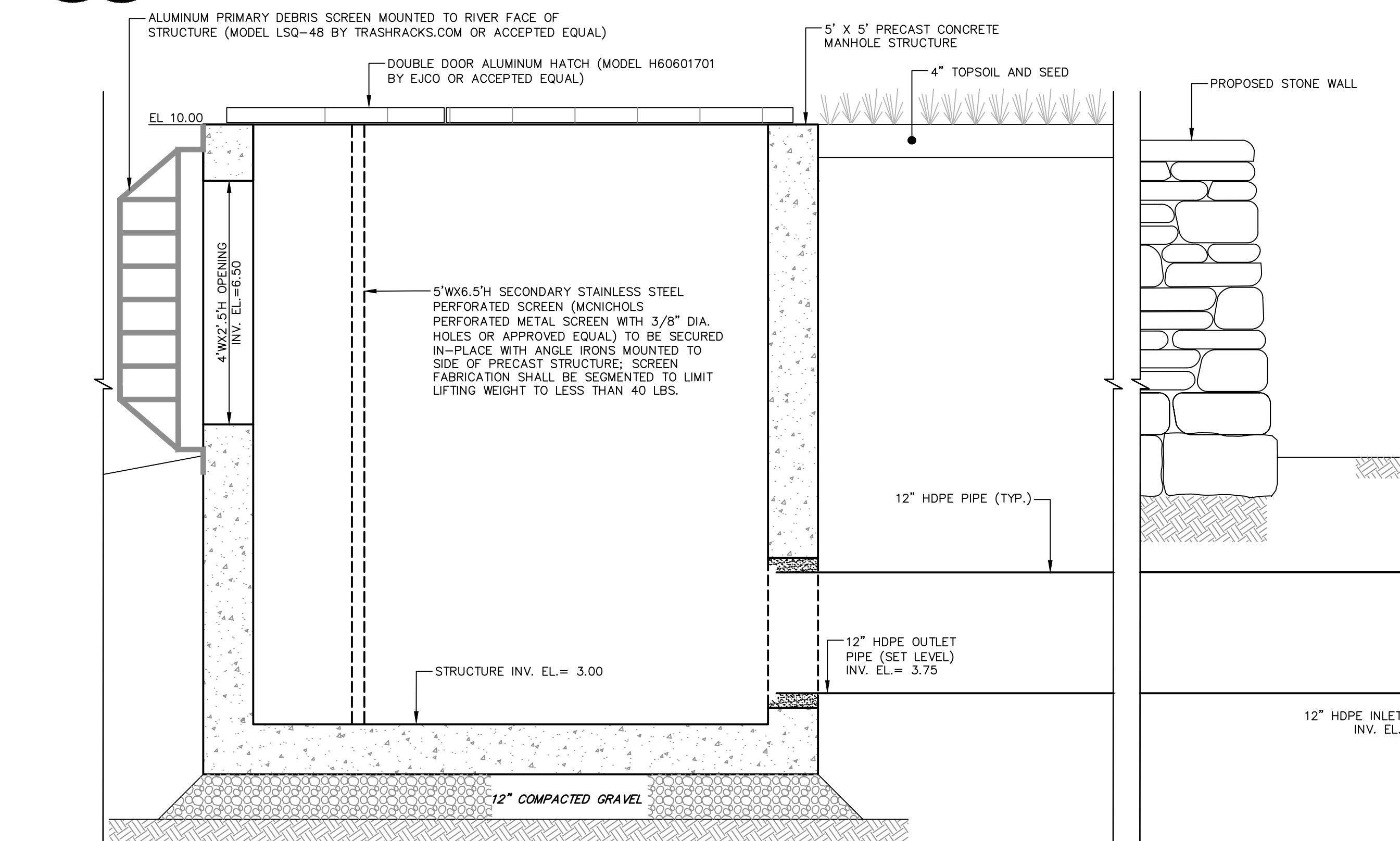


PRECAST CONCRETE INLET STRUCTURE

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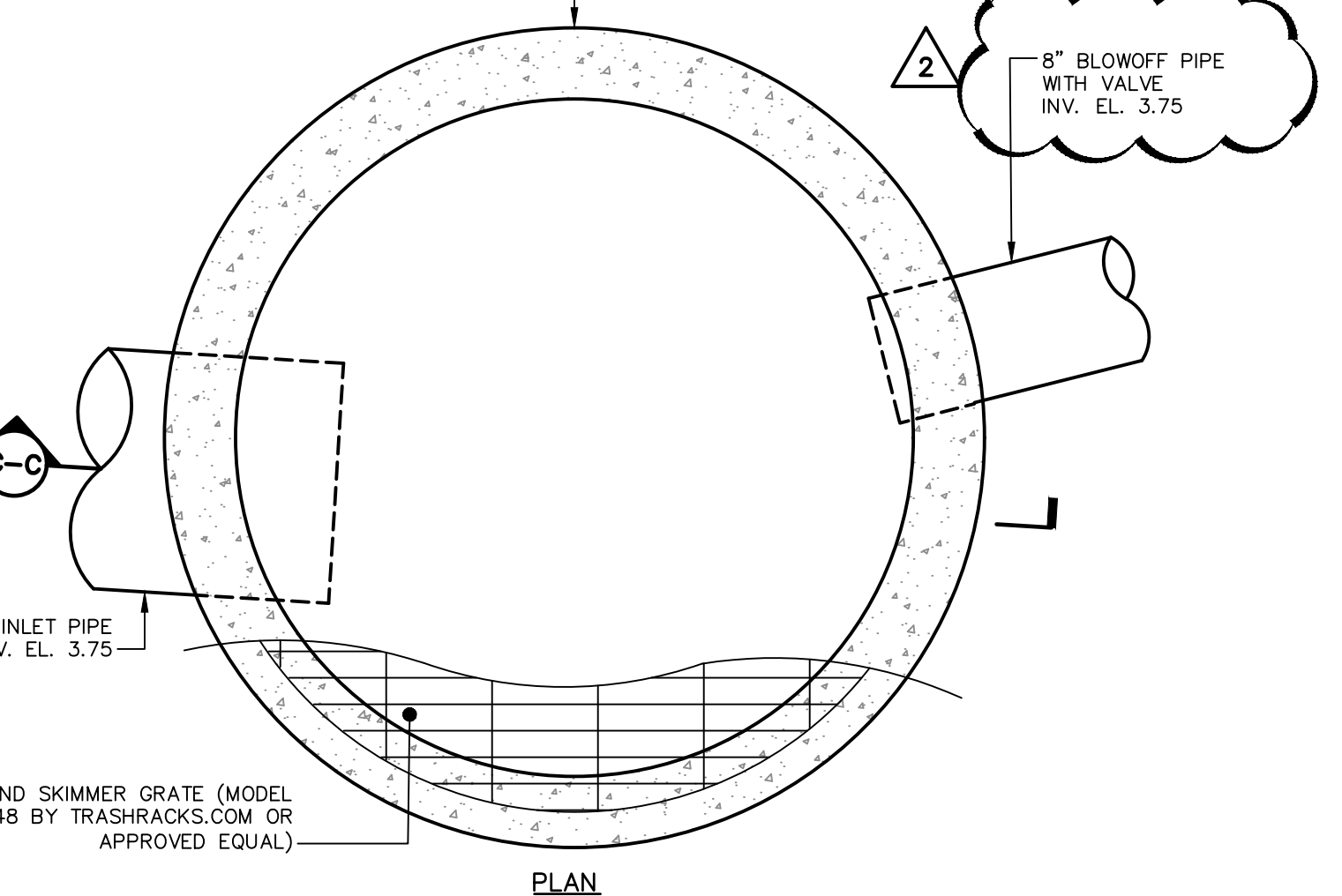
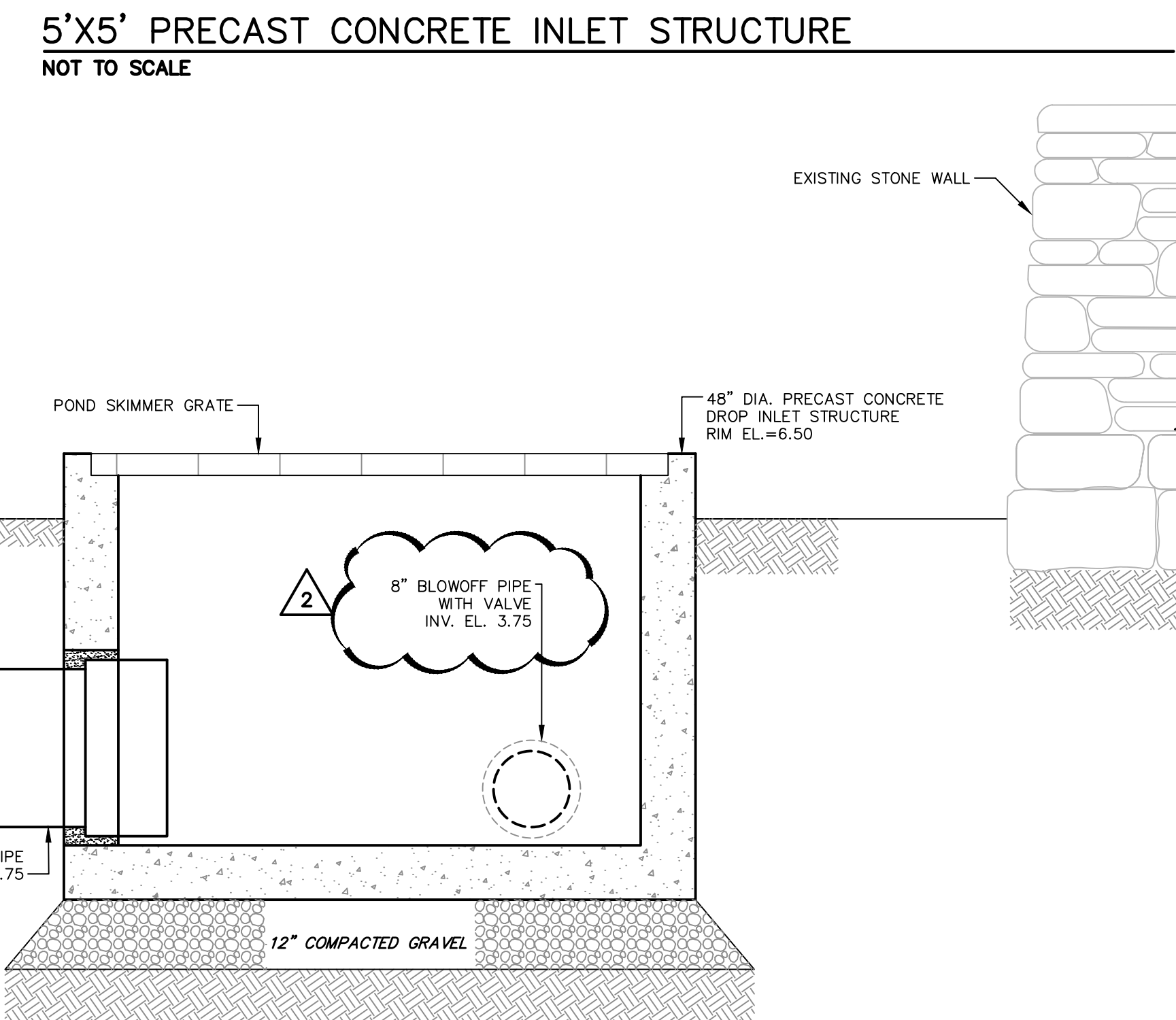


SECTION C-C



SECTION A-A

NOT TO SCALE



48" DIA. PRECAST CONCRETE OUTLET STRUCTURE

NOT TO SCALE

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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TOWN OF MARSHFIELD
DIVISION OF ECOLOGICAL RESTORATION

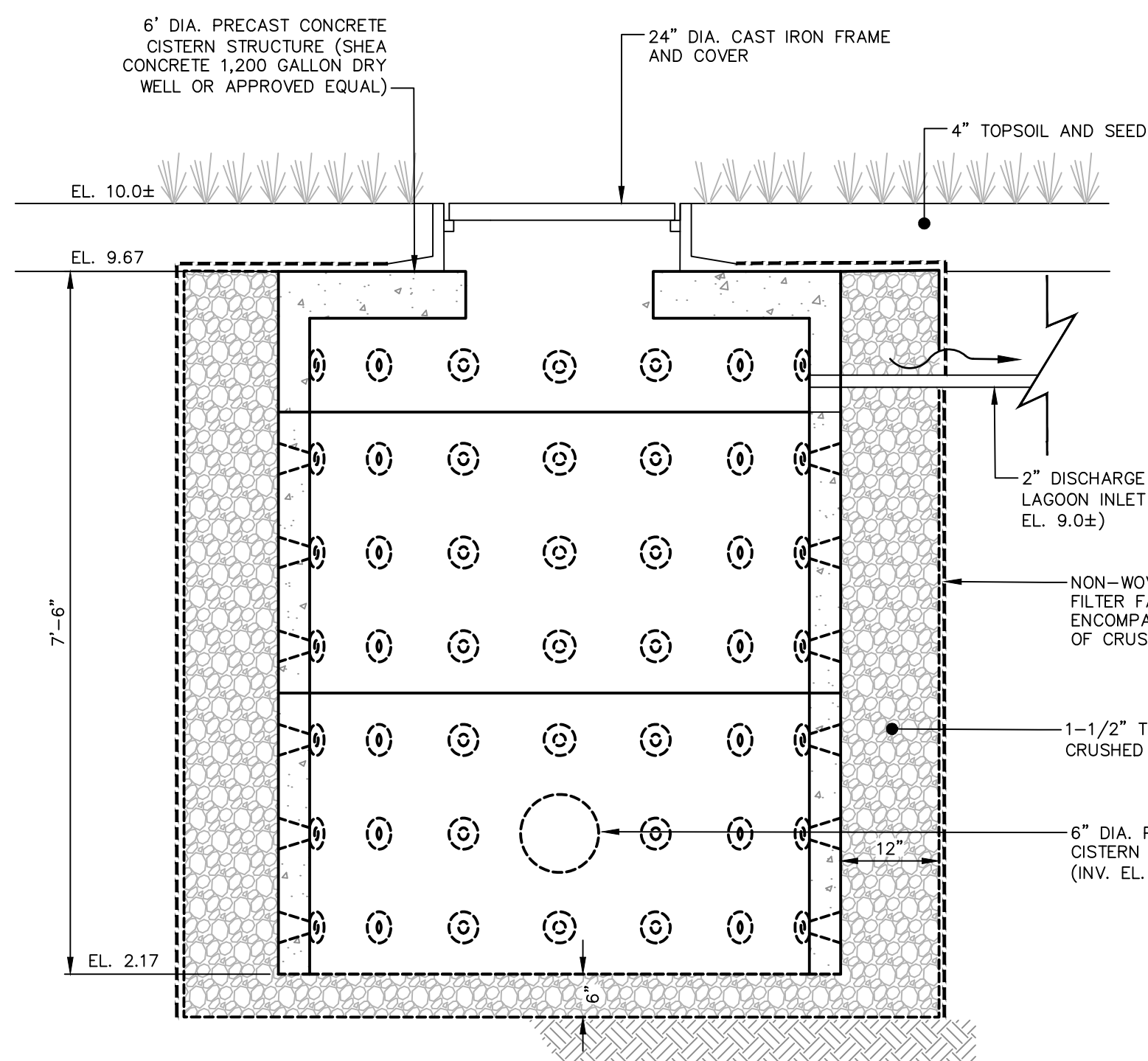
CONSTRUCTION DETAILS

SOUTH RIVER FISH PASSAGE AND VETERANS MEMORIAL
PARK IMPROVEMENTS PROJECT - CONTRACT NO. 2025-02
MARSHFIELD MASSACHUSETTS

PROJ. No.: 20180319.A23
DATE: AUGUST 2, 2024

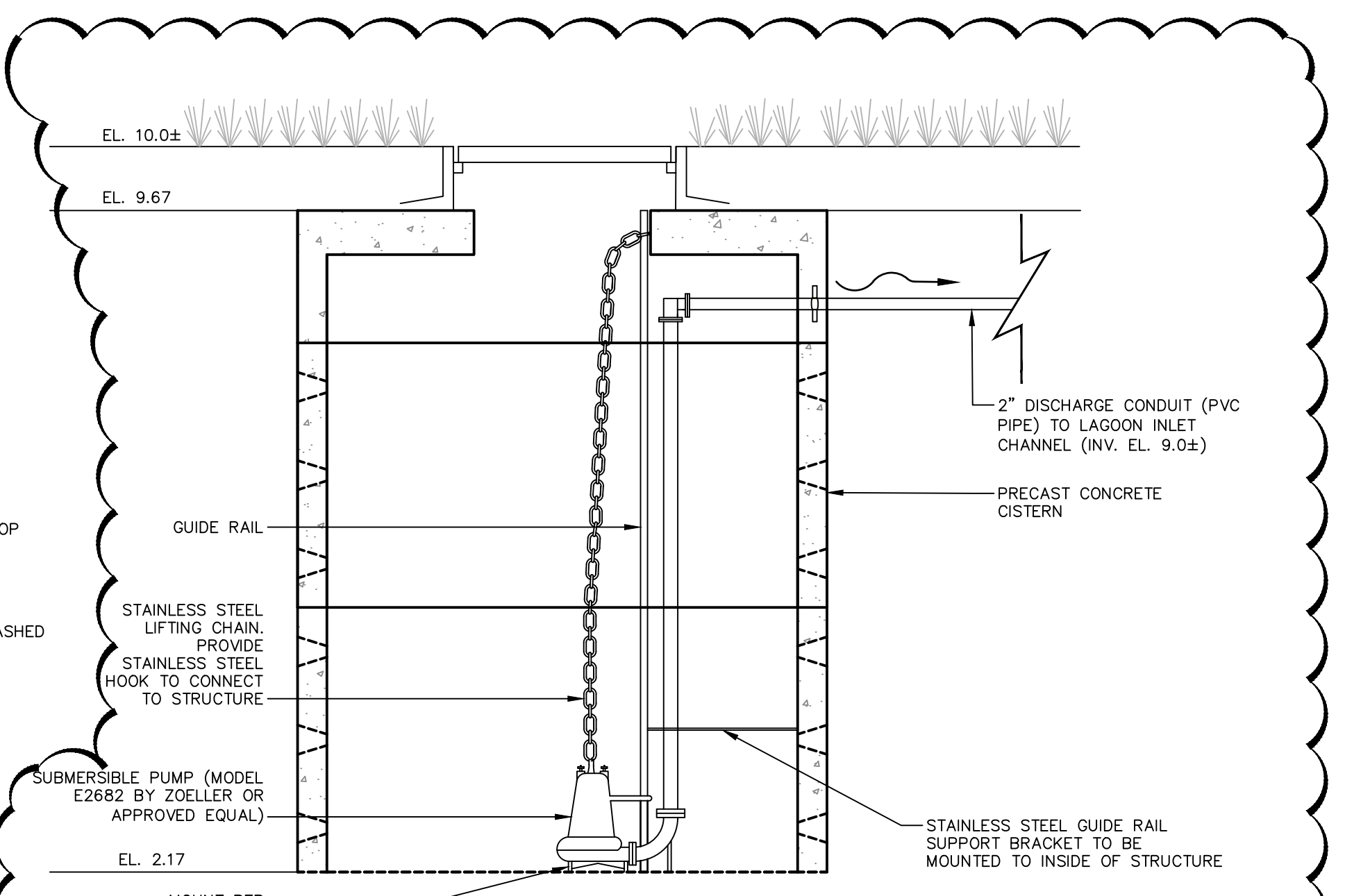
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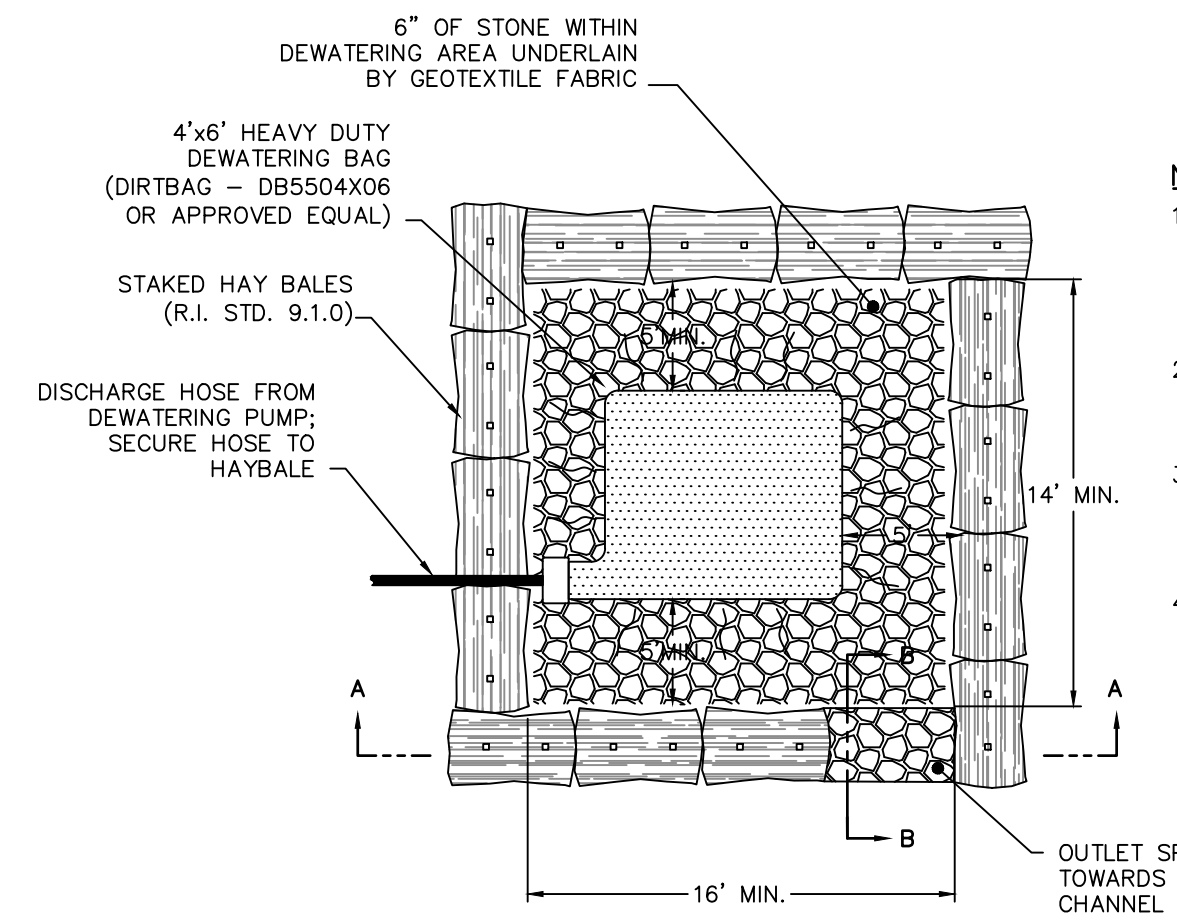
NOTE:
SUBMERSIBLE PUMP, ELECTRICAL CONDUIT AND DISCHARGE HOSE INSIDE CISTERN NOT SHOWN FOR CLARITY.

PRECAST CONCRETE CISTERN
NOT TO SCALE



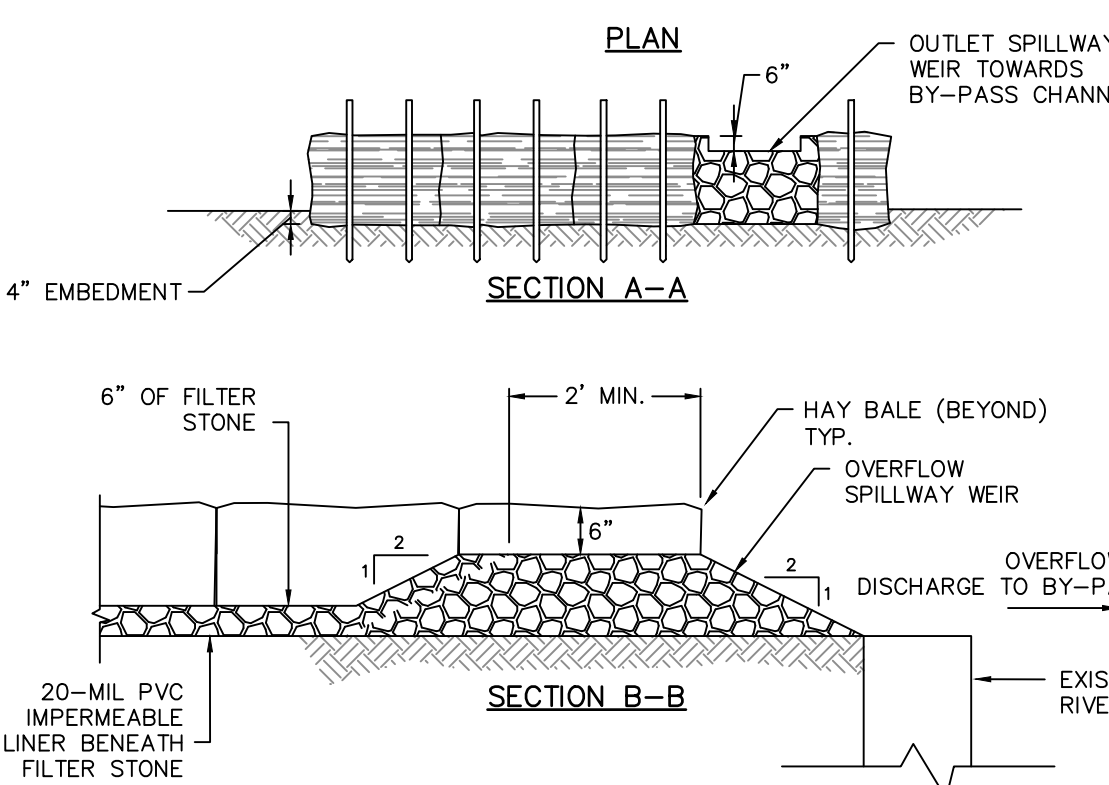
NOTE:
DISCHARGE CONDUIT SHALL BE SECURELY FASTENED WITH BRACKETS TO THE PRECAST CONCRETE CISTERN OR GUIDE RAIL.

SUBMERSIBLE PUMP
NOT TO SCALE

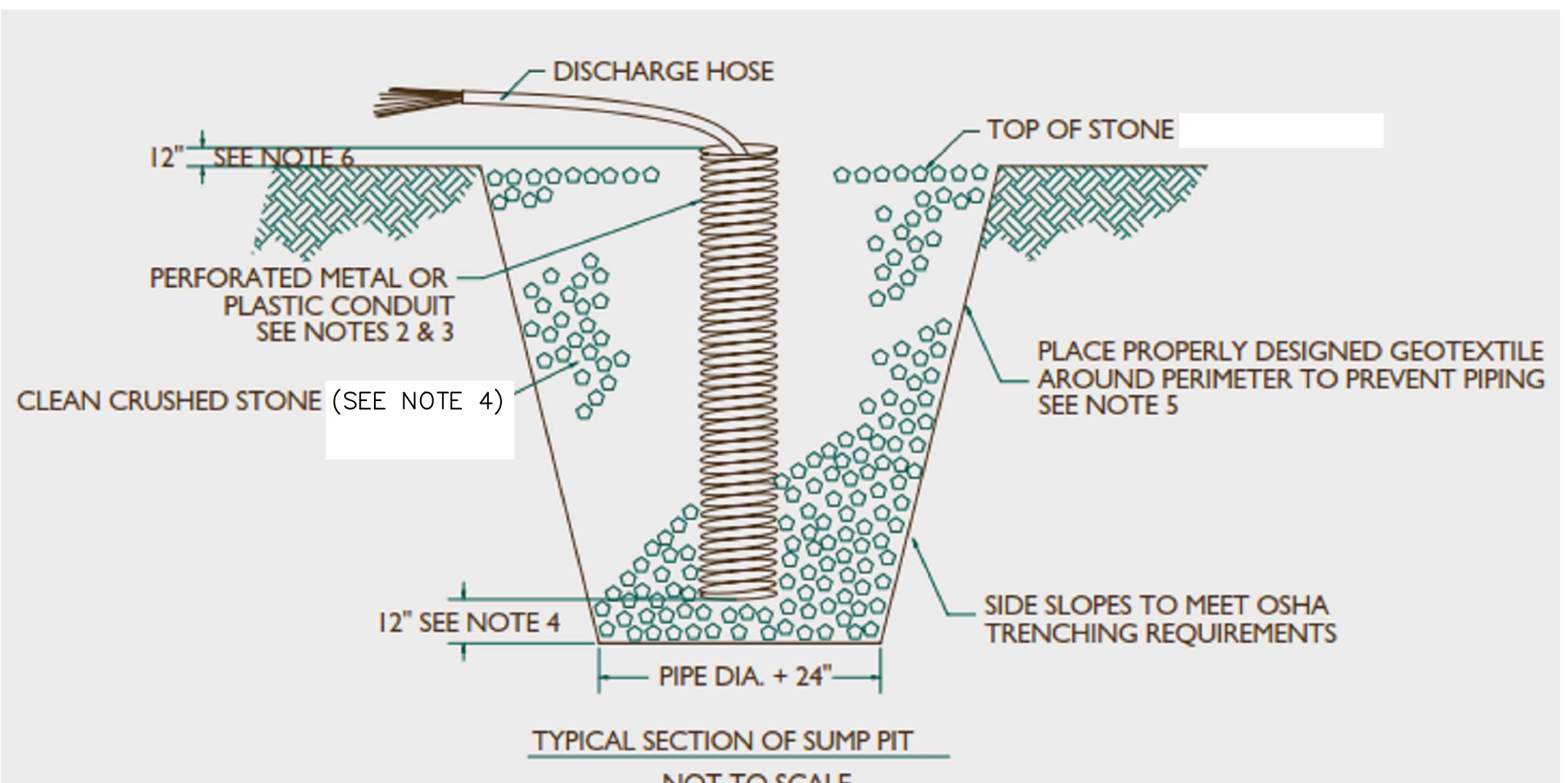


- NOTES:**
- HAY BALES FOR EROSION CONTROL SHALL CONFORM TO SECTION 767 OF THE MASSDOT STANDARD SPECIFICATIONS INCLUDING MATERIALS AND CONSTRUCTION METHODS.
 - BALES OF HAY SHALL BE FASTENED WITH WIRE AND HAVE A MINIMUM SIZE OF 1'x1.5'x3'.
 - FILTER STONE SHALL CONSIST OF 1-INCH MINUS STONE CONFORMING TO SUBSECTION M2.01.4 OF THE STANDARD SPECIFICATIONS.
 - FILTER FABRIC SHALL BE A NON-WOVEN GEOTEXTILE FILTER FABRIC AND SHALL CONFORM TO TYPE IV FABRIC PER SECTION M9.50.0 OF THE STANDARD SPECIFICATIONS.

- NOTES:**
- THE DEWATERING BAG, DIRTBAG® DB55 OR APPROVED EQUAL, SHALL BE HEAVY DUTY AND CONSIST OF A NONWOVEN BAG SEWN WITH A DOUBLE NEEDLE MATCHING USING A HIGH STRENGTH THREAD.
 - EACH DEWATERING BAG SHALL HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE A 4-INCH DISCHARGE HOSE. THE BAG SHALL BE PROVIDED WITH STRAPS TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
 - MAINTAIN DEWATERING BAG(S) AS NECESSARY TO EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE. USE OF EXCESSIVE FLOW RATES OR OVERFILLING DIRTBAGS WITH SEDIMENT WILL CAUSE RUPTURES OF THE BAGS OR FAILURE OF THE HOSE ATTACHMENT STRAPS.
 - DISPOSE OF DEWATERING BAG AND CONTENTS AT OFF-SITE DISPOSAL FACILITY IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN OR AS DIRECTED BY ENGINEER.
 - INSTALL DEWATERING BAG AND CRUSHED STONE BEDDING WITH A SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG WITHOUT CREATING MORE EROSION. STRAP THE NECK OF DEWATERING BAG TIGHTLY TO THE DISCHARGE HOSE.

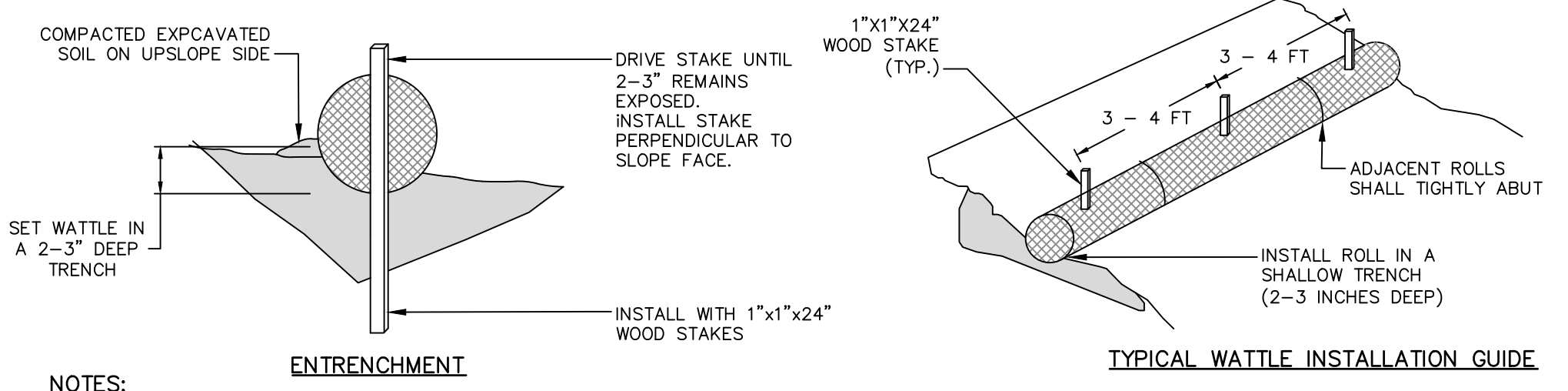


DEWATERING AREA WITH FILTER BAG
NOT TO SCALE



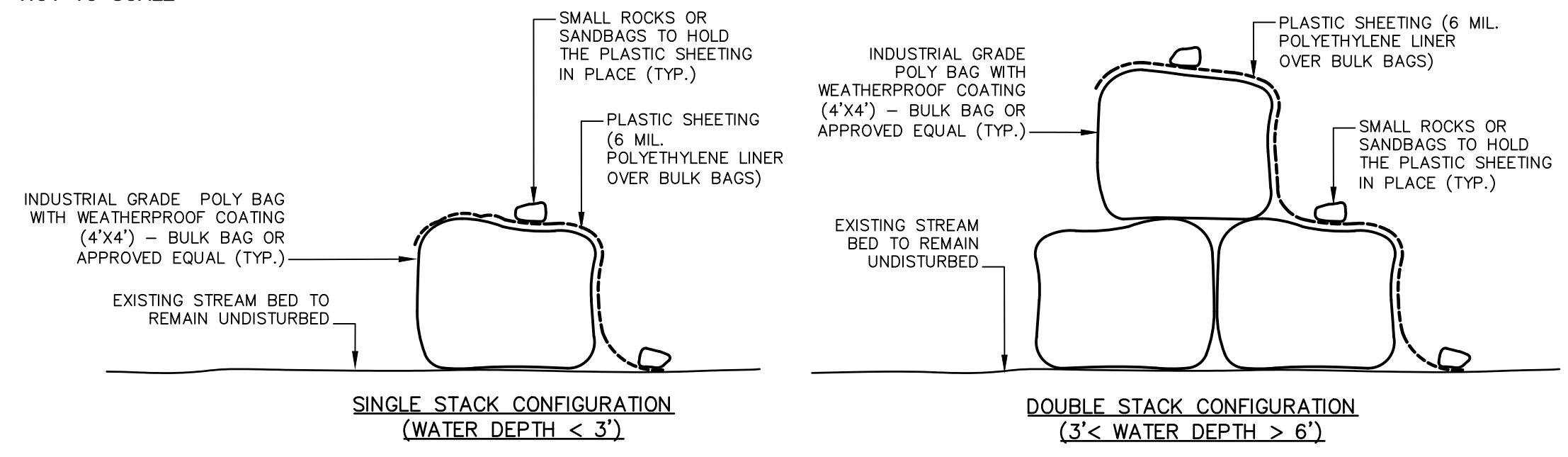
- OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
- THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
- PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
- CRUSHED STONE SHALL CONFORM TO THE GRADATION LISTED FOR M2.01.0 OF THE MASSDOT STANDARD SPECIFICATIONS. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
- IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
- THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

TEMPORARY CRUSHED STONE DEWATERING SUMP DETAIL
NOT TO SCALE

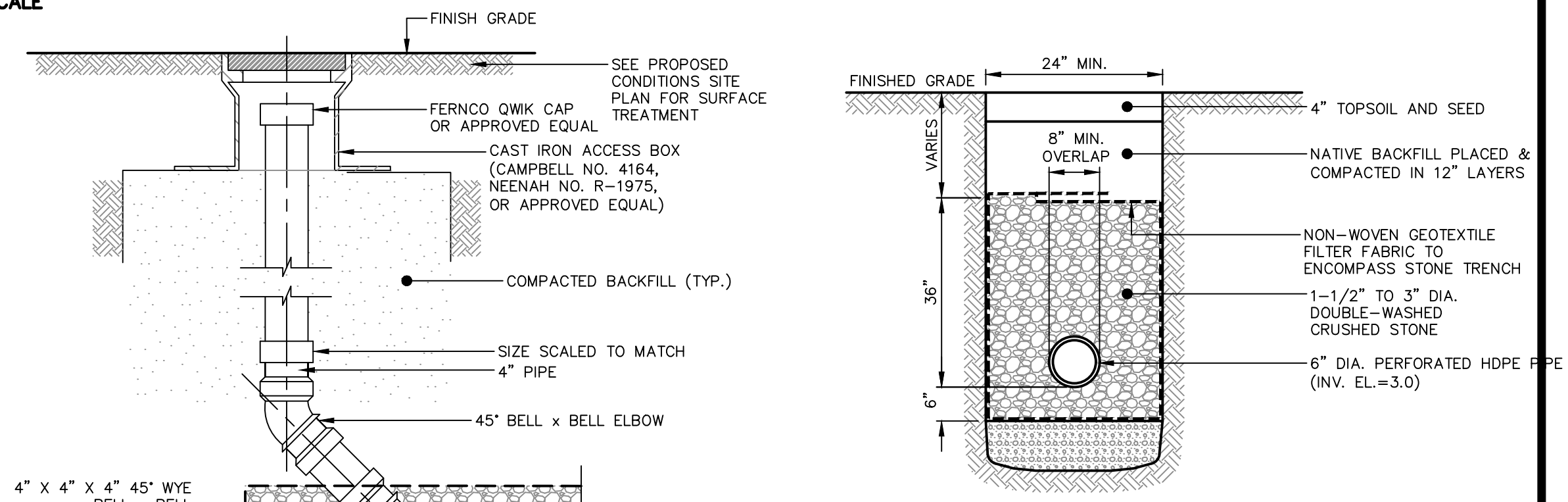


- NOTES:**
- BIODEGRADABLE COIR ROLL SHALL BE INSTALLED AT LOCATIONS AS INDICATED ON THE DRAWINGS.
 - BIODEGRADABLE COIR ROLL SHALL BE TRENCHED APPROXIMATE 2-3 INCHES AND STAKED SUCH THAT WATTLES DIRECTLY CONTACT SOIL AND PRECLUDE UNDERMINING OR BLOWOUTS. THE TRENCH SHALL BE APPROXIMATELY 9 INCHES WIDE. STAKES SHALL BE DRIVEN THROUGH THE CENTER OF THE BIODEGRADABLE COIR ROLL AT A SPACING OF 3-4 FEET ON CENTER AND NO GREATER THAN 6" FROM THE EACH END OF THE BIODEGRADABLE COIR ROLL. COMPACT SOIL EXCAVATED TO CREATE TRENCH ON UPHILL SIDE.
 - ENDS OF ADJACENT BIODEGRADABLE COIR ROLL SHALL BE TIGHTLY BUTTED OR OVERLAPPED SO THAT NO OPENING EXISTS FOR WATER TO PASS THROUGH. BIODEGRADABLE COIR ROLL SHALL BE FREE OF DAMAGE OR DEFECTS WHEN DELIVERED TO THE SHIPPER. NO VEHICLES SHALL BE DRIVEN OVER BIODEGRADABLE COIR ROLL.
 - BIODEGRADABLE COIR ROLL SHALL BE 12-INCH PREMIUM FIBER ROLL MANUFACTURED BY US CONSTRUCTION FABRICS LLC, OR APPROVED EQUAL.

BIODEGRADABLE FIBER ROLL
NOT TO SCALE

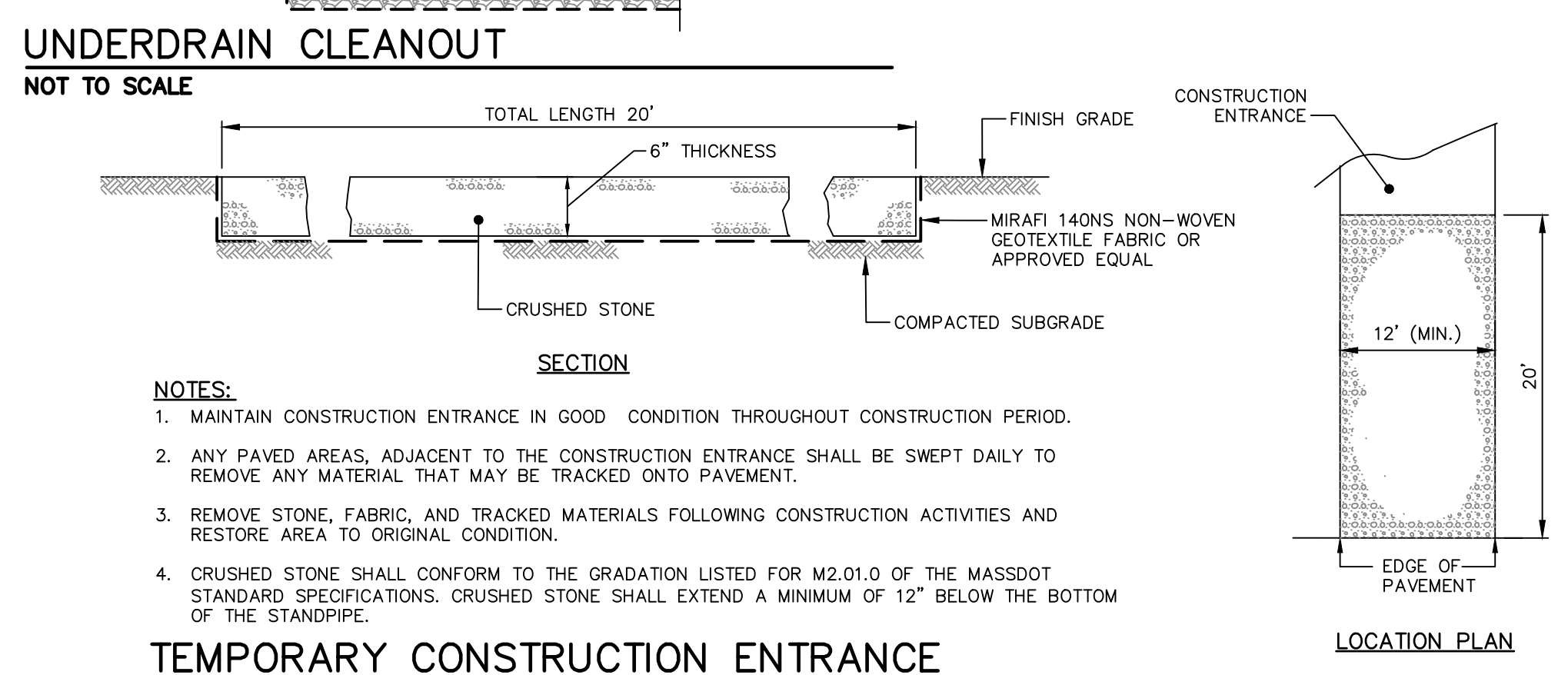


TEMPORARY COFFERDAM STRUCTURE (BULK BAGS OR APPROVED EQUAL)
NOT TO SCALE



UNDERDRAIN CLEANOUT
NOT TO SCALE

PERFORATED CISTERN UNDERDRAIN
NOT TO SCALE



- NOTES:**
- MAINTAIN CONSTRUCTION ENTRANCE IN GOOD CONDITION THROUGHOUT CONSTRUCTION PERIOD.
 - ANY PAVED AREAS, ADJACENT TO THE CONSTRUCTION ENTRANCE SHALL BE SWEEPED DAILY TO REMOVE ANY MATERIAL THAT MAY BE TRACKED ONTO PAVEMENT.
 - REMOVE STONE, FABRIC, AND TRACKED MATERIALS FOLLOWING CONSTRUCTION ACTIVITIES AND RESTORE AREA TO ORIGINAL CONDITION.
 - CRUSHED STONE SHALL CONFORM TO THE GRADATION LISTED FOR M2.01.0 OF THE MASSDOT STANDARD SPECIFICATIONS. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.

TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
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1.	8/23/2024	ADDENDUM NO. 1	DRN/SDA	NSW
0.	8/2/2024	ISSUED FOR BIDDING	DRN/SDA	NSW

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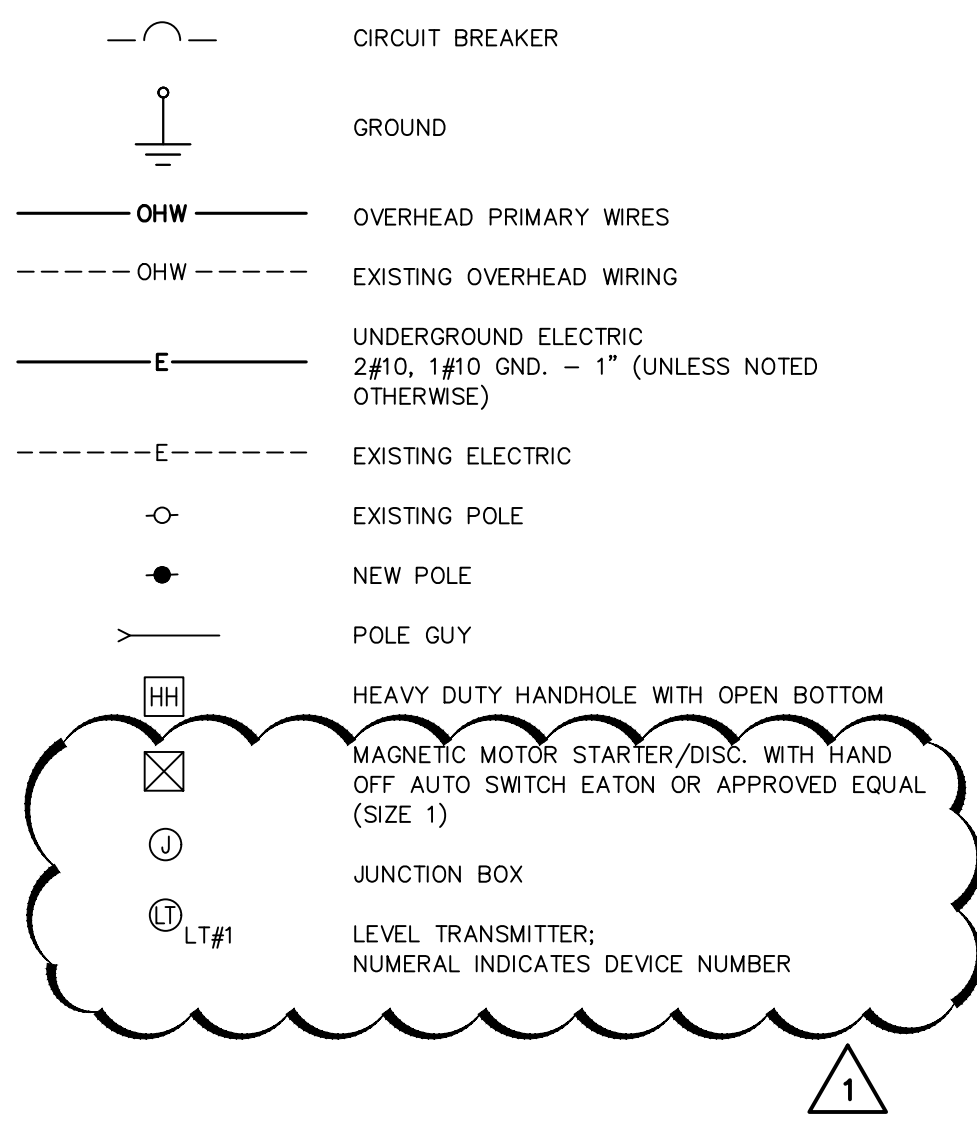
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TOWN OF MARSHFIELD
DIVISION OF ECOLOGICAL RESTORATION
CONSTRUCTION DETAILS
SOUTH RIVER FISH PASSAGE AND VETERANS MEMORIAL
PARK IMPROVEMENTS PROJECT - CONTRACT NO. 2025-02
MARSHFIELD MASSACHUSETTS

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LEGEND

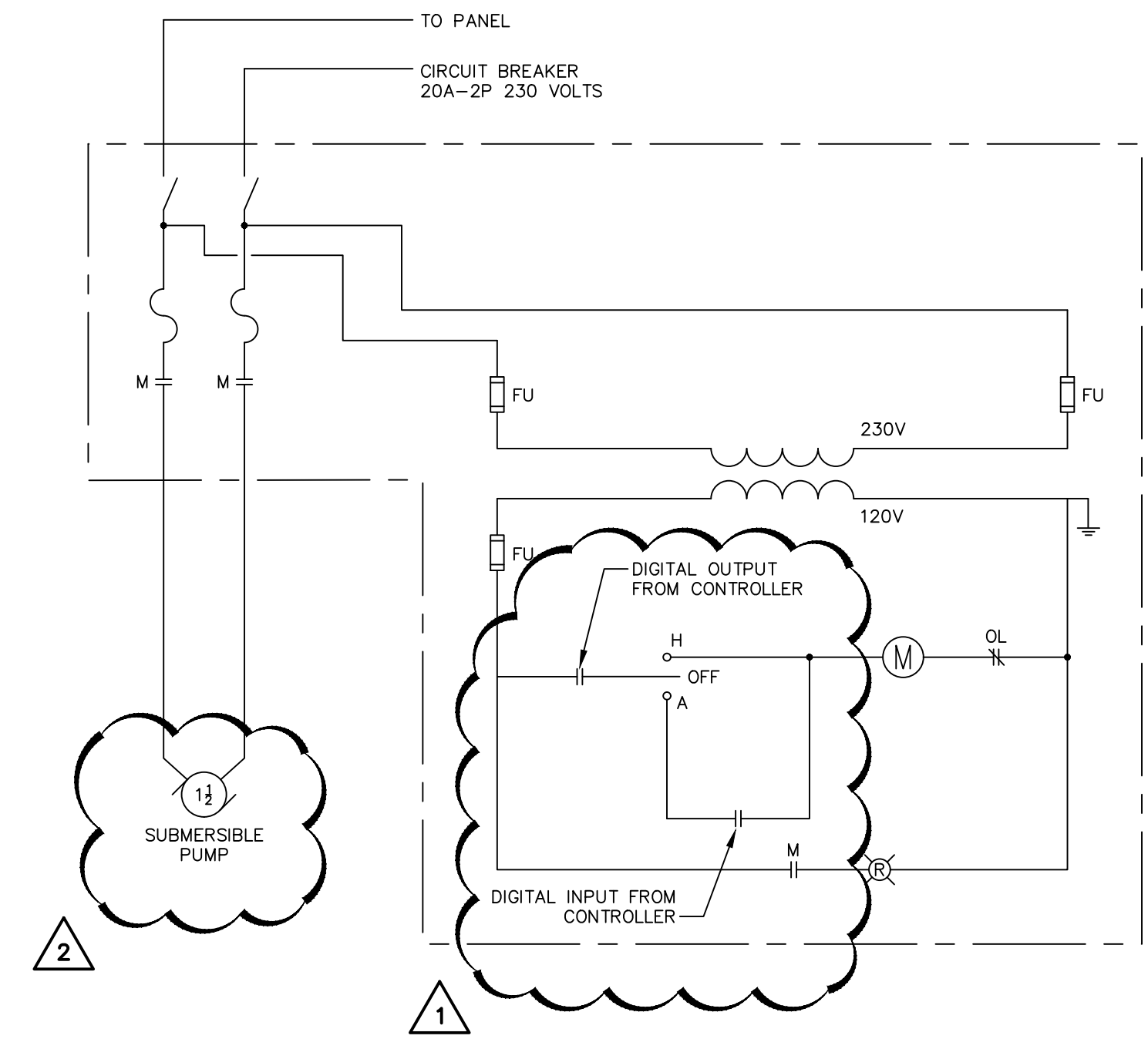


ABBREVIATIONS:

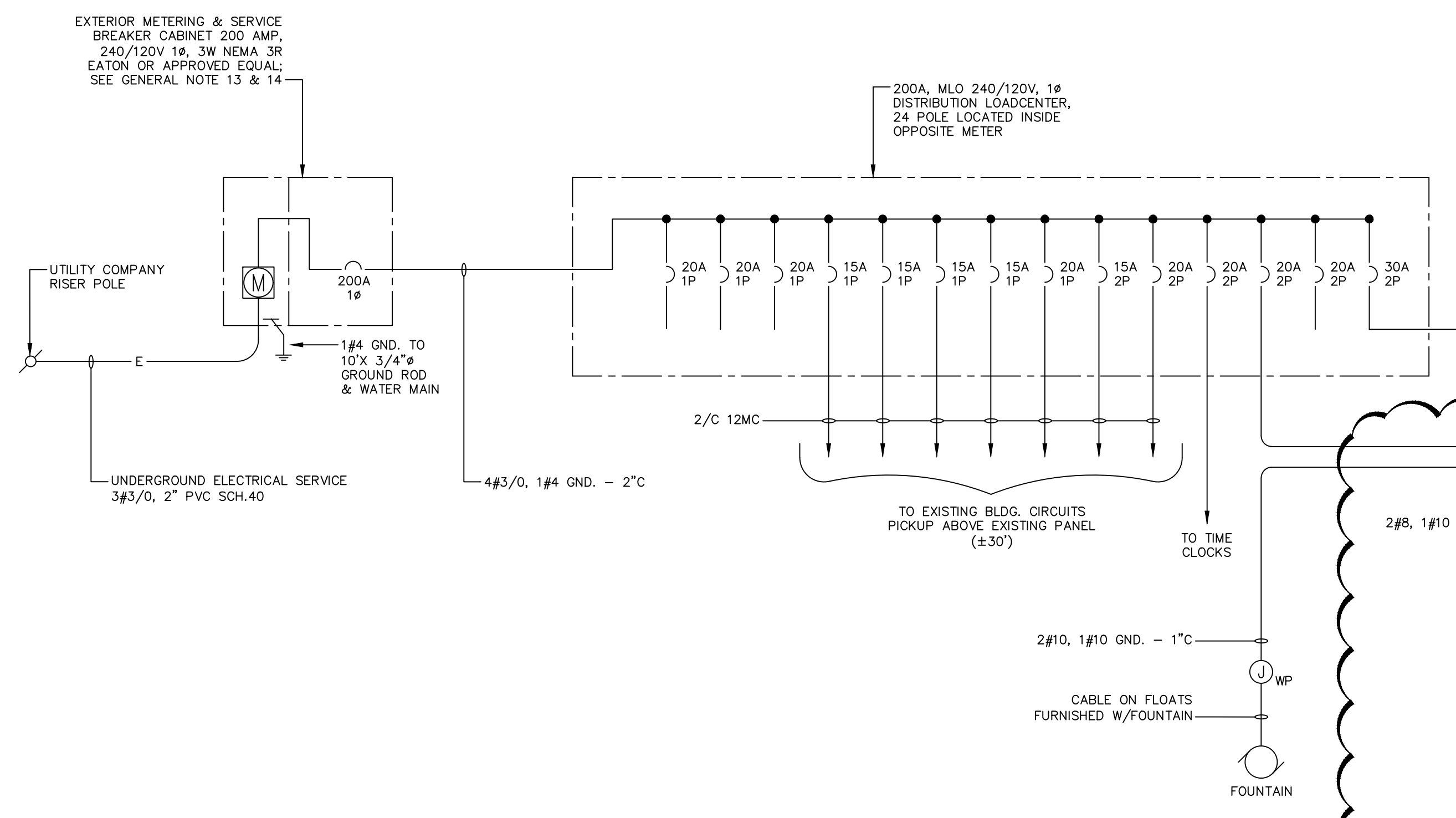
- Ø PHASE
- A AMPERE
- BLDG BUILDING
- C CONDUIT
- D,R&R DISCONNECT, REMOVE AND DISPOSE OF
- DWG DRAWING
- FCO FUSED COUTOUT
- GND GROUND
- KW KILOWATT
- KV KILO VOLT
- LBE LOADBREAK
- MCB MAIN CIRCUIT BREAKER
- PVC POLYVINYL CHLORIDE, SCHEDULE 40
- R&D REMOVE AND DISPOSE
- R&R REMOVE AND REPLACE
- REL RELOCATE
- RS RIGID STEEL
- V VOLTS
- WP WEATHERPROOF (NEMA 4X)
- XFMR TRANSFORMER

GENERAL NOTES

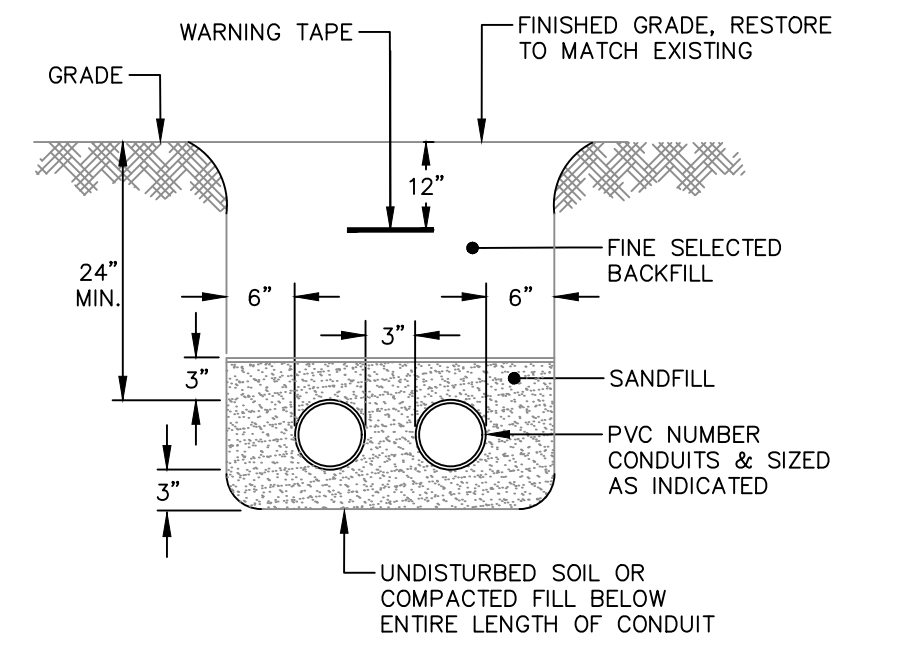
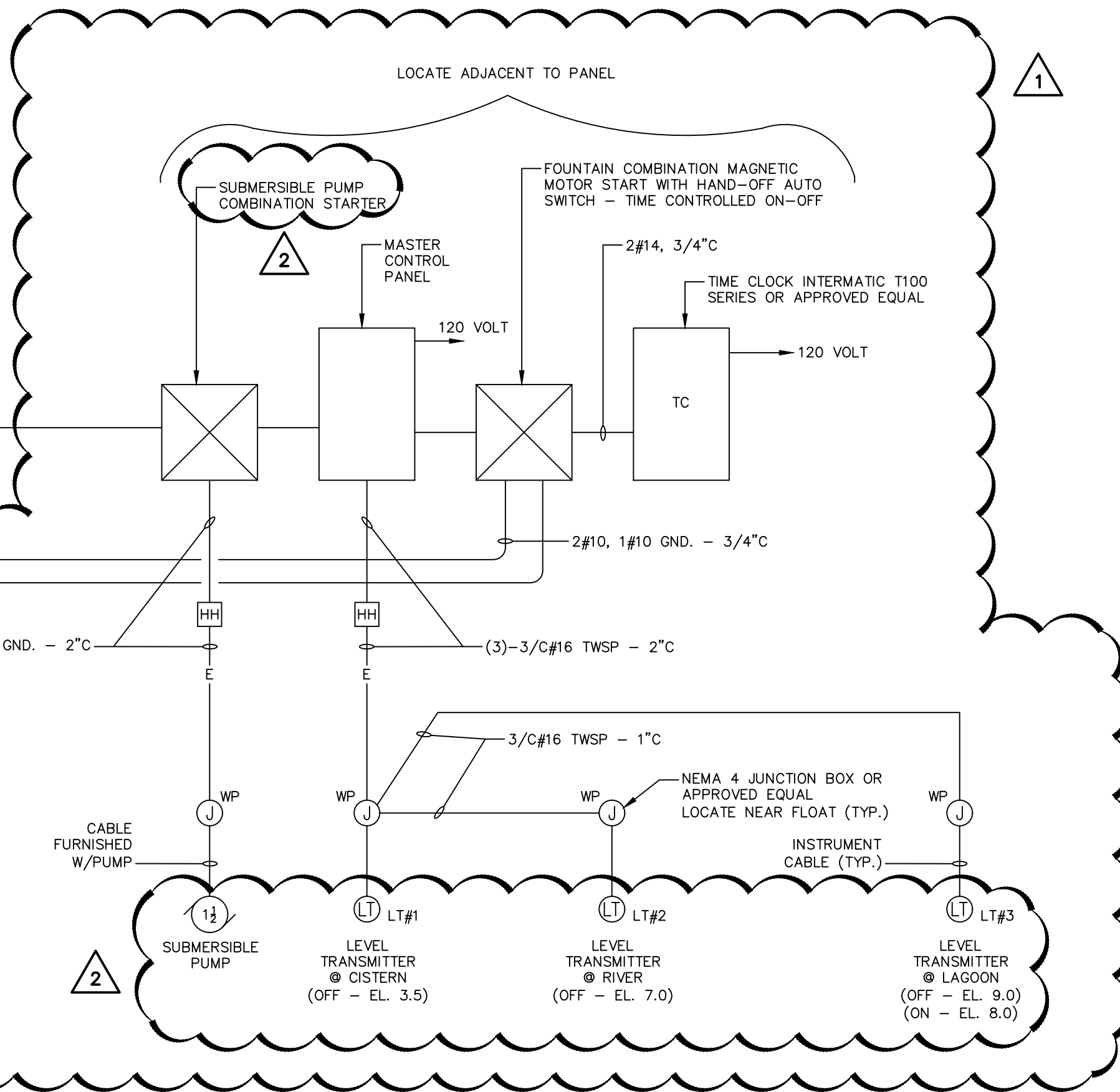
1. ALL UNDERGROUND CONDUITS SHOWN ON THIS SHEET ARE INCLUDED IN THE BASE BID.
2. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL AND MASSACHUSETTS ELECTRICAL CODES AND OTHER STATE OF MASSACHUSETTS REQUIREMENTS AND THE NATIONAL ELECTRICAL SAFETY CODE C2. PRIMARY WORK SHALL BE PER EVERSOURCE REQUIREMENTS AND SUBJECT TO THEIR APPROVAL.
3. INSTALL A COMPLETE GROUND SYSTEM IN ACCORDANCE WITH ALL CODES, AND AS INDICATED.
4. ITEMS INDICATED TO BE "REMOVED" SHALL BE REMOVED COMPLETELY AND PROPERLY DISPOSED OF.
5. DEMOLITION OF EXISTING ELECTRICAL SYSTEM SHALL BE PERFORMED IN A PHASED SYSTEM OF DECOMMISSIONING. THE ENTIRE NEW DISTRIBUTION SYSTEM SHALL BE CONSTRUCTIVELY TESTED AND OPERATIONAL BEFORE CUT OVER OF THE NEW SYSTEM TO EXISTING EQUIPMENT THAT REMAINS.
6. WHERE WIRING IS TO BE REMOVED, RELOCATED OR RECONNECTED, THE CONTRACTOR SHALL TAKE PRECAUTIONS AND ASSUME THAT THE CIRCUIT MAY BE ACTIVE. CONTRACTOR SHALL TEST, VERIFY AND SECURE ALL CIRCUITS BEFORE REMOVAL. UNKNOWN WIRING SHALL BE IDENTIFIED. ANY WIRING TO REMAIN SHALL BE VERIFIED BY THE CONTRACTOR, TAGGED AND IDENTIFIED AS REQUIRED.
7. EXISTING ELECTRICAL EQUIPMENT AND WIRING TO REMAIN SHOWN SHALL BE PROTECTED FROM DAMAGE AS REQUIRED DURING THE CONSTRUCTION PERIOD AND LEFT IN GOOD WORKING ORDER AT COMPLETION. ANY EQUIPMENT DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
8. OWNER AND CODE REQUIRED SYSTEMS THAT ARE REQUIRED TO REMAIN ACTIVE DURING CONSTRUCTION SHALL BE TEMPORARILY WIRED AS REQUIRED TO REMAIN ACTIVE THROUGHOUT THE CONSTRUCTION PERIOD UNTIL NEW SYSTEMS ARE INSTALLED, TESTED AND ACCEPTED.
9. IN CONDITIONS WHERE IN THE OPINION OF THE CONTRACTOR IT IS NOT CLEAR WHETHER EXISTING ELECTRICAL EQUIPMENT IS TO BE REMOVED OR REMAIN, IT SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR REVIEW AND FINAL DECISION.
10. SITE UTILITY PLANS PLANS HAS BEEN DERIVED FROM THE BEST AVAILABLE EXISTING DRAWINGS AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENGAGE AND CONTRACT WITH A SITE UTILITY LOCATION CONTRACTOR TO FIELD LOCATE AND MARK ALL UTILITIES ALONG DUCTBANK ROUTING AND EQUIPMENT INSTALLATION LOCATIONS. ANY EQUIPMENT THAT IS NOT IDENTIFIED AND CONFLICTS WITH CONSTRUCTION SHALL NOT BE DISCONNECTED AND SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER / ENGINEER FOR DISPOSITION.
11. USE LONG RADIUS SWEEPS FOR ALL BENDS.
12. CONDUITS SHALL BE SWABBED BEFORE CABLES ARE PULLED IN.
13. CUT-OVERS AND ANY INTERRUPTION TO ELECTRICAL SERVICE ARE TO BE SCHEDULED AND PERFORMED AT A TIME THAT IS ACCEPTABLE TO CITY AND OWNER.
14. CONTRACTOR SHALL COORDINATE NEW SERVICE REQUIREMENTS WITH UTILITY COMPANY.
15. CONTRACTOR SHALL APPLY FOR SERVICE UPGRADE WITH UTILITY.
16. CONTRACTOR TO SET LEVEL TRANSMITTERS AT ON START UP, BASED ON INPUT FROM ENGINEER.
17. CONTRACTOR SHALL REMOVE EXISTING ELECTRICAL SERVICE METER AND LOAD CENTER AND PROPER DISPOSE OF..



SUBMERSIBLE PUMP STARTER WIRING DIAGRAM
NOT TO SCALE



NEW ELECTRICAL SERVICE/POWER DISTRIBUTION ONE LINE DIAGRAM
NOT TO SCALE



TYPICAL ELECTRICAL CONDUIT IN TRENCH
NOT TO SCALE

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