STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

July 10, 2025
Subject: Woodland Fish Passage
WIN: PH20250514WFP
Location: **Baileyville**
Amendment No. 7

Dear Sir/Ms.:

REMOVE, "Exhibit B-6 Intake Rack Design for Downstream Passage" 90% design plans by Kleinschmidt dated June 3, 2025, and **REPLACE** with the attached "Exhibit B-6 Intake Rack Design for Downstream Passage" Issued for Bid and dated July 9, 2025.

REMOVE, select sheets of "Exhibit B Design Plans" and dated June 3, 2025, and **REPLACE** with the attached revised sheets of "Exhibit B Design Plans" dated July 9, 2025. Revised sheets are listed in the Drawing Updates table below, and updates are clouded for visibility.

Drawing Updates per Finalized Intake Design		
Drawing No.	**Title**	**Exhibit**
G-120	Construction Limits & Staging Areas	B-1
G-121	Site Access & Staging Areas	B-1
G-130	Erosion Control & Dewatering Plan	B-1
C-010	Overall Site Plan - General	B-2
C-011	Structure Control Plan	B-2
C-160	Downstream Bypass General Arrangement Plan	B-2
C-161	Downstream Bypass Section	B-2
C-162	Downstream Eel Bypass Sections and Details	B-2
S-003	General Overview	B-3
S-160	Downstream Fish Bypass Plan	B-3
S-161	Downstream Fish Bypass Section	B-3
S-162	Bypass Trough Section	B-3
S-165	Downstream Fish Passage Section	B-3
S-179	Bypass Entrance Transition Segment	B-3
M-002	General Mechanical Layout	B-4
M-160	Downstream Bypass Slide Gate (DSG-14 & DSG-15)	B-4
Drawing Updates per RFIs		
Drawing No.	**Title**	**Exhibit**
S-136	Steel Exit Flume Plans and Sections	B-3
S-139	Steel Exit Flume Details	B-3

REMOVE, "Exhibit B-5 Electrical Design Plans" dated June 3, 2025, and **REPLACE** with the attached revised "Exhibit B-5 Electrical Design Plans" dated July 9, 2025. Updates are clouded for visibility.

Estimated quantities of major materials provided in Amendment No. 5 applied to Exhibits B-1 through B-4 only. Changes in those quantities based on the drawing revisions and estimated quantities for major materials applicable to Exhibit B-6 will be provided by Amendment no later than July 16, 2025.

The following information has been added:

Enclosed are WPLLC "Networking Installation Specifications Section" and "Tray Installation Specifications Section" incorporated by reference into Exhibit C in response to Questions 53 and 64 below.

The following questions have also been received:

45. **Question:** Addendum #3 response to questions 5 & 7 indicate bidders shall include in their bids their proposed outage plan and timeline(s) for impacts to hydro and/or electric power distribution.
Please clarify the intent. Is a written narrative of our work plan and/or clarifications required with the bid, or is the intent to price in the cost of the shutdown time? If the latter, what are the rates for and allowable durations for shutdown impacts?

    Response: Bidders shall assume the following key hydro turbine and high-voltage power outages to prepare bids and may disregard the implication of a written work plan provided prior to award. If deviation from any of these is proposed, submit an RFI detailing the proposed alternate outage(s) and include anticipated time-of-year for WPLLC's consideration of flow conditions and operational constraints.

    Bidders are reminded that, after award and contracting, the Contractor is required to submit its detailed work plan and schedule per the Design Specifications that shall clearly identify outage types, durations, and dates within the work sequencing to be reviewed for acceptance by the Engineer, Maine DMR, and WPLLC. Activities and submittals identified below as the responsibility of the "Contractor" or the "awarded Contractor" shall be interpreted to occur after the construction contract is fully executed.

    Note that hydro station outages cannot overlap with any proposed outage of the 34kV overhead lines, and the Contractor's onsite crews shall be scheduled to work double shifts through each outage period to minimize respective duration and subsequent impacts to WPLLC operations.

    Hydro Station Outages

    1. Outage of two hydro units for up to 4 weeks for installation of the cofferdam within the tailrace.

2. Outage of two hydro units for up to 3 weeks for removal of the cofferdam within the tailrace.
3. Outage of two units for 3 to 5 days to slow water flow and reduce turbulence in the tailrace sufficiently to move the access bridge for installation.
4. The awarded Contractor must coordinate closely with WPLLC to sequence hydro unit outages in 3 phases for trash rack replacement and bypass work to allow some generation at the hydro station at all times. Double shifts are required unless the work is scheduled to occur during seasonal low-flow periods when full generation is not feasible.

Overhead 34kV Line Outages

5. Outage of the 34kV overhead distribution lines for two shifts to install insulating jackets on the lines, which will facilitate crane placement and picks and delineation of the wires for added safety.
6. Up to 20 additional 12-hours shifts are considered acceptable for critical work activities in close proximity to the overhead lines.
    A. The Contractor shall propose additional protection measures to be deployed during the outages permitted by WPLLC to avoid or limit further outage for work on the new fish ladder due to its low overhead clearance to the lines in select locations.

Cable Duct Outage

7. A limited-duration outage of the cable duct for relocation during construction may be considered acceptable. If so elected, the awarded Contractor shall submit a detailed plan for review and approval by WPLLC that includes duration, method, materials, and route proposed for the relocation.

46. **Question:** Do the micropile cased lengths within the micropile schedules on drawings S-455, S-456, and S-457 include the portion of the casing that is embedded in the pile cap?

    Response: No, the cased length shown in the micropile schedule starts at the bottom of the footing and does not include the embedded length within the pile cap.

47. **Question:** Specification Section 31 63 33 Mircropiles and drawing S-458 state threaded casing joints/connections are not permitted, which is unusual. What is the rationale for this? Note 10 on drawing S-458 requires micropiles to be able to extend 200% deeper than expected. Threaded casing connections are required to allow this flexibility. Will threaded casing connections be permitted?

    Response: Given the height of the structure and seismicity of the area, there is a relatively high bending stress on the casing. Consideration of corrosion loss indicates there is insufficient steel section at the joints. Threaded casing joints within the upper 10 feet are therefore not permitted unless the joints are reinforced, thicker casing is proposed, or an inner casing is used and staggered so that the joints are not overlapping. Also note that "200 percent depth" in Note 10 will be corrected to clarify double the expected depth since 200% of depth can be inferred as quadruple.

48. **Question:** Is compression testing required for micropiles that are to be verification tested or proof tested?

    Response: Yes. Refer to Notes 12 and 13 of Sheet S-458.

49. **Question:** Would you consider postponing the bid due date to August 2nd?

    Response: Maine DOT receives bids on Wednesdays. Refer to the extension to July 30, 2025, granted in Amendment No. 6.

50. **Question:** Can we get a bid extension to Friday, August 1st?

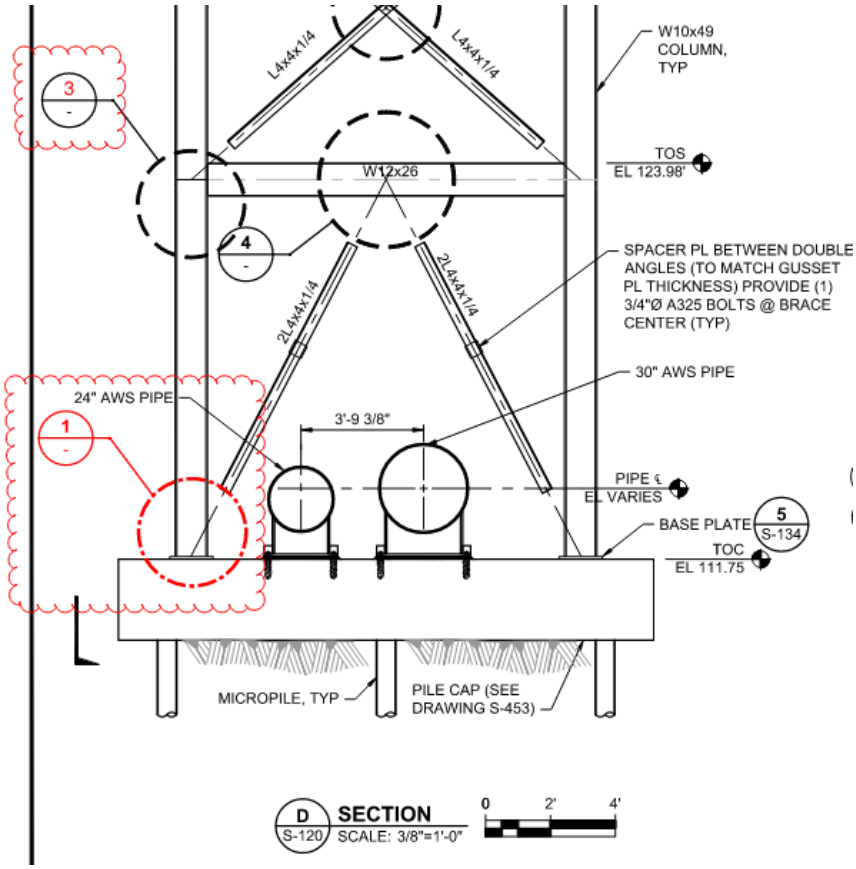
    Response: Refer to Question 49.

51. **Question:** The Steel Exit Flume support on DWG S-133 doesn't show QTY, the views given suggests a box like support which would increase material. Please confirm exit flume support is designed with 4 columns or 2.

    Response: The exit flume support is designed with four (4) columns. The foundation with 4 columns is shown on the plan view on S-450, and details are provided for Foundation Type O on S-457.

52. **Question:** Detail 1 on DWG S-133 shows your column landing on a footing 12' above TOC. The plan views and detail 7 contradict this. Please confirm there is no concrete footing and that this should be a steel/steel connection W10x49.

    Response: The callout for Detail 1 will be revised to refer to Detail 3 of S-133; Detail 1 applies to the base of the column. Refer to the updated view below:

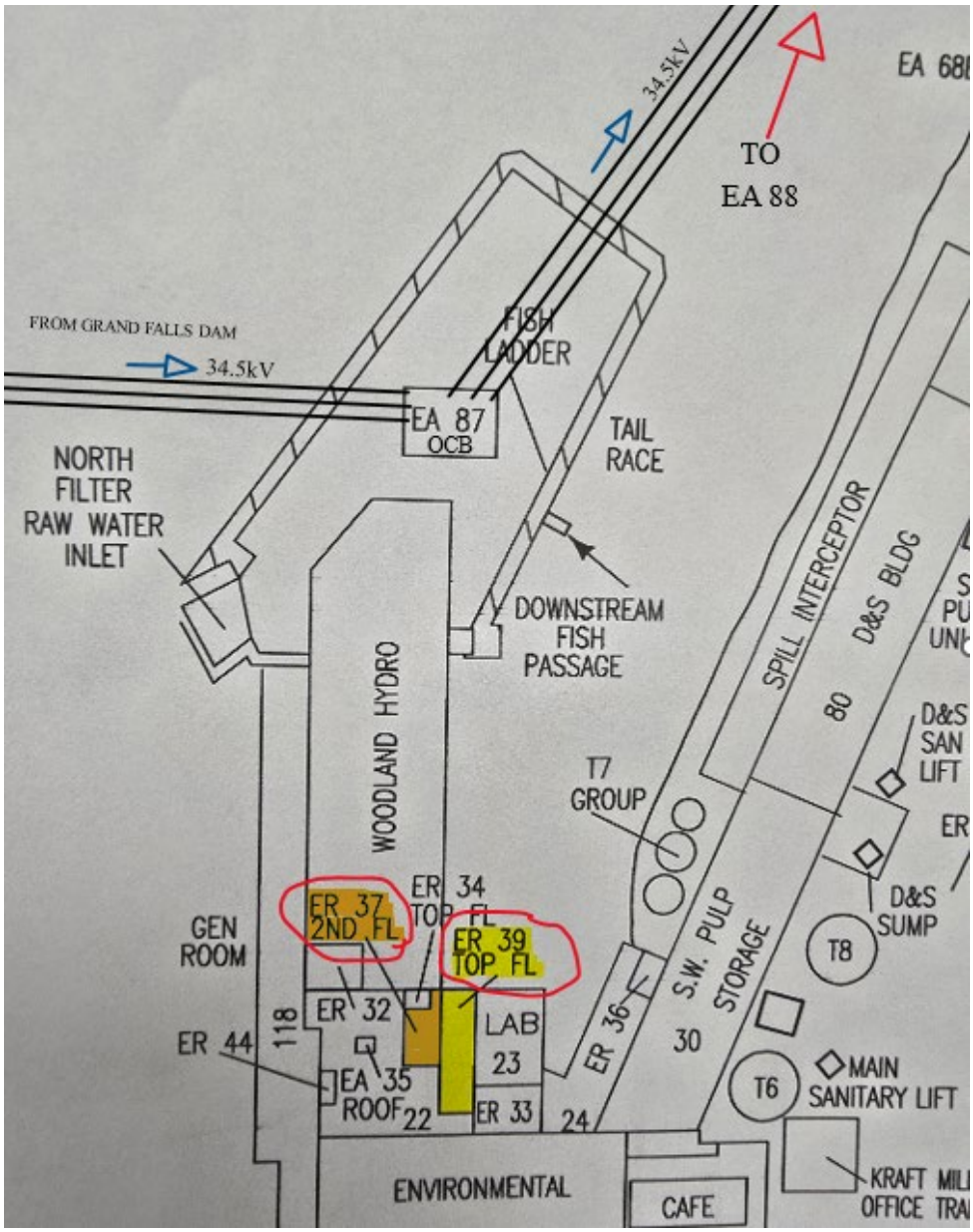


53. **Question:** Please provide a tray cable specification.

    Response: The cable tray specification is found in the general notes on Sheet EE-CJ-001. Notes 1 and 2 refer to the material, and Notes 3 through 7 refer to installation. See the enclosed WPLLC Tray Installation Specifications Section for further details on which the electrical design was based.

54. **Question:** Please provide the location of Primary Mill Source ER37 to include available existing raceways.

    Response: ER 37 is located adjacent to the hydro station as shown in the map below:



55. **Question:** Please provide the location of alternate Mill Source Buss B MCC Bucket B8-6.

    Response: These feeders are in ER 39, the location of which is shown in the map provided under Question 54.

56. **Question:** Steel Exit Flume on DWG S-131 states that the project includes (2) exit flume sections 34' long . Please confirm the QTY of the structures on the drawings.

    Response: Confirmed there are two (2) exit flume sections.

57. **Question:** Please provide location and mounting details for the Fish lift V-Gate Limit switches.

    Response: The Contractor shall propose the locations and mounting hardware for the limit switches with its shop drawing submittal for the V-Gate. Note that Section 1.02 of Specification Section 35 20 16 indicates select gates including the V-Gate are "not included" in the section. This language will be revised to clarify that the design criteria and requirements do not apply for these gates but that all other requirements of this specification section, such as fabrication requirements and shop drawing submittals, shall apply.

58. **Question:** Please provide manufacturer and part # of V-Gate limit switches VG3AZS & VG3BZS.

    Response: The Contractor shall propose the manufacturer and part numbers for the limit switches with its shop drawing submittal for the V-Gate. Refer to Question 57.

59. **Question:** Please provide manufacturer and part # of Water Level Sensors 1 thru 8.

    Response: The Contractor shall propose manufacturer and part numbers in its shop drawing submittal for the Still Well Water Level Probes. The sensors shall be pressure transducers with accuracy tolerance no greater than +/-0.1%, operating temperature range suitable for in situ water temperatures, IP68 or better rating, stainless steel or titanium body, sampling rate capability of 2 seconds or less, overpressure protection, and temperature compensation. Acceptable examples include the YSI Model WL-450 and the Campbell Scientific CS451, but the Contractor may propose any equivalent meeting these requirements.

60. **Question:** Is contractor responsible for programing Fish lift Control Panel? If so please provide order of operation.

    Response: Yes, the Contractor shall be responsible for programming inclusive of order of operation. The Contractor shall submit an operation sequencing diagram and description to the Engineer for review and acceptance as part of its testing plan or separately in advance of commencing programming as needed.

61. **Question:** Noted on S-136 on detail #1 that the 13'8" measurement is only 12'2" based on the scale provided. Which measurement should be used? Going forward what should take precedent for discrepancies measured with scale?

    Response: The 13'-8" dimension shown incorrectly included the 1'-6" dimension directly below; the 12'-2" measurement would therefore be correct. However, the top extent of this dimension has been revised in the attached reissuance of this sheet to stop at the centerline of the web reflecting a measurement of 12'-0".

62. **Question:** Note 2 on sheets S-147 & S-148 refence top of wall elevations and top of slab on sheet S-142. S-142 does not show elevations. Please confirm that these elevations are on sheets C-142, C143, and C-144.

Response: Confirmed that these elevations are shown on fish ladder plan and profile Sheets C-142 to C-144. Note 2 of S-147 will be revised to refer to C-142 rather than S-142.

63. **Question:** The foundation schedule on sheet S-450 provides the top of concrete elevations for the foundations. The provided elevations do not match the elevations provided on sheets C-142, C-143, and C144. Please confirm which elevations govern.

    Response: The bedrock profiles shown in the civil plans are approximate and may vary. Bidders shall refer to the top-of-concrete elevations shown in the Foundation Schedule of S-450.

64. **Question:** Please provide the number of Fiberoptic pairs required for Multimode Fiber Optic Cables.

    Response: All Fiber shall be no less than 48 strands when pulled from building to building per WPLLC requirements. Refer to the enclosed WPLLC Networking Installation Specifications Section for further details on which the electrical design was based.

65. **Question:** Please provide all HSS & W-Beam lengths for the exit flume where it connects to the fish lift, there are discrepancies between front view and side view on drawing S-138.

    Response: Refer to the attached reissuance of structural Sheet S-139 clouded to identify revisions.

66. **Question:** Please provide detail of special support on drawing S-136 detail A. This sits below and extends East of IG-10.

    Response: Refer to the attached reissuance of structural Sheet S-136 clouded to identify revisions.

67. **Question:** Note 3 states, "Existing Storm Drain System. Replace In-Kind. Coordinate with Woodland Pulp." Please provide details on what this work entails.

    Response: Bidders shall assume the existing drains will be protected and re-established in their existing locations. The awarded Contractor shall submit a proposed means of extending the drains up to the new finished road grade for review and acceptance by the Engineer.

68. **Question:** Please provide BOM for pipe/steel transition at wedge wire screen #3 for the exit flume on drawing S-139. Current the material and thickness is unknown to create transition. The drawings are not clear on the W10 x 26 beam.

    Response: Refer to the attached reissuance of structural Sheet S-139 clouded to identify revisions.

69. **Question:** Please provide a detail or explanation of the bottom stiffener plates for the steel trough.

Response: Assuming this is the bypass trough on S-160, there are (5) ½" x 6" steel bottom stiffeners. The stiffeners are spaced at 2'-0" on center. There are 14 segments. Refer to S-163 and S-164.

Refer to S-167, S-169, S-171, and S-173 for the steel transition flume (1-4). The connection plates are ½" x 6". The back stiffeners vary in thickness depending on location; refer to Bypass Lower Plan View and the Detail 3 Back Stiffener (PL-4 to PL-6). The additional back stiffeners are ½" x 6"; refer to Bypass Lower Plan View and the Detail 4 Additional Back Stiffener (PL-8 to PL-11).

70. **Question:** The quantity of the supports needed on the interior wall of the steel trough are unclear. Please advise.

    Response: Assuming this is the bypass trough on S-160, there are 4 supports per segment. There are 14 segments. On steel transition flume (1-4), there are 4 supports per segment. Total there are 72 total supports.

71. **Question:** Section B has a note "existing retaining wall to remain" It also shows that the top section is to be removed. Please confirm it this section is to remain or is part of the demolition.

    Response: The top portion of the retaining wall is used to facilitate construction of the fish lift concrete flume but will be removed to construct pipe support foundations. The lower portion will remain. Sheet S-102 will be updated with hatching to identify the upper portion to be removed after fish lift concrete flume construction.

72. **Question:** Several vendors are having difficult procuring large bore HDG pipe domestically, would a substitute for SS be acceptable?

    Response: We assume this question refers to the galvanized steel casing shown in Section B of Sheet S-459. Due to strength requirements, stainless steel is not an acceptable alternative. Non-domestic galvanized steel pipe is acceptable for this application.

73. **Question:** Drawing D100, the demolition plan it seems clear that sections A, D and C are full concrete demo, but per the legend it looks like they are remove only to elevation 110'. Please confirm those sections are full demolition.

    Response: Sections A, C and D are confirmed full removal. The Legend will be updated to reflect the following:

LEGEND:

DEMOLITION OR FULL CONCRETE REMOVAL

FISH LADDER CONCRETE REMOVAL DOWN TO EL 110.0'. SEE NOTE 2

FISH LADDER CONCRETE REMOVAL DOWN TO EL 107.75' FOR NEW BRIDGE ACCESS

74. **Question:** Drawing G-121 shows removal of berm. At the site visit it was unclear whether the material was contaminated or not. Please clarify. Also does is it the intent for the berm to be rebuilt?

    Response: The response to this question will be provided no later than July 16, 2025.

75. **Question:** Please provide all site overhead line voltages for the determination and maintaining safe working distances.

    Response: Incoming and outgoing overhead lines are 34.5kV. Refer to the map provided under Question 54.

76. **Question:** Please provide more detail on the viewing room window. Drawing M-127 tells you to review "Note 1" which provides 0 information.

    Response: The callout for Note 1 will be deleted. Viewing window details are provided on C-125 Viewing Window Details.

77. **Question:** Micropile drawing S-459, detail D shows a galvanized plate that is welded to the micropile. The welding of galvanized material concerns us. Would either of the 2 approached be allowed if the contractor can provide design calculations to support?
    2 approaches would resolve this:
    1. We would suggest either the plates and stiffeners are uncoated bare steel.
    2. Thicken the 10”x10” galv plate, eliminate the welding and stiffeners. (typical approach)

    Response: Either option is acceptable. The plate and stiffeners are in concrete.

78. **Question:** Micropile drawing S-455, S456, S457 require micropile casing lengths of 12.5 to 22.5 feet. S-458 Note16 and Section 31 63 33 Micropile 3.04 C4 state threaded pipe casing joint are not permitted. Please confirm casing joints are not allowed, or would either of the approach be allowed if the contractor can provide design calculations to support?

    Please consider the information below from a micropile installer’s point of view – thank you.

A standard micropile rig will install casing in 10 foot flush joint threaded sections. This allows the drill to adjust the cased length with uneven rock elevation. The following 2 approaches will allow standard equipment to be used.

1. The joints can be drilled such that they are a minimum of 9 foot below cut off (10 foot + room for tolerances). That joint would be adequately confined but ~ 8 feet of soil.
2. The joint could be reinforced with an inner-casing meeting or exceeding the allowable bending.

If no threaded joints are allowed, the micropile will be much more costly to install and be "out-of-the-ordinary". Possible solutions are:

- Mobilize a long stroke drill (into a small area), start with longer casing, and hit rock where plans say +/-
- Propose welding procedure for field welding a full-pen 80ksi pipe., impractical.
- Use temporary oversized sectional casing, practical but expensive.

Response: Refer to Question 47. Standard micropile rig and threaded joints are agreeable provided the Contractor submits design calculations to support for the reinforced inner casing for review and acceptance by the Engineer.

79. **Question:** Sheet S-458, Note 12 specifies 5 proof tests on production pile.
Sheet S-458, Note 13 specifies 5 verification tests on sacrificial pile.
Section 31 63 33 Micropile 3.06 specifies compression, tension, and lateral load testing.
Typically all proof and verification testing of micropile are in tension to eliminate end bearing contribution and compression tests are 200% more costly. Please specify if compression tests and/or lateral test are required and how many of each.

    Response: Five proof tests and five verification compression tests are required given the poor rock quality encountered.

80. **Question:** Addenda 2 lists 3 types of rock anchors (see below)
Will all rock anchor need to be load tested?
Fish Lift Rock Anchors - #8 75 ksi Galvanized Steel Bar x LF 156
Access Bridge Rock Anchors - 2" Hollow Core 85 ksi Galvanized Steel Bar x LF 85
Access Bridge Rock Anchors - #8 Dowels x LF 196

    Response: The #8 dowels will not need to be load tested. However, the Fish Lift Rock Anchors and 2" hollow core anchors at the bridge will need to be load tested.

Consider these changes and information prior to submitting your bid on **July 30, 2025.**

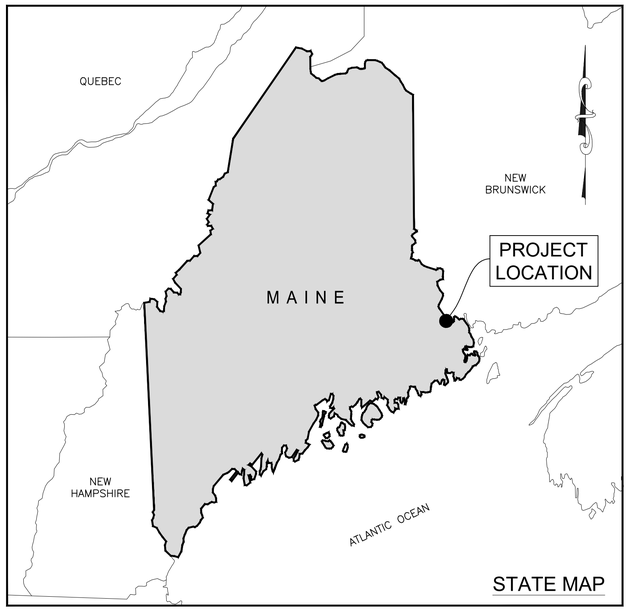
Sincerely,

George M. A. Macdougall P.E.
Contracts & Specifications Engineer

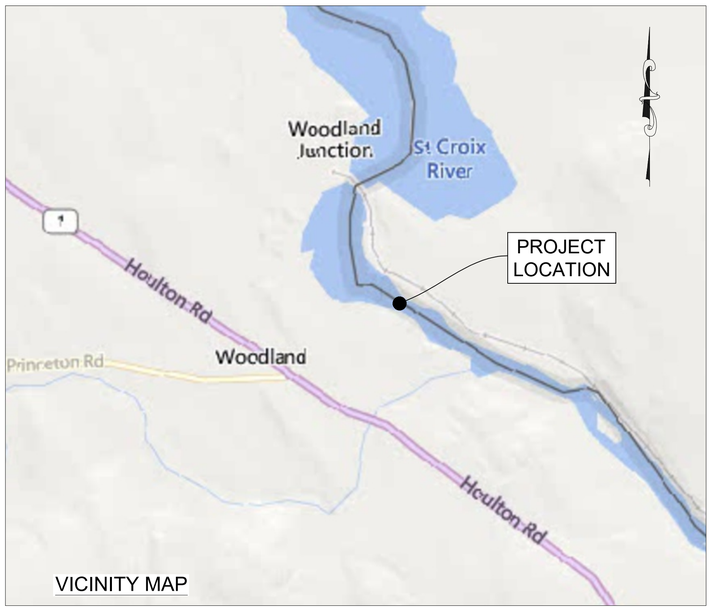
22x34 = FULL SCALE

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE



STATE MAP



VICINITY MAP

SITE MAP

ISSUED FOR BID 07-07-25

PRELIMINARY NOT FOR CONSTRUCTION

Kleinschmidt

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22x34 = FULL SCALE

WOODLAND - INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

DRAWING LIST

SERIES	SHEET NUMBER	DRAWING NAME	DATE	DRAWING STATUS
100 - GENERAL INFORMATION				
	100-00	DRAWING LIST	07/07/2025	ISSUED FOR BID
	100-01	GENERAL NOTES	07/07/2025	ISSUED FOR BID
	100-02	GENERAL NOTES	07/07/2025	ISSUED FOR BID
200 - EXISTING CONDITIONS				
	200-01	ORIGINAL (PRE 2022) CONDITIONS - PLAN AND SECTION	07/07/2025	ISSUED FOR BID
	200-02	EXISTING CONDITIONS - PLAN AND SECTION	07/07/2025	ISSUED FOR BID
	200-03	EXISTING CONDITIONS - SHEET WITH PHOTOS	07/07/2025	ISSUED FOR BID
	200-04	EXISTING CONDITIONS - DEMOLITION	07/07/2025	ISSUED FOR BID
300 - NEW CONDITIONS				
	300-01	NEW INTAKE - PLAN AND SECTION	07/07/2025	ISSUED FOR BID
	300-02	NEW INTAKE - FRAMING SECTION BENT 0	07/07/2025	ISSUED FOR BID
	300-03	NEW INTAKE - FRAMING SECTION BENT 1 - 6	07/07/2025	ISSUED FOR BID
	300-04	NEW INTAKE - FRAMING SECTION BENT 7 CLOSURE WALL	07/07/2025	ISSUED FOR BID
	300-05	NEW INTAKE - FRAMING SECTION BENT 7 CLOSURE WALL DETAILS	07/07/2025	ISSUED FOR BID
	300-06	NEW INTAKE - FRAMING SECTION BENT 8 - 11, 12, 13 - 14, AND 15 - 21	07/07/2025	ISSUED FOR BID
	300-07	NEW INTAKE - FRAMING SECTION BENT 22	07/07/2025	ISSUED FOR BID
	300-08	NEW INTAKE - FRAMING SECTION BENT 23	07/07/2025	ISSUED FOR BID
	300-09	NEW INTAKE - CONCRETE SILL	07/07/2025	ISSUED FOR BID
	300-10	NEW INTAKE - STOPLOGS	07/07/2025	ISSUED FOR BID
400 - TRASHRACK AND RAKER SUPPORT				
	400-01	TRASH RAKER SUPPORT - PLAN VIEW	07/07/2025	ISSUED FOR BID
	400-02	TRASH RAKER SUPPORT SECTION AT TYPICAL BENT, CLOSURE WALL AND GATE OPERATOR	07/07/2025	ISSUED FOR BID
	400-03	TRASH RAKER SUPPORT - SPLICE CONNECTION AND OTHER DETAILS	07/07/2025	ISSUED FOR BID
500 - BYPASS ENTRANCE				
	500-01	TRASH RACKS - OVERVIEW	07/07/2025	ISSUED FOR BID
	500-02	TRASH RACKS - SUPPORT FRAME TYP. 10.5 FT / 9 FT BAY	07/07/2025	ISSUED FOR BID
	500-03	TRASH RACKS - RACK PANELS TYP. 10.5 FT / 9 FT BAY	07/07/2025	ISSUED FOR BID
	500-04	TRASH RACKS - BYPASS ENTRANCE	07/07/2025	ISSUED FOR BID
	500-05	TRASH RACKS - SUPPORT FRAME AT BYPASS ENTRANCE #1 / #2	07/07/2025	ISSUED FOR BID
	500-06	TRASH RACKS - BYPASS ENTRANCE REMOVABLE SECTION	07/07/2025	ISSUED FOR BID
	500-07	TRASH RACKS - RACK PANELS AT BYPASS ENTRANCE #1 / #2	07/07/2025	ISSUED FOR BID
600 - CONCRETE				
	600-01	CONCRETE DECK TOPPING - PLAN	07/07/2025	ISSUED FOR BID
	600-02	CONCRETE DECK TOPPING - SECTIONS	07/07/2025	ISSUED FOR BID
	600-03	CONCRETE DECK TOPPING - SECTIONS	07/07/2025	ISSUED FOR BID
700 - ELECTRICAL				
	700-01	ELECTRICAL - SINGLE LINE DIAGRAM	07/07/2025	ISSUED FOR BID
	700-02	ELECTRICAL - PLAN	07/07/2025	ISSUED FOR BID
710 - CONTROLS				
	710-01	SCHEMATIC - EEL ENTRANCE BACK-FLUSH CONTROL	07/07/2025	ISSUED FOR BID
	710-02	CABINET LAYOUT - EEL ENTRANCE BACK-FLUSH CONTROL PANEL	07/07/2025	ISSUED FOR BID

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

DRAWING LIST

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	100-00

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3" 2" 1" 0 22x34 = FULL SCALE

GENERAL NOTES

1. ALL ELEVATIONS ARE SHOWN IN BOTH NAVD88 AND MILL DATUM. MOST OF THE ELEVATIONS ARE BASED ON HISTORICAL DRAWINGS IN MILL DATUM AND HAVE BEEN CONVERTED TO NAVD88 TO MATCH THE VERDANTAS FISH PASSAGE DRAWINGS. AN APPROXIMATE CONVERSION OF 3.8 FT WAS USED (NAVD88 = MILL DATUM + 3.8 FEET), HOWEVER, NO BENCHMARK WAS FOUND TO CONFIRM THIS CONVERSION.
2. THESE ARE STANDARD NOTES APPLYING TO ALL WORK. SPECIFIC NOTES SHOWN ON OTHER DRAWINGS WILL TAKE PRECEDENCE.
3. CONTRACTOR SHALL SCHEDULE WORK IN COOPERATION WITH WOODLAND PULP.
4. DETERMINE LOCATIONS, EXISTING CONDITIONS AND DIMENSIONS BY VISITING THE SITE. VERIFY ALL DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING MATERIAL AND BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IN WRITING.
5. INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON LIMITED INFORMATION. VERIFY ALL DIMENSIONS AND NOTIFY THE OWNER AND ENGINEER OF DISCREPANCIES.
6. WHERE DIMENSIONS ARE NOT SHOWN, CONTACT THE ENGINEER.
7. CONTRACTOR SHALL DISCUSS LAYDOWN AND STAGING AREAS WITH WOODLAND PULP PRIOR TO START OF CONSTRUCTION AND BE RESPONSIBLE FOR THE DESIGN AND PLACEMENT OF THEIR EQUIPMENT OVER EXISTING INFRASTRUCTURE.
8. PROTECT ALL EXISTING SITE FEATURES FROM DAMAGE DURING CONSTRUCTION ACTIVITIES.
9. CONTRACTOR SHALL LEAVE SITE IN AS IS OR BETTER CONDITION UPON PROJECT COMPLETION. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO DAMAGED AREAS CAUSED BY CONSTRUCTION ACTIVITIES.
10. ALL MATERIALS STORED ON SITE SHALL BE IN A NEAR, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND ALLOCATED STORAGE AREAS.
11. CONTRACTOR SHALL CLEAN ANY SPILLS OR DEBRIS CAUSED BY CONSTRUCTION.
12. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR THOROUGHLY REVIEWS AND UNDERSTANDS ALL PLANS AND OTHER DOCUMENTS BY ALL PERMITTING AUTHORITIES. ANY SOLID WASTE FROM THE SITE SHALL BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
13. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY REPSONSIBLE FOR THE MEANS, METHODS, TECHNIQUES AND PROCEDURES OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO BRACING OF THE WORK AS REQUIRED TO PROTECT THE WORK UNTIL THE PROJECT IS COMPLETE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
15. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND PROTECTING WORK FROM RISING WATERS IN COORDINATION WITH WOODLAND PULP. DAMAGE TO PARTIALLY COMPLETED WORK, MATERIALS, OR EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
16. THE STRUCTURES HAVE BEEN DESIGNED TO BE SELF SUPPORTING IN THE FINAL CONDITIONS AS SHOWN IN THE CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCES TO ENSURE STABILITY AND SAFETY DURING ALL ASPECTS OF CONSTRUCTION. THIS INCLUDES BUT NOT LIMITED TO EXCAVATION, DEMOLITION, AND ERECTION AND MAY INVOLVE THE ADDITION OF SHEETING, SHORING, TEMPORARY BRACING, GUYS, TIE DOWNS, ETC. STABILIZING STRUCTURES DURING CONSTRUCTION, BUT NOT REQUIRED IN THE FINAL CONDITIONS AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO MAINE DMR.

SUBMITTALS

1. SHOP DRAWINGS - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL FABRICATIONS INCLUDING CONCRETE REINFORCEMENT. SUBMIT ONE ELECTRONIC COPY OF SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. SHOP DRAWINGS SHALL INCLUDE:
   A. PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF ALL MEMBERS AND CONNECTIONS.
   B. INDICATION OF SIZES, SPACING, LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, ATTACHMENTS, AND FASTENERS.
   C. INDICATION OF WELDED CONNECTIONS WITH AWS A2.0 WELDING SYMBOLS. INDICATE NET WELD LENGTHS.
   D. DETAILS OF ANCHORAGE AND ACCESSORY ITEMS.
   E. TEMPLATES FOR ANCHOR AND BOLT INSTALLATION BY OTHERS.
   F. BAR SCHEDULES, SPACING, ARRANGEMENT, PLACEMENT, AND BENDING OF CONCRETE REINFORCEMENT.
2. PRODUCT DATA - THE CONTRACTOR SHALL SUBMIT DATA FOR PROPRIETARY MATERIALS AND ITEMS INCLUDING: MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, ELECTRICAL FIXTURES, INSTALLATION INSTRUCTIONS FOR PRODUCTS USED IN STRUCTURAL STEEL AND MISCELLANEOUS METAL FABRICATIONS, ANCHOR DETAILS, COATING PRODUCTS, GROUT, FORMING ACCESSORIES, ADMIXTURES, PATCHING COMPOUNDS, JOINT SYSTEMS, CURING COMPOUNDS, AND OTHERS IF REQUESTED BY THE ENGINEER. INCLUDE MANUFACTURER SPECIFICATIONS AND CERTIFICATIONS AS MAY BE REQUIRED TO SHOW COMPLIANCE WITH DESIGN DRAWINGS.
3. EQUIPMENT LOADS AND LIFT PLANS - PROVIDE DETAILED WORK PLANS AND LIFT PLANS IF EQUIPMENT OR MATERIAL WILL BE PLACED OR STORED ON THE INTAKE DECK. INCLUDE THE WEIGHT OF MATERIALS AND MEANS OF SUPPORT. FOR CRANE LOADING SHOW THE LOCATION OF OUTRIGGERS AND MAXIMUM REACTION AT EACH OUTRIGGER.
4. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN A SET OF DESIGN DRAWINGS ON SITE THAT IS MARKED UP THROUGHOUT THE CONSTRUCTION PROCESS TO IDENTIFY ANY AREAS WHERE ACTUAL CONSTRUCTION DEVIATED FROM WHAT IS SHOWN ON THE DESIGN DRAWINGS. THIS "RED-LINED" DRAWING SET WILL SERVE AS THE RECORD OF CONSTRUCTION AND WILL BE PROVIDED TO ENGINEER AT THE COMPLETION OF THE PROJECT TO BE USED BY THE ENGINEER IN PREPARATION OF THE RECORD DRAWINGS.

STEEL NOTES

1. STRUCTURAL STEEL DESIGN STANDARD - AISC SPECIFICATION FOR DESIGN AND ERECTION OF STRUCTURAL STEEL, 16TH EDITION
   A. FABRICATOR SHALL DESIGN NEW STEEL TO NEW STEEL CONNECTIONS FOR BEAMS USING AISC STANDARD FRAMED BEAM CONNECTIONS IF NOT SHOWN ON THE DRAWINGS. CONTACT ENGINEER FOR LOADS ON CONNECTIONS NOT DETAILED.
   B. CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED UNLESS NOTED OTHERWISE (U.N.O.).
   C. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS, MINIMUM BOLT SIZE 3/4" DIA. U.N.O.
   D. ALL BOLTED CONNECTIONS SHALL USE STANDARD HOLE, U.N.O.
2. MATERIAL PROPERTIES:
   A. STEEL BARS, PLATES, ANGLES, CHANNELS AND OTHER SHAPES UNLESS NOTES OTHERWISE - ASTM A36.
   B. STRUCTURAL STEEL SHAPES, W-SHAPES - ASTM A992
   C. BOLTS, ASTM F3125, GRADE A325 GALV.
   D. PIPING - A53 GR. B .
   E. WELD - AWS D1.1 WITH E70 ELECTRODES. NOTIFY THE ENGINEER IF BASE METALS ARE NOT COMPATIBLE.
   F. GRATING - TBD AFTER RAKER SELECTION
   G. GROUT - NON-SHRINK TYPE PRE-MIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS. FOR AREAS UNDERWATER USE SUBEC HYDRAULIC CEMENT OR APPROVED EQUAL.
3. COATINGS:
   A. STRUCTURAL STEEL COATING
      I. ALL STRUCTURAL STEEL SHALL BE SHIPPED UNCOATED.
      II. ALL STRUCTURAL STEEL ABOVE WATER SHALL BE FIELD COATED.
      III. FIELD COATING:
         a. SURFACE PREPARATION SSPC-SP 3 POWER TOOL CLEANING
         b. COATING: POLYSET WB HRZS SINGLE COAT SYSTEM, 6 - 8 MILS DFT
         c. COATINGS SHALL BE APPLIED PER MANUFACTURER INSTRUCTIONS.
   B. ALL TRASHRACK BAR PANELS ARE UNPAINTED.
   C. ALL BOLTS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
4. CONCRETE ANCHORS:
   A. CONCRETE ANCHOR: ADHESIVE ANCHOR BOLTS - HILTI HAS-V-36 HDG (ASTM F1554 GR 36 ANCHORS), U.N.O. ANCHORS SHALL BE INSTALLED WITH HIT-RE 500 V3 INJECTABLE MORTAR, U.N.O. ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS TO DEPTHS SHOWN.
   B. IF EXISTING REINFORCEMENT IS ENCOUNTERED, STOP DRILLING TO PREVENT DAMAGE TO REBAR. CONTACT ENGINEER FOR GUIDANCE ON WHERE TO MOVE ANCHOR BOLT.
   C. SEE CONCRETE INSPECTION NOTES ON 100-02. THIS INSPECTION WORK SHALL BE PERFORMED PRIOR TO INSTALLING ANY CONCRETE ANCHORS.

HYDRAULIC INFORMATION

1. HEADWATER / NORMAL POND: EL. 144.6' (NAVD88) / EL. 140.8' (MILL DATUM)
2. HIGH POND: EL. 145.4' (NAVD88) / EL. 141.6' (MILL DATUM)
3. STATION HYDRAULIC CAPACITY: 3000 CFS

DESIGN CRITERIA FOR TRASHRACKS

1. SILL OF EXISTING INTAKE: EL. 122.55' (NAVD88) / EL. 118.75' (MILL DATUM)
2. BOTTOM OF NEW RACKS: EL. 124.1' (NAVD88) / EL. 120.3' (MILL DATUM)
3. TOP OF RACKS: EL. 146.3' (NAVD88) / EL. 142.5' (MILL DATUM)
4. DESIGNED FOR FULL BLINDING AT HIGH POND: EL. 145.4' (NAVD88) / EL. 141.6' (MILL DATUM).
5. ICE LOAD 2 KIPS PER FT. AT NORMAL POND.
6. BARS 3/8" x 3" MIN. (BAR DEPTH VARIES, SEE 500-03 AND 500-06) WITH 3/4" CLEAR SPACING WITH SPACERS AT 36" OC.
7. MATERIAL PROPERTIES: MIN. ASTM A36 STEEL, TRASHRACK PANELS ARE UNPAINTED.

DESIGN CRITERIA FOR INTAKE & DECK

1. DEAD LOADS:
   A. CONCRETE UNIT WEIGHT = 150 PCF
   B. STEEL UNIT WEIGHT = 490 PCF
   C. WATER UNIT WEIGHT = 62.4 PCF
   D. TRASH RAKER WEIGHT = 16 TONS (32,000 LB) +/-
2. LIVE LOADS
   A. TRASH RAKE VERTICAL LOADS (ASSUMED FROM KUENZ, MAY CHANGE BASED ON RAKER SELECTION)
      I. MAX CRANE RAIL LOAD (PER WHEEL) = 110 KN = 25 KIP
      II. MIN CRANE RAIL LOAD (PER WHEEL) = -50 KN = -11.5 KIP (TENSION)
   B. TRASH RAKE HORIZONTAL LOAD
      I. 10% OF VERTICAL LOADS ASSUMED IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.
   C. CONCRETE DECK LIVE LOAD = 250 PSF
      I. SEE 300-01 AND 600-01 FOR CRITERIA REGARDING ALLOWABLE CRANE LOADING ON THE NEW SLAB AND PREVIOUSLY INSTALLED SLAB.
6. HYDROSTATIC
   A. INTAKE BENTS: MAX OPERATING POND LEVEL EL 141.6 FT WITH FULL BLINDING
4. SNOW LOAD = LIVE LOADING WILL CONTROL BY INSPECTION
5. SEISMIC LOAD (EQ) = TO BE DETERMINED IN CONSULTATION WITH RAKE VENDOR.
6. WIND LOAD = TO BE DETERMINED IN CONSULTATION WITH RAKE VENDOR.
7. ICE LOAD = 2 KLF APPLIED TO TRASHRACK BARS AND HORIZONTAL SUPPORTS AT WATER LEVEL
8. DESIGNED FOR TEMPERATURE VARIATION OF +/- 70 DEG F FROM INSTALLATION TEMPERATURE.

   T MAX = 110 DEG F
   T MIN = -30 DEG F
   ASSUMING STRUCTURE IS INSTALLED AT 40 DEG F

TRASH RAKER NOTES

1. THE DESIGN OF THE INTAKE FRAMING AND PROPOSED RAIL SUPPORTS HAS BEEN BASED ON A CONCEPTUAL KUENZ RAKER. SHORTLY BEFORE RELEASE OF THIS BID PACKAGE, KUENZ NOTIFIED THE ENGINEER THAT THEY HAVE STOPPED ACCEPTING ORDERS FOR NEW RAKERS AND WILL NO LONGER OFFER THESE PRODUCTS. IF THEY ARE UNABLE TO PROVIDE A RAKER, THE ENGINEER AND CONTRACTOR WILL NEED TO COORDINATE TO FIND AN ACCEPTABLE ALTERNATIVE. SOME FRAMING MAY NEED TO BE ADJUSTED DEPENDING ON THE GEOMETRY OF THE RAKER.
2. AS PART OF CONFIRMATION OF EXISTING CONDITIONS, THE CONTRACTOR SHALL PERFORM A SURVEY OF THE INTAKE TO CONFIRM THE ALIGNMENT AND CLEARANCES OF A NEW RAKER RELATIVE TO EXISTING EQUIPMENT. CONTRACTOR TO COORDINATE WITH RAKE VENDOR FOR ALIGNMENT TOLERANCES.
3. RAKE VENDOR: KUENZ OR APPROVED EQUAL
4. RAKE MODEL: TRCM H200 OR APPROVED EQUAL (SEE ASSUMED WEIGHT/LOADING FROM KUENZ IN THE DESIGN CRITERIA FOR INTAKE & DECK)
5. REQUIRED RAKE LIFTING CAPACITY: 4 KIPS
6. THE FOLLOWING HAS BEEN ASSUMED FOR RAKER DESIGN & INSTALLATION:
   A. A SPRING TENSIONED CABLE REEL SYSTEM FOR POWER CABLE WILL BE PROVIDED BY THE RAKE VENDOR. ALL REELED CABLING TO BE PROVIDED BY THE RAKE VENDOR AND INTEGRATED INTO THE FACILITY BY THE CONTRACTOR.
   B. THE RAKE VENDOR WILL PROVIDE LIMITED ON-SITE CONSTRUCTION SUPPORT. CONSTRUCTION SUPPORT IS ANTICIPATED TO BE A TOTAL OF 10 DAYS FOR INSTALLATION, COMMISSIONING, AND TRAINING FOR WOODLAND PULP. IT ASSUMED THE RAILS AND POWER CONNECTION WILL BE INSTALLED PRIOR TO THE VENDOR'S ARRIVAL ON SITE.
   C. MACHINE RAILS AND RAIL CLIPS WILL BE PROVIDED BY THE RAKE VENDOR AND INSTALLED BY THE CONTRACTOR. REFER TO CMAA TABLE 1.4.2-1 FOR RAIL ALIGNMENT CRITERIA. RAILS SUPPORTS HAVE BEEN INCLUDED IN THESE DESIGN DRAWINGS BASED ON THE ASSUMED LOADS LISTED IN THE INTAKE DESIGN CRITERIA.
   D. THE RAKE VENDOR SHALL EVALUATE AND PROVIDE ALL OVERTURNING AND STRUCTURAL LOADS AT ALL CONDITIONS, INCLUDING MAXIMUM WIND, SNOW, AND SEISMIC, IN ACCORDANCE WITH ASCE 7 REQUIREMENTS. THE OVERTURNING LOADING SHALL INCLUDE A FACTOR OF SAFETY FOR OVERTURNING.
   E. RAKE VENDOR TO PROVIDE OPERATION AND MAINTENANCE MANUALS FOR THE MACHINE. MANUAL TO INCLUDE A COMPREHENSIVE DESCRIPTION OF MACHINE FUNCTIONS, OPERATION PROCEDURES, SAFETY RESPONSIBILITIES, TROUBLE SHOOTING GUIDELINES, AND MAINTENANCE REQUIREMENTS. MAIN ASSEMBLY DRAWINGS, ELECTRICAL WIRING DIAGRAM, AND HYDRAULIC SCHEMATIC FOR THE MACHINE ARE TO BE INCLUDED, AS WELL AS TECHNICAL BROCHURES FROM SUB-SUPPLIERS FOR KEY COMPONENTS.
   F. ASSUMED ELECTRICAL LOAD:

   VOLTAGE: 480V, 3 PHASE, 60 Hz
   POWER: 20 kW MAXIMUM DEMAND

NOT FOR CONSTRUCTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

GENERAL NOTES

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	100-01

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3" 2" 1" 0 22x34 = FULL SCALE

INSPECTION OF EXISTING STRUCTURES

1. THE CONDITION OF THE EXISTING CONCRETE NEAR THE WATERLINE IN THE HEADWALL (ABOVE THE HEADGATES) SHOULD BE INSPECTED AND REPAIRED PRIOR TO INSTALLING THE ANCHORAGE FOR THE TRASHRAKER.

2. WOODLAND PULP REPORTED SOME POSSIBLE DETERIORATION IN THE DIVIDER WALLS, DOWNSTREAM OF THE HEADWALL, BETWEEN UNIT NO. 4 AND NO. 5 AND UNIT NO. 5 AND NO. 6 THAT SHOULD BE INSPECTED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

DEMOLITION

1. SUBMIT A DETAILED DEMOLITION PLAN PRIOR TO STARTING WORK TO DISCUSS WITH WOODLAND PULP AND ENGINEER. DEMOLITION AND DEWATERING NEEDS TO BE SEQUENCED CAREFULLY TO ENSURE ADEQUATE SUPPORT IS AVAILABLE AND TO PREVENT DEBRIS OR OTHER MATERIAL FROM BYPASSING THE EXISTING / NEW TRASHRACKS.

2. DO NOT BEGIN DEMOLITION OR DECONSTRUCTION UNTIL AUTHORIZATION IS RECEIVED FROM WOODLAND PULP. WOODLAND PULP ASSUMES NO RESPONSIBILITY FOR ACTUAL CONDITION OF STRUCTURES TO BE DEMOLISHED.

3. REMOVE EXISTING STRUCTURES INDICATED TO BE REMOVED TO ELEVATIONS AND LIMITS SHOWN IN THE DRAWINGS.

4. CRACKS OR SPALLING THAT PROPAGATE DEEP INTO OR THROUGH STRUCTURES ARE ONE INDICATION OF POTENTIAL STRUCTURAL DISTRESS. REPORT SUCH OBSERVATIONS TO ENGINEER BEFORE PROCEEDING WITH REPAIRS.

5. CONSULT WITH WOODLAND PULP AND ENGINEER TO PLAN AREAS OF CONCRETE REMOVAL AND SURFACE PREP AND OBTAIN APPROVAL OF REPAIR METHODS AND EXTENTS BEFORE PROCEEDING.

6. DO NOT USE EXPLOSIVES OR CHEMICAL AGENTS FOR DEMOLITION OF STRUCTURES.

7. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT ROADWAYS AND PATHS.

8. ENSURE SAFE PASSAGE OF PERSONS AROUND AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, AND PERSONS.

9. PREVENT THE SPREAD OF DUST AND DEBRIS AND AVOID THE CREATION OF A NUISANCE OR HAZARD IN THE SURROUNDING AREA. DO NOT USE WATER IF IT RESULTS IN HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS, BUT NOT LIMITED TO, ICE, FLOODING, OR POLLUTION.

10. PREVENT MATERIALS FROM ENTERING THE WATERWAY.

SURFACE PREPARATION

1. PREPARE CONCRETE SURFACE AND DO SELECTIVE DEMOLITION.

2. REMOVE DETERIORATED SURFACE MATERIAL IN DESIGNATED AREAS DOWN TO SOUND CONCRETE. SOUND CONCRETE IS DEFINED AS WHEN THE SURFACE IS STRUCK WITH A GEOLOGIST'S HAMMER, THE AGGREGATE OF THE CONCRETE FRACTURES BEFORE THE CEMENT PASTE BOND IS BROKEN.

3. PERFORM LOCALIZED REMOVAL WITH POINTED TOOLS THAT LIMIT IMPACT DAMAGE SUCH AS A GEOLOGIST OR LIGHT DUTY CHIP HAMMER.

4. AREAS GREATER THAN 6" SQUARE, PRIMARY PREPARATION METHOD SHOULD BE ABRASIVE SHOT-BLASTING, WATER-BLASTING, OR HYDRO-DEMOLITION TO MINIMIZE CONCRETE BRUISING IN ACCORDANCE WITH ACI 364.7T-02 (TECH NOTE). PREVENT MATERIALS FROM ENTERING THE WATERWAY.

5. IF REINFORCEMENT STEEL IS ENCOUNTERED, HAMMER CHIP TO EXPOSE CORROSION UNTIL UN-CORRODED REBAR. CLEAN REBAR OF LOOSE AND BOND-INHIBITING MATERIAL WITH HIGH-PRESSURE WATER (3,000 PSI MIN) OR ABRASIVE BLAST.

6. PREPARE CONCRETE SURFACE IN ACCORDANCE WITH THE INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) TECHNICAL GUIDELINE NO. 310.2R-2013 BUT NO LESS THAN A MINIMUM OF 1/8" AMPLITUDE. CLEAN SURFACE TO REMOVE ALL DELETERIOUS MATERIAL, INCLUDING DIRT, GREASE, ETC. WASH WITH HIGH PRESSURE WASH (AT LEAST 3,000 PSI PRESSURE).

7. DEMO AREAS, INITIAL CONCRETE REMOVAL MAY USE 15-LB OR 30LB JACKHAMMER. USE 15-LB JACKHAMMER FOR DENTAL CONCRETE REMOVAL AROUND REBAR. FINISH REMOVAL IN ACCORDANCE WITH NOTE 3.

8. ANY DETERIORATED REINFORCING STEEL ENCOUNTERED THAT IS LESS THAN 50% OF ORIGINAL CROSS-SECTION, REPLACE WITH NEW REINFORCEMENT DOWELED INTO CONCRETE.

9. EXISTING AND NEW REINFORCING STEEL SHALL HAVE MINIMUM 1" CLEARANCE (U.N.O.) BETWEEN REBAR AND EXISTING CONCRETE SUBSTRATE, MIN. 1/4" GREATER THAN MAXIMUM AGGREGATE SIZE FOR REPAIR MIX BEING USED.

10. CONCRETE SURFACES SHALL BE SATURATED SURFACE DRY IN ACCORDANCE WITH ICRI, AT TIME OF CONCRETE PLACEMENT BUT NO STANDING WATER.

CONCRETE

1. ALL CONCRETE WORKS SHALL BE IN ACCORDANCE WITH THE LATEST ACI 318.

2. CONCRETE MIX

   A. 4500 PSI 28-DAY COMPRESSIVE STRENGTH.

   B. PORTLAND CEMENT: ASTM C595, TYPE IL.

   C. W/C RATIO, 0.42 MAXIMUM BY WEIGHT.

   D. AIR ENTRAINMENT 5% TO 7%.

   E. SLUMP 3" TO 4" OR 6" TO 8" IF A HIGH-RANGE WATER REDUCER IS ADDED.

   F. THE CONTRACTOR SHALL SUBMIT THE MIX DESIGN TO THE ENGINEER FOR APPROVAL. THIS SUBMITTAL SHALL INCLUDE DOCUMENTATION OF EITHER TEST DATA OR A LETTER CERTIFYING THAT THE AGGREGATE HAS SATISFACTORY PERFORMANCE REGARDING ALKALI REACTIVITY.

3. MATERIALS USED IN PRODUCING THE CONCRETE SHALL BE FROM THE SAME SOURCE FOR THE DURATION OF THE PROJECT. CHANGE OF SOURCE FOR CEMENT ADMIXTURE OR FINE AND COARSE AGGREGATE CONSTITUTES A NEW MIX DESIGN AND WILL REQUIRE RESUBMITTAL OF ALL DATA AND LABORATORY TESTS. ANY COSTS ASSOCIATED WITH RESUBMITTALS SHALL BE BORNE BY CONTRACTOR AT NO CHARGE TO MAINE DMR.

4. THE TOLERANCES FOR FINISHED CAST-IN-PLACE CONCRETE SHALL CONFORM TO ACI-347.

5. COARSE AGGREGATE SHALL BE 3/4" PER ASTM C 33.

6. PROHIBITED ADMIXTURES: CALCIUM CHLORIDE THYOCYANATES OR ADMIXTURES CONTAINING MORE THAN 0.1 PERCENT CHLORIDE IONS ARE NOT PERMITTED.

7. CONTRACTOR TO PREPARE DESIGN MIXES FOR EACH TYPE AND STRENGTH OF CONCRETE BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 301. IF TRIAL BATCH METHOD USED, USE AN INDEPENDENT TESTING FACILITY ACCEPTABLE TO THE ENGINEER FOR PREPARING AND REPORTING PROPOSED MIX DESIGNS.

8. FOR PLACING CONCRETE TO COMPLY WITH ACI 304 "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE", AND AS HEREIN SPECIFIED.

9. COLD WEATHER PLACING: PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY FROST, FREEZING ACTIONS, OR LOW TEMPERATURES, IN COMPLIANCE WITH ACI 306 AND AS HEREIN SPECIFIED.

10. HOT WEATHER PLACING: WHEN HOT WEATHER CONDITIONS EXIST THAT WOULD SERIOUSLY IMPAIR QUALITY AND STRENGTH OF CONCRETE, PLACE CONCRETE IN COMPLIANCE WITH ACI 305 AND AS HEREIN SPECIFIED.

11. FORM SURFACES SHALL HAVE SMOOTH FINISH, FREE FROM HONEYCOMBING AND OTHER DEFECTS.

12. START INITIAL CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACE AFTER PLACING AND FINISHING. KEEP CONTINUOUSLY MOIST FOR NOT LESS THAN 7 DAYS, OR USE A CURING COMPOUND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND AS APPROVED BY THE ENGINEER.

13. REPAIR AND PATCH DEFECTIVE AREAS IN A MANNER ACCEPTABLE TO THE ENGINEER.

14. REMOVE AND REPLACE CONCRETE HAVING DEFECTIVE SURFACES IF DEFECTS CANNOT BE REPAIRED TO SATISFACTION OF ENGINEER. SURFACE DEFECTS, AS SUCH, INCLUDE COLOR AND TEXTURE IRREGULARITIES, CRACKS, SPALLS, AIR BUBBLES, HONEYCOMB, ROCK POCKETS; FINS AND OTHER PROJECTIONS ON SURFACE; AND STAINS AND OTHER DISCOLORATIONS THAT CANNOT BE REMOVED BY CLEANING.

15. EPOXY INJECT ALL VISIBLE SHRINKAGE CONCRETE CRACKS

16. COMPRESSION TEST SPECIMEN: ASTM C 31; ONE SET OF 5 STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURE TEST SPECIMENS ARE REQUIRED.

17. COMPRESSIVE STRENGTH TESTS: ASTM C 39; ONE SET FOR EVERY 50 CUBIC YARDS PLACED OR A MINIMUM OF ONE SET FOR EACH DAY; TWO SPECIMEN TESTED AT 7 DAYS, TWO SPECIMENS TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.

FORMWORK AND CONSTRUCTION JOINTS

1. CONSTRUCT FORMS TRUE TO LINE AND GRADE, ADEQUATELY BRACED TO MAINTAIN POSITION DURING PLACEMENT OF CONCRETE. WELDING OF FORM TIES TO STRUCTURAL DOWELS IS NOT PERMITTED, THOUGH ADDITIONAL DOWELS MAY BE INSTALLED FOR THAT PURPOSE.

2. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES UNLESS NOTED OTHERWISE.

3. REPAIR ALL AIR HOLES AND VOIDS LARGER THAN 1/4" AND FILL ALL TIE HOLES. REMOVE FINS AND PROJECTIONS.

4. CONTRACTOR SHALL PROPOSE CONSTRUCTION JOINT LOCATIONS IN FOOTING FOR REVIEW BASED ON PLACEMENT PLAN.

5. REINFORCEMENT SHALL BE CONTINUOUS THROUGH JOINT, UNLESS NOTED OTHERWISE AND BE FULLY DEVELOPED ON BOTH SIDES OF CONSTRUCTION JOINTS.

6. CLEAN ALL JOINTS OF GREEN CONCRETE WITHIN 30 HOURS TO REMOVE LAITANCE WITH MIN. 5,000 PSI WATER BLAST OR SANDBLASTING PRIOR TO NEXT CONCRETE PLACEMENT. MECHANICAL ROUGHENING IS AN ACCEPTABLE ALTERNATE FOR LAITANCE REMOVAL. ACID CLEANING/REMOVAL OF LAITANCE IS NOT ACCEPTABLE.

7. SATURATE JOINT IMMEDIATELY PRECEDING AND 12 HOURS PRIOR TO NEXT CONCRETE PLACEMENT. REMOVE ALL STANDING WATER.

8. MAXIMUM VERTICAL C.J. SPACING IS 35 FEET (U.N.O.).

REINFORCING

1. REINFORCING BARS: ASTM A 615, GRADE 60, DEFORMED. SUBMIT SHOP DRAWINGS AS OUTLINED ON 100-01.

2. PROVIDE DEFORMED REBAR DOWELS OF SIZE AND DIMENSION SHOWN. GROUTING OF DOWELS SHALL BE DONE EITHER WITH APPROVED CEMENTITIOUS OR PROPRIETARY EPOXY GROUT. CLEAN DRILL HOLES WITH AIR PRESSURE TO REMOVE DUST AND STANDING WATER. HOLES MAY BE DAMP. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

3. HOOKS SHALL BE DIMENSIONED AND BENT PER ACI STANDARD HOOKS.

4. REBAR COVER SHALL BE 3" UNLESS NOTED OTHERWISE.

5. SPLICES AND DEVELOPMENT LENGTHS SHALL BE PER ACI STANDARDS PER THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE:

CONCRETE REINFORCEMENT DEVELOPMENT SCHEDULE

BAR SIZE	BAR DIAMETER (in)	DEVELOPMENT LENGTH (in)	CLASS B* SPLICE (in)
4	0.500	19	25
5	0.625	24	31
6	0.750	28	37
7	0.875	42	54
8	1.000	47	62
9	1.128	54	70
10	1.270	60	78
11	1.410	67	87

ELECTRICAL NOTES

1. ALL ELECTRICAL INSTALLATIONS SHALL COMPLY WITH NFPA 70 (2023), THE NATIONAL ELECTRICAL CODE (NEC).

2. ALL EQUIPMENT AND MATERIAL SHALL BE NEW AND SHALL CONFORM TO APPLICABLE CODES AND STANDARDS FOR THAT CLASS OF EQUIPMENT OR MATERIAL.

3. WHERE BRANDS, MODELS, OR PART NUMBERS ARE SPECIFIED WITHOUT QUALIFICATION, THERE SHALL BE NO SUBSTITUTIONS EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER. ALTERNATE MATERIALS MAY BE SUBMITTED WITH THE PROPOSAL AND LISTED AS AN OPTION FOR CONSIDERATION BY THE ENGINEER.

4. EQUIPMENT AND MATERIALS SHALL BE UTILITY OR INDUSTRIAL TYPE. COMMERCIAL OR RESIDENTIAL GRADE EQUIPMENT IS NOT ALLOWED.

5. CONDUIT FOR GENERAL USE SHALL BE GALVANIZED STEEL RIGID METAL CONDUIT (RMC). COUPLINGS, CLAMPS, ELBOWS, AND OTHER FITTINGS SHALL BE OF GALVANIZED STEEL. CONDUIT PULLING BODIES SHALL BE CAST WITH SOLID GASKET AND COVERS. EMBEDDED OR BURIED CONDUIT SHALL BE SCHEDULE 40 RIGID POLYVINYL CHLORIDE (PVC). LIGHTING AND RECEPTACLE CIRCUITS MAY BE INSTALLED IN ELECTRICAL METALLIC TUBING USING COMPRESSION FITTINGS. SET SCREW FITTINGS ARE NOT ALLOWED. FOR CONNECTION TO MOTORS AND OTHER EQUIPMENT REQUIRING FLEXIBILITY, PROVIDE LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LFMC). MINIMUM CONDUIT SIZE ALLOWED IS ¾ INCH. WHERE CONDUIT SIZES ARE NOT SHOWN, PROVIDE CONDUITS AS REQUIRED BY THE NEC. EXPOSED CONDUIT AND RACEWAYS SHALL BE RUN PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS AND GROUPED TOGETHER WHERE POSSIBLE. ALL CONDUIT AND WALL-MOUNTED ENCLOSURES SHALL BE MOUNTED ON STRUT.

6. ALL CONDUCTORS SHALL BE STRANDED COPPER. SINGLE CONDUCTOR (BUILDING WIRE) INSULATION SHALL BE 600 VOLT, TYPE XHHW-2 OR THWN-2, 90 DEGREE C. MULTI-CONDUCTOR CABLE SHALL CONSIST OF COLOR CODED, FIRE RETARDANT XLP INSULATED, 600 VOLT STRANDED CONDUCTORS IN A FLAME RESISTANT, SUNLIGHT RESISTANT, PVC JACKET. WHERE CONDUCTOR SIZES ARE NOT SHOWN, PROVIDE CABLE AS REQUIRED BY THE NEC. ALL CONDUCTOR SPLICES/TERMINATIONS SHALL BE MADE BY TINNED COPPER COMPRESSION LUGS. NYLON SLEEVED COMPRESSION TYPE RING LUGS SHALL BE USED FOR SCREW TERMINALS EXCEPT CONDUCTORS MAY BE TERMINATED DIRECTLY IN SCREW-COMPRESSION TERMINALS. WIRE NUTS ARE NOT PERMITTED, BUT LEVER NUTS MAY BE USED FOR LIGHTING AND RECEPTACLE CIRCUITS.

7. ALL WIRES, CABLES, AND CONDUITS SHALL BE PERMANENTLY IDENTIFIED AT TERMINATION AND SPLICE POINTS, AND ALL CONDUITS SHALL BE IDENTIFIED AT ENCLOSURE AND PULL-BOX ENTRIES AS IDENTIFIED ON THE DRAWINGS AND CABLE & CONDUIT SCHEDULE. IDENTIFICATION TAGS SHALL BE TYPED AND PRINTED ON PERMANENT LABELS.

8. THE WORK SHALL INCLUDE TESTING OF EQUIPMENT AND WIRING AS RECOMMENDED BY THE MANUFACTURERS AS WELL AS ANY MINOR CONNECTION CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF EQUIPMENT AND SYSTEMS. ALL INSULATED POWER CONDUCTORS SHALL BE INSULATION RESISTANCE TESTED AFTER PULLING IN, WITH THE APPROPRIATE VOLTAGE LEVEL. ALL 3-PHASE MOTORS SHALL BE TESTED FOR CORRECT ROTATION UNDER ENGINEER SUPERVISION. ALL SUCH TESTING SHALL BE DOCUMENTED AND TURNED OVER FOR THE RECORD.

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

GENERAL NOTES

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	100-02

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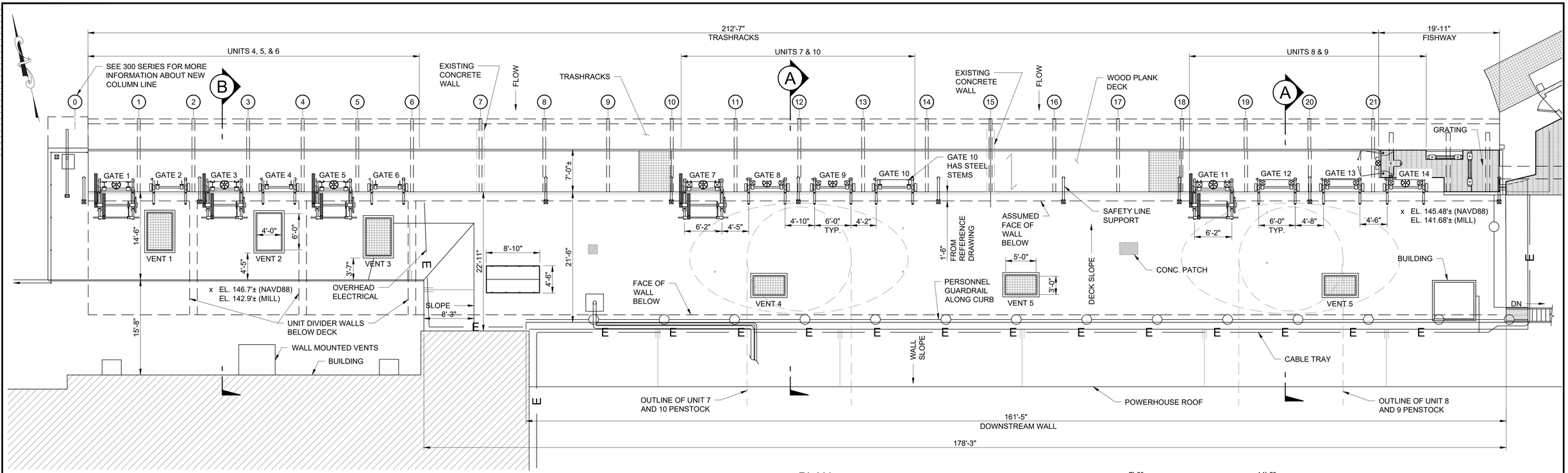
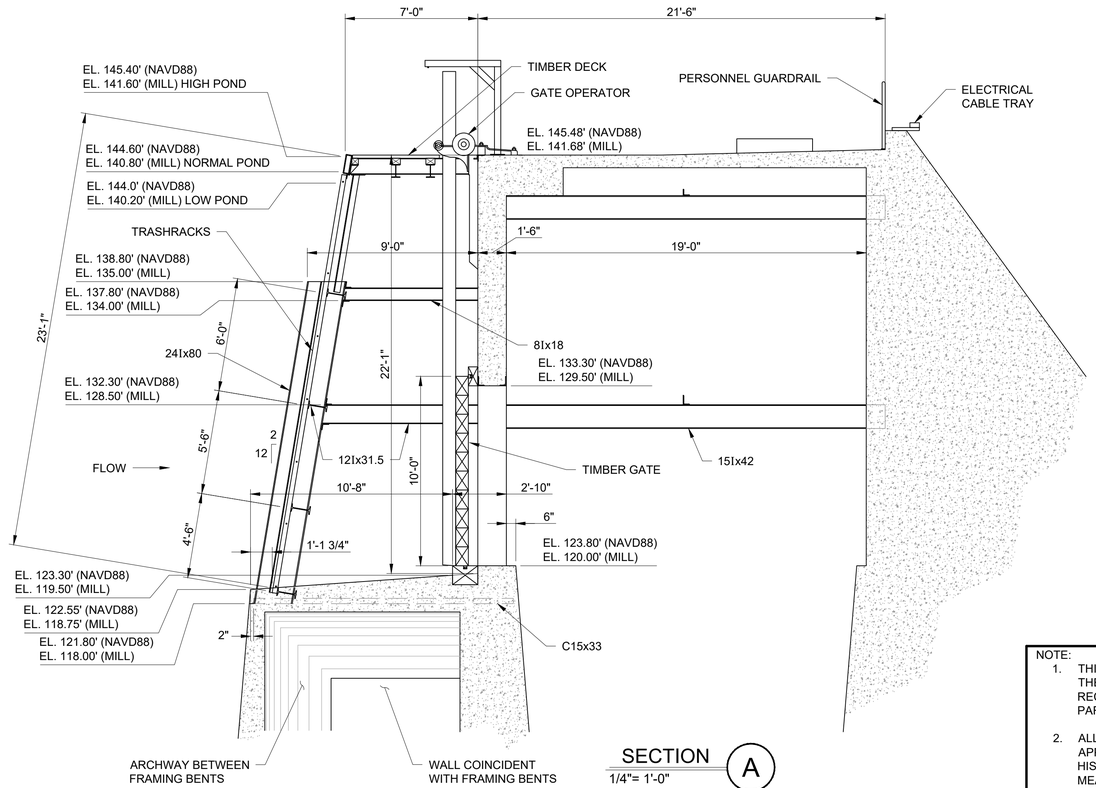
22x34 = FULL SCALE

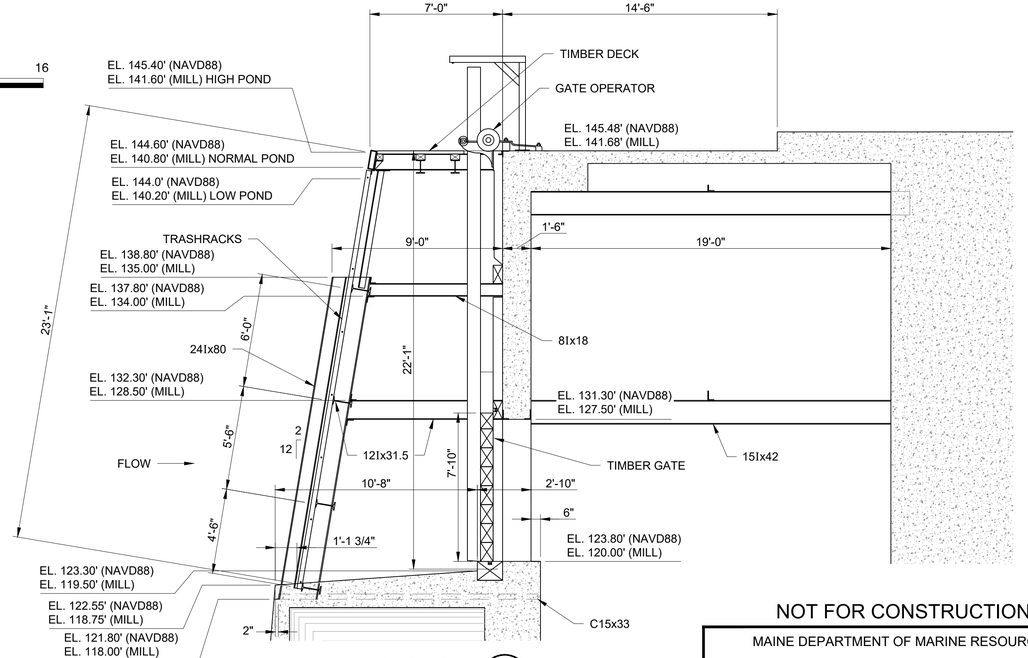
PLAN
1/8"= 1'-0"

8 0 8 16
SCALE IN FEET





SECTION A
1/4"= 1'-0"



SECTION B
1/4" = 1'-0"

NOTE:
1. THIS DRAWING SHOWS THE CONDITIONS OF THE INTAKE PRIOR TO 2022, BEFORE THE RECENT INTAKE MODIFICATIONS WERE PARTIALLY COMPLETED.
2. ALL DIMENSIONS/ELEVATIONS SHOWN ARE APPROXIMATE, DERIVED FROM LIMITED HISTORICAL DRAWINGS AND LIMITED FIELD MEASUREMENTS. DIMENSIONS SHALL BE CONFIRMED PRIOR TO START OF WORK

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

ORIGINAL (PRE 2022) CONDITIONS
PLAN AND SECTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	200-01

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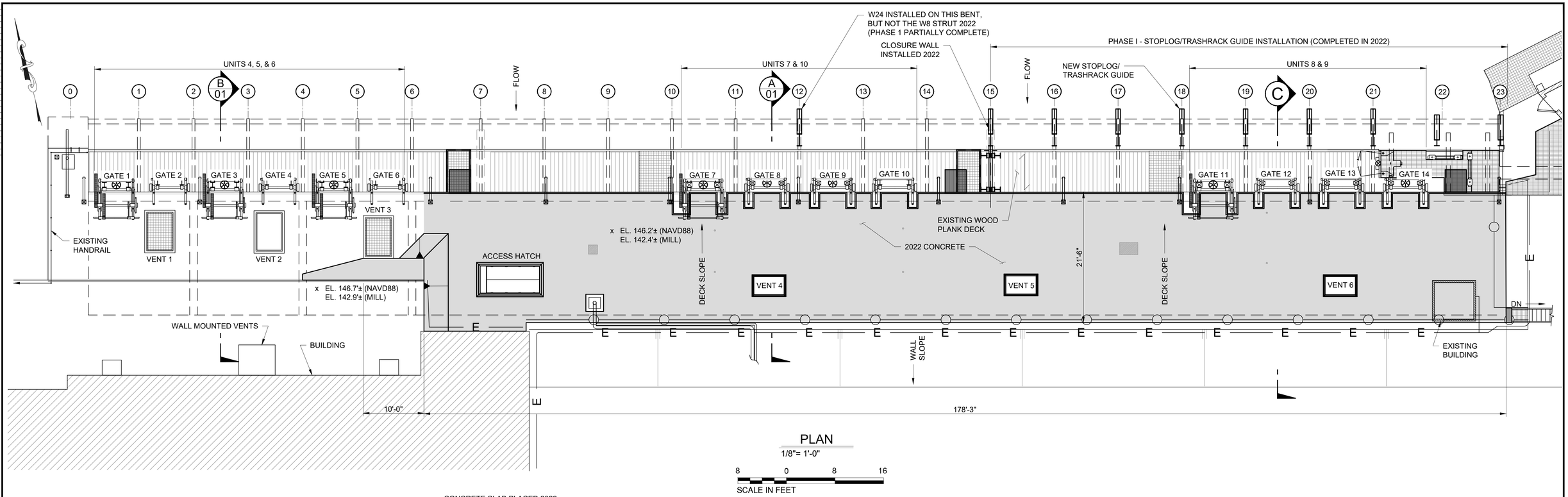
22x34 = FULL SCALE

3" 2" 1" 0



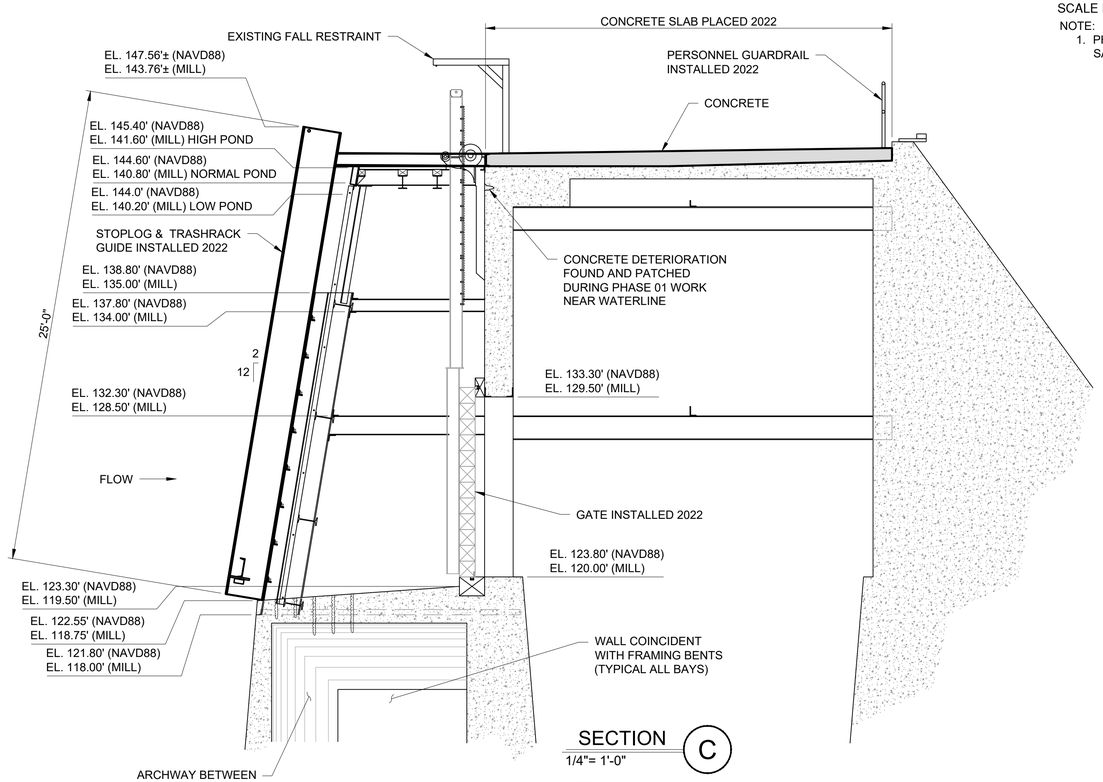
PLAN

1/8"= 1'-0"

8 0 8 16

SCALE IN FEET

NOTE:
1. PHASE 01 WORK PERFORMED BY DEMO SALVAGE OUT OF BAILEYVILLE, MAINE.



SECTION C

1/4"= 1'-0"

NOTE:
1. THIS IS A TYPICAL SECTION FOR THE PHASE I - STOPLOG/TRASHRACK FRAME GUIDE INSTALLATION

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

EXISTING CONDITIONS
PLAN AND SECTION

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A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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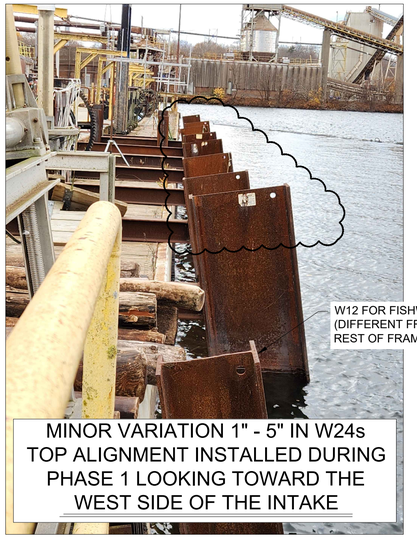
3" 2" 1" 0
22x34 = FULL SCALE

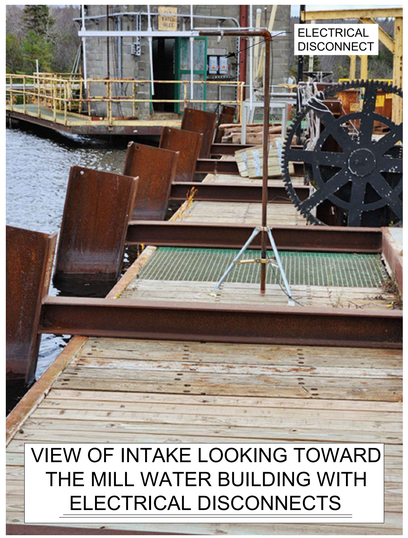
VIEW LOOKING TOWARD THE EAST SIDE OF THE INTAKE

VIEW OF CONCRETE DECK ABOVE INTAKE FOR UNITS 4, 5, AND 6

VIEW AT THE EXISTING FISHWAY LOOKING TOWARD THE WEST SIDE OF THE INTAKE



MINOR VARIATION 1" - 5" IN W24s TOP ALIGNMENT INSTALLED DURING PHASE 1 LOOKING TOWARD THE WEST SIDE OF THE INTAKE



VIEW OF INTAKE LOOKING TOWARD THE MILL WATER BUILDING WITH ELECTRICAL DISCONNECTS

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

EXISTING CONDITIONS
SHEET WITH PHOTOS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
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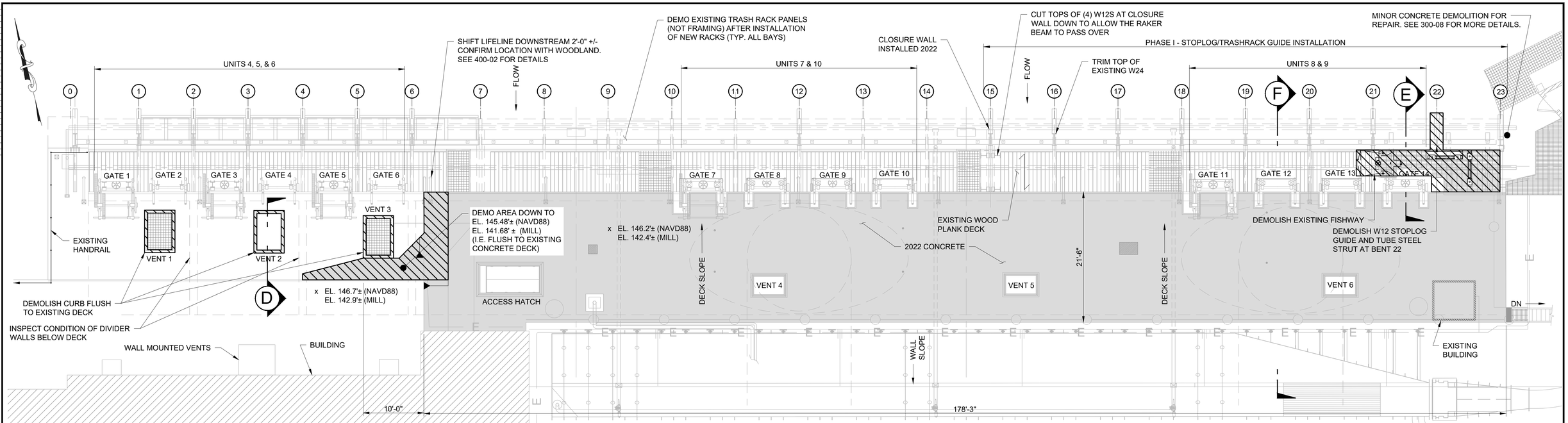
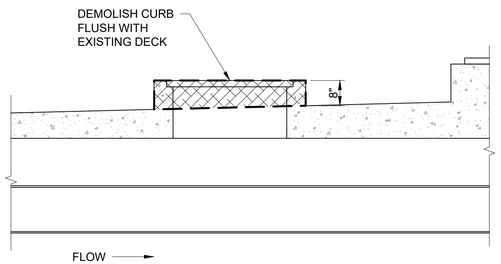
3" 2" 1" 0



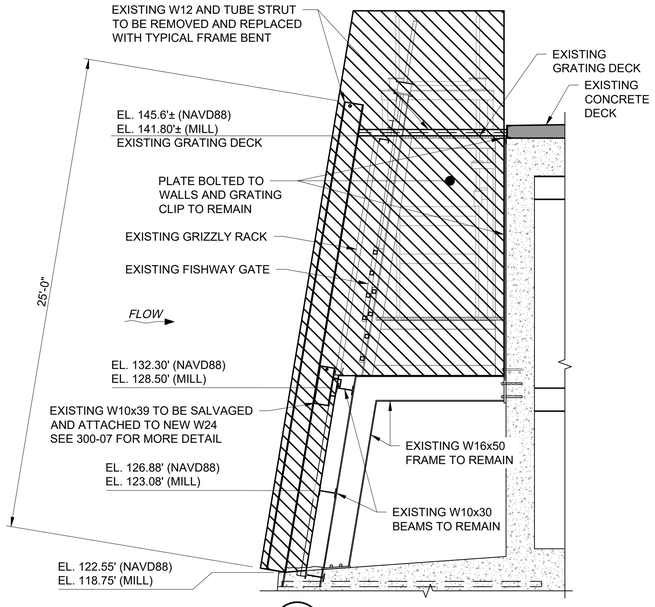
PLAN
1/8"= 1'-0"

8 0 8 16
SCALE IN FEET



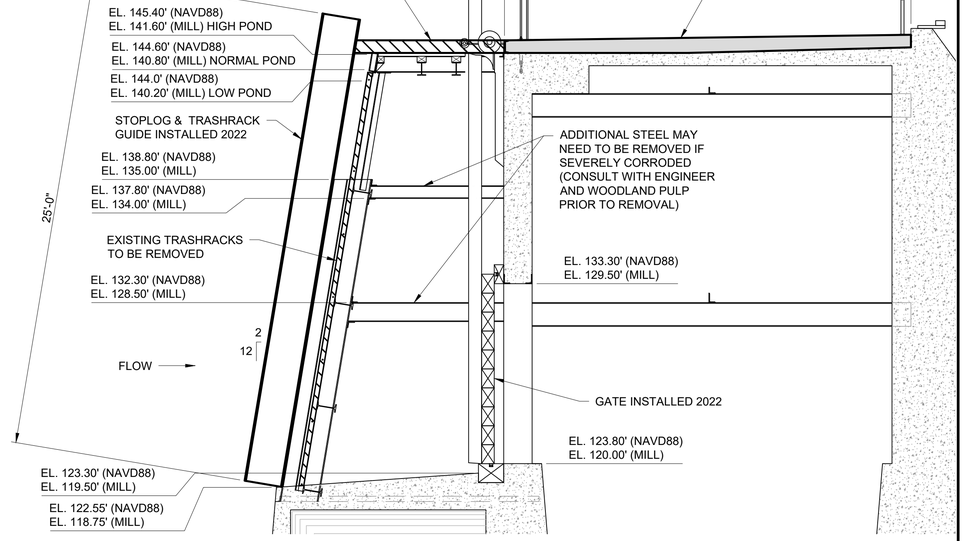
SECTION D
1/2"= 1'-0"

2' 0 2 4



SECTION E
1/4" = 1'-0"

4' 0 4 8



SECTION F
1/4" = 1'-0"

4' 0 4 8

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

EXISTING CONDITIONS DEMOLITION

No.	Revision	Date	Drawn	Checked
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PHASE II - STOPLOG/TRASHRACK GUIDE INSTALLATION

PHASE I - STOPLOG/TRASHRACK GUIDE INSTALLATION STARTED 2022

1'-6"± FROM FACE OF PIER. THIS CAN BE FIELD ADJUSTED BASED ON EXACT LOCATION OF BENT 1. SEE 300-02 FOR MORE DETAIL

UNITS 4, 5, & 6

NEW CLOSURE WALL

DOWNSTREAM FISH BYPASS ENTRANCE (TYP. 2 LOCATIONS)

NEW STOPLOG/TRASHRACK GUIDE

NEW TRASHRACK RAILS, SEE 400 SERIES FOR MORE DETAIL

UNITS 7 & 10

NOTE: THIS W24 WAS ALSO INSTALLED AS PART OF 2022 WORK.

CLOSURE WALL INSTALLED 2022

2022 STOPLOG/ TRASHRACK GUIDE

FLOW

EEL BYPASS ENTRANCE (TYP. 3 LOCATIONS)

UNITS 8 & 9

0 1 2 B 3 4 5 6 7 8 9 10 11 12 A 13 14 15 16 17 18 19 20 21 22 23

GATE 1 GATE 2 GATE 3 GATE 4 GATE 5 GATE 6 GATE 7 GATE 8 GATE 9 GATE 10 GATE 11 GATE 12 GATE 13 GATE 14

EXISTING/NEW HANDRAIL

VENT 1 VENT 2 VENT 3

NEW CONCRETE

x EL. 146.7'± (NAVD88) EL. 142.9'± (MILL)

WALL MOUNTED VENTS

BUILDING

NEW TRASHRAKER, SEE NOTES ON SHEET 100-01 FOR MORE DETAIL

ACCESS HATCH

x EL. 146.2'± (NAVD88) EL. 142.4'± (MILL)

DECK SLOPE

VENT 4

DESIGN SPAN

EXISTING WOOD PLANK DECK

2022 CONCRETE

VENT 5

21'-6"

DECK SLOPE

VENT 6

DN

EXISTING BUILDING

WALL SLOPE

ALLOWABLE LOADING FOR NEW CONCRETE SLAB:
1. UNIFORM LIVE LOAD = 250 PSF
2. NOT RATED FOR CRANE LOADING WITHOUT ENGINEERING REVIEW.

21'-1"

64'-3"

9'-10"

178'-3"

CENTERLINE OF FISH BYPASS (SEE 500 SERIES FOR MORE DETAIL)

CENTERLINE OF FISH BYPASS (SEE 500 SERIES FOR MORE DETAIL)

FISH BYPASS FLUME (BY VERDANTAS, SEE VERDANTAS DRAWINGS FOR MORE DETAIL)

ALLOWABLE LOADING FOR 2022 CONCRETE SLAB:
1. UNIFORM LIVE LOAD = 250 PSF
2. CRANE LOAD = 28.5 KIPS (14.25 TONS)
   A. UPSTREAM CRANE OUTRIGGERS TO BE WITHIN 5'-0" OF EDGE OF DECK.
   B. MAXIMUM CRANE PICK TO BE 9 KIPS WITHOUT ENGINEERING REVIEW.

PLAN
1/8"= 1'-0"

NEW TRASHRAKER RAIL SUPPORT BEAMS
EL. 147.56'± (NAVD88)
EL. 143.76'± (MILL)

FALL RESTRAINT TBD

6'-6 3/4"

CONCRETE SLAB PLACED 2022

PERSONNEL GUARDRAIL

NEW TRASHRAKER SUPPORT BEAM

SLOPED TO DRAIN

2022 CONCRETE WORK

EL. 145.40' (NAVD88)
EL. 141.60' (MILL) HIGH POND

EL. 144.60' (NAVD88)
EL. 140.80' (MILL) NORMAL POND

EL. 144.0' (NAVD88)
EL. 140.20' (MILL) LOW POND

REPAIR CONCRETE NEAR WATERLINE AS REQUIRED (SEE SHEET 300-03)

NEW/EXISTING W8 STRUT TO CONCRETE SLAB

25'-0"

NEW/EXISTING W24 STOPLOG & TRASHRACK GUIDE

2
12

EL. 133.30' (NAVD88)
EL. 129.50' (MILL)

NEW WEB TO WEB WT'S FOR PLANE ADJUSTMENT

FLOW

NEW/EXISTING GATE

CONCRETE FOOTING (SEE 300-09 FOR DETAILS)

EL. 123.80' (NAVD88)
EL. 120.00' (MILL)

EL. 123.30' (NAVD88)
EL. 119.50' (MILL)

EL. 122.55' (NAVD88)
EL. 118.75' (MILL)

EL. 121.80' (NAVD88)
EL. 118.00' (MILL)

SECTION A
1/4"= 1'-0"

NEW TRASHRAKER RAIL SUPPORT BEAMS

6'-6 3/4"

NEW TRASHRAKER SUPPORT BEAM

NEW CONCRETE

EL. 145.40' (NAVD88)
EL. 141.60' (MILL) HIGH POND

EL. 144.60' (NAVD88)
EL. 140.80' (MILL) NORMAL POND

EL. 144.0' (NAVD88)
EL. 140.20' (MILL) LOW POND

NEW W24 STOPLOG & TRASHRACK GUIDE

SEE 600 SERIES FOR MORE DETAIL

CONTRACTOR TO SURVEY AND FIELD CONFIRM EXISTING CONCRETE IS SLOPED TO DRAIN

EL. 138.80' (NAVD88)
EL. 135.00' (MILL)

EL. 137.80' (NAVD88)
EL. 134.00' (MILL)

25'-0"

REPAIR CONCRETE NEAR WATERLINE AS REQUIRED (SEE SHEET 300-03)

EL. 132.30' (NAVD88)
EL. 128.50' (MILL)

EL. 131.30' (NAVD88)
EL. 127.50' (MILL)

NEW WEB TO WEB WT'S FOR PLANE ADJUSTMENT

FLOW

EXISTING GATE

CONCRETE FOOTING (SEE 300-09 FOR DETAILS)

EL. 123.80' (NAVD88)
EL. 120.00' (MILL)

EL. 123.30' (NAVD88)
EL. 119.50' (MILL)

EL. 122.55' (NAVD88)
EL. 118.75' (MILL)

EL. 121.80' (NAVD88)
EL. 118.00' (MILL)

4' 0 4 8

SECTION B
1/4" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
PLAN AND SECTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	300-01

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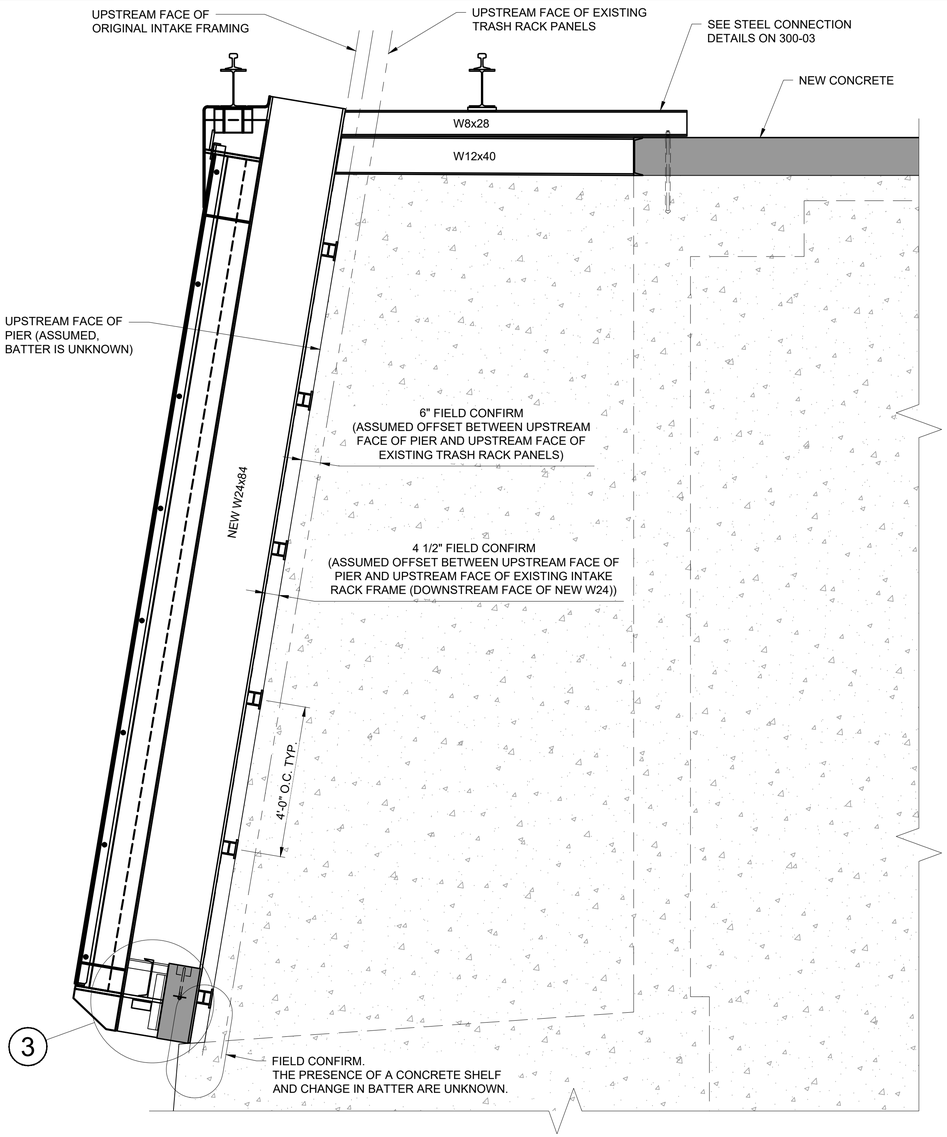
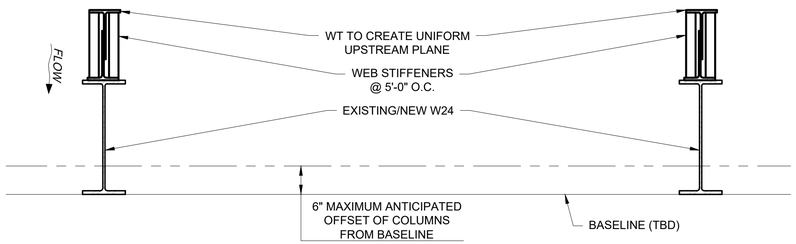
22x34 = FULL SCALE



TYPICAL SECTION AT BENT 0

1/2" = 1'-0"

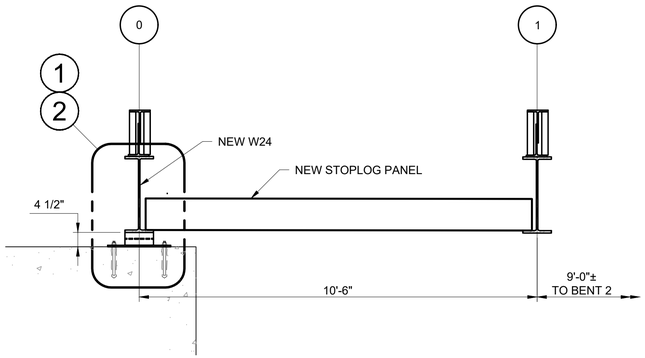
NOTE: SEE 300-01 FOR LOCATION IN PLAN VIEW.



TYPICAL PLAN VIEW FOR BENTS 0 THRU 22

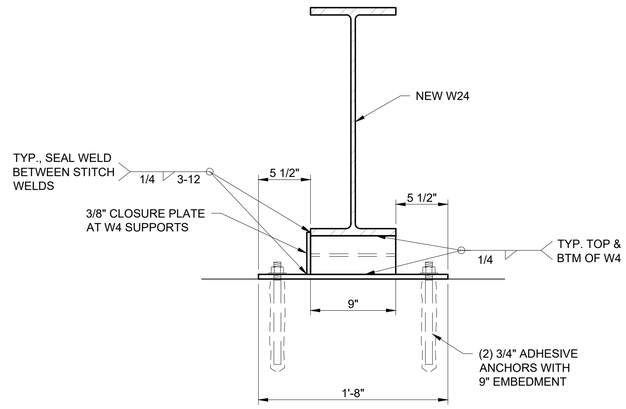
3/4"= 1'-0"

1' 0 1 2 3



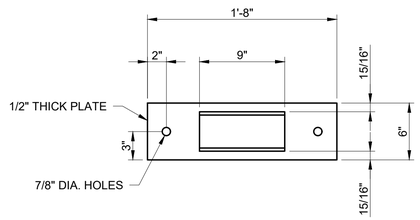
PLAN VIEW AT BENT 0

1/2" = 1'-0"



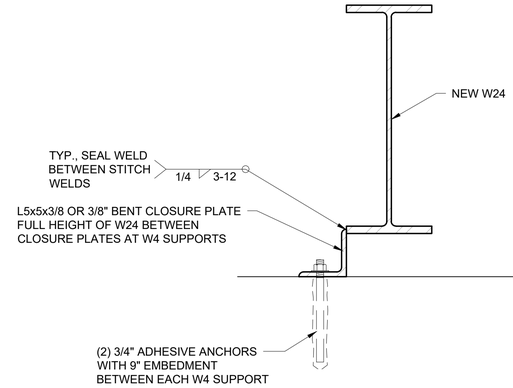
DETAIL 1

1 1/2" = 1'-0"



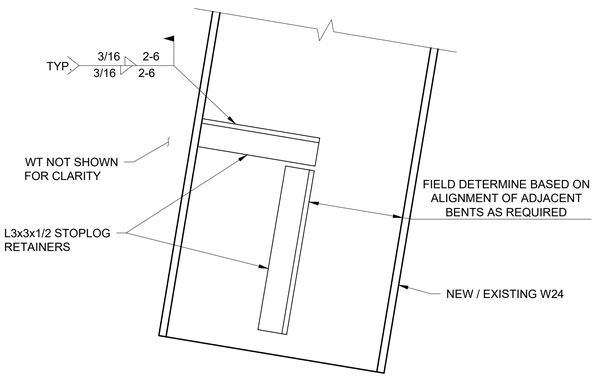
TYPICAL W4 SUPPORT ELEVATION

1/2" = 1'-0"



DETAIL 2

1 1/2" = 1'-0"



DETAIL 3

1 1/2" = 1'-0"

NOTE: THIS DETAIL IS TYPICAL FOR ALL W24s. FIELD CONFIRM RETAINERS IN PLACE WHERE W24s ARE ALREADY INSTALLED.

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
FRAMING SECTION BENT 0

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR REVIEW	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	300-02

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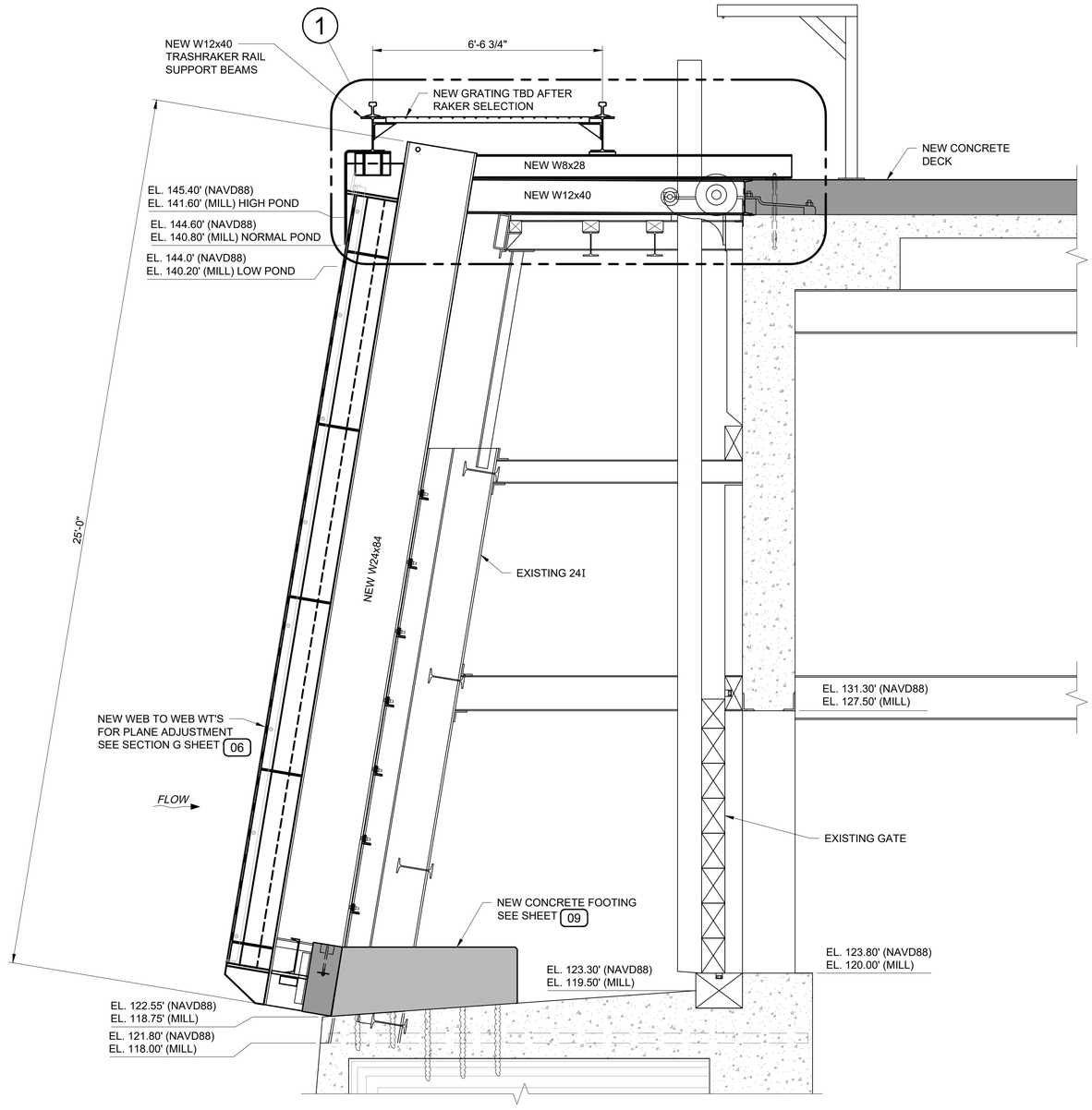
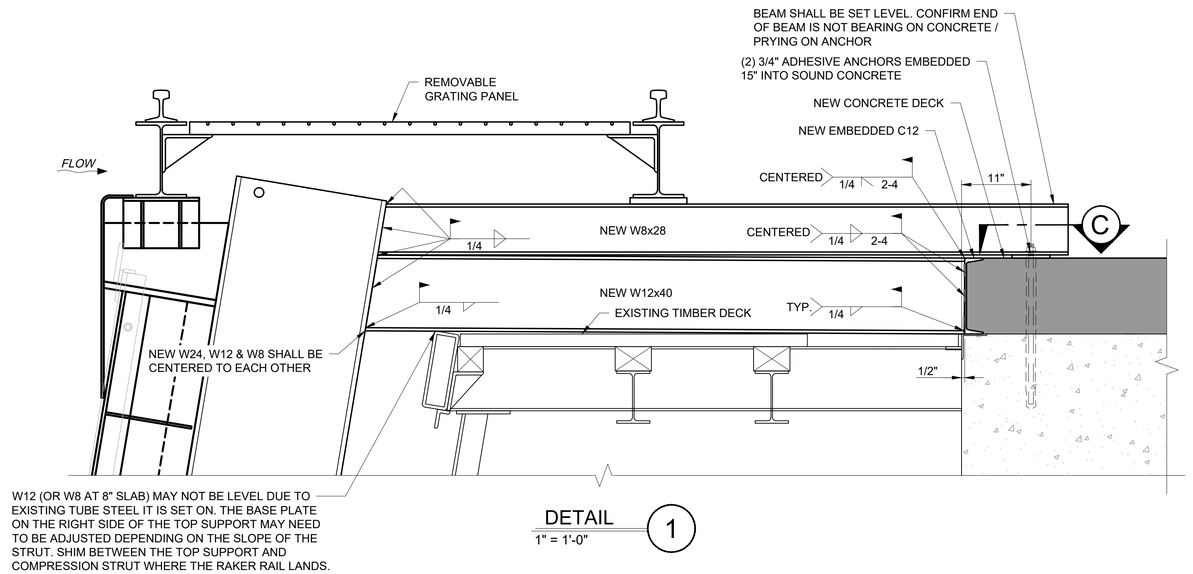
22x34 = FULL SCALE



TYPICAL FRAMING SECTION BENTS 1-6

1/2" = 1'-0"

2' 0 2 4



W12 (OR W8 AT 8" SLAB) MAY NOT BE LEVEL DUE TO EXISTING TUBE STEEL IT IS SET ON. THE BASE PLATE ON THE RIGHT SIDE OF THE TOP SUPPORT MAY NEED TO BE ADJUSTED DEPENDING ON THE SLOPE OF THE STRUT. SHIM BETWEEN THE TOP SUPPORT AND COMPRESSION STRUT WHERE THE RAKER RAIL LANDS.

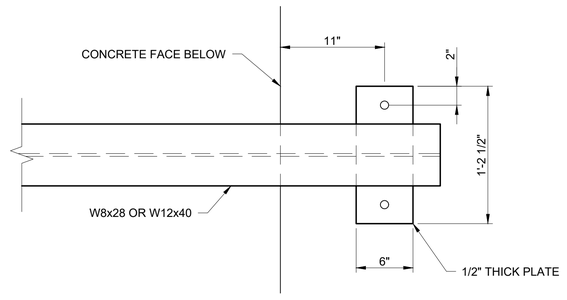
DETAIL 1

1" = 1'-0"

HEADWALL PATCH REPAIR DETAIL

NOT TO SCALE

NOTE:
1. AT TIME OF CONCRETE PLACEMENT, SURFACE TO BE SATURATED WITH WATER, BUT NO STANDING WATER.



SECTION C

1 1/2" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
FRAMING SECTION BENT 1-6

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	300-03

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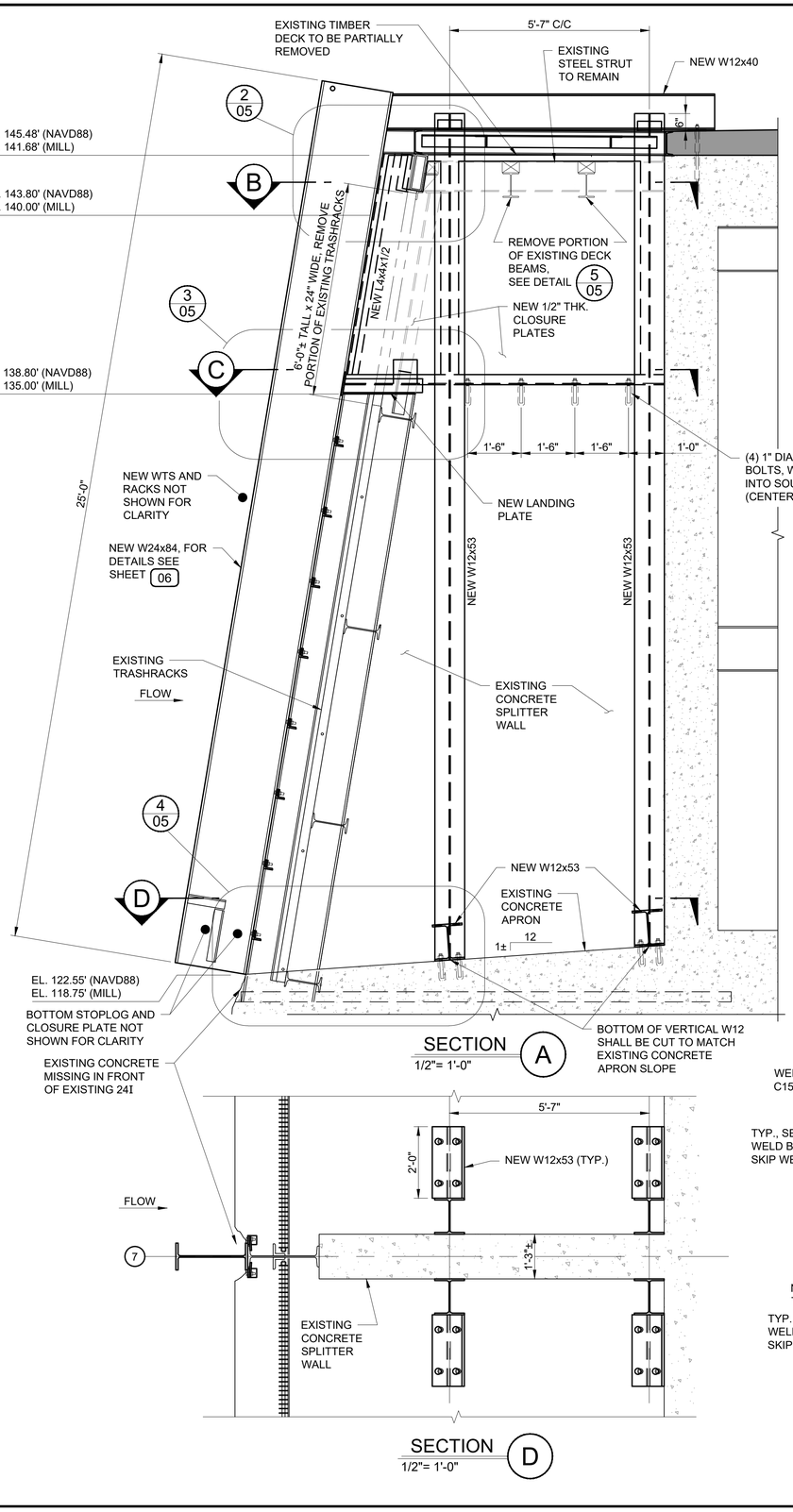
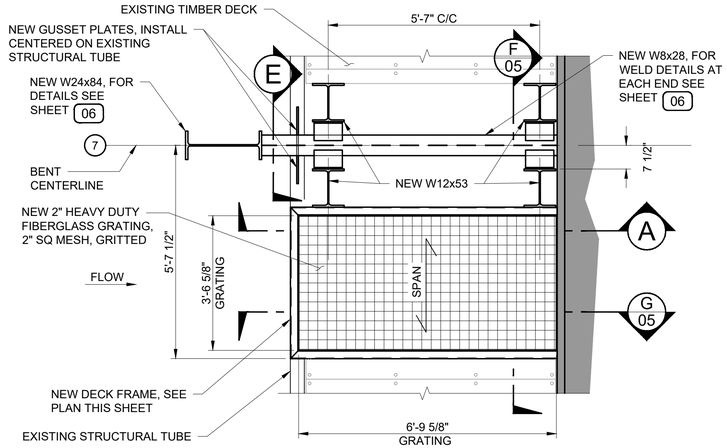
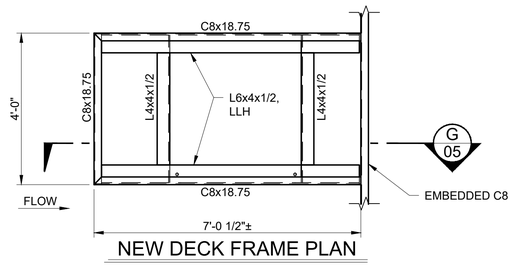
22x34 = FULL SCALE



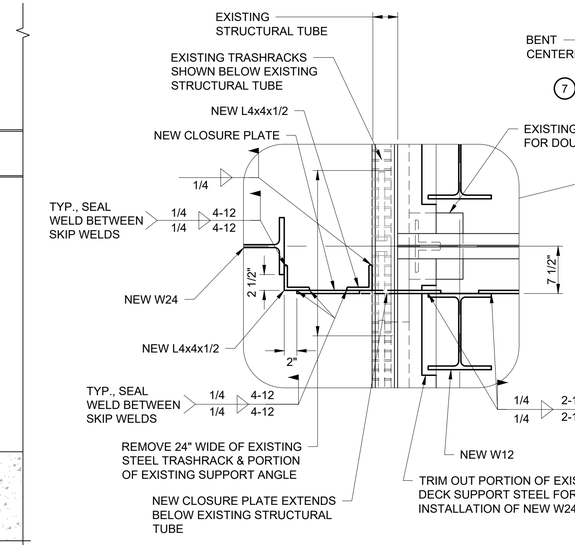
SECTION A
1/2"= 1'-0"

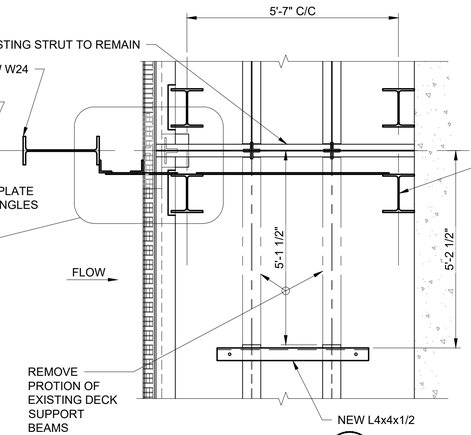


PLAN AT DECK
1/2"= 1'-0"

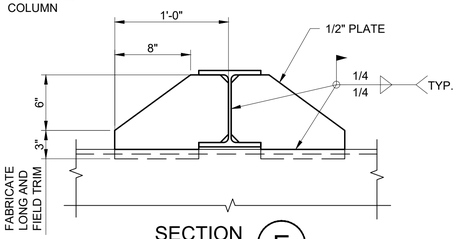


NEW DECK FRAME PLAN
1/2"= 1'-0"



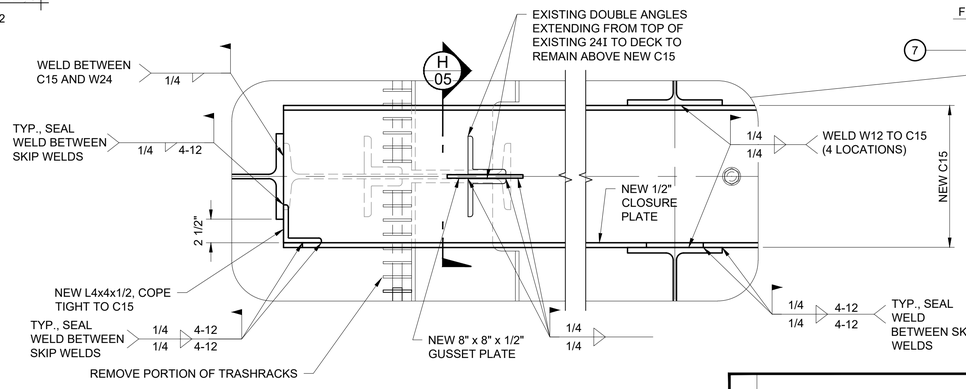


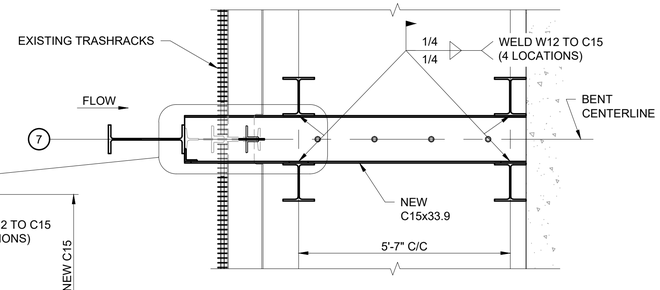
SECTION B
1/2"= 1'-0"



SECTION E
1"= 1'-0"

SECTION D
1/2"= 1'-0"





SECTION C
1/2"= 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

INTAKE RACK
FRAMING SECTION BENT 7 CLOSURE WALL

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	300-04

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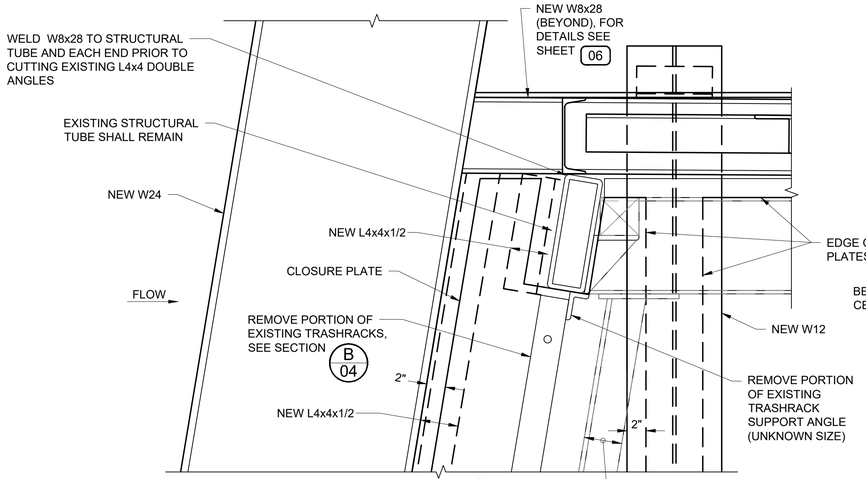
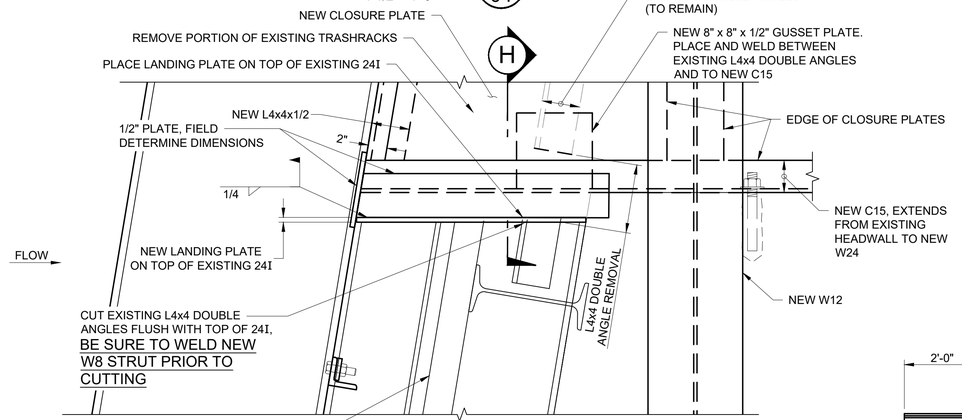
3"
2"
1"
0
22x34 = FULL SCALE



DETAIL 2 04
1 1/2"= 1'-0"



DETAIL 3 04
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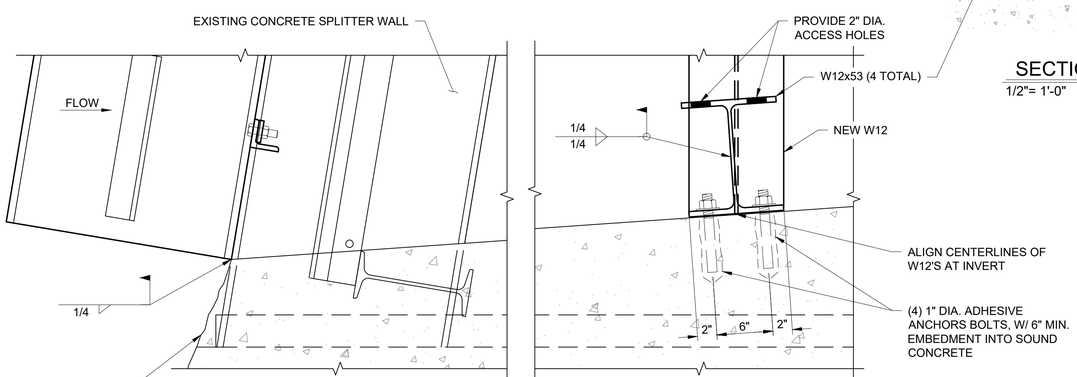
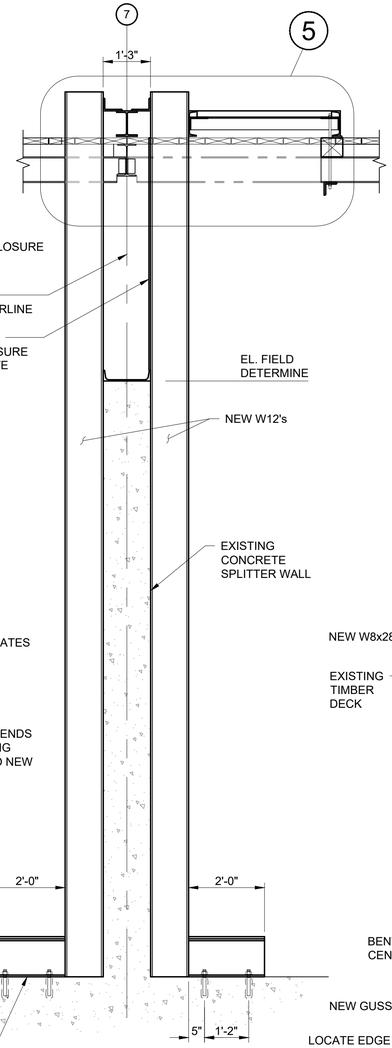
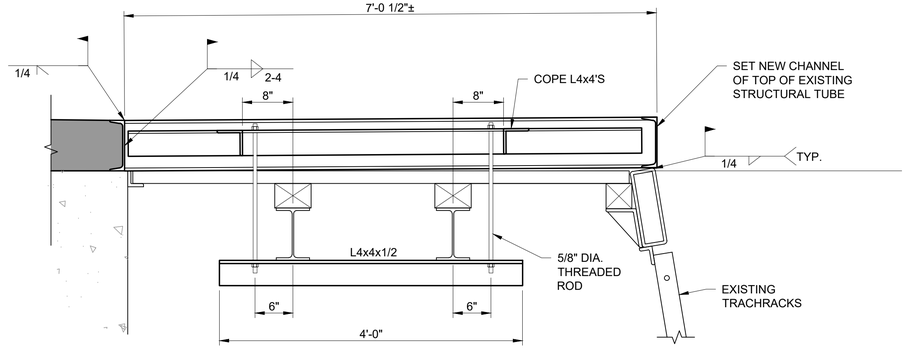


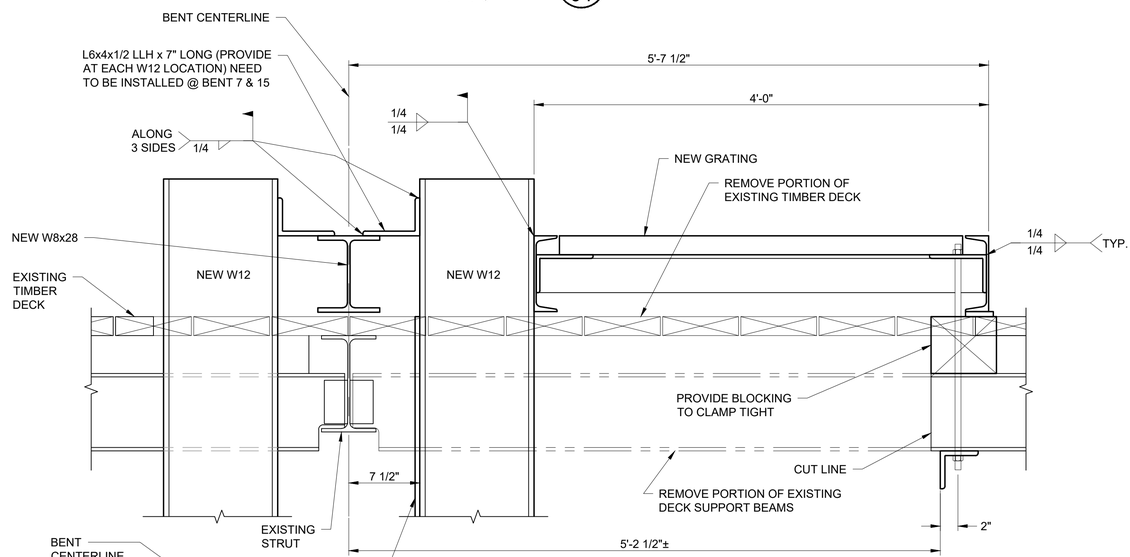
DETAIL 4 04
1 1/2"= 1'-0"



SECTION F 04
1/2"= 1'-0"

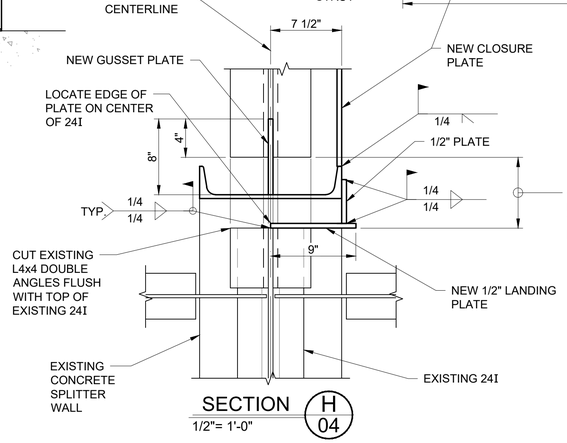


SECTION G 04
1"= 1'-0"



DETAIL 5
1 1/2"= 1'-0"

NOTE:
THE L6x4x1/2 ANGLES BETWEEN THE W8 AND TOP OF W12s HAVE NOT BEEN INSTALLED AT BENT 15. THESE NEED TO BE INSTALLED AT BENT 15 PRIOR TO DEWATERING.



SECTION H 04
1/2"= 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
BENT 7 CLOSURE WALL DETAILS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	300-05

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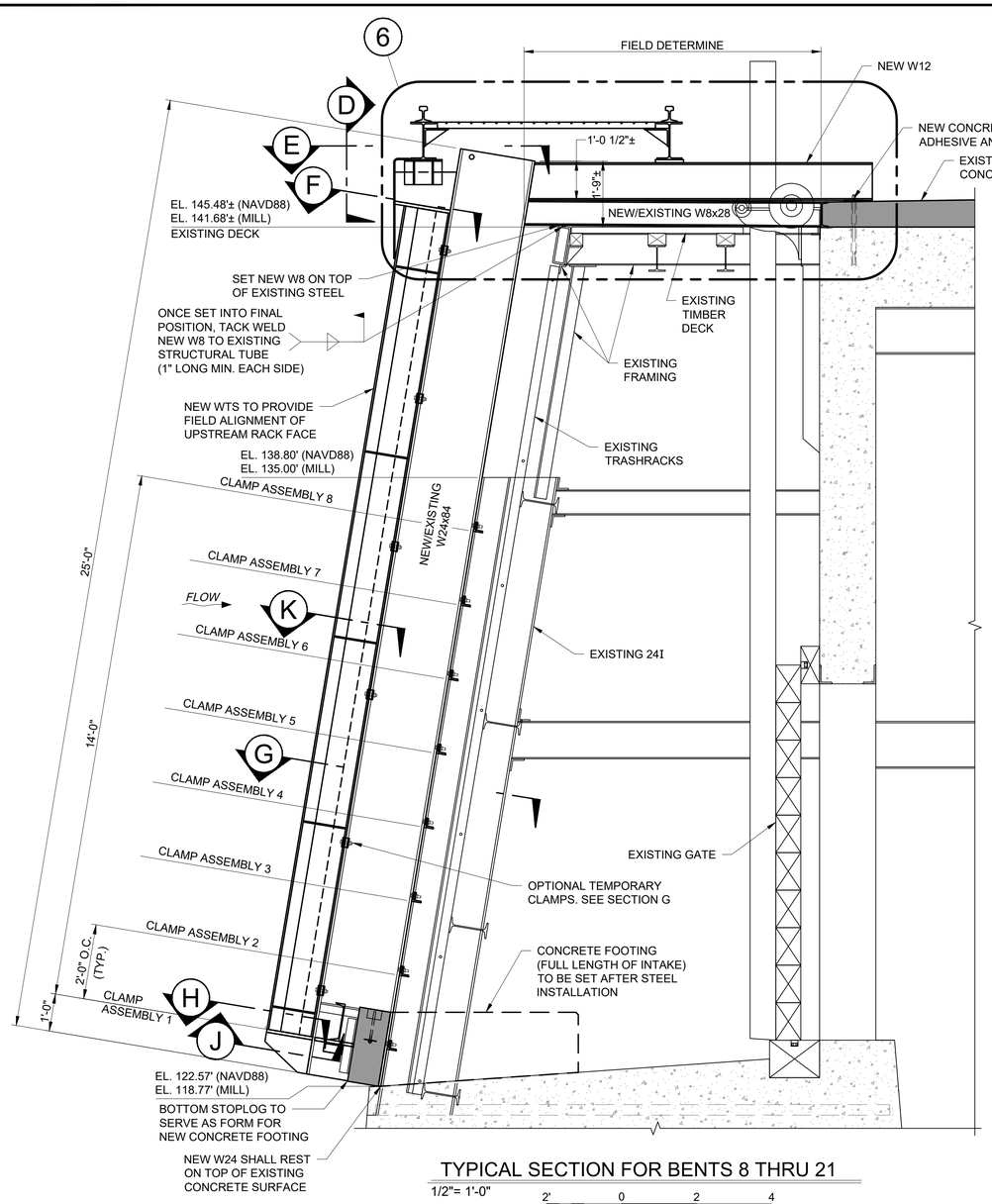
K:\Jobs\010\252\Drawings\CAD\010252-300-05.dwg

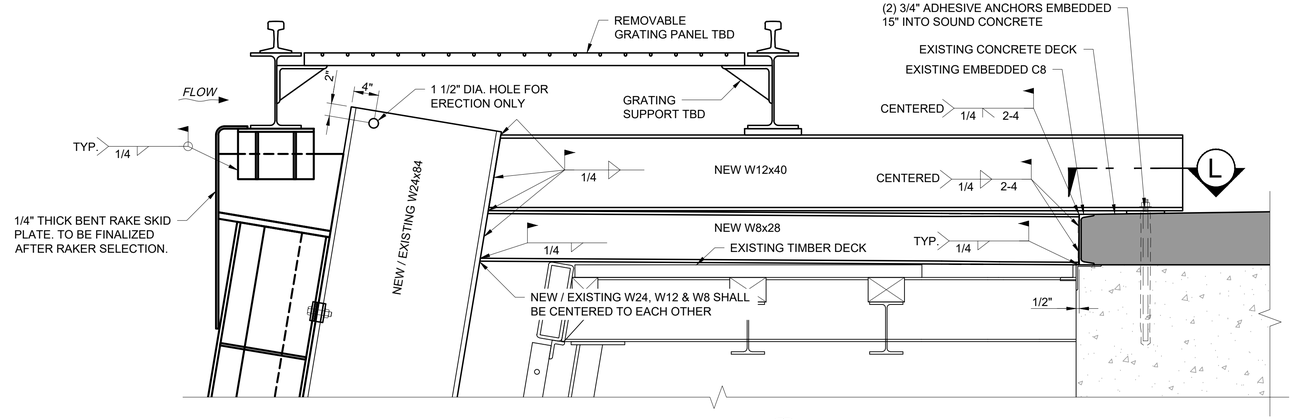
22x34 = FULL SCALE



TYPICAL SECTION FOR BENTS 8 THRU 21

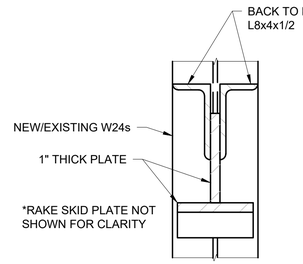
1/2"= 1'-0"

2' 0 2 4



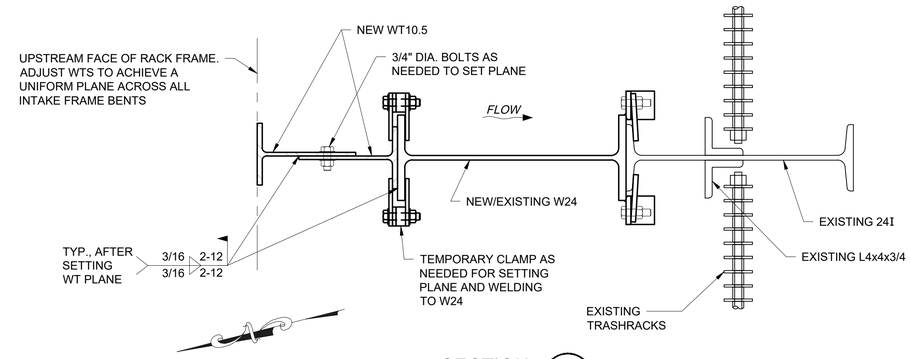
DETAIL 6

1" = 1'-0"



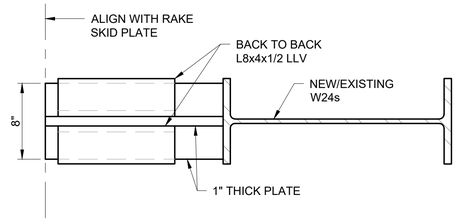
SECTION D

1 1/2" = 1'-0"



SECTION G

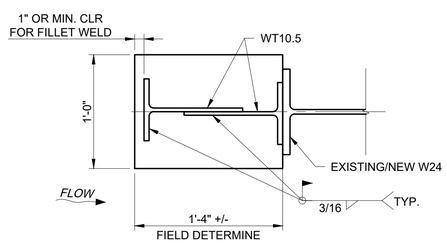
1 1/2"= 1'-0"



SECTION E

1 1/2" = 1'-0"

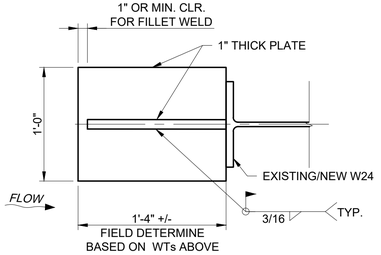
RAKE SKID PLATE NOT SHOWN FOR CLARITY

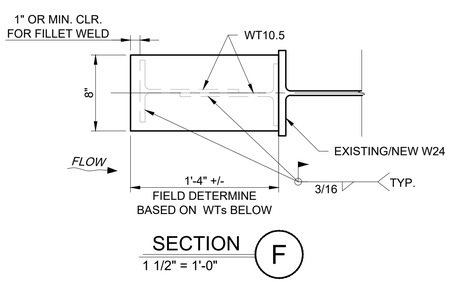


SECTION H

1 1/2" = 1'-0"

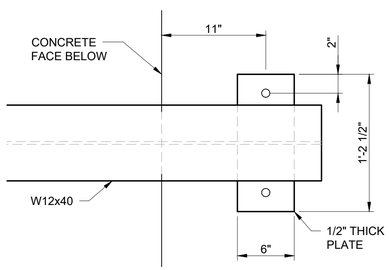
6" 0 6 12 18





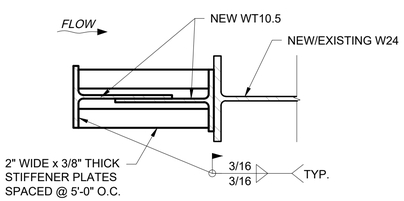
SECTION F

1 1/2" = 1'-0"



SECTION L

1 1/2" = 1'-0"



SECTION K

1 1/2" = 1'-0"

SECTION J

1 1/2" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

INTAKE RACK
FRAMING SECTION AT BENT 8-21

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	300-06

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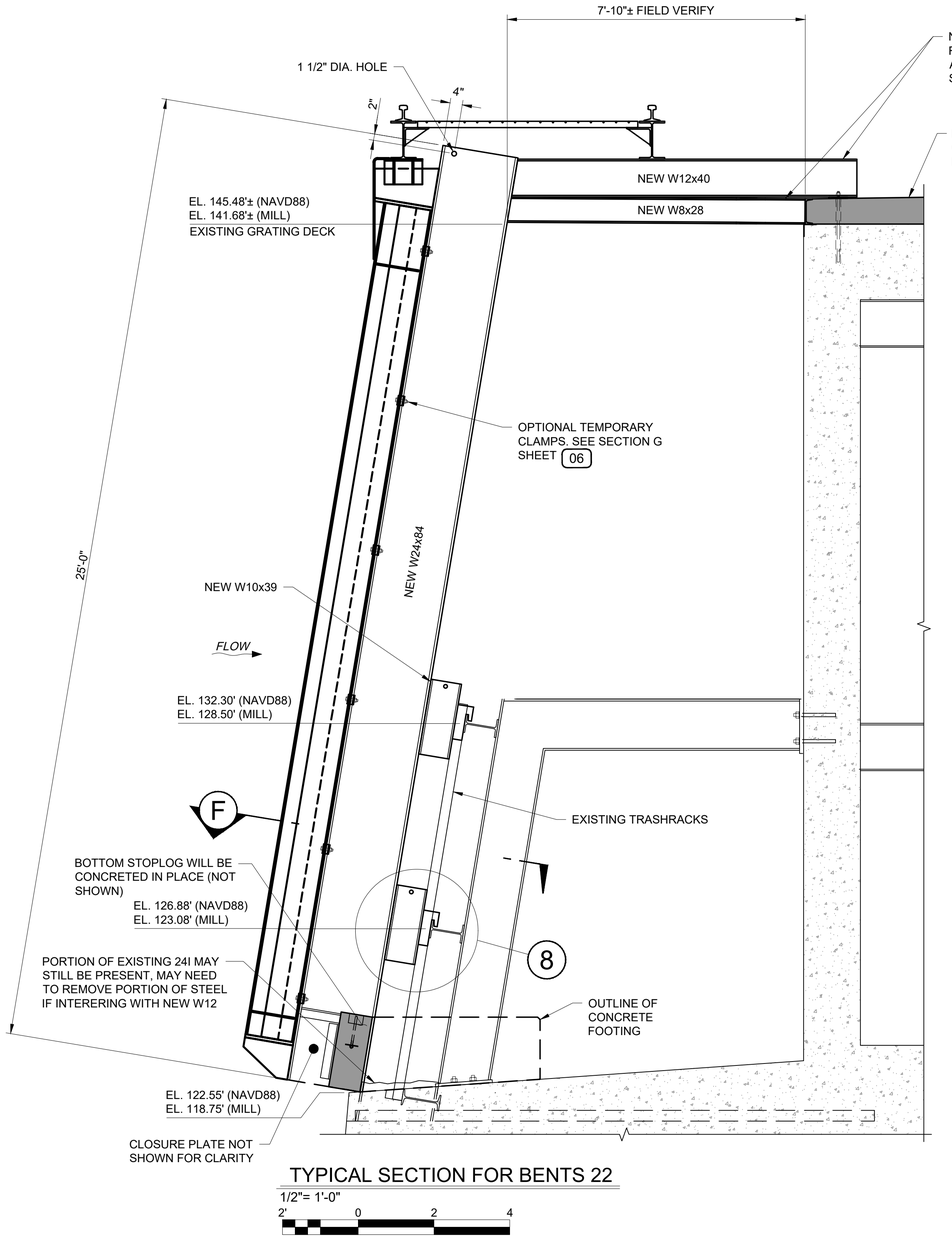
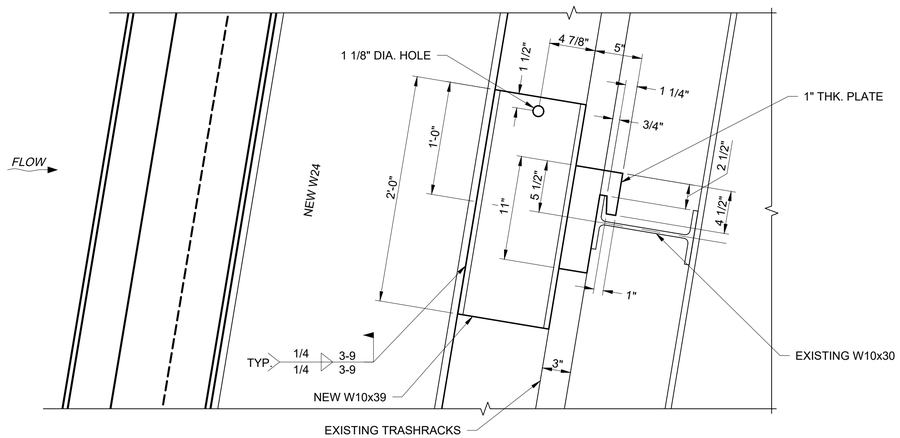
22x34 = FULL SCALE



TYPICAL SECTION FOR BENTS 22

1/2"= 1'-0"

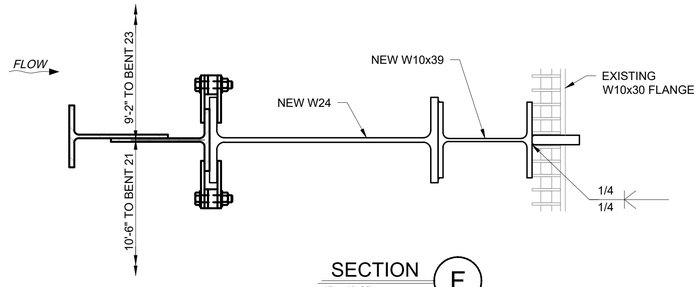
2' 0 2 4



CLIP BEAM DETAIL 8

1"= 1'-0"

NOTE:
THESE CLIPS WERE USED IN THE PHASE 01 WORK AND MAY BE ABLE TO BE SALVAGED FROM THE EXISTING FRAMING.



SECTION F

1"= 1'-0"

1' 0 1 2

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

INTAKE RACK
FRAMING SECTION BENT 22

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	300-07

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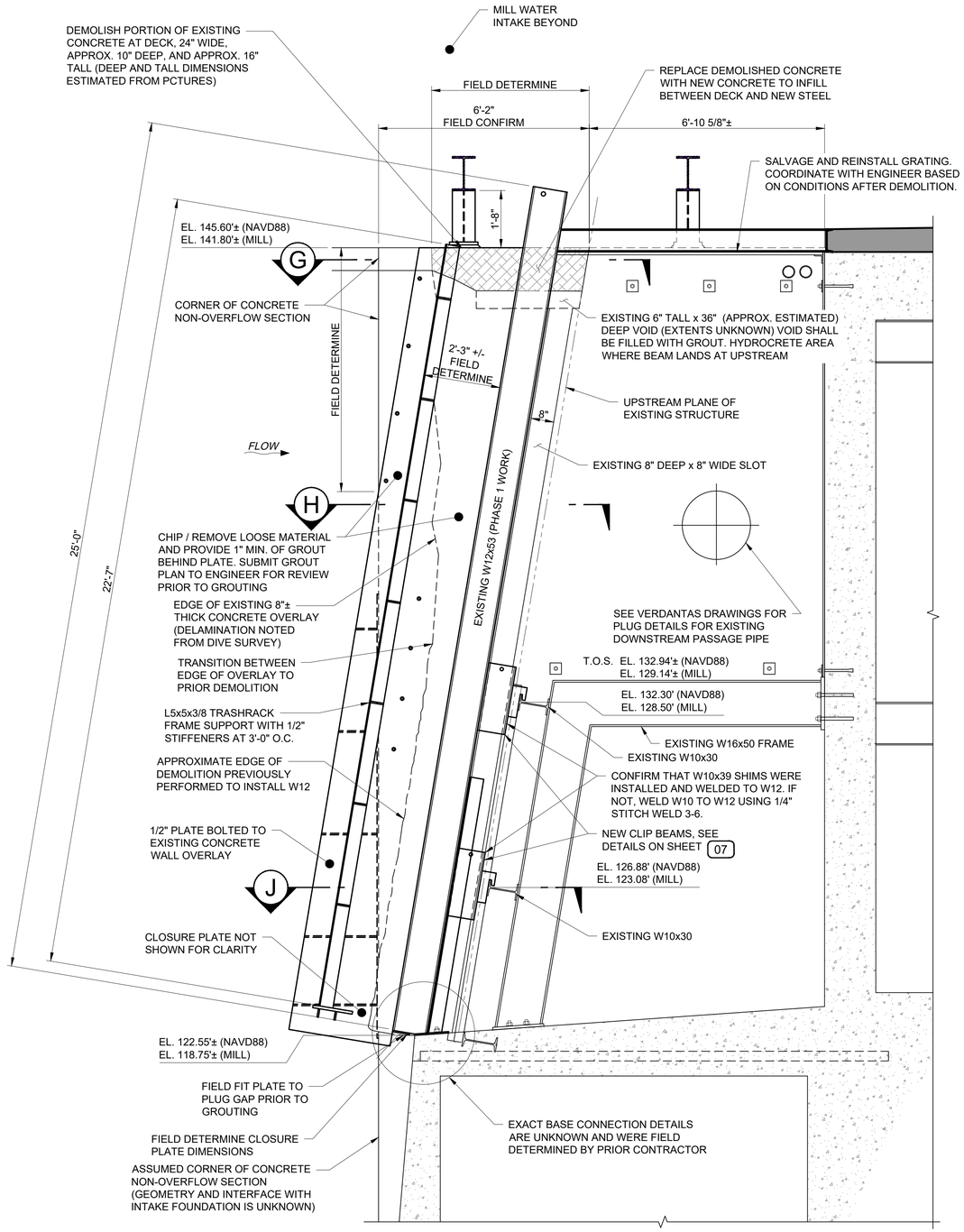
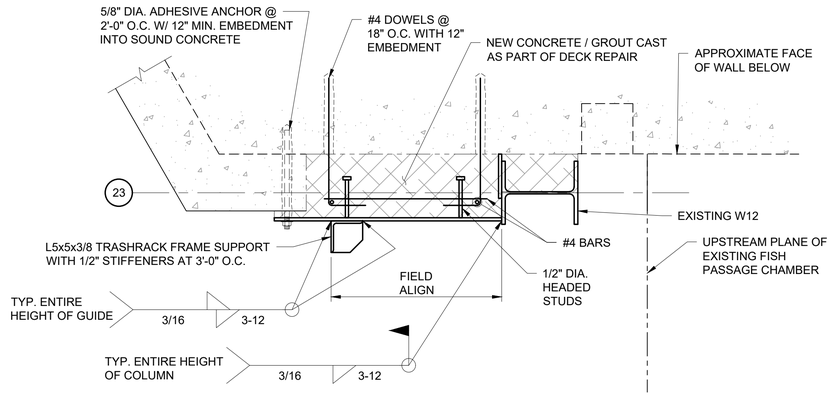
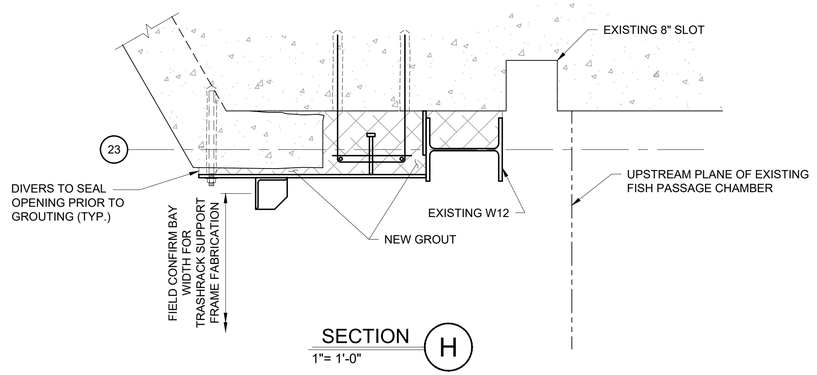
22x34 = FULL SCALE



TYPICAL SECTION FOR BENT 23
1/2"= 1'-0"



SECTION G
1"= 1'-0"



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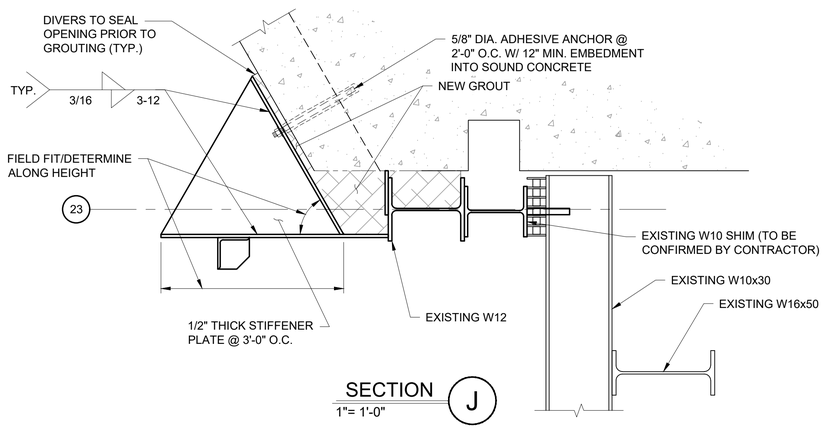

SECTION J
1"= 1'-0"

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
FRAMING SECTION BENT 23

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	300-08

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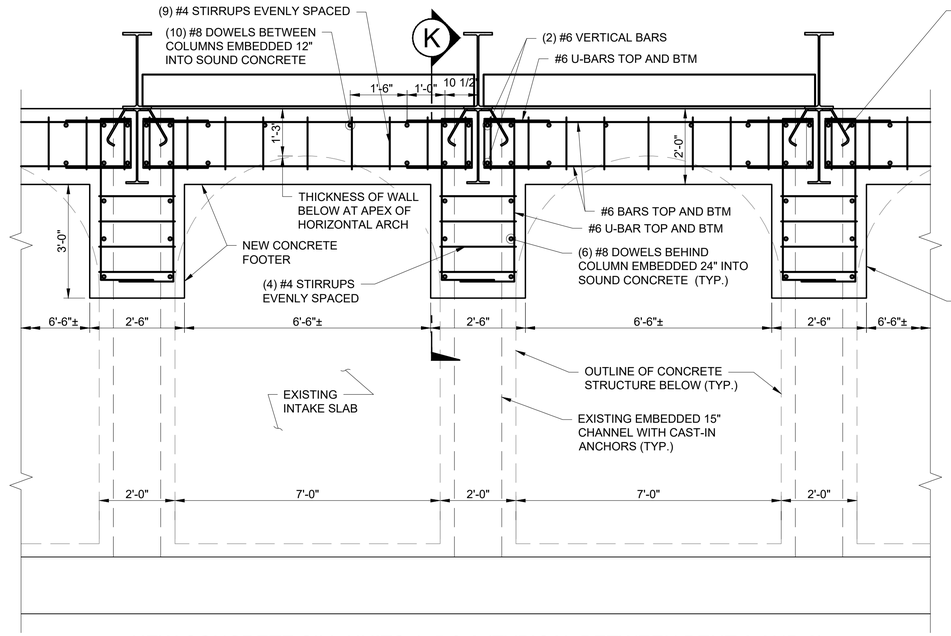
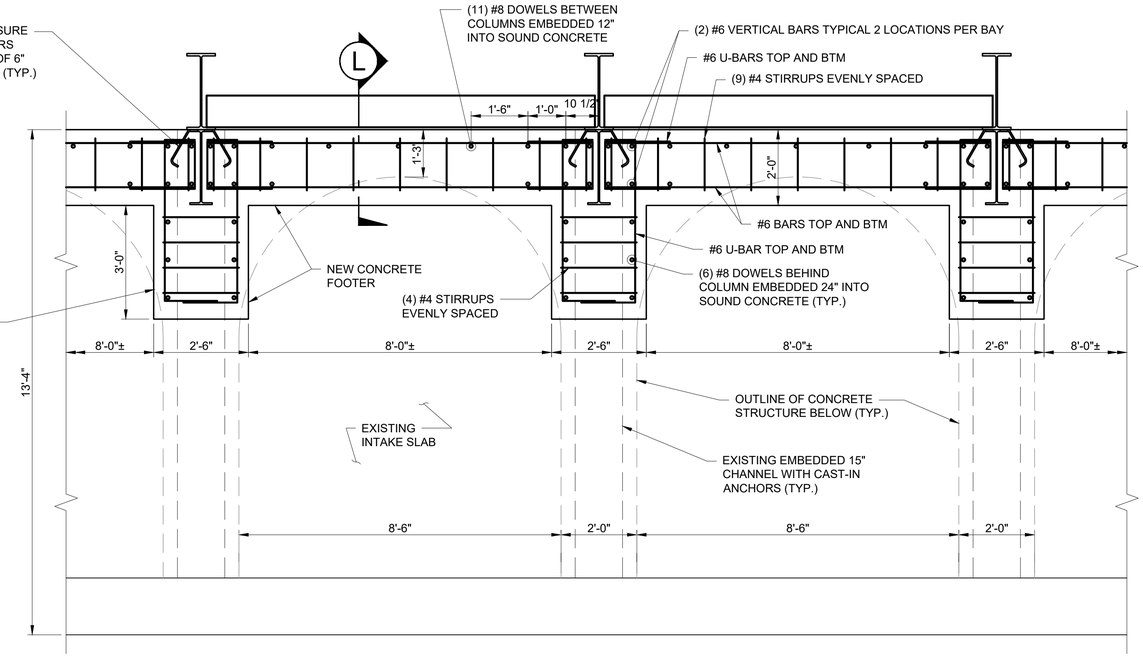


NEW CONCRETE SILL UNITS 4, 5 & 6 (TYPICAL BETWEEN BENT 0 AND 6)

1/2" = 1'-0"

2' 0 2 4

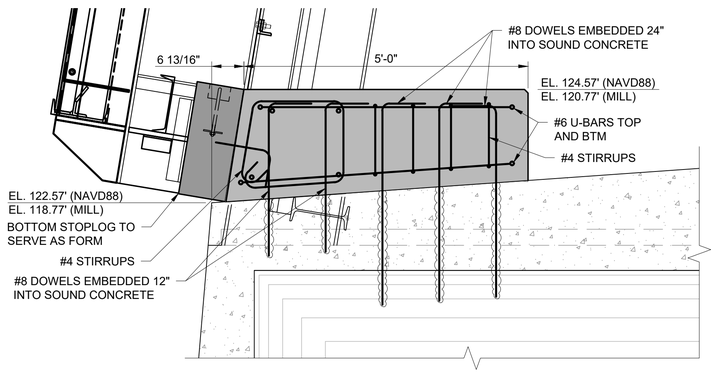
NOTE:
1. SPACING BETWEEN THE BUMPOUTS IN THE FOOTING IS BASED ON EXISTING COLUMN SPACING. NOTIFY ENGINEER IF COLUMN SPACING DIFFERS MORE THAN 1.5".



NEW CONCRETE SILL UNITS 7, 10 AND 8, 9 (TYPICAL BETWEEN BENT 6 AND 23)

1/2" = 1'-0"

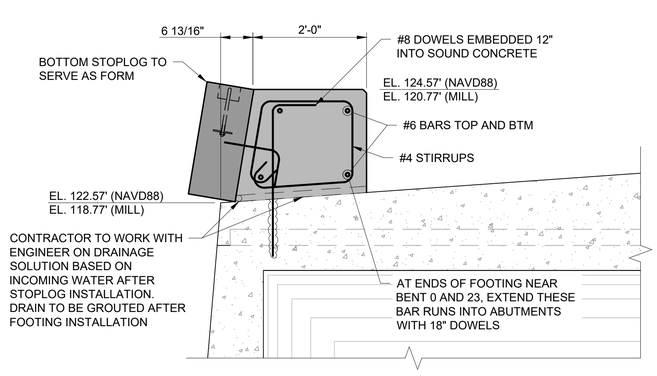
NOTE:
1. SPACING BETWEEN THE BUMPOUTS IN THE FOOTING IS BASED ON EXISTING COLUMN SPACING. NOTIFY ENGINEER IF COLUMN SPACING DIFFERS MORE THAN 1.5".



SECTION K

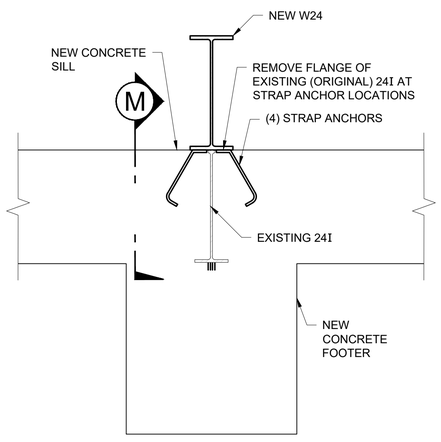
3/4" = 1'-0"

1' 0 1 2 3



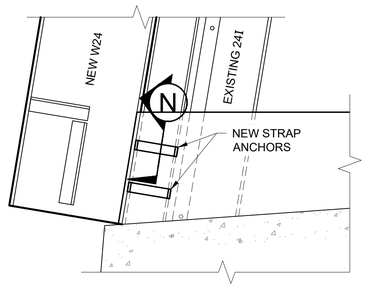
SECTION L

3/4" = 1'-0"



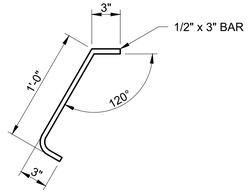
STRAP ANCHOR CONNECTION DETAIL

3/4" = 1'-0"



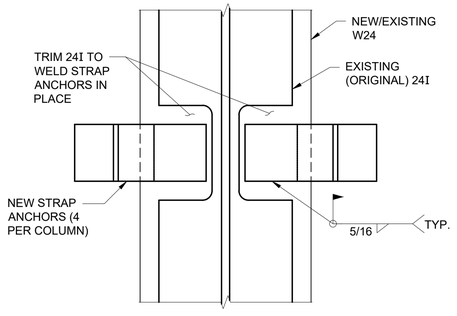
SECTION M

3/4" = 1'-0"



STRAP ANCHOR DETAIL

1 1/2" = 1'-0"



SECTION N

3" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE
CONCRETE SILL

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	300-09

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3" 2" 1" 0 22x34 = FULL SCALE

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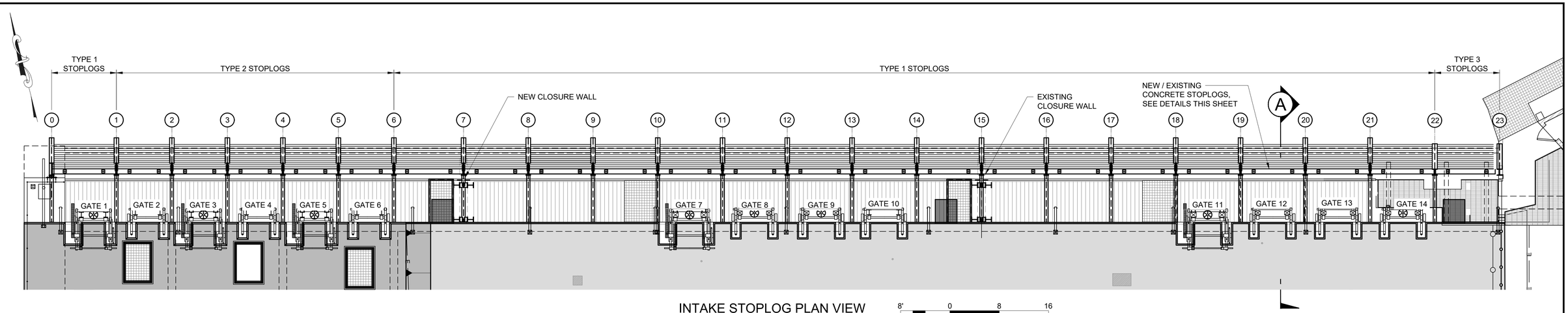
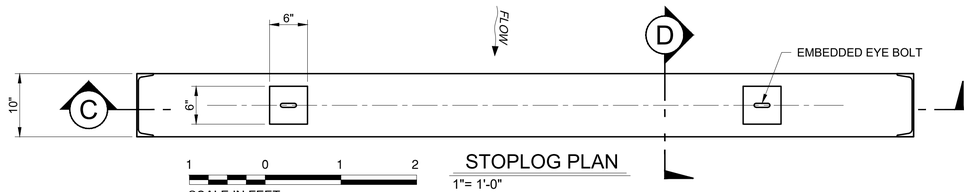


INTAKE STOPLOG PLAN VIEW

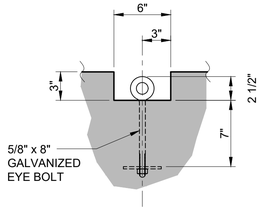
1/8" = 1'-0"

8' 0 8 16



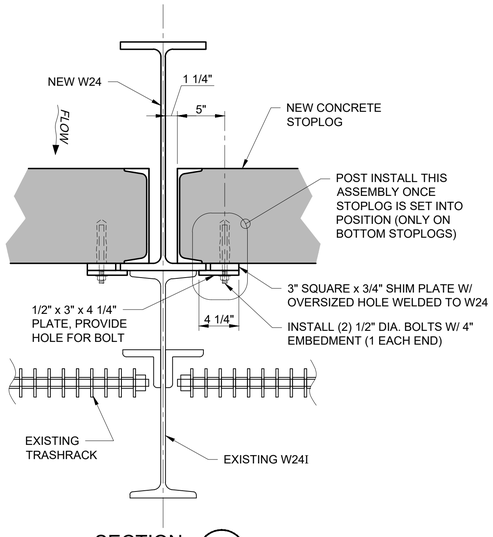
STOPLOG PLAN

1"= 1'-0"



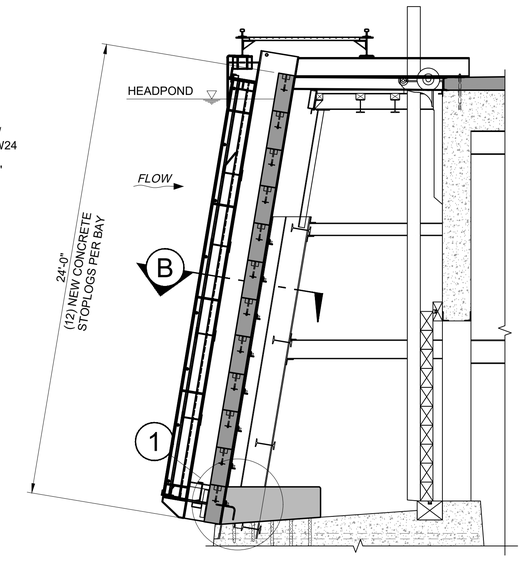
DETAIL 2

1 1/2"= 1'-0"



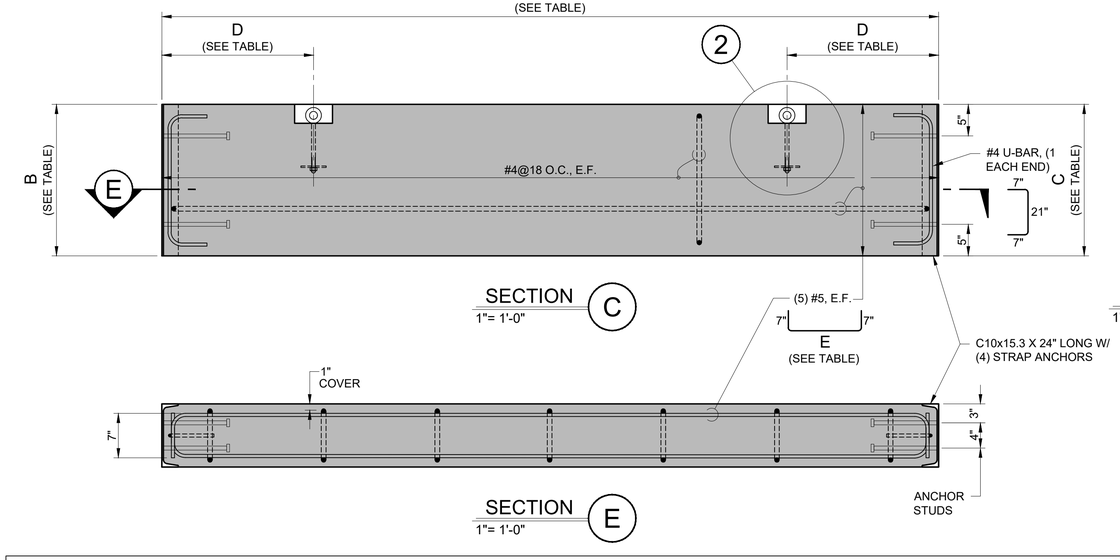
SECTION B

1 1/2"= 1'-0"



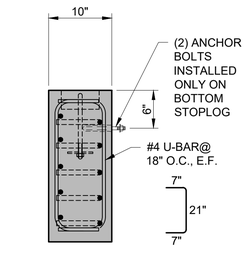
SECTION A

1/4"= 1'-0"



SECTION C

1"= 1'-0"

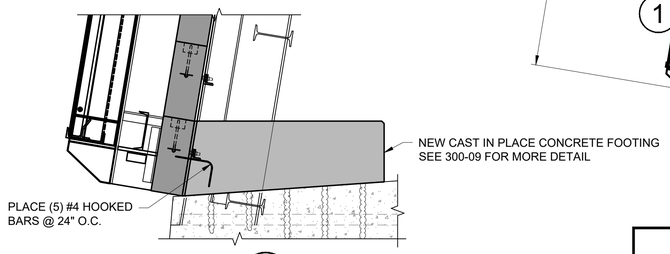


SECTION D

1"= 1'-0"

SECTION E

1"= 1'-0"



DETAIL 1

1/2"= 1'-0"

STOPLOG TABLE							
STOPLOG TYPE	QUANTITY	A	B	C	D	E	LOCATION/NOTES
TYPE 1	96 (ALREADY FABRICATED)	10'-3"	2'-0"	2'-0"	2'-0"	10'-0"	LOCATION BETWEEN BENT 0 AND 1, AND BETWEEN BENT 6 AND BENT 22. BOTTOM STOPLOGS TO HAVE ATTACHMENT CLIPS INSTALLED, CONTRACTOR TO CONFIRM WHETHER BOTTOM STOPLOG WAS ALREADY LEFT IN PLACE IN FRONT OF UNIT NO. 8 & 9).
TYPE 2	60	8'-9"	2'-0"	2'-0"	1'-0"	8'-6"	LOCATION TYPICAL BETWEEN BENT 1 AND BENT 6
TYPE 3	12 (ALREADY FABRICATED)	9'-4"	2'-0"	2'-0"	1'-0"	8'-10"	LOCATION TYPICAL BETWEEN BENT 22 AND BENT 23

NOTE:
1. DISTANCE BETWEEN COLUMN BENTS MAY VARY. CONTRACTOR TO FIELD VERIFY PRIOR TO FABRICATION OF STOPLOGS.
2. CAULKING OR GASKET MATERIAL MAY BE USED BETWEEN STOPLOGS TO INCREASE WATERTIGHTNESS.
3. (3) STOPLOGS REQUIRE INSTALLATION OF A SEGMENT OF EEL BYPASS PIPE. SEE 500-04 FOR DETAILS.

NOT FOR CONSTRUCTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

NEW INTAKE STOPLOGS

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AJC	JFB	DBN	010252	07-07-25	300-10

22x34 = FULL SCALE

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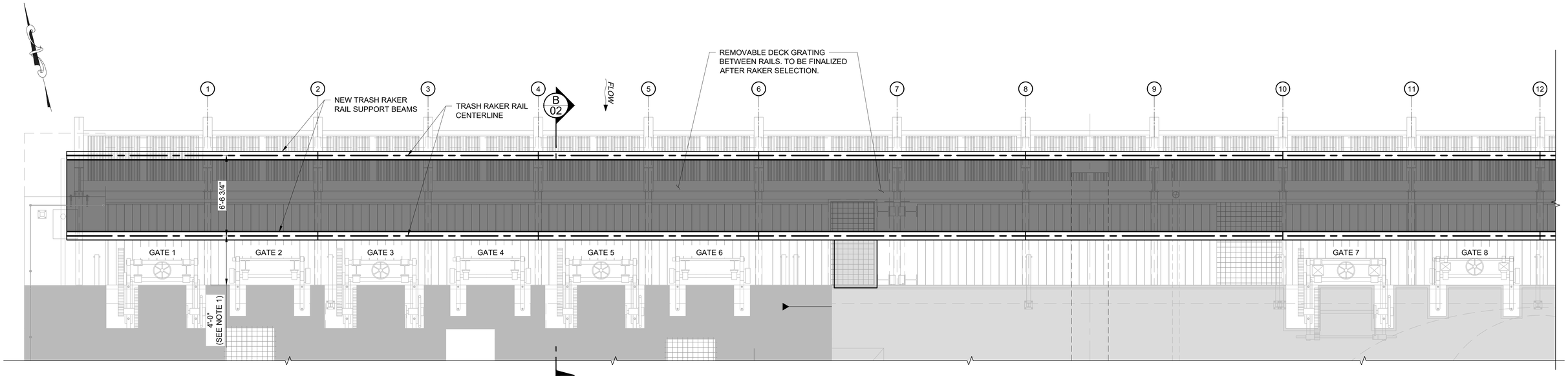
22x34 = FULL SCALE

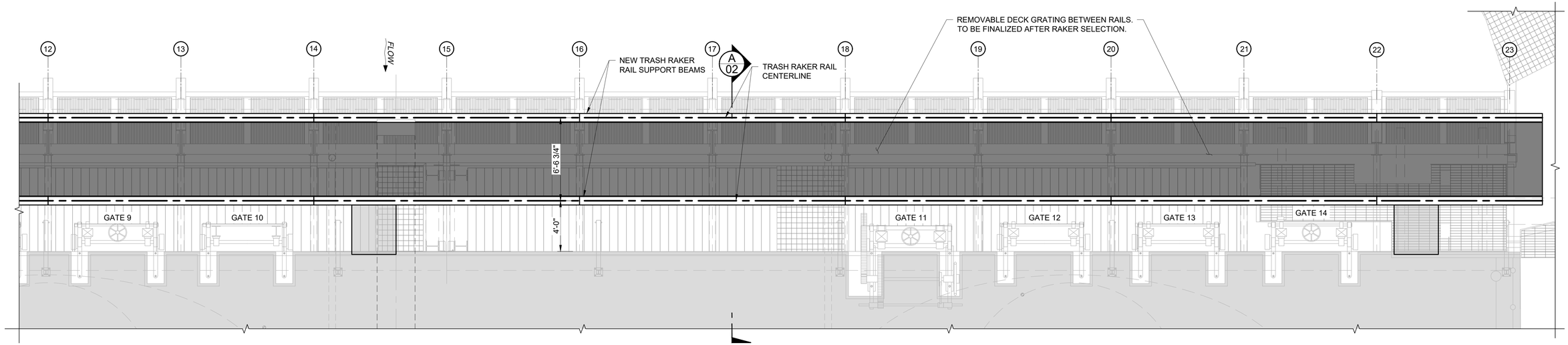


TRASH RAKER RAIL SUPPORT BEAMS - PLAN

1/4" = 1'-0"

NOTES:

1. EXACT LOCATION OF RAILS TO BE CONFIRMED BY KUENZ OR OTHER APPROVED RAKE VENDOR.



TRASH RAKER RAIL SUPPORT BEAMS - PLAN

1/4" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RAKER SUPPORT
PLAN VIEW

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN

Project No.	Date Revised	Drawing No.
010252	07-07-25	400-01

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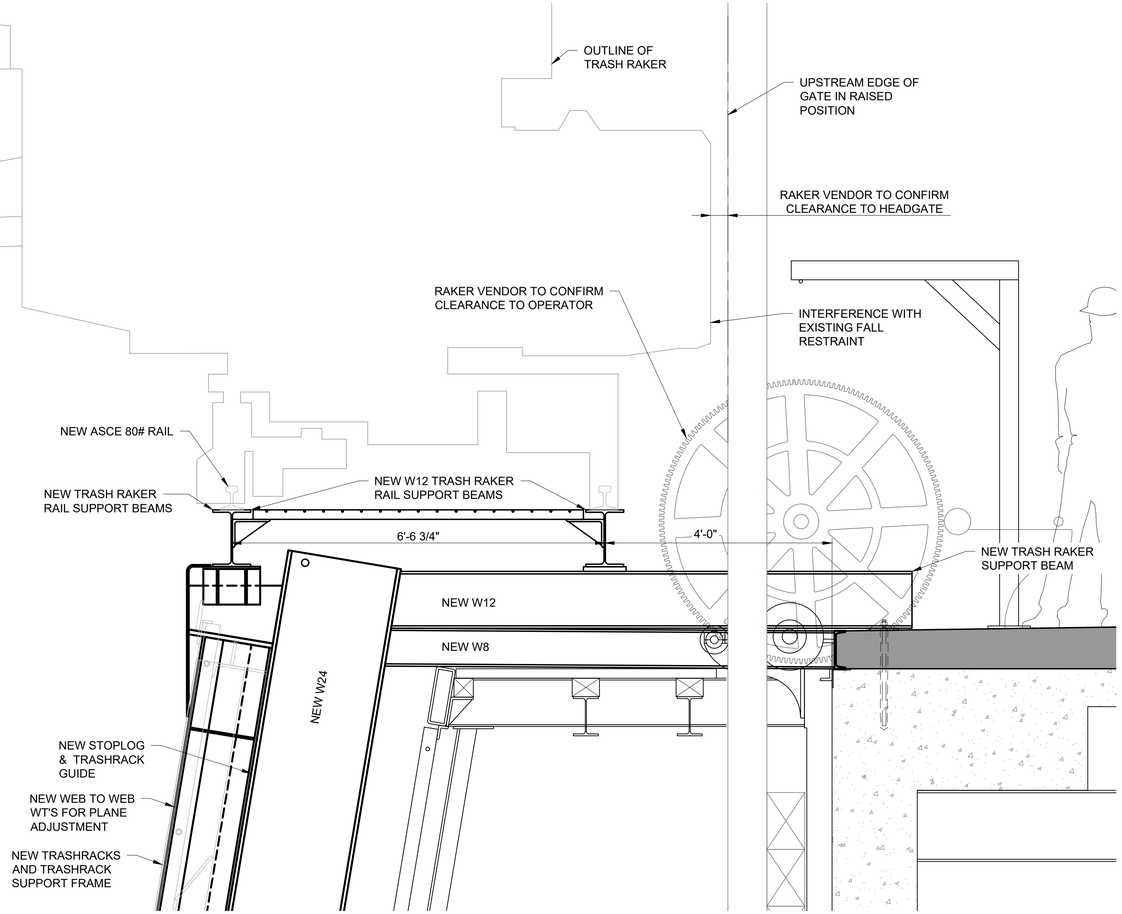
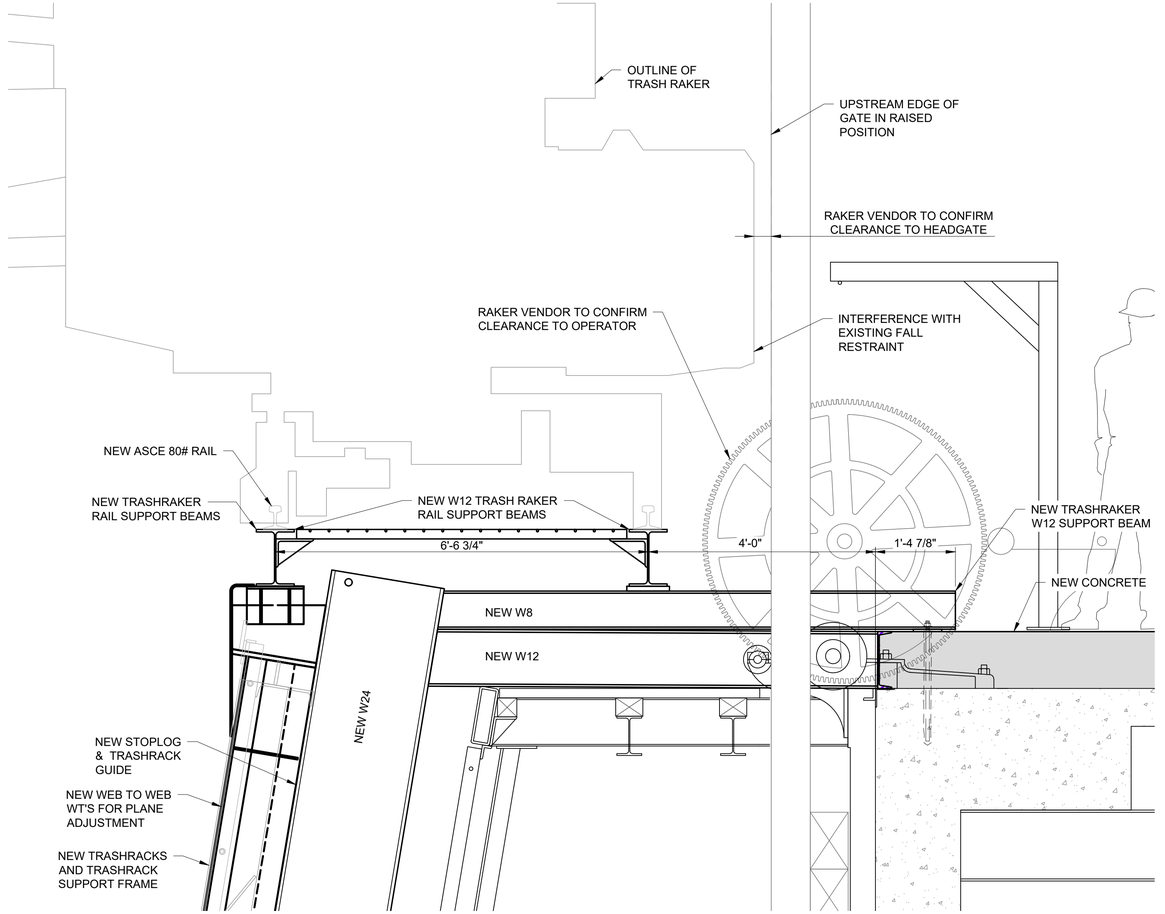
3"
2"
1"
0
22x34 = FULL SCALE



TRASH RAKER SUPPORT - SECTION A 01
3/4" = 1'-0"

1' 0 1 2 3



TRASH RAKER SUPPORT - SECTION B 01
3/4" = 1'-0"

NOTE:
DUE TO THE LIKELY UNAVAILABILITY OF THE KUENZ RAKE THIS DESIGN WAS INTENDED FOR, THE SUPPORT BEAM SIZE AND SPACING WILL NEED TO BE CONFIRMED AFTER SELECTION OF A NEW RAKE.

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RAKER SUPPORT SECTION AT TYPICAL BENT, CLOSURE WALL AND GATE OPERATOR

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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AJC	JFB	DBN	010252	07-07-25	400-02

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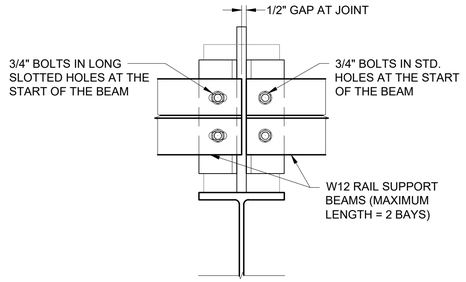
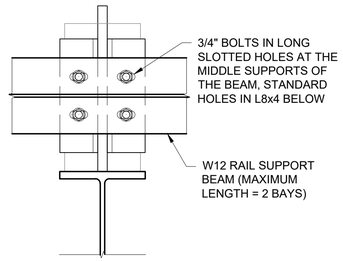


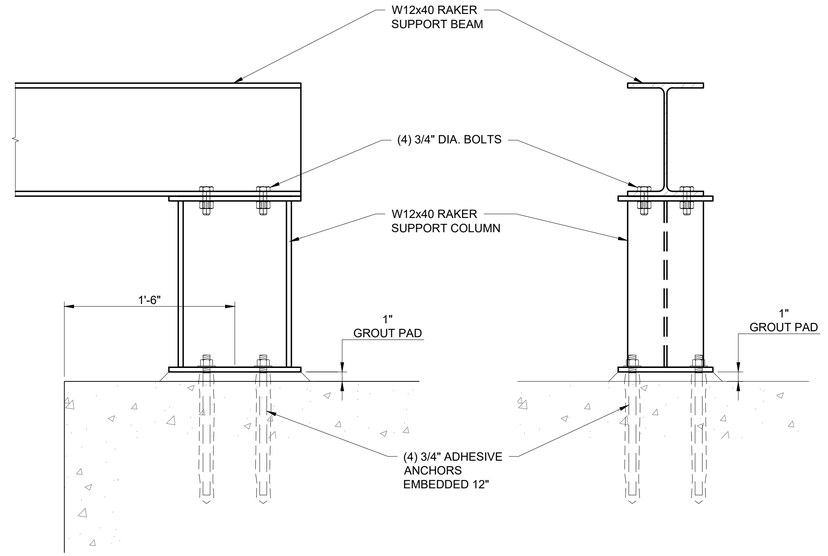
TYPICAL EXPANSION JOINT CONNECTION DETAIL AT UPSTREAM TRASH RAKER SUPPORT BEAM

1 1/2" = 1'-0"



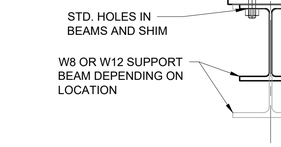
TYPICAL CONNECTION DETAIL AT UPSTREAM TRASH RAKER SUPPORT BEAM

1 1/2" = 1'-0"



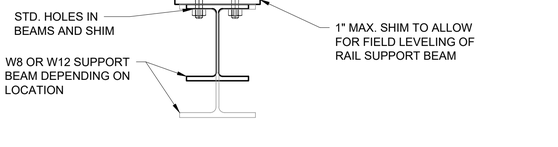
TYPICAL RAKER RAIL SUPPORT COLUMNS @ BENT 23

1 1/2" = 1'-0"



TYPICAL EXPANSION JOINT CONNECTION DETAIL AT DOWNSTREAM TRASH RAKER SUPPORT BEAM

1 1/2" = 1'-0"

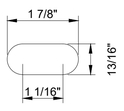


TYPICAL CONNECTION DETAIL AT DOWNSTREAM TRASH RAKER SUPPORT BEAM

1 1/2" = 1'-0"

6" 0 6 12 18

NOTES:
1. SUPPORT BEAMS ARE CONTINUOUS FOR UP TO APPROXIMATELY 21 FEET (2 BAYS).
2. MAXIMUM CHANGE IN LENGTH OVER 140DEGF IS 1/4 INCH.
3. CONTRACTOR TO ENSURE THAT BOLTS IN SLOTTED HOLES ARE SNUG-TIGHT AND **NOT OVER-TIGHTENED**.



TYPICAL LONG SLOTTED HOLE DETAIL

6" = 1'-0"

2" 0 2 4

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RAKER SUPPORT
SECTIONS AND DETAILS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	AJC	DBN	010252	07-07-25	400-03

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22x34 = FULL SCALE

3" 2" 1" 0

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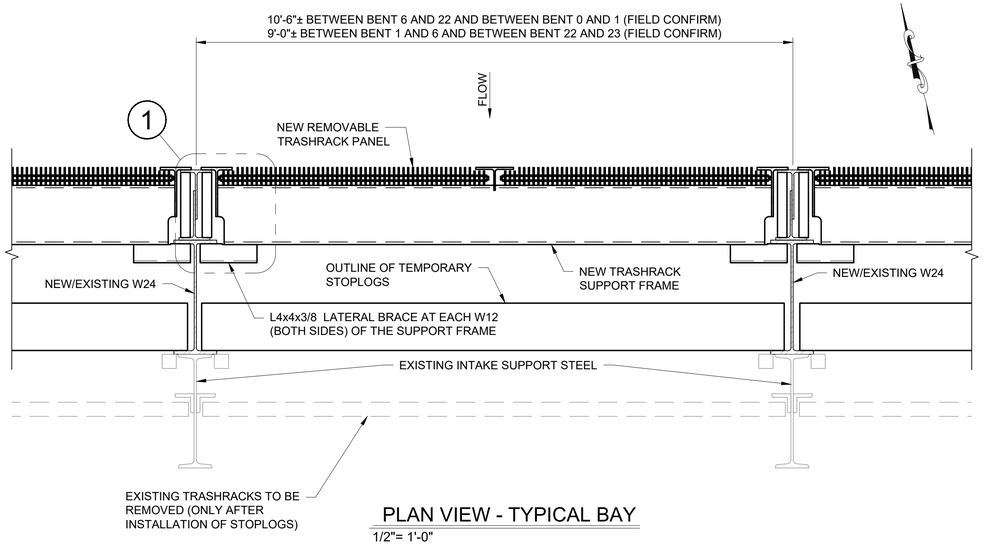
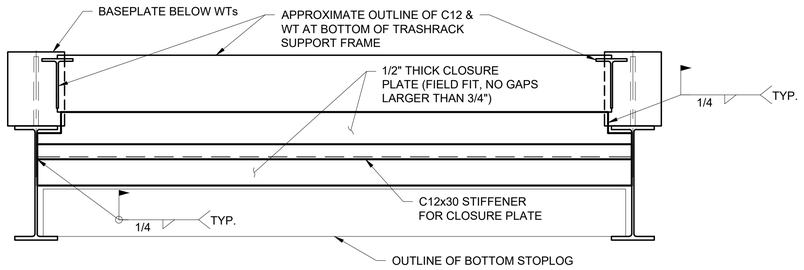


PLAN VIEW - TYPICAL BAY

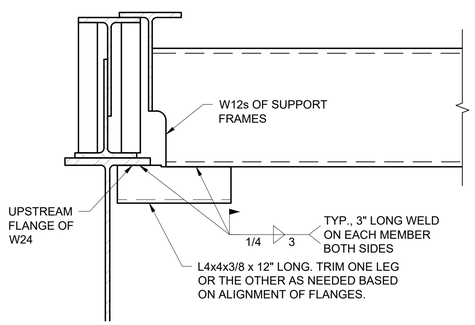
1/2"= 1'-0"

NOTE:
STOPLOGS MUST BE INSTALLED PRIOR TO FUTURE TRASH RACK PANEL REMOVAL (RAKER SUPPORT BEAM MUST ALSO BE REMOVED). PRIOR TO TRASH RACK PANEL RE-INSTALLATION, ENSURE THAT NO DEBRIS OR PULP WOOD IS TRAPPED BETWEEN THE TRASH RACK PANELS AND STOPLOGS THAT COULD GO THROUGH THE UNITS WHEN THE STOPLOGS ARE REMOVED.



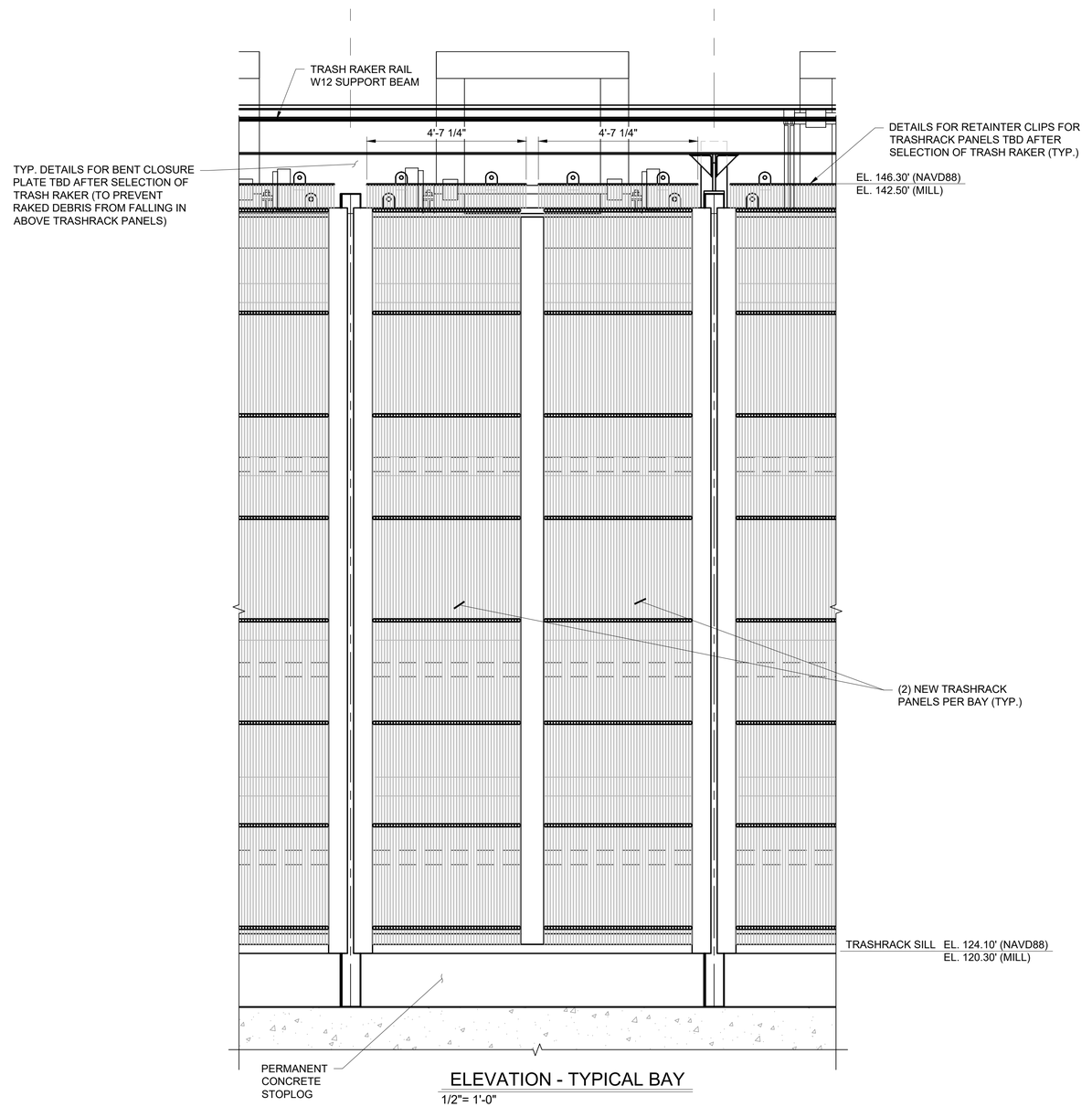
PLAN VIEW - TYPICAL BAY BOTTOM CLOSURE PLATE

1/2"= 1'-0"



DETAIL 1 (1)

1 1/2" = 1'-0"



ELEVATION - TYPICAL BAY

1/2"= 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
OVERVIEW

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked
AJC	JFB	DBN

Project No.	Date Revised	Drawing No.
010252	07-07-25	500-01

22x34 = FULL SCALE

PRINTED: Jul. 7, 2025 - 5:05 PM

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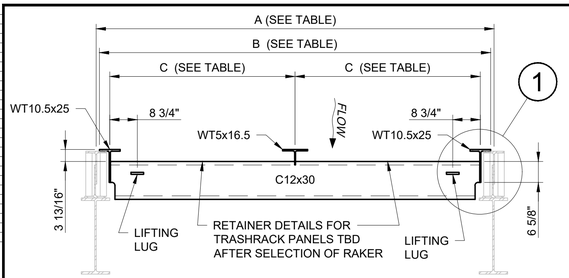
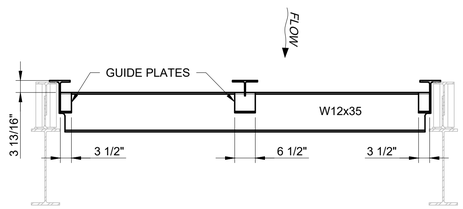
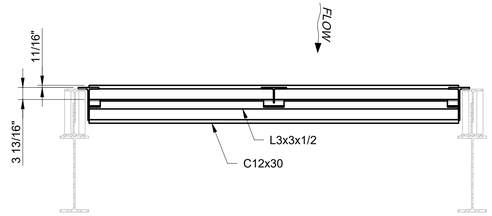


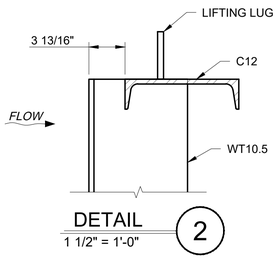
PLAN AT TOP
1/2" = 1'-0"



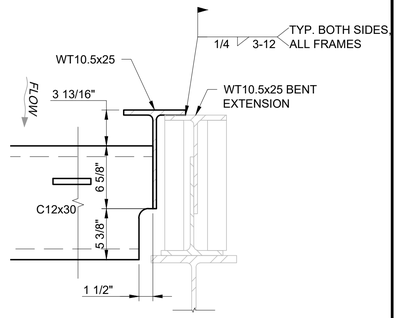
PLAN AT W12'S
1/2" = 1'-0"



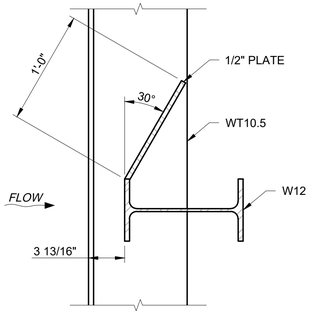
PLAN AT BOTTOM
1/2" = 1'-0"



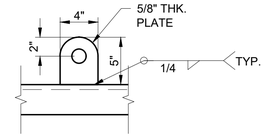
DETAIL 2
1 1/2" = 1'-0"



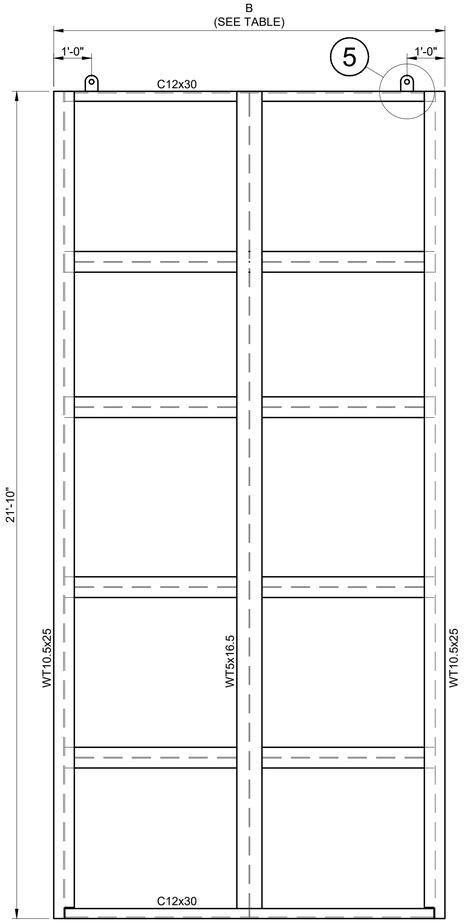
DETAIL 1
1 1/2" = 1'-0"



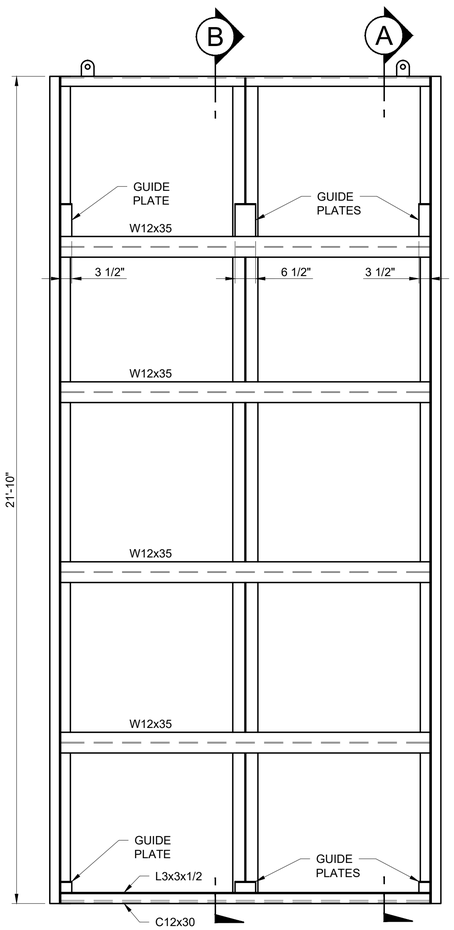
DETAIL 3
1 1/2" = 1'-0"



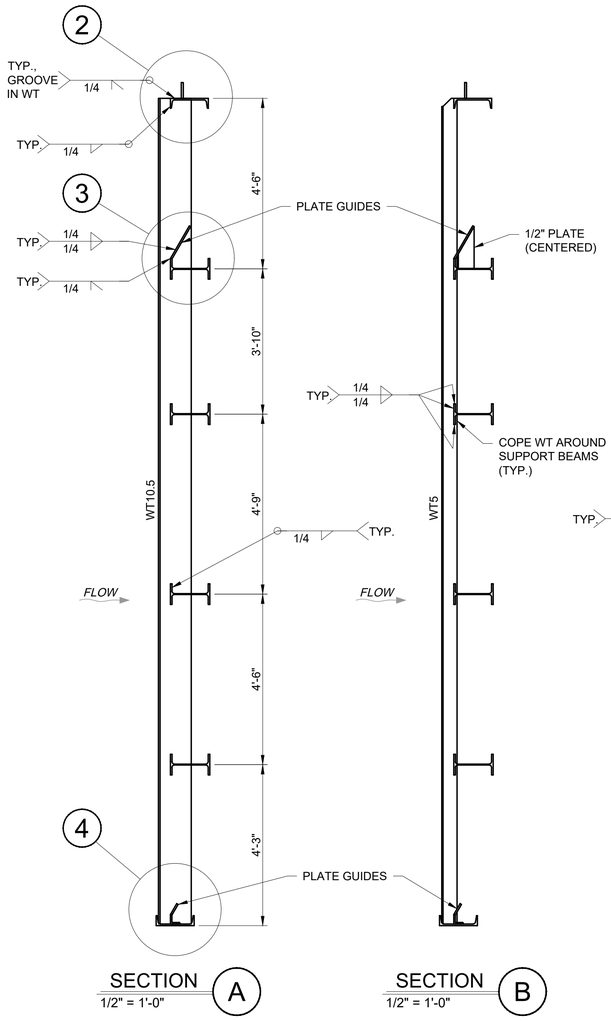
DETAIL 5
1 1/2" = 1'-0"



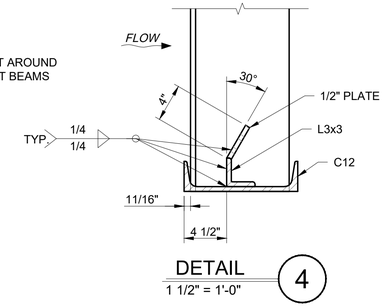
TRASH RACK SUPPORT FRAME ELEVATION LOOKING DOWNSTREAM
1/2"=1'-0"



TRASH RACK SUPPORT FRAME ELEVATION LOOKING UPSTREAM
1/2"=1'-0"



SECTION A
1/2" = 1'-0"



SECTION B
1/2" = 1'-0"

DETAIL 4
1 1/2" = 1'-0"

TRASH RACK SUPPORT FRAME TABLE					
FRAME TYPE	QUANTITY	A	B	C	LOCATION/NOTES
TYPE 1	15	10'-6"	10'-3 7/8"	4'-10 11/16"	TYPICAL FOR LOCATIONS WITH BENT SPACING 10'-6" (FIELD CONFIRM ALL BAYS PRIOR TO FABRICATION)
TYPE 2	6	9'-0"	8'-9 1/8"	4'-1 11/16"	TYPICAL FOR LOCATIONS WITH BENT SPACING 9'-0" (FIELD CONFIRM ALL BAYS PRIOR TO FABRICATION)

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
SUPPORT FRAME TYPICAL 10.5' & 9' BAYS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-02

22x34 = FULL SCALE

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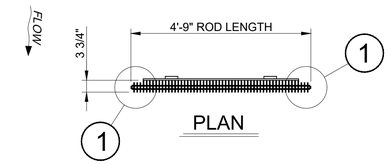
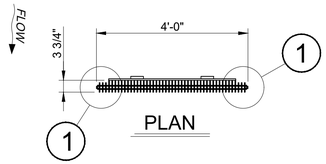
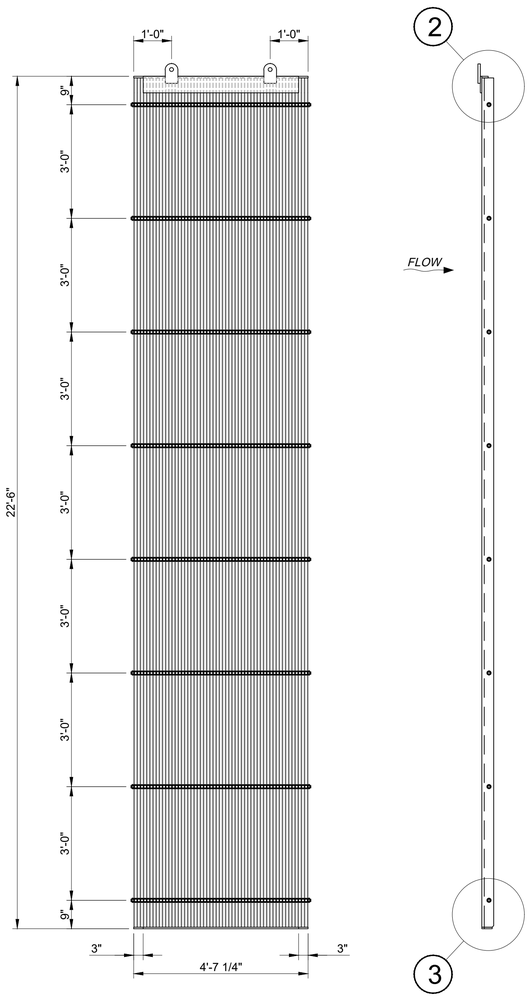




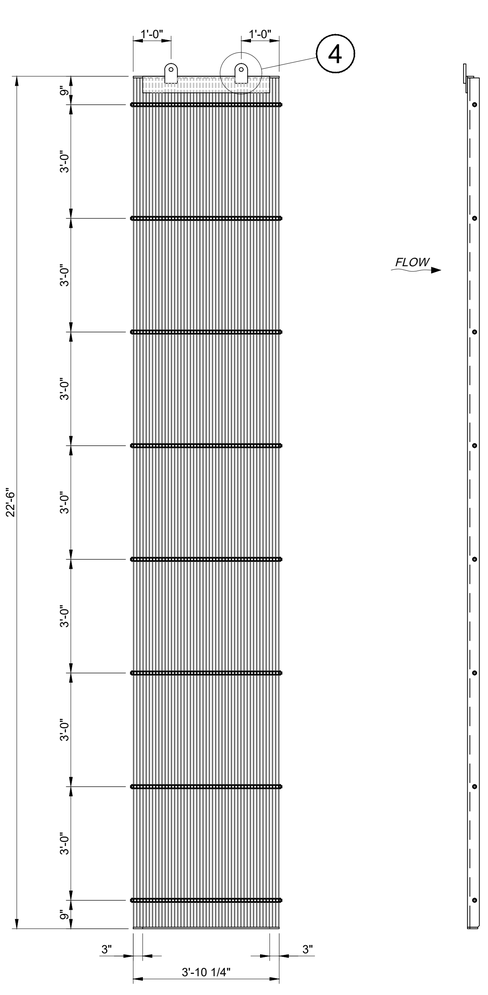


ELEVATION PROFILE

TRASH RACK PANELS 10.5' BAYS

1/2" = 1'-0"

(APPROXIMATE WEIGHT = 4200 LBS)

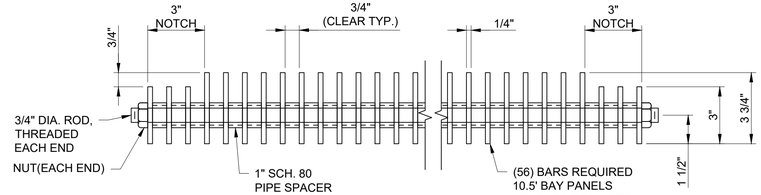


ELEVATION PROFILE

TRASH RACK PANELS 9' BAYS

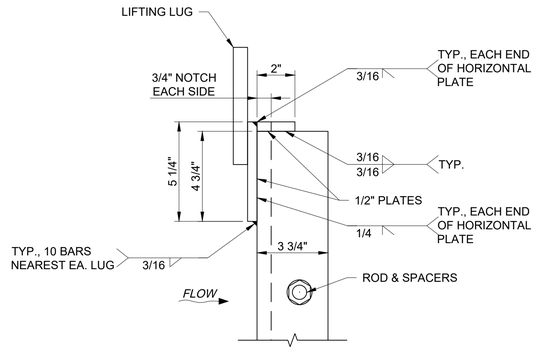
1/2" = 1'-0"

(APPROXIMATE WEIGHT = 3500 LBS)



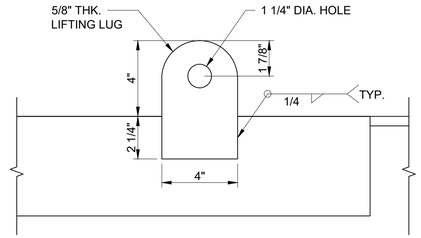
DETAIL 1

3" = 1'-0"



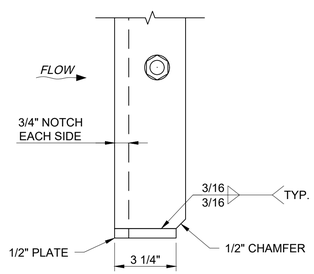
DETAIL 2

3" = 1'-0"



DETAIL 4

3" = 1'-0"



DETAIL 3

3" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
RACK PANELS TYPICAL 10.5' & 9' BAYS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-03

22x34 = FULL SCALE
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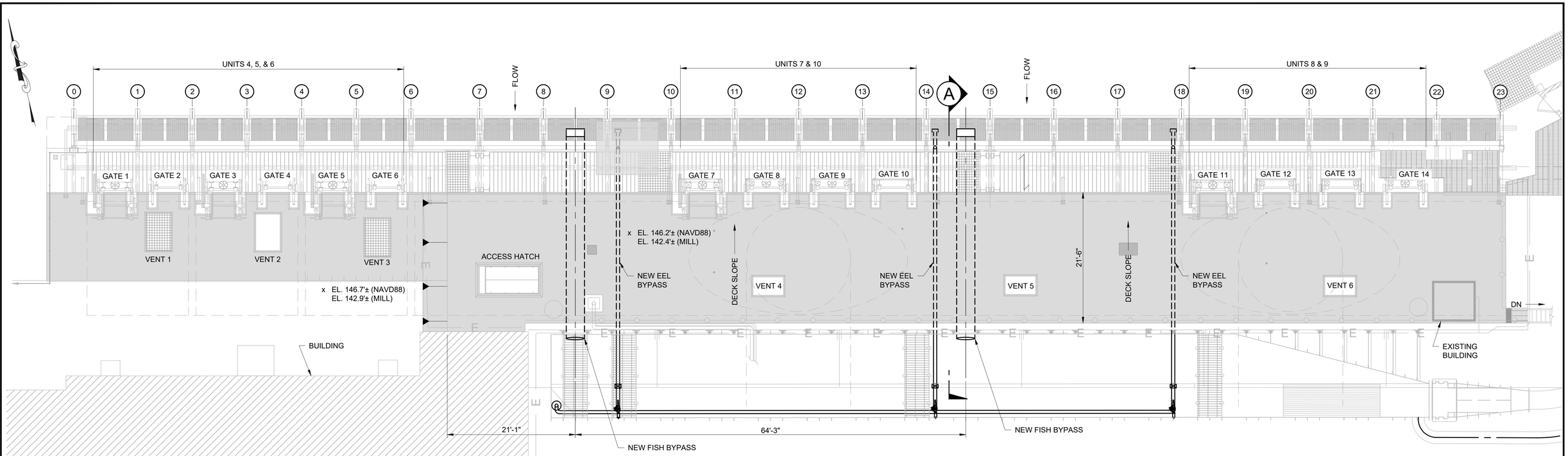
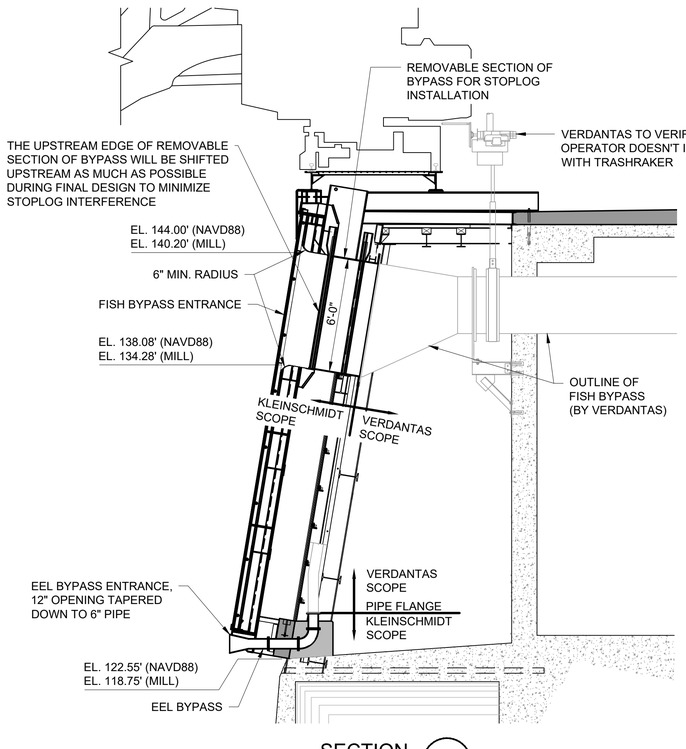
22x34 = FULL SCALE



PLAN
1/8"= 1'-0"

8 0 8 16
SCALE IN FEET



SECTION A
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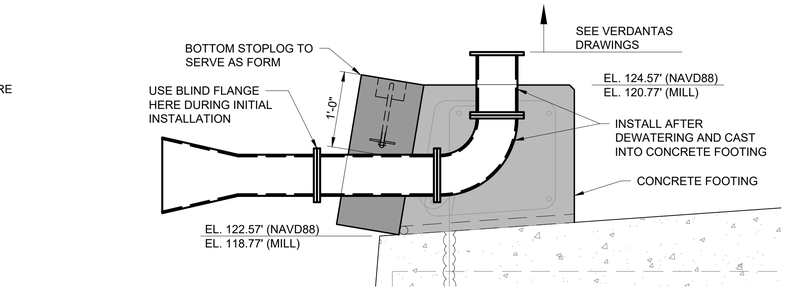
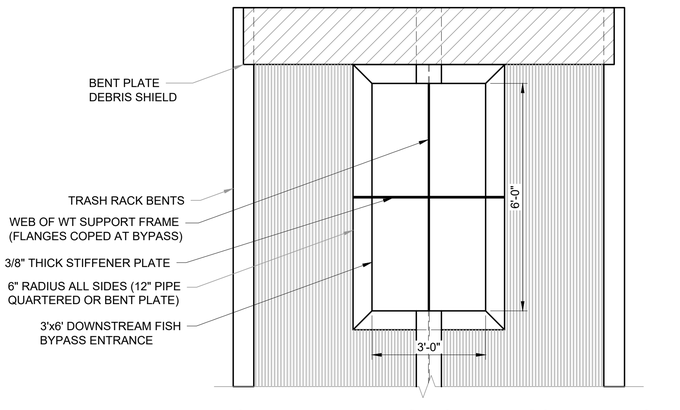
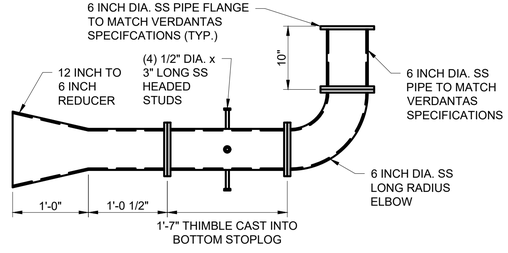


EEL BYPASS ENTRANCE PIPE PENETRATION THROUGH FOOTING
1" = 1'-0"



UPSTREAM ELEVATION OF BYPASS ENTRANCE
1/2" = 1'-0"



EEL BYPASS ENTRANCE PIPE
1" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
BYPASS ENTRANCE

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-18-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-04

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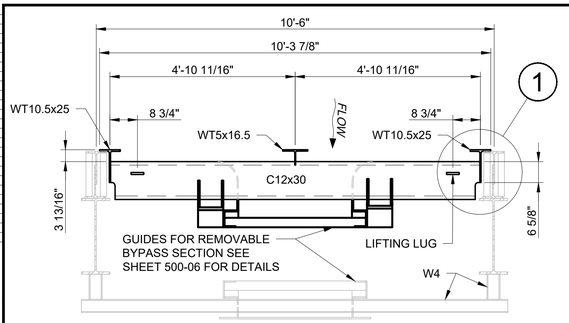
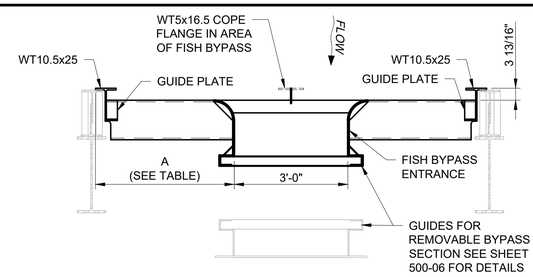
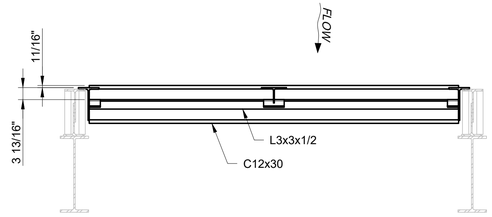


PLAN AT TOP
1/2" = 1'-0"



PLAN AT FISH BYPASS
1/2" = 1'-0"

SUPPORT FRAME AT FISH BYPASS ENTRANCE #1 SHOWN
SEE TABLE BELOW FOR FISH BYPASS ENTRANCE #2



PLAN AT BOTTOM
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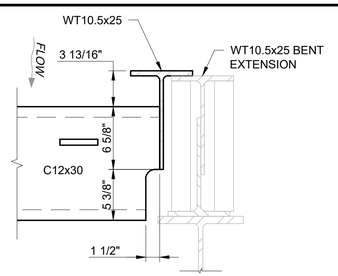
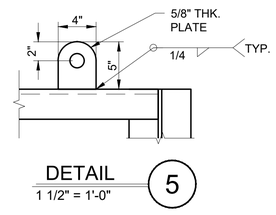


DETAIL 1
1 1/2" = 1'-0"



DETAIL 5
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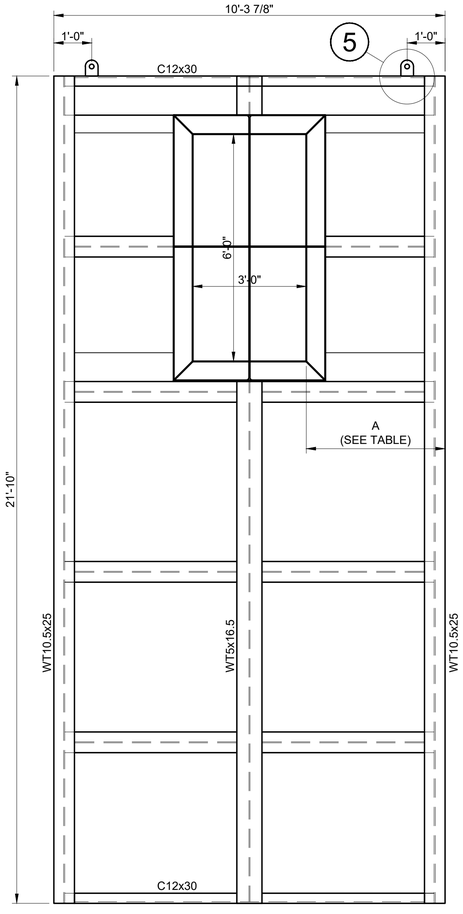
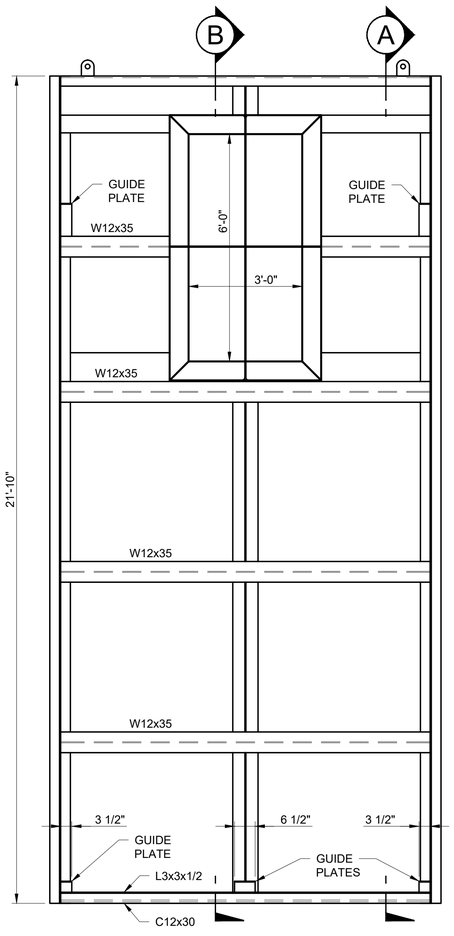


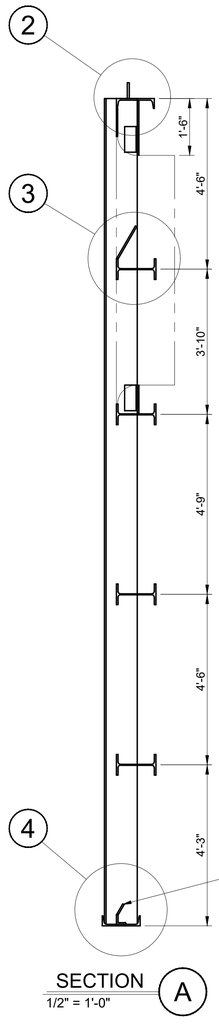
TRASH RACK SUPPORT FRAME ELEVATION LOOKING DOWNSTREAM
1/2"=1'-0"

SUPPORT FRAME AT FISH BYPASS ENTRANCE #1 SHOWN
SEE TABLE BELOW FOR FISH BYPASS ENTRANCE #2

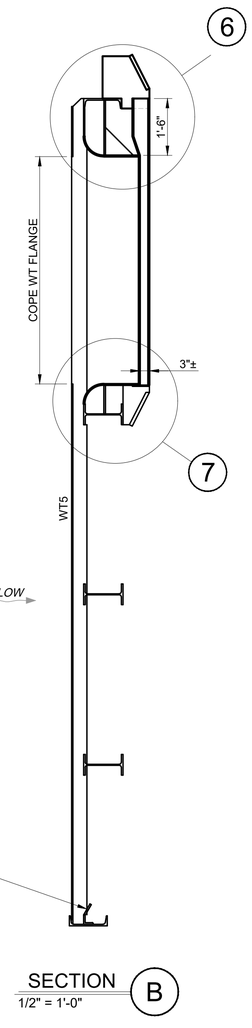


TRASH RACK SUPPORT FRAME ELEVATION LOOKING UPSTREAM
1/2"=1'-0"

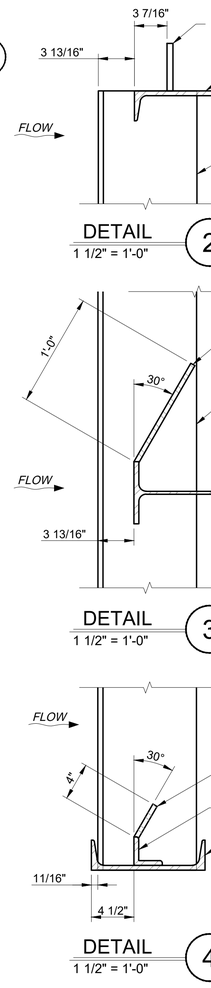
SUPPORT FRAME AT FISH BYPASS ENTRANCE #1 SHOWN
SEE TABLE BELOW FOR FISH BYPASS ENTRANCE #2



SECTION A
1/2" = 1'-0"

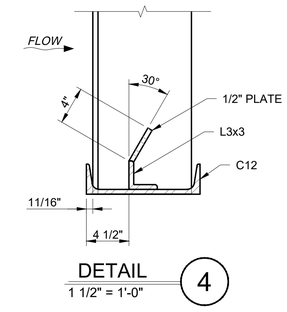


SECTION B
1/2" = 1'-0"

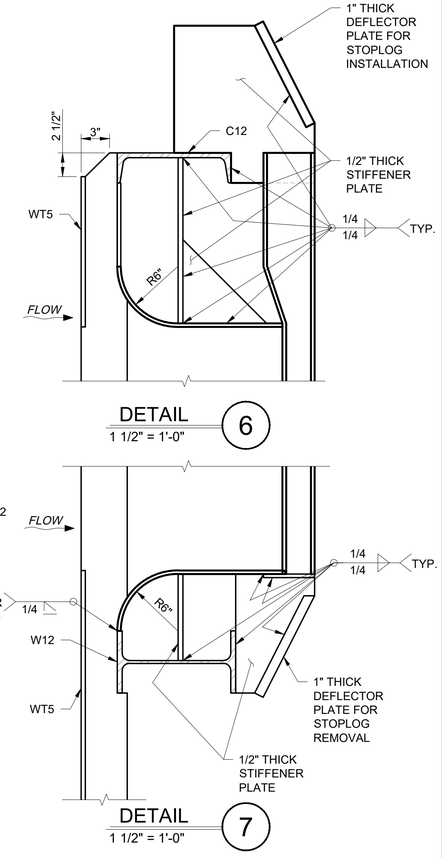


DETAIL 2
1 1/2" = 1'-0"

DETAIL 3
1 1/2" = 1'-0"



DETAIL 4
1 1/2" = 1'-0"



DETAIL 6
1 1/2" = 1'-0"

DETAIL 7
1 1/2" = 1'-0"

TRASH RACK SUPPORT FRAMES AT FISH BYPASS ENTRANCE TABLE			
FRAME TYPE	QUANTITY	A	LOCATION/NOTES
ENTRANCE #1	1	3'-7 15/16"	LOCATED BETWEEN BENTS #8 AND #9 (FIELD CONFIRM PRIOR TO FABRICATION)
ENTRANCE #2	1	2'-10 15/16"	LOCATED BETWEEN BENTS #14 AND #15 (FIELD CONFIRM PRIOR TO FABRICATION)

NOTE:
1. USE WELDS SHOWN ON 500-02 FOR SUPPORT FRAMES. ADDITIONAL WELDS SHOWN HERE ARE SPECIFIC TO THE BYPASS OPENINGS.
2. ALL WELDS ON INTERIOR OF FISH BYPASS TO BE GROUND SMOOTH.

NOT FOR CONSTRUCTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-18-25	JFB	AJC

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
SUPPORT FRAME BYPASS ENTRANCE #1 & #2

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-05

22x34 = FULL SCALE
3" 2" 1" 0"

K:\Jobs\010252\Drawings\CAD\010252-500-05 & 06.dwg

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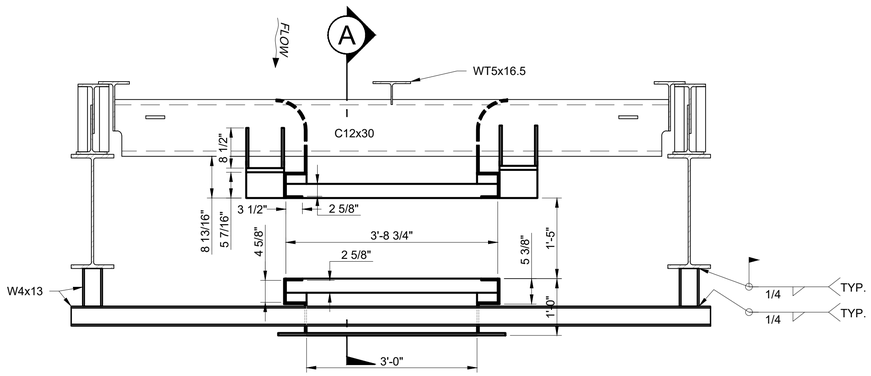
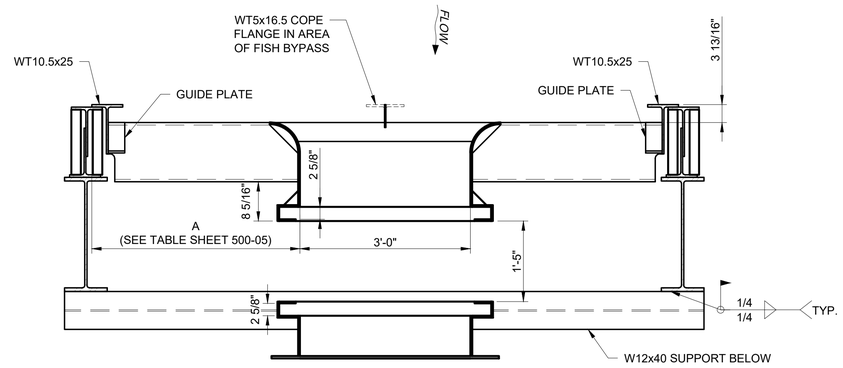
22x34 = FULL SCALE



PLAN AT TOP OF FISH BYPASS

3/4" = 1'-0"

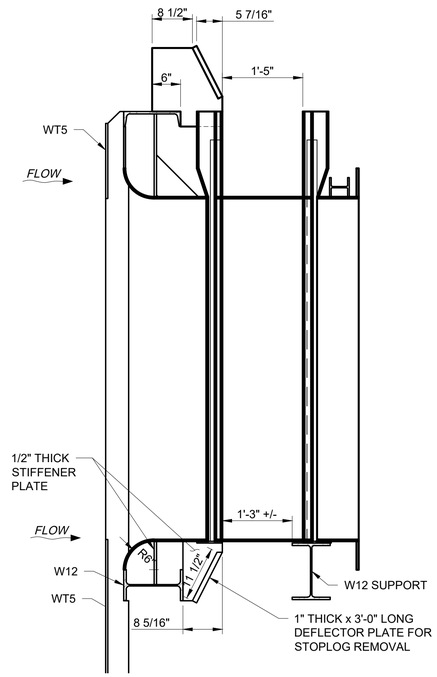
SUPPORT FRAME AT FISH BYPASS ENTRANCE #1 SHOWN
SEE TABLE SHEET 500-05 FOR FISH BYPASS ENTRANCE #2 LOCATION



PLAN AT CENTER OF FISH BYPASS

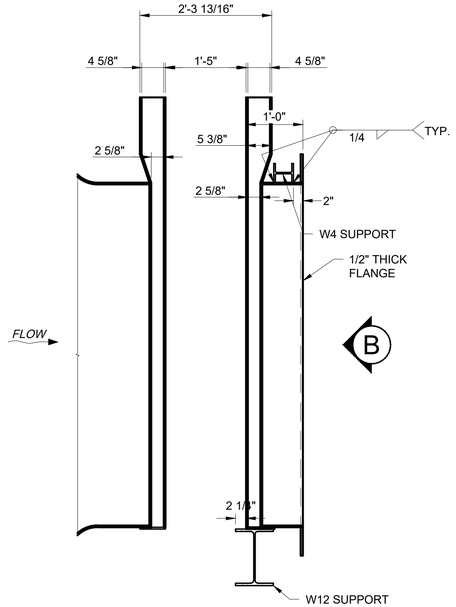
3/4" = 1'-0"

SUPPORT FRAME AT FISH BYPASS ENTRANCE #1 SHOWN
SEE TABLE SHEET 500-05 FOR FISH BYPASS ENTRANCE #2 LOCATION



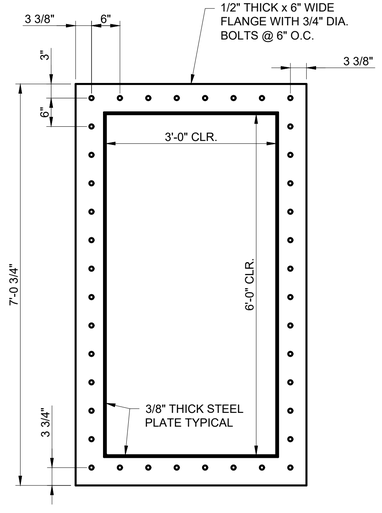
SECTION A

3/4" = 1'-0"



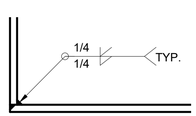
TYPICAL GUIDE DETAIL REMOVABLE SECTION OF BYPASS

3/4"=1'-0"



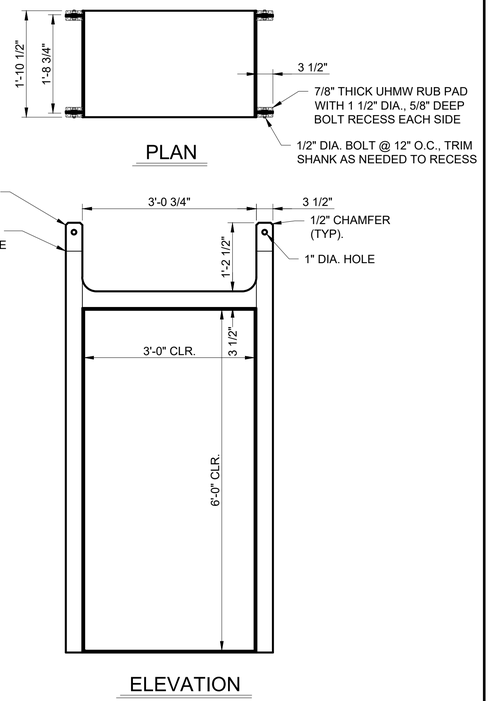
VIEW B

3/4" = 1'-0"



TYPICAL CORNER WELD DETAIL

3" = 1'-0"



REMOVABLE SECTION OF FISH BYPASS FOR STOPLOG INSTALLATION DETAIL

3/4"=1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
BYPASS ENTRANCE REMOVABLE SECTION

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-18-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-06

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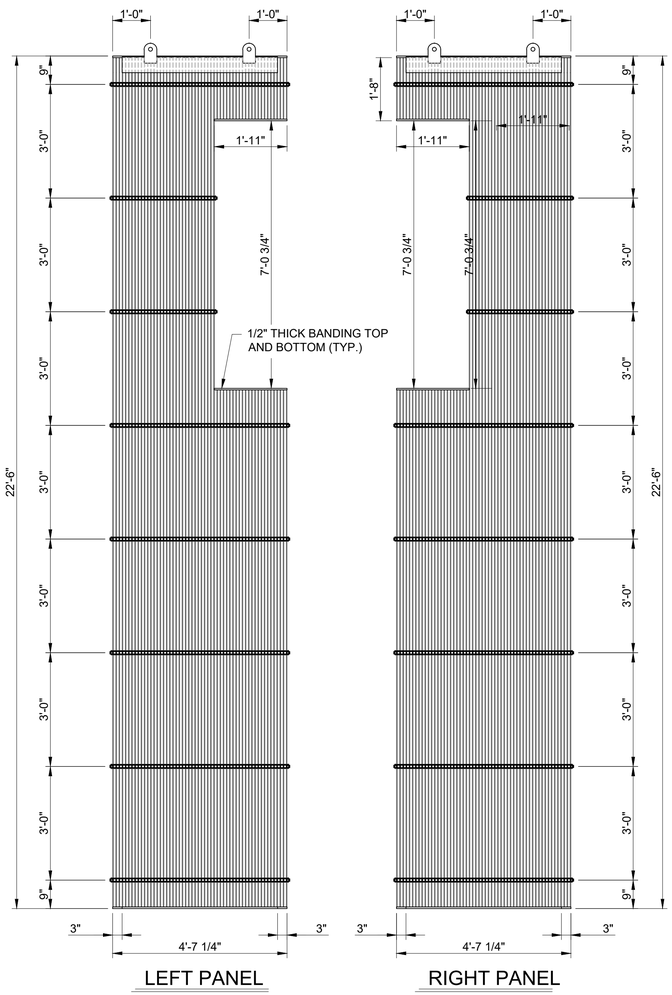
22x34 = FULL SCALE



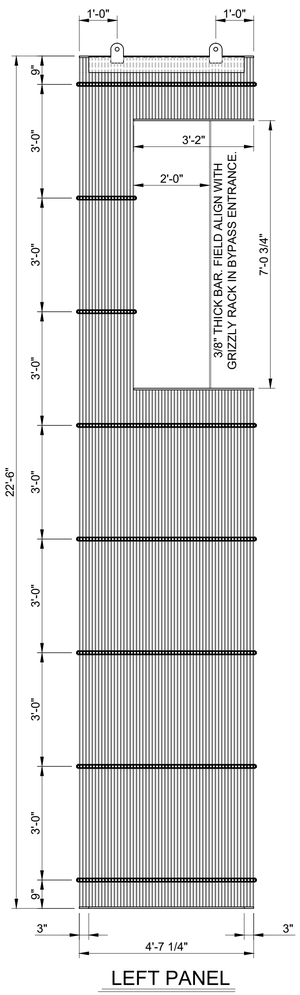
LEFT PANEL

RIGHT PANEL

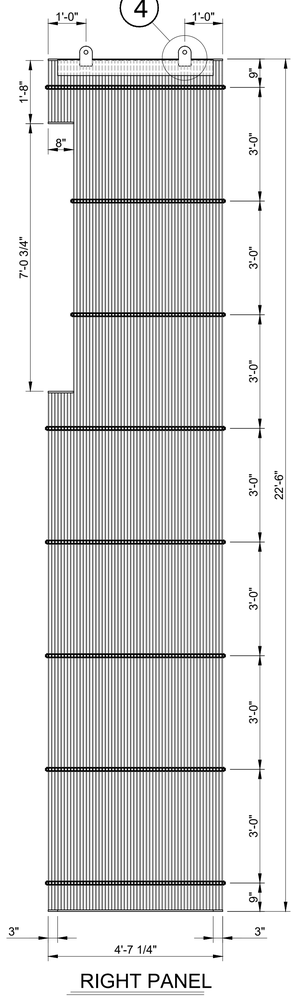
TRASH RACK PANELS FISH BYPASS ENTRANCE #1

1/2" = 1'-0"

(APPROXIMATE WEIGHT = 3700 LBS)



LEFT PANEL

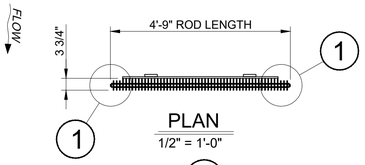


RIGHT PANEL

TRASH RACK PANELS FISH BYPASS ENTRANCE #2

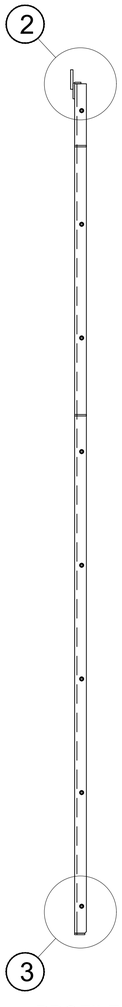
1/2" = 1'-0"

(APPROXIMATE WEIGHT LEFT PANEL = 3400 LBS)
RIGHT PANEL = 4100 LBS)

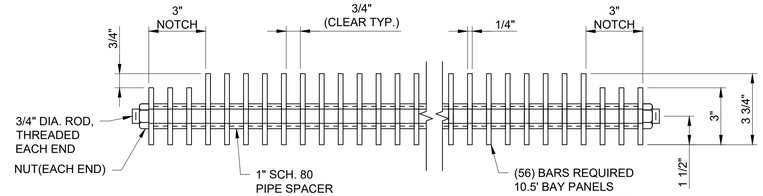


PLAN

1/2" = 1'-0"

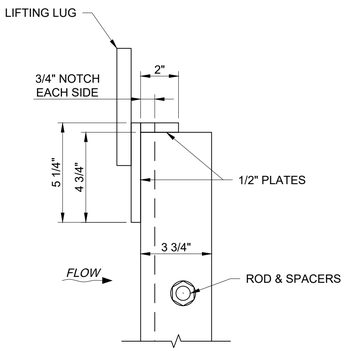


PROFILE



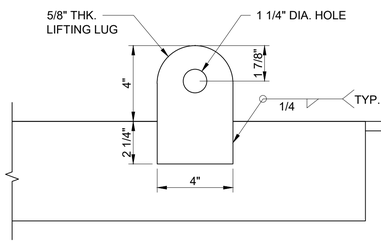
DETAIL 1

3" = 1'-0"



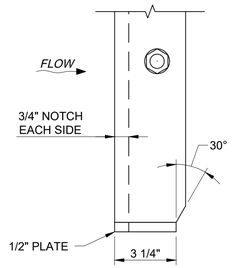
DETAIL 2

3" = 1'-0"



DETAIL 4

3" = 1'-0"



DETAIL 3

3" = 1'-0"

NOTE:

1. USE WELDS SHOWN ON 500-03 FOR TYPICAL PANELS.
2. ALL SHARP EDGES AT FISH PASSAGE OPENING SHALL BE GROUND SMOOTH.
3. CONTRACTOR MAY RELOCATE LUGS TO MINIMIZE THE ECCENTRICITY OF THE LIFT.

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

TRASH RACKS
RACK PANELS AT BYPASS ENTRANCE #1 & #2

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	500-07

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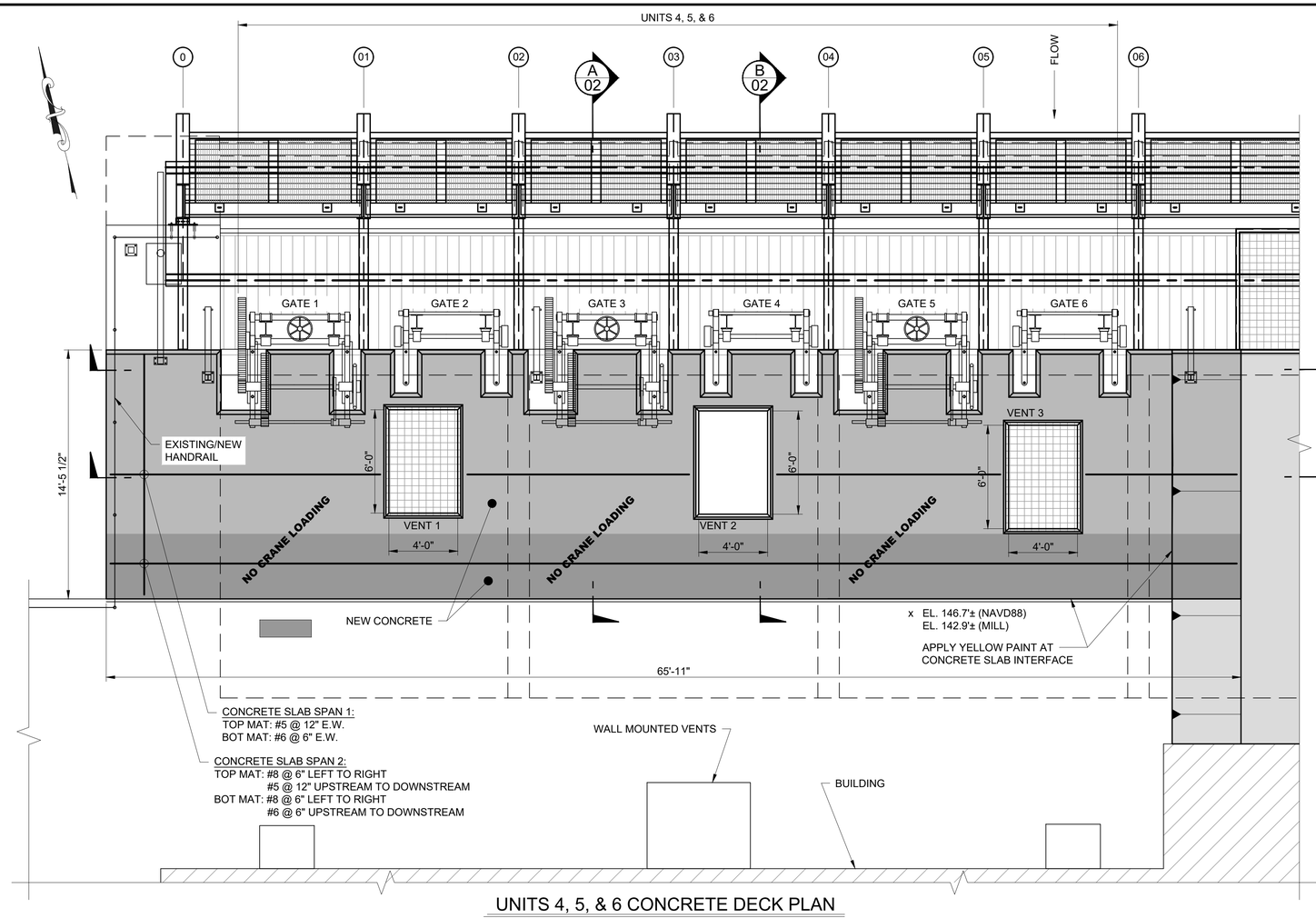
22x34 = FULL SCALE



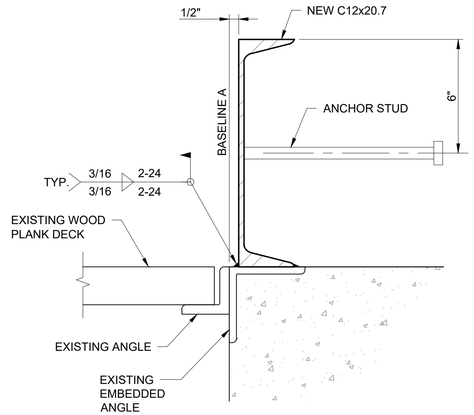
UNITS 4, 5, & 6 CONCRETE DECK PLAN

1/4" = 1'-0"

DECK LOADING NOTES:

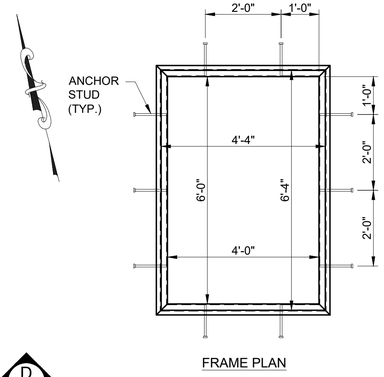
1. ALLOWABLE LOAD UNIFORM LIVE LOAD = 250 PSF
2. NOT RATED FOR CRANE LOADING WITHOUT ENGINEERING REVIEW.

- CONCRETE SPAN 1 REINFORCEMENT
- CONCRETE SPAN 2 REINFORCEMENT

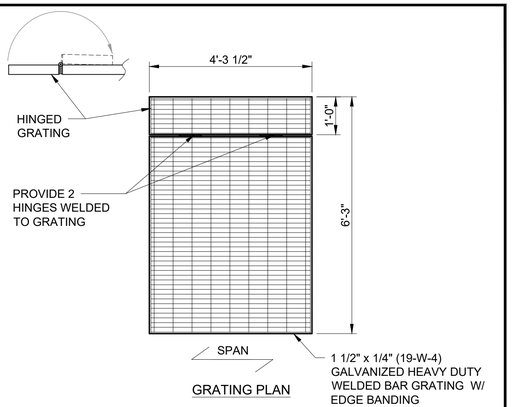


TYPICAL EMBEDDED EDGE CHANNEL

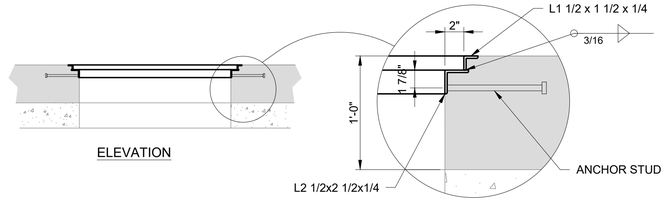
3" = 1'-0"



FRAME PLAN



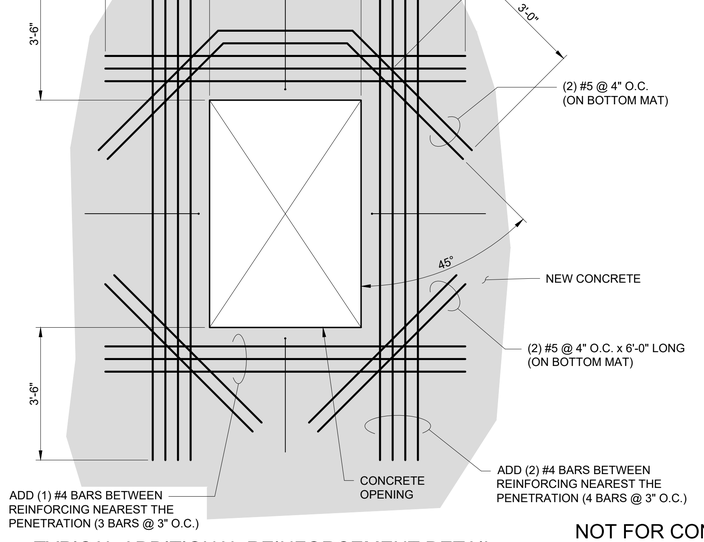
GRATING PLAN



1.5" GRATING & EMBEDDED FRAME

1/2"= 1'-0"

(PROVIDE 3 FRAME AND GRATING ASSEMBLES TOTAL)



TYPICAL ADDITIONAL REINFORCEMENT DETAIL AT VENT OPENINGS IN DECK

1/2"= 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

CONCRETE DECK TOPPING PLAN

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked
AJC	JFB	DBN

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Project No.	Date Revised	Drawing No.
010252	07-07-25	600-01

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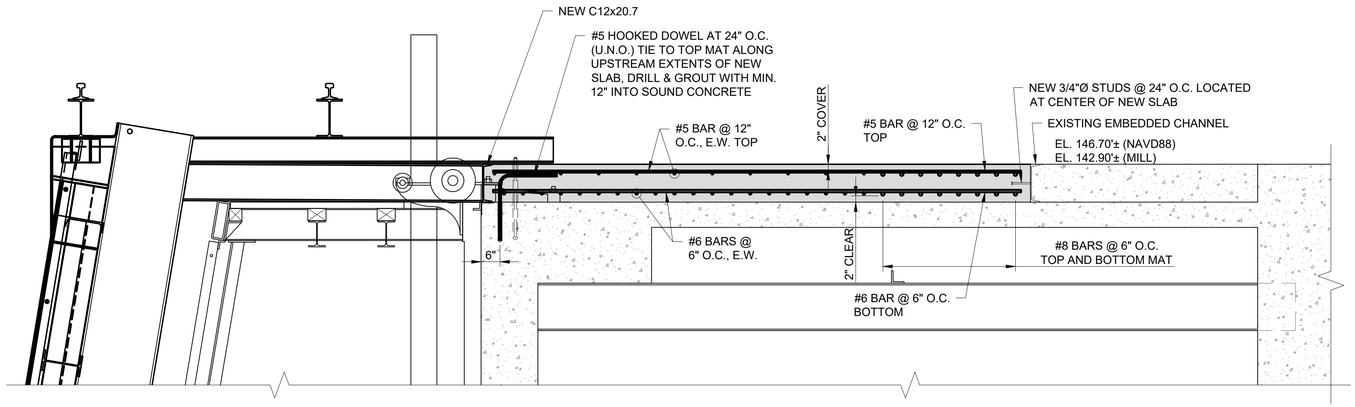
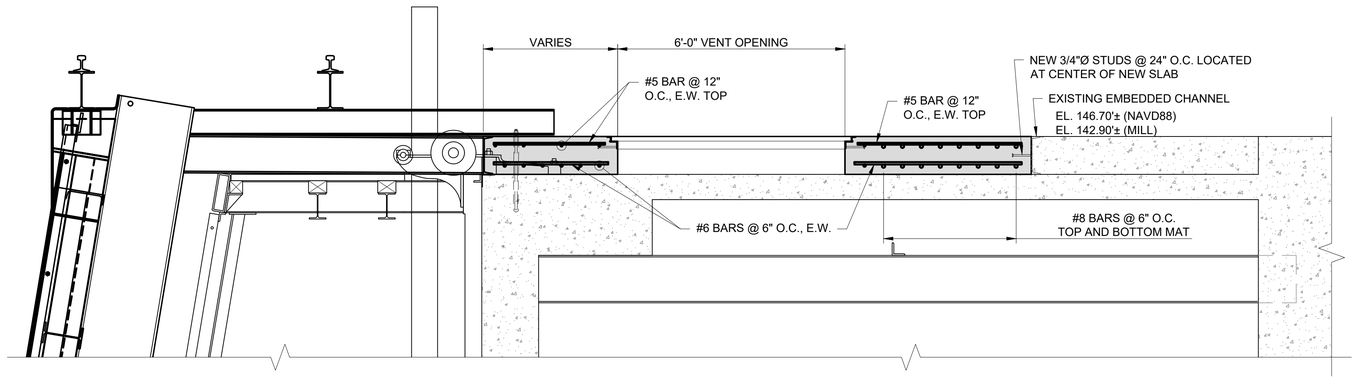
3"
2"
1"
0
22x34 = FULL SCALE



SECTION A / 01
1/2" = 1'-0"



SECTION B / 01
1/2" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

CONCRETE DECK TOPPING
SECTIONS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	600-02

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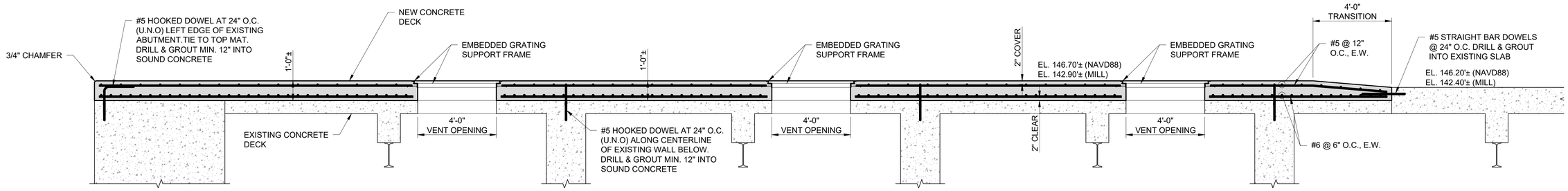
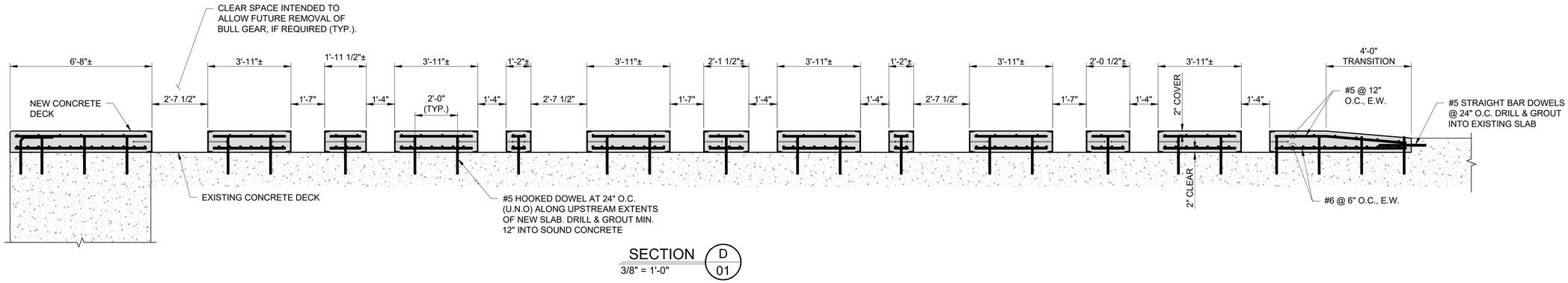


SECTION C
3/8" = 1'-0"



SECTION D
3/8" = 1'-0"

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

CONCRETE DECK TOPPING
SECTIONS

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	AJC

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
AJC	JFB	DBN	010252	07-07-25	600-03

22x34 = FULL SCALE
3" 2" 1" 0

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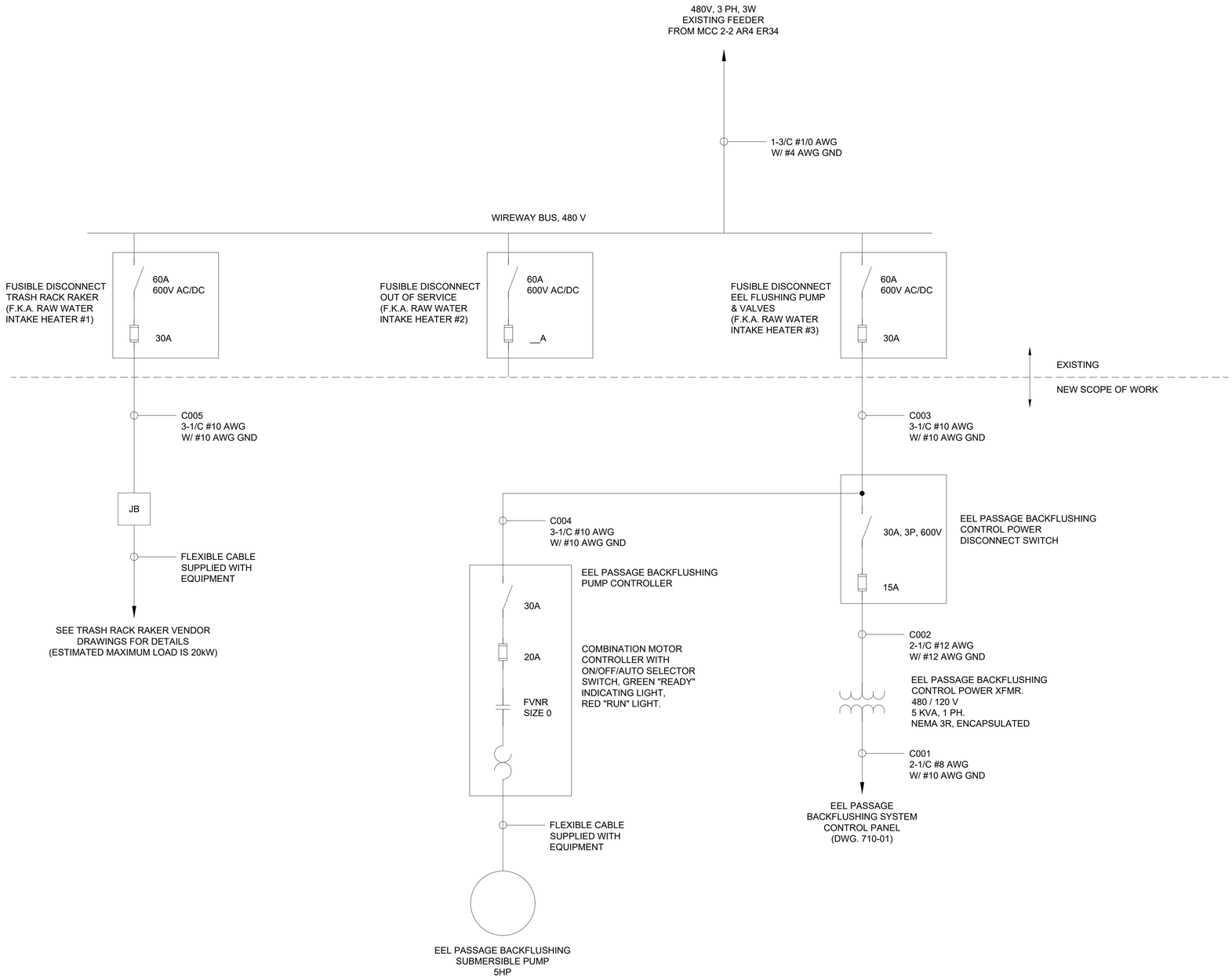

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

ELECTRICAL
SINGLE LINE DIAGRAM

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	LJD

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
LJD	JFB	MRB	010252	07-07-25	700-01

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22x34 = FULL SCALE
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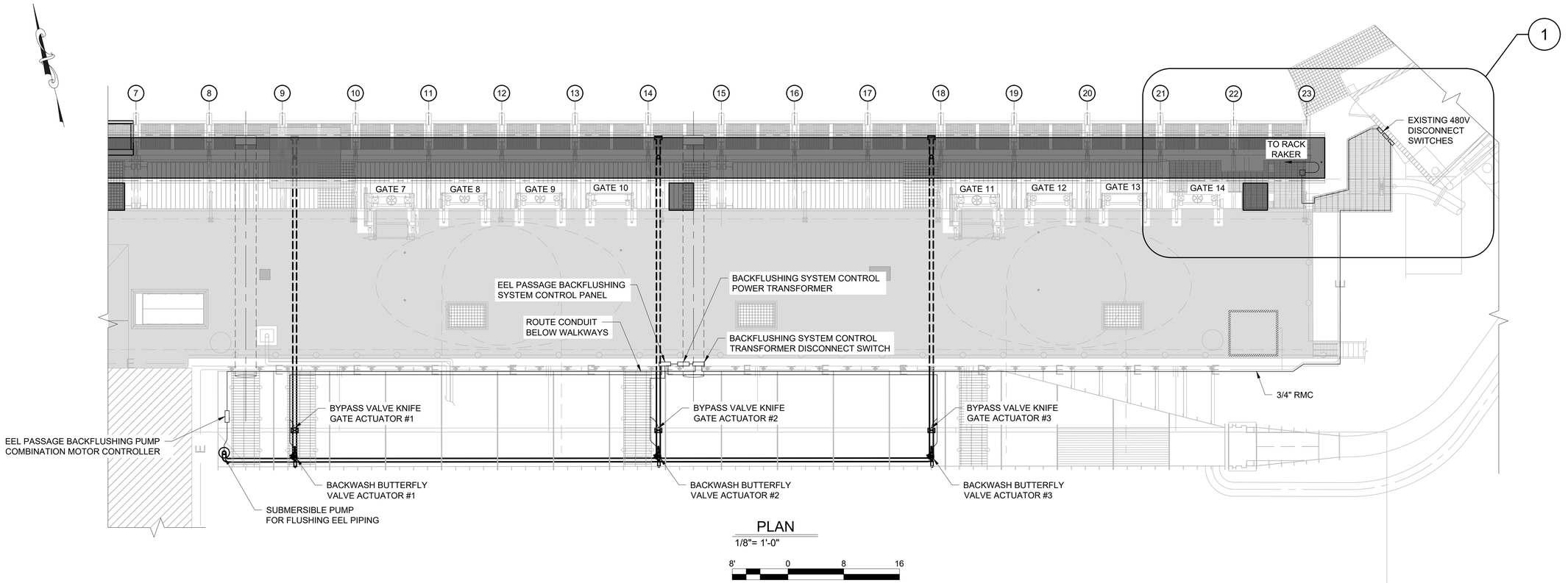
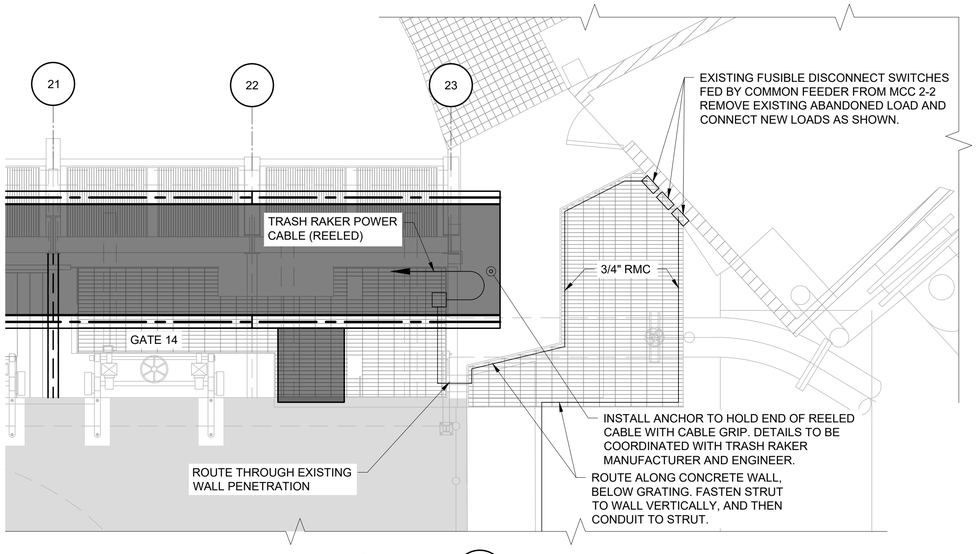
22x34 = FULL SCALE



PLAN

1/8"= 1'-0"

8' 0 8 16



DETAIL 1

1/4" = 1'-0"

4' 0 4 8

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

ELECTRICAL
PLAN

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	LJD

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
LJD	JFB	MRB	010252	07-07-25	700-02

PRINTED: Jul. 7, 2025 - 5:27 PM
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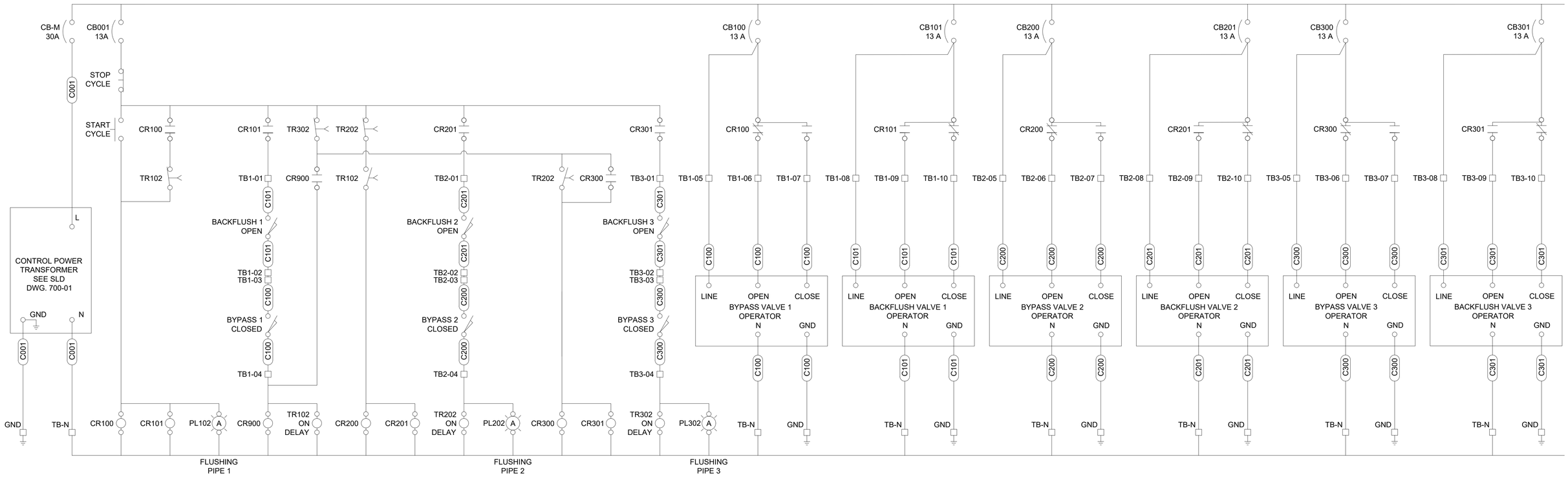

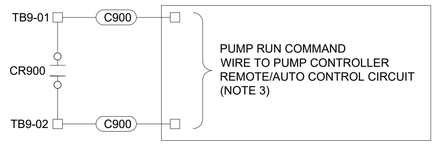

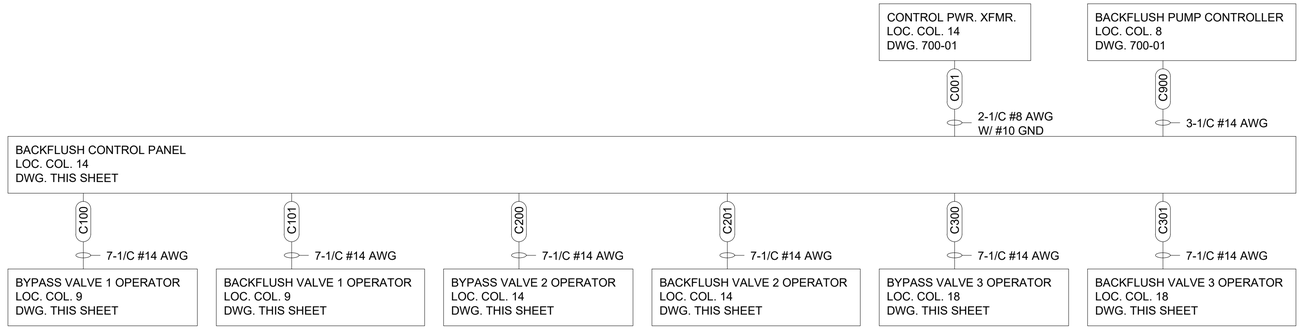

CR100
BYPASS VALVE 1 CONTROL RELAY

	FUNCTION	REFERENCE
	CLOSE VALVE	THIS SHEET
	OPEN VALVE	THIS SHEET
	SEAL IN	THIS SHEET

CR200
BYPASS VALVE 2 CONTROL RELAY

	FUNCTION	REFERENCE
	CLOSE VALVE	THIS SHEET
	OPEN VALVE	THIS SHEET

CR300
BYPASS VALVE 3 CONTROL RELAY

	FUNCTION	REFERENCE
	CLOSE VALVE	THIS SHEET
	OPEN VALVE	THIS SHEET
	SEAL IN	THIS SHEET

CR101
BACKFLUSH VALVE 1 CONTROL RELAY

	FUNCTION	REFERENCE
	OPEN VALVE	THIS SHEET
	CLOSE VALVE	THIS SHEET
	START PUMP & TIMER TR102	THIS SHEET

CR201
BACKFLUSH VALVE 2 CONTROL RELAY

	FUNCTION	REFERENCE
	OPEN VALVE	THIS SHEET
	CLOSE VALVE	THIS SHEET
	START TIMER TR202	THIS SHEET

CR301
BACKFLUSH VALVE 3 CONTROL RELAY

	FUNCTION	REFERENCE
	OPEN VALVE	THIS SHEET
	CLOSE VALVE	THIS SHEET
	START TIMER TR302	THIS SHEET

TR102
BACKFLUSH 1 TIMER RELAY
MACROMATIC ON-DELAY MODEL TE5022U-15

	FUNCTION	REFERENCE
	START PIPE 2 FLUSH	THIS SHEET
	END PIPE 1 FLUSH	THIS SHEET

TR202
BACKFLUSH 2 TIMER RELAY
MACROMATIC ON-DELAY TE5022U-15

	FUNCTION	REFERENCE
	START PIPE 3 FLUSH	THIS SHEET
	END PIPE 2 FLUSH	THIS SHEET

TR302
BACKFLUSH 3 TIMER RELAY
MACROMATIC ON-DELAY TE5022U-15

	FUNCTION	REFERENCE
	END PIPE 3 FLUSH STOP PUMP	THIS SHEET

CR900
FLUSHING PUMP CONTROL RELAY

	FUNCTION	REFERENCE
	RUN PUMP	THIS SHEET
		THIS SHEET
	SEAL IN	THIS SHEET

NOTES
1. VALVE OPERATORS SHALL BE 120 V, SINGLE-PHASE, MOTOR-OPERATED TYPE WITH BYPASS LIMIT SWITCHES INDICATING FULLY CLOSED AND FULLY OPENED POSITIONS. EACH SHALL INCLUDE PROVISION FOR LOCAL MANUAL OPERATION BY HAND-WHEEL, AND SHALL INCLUDE LOCAL POSITION INDICATION. INTERNAL MOTOR THERMAL PROTECTION AND OVER-TORQUE PROTECTION SHALL BE INCLUDED.
2. MINIMAL TERMINAL BLOCKS ARE SHOWN IN THIS SCHEMATIC. MORE TERMINAL BLOCKS MAY BE USED AS NEEDED TO FACILITATE PANEL WIRING.
3. PUMP CONTROL: THIS DESIGN PROVIDES A SINGLE RUN SIGNAL VIA A DRY RELAY CONTACT.
4. TIME-DELAY RELAY: MACROMATIC MODEL TE5022U-15
   - 4.1. CONTROL VOLTAGE: 24 – 240V AC, 12 – 240V DC
   - 4.2. DELAY: ANALOG ADJUSTABLE. t = 0.3 - 30 MIN. DELAY
   - 4.3. FUNCTION: UPON APPLICATION OF INPUT VOLTAGE, THE TIME DELAY (t) BEGINS. AT THE END OF THE TIME DELAY (t), THE OUTPUT IS ENERGIZED. INPUT VOLTAGE MUST BE REMOVED TO RESET THE TIME DELAY RELAY & DE-ENERGIZE THE OUTPUT.
   - 4.4. CONTACTS: 10 A DPDT
   - 4.5. MOUNTING: 35MM DIN RAIL

DESCRIPTION OF SYSTEM AUTOMATIC OPERATION
1. PRESS CYCLE START BUTTON.
2. CLOSE PIPE 1 BYPASS VALVE AND OPEN PIPE 1 BACKFLUSH VALVE
3. START BACKFLUSH PUMP.
4. WAIT SOME TIME (1 - 10 MINUTES).
5. CLOSE PIPE 2 BYPASS VALVE AND OPEN PIPE 2 BACKFLUSH VALVE AND CLOSE PIPE 1 BACKFLUSH VALVE AND OPEN PIPE 1 BYPASS VALVE.
6. WAIT SOME TIME.
7. CLOSE PIPE 3 BYPASS VALVE AND OPEN PIPE 3 BACKFLUSH VALVE AND CLOSE PIPE 2 BACKFLUSH VALVE AND OPEN PIPE 2 BYPASS VALVE.
8. WAIT SOME TIME.
9. TURN OFF PUMP AND CLOSE PIPE 3 BACKFLUSH VALVE AND OPEN PIPE 3 BYPASS VALVE.

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

SCHEMATIC
EEL ENTRANCE BACK-FLUSH CONTROL

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	LJD

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
LJD	JFB	MRB	010252	07-07-25	710-01

22x34 = FULL SCALE

PRINTED: Jul. 7, 2025 - 5:27 PM

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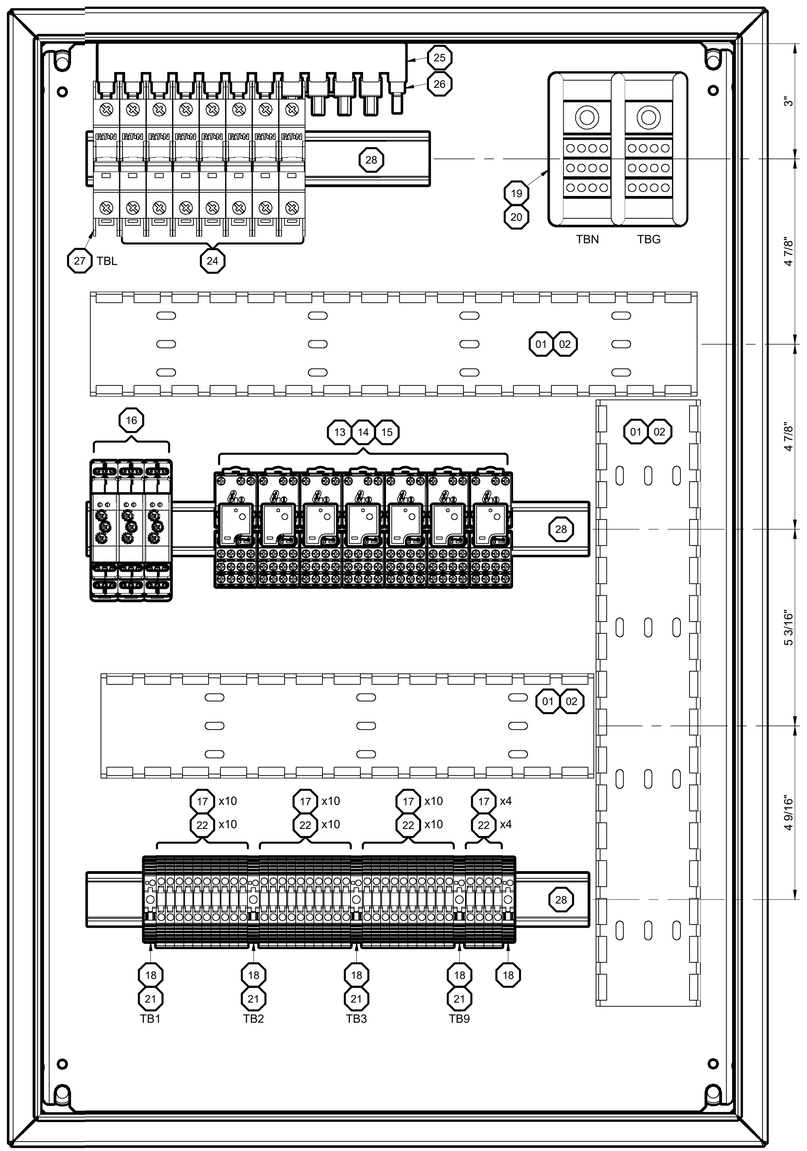
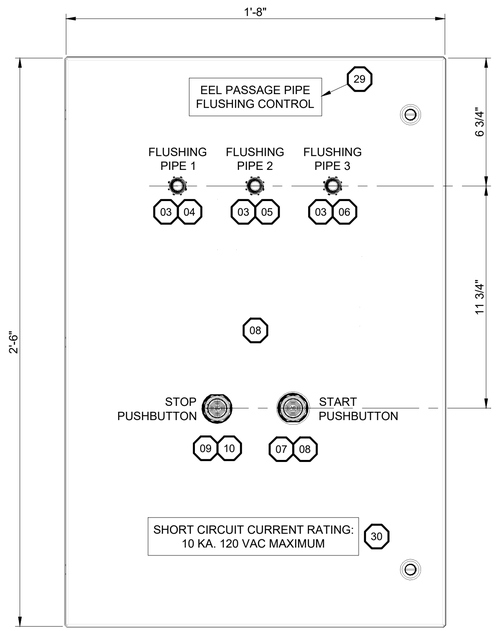


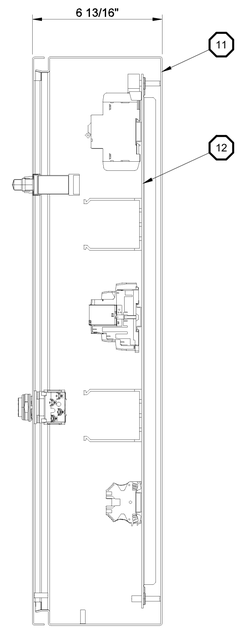
ELECTRICAL ENCLOSURE - FRONT

6" = 1'-0"



ELECTRICAL ENCLOSURE - DOOR

3" = 1'-0"



ELECTRICAL ENCLOSURE - SECTION

3" = 1'-0"

FISH LIFT CONTROL PANEL BILL OF MATERIALS

ITEM #	QTY	ITEM DESCRIPTION	MANUFACTURER	PART NUMBER
1	1	PANDUCT TYPE G WIDE SLOT WIRING DUCT, DUCT NOMINAL SIZE (WXH) 2.5"X3", 6 FOOT SECTIONS	PANDUIT	G2.5X3LG6
2	1	PANDUCT WIDE SLOT WIRING DUCT COVER FOR 2.5" DUCT, 6 FOOT SECTIONS	PANDUIT	C2.5LG6
3	3	TYPE 4/13 METAL (800T) PILOT LIGHT, UNIVERSAL LED, 12–130V AC/DC, AMBER	ALLEN BRADLEY	800T–QH2A
4	1	800T CUSTOM LEGEND NAMEPLATE, CUSTOM TEXT LINE 1: FLUSHING; LINE 2: PIPE 1	ALLEN BRADLEY	800T–X559E
5	1	800T CUSTOM LEGEND NAMEPLATE, CUSTOM TEXT LINE 1: FLUSHING; LINE 2: PIPE 2	ALLEN BRADLEY	800T–X559E
6	1	800T CUSTOM LEGEND NAMEPLATE, CUSTOM TEXT LINE 1: FLUSHING; LINE 2: PIPE 3	ALLEN BRADLEY	800T–X559E
7	1	TYPE 4/13 METAL (800T) PUSH BUTTON, MOMENTARY, FLUSH HEAD, GREEN, 1 N.O. – 1 N.C. CONTACTS.	ALLEN BRADLEY	800T–A1A
8	1	800T STANDARD LEGEND NAMEPLATE, "START"	ALLEN BRADLEY	800T–X547
9	1	TYPE 4/13 METAL (800T) PUSH BUTTON, MOMENTARY, EXTENDED HEAD, RED, 1 N.O. – 1 N.C. CONTACTS.	ALLEN BRADLEY	800T–B6A
10	1	800T STANDARD LEGEND NAMEPLATE, "STOP" (RED)	ALLEN BRADLEY	800T–X550
11	1	ELECTRICAL ENCLOSURE. MILD STEEL, NEMA 3/4/12, HINGED DOOR W/ SLOTTED QUARTER–TURN LATCH, COLLAR STUDS FOR INNER PANEL MOUNTING. ANSI 61 GRAY. 30"x20"x6"	HAMMOND	EN4SD30206GY
12	1	ELECTRICAL ENCLOSURE INNER PANEL	HAMMOND	EP3020
13	7	GENERAL PURPOSE RELAY, 8 BLADE, DPDT, 120 VAC COIL, 12 AMP CONTACTS	MACROMATIC	GB120A2
14	7	GENERAL PURPOSE RELAY SOCKET, 8 BLADE	MACROMATIC	18F–2Z–C5
15	7	GENERAL PURPOSE RELAY RETAINER, PLASTIC	MACROMATIC	GB–PR
16	3	RELAY, SINGLE–FUNCTION, SINGLE–RANGE, FUNCTION: ON DELAY, RANGE: 0.3 – 30 MINUTES. DPDT CONTACTS RATED 10 AMPS. 35MM DIN RAIL MOUNTING	MACROMATIC	TE5022U–15
17	34	TERMINAL BLOCK, SCREW CONNECTION, 4 mm², 35 A, 800 V. 2 CONNECTIONS, 1 LEVEL.	WEIDMÜLLER	WDU 4
18	5	TERMINAL BLOCK END BRACKET FOR WDU–4	WEIDMÜLLER	WEW 35/2
19	1	POWER DISTRIBUTION BLOCK, 2–POLE, ONE LINE–SIDE TERMINAL, 12 LOAD SIDE TERMINALS, 310 A, 100 KA SCCR. UL RECOGNIZED	EATON/BUSSMANN	16370–2
20	1	COVER FOR POWER DISTRIBUTION TERMINAL BLOCK ITEM 32	EATON/BUSSMANN	CPDB–2
21	4	TERMINAL BLOCK END BRACKET GROUP MARKER 33.3 x 8 mm	WEIDMÜLLER	WAD 8 MC NE WS
22	1	TERMINAL BLOCK MARKER FOR WDU–4, 5 MM X 6 MM, (6 MM PITCH) PRE–PRINTED 1 – 50, 10 SETS.	WEIDMÜLLER	468660001 DEK 6 FW 1–50
23		(NOT USED)		
24	7	BRANCH CIRCUIT BREAKER, SINGLE POLE, UL 489, DIN RAIL MOUNT. 13 AMP, 10 KAIC. CURVE C	EATON	FAZ–C13/1–NA–L
25	1	BUS BAR – ONE–POLE, 12 TERMINLS	EATON	Z–SV/UL–16/1P–1TE/12
26	2	BUS BAR SHROUD, THREE–POLE	EATON	ZV–BS–UL
27	1	BRANCH CIRCUIT BREAKER, SINGLE POLE, UL 489, DIN RAIL MOUNT. 30 AMP, 10 KAIC. CURVE C	EATON	FAZ–C30/1–NA–L
28	2	DIN RAIL, 35 MM X 7.5 MM X 1 M, ZINC COATED STEEL	MCMASTER–CARR	8961K15
29	1	NAMEPLATE, ENGRAVED LAMINATED PLASTIC, WHITE TEXT ON BLACK FIELD, "EEL PASSAGE PIPE FLUSHING CONTROL". TEXT HEIGHT: 1/2". OVERALL DIMENSIONS AS REQUIRED TO FIT TEXT. FASTEN WITH STAINLESS MACHINE SCREWS	BY DESCRIPTION	BY DESCRIPTION
30	1	NAMEPLATE, ENGRAVED LAMINATED PLASTIC, WHITE TEXT ON BLACK FIELD, "SHORT CIRCUIT CURRENT RATING: 10 KA, 120 VAC MAXIMUM". TEXT HEIGHT: 3/16". OVERALL DIMENSIONS AS REQUIRED TO FIT TEXT. FASTEN WITH STAINLESS MACHINE SCREWS	BY DESCRIPTION	BY DESCRIPTION

(##) BILL OF MATERIAL ITEM NUMBER ##

NOT FOR CONSTRUCTION

MAINE DEPARTMENT OF MARINE RESOURCES

WOODLAND
INTAKE DESIGN FOR DOWNSTREAM FISH PASSAGE

CABINET LAYOUT
EEL ENTRANCE BACKFLUSH CONTROL PANEL

No.	Revision	Date	Drawn	Checked
B	ISSUED FOR BID	07-07-25	JFB	AJC
A	ISSUED FOR VERDANTAS REVIEW	06-13-25	JFB	LJD

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Designed	Drawn	Checked	Project No.	Date Revised	Drawing No.
LJD	JFB	MRB	010252	07-07-25	710-02

22x34 = FULL SCALE

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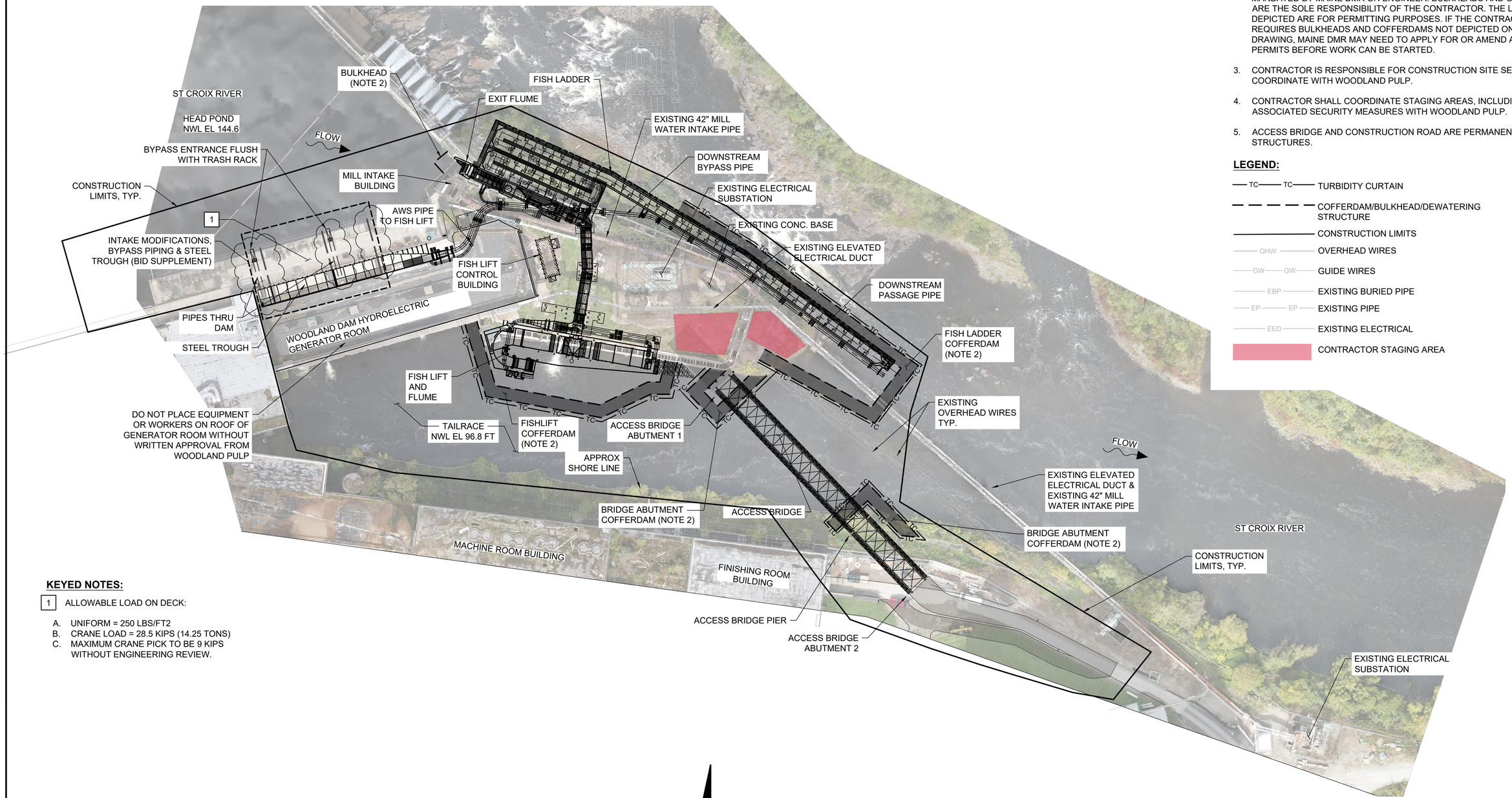
NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND STRUCTURES.
2. BULKHEADS AND COFFERDAMS DEPICTED ON THIS DRAWING ARE NOT MANDATED BY MAINE DMR OR ENGINEER. BULKHEADS AND COFFERDAMS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE LOCATIONS DEPICTED ARE FOR PERMITTING PURPOSES. IF THE CONTRACTOR REQUIRES BULKHEADS AND COFFERDAMS NOT DEPICTED ON THIS DRAWING, MAINE DMR MAY NEED TO APPLY FOR OR AMEND APPLICABLE PERMITS BEFORE WORK CAN BE STARTED.
3. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SECURITY. COORDINATE WITH WOODLAND PULP.
4. CONTRACTOR SHALL COORDINATE STAGING AREAS, INCLUDING ASSOCIATED SECURITY MEASURES WITH WOODLAND PULP.
5. ACCESS BRIDGE AND CONSTRUCTION ROAD ARE PERMANENT STRUCTURES.

LEGEND:

- TC — TC — TURBIDITY CURTAIN
- COFFERDAM/BULKHEAD/DEWATERING STRUCTURE
- CONSTRUCTION LIMITS
- OHW — OVERHEAD WIRES
- GW — GW — GUIDE WIRES
- EBP — EXISTING BURIED PIPE
- EP — EP — EXISTING PIPE
- EED — EXISTING ELECTRICAL
- CONTRACTOR STAGING AREA



KEYED NOTES:

1 ALLOWABLE LOAD ON DECK:

A. UNIFORM = 250 LBS/FT2
B. CRANE LOAD = 28.5 KIPS (14.25 TONS)
C. MAXIMUM CRANE PICK TO BE 9 KIPS WITHOUT ENGINEERING REVIEW.

N

SITE PLAN
SCALE: 1"=40'
0 40' 80'

ALDEN a verdantas company

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

CONSTRUCTUION LIMITS & STAGING AREAS

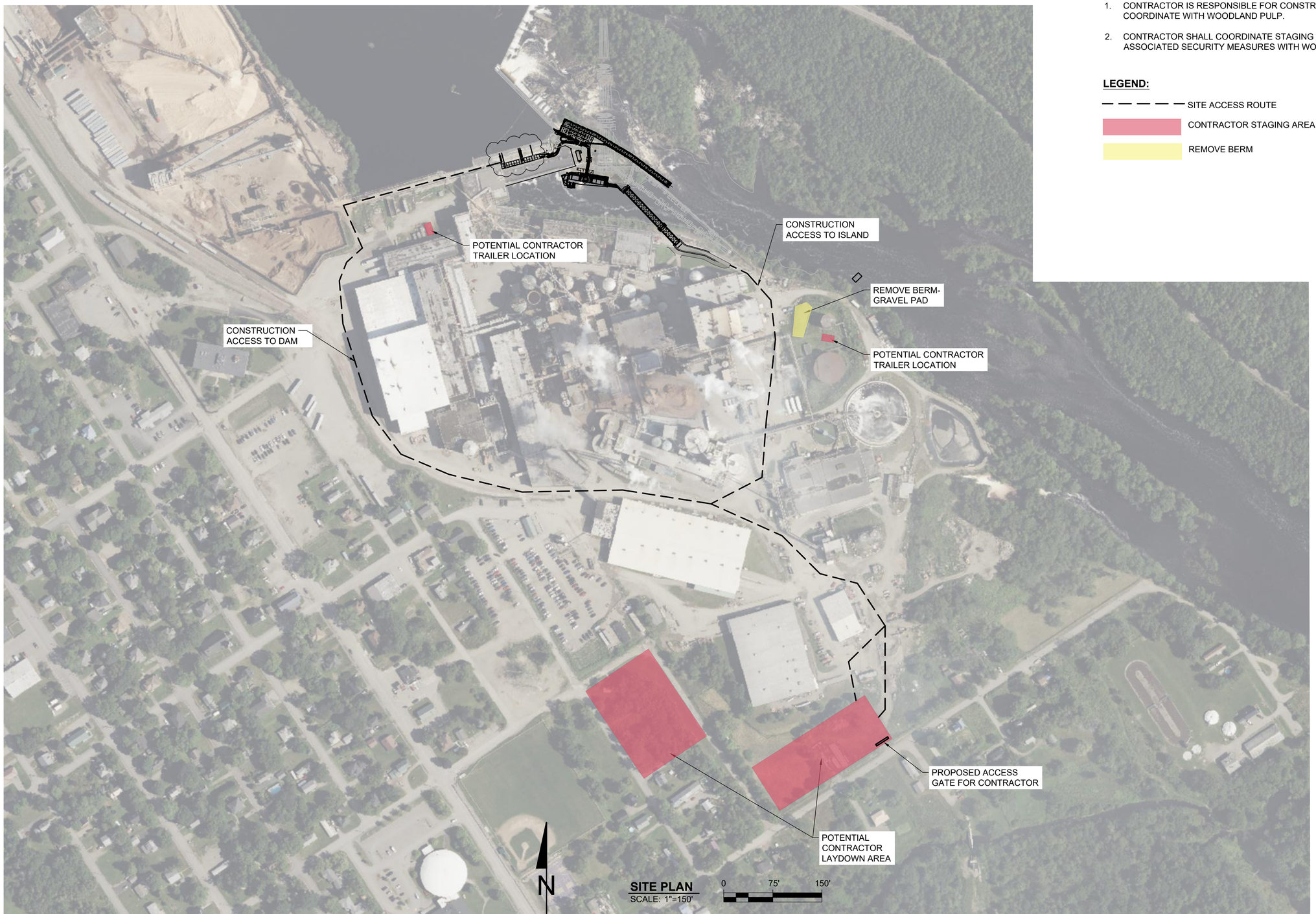
PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	12 OF 240
DRAWING:	G-120

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SECURITY. COORDINATE WITH WOODLAND PULP.
2. CONTRACTOR SHALL COORDINATE STAGING AREAS, INCLUDING ASSOCIATED SECURITY MEASURES WITH WOODLAND PULP.

LEGEND:

- SITE ACCESS ROUTE
- CONTRACTOR STAGING AREA
- REMOVE BERM



SITE PLAN
SCALE: 1"=150'

0 75' 150'

a verdantas company

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

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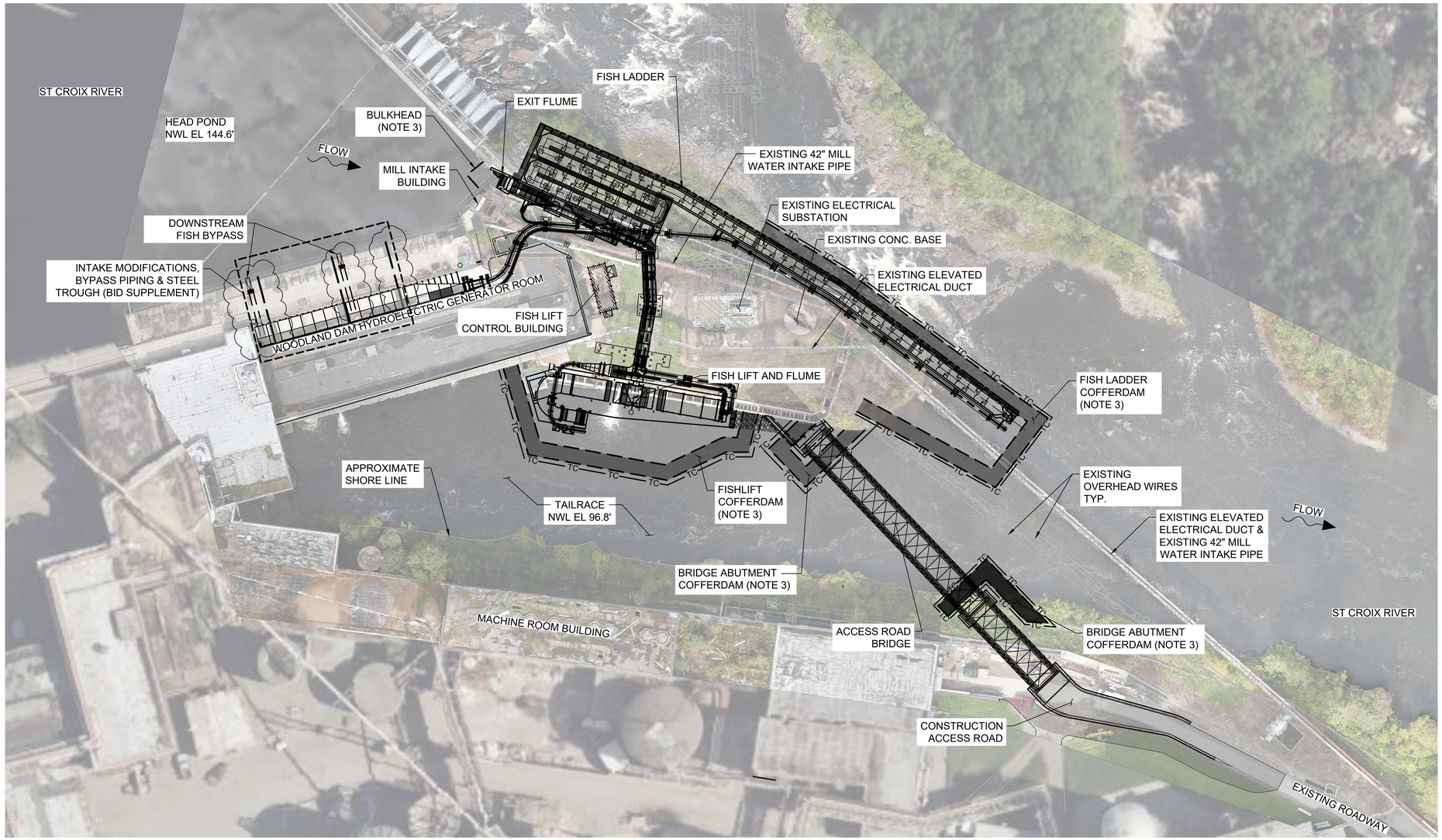
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

SITE ACCESS & STAGING AREAS

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	13 OF 240
DRAWING:	G-121



SITE PLAN
SCALE: 1"=40'

N

40' 0 40' 80'

NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND STRUCTURES.
2. SEE DRAWING G-131 FOR TYPICAL EROSION CONTROL AND DEWATERING DETAILS.
3. BULKHEADS AND COFFERDAMS DEPICTED ON THIS DRAWING ARE NOT MANDATED BY THE MAINE DMR OR ENGINEER. BULKHEADS AND COFFERDAMS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. AREAS WHERE PERMANENT DISTURBANCE IS NOT AUTHORIZED SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION, WHICH UNDER NO CIRCUMSTANCE SHALL BE HIGHER THAN THE PRE-CONSTRUCTION ELEVATION. ORIGINAL CONDITIONS MEANS CAREFUL PROTECTION AND/OR REMOVAL OF EXISTING SOIL AND VEGETATION, AND REPLACEMENT BACK TO THE ORIGINAL LOCATIONS SUCH THAT THE ORIGINAL SOIL LAYERING AND VEGETATION SCHEMES ARE APPROXIMATELY THE SAME, UNLESS OTHERWISE AUTHORIZED.
5. VERTICAL DATUM IS BASED ON NAVD88
6. HORIZONTAL DATUM IS THE STATE PLANE COORDINATE SYSTEM NAD83 MAINE EAST ZONE.

LEGEND:

- SF — SF — SILT FENCE
- TC — TC — TURBIDITY CURTAIN
- COFFERDAM/BULKHEAD/DEWATERING STRUCTURE
- X — X — EXISTING FENCE
- OHW — OVERHEAD WIRES
- GW — GW — GUIDE WIRES
- EBP — EXISTING BURIED PIPE
- EP — EP — EXISTING PIPE
- EED — EXISTING ELECTRICAL

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MAY 2, 2025

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

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WOODLAND FISH LIFT PASSAGE DESIGN

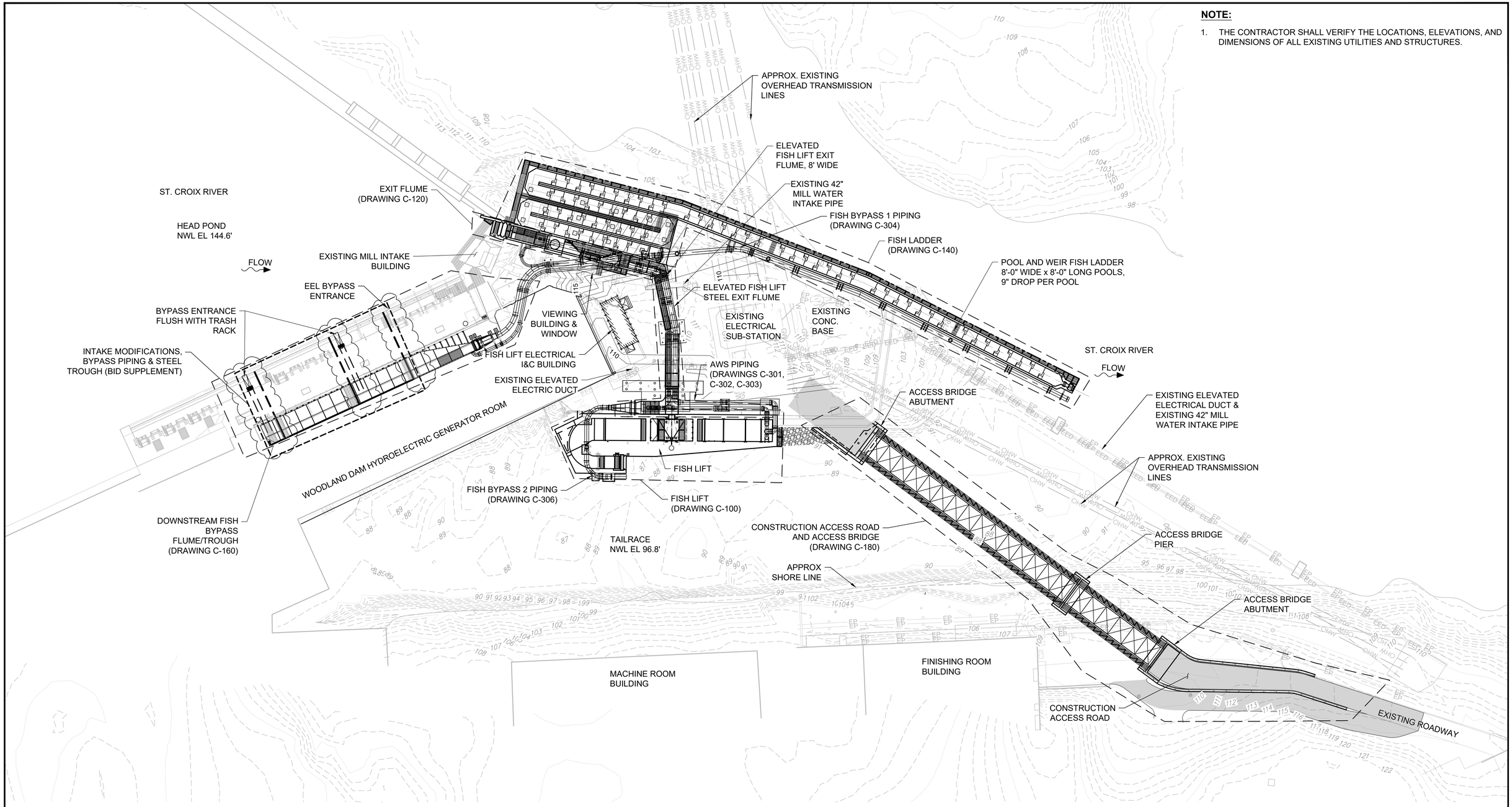
MAINE DEPARTMENT OF MARINE RESOURCES

EROSION CONTROL & DEWATERING PLAN

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	14 OF 240
DRAWING:	G-130

NOTE:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND STRUCTURES.



SITE PLAN
SCALE: 1"=30'

30' 0 30' 60'

a verdantas company

ALDEN

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

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WOODLAND FISH LIFT PASSAGE DESIGN

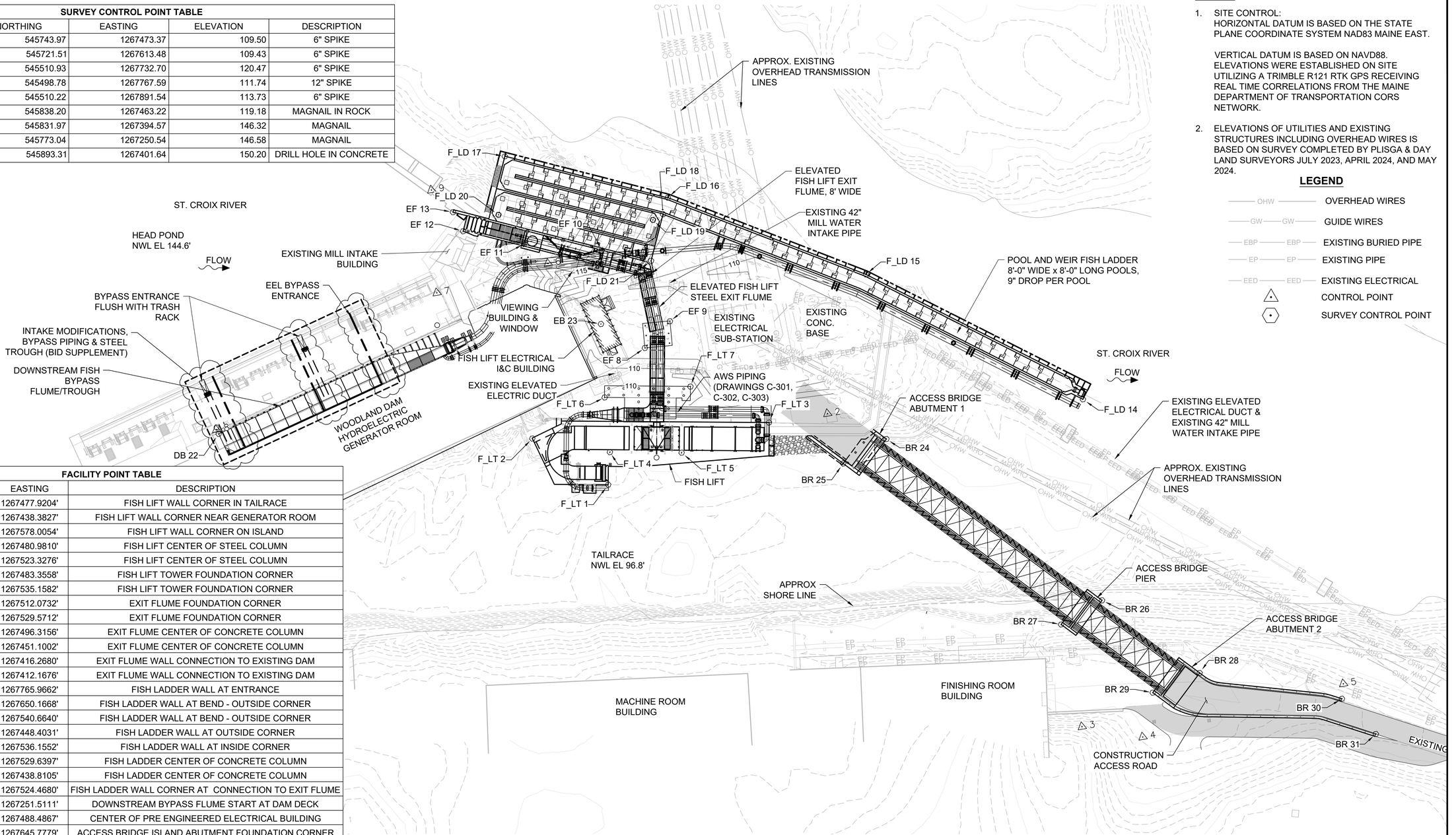
MAINE DEPARTMENT OF MARINE RESOURCES

OVERALL SITE PLAN - GENERAL

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	25 OF 240
DRAWING:	C-010

SURVEY CONTROL POINT TABLE				
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	545743.97	1267473.37	109.50	6" SPIKE
2	545721.51	1267613.48	109.43	6" SPIKE
3	545510.93	1267732.70	120.47	6" SPIKE
4	545498.78	1267767.59	111.74	12" SPIKE
5	545510.22	1267891.54	113.73	6" SPIKE
6	545838.20	1267463.22	119.18	MAGNAIL IN ROCK
7	545831.97	1267394.57	146.32	MAGNAIL
8	545773.04	1267250.54	146.58	MAGNAIL
9	545893.31	1267401.64	150.20	DRILL HOLE IN CONCRETE

FACILITY POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
F_LT 1	545702.5072'	1267477.9204'	FISH LIFT WALL CORNER IN TAILRACE
F_LT 2	545733.9924'	1267438.3827'	FISH LIFT WALL CORNER NEAR GENERATOR ROOM
F_LT 3	545722.0917'	1267578.0054'	FISH LIFT WALL CORNER ON ISLAND
F_LT 4	545720.4495'	1267480.9810'	FISH LIFT CENTER OF STEEL COLUMN
F_LT 5	545712.9816'	1267523.3276'	FISH LIFT CENTER OF STEEL COLUMN
F_LT 6	545753.3301'	1267483.3558'	FISH LIFT TOWER FOUNDATION CORNER
F_LT 7	545751.1886'	1267535.1582'	FISH LIFT TOWER FOUNDATION CORNER
EF 8	545778.5569'	1267512.0732'	EXIT FLUME FOUNDATION CORNER
EF 9	545791.8662'	1267529.5712'	EXIT FLUME FOUNDATION CORNER
EF 10	545840.6173'	1267496.3156'	EXIT FLUME CENTER OF CONCRETE COLUMN
EF 11	545852.1244'	1267451.1002'	EXIT FLUME CENTER OF CONCRETE COLUMN
EF 12	545865.7740'	1267416.2680'	EXIT FLUME WALL CONNECTION TO EXISTING DAM
EF 13	545878.0414'	1267412.1676'	EXIT FLUME WALL CONNECTION TO EXISTING DAM
F_LD 14	545704.4650'	1267765.9662'	FISH LADDER WALL AT ENTRANCE
F_LD 15	545800.0033'	1267650.1668'	FISH LADDER WALL AT BEND - OUTSIDE CORNER
F_LD 16	545865.1980'	1267540.6640'	FISH LADDER WALL AT BEND - OUTSIDE CORNER
F_LD 17	545905.8595'	1267448.4031'	FISH LADDER WALL AT OUTSIDE CORNER
F_LD 18	545855.8527'	1267536.1552'	FISH LADDER WALL AT INSIDE CORNER
F_LD 19	545853.4998'	1267529.6397'	FISH LADDER CENTER OF CONCRETE COLUMN
F_LD 20	545871.9469'	1267438.8105'	FISH LADDER CENTER OF CONCRETE COLUMN
F_LD 21	545829.5442'	1267524.4680'	FISH LADDER WALL CORNER AT CONNECTION TO EXIT FLUME
DB 22	545770.3285'	1267251.5111'	DOWNSTREAM BYPASS FLUME START AT DAM DECK
EB 23	545797.1158'	1267488.4867'	CENTER OF PRE ENGINEERED ELECTRICAL BUILDING
BR 24	545700.6149'	1267645.7779'	ACCESS BRIDGE ISLAND ABUTMENT FOUNDATION CORNER
BR 25	545690.4411'	1267617.7928'	ACCESS BRIDGE ISLAND ABUTMENT FOUNDATION CORNER
BR 26	545583.6837'	1267757.1818'	ACCESS BRIDGE PIER FOUNDATION CORNER
BR 27	545573.4771'	1267730.6132'	ACCESS BRIDGE PIER FOUNDATION CORNER
BR 28	545530.9781'	1267807.6535'	ACCESS BRIDGE MILL ABUTMENT FOUNDATION CORNER
BR 29	545524.0140'	1267777.9645'	ACCESS BRIDGE MILL ABUTMENT FOUNDATION CORNER
BR 30	545501.4943'	1267889.2004'	ACCESS ROAD START OF RETAINING WALL
BR 31	545477.2854'	1267905.7234'	ACCESS ROAD START OF RETAINING WALL



NOTES:

1. SITE CONTROL:
   HORIZONTAL DATUM IS BASED ON THE STATE PLANE COORDINATE SYSTEM NAD83 MAINE EAST.

   VERTICAL DATUM IS BASED ON NAVD88. ELEVATIONS WERE ESTABLISHED ON SITE UTILIZING A TRIMBLE R121 RTK GPS RECEIVING REAL TIME CORRELATIONS FROM THE MAINE DEPARTMENT OF TRANSPORTATION CORS NETWORK.

2. ELEVATIONS OF UTILITIES AND EXISTING STRUCTURES INCLUDING OVERHEAD WIRES IS BASED ON SURVEY COMPLETED BY PLISGA & DAY LAND SURVEYORS JULY 2023, APRIL 2024, AND MAY 2024.

LEGEND

- OHW — OVERHEAD WIRES
- GW — GUIDE WIRES
- EBP — EXISTING BURIED PIPE
- EP — EXISTING PIPE
- EED — EXISTING ELECTRICAL
- △ CONTROL POINT
- ⬡ SURVEY CONTROL POINT

SITE PLAN
SCALE: 1"=30'

30' 0 30' 60'

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WOODLAND FISH LIFT PASSAGE DESIGN

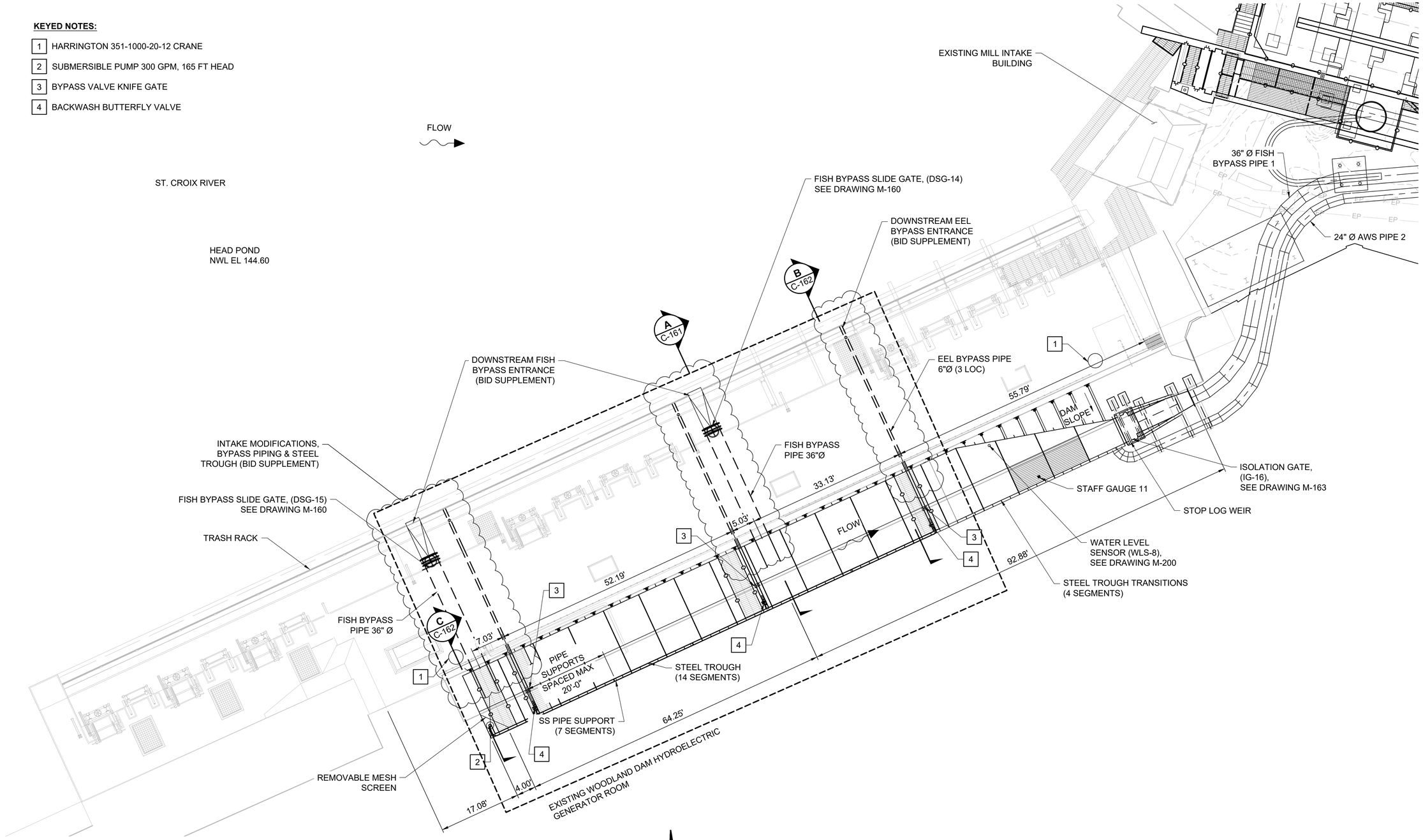
MAINE DEPARTMENT OF MARINE RESOURCES

STRUCTURE CONTROL PLAN

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	26 OF 240
DRAWING:	C-011

KEYED NOTES:

1. HARRINGTON 351-1000-20-12 CRANE
2. SUBMERSIBLE PUMP 300 GPM, 165 FT HEAD
3. BYPASS VALVE KNIFE GATE
4. BACKWASH BUTTERFLY VALVE



DOWNSTREAM BYPASS GENERAL ARRANGEMENT PLAN

SCALE: 1"=10'

0 10' 20'

NOTE:

1. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO NEW CONSTRUCTION.

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WOODLAND FISH LIFT PASSAGE DESIGN

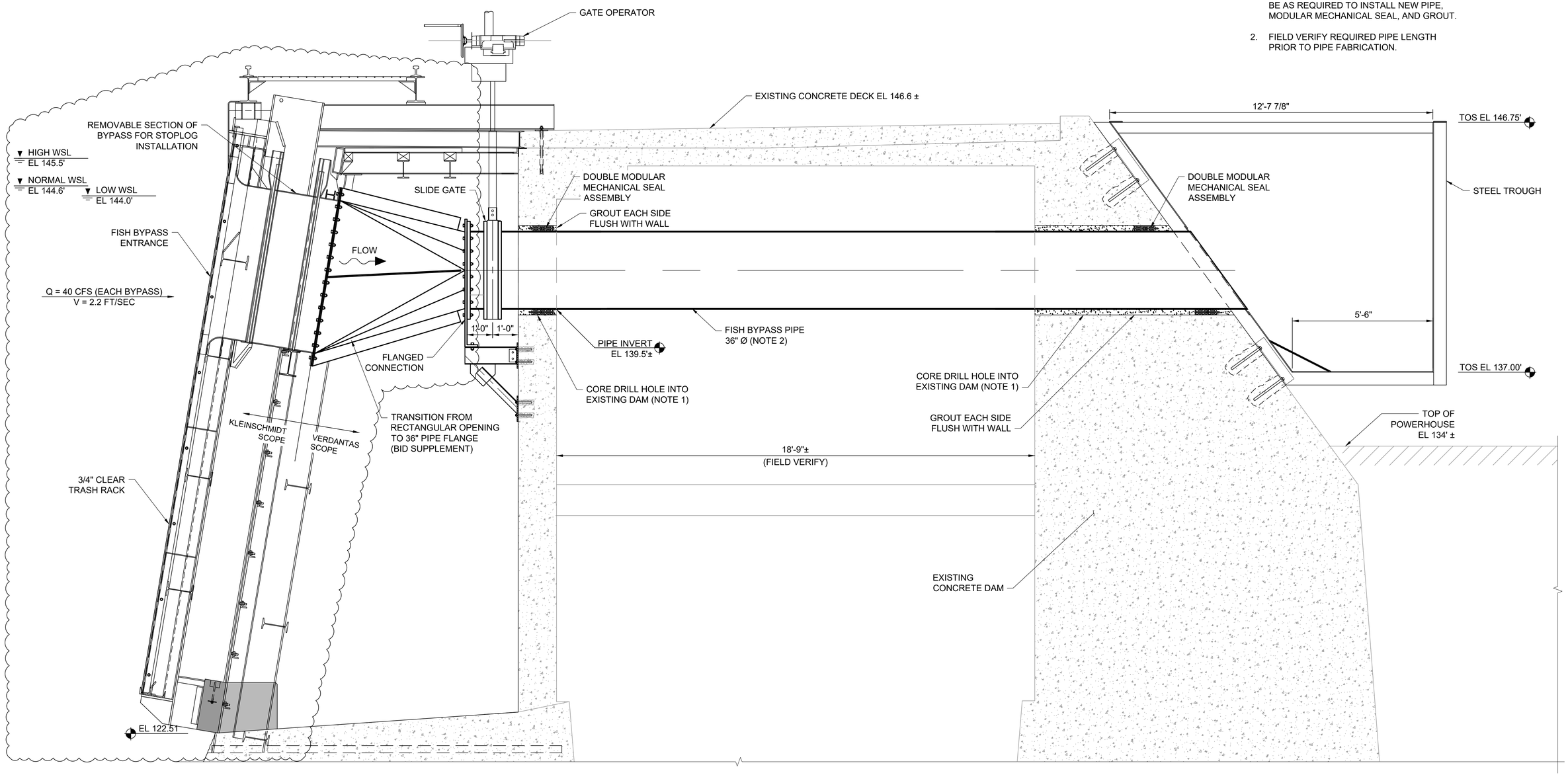
MAINE DEPARTMENT OF MARINE RESOURCES

DOWNSTREAM BYPASS GENERAL ARRANGEMENT PLAN

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	42 OF 240
DRAWING:	C-160

NOTE:

1. CONCRETE CORE/REMOVAL SIZE SHOWN IS APPROXIMATE. CONCRETE REMOVAL SHALL BE AS REQUIRED TO INSTALL NEW PIPE, MODULAR MECHANICAL SEAL, AND GROUT.
2. FIELD VERIFY REQUIRED PIPE LENGTH PRIOR TO PIPE FABRICATION.



A C-160 DOWNSTREAM FISH PASSAGE SECTION

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

1' 0 1' 2'

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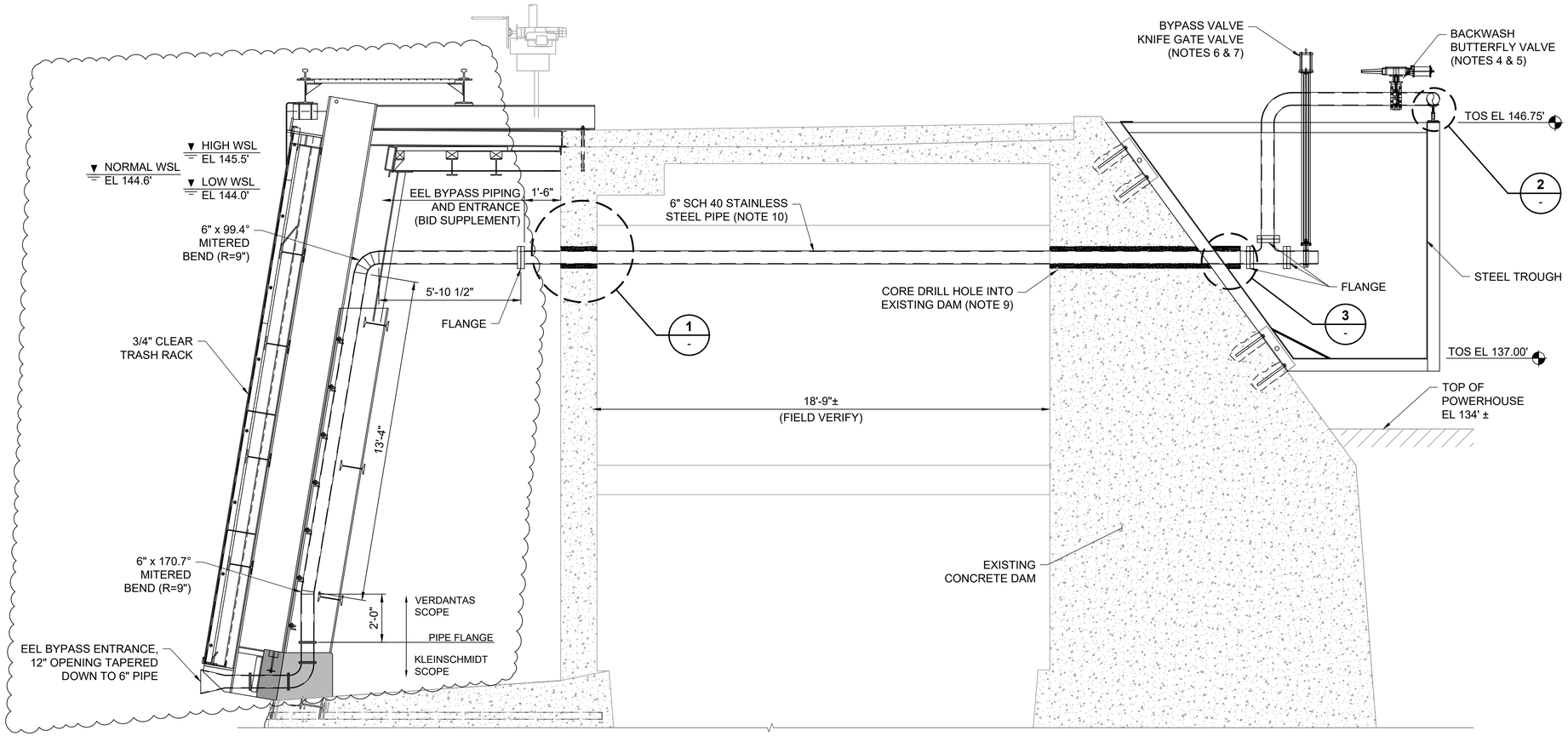
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

DOWNSTREAM BYPASS SECTION (BID SUPPLEMENT)

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	43 OF 240
DRAWING:	C-161

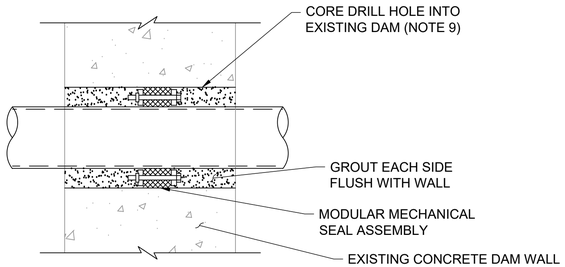


B C-160 **EEL BYPASS SECTION**
SCALE: 3/8"=1'-0"

0 2' 4'

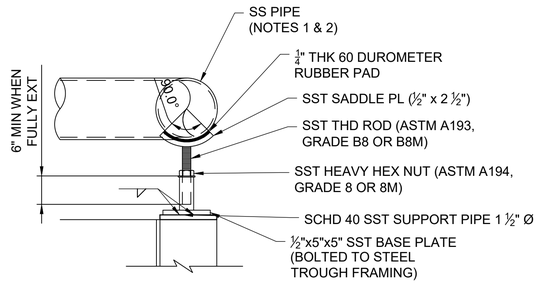
NOTES:

1. STAINLESS STEEL PIPE SUPPORTS SHALL BE SPACED AT 18' ON CENTER.
2. PIPE SUPPORTS SHALL BE PLACED INLINE WITH ANGLE OR CHANNEL HORIZONTAL MEMBERS.
3. PUMP SHALL BE SHAKTI SUBMERSIBLE PUMP MODEL QF100 15 OR APPROVED ALTERNATIVE.
4. BUTTERFLY VALVE SHALL BE MODEL BAW AS MANUFACTURED BY DeZURIK OR APPROVED ALTERNATIVE.
5. BUTTERFLY VALVE ACTUATOR SHALL BE ROTORK IQT125 FA 10 OR APPROVED ALTERNATIVE.
6. KNIFE GATE VALVE SHALL BE RED VALVE SEIRES G PNEUMATIC/ELECTRIC OR APPROVED ALTERNATIVE.
7. KNIFE GATE ACTUATOR SHALL BE ROTORK IQ12 FA10 A OR APPROVED ALTERNATIVE.
8. COORDINATE STEEL PIPE STUB OUT SIZE WITH MODULAR MECHANICAL SEAL MFR.
9. CONCRETE CORE/REMOVAL SIZE SHOWN IS APPROXIMATE. CONCRETE REMOVAL SHALL BE AS REQUIRED TO INSTALL NEW PIPE, MODULAR MECHANICAL SEAL, AND GROUT.
10. FIELD VERIFY REQUIRED PIPE LENGTH PRIOR TO PIPE FABRICATION.



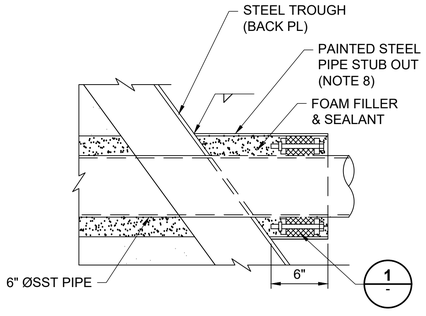
1 - **SINGLE MODULAR MECHANICAL SEAL**
SCALE: 1-1/2"=1'-0"

0 1' 2'



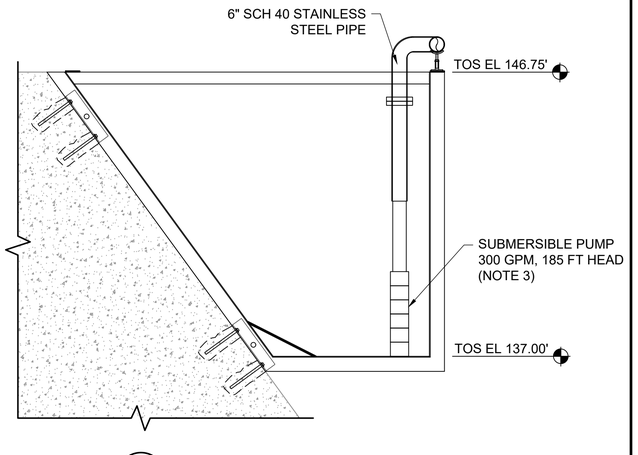
2 - **STAINLESS STEEL PIPE SUPPORT**
SCALE: 1-1/2"=1'-0"

0 1' 2'



3 - **PIPE PENETRATION THROUGH TROUGH**
SCALE: 1-1/2"=1'-0"

0 1' 2'



C C-160 **EEL BYPASS PUMP SECTION**
SCALE: 3/8"=1'-0"

0 2' 4'

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WOODLAND FISH LIFT PASSAGE DESIGN

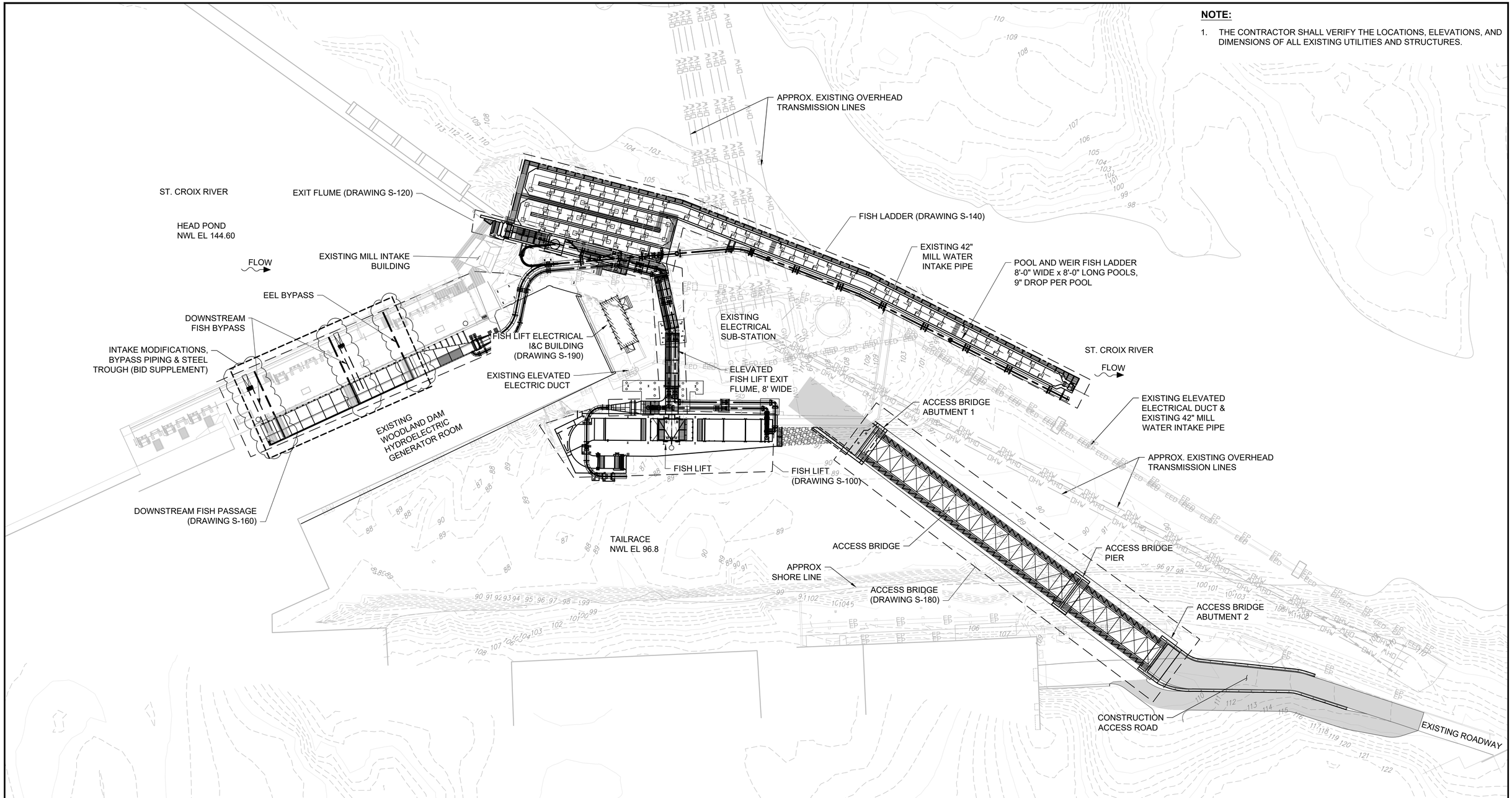
MAINE DEPARTMENT OF MARINE RESOURCES

DOWNSTREAM EEL BYPASS SECTIONS AND DETAILS (BID SUPPLEMENT)

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	44 OF 240
DRAWING:	C-162

NOTE:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND STRUCTURES.



SITE PLAN
SCALE: 1"=30'

30' 0 30' 60'

N

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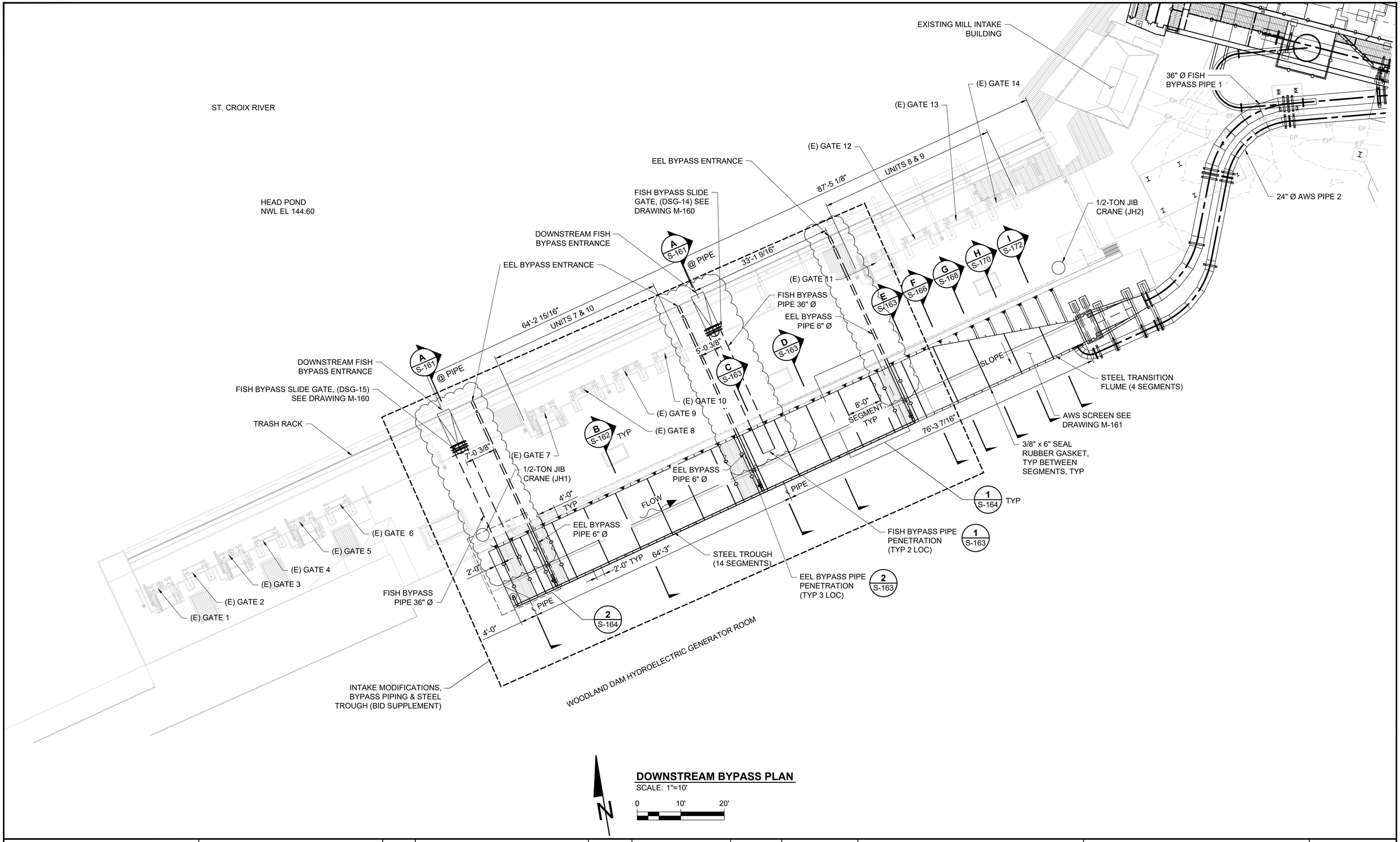
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

GENERAL OVERVIEW

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	65 OF 240
DRAWING:	S-003



DOWNSTREAM BYPASS PLAN

SCALE: 1"=10'

0 10' 20'

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WOODLAND FISH LIFT PASSAGE DESIGN

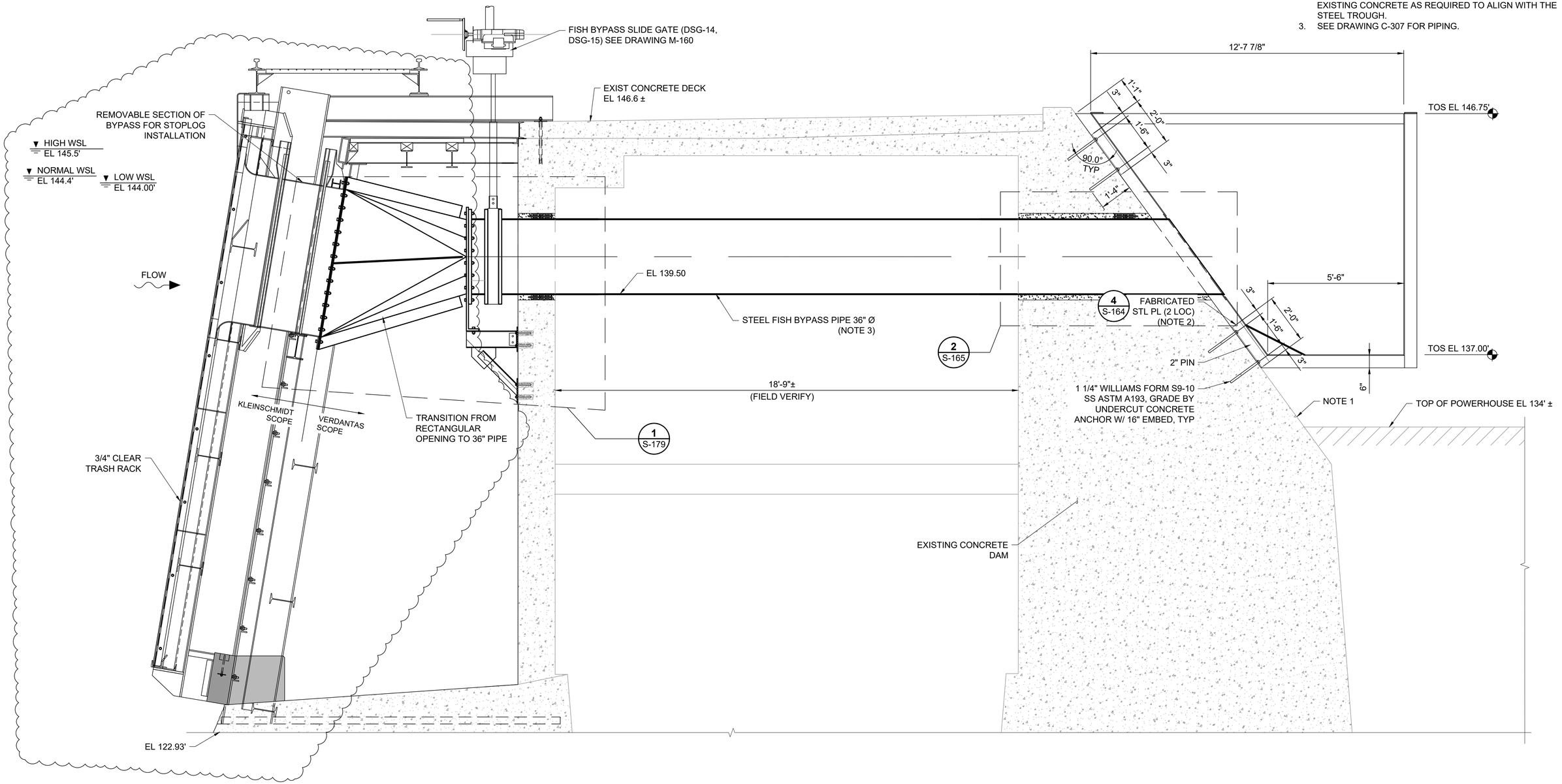
MAINE DEPARTMENT OF MARINE RESOURCES

DOWNSTREAM FISH PASSAGE PLAN

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	106 OF 240
DRAWING:	S-160

NOTES:

1. VERIFY EXISTING CONCRETE SLOPE PRIOR TO STEEL TROUGH FABRICATION.
2. SHIM OR GROUT THE FABRICATED SUPPORT TO THE EXISTING CONCRETE AS REQUIRED TO ALIGN WITH THE STEEL TROUGH.
3. SEE DRAWING C-307 FOR PIPING.



A S-160 DOWNSTREAM FISH PASSAGE SECTION (2 LOC)

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

0 2' 4'

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WOODLAND FISH LIFT PASSAGE DESIGN

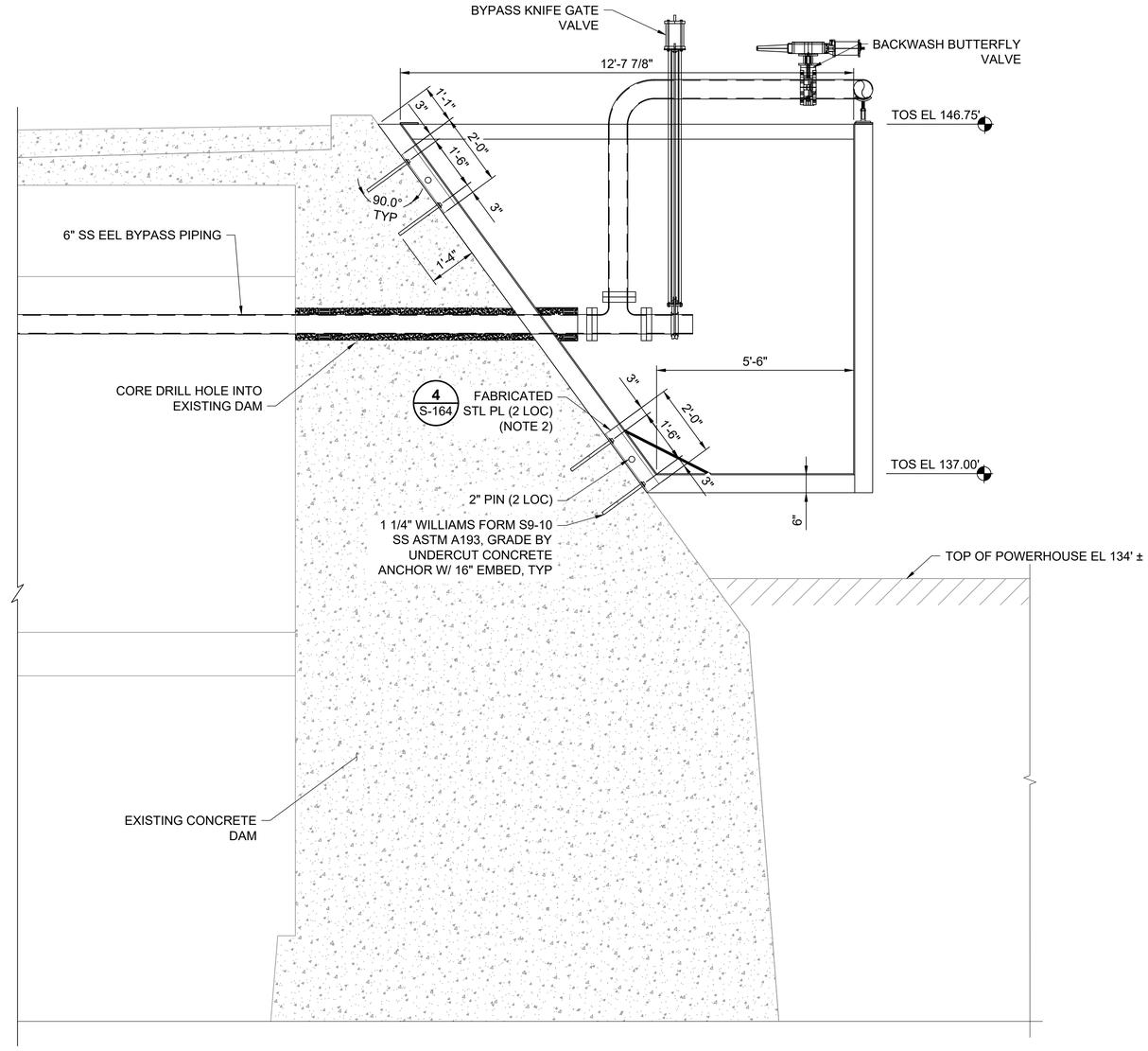
MAINE DEPARTMENT OF MARINE RESOURCES

DOWNSTREAM FISH PASSAGE SECTION (BID SUPPLEMENT)

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	107 OF 240
DRAWING:	S-161

NOTES:

1. VERIFY EXISTING CONCRETE SLOPE PRIOR TO STEEL TROUGH FABRICATION.
2. SHIM OR GROUT THE FABRICATED SUPPORT TO THE EXISTING CONCRETE AS REQUIRED TO ALIGN WITH THE STEEL TROUGH.



B
S-160
DOWNSTREAM FISH PASSAGE SECTION (TYP)
SCALE: 1/2"=1'-0"

0 2' 4'

1/2" = 1'-0

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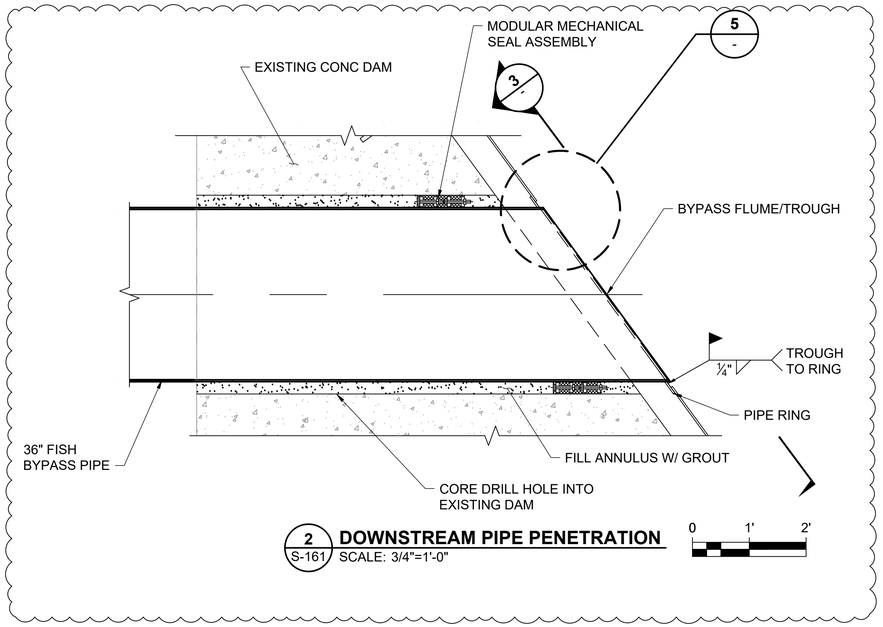
WOODLAND FISH LIFT PASSAGE DESIGN

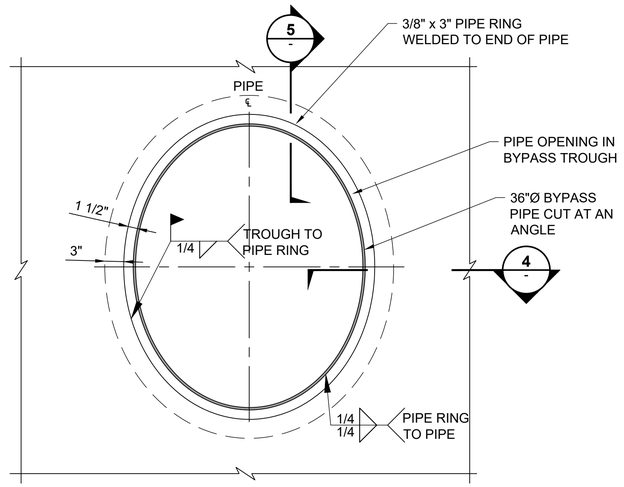
MAINE DEPARTMENT OF MARINE RESOURCES

BYPASS TROUGH SECTION (BID SUPPLEMENT)

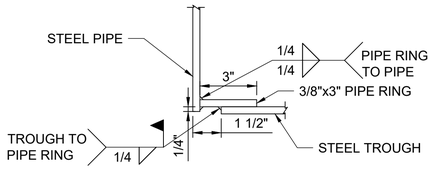
PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	108 OF 240
DRAWING:	S-162



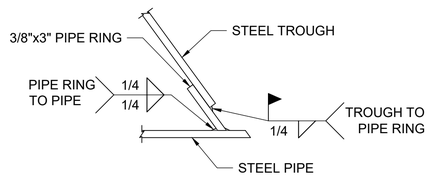
2 DOWNSTREAM PIPE PENETRATION
S-161 SCALE: 3/4"=1'-0"



3 PIPE TO TROUGH CONNECTION
SCALE: 1"=1'-0"



4 CONNECTION/WELD DETAIL
SCALE: 3"=1'-0"
0 6" 1'



5 CONNECTION/WELD DETAIL
SCALE: 3"=1'-0"
0 6" 1'

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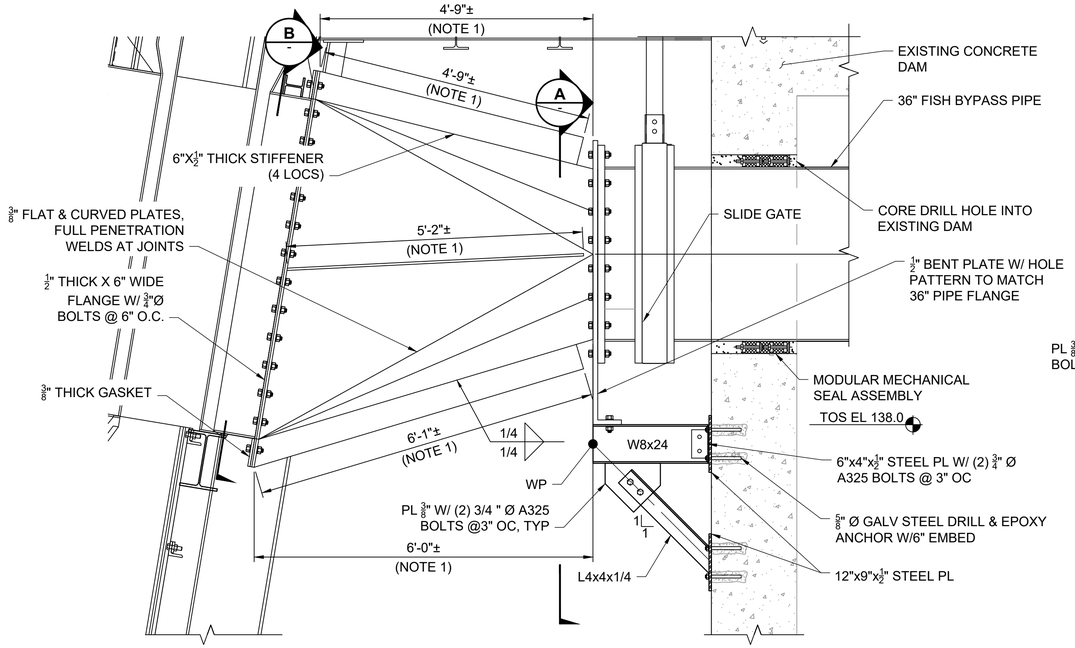
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

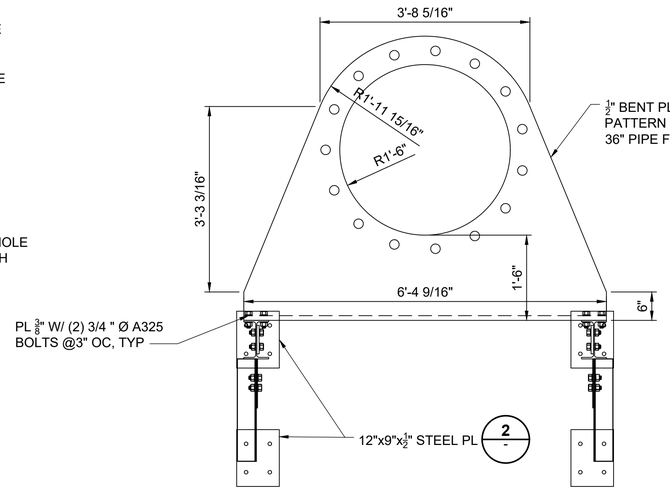
DOWNSTREAM FISH PASSAGE SECTION (BID SUPPLEMENT)

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	111 OF 240
DRAWING:	S-165



1 / S-161 UPSTREAM PIPE PENETRATION
SCALE: 3/4"=1'-0"

0 1' 2'

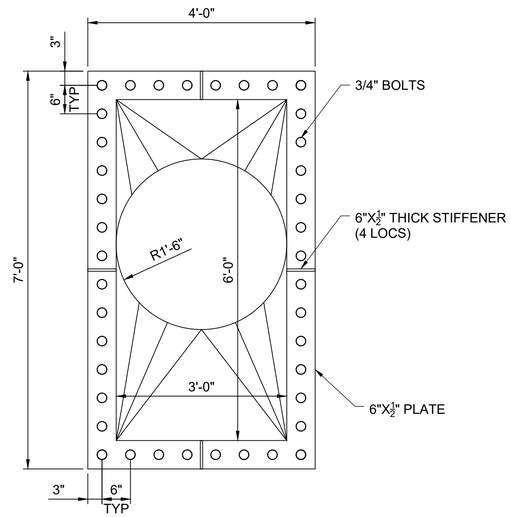


A / - SECTION
SCALE: 3/4"=1'-0"

0 1' 2'

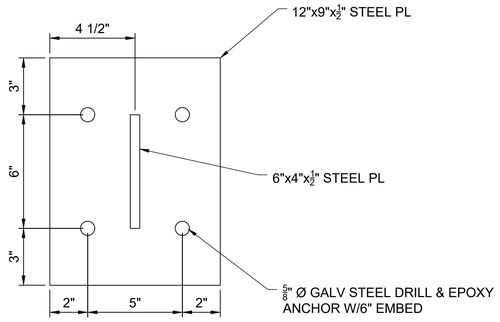
NOTE:

1. TRANSITION SEGMENT DISTANCES ARE APPROXIMATE. FIELD VERIFY PRIOR TO FABRICATION.



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

0 1' 2'



2 / - END PLATE DETAIL
SCALE: 3"=1'-0"

0 6" 1'

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5/2/2025	ISSUED FOR BID	M. GRAESER

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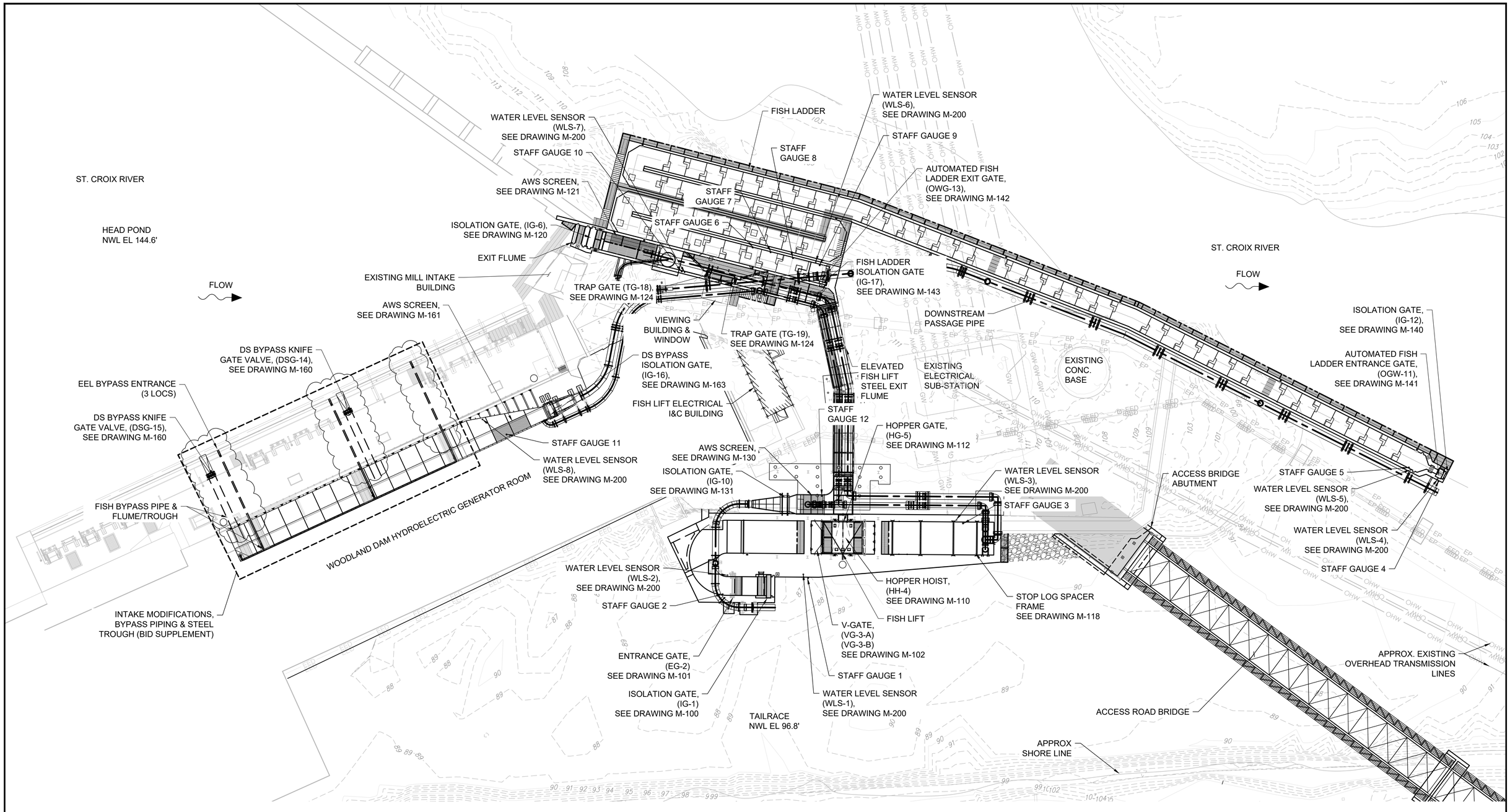
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

BYPASS ENTRANCE TRANSITION SEGMENT

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	125 OF 240
DRAWING:	S-179



SITE PLAN
SCALE: 1"=20'

20' 0 20' 40'

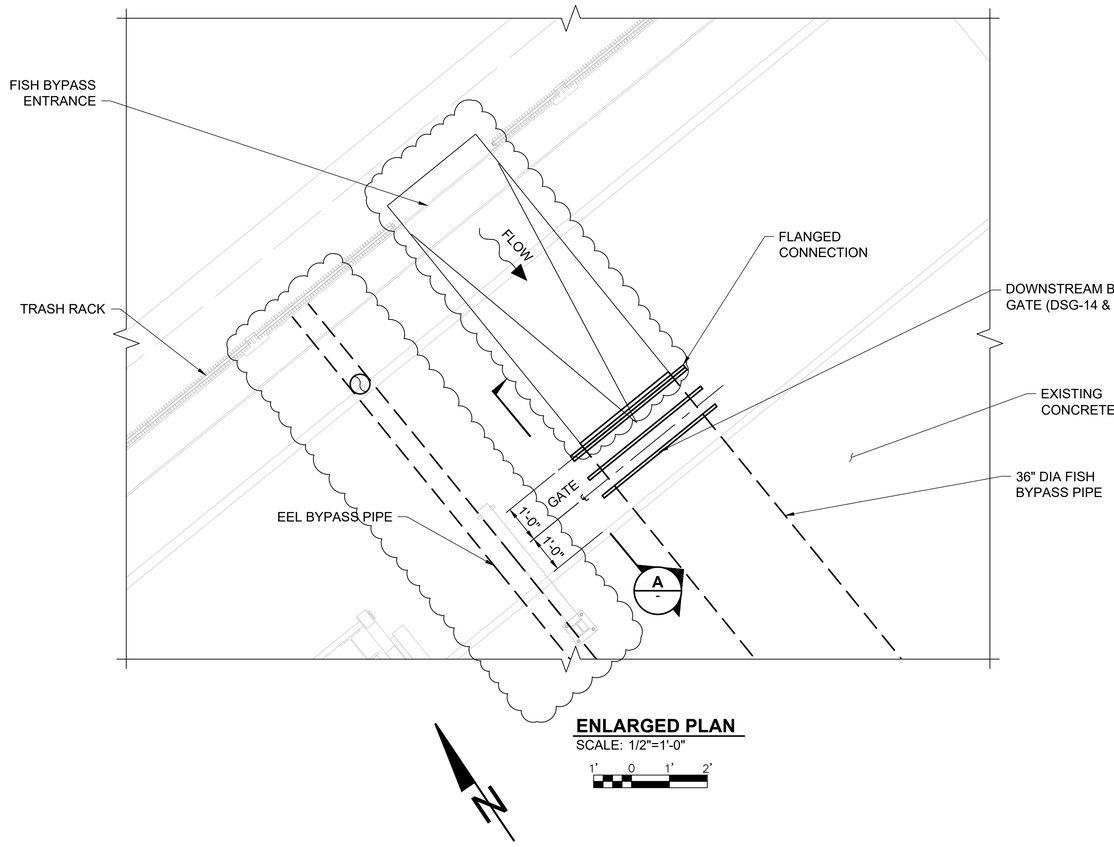
ALDEN a verdantas company	**ISSUED FOR BID** **NOT FOR CONSTRUCTION** **MAY 2, 2025**				VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	WOODLAND FISH LIFT PASSAGE DESIGN MAINE DEPARTMENT OF MARINE RESOURCES	GENERAL MECHANICAL LAYOUT	PROJECT: 16667 DRAWN BY: C. HAGLER DESIGNER: A. MENGERT APPROVED BY: M. GRAESER SHEET: 202 OF 240 DRAWING: M-002

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

NOTES:

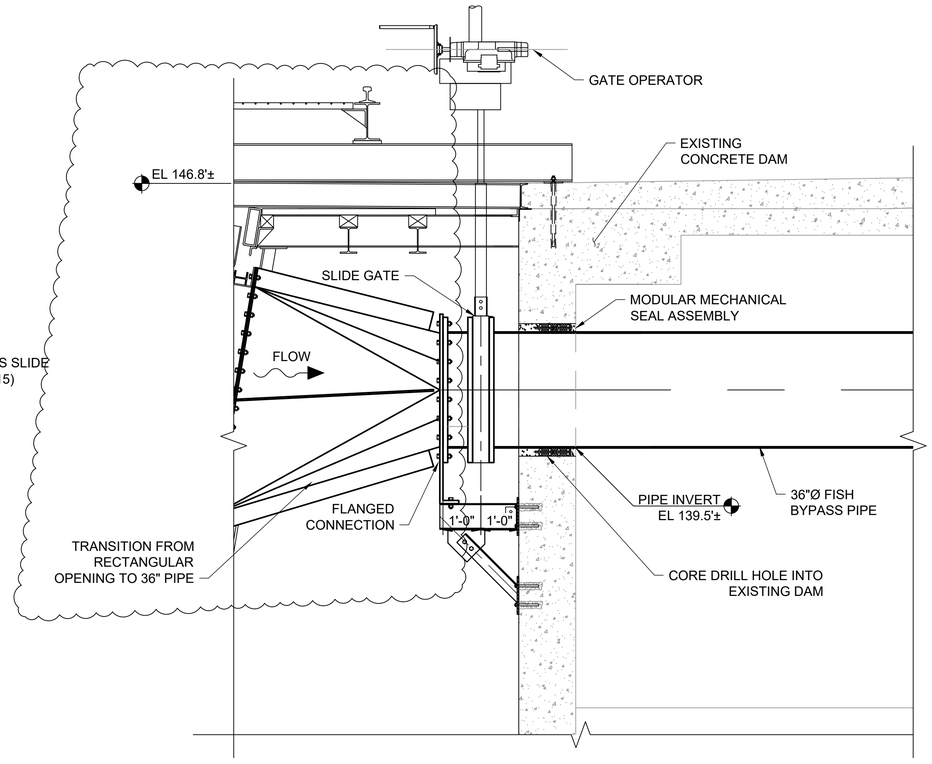
1. GENERAL OVERVIEW OF DOWNSTREAM PASSAGE INTAKE SLIDE GATE (DSG-14 & DSG-15):
   - SIZE OF GATE, 3.0'W x 3.0'H
   - MOVEMENT OF GATE. UPWARD OPENING.
   - OPERATION OF GATE: OPEN / CLOSE
   - DESIGN HEAD - 7FT UNSEATING

2. HEAD POND ELEVATIONS:
   - DESIGN LOW 144.0 FT
   - NORMAL 144.6 FT
   - DESIGN HIGH 145.4 FT



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

1' 0 1' 2'



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

1' 0 1' 2'

5/2/2025	ISSUED FOR BID	M. GRAESER
REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY

ALDEN — a verdantas company

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

VERIFY SCALE
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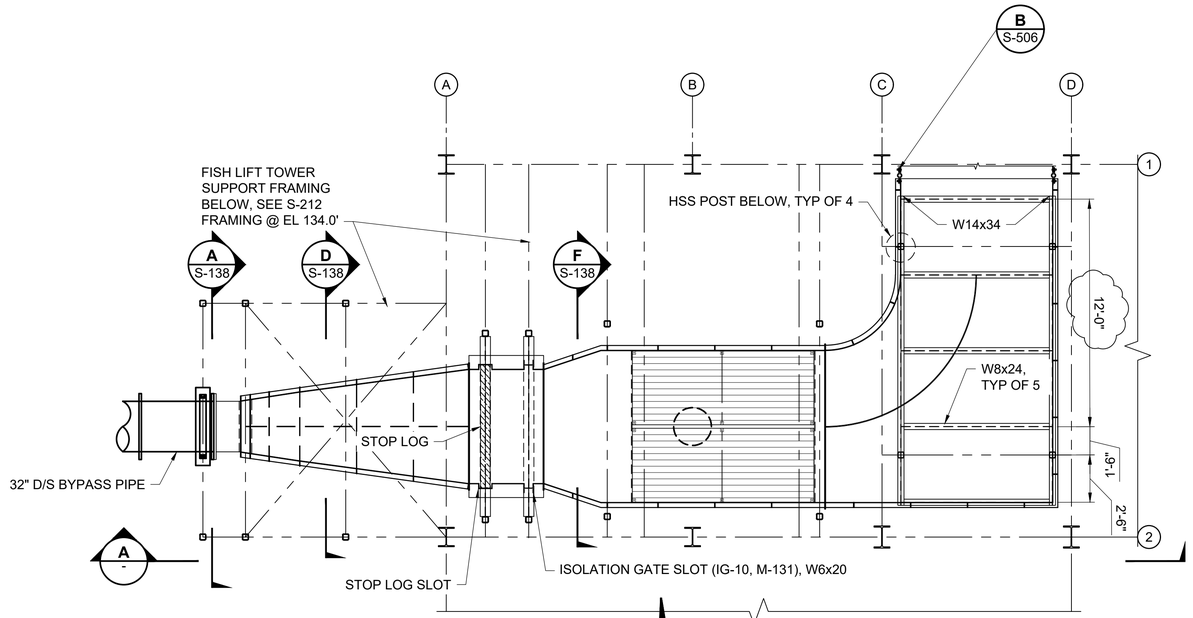
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

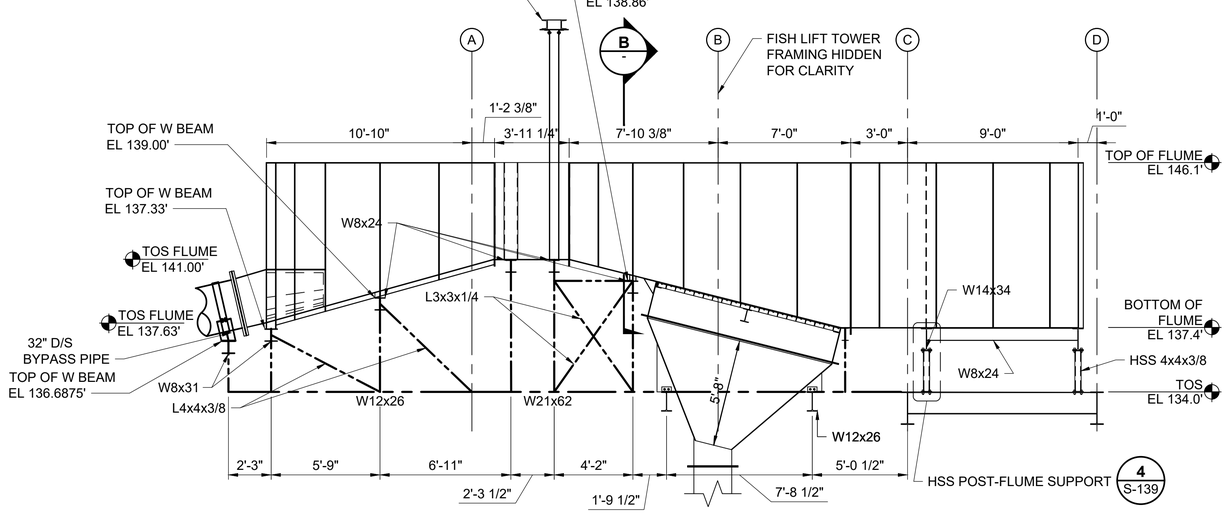
DOWNSTREAM BYPASS SLIDE GATE (DSG-14 & DSG-15) (BID SUPPLEMENT)

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	238 OF 240
DRAWING:	M-160

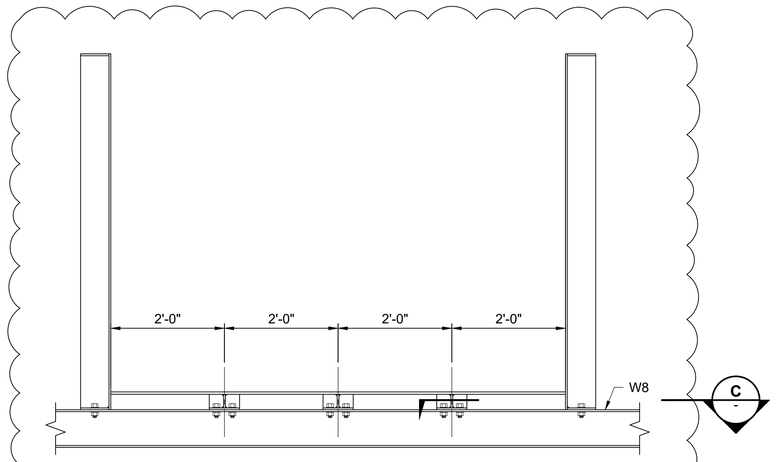
NOTE
1. SEE S-230 FOR TYPICAL CONNECTION DETAILS.



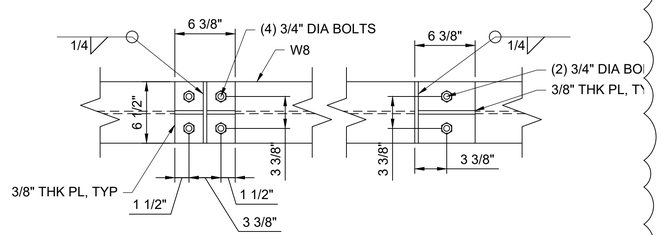
1 EXIT FLUME SUPPORT FRAMING ENLARGED PLAN
S-120 SCALE: 1/4"=1'-0"
0 4' 8'



A EXIT FLUME SECTION
- SCALE: 1/4"=1'-0"
0 4' 8'



B FLUME SUPPORT SECTION
- SCALE: 3/4"=1'-0"
0 1' 2'



C FLUME SUPPORT DETAIL
- SCALE: 1 1/2"=1'-0"
0 1' 2'

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REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

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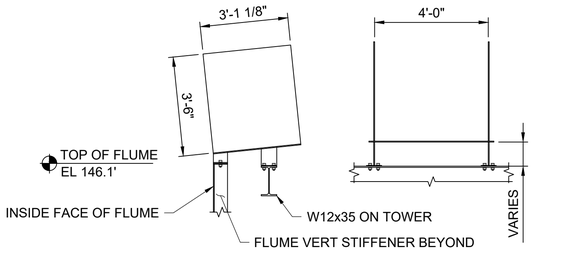
WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

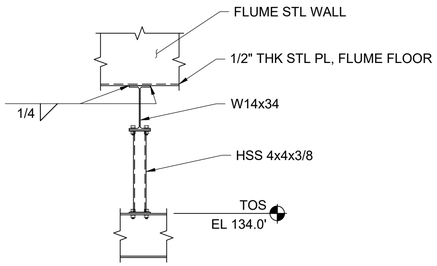
STEEL EXIT FLUME PLANS AND SECTIONS

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	90 OF 240
DRAWING:	S-136



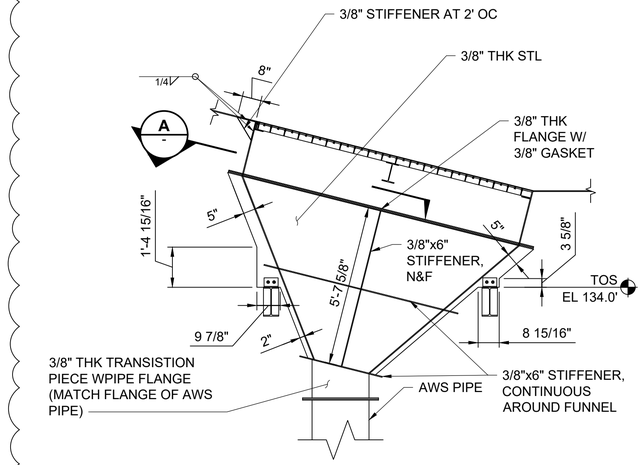
3 / S-137 HOPPER TO EXIT FLUME TROUGH
SCALE: 3/8"=1'-0"

0 2' 4'



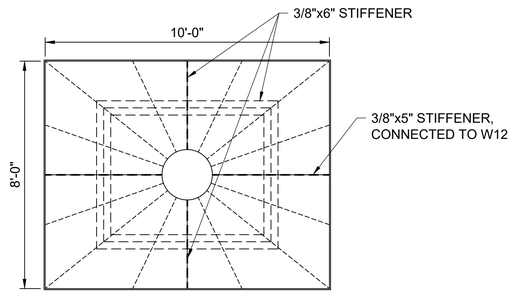
4 / S-136 HSS SUPPORT DETAIL
SCALE: 1/2"=1'-0"

0 2' 4'



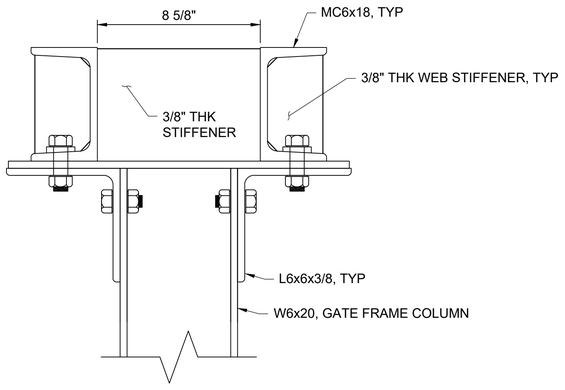
6 / S-137 SECTION
SCALE: 3/8" = 1'-0"

0 2' 4'
3/8" = 1'-0



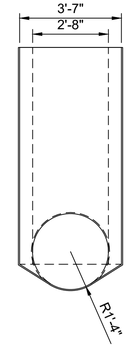
A / - SECTION
SCALE: 3/8" = 1'-0"

0 2' 4'
3/8" = 1'-0



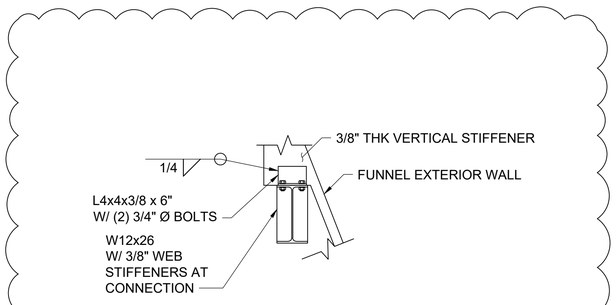
2 / S-137 DETAIL
SCALE: 3"=1'-0"

0 6" 1'
3" = 1'-0



3 / S-137 TRANSITION PIECE
SCALE: 3/8" = 1'-0"

0 2' 4'
3/8" = 1'-0



7 / S-137 CONNECTION DETAIL
SCALE: 3/4" = 1'-0"

0 1' 2'
3/4" = 1'-0

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MAY 2, 2025

REVISION	DESCRIPTION OF ISSUE / REVISION	REVISED BY
5/2/2025	ISSUED FOR BID	M. GRAESER

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WOODLAND FISH LIFT PASSAGE DESIGN

MAINE DEPARTMENT OF MARINE RESOURCES

STEEL EXIT FLUME DETAILS

PROJECT:	16667
DRAWN BY:	C. HAGLER
DESIGNER:	A. MENGERT
APPROVED BY:	M. GRAESER
SHEET:	93 OF 240
DRAWING:	S-139

a verdantas company

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

WOODLAND FISH LIFT PASSAGE

WOODLAND PULP, LLC
BAILEYVILLE, MAINE

ISSUED FOR BID
05/02/2025

NOTE:

THIS ISSUED FOR BID (IFB) DRAWING PACKAGE SUPERCEDES THE ISSUED FOR CONSTRUCTION (IFC) DRAWING PACKAGE, DATED 03/28/2025.

THIS ISSUED FOR BID (IFB) DRAWING PACKAGE IS BASED ON THE ALDEN (A VERDANTAS COMPANY) IFB DRAWING PACKAGE, DATED 5/2/2025.

NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	COVER SHEET FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AA-001	REV: 0

DRAWING LIST

REV	DRAWING No.	DRAWING TITLE
0	EE-AA-001	COVER SHEET - FISH LIFT PASSAGE
0	EE-AB-001	DRAWING LIST - SHEET 1 - FISH LIFT PASSAGE
0	EE-AB-002	DRAWING LIST - SHEET 2 - FISH LIFT PASSAGE
0	EE-AC-001	BILL OF MATERIALS - FISH LIFT PASSAGE
0	EE-AD-001	SYMBOL LEGEND AND NOTES - FISH LIFT PASSAGE
0	EE-AE-001	EQUIPMENT LIST - FISH LIFT PASSAGE
0	EE-AJ-001	CABLE SCHEDULE - 480VAC POWER CABLES
0	EE-AJ-002	CABLE SCHEDULE - 208/120VAC POWER CABLES
0	EE-AJ-003	CABLE SCHEDULE - DIGITAL CONTROL CABLES
0	EE-AJ-004	CABLE SCHEDULE - ANALOG CONTROL AND COMMUINICATION CABLES
0	EE-AJ-005	CABLE SCHEDULE - MISC. CABLES
0	EE-BA-001	ONE LINE DIAGRAM - 480VAC FISH LIFT SERVICE AND POWER DISTRIBUTION
0	EE-BA-002	ONE LINE DIAGRAM - 208/120VAC POWER DISTRIBUTION
0	EE-BB-001	NETWORK SYSTEM ARCHITECTURE - FISH LIFT PASSAGE
0	EE-CA-001	GENERAL ARRANGEMENT PLAN - FISH LIFT PASSAGE SITE
0	EE-CA-002	GENERAL ARRANGEMENT PLAN - FISH LIFT AREA
0	EE-CA-003	GENERAL ARRANGEMENT PLAN - DOWNSTREAM FISH BYPASS AREA
0	EE-CA-004	GENERAL ARRANGEMENT PLAN - EXIT FLUME AND FISH LADDER AREAS
0	EE-CA-005	GENERAL ARRANGEMENT PLAN - FISH LADDER AREA
0	EE-CA-007	GENERAL ARRANGEMENT PLAN - FISH LADDER VIEWING BUILDING
0	EE-CA-008	GENERAL ARRANGEMENT PLAN - FISH LIFT CONTROL BUILDING
0	EE-CA-009	GENERAL ARRANGEMENT ELEVATION - FISH LIFT CONTROL BUILDING
0	EE-CB-000	LIGHTING AND POWER LEGEND SHEET - FISH LIFT PASSAGE
0	EE-CB-001	LIGHTING AND POWER PLAN - FISH LIFT PASSAGE SITE
0	EE-CB-002	LIGHTING AND POWER PLAN - FISH LIFT AREA
0	EE-CB-003	LIGHTING AND POWER PLAN - DOWNSTREAM FISH BYPASS AREA
0	EE-CB-004	LIGHTING AND POWER PLAN - EXIT FLUME AND FISH LADDER AREAS
0	EE-CB-005	LIGHTING AND POWER PLAN - FISH LADDER AREA
0	EE-CB-007	LIGHTING AND POWER PLAN - FISH LADDER VIEWING BUILDING
0	EE-CB-008	LIGHTING AND POWER PLAN - FISH LIFT CONTROL BUILDING
0	EE-CB-010	LIGHTING AND POWER PLAN - FISH LIFT TOWER - GRADE LEVEL
0	EE-CB-011	LIGHTING AND POWER PLAN - FISH LIFT TOWER - LOWER LEVELS
0	EE-CB-012	LIGHTING AND POWER PLAN - FISH LIFT TOWER - MIDDLE LEVELS
0	EE-CB-013	LIGHTING AND POWER PLAN - FISH LIFT TOWER - UPPER LEVELS

DRAWING LIST

REV	DRAWING No.	DRAWING TITLE
0	EE-CE-001	EQUIPMENT LAYOUT - FRONT ELEVATION - FISH LIFT MOTOR CONTROL CENTER (FLMCC)
0	EE-CE-002 SH1	EQUIPMENT LAYOUT - EXTERIOR ELEVATION - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-002 SH2	EQUIPMENT LAYOUT - EXTERIOR ELEVATION (TOP) - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-002 SH3	EQUIPMENT LAYOUT - EXTERIOR ELEVATION (BOTTOM) - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-002 SH4	EQUIPMENT LAYOUT - INTERIOR ELEVATION - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-002 SH5	EQUIPMENT LAYOUT - INTERIOR ELEVATION (TOP) - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-002 SH6	EQUIPMENT LAYOUT - INTERIOR ELEVATION (BOTTOM) - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CE-003	EQUIPMENT LAYOUT - ELEVATIONS AND DETAILS - HOPPER HOIST CONTROL STATIONS
1 0	EE-CE-004	EQUIPMENT LAYOUT - ELEVATIONS AND DETAILS - MOVING FLOOR HOIST CONTROL STATIONS
0	EE-CG-001	GROUNDING PLAN - FISH LIFT PASSAGE SITE
0	EE-CG-002	GROUNDING PLAN - FISH LIFT AREA
0	EE-CG-003	GROUNDING PLAN - DOWNSTREAM FISH BYPASS AREA
0	EE-CG-004	GROUNDING PLAN - EXIT FLUME AND FISH LADDER AREAS
0	EE-CG-005	GROUNDING PLAN - FISH LADDER AREA
0	EE-CG-006	GROUNDING PLAN - ACCESS ROAD BRIDGE AREA
0	EE-CG-008	GROUNDING PLAN - FISH LIFT CONTROL BUILDING
0	EE-CG-011	GROUNDING DETAILS - SHEET 1
0	EE-CG-012	GROUNDING DETAILS - SHEET 2
0	EE-CG-013	GROUNDING DETAILS - SHEET 3
0	EE-CJ-001	ABOVE GRADE RACEWAY PLAN - FISH LIFT PASSAGE SITE
0	EE-CJ-002	ABOVE GRADE RACEWAY PLAN - FISH LIFT AREA
0	EE-CJ-003	ABOVE GRADE RACEWAY PLAN - FISH LIFT CONTROL BUILDING AREA
0	EE-CJ-004	ABOVE GRADE RACEWAY PLAN - EXIT FLUME AREA
0	EE-CJ-005	ABOVE GRADE RACEWAY PLAN - DOWNSTREAM BYPASS AREA - SHEET 1
0	EE-CJ-006	ABOVE GRADE RACEWAY PLAN - DOWNSTREAM BYPASS AREA - SHEET 2
0	EE-CJ-009	ABOVE GRADE RACEWAY ELEVATION - FISH LIFT CONTROL BUILDING
0	EE-CJ-011	CABLE TRAY SECTIONS
0	EE-CJ-012	CABLE TRAY DETAILS
0	EE-CK-001	TERMINAL BLOCK DEVELOPMENT - LEFT SIDE - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CK-002	TERMINAL BLOCK DEVELOPMENT - RIGHT SIDE - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CK-003	TERMINAL BLOCK DEVELOPMENT - BOTTOM - FISH LIFT CONTROL PANEL (FLCP)
0	EE-CL-001	LIGHTNING PROTECTION - ELEVATION AT COLUMN 1
0	EE-CL-002	LIGHTNING PROTECTION - ELEVATION AT COLUMN 2
0	EE-CL-003	LIGHTNING PROTECTION - ELEVATION AT COLUMN 3

KEYED NOTES:

1. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

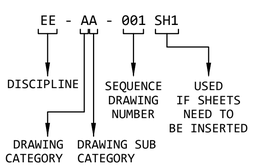
DRAWING DISCIPLINE:

AR = ARCHITECTURAL
CV = CIVIL
EE = ELECTRICAL
EV = ENVIRONMENTAL
ME = MECHANICAL
ST = STRUCTURAL

DRAWING CATEGORY:

A = GENERAL DRAWINGS
B = OVERVIEW DIAGRAMS
C = LAYOUT DRAWINGS
D = SCHEMATIC DIAGRAMS
E = WIRING DIAGRAMS
F = FABRICATION DRAWINGS
G = INTERCONNECTION DIAGRAMS
H = CONTROLS/INSTRUMENTATION
J = FUTURE
K = FUTURE

DRAWING NUMBER LEGEND



REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	DRAWING LIST - SHEET 1 FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AB-001	REV: 0

DRAWING LIST

REV	DRAWING No.	DRAWING TITLE	
0	EE-DB-001	SCHEMATIC WIRING DIAGRAM - SHEET 1 - FISH LIFT E-STOP CIRCUIT	
0	EE-DB-002	SCHEMATIC WIRING DIAGRAM - SHEET 2 - FISH LIFT E-STOP CIRCUIT	
0	EE-DB-003	SCHEMATIC WIRING DIAGRAM - SHEET 3 - FISH LIFT E-STOP CIRCUIT	
0	EE-DC-001	120VAC CONTROL POWER DISTRIBUTION - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-DC-002	24VDC CONTROL POWER DISTRIBUTION - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-DD-000	SCHEMATIC - FLCP PLC RACK 0, SLOT 0 - POWER SUPPLY AND CPU	
0	EE-DD-001	SCHEMATIC - FLCP PLC RACK 0, SLOT 1 - ETHERNET/IP BRIDGE	
0	EE-DD-002	SCHEMATIC - FLCP PLC RACK 0, SLOT 2 - ETHERNET/IP BRIDGE	
0	EE-DD-003 SH1	SCHEMATIC - FLCP PLC RACK 0, SLOT 3 - ANALOG INPUT MODULE	
0	EE-DD-003 SH2	SCHEMATIC - FLCP PLC RACK 0, SLOT 3 - ANALOG INPUT MODULE (CONT)	
0	EE-DD-004 SH1	SCHEMATIC - FLCP PLC RACK 0, SLOT 4 - ANALOG INPUT MODULE	
0	EE-DD-004 SH2	SCHEMATIC - FLCP PLC RACK 0, SLOT 4 - ANALOG INPUT MODULE (CONT)	
0	EE-DD-005	SCHEMATIC - FLCP PLC RACK 0, SLOT 5 - ANALOG OUTPUT MODULE	
0	EE-DD-006	SCHEMATIC - FLCP PLC RACK 0, SLOT 6 - ANALOG OUTPUT MODULE	
0	EE-DD-007	SCHEMATIC - FLCP PLC RACK 0, SLOT 7 - DIGITAL INPUT MODULE	
0	EE-DD-008	SCHEMATIC - FLCP PLC RACK 0, SLOT 8 - DIGITAL INPUT MODULE	
0	EE-DD-009	SCHEMATIC - FLCP PLC RACK 0, SLOT 9 - HIGH-SPEED COUNTER MODULE	
0	EE-DD-010	SCHEMATIC - FLCP PLC RACK 1, SLOT 0 - POWER SUPPLY & ETHERNET/IP BRIDGE	
0	EE-DD-011	SCHEMATIC - FLCP PLC RACK 1, SLOT 1 - RELAY OUTPUT MODULE	
0	EE-DD-012	SCHEMATIC - FLCP PLC RACK 1, SLOT 2 - RELAY OUTPUT MODULE	
0	EE-DD-013	SCHEMATIC - FLCP PLC RACK 1, SLOT 3 - RELAY OUTPUT MODULE	
0	EE-DD-014	SCHEMATIC - FLCP PLC RACK 1, SLOT 4 - RELAY OUTPUT MODULE	
0	EE-DD-015	SCHEMATIC - FLCP PLC RACK 1, SLOT 5 - SLOT FILLER MODULE (SPARE SLOT)	
0	EE-DD-016	SCHEMATIC - FLCP PLC RACK 1, SLOT 6 - DIGITAL INPUT MODULE	
0	EE-DD-017	SCHEMATIC - FLCP PLC RACK 1, SLOT 7 - DIGITAL INPUT MODULE	
0	EE-DD-018	SCHEMATIC - FLCP PLC RACK 1, SLOT 8 - DIGITAL INPUT MODULE	
0	EE-DD-019	SCHEMATIC - FLCP PLC RACK 1, SLOT 9 - DIGITAL INPUT MODULE	
0	EE-DK-001	ELEMENTARY WIRING DIAGRAM - FISH LIFT ENTRANCE ISOLATION GATE	(IG1)
0	EE-DK-002	ELEMENTARY WIRING DIAGRAM - FISH LIFT ENTRANCE GATE	(EG2)
0	EE-DK-003 SH1	ELEMENTARY WIRING DIAGRAM - FISH LIFT V-GATE A	(VG3A)
0	EE-DK-003 SH2	ELEMENTARY WIRING DIAGRAM - FISH LIFT V-GATE B	(VG3B)
0	EE-DK-004 SH1	ELEMENTARY WIRING DIAGRAM - HOPPER HOIST	(HH4)
0	EE-DK-004 SH2	ELEMENTARY WIRING DIAGRAM - HOPPER HOIST	(HH4)
0	EE-DK-006	ELEMENTARY WIRING DIAGRAM - EXIT FLUME ISOLATION GATE	(IG6)
0	EE-DK-007	ELEMENTARY WIRING DIAGRAM - AWS US ISOLATION VALVE	(AWSS7)
0	EE-DK-008	ELEMENTARY WIRING DIAGRAM - DS PASSAGE AWS ISOLATION VALVE	(AWSS8)
0	EE-DK-009	ELEMENTARY WIRING DIAGRAM - AWS DS ISOLATION VALVE	(AWSS9)
0	EE-DK-010	ELEMENTARY WIRING DIAGRAM - EXIT FLUME DS BYPASS ISOLATION GATE	(IG10)
0	EE-DK-011	ELEMENTARY WIRING DIAGRAM - FISH LADDER ENTRANCE OVERSHOT WEIR GATE	(OWG11)
0	EE-DK-012	ELEMENTARY WIRING DIAGRAM - FISH LADDER ENTRANCE ISOLATION GATE	(IG12)
0	EE-DK-013	ELEMENTARY WIRING DIAGRAM - FISH LADDER EXIT OVERSHOT WEIR GATE	(OWG13)
0	EE-DK-014	ELEMENTARY WIRING DIAGRAM - DS BYPASS SLIDE GATE (NIC)	(DSG14)
0	EE-DK-015	ELEMENTARY WIRING DIAGRAM - DS BYPASS SLIDE GATE (NIC)	(DSG15)
0	EE-DK-016	ELEMENTARY WIRING DIAGRAM - DS BYPASS ISOLATION GATE	(DSG16)
0	EE-DK-017	ELEMENTARY WIRING DIAGRAM - FISH LADDER EXIT ISOLATION GATE	(IG17)
0	EE-DK-018	ELEMENTARY WIRING DIAGRAM - EXIT FLUME TRAP GATE	(TG18)
0	EE-DK-019	ELEMENTARY WIRING DIAGRAM - EXIT FLUME TRAP GATE	(TG19)
1 0	EE-DK-021	ELEMENTARY WIRING DIAGRAM - EXIT FLUME MOVING FLOOR HOIST	(CH1)

DRAWING LIST

REV	DRAWING No.	DRAWING TITLE	
0	EE-ED-001	WIRING DIAGRAM - FRONT PANEL - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-002	WIRING DIAGRAM - INTERIOR - PLC RACK 0 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-003	WIRING DIAGRAM - INTERIOR - PLC RACK 1 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-004	WIRING DIAGRAM - INTERIOR - CONTROL RELAYS - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-005	WIRING DIAGRAM - INTERIOR - AC AND DC POWER - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-006	WIRING DIAGRAM - INTERIOR - LEFT SIDE - SHEET 1 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-007	WIRING DIAGRAM - INTERIOR - LEFT SIDE - SHEET 2 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-008	WIRING DIAGRAM - INTERIOR - LEFT SIDE - SHEET 3 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-009	WIRING DIAGRAM - INTERIOR - RIGHT SIDE - SHEET 1 - FISH LIFT CONTROL PANEL (FLCP)	
0	EE-ED-010	WIRING DIAGRAM - INTERIOR - RIGHT SIDE - SHEET 2 - FISH LIFT CONTROL PANEL (FLCP)	

BILL OF MATERIALS

ITEM	FLCP	LHCS UHCS	MFHCS1 MFHCS2	FIELD	TOTAL	MFG	PART NUMBER	DESCRIPTION
00	3	2	2		7	N/A	N/A	NAMEPLATE - SEE DETAIL 1
01	1				1	HOFFMAN	A727212ULPG	NEMA 12 ENCLOSURE, FLOOR MOUNT, GRAY, 72"H x 72"W x 12"D
02	1				1	HOFFMAN	A72P72G	BACK PANEL, CONDUCTIVE, 11 GAUGE, 68"H x 68"W
03		2	2		4	HOFFMAN	CSD12126SS6	ENCLOSURE, WALL MOUNT, 12" x 12" x 6"
04		2	2		4	HOFFMAN	CP1212G	BACK PANEL - CONDUCTIVE
05								
06	1				1	HOFFMAN	HF05 16414	IP54 SIDE-MOUNT FILTER FAN, 6"x6", 90-265 VAC, LIGHT GRAY
07	2				2	HOFFMAN	HG05 00404	IP54 SIDE-MOUNT FILTER GRILL, 6"X6", LIGHT GREY
08	2				2	HOFFMAN	89134424R	REPLACEMENT FILTER
09	1				1	HOFFMAN	THERM16F	THERMOSTAT CONTROLLER, 115V, FAHRENHEIT
10								
11	2				2	HOFFMAN	LEDA1S35	PANELITE LED ENCLOSURE LIGHT, 13", 120VAC
12	1				1	HOFFMAN	ALFSWD	DOOR SWITCH, INCLUDE CABLING AND ALL REQUIRED HARDWARE
13								
14								
15	1				1	BRADY	101951	LABEL, DANGER! ARC FLASH AND SHOCK HAZARD, RD&BK ON WH
16	1				1	BRADY	152349	LABEL, 120 VOLTS, BLACK ON ORANGE
17								
18								
19	10				10	PANDUIT	F3X4LG6 W/C3LG6	WIREWAY, 3"W x 4"D, 6' LONG, LIGHT GRAY, WITH COVER
20	4	20"	20"		4	WEIDMULLER	187909-0000	DIN RAIL, SLOTTED, 35MM x 7.5MM, 2M LONG
21	10	40	40		90	WEIDMULLER	102230-0000	TERMINAL BLOCK, THROUGH, 2-TIER, 1 CKT, 22-12 AWG
22	154				154	WEIDMULLER	102150-0000	TERMINAL BLOCK, THROUGH, 2-TIER, 2 CKT, 22-12 AWG
23	10	2	2		14	WEIDMULLER	105910-0000	TERMINAL BLOCK END PLATE, BEIGE, FOR ITEM 21 & 22 TB'S
24	20	4	4		28	WEIDMULLER	106120-0000	TERMINAL BLOCK END BRACKET, SCREW TYPE, 8MM WIDE
25	4				4	WEIDMULLER	105366-0000	SCREWABLE CROSS-CONNECTOR, 2 POLE, 5.1 PITCH
26	13				13	WEIDMULLER	105446-0000	SCREWABLE CROSS-CONNECTOR, 10 POLE, 5.1 PITCH
27	20				20	WEIDMULLER	104192-0000	TERMINAL BLOCK, THROUGH, 2-TIER, 1 CKT, PE, 26-10 AWG
28	1				1	WEIDMULLER	108400-0000	TERMINAL BLOCK END PLATE, BEIGE, FOR ITEM 27 TB'S
29	60				60	WEIDMULLER	111984-0000	TERMINAL BLOCK, FUSED, WITH 24V BLOWN FUSE INDICATOR
30	3				3	WEIDMULLER	105000-0000	TERMINAL BLOCK END PLATE, BEIGE, FOR ITEM 29 TB'S
31	32				32	WEIDMULLER	151830-0000	TERMINAL BLOCK, FUSED/THROUGH/PE, 2-TIER, 22-12 AWG
32	2				2	WEIDMULLER	953247-0000	TERMINAL BLOCK END PLATE, BEIGE, FOR ITEM 31 TB'S
33	2				2	WEIDMULLER	126907-0000	TERMINAL BLOCK END BRACKET/FUSE CARRIER, SCREWLESS
34	2				2	WEIDMULLER	101050-0000	TERMINAL BLOCK, THROUGH/PE, 1 CKT, 12-2 AWG
35	16				16	WEIDMULLER	178379-0000	TERMINAL BLOCK, THROUGH/THROUGH/PE, 3-TIER, 22-12 AWG
36	2				2	WEIDMULLER	178380-0000	TERMINAL BLOCK END PLATE, BEIGE, FOR ITEM 35 TB'S
37	3				3	WEIDMULLER	038356-0000	TERMINAL BLOCK END BRACKET, SCREW TYPE, 8MM WIDE
38	8				8	WEIDMULLER	131250-0000	SCREWABLE CROSS-CONNECTOR, 2 POLE, 6.2 PITCH
39								
40	12				12	EATON/BUSSMANN	GMA-4-R	FUSE, GLASS TUBE, 4A FAST-ACTING, 5x20mm
41	48				48	EATON/BUSSMANN	GMA-2-R	FUSE, GLASS TUBE, 2A FAST-ACTING, 5x20mm
42	44				44	EATON/BUSSMANN	GMA-100-R	FUSE, GLASS TUBE, 100mA FAST-ACTING, 5x20mm
43								
44	1				1	ALLEN-BRADLEY	1489-M1C300	CIRCUIT BREAKER, 30A, 1 POLE, 277VAC, 48VDC RATED
45	1				1	ALLEN-BRADLEY	1489-M1C200	CIRCUIT BREAKER, 20A, 1 POLE, 277VAC, 48VDC RATED
46	7				7	ALLEN-BRADLEY	1489-M1C100	CIRCUIT BREAKER, 10A, 1 POLE, 277VAC, 48VDC RATED
47	1				1	ALLEN-BRADLEY	1489-M2C200	CIRCUIT BREAKER, 20A, 2 POLE, 277/480VAC, 96VDC RATED
48	14				14	ALLEN-BRADLEY	1489-M2C100	CIRCUIT BREAKER, 10A, 2 POLE, 277/480VAC, 96VDC RATED
49								

(1)

BILL OF MATERIALS

ITEM	FLCP	LHCS UHCS	MFHCS1 MFHCS2	FIELD	TOTAL	MFG	PART NUMBER	DESCRIPTION
50	2				2	ALLEN-BRADLEY	1756-A10K	CONTROLLOGIX CHASSIS, 10 SLOT, CONFORMALLY COATED (CC)
51	2				2	ALLEN-BRADLEY	1756-PB75K	24VDC POWER SUPPLY, 75W, 2.8A, CC
52	1				1	ALLEN-BRADLEY	1756-L73K	CONTROLLOGIX 5570 CONTROLLER, 8MB USER MEMORY, CC
53	3				3	ALLEN-BRADLEY	1756-EN4TRK	ETHERNET/IP BRIDGE, DUAL PORT, CC
54	2				2	ALLEN-BRADLEY	1756-IF16HK	ANALOG INPUT MODULE, CURRENT/VOLTAGE, 16CH, HART PROTOCOL, CC
55	2				2	ALLEN-BRADLEY	1756-OF8HK	ANALOG OUTPUT MODULE, CURRENT/VOLTAGE, 8CH, HART PROTOCOL, CC
56	4				4	ALLEN-BRADLEY	1756-OW16IK	CONTACT OUTPUT MODULE, RELAY OUTPUT, 16 POINT, 2A, CC
57	6				6	ALLEN-BRADLEY	1756-IB16K	DIGITAL INPUT MODULE, 24VDC INPUT, 16 POINT, CC
58	1				1	ALLEN-BRADLEY	1756-HSCK	HIGH-SPEED COUNTER MODULE, CC
59	1				1	ALLEN-BRADLEY	1756-N2	SLOT FILLER MODULE
60	8				8	ALLEN-BRADLEY	1756-JMPR	JUMPER BAR, 16 POINT, USED WITH ITEM 56
61	7				7	ALLEN-BRADLEY	1756-TBCH	REMOVABLE TERMINAL BLOCK, 36 PIN CAGE CLAMP
62	8				8	ALLEN-BRADLEY	1756-TBNH	REMOVABLE TERMINAL BLOCK, 20 POSITION SCREW CLAMP
63								
64								
65	1				1	SOLA	SDN 10-24-100P	24VDC POWER SUPPLY, 10A, 240W
66	8				8	PEPPERL & FUCHS	K-LB-1.30G	SURGE PROTECTOR (PANEL MOUNTED)
67	8				8	PEPPERL & FUCHS	K-LB-1.30	SURGE PROTECTOR (FIELD MOUNTED)
68	1				1	PANDUIT	CDPP8RG-S	COPPER PATCH PANEL, 8 PORT, SHIELDED, DIN RAIL MOUNTED
69	8				8	PANDUIT	CJS6X88TGY	RJ45 CAT6 TG JACK MODULE, SHIELDED
70	1				1	AETEK	SD-404	MODULAR PoE SURGE PROTECTOR, DIN RAIL MOUNTED
71	1				1	N-TRON	110FX2-ST	ETHERNET NETWORK SWITCH, 8CU/2FIBER PORTS, UNMANAGED
72	1				1	ALLEN-BRADLEY	2711P-T15C22D9PK	GRAPHIC HMI, 15" XGA, WITH ETHERNET, CC
73	1				1	HUBBELL	PR205E	CONVENIENCE OUTLET AND CAT5e PORT, GFCI, 20A, 125VAC
74								
75	1	2		1	4	ALLEN-BRADLEY	800TC-FX6A5	EMERGENCY STOP, MUSHROOM HEAD, RED - 2-NCLB CONTACTS
76	1	2			3	ALLEN-BRADLEY	800TC-J20B	3 POSITION RETURN-TO-CENTER SELECTOR SWITCH, UP/DOWN
77	2		2		4	ALLEN-BRADLEY	800TC-H17A	2 POSITION MAINTAINED SELECTOR SWITCH
78	2	4	4		10	ALLEN-BRADLEY	800TC-A2A	MOMENTARY PUSHBUTTON, FLUSH HEAD, BLACK, VARIES
79			2		2	ALLEN-BRADLEY	800T-X556	STANDARD LEGEND PLATE, UP
80			2		2	ALLEN-BRADLEY	800T-X503	STANDARD LEGEND PLATE, DOWN
81	3				3	ALLEN-BRADLEY	800TC-QH2R	LED INDICATOR LIGHT - RED
82	2				2	ALLEN-BRADLEY	800TC-QH2G	LED INDICATOR LIGHT - GREEN
83	3		2		5	ALLEN-BRADLEY	800TC-QH2A	LED INDICATOR LIGHT - AMBER
84	1	2		1	4	ALLEN-BRADLEY	800T-NGCY	DIE CAST ALUMINUM GUARD, FOR ITEM 75 EMERGENCY STOP
85	1	2		1	4	ALLEN-BRADLEY	800T-X646EM	EMERGENCY STOP IEC RING, ROUND, YELLOW
86	1	2			3	ALLEN-BRADLEY	800T-X557	STANDARD LEGEND PLATE, UP/DOWN
87	2				2	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, MAN/AUTO (CUSTOM TEXT)
88	1				1	ALLEN-BRADLEY	800T-X530	STANDARD LEGEND PLATE, ON
89	1	2			3	ALLEN-BRADLEY	800T-X547	STANDARD LEGEND PLATE, START
90	1	2			3	ALLEN-BRADLEY	800T-X550	STANDARD LEGEND PLATE, STOP (RED)
91	1				1	ALLEN-BRADLEY	800T-X531	STANDARD LEGEND PLATE, OPEN
92	1				1	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, CLOSED (CUSTOM TEXT)
93	2		2		4	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, READY (CUSTOM TEXT)
94	1				1	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, FAULT (CUSTOM TEXT)
95	1				1	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, FULL UP (CUSTOM TEXT)
96	1				1	ALLEN-BRADLEY	800T-X559E	STANDARD LEGEND PLATE, FULL DOWN (CUSTOM TEXT)
97			2		2	ALLEN-BRADLEY	800T-X622	STANDARD LEGEND PLATE, ON/OFF
98	16				16	ALLEN-BRADLEY	700-HN153 W/HN158	SCREW TERMINAL SOCKET, DIN RAIL MOUNT, W/RETAINER CLIP
99	16				16	ALLEN-BRADLEY	700-HB32Z24-3-4	CONTROL RELAY, 15A DPDT (2 FORM C) CONTACT, 24VDC COIL
100	1				1	ALLEN-BRADLEY	400-S13R2	E-STOP SAFETY RELAY, 3 RELAY OUTPUTS, 24VDC COIL
101	5				5	ALLEN-BRADLEY	400-EM4R2	SAFETY RELAY EXPANSION MODULE, 4 RELAY OUTPUTS, 24VDC COIL
102								
103								
104	1				1	SOLA	SDU 850	UNINTERRUPTIBLE POWER SUPPLY (UPS), 850VA, 120V, 60HZ
105	1				1	SOLA	RELAYCARD-SDU	DRY CONTACT RELAY KIT WITH DB9 AND POWER CABLES
106	3				3	FS	66799 / C6ASFTPSGPVC	PREMADE CAT6 CABLE, 26AWG, BLUE, 1' LONG
107	3				3	FS	70667 / C6ASFTPSGPVC	PREMADE CAT6 CABLE, 26AWG, BLUE, 6' LONG
108	2				2	FS	69077 / C6ASFTPSGPVC	PREMADE CAT6 CABLE, 26AWG, BLUE, 10' LONG
109	1				1	FS	74328 / SMSTDX	PREMADE FO CABLE, ST-UPC/ST-UPC, MM, DUPLEX OS2, 50' LONG

(1)

NAMEPLATE SPECIFICATIONS:

1. NAMEPLATES SHALL HAVE 1/4" LETTERING AND THEY SHALL HAVE WHITE LETTERING ON A BLACK BACKGROUND, WITH A CHAMFERED WHITE BORDER.
2. NAMEPLATES SHALL BE SELF-ADHESIVE VINYL BRADY-STYLE LABELS.
3. THREE LINE NAMEPLATES SHALL BE 3"W x 1.5"H AND SHALL BE CONSIDERED TO BE THE STANDARD FOR THIS PROJECT.
4. FOUR LINE NAMEPLATES WILL BE LARGER, UP TO 4.5"W x 1.75"H, AS REQUIRED.

(00) FLCP
FISH LIFT
CONTROL PANEL

NAMEPLATE DETAIL (00)
SCALE: NONE --

KEYED NOTES:

(1) NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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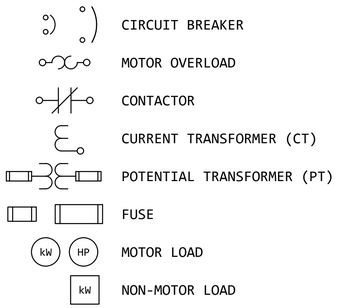
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	BILL OF MATERIALS FISH LIFT PASSAGE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AC-001 / REV: 0

GENERAL SYMBOLS:

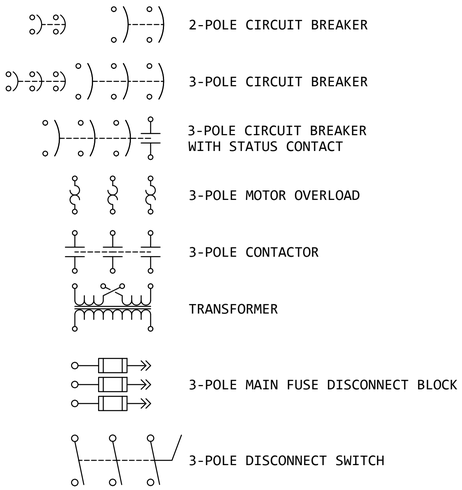
- 1 — KEYED NOTE
- LCU1 — EQUIPMENT ID OR LOCATION TAG
- 21 — BOM IDENTIFIER
- D — EQUIPMENT LOCATED IN DOOR

ONE-LINE DIAGRAM SYMBOLS:



- CIRCUIT BREAKER
- MOTOR OVERLOAD
- CONTACTOR
- CURRENT TRANSFORMER (CT)
- POTENTIAL TRANSFORMER (PT)
- FUSE
- kW HP — MOTOR LOAD
- kW — NON-MOTOR LOAD

THREE-LINE DIAGRAM SYMBOLS:



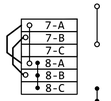
- 2-POLE CIRCUIT BREAKER
- 3-POLE CIRCUIT BREAKER
- 3-POLE CIRCUIT BREAKER WITH STATUS CONTACT
- 3-POLE MOTOR OVERLOAD
- 3-POLE CONTACTOR
- TRANSFORMER
- 3-POLE MAIN FUSE DISCONNECT BLOCK
- 3-POLE DISCONNECT SWITCH

WIRING DIAGRAM SYMBOLS:

DOUBLE DECK TB'S

- HORIZONTAL JUMPER - CONNECT ADJACENT TERMINALS
- VERTICAL JUMPER - CONNECT DOUBLE STACKED TERMINALS
- WIRE JUMPER - CONNECT TERMINALS USING A PHYSICAL PIECE OF WIRE
- WHIP JUMPER - CONNECT TERMINALS USING A WHIP STYLE JUMPER IN JUMPER PORTS
- TERMINAL A - TOP
  TERMINAL B - BOTTOM

TRIPLE DECK TB'S

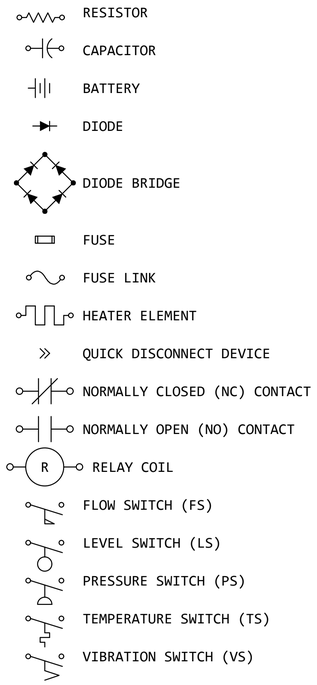


- HORIZONTAL JUMPER - CONNECT ADJACENT TERMINALS
- VERTICAL JUMPER - CONNECT TRIPLE STACKED TERMINALS
- WIRE JUMPER - CONNECT TERMINALS USING A PHYSICAL PIECE OF WIRE
- WHIP JUMPER - CONNECT TERMINALS USING A WHIP STYLE JUMPER IN JUMPER PORTS
- TERMINAL A - TOP
  TERMINAL B - MIDDLE
  TERMINAL C - BOTTOM

COMMON NODE TB'S

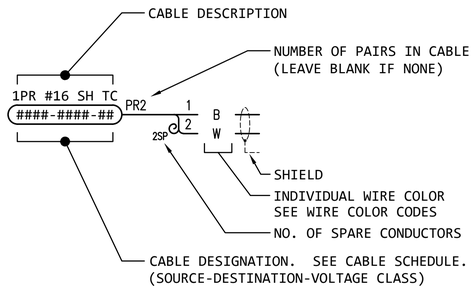
- HORIZONTAL JUMPER - CONNECT ADJACENT TERMINALS
- TERMINAL A - LEFT TOP
  TERMINAL B - RIGHT TOP
  TERMINAL C - LEFT BOTTOM
  TERMINAL D - RIGHT BOTTOM

SCHEMATIC DIAGRAM SYMBOLS:



- RESISTOR
- CAPACITOR
- BATTERY
- DIODE
- DIODE BRIDGE
- FUSE
- FUSE LINK
- HEATER ELEMENT
- QUICK DISCONNECT DEVICE
- NORMALLY CLOSED (NC) CONTACT
- NORMALLY OPEN (NO) CONTACT
- R — RELAY COIL
- FLOW SWITCH (FS)
- LEVEL SWITCH (LS)
- PRESSURE SWITCH (PS)
- TEMPERATURE SWITCH (TS)
- VIBRATION SWITCH (VS)

CABLE IDENTIFICATION:



TERMINAL BLOCK SYMBOLS:

- FLCP - FISH LIFT CONTROL PANEL
- PLC - PLC MODULE
- GATE ACTUATOR OR CONTROLLER (FIELD)
- GATE ACTUATOR OR CONTROLLER (INTERNAL)
- VALVE ACTUATOR OR CONTROLLER
- MOTOR STARTER (LOCATED IN MCC)
- VF DRIVE (LOCATED IN MCC)
- UPPER/LOWER HOIST CONTROL STATION
- SKID OR MISC. CONTROL STATION
- DEVICE TERMINAL
- GROUND TERMINAL

WIRING & CABLE LEGEND:

- FIBER OPTIC CABLE
- CAT6 CABLE
- LOCAL WIRING
- FIELD WIRING
- PLUG IN JUMPER

GENERAL ABBREVIATIONS:

AC	ALTERNATING CURRENT
BOF	BOTTOM OF FIXTURE
BOT	BOTTOM OF (CABLE) TRAY
CB	CIRCUIT BREAKER
CC	CONFORMALLY COATED
CPU	CENTRAL PROCESSING UNIT
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DCS	DIGITAL CONTROL SYSTEM
EST	ESTIMATE / ESTIMATED
HMI	HUMAN MACHINE INTERFACE
NF	NON-FUSED (DISCONNECT)
OIT	OPERATOR INTERFACE TERMINAL
PLC	PROGRAMMABLE LOGIC CONTROLLER
PS	POWER SUPPLY
PT	POTENTIAL TRANSFORMER
STD	STANDARD
SH	SHIELD
SP	SPARE
TC	TRAY CABLE
T/C	THERMOCOUPLE
PR	PAIR (2 CONDUCTOR)
TR	TRIAD (3 CONDUCTOR)
QD	QUAD (4 CONDUCTOR)
3C	THREE CONDUCTOR CABLE
3-1C	THREE - ONE CONDUCTOR CABLES
EMT	ELECTRICAL METALLIC TUBING
RGS	RIGID GALVANIZED STEEL
FR	FIELD RUN
FWE	FURNISHED WITH EQUIPMENT
NIC	NOT IN CONTRACT
TBD	TO BE DETERMINED
UNO	UNLESS NOTED OTHERWISE
VSC	VENDOR SUPPLIED CABLE
L OR L1	LINE (HOT)
N	NEUTRAL
GND	GROUND
XFMR	TRANSFORMER

PROJECT ABBREVIATIONS:

AWS	ATTRACTION WATER SUPPLY
US	UPSTREAM
DS	DOWNSTREAM
P&W	POOL AND WEIR (FISH LADDER)
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOS	TOP OF STEEL
TOW	TOP OF WALL

WIRE LABELS:

1. SHALL BE HEAT SHRINK TYPE.
2. SHALL BE THE SAME ON EACH END OF A SINGLE CONDUCTOR OR CABLE
3. SHALL CONSIST OF TWO LINES:

   LINE 1:

   SHALL BE THE SOURCE EQUIPMENT NUMBER AND TERMINAL POINT FOLLOWED BY A SPACE AND A FORWARD SLASH CHARACTER.

   LINE 2:

   SHALL BE THE DESTINATION EQUIPMENT NUMBER AND TERMINAL POINT OR THE DESTINATION DEVICE TAG AND TERMINAL POINT, AS APPROPRIATE.

   EXAMPLE:

   FLCP LC-1 / IG1 TB-5

WIRE COLOR CODES:

(ONE LETTER CODE, IF USED)

B	BLACK	W	WHITE
R	RED	G	GREEN
U	BLUE	P	PINK
O	ORANGE		
Y	YELLOW		
N	BROWN		
R/B	RED WITH BLACK TRACER		
U/B	BLUE WITH BLACK TRACER		
O/B	ORANGE WITH BLACK TRACER		
Y/B	YELLOW WITH BLACK TRACER		
N/B	BROWN WITH BLACK TRACER		

WIRE COLOR CODES:

(TWO LETTER CODE, IF USED)

BK	BLACK	WH	WHITE
RD	RED	GN	GREEN
BU	BLUE	GY	GRAY
OR	ORANGE	PK	PINK
YL	YELLOW	PU	PURPLE
BN	BROWN		

STANDARD SYMBOLS AND ABBREVIATIONS:

FOR STANDARD WIRING DIAGRAM AND SCHEMATIC DRAWING ELECTRICAL SYMBOLS THAT ARE USED BUT NOT SHOWN ON THIS LEGEND, REFER TO ANSI/IEEE STD 315-1975 - STANDARD FOR GRAPHIC SYMBOLS FOR ELECTRICAL AND ELECTRONICS DIAGRAMS.

FOR PROTECTIVE DEVICE NUMBERING, REFER TO ANSI/IEEE C37.2-ELECTRICAL POWER SYSTEMS DEVICE FUNCTION NUMBERS, ACRONYMS AND CONTACT DESIGNATIONS.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	SYMBOL LEGEND AND NOTES FISH LIFT PASSAGE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AD-001 / REV: 0

EQUIPMENT LIST

LINE	EQUIPMENT ID	EQUIPMENT NAME	FOUND ON DRAWING	ELECTRICAL DATA						FEEDER		CONTROLLER				COMMENTS
				HP	kW	FLA	VOLTAGE (AC UNO)	PHASE	WIRE	TYPE	LOCATION	TYPE	MANUFACTURER	MODEL	CONTROL	
		ELECTRICAL EQUIPMENT														
1	EGREC	EMERGENCY GENERATOR RECEPTACLE	EE-BA-001				480	3	3	GENERATOR	TBD					
2	EGDS	EMERGENCY GENERATOR DISCONNECT SWITCH	EE-BA-001				480	3	3	TBD	EGREC					
3	MTS1	MANUAL TRANSFER SWITCH No.1	EE-BA-001				480	3	3	800A CB (N)	C17-2					
4	MTS2	MANUAL TRANSFER SWITCH No.2	EE-BA-001				480	3	3	400A MTS (L)	MTS1					
5	FLMCC	FISH LIFT MOTOR CONTROL CENTER	EE-BA-001				480	3	3	400A MTS (L)	MTS2					
6	FLPT	FISH LIFT POWER TRANSFORMER	EE-BA-001				480	3	3	70A CB	FLMCC					
7	FLPP	FISH LIFT POWER PANEL	EE-BA-002				208/120	3	4	SECONDARY	FLPT					
8	FLCP	FISH LIFT CONTROL PANEL	EE-DC-001				120	1	2	30A CB	FLPP					
9	FLFPP	FISH LIFT FIBER PATCH PANEL	EE-BB-001													
10																
11	LHCS	LOWER HOPPER HOIST CONTROL STATION	EE-CE-003				24VDC		2							
12	UHCS	UPPER HOPPER HOIST CONTROL STATION	EE-CE-003				24VDC		2							
13																
14																
1 15	MFHCS1	MOVING FLOOR HOIST CONTROL STATION No.1	EE-CE-004				208	2	2							
16	MFHCS2	MOVING FLOOR HOIST CONTROL STATION No.2	EE-CE-004				208	2	2							
17																
18																
19																
20	GBAR	FISH LIFT CONTROL BUILDING GROUND BAR	EE-CA-008													EE-CG-011, DET.2, GND BAR DETAIL "GB".
		MECHANICAL EQUIPMENT														
21	IG1	FISH LIFT ENTRANCE ISOLATION GATE	EE-GK-001	7.5			480	3	3	25A CB	FLMCC	ACTUATOR	ROTORK	IQ35	OPEN/CLOSE	M-001, M-002, M-100
22	EG2	FISH LIFT ENTRANCE GATE	EE-GK-002	1			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ19	OPEN/CLOSE	M-001, M-002, M-101
23	VG3A	FISH LIFT V-GATE A	EE-GK-003 SH1	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQT1000	MODULATING	M-001, M-002, M-102
24	VG3B	FISH LIFT V-GATE B	EE-GK-003 SH2	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQT1000	OPEN/CLOSE	M-001, M-002, M-102
25	HH4	HOPPER HOIST AND CONTROL PANEL	EE-GK-004	60			480	3	3	150A CB	FLMCC	CONTROL PANEL	MAGNETIC			
26	IG6	EXIT FLUME ISOLATION GATE	EE-GK-006	5			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ25	MODULATING	M-001, M-002, M-120
27	AWSS7	AWS UPSTREAM ISOLATION VALVE	EE-GK-007	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	MODULATING	C-301
28	AWSS8	DS PASSAGE AWS ISOLATION VALVE	EE-GK-008	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	MODULATING	C-302
29	AWSS9	AWS DOWNSTREAM ISOLATION VALVE	EE-GK-009	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	MODULATING	C-303
30	IG10	EXIT FLUME DS BYPASS ISOLATION GATE	EE-GK-010	1.5			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ20	OPEN/CLOSE	M-001, M-002, M-131
31	OWG11	FISH LADDER ENTRANCE OVERSHOT WEIR GATE	EE-GK-011	3/4			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	OPEN/CLOSE	M-001, M-002, M-141
32	IG12	FISH LADDER ENTRANCE ISOLATION GATE	EE-GK-012	3			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ20	MODULATING	M-001, M-002, M-140
33	OWG13	FISH LADDER EXIT OVERSHOT WEIR GATE	EE-GK-013	3/4			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	OPEN/CLOSE	M-001, M-002, M-142
34	DSG14	DS BYPASS SLIDE GATE	EE-GK-014	3/4			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	MODULATING	M-001, M-002, M-160
35	DSG15	DS BYPASS SLIDE GATE	EE-GK-015	3/4			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ12	MODULATING	M-001, M-002, M-160
36	IG16	DS BYPASS ISOLATION GATE	EE-GK-016	5			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ25	MODULATING	M-001, M-002, M-163
37	IG17	FISH LADDER EXIT ISOLATION GATE	EE-GK-017	3			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQ20	MODULATING	M-001, M-002, M-143
38	TG18	EXIT FLUME TRAP GATE	EE-GK-018	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQT1000	MODULATING	M-001, M-002, M-124
39	TG19	EXIT FLUME TRAP GATE	EE-GK-019	1/2			480	3	3	20A CB	FLMCC	ACTUATOR	ROTORK	IQT1000	MODULATING	M-001, M-002, M-124
40																
1 41	CH1	EXIT FLUME MOVING FLOOR HOIST	EE-DK-021	1.2			208	2	2	20A CB	FLPP	CONTROL STATION	HARRINGTON	SEE M001	UP/DOWN	S-126
42																
43	JH21	UPSTREAM SCREEN PANEL JIB HOIST (1/2 TON)	EE-BA-001	1.5			480	3	3	20A CB	FLMCC	PENDANT CORD	TBD		UP/DOWN	
44	JH22	STATIONARY V-GATE PANEL JIB HOIST (1/2 TON)	EE-BA-001	1.5			480	3	3	20A CB	FLMCC	PENDANT CORD	TBD		UP/DOWN	
45																
46																
47																
48																
49	HVAC	FISH LIFT CONTROL BUILDING PACKAGED HVAC UNIT	EE-BA-001	TBD			480	3	3	30A CB	FLMCC	TBD	TBD			
50																
51	ABSC	AWS SCREEN AIR BURST SYSTEM COMPRESSOR	EE-BA-001	TBD			480	3	3	60A CB	FLMCC	TBD	TBD			
52	ABSCP	AWS SCREEN AIR BURST SYSTEM CONTROL PANEL	EE-BA-002	TBD			120	1	2	20A CB	FLPP	CONTROL PANEL	TBD			
53	ABSR	AWS SCREEN AIR BURST SYSTEM RECEIVER	EE-CA-008	TBD									TBD			
54																
55																
56																
57																

KEYED NOTES:

1. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 05/02/2025	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 05/02/2025	EQUIPMENT LIST FISH LIFT PASSAGE
APPROVED BY: CMH	DATE: 05/02/2025	TECHNOLOGY: HYDRO DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AE-001 REV: 0

RACEWAY AND CABLE SCHEDULE - POWER CABLES

LINE	REV	CABLE No. SOURCE-DESTINATION-TYPE	CABLE TYPE	SOURCE			VIA RACEWAY	DESTINATION			VOLTAGE	LENGTH	COMMENTS
				DRAWING	EQUIP. No.	DESCRIPTION		DRAWING	EQUIP. No.	DESCRIPTION			
FISH LIFT SERVICE													
1	0	C172 - MTS1 - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	C172	ER37 BREAKER C-17-2	TBD, TRAY, 2-3" RGS	EE-BA-001	MTS1	MANUAL TRANSFER SWITCH No.1	480VAC		PRIMARY MILL SOURCE
2	0	B86 - MTS1 - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	B86	BUS B MCC BUCKET B8-6	TBD, TRAY, 2-3" RGS	EE-BA-001	MTS1	MANUAL TRANSFER SWITCH No.1	480VAC		ALTERNATE MILL SOURCE
3	0	MTS1 - MTS2 - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	MTS1	MANUAL TRANSFER SWITCH No.1	2-3" RGS	EE-BA-001	MTS2	MANUAL TRANSFER SWITCH No.2	480VAC		
4	0	EGREC - EGDS - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	EGREC	EMERGENCY GENERATOR RECEPTACLE	2-3" RGS	EE-BA-001	EGDS	EMERGENCY GENERATOR DISCONNECT SWITCH	480VAC		EMERGENCY/BACKUP SOURCE
5	0	EGDS - MTS2 - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	EGDS	EMERGENCY GENERATOR DISC. SWITCH	2-3" RGS	EE-BA-001	MTS2	MANUAL TRANSFER SWITCH No.2	480VAC		
6	0	MTS2 - FLMCC - P	(2) SETS OF: 3C #4/0 W/GND	EE-BA-001	MTS2	MANUAL TRANSFER SWITCH No.2	2-3" RGS	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	480VAC		
7	0												
8	0												
9	0												
10	0												
FISH LIFT MOTOR CONTROL CENTER (FLMCC)													
11	0	FLMCC - IG1 - P	3C #10 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-001	IG1	FISH LIFT ENTRANCE ISOLATION GATE	480VAC		
12	0	FLMCC - EG2 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-002	EG2	FISH LIFT ENTRANCE GATE	480VAC		
13	0	FLMCC - VG3A - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-003 SH1	VG3A	FISH LIFT V-GATE A	480VAC		
14	0	FLMCC - VG3B - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-003 SH2	VG3B	FISH LIFT V-GATE B	480VAC		
15	0	FLMCC - HH4CP - P	3C #2 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	480VAC		
16	0	HH4CP - HH4 - P	3C #2 W/GND W/SHLD	EE-BA-001	HH4CP	FISH LIFT MOTOR CONTROL CENTER	RGS FR	EE-GK-004	HH4	HOPPER HOIST	480VAC		VFD CABLE
17	0	FLMCC - IG6 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-006	IG6	EXIT FLUME ISOLATION GATE	480VAC		
18	0	FLMCC - AWSS7 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-007	AWSS7	AWS US ISOLATION VALVE	480VAC		
19	0	FLMCC - AWSS8 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-008	AWSS8	DS PASSAGE AWS ISOLATION VALVE	480VAC		
20	0	FLMCC - AWSS9 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-009	AWSS9	AWS DS ISOLATION VALVE	480VAC		
21	0	FLMCC - IG10 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-010	IG10	EXIT FLUME DS PASSAGE ISOLATION GATE	480VAC		
22	0	FLMCC - OWG11 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-011	OWG11	FISH LADDER ENTRANCE OVERSHOT WEIR GATE	480VAC		
23	0	FLMCC - IG12 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-012	IG12	FISH LADDER ENTRANCE ISOLATION GATE	480VAC		
24	0	FLMCC - OWG13 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-013	OWG13	FISH LADDER EXIT OVERSHOT WEIR GATE	480VAC		
25	0	FLMCC - DSG14 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-014	DSG14	DS BYPASS KNIFE GATE VALVE	480VAC		
26	0	FLMCC - DSG15 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-015	DSG15	DS BYPASS KNIFE GATE VALVE	480VAC		
27	0	FLMCC - IG16 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-016	IG16	DS BYPASS ISOLATION GATE	480VAC		
28	0	FLMCC - IG17 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-017	IG17	FISH LADDER EXIT ISOLATION GATE	480VAC		
29	0	FLMCC - TG18 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-018	TG18	TRAP GATE	480VAC		
30	0	FLMCC - TG19 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-GK-019	TG19	TRAP GATE	480VAC		
31	0	FLMCC - JH21 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-BA-001	JH21	UPSTREAM SCREEN PANEL JIB HOIST	480VAC		
32	0	FLMCC - JH22 - P	3C #12 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-BA-001	JH22	STATIONARY V-GATE PANEL JIB HOIST	480VAC		
33	0												
34	0												
35	0												
36	0												
37	0												
38	0												
39	0												
40	0												
41	0	FLMCC - ABS50 - P	3C #6 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-BA-001	ABS50	AWS SCREEN AIR BURST SYSTEM COMPRESSOR	480VAC		
42	0	FLMCC - HVAC - P	3C #10 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, RGS FR	EE-BA-001	HVAC	FL CONTROL BUILDING PACKAGED HVAC UNIT	480VAC		
43	0												
44	0												
45	0												
46	0												
47	0												
48	0												
49	0	FLMCC - FLPT - P	3C #4 W/GND	EE-BA-001	FLMCC	FISH LIFT MOTOR CONTROL CENTER	4" RGS, TRAY, 2 1/2" RGS	EE-BA-001	FLPT	FISH LIFT POWER TRANSFORMER	480VAC		
50	0	FLPT - FLPP - P	4C #2/0 W/GND	EE-BA-001	FLPT	FISH LIFT POWER TRANSFORMER	2 1/2" RGS, TRAY, 2" RGS	EE-BA-002	FLPP	FISH LIFT POWER PANEL	208/120VAC		

1 — INDICATES POWER CABLES THAT RUN TO THE DISCONNECT SWITCH FOR THAT EQUIPMENT. SEE GK SERIES DWGS FOR MORE DETAILS.

1 — INDICATES POWER CABLES THAT RUN TO THE DISCONNECT SWITCH FOR THAT EQUIPMENT. SEE GK SERIES DWGS FOR MORE DETAILS.

POWER CABLE IDENTIFICATION:

-Z 115kV CLASS
-Y 35kV CLASS
-K 15kV CLASS
-H 5kV CLASS
-P 600V CLASS
-G GROUNDING SYSTEM

KEYED NOTES:

1 INDICATES POWER CABLES THAT RUN TO THE DISCONNECT SWITCH FOR THAT EQUIPMENT. SEE GK SERIES DWGS FOR MORE DETAILS.

GENERAL NOTES:

1. ALL 600V POWER CABLES SHALL BE TYPE MC, ALUMINUM INTERLOCKED ARMOR, BLACK IN COLOR, AND HAVE WIRE INSULATION OF XHHW/XLP, UNLESS NOTED OTHERWISE.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	CABLE SCHEDULE 480VAC POWER CABLES
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AJ-001; REV: 0

RACEWAY AND CABLE SCHEDULE - POWER CABLES

LINE	REV	CABLE No. SOURCE-DESTINATION-TYPE	CABLE TYPE	SOURCE			VIA RACEWAY	DESTINATION			VOLTAGE	LENGTH	COMMENTS
				DRAWING	EQUIP. No.	DESCRIPTION		DRAWING	EQUIP. No.	DESCRIPTION			
						FISH LIFT POWER PANEL (FLPP)							
1	A	FLPP - CKT1 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-008	CKT1	LIGHTING - FISH LIFT CONTROL BUILDING	120VAC		INTERIOR LIGHTING
2	A	FLPP - CKT3 - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-008	CKT3	LIGHTING - FISH LIFT AREA - GRADE LEVEL	120VAC		EXTERIOR LIGHTING
3	A	FLPP - CKT5 - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT5	LIGHTING - FISH LIFT TOWER	120VAC		EXTERIOR LIGHTING
4	A	FLPP - CKT7 - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-002	CKT7	LIGHTING - EXIT FLUME	120VAC		EXTERIOR LIGHTING
5	A	FLPP - CKT9 - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-004	CKT9	LIGHTING - FISH LADDER	120VAC		EXTERIOR LIGHTING
6	A	FLPP - CKT11 - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-003	CKT11	LIGHTING - DOWNSTREAM FISH BYPASS	120VAC		EXTERIOR LIGHTING
7	A	FLPP - CKT13 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-007	CKT13	LIGHTING - FISH LADDER VIEWING BUILDING	120VAC		INTERIOR LIGHTING
8	A	FLPP - CKT15 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT15				SPARE
9	A	FLPP - CKT17 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT17				SPARE
10	A	FLPP - CKT19 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT19				SPARE
11	A	FLPP - ABSCP - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, 2" RGS		ABSCP	AIR BURST SYSTEM CONTROL PANEL	120VAC		CONTROL POWER
12	A	FLPP - FLCP - P	2C #10 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, 3" RGS	EE-DC-002	FLCP	FISH LIFT CONTROL PANEL	120VAC		CONTROL POWER
13	A	FLPP - CKT25 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT25				SPARE
14	A	FLPP - CKT27 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT25				SPARE
15	A	FLPP - CKT29 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT27				SPARE
16	A	FLPP-CKT31,33- P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT29				SPARE
17	A	FLPP-CKT35,37- P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT31,33				SPARE
18	A	FLPP-CKT39,41- P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT33,37				SPARE
19	A								CKT39,41				SPARE
20	A												
21	A												
22	A	FLPP - CKT2 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-008	CKT2	RECEPTACLES - FISH LIFT CONTROL BUILDING	120VAC		INTERIOR RECEPTACLES
23	A	FLPP - CKT4 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-008	CKT4	RECEPTACLES - FISH LIFT CONTROL BUILDING	120VAC		INTERIOR RECEPTACLES
24	A	FLPP - CKT6 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-008	CKT6	RECEPTACLES - FISH LIFT CONTROL BUILDING	120VAC		EXTERIOR RECEPTACLES
25	A	FLPP - CKT8 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT8	RECEPTACLES - FISH LIFT TOWER COLUMN A2	120VAC		EXTERIOR RECEPTACLES
26	A	FLPP - CKT10 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT10	RECEPTACLES - FISH LIFT TOWER COLUMN B3	120VAC		EXTERIOR RECEPTACLES
27	A	FLPP - CKT12 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT12	RECEPTACLES - FISH LIFT TOWER COLUMN C1	120VAC		EXTERIOR RECEPTACLES
28	A	FLPP - CKT14 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT14	RECEPTACLES - FISH LIFT TOWER COLUMN E2	120VAC		EXTERIOR RECEPTACLES
29	A	FLPP - CKT16 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-004	CKT16	RECEPTACLES - EXIT FLUME AREA	120VAC		EXTERIOR RECEPTACLES
30	A	FLPP - CKT18 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-003	CKT18	RECEPTACLES - DOWNSTREAM BYPASS AREA	120VAC		EXTERIOR RECEPTACLES
31	A	FLPP - CKT20 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-007	CKT20	RECEPTACLES - FISH LADDER VIEWING BLDG	120VAC		INTERIOR RECEPTACLES
32	A	FLPP - CKT22 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-004	CKT22	RECEPTACLES - FISH LADDER (WEST)	120VAC		EXTERIOR RECEPTACLES
33	A	FLPP - CKT24 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-005	CKT24	RECEPTACLES - FISH LADDER (EAST)	120VAC		EXTERIOR RECEPTACLES
34	A	FLPP - CKT26 - P	2C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CB-010	CKT26	RECEPTACLES - FISH LIFT ENTR. GATE AREA	120VAC		EXTERIOR RECEPTACLES
35	A	FLPP - CKT28 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT28				SPARE
36	A	FLPP - CKT30 - P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT30				SPARE
37	A	FLPP-CKT32,34- P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT32,34				SPARE
38	A	FLPP-CKT36,38- P		EE-BA-002	FLPP	FISH LIFT POWER PANEL			CKT36,38				SPARE
39	A	FLPP - MFHCS1- P	3C #12 W/GND	EE-BA-002	FLPP	FISH LIFT POWER PANEL	3" RGS, TRAY, RGS FR	EE-CE-004	MFHCS1	MOVING FLOOR HOIST CONTROL STATION No.1	240VAC		SEE EE-DK-021
40	A	MFHCS1 -MFHCS2- P	12C #14	EE-CE-004	MFHCS1	MOVING FLOOR HOIST CONTROL STATION No.1	RGS FR	EE-CE-004	MFHCS2	MOVING FLOOR HOIST CONTROL STATION No.2	240VAC		
41	A	MFHCS2 -CH1 - P	9C #14	EE-CE-004	MFHCS2	MOVING FLOOR HOIST CONTROL STATION No.2	RGS FR	EE-CE-004	CH1	EXIT FLUME MOVING FLOOR HOIST	240VAC		
42	A	MFHCS2 -ZSLCH1- P	3C #14	EE-CE-004	MFHCS2	MOVING FLOOR HOIST CONTROL STATION No.2	RGS FR	EE-CE-004	ZSLCH1	MOVING FLOOR HOIST LOWER LIMIT SWITCH	240VAC		
43	A	MFHCS2 -ZSUCH1- P	3C #14	EE-CE-004	MFHCS2	MOVING FLOOR HOIST CONTROL STATION No.2	RGS FR	EE-CE-004	ZSUCH1	MOVING FLOOR HOIST UPPER LIMIT SWITCH	240VAC		
44	A	FLCP -MFHCS2- P	5C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	RGS FR	EE-CE-004	MFHCS1	MOVING FLOOR HOIST CONTROL STATION No.2	240VAC		
45	A												
46	A												
47	A												
48	A												
49	A												
50	A												

1

2

POWER CABLE IDENTIFICATION:

-Z 115kV CLASS
-Y 35kV CLASS
-K 15kV CLASS
-H 5kV CLASS
-P 600V CLASS
-G GROUNDING SYSTEM

KEYED NOTES:

1. ALL HOME RUN CABLES FOR EXTERIOR LIGHTING CIRCUITS (THE CABLE BETWEEN THE POWER PANEL AND THE SWITCH) SHALL BE #10 AWG. ALL CABLES BEYOND THE SWITCH SHALL BE #12 AWG, UNLESS NOTED OTHERWISE.

2. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

GENERAL NOTES:

1. ALL 600V POWER CABLES SHALL BE TYPE MC, ALUMINUM INTERLOCKED ARMOR, BLACK IN COLOR, AND HAVE WIRE INSULATION OF XHHW/XLP, UNLESS NOTED OTHERWISE.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	CABLE SCHEDULE 208/120VAC POWER CABLES
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AJ-002 REV: 0

RACEWAY AND CABLE SCHEDULE - DIGITAL CONTROL CABLES

LINE	REV	CABLE No. SOURCE-DESTINATION-TYPE	CABLE TYPE	SOURCE			VIA RACEWAY	DESTINATION			VOLTAGE	LENGTH	COMMENTS
				DRAWING	EQUIP. No.	DESCRIPTION		DRAWING	EQUIP. No.	DESCRIPTION			
FISH LIFT CONTROL PANEL (FLCP)													
1	A	FLCP - IG1 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-001	IG1	FISH LIFT ENTRANCE ISOLATION GATE	24VDC		TO RC/LS
2	A	FLCP - IG1 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-001	IG1	FISH LIFT ENTRANCE ISOLATION GATE	24VDC		TO RH
3	A	FLCP - EG2 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-002	EG2	FISH LIFT ENTRANCE GATE	24VDC		TO RF/LS
4	A	FLCP - EG2 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-002	EG2	FISH LIFT ENTRANCE GATE	24VDC		TO RH
5	A	FLCP - VG3A - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH1	VG3A	V-GATE A	24VDC		TO RF/LS
6	A	FLCP - VG3A - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH1	VG3A	V-GATE A	24VDC		TO RH
7	A	FLCP - VG3B - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH2	VG3B	V-GATE B	24VDC		TO RF/LS
8	A	FLCP - VG3B - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH2	VG3B	V-GATE B	24VDC		TO RH
9	A	FLCP - VG3JB - C	5C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-016	VG3JB	V-GATE LIMIT SWITCH JUNCTION BOX	24VDC		TO RH JUNCTION BOX BY CONTRACTOR
10	A	FLCP - ES4 - C	5C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR		ES4	E-STOP No.4	24VDC		TO LJ/LS
11	A	FLCP - HH4CP - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	24VDC		TO RE/LS
12	A	FLCP - HH4CP - C2	7C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	24VDC		TO LK
13	A	FLCP - HH4CP - C3	7C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	24VDC		TO LK
14	A	FLCP - HH4DS - C	5C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	HH4DS	HOPPER HOIST DISCONNECT SWITCH	24VDC		TO RL
15	A	FLCP LHCS - C	12C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-CE-003	LHCS	LOWER HOIST CONTROL STATION	24VDC		TO LJ
16	A	FLCP - UHCS - C	12C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-CE-003	UHCS	UPPER HOIST CONTROL STATION	24VDC		TO LJ
17	A	FLCP - HG5ZS - C	5C #14	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-008	HG5ZS	HOPPER GATE LIMIT SWITCH	24VDC		TO LK
18	A	FLCP - IG6 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-006	IG6	EXIT FLUME ISOLATION GATE	24VDC		TO RC/LS
19	A	FLCP - IG6 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-006	IG6	EXIT FLUME ISOLATION GATE	24VDC		TO RJ
20	A	FLCP - AWSS7 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-007	AWSS7	AWS US ISOLATION VALVE	24VDC		TO RF/LS
21	A	FLCP - AWSS7 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-007	AWSS7	AWS US ISOLATION VALVE	24VDC		TO RJ
22	A	FLCP - AWSS8 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-008	AWSS8	DS PASSAGE AWS ISOLATION VALVE	24VDC		TO RF/LS
23	A	FLCP - AWSS8 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-008	AWSS8	DS PASSAGE AWS ISOLATION VALVE	24VDC		TO RJ
24	A	FLCP - AWSS9 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-009	AWSS9	AWS DS ISOLATION VALVE	24VDC		TO RF/LS
25	A	FLCP - AWSS9 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-009	AWSS9	AWS DS ISOLATION VALVE	24VDC		TO RJ
26	A	FLCP - IG10 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-010	IG10	EXIT FLUME DS BYPASS ISOLATION GATE	24VDC		TO RC/LS
27	A	FLCP - IG10 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-010	IG10	EXIT FLUME DS BYPASS ISOLATION GATE	24VDC		TO RK
28	A	FLCP - OWG11 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-011	OWG11	P&W ENTRANCE OVERSHOT WEIR GATE	24VDC		TO RF/LS
29	A	FLCP - OWG11 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-011	OWG11	P&W ENTRANCE OVERSHOT WEIR GATE	24VDC		TO RK
30	A	FLCP - IG12 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-012	IG12	P&W ENTRANCE ISOLATION GATE	24VDC		TO RC/LS
31	A	FLCP - IG12 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-012	IG12	P&W ENTRANCE ISOLATION GATE	24VDC		TO RK
32	A	FLCP - OWG13 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-013	OWG13	P&W EXIT OVERSHOT WEIR GATE	24VDC		TO RF/LS
33	A	FLCP - OWG13 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-013	OWG13	P&W EXIT OVERSHOT WEIR GATE	24VDC		TO RK
34	A	FLCP - DSG14 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-014	DSG14	DS BYPASS KNIFE GATE VALVE	24VDC		TO RD/LS
35	A	FLCP - DSG14 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-014	DSG14	DS BYPASS KNIFE GATE VALVE	24VDC		TO RK
36	A	FLCP - DSG15 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-015	DSG15	DS BYPASS KNIFE GATE VALVE	24VDC		TO RD/LS
37	A	FLCP - DSG15 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-015	DSG15	DS BYPASS KNIFE GATE VALVE	24VDC		TO RL
38	A	FLCP - IG16 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-016	IG16	DS BYPASS ISOLATION GATE	24VDC		TO RD/LS
39	A	FLCP - IG16 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-016	IG16	DS BYPASS ISOLATION GATE	24VDC		TO RL
40	A	FLCP - IG17 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-017	IG17	P&W EXIT ISOLATION GATE	24VDC		TO RD/LS
41	A	FLCP - IG17 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-017	IG17	P&W EXIT ISOLATION GATE	24VDC		TO RL
42	A	FLCP - TG18 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-018	TG18	TRAP GATE	24VDC		TO RF/LS
43	A	FLCP - TG18 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-018	TG18	TRAP GATE	24VDC		TO RL
44	A	FLCP - TG19 - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-019	TG19	TRAP GATE	24VDC		TO RF/LS
45	A	FLCP - TG19 - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-019	TG19	TRAP GATE	24VDC		TO RL
46	A												
47	A												
48	A												
49	A	FLCP - ABSCP - C1	7C #14	EE-ED-009	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-014	ABSCP	AIR BURST SYSTEM CONTROL PANEL	24VDC		TO RF
50	A	FLCP - ABSCP - C2	7C #14	EE-ED-010	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-017	ABSCP	AIR BURST SYSTEM CONTROL PANEL	24VDC		TO RJ

CONTROL CABLE IDENTIFICATION:

-C DIGITAL CONTROL (24VDC, 125VDC & 120VAC)
-X ANALOG CONTROL (<50V, 4-20mA, RTD, ETC.)
-F FIBER OPTIC
-Z COMMUNICATION (ETHERNET, PROFIBUS, ETC.)
-CT CURRENT TRANSFORMER
-PT POTENTIAL TRANSFORMER

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	CABLE SCHEDULE DIGITAL CONTROL CABLES
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AJ-003 / REV: 0

RACEWAY AND CABLE SCHEDULE - ANALOG CONTROL AND COMMUNICATION CABLES

LINE	REV	CABLE No. SOURCE-DESTINATION-TYPE	CABLE TYPE	SOURCE			VIA RACEWAY	DESTINATION			VOLTAGE	LENGTH	COMMENTS
				DRAWING	EQUIP. No.	DESCRIPTION		DRAWING	EQUIP. No.	DESCRIPTION			
						FISH LIFT CONTROL PANEL (FLCP)							
1	A	FLCP - IG1 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-001	IG1	FISH LIFT ENTRANCE ISOLATION GATE	24VDC		TO LE
2	A	FLCP - EG2 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-002	EG2	FISH LIFT ENTRANCE GATE	24VDC		TO LE/LG
3	A	FLCP - VG3A - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH1	VG3A	V-GATE A	24VDC		TO LE/LG
4	A	FLCP - VG3B - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-003 SH2	VG3B	V-GATE B	24VDC		TO LE/LG
5	A	FLCP - HH4CP - X	1TR #18 SHLD	EE-ED-007	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	24VDC		TO LL
6	A	HH4CP - ENC4 - X	6C #20 SHLD	EE-GK-004	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-004	ENC4	HOPPER HOIST HIGH SPEED ENCODER	24VDC		
7	A	FLCP - IG6 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-006	IG6	EXIT FLUME ISOLATION GATE	24VDC		TO LE
8	A	FLCP - AWSS7 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-007	AWSS7	AWS US ISOLATION VALVE	24VDC		TO LE/LG
9	A	FLCP - AWSS8 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-008	AWSS8	DS PASSAGE AWS ISOLATION VALVE	24VDC		TO LE/LG
10	A	FLCP - AWSS9 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-009	AWSS9	AWS DS ISOLATION VALVE	24VDC		TO LE/LG
11	A	FLCP - IG10 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-010	IG10	EXIT FLUME DS BYPASS ISOLATION GATE	24VDC		TO LE
12	A	FLCP - OWG11 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-011	OWG11	P&W ENTRANCE OVERSHOT WEIR GATE	24VDC		TO LE/LG
13	A	FLCP - IG12 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-012	IG12	P&W ENTRANCE ISOLATION GATE	24VDC		TO LE
14	A	FLCP - OWG13 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-013	OWG13	P&W EXIT OVERSHOT WEIR GATE	24VDC		TO LE/LG
15	A	FLCP - DSG14 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-014	DSG14	DS BYPASS KNIFE GATE VALVE	24VDC		TO LE
16	A	FLCP - DSG15 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-015	DSG15	DS BYPASS KNIFE GATE VALVE	24VDC		TO LE
17	A	FLCP - IG16 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-016	IG16	DS BYPASS ISOLATION GATE	24VDC		TO LF
18	A	FLCP - IG17 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-017	IG17	P&W EXIT ISOLATION GATE	24VDC		TO LF
19	A	FLCP - TG18 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-018	TG18	TRAP GATE	24VDC		TO LF/LH
20	A	FLCP - TG19 - X	2PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-GK-019	TG19	TRAP GATE	24VDC		TO LF/LH
21	A												
22	A												
23	A												
24	A												
25	A												
26	A												
27	A												
28	A												
29	A												
30	A												
31	A	FLCP - WLS1 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS1	LIFT TAILRACE WATER LEVEL SENSOR	24VDC		TO LF
32	A	FLCP - WLS2 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS2	LIFT ENTRANCE CHANNEL WATER LEVEL SENSOR	24VDC		TO LF
33	A	FLCP - WLS3 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS3	LIFT US WEIR WATER LEVEL SENSOR	24VDC		TO LF
34	A	FLCP - WLS4 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS4	P&W TAIL WATER ENTRANCE WATER LS	24VDC		TO LF
35	A	FLCP - WLS5 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS5	P&W INSIDE ENTRANCE WATER LEVEL SENSOR	24VDC		TO LF
36	A	FLCP - WLS6 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS6	P&W INSIDE EXIT WATER LEVEL SENSOR	24VDC		TO LF
37	A	FLCP - WLS7 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS7	INSIDE EXIT FLUME ENTRANCE WATER LS	24VDC		TO LF
38	A	FLCP - WLS8 - X	1PR #18 SHLD	EE-ED-006	FLCP	FISH LIFT CONTROL PANEL	4" RGS, TRAY, RGS FR	EE-DD-004 SH2	WLS8	INSIDE EXIT FLUME WATER LEVEL SENSOR	24VDC		TO LF
39	A												
40	A												
41	A	FLCP - HH4CP - Z	CAT6	EE-BB-001	FLCP	FISH LIFT CONTROL PANEL	1" RGS	EE-GK-004	HH4CP	HOPPER HOIST CONTROL PANEL	NA		
42	A	FLCP - WMILL - Z	CAT6	EE-BB-001	FLCP	FISH LIFT CONTROL PANEL	1" RGS	EE-BB-001	TBD	REMOTE ACCESS	NA		DETERMINED BY MILL
43	A	FLCP - FLFPP - Z	MULTIMODE FIBER OPTIC	EE-BB-001	FLCP	FISH LIFT CONTROL PANEL	1" RGS	EE-BB-001	FLCP	FISH LIFT FIBER PATCH PANEL	NA		
44	A	FLFPP - WMILL - Z	MULTIMODE FIBER OPTIC	EE-BB-001	FLFPP	FISH LIFT FIBER PATCH PANEL	1" RGS	EE-BB-001	TBD	EXISTING NETWORK SWITCH	NA		DETERMINED BY MILL
45	A												
46	A												
47	A												
48	A												
49	A												
50	A												

CONTROL CABLE IDENTIFICATION:

-C DIGITAL CONTROL (24VDC, 125VDC & 120VAC)
-X ANALOG CONTROL (<50V, 4-20mA, RTD, ETC.)
-F FIBER OPTIC
-Z COMMUNICATION (ETHERNET, PROFIBUS, ETC.)
-CT CURRENT TRANSFORMER
-PT POTENTIAL TRANSFORMER

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	CABLE SCHEDULE ANALOG CONTROL AND COMMUNICATION CABLES
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: GENERAL
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-AJ-004 / REV: 0

RACEWAY AND CABLE SCHEDULE - MISCELLANEOUS CABLES

LINE	REV	CABLE No. SOURCE-DESTINATION-TYPE	CABLE TYPE	SOURCE			VIA RACEWAY	DESTINATION			VOLTAGE	LENGTH	COMMENTS
				DRAWING	EQUIP. No.	DESCRIPTION		DRAWING	EQUIP. No.	DESCRIPTION			
		TEMPERATURE CONTROL CABLES											HOLD
1	A	IG1 - TS1 - C	2C #14	EE-GK-001	IG1	GATE ACTUATOR - IG1	RGS FR	EE-GK-001	TSIG1	TEMPERATURE SWITCH - IG1	TBD		VSC?
2	A	EG2 - TS2 - C	2C #14	EE-GK-002	EG2	GATE ACTUATOR - EG2	RGS FR	EE-GK-002	TSEG2	TEMPERATURE SWITCH - EG2	TBD		VSC?
3	A	VG3A - TS3A - C	2C #14	EE-GK-003 SH1	VG3A	GATE ACTUATOR - VG3A	RGS FR	EE-GK-003 SH1	TSVG3A	TEMPERATURE SWITCH - VG3A	TBD		VSC?
4	A	VG3B - TS3B - C	2C #14	EE-GK-003 SH2	VG3B	GATE ACTUATOR - VG3B	RGS FR	EE-GK-003 SH2	TSVG3B	TEMPERATURE SWITCH - VG3B	TBD		VSC?
5	A												
6	A	IG6 - TS6 - C	2C #14	EE-GK-006	IG6	GATE ACTUATOR - IG6	RGS FR	EE-GK-006	TSIG6	TEMPERATURE SWITCH - IG6	TBD		VSC?
7	A	AWSS7 - TS7 - C	2C #14	EE-GK-007	AWSS7	VALVE ACTUATOR - AWSS7	RGS FR	EE-GK-007	TSAWSS7	TEMPERATURE SWITCH - AWSS7	TBD		VSC?
8	A	AWSS8 - TS8 - C	2C #14	EE-GK-008	AWSS8	VALVE ACTUATOR - AWSS8	RGS FR	EE-GK-008	TSAWSS8	TEMPERATURE SWITCH - AWSS8	TBD		VSC?
9	A	AWSS9 - TS9 - C	2C #14	EE-GK-009	AWSS9	VALVE ACTUATOR - AWSS9	RGS FR	EE-GK-009	TSAWSS9	TEMPERATURE SWITCH - AWSS9	TBD		VSC?
10	A	IG10 - TS10 - C	2C #14	EE-GK-010	IG10	GATE ACTUATOR - IG10	RGS FR	EE-GK-010	TSIG10	TEMPERATURE SWITCH - IG10	TBD		VSC?
11	A	OWG11 - TS11 - C	2C #14	EE-GK-011	OWG11	GATE ACTUATOR - OWG11	RGS FR	EE-GK-011	TSOWG11	TEMPERATURE SWITCH - OWG11	TBD		VSC?
12	A	IG12 - TS12 - C	2C #14	EE-GK-012	IG12	GATE ACTUATOR - IG12	RGS FR	EE-GK-012	TSIG12	TEMPERATURE SWITCH - IG12	TBD		VSC?
13	A	OWG13 - TS13 - C	2C #14	EE-GK-013	OWG13	GATE ACTUATOR - OWG13	RGS FR	EE-GK-013	TSOWG13	TEMPERATURE SWITCH - OWG13	TBD		VSC?
14	A	DSG14 - TS14 - C	2C #14	EE-GK-014	DSG14	VALVE ACTUATOR - DSG14	RGS FR	EE-GK-014	TSDSG14	TEMPERATURE SWITCH - DSG14	TBD		VSC?
15	A	DSG15 - TS15 - C	2C #14	EE-GK-015	DSG15	VALVE ACTUATOR - DSG15	RGS FR	EE-GK-015	TSDSG15	TEMPERATURE SWITCH - DSG15	TBD		VSC?
16	A	IG16 - TS16 - C	2C #14	EE-GK-016	IG16	GATE ACTUATOR - IG16	RGS FR	EE-GK-016	TSIG16	TEMPERATURE SWITCH - IG16	TBD		VSC?
17	A	IG17 - TS17 - C	2C #14	EE-GK-017	IG17	GATE ACTUATOR - IG17	RGS FR	EE-GK-017	TSIG17	TEMPERATURE SWITCH - IG17	TBD		VSC?
18	A	TG18 - TS18 - C	2C #14	EE-GK-018	TG18	GATE ACTUATOR - TG18	RGS FR	EE-GK-018	TSTG18	TEMPERATURE SWITCH - TG18	TBD		VSC?
19	A	TG19 - TS19 - C	2C #14	EE-GK-019	TG19	GATE ACTUATOR - TG19	RGS FR	EE-GK-019	TSTG19	TEMPERATURE SWITCH - TG19	TBD		VSC?
20	A												
21	A												
22	A												
23	A												
24	A												
25	A												
26	A												
27	A												
28	A												
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49	A												
50	A												

CONTROL CABLE IDENTIFICATION:

-C DIGITAL CONTROL (24VDC, 125VDC & 120VAC)
-X ANALOG CONTROL (<50V, 4-20mA, RTD, ETC.)
-F FIBER OPTIC
-Z COMMUNICATION (ETHERNET, PROFIBUS, ETC.)
-CT CURRENT TRANSFORMER
-PT POTENTIAL TRANSFORMER

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	CABLE SCHEDULE MISCELLANEOUS CABLES	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: GENERAL
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-AJ-005 REV: 0

FLMCC

FISH LIFT MOTOR CONTROL CENTER
MAIN BUS: 480VAC, 3PH, 3W, 60HZ, 65kAIC, 800A COPPER/TIN PLATED
NEMA 12, TOP ENTRY, LEFT SIDE INCOMING LINES

1F1 1F2 1F3 1F4 2F1L 2F1R 2F2L 2F2R 2F3L 2F3R 2F4L 2F4R 2F5L 2F5R 2F6L 2F6R

CONTINUED AT LOWER LEFT

400A

DOOR DOOR

(2) SETS OF: 3C #4/0 W/GND MTS2-FLMCC-P

MTS2
MANUAL
TRANSFER SWITCH No.2
400A, 3PH
SQUARE D DTU365AWK

E = EMERGENCY OR ALTERNATE SOURCE FEED
N = NORMAL OR PRIMARY SOURCE FEED
L = LOAD SIDE CONNECTION

(2) SETS OF: 3C #4/0 W/GND MTS1-MTS2-P

(2) SETS OF: 3C #4/0 W/GND EGDS-MTS2-P

MTS1
MANUAL
TRANSFER SWITCH No.1
400A, 3PH
SQUARE D DTU365AWK

EGDS
EMERGENCY GENERATOR
DISCONNECT SWITCH
400A, 3PH
SQUARE D CH365DS

(2) SETS OF: 3C #4/0 W/GND C172-MTS1-P

(2) SETS OF: 3C #4/0 W/GND B86-MTS1-P

(2) SETS OF: 3C #4/0 W/GND EGREC-EGDS-P

3P 1600AF 800AT

3P 1600AF 800AT

EGREC
EMERGENCY GENERATOR
RECEPTACLE (PF400 INLET)
AND ALUMINUM PAINTED BOX
400A, 3PH
MELTRIC 49-48047
MELTRIC MB40-25 (BOX)

C172
PRIMARY MILL SOURCE
ER37 BREAKER C17-2
480VAC, 3PH, 3W, 60HZ

B86
ALTERNATE MILL SOURCE
BUS B MCC BUCKET B8-6
480VAC, 3PH, 3W, 60HZ

3C #2 W/GND W/SHLD HH2CP-HH4-P (VFD CABLE)

3C #2 W/GND FLMCC-HH4CP-P

HH4CP MAGNETEK DRIVE
HOPPER HOIST CONTROL PANEL

200A NF

60 HP

HH4
HOPPER HOIST CONTROL PANEL
SEE EE-GK-004

3C #10 W/GND FLMCC-IG1-P	3C #12 W/GND FLMCC-EG2-P	3C #12 W/GND FLMCC-VG3A-P	3C #12 W/GND FLMCC-VG3B-P	3C #12 W/GND FLMCC-IG6-P	3C #12 W/GND FLMCC-AWSS7-P	3C #12 W/GND FLMCC-AWSS8-P	3C #12 W/GND FLMCC-AWSS9-P	3C #12 W/GND FLMCC-IG10-P	3C #12 W/GND FLMCC-OWG11-P	3C #12 W/GND FLMCC-IG12-P	3C #12 W/GND FLMCC-OWG13-P
30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF	30A NF
ROTORK IQ35	ROTORK IQ19	ROTORK IQT1000	ROTORK IQT1000	ROTORK IQ25	ROTORK IQ12	ROTORK IQ12	ROTORK IQ12	ROTORK IQ20	ROTORK IQ12	ROTORK IQ20	ROTORK IQ12
7.5 HP	1 HP	1/2 HP	1/2 HP	5 HP	1/2 HP	1/2 HP	1/2 HP	1.5 HP	3/4 HP	3 HP	3/4 HP
IG1	EG2	VG3A	VG3B	IG6	AWSS7	AWSS8	AWSS9	IG10	OWG11	IG12	OWG13
FISH LIFT ENTRANCE ISOLATION GATE	FISH LIFT ENTRANCE GATE	FISH LIFT V-GATE A	FISH LIFT V-GATE B	EXIT FLUME ISOLATION GATE	AWS UPSTREAM ISOLATION VALVE	DS PASSAGE AWS ISOLATION VALVE	AWS DOWNSTREAM ISOLATON VALVE	EXIT FLUME DS BYPASS ISOLATION GATE	FISH LADDER ENTRANCE OVERSHOT WEIR GATE	FISH LADDER ENTRANCE ISOLATION GATE	FISH LADDER EXIT OVERSHOT WEIR GATE
SEE EE-GK-001	SEE EE-GK-002	SEE EE-GK-003 SH1	SEE EE-GK-003 SH2	SEE EE-GK-006	SEE EE-GK-007	SEE EE-GK-008	SEE EE-GK-009	SEE EE-GK-010	SEE EE-GK-011	SEE EE-GK-012	SEE EE-GK-013

FLMCC FISH LIFT MOTOR CONTROL CENTER (CONT.)

CONTINUED AT UPPER RIGHT

3F1L 3F1R 3F2L 3F2R 3F3L 3F3R 3F4L 3F4R 3F5L 3F5R 3F6L 3F6R

THML 125 20	THML 125 20	THML 125 20	THML 125 20	THML 125 20	THML 125 20	THML 125 70	THML 125 20	THML 125 20	THML 125 20	THML 125 60	THML 125 30

SPARE

3C #12 W/GND FLMCC-DSG14-P	3C #12 W/GND FLMCC-DSG15-P	3C #12 W/GND FLMCC-IG16-P	3C #12 W/GND FLMCC-IG17-P	3C #12 W/GND FLMCC-TG18-P	3C #12 W/GND FLMCC-TG19-P	4C #2/0 W/GND FLPT-FLPP-P	3C #4 W/GND FLMCC-FLPT-P		3C #12 W/GND FLMCC-JH21-P	3C #12 W/GND FLMCC-JH22-P	3C #6 W/GND FLMCC-ABSC-P	3C #10 W/GND FLMCC-HVAC-P
30A NF	30A NF	30A NF	30A NF	30A NF	30A NF				30A NF	30A NF		
ROTORK IQ12	ROTORK IQ12	ROTORK IQ25	ROTORK IQ20	ROTORK IQT1000	ROTORK IQT1000		45kVA 480V 208/120V	FLPT FISH LIFT POWER TRANSFORMER	HOIST CONTROL	HOIST CONTROL		
3/4 HP	3/4 HP	5 HP	3 HP	1/2 HP	1/2 HP		3P 225 175	FLPP FISH LIFT POWER PANEL	1.5 HP	1.5 HP	30 kW	?? kW
DSG14	DSG15	IG16	IG17	TG18	TG19		42 SPACES 208/120VAC		JH21	JH22	ABSC	HVAC
DS BYPASS SLIDE GATE	DS BYPASS SLIDE GATE	DS BYPASS ISOLATION GATE	FISH LADDER EXIT ISOLATION GATE	EXIT FLUME TRAP GATE	EXIT FLUME TRAP GATE				UPSTREAM SCREEN PANEL JIB HOIST (1/2 TON)	STATIONARY V-GATE PANEL JIB HOIST (1/2 TON)	AWS SCREEN AIR BURST SYSTEM COMPRESSOR	FISH LIFT CONTROL BUILDING PACKAGED HVAC UNIT
SEE EE-GK-014	SEE EE-GK-015	SEE EE-GK-016	SEE EE-GK-017	SEE EE-GK-018	SEE EE-GK-019		SEE EE-BA-002					

HOLD
ACTUAL LOADS ARE NOT KNOWN AT THIS TIME

(PROVIDED BY OTHERS)

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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MAY 2, 2025

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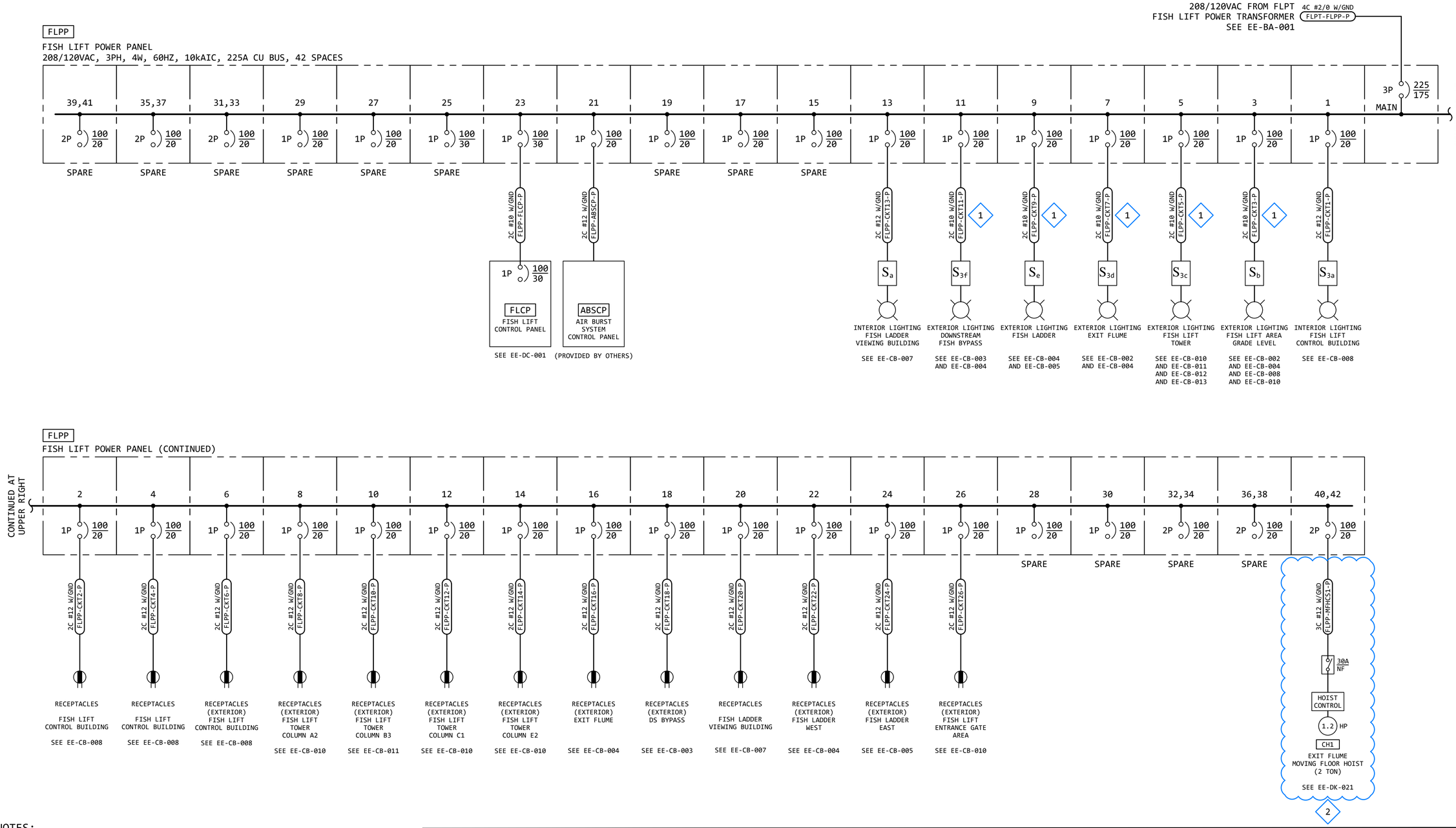
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	ONE LINE DIAGRAM - 480VAC FISH LIFT SERVICE AND POWER DISTRIBUTION	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: OVERVIEW
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-BA-001 REV: 0



KEYED NOTES:

1. ALL HOME RUN CABLES FOR EXTERIOR LIGHTING CIRCUITS (THE CABLE BETWEEN THIS PANEL AND THE SWITCH) SHALL BE #10 AWG. ALL CABLES BEYOND THE SWITCH SHALL BE #12 AWG, UNLESS NOTED OTHERWISE.
2. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

REVISION

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0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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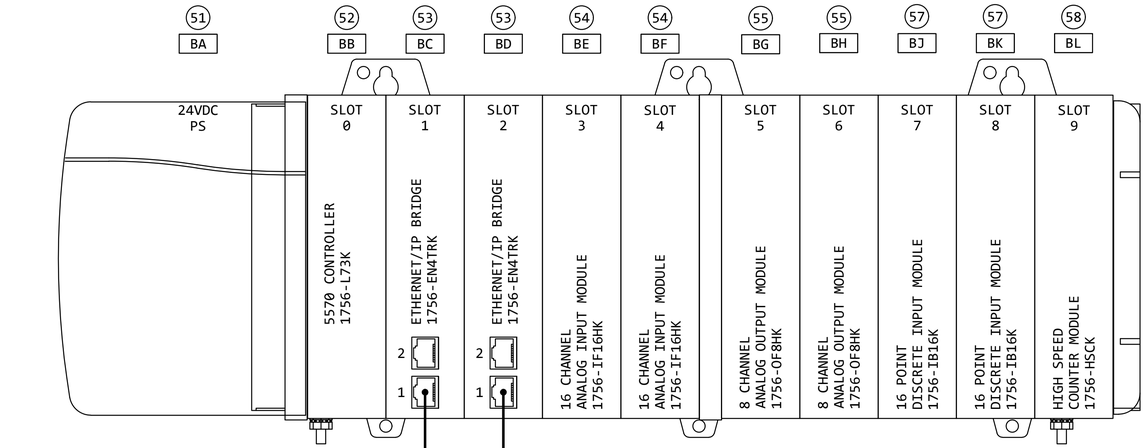
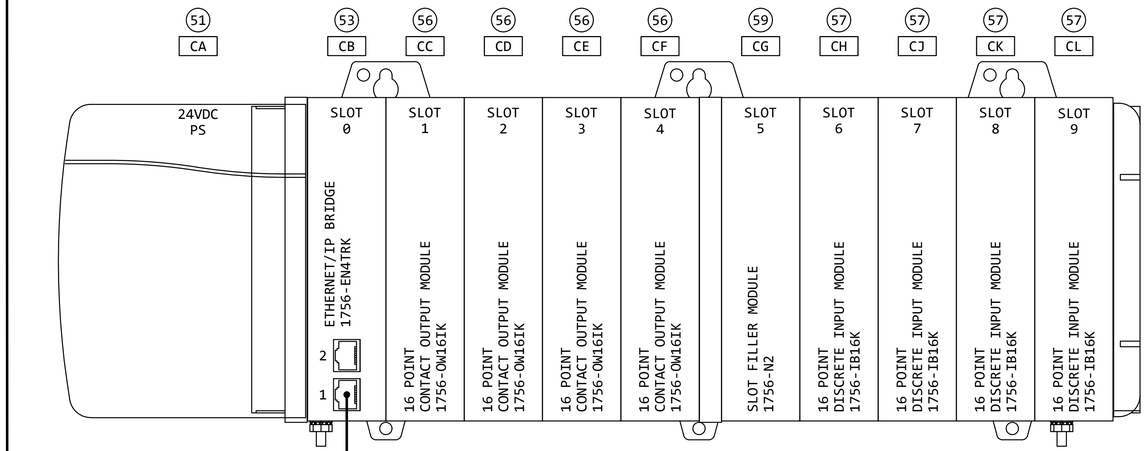
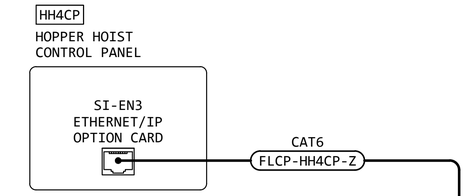
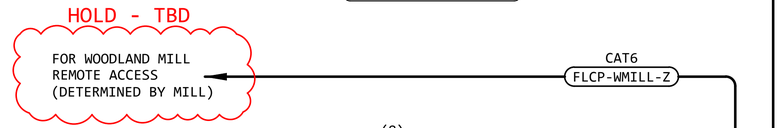
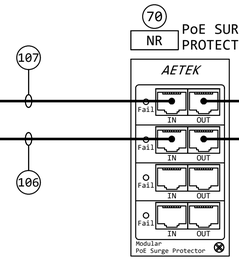
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	ONE LINE DIAGRAM - 208/120VAC FISH LIFT POWER DISTRIBUTION	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: OVERVIEW
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-BA-002	REV: 0

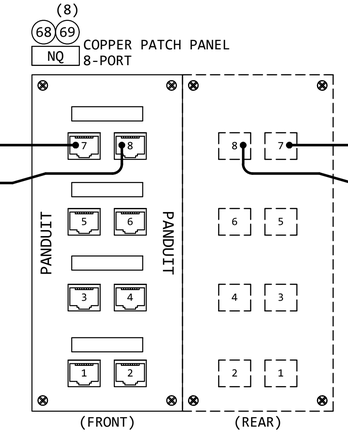


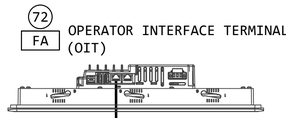


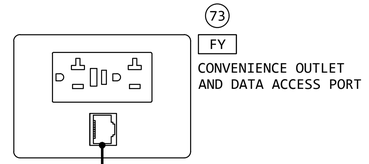


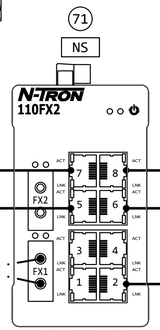


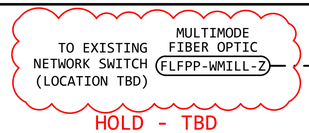


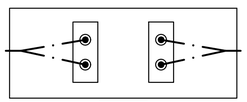


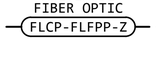












NOTE:
ALL DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE FISH LIFT CONTROL PANEL (FLCP) UNLESS NOTED OTHERWISE.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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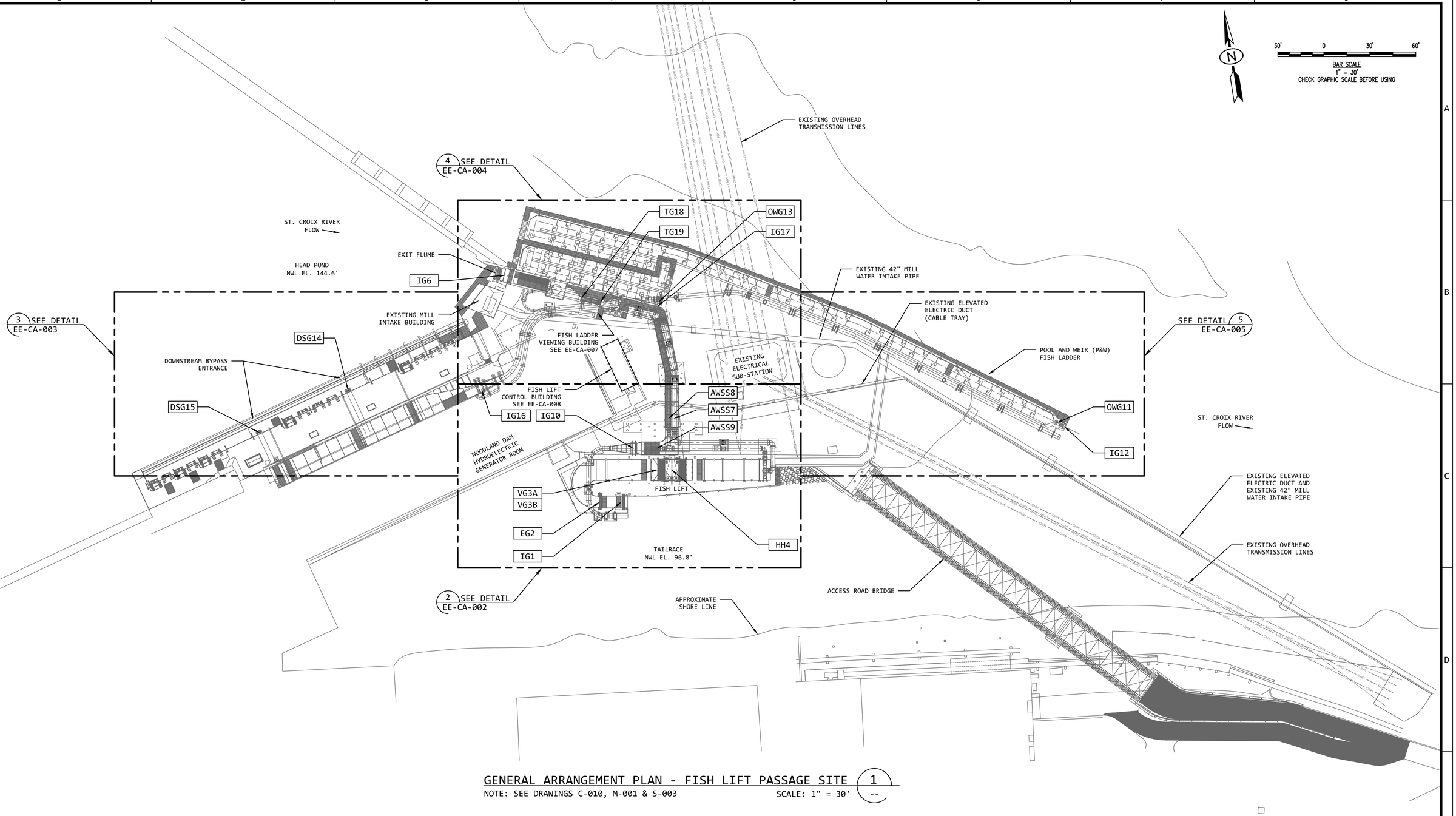
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	NETWORK SYSTEM ARCHITECTURE FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: OVERVIEW
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-BB-001	REV: 0



GENERAL ARRANGEMENT PLAN - FISH LIFT PASSAGE SITE 1

NOTE: SEE DRAWINGS C-010, M-001 & S-003

SCALE: 1" = 30'

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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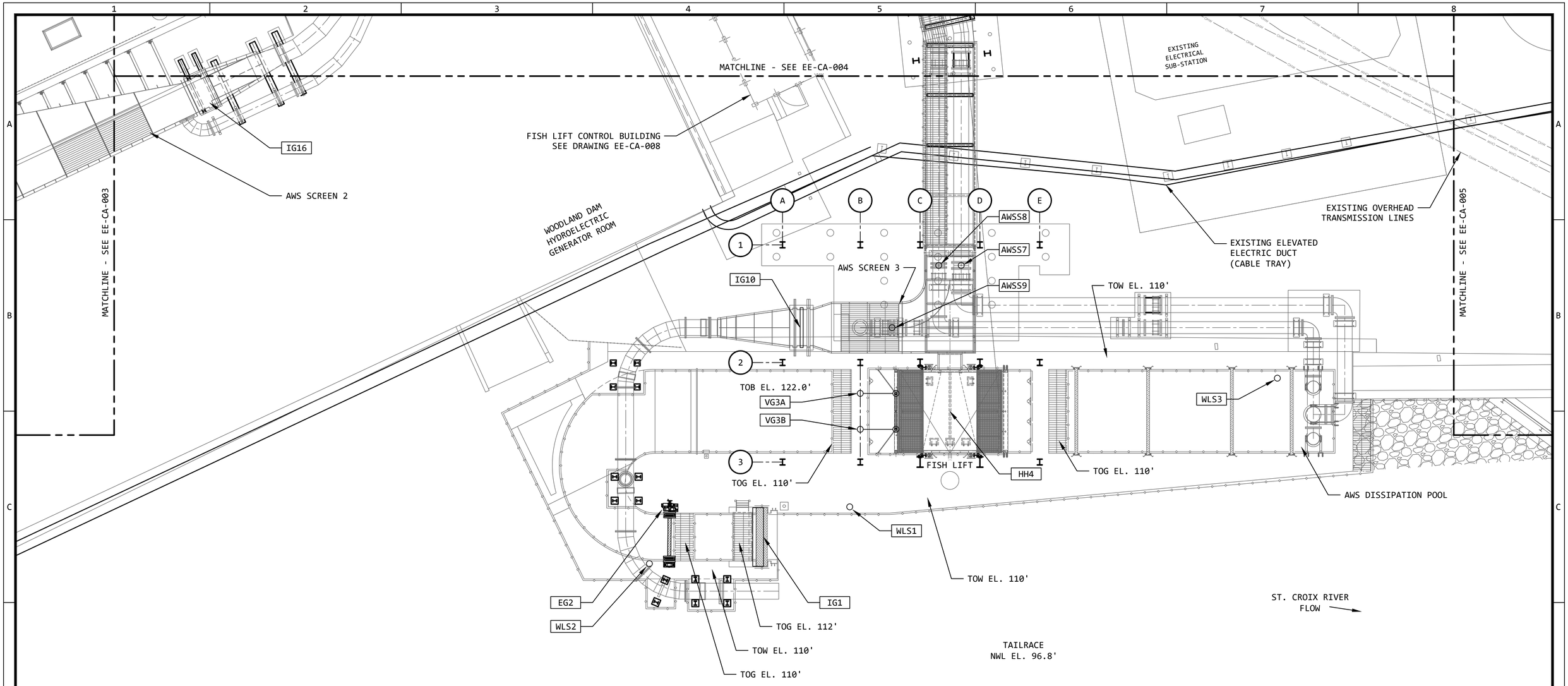
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN FISH LIFT PASSAGE SITE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CA-001 REV: 0



GENERAL ARRANGEMENT PLAN - FISH LIFT AREA

2

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

NOTE: SEE DRAWINGS
C-100, S-100, S-200 & S-210

BAR SCALE
1/8" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

12' 8' 4' 0 8' 16'

N

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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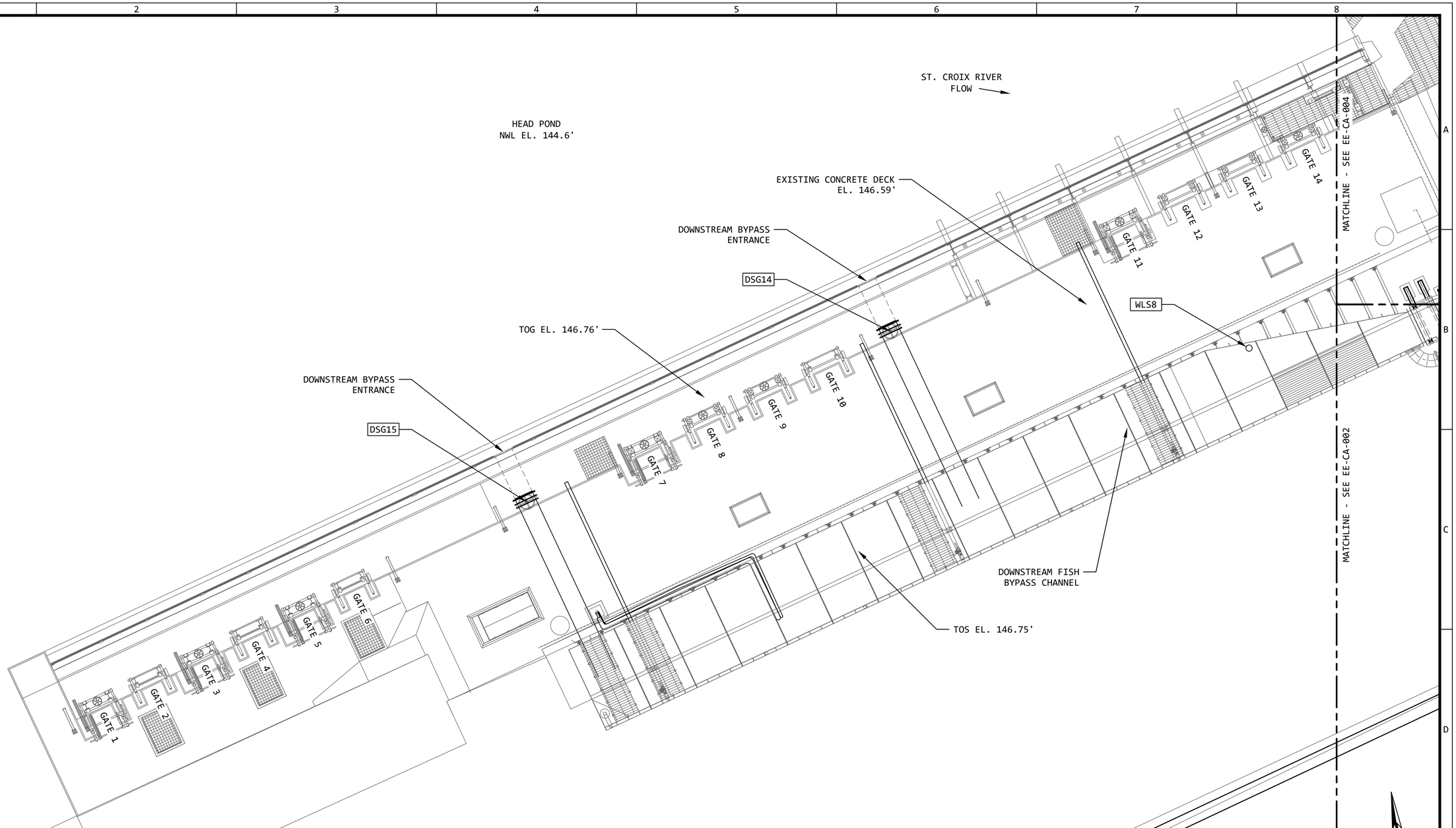
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN FISH LIFT AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CA-002 / REV: 0



GENERAL ARRANGEMENT PLAN - DOWNSTREAM FISH BYPASS AREA 3

NOTE: SEE DRAWINGS C-160 & S-160

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

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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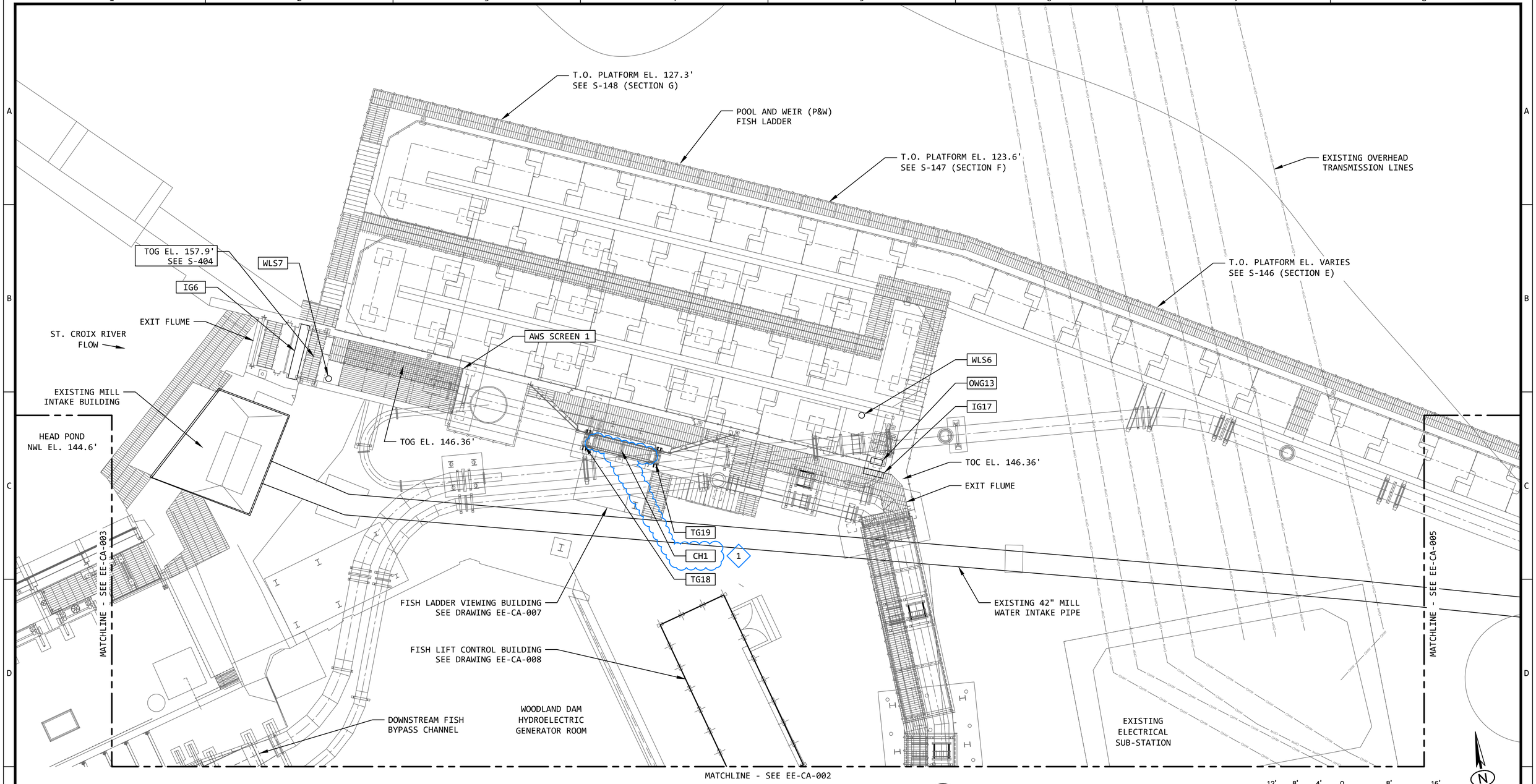
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN DOWNSTREAM FISH BYPASS AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CA-003	REV: 0



GENERAL ARRANGEMENT PLAN - EXIT FLUME AND FISH LADDER AREAS 4

NOTE: SEE DRAWINGS C-120, C-140, S-120 & S-140

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

KEYED NOTES:

1. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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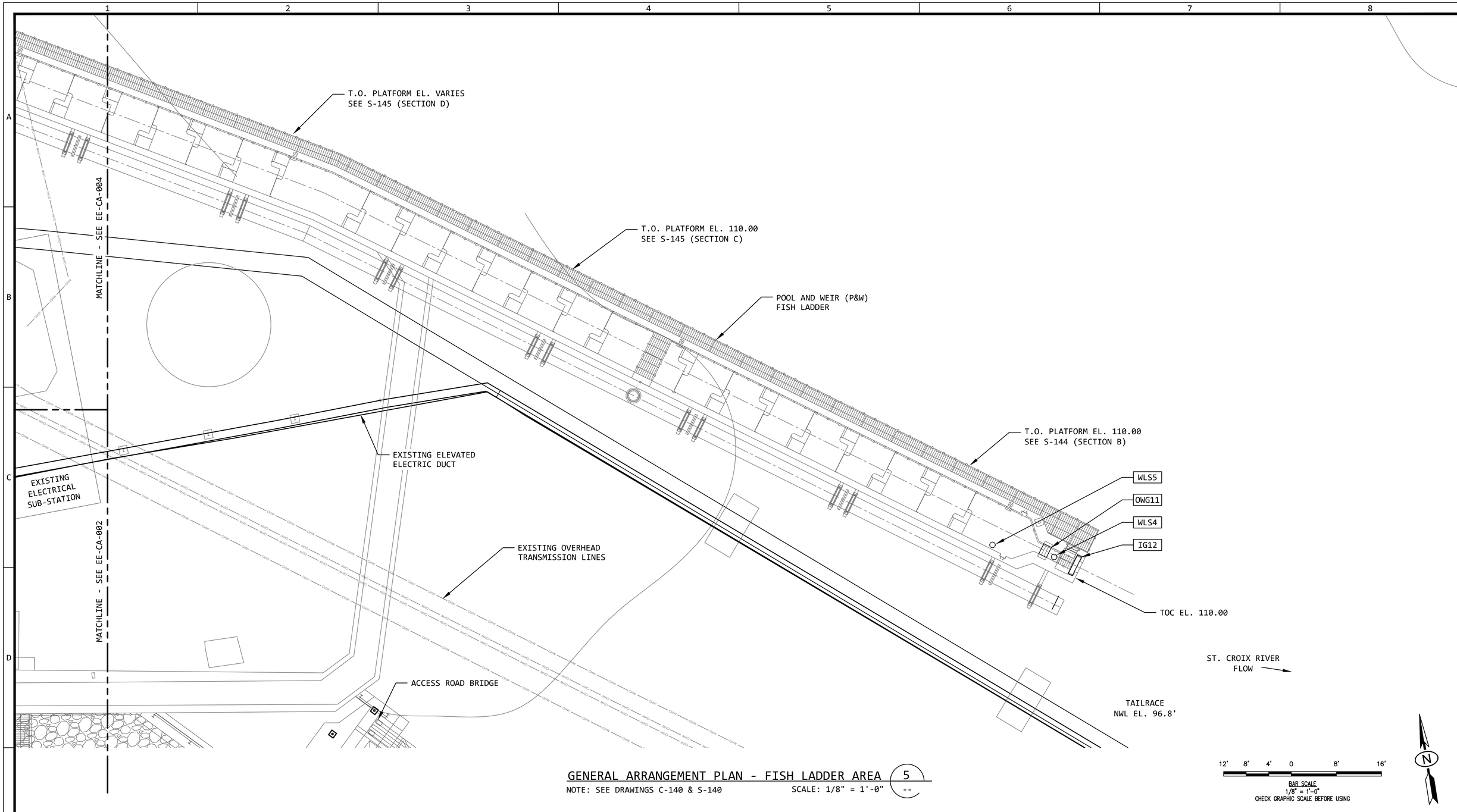
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN EXIT FLUME AND FISH LADDER AREAS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CA-004 REV: 0



GENERAL ARRANGEMENT PLAN - FISH LADDER AREA 5

NOTE: SEE DRAWINGS C-140 & S-140 SCALE: 1/8" = 1'-0" --

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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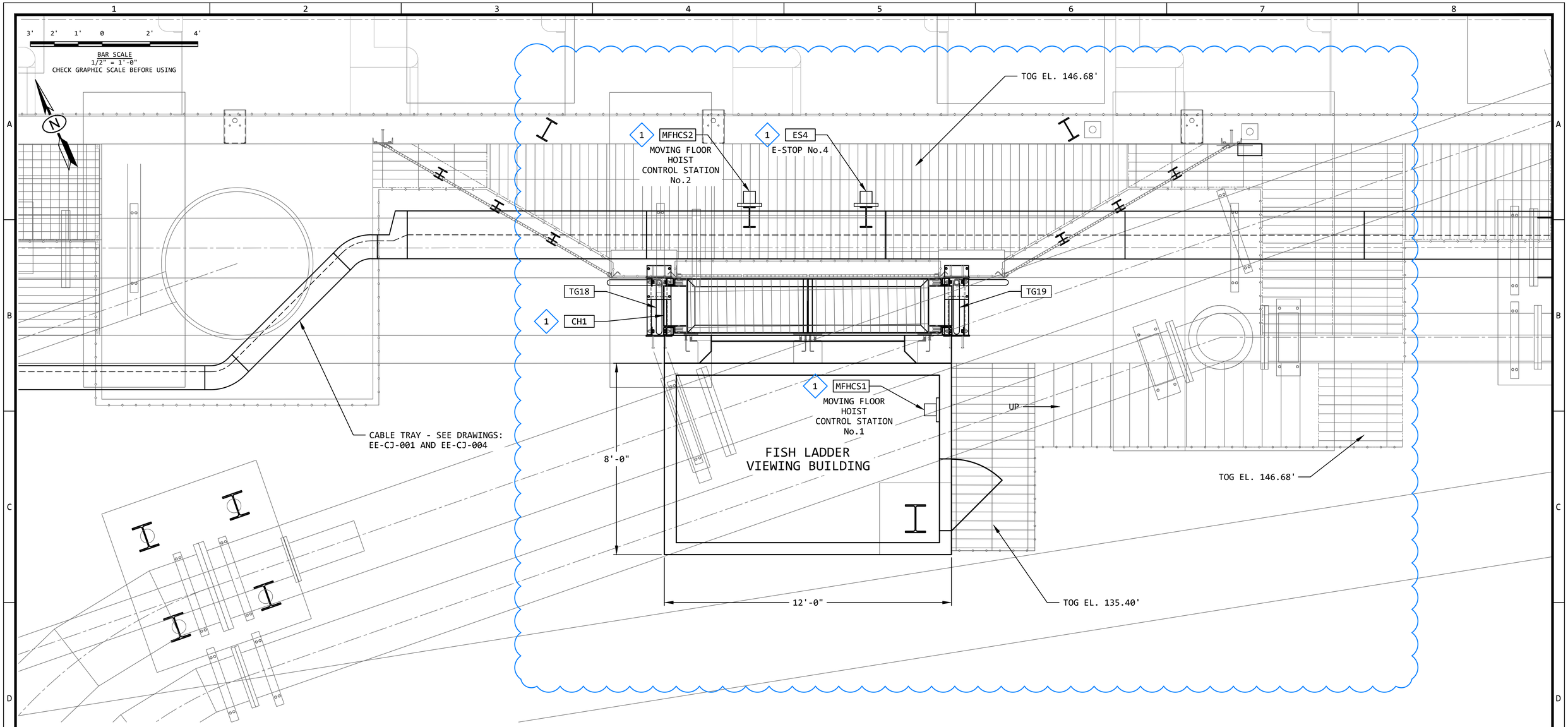
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN FISH LADDER AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CA-005 / REV: 0



GENERAL ARRANGEMENT PLAN - FISH LADDER VIEWING BUILDING 7

NOTE: SEE DRAWING C-123 & S-120

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

KEYED NOTES:

1. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN FISH LADDER VIEWING BUILDING	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CA-007	REV: 0

KEYED NOTES:

1. THE CONTRACTOR SHALL PROVIDE FLOOR MOUNTED UNISTRUT STRUCTURES FOR ALL NON-FLOOR MOUNTED EQUIPMENT AND/OR PANELS LOCATED IN THE FISH LIFT CONTROL BUILDING. DO NOT ATTACH ANY EQUIPMENT, INCLUDING THE UNISTRUT STRUCTURES, TO THE WALL.

2. THE GROUND BAR SHALL BE MOUNTED 9' AFF, AS REQUIRED. CONNECT TO THE PIGTAIL RESERVED FOR THIS PURPOSE. SEE EE-CG-008 FOR DETAILS.

3. THE CONTRACTOR SHALL PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT INSTALLED. THE HOUSEKEEPING PADS SHALL BE A MINIMUM OF 4" THICK, UNLESS NOTED OTHERWISE. THE FACE OF THE PAD SHALL EXTEND 2" BEYOND THE FACE OF THE EQUIPMENT. PROVIDE A 3/4" CHAMFERED EDGE.

4. THE FISH LIFT CONTROL BUILDING FLOOR ELEVATION IS APPROXIMATE. THE FINAL FLOOR ELEVATION SHALL BE DETERMINED BY THE BUILDING MANUFACTURER. SEE S-190.

ELECTRICAL EQUIPMENT SPECIFICATION:

EGDS — EMERGENCY GENERATOR DISCONNECT SWITCH
400A, 600VAC/VDC, 3POLE, 350HP, NEMA 4
SAFETY SWITCH, HEAVY DUTY, FUSIBLE.
SQUARE D CAT. No. CH365DS

EGREC — EMERGENCY GENERATOR RECEPTACLE
400A, 277/480VAC, 3P+N+G, +4AUX CONTACTS
WITH GRAY PAINTED ALUMINUM BOX, 2 1/2" NPT FITTING.
MELTRIC 49-48047 PF400 INLET, WITH MB40-25 BOX

FLCP — FISH LIFT CONTROL PANEL
HOFFMAN NEMA 12 ENCLOSURE, FLOOR MOUNT
SEE EE-CE-002 (ALL SHEETS)

FLFPP — FISH LIFT FIBER PATCH PANEL
DOUBLE-HINGED NEMA 12 ENCLOSURE, FOR 19" RACK MOUNTED EQUIPMENT,
WALL MOUNTED, PAINTED STEEL WITH LOCKABLE WING KNOB
HOFFMAN PROTEK PTHS162415G4, OR APPROVED EQUAL.
SEE EE-BB-001

FLMCC — FISH LIFT MOTOR CONTROL CENTER
800A, 480VAC, 3PH, 3W, 60HZ
ROCKWELL AUTOMATION CENTERLINE 2100
SEE EE-BA-001

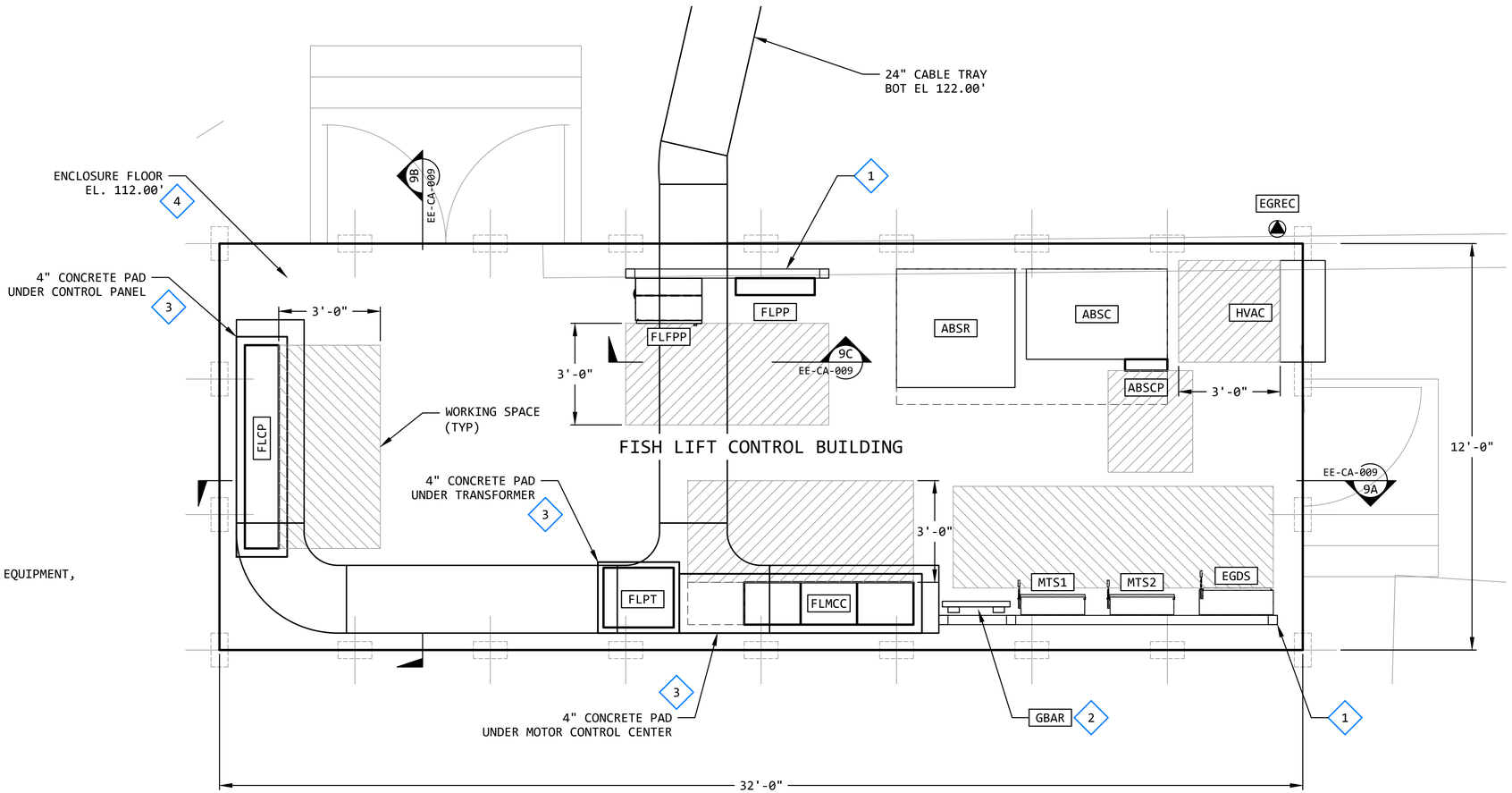
FLPT — FISH LIFT POWER TRANSFORMER
45kVA, 480VAC-208/120VAC, 3PH, 4W, 60HZ
DRY-TYPE VENTILATED, CLASS AA, NEMA 2 ENCLOSURE
SEE EATON DRAWINGS FR940 AND 280B

FLPP — FISH LIFT POWER PANEL
225A, 42 CIRCUIT, 208/120VAC, 3PH, 4W, 60HZ
SEE EE-BA-002

GBAR — FISH LIFT CONTROL BUILDING GROUND BAR
1/4" x 4" x 24" SOLID COPPER GROUND BAR WITH INSULATORS
SEE EE-CG-011, DETAIL 2, GROUND BAR DETAIL "GB".

MTS1 — MANUAL TRANSFER SWITCH No.1
400A, 600VAC/250VDC, 3POLE, 350HP, NEMA 1
SAFETY SWITCH, DOUBLE THROW, NON-FUSIBLE.
SQUARE D CAT. No. DTU365AWK

MTS2 — MANUAL TRANSFER SWITCH No.2
400A, 600VAC/250VDC, 3POLE, 350HP, NEMA 1
SAFETY SWITCH, DOUBLE THROW, NON-FUSIBLE.
SQUARE D CAT. No. DTU365AWK



N

3' 2' 1' 0 2' 4'

BAR SCALE
1/2" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

GENERAL ARRANGEMENT PLAN - FISH LIFT CONTROL BUILDING (8)

NOTE: SEE DRAWING S-190

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

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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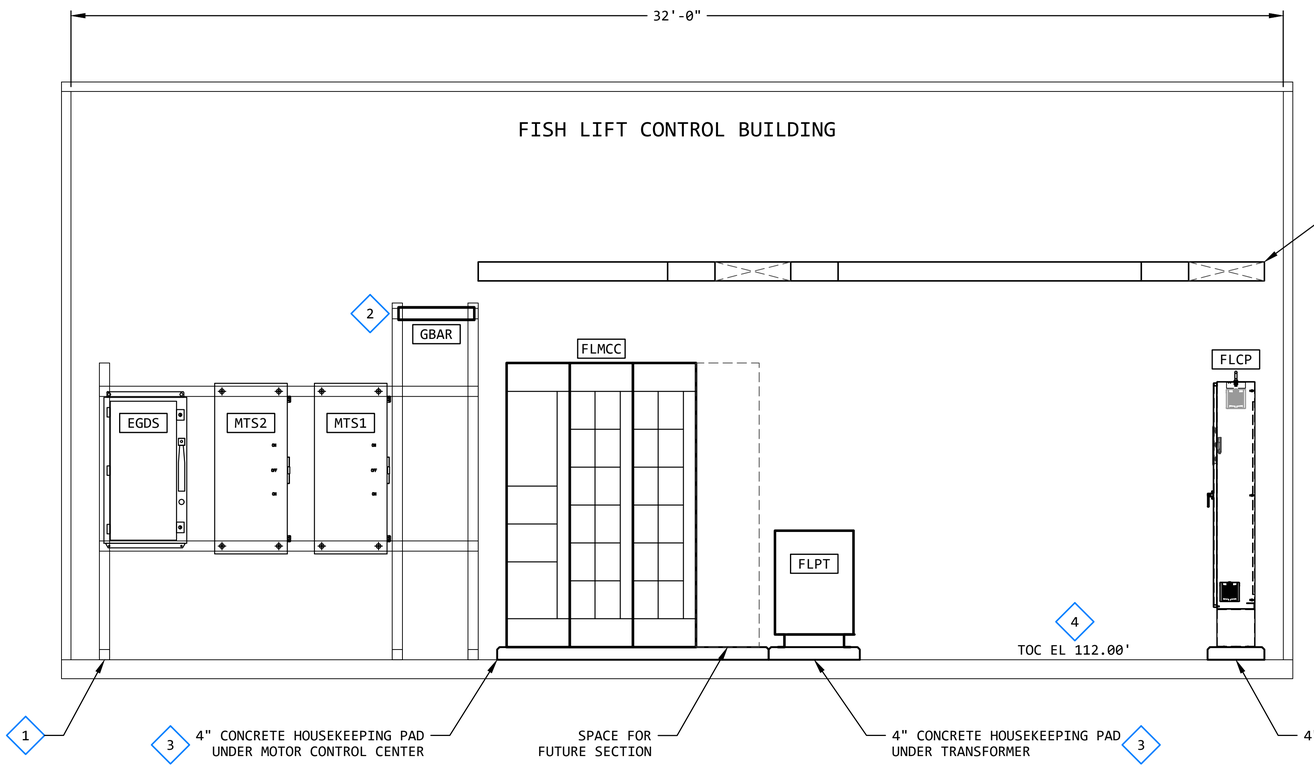
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GENERAL ARRANGEMENT PLAN FISH LIFT CONTROL BUILDING	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CA-008	REV: 0

KEYED NOTES:

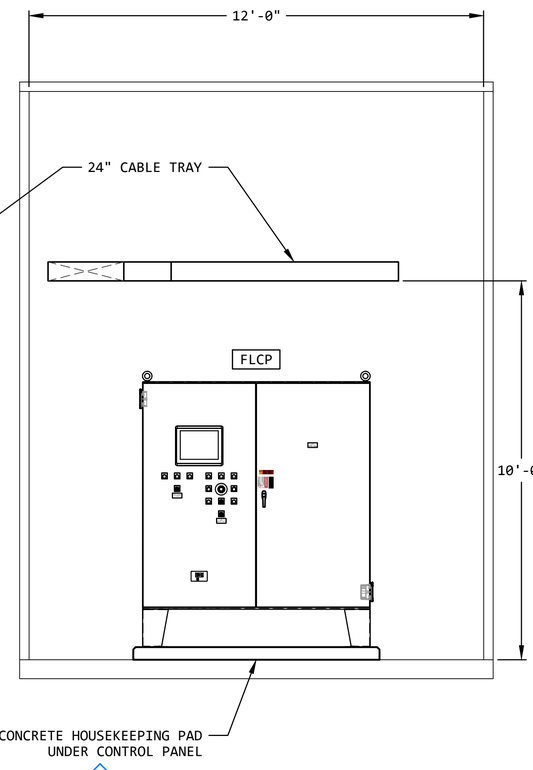
1. THE CONTRACTOR SHALL PROVIDE FLOOR MOUNTED UNISTRUT STRUCTURES FOR ALL NON-FLOOR MOUNTED EQUIPMENT AND/OR PANELS LOCATED IN THE FISH LIFT CONTROL BUILDING. DO NOT ATTACH ANY EQUIPMENT, INCLUDING THE UNISTRUT STRUCTURES, TO THE WALL.
2. THE GROUND BAR SHALL BE MOUNTED 9' AFF, AS REQUIRED. CONNECT TO THE PIGTAIL RESERVED FOR THIS PURPOSE. SEE EE-CG-008 FOR DETAILS.
3. THE CONTRACTOR SHALL PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT INSTALLED. THE HOUSEKEEPING PADS SHALL BE A MINIMUM OF 4" THICK, UNLESS NOTED OTHERWISE. THE FACE OF THE PAD SHALL EXTEND 2" BEYOND THE FACE OF THE EQUIPMENT. PROVIDE A 3/4" CHAMFERED EDGE.
4. THE FISH LIFT CONTROL BUILDING FLOOR ELEVATION IS APPROXIMATE. THE FINAL FLOOR ELEVATION SHALL BE DETERMINED BY THE BUILDING MANUFACTURER. SEE S-190.

3' 2' 1' 0 2' 4'

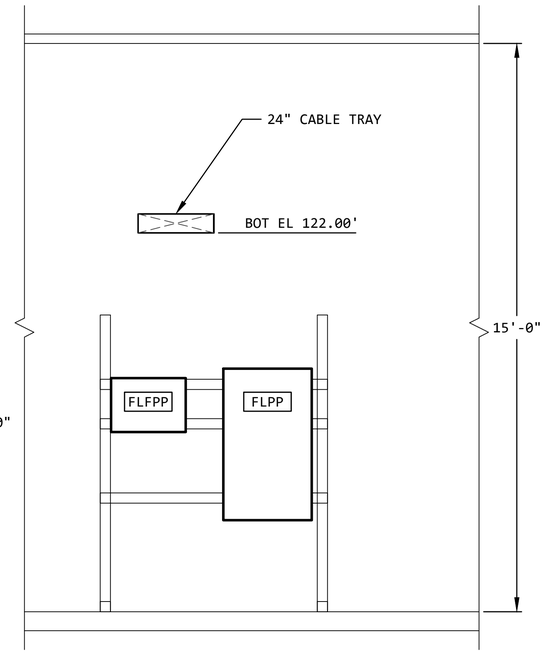
BAR SCALE
1/2" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING



ELEVATION - INSIDE WEST WALL (9A)
SCALE: 1/2" = 1'-0" EE-CA-008



ELEVATION - INSIDE NORTH WALL (9B)
SCALE: 1/2" = 1'-0" EE-CA-008



ELEVATION - INSIDE EAST WALL (9C)
SCALE: 1/2" = 1'-0" EE-CA-008

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE EE-CA-008 AND THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ELEVATION PLAN FISH LIFT CONTROL BUILDING	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CA-009	REV: 0

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG No.	LAMP TYPE OR SELECTION	FIXTURE LUMENS	FIXTURE WATTS	VOLTAGE	MOUNTING	COMMENTS
FL	LED FLOOD LIGHT, MEDIUM DISTRIBUTION	HALCO	SFLD1-LS-CS-U-BZ-PC	4000K LED	4050-4350	30	120VAC	VARIES	UNIVERSAL INPUT VOLTAGE CS: COLOR SELECTABLE
LS	LED LINEAR STRIP, 4 FT, GASKETED	HALCO	LS4/36U40	4000K LED	4903	36	120VAC	BOF 9'-6" AFF	UNIVERSAL INPUT VOLTAGE
WP	LED WALL PACK, LOW PROFILE, BRONZE, ALUMINUM HOUSING, GLASS PRISMATIC LENS	HALCO	LPWP-2-HLS-CS-U-BZ	4000K LED	9800	70	120VAC	BOF 10'-0" AFF	UNIVERSAL INPUT VOLTAGE CS: COLOR SELECTABLE
LIGHTING FIXTURE ACCESSORIES									
SP	SWIVELPOLE, 10', BASE MOUNTED, 316 STAINLESS STEEL	SWIVELPOLE	ST7-M2-2400-T-NCT-SS					SURFACE OR BRACKET	STRUCTURE MOUNTED, INDEPENDENT OF GUARDRAIL.
MB	MOUNTING BRACKET FOR SWIVELPOLE	SWIVELPOLE	MBK9-002-HG					SWIVELPOLE BASE	
TM	ROUND POLE MOUNT TENON FOR SWIVELPOLE, 1/2" KNUCKLE SLIPFITTER, , DARK BRONZE	LBS LIGHTING	WSD-TAD2.5-1/2-D					TOP OF SWIVELPOLE	TENON MOUNT FOR USE WITH TYPE FL FLOODLIGHT
BM	WEATHERPROOF BOX WITH 1/2" THREADED HOLE(S) FOR KNUCKLE MOUNTED FIXTURE	BY CONTRACTOR	TBD					BOF 10'-0" AFF	BOX MOUNT FOR USE WITH TYPE FL FLOODLIGHT

LIGHTING AND POWER PLAN SYMBOLS

LIGHTING FIXTURES:

- (LS) a — 4' LED LINEAR STRIP
- (4L) b — 2'x4' LED LIGHT FIXTURE
- (DL) c d — DOWN LIGHT FIXTURE
- (FL) e f — FLOOD LIGHT FIXTURE
- (PL) a — POLE MOUNTED LIGHT FIXTURE
- (WP) b — WALLPACK LIGHT FIXTURE

NOTE:
UPPER CASE LETTERS (LS, FL, WP)
INDICATES FIXTURE TYPE.
(SEE LIGHTING FIXTURE SCHEDULE)
LOWER CASE LETTER (a, b)
INDICATES SWITCHING CIRCUIT.

SWITCHES:

S_b S S_2 S_3 S_4 S_D S_{HR} S_K S_{LV} S_{OS} S_P S_{WP} S_{XP}

TOGGLE SWITCH - AS SPECIFIED:

LOWER CASE LETTER INDICATES SWITCHING CIRCUIT

BLANK	SINGLE POLE SWITCH
2	DOUBLE POLE SWITCH
3	3-WAY SWITCH
4	4-WAY SWITCH
D	DIMMER SWITCH
HR	HORSEPOWER RATED SWITCH
K	KEY OPERATED SWITCH
LV	LOW VOLTAGE SWITCH
OS	OCCUPANCY SWITCH
P	SINGLE POLE SWITCH WITH PILOT LAMP
WP	WEATHER PROOF SWITCH
XP	EXPLOSION PROOF SWITCH

PC — CONTROL DEVICE OR EQUIPMENT
- LC LIGHTING CONTACTOR
- PC PHOTOCELL

RECEPTACLES:

- SINGLE RECEPTACLE. NEMA 5-20R
- DUPLEX RECEPTACLE. NEMA 5-20R
- QUAD RECEPTACLE. NEMA 5-20R
- DUPLEX GFCI RECEPTACLE. NEMA 5-20R
- QUAD GFCI RECEPTACLE. NEMA 5-20R
- DUPLEX RECEPTACLE. NEMA 5-20R FLUSH FLOOR MOUNTED
- QUAD RECEPTACLE. NEMA 5-20R FLUSH FLOOR MOUNTED
- DUPLEX RECEPTACLE. NEMA 5-20R FLUSH FLOOR MOUNTED WITH PROVISIONS FOR DATA
- SPECIAL RECEPTACLE. NEMA CONFIGURATION AS REQUIRED.

RECEPTACLE - AS SPECIFIED:

- WP WEATHER PROOF
- XP EXPLOSION PROOF
- EM EMERGENCY CIRCUIT

MISC. POWER

- (#) MOTOR, # HORSEPOWER RATING
- ELECTRICAL POWER PANELBOARD, SURFACE MOUNTED
- ELECTRICAL POWER PANELBOARD, FLUSH MOUNTED
- DISCONNECT SWITCH (NF = NON-FUSED)
- MAGNETIC MOTOR STARTER
- COMBINATION MAGNETIC MOTOR STARTER/DISCONNECT
- MS MANUAL MOTOR STARTER
- WIRELESS ACCESS POINT

EXIT AND EMERGENCY LIGHTING:

- EXIT SIGN
  CEILING, UNIT OR WALL MOUNTED, AS REQUIRED.
  ARROW(S) INDICATES EGRESS DIRECTION.
  SHADED AREA INDICATES SIGN FACE.
- III — TANDEM EMERGENCY LIGHT BATTERY PACK AND EXIT SIGN
  ARROW(S) INDICATES EGRESS DIRECTION.
  SHADED AREA INDICATES SIGN FACE.
  ROMAN NUMERALS FOR REMOTE HEAD REFERENCE.
- III — EMERGENCY LIGHT BATTERY PACK
  ROMAN NUMERALS FOR REMOTE HEAD REFERENCE
- III — REMOTE EMERGENCY LIGHTING HEAD
  ROMAN NUMERALS FOR BATTERY PACK POWER REFERENCE

GENERAL NOTES:

1. THE MINIMUM SIZE LIGHTING AND POWER WIRING SHALL BE #12 AWG.
2. ALL INTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION, UNLESS STATED OTHERWISE. ALL EXTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V, COPPER WITH XHHW INSULATION, UNLESS STATED OTHERWISE.
3. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.
4. THE NON-HOMERUN CABLES IN A CIRCUIT SHALL MATCH THE SIZE OF THE HOMERUN CABLE FOR THAT CIRCUIT, UNLESS NOTED OTHERWISE. REFER TO THE PANEL SCHEDULES FOR ALL HOMERUN CABLE REQUIREMENTS.
5. ALL CABLES SHALL BE SUPPORTED BY CONDUIT, CABLE TRAY, OR A COMBINATION OF RACEWAYS, FOR THEIR ENTIRE LENGTH. CONDUIT MAY BE USED AS A RACEWAY FOR ANY GROUP OF SINGLE CONDUCTORS OR ANY MULTICONDUCTOR CABLE.
6. ALL LIGHTING TOGGLE SWITCHES SHALL BE COMMERCIAL SPECIFICATION GRADE 277/120V, SIDE WIRED AND PROVIDED WITH GROUNDING SCREW. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL.
7. ALL CONENIENCE RECEPTACLES SHALL BE INDUSTRIAL GRADE GROUNDING TYPE NEMA 5-20R, SIDE WIRED. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. ALL CONVENIENCE RECEPTACLES TO BE INSTALLED ON THE PLANT FLOOR, IN ELECTRICAL ROOMS OR ON AUXILIARY STRUCTURES ON THE SITE SHALL BE GFCI PROTECTED.
8. ALL CONVENIENCE RECEPTACLES SHALL BE MOUNTED 18" AFF, ALL LAVATORY GFCI RECEPTACLES SHALL BE MOUNTED AT 48" AFF, ALL LIGHTING TOGGLE SWITCHES SHALL BE MOUNTED AT 48" AFF AND ALL TEL/DATA SYSTEM OUTLETS SHALL BE MOUNTED AT 18" AFF, UNLESS STATED OTHERWISE.
9. COORDINATE THE COLOR OF ALL WIRING DEVICES WITH THE OWNER. PROVIDE MATCHING WALL PLATES FOR ALL WIRING DEVICES IN FINISHED AREAS. PROVIDE STAINLESS STEEL WALL PLATES FOR ALL WIRING DEVICES IN UNFINISHED AREAS.
10. THE MOUNTING HEIGHTS INDICATED FOR ALL LIGHTING FIXTURES SHALL BE TO THE BOTTOM OF FIXTURE (BOF), UNLESS STATED OTHERWISE.
11. ACTUAL LIGHTING FIXTURE LOCATIONS AND MOUNTING HEIGHTS MAY BE ADJUSTED IN THE FIELD TO AVOID PIPING, HANGERS AND OTHER ARCHITECTURAL APPURTENANCES.
12. THE CONTRACTOR SHALL PROVIDE ALL MOUNTING APPURTENANCES AS REQUIRED FOR A COMPLETE INSTALLATION.
13. ALL EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS SHALL BE FED FROM THE UNSWITCHED HOT LEG OF THE ROOM OR AREA LIGHTING CIRCUIT.
14. SEE GENERAL NOTES ON DRAWING EE-CJ-009 FOR MORE INFORMATION.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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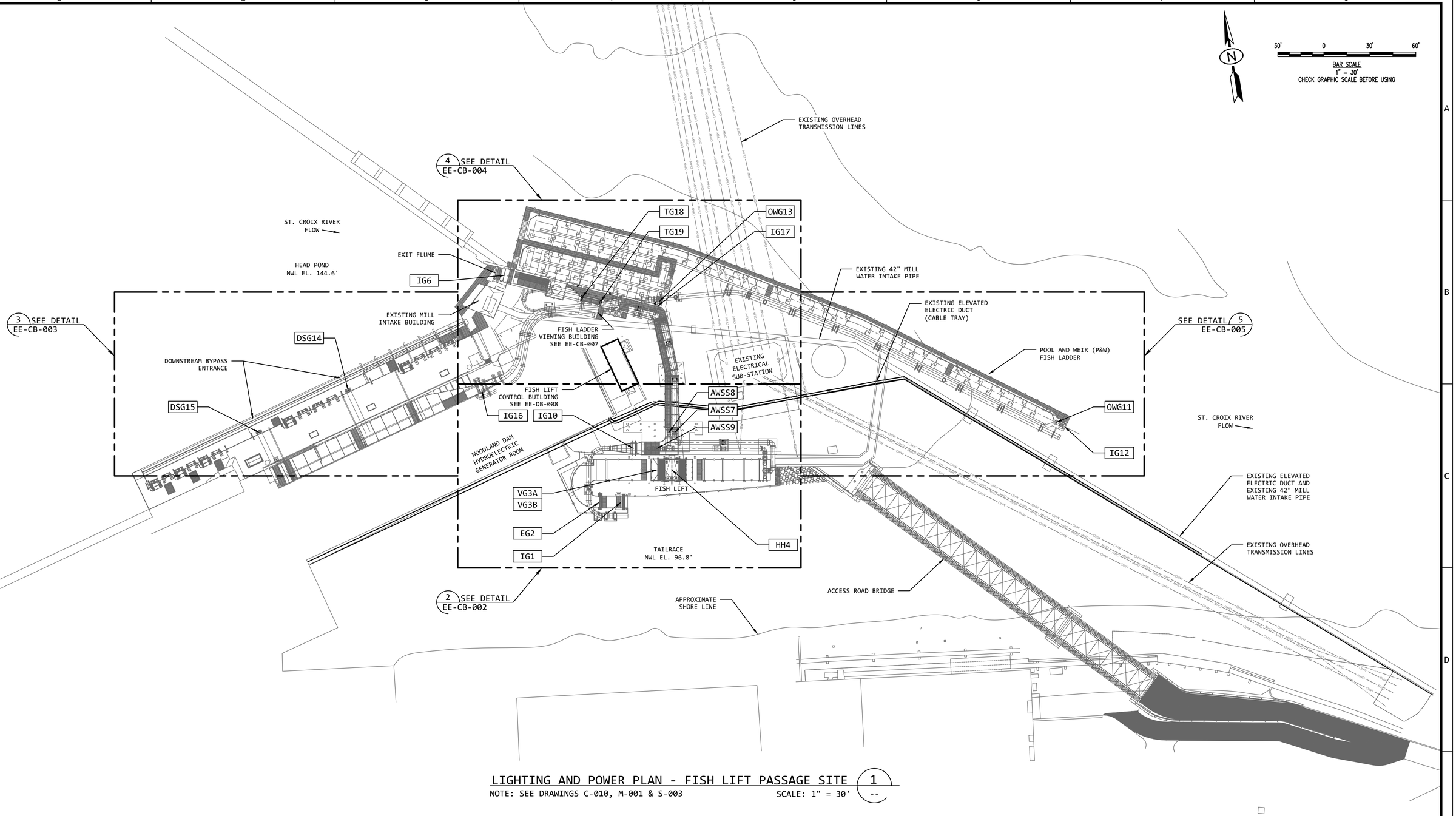
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER LEGEND SHEET FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CB-000	REV: 0



LIGHTING AND POWER PLAN - FISH LIFT PASSAGE SITE 1

NOTE: SEE DRAWINGS C-010, M-001 & S-003

SCALE: 1" = 30'

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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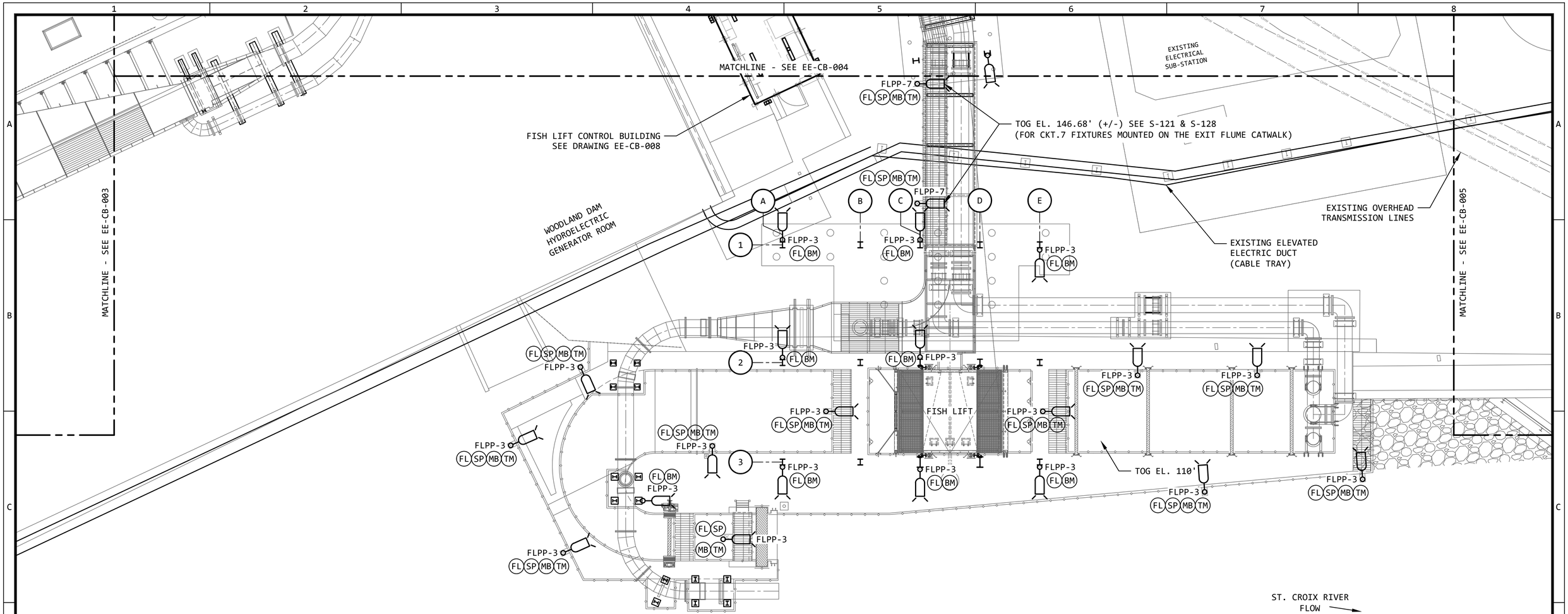
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT PASSAGE SITE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-001 REV: 0



LIGHTING AND POWER PLAN - FISH LIFT AREA (2)

NOTE: SEE DRAWINGS
C-100, S-100, S-200 & S-210

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

BAR SCALE
1/8" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

12' 8' 4' 0 8' 16'

N

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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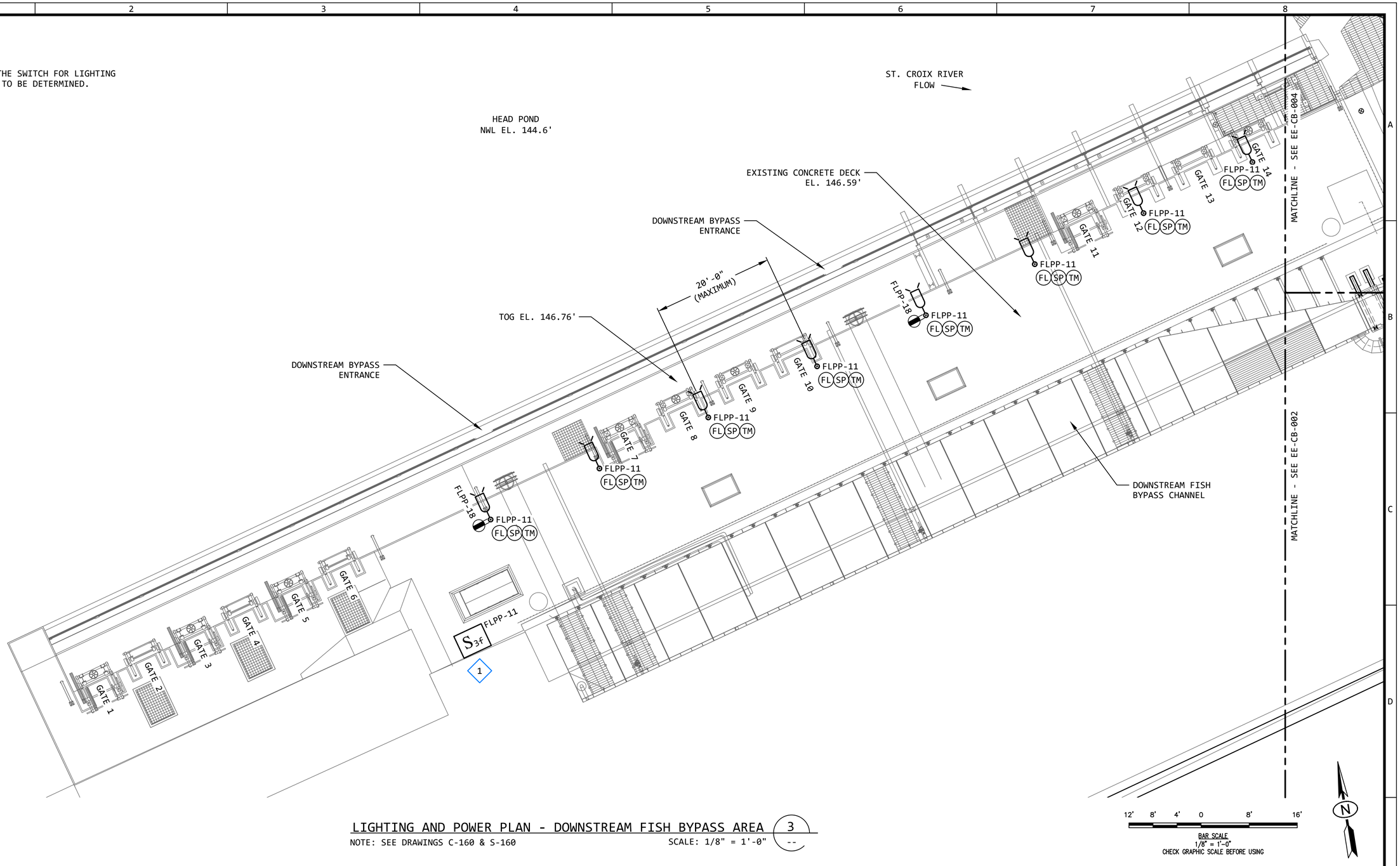
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CB-002	REV: 0

KEYED NOTES:

1. THE LOCATION FOR THE SWITCH FOR LIGHTING CIRCUIT 11 IS YET TO BE DETERMINED.



LIGHTING AND POWER PLAN - DOWNSTREAM FISH BYPASS AREA 3

NOTE: SEE DRAWINGS C-160 & S-160

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

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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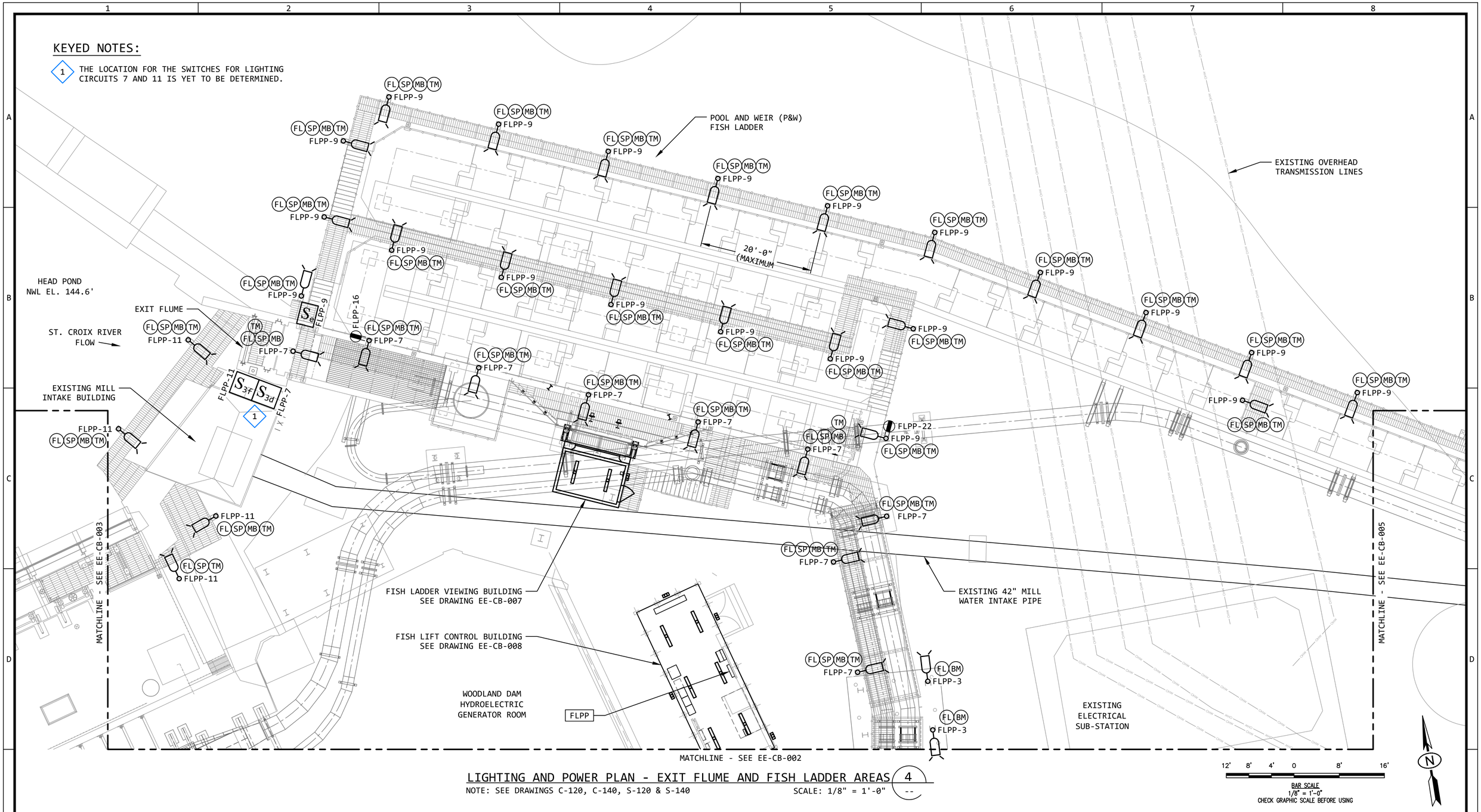
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN DOWNSTREAM FISH BYPASS AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-003 / REV: 0

KEYED NOTES:

1. THE LOCATION FOR THE SWITCHES FOR LIGHTING CIRCUITS 7 AND 11 IS YET TO BE DETERMINED.



LIGHTING AND POWER PLAN - EXIT FLUME AND FISH LADDER AREAS

4

NOTE: SEE DRAWINGS C-120, C-140, S-120 & S-140

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

REVISION					
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0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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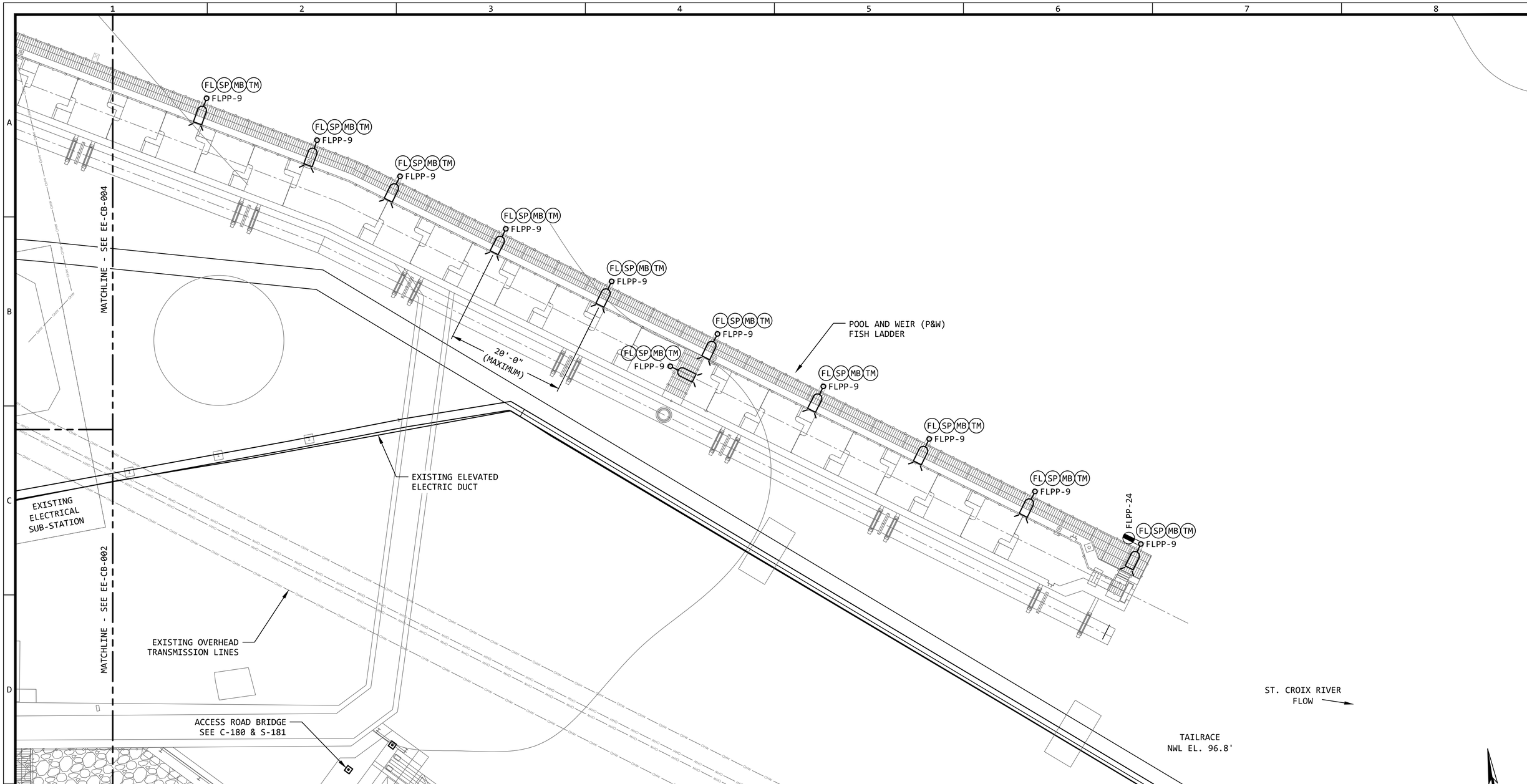
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN EXIT FLUME AND FISH LADDER AREAS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CB-004	REV: 0



LIGHTING AND POWER PLAN - FISH LADDER AREA (5)

NOTE: SEE DRAWINGS C-140 & S-140

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

REVISION					
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0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LADDER AREA (EAST)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-005 REV: 0

BAR SCALE
1/2" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

EXIT FLUME LIGHTING.
SEE EE-CB-004 FOR MORE INFORMATION.

TOG EL. 146.68'

FLPP-7 (FL SP MB TM)

1 MFHCS2

1 ES4

FISH LADDER
VIEWING BUILDING

FLPP-20

a LS FLPP-13

1 MFHCS1

b WP FLPP-13

8'-0"

TOC EL. 135.40'

12'-0"

TOG EL. 135.40'

LIGHTING AND POWER PLAN - FISH LADDER VIEWING BUILDING (7)

NOTE: SEE DRAWING C-123 & S-120

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

KEYED NOTES:

1. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
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0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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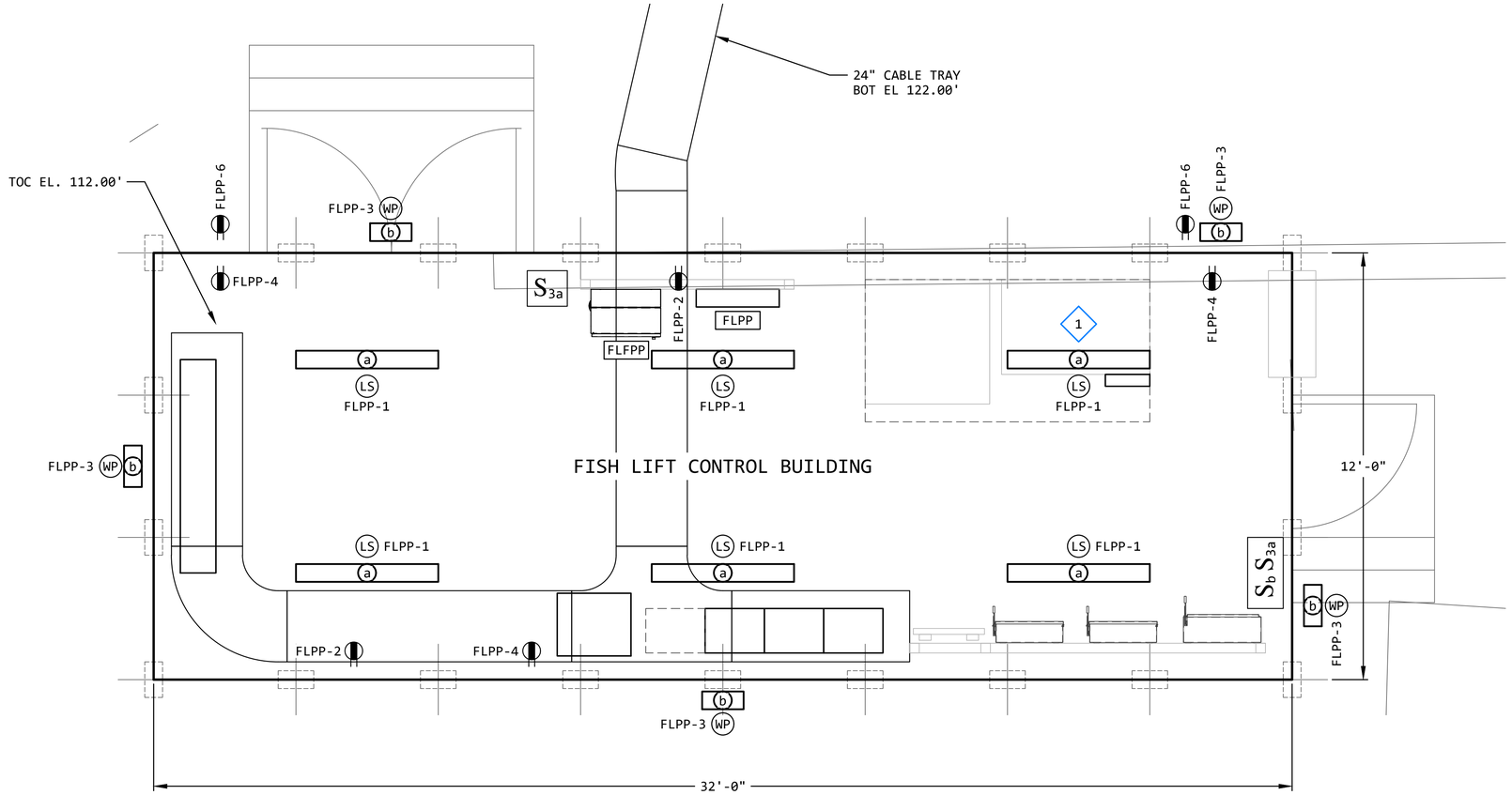
DRAWN BY SAM	DATE 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY CMM	DATE 08/22/2024	LIGHTING AND POWER PLAN FISH LADDER VIEWING BUILDING
APPROVED BY CMH	DATE 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CB-007; REV: 0

3' 2' 1' 0 2' 4'

BAR SCALE
1/2" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING



LIGHTING AND POWER PLAN - FISH LIFT CONTROL BUILDING (8)

NOTE: SEE DRAWING S-190

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

KEYED NOTES:

1. FOR THE LIGHTING FIXTURE OVER THE AIR BURST SYSTEM: THE LIGHTING FIXTURE LOCATION AND MOUNTING HEIGHT MAY BE ADJUSTED IN THE FIELD TO AVOID PIPING, HANGERS AND OTHER ARCHITECTURAL APPURTENANCES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

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0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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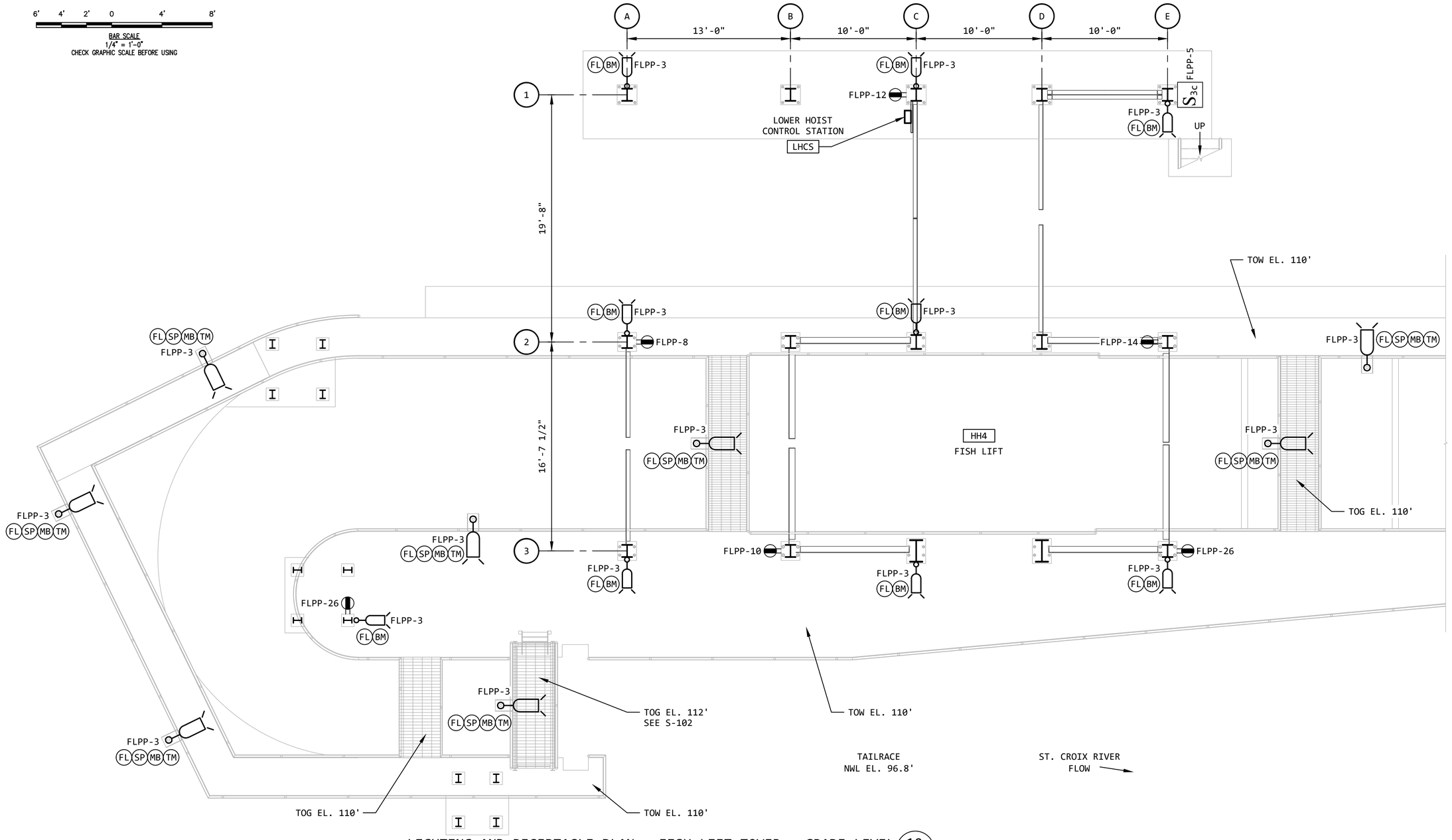
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT CONTROL BUILDING	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-008 / REV: 0



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER - GRADE LEVEL 10

NOTE: SEE DRAWING S-210

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

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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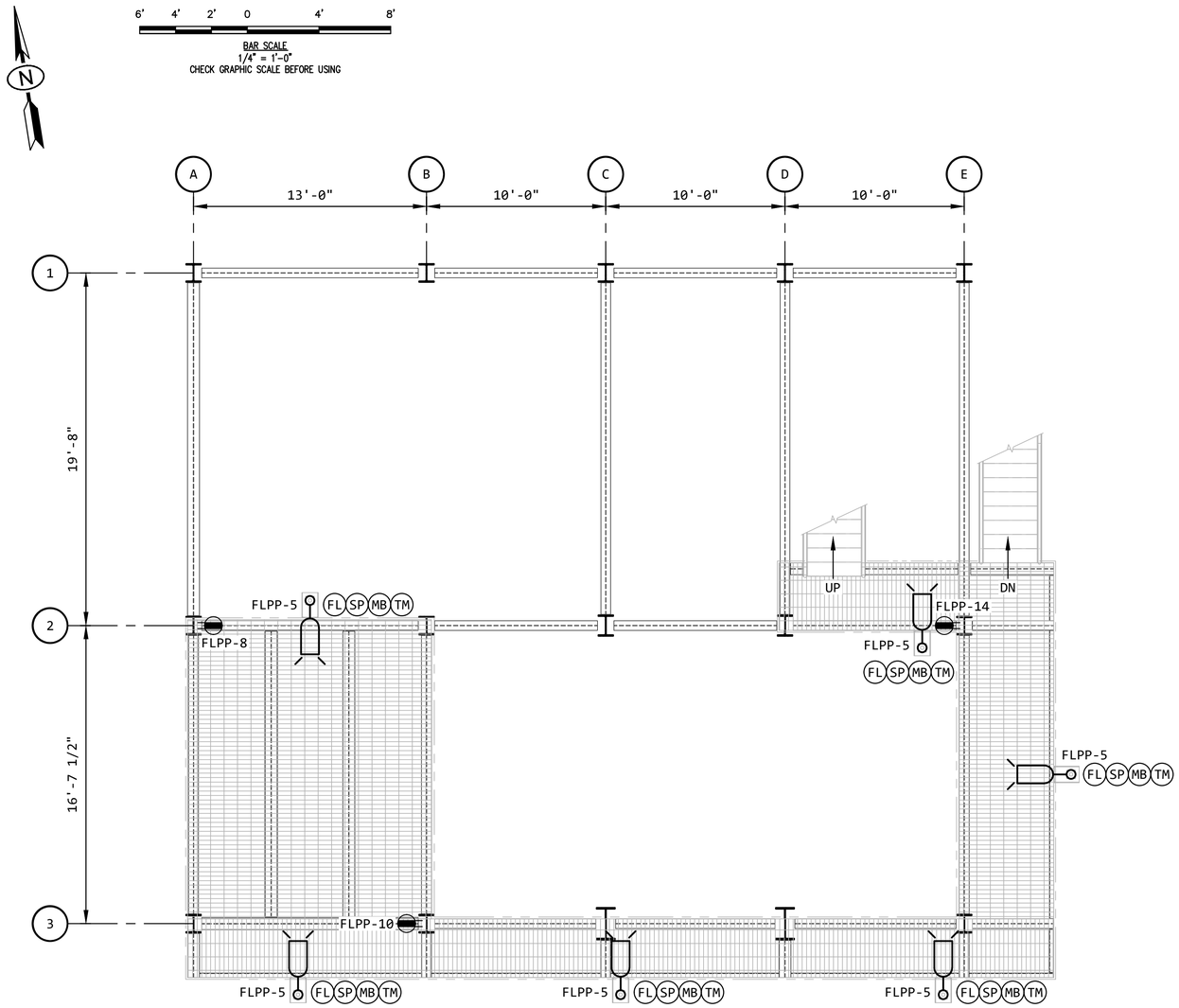
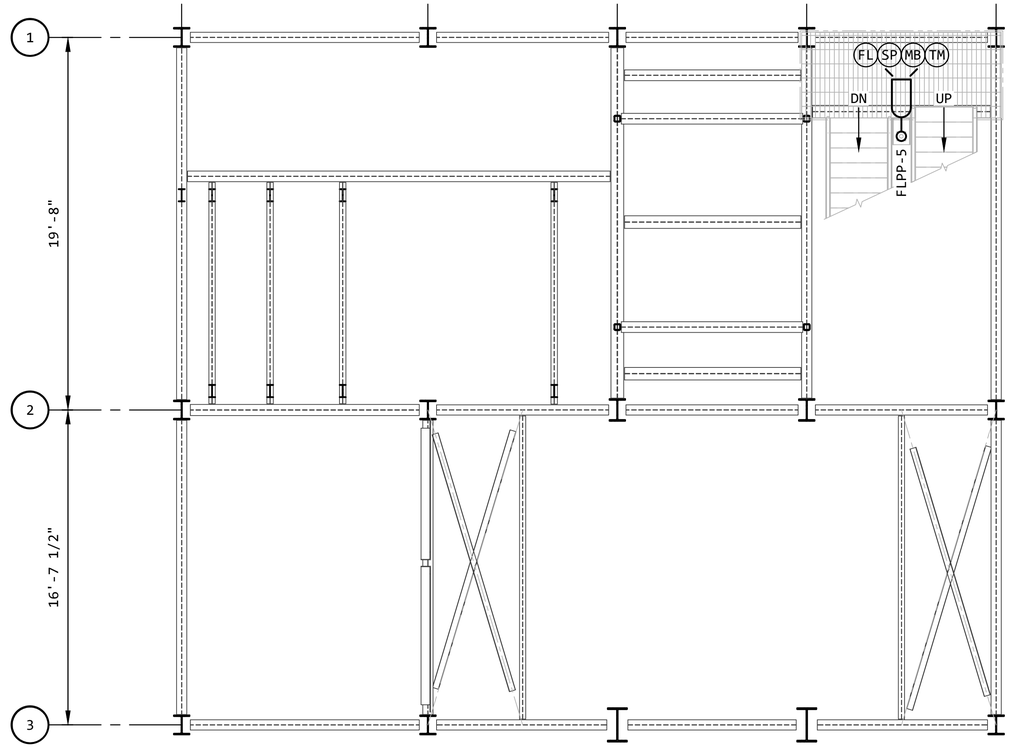
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT TOWER - GRADE LEVEL	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CB-010	REV: 0



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 122.00') 11A

NOTE: SEE DRAWING S-211

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



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 134.00') 11B

NOTE: SEE DRAWING S-211

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

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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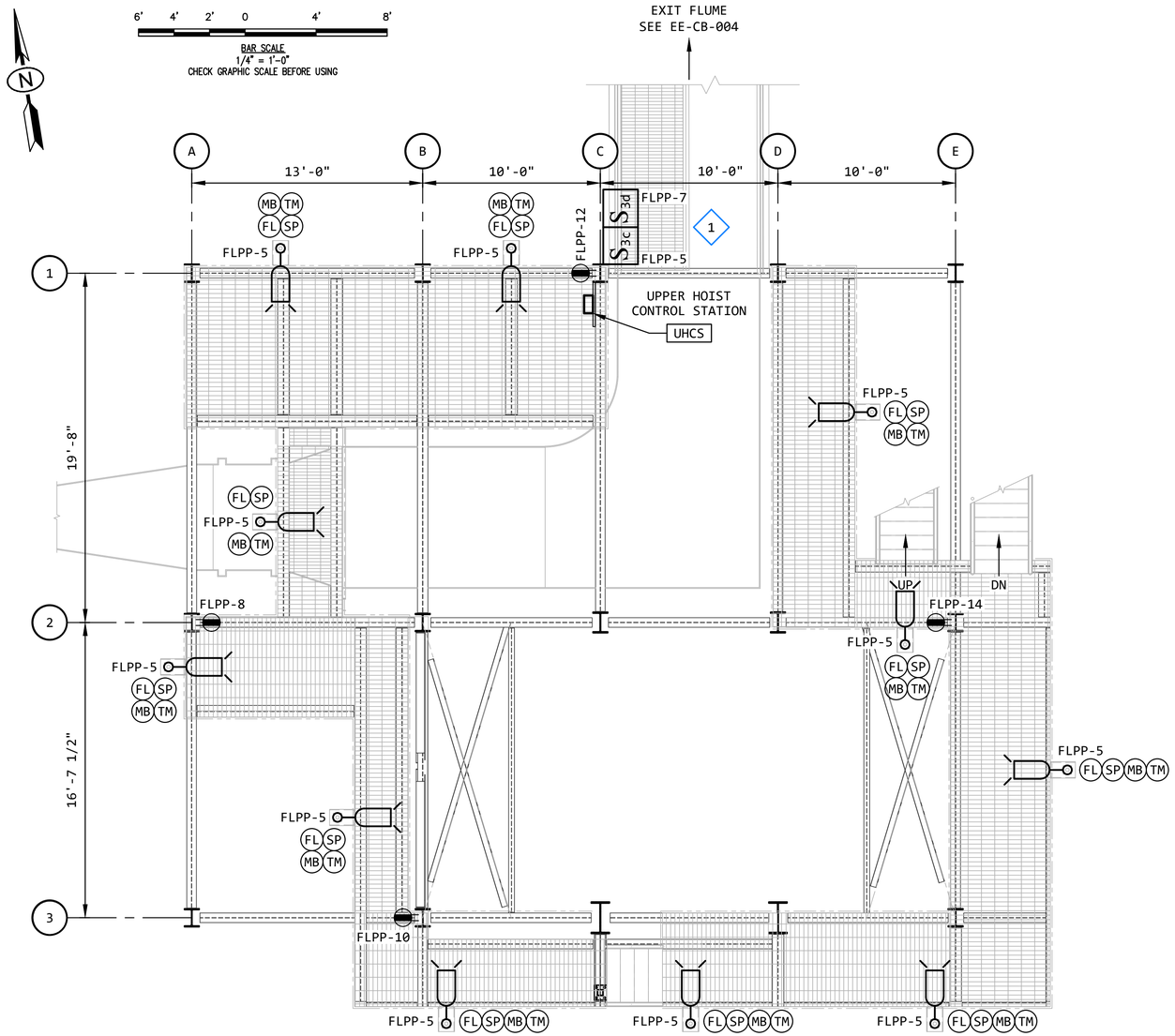
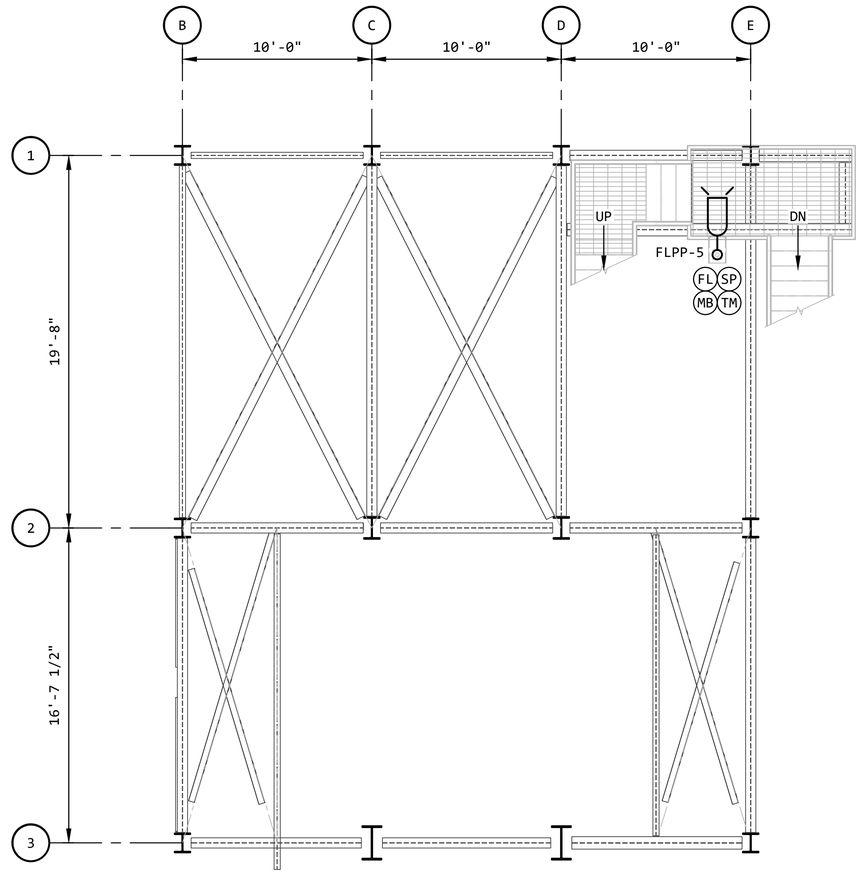
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT TOWER - LOWER LEVELS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-011 / REV: 0



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 146.00') 12A

NOTE: SEE DRAWING S-212

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



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 158.00') 12B

NOTE: SEE DRAWING S-212

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

KEYED NOTES:

1. THE LOCATION FOR THE SWITCHES FOR LIGHTING CIRCUITS 5 AND 7 IS YET TO BE DETERMINED.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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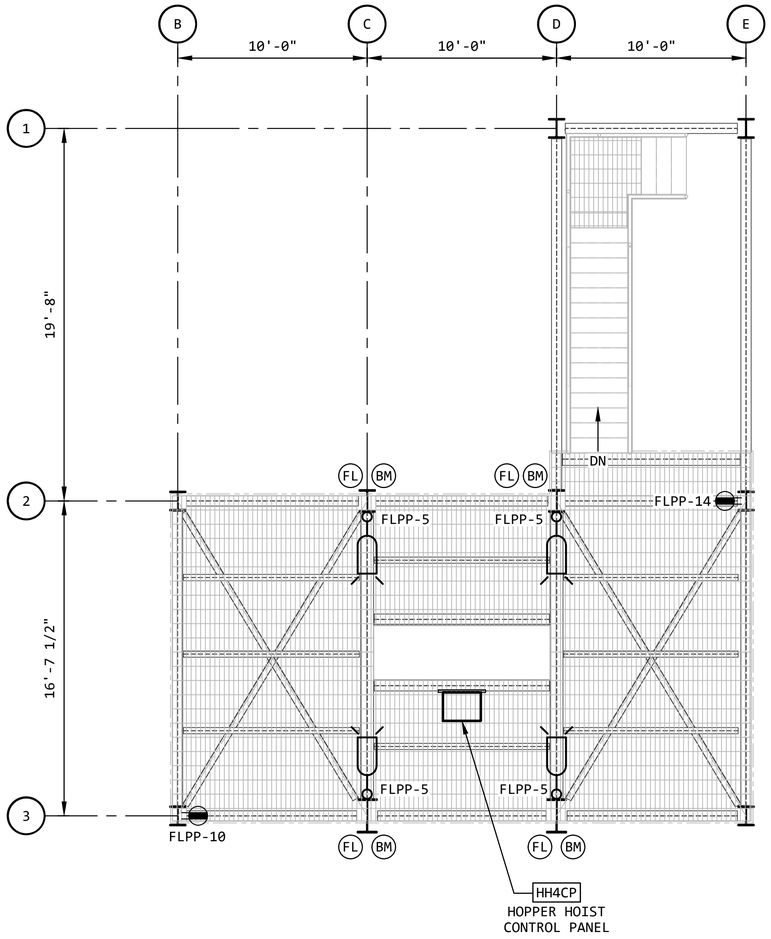
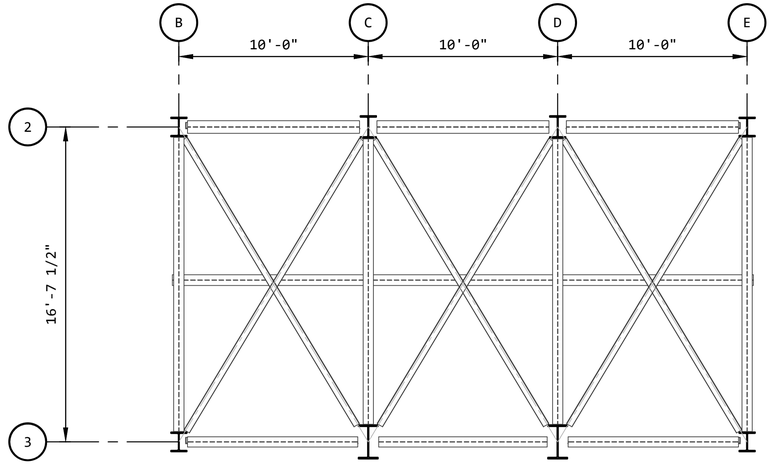
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT TOWER - MIDDLE LEVELS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-012 / REV: 0

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 173.00') 13A
NOTE: SEE DRAWING S-213 SCALE: 1/4" = 1'-0" --



LIGHTING AND RECEPTACLE PLAN - FISH LIFT TOWER (TOS EL 186.00') 13B
NOTE: SEE DRAWING S-213 SCALE: 1/4" = 1'-0" --

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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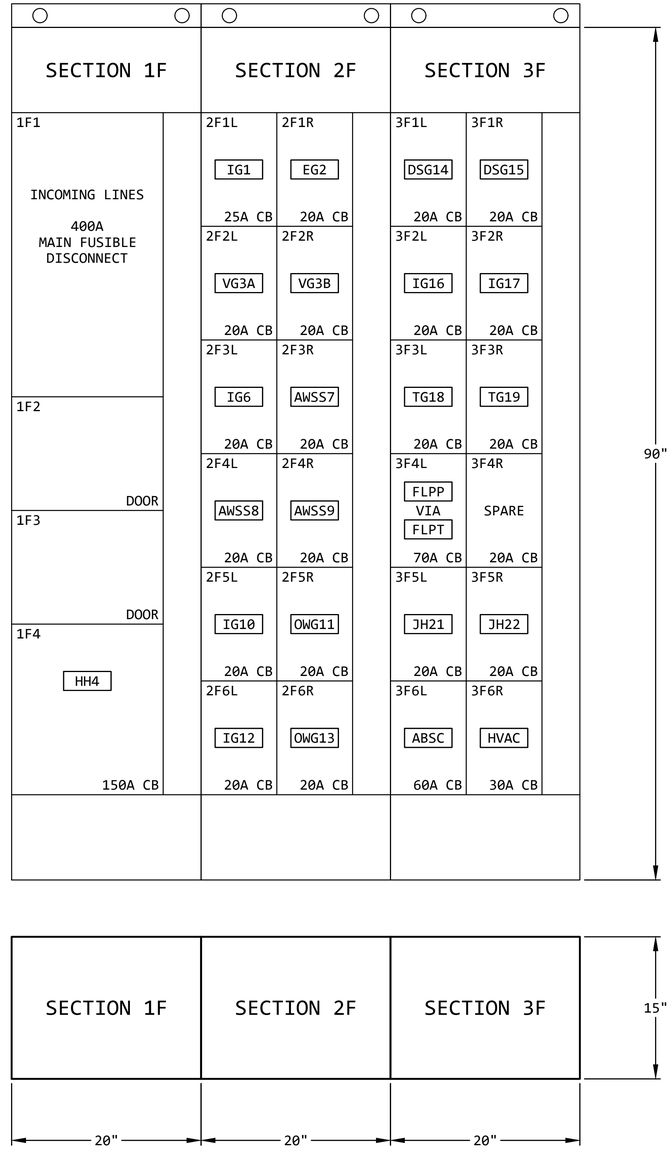
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTING AND POWER PLAN FISH LIFT TOWER - UPPER LEVELS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CB-013 REV: 0

MCC EQUIPMENT LIST

LINE	EQUIPMENT ID	EQUIPMENT NAME
1	IG1	FISH LIFT ENTRANCE ISOLATION GATE
2	EG2	FISH LIFT ENTRANCE GATE
3	VG3A	FISH LIFT V-GATE A
4	VG3B	FISH LIFT V-GATE B
5	HH4	HOPPER HOIST AND CONTROL PANEL
6	IG6	EXIT FLUME ISOLATION GATE
7	AWSS7	AWS UPSTREAM ISOLATION VALVE
8	AWSS8	DS PASSAGE AWS ISOLATION VALVE
9	AWSS9	AWS DOWNSTREAM ISOLATION VALVE
10	IG10	EXIT FLUME DS BYPASS ISOLATION GATE
11	OWG11	FISH LADDER ENTRANCE OVERSHOT WEIR GATE
12	IG12	FISH LADDER ENTRANCE ISOLATION GATE
13	OWG13	FISH LADDER EXIT OVERSHOT WEIR GATE
14	DSG14	DS BYPASS SLIDE GATE
15	DSG15	DS BYPASS SLIDE GATE
16	IG16	DS BYPASS ISOLATION GATE
17	IG17	FISH LADDER EXIT ISOLATION GATE
18	TG18	EXIT FLUME TRAP GATE
19	TG19	EXIT FLUME TRAP GATE
20		
21	JH21	UPSTREAM SCREEN PANEL JIB HOIST (1/2 TON)
22	JH22	STATIONARY V-GATE PANEL JIB HOIST (1/2 TON)
23		
24		
25	ABSC	AWS SCREEN AIR BURST SYSTEM COMPRESSOR
26	HVAC	FISH LIFT CONTROL BUILDING PACKAGED HVAC UNIT
27		
28		
29		
30		
31	FLPT	FISH LIFT POWER TRANSFORMER
32	FLPP	FISH LIFT POWER PANEL
33		
34		
35		
36		
37		
38		
39		
40		

GENERAL NOTES:

1. FOR MORE INFORMATION REGARDING THE EQUIPMENT SHOWN HERE, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.



REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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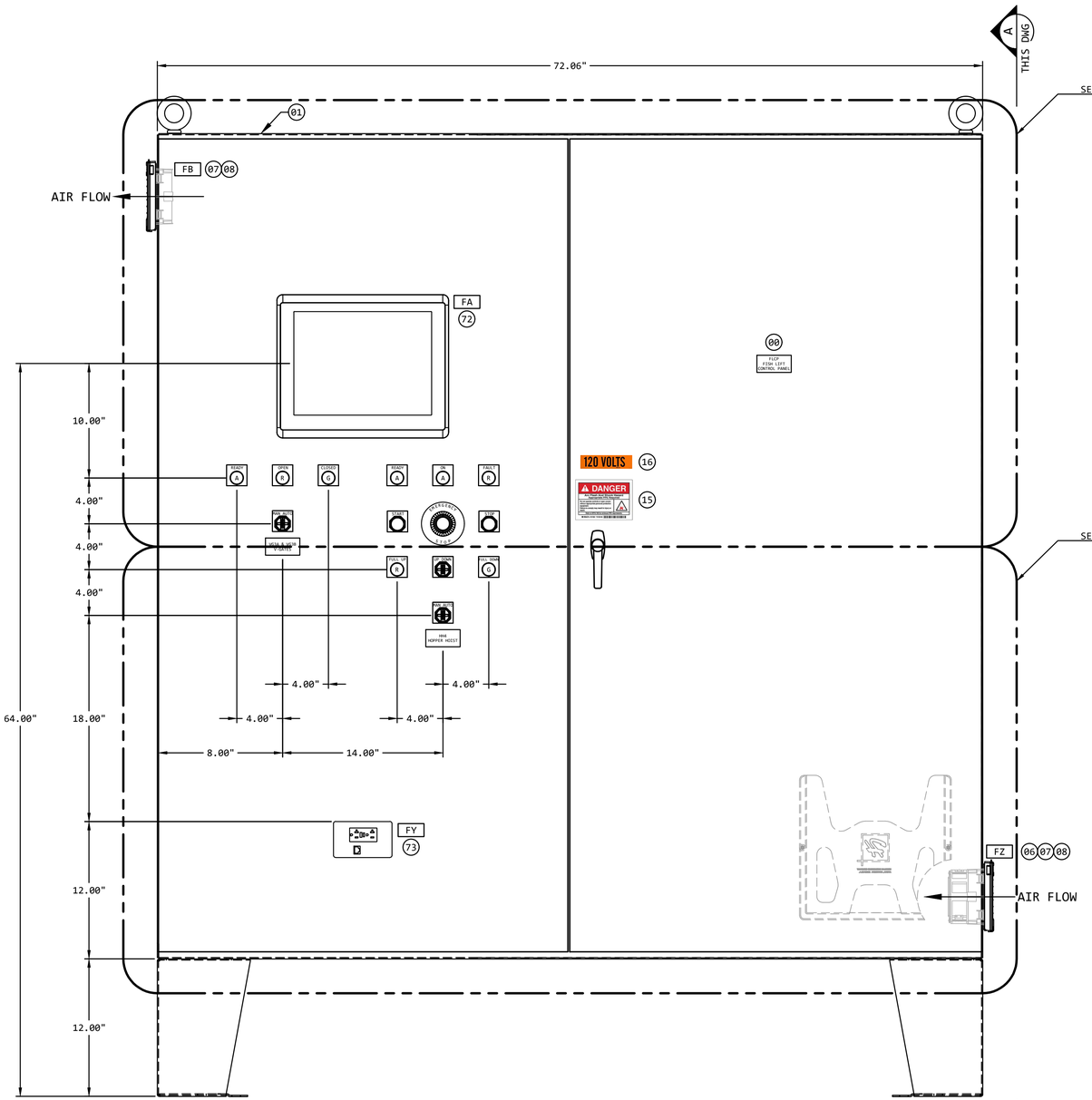
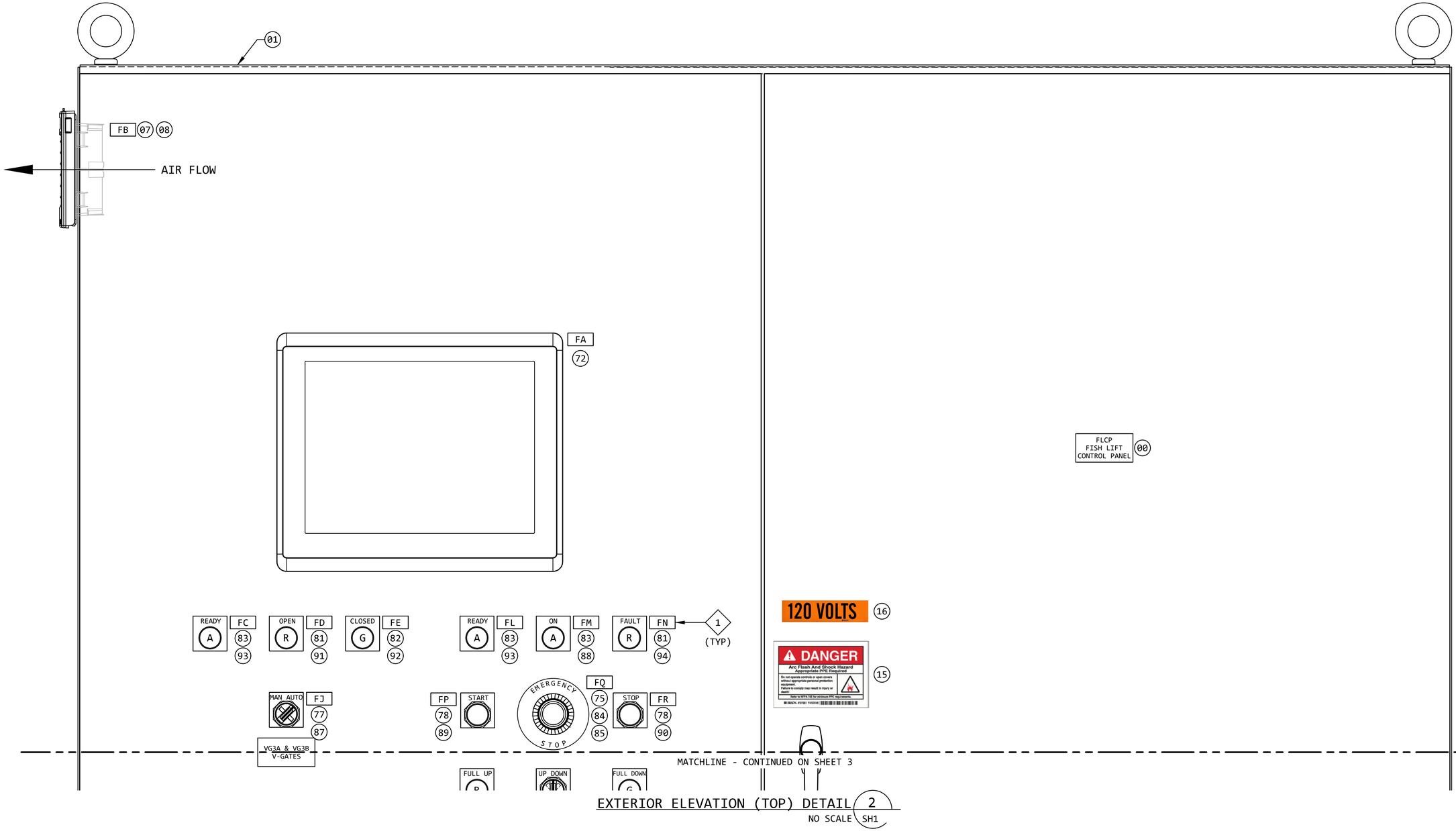
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	EQUIPMENT LAYOUT PLAN - FRONT ELEVATION 480V FISH LIFT MOTOR CONTROL CENTER (FLMCC)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CE-001 REV: 0


72.06"
THIS DWG
A
SEE DETAIL 2 SH2
SEE DETAIL 3 SH3
01
FB
07
08
AIR FLOW
FA
72
00
FLP
FISH LIFT
CONTROL PANEL
120 VOLTS
16
DANGER
15
START
RUN
COMM
STOP
OK
FAULT
ESTOP
GATE
GATE
GATE



EXTERIOR ELEVATION (TOP) DETAIL 2

NO SCALE SH1

KEYED NOTES:

1. THE EQUIPMENT LOCATION TAGS SHOWN ON THE EXTERIOR ELEVATION ARE SHOWN THERE FOR DEVICE LOCATION IDENTIFICATION PURPOSES ONLY. THEY SHALL NOT BE INSTALLED ON THE FRONT OF THE DOOR.

   THE EQUIPMENT LOCATION TAGS SHALL BE INSTALLED ON THE INSIDE OF THE DOOR, ADJACENT TO EACH DEVICE.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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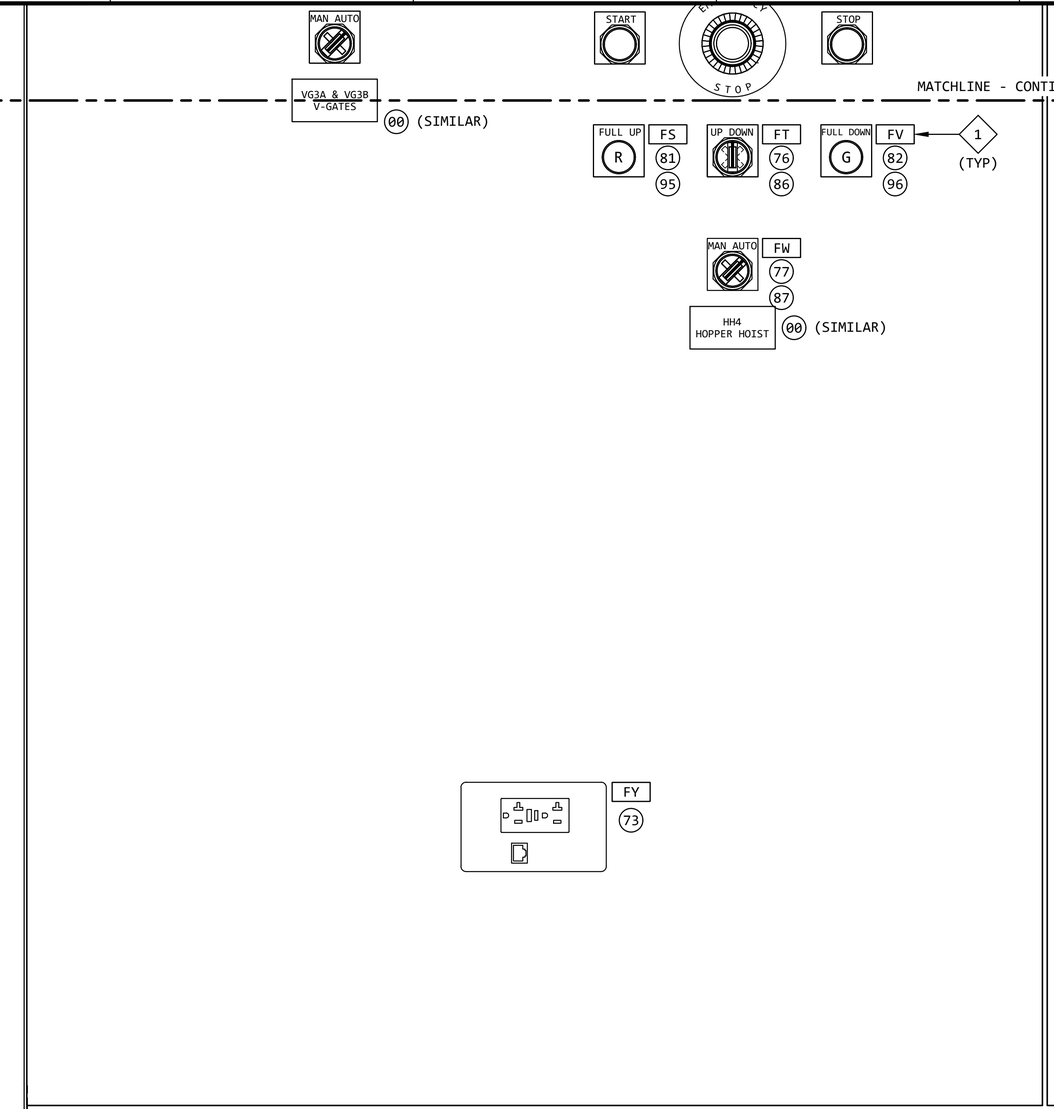
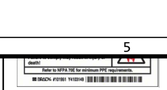
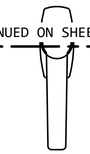
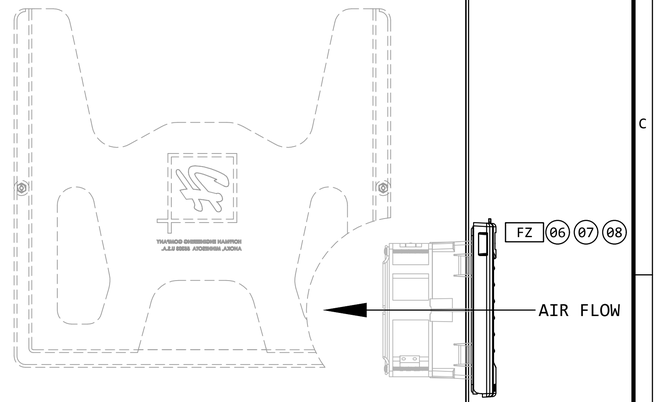
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	EQUIPMENT LAYOUT - EXTERIOR ELEVATION (TOP) FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-CE-002 SH2 / REV: 0



MATCHLINE - CONTINUED ON SHEET 2







EXTERIOR ELEVATION (BOTTOM) DETAIL 3
NO SCALE SH1

KEYED NOTES:

1. THE EQUIPMENT LOCATION TAGS SHOWN ON THE EXTERIOR ELEVATION ARE SHOWN THERE FOR DEVICE LOCATION IDENTIFICATION PURPOSES ONLY. THEY SHALL NOT BE INSTALLED ON THE FRONT OF THE DOOR.

   THE EQUIPMENT LOCATION TAGS SHALL BE INSTALLED ON THE INSIDE OF THE DOOR, ADJACENT TO EACH DEVICE.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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MAY 2, 2025

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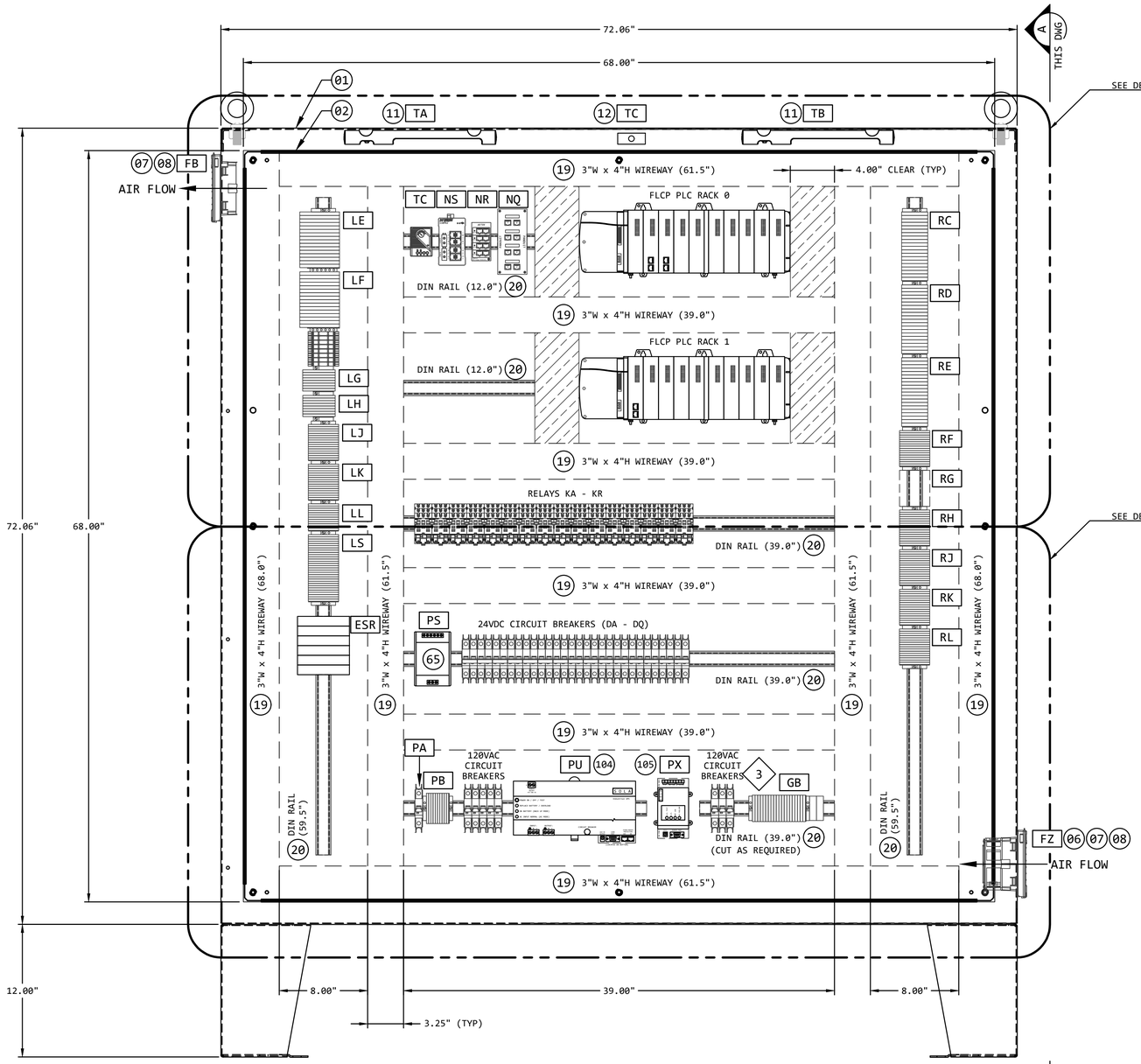
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	EQUIPMENT LAYOUT - EXTERIOR ELEV. (BOTTOM) FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CE-002 SH3 / REV: 0

KEYED NOTES:

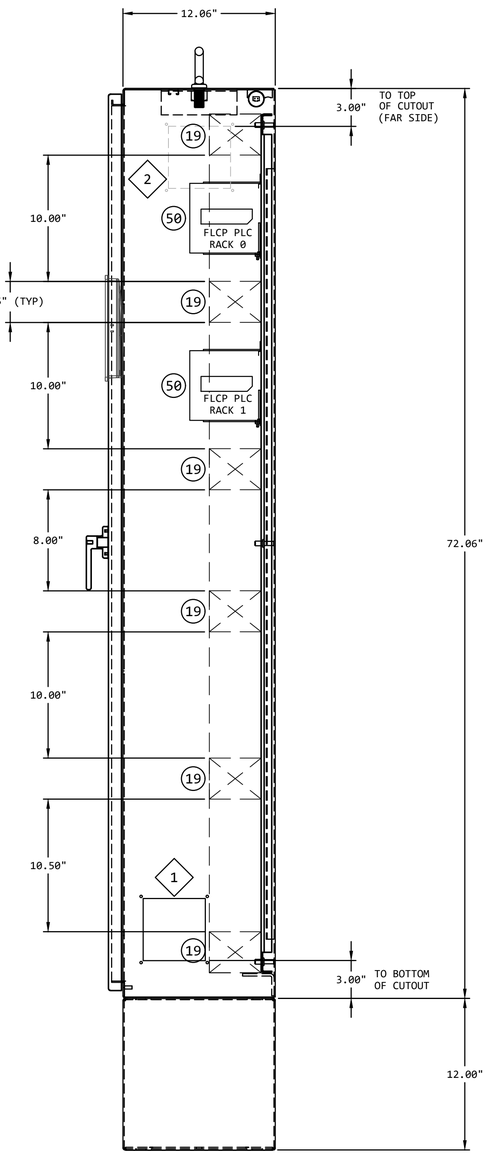
1. INLET FAN FAN CUTOUT AND MOUNTING HOLES. (THIS SIDE)
   VERIFY ACTUAL DIMENSIONS FROM VENDOR DOCUMENTATION PRIOR TO ANY CUTTING OR DRILLING. IN ADDITION, VERIFY CLEARANCE WITH ALL EQUIPMENT AND DEVICES LOCATED INSIDE THE PANEL (ie: WIREWAY)

2. EXHAUST GRILL GRILL CUTOUT AND MOUNTING HOLES. (FAR SIDE)
   VERIFY ACTUAL DIMENSIONS FROM VENDOR DOCUMENTATION PRIOR TO ANY CUTTING OR DRILLING.

3. TIE ALL PANEL AND BACK PANEL GROUNDS TO THE GROUND BUS (TERMINAL BLOCK GB).



FLCP INTERIOR ELEVATION DETAIL 4
NO SCALE --



RIGHT SIDE VIEW A
NO SCALE A THIS DWG

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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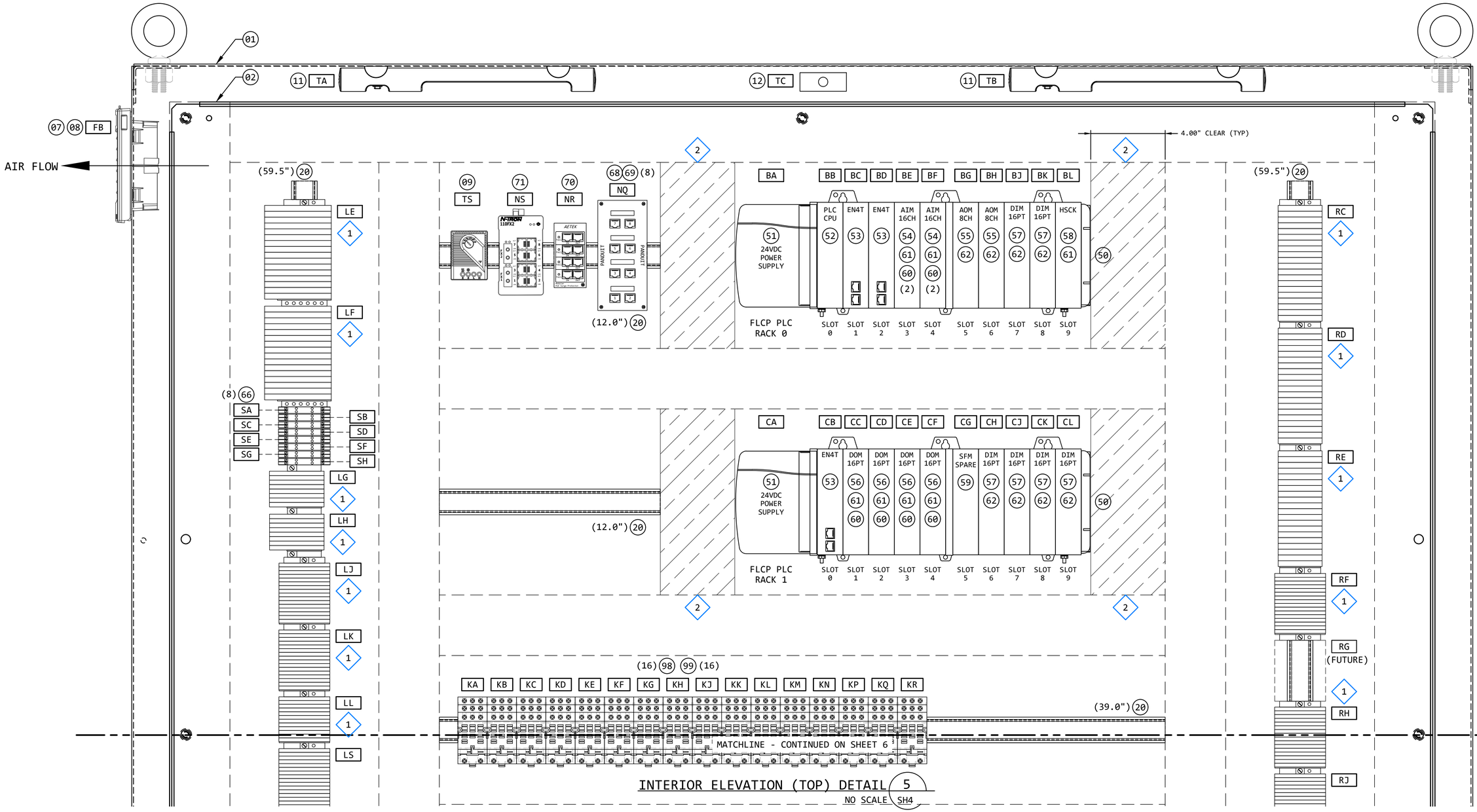
DRAWN BY: SAM — DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM — DATE: 02/22/2024	EQUIPMENT LAYOUT - INTERIOR ELEVATION FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH — DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CE-002 SH4 — REV: 0



INTERIOR ELEVATION (TOP) DETAIL 5

NO SCALE SH4

KEYED NOTES:

1. SEE DRAWINGS EE-CK-001, 002 & 003 (TERMINAL BLOCK DEVELOPMENT) FOR ALL DETAILS FOR TERMINAL BLOCKS, END BARRIERS, END BRACKETS AND JUMPERS.
2. THE HATCH PATTERN INDICATES THE CLEARANCE REQUIRED BY THE PLC POWER SUPPLY AND THE CONTROLLOGIX CHASSIS.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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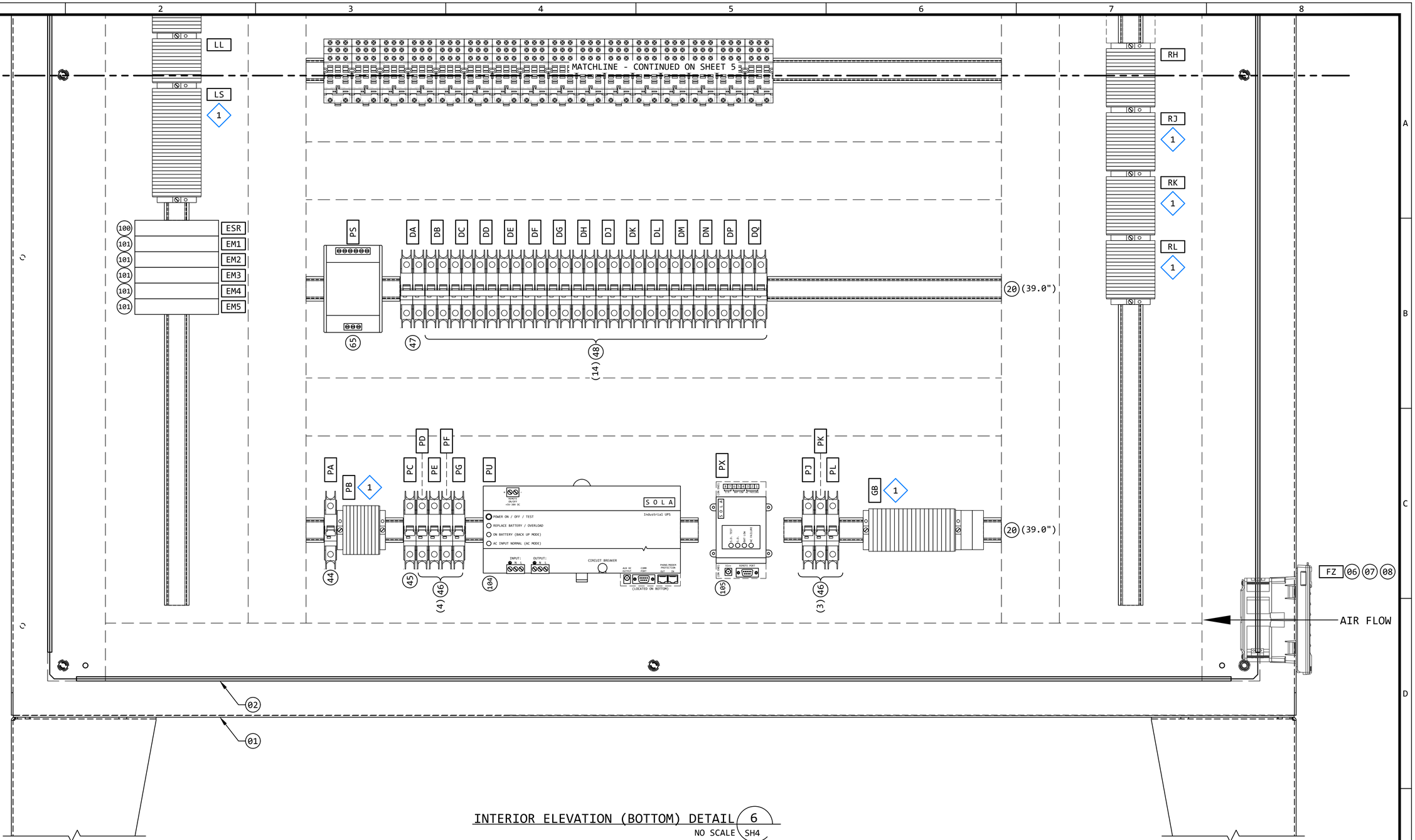
DRAWN BY / DATE	SAM 02/22/2024
CHECKED BY / DATE	CMM 02/22/2024
APPROVED BY / DATE	CMH 02/22/2024
SCALE	NONE

WOODLAND PULP, LLC
WOODLAND FISH LIFT PASSAGE

EQUIPMENT LAYOUT - INTERIOR ELEVATION (TOP)
FISH LIFT CONTROL PANEL (FLCP)

TECHNOLOGY	DRAWING CATEGORY
HYDRO	LAYOUTS

PROJECT NO.	DWG	REV
ARL-007	EE-CE-002 SH5	0



INTERIOR ELEVATION (BOTTOM) DETAIL 6
NO SCALE SH4

KEYED NOTES:

1. SEE DRAWINGS EE-CK-001, 002 & 003 (TERMINAL BLOCK DEVELOPMENT) FOR ALL DETAILS FOR TERMINAL BLOCKS, END BARRIERS, END BRACKETS AND JUMPERS.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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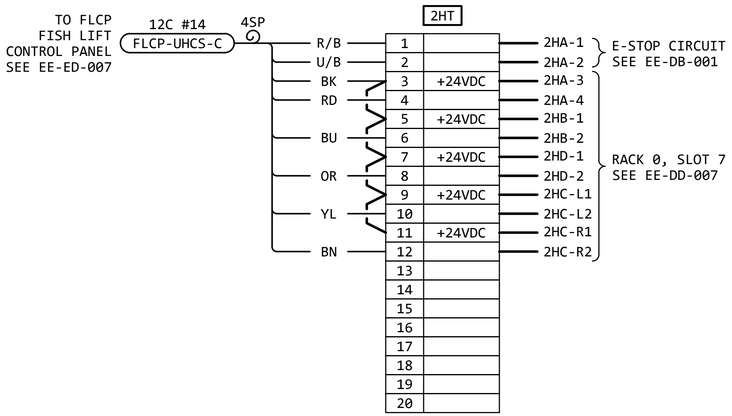
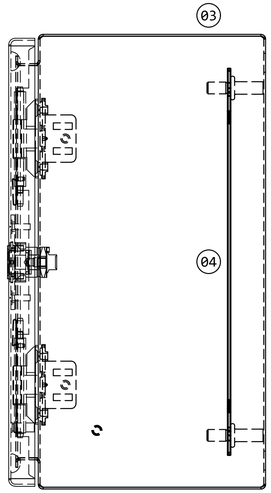
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	EQUIPMENT LAYOUT - INTERIOR ELEV. (BOTTOM) FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-CE-002 SH6 / REV: 0

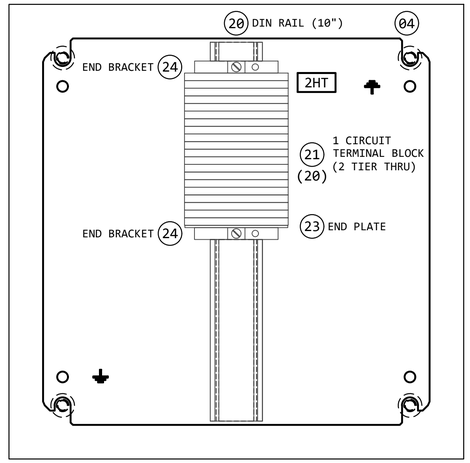


INTERCONNECTION DIAGRAM

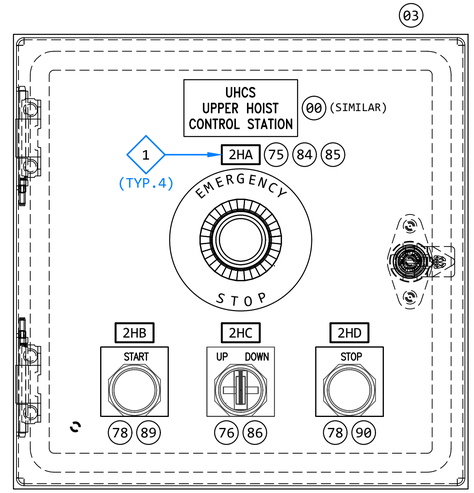


RIGHT SIDE ELEVATION

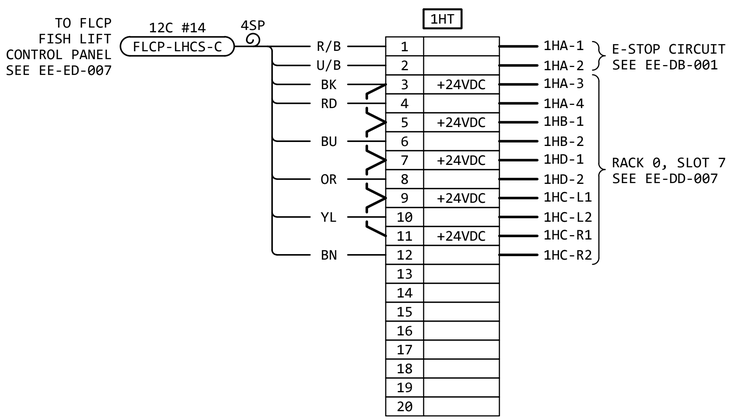
UHCS
UPPER
HOIST CONTROL STATION



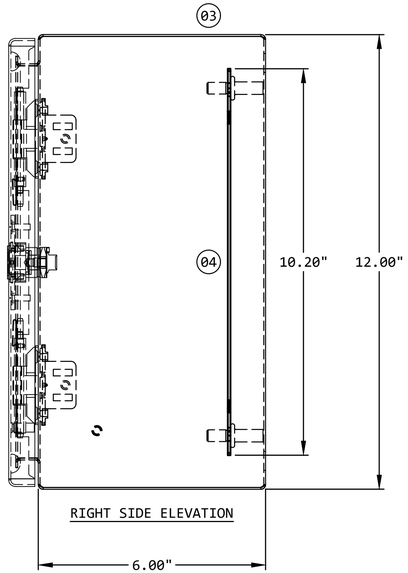
INTERIOR ELEVATION



EXTERIOR ELEVATION

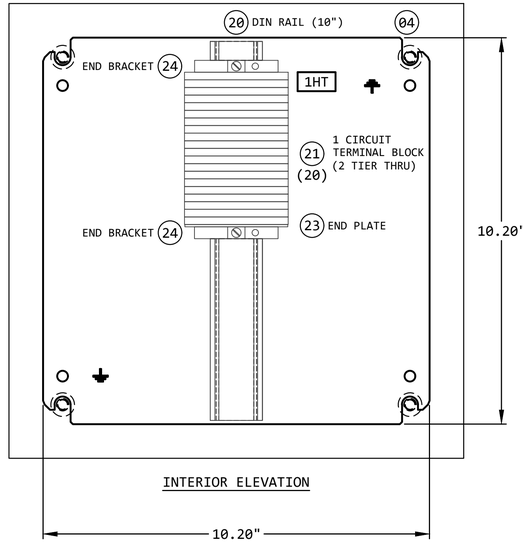


INTERCONNECTION DIAGRAM

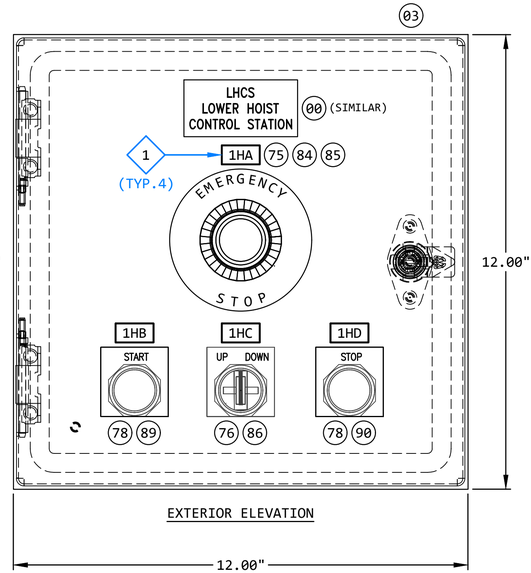


RIGHT SIDE ELEVATION

LHCS
LOWER
HOIST CONTROL STATION



INTERIOR ELEVATION



EXTERIOR ELEVATION

KEYED NOTES:

1. THE EQUIPMENT LOCATION TAGS SHOWN ON THE FRONT ELEVATIONS ARE SHOWN THERE FOR DEVICE LOCATION IDENTIFICATION PURPOSES ONLY. THEY SHALL NOT BE INSTALLED ON THE FRONT OF THE DOOR.

   THE EQUIPMENT LOCATION TAGS SHALL BE INSTALLED ON THE INSIDE OF THE DOOR, ADJACENT TO EACH DEVICE.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	EQUIPMENT LAYOUT - ELEVATIONS AND DETAILS HOPPER HOIST CONTROL STATIONS
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: LAYOUTS
SCALE: HALF	PROJECT NO.: ARL-007	DWG: EE-CE-003 / REV: 0

CH1

EXIT FLUME
MOVING FLOOR HOIST

GND — BN

HTB

14	COMMON	YL
12	UP	U/B
11	DOWN	O/B
10	L1	BK
9	L2	RD
8		
7		
6		
5		
4		
3		
2		
1		
13		

3SP

9C #14
MFHCS2-CH1-C

1SP

3C #14
MFHCS2-CH1ZSU-C

MOVING FLOOR HOIST
UPPER LIMIT SWITCH

CH1ZSU

BK — 15 — 16
RD

MOVING FLOOR HOIST
LOWER LIMIT SWITCH

CH1ZSL

BK — 17 — 18
RD

1SP

3C #14
MFHCS2-CH1ZSL-C

TO FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-007

5C #14
FLCP-MFHCS2-C

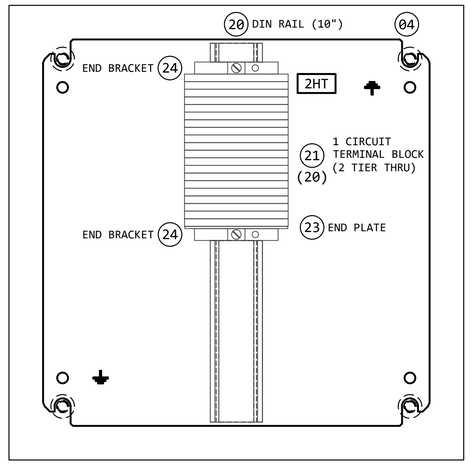
3SP

2HT

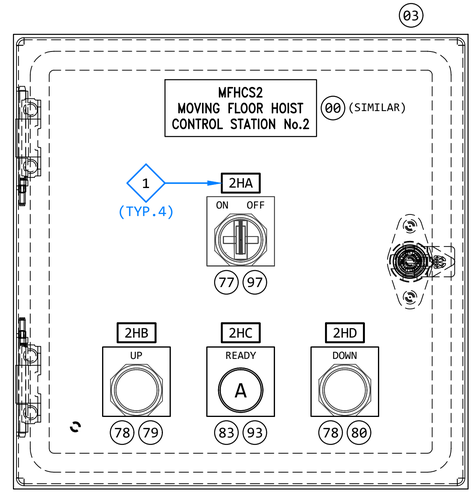
BK (2HA-1)	1	L1	BK
OR	2	L1B	2HA-2
BU	3	L1A	2HA-3
2HA-4 / 2HC-X1	4	L1D	
RD / 2HC-X2	5	L2	RD
N/B	6	GND	BN
	7		
	8		
	9		YL
	10	COM 10	BK
YL (2HA-5)	11	11	RD
R/B (2HA-6)	12	12B	
BN (2HA-7)	13	12A	
2HA-8 / 2HB-A2	14	14B	2HD-A1 / 2HB-A1
U/B	15	15	BK
RD	16	UP 16	U/B
2HD-A2 / O/B	17	17	BK
RD	18	DOWN 18	O/B
	19		
	20		

INTERCONNECTION DIAGRAM

MFHCS2
MOVING FLOOR HOIST
CONTROL STATION No.2

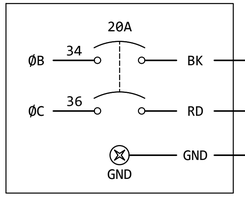


INTERIOR ELEVATION

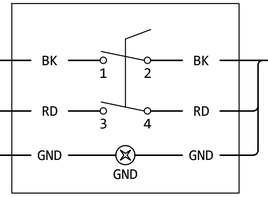


EXTERIOR ELEVATION

208VAC FROM FLPP
FISH LIFT POWER PANEL
SEE EE-BA-002



30A/NF
DISCONNECT SWITCH



3C #12 W/GND
FLPP-MFHCS1-P

2SP

12C #14
MFHCS1-MFHCS2-C

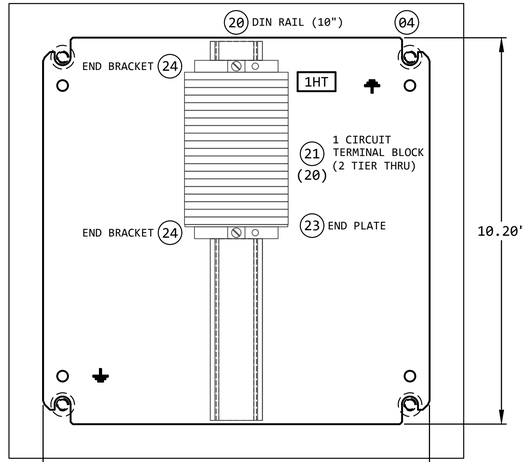
2SP

1HT

BK (1HA-1)	1	L1	BK
1HA-2	2	L1A	BU
1HA-3	3	L1B	OR
1HA-4 / 1HC-X1	4	L1C	
RD / 1HC-X2	5	L2	RD
GND	6	GND	N/B
	7		
	8		
	9		
	10		
1HA-5	11	11	YL
1HA-6	12	12A	BN
1HA-7	13	12B	R/B
1HA-8 / 1HB-A1	14	14A	1HD-A1
1HB-A2	15	15	U/B
	16		
1HD-A2	17	17	O/B
	18		
	19		
	20		

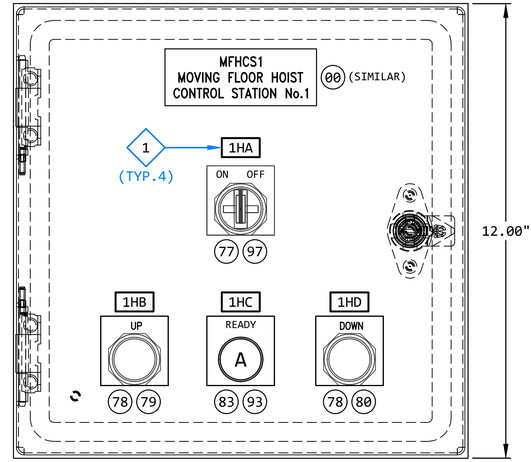
INTERCONNECTION DIAGRAM

MFHCS1
MOVING FLOOR HOIST
CONTROL STATION No.1



INTERIOR ELEVATION

10.20"



EXTERIOR ELEVATION

12.00"

NOTE:

NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN.
SEE EE-AA-001 FOR MORE INFORMATION.

KEYED NOTES:

1. THE EQUIPMENT LOCATION TAGS SHOWN ON THE FRONT ELEVATIONS ARE SHOWN THERE FOR DEVICE LOCATION IDENTIFICATION PURPOSES ONLY. THEY SHALL NOT BE INSTALLED ON THE FRONT OF THE DOOR.

   THE EQUIPMENT LOCATION TAGS SHALL BE INSTALLED ON THE INSIDE OF THE DOOR, ADJACENT TO EACH DEVICE.

FIELD CONTROL STATION

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

EGI "Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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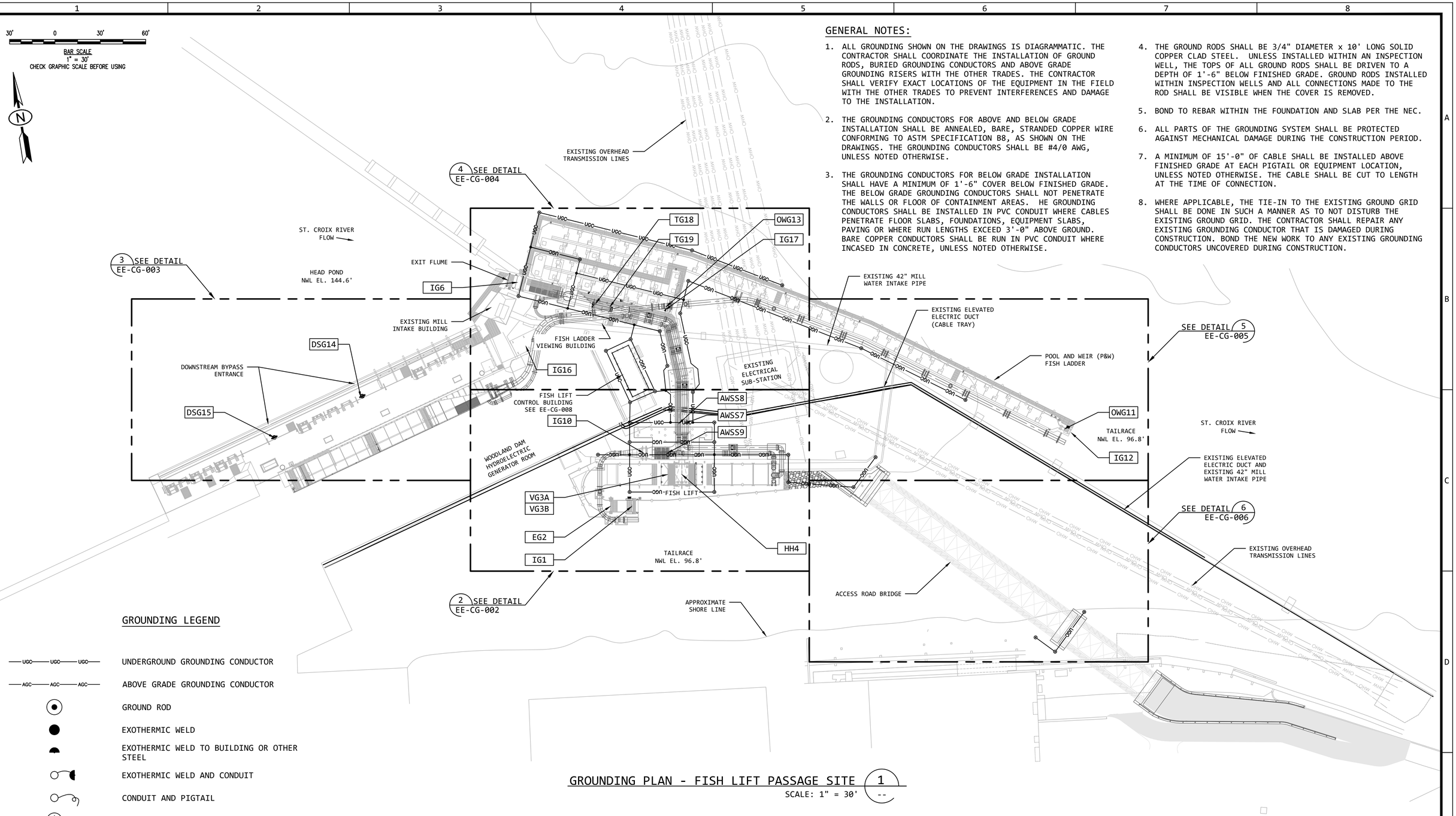
DRAWN BY: SAM	DATE: 05/02/2025	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 05/02/2025	EQUIPMENT LAYOUT - ELEVATIONS AND DETAILS MOVING FLOOR HOIST CONTROL STATIONS	
APPROVED BY: CMH	DATE: 05/02/2025	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: HALF		PROJECT NO.: ARL-007	DWG: EE-CE-004 / REV: 0

30' 0 30' 60'

BAR SCALE
1" = 30'
CHECK GRAPHIC SCALE BEFORE USING

GENERAL NOTES:

1. ALL GROUNDING SHOWN ON THE DRAWINGS IS DIAGRAMMATIC. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF GROUND RODS, BURIED GROUNDING CONDUCTORS AND ABOVE GRADE GROUNDING RISERS WITH THE OTHER TRADES. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF THE EQUIPMENT IN THE FIELD WITH THE OTHER TRADES TO PREVENT INTERFERENCES AND DAMAGE TO THE INSTALLATION.
2. THE GROUNDING CONDUCTORS FOR ABOVE AND BELOW GRADE INSTALLATION SHALL BE ANNEALED, BARE, STRANDED COPPER WIRE CONFORMING TO ASTM SPECIFICATION B8, AS SHOWN ON THE DRAWINGS. THE GROUNDING CONDUCTORS SHALL BE #4/0 AWG, UNLESS NOTED OTHERWISE.
3. THE GROUNDING CONDUCTORS FOR BELOW GRADE INSTALLATION SHALL HAVE A MINIMUM OF 1'-6" COVER BELOW FINISHED GRADE. THE BELOW GRADE GROUNDING CONDUCTORS SHALL NOT PENETRATE THE WALLS OR FLOOR OF CONTAINMENT AREAS. HE GROUNDING CONDUCTORS SHALL BE INSTALLED IN PVC CONDUIT WHERE CABLES PENETRATE FLOOR SLABS, FOUNDATIONS, EQUIPMENT SLABS, PAVING OR WHERE RUN LENGTHS EXCEED 3'-0" ABOVE GROUND. BARE COPPER CONDUCTORS SHALL BE RUN IN PVC CONDUIT WHERE INCASED IN CONCRETE, UNLESS NOTED OTHERWISE.
4. THE GROUND RODS SHALL BE 3/4" DIAMETER x 10' LONG SOLID COPPER CLAD STEEL. UNLESS INSTALLED WITHIN AN INSPECTION WELL, THE TOPS OF ALL GROUND RODS SHALL BE DRIVEN TO A DEPTH OF 1'-6" BELOW FINISHED GRADE. GROUND RODS INSTALLED WITHIN INSPECTION WELLS AND ALL CONNECTIONS MADE TO THE ROD SHALL BE VISIBLE WHEN THE COVER IS REMOVED.
5. BOND TO REBAR WITHIN THE FOUNDATION AND SLAB PER THE NEC.
6. ALL PARTS OF THE GROUNDING SYSTEM SHALL BE PROTECTED AGAINST MECHANICAL DAMAGE DURING THE CONSTRUCTION PERIOD.
7. A MINIMUM OF 15'-0" OF CABLE SHALL BE INSTALLED ABOVE FINISHED GRADE AT EACH PIGTAIL OR EQUIPMENT LOCATION, UNLESS NOTED OTHERWISE. THE CABLE SHALL BE CUT TO LENGTH AT THE TIME OF CONNECTION.
8. WHERE APPLICABLE, THE TIE-IN TO THE EXISTING GROUND GRID SHALL BE DONE IN SUCH A MANNER AS TO NOT DISTURB THE EXISTING GROUND GRID. THE CONTRACTOR SHALL REPAIR ANY EXISTING GROUNDING CONDUCTOR THAT IS DAMAGED DURING CONSTRUCTION. BOND THE NEW WORK TO ANY EXISTING GROUNDING CONDUCTORS UNCOVERED DURING CONSTRUCTION.



GROUNDING LEGEND

- UNDERGROUND GROUNDING CONDUCTOR
- ABOVE GRADE GROUNDING CONDUCTOR
- GROUND ROD
- EXOTHERMIC WELD
- EXOTHERMIC WELD TO BUILDING OR OTHER STEEL
- EXOTHERMIC WELD AND CONDUIT
- CONDUIT AND PIGTAIL
- CONNECTION TO EXISTING GROUND GRID
- SKID MOUNTED GROUND LUG
- GROUND BAR
- EXOTHERMIC WELD TO REBAR
  - D = TIE TO DUCTBANK REBAR
  - F = TIE TO FOUNDATION REBAR
  - S = TIE TO SLAB REBAR

GROUNDING PLAN - FISH LIFT PASSAGE SITE (1)

SCALE: 1" = 30'

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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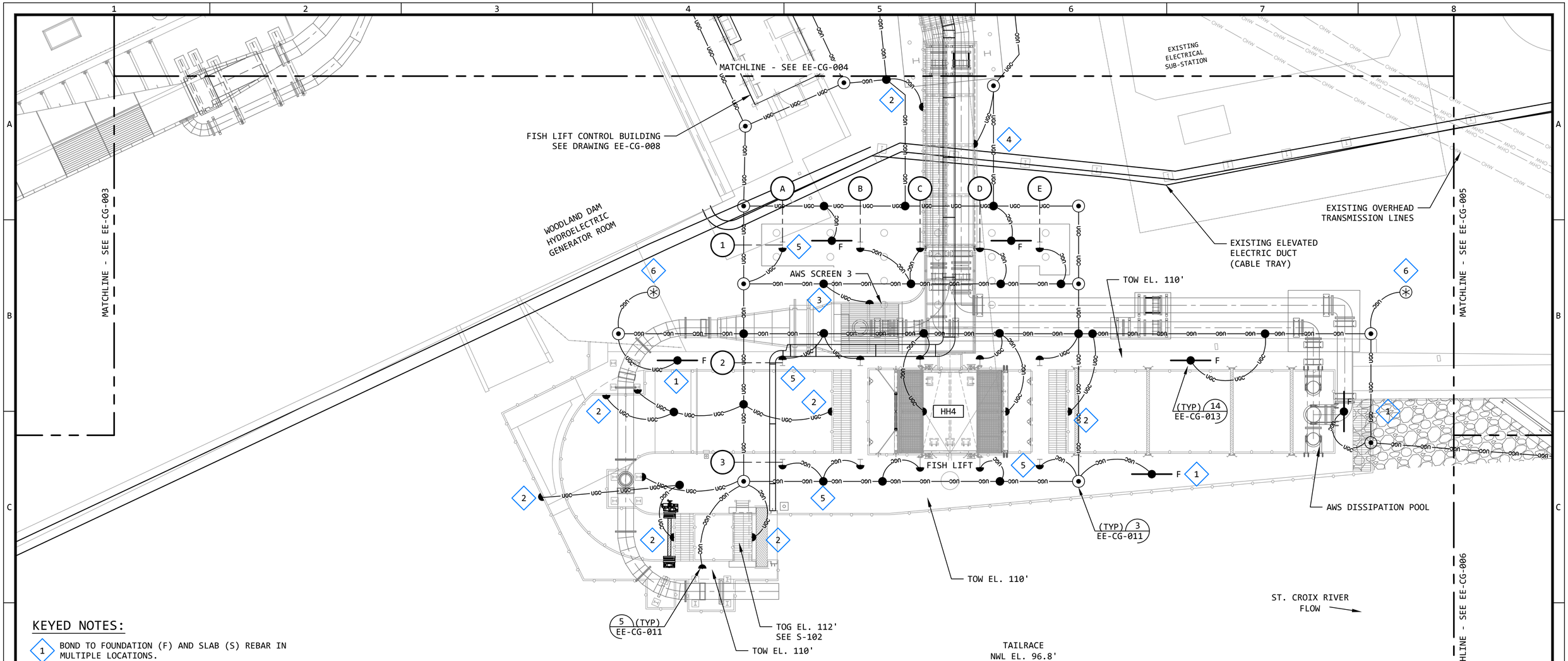
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN FISH LIFT PASSAGE SITE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CG-001 / REV: 0



KEYED NOTES:

1. BOND TO FOUNDATION (F) AND SLAB (S) REBAR IN MULTIPLE LOCATIONS.
2. PROVIDE PIGTAILS FOR THE CATWALK/RAILING. BOND TO CATWALK/RAILING METAL AFTER EQUIPMENT INSTALLATION.
3. PROVIDE PIGTAILS FOR THE AWS SCREEN. BOND TO AWS SCREEN METAL AFTER EQUIPMENT INSTALLATION.
4. PROVIDE PIGTAILS FOR THE STEEL EXIT FLUME. BOND TO THE STEEL EXIT FLUME METAL AFTER EQUIPMENT INSTALLATION.
5. PROVIDE PIGTAILS FOR ALL 15 COLUMNS OF THE FISH LIFT TOWER. BOND TO EACH FISH LIFT TOWER COLUMN AFTER EQUIPMENT INSTALLATION.
6. WHERE APPLICABLE, THE TIE-IN TO THE EXISTING GROUND GRID SHALL BE DONE IN SUCH A MANNER AS TO NOT DISTURB THE EXISTING GROUND GRID. THE CONTRACTOR SHALL REPAIR ANY EXISTING GROUNDING CONDUCTOR THAT IS DAMAGED DURING CONSTRUCTION. BOND THE NEW WORK TO ANY EXISTING GROUNDING CONDUCTORS UNCOVERED DURING CONSTRUCTION.

GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL ADJACENT METAL STRUCTURES, SUCH AS CATWALK FRAMES, GRATES, PIPE SUPPORTS, HOIST FRAMES AND THE LIKE, ARE BONDED TO THE BELOW GRADE GRID.

GROUNDING PLAN - FISH LIFT AREA (2 --)

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

BAR SCALE
1/8" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
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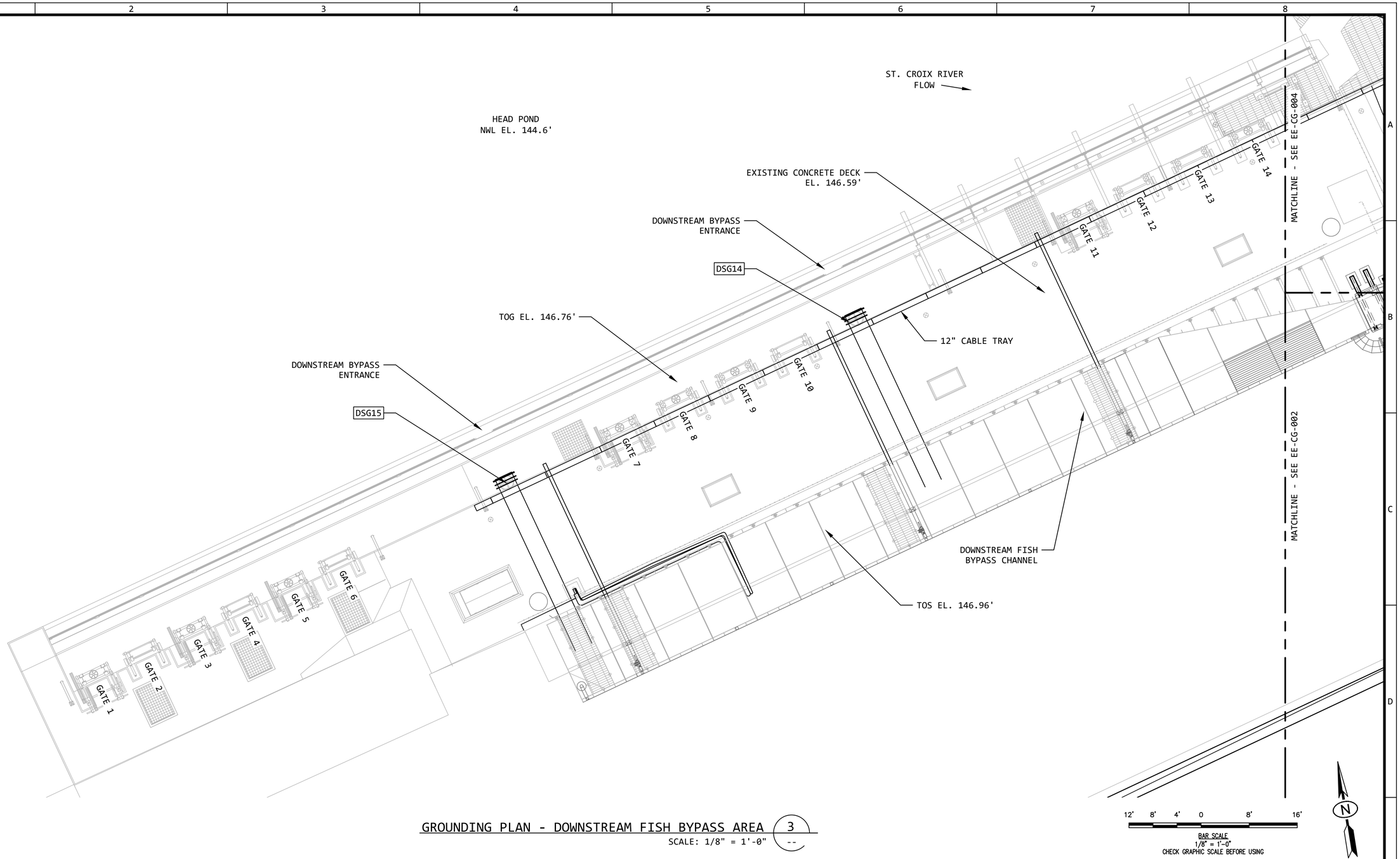
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN FISH LIFT AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CG-002 / REV: 0



GROUNDING PLAN - DOWNSTREAM FISH BYPASS AREA (3)

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

GENERAL NOTES:

1. THE BELOW GRADE GROUND GRID IS NOT AVAILABLE IN THIS AREA. ALL REQUIRED GROUNDING FOR THE DSG14/DSG15 INSTALLATION MAY BE ACCOMPLISHED BY USING THE #2/0 BARE GROUNDING CONDUCTOR PROVIDED WITH THE CABLE TRAY.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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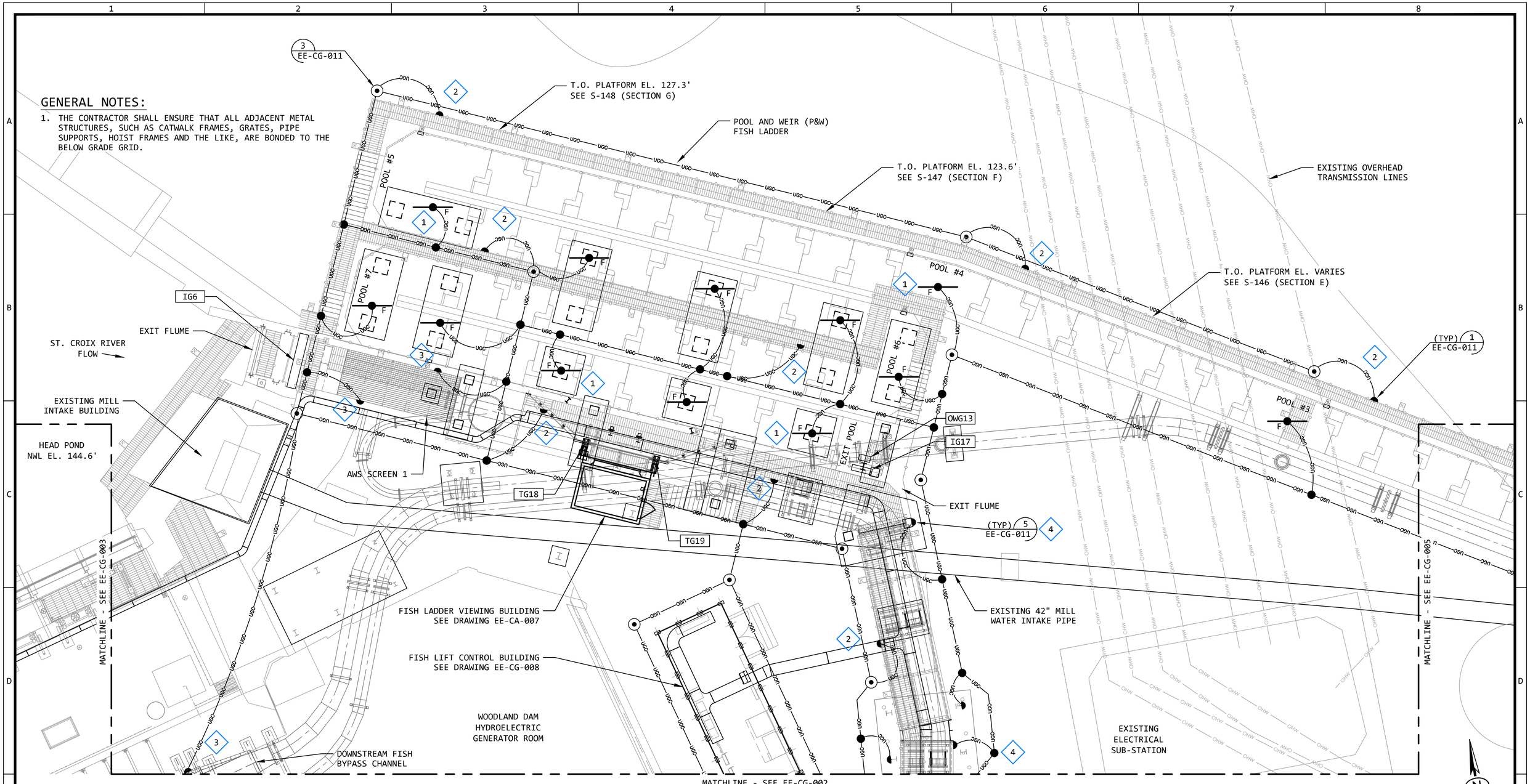
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN DOWNSTREAM FISH BYPASS AREA
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CG-003; REV: 0

GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL ADJACENT METAL STRUCTURES, SUCH AS CATWALK FRAMES, GRATES, PIPE SUPPORTS, HOIST FRAMES AND THE LIKE, ARE BONDED TO THE BELOW GRADE GRID.



KEYED NOTES:

1. BOND TO FOUNDATION (F) AND SLAB (S) REBAR IN MULTIPLE LOCATIONS.
2. PROVIDE PIGTAILS FOR THE CATWALK/RAILING. BOND TO CATWALK/RAILING METAL AFTER EQUIPMENT INSTALLATION.
3. PROVIDE PIGTAILS FOR THE AWS SCREENS. BOND TO AWS SCREEN METAL AFTER EQUIPMENT INSTALLATION.
4. PROVIDE PIGTAILS FOR THE STEEL EXIT FLUME. BOND TO THE STEEL EXIT FLUME METAL AFTER EQUIPMENT INSTALLATION.

GROUNDING PLAN - EXIT FLUME AND FISH LADDER AREAS 4

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

12' 8' 4' 0 8' 16'

BAR SCALE
1/8" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

N

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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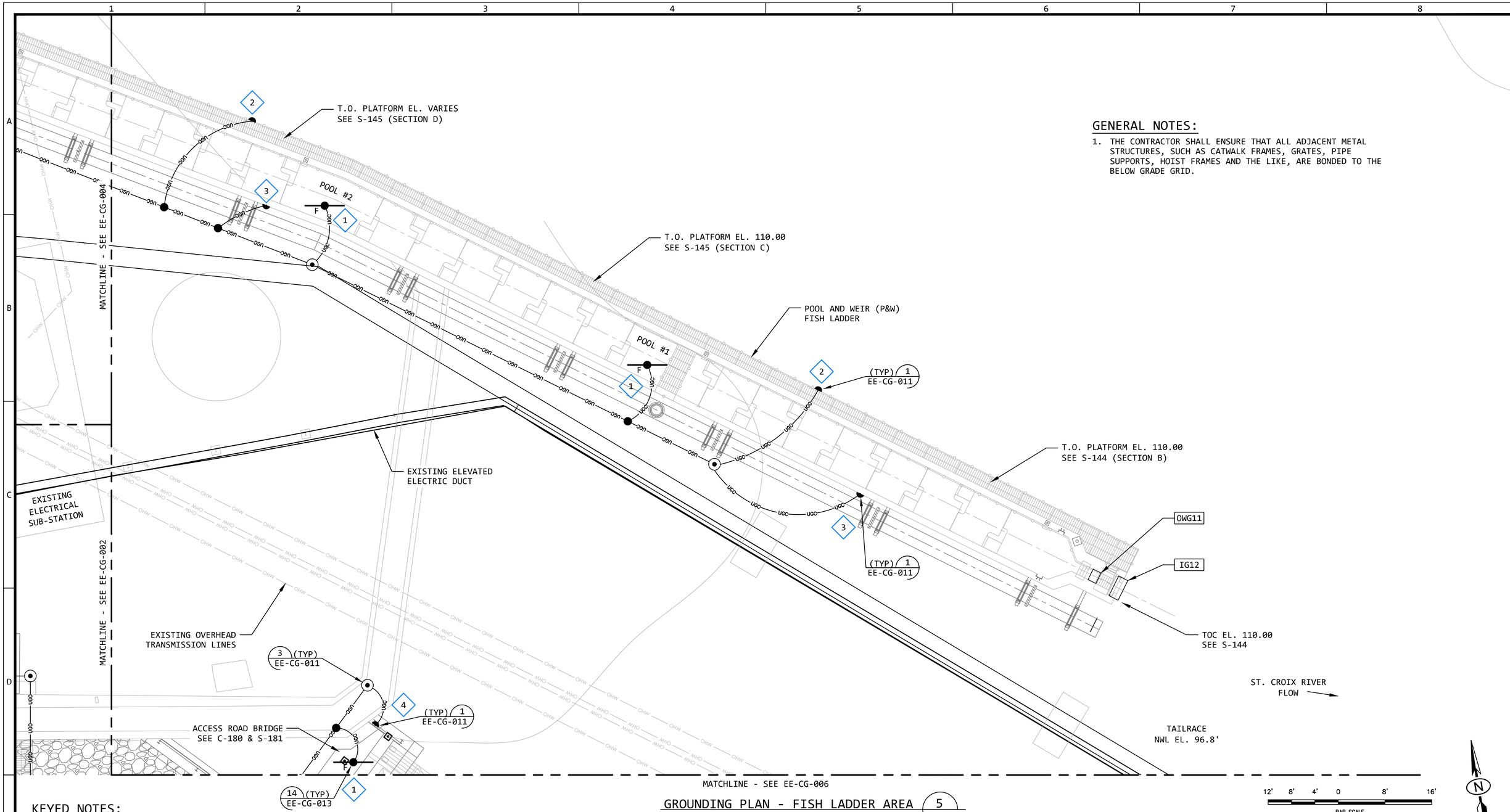
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN EXIT FLUME AND FISH LADDER AREAS	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CG-004	REV: 0



GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL ADJACENT METAL STRUCTURES, SUCH AS CATWALK FRAMES, GRATES, PIPE SUPPORTS, HOIST FRAMES AND THE LIKE, ARE BONDED TO THE BELOW GRADE GRID.

KEYED NOTES:

1. BOND TO FOUNDATION (F) AND SLAB (S) REBAR IN MULTIPLE LOCATIONS.
2. PROVIDE PIGTAILS FOR THE CATWALK/RAILING. BOND TO CATWALK/RAILING METAL AFTER EQUIPMENT INSTALLATION.
3. PROVIDE PIGTAILS FOR THE BYPASS PIPE/PIPE SUPPORT. BOND TO BYPASS PIPE/PIPE SUPPORT METAL AFTER EQUIPMENT INSTALLATION.
4. PROVIDE PIGTAILS FOR THE BRIDGE. BOND TO BRIDGE METAL AFTER EQUIPMENT INSTALLATION.

GROUNDING PLAN - FISH LADDER AREA 5

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

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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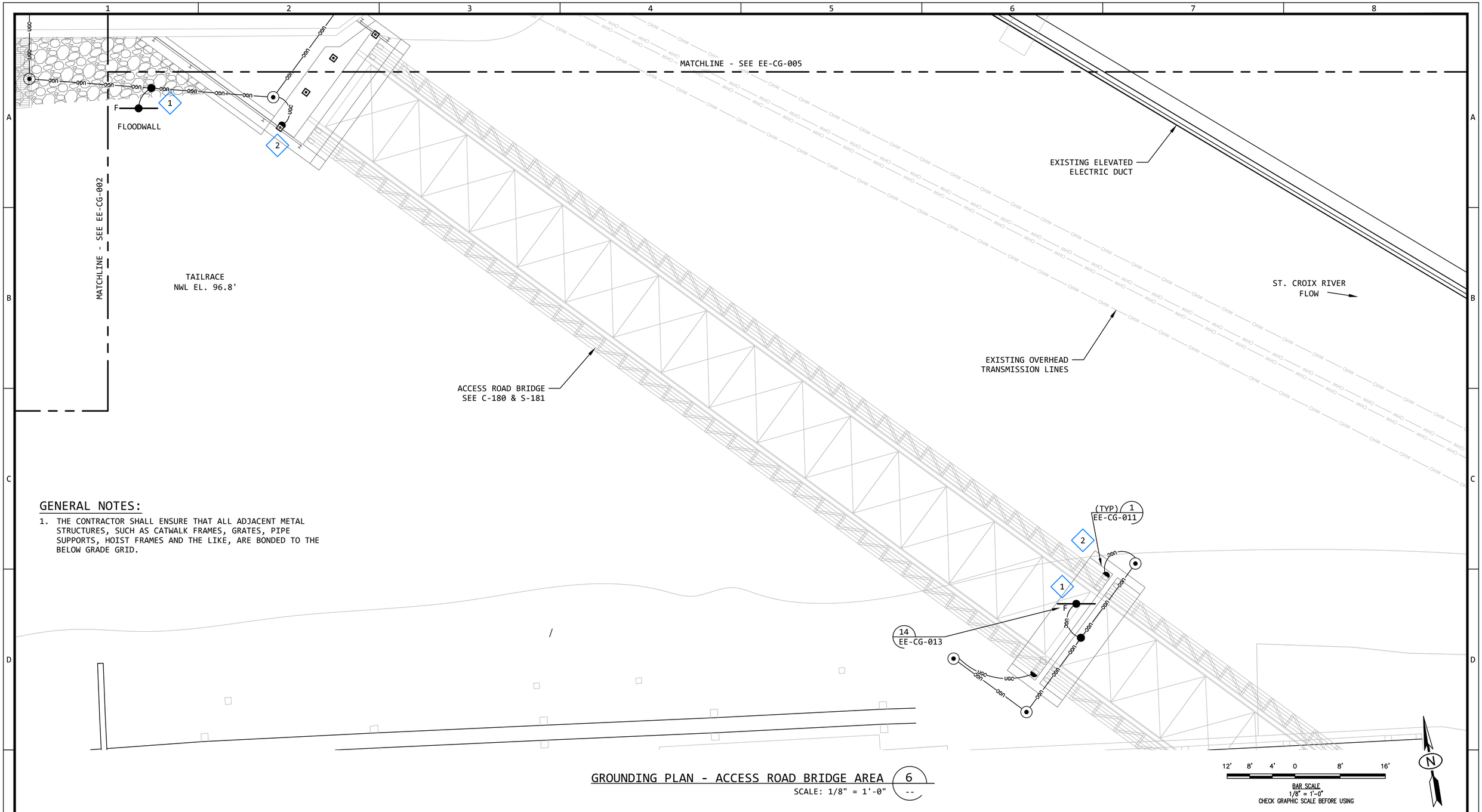
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN FISH LADDER AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CG-005	REV: 0



GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL ADJACENT METAL STRUCTURES, SUCH AS CATWALK FRAMES, GRATES, PIPE SUPPORTS, HOIST FRAMES AND THE LIKE, ARE BONDED TO THE BELOW GRADE GRID.

KEYED NOTES:

1. BOND TO FOUNDATION (F) AND SLAB (S) REBAR IN MULTIPLE LOCATIONS.
2. PROVIDE PIGTAILS FOR THE BRIDGE. BOND TO BRIDGE METAL AFTER EQUIPMENT INSTALLATION.

GROUNDING PLAN - ACCESS ROAD BRIDGE AREA

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

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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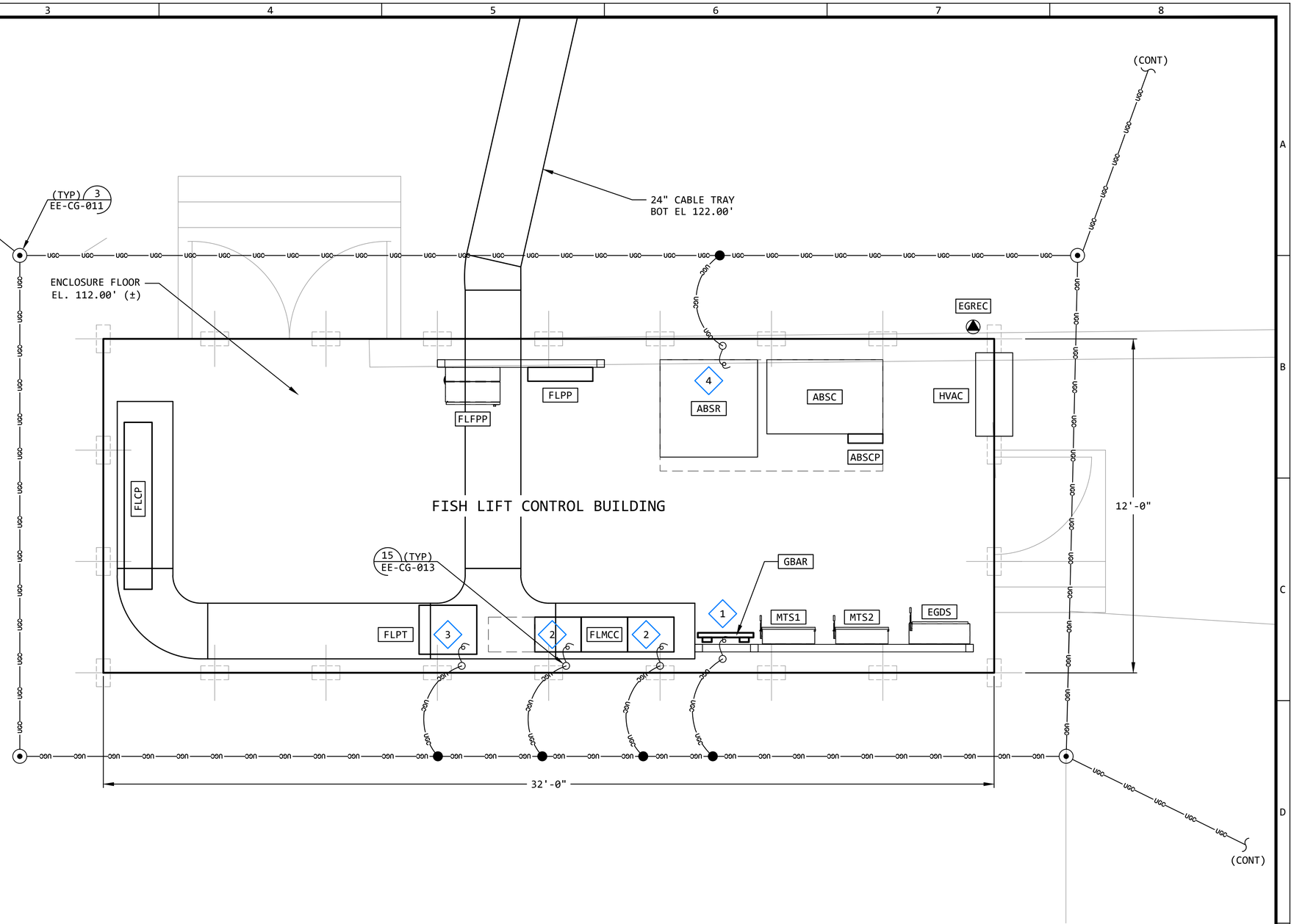
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN ACCESS ROAD BRIDGE AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CG-006 / REV: 0

BAR SCALE
1/2" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING



KEYED NOTES:

1. PROVIDE A PIGTAIL FOR THE GROUND BAR. BOND TO GROUND BAR AFTER EQUIPMENT INSTALLATION.
2. PROVIDE PIGTAILS FOR THE FISH LIFT MOTOR CONTROL CENTER (FLMCC). BOND TO MCC GROUND BAR AFTER EQUIPMENT INSTALLATION.
3. PROVIDE PIGTAILS FOR THE FISH LIFT POWER TRANSFORMER (FLPT). BOND TO TRANSFORMER GROUND TERMINAL AFTER EQUIPMENT INSTALLATION.
4. PROVIDE A PIGTAIL FOR THE AIR BURST SYSTEM SKID. BOND TO THE SKID GROUND BAR, AS REQUIRED, AFTER EQUIPMENT INSTALLATION.

GENERAL NOTES:

1. THE CONTRACTOR SHALL ENSURE THAT ALL ADJACENT METAL STRUCTURES, SUCH AS CATWALK FRAMES, GRATES, PIPE SUPPORTS, HOIST FRAMES AND THE LIKE, ARE BONDED TO THE BELOW GRADE GRID.

GROUNDING PLAN - FISH LIFT CONTROL BUILDING (8)

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

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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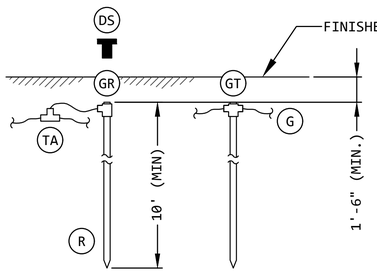
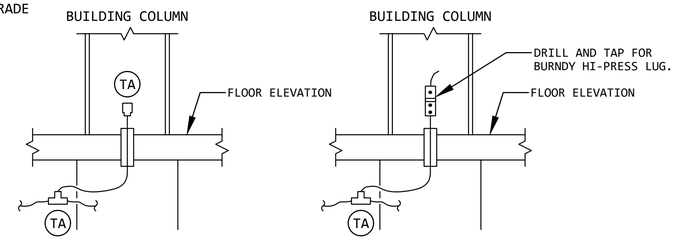
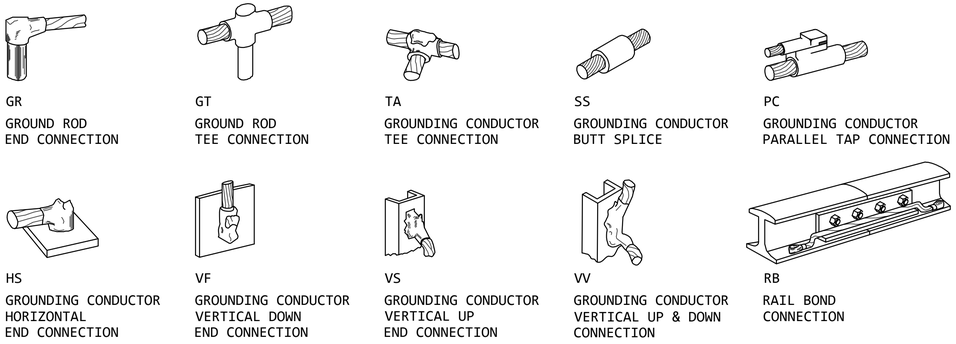
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING PLAN FISH LIFT CONTROL BUILDING
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CG-008 / REV: 0



DRIVEN ROD INSTALLATION DETAIL



BUILDING COLUMN BOND DETAILS

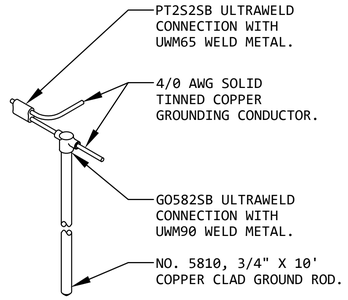


TYPICAL GROUNDING CONNECTIONS DETAIL 1

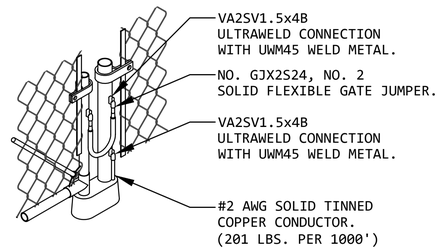
NOT TO SCALE --

TYPE	DESCRIPTION
DS	DRIVING STUDS, 3/4" ROD
G	4/0 BARE STRANDED COPPER - SOFT DRAWN
GR	4/0 CU TO 3/4" GROUND ROD END CONNECTION
GT	4/0 CU TO 3/4" GROUND ROD TEE CONNECTION
HS	4/0 CU HORIZONTAL CONNECTION
PC	4/0 CU T0 #2 AWG PARALLEL TAP CONNECTION
R	GROUND ROD, SOLID COPPER CLAD STEEL, 3/4" DIA
RB	4/0 CU RAIL BOND - TYPE J
RC	GROUND ROD END-TO-END COUPLING, 3/4" ROD
SS	4/0 CU TO 4/0 CU GROUNDING CONDUCTOR BUTT SPLICE
TA	4/0 CU TO 4/0 CU GROUNDING CONDUCTOR TEE SPLICE
VF	4/0 CU VERTICAL DOWN END CONNECTION
VS	4/0 CU VERTICAL UP END CONNECTION
VV	4/0 CU VERTICAL UP AND DOWN CONNECTION

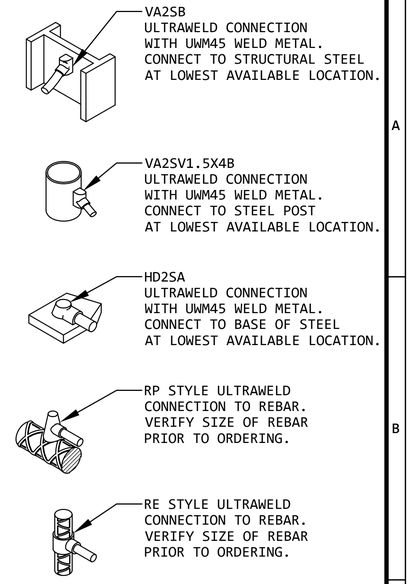
NOTE: ALL GROUNDING CONDUCTORS SHALL BE 4/0 CU, UNLESS NOTED OTHERWISE.



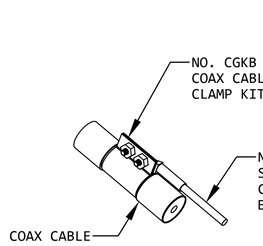
GROUND ROD DETAIL "G"



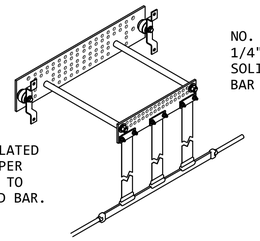
FENCE GROUNDING DETAIL "FG"



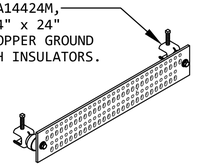
ULTRAWELD DETAILS



COAX GROUNDING DETAIL "CGK"



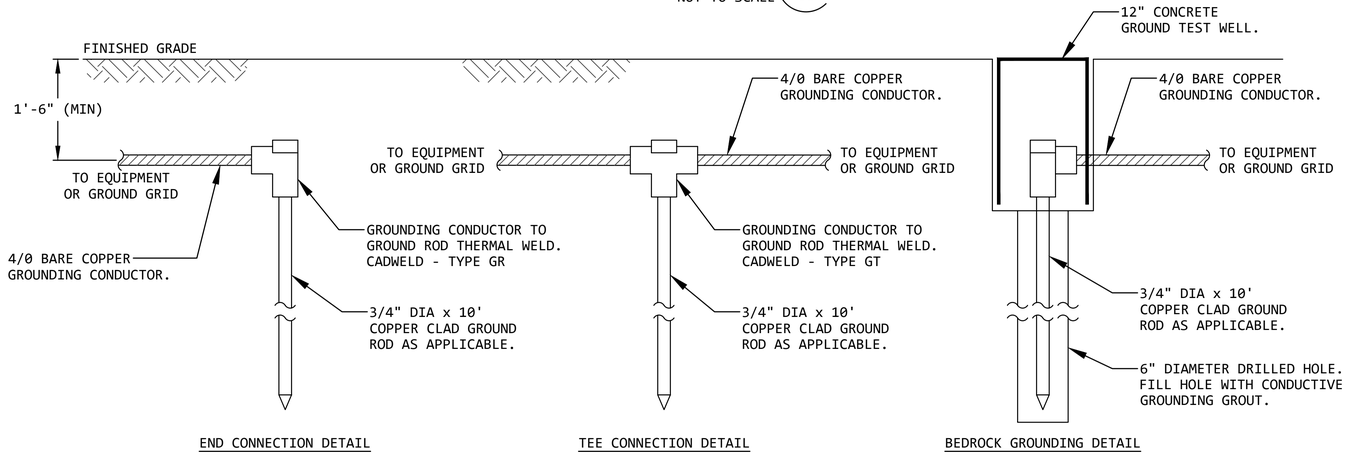
ENTRANCE PANEL DETAIL "EPK"



GROUND BAR DETAIL "GB"

TYPICAL GROUNDING CONNECTIONS DETAIL 2

NOT TO SCALE --



TYPICAL GROUND ROD DETAIL 3

NOT TO SCALE --

GENERAL NOTES:

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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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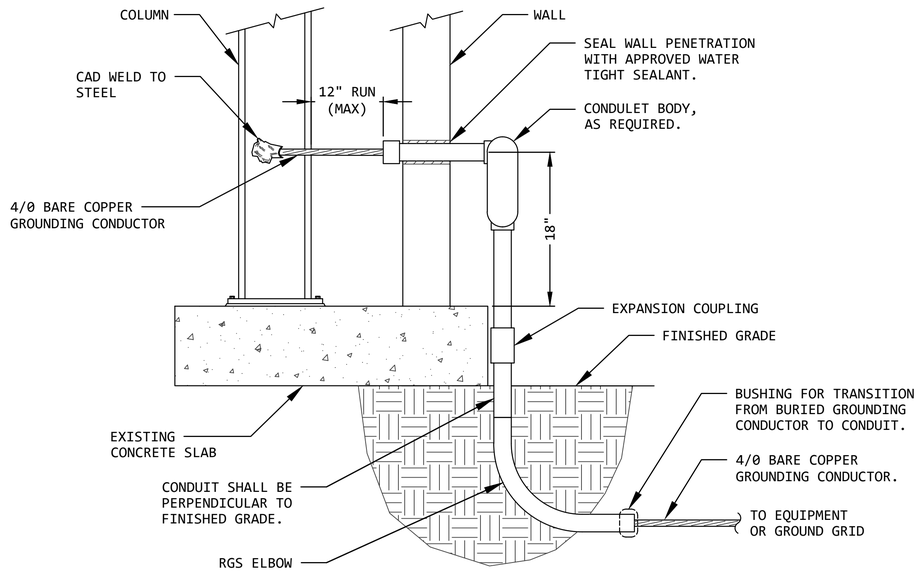
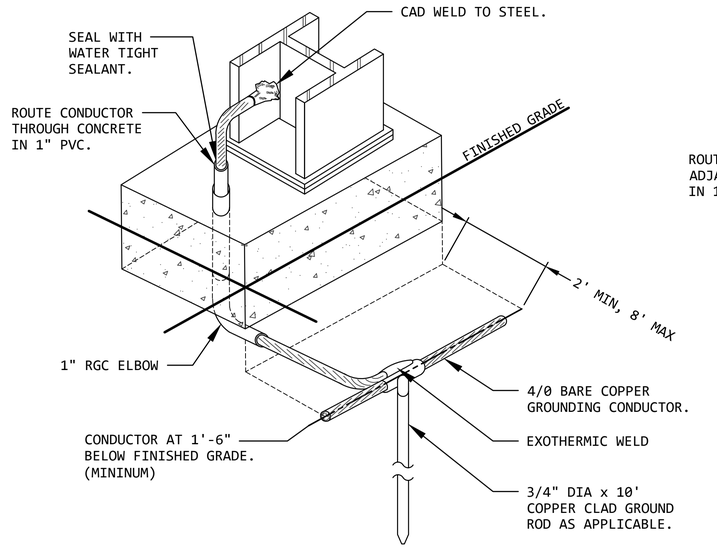
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING DETAILS - SHEET 1 FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CG-011	REV: 0



TYPICAL THRU-WALL COLUMN GROUNDING DETAIL 4

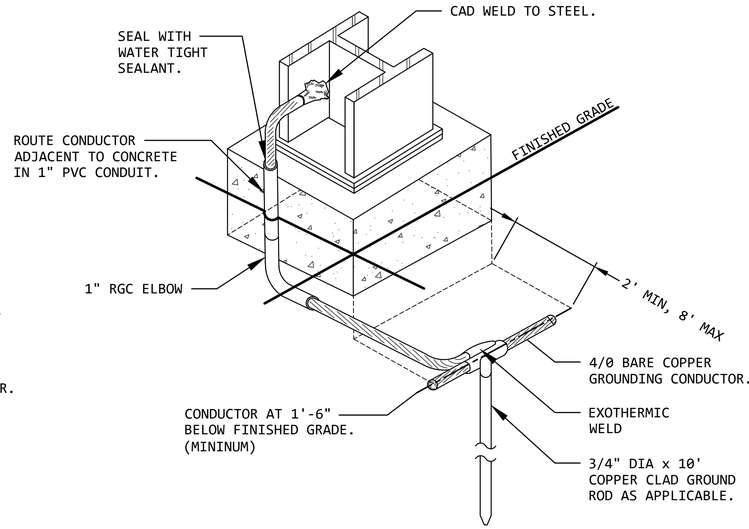
NOTE: FOR EXISTING BUILDINGS ONLY

NOT TO SCALE --



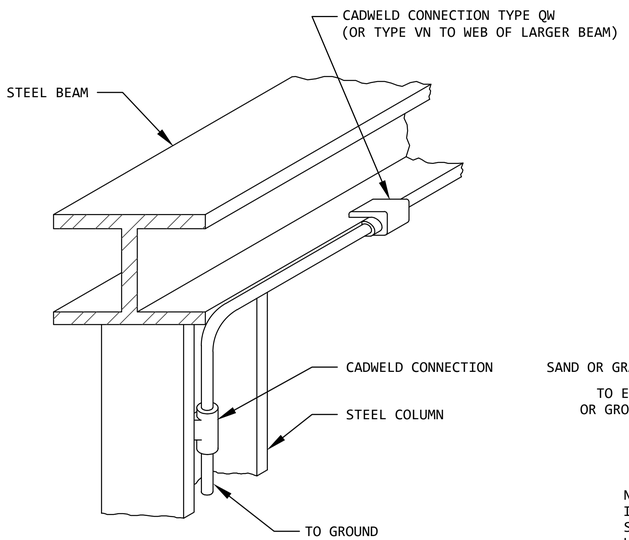
TYPICAL COLUMN GROUNDING DETAIL 5

NOT TO SCALE --



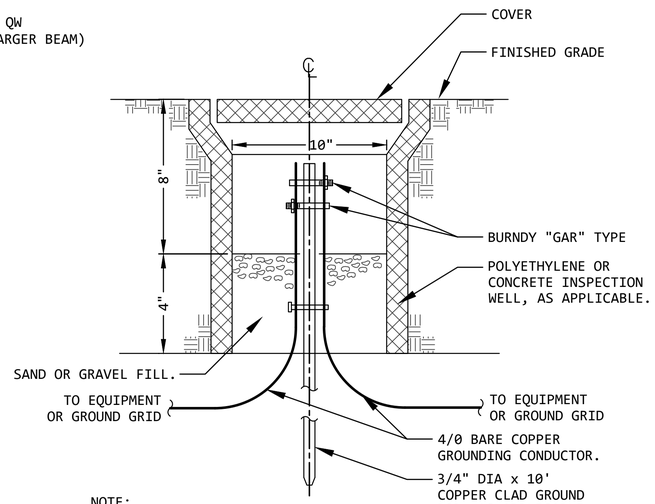
TYPICAL EXISTING PIER GROUNDING DETAIL 6

NOT TO SCALE --



TYPICAL BUILDING STEEL GROUNDING DETAIL 7

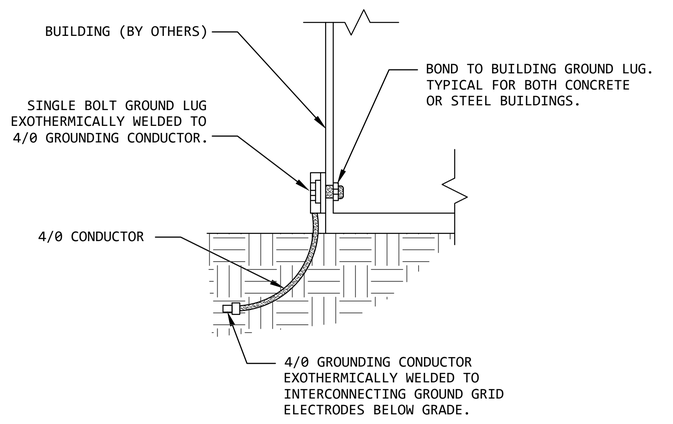
NOT TO SCALE --



NOTE:
INSPECTION WELLS IN ROADWAYS SHALL ADHERE TO AASHTO H20 LOADING REQUIREMENTS.

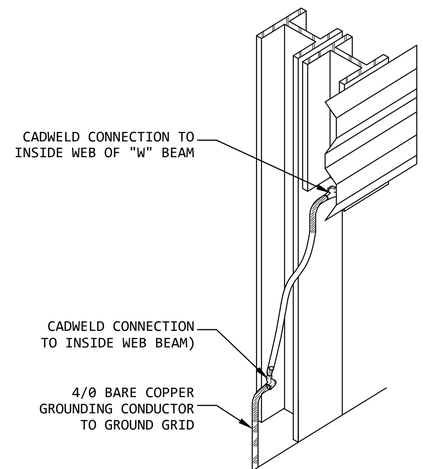
TYPICAL INSPECTION WELL DETAIL 8

NOT TO SCALE --



TYPICAL BUILDING GROUND DETAIL 9

NOT TO SCALE --



TYPICAL GUARD RAIL GROUND DETAIL 10

NOT TO SCALE --

GENERAL NOTES:

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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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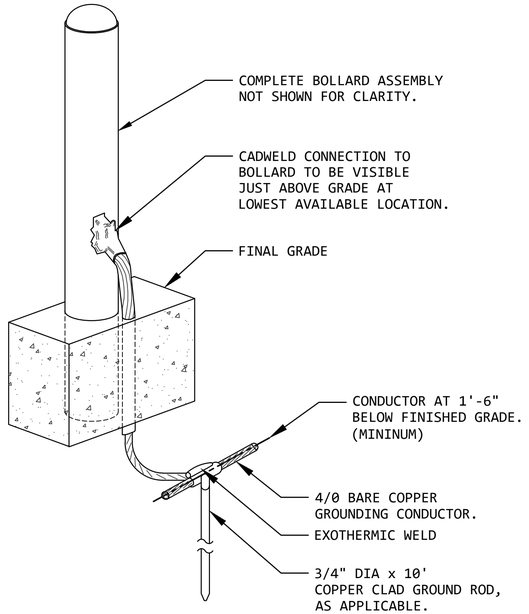
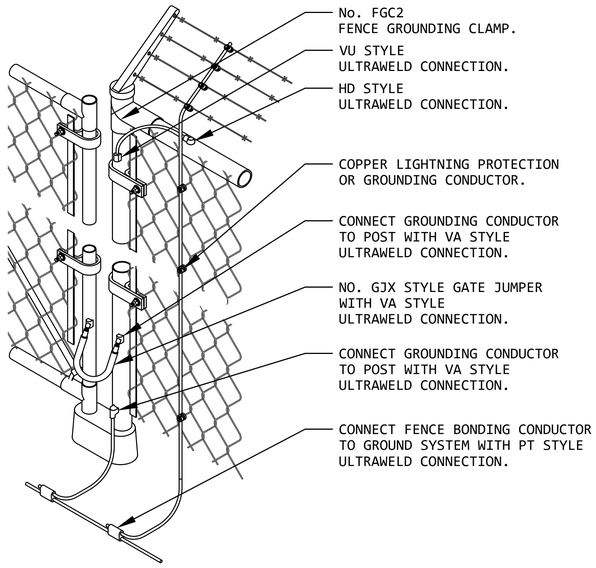
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING DETAILS - SHEET 2 FISH LIFT PASSAGE
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CG-012 / REV: 0



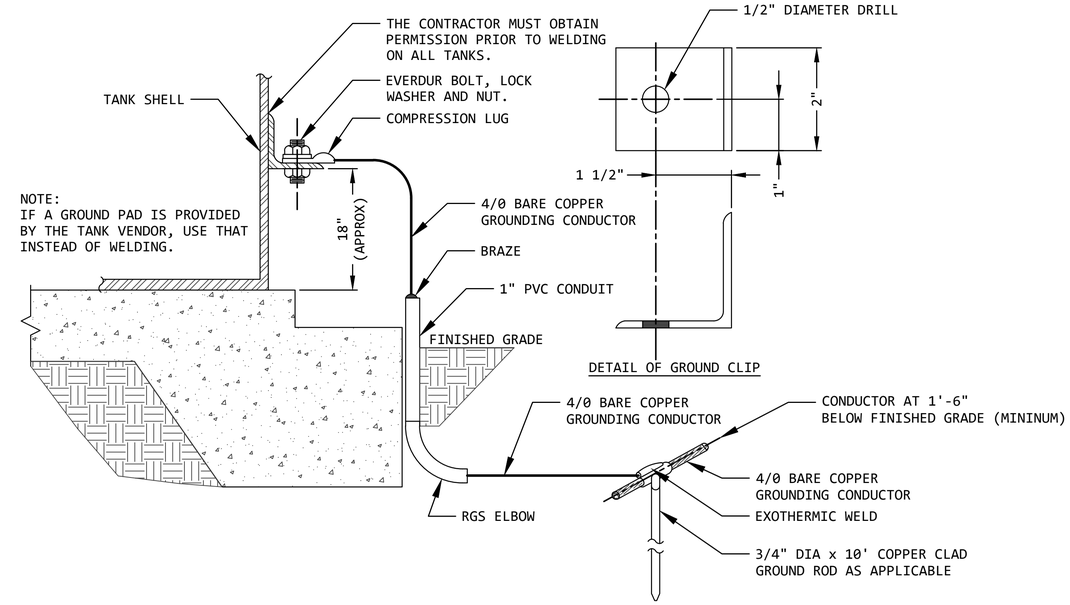
TYPICAL BOLLARD GROUNDING DETAIL 11

NOT TO SCALE --



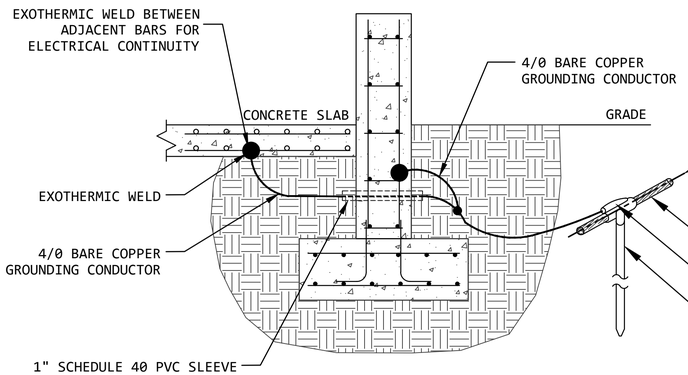
TYPICAL FENCE/GATE GROUNDING DETAIL 12

NOT TO SCALE --



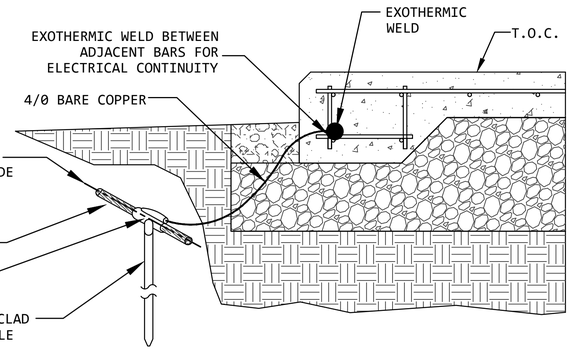
TYPICAL TANK GROUNDING DETAIL 13

NOT TO SCALE --



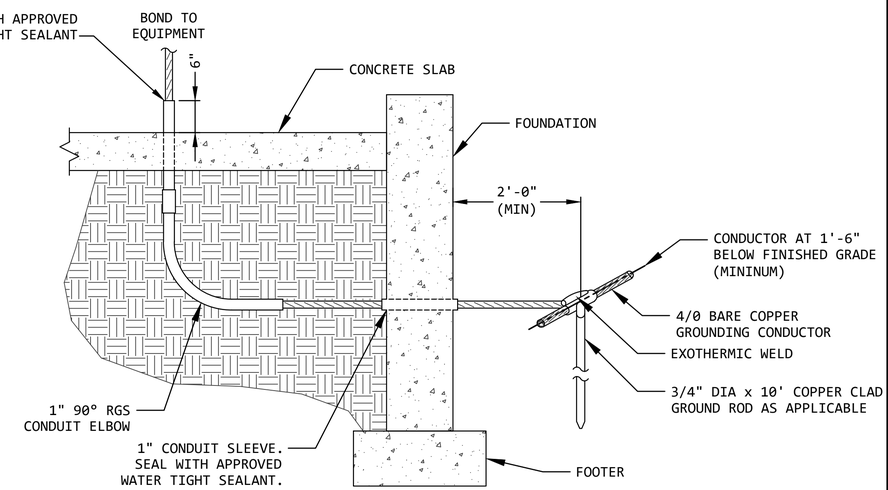
TYPICAL SLAB AND FOUNDATION GROUNDING DETAIL 14

NOT TO SCALE --



TYPICAL SLAB OR PAD GROUNDING DETAIL 15

NOT TO SCALE --



TYPICAL THROUGH SLAB/FOUNDATION GROUNDING DETAIL 16

NOT TO SCALE --

GENERAL NOTES:

1. ALL DETAILS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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"Engineering with Distinction"

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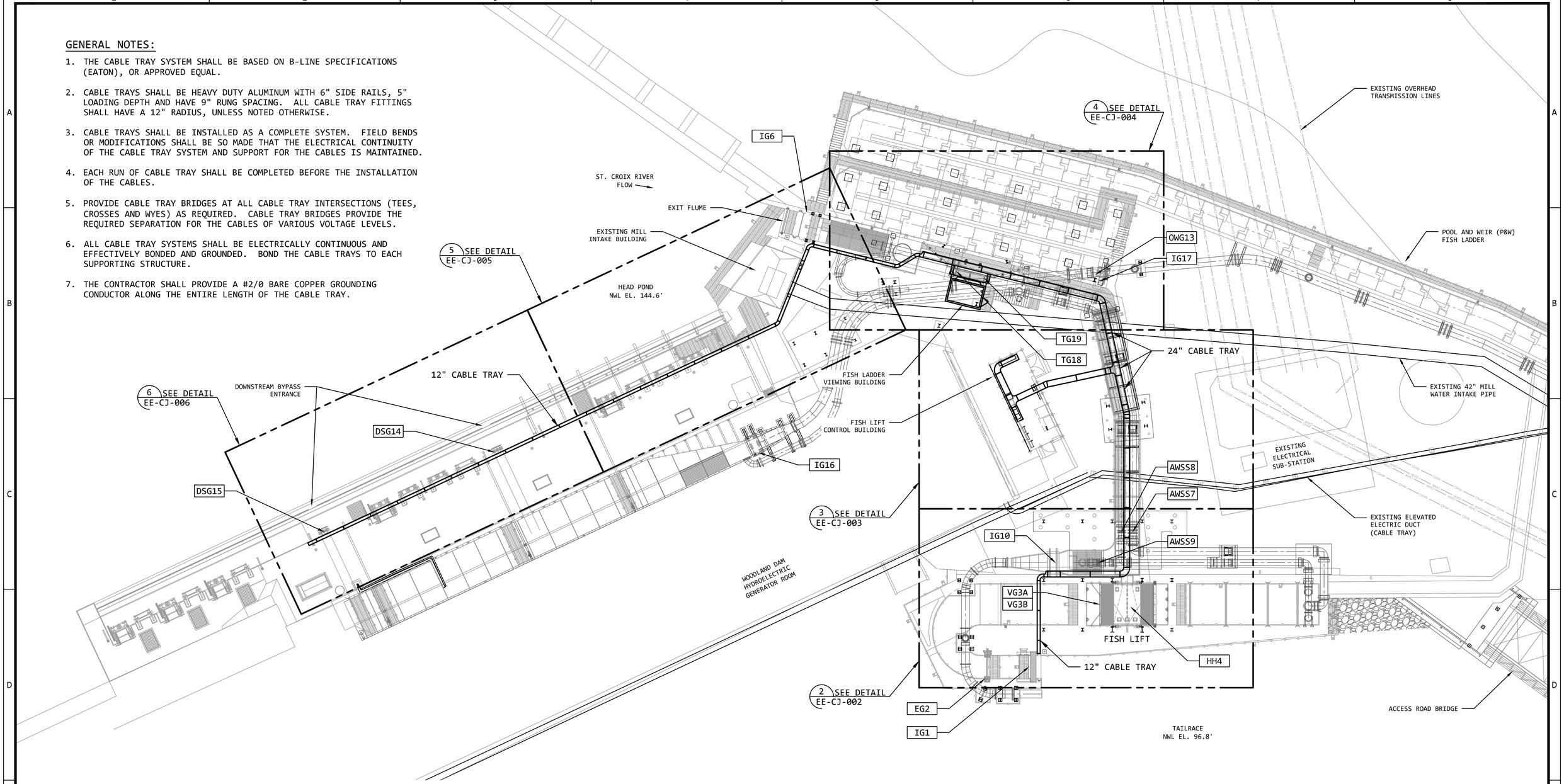
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	GROUNDING DETAILS - SHEET 3 FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CG-013	REV: 0

GENERAL NOTES:

1. THE CABLE TRAY SYSTEM SHALL BE BASED ON B-LINE SPECIFICATIONS (EATON), OR APPROVED EQUAL.
2. CABLE TRAYS SHALL BE HEAVY DUTY ALUMINUM WITH 6" SIDE RAILS, 5" LOADING DEPTH AND HAVE 9" RUNG SPACING. ALL CABLE TRAY FITTINGS SHALL HAVE A 12" RADIUS, UNLESS NOTED OTHERWISE.
3. CABLE TRAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM. FIELD BENDS OR MODIFICATIONS SHALL BE SO MADE THAT THE ELECTRICAL CONTINUITY OF THE CABLE TRAY SYSTEM AND SUPPORT FOR THE CABLES IS MAINTAINED.
4. EACH RUN OF CABLE TRAY SHALL BE COMPLETED BEFORE THE INSTALLATION OF THE CABLES.
5. PROVIDE CABLE TRAY BRIDGES AT ALL CABLE TRAY INTERSECTIONS (TEES, CROSSES AND WYES) AS REQUIRED. CABLE TRAY BRIDGES PROVIDE THE REQUIRED SEPARATION FOR THE CABLES OF VARIOUS VOLTAGE LEVELS.
6. ALL CABLE TRAY SYSTEMS SHALL BE ELECTRICALLY CONTINUOUS AND EFFECTIVELY BONDED AND GROUNDED. BOND THE CABLE TRAYS TO EACH SUPPORTING STRUCTURE.
7. THE CONTRACTOR SHALL PROVIDE A #2/0 BARE COPPER GROUNDING CONDUCTOR ALONG THE ENTIRE LENGTH OF THE CABLE TRAY.



ABOVE GRADE RACEWAY PLAN - FISH LIFT PASSAGE SITE (1)

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

N

16' 12' 8' 4' 0 12' 24'

BAR SCALE
1/16" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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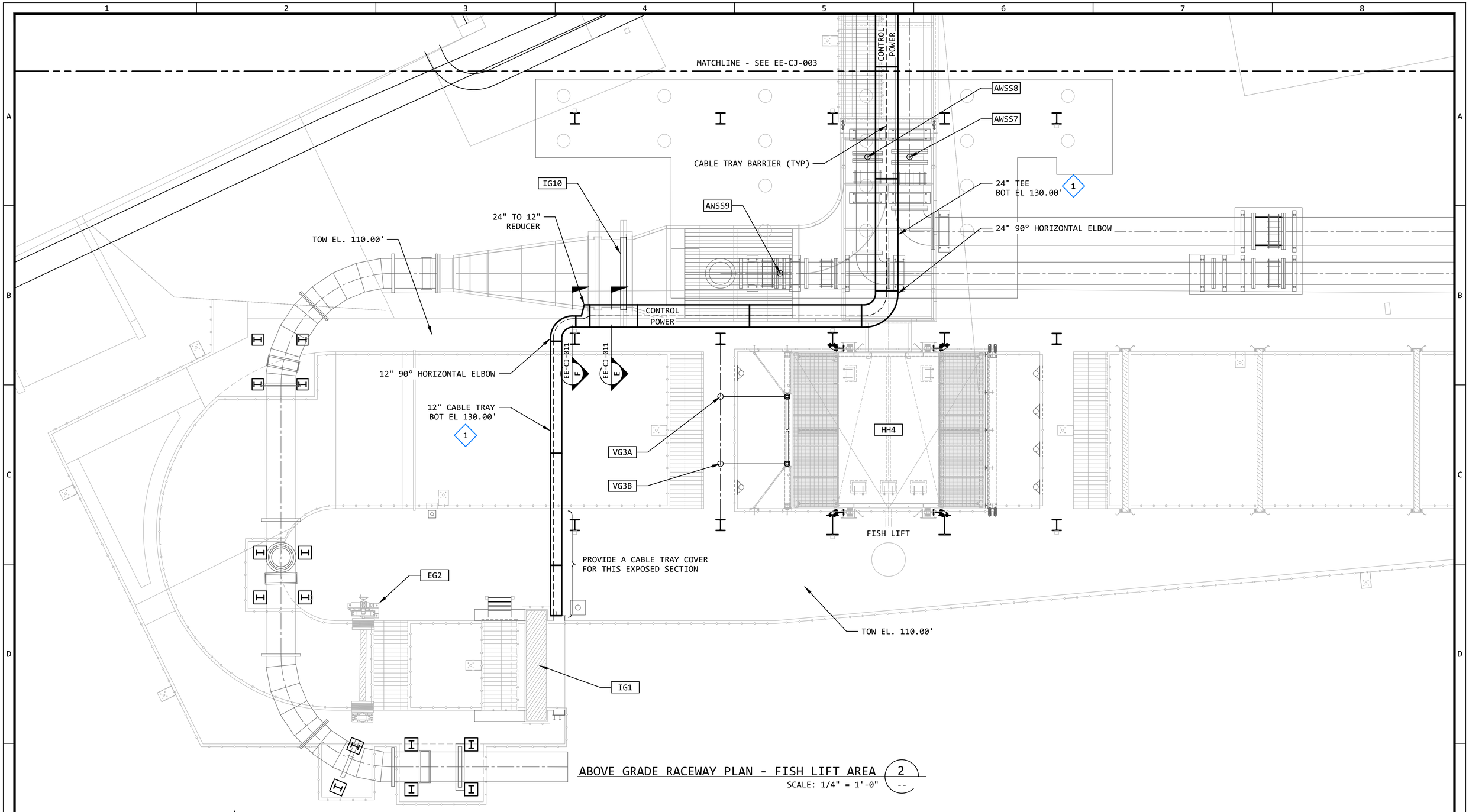
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN FISH LIFT PASSAGE SITE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CJ-001 / REV: 0



ABOVE GRADE RACEWAY PLAN - FISH LIFT AREA 2

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

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY IS YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

ECI "Engineering with Distinction"
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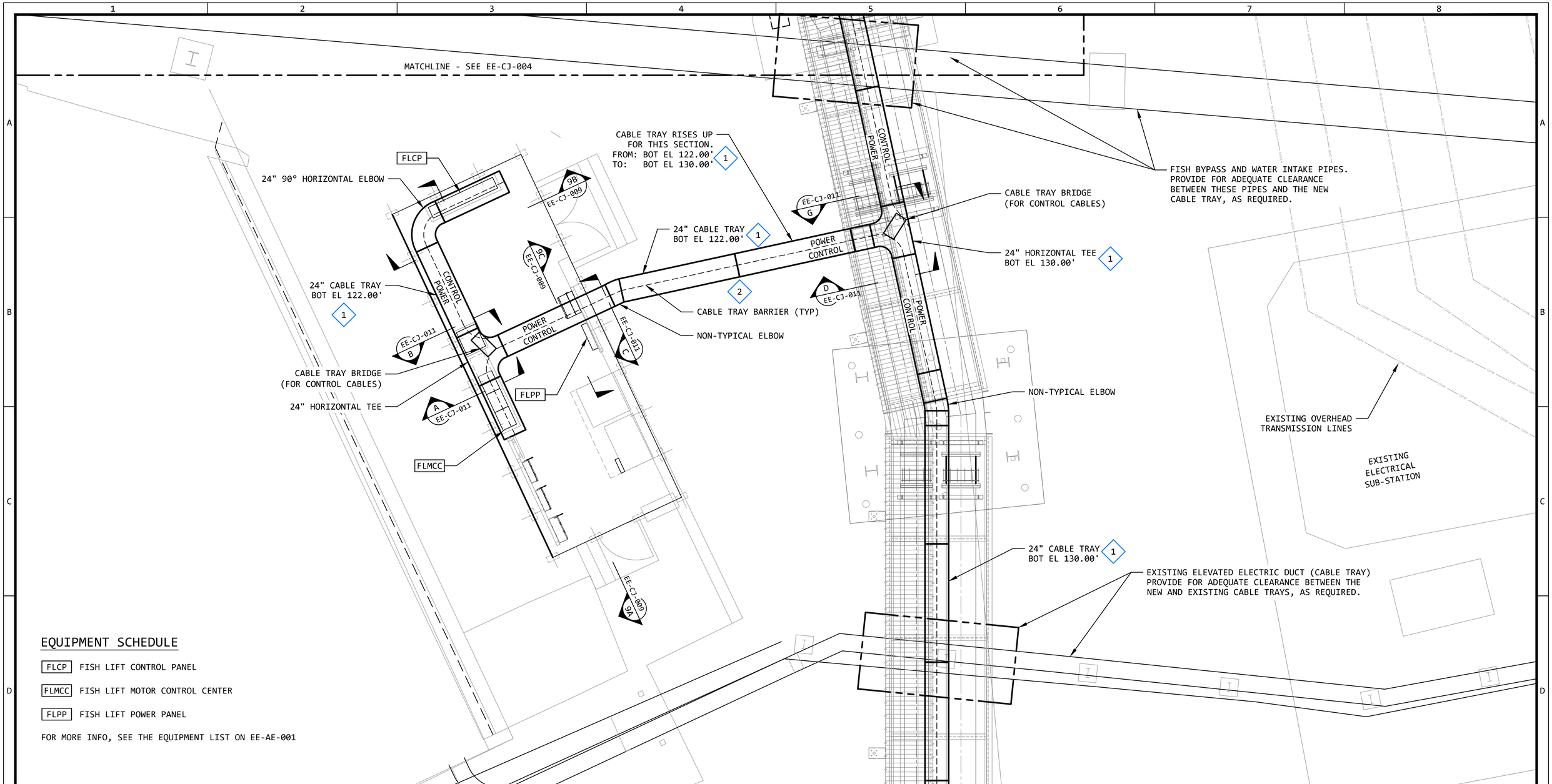
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN FISH LIFT AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CJ-002 / REV: 0



EQUIPMENT SCHEDULE

FLCP	FISH LIFT CONTROL PANEL
FLMCC	FISH LIFT MOTOR CONTROL CENTER
FLPP	FISH LIFT POWER PANEL

FOR MORE INFO, SEE THE EQUIPMENT LIST ON EE-AE-001

ABOVE GRADE RACEWAY PLAN - FISH LIFT CONTROL BUILDING 3

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

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY IS YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.
2. PROVIDE A CABLE TRAY COVER FOR THIS EXPOSED SECTION, BETWEEN THE CONTROL BUILDING AND THE FIRST CABLE TRAY TEE FITTING.

N

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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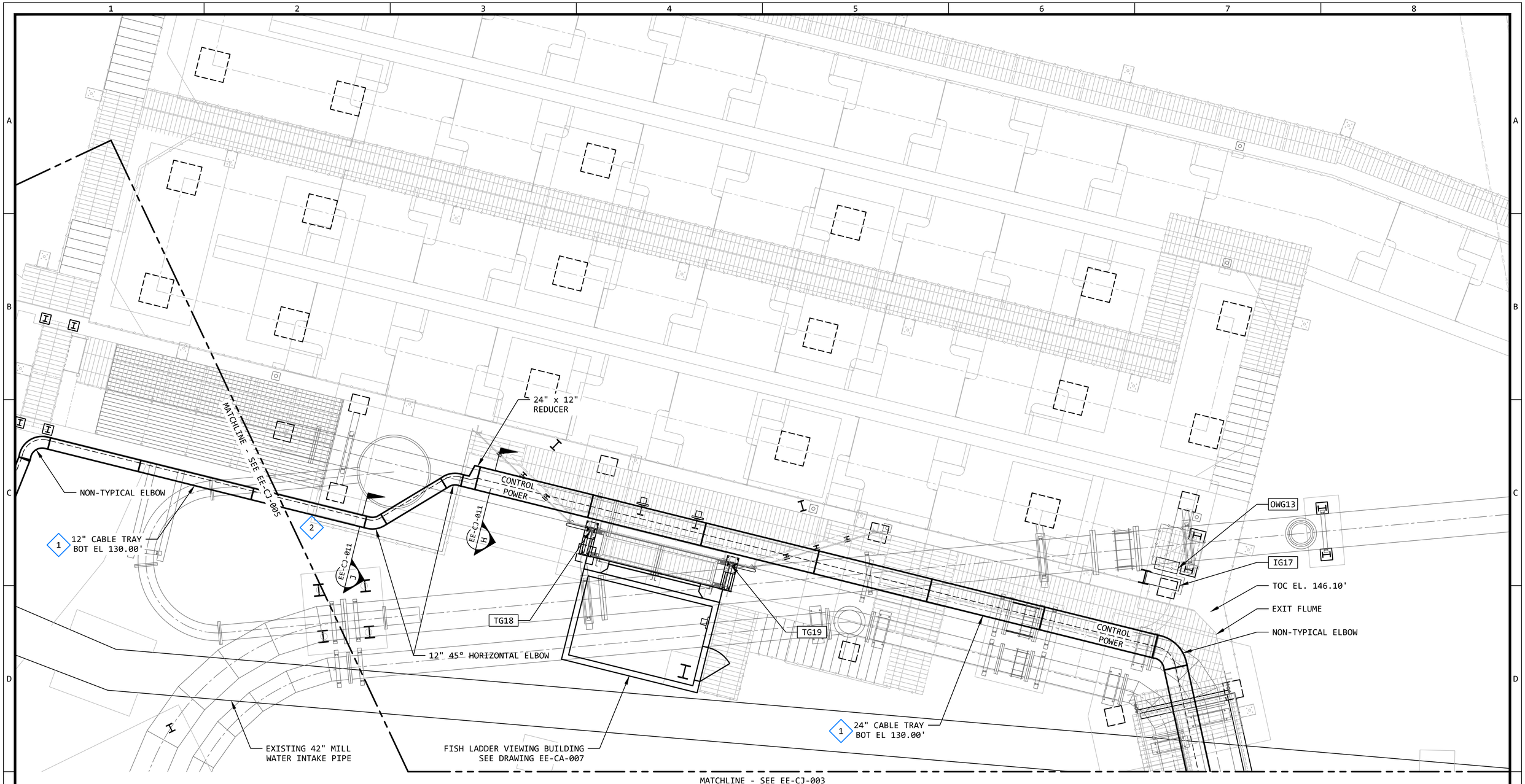
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN FISH LIFT CONTROL BUILDING AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CJ-003	REV: 0



ABOVE GRADE RACEWAY PLAN - EXIT FLUME AREA 4

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

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY IS YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.
2. PROVIDE A CABLE TRAY COVER FOR THIS EXPOSED SECTION, FROM WHERE IT KICKS OUT FROM UNDER THE FLUME, ALL THE WAY TO THE END OF TRAY.

N

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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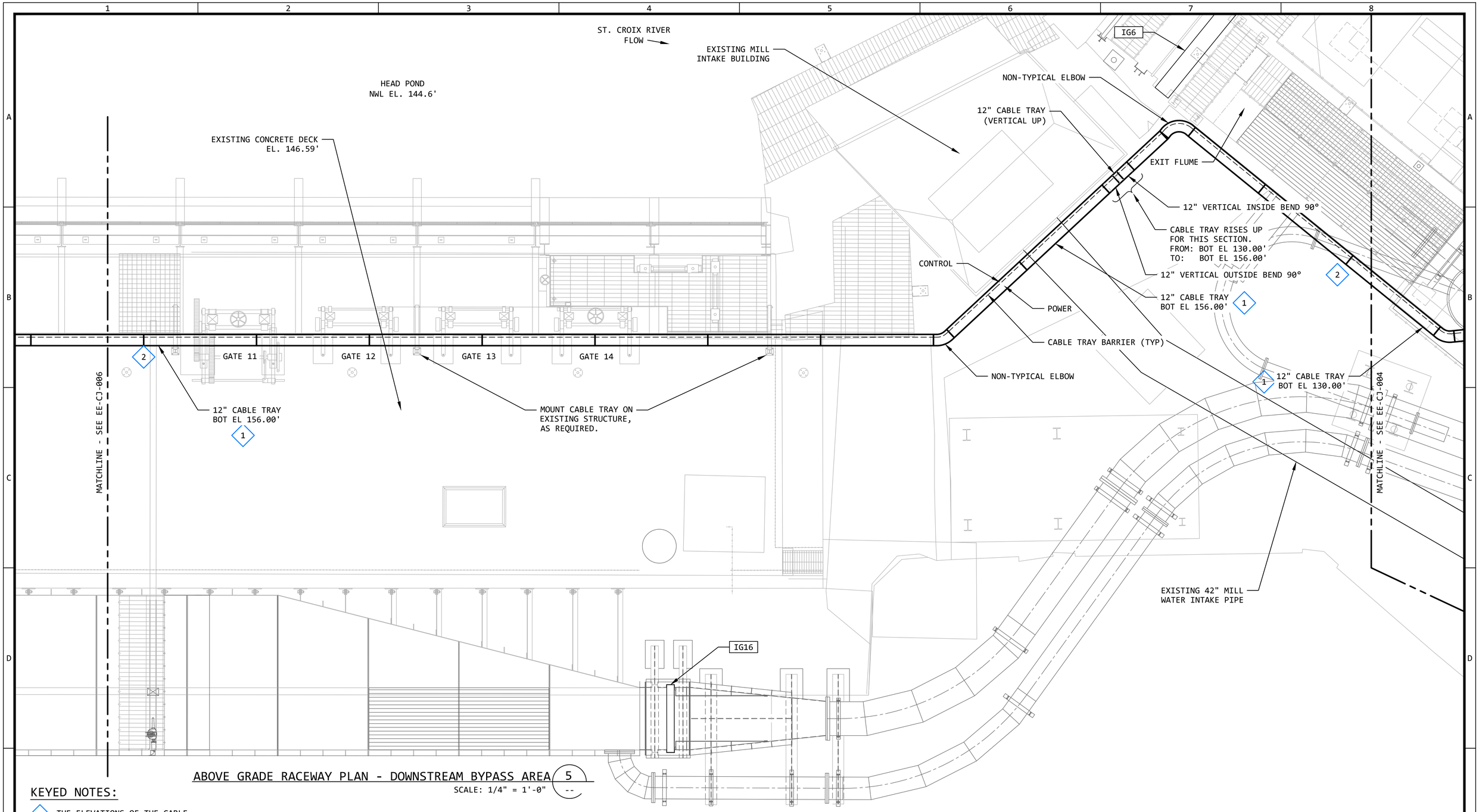
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN EXIT FLUME AREA	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CJ-004 REV: 0



ABOVE GRADE RACEWAY PLAN - DOWNSTREAM BYPASS AREA 5

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

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY IS YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.
2. PROVIDE A CABLE TRAY COVER FOR THIS EXPOSED SECTION, FROM WHERE IT KICKS OUT FROM UNDER THE FLUME, ALL THE WAY TO THE END OF TRAY.

N

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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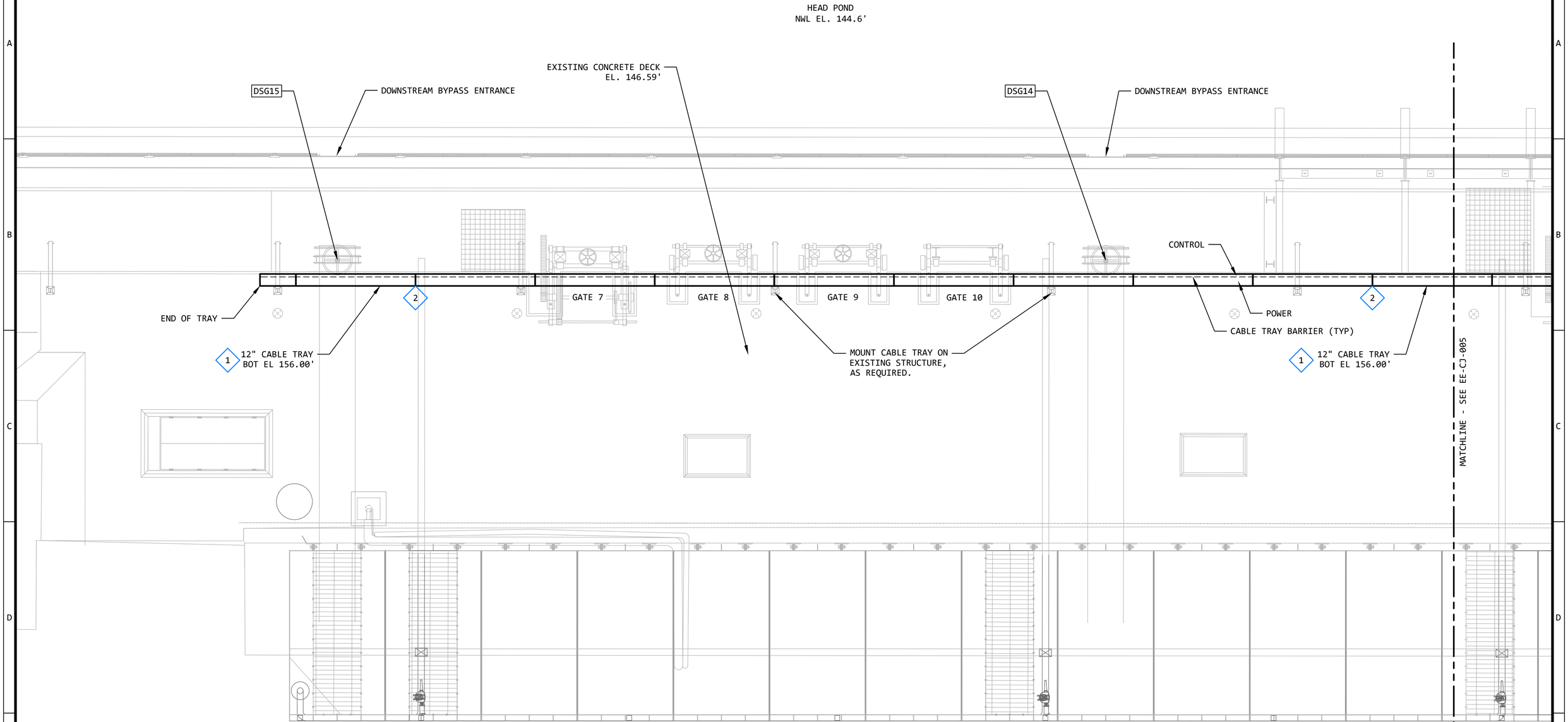
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN DOWNSTREAM BYPASS AREA - SHEET 1	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CJ-005 / REV: 0



ABOVE GRADE RACEWAY PLAN - DOWNSTREAM BYPASS AREA 6

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

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY IS YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.
2. PROVIDE A CABLE TRAY COVER FOR THIS EXPOSED SECTION, FROM WHERE IT KICKS OUT FROM UNDER THE FLUME, ALL THE WAY TO THE END OF TRAY.

N

6' 4' 2' 0 4' 8'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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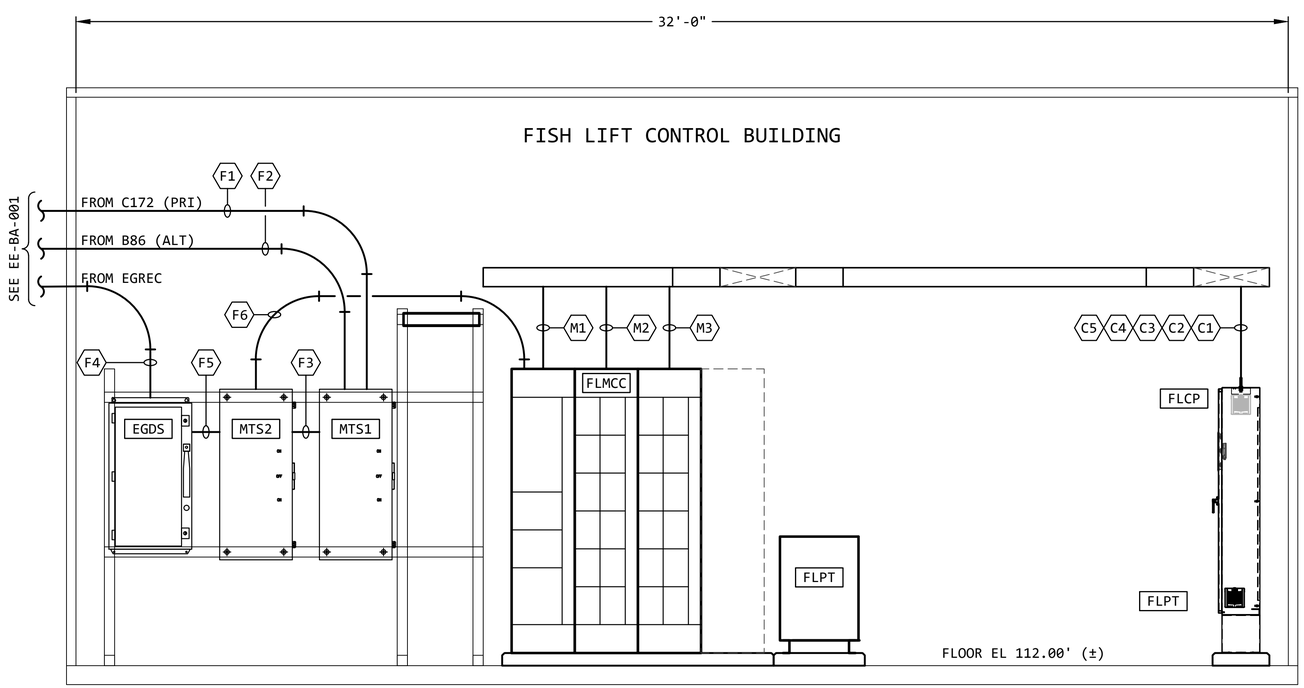
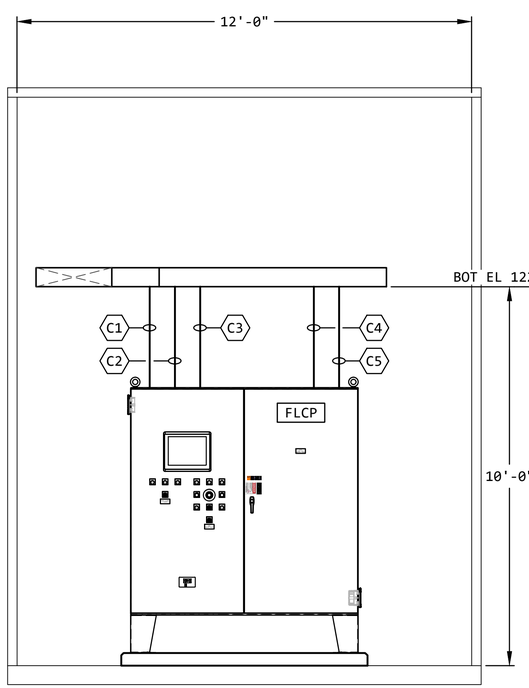
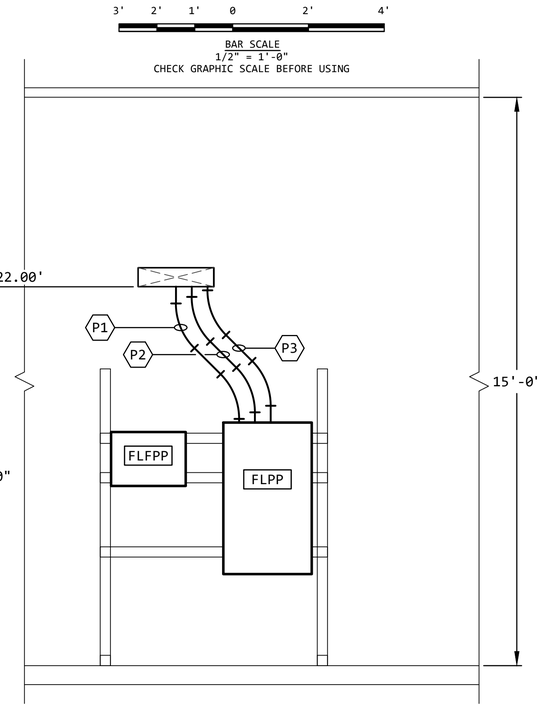
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY PLAN DOWNSTREAM BYPASS AREA - SHEET 2	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED		PROJECT NO.: ARL-007	DWG: EE-CJ-006 REV: 0



ELEVATION - INSIDE WEST WALL (9A)
SCALE: 1/2" = 1'-0" EE-CJ-001



ELEVATION - INSIDE NORTH WALL (9B)
SCALE: 1/2" = 1'-0" EE-CJ-001



ELEVATION - INSIDE EAST WALL (9C)
SCALE: 1/2" = 1'-0" EE-CJ-001

POWER FEEDER CONDUIT SCHEDULE

ITEM	SIZE	PANEL NAME	CABLE SCHEDULE	DESCRIPTION
F1	2-3" RGS	C1721 TO MTS1-N	EE-AE-001	PRIMARY MILL SOURCE
F2	2-3" RGS	TBD TO MTS1-E	EE-AE-001	ALTERNATE MILL SOURCE
F3	2-3" RGS	MTS1-L TO MTS2-N	EE-AE-001	PRIMARY/ALTERNATE POWER SOURCE
F4	2-3" RGS	EGREC TO EGDS	EE-AE-001	EMERGENCY/BACKUP POWER SOURCE
F5	2-3" RGS	EGDS TO MTS2-E	EE-AE-001	EMERGENCY/BACKUP POWER SOURCE
F6	2-3" RGS	MTS2-L TO FLMCC	EE-AE-001	FLMCC POWER FEEDER

CONDUIT SLEEVE SCHEDULE

ITEM	SIZE	PANEL NAME	CABLE SCHEDULE	DESCRIPTION
M1	4" RGS	FLMCC, SECTION 1	EE-AE-001	SECTION 01 POWER CABLES
M2	4" RGS	FLMCC, SECTION 2	EE-AE-001	SECTION 02 POWER CABLES
M3	4" RGS	FLMCC, SECTION 3	EE-AE-001	SECTION 03 POWER CABLES
P1	3" RGS	FISH LIFT POWER PANEL	EE-AE-002	ODD NUMBERED BREAKER POWER CABLES
P2	3" RGS	FISH LIFT POWER PANEL	EE-AE-002	PANEL FEEDER FROM FLPT
P3	3" RGS	FISH LIFT POWER PANEL	EE-AE-002	EVEN NUMBERED BREAKER POWER CABLES
C1	2" RGS	FISH LIFT CONTROL PANEL	EE-AE-002	PANEL FEEDER FROM FLPP
C2	4" RGS	FISH LIFT CONTROL PANEL	EE-AE-003	LEFT SIDE I&C CABLES
C3	4" RGS	FISH LIFT CONTROL PANEL	EE-AE-004	LEFT SIDE I&C CABLES
C4	4" RGS	FISH LIFT CONTROL PANEL	EE-AE-003	RIGHT SIDE I&C CABLES
C5	4" RGS	FISH LIFT CONTROL PANEL	EE-AE-003	RIGHT SIDE I&C CABLES

GENERAL NOTES:

1. ALL INTERIOR AND EXTERIOR CONDUIT SHALL BE RIGID GALVANIZED STEEL, EXCEPT FOR CONNECTIONS TO MOTORS AND AS NOTED. THE MINIMUM SIZE CONDUIT SHALL BE 1".
2. ALL CONNECTIONS TO MOTORS SHALL BE MADE USING LIQUID TIGHT FLEXIBLE METAL CONDUIT, UNLESS NOTED OTHERWISE.
3. ALL SPARE CONDUITS SHALL BE CAPPED AT A MINIMUM OF 12" AFF OR AFG, UNLESS NOTED OTHERWISE. ALL SPARE CONDUITS SHALL BE PROVIDED WITH A FISH WIRE. EACH END OF THE FISH WIRE SHALL BE LABELED TO IDENTIFY THE LOCATION OF THE OTHER END.
4. ALL MOTOR SAFETY SWITCHES, DISCONNECTS AND LOCAL MOTOR STARTERS SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
5. SEE GENERAL NOTES ON DRAWING EE-CB-000 FOR MORE INFORMATION.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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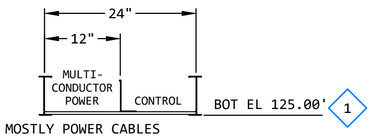
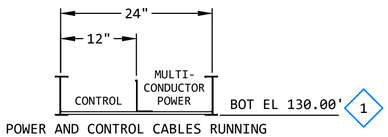
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	ABOVE GRADE RACEWAY ELEVATION FISH LIFT CONTROL BUILDING	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: AS NOTED	PROJECT NO.: ARL-007	DWG: EE-CJ-009	REV: 0



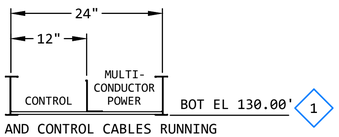
MOSTLY POWER CABLES
FROM FLMCC

CABLE TRAY SECTION A
NO SCALE EE-CJ-003



POWER AND CONTROL CABLES RUNNING
INTO THE FIELD TEE
FROM THE SOUTH BRANCH (FIELD)

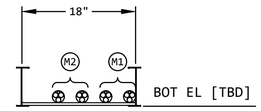
CABLE TRAY SECTION D
NO SCALE EE-CJ-003



POWER AND CONTROL CABLES RUNNING
INTO THE FIELD TEE
FROM THE NORTH BRANCH (FIELD)

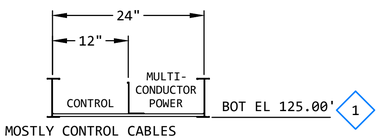
CABLE TRAY SECTION G
NO SCALE EE-CJ-003

HOLD - TBD



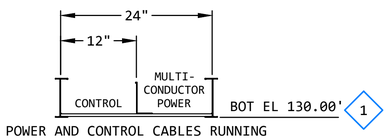
CABLE TRAY SECTION M
NO SCALE TBD

LARGE CABLE IDENTIFICATION - CABLE TRAY SECTION "M"				
CABLE ID	CABLE No.	SIZE AND TYPE	SERVICE	COMMENTS
(M2)	C1721-MTS1-P	(2) SETS OF: 3C #4/0 W/GND	MTS1 MANUAL TRANSFER SWITCH No.1	PRIMARY MILL SOURCE
(M2)	TBDA-MTS1-P	(2) SETS OF: 3C #4/0 W/GND	MTS1 MANUAL TRANSFER SWITCH No.1	ALTERNATE MILL SOURCE



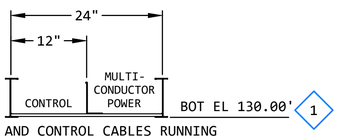
MOSTLY CONTROL CABLES
FROM FLCP

CABLE TRAY SECTION B
NO SCALE EE-CJ-003



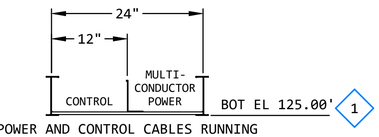
POWER AND CONTROL CABLES RUNNING
OUT OF THE CABLE TRAY REDUCER
FROM THE SOUTH BRANCH (FIELD)

CABLE TRAY SECTION E
NO SCALE EE-CJ-002



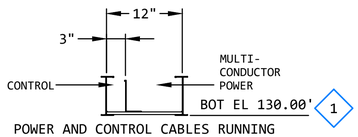
POWER AND CONTROL CABLES RUNNING
OUT OF THE CABLE TRAY REDUCER
FROM THE NORTH BRANCH (FIELD)

CABLE TRAY SECTION H
NO SCALE EE-CJ-004



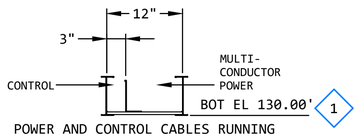
POWER AND CONTROL CABLES RUNNING
INTO THE FISH LIFT CONTROL BUILDING
FROM THE FIELD

CABLE TRAY SECTION C
NO SCALE EE-CJ-003



POWER AND CONTROL CABLES RUNNING
INTO THE CABLE TRAY REDUCER
FROM THE SOUTH BRANCH (FIELD)

CABLE TRAY SECTION F
NO SCALE EE-CJ-002



POWER AND CONTROL CABLES RUNNING
INTO THE CABLE TRAY REDUCER
FROM THE NORTH BRANCH (FIELD)

CABLE TRAY SECTION J
NO SCALE EE-CJ-004

KEYED NOTES:

1. THE ELEVATIONS OF THE CABLE TRAY ARE YET TO BE DETERMINED. THE ELEVATIONS SHOWN (BOT EL) ARE APPROXIMATE, AND HELP TO IDENTIFY THE TOTAL SCOPE OF THE DESIGN.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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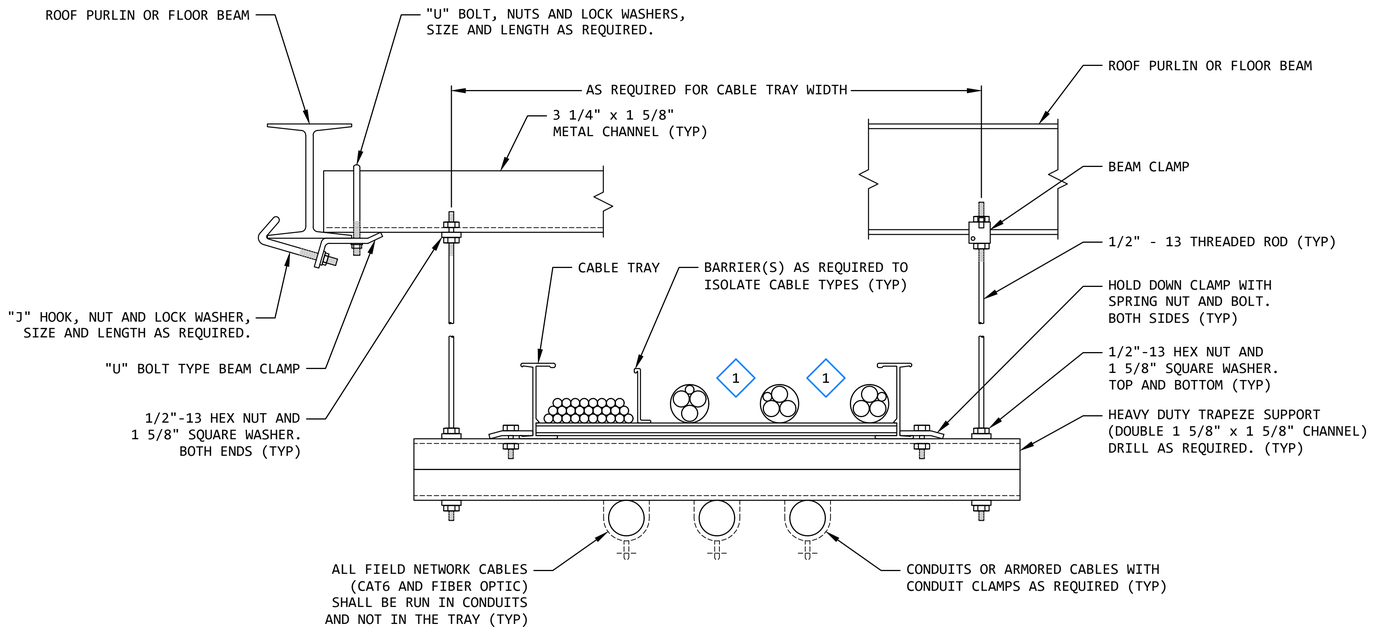
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	CABLE TRAY SECTIONS FISH LIFT PASSAGE	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CJ-011	REV: 0



TYPICAL CABLE TRAY MOUNTING DETAIL 12

NO SCALE --

KEYED NOTES:

1. ALL CABLES #4/0 OR LARGER SHALL BE INSTALLED IN A SINGLE LAYER, AND NO OTHER CABLES SHALL BE PLACED ON THEM. MAINTAIN THE REQUIRED MINIMUM OF ONE CABLE DIAMETER SPACING OF ALL CABLES #4/0 OR LARGER, AS REQUIRED.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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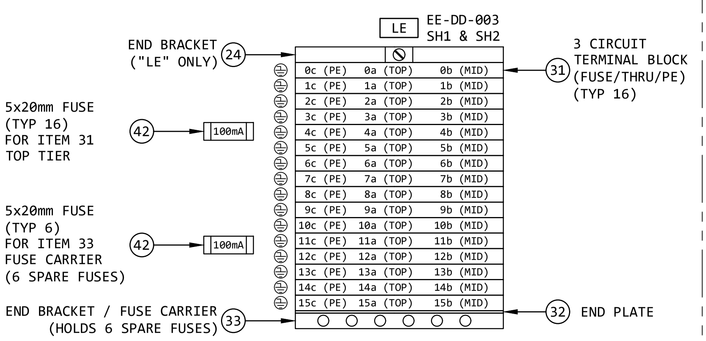
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	CABLE TRAY DETAILS FISH LIFT PASSAGE
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CJ-012 / REV: 0

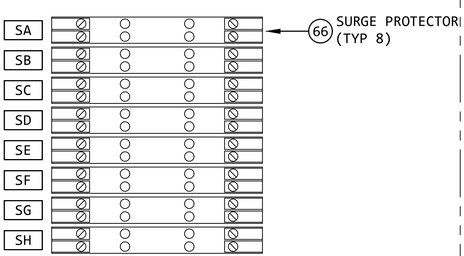
FLCP

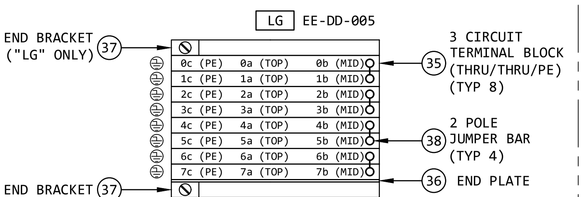
FISH LIFT
CONTROL PANEL
REAR PANEL - LEFT SIDE

TOP OF PANEL

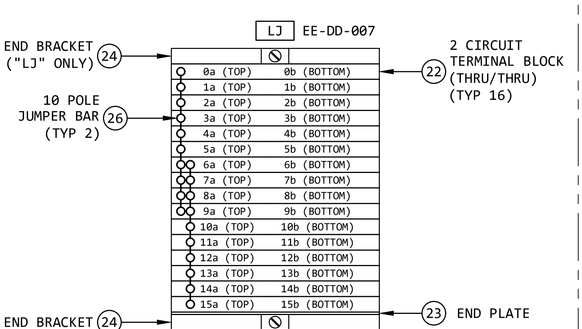


TERMINAL BLOCK DETAIL LE
FOR ANALOG INPUT MODULES
TYPICAL FOR: LF EE-DD-004 SH1 & SH2

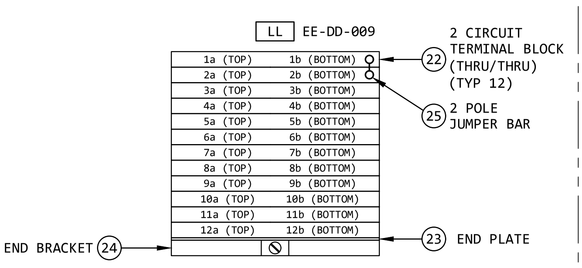




TERMINAL BLOCK DETAIL LG
FOR ANALOG OUTPUT MODULES
TYPICAL FOR: LH EE-DD-006



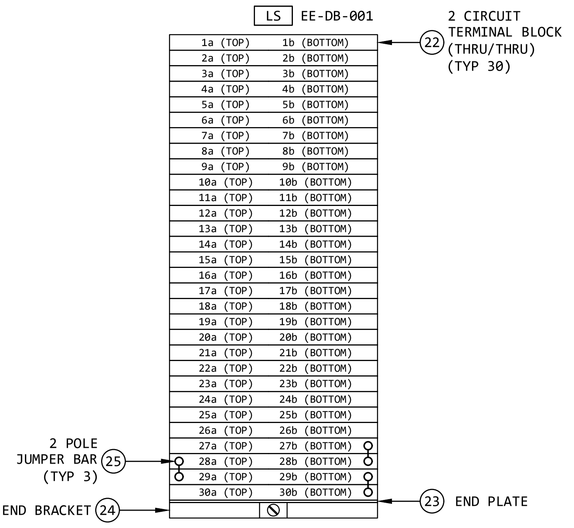
TERMINAL BLOCK DETAIL LJ
FOR DIGITAL INPUT MODULES
TYPICAL FOR: LK EE-DD-008



TERMINAL BLOCK DETAIL LL
FOR HIGH-SPEED COUNTER MODULES

(CONTINUED AT UPPER RIGHT)

(CONTINUED AT LOWER LEFT)



TERMINAL BLOCK DETAIL LS
FOR THE E-STOP CIRCUIT

BOTTOM OF PANEL

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY	CHECKED BY	APPROVED BY	SCALE
SAM	CMM	CMH	NONE
DATE	DATE	DATE	
02/22/2024	02/22/2024	02/22/2024	

WOODLAND PULP, LLC
WOODLAND FISH LIFT PASSAGE
TERMINAL BLOCK DEVELOPMENT - LEFT SIDE
FISH LIFT CONTROL PANEL (FLCP)

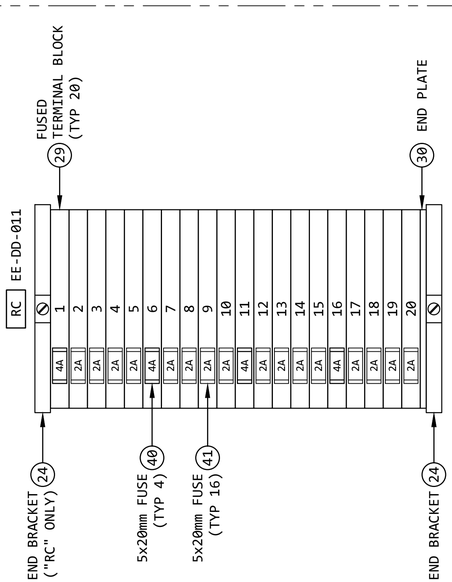
PROJECT NO.	TECHNOLOGY	DRAWING CATEGORY
ARL-007	HYDRO	LAYOUTS

DWG EE-CK-001

REV 0

FLCP
FISH LIFT
CONTROL PANEL
REAR PANEL - RIGHT SIDE

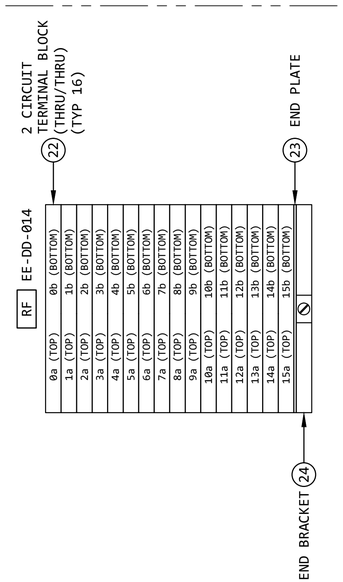
TOP OF PANEL



TERMINAL BLOCK DETAIL RC --

FOR RELAY OUTPUT MODULES
WIRED WITHOUT ISOLATION RELAYS

TYPICAL FOR: RD EE-DD-012, RE EE-DD-013



TERMINAL BLOCK DETAIL RF --

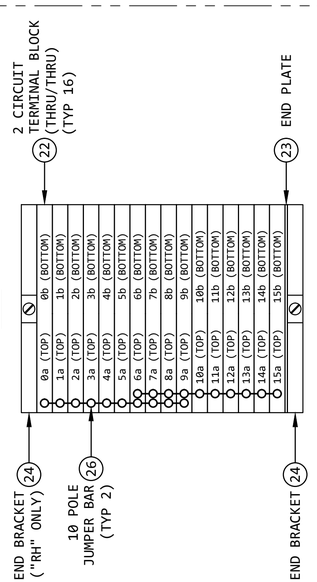
FOR RELAY OUTPUT MODULES
WIRED WITH ISOLATION RELAYS

RG (FUTURE)

NOTE:
LEAVE ADEQUATE SPACE TO INSTALL TERMINAL BLOCKS SIMILAR TO RF (ABOVE) OR TO RH (BELOW).

TERMINAL BLOCK DETAIL RG --

FOR FUTURE MODULE [TBD]



TERMINAL BLOCK DETAIL RH --

FOR DIGITAL INPUT MODULES

TYPICAL FOR: RJ EE-DD-017, RK EE-DD-018, RL EE-DD-019

BOTTOM OF PANEL

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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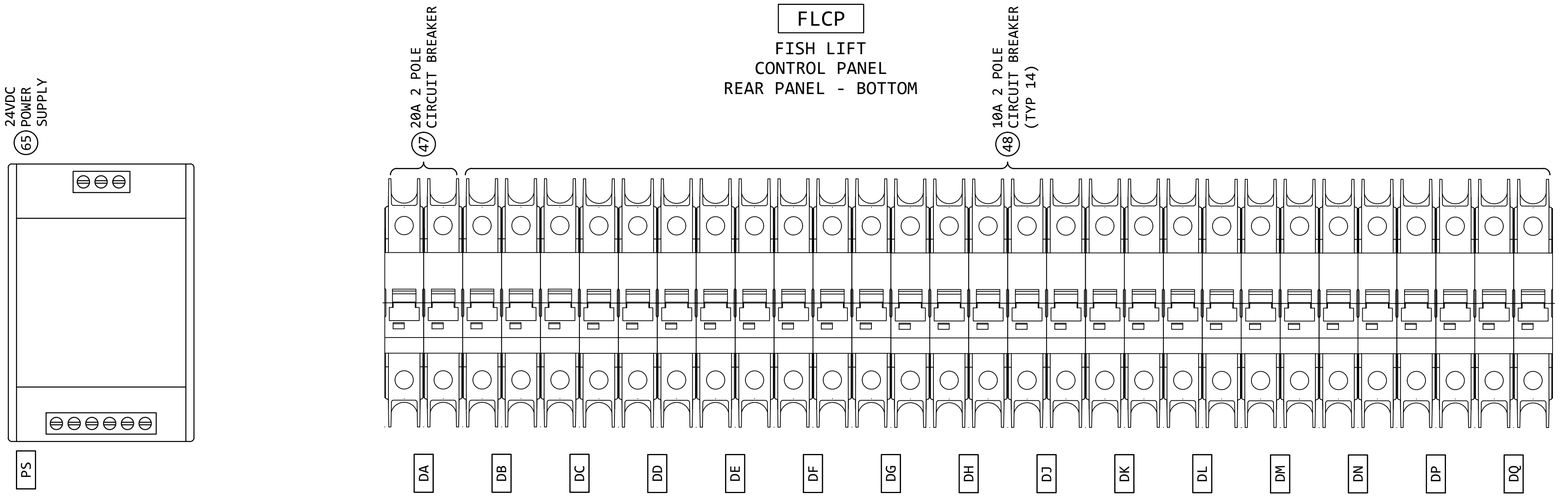
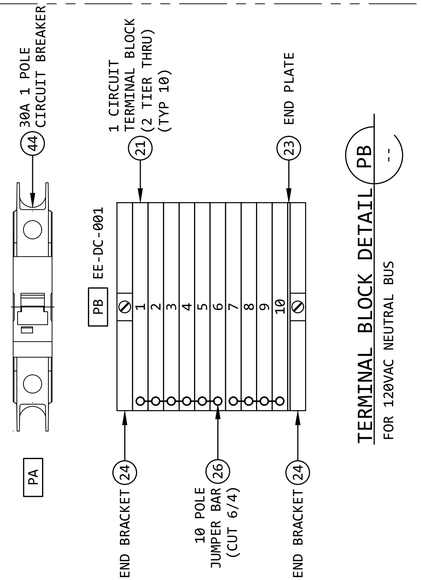
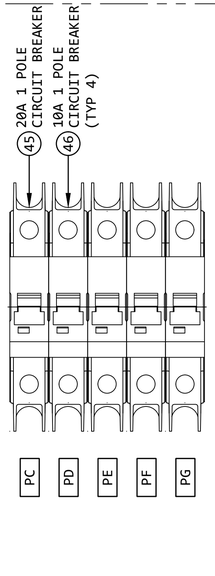
DRAWN BY SAM	DATE 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY CMM	DATE 02/22/2024	TERMINAL BLOCK DEVELOPMENT - RIGHT SIDE FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY CMH	DATE 02/22/2024	TECHNOLOGY HYDRO	DRAWING CATEGORY LAYOUTS
SCALE NONE		PROJECT NO. ARL-007	DWG EE-CK-002	REV 0

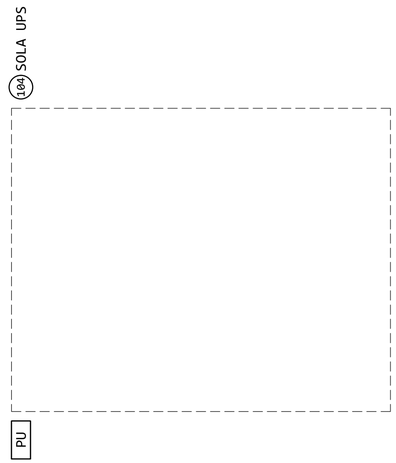
FLCP
FISH LIFT
CONTROL PANEL
REAR PANEL - BOTTOM

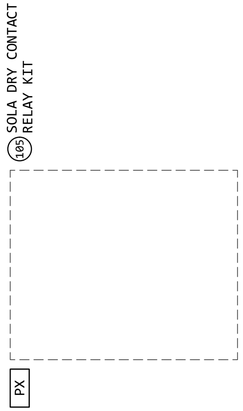


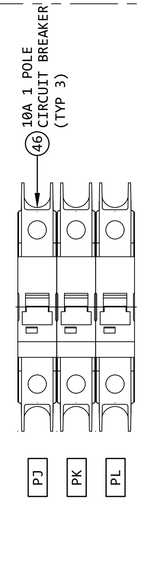
LEFT SIDE



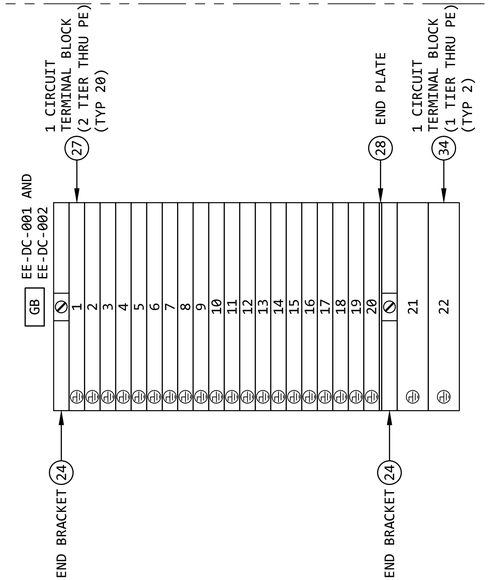








RIGHT SIDE



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	TERMINAL BLOCK DEVELOPMENT - BOTTOM FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-CK-003	REV: 0

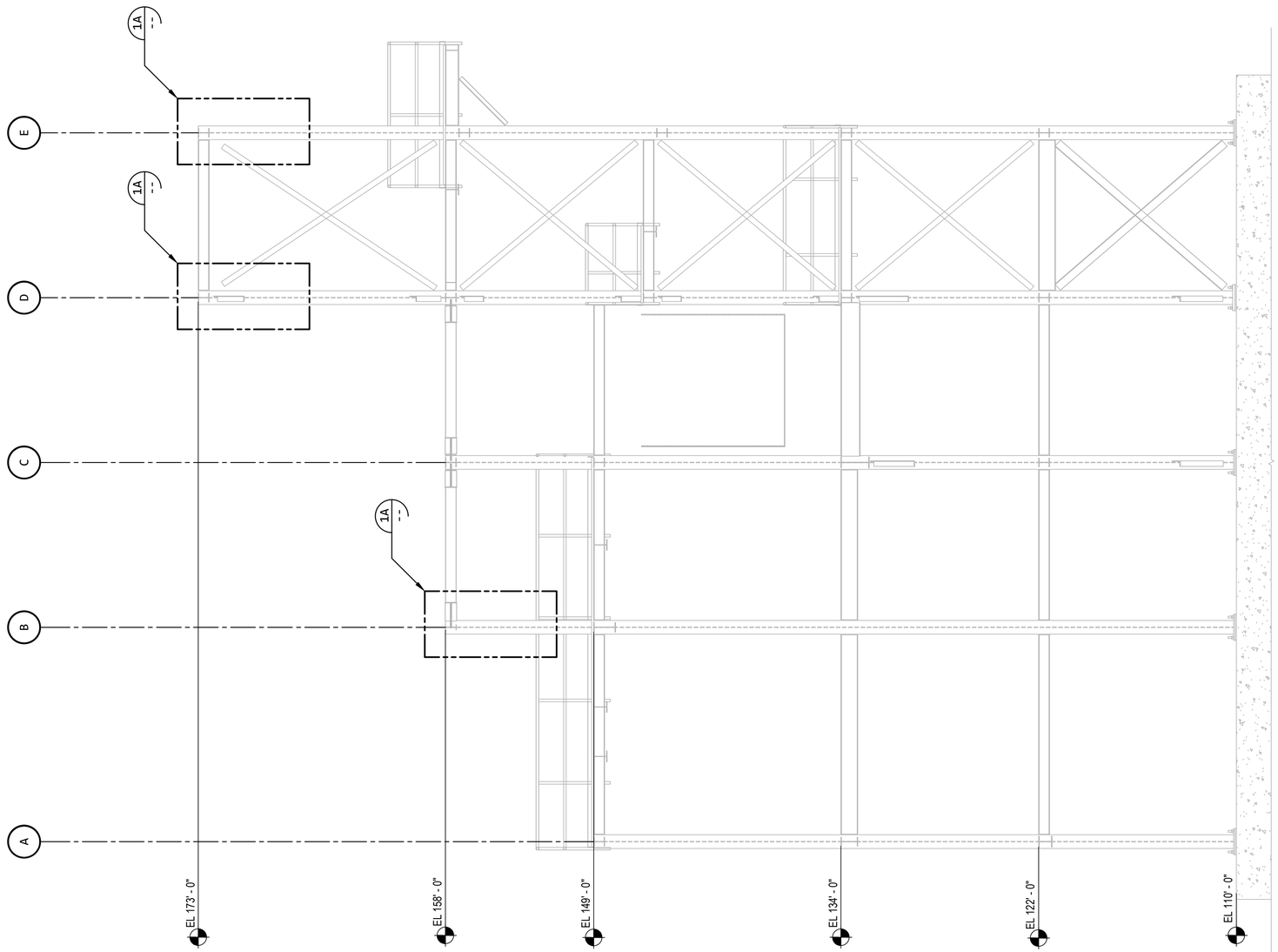
GENERAL NOTES:

1. THE COMPLETED INSTALLATION SHALL MEET NFPA 780, STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS.

2. ALUMINUM LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL NOT BE MOUNTED TO COPPER SURFACES. COPPER COMPONENTS SHALL BE USED TO AVOID ELECTROLYTIC CORROSION.

3. AIR TERMINALS ARE TO BE LOCATED AS SHOWN. THEY ARE TO BE A MAXIMUM OF 24" FROM THE ROOF EDGE AND PROJECT A MINIMUM OF 10" ABOVE THE PROTECTED EDGE. THE SPACING BETWEEN AIR TERMINALS ARE NOT TO EXCEED 20 FEET.

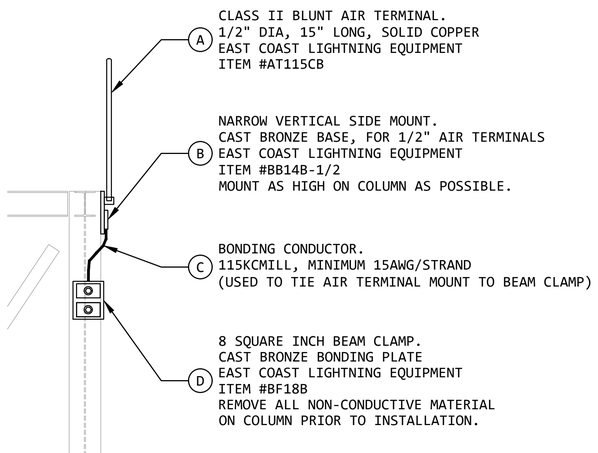
4. ALL LIGHTING CONDUCTORS ARE TO MAINTAIN A HORIZONTAL OR DOWNWARD PATH. ALL BENDS IN THE CONDUCTOR SHALL HAVE A RADIUS BEND OF 8 INCHES OR GREATER, AND SHALL HAVE AN ANGLE BEND OF 90 DEGREES OR GREATER.



BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

8' 4' 0 2' 4' 6'

LIGHTNING PROTECTION - ELEVATION AT COLUMN LINE 1 (1 / --)
SCALE: 1/4" = 1'-0"



A — CLASS II BLUNT AIR TERMINAL.
1/2" DIA, 15" LONG, SOLID COPPER
EAST COAST LIGHTNING EQUIPMENT
ITEM #AT115CB

B — NARROW VERTICAL SIDE MOUNT.
CAST BRONZE BASE, FOR 1/2" AIR TERMINALS
EAST COAST LIGHTNING EQUIPMENT
ITEM #BB14B-1/2
MOUNT AS HIGH ON COLUMN AS POSSIBLE.

C — BONDING CONDUCTOR.
115KCMILL, MINIMUM 15AWG/STRAND
(USED TO TIE AIR TERMINAL MOUNT TO BEAM CLAMP)

D — 8 SQUARE INCH BEAM CLAMP.
CAST BRONZE BONDING PLATE
EAST COAST LIGHTNING EQUIPMENT
ITEM #BF18B
REMOVE ALL NON-CONDUCTIVE MATERIAL
ON COLUMN PRIOR TO INSTALLATION.

LIGHTNING PROTECTION DETAIL (1A / --)
SCALE: NONE

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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"Engineering with Distinction"

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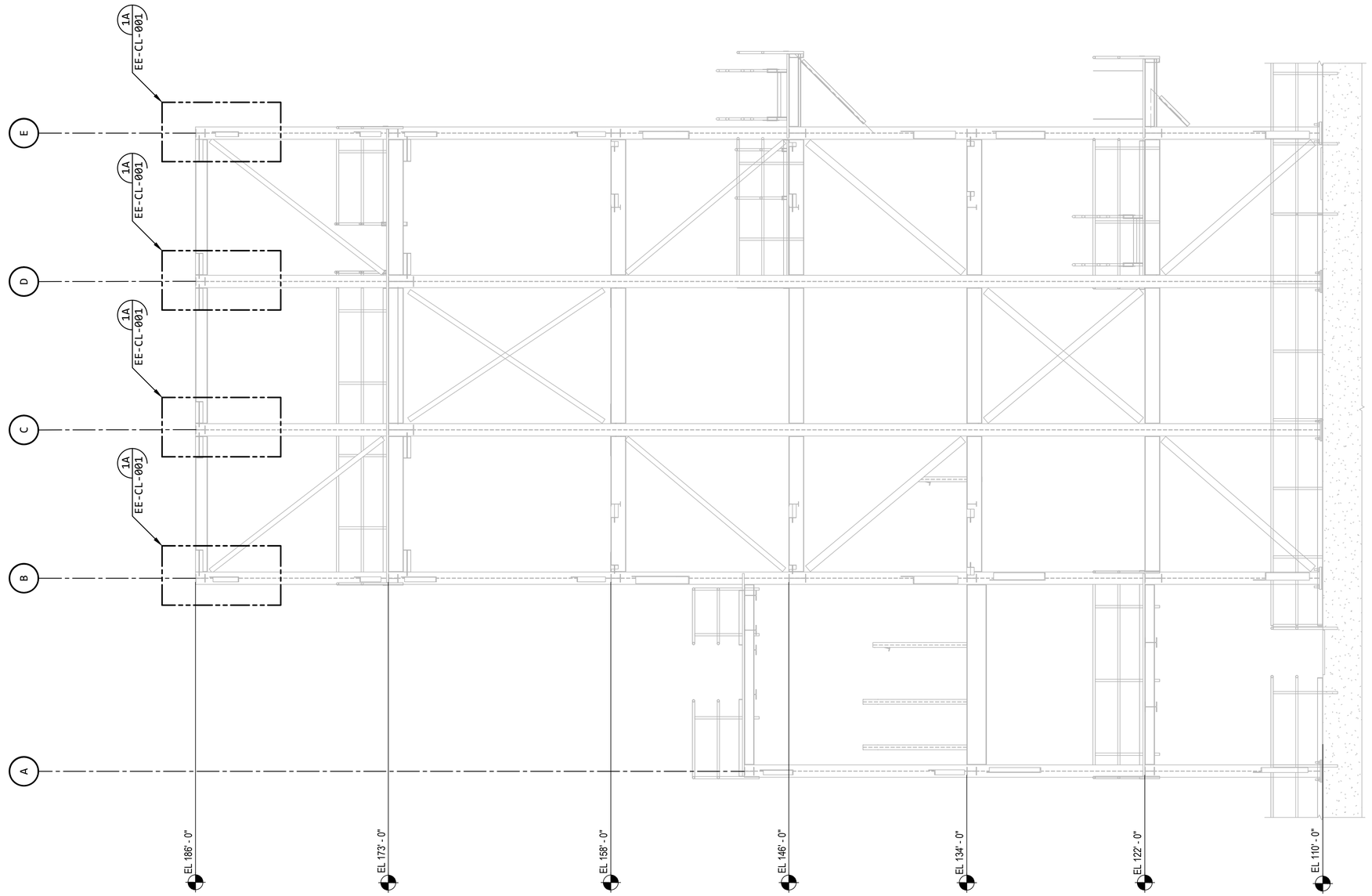
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTNING PROTECTION ELEVATION AT COLUMN LINE 1	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-CL-001 / REV: 0



LIGHTNING PROTECTION - ELEVATION AT COLUMN LINE 2

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

2 -

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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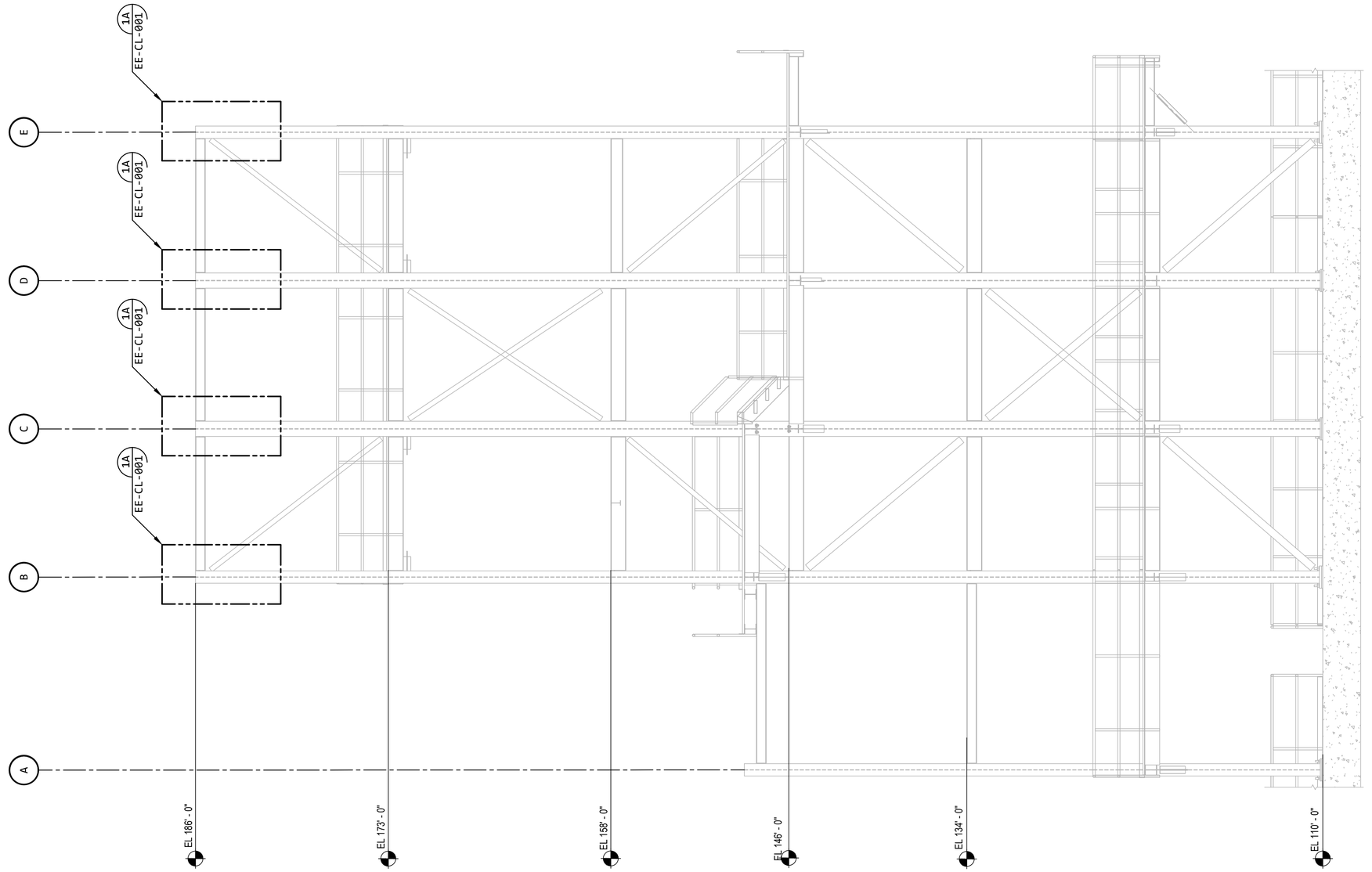
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTNING PROTECTION ELEVATION AT COLUMN LINE 2	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-CL-002 / REV: 0



8' 4' 0 2' 4' 6'

BAR SCALE
1/4" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

LIGHTNING PROTECTION - ELEVATION AT COLUMN LINE 3

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

3 --

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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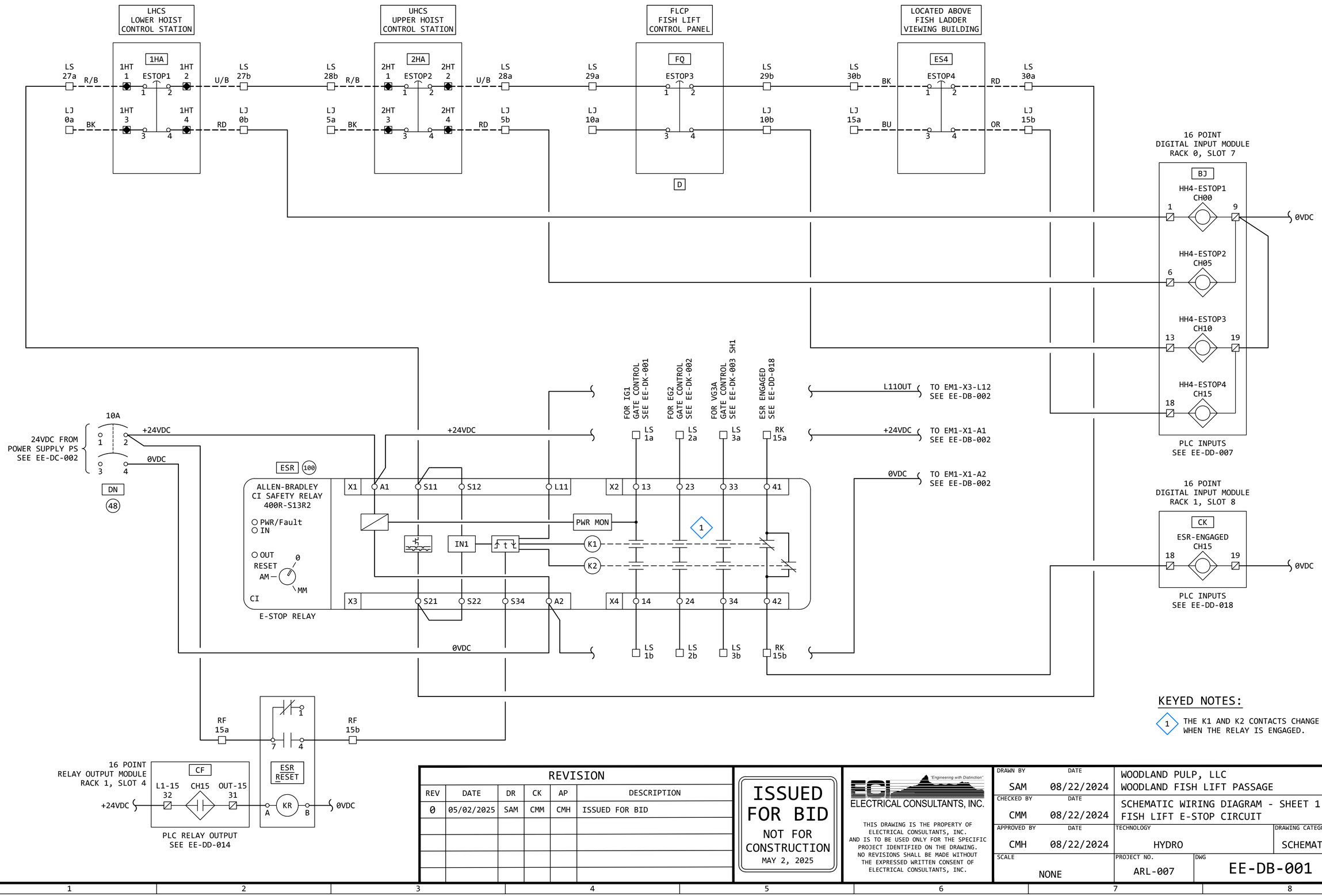
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	LIGHTNING PROTECTION ELEVATION AT COLUMN LINE 3	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: LAYOUTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-CL-003 / REV: 0



KEYED NOTES:

1. THE K1 AND K2 CONTACTS CHANGE STATE WHEN THE RELAY IS ENGAGED.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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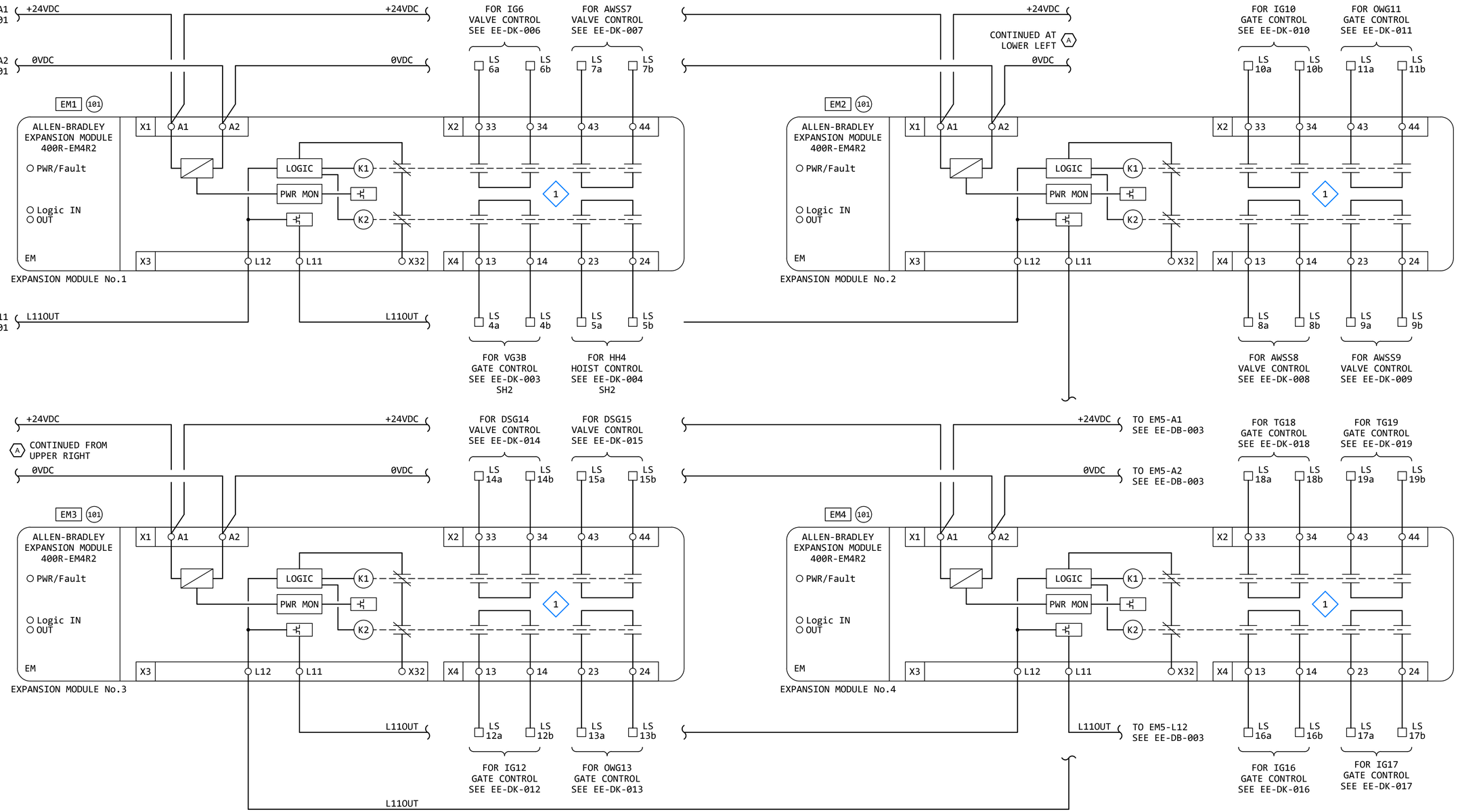
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	SCHEMATIC WIRING DIAGRAM - SHEET 1 FISH LIFT E-STOP CIRCUIT	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DB-001	REV: 0



KEYED NOTES:

1. THE K1 AND K2 CONTACTS CHANGE STATE WHEN THE RELAY IS ENGAGED.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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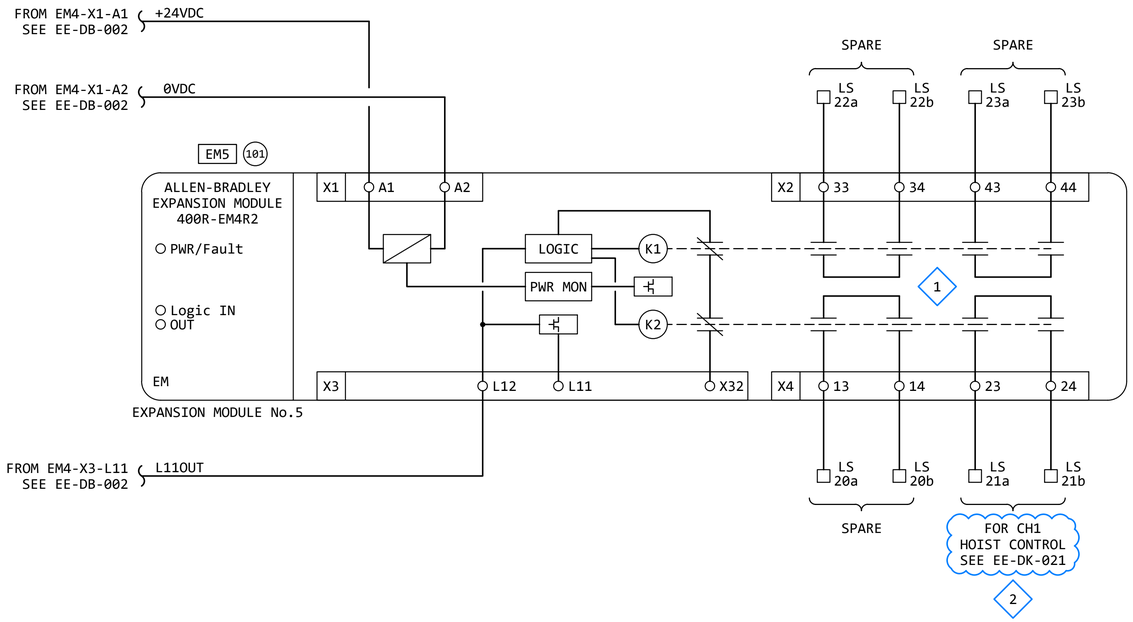
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	SCHEMATIC WIRING DIAGRAM - SHEET 2 FISH LIFT E-STOP CIRCUIT	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-DB-002 / REV: 0



KEYED NOTES:

1. THE K1 AND K2 CONTACTS CHANGE STATE WHEN THE RELAY IS ENGAGED.
2. NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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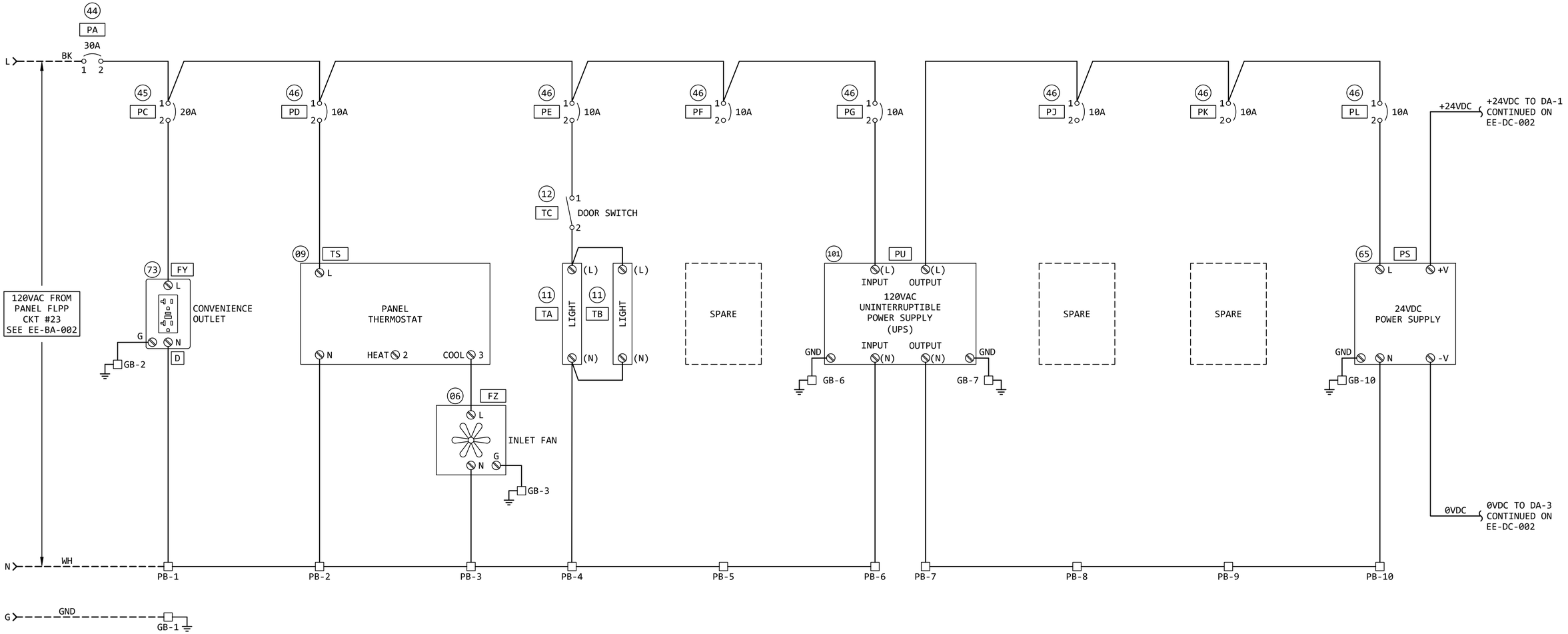
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	SCHEMATIC WIRING DIAGRAM - SHEET 3 FISH LIFT E-STOP CIRCUIT
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DB-003 / REV: 0



120VAC CONTROL POWER DISTRIBUTION - FISH LIFT CONTROL PANEL (FLCP)

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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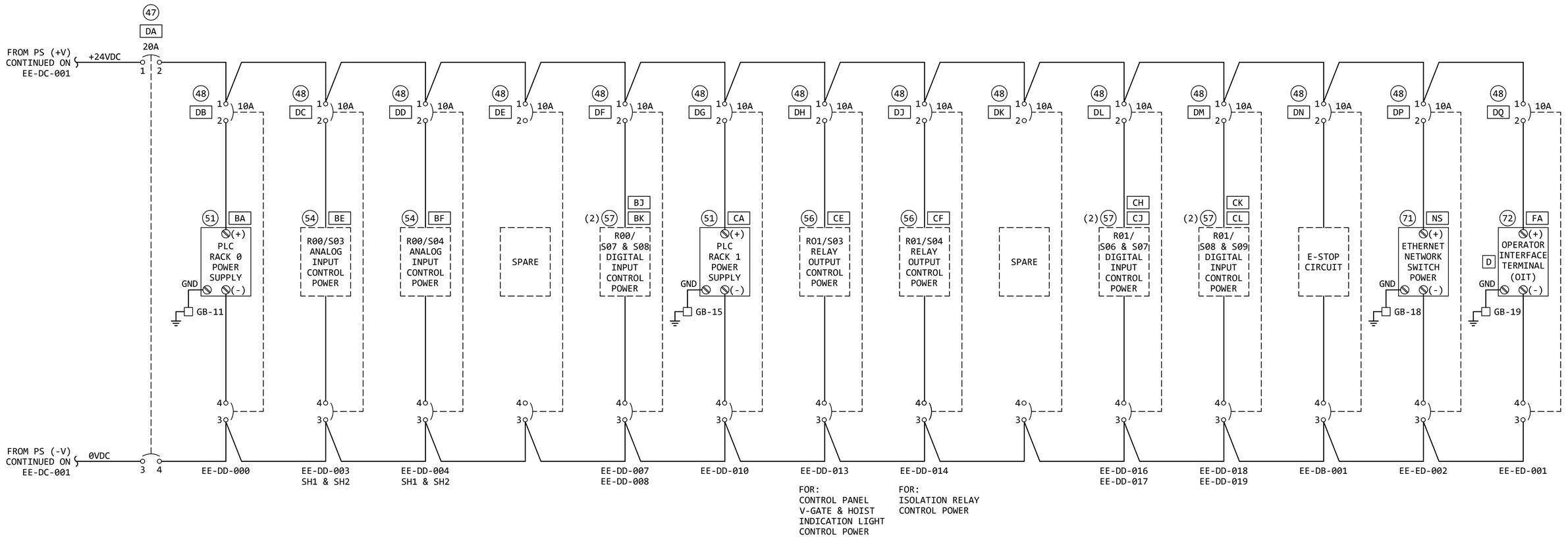
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	120VAC CONTROL POWER DISTRIBUTION FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DC-001 / REV: 0



24VDC POWER DISTRIBUTION - FISH LIFT CONTROL PANEL (FLCP)

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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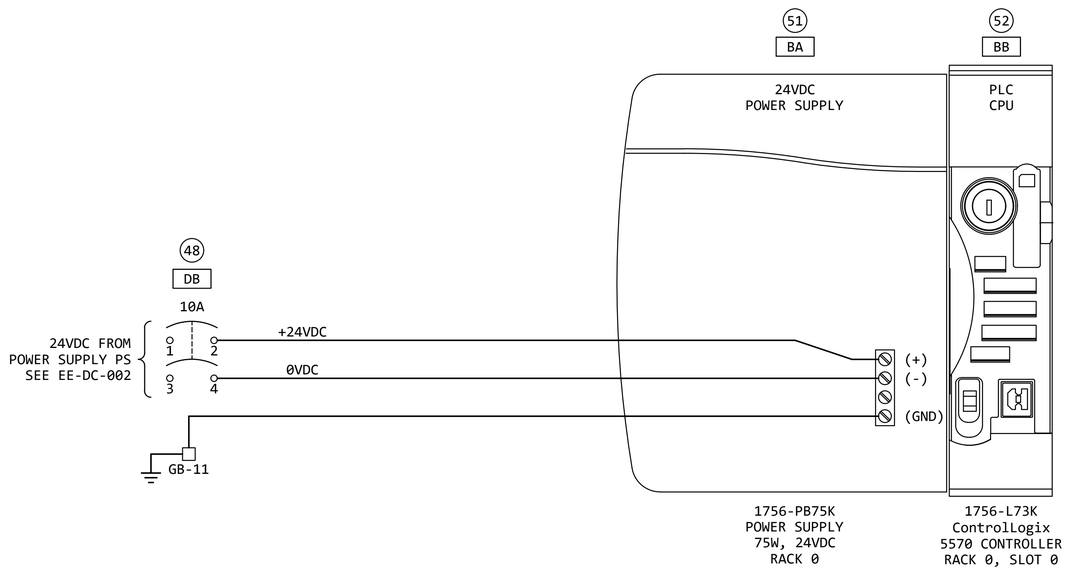
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	24VDC CONTROL POWER DISTRIBUTION FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-DC-002 / REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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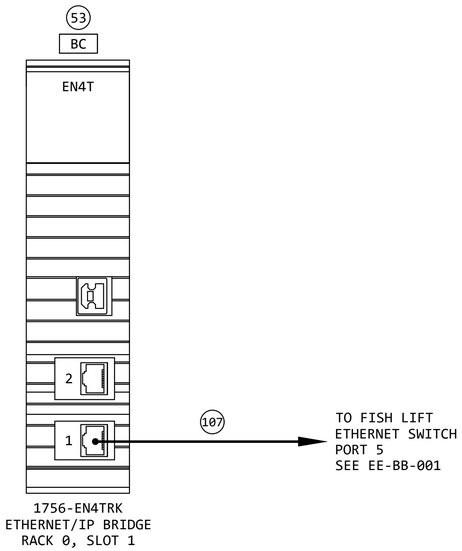
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 0 POWER SUPPLY AND CPU
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-000 REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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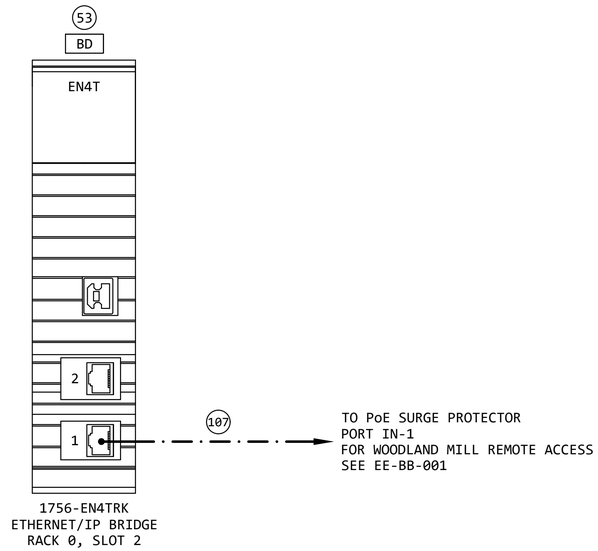
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 1 ETHERNET/IP BRIDGE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-001 / REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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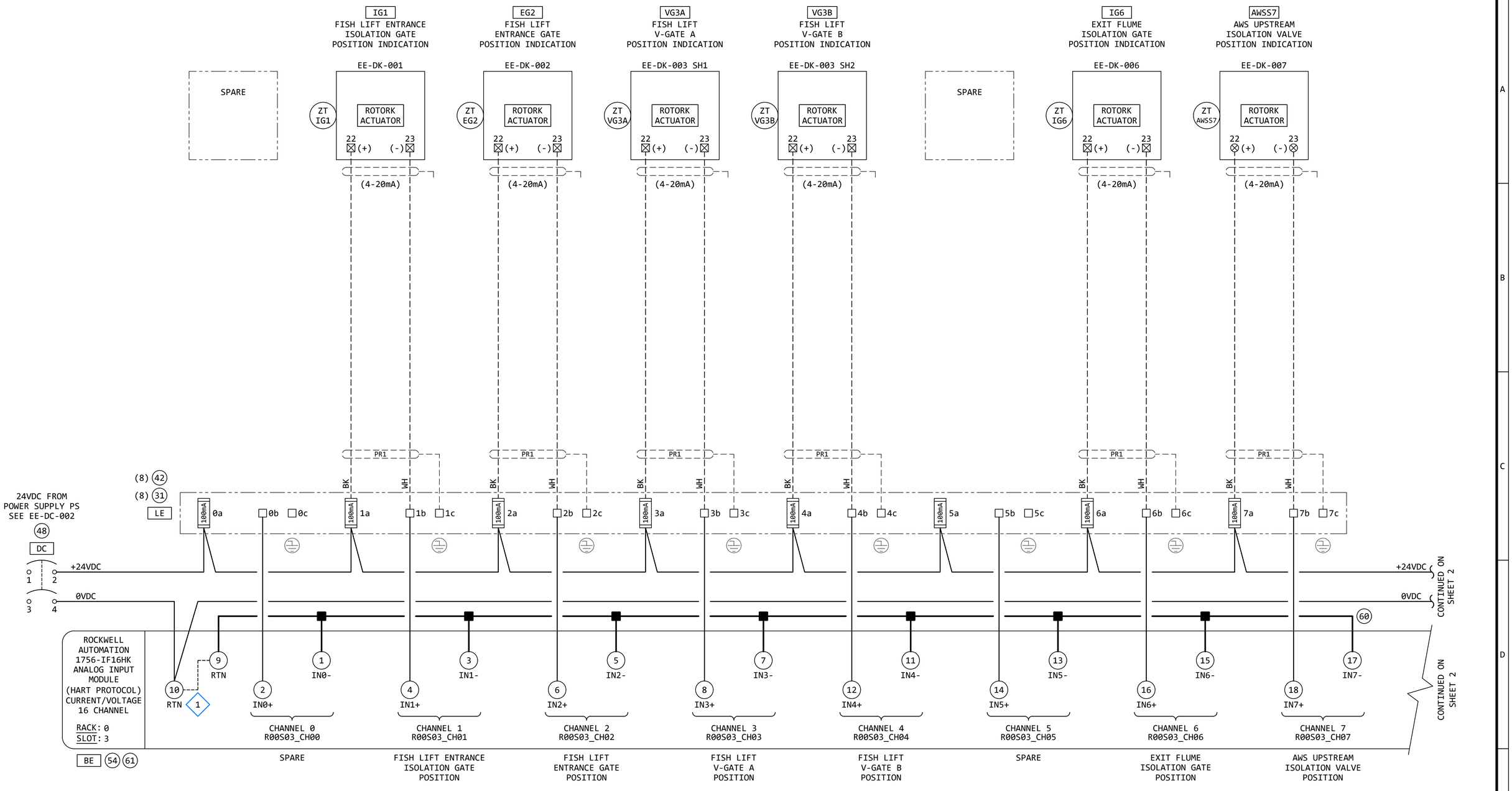
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 2 ETHERNET/IP BRIDGE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-002 / REV: 0



KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (9&10) ARE CONNECTED INTERNALLY.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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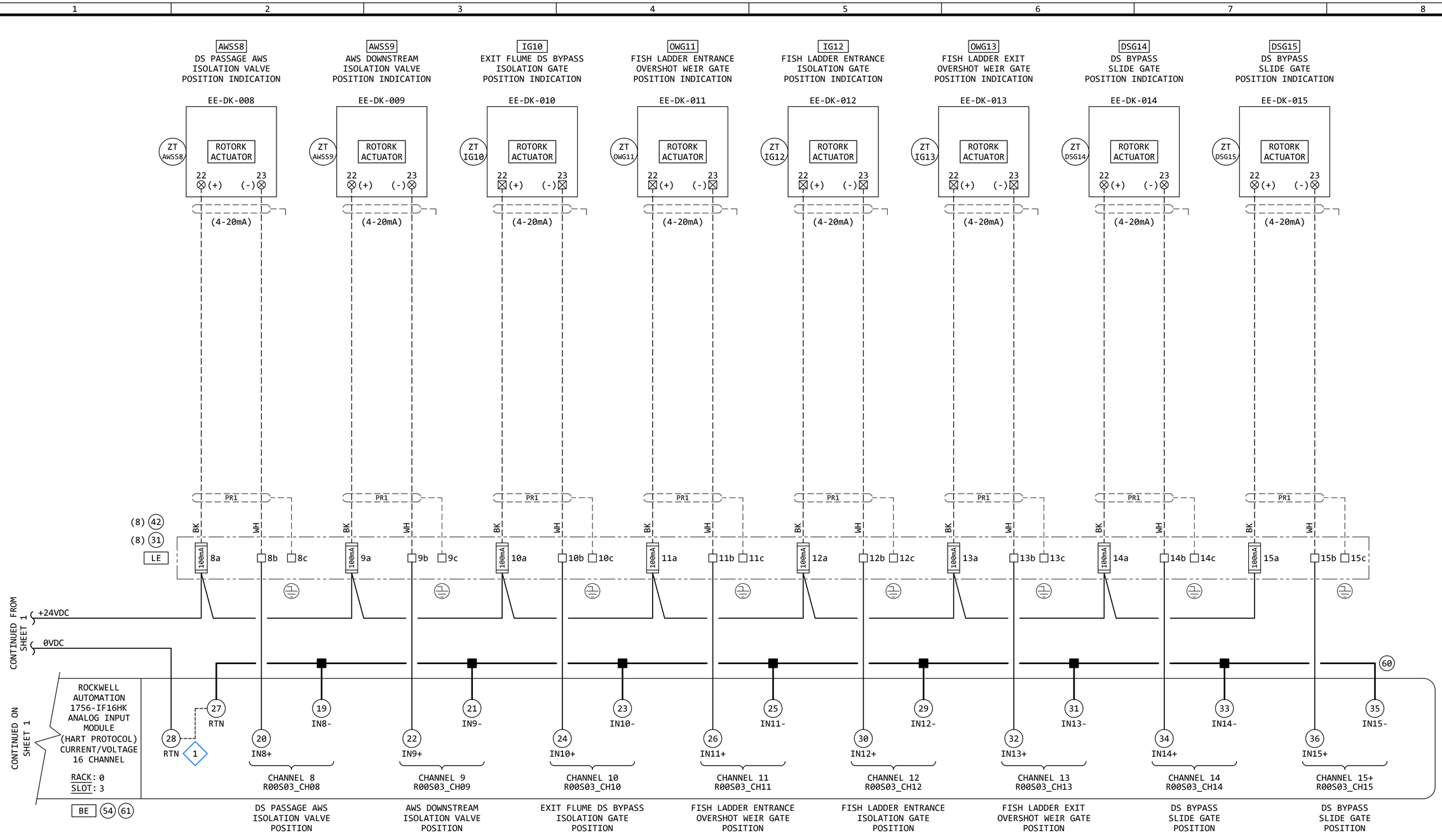
DRAWN BY: SAM — DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM — DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 3 ANALOG INPUT MODULE	
APPROVED BY: CMH — DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-003 SH1 — REV: 0



KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (27&28) ARE CONNECTED INTERNALLY.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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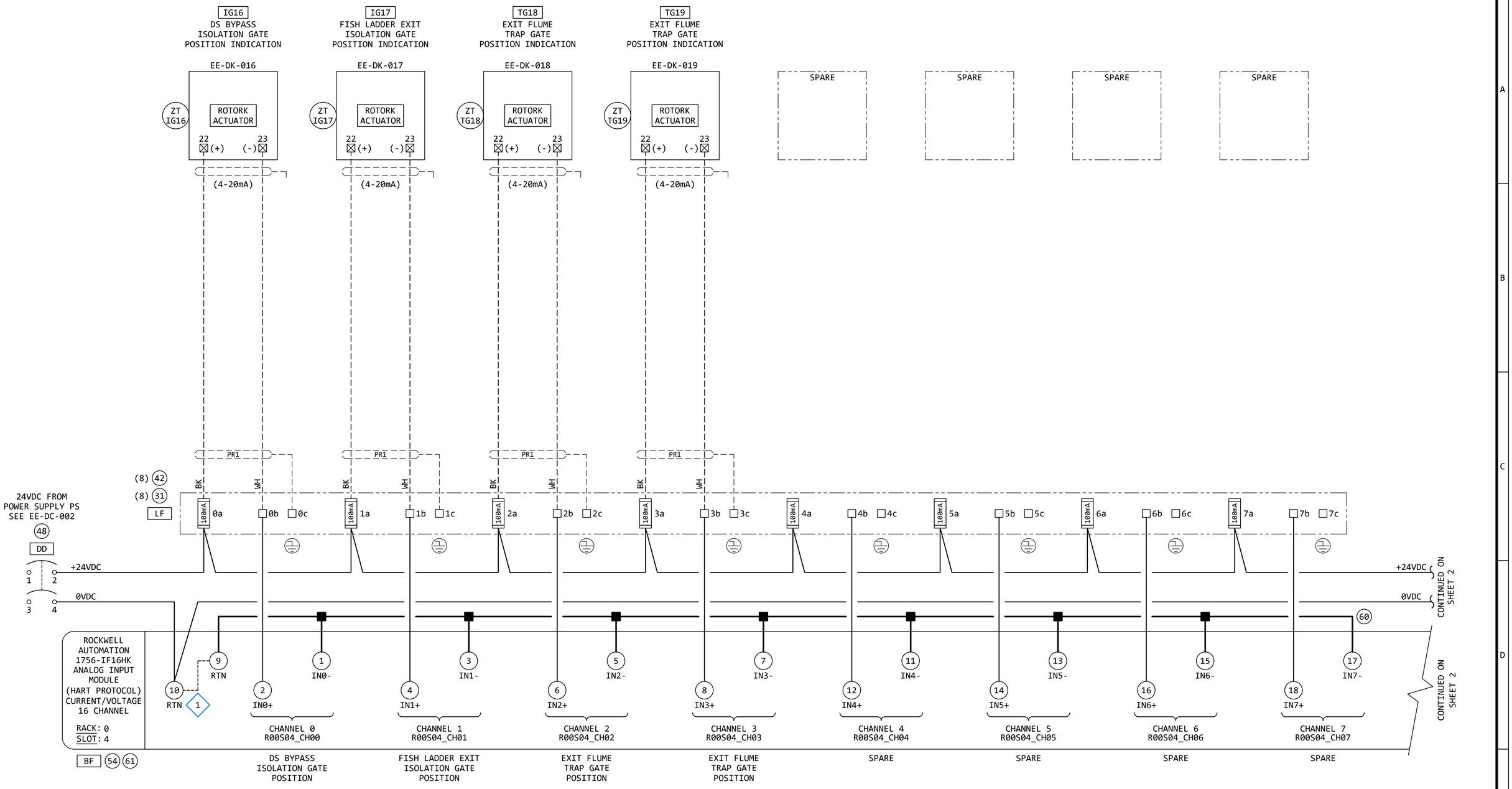
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 3 ANALOG INPUT MODULE (CONT)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-003 SH2 REV: 0



KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (9&10) ARE CONNECTED INTERNALLY.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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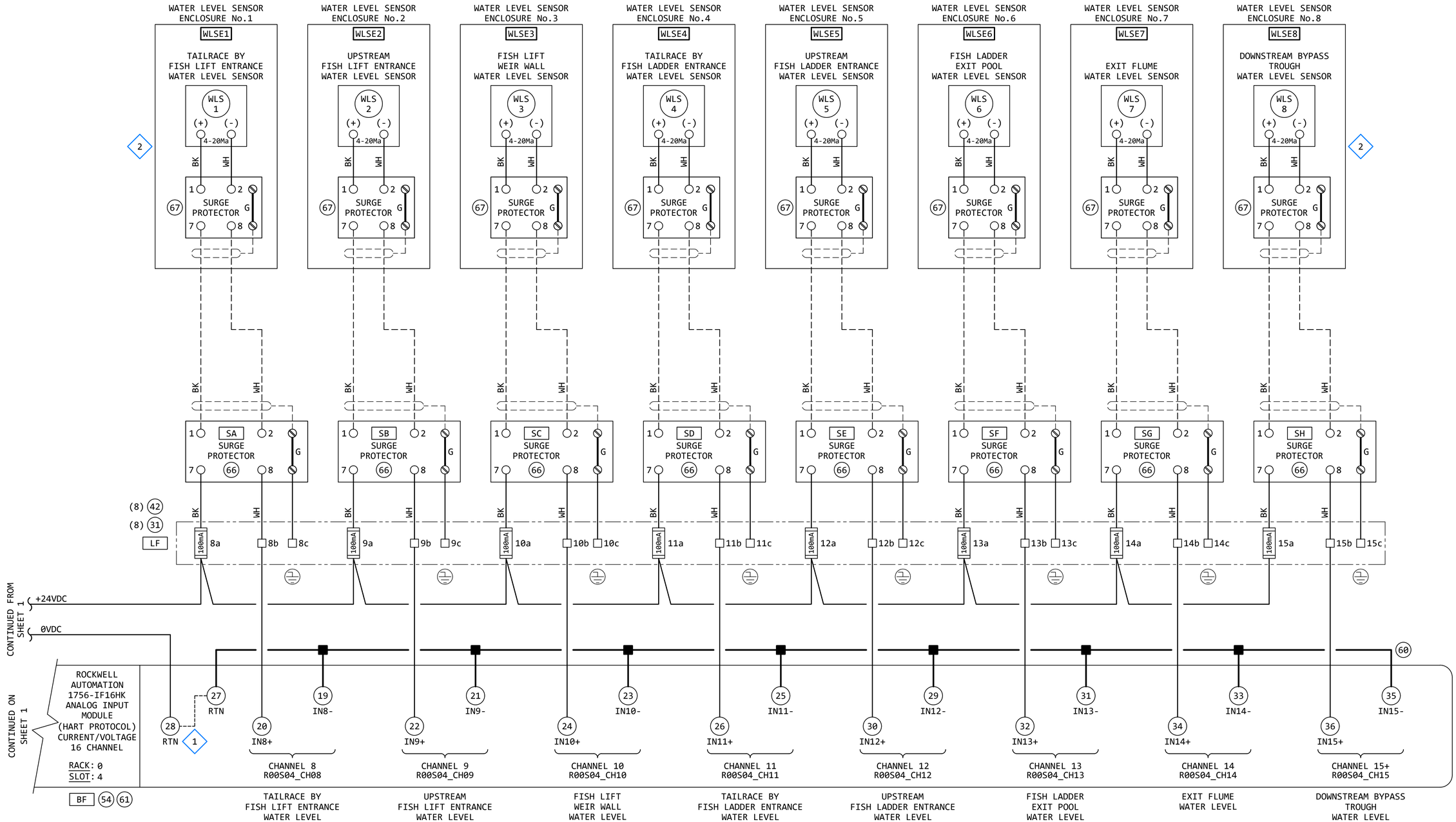
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 4 ANALOG INPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-004 SH1 REV: 0



KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (27&28) ARE CONNECTED INTERNALLY.
2. THE WATER LEVEL SENSORS AND ENCLOSURES ARE BY OTHERS. SEE DETAIL 1 ON DRAWING M-200.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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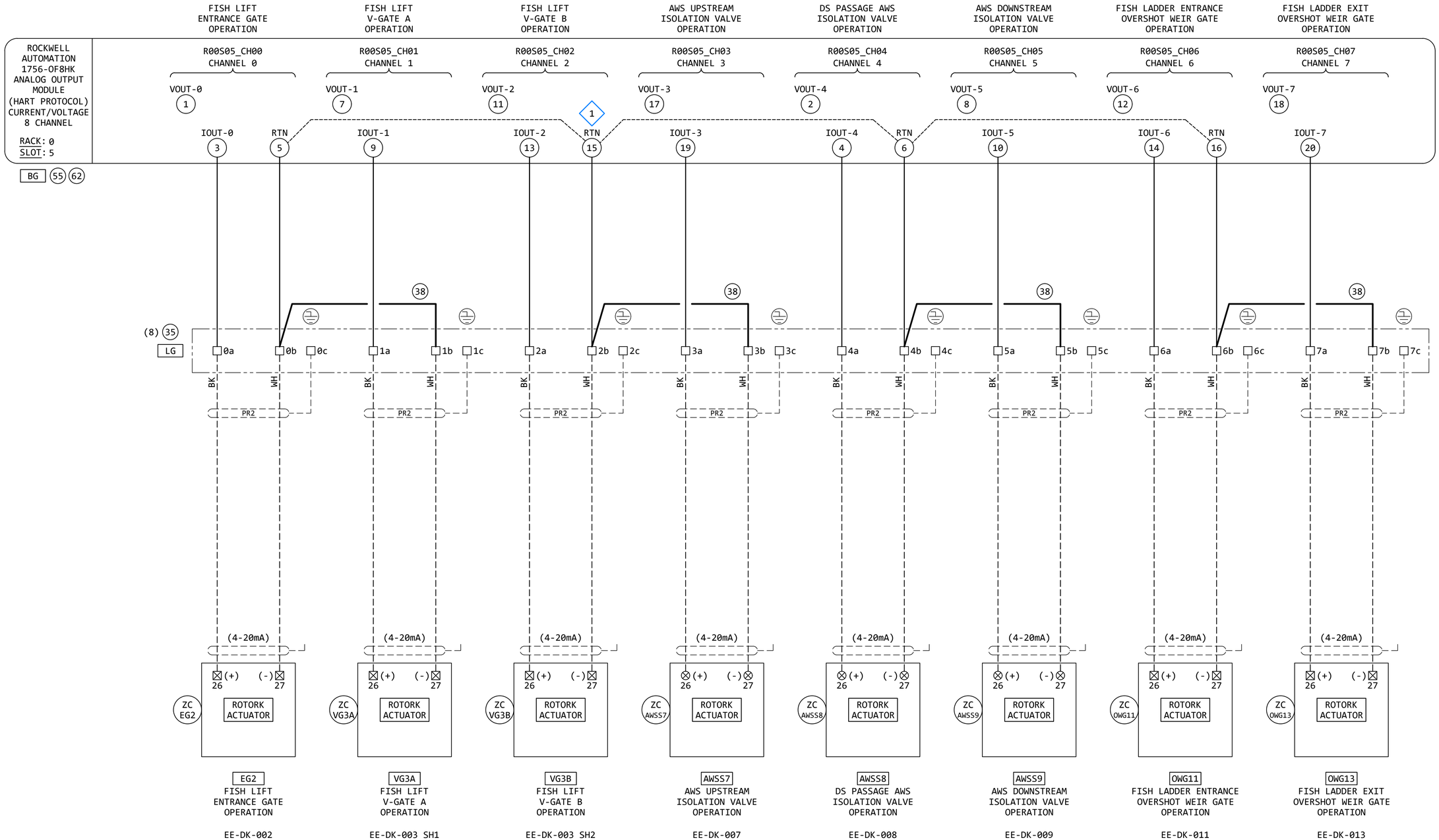
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 4 ANALOG INPUT MODULE (CONT)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-004 SH2	REV: 0



EG2
FISH LIFT ENTRANCE GATE OPERATION
EE-DK-002

VG3A
FISH LIFT V-GATE A OPERATION
EE-DK-003 SH1

VG3B
FISH LIFT V-GATE B OPERATION
EE-DK-003 SH2

AWSS7
AWS UPSTREAM ISOLATION VALVE OPERATION
EE-DK-007

AWSS8
DS PASSAGE AWS ISOLATION VALVE OPERATION
EE-DK-008

AWSS9
AWS DOWNSTREAM ISOLATION VALVE OPERATION
EE-DK-009

OWG11
FISH LADDER ENTRANCE OVERSHOT WEIR GATE OPERATION
EE-DK-011

OWG13
FISH LADDER EXIT OVERSHOT WEIR GATE OPERATION
EE-DK-013

KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (5, 6, 15 & 16) ARE CONNECTED INTERNALLY.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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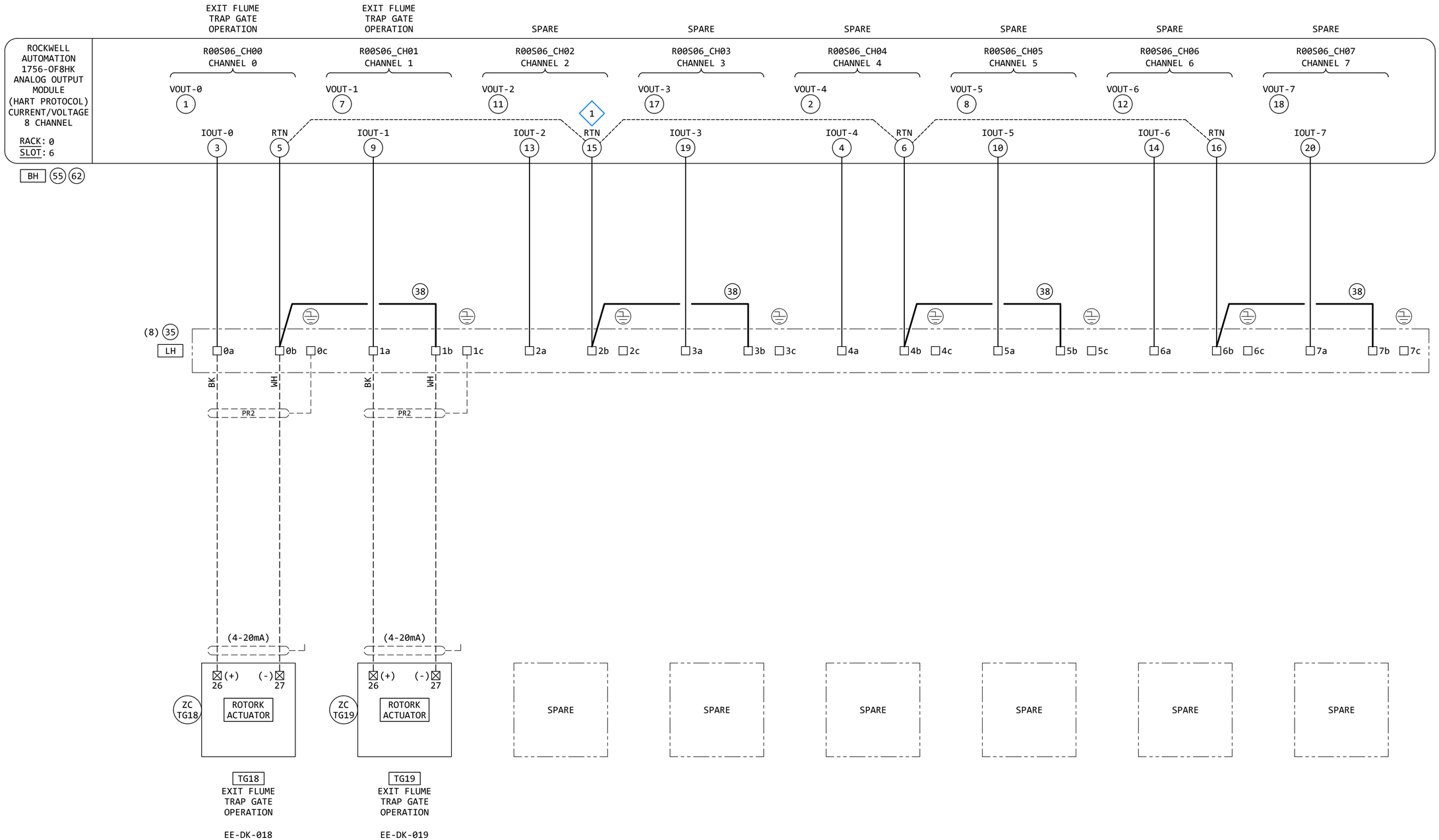
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 5 ANALOG OUTPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-005 REV: 0



TG18
EXIT FLUME TRAP GATE OPERATION

EE-DK-018

TG19
EXIT FLUME TRAP GATE OPERATION

EE-DK-019

KEYED NOTES:

1. ALL TERMINALS MARKED "RTN" (5, 6, 15 & 16) ARE CONNECTED INTERNALLY.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

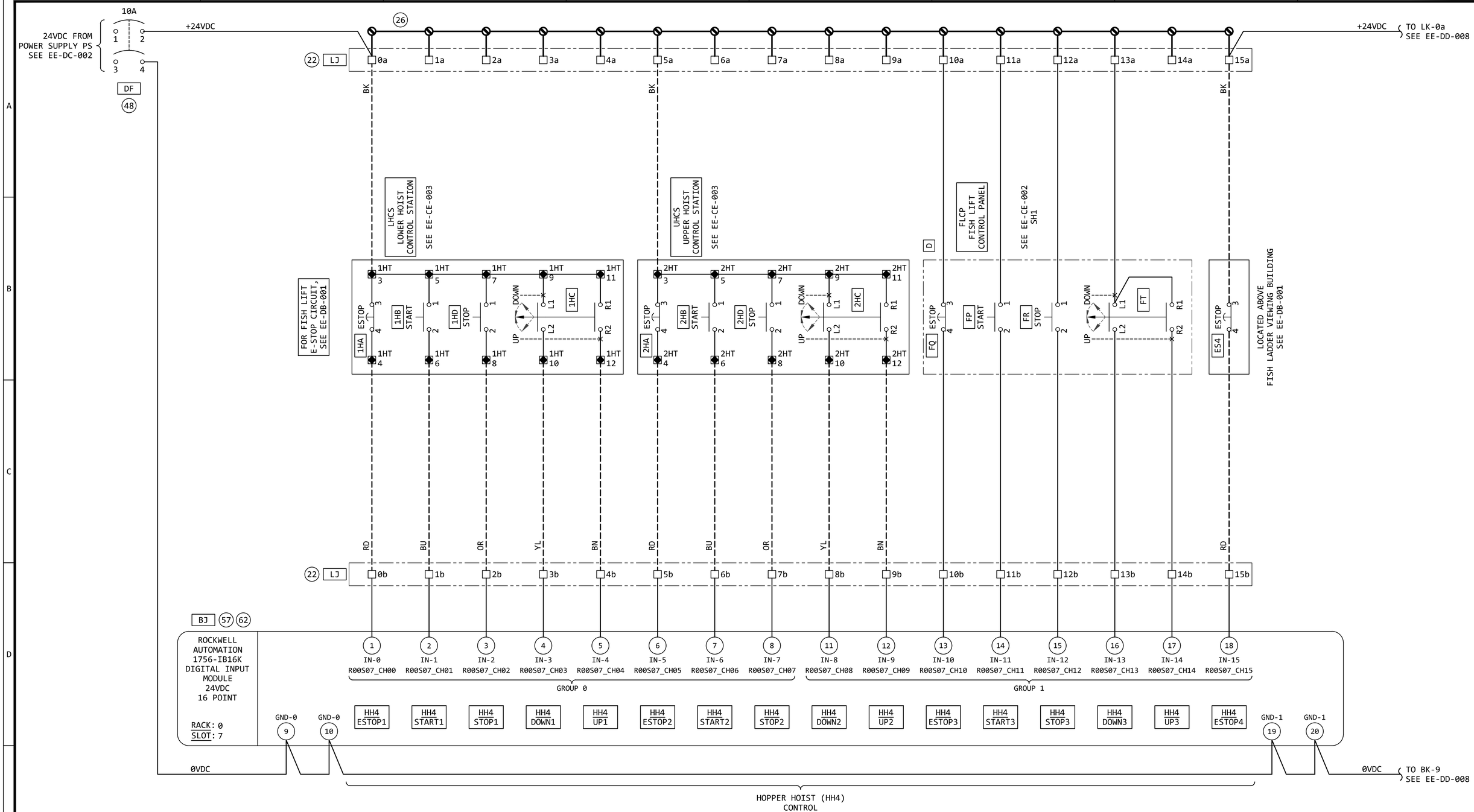
REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

THIS DRAWING IS THE PROPERTY OF ELECTRICAL CONSULTANTS, INC. AND IS TO BE USED ONLY FOR THE SPECIFIC PROJECT IDENTIFIED ON THE DRAWING. NO REVISIONS SHALL BE MADE WITHOUT THE EXPRESSED WRITTEN CONSENT OF ELECTRICAL CONSULTANTS, INC.

DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 6 ANALOG OUTPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-006 REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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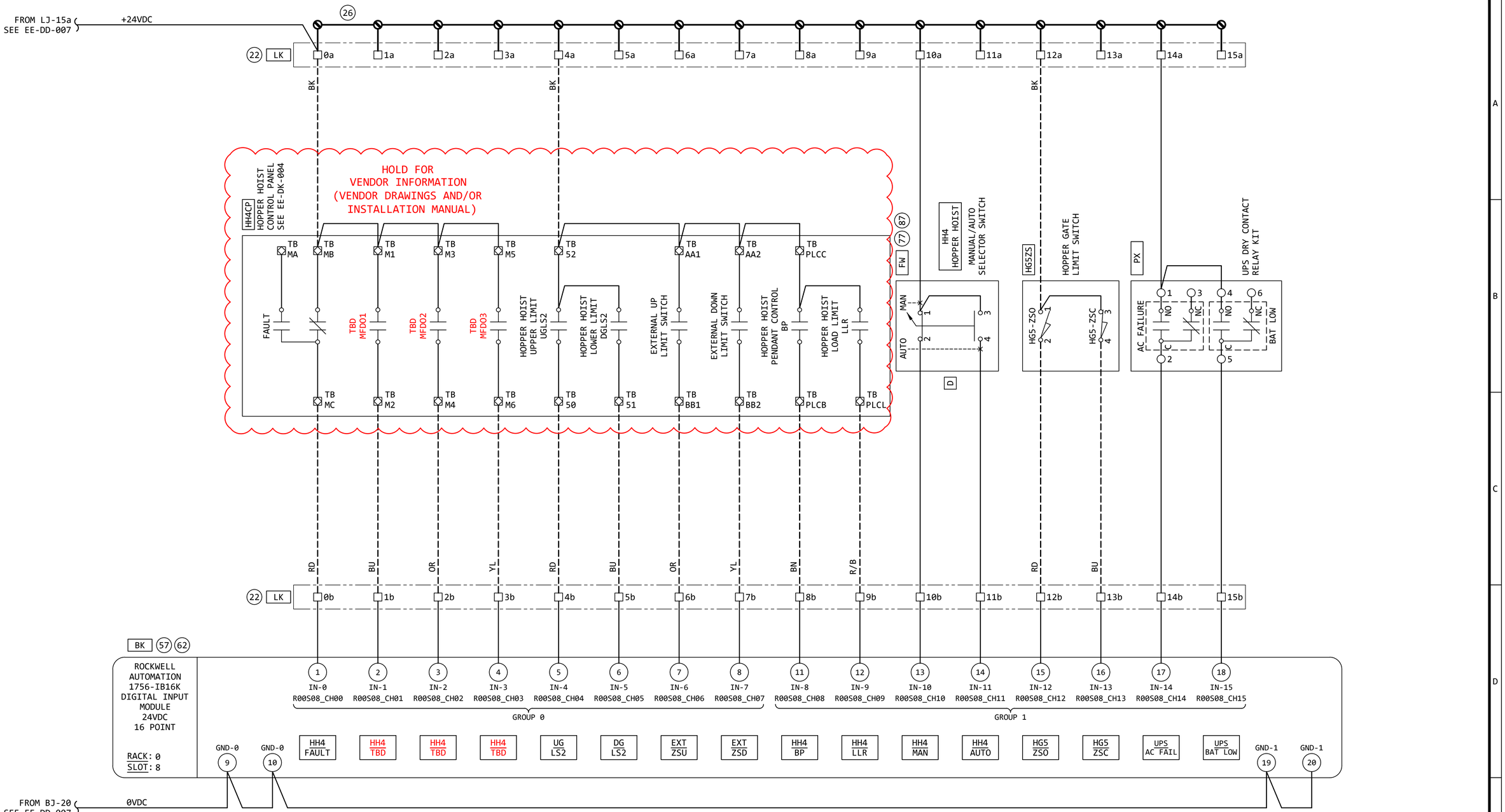
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 7 DIGITAL INPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-007 REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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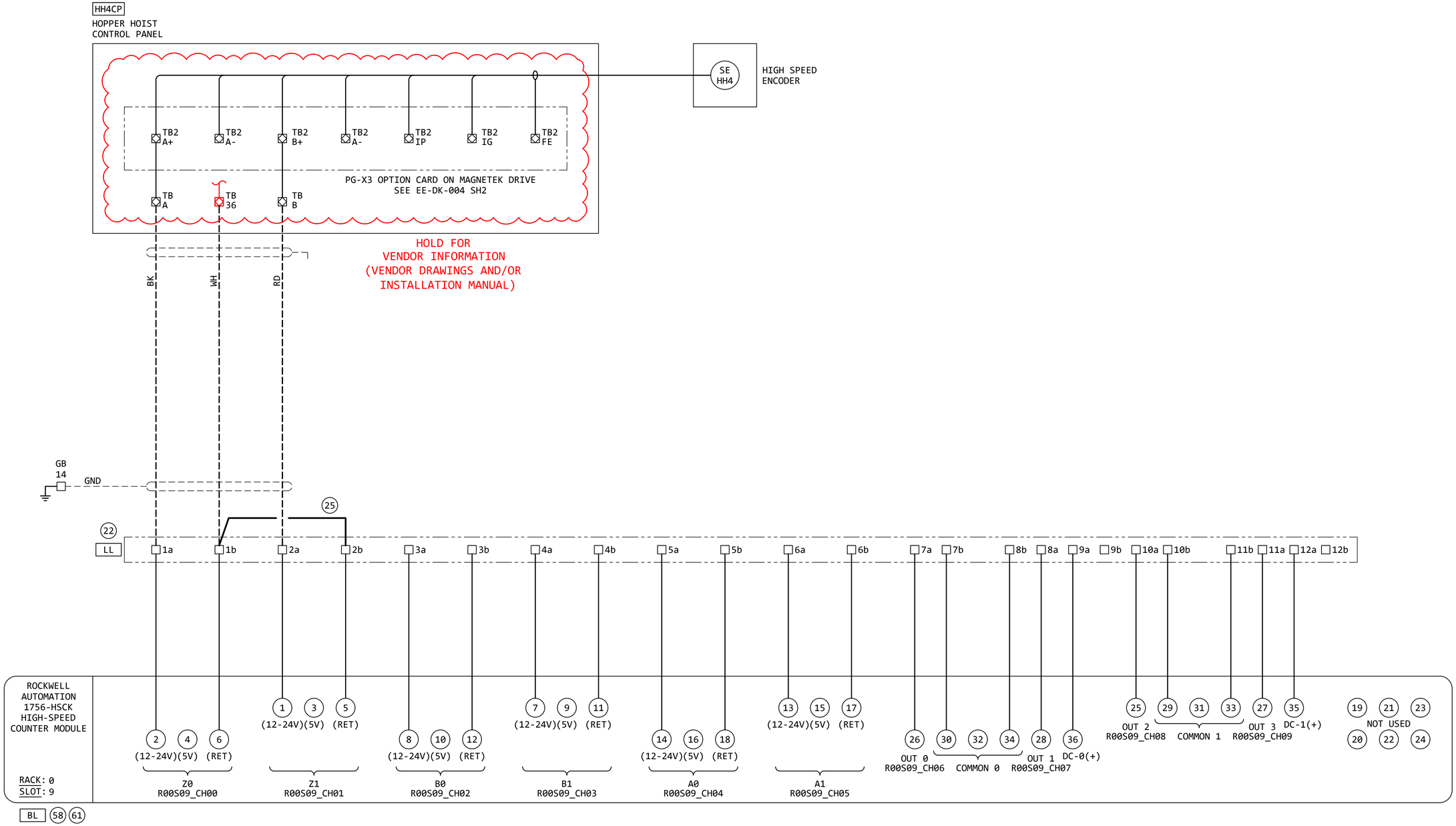
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 8 DIGITAL INPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-008	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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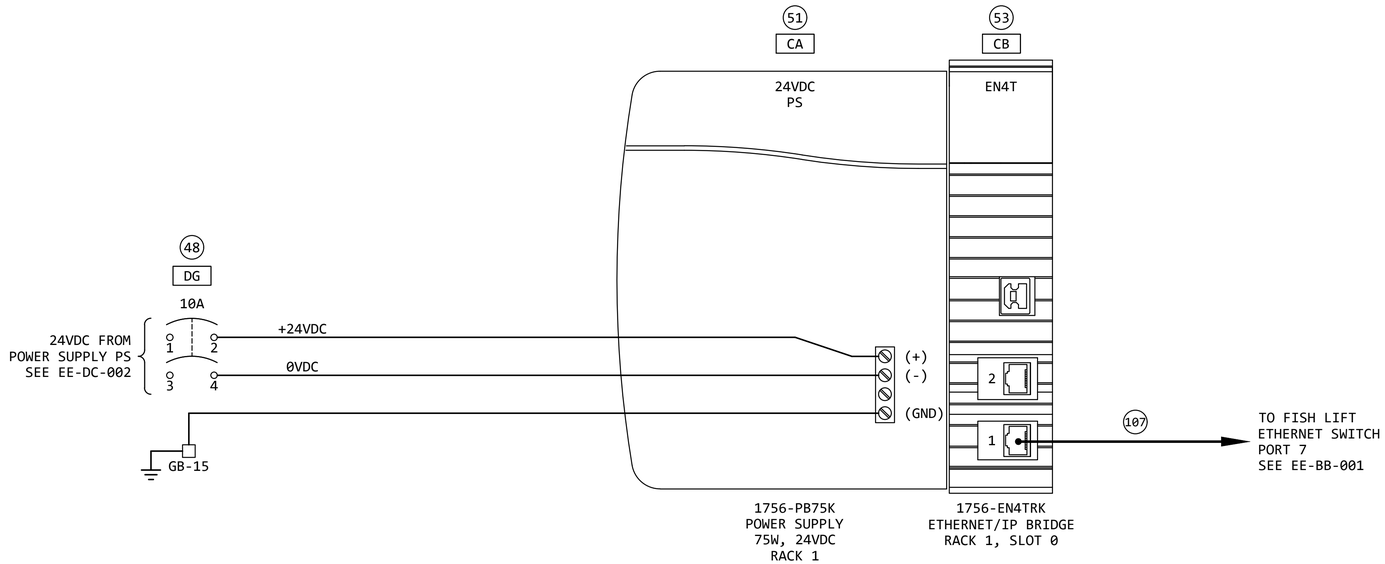
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 0, SLOT 9 HIGH SPEED COUNTER MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-009 / REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

"Engineering with Distinction"
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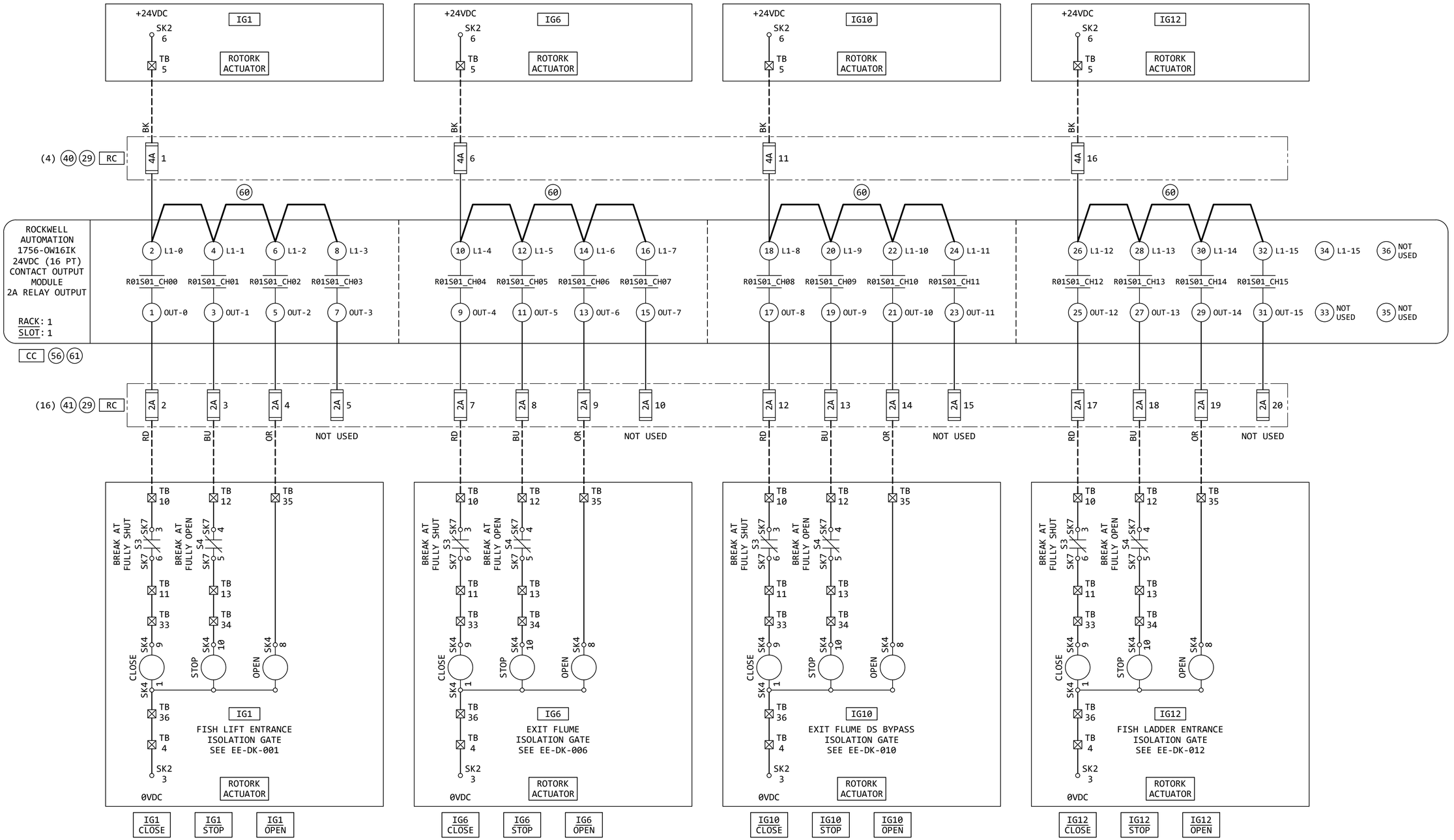
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 0 POWER SUPPLY AND ETHERNET/IP BRIDGE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-010; REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ECI "Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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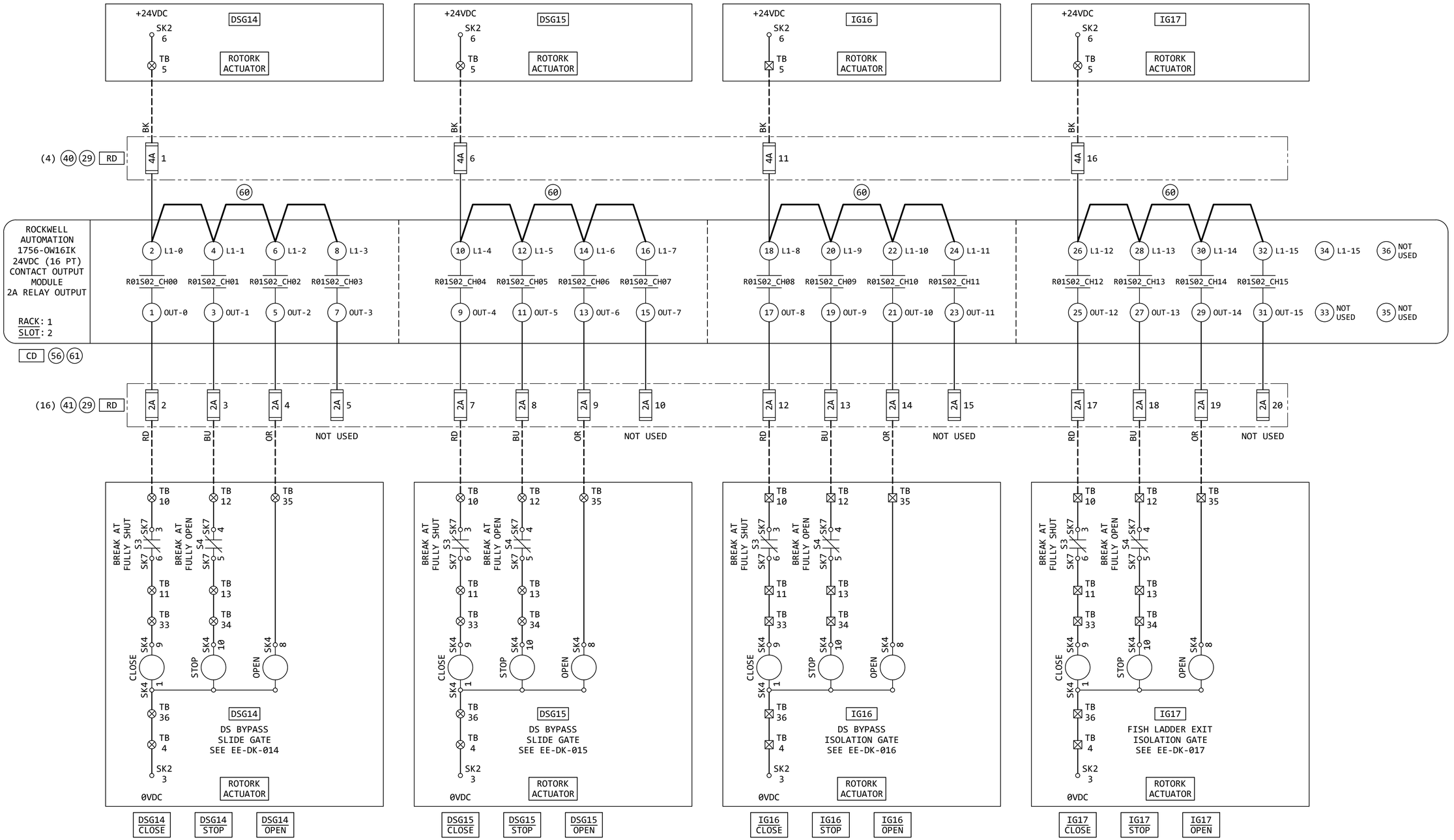
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 1 RELAY OUTPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-011	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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MAY 2, 2025

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"Engineering with Distinction"

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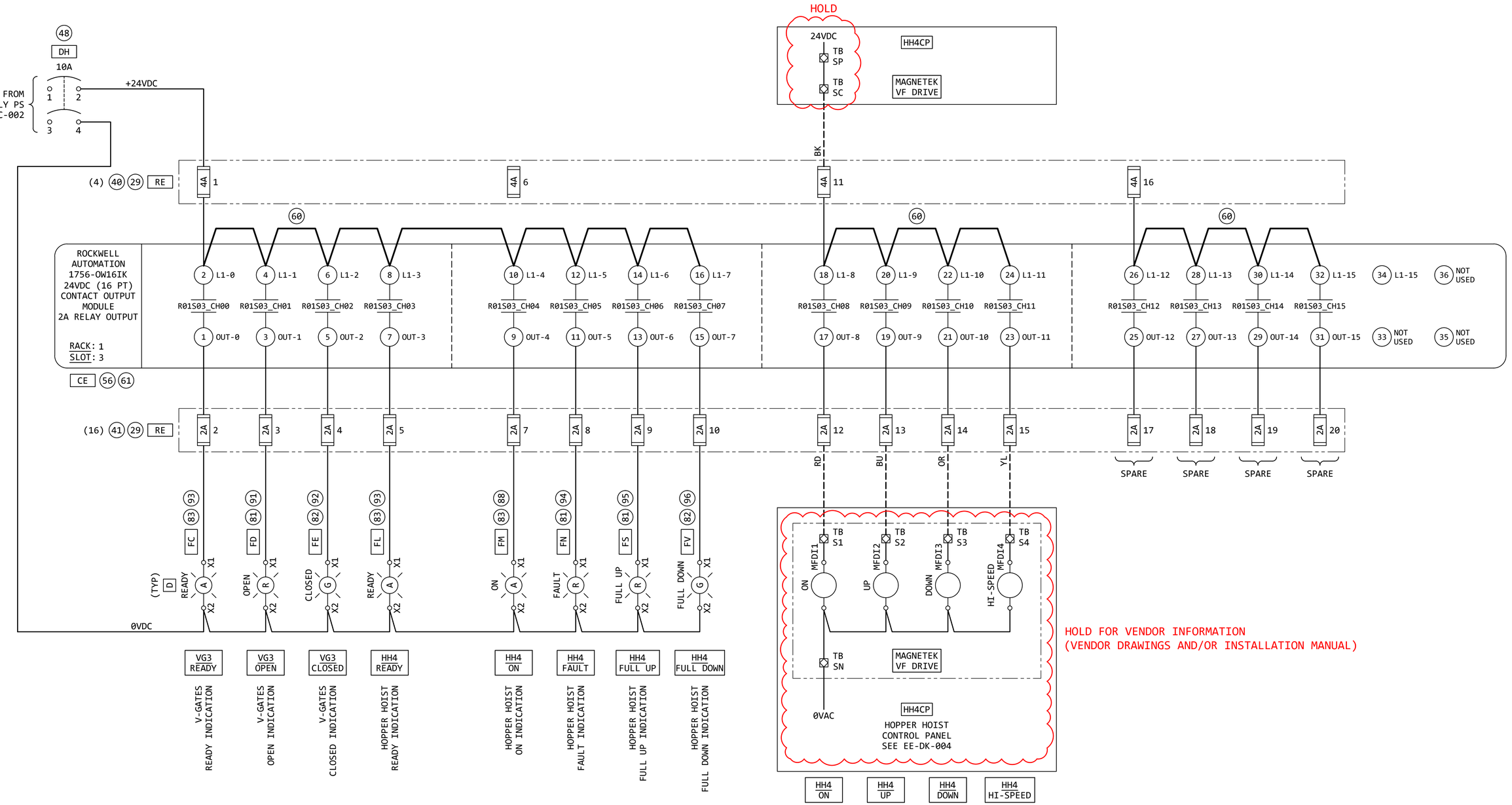
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 2 RELAY OUTPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-012	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

EGI "Engineering with Distinction"
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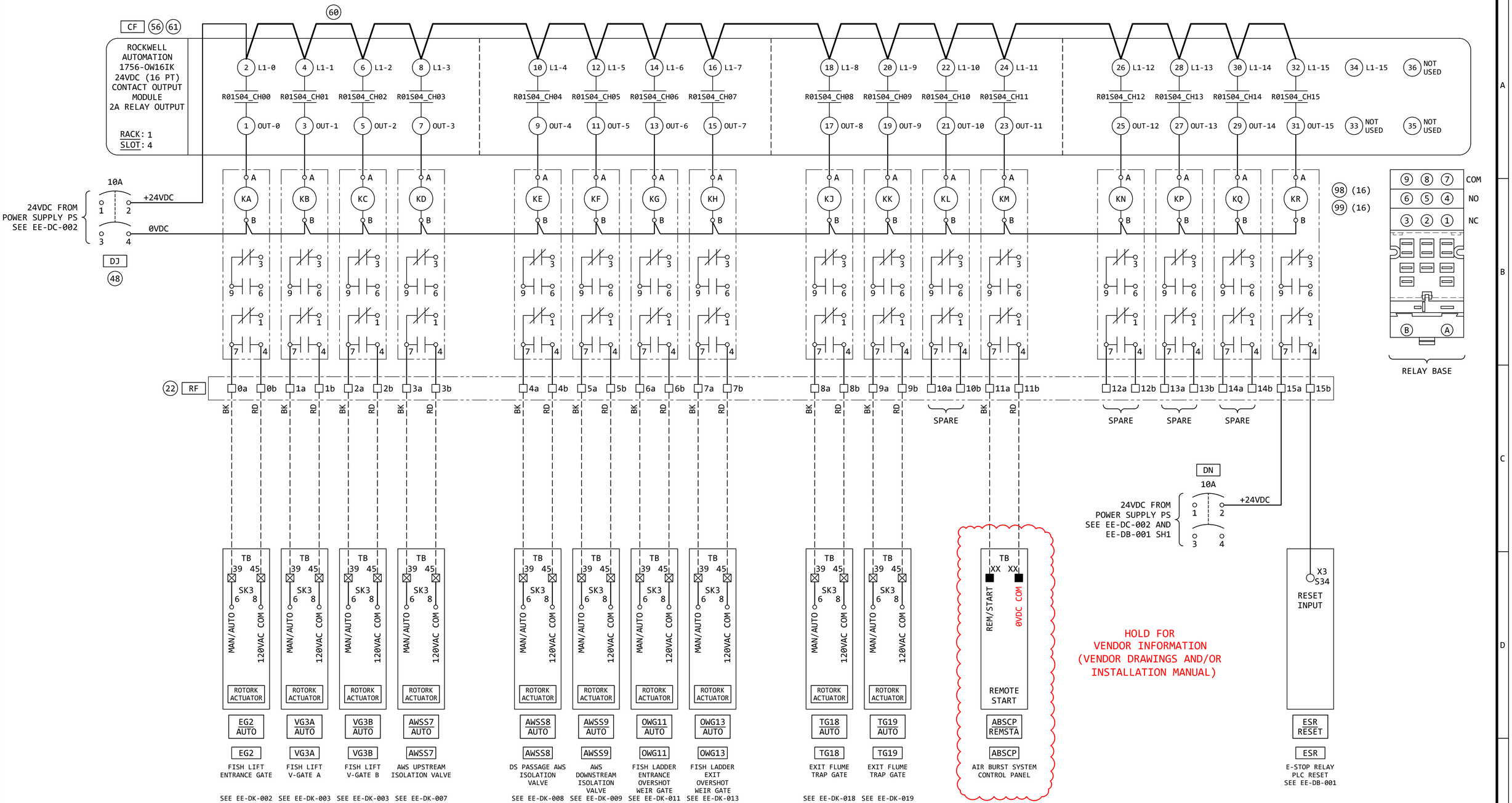
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 3 RELAY OUTPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-013	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
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MAY 2, 2025

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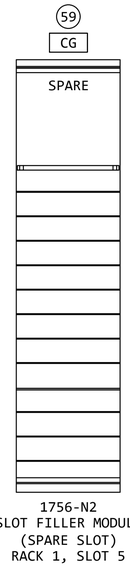
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 4 RELAY OUTPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-014	REV: 0



1756-N2
SLOT FILLER MODULE
(SPARE SLOT)
RACK 1, SLOT 5

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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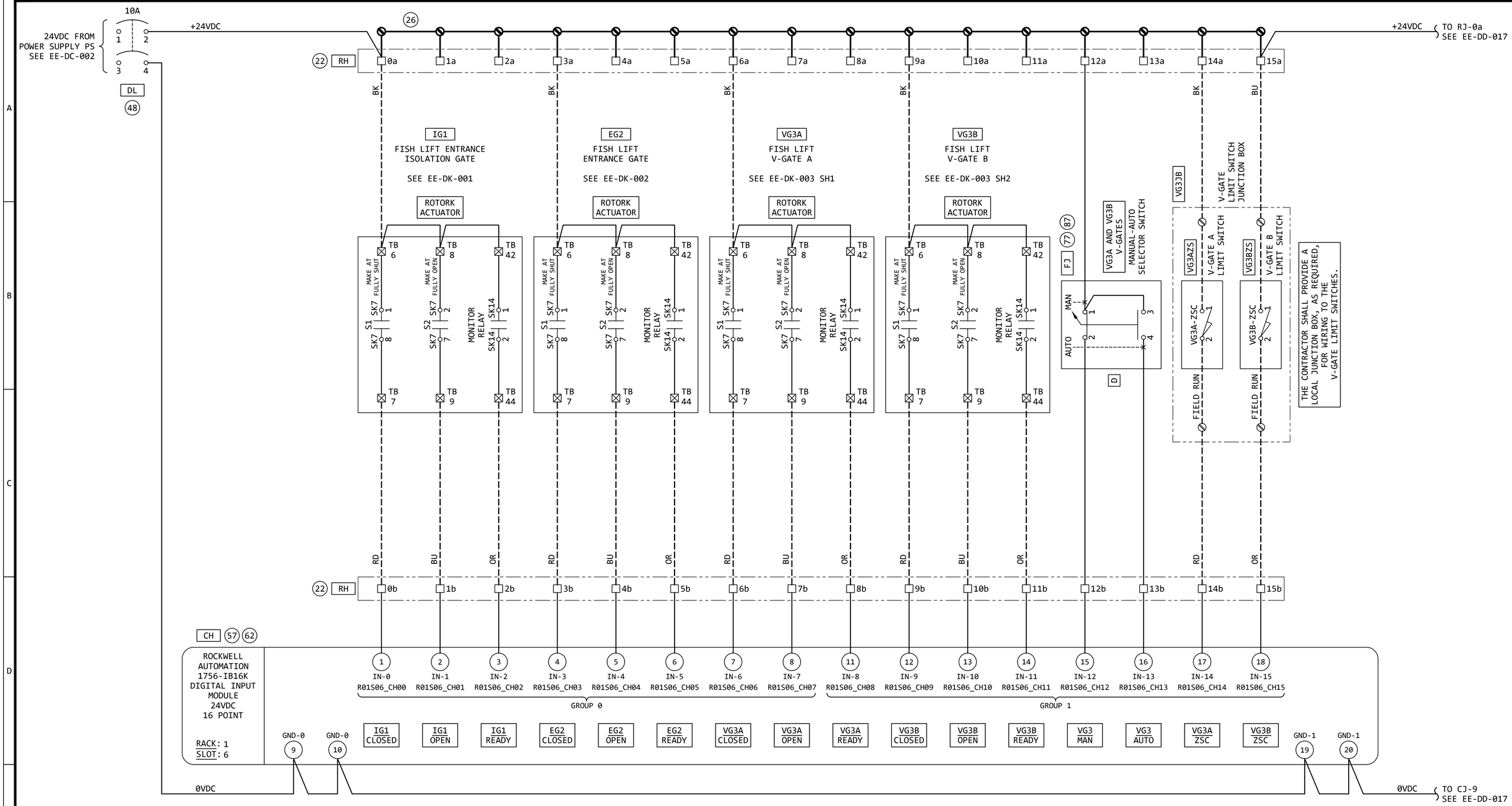
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 5 SLOT FILLER MODULE (SPARE SLOT)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-015	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ECI "Engineering with Distinction"
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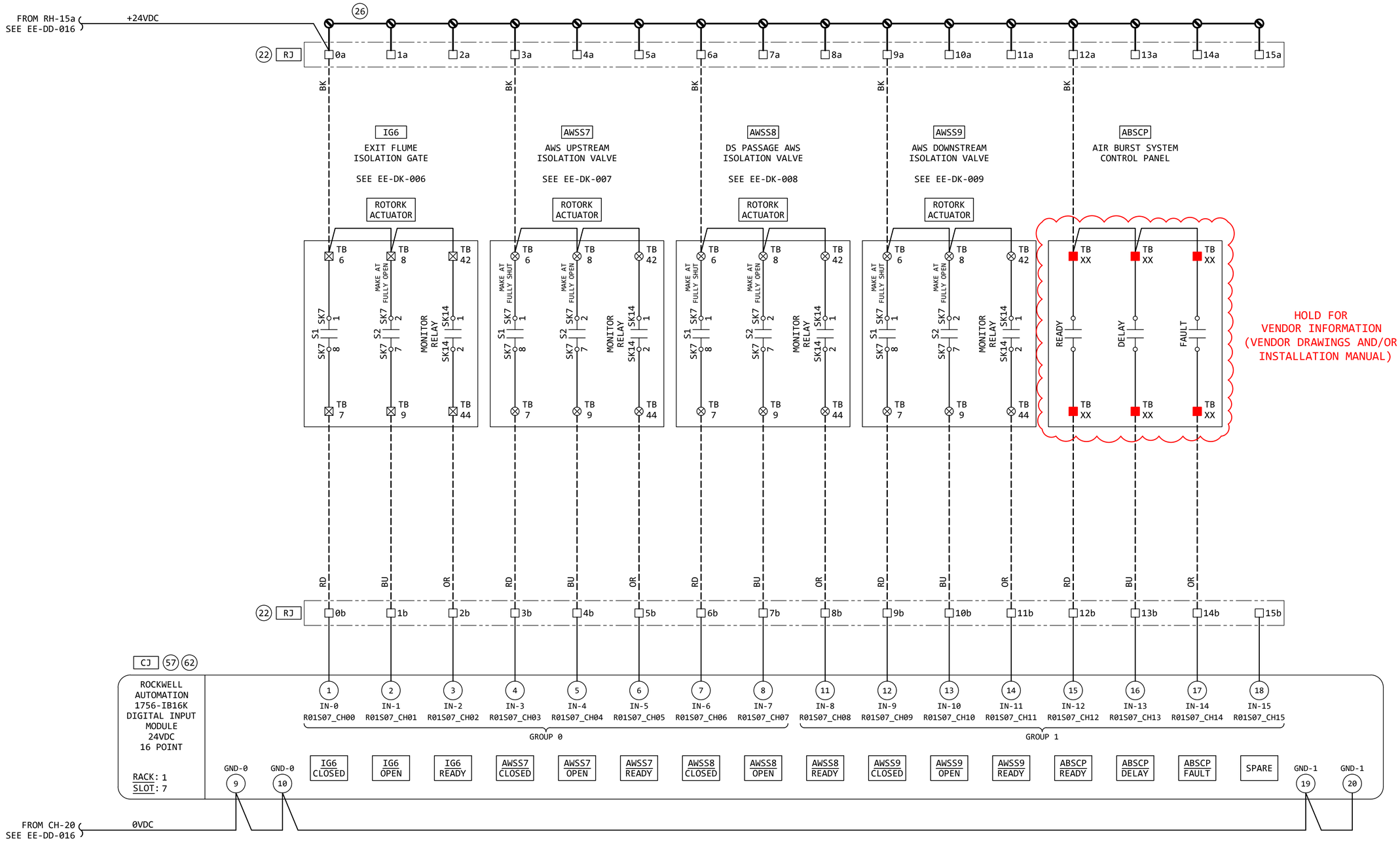
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 6 DIGITAL INPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-016 REV: 0



GENERAL NOTES:

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REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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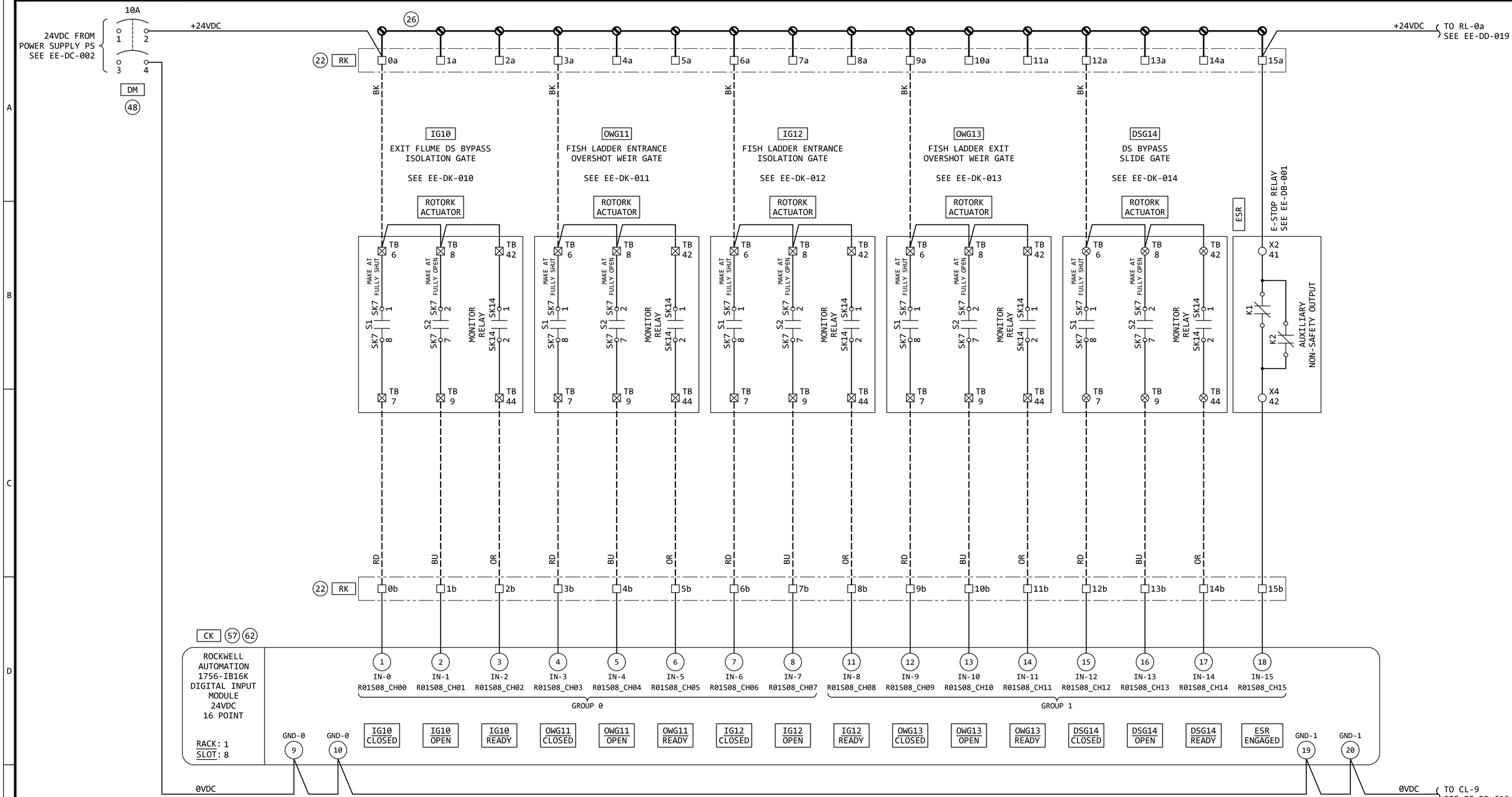
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 7 DIGITAL INPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-017 / REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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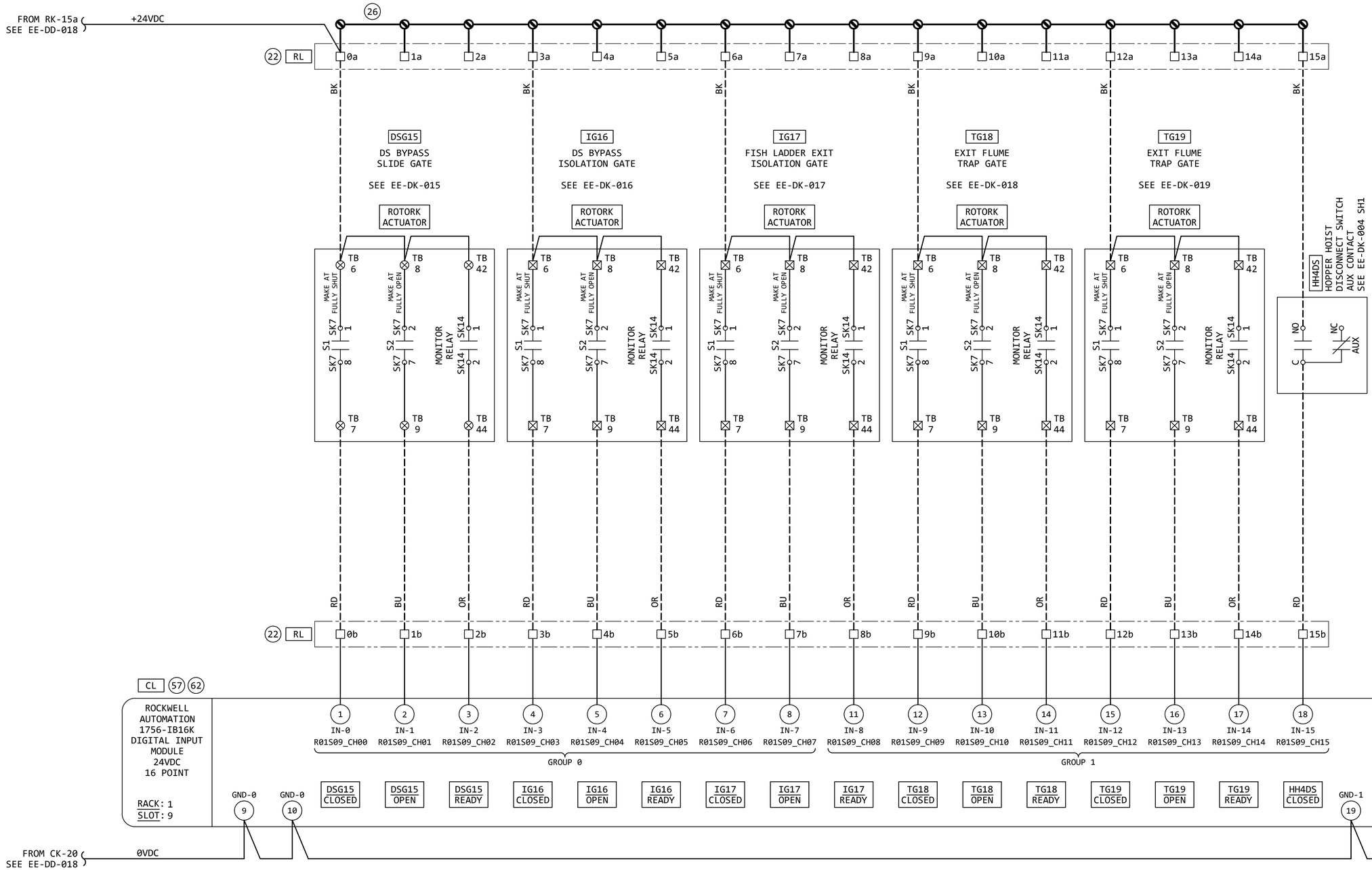
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 8 DIGITAL INPUT MODULE	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-018	REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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ELECTRICAL CONSULTANTS, INC.
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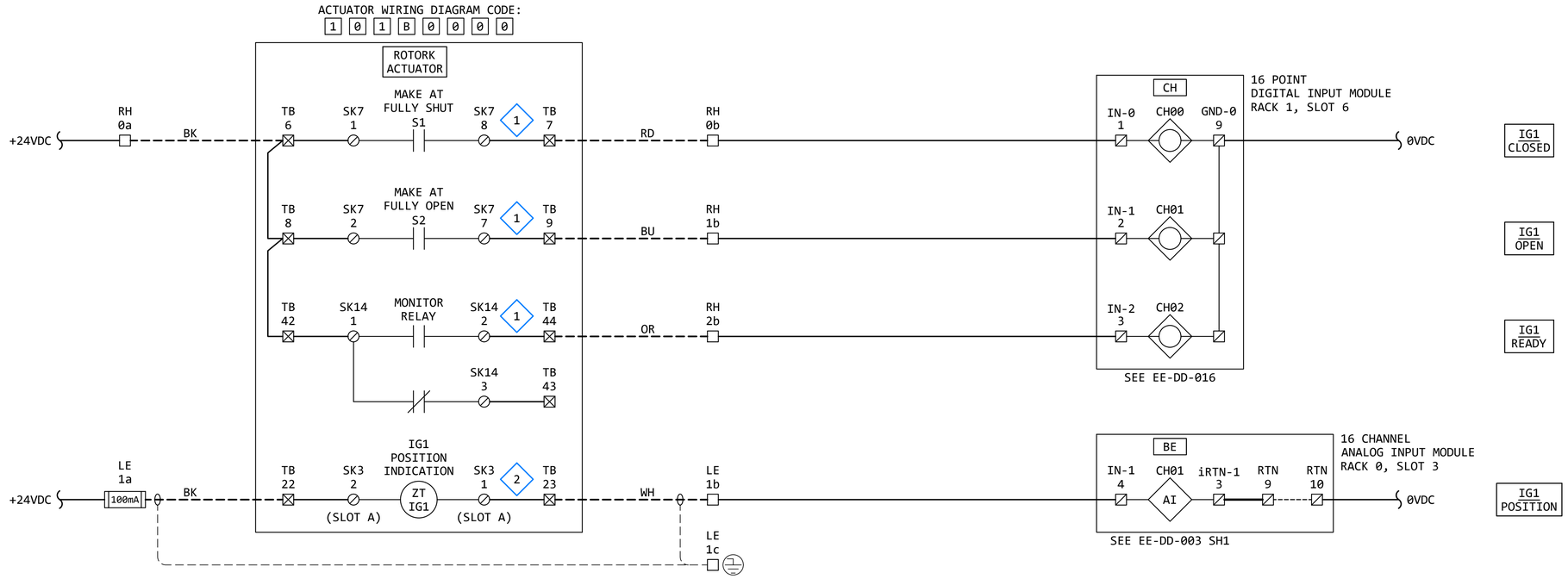
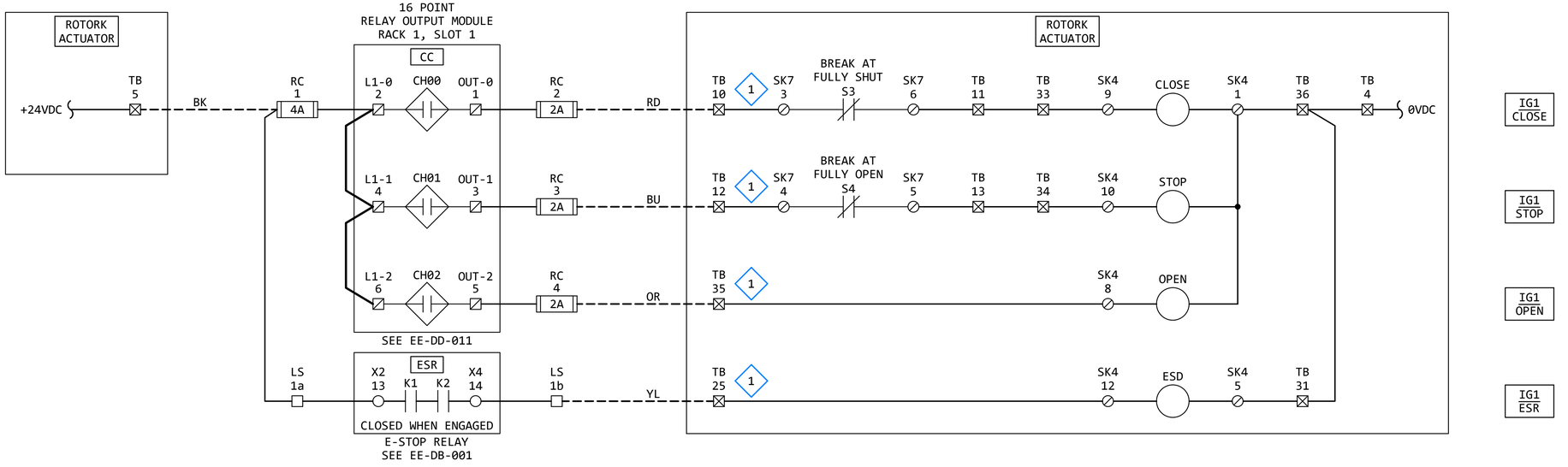
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	FLCP PLC RACK 1, SLOT 9 DIGITAL INPUT MODULE
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DD-019 / REV: 0

IG1
FISH LIFT ENTRANCE ISOLATION GATE





KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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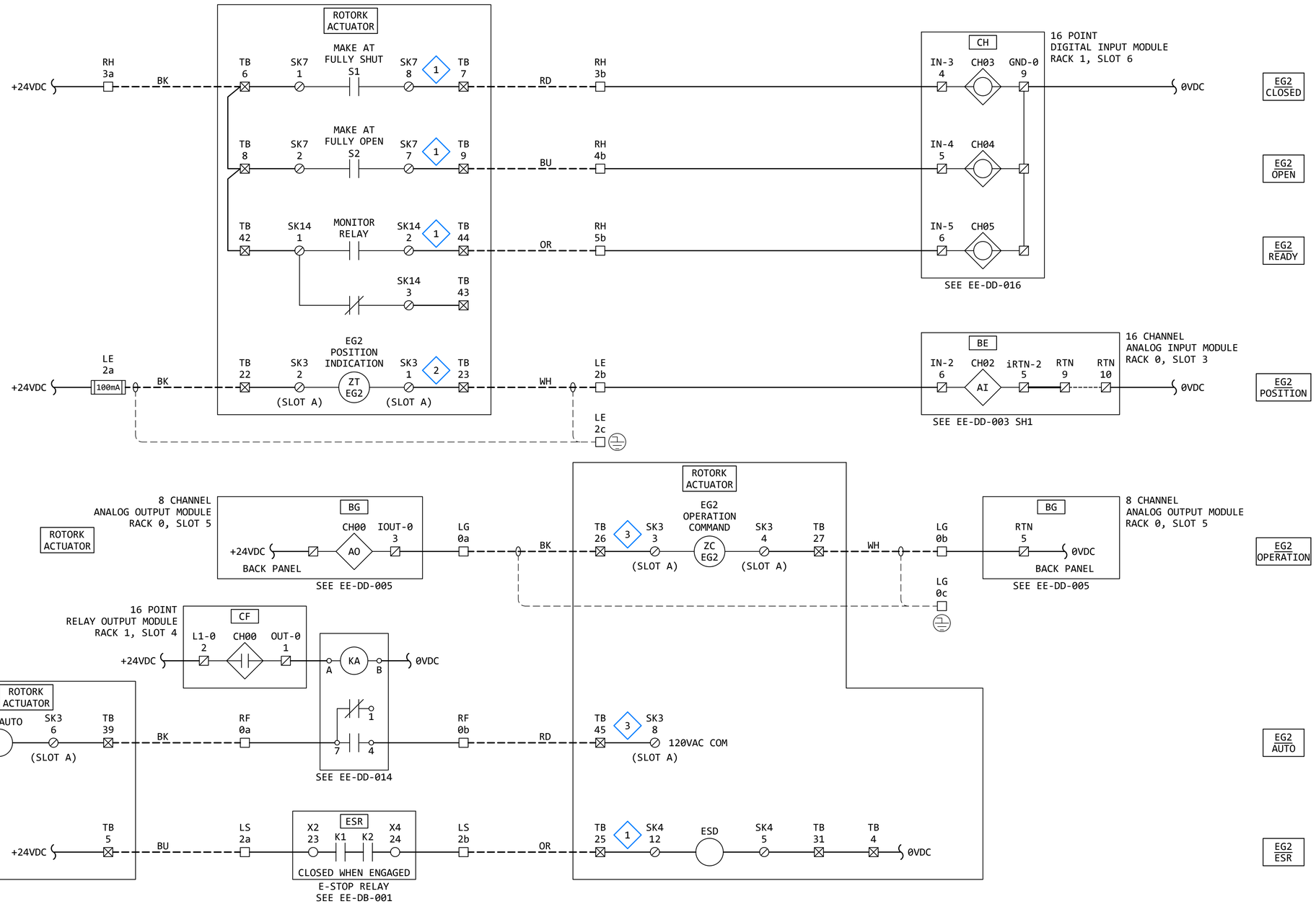
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM FISH LIFT ENTRANCE ISOLATION GATE (IG1)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-001 REV: 0

EG2
FISH LIFT
ENTRANCE GATE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

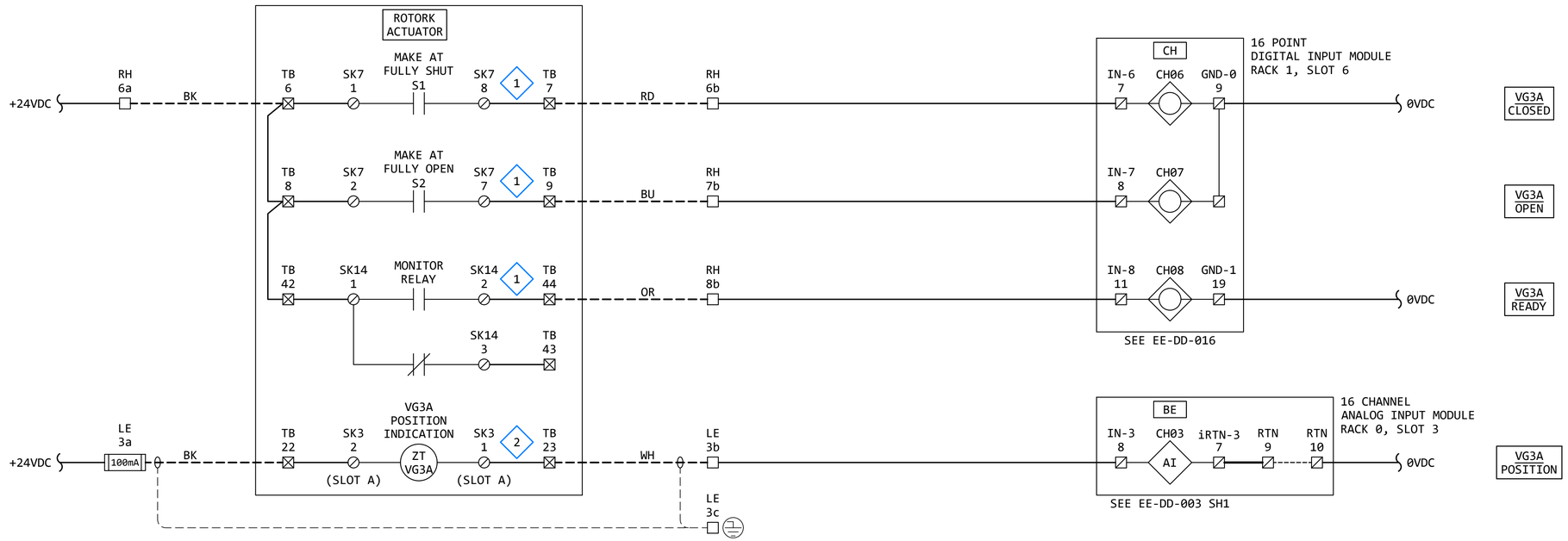
EGI "Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

THIS DRAWING IS THE PROPERTY OF ELECTRICAL CONSULTANTS, INC. AND IS TO BE USED ONLY FOR THE SPECIFIC PROJECT IDENTIFIED ON THE DRAWING. NO REVISIONS SHALL BE MADE WITHOUT THE EXPRESSED WRITTEN CONSENT OF ELECTRICAL CONSULTANTS, INC.

DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM FISH LIFT ENTRANCE GATE (EG2)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-002 REV: 0

VG3A
FISH LIFT
V-GATE A

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

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REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"
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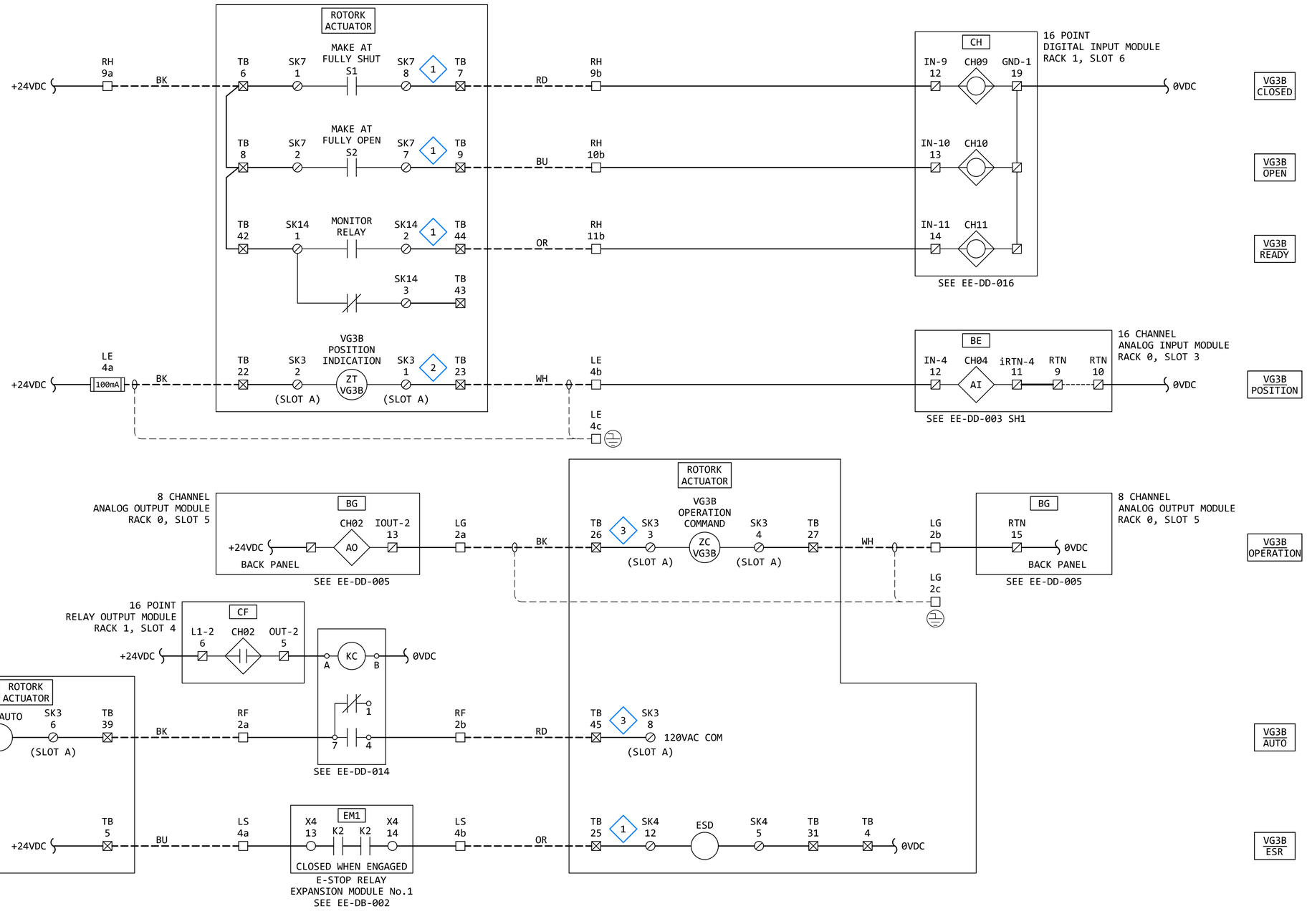
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM FISH LIFT V-GATE A (VG3A)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-003 SH1 REV: 0

VG3B
FISH LIFT
V-GATE B

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

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REVISION

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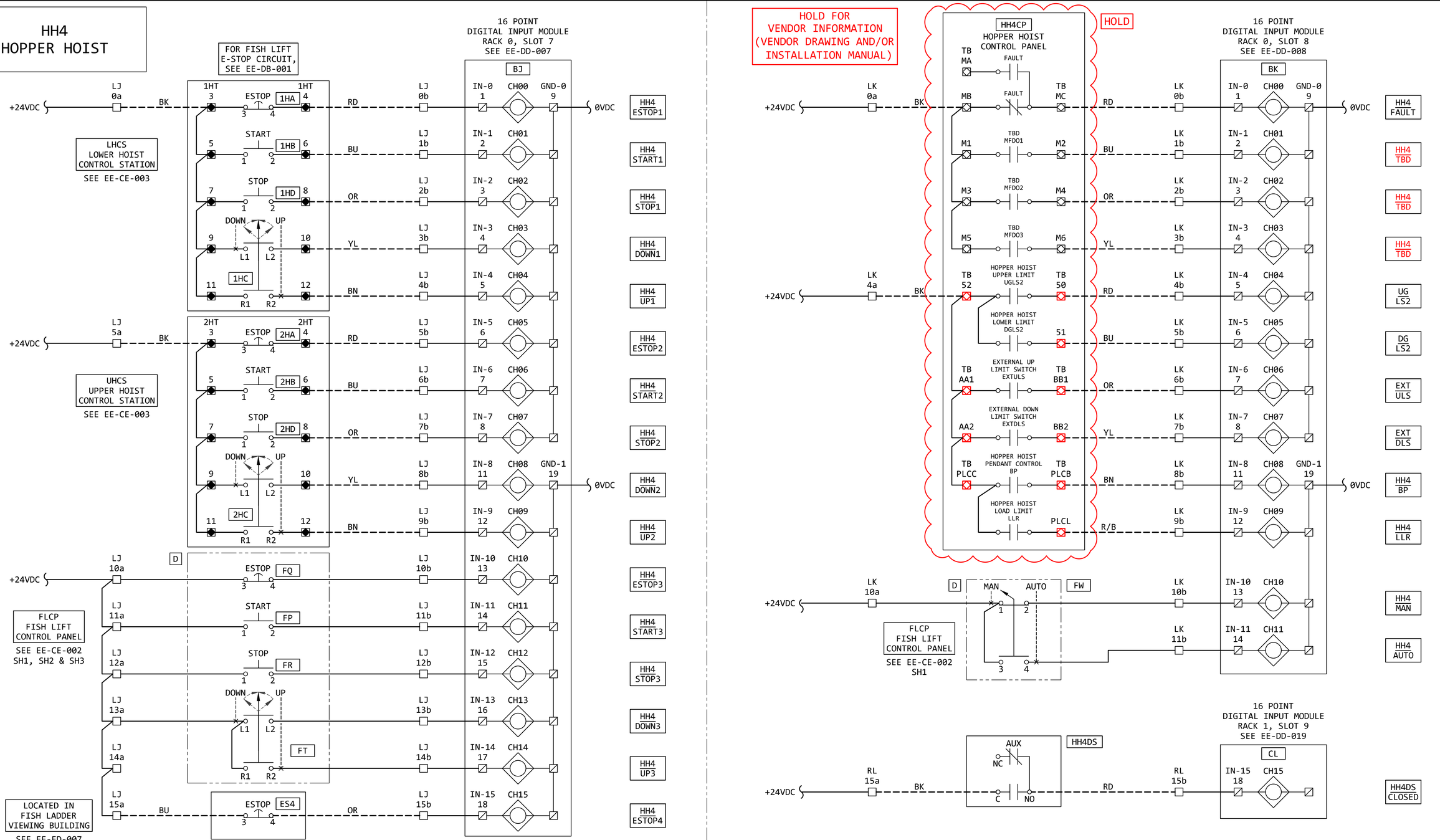
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM V-GATE B (VG3B)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-003 SH2 REV: 0

HH4
HOPPER HOIST



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON MAGNETEK IMPULSE G+/VG+ SERIES 5 TECHNICAL MANUAL, DATED AUGUST 2023.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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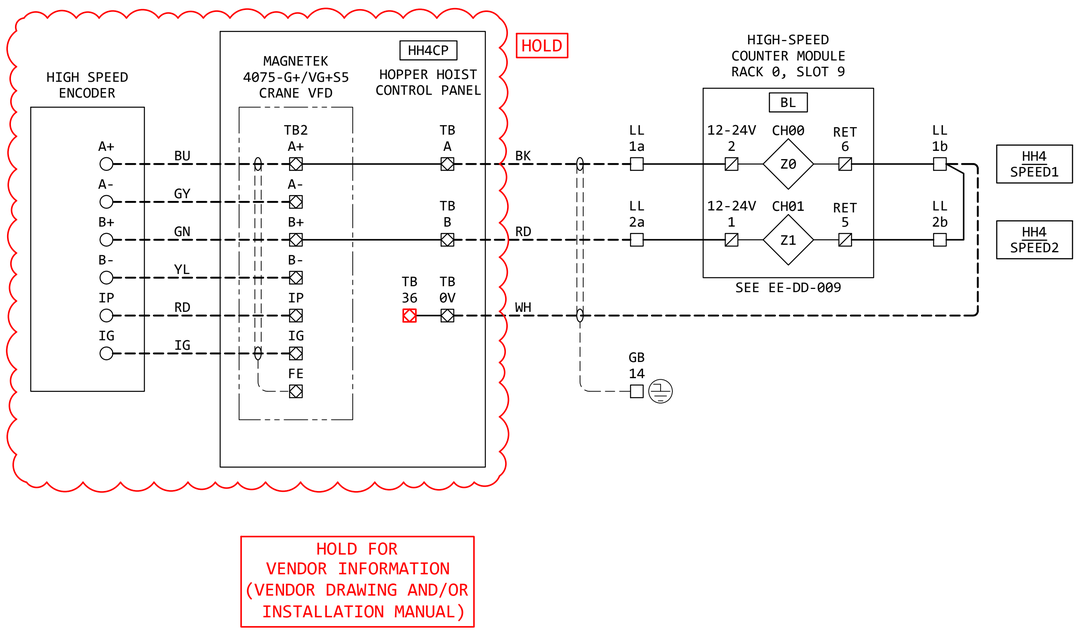
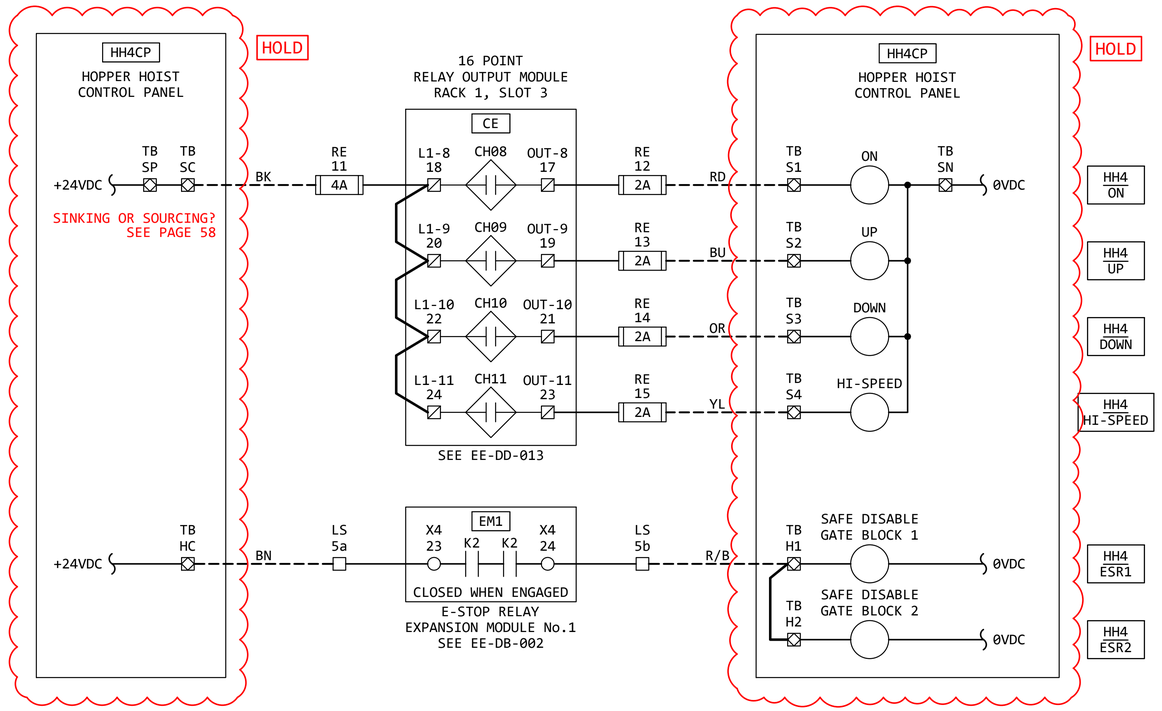
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM HOPPER HOIST (HH4)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-004 SH1 REV: 0



HOLD FOR
VENDOR INFORMATION
(VENDOR DRAWING AND/OR
INSTALLATION MANUAL)



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR
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MAY 2, 2025

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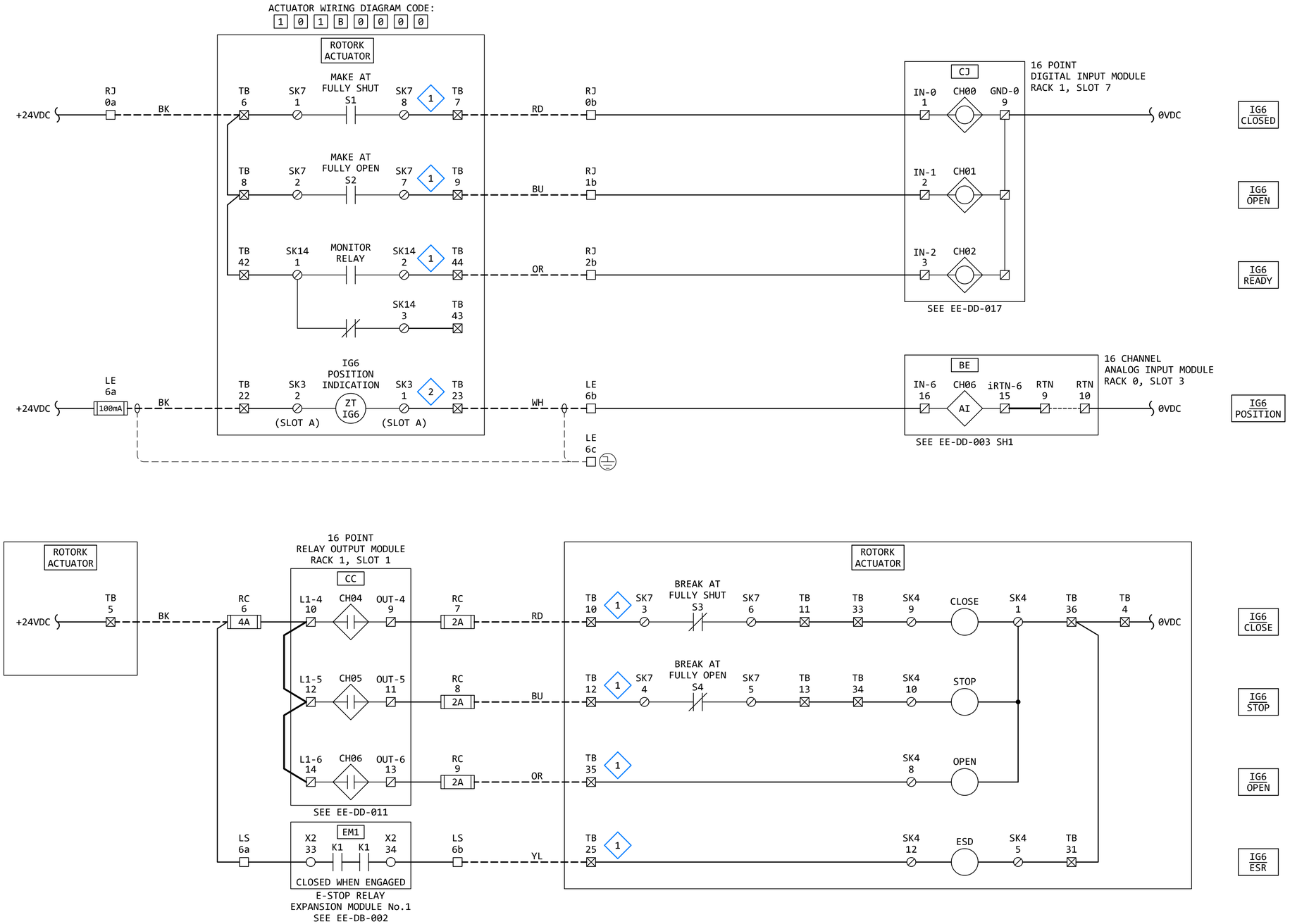
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	ELEMENTARY WIRING DIAGRAM HOPPER HOIST (HH4)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-004 SH2 / REV: 0

IG6
EXIT FLUME
ISOLATION GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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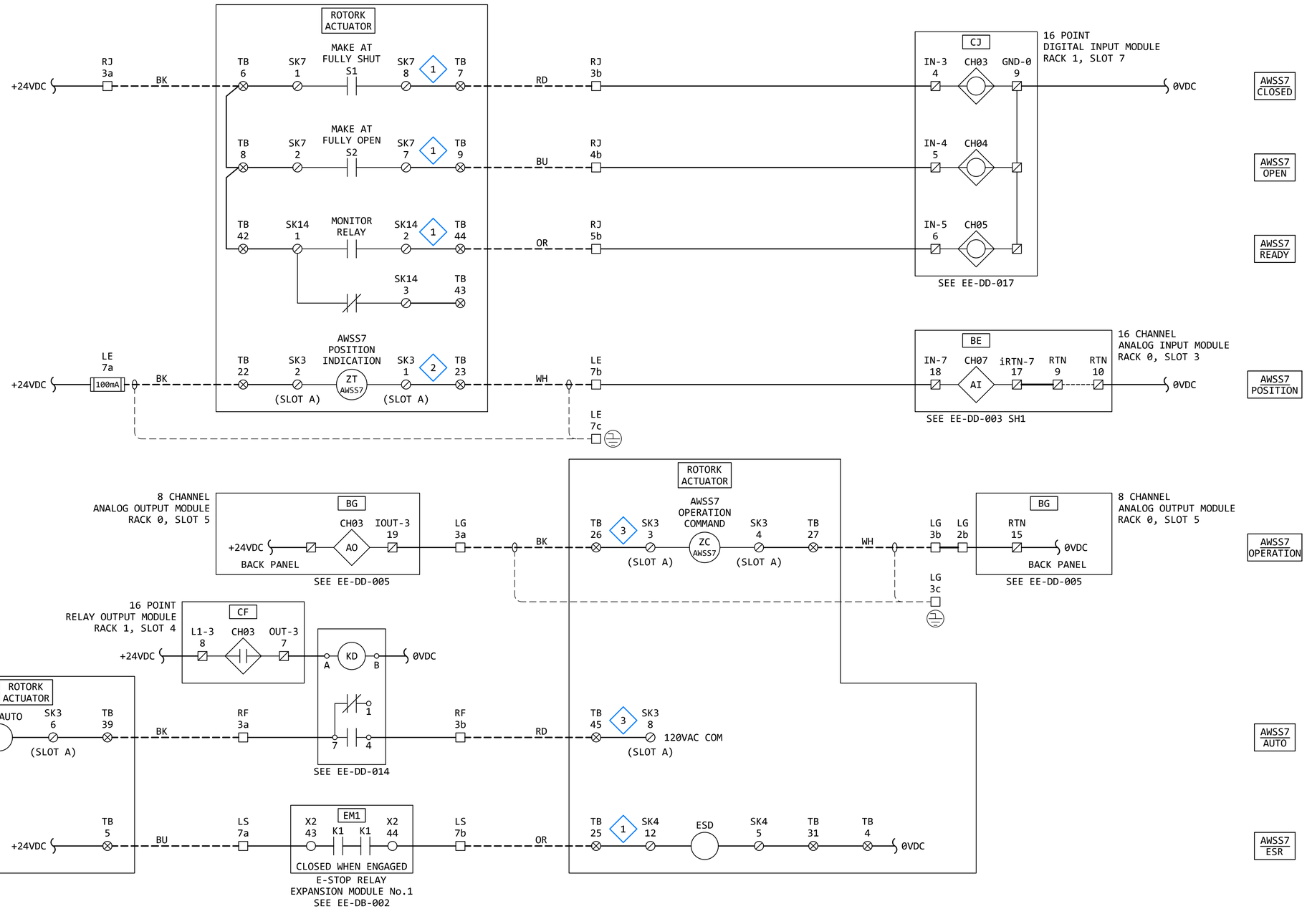
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM EXIT FLUME ISOLATION GATE (IG6)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-006 REV: 0

AWSS7
AWS UPSTREAM ISOLATION VALVE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

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2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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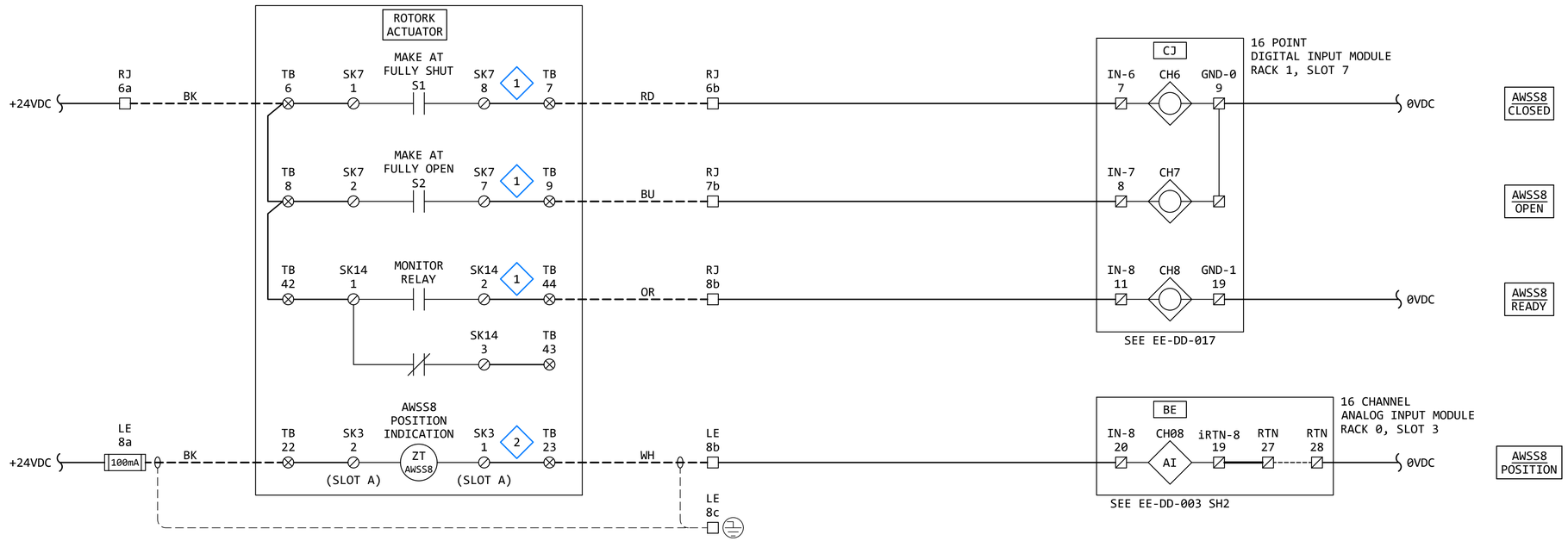
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM AWS UPSTREAM ISOLATION VALVE (AWSS7)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-007 REV: 0

AWSS8
DS PASSAGE AWS
ISOLATION VALVE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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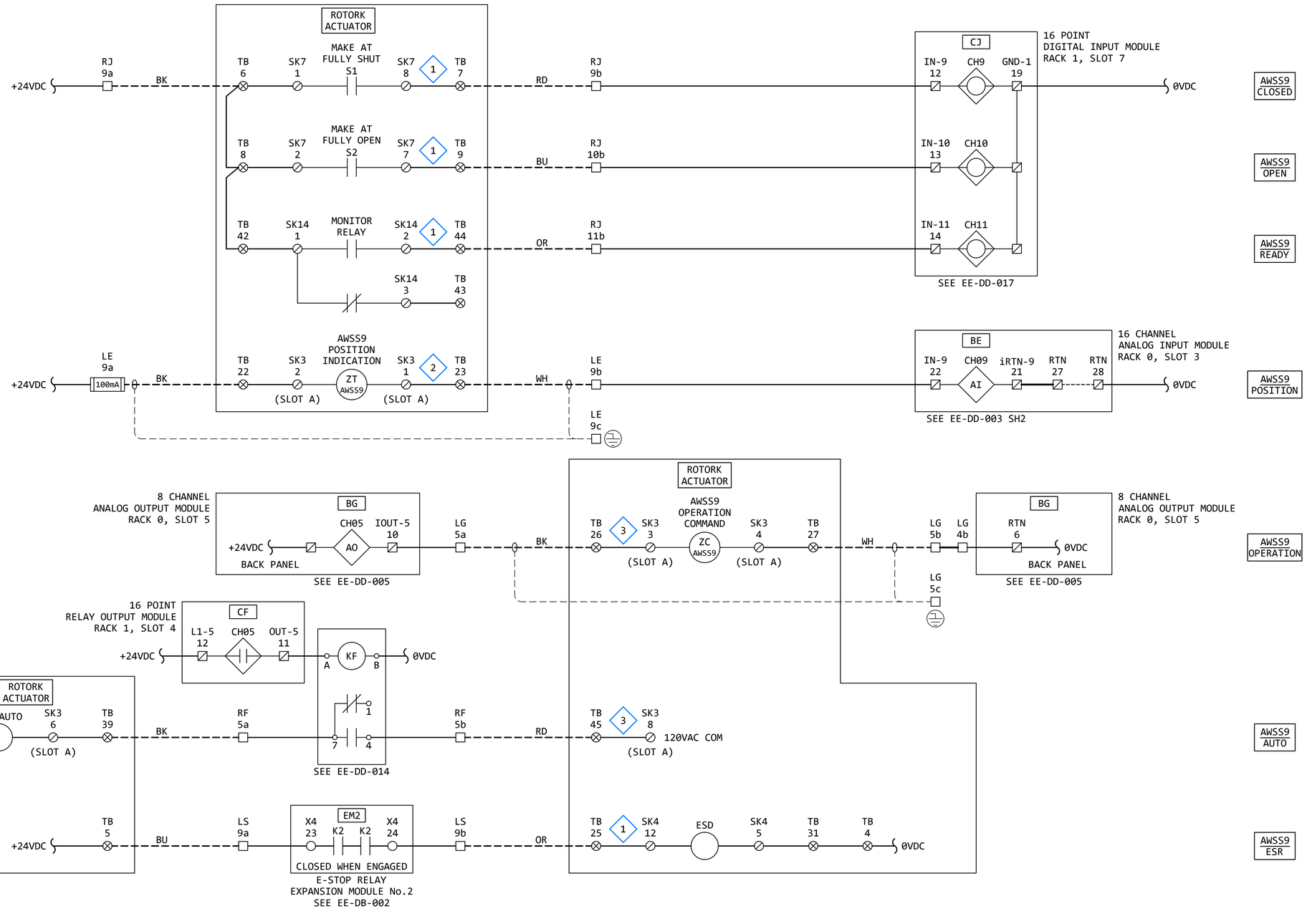
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM DS PASSAGE AWS ISOLATION VALVE (AWSS8)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-008 REV: 0

AWSS9
AWS DOWNSTREAM ISOLATION VALVE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

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REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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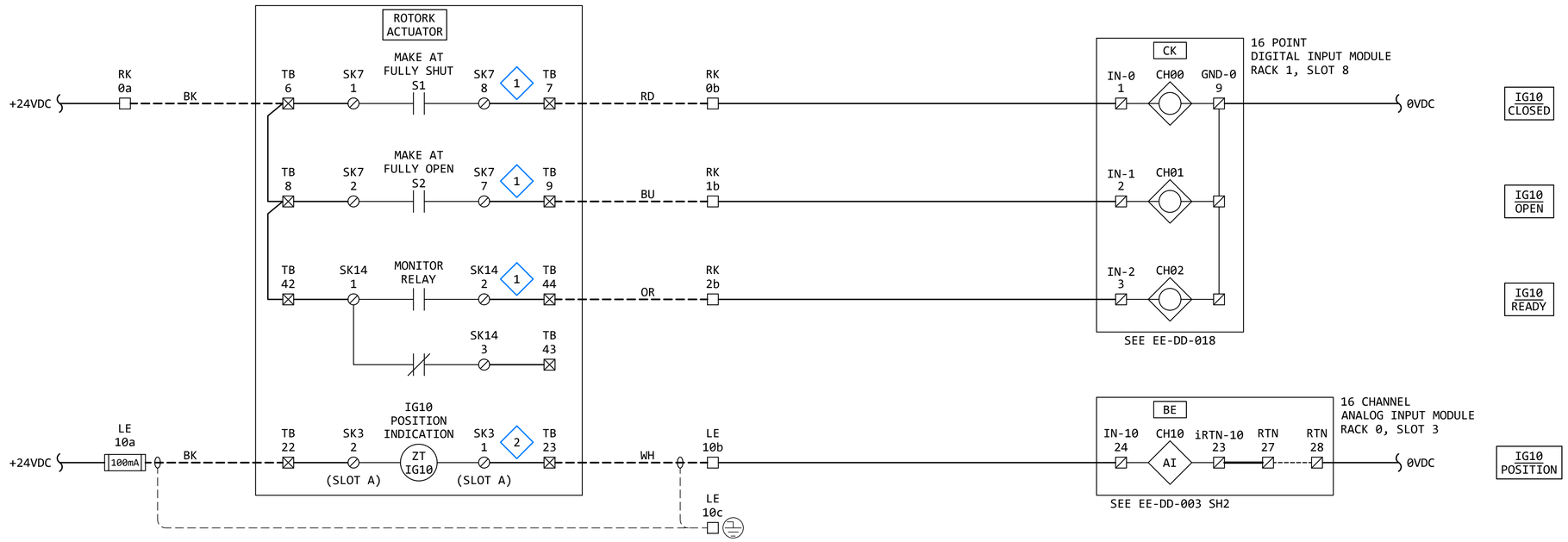
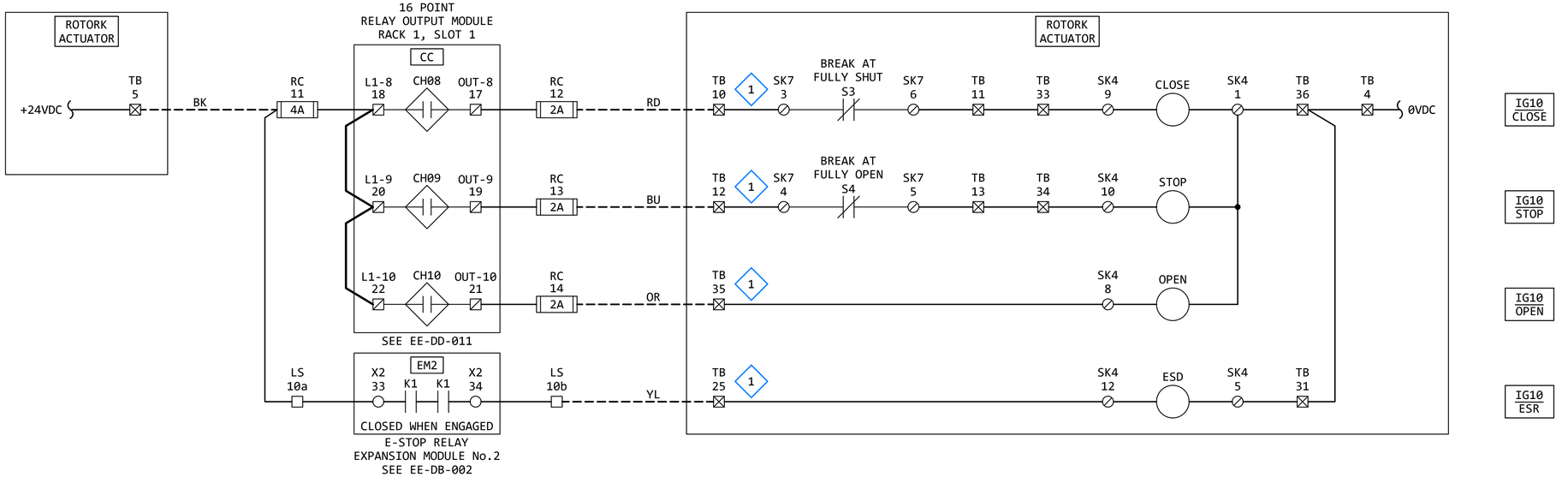
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM AWS DOWNSTREAM ISOLATION VALVE (AWSS9)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-009 REV: 0

IG10
EXIT FLUME
DS BYPASS
ISOLATION GATE

ACTUATOR WIRING DIAGRAM CODE:
1 0 1 B 0 0 0 0





KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

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REVISION

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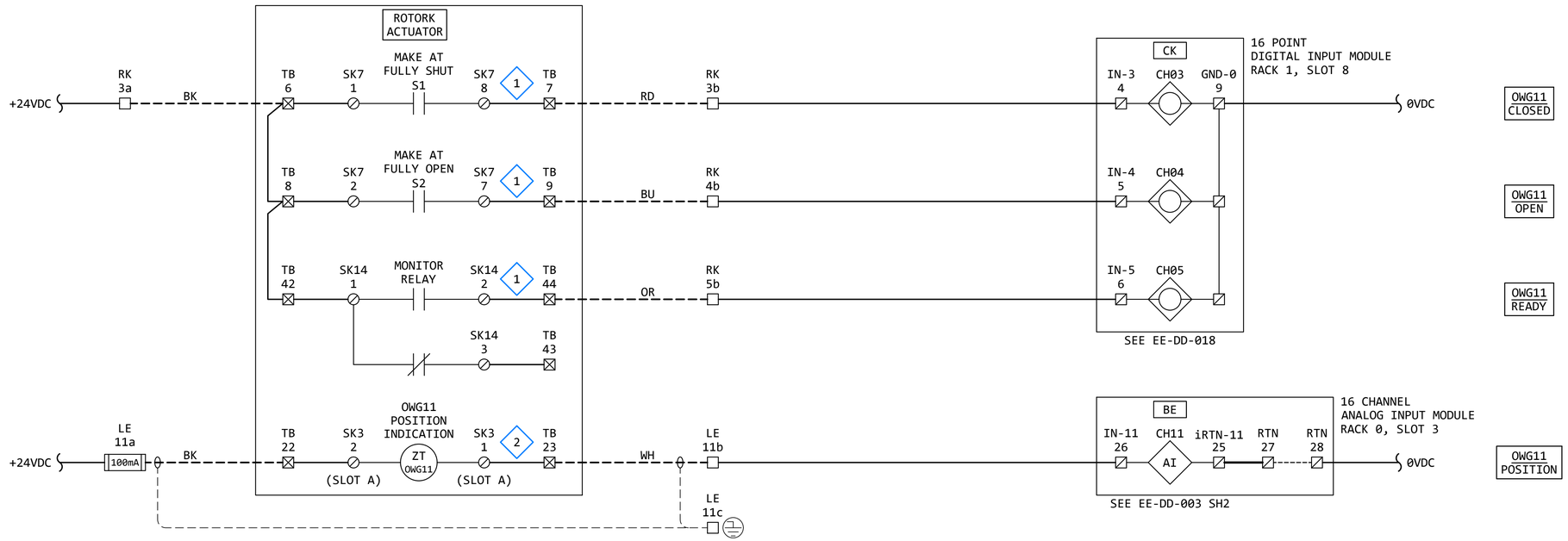
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM EXIT FLUME DS BYPASS ISOLATION GATE (IG10)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-010 REV: 0

OWG11
FISH LADDER
ENTRANCE
OVERSHOT WEIR GATE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
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   OPTION. (PUB002-041-00, PAGE 13)
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   (PUB002-041-00, PAGE 13)

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REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
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MAY 2, 2025

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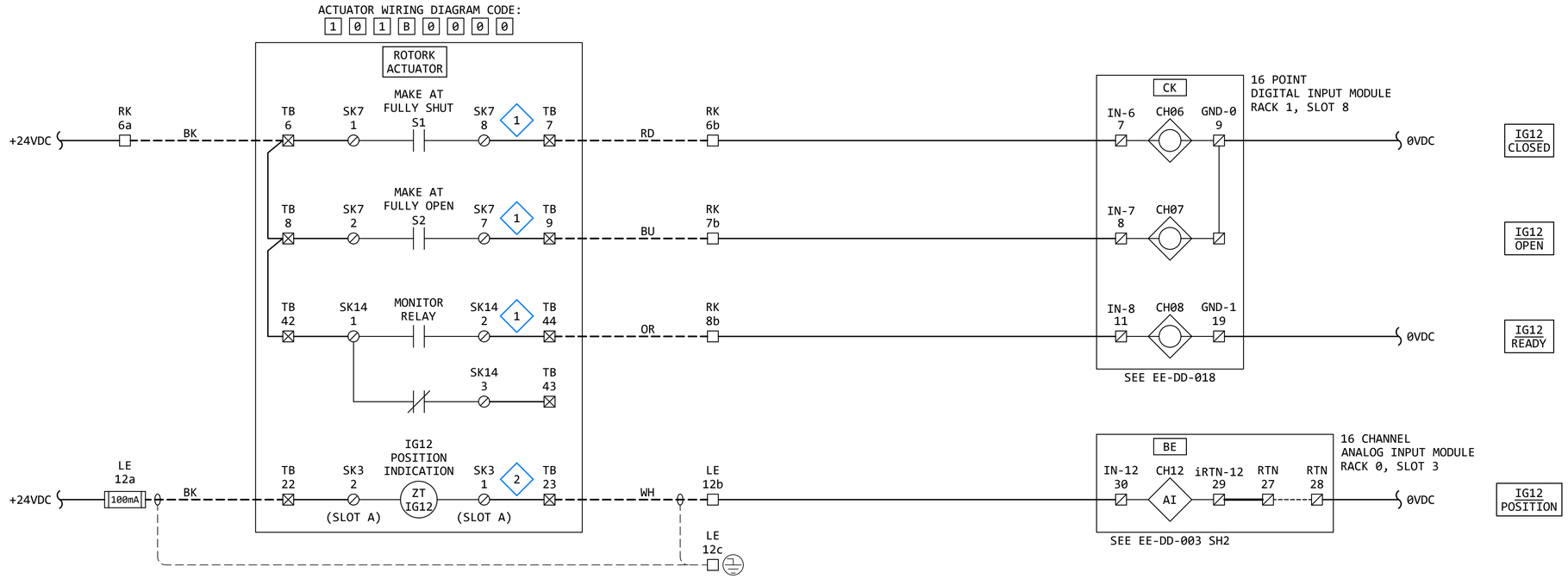
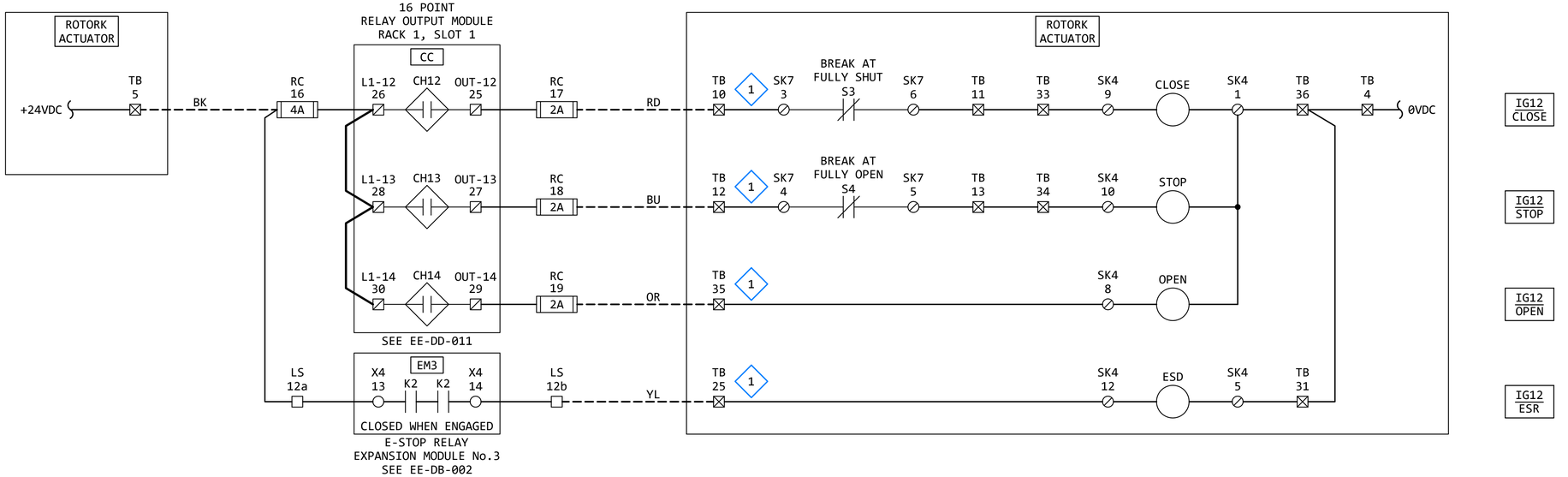
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM FISH LADDER ENTR. OVERSHOT WEIR GATE (OWG11)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-011 REV: 0

IG12
FISH LADDER
ENTRANCE
ISOLATION GATE





KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

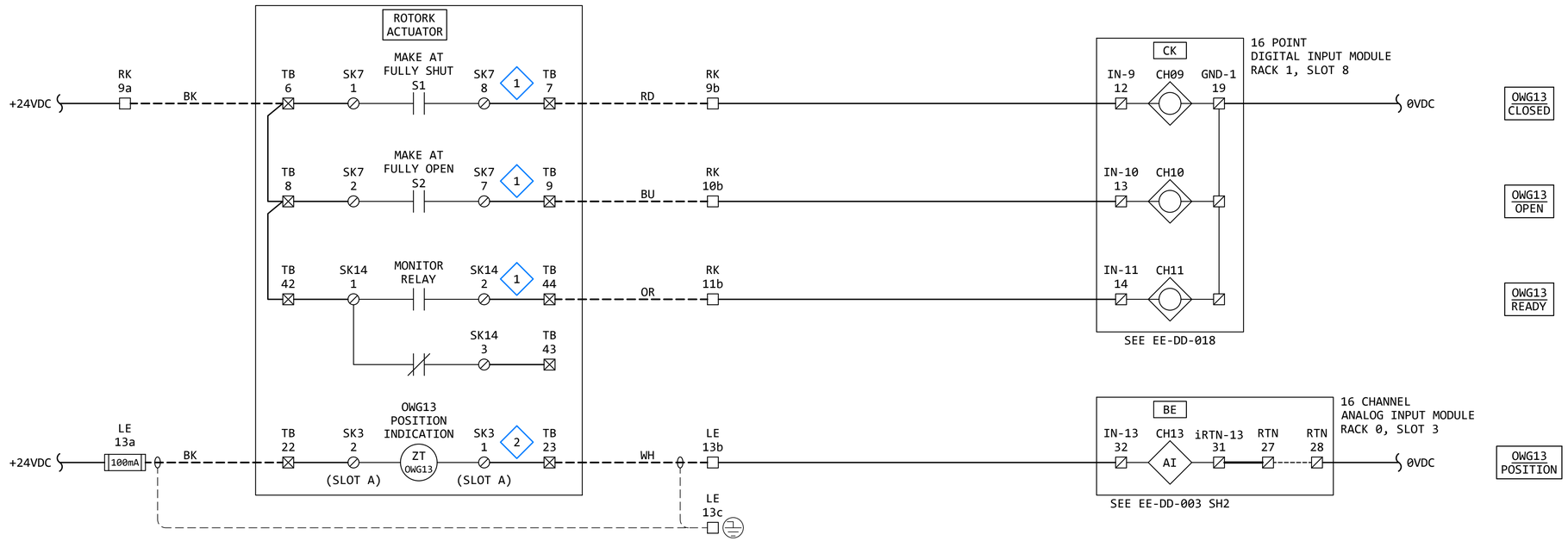
EGI "Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

THIS DRAWING IS THE PROPERTY OF ELECTRICAL CONSULTANTS, INC. AND IS TO BE USED ONLY FOR THE SPECIFIC PROJECT IDENTIFIED ON THE DRAWING. NO REVISIONS SHALL BE MADE WITHOUT THE EXPRESSED WRITTEN CONSENT OF ELECTRICAL CONSULTANTS, INC.

DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM FISH LADDER ENTRANCE ISOLATION GATE (IG12)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-012 REV: 0

OWG13
FISH LADDER
EXIT
OVERSHOT WEIR GATE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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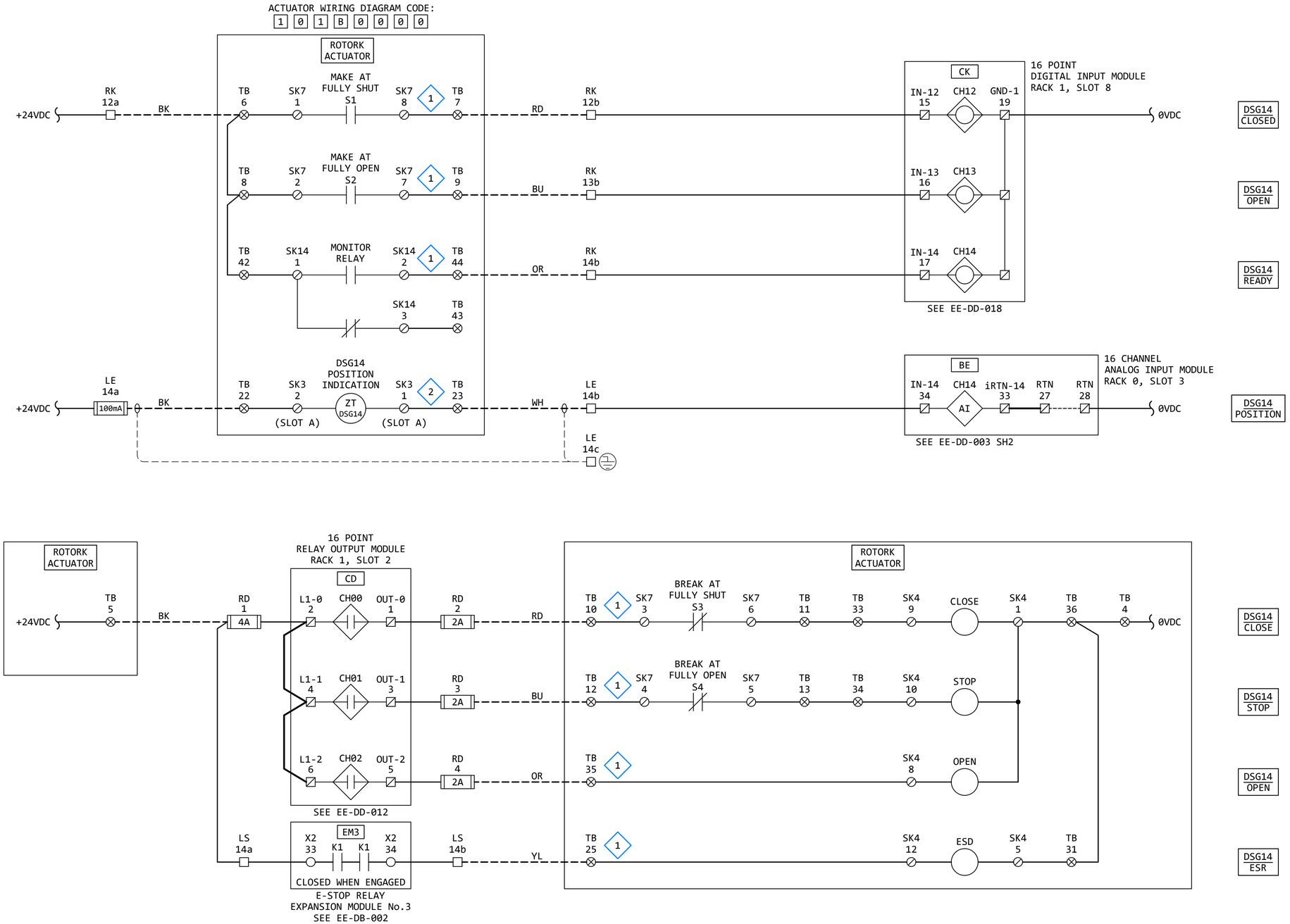
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM FISH LADDER EXIT OVERSHOT WEIR GATE (OWG13)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-013 REV: 0

DSG14
DS BYPASS
SLIDE GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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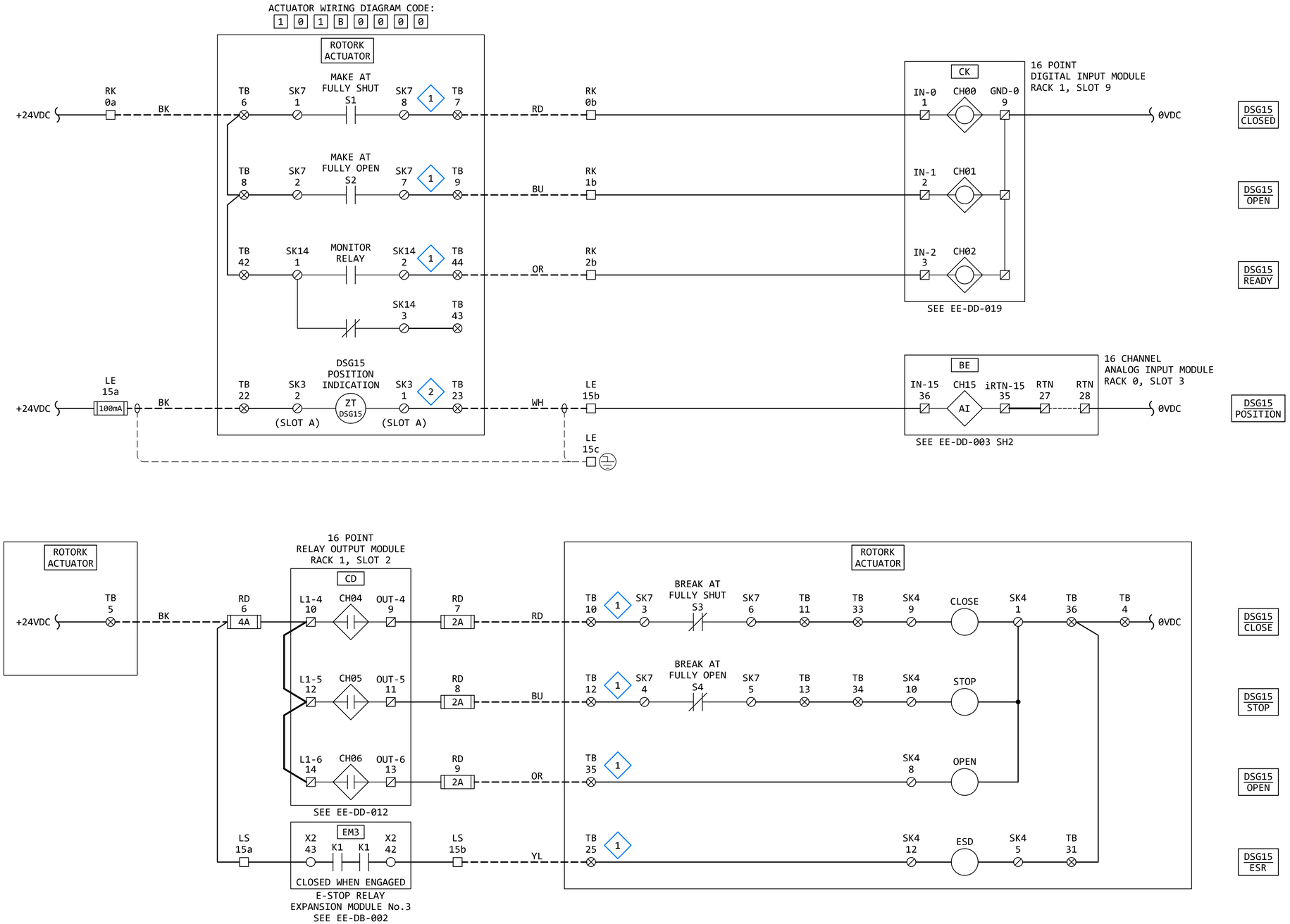
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM DS BYPASS SLIDE GATE (DSG14)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-014 REV: 0

DSG15
DS BYPASS
SLIDE GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

EGI "Engineering with Distinction"
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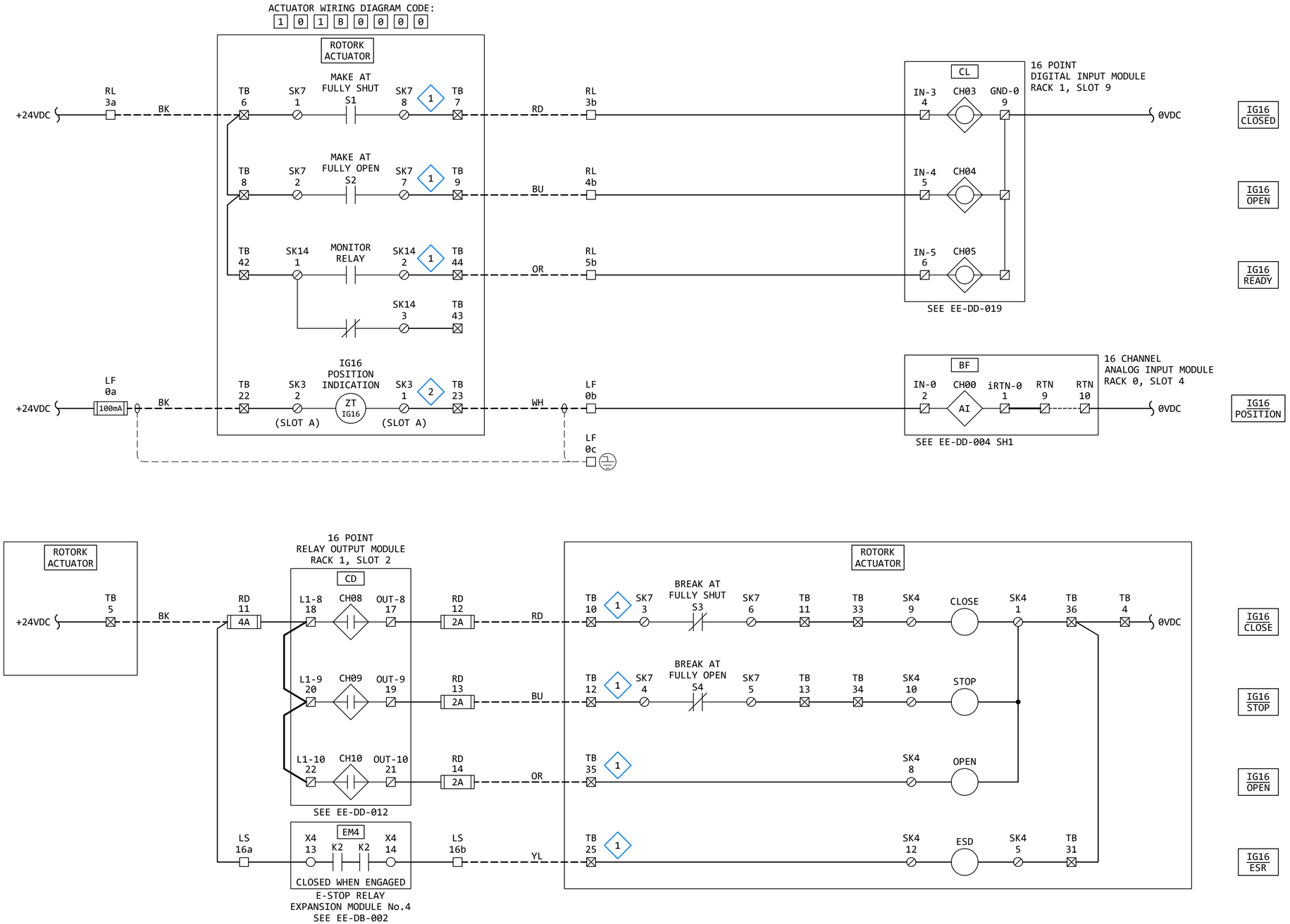
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM DS BYPASS SLIDE GATE (DSG15)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-015 REV: 0

IG16
DS BYPASS
ISOLATION GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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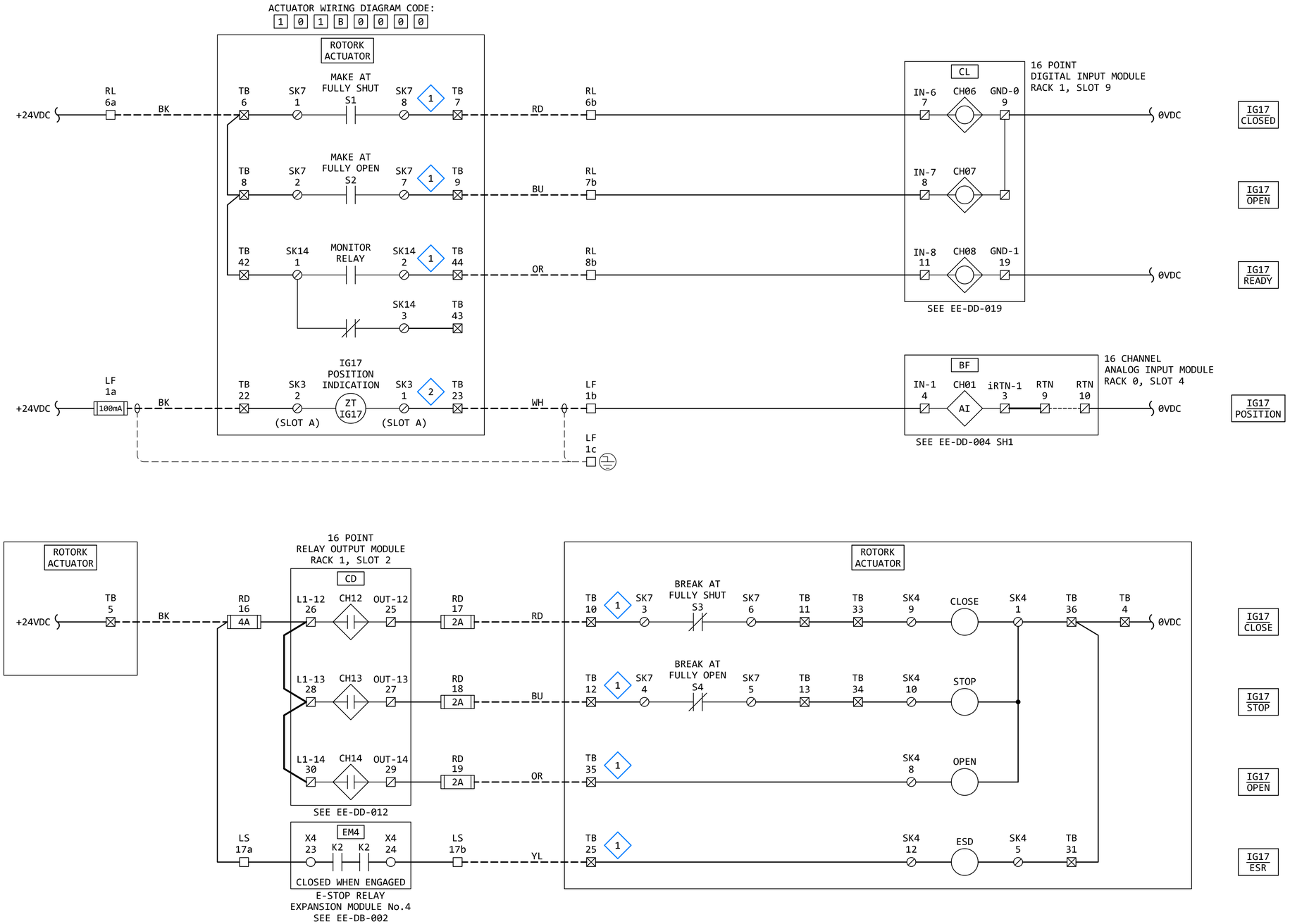
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM DS BYPASS ISOLATION GATE (IG16)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-016 REV: 0

IG17
FISH LADDER
EXIT
ISOLATION GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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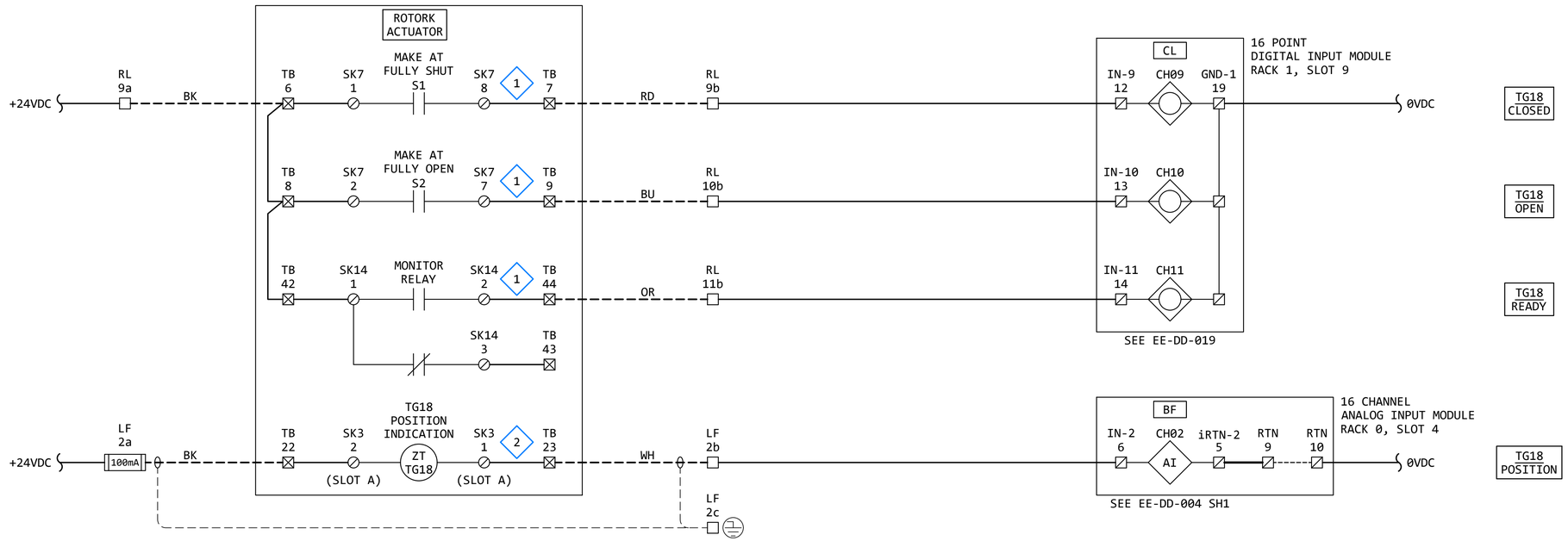
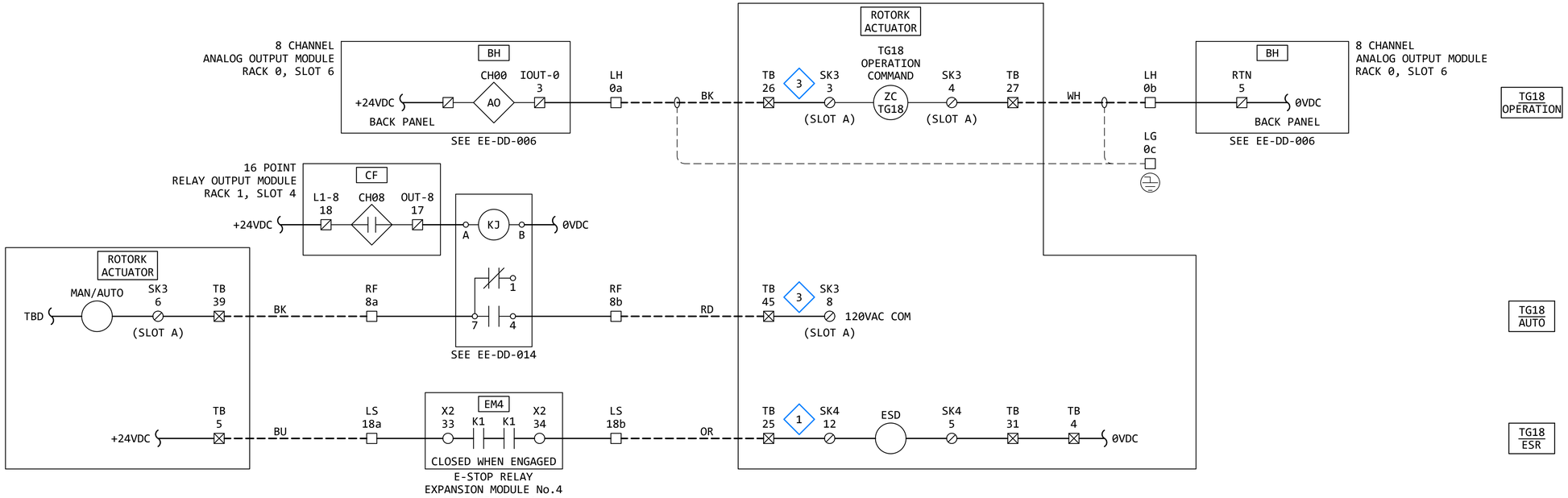
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM FISH LADDER EXIT ISOLATION GATE (IG17)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-017 REV: 0

TG18
EXIT FLUME
TRAP GATE

ACTUATOR WIRING DIAGRAM CODE:
2 0 3 B 0 0 0 0





KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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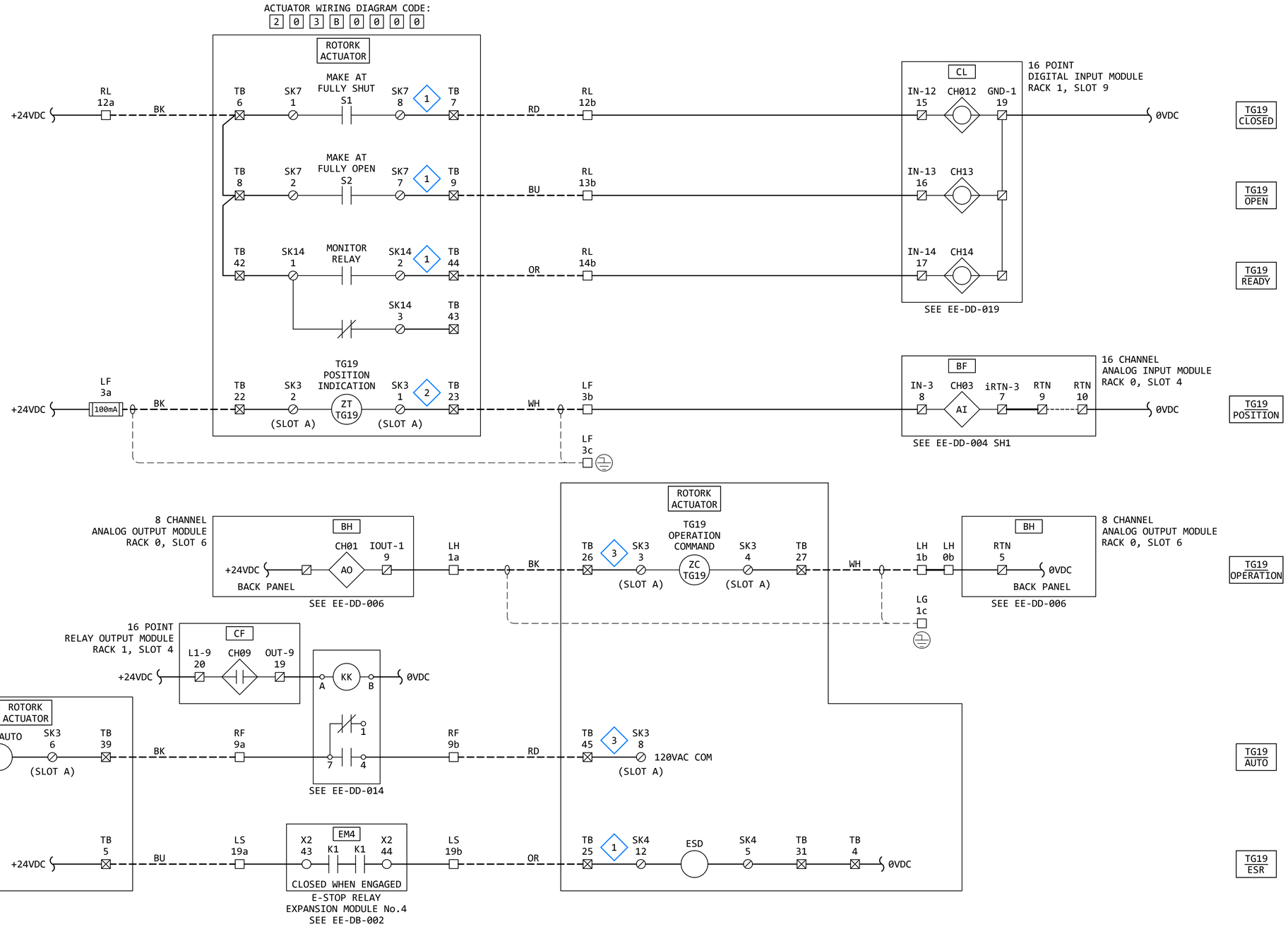
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM EXIT FLUME TRAP GATE (TG18)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-018 REV: 0

TG19
EXIT FLUME
TRAP GATE



KEYED NOTES:

1. ACTUATOR WIRING - BASIC:
   IQ ACTUATOR BASIC CIRCUIT DIAGRAM
   100B0000 (PUB002-041-00, PAGE 12)
2. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "VALVE POSITION - CPT"
   OPTION. (PUB002-041-00, PAGE 13)
3. ACTUATOR WIRING - OPTIONAL:
   REQUIRES "ANALOGUE POSITION CONTROL
   FOLOMATIC" OPTION.
   (PUB002-041-00, PAGE 13)

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK PUBLICATION PUB002-041-00, ISSUE 02/23. SEE KEYED NOTES FOR FURTHER DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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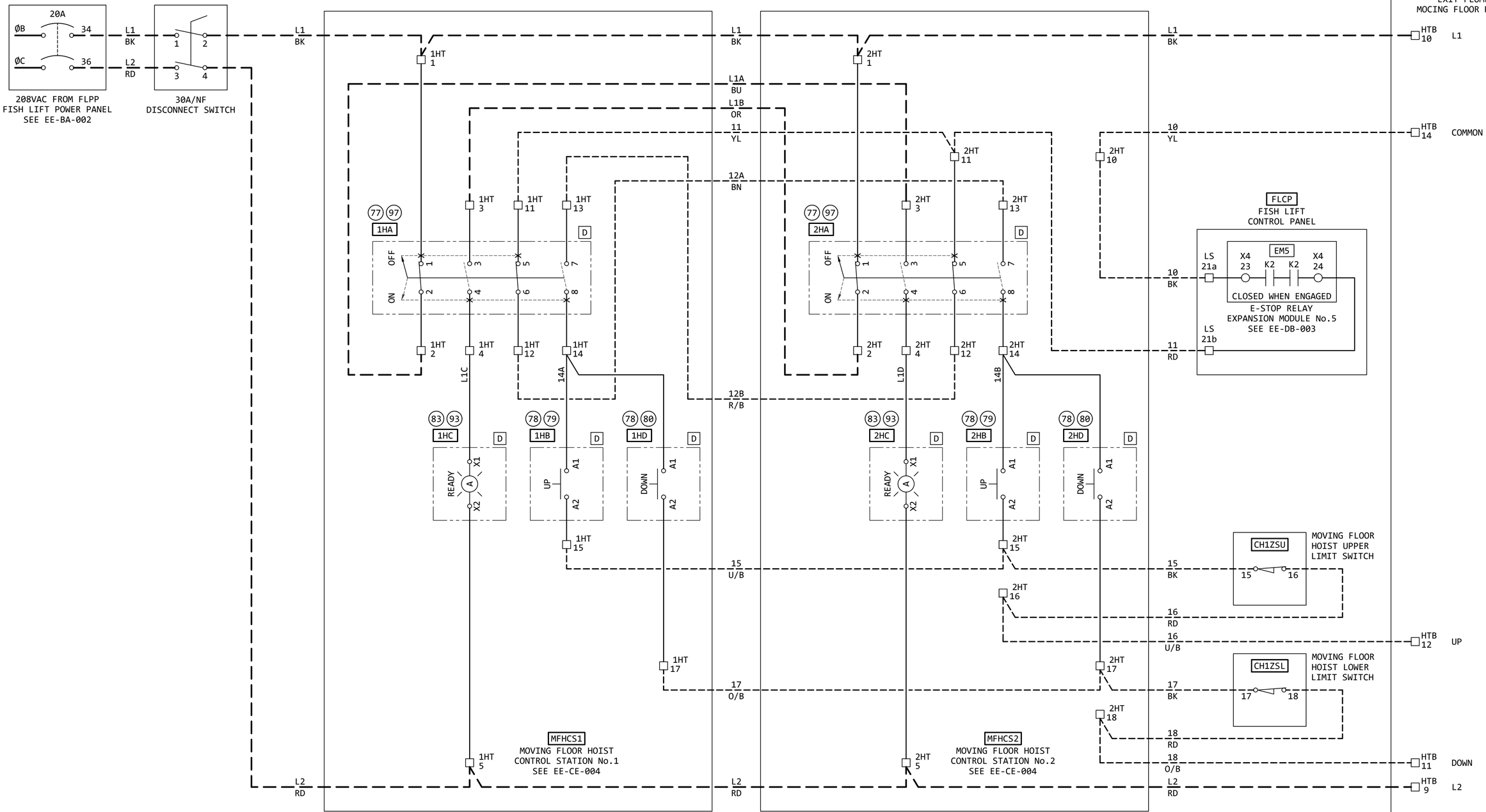
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	ELEMENTARY WIRING DIAGRAM EXIT FLUME TRAP GATE (TG19)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-019 REV: 0



NOTE:

NEW WORK INCLUDES THE EXIT FLUME MOVING FLOOR HOIST POWER AND CONTROL DESIGN. SEE EE-AA-001 FOR MORE INFORMATION.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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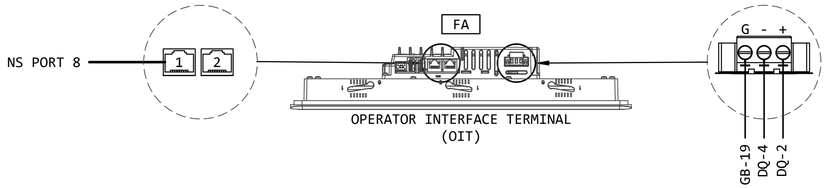
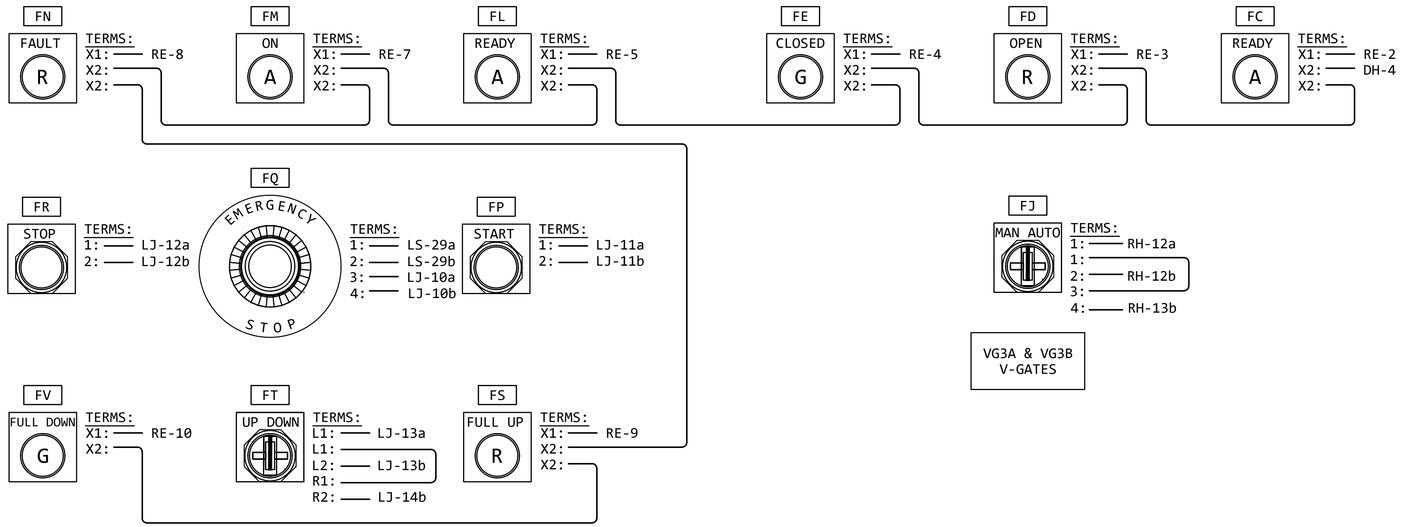
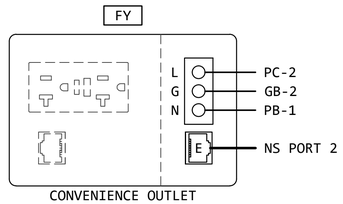
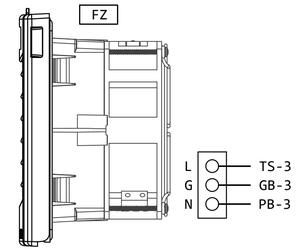
DRAWN BY: SAM	DATE: 05/02/2025	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 05/02/2025	ELEMENTARY WIRING DIAGRAM EXIT FLUME MOVING FLOOR HOIST (CH1)
APPROVED BY: CMH	DATE: 05/02/2025	TECHNOLOGY: HYDRO DRAWING CATEGORY: SCHEMATICS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-DK-021 REV: 0









GENERAL NOTES:

1. ALL WIRING SHOWN ON THIS DRAWING IS FROM INSIDE OF THE DOOR, UNLESS NOTED OTHERWISE.

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

EGI "Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC.

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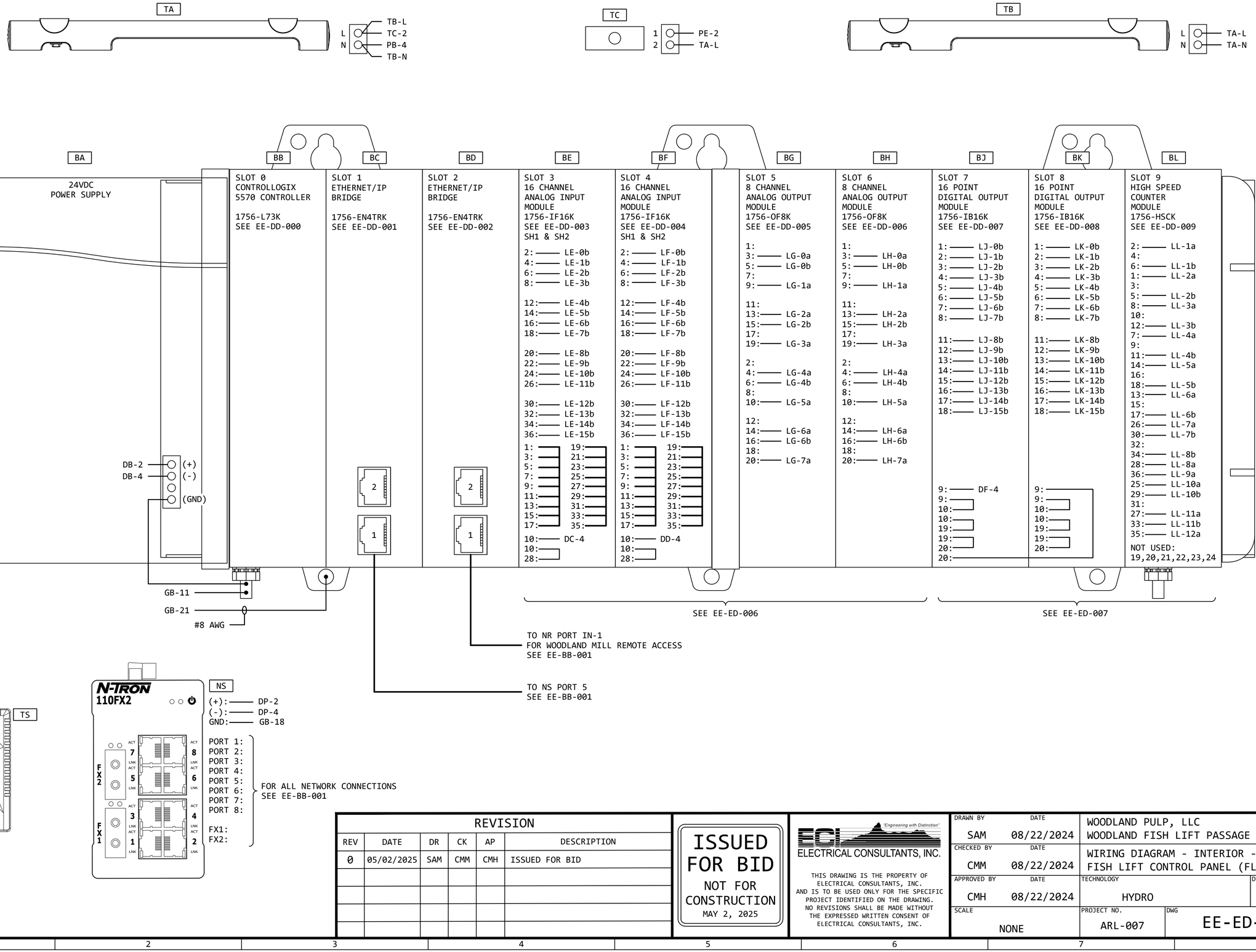
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - FRONT PANEL FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-ED-001 / REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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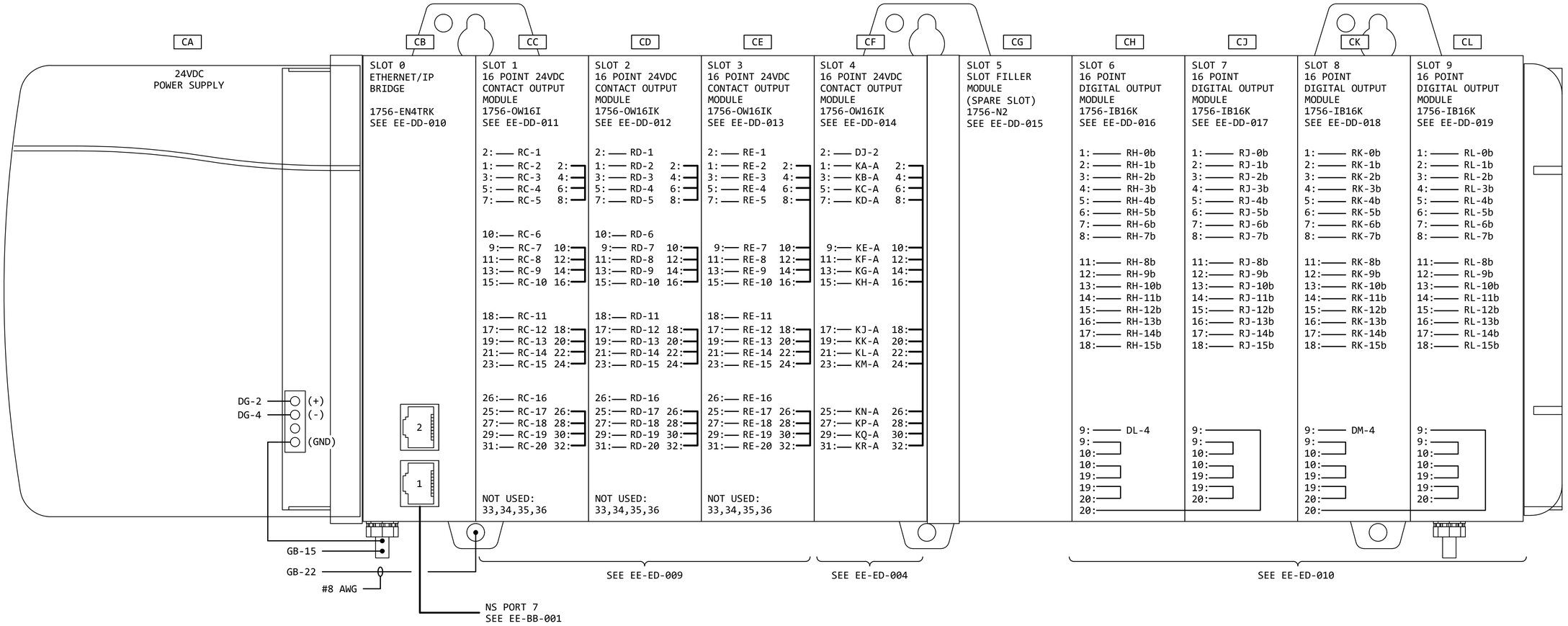
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - INTERIOR - PLC RACK 0 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-002 REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

EGI "Engineering with Distinction"
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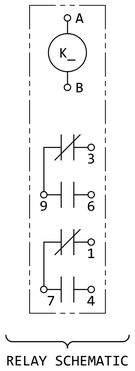
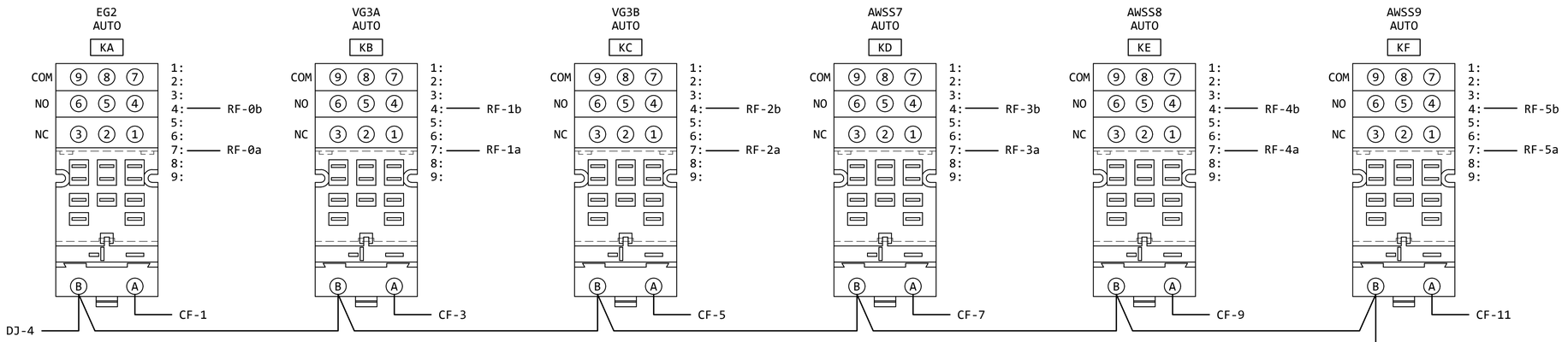
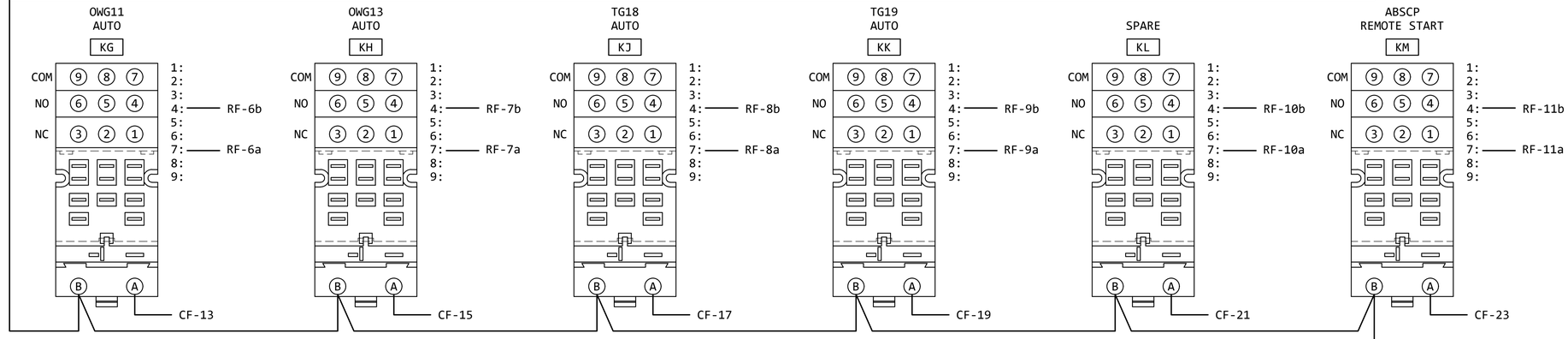
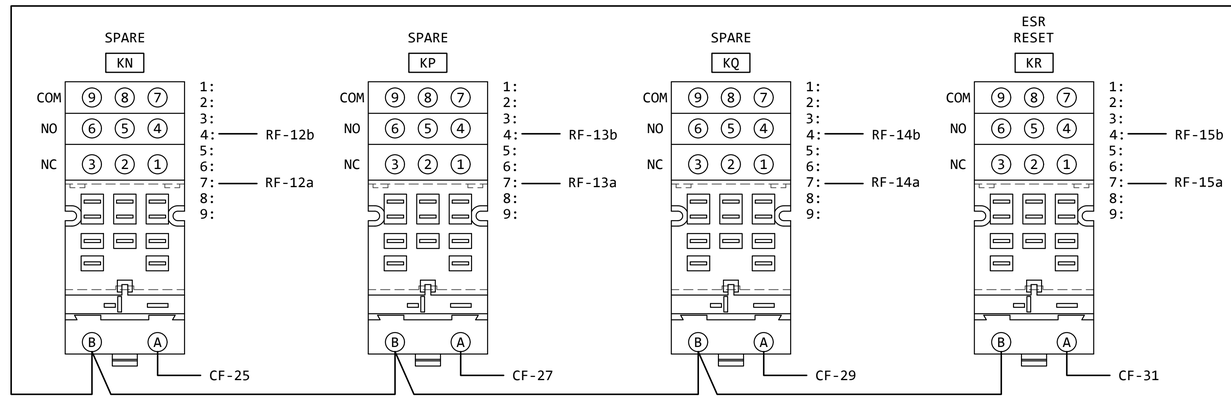
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - INTERIOR - PLC RACK 1 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-003 / REV: 0



RELAY SCHEMATIC







REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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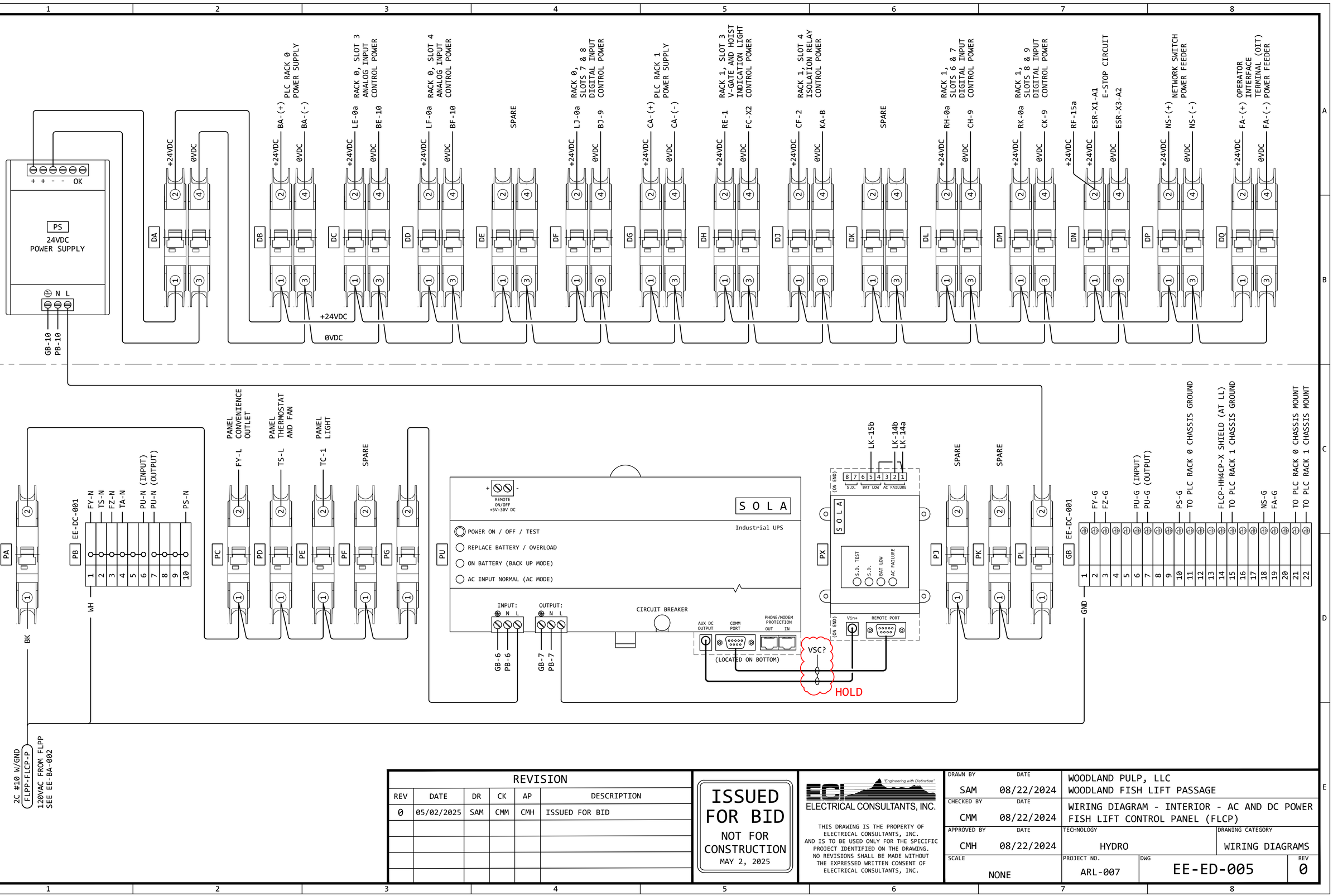
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - INTERIOR - CONTROL RELAYS FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-ED-004 / REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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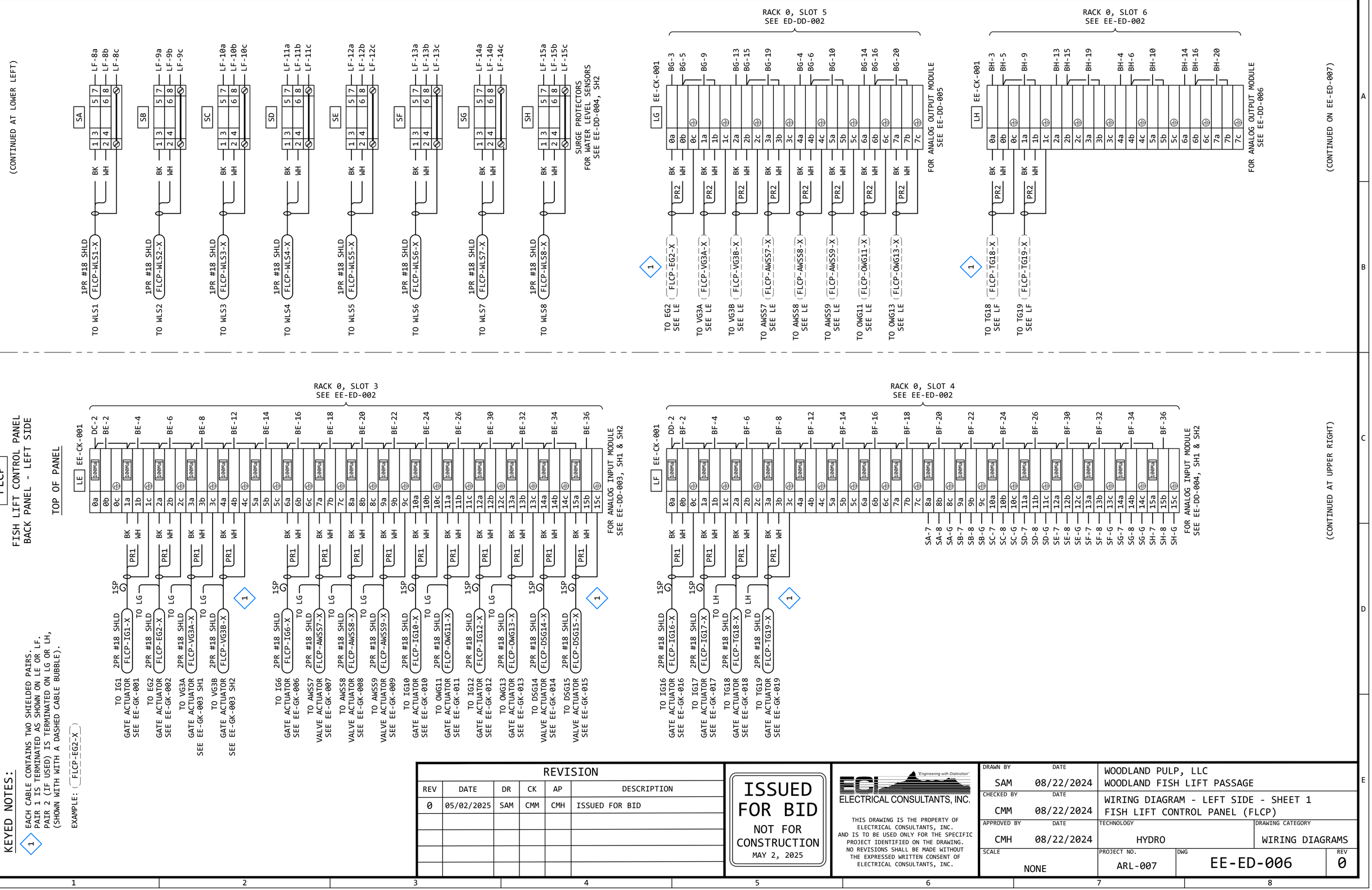
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - INTERIOR - AC AND DC POWER FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-ED-005 REV: 0



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
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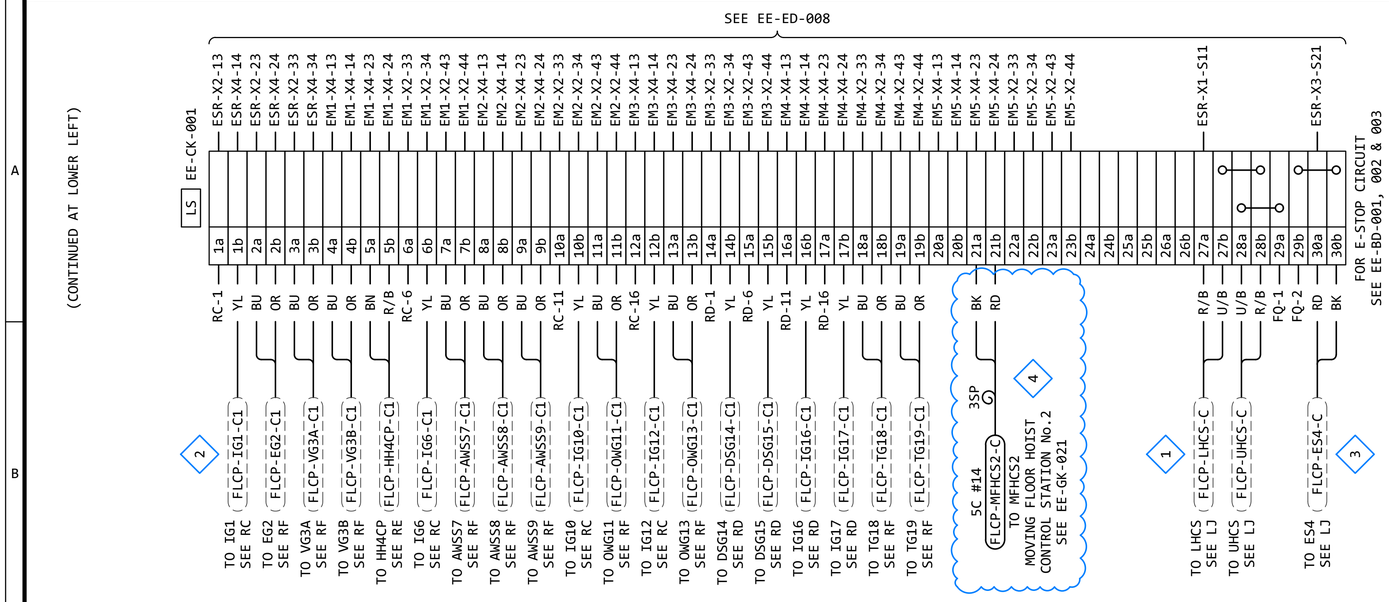
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - LEFT SIDE - SHEET 1 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-006 REV: 0



KEYED NOTES:

1. MOST OF THE CONDUCTORS IN THE TWO 12C CABLES RUNNING FROM THE HOIST CONTROL STATIONS TERMINATE ON LJ AS SHOWN. SOME OF THE CONDUCTORS TERMINATE BELOW ON LS, (SHOWN WITH WITH A DASHED CABLE BUBBLE).

   EXAMPLE: (FLCP-EG2-X)

2. MOST OF THE CONDUCTORS IN THE 7C C1 CABLES RUNNING FROM THE GATE/VALVE ACTUATORS AND FROM HH4CP TERMINATE ON RC, RD, RE AND RF, AS SHOWN ON EE-ED-009. SOME OF THE CONDUCTORS (ESD) TERMINATE HERE ON ON LS, (SHOWN WITH WITH A DASHED CABLE BUBBLE).

   EXAMPLE: (FLCP-IG1-C1)

3. THE CONDUCTORS FROM E-STOP ES4 TERMINATE ON LJ AS SHOWN AND BELOW ON LS, (SHOWN WITH WITH A DASHED CABLE BUBBLE).

   EXAMPLE: (FLCP-ES4-C)

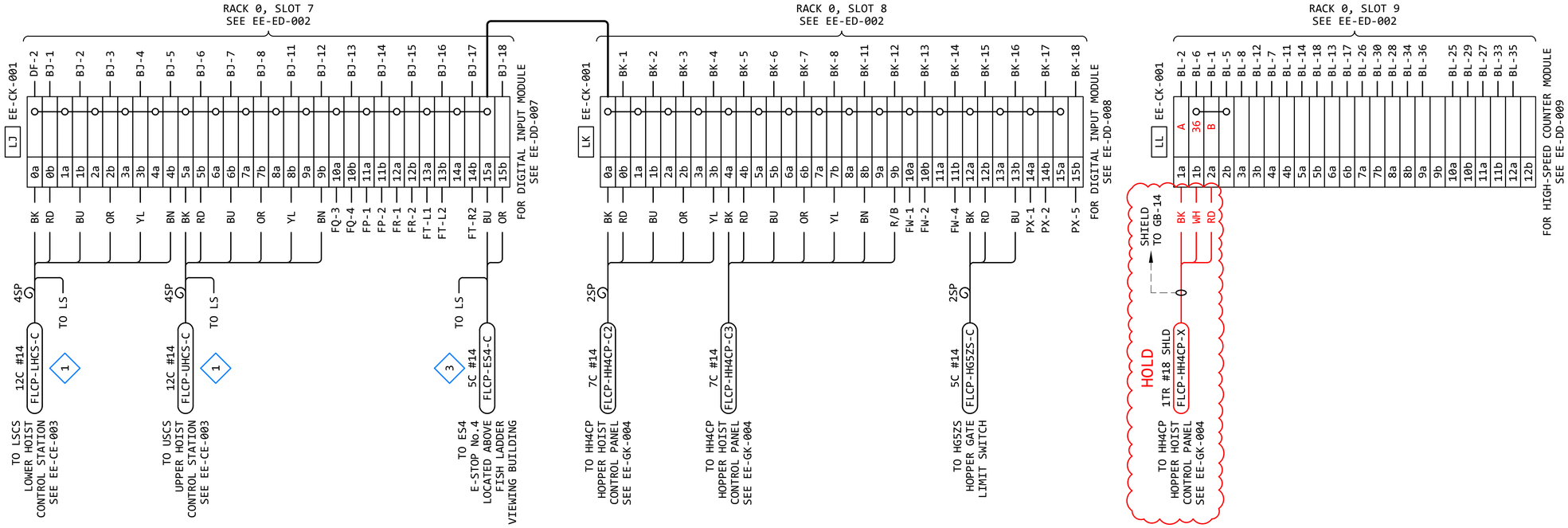
4. HOIST CONTROL ADDED POST BID PACKAGE.

(CONTINUED ON EE-ED-008)

FLCP

FISH LIFT CONTROL PANEL
BACK PANEL - LEFT SIDE

(CONTINUED FROM EE-ED-006)



(CONTINUED AT UPPER RIGHT)

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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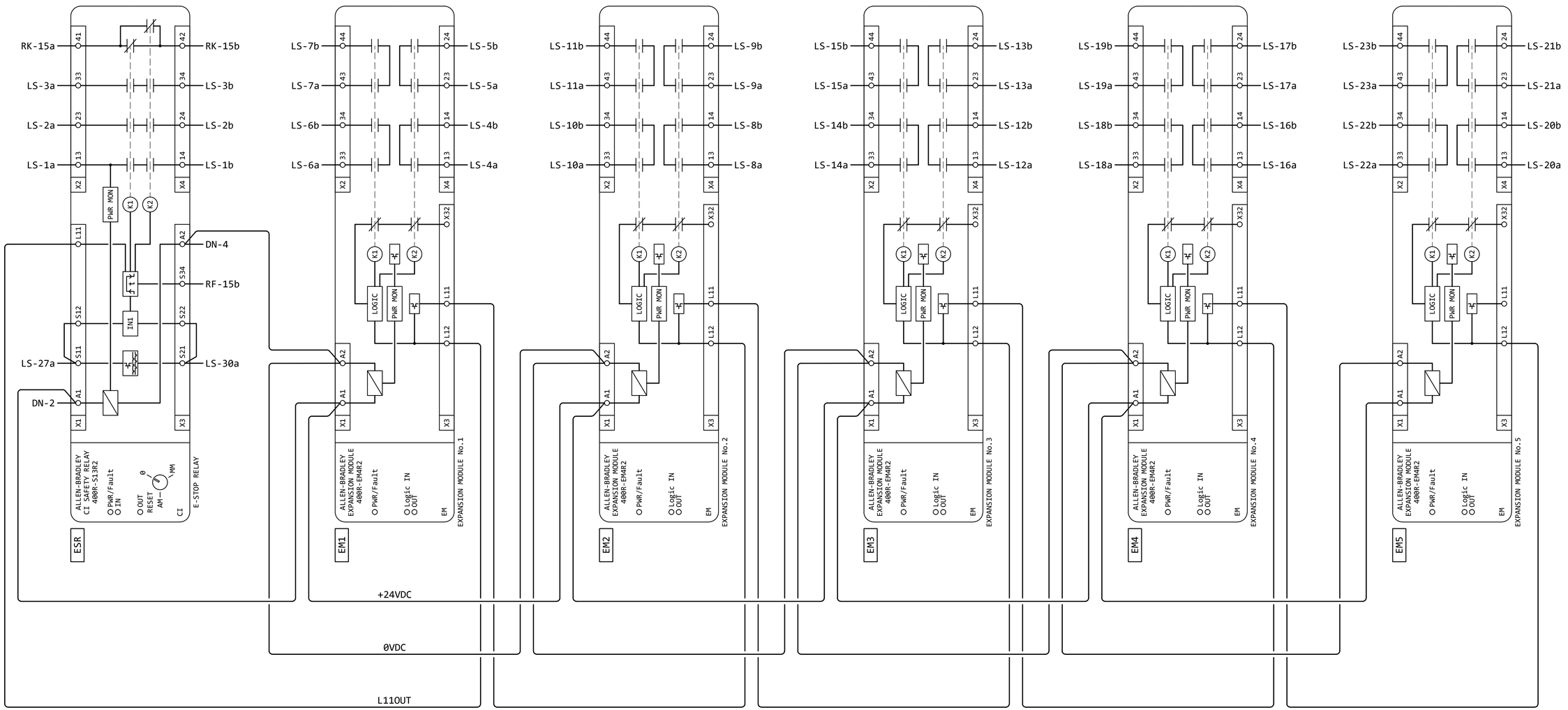
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - LEFT SIDE - SHEET 2 FISH LIFT CONTROL PANEL (FLCP)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-ED-007 REV: 0

FLCP

FISH LIFT CONTROL PANEL
BACK PANEL - LEFT SIDE
(CONTINUED FROM EE-ED-007)



REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
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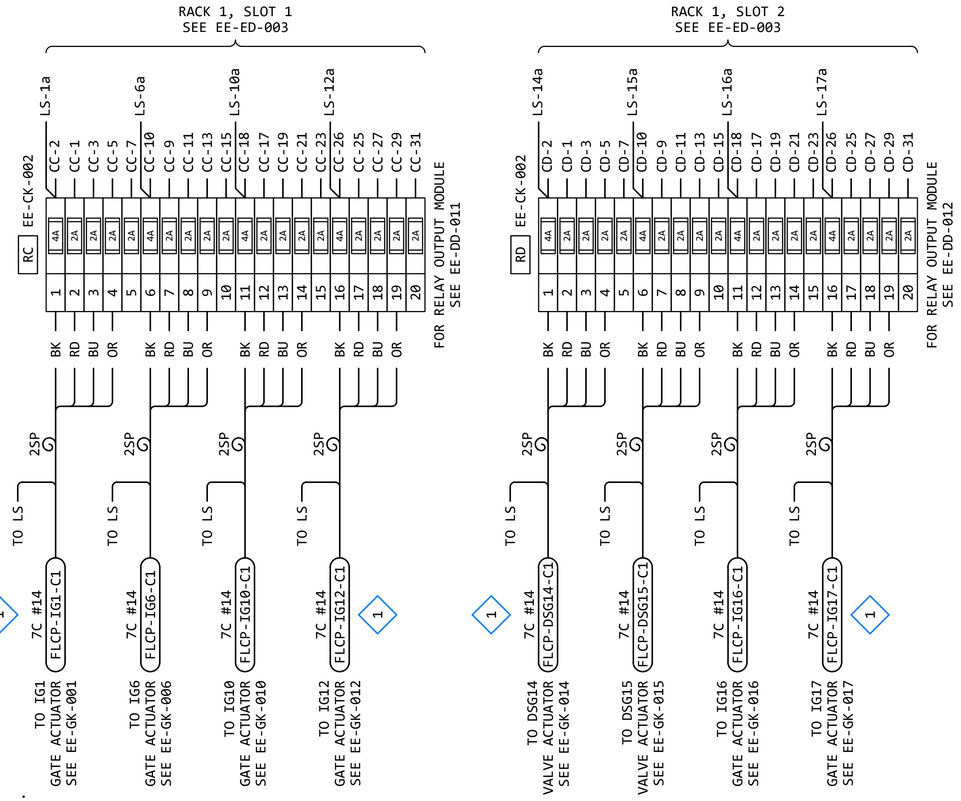
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - LEFT SIDE - SHEET 3 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-008 / REV: 0

FLCP

FISH LIFT CONTROL PANEL
BACK PANEL - RIGHT SIDE

TOP OF PANEL



KEYED NOTES:

1. MOST OF THE CONDUCTORS IN THE 7C C1 CABLES RUNNING FROM THE GATE/VALVE ACTUATORS AND FROM HH4CP TERMINATE ON RC, RD, RE AND RF, AS SHOWN. SOME OF THE CONDUCTORS (ESD) TERMINATE ON LS, AS SHOWN ON EE-ED-007. (SHOWN WITH WITH A DASHED CABLE BUBBLE).

EXAMPLE: (FLCP-IG1-C1)

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - RIGHT SIDE - SHEET 1 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-009 / REV: 0

(CONTINUED AT LOWER LEFT)

RACK 1, SLOT 8
SEE EE-ED-003

RACK 1, SLOT 9
SEE EE-ED-003

RK EE-CK-002

DM-2	CK-1	CK-2	CK-3	CK-4	CK-5	CK-6	CK-7	CK-8	CK-11	CK-12	CK-13	CK-14	CK-15	CK-16	CK-17	CK-18	FOR DIGITAL INPUT MODULE SEE EE-DD-018
0a	0b	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	
BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	ESR-X2-41 ESR-X4-42
3SP				3SP				3SP				3SP				3SP				3SP				3SP				3SP				
7C #14 FLCP-IG10-C2 TO IG10 GATE ACTUATOR SEE EE-GK-010				7C #14 FLCP-OWG11-C2 TO OWG11 GATE ACTUATOR SEE EE-GK-011				7C #14 FLCP-IG12-C2 TO IG12 GATE ACTUATOR SEE EE-GK-012				7C #14 FLCP-OWG13-C2 TO OWG13 GATE ACTUATOR SEE EE-GK-013				7C #14 FLCP-DSG14-C2 TO DSG14 VALVE ACTUATOR SEE EE-GK-014																

RL EE-CK-002

CL-1	CL-2	CL-3	CL-4	CL-5	CL-6	CL-7	CL-8	CL-11	CL-12	CL-13	CL-14	CL-15	CL-16	CL-17	CL-18	FOR DIGITAL INPUT MODULE SEE EE-DD-019
0a	0b	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	
BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	
3SP				3SP				3SP				3SP				3SP				3SP				3SP				3SP				
7C #14 FLCP-DSG15-C2 TO DSG15 VALVE ACTUATOR SEE EE-GK-015				7C #14 FLCP-IG16-C2 TO IG16 GATE ACTUATOR SEE EE-GK-016				7C #14 FLCP-IG17-C2 TO IG17 GATE ACTUATOR SEE EE-GK-017				7C #14 FLCP-TG18-C2 TO TG18 GATE ACTUATOR SEE EE-GK-018				7C #14 FLCP-TG19-C2 TO TG19 GATE ACTUATOR SEE EE-GK-019				5C #14 FLCP-HH4DS-C TO HH4DS DISCONNECT SWITCH SEE EE-GK-004												

BOTTOM OF PANEL

FLCP

FISH LIFT CONTROL PANEL
BACK PANEL - RIGHT SIDE

(CONTINUED FROM EE-ED-009)

RACK 1, SLOT 6
SEE EE-ED-003

RACK 1, SLOT 7
SEE EE-ED-003

RH EE-CK-002

DL-2	CH-1	CH-2	CH-3	CH-4	CH-5	CH-6	CH-7	CH-8	CH-11	CH-12	CH-13	CH-14	CH-15	CH-16	CH-17	CH-18	FOR DIGITAL INPUT MODULE SEE EE-DD-016
0a	0b	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	
BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	FJ-1	FJ-2	FJ-4	BK	RD	BU	OR		
3SP				3SP				3SP				3SP				3SP				3SP						1SP						
7C #14 FLCP-IG1-C2 TO IG1 GATE ACTUATOR SEE EE-GK-001				7C #14 FLCP-EG2-C2 TO EG2 GATE ACTUATOR SEE EE-GK-002				7C #14 FLCP-VG3A-C2 TO VG3A GATE ACTUATOR SEE EE-GK-003 SH1				7C #14 FLCP-VG3B-C2 TO VG3B GATE ACTUATOR SEE EE-GK-003 SH2								5C #14 FLCP-VG3JB-C TO V-GATE LIMIT SWITCH JUNCTION BOX												

RJ EE-CK-002

CJ-1	CJ-2	CJ-3	CJ-4	CJ-5	CJ-6	CJ-7	CJ-8	CJ-11	CJ-12	CJ-13	CJ-14	CJ-15	CJ-16	CJ-17	CJ-18	FOR DIGITAL INPUT MODULE SEE EE-DD-017
0a	0b	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	
BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR	BK	RD	BU	OR																	
3SP				3SP				3SP				3SP																				
7C #14 FLCP-IG6-C2 TO IG6 GATE ACTUATOR SEE EE-GK-006				7C #14 FLCP-AWSS7-C2 TO AWSS7 VALVE ACTUATOR SEE EE-GK-007				7C #14 FLCP-AWSS8-C2 TO AWSS8 VALVE ACTUATOR SEE EE-GK-008				7C #14 FLCP-AWSS9-C2 TO AWSS9 VALVE ACTUATOR SEE EE-GK-009				7C #14 FLCP-ABSCP-C2 TO ABSCP CONTROL PANEL												

(CONTINUED AT UPPER RIGHT)

REVISION					
REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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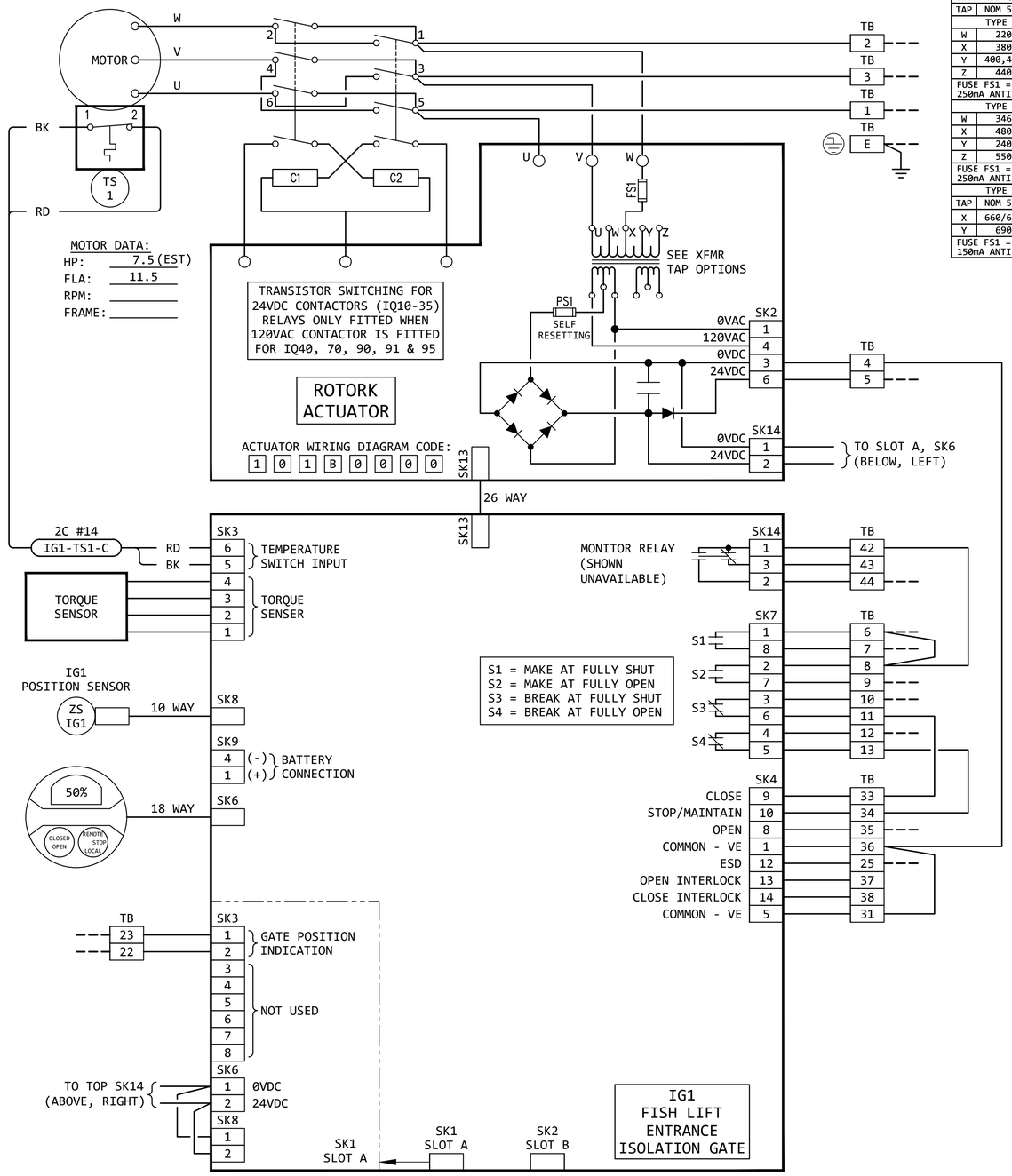
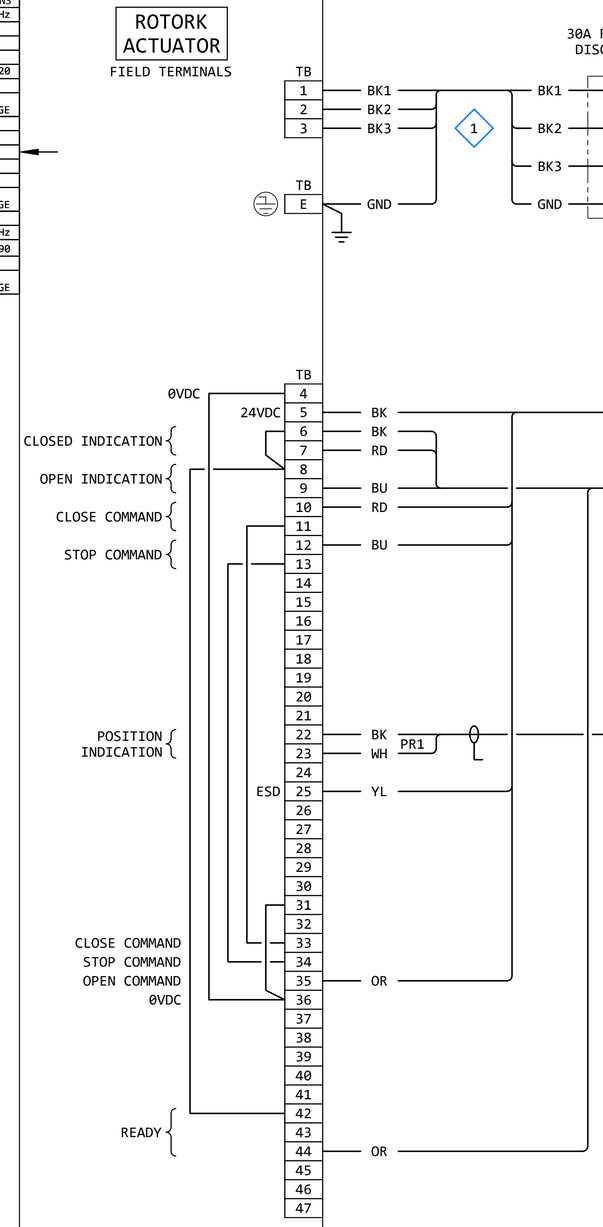
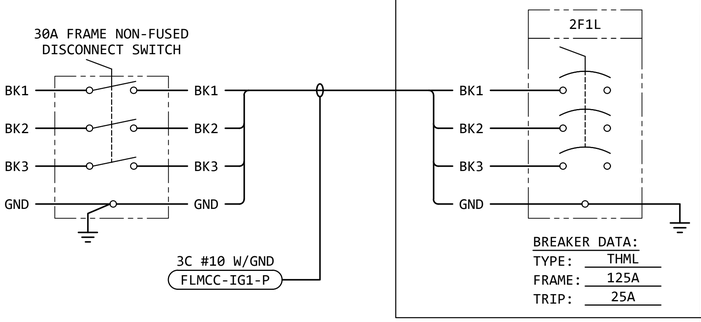
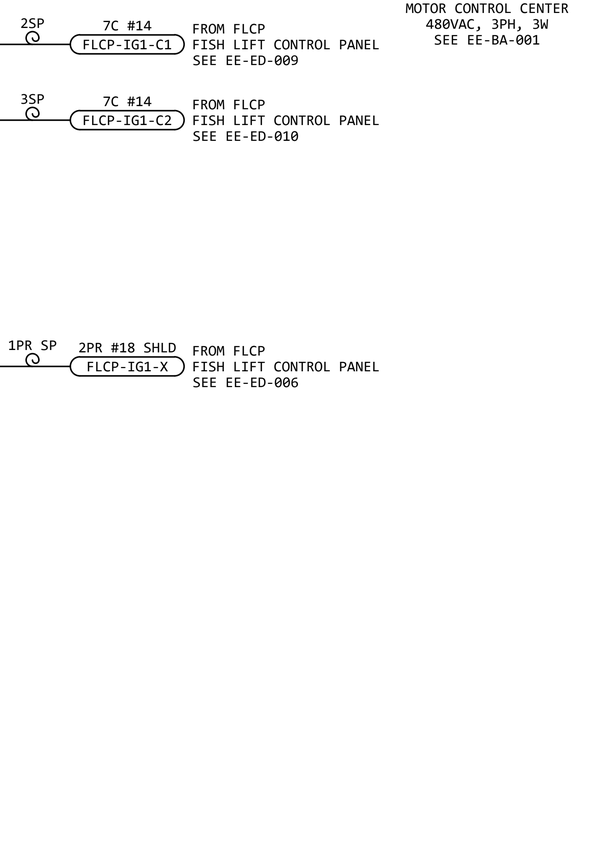
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	WIRING DIAGRAM - RIGHT SIDE - SHEET 2 FISH LIFT CONTROL PANEL (FLCP)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO / DRAWING CATEGORY: WIRING DIAGRAMS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-ED-010 / REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	







KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-001 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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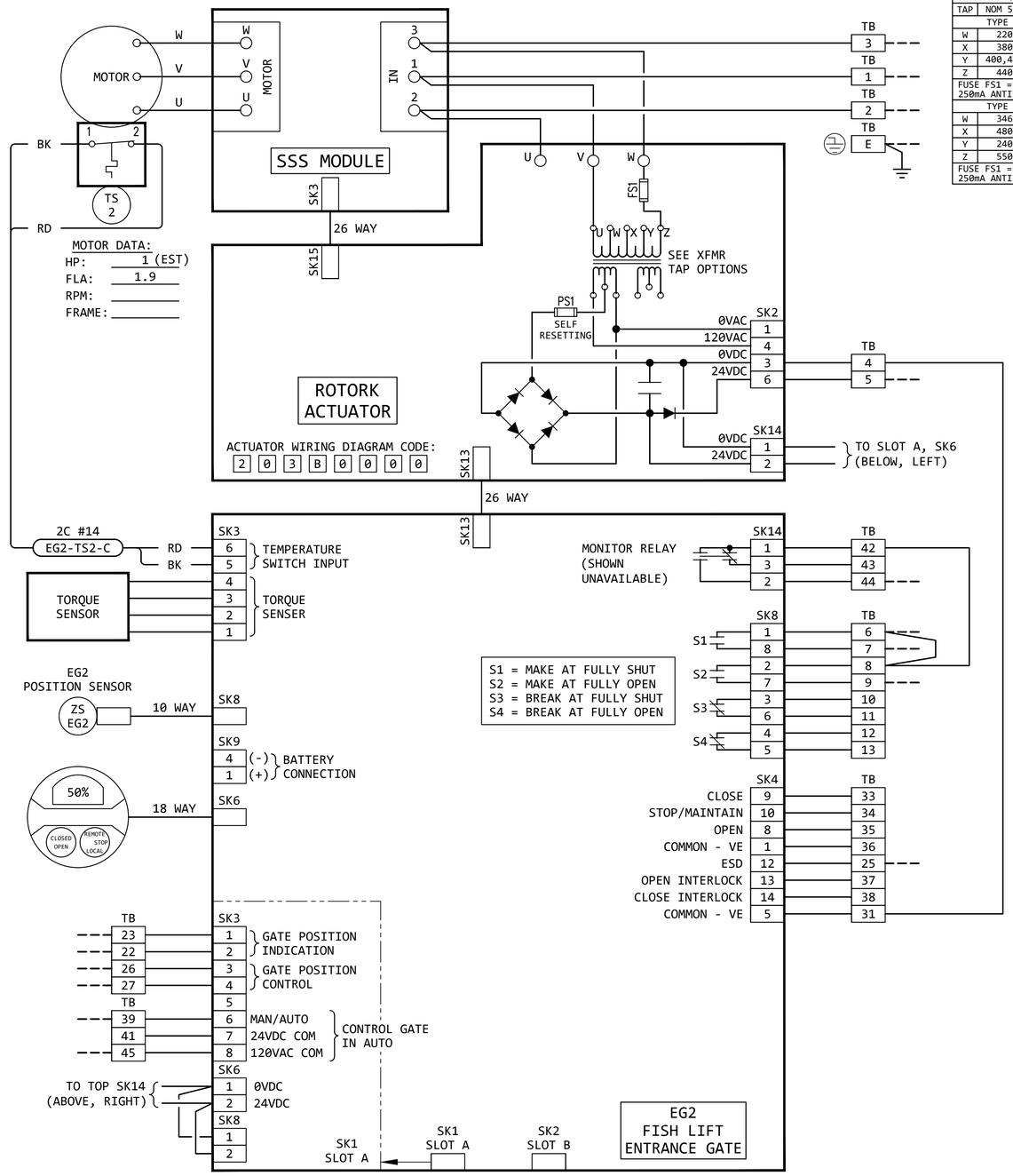
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 02/22/2024	INTERCONNECTION DIAGRAM FISH LIFT ENTRANCE ISOLATION GATE (IG1)	
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-GK-001 REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
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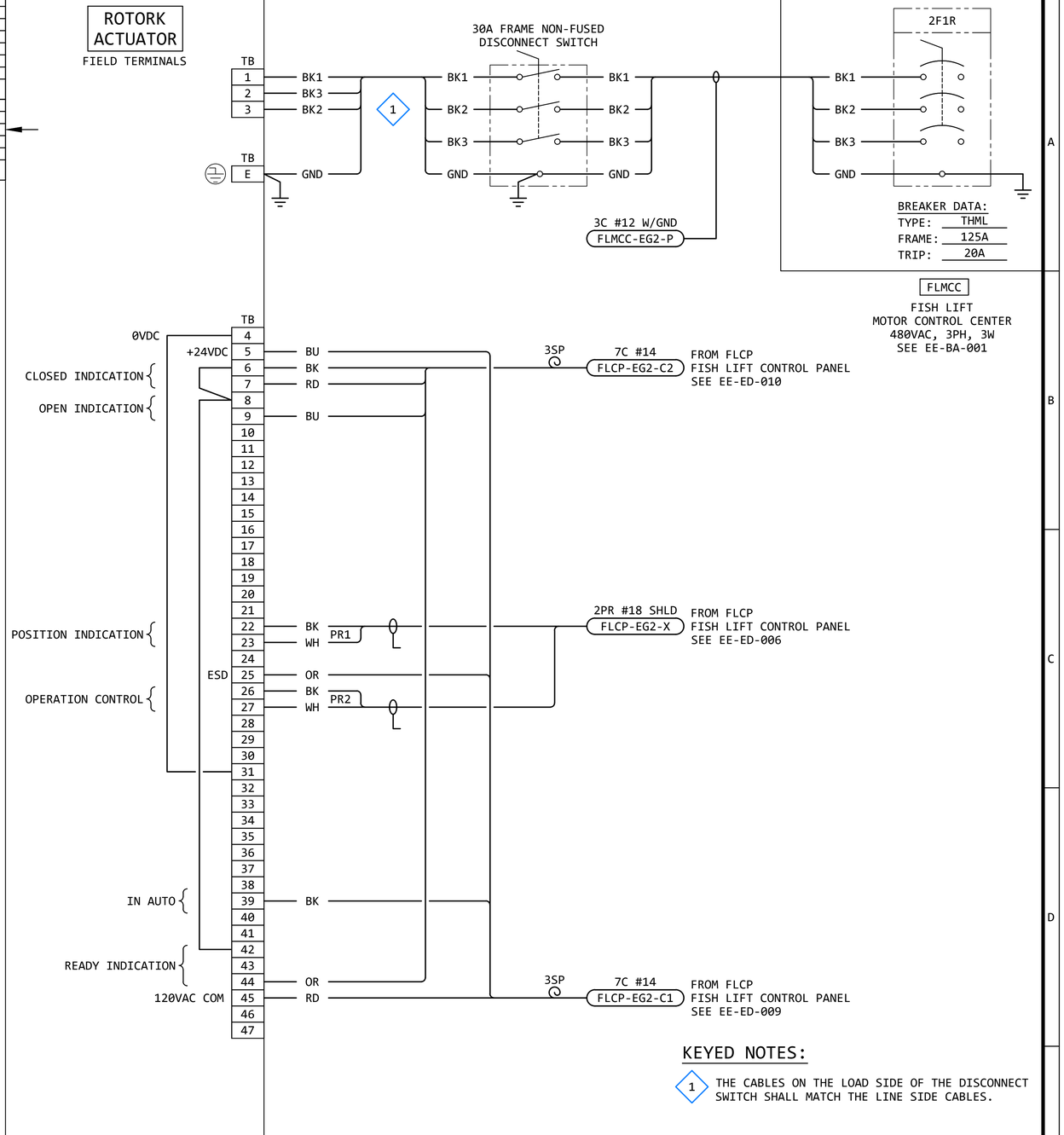
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

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2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-002 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

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MAY 2, 2025

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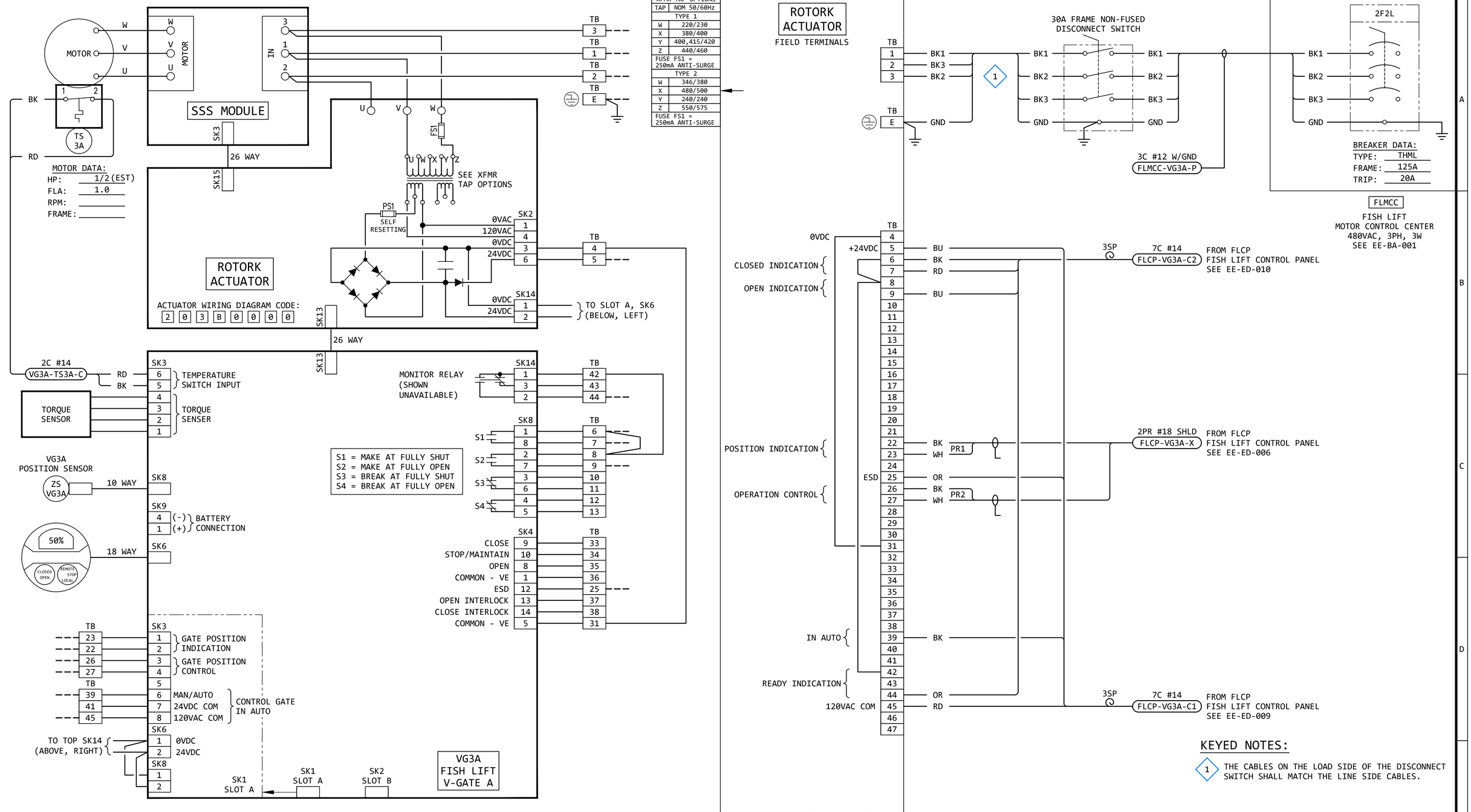
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	INTERCONNECTION DIAGRAM FISH LIFT ENTRANCE GATE (EG2)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-002 REV: 0



GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-003 SH1 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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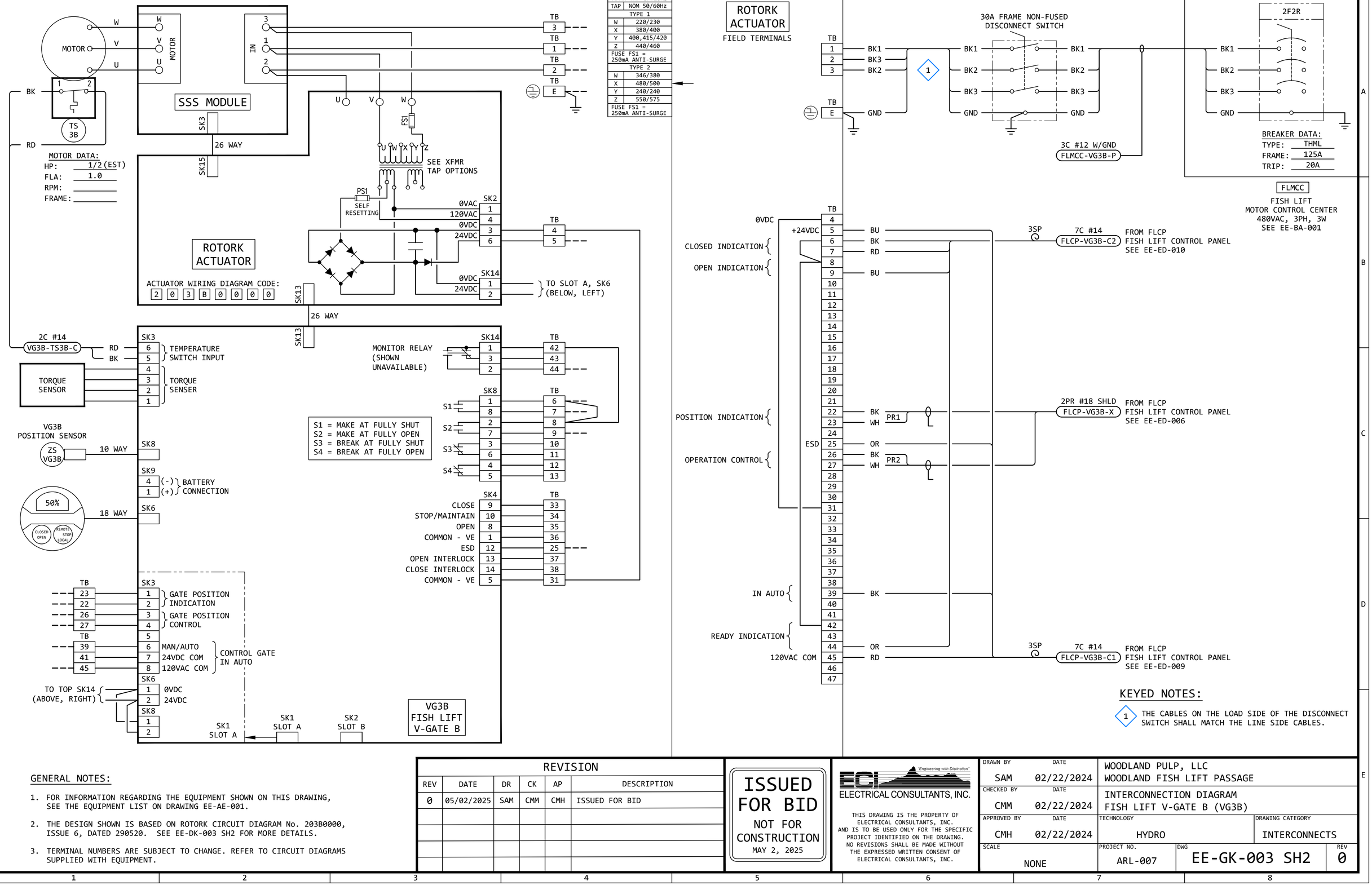
DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	INTERCONNECTION DIAGRAM FISH LIFT V-GATE A (VG3A)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-003 SH1; REV: 0



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-003 SH2 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY: SAM	DATE: 02/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 02/22/2024	INTERCONNECTION DIAGRAM FISH LIFT V-GATE B (VG3B)
APPROVED BY: CMH	DATE: 02/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-003 SH2 REV: 0

HH4
HOPPER HOIST

MOTOR
U
V
W
BK1
BK2
BK3
GND

MOTOR DATA:
HP: 60
FLA: 72
RPM:
FRAME:

ENC4
SOMATEX
HIGH SPEED
ENCODER

3C #2 W/GND W/SHLD
? VSC ? HH4CP-HH4-P
(VFD CABLE)

AUX
NC
NO
C
RD
BK

200A FRAME
NON-FUSED
DISCONNECT
SWITCH

FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-010
3C #14
FLCP-HH4DS-C
1SP

6C #20 SHLD
HH4CP-ENC4-X
? VSC ?
BU
GY
GN
YL
RD
BK

REA460-50
LOAD REACTOR
(IF REQUIRED)

HH4CP
FIELD TERMINALS

TB2
A+
A-
B+
B-
Z+
Z-
IP
IG
FE
a+
a-
b+
b-
z+
z-
PG-X3 OPTION CARD (VG+ ONLY)

FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-007
7C #14
FLCP-HH4CP-C3
RD
BU
BK
OR
YL
BN
R/B

TB
50 UGLS2
51 DGLS2
52
AA1
BB1
EXTERNAL UP
LIMIT SWITCH
AA2
BB2
EXTERNAL DOWN
LIMIT SWITCH
PLCC
PLCB BP
PLCL LLR

FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-007
1TR #18 SHLD
FLCP-HH4CP-X
BK
RD
WH
A
B
0V
TB2-A+
TB2-B+
TB-36

MAGNETEK IMPULSE SERIES 5
VARIABLE FREQUENCY/
VECTOR CRANE CONTROLS
4075-G+/VG+S5

U/T1
V/T2
W/T3
E
R/L1
S/L2
T/L3
E

+1
+2
DC LINK
CHOKE

DIGITAL INPUTS
S1 MFDI 1 (H01-01)
S2 MFDI 2 (H01-02)
S3 MFDI 3 (H01-03)
S4 MFDI 4 (H01-04)
S5 MFDI 5 (H01-05)
S6 MFDI 6 (H01-06)
S7 MFDI 7 (H01-07)
S8 MFDI 8 (H01-08)
SN SIGNAL NEUTRAL
SC SIGNAL COMMON
SP +24VDC, 150mA

E(G)

ANALOG INPUTS
+V +10.5VDC, 20mA
-V -10.5VDC, 20mA
A1 MFAI 1 (H03-02)
A2 MFAI 2 (H03-10)
A3 MFAI 3 (H03-06)
AC ANALOG COMMON

MODBUS RTU
RS-485
D+
D-
AC ANALOG COMMON
E(G)

EXTERNAL
POWER SUPPLY
PS +24VDC, 700mA
AC ANALOG COMMON

SAFE
DISABLE
H1 INPUT 1
H2 INPUT 2
HC COMMON

SI-EN3
ETHERNET/IP
OPTION CARD
NS PORT 6

BRAKING UNIT
+3
(-)
DB RESISTOR
B1
B2

TB2
A+ TB-A
A-
B+ TB-B
B-
Z+
Z-
IP
IG
FE
a+
a-
b+
b-
z+
z-
(FOR ENCODER)
PG-X3 OPTION CARD (VG+ ONLY)
PULSE MONITOR

FAULT RELAY
MA
MB
MC

MFDO 1 (H02-01)
MFDO 2 (H02-02)
MFDO 3 (H02-03)
M1
M2
M3
M4
M5
M6
DIGITAL OUTPUTS

E(G)

MFAO 1 (H04-01)
MFAO 2 (H04-04)
ANALOG COMMON
FM
AM
AC
ANALOG OUTPUTS

PULSE TRAIN
OUTPUT (H06-06)
INPUT (H06-01)
MP
RP
PULSE I/O SIGNAL

HOLD FOR
VENDOR INFORMATION
(VENDOR DRAWING AND/OR
INSTALLATION MANUAL)

HH4CP
HOPPER HOIST
CONTROL PANEL

200A FRAME FUSED
OR NON-FUSED
DISCONNECT SWITCH
(OR CIRCUIT BREAKER)

REA460-50
LINE REACTOR
(IF REQUIRED)

3C #2 W/GND
FLMCC-HH4CP-P

1F4

BREAKER DATA:
TYPE: TJML
FRAME: 250A
TRIP: 150A

FLMCC
FISH LIFT
MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001

HH4CP
FIELD TERMINALS

TB
E(G)
SN
HC BN
H1 R/B
H2
PS
AC
D+
D-

+V
AC
-V
A1
A2
A3
FM
AM
AC
MP
RP
AC

ON S1 RD
UP S2 BU
DOWN S3 OR
HI-SPEED S4 YL
S5
S6
S7
S8
SN
SC BK
+24VDC SP

MA
MB BK
FAULT MC RD
M1
TBD M2 BU
M3
TBD M4 OR
M5
TBD M6 YL

7C #14
FLCP-HH4CP-C1
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-009

2SP
7C #14
FLCP-HH4CP-C2
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-007

SI-EN3
ETHERNET/IP
OPTION CARD
CAT6
FLCP-HH4CP-Z
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-002

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.
2. USE TWISTED PAIR, SHIELDED CABLE 100 OHM IMPEDANCE, LESS THAN 300FT. (BELDEN 9730 OR MAGNETEK R-20/6, R-22/6, OR EQUIVALENT).

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON MAGNETEK IMPULSE G+/VG+ SERIES 5 TECHNICAL MANUAL, DATED AUGUST 2023. SEE EE-DK-004 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY SAM	DATE 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY CMM	DATE 08/22/2024	INTERCONNECTION DIAGRAM HOPPER HOIST (HH4)
APPROVED BY CMH	DATE 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-004 REV: 0

MOTOR
W
V
U
BK
RD
1
2
TS
6
MOTOR DATA:
HP: 5 (EST)
FLA: 6.5
RPM:
FRAME:
C1
C2
2
1
4
3
6
5
TB
2
TB
3
TB
1
TB
E
U
V
W
FS1
U W X Y Z
SEE XFMR
TAP OPTIONS
TRANSISTOR SWITCHING FOR
24VDC CONTACTORS (IQ10-35)
RELAYS ONLY FITTED WHEN
120VAC CONTACTOR IS FITTED
FOR IQ40, 70, 90, 91 & 95
ROTORK
ACTUATOR
ACTUATOR WIRING DIAGRAM CODE:
1 0 1 B 0 0 0 0
PS1
SELF
RESETTING
SK2
0VAC 1
120VAC 4
0VDC 3
24VDC 6
TB
4
5
SK14
0VDC 1
24VDC 2
TO SLOT A, SK6
(BELOW, LEFT)
SK13
26 WAY
SK13
2C #14
IG6-TS6-C
RD
BK
SK3
6 TEMPERATURE
5 SWITCH INPUT
4
3 TORQUE
2 SENSER
1
TORQUE
SENSOR
IG6
POSITION SENSOR
ZS
IG6
10 WAY
SK8
SK9
4 (-) BATTERY
1 (+) CONNECTION
50%
18 WAY
SK6
CLOSED
OPEN
REMOTE
STOP
LOCAL
TB
23
22
SK3
1 GATE POSITION
2 INDICATION
3
4
5
6
7
8 NOT USED
SK6
TO TOP SK14
(ABOVE, RIGHT)
1 0VDC
2 24VDC
SK8
1
2
SK1
SLOT A
SK1
SLOT A
SK2
SLOT B
IG6
EXIT FLUME
ISOLATION GATE
MONITOR RELAY
(SHOWN
UNAVAILABLE)
SK14
1
3
2
TB
42
43
44
SK7
S1 1 6
8 7
S2 2 8
7 9
S3 3 10
6 11
S4 4 12
5 13
TB
SK4
CLOSE 9 33
STOP/MAINTAIN 10 34
OPEN 8 35
COMMON - VE 1 36
ESD 12 25
OPEN INTERLOCK 13 37
CLOSE INTERLOCK 14 38
COMMON - VE 5 31
S1 = MAKE AT FULLY SHUT
S2 = MAKE AT FULLY OPEN
S3 = BREAK AT FULLY SHUT
S4 = BREAK AT FULLY OPEN

XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	

ROTORK
ACTUATOR
FIELD TERMINALS
TB
1 BK1
2 BK2
3 BK3
E GND
30A FRAME NON-FUSED
DISCONNECT SWITCH
1
BK1 BK1 BK1
BK2 BK2 BK2
BK3 BK3 BK3
GND GND GND
3C #12 W/GND
FLMCC-IG6-P
2F3L
BK1 BK1
BK2 BK2
BK3 BK3
GND GND
BREAKER DATA:
TYPE: THML
FRAME: 125A
TRIP: 20A
FLMCC
FISH LIFT
MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001
TB
0VDC 4
24VDC 5
CLOSED INDICATION 6 BK
7 BK
RD
OPEN INDICATION 8
9 BU
CLOSE COMMAND 10 RD
11
STOP COMMAND 12 BU
13
14
15
16
17
18
19
20
21
POSITION INDICATION 22 BK PR1
23 WH
ESD 25 YL
26
27
28
29
30
31
32
CLOSE COMMAND 33
STOP COMMAND 34
OPEN COMMAND 35 OR
0VDC 36
37
38
39
40
41
READY 42
43
44 OR
45
46
47
2SP
7C #14
FLCP-IG6-C1
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-009
3SP
7C #14
FLCP-IG6-C2
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-010
1PR SP
2PR #18 SHLD
FLCP-IG6-X
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-006

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-006 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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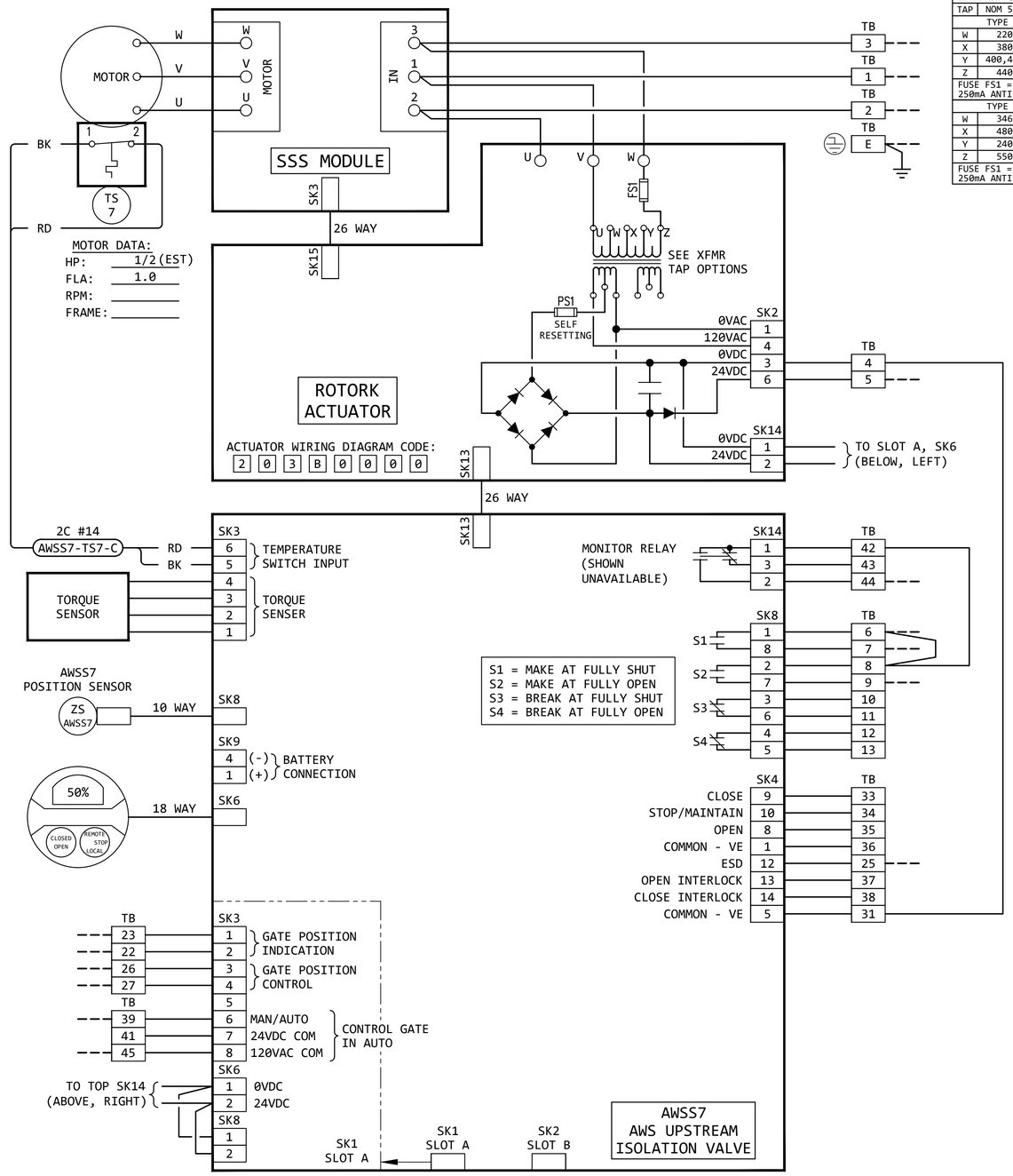
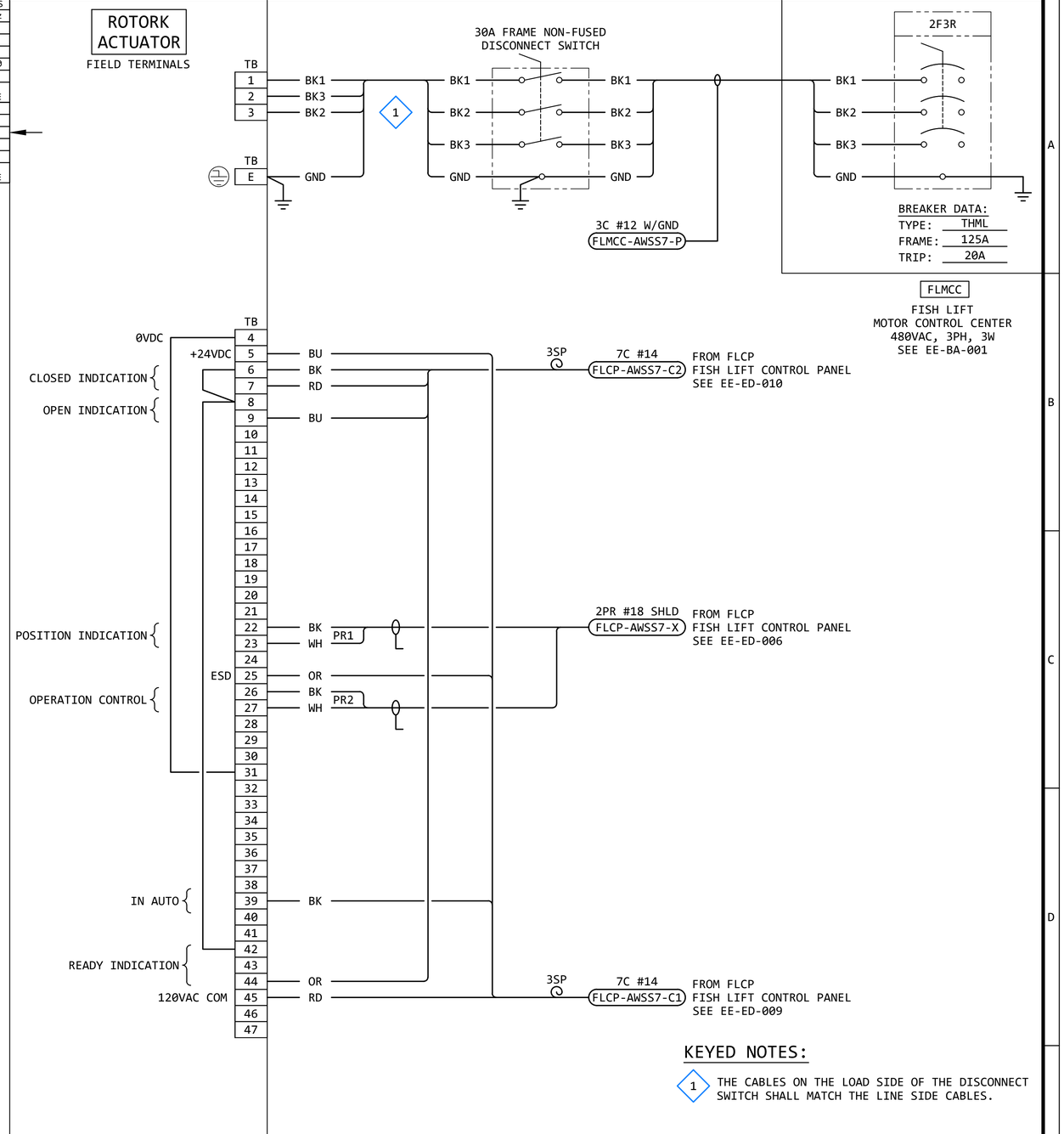
DRAWN BY SAM	DATE 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY CMM	DATE 08/22/2024	INTERCONNECTION DIAGRAM EXIT FLUME ISOLATION GATE (IG6)
APPROVED BY CMH	DATE 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-006; REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-007 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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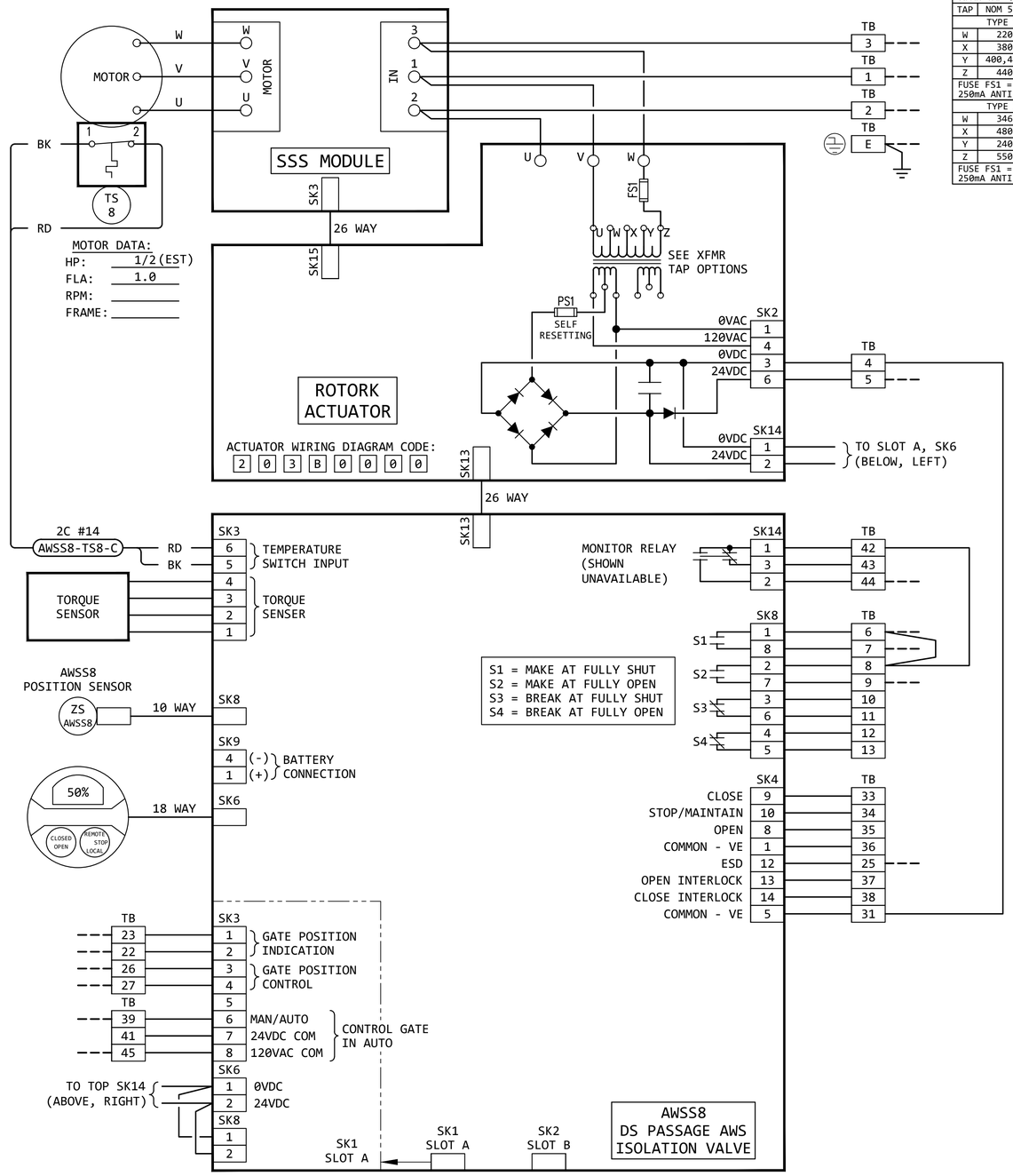
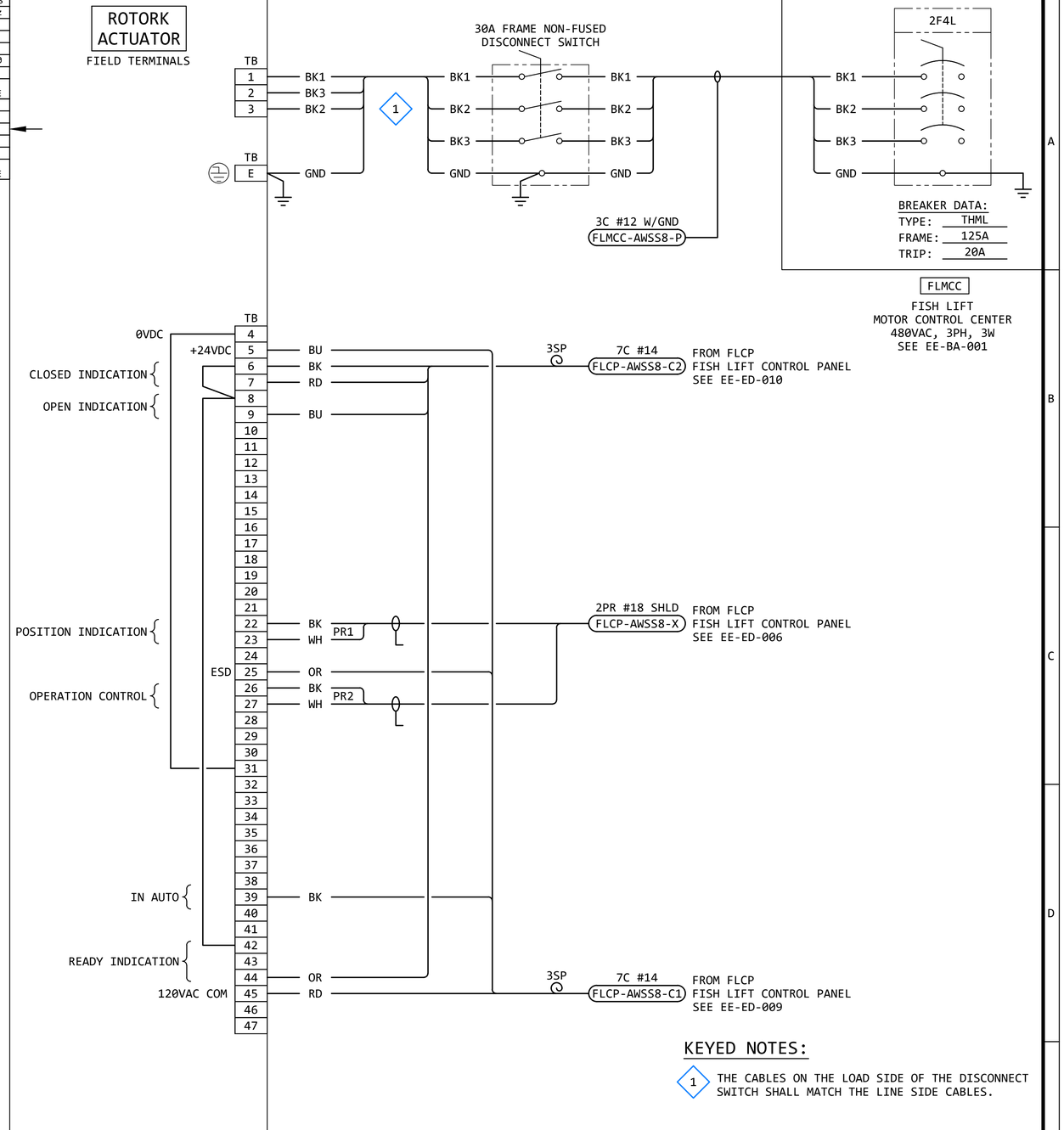
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM AWS UPSTREAM ISOLATION VALVE (AWSS7)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-007 REV: 0





KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-008 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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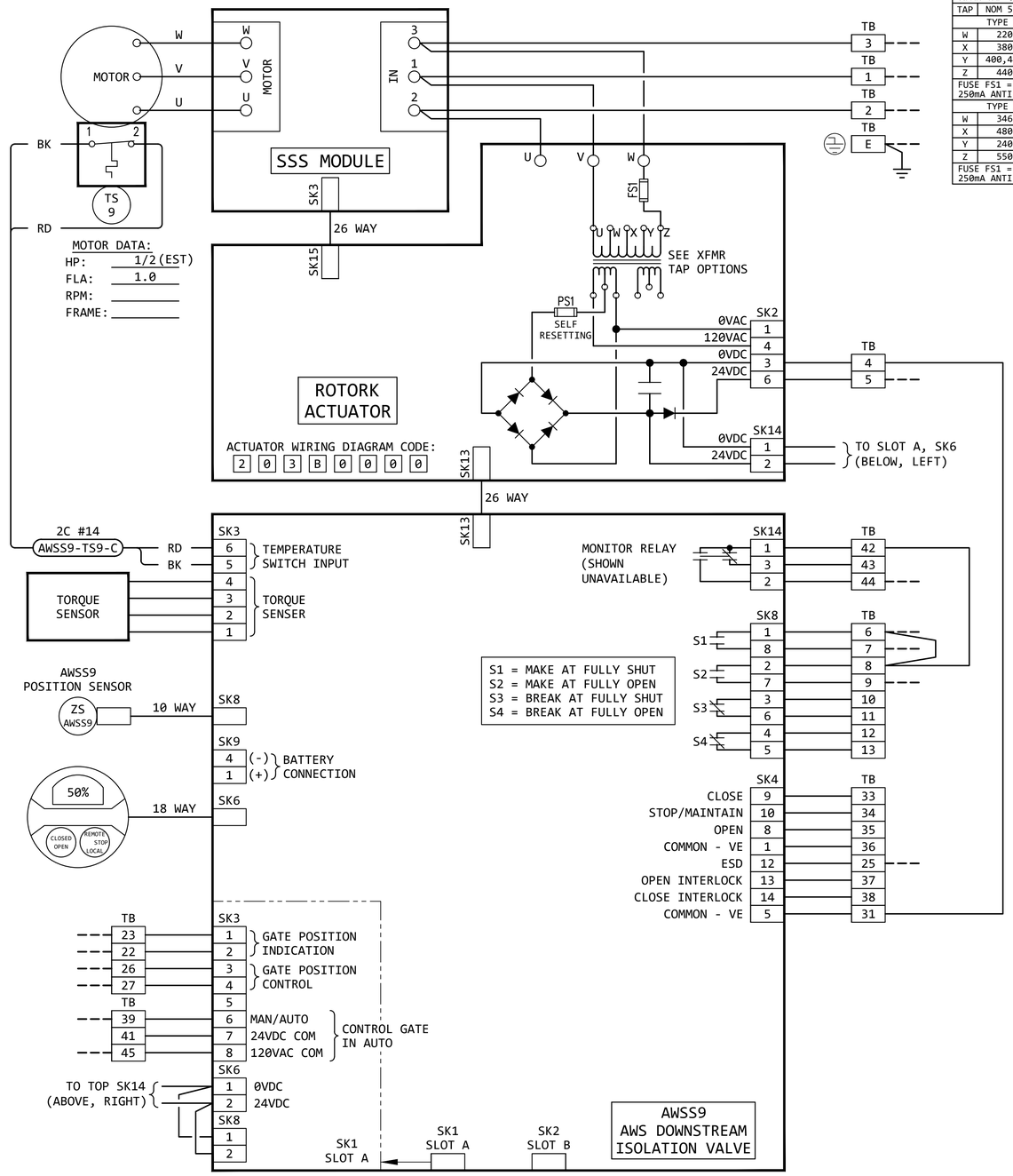
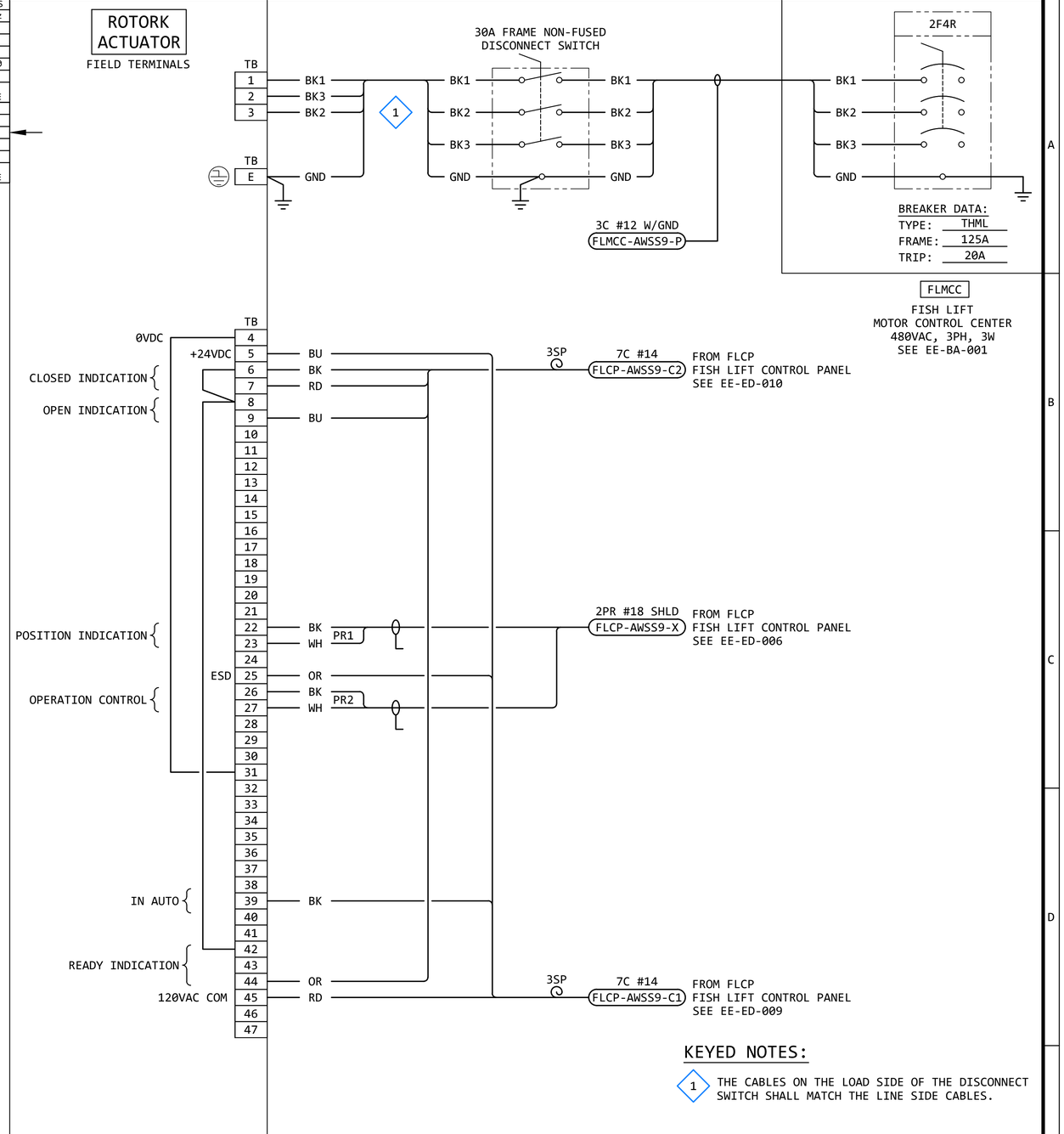
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM DS PASSAGE AWS ISOLATION VALVE (AWSS8)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-008 REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-009 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

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REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

ELECTRICAL CONSULTANTS, INC.
"Engineering with Distinction"

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM AWS DOWNSTREAM ISOLATION VALVE (AWSS9)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-009 REV: 0

XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	

MOTOR DATA:
HP: 1.5 (EST)
FLA: 2.8
RPM:
FRAME:

TRANSISTOR SWITCHING FOR 24VDC CONTACTORS (IQ10-35) RELAYS ONLY FITTED WHEN 120VAC CONTACTOR IS FITTED FOR IQ40, 70, 90, 91 & 95

ROTORK ACTUATOR

ACTUATOR WIRING DIAGRAM CODE: 1 0 1 B 0 0 0 0

SEE XFMR TAP OPTIONS

SELF RESETTING

TO SLOT A, SK6 (BELOW, LEFT)

26 WAY

TEMPERATURE SWITCH INPUT

TORQUE SENSER

IG10 POSITION SENSOR

10 WAY

BATTERY CONNECTION

18 WAY

GATE POSITION INDICATION

NOT USED

TO TOP SK14 (ABOVE, RIGHT)

MONITOR RELAY (SHOWN UNAVAILABLE)

S1 = MAKE AT FULLY SHUT
S2 = MAKE AT FULLY OPEN
S3 = BREAK AT FULLY SHUT
S4 = BREAK AT FULLY OPEN

IG10 EXIT FLUME DS BYPASS ISOLATION GATE

ROTORK ACTUATOR
FIELD TERMINALS

30A FRAME NON-FUSED DISCONNECT SWITCH

3C #12 W/GND FLMCC-IG10-P

BREAKER DATA:
TYPE: THML
FRAME: 125A
TRIP: 20A

FLMCC
FISH LIFT MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001

FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-009

FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-010

FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-006

CLOSED INDICATION
OPEN INDICATION
CLOSE COMMAND
STOP COMMAND
POSITION INDICATION
ESD
CLOSE COMMAND
STOP COMMAND
OPEN COMMAND
0VDC
READY

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-010 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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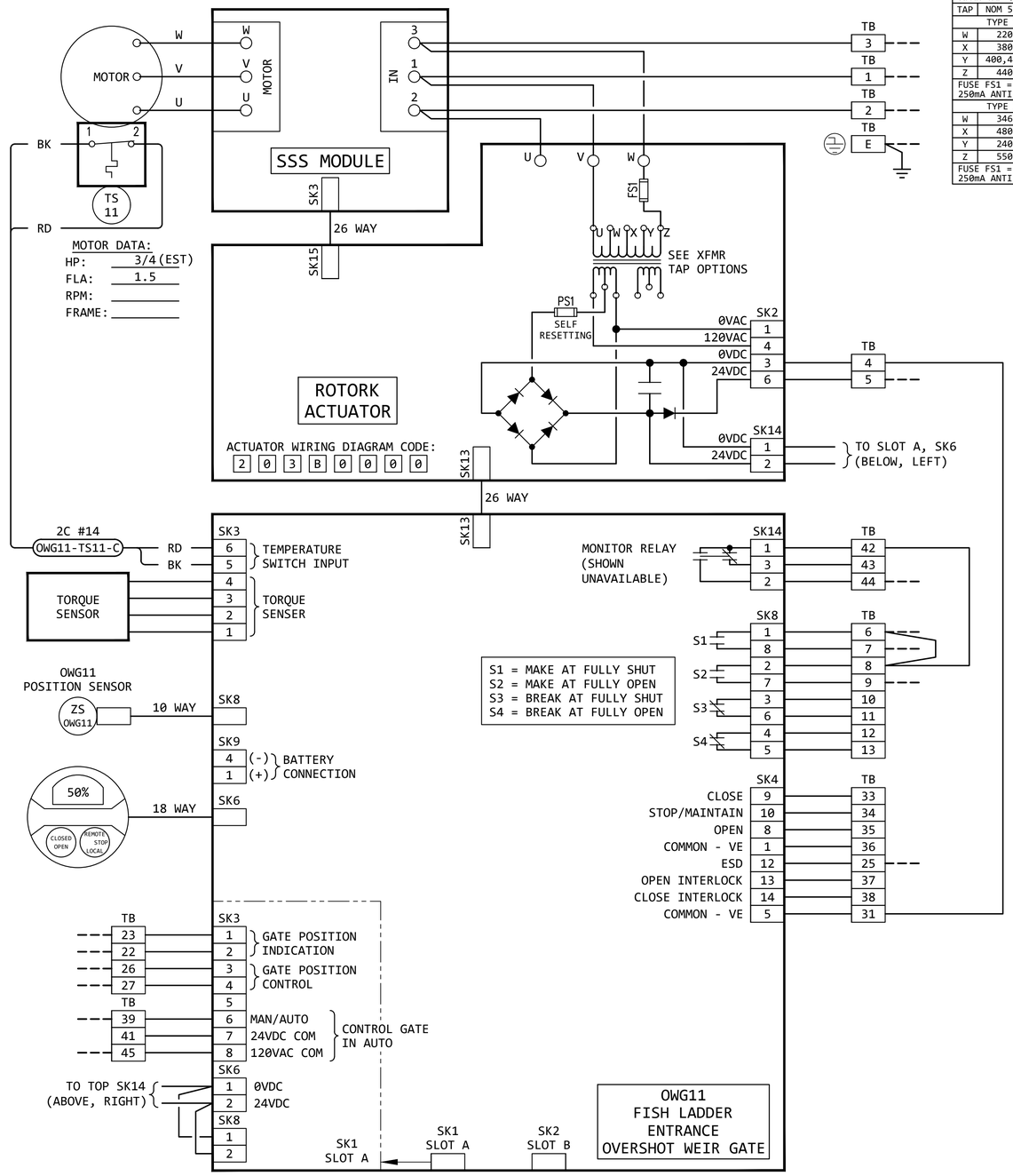
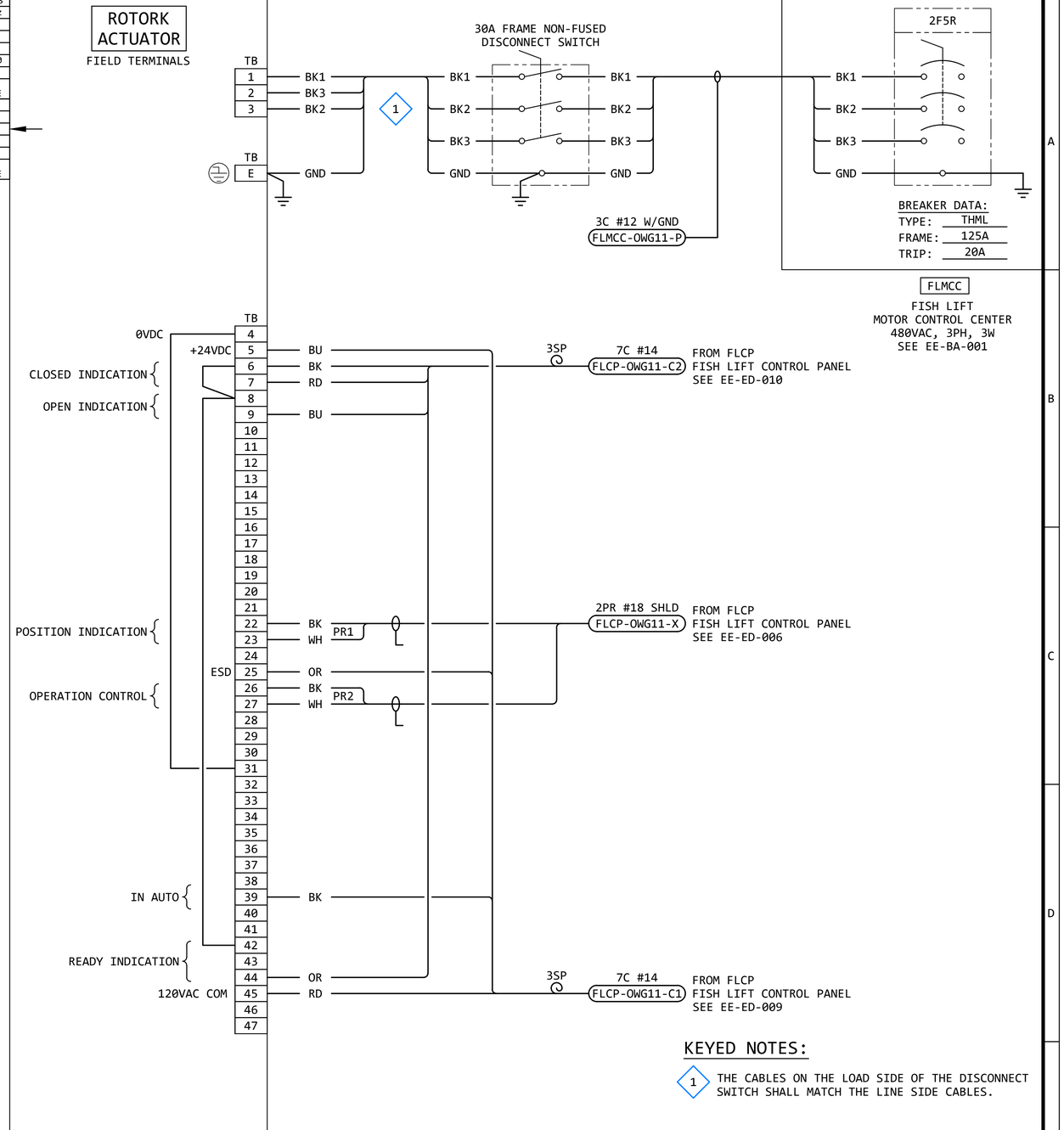
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM EXIT FLUME DS BYPASS ISOLATION GATE (IG10)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-010; REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-011 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM FISH LADDER ENTR. OVERSHOT WEIR GATE (OWG11)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-011 REV: 0

MOTOR
W
V
U
BK
RD
1
2
TS
12
MOTOR DATA:
HP: 3 (EST)
FLA: 4.7
RPM:
FRAME:
C1
C2
2
1
4
3
6
5
TB
2
TB
3
TB
1
TB
E
U
V
W
FS1
U W X Y Z
SEE XFMR
TAP OPTIONS
TRANSISTOR SWITCHING FOR
24VDC CONTACTORS (IQ10-35)
RELAYS ONLY FITTED WHEN
120VAC CONTACTOR IS FITTED
FOR IQ40, 70, 90, 91 & 95
ROTORK
ACTUATOR
PS1
SELF
RESETTING
SK2
0VAC 1
120VAC 4
0VDC 3
24VDC 6
TB
4
5
SK14
0VDC 1
24VDC 2
TO SLOT A, SK6
(BELOW, LEFT)
ACTUATOR WIRING DIAGRAM CODE:
1 0 1 B 0 0 0 0
SK13
26 WAY
2C #14
IG12-TS12-C
RD
BK
SK3
6 TEMPERATURE
5 SWITCH INPUT
TORQUE
SENSOR
4
3
2
1
TORQUE
SENSER
IG12
POSITION SENSOR
ZS
IG12
10 WAY
SK8
SK9
4 (-) BATTERY
1 (+) CONNECTION
50%
18 WAY
SK6
CLOSED
OPEN
REMOTE
STOP
LOCAL
TB
23
22
SK3
1 GATE POSITION
2 INDICATION
3
4
5
6
7
8
NOT USED
SK6
TO TOP SK14
(ABOVE, RIGHT)
1 0VDC
2 24VDC
SK8
1
2
SK1
SLOT A
SK1
SLOT A
SK2
SLOT B
IG12
FISH LADDER
ENTRANCE
ISOLATION GATE
MONITOR RELAY
(SHOWN
UNAVAILABLE)
SK14
1
3
2
TB
42
43
44
SK7
S1 1 8
S2 2 7
S3 3 6
S4 4 5
TB
6
7
8
9
10
11
12
13
SK4
CLOSE 9
STOP/MAINTAIN 10
OPEN 8
COMMON - VE 1
ESD 12
OPEN INTERLOCK 13
CLOSE INTERLOCK 14
COMMON - VE 5
TB
33
34
35
36
25
37
38
31
S1 = MAKE AT FULLY SHUT
S2 = MAKE AT FULLY OPEN
S3 = BREAK AT FULLY SHUT
S4 = BREAK AT FULLY OPEN

XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	

ROTORK
ACTUATOR
FIELD TERMINALS
TB
1 BK1
2 BK2
3 BK3
TB
E GND
30A FRAME NON-FUSED
DISCONNECT SWITCH
1
BK1 BK1 BK1
BK2 BK2 BK2
BK3 BK3 BK3
GND GND GND
3C #12 W/GND
FLMCC-IG12-P
2F6L
BK1
BK2
BK3
GND
BREAKER DATA:
TYPE: THML
FRAME: 125A
TRIP: 20A
FLMCC
FISH LIFT
MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001
TB
0VDC 4
24VDC 5
CLOSED INDICATION 6 BK
7 BK
RD
OPEN INDICATION 8
9 BU
CLOSE COMMAND 10 RD
11
STOP COMMAND 12 BU
13
14
15
16
17
18
19
20
POSITION INDICATION 21
22 BK PR1
23 WH
ESD 24
25 YL
26
27
28
29
30
31
32
CLOSE COMMAND 33
STOP COMMAND 34
OPEN COMMAND 35 OR
0VDC 36
37
38
39
40
41
READY 42
43
44 OR
45
46
47
2SP
7C #14
FLCP-IG12-C1
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-009
3SP
7C #14
FLCP-IG12-C2
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-010
1PR SP
2PR #18 SHLD
FLCP-IG12-X
FROM FLCP
FISH LIFT CONTROL PANEL
SEE EE-ED-006

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-012 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED
FOR BID
NOT FOR
CONSTRUCTION
MAY 2, 2025

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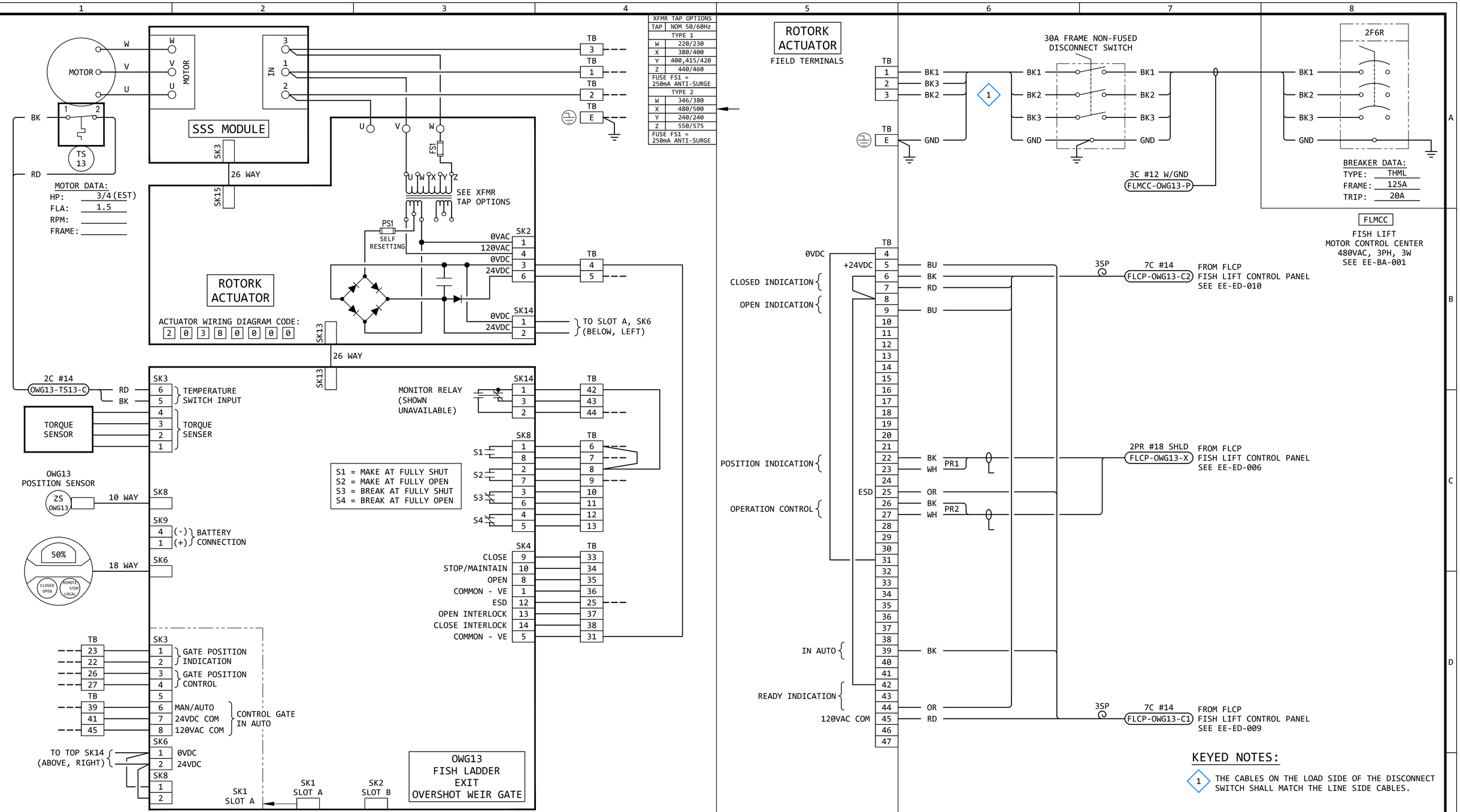
DRAWN BY SAM	DATE 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY CMM	DATE 08/22/2024	INTERCONNECTION DIAGRAM FISH LADDER ENTRANCE ISOLATION GATE (IG12)
APPROVED BY CMH	DATE 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-012; REV: 0



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-013 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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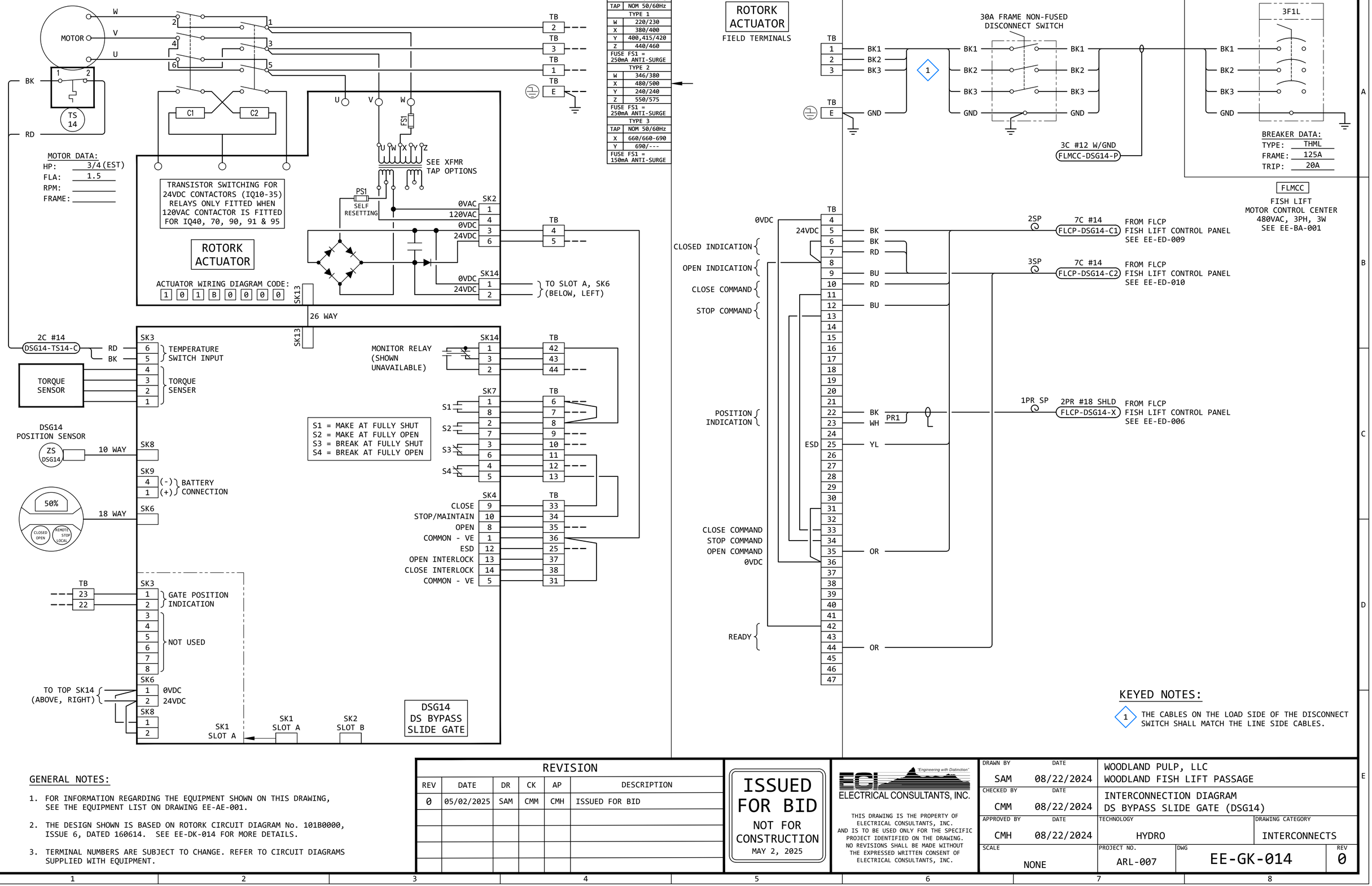
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM FISH LADDER EXIT OVERSHOT WEIR GATE (OWG13)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-013 REV: 0



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-014 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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NOT FOR CONSTRUCTION
MAY 2, 2025

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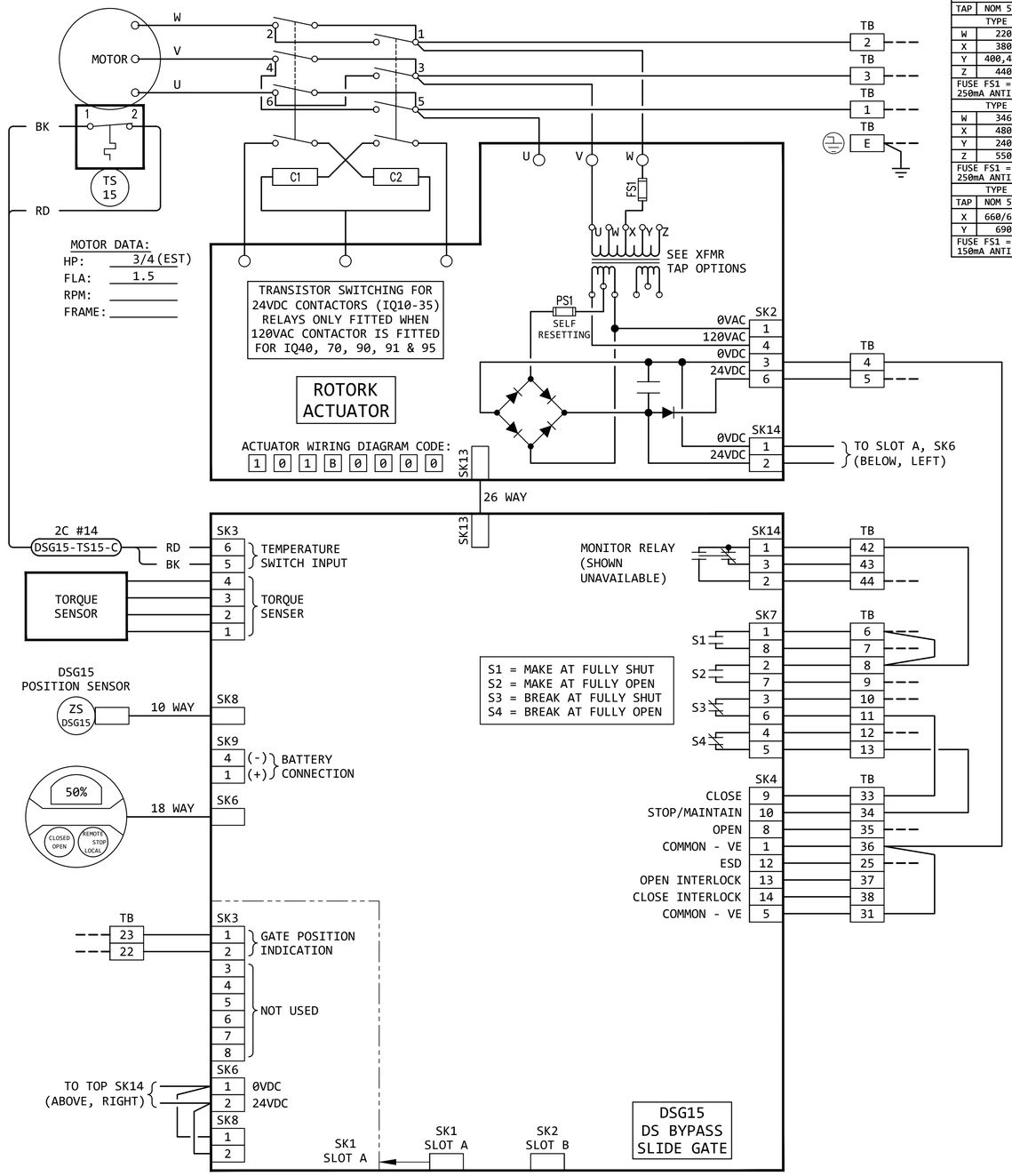
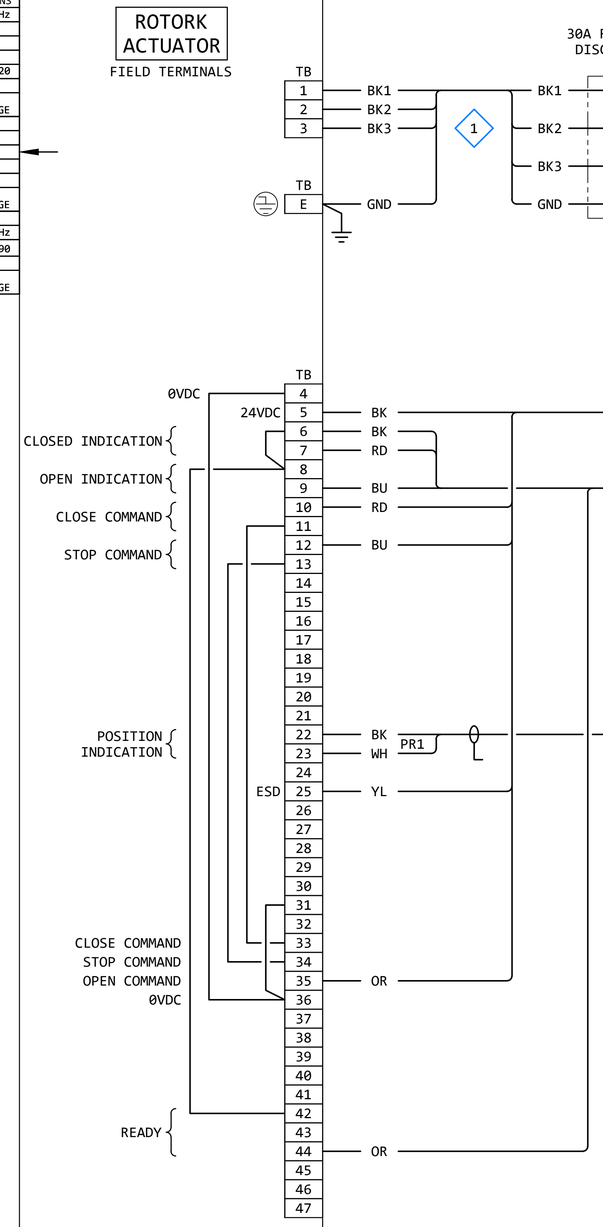
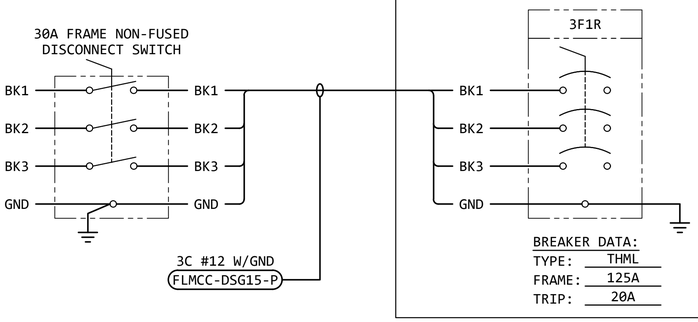
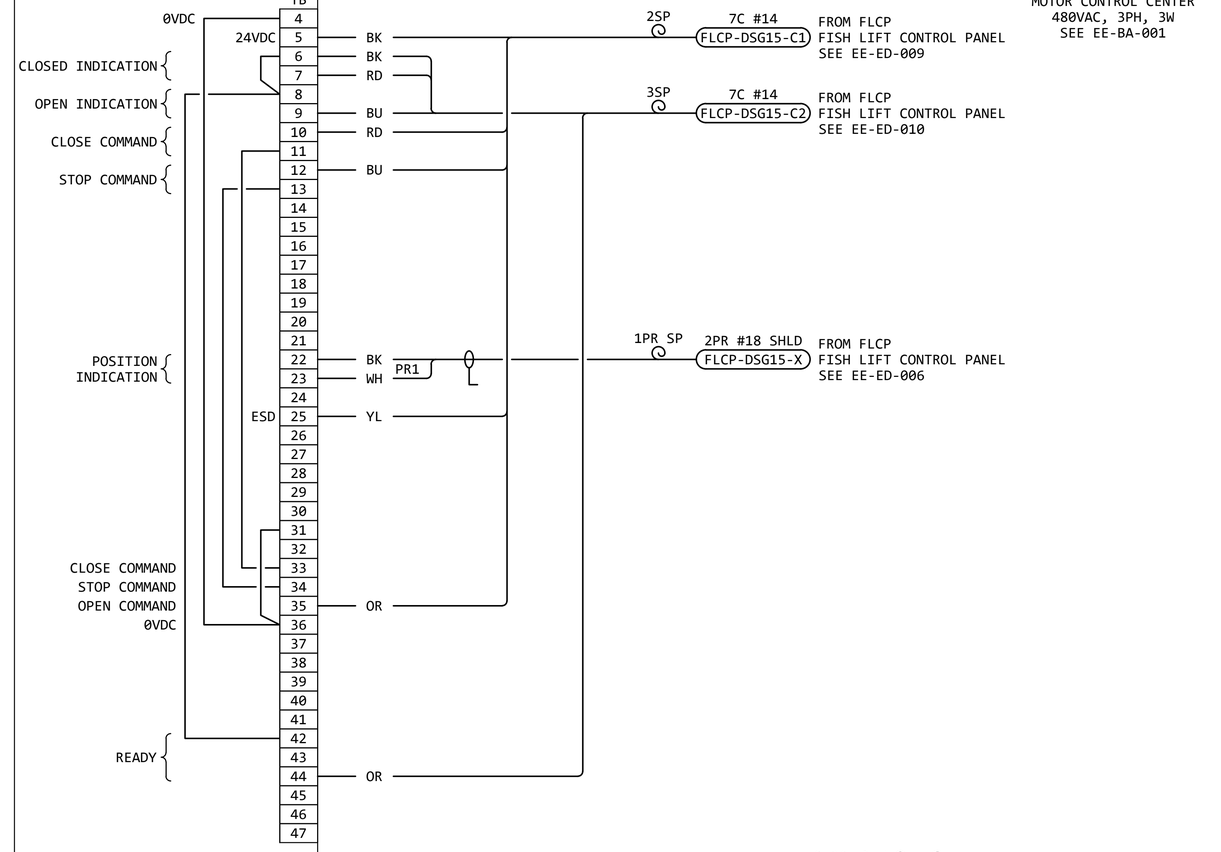
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM DS BYPASS SLIDE GATE (DSG14)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-014; REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	







KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-015 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM DS BYPASS SLIDE GATE (DSG15)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-015	REV: 0

XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	

MOTOR DATA:
HP: 5 (EST)
FLA: 6.9
RPM:
FRAME:

TRANSISTOR SWITCHING FOR 24VDC CONTACTORS (IQ10-35) RELAYS ONLY FITTED WHEN 120VAC CONTACTOR IS FITTED FOR IQ40, 70, 90, 91 & 95

ROTORK ACTUATOR

ACTUATOR WIRING DIAGRAM CODE: 1 0 1 B 0 0 0 0

SEE XFMR TAP OPTIONS

SK13 26 WAY

2C #14 IG16-TS16-C: RD, BK
SK3: 6,5 TEMPERATURE SWITCH INPUT
TORQUE SENSOR: SK3 4,3,2,1 TORQUE SENSER

IG16 POSITION SENSOR
ZS IG16 — 10 WAY — SK8
SK9: 4 (-) BATTERY, 1 (+) CONNECTION
50% — 18 WAY — SK6
CLOSED/OPEN, REMOTE/STOP/LOCAL

TB 23,22 — SK3 1,2 GATE POSITION INDICATION
SK3 3,4,5,6,7,8 NOT USED
TO TOP SK14 (ABOVE, RIGHT) — SK6 1 0VDC, 2 24VDC
SK8 1,2
SK1 SLOT A | SK1 SLOT A | SK2 SLOT B

IG16 DS BYPASS ISOLATION GATE

MONITOR RELAY (SHOWN UNAVAILABLE)

	SK14	TB
	1	42
	3	43
	2	44

	SK7	TB
S1	1	6
	8	7
S2	2	8
	7	9
S3	3	10
	6	11
S4	4	12
	5	13

	SK4	TB
CLOSE	9	33
STOP/MAINTAIN	10	34
OPEN	8	35
COMMON - VE	1	36
ESD	12	25
OPEN INTERLOCK	13	37
CLOSE INTERLOCK	14	38
COMMON - VE	5	31

S1 = MAKE AT FULLY SHUT
S2 = MAKE AT FULLY OPEN
S3 = BREAK AT FULLY SHUT
S4 = BREAK AT FULLY OPEN

	SK2	TB
0VAC	1	
120VAC	4	
0VDC	3	4
24VDC	6	5

	SK14	
0VDC	1	TO SLOT A, SK6 (BELOW, LEFT)
24VDC	2	

ROTORK ACTUATOR
FIELD TERMINALS

TB 1 BK1, 2 BK2, 3 BK3, E GND

30A FRAME NON-FUSED DISCONNECT SWITCH
1 — BK1/BK2/BK3/GND
3C #12 W/GND — FLMCC-IG16-P

3F2L
BREAKER DATA:
TYPE: THML
FRAME: 125A
TRIP: 20A

FLMCC
FISH LIFT MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001

	TB		
0VDC	4		
24VDC	5	BK	2SP — 7C #14 — FLCP-IG16-C1: FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-009
CLOSED INDICATION	6	BK	
	7	RD	
OPEN INDICATION	8		
	9	BU	3SP — 7C #14 — FLCP-IG16-C2: FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-010
CLOSE COMMAND	10	RD	
	11		
STOP COMMAND	12	BU	
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
POSITION INDICATION	22	BK	PR1 — 1PR SP — 2PR #18 SHLD — FLCP-IG16-X: FROM FLCP FISH LIFT CONTROL PANEL SEE EE-ED-006
	23	WH	
ESD	25	YL	
	24, 26–30		
CLOSE COMMAND	31		
STOP COMMAND	32		
OPEN COMMAND	33, 34		
0VDC	35	OR	
	36–41		
READY	42		
	43		
	44	OR	
	45–47		

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-016 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

ISSUED FOR BID
NOT FOR CONSTRUCTION
MAY 2, 2025

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM DS BYPASS ISOLATION GATE (IG16)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-GK-016 REV: 0

XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
Z	440/460
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 3	
TAP	NOM 50/60Hz
X	660/660-690
Y	690/---
FUSE FS1 = 150mA ANTI-SURGE	

MOTOR DATA:
HP: 3 (EST)
FLA: 4.7
RPM:
FRAME:

TRANSISTOR SWITCHING FOR 24VDC CONTACTORS (IQ10-35) RELAYS ONLY FITTED WHEN 120VAC CONTACTOR IS FITTED FOR IQ40, 70, 90, 91 & 95

ROTORK ACTUATOR

ACTUATOR WIRING DIAGRAM CODE: 1 0 1 B 0 0 0 0

SEE XFMR TAP OPTIONS

26 WAY

S1 = MAKE AT FULLY SHUT
S2 = MAKE AT FULLY OPEN
S3 = BREAK AT FULLY SHUT
S4 = BREAK AT FULLY OPEN

IG17 POSITION SENSOR

IG17 FISH LADDER EXIT ISOLATION GATE

ROTORK ACTUATOR
FIELD TERMINALS

30A FRAME NON-FUSED DISCONNECT SWITCH

3C #12 W/GND FLMCC-IG17-P

BREAKER DATA:
TYPE: THML
FRAME: 125A
TRIP: 20A

FLMCC
FISH LIFT MOTOR CONTROL CENTER
480VAC, 3PH, 3W
SEE EE-BA-001

KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 101B0000, ISSUE 6, DATED 160614. SEE EE-DK-017 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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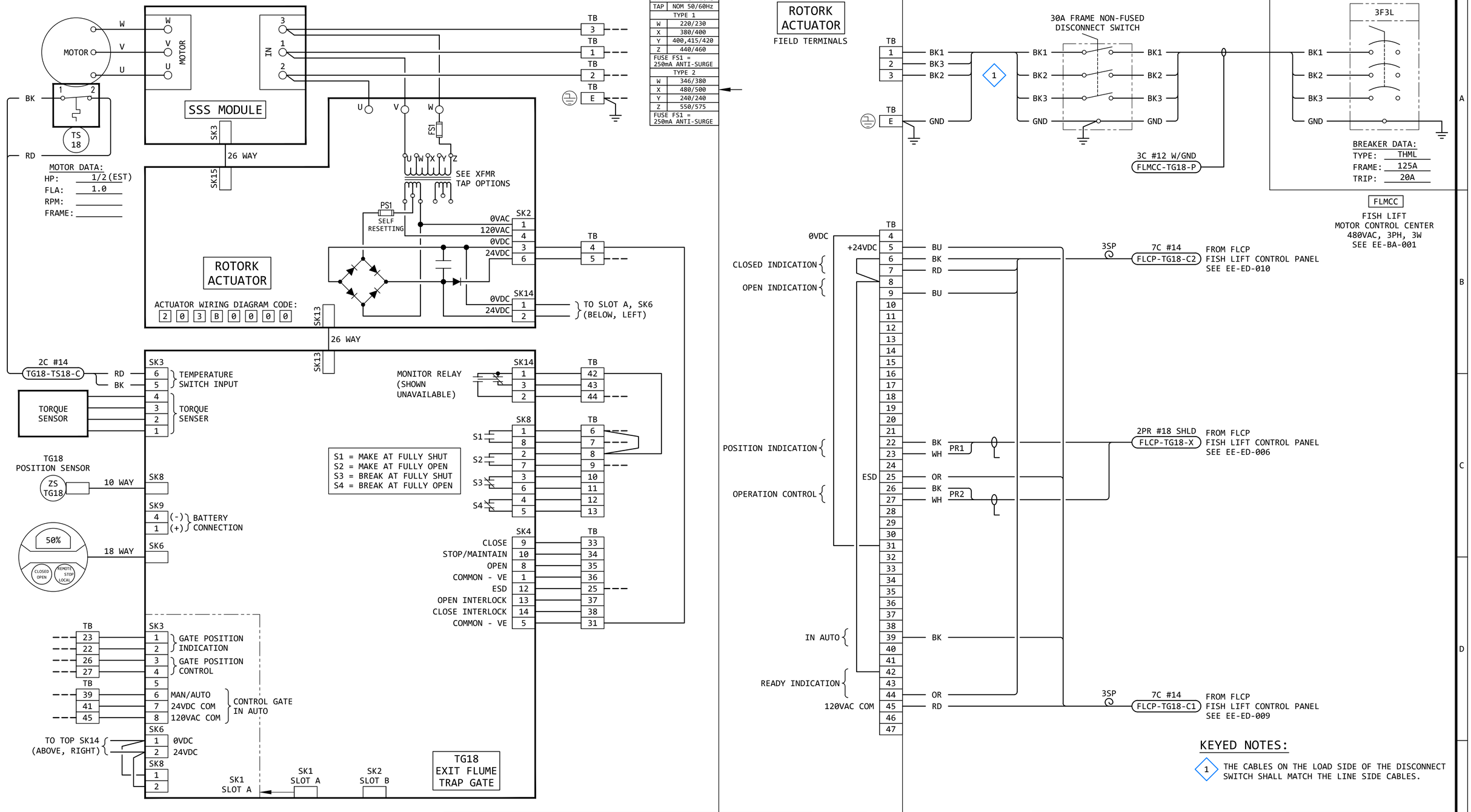
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE	
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM FISH LADDER EXIT ISOLATION GATE (IG17)	
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO	DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE		PROJECT NO.: ARL-007	DWG: EE-GK-017 REV: 0



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-018 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

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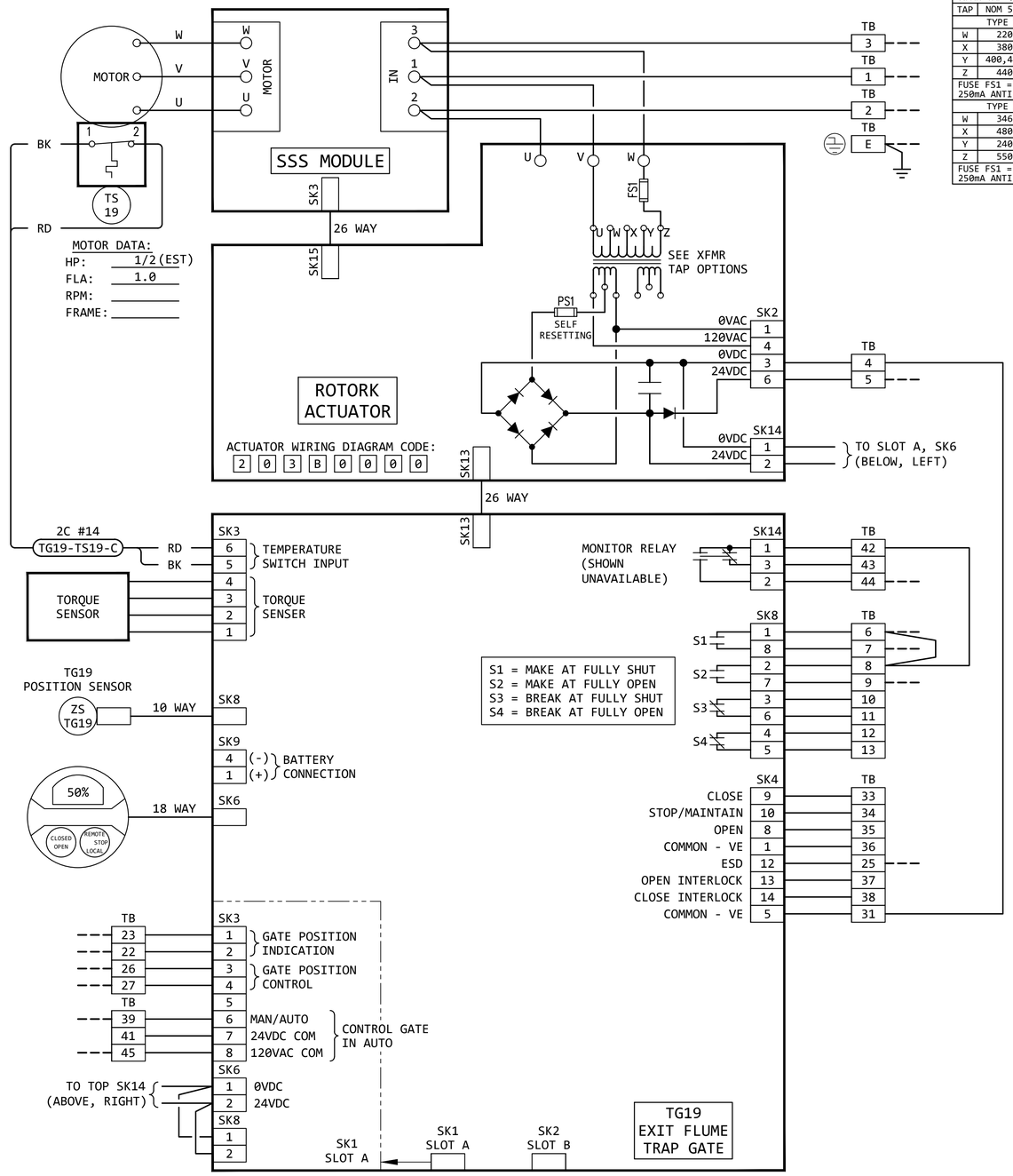
DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM EXIT FLUME TRAP GATE (TG18)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-018 REV: 0



XFMR TAP OPTIONS	
TAP	NOM 50/60Hz
TYPE 1	
W	220/230
X	380/400
Y	400,415/420
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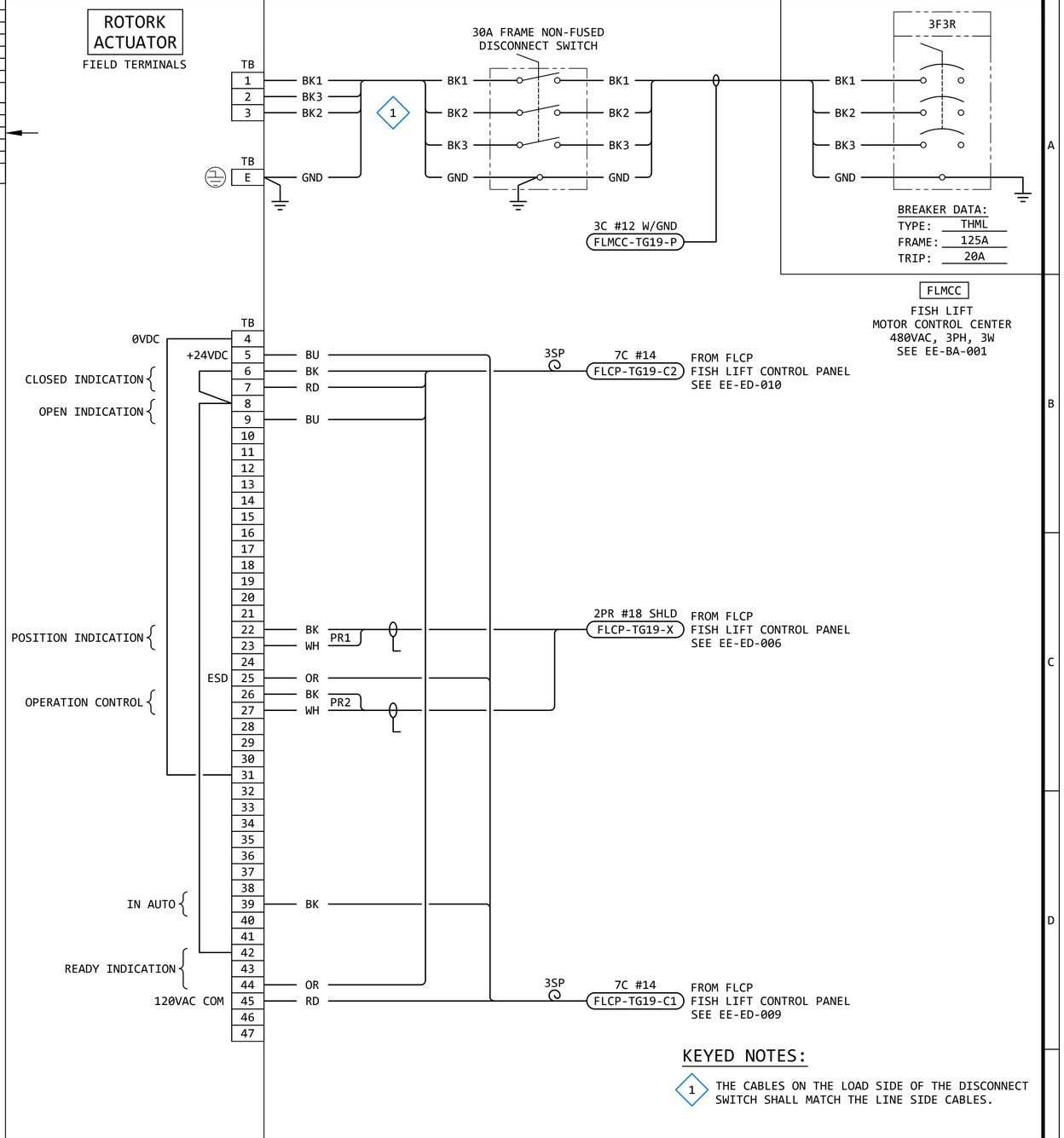
FUSE FS1 = 250mA ANTI-SURGE	
TYPE 2	
W	346/380
X	480/500
Y	240/240
Z	550/575
FUSE FS1 = 250mA ANTI-SURGE	



KEYED NOTES:

1. THE CABLES ON THE LOAD SIDE OF THE DISCONNECT SWITCH SHALL MATCH THE LINE SIDE CABLES.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE EQUIPMENT SHOWN ON THIS DRAWING, SEE THE EQUIPMENT LIST ON DRAWING EE-AE-001.
2. THE DESIGN SHOWN IS BASED ON ROTORK CIRCUIT DIAGRAM No. 203B0000, ISSUE 6, DATED 290520. SEE EE-DK-019 FOR MORE DETAILS.
3. TERMINAL NUMBERS ARE SUBJECT TO CHANGE. REFER TO CIRCUIT DIAGRAMS SUPPLIED WITH EQUIPMENT.

REVISION

REV	DATE	DR	CK	AP	DESCRIPTION
0	05/02/2025	SAM	CMM	CMH	ISSUED FOR BID

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DRAWN BY: SAM	DATE: 08/22/2024	WOODLAND PULP, LLC WOODLAND FISH LIFT PASSAGE
CHECKED BY: CMM	DATE: 08/22/2024	INTERCONNECTION DIAGRAM TRAP GATE (TG19)
APPROVED BY: CMH	DATE: 08/22/2024	TECHNOLOGY: HYDRO; DRAWING CATEGORY: INTERCONNECTS
SCALE: NONE	PROJECT NO.: ARL-007	DWG: EE-GK-019; REV: 0

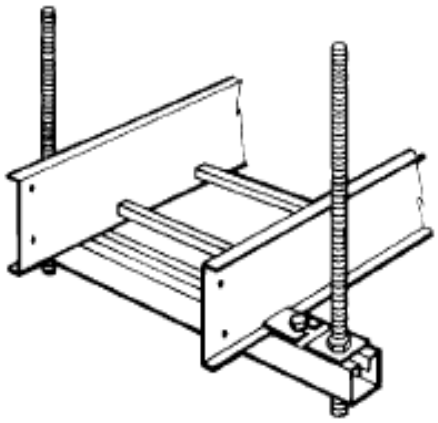
WOODLAND PULP LLC

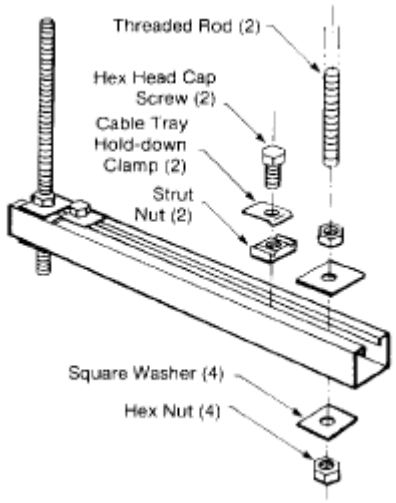
TRAY ISTALLATION

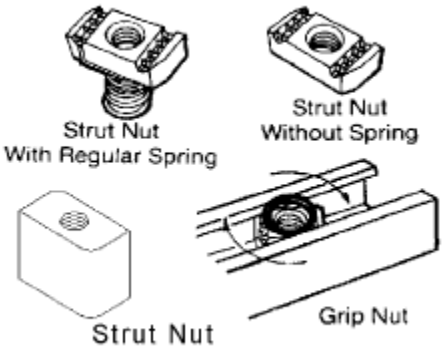
SPECIFICATIONS

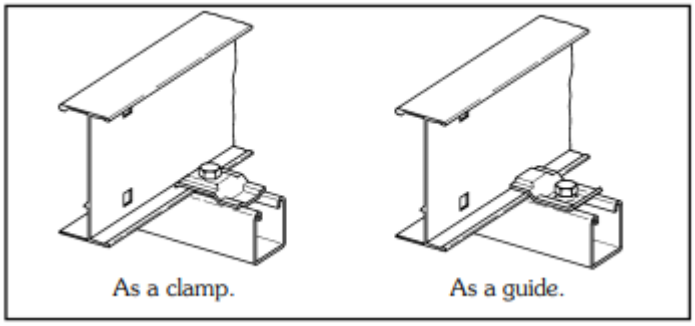
SECTION

CABLE TRAY HANGING





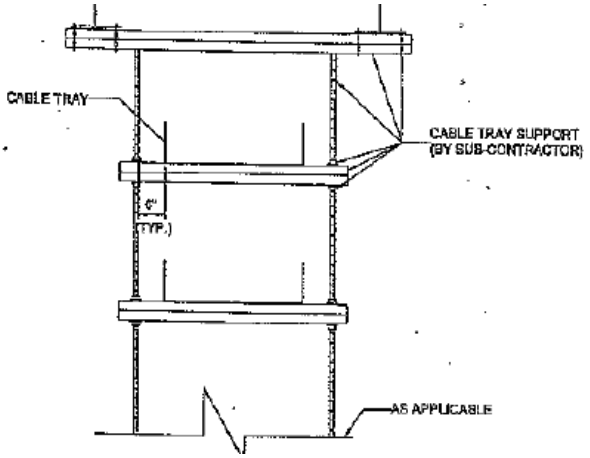




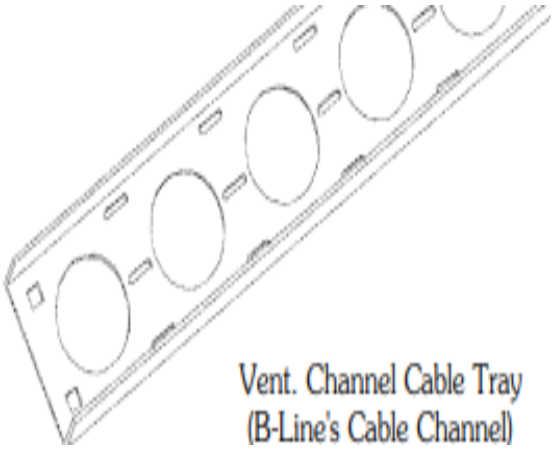
Trapeze Type Hangers

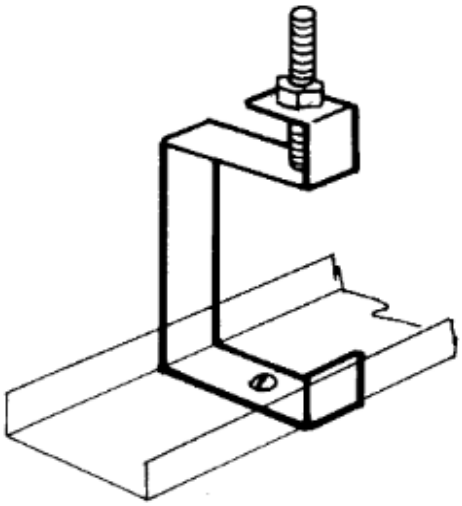
To install:

a. Thread nuts onto threaded rod approximately 2 in. (50 mm) above desired location for bottom of cable tray.
b. Slide on square washers followed by stainless strut and second set of square washers.
c. Thread second set of nuts onto threaded rod.
d. Move cross member so the top surface is located where bottom of cable tray run will be located.
e. Move second set of nuts up threaded rod until cross member is reached and held in place.
f. Make sure cross member is level, then move first set of nuts down threaded rod until cross member is secured in place.
g. Hold-down guide clamps shall be used and may be mounted on either the inside or outside of the cable tray side rail.
h. When installed on the inside of the cable tray, the clamp and/or attaching hardware shall not extend above the rung.



i. Trays may be stacked but 2 and ½ tray heights must be left before next trapeze hanger allowing a 1 ½ space factor for wire pulling

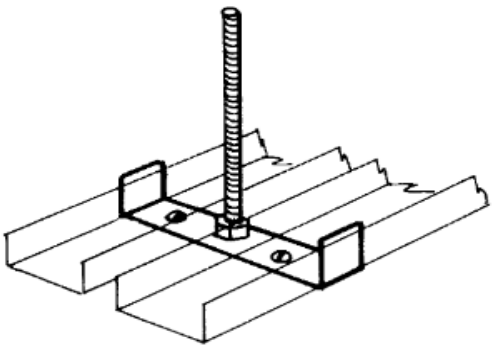




Single Channel Cable Tray Hanger

To install:

a. Thread nut onto threaded rod to height required.
b. Place hanger on threaded rod and follow with one nut.
c. Run nut up threaded rod until bottom of hanger is at desired height.
d. Run top nut down to tighten.
e. Place channel on hanger and secure in place as necessary.

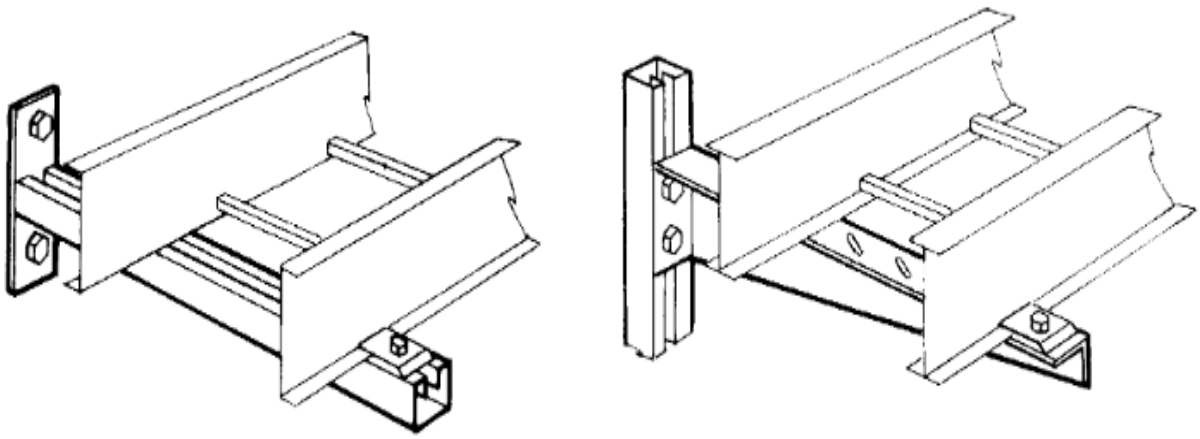


Double Channel Cable Tray Hanger

To install:

a. Thread nut onto threaded rod to height required.

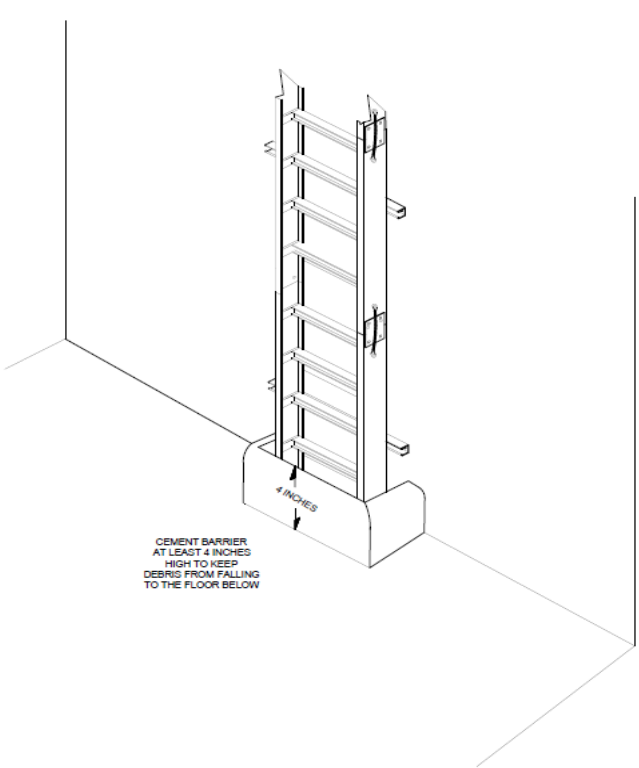
b. Place hanger on threaded rod and follow with one nut.
c. Run nut up threaded rod until bottom of hanger is at desired height.
d. Run top nut down to tighten.
e. Place channels on hanger and secure in place as necessary.

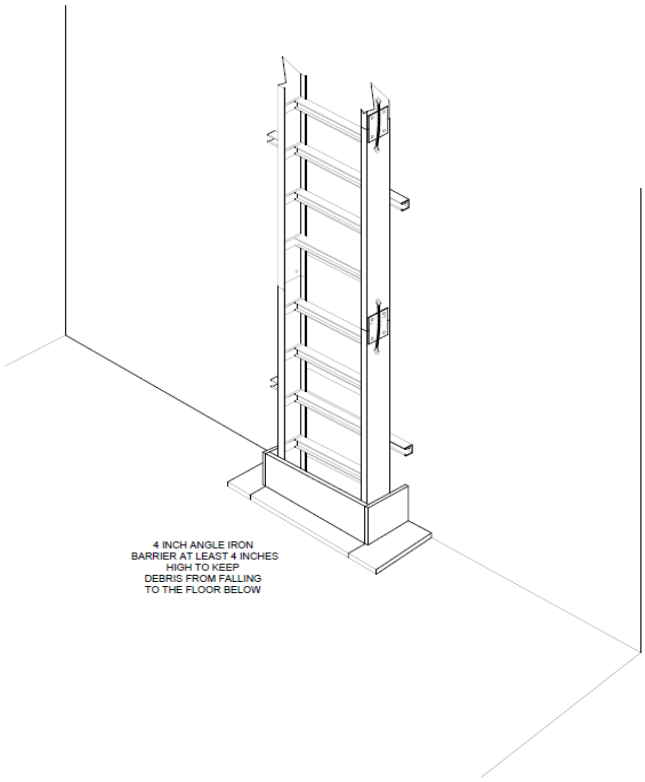


Wall and Cantilever Brackets

a. Secure the brackets to the structure making sure they are level and aligned with each other.

Vertical Applications





When vertical tray extends through a floor a 4” high cement berm or a 4” angle iron guard needs to be installed around the tray to prevent debris from falling to the below floor. When tray is not secured directly to the wall with strut the guard must cover the back as well.

STRAIGHT SECTION INSTALLATION

Use the torque data below for fasteners. Follow manufacturer’s recommendations for nonmetallic or nonferrous fasteners. Torque values do not apply for hollow sections such as tubes. Consult the manufacturer for recommendations.

Table

FASTENER TORQUE

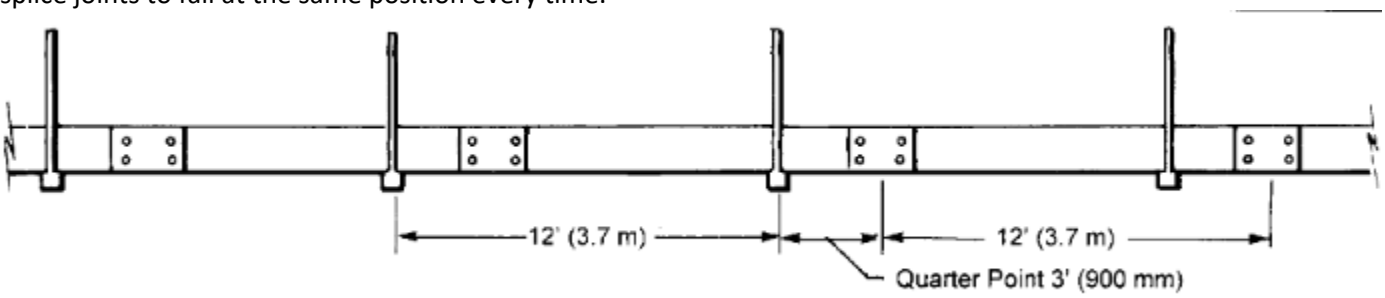
Inch: GRD. 2 UNC		Metric: Class 5.8	
Size	**Ft-Lbs**	**Size**	**N-m**
1/4 – 20	4-6	M8 x 1.25	14-16
3/8 – 16	17-23	M10 x 1.5	26-33
1/2 – 13	42-56	M12 x 1.78	45-58

NOTES

1. Threads are not lubricated.
2. Fastener Finishes: zinc plated, cadmium plated, and stainless steel.

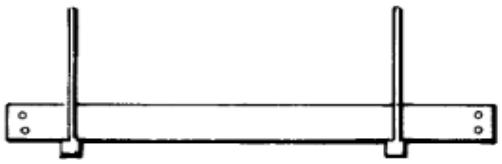
Straight Section Position

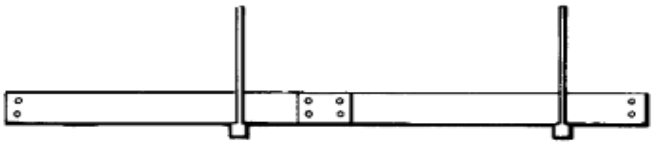
After the supports are in place, the installation of the cable tray can begin at any place that is convenient. It is not necessary to start at one end of the run unless otherwise specified. It is ideal to lay out the system so that splice joints fall between the support and the quarter point (Figure 4.10A). This maximizes the rigidity of the cable tray. For example, when installing a 12- foot long section, a support spacing of 12 ft. (3.7 m) will cause the splice joints to fall at the same position every time.



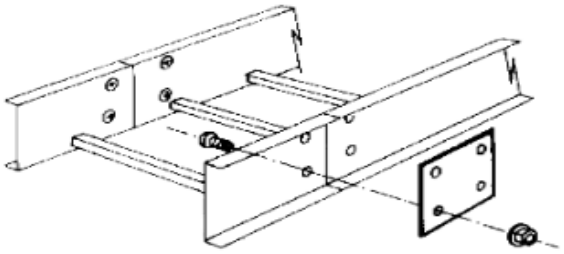
To begin, place a straight section across two supports so that the ends of the section are not directly on the support. If the support span is equal to the length of the straight sections, bolt two pieces together for this step. The support span should not be greater than the straight section length or as recommended by the manufacturer, to ensure no more than one splice is located between supports.

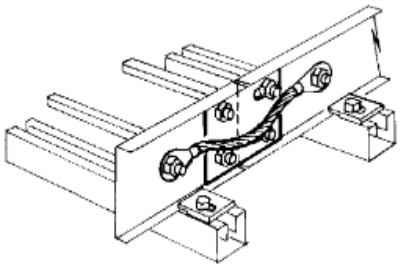
As a general practice, avoid placing splice plates over supports or at mid-span. However, certain cable tray systems and certain splice designs allow for random splice location. See manufacturer for details.





Place the next straight section across the next support and attach it to the previous section with a pair of splice plates and hardware. Splice plates should be placed on the outside of the cable tray, unless otherwise specified by the manufacturer, with the bolt heads on the inside of the cable tray.





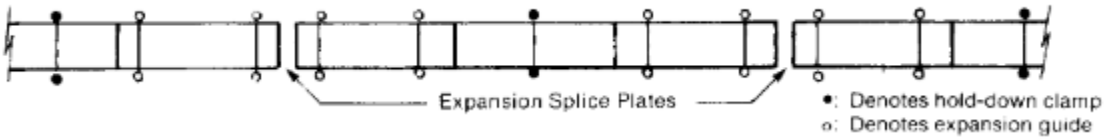
Expansion Splice Plates It is important that thermal contraction and expansion be considered when installing cable tray systems. The length of the straight cable tray run, and the temperature differential govern the number of expansion splice plates required.

MAXIMUM SPACING BETWEEN EXPANSION JOINTS THAT PROVIDE FOR ONE INCH MOVEMENT**

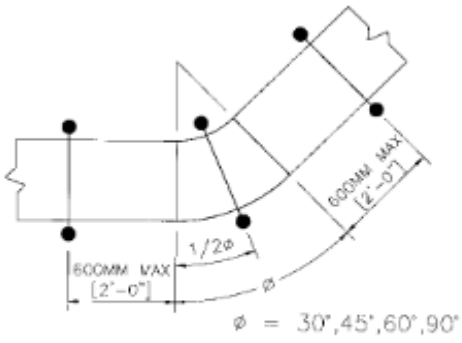
Temperature Differential		Steel		Aluminum		Fiberglass	
°F	(°C)	feet	(m)	feet	(m)	feet	(m)
25	(14)	512	(156)	260	(79)	667	(203)
50	(28)	256	(78)	130	(40)	333	(102)
75	(42)	171	(52)	87	(27)	222	(68)
100	(56)	128	(39)	65	(20)	167	(51)
125	(70)	102	(31)	52	(16)	133	(41)
150	(83)	85	(26)	43	(13)	111	(34)
175	(97)	73	(22)	37	(11)	95	(29)

* The temperature differential is the difference in the temperature between the hottest and coldest days of the year.
** For designs that provide for 5/8 in. (16 mm) movement (typically non-metallic), multiply maximum spacing between expansion joints by 0.625.

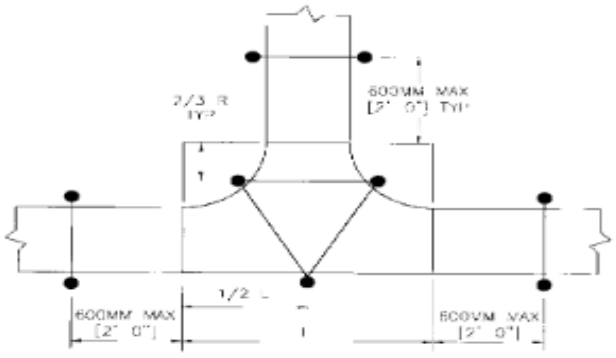
The cable tray should be anchored at the support nearest to its midpoint between the expansion splice plates and secured by expansion guides at all other support locations. The cable tray should be permitted longitudinal movement in both directions from that fixed point.



FITTINGS INSTALLATION



CENTER SUPPORT NOT REQUIRED
ON 12" RADIUS 30° & 45° FITTINGS



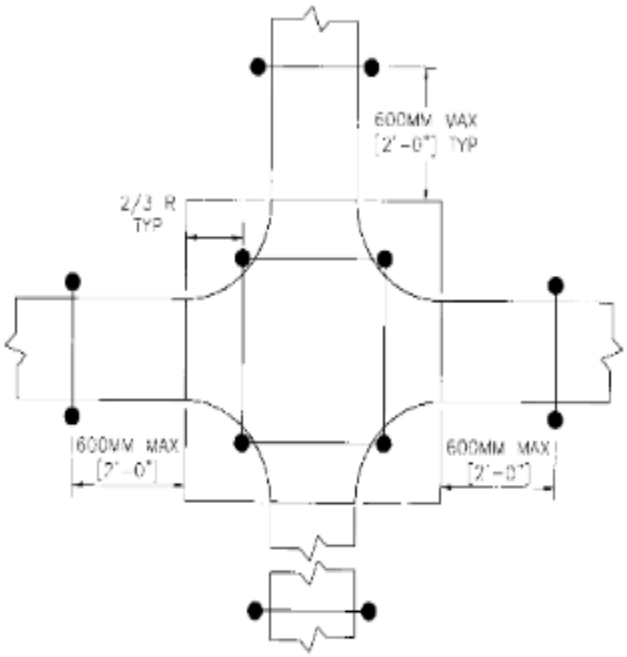
CENTER SUPPORT NOT REQUIRED ON 12" RADIUS FITTINGS

Recommended Support Locations for Fittings (unless otherwise recommended by the manufacturer)Horizontal Elbow Support Supports for horizontal cable tray fittings should be placed within 2 ft. (600 mm) of each fitting extremity, and as follows:

a. 90° supports at the 45° point of arc.
b. 60° supports at the 30° point of arc.
c. 45° supports at the 22-1/2° point of arc (except for the 12 in. [300 mm] radii).
d. 30° supports at the 15° point of arc (except for the 12 in. [300 mm] radii).

HORIZONTAL ELBOWS

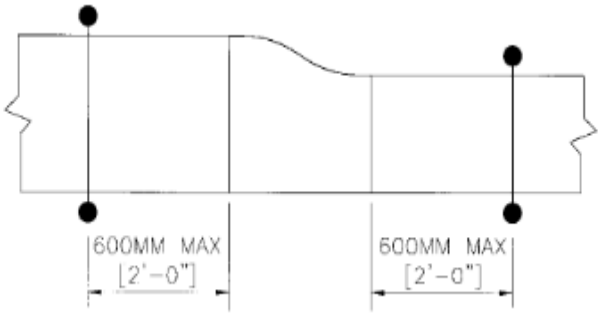
Horizontal Tee Support Place horizontal tee supports within 2 ft. (600 mm) of each of the three openings connected to other cable tray items for the 12 in. (300 mm) radius. On all other radii, at least one additional support should be placed under each side rail at the horizontal tee, preferably as shown.

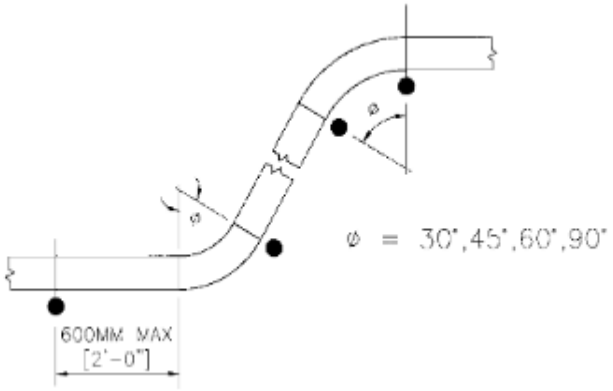


CENTER SUPPORT NOT REQUIRED ON 12" RADIUS FITTINGS

Horizontal Cross Support

Place horizontal cross support within 2 ft. (600 mm) of each of the four openings connected to other cable tray items for the 12 in. (300 mm) radius. On all other radii, at least one additional support should be placed under each side rail of the horizontal cross, preferably as shown.



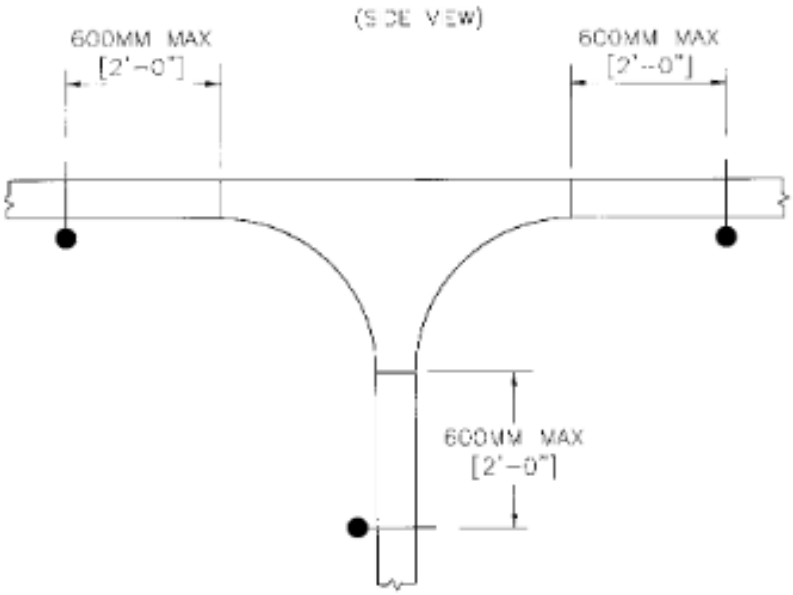


Reducer Support

Place reducer supports within 2 ft. (600 mm) of each fitting extremity.

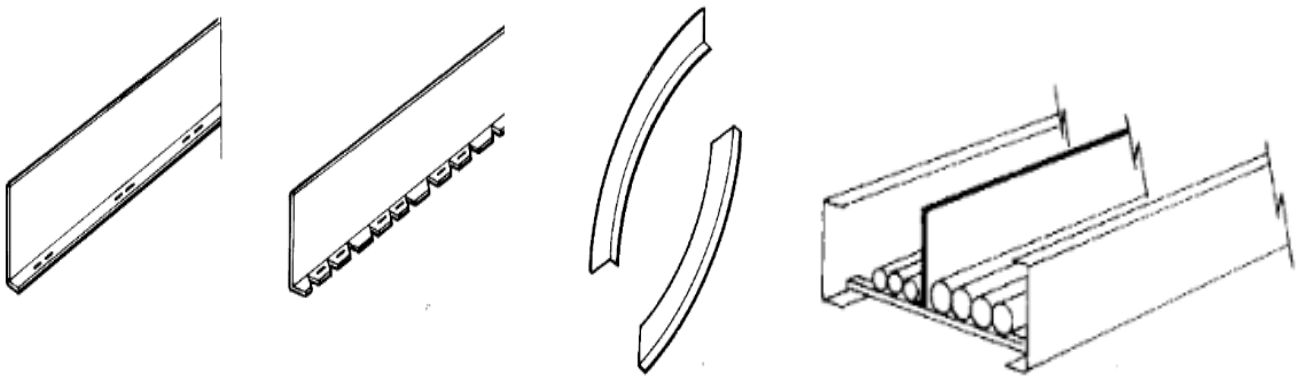
Vertical Cable Tray Elbows

Vertical cable tray elbows at the top of runs should be supported at each end. At the bottom of runs, they should be supported at the top of the elbow and within 2 ft. (600 mm) of the lower extremity of the elbows.



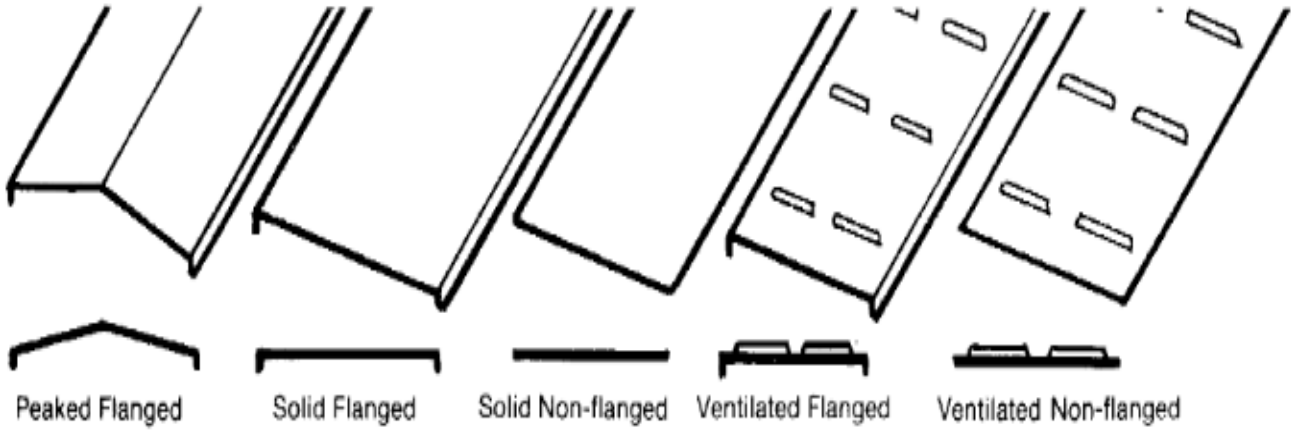
Vertical Cable Tray Tees

Vertical cable tray tees should be supported within 2 ft. (600 mm) of each fitting extremity.



Barrier strips

Barrier strips are sometimes used to separate cables within a cable tray as required by the National Electrical Code® (NEC®). Barrier strips are installed by placing them at the desired location, then fastening them down with the hardware provided, or bonded with adhesive (fiberglass only). This connection should be made at approximately every 3 ft. (900 mm).



Covers

QUANTITY OF STANDARD COVER CLAMPS REQUIRED

Straight section, 6 ft. (1.8 m)	4 pieces
Straight section, 10 ft. (3.0 m) and 12 ft. (3.7 m)	6 pieces
Horizontal/vertical bends	4 pieces
Tees	6 pieces
Crosses	8 pieces

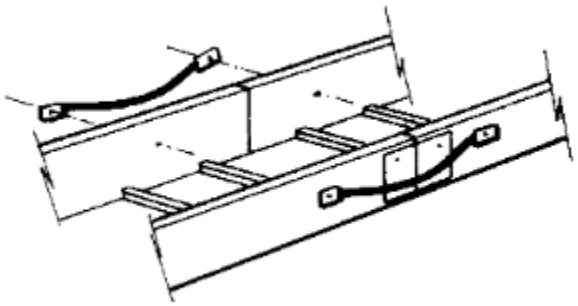
Covers are to be installed whenever the danger of flammable debris falling from above and collecting in the tray. Covers are also required if the wires may become damaged from falling materials. Ensure the correct type of covers are used for the application and all covers must be secured as per the manufacturers recommendations as well as the NEC.

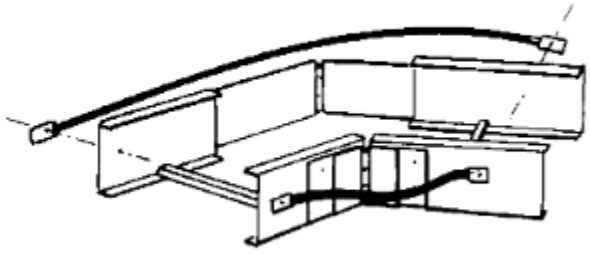
GROUNDING AND BONDING

Metal cable trays must be grounded and electrically continuous systems per NEC Article 318. For specific areas requiring bonding for electrical continuity

NOTE—Non-metallic cable trays do not serve as a conductor.
NOTE—It is recommended that wire mesh cable trays not be used as an equipment grounding conductor.

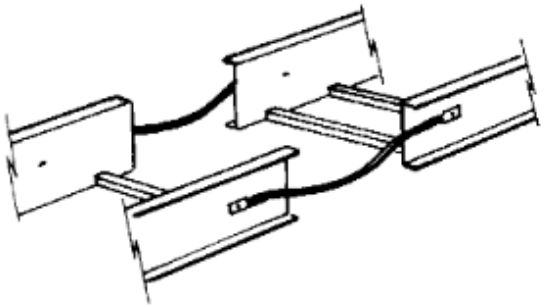
Cable Tray Used as an Equipment Ground Conductor (EGC) The use of aluminum and steel cable trays is permitted as an Equipment Grounding Conductor per NEC Article 318 when labeled and marked with the available cross sectional area. If the cable tray is to be used as an EGC, bonding jumpers must be installed on both side rails at the locations illustrated , unless the splice plates meet the electrical continuity requirements of NEMA VE 1.

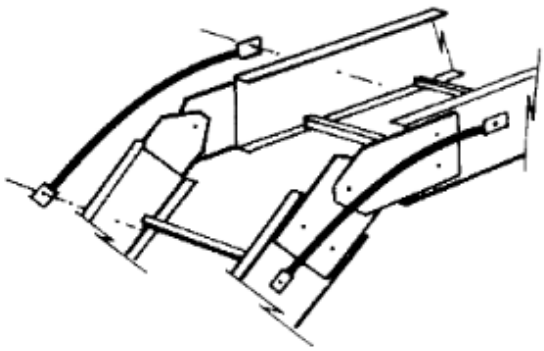




NOTE—Although permitted by the NEC, it is recommended due to the unique nature of the product, fittings are manufactured in the field from straight sections by cutting away the current carrying structural wires, reducing the current-carrying capability of the system. As such, the use of wire mesh cable trays as an equipment grounding conductor is not recommended.

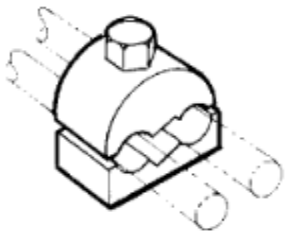
It is not necessary to install bonding jumpers at standard rigid aluminum or galvanized steel splice plate connections or offset reducing splice plate connections. For rigid splice plate connections of materials and finishes other than aluminum or galvanized steel, bonding jumpers may be required. For example, stainless steel splice plates require bonding jumpers.

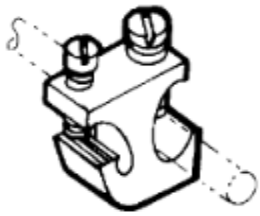




Cable Trays with Separate Equipment Grounding Conductor Installed

When a separate EGC cable is installed in or on cable tray, it may be bonded to the cable tray with a grounding clamp. Ground clamp styles include bolted lug types that require drilling the cable tray side rail and clamp-on styles that work like a beam clamp. One grounding clamp should be used on each straight section of cable tray.





Check for Properly Sized EGC or Bonding Jumpers
Power Applications Bonding jumpers or separate EGC shall be sized according to NEC Articles 250 and 318. Note that NEC Table 318-7(b)(2) is the actual circuit breaker trip setting and not the maximum allowable. If the maximum ampere rating of the cable tray is not sufficient for the protective device to be used, the cable tray cannot be used as an EGC, and a separate EGC must be included in each cable or attached to the cable tray.

Non-Power Applications

Cable tray systems containing conductors outside the scope of NEC Article 250 (such as communications, data, signal cables, etc.) still require proper bonding and grounding for system operation and performance.
Metal trays containing these conductors shall be electrically continuous, via listed connectors or the use of an insulated #10 (minimum) stranded bonding jumper. Electrical continuity across field fabricated wire mesh fittings can be accomplished using listed wire mesh tray connectors and following manufacturer's installation instructions.

Mixed Systems When power conductors are installed in metallic cable tray with non-power conductors, the bonding and grounding requirements shall be as in accordance with the NEC.
NOTE—Power and non-power cables should be separated with a fixed metal barrier.

METAL AREA REQUIREMENTS FOR CABLE TRAYS USED AS EQUIPMENT GROUNDING CONDUCTORS (NEC TABLE 318-7(B)(2))

Maximum Fuse Ampere Rating, Circuit Breaker Ampere Trip Setting or Circuit Breaker Protective Relay Ampere Trip Setting for Ground-Fault Protection of any Cable Circuit In the Cable Tray System	Minimum Cross-Sectional Area of Metal* in square Inches	
	Steel Cable Trays	Aluminum Cable Trays
60	0.20	0.20
100	0.40	0.20
200	0.70	0.20
400	1.00	0.40
600	1.50**	0.40
1000	--	0.60
1200	--	1.00
1600	--	1.50
2000	--	2.00**

For SI units: 1 square inch = 645 square millimeters.
* Total cross-sectional area of both side rails for ladder or trough cable trays or the minimum cross-sectional area of metal in channel cable trays or cable trays of one-piece construction.
** Steel cable trays shall not be used as equipment grounding conductors for circuits with ground-fault protection above 600 amperes. Aluminum cable trays shall not be used as equipment grounding conductors for circuits with ground-fault protection above 2000 amperes.

BONDING TO BUILDING STEEL AND EARTH

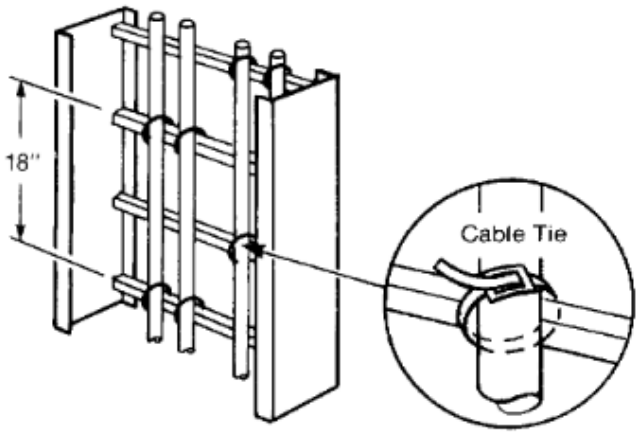
Metallic cable trays shall be bonded to building steel and earth as supplemental grounding for ground fault protection and signal grounding ("noise" prevention). The tray shall be bonded to building steel and earth, at least every 60 ft. This is only required when the cable tray system is not inherently bonded (connected) to building steel and earth through metallic support systems.

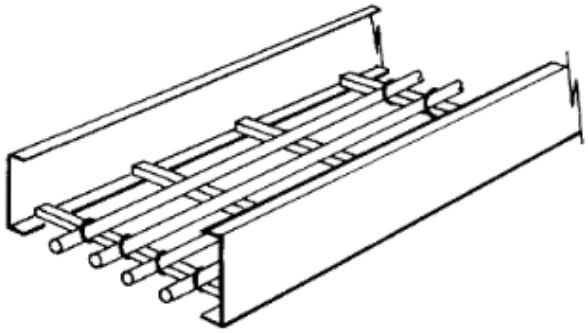
All metal conduit systems shall be bonded to metal cable tray systems with a UL listed NEC approved cable tray bonding corn clamp or a grounding bushing and the proper size grounding wire as per the NEC.

FASTENING OF CABLES

a. Cables may be fastened to the cable tray by means of cable clamps or cable ties. Generally, cables are fastened every 18 in. (450 mm) on vertical runs. Although not required by the NEC, single conductor cables can be fastened on horizontal runs to maintain spacing, prevent movement due to a fault current magnetic forces, and insure that the cable is confined within the cable fill area. When using cable clamps, the clamps should be sized correctly and only tightened enough to secure the cable without indenting the jacket. The same precaution should be observed with cable ties, and they should be applied with a pressure limiting device.

b. Extremely long vertical drops introduce a new set of problems requiring special considerations. The weight per foot of the cable multiplied by the number of feet in the vertical drop will, in many cases, exceed the load carrying capacity of the cable tray component, such as the one or two rungs supporting this weight, and could exceed the allowable cable tension. The cable weight should be supported in such a manner as to prevent damage to the cable tray or cable during this type of installation. As the cable is installed, intermediate supports should be installed on the vertical drop to break the cable load into segments supported at multiple places.





Penetration of fire-resistance-rated assemblies

The raceway installer shall determine if the walls, floors, or ceilings are fire-rated prior to installing raceway systems. Penetration openings shall be properly filled for fire safety, using approved materials. The NEC and building codes require that openings around raceways which penetrate a fire-resistance rated assembly be sealed to prevent the spread of fire and smoke from one area migrating into another.

NOTE: This can be accomplished by use of a listed penetration firestop system, or by use of annular space filler in accordance with building code exceptions. There are many listed penetration firestop systems which can be used with steel conduit/tubing to seal openings; the listing instructions shall be strictly followed.

NOTE: It is often incorrectly assumed that if raceway penetrates a fire-resistance-rated assembly, these products also must be "fire-resistance-rated." The codes require that the annular space around the raceway be properly filled so that the fire-resistance-rating of the assembly is maintained.

Most building codes permit openings around cable trays that are penetrating concrete or masonry to be filled with cement, mortar, or grout. However, since local codes sometimes vary, the local requirements should be checked prior to installation. Also, project specifications often describe exactly how these openings are to be filled, even though the codes might permit other methods. Firestop systems listed for use with cable tray are permitted to fill the space surrounding the cable tray.

In all cases, the raceway installer shall use materials which assure that fire-resistance- ratings of the penetrated assembly are not degraded by the installation of a raceway system.

NEMA Standards Publication VE 2- Cable Tray Installation Guidelines and The state adopted version of the NEC shall be referenced and followed at all times.

WOODLAND PULP LLC

NETWORKING INSTALLATION

SPECIFICATIONS

SECTION

NETWORKING STANDARDS

This standard shall be used for any and all projects which encompass networking hardware or configuration.

Networks
Any modification to existing network or networks shall not be implemented without consulting the appropriate departments as listed below.

There are four major networks which are used throughout the mill. Each one is used for a different reason and can be connected to differently. This section will describe each network, its range of acceptable IP addresses, and who will have access to it.

Mill/Business Network
The Mill, or Business, Network (WOODLAND) is the one on which most computers reside. It is only network in the mill which is allowed access to the internet. This network has multiple subnets which it uses based on which Hub the computer is connected to. All subnets use IP addresses in the range: 172.28.XX.YYY where XX indicates the switch it is connected to and YY is an arbitrary number. Only certain computers are given a static IP address on this network, all others are assigned by a server automatically when they connect (this includes wireless devices like phones). All the mill's services (PI, SOMAX, Proficy, etc.) are only accessible from this network.

This network is managed by the IT department.

Process Control Network
The Process Control Network (PCNET) is the network where much of the PROCESS equipment resides. This includes, but is not limited to, operator/engineering stations, controllers, drives, and CEM systems. The network uses the range 172.17.6.XX where XX is assigned by the Process Control department when a device is added to the network. The drawings showing the configuration of this network (5614-0564) can be found on the drawings server. This network is primarily used to remotely monitor, maintain, backup, and program the DCS and other control systems.

This network is managed by the Process Control department.

Insite Network
The Insite Network is a network that Rockwell uses to remotely access some of our systems including drives and PLC's. This network uses the IP address range 10.128.66.XX where XX is assigned by the Process Control department and Rockwell. This network allows Rockwell to remotely monitor and backup our systems. The drawing showing the configuration of this network (NET-INSITE) can be found on the drawings server.

This network is managed by the Process Control department and Rockwell together.

Local Networks
All other networks which exist in the mill are used for local or point-to-point connections only. This is typically used for connections to local graphic panels, remote I/O cabinets, or isolated control systems. The IP addresses for these systems will vary from area to area but will be in the range 192.168.XX.YY where XX and YY are as follows:

Area	IP address range (XX)
Pulp Dryer	1 – 99
Kraft Mill	100 – 199
Utilities	200 – 255

Application	IP address range (YY)
CPU and I/O Racks	1 – 99
Drives	100 – 199
Panelview/HMI	200 – 255

These networks are managed by the Process Control department and the E&I departments for the areas they reside in.

Cable Standards
When connecting networked systems together, there are different mediums which can be used. Fiber and Cat6 Ethernet are the primary mediums used. Depending on the distance, priority, and type of connection needed the medium will be slightly different.

Fiber
Fiber shall be used for any connection which requires multiple connections or significant spare connections and is more than 250 feet away

All Fiber shall be no less than 48 strands when pulled from building to building

Fiber shall use ST type connectors for all multimode fiber terminations

Fiber shall use LC type connectors for all singlemode fiber terminations

All patch panels which are not in a rackmount cabinet shall be in a NEMA 4X enclosure

All Fiber shall be at a minimum 12 strands, except for patch cables

Singlemode fiber shall be used for all distances greater than 1km

Approval by Woodland Pulp E&I Management is required to select the fiber type used for all applications less than 1km in length

Cat6 Ethernet
Cat6 Ethernet can only be used on a connection which is less than 250 feet

All Cat6 Ethernet connections shall use Type T568B terminations on both ends (per IEEE standards)

See cable standards for more details

Networking Hardware
There are many different applications for various devices used in networking.

- Ethernet Switches
    - Rackmount Switches
        - All Rackmount switches in the mill shall be Cisco rackmount switches with a minimum of 24 ports and 2 uplink ports unless the IT or Process Control department indicate otherwise
    - Din Rail
        - All Din Rail mounted switches will use an N-TRON 110FX2-ST switches for applications involving less than 6 Ethernet connections and multimode fiber
        - For applications requiring more than 6 ethernet connections, Woodland Pulp E&I management shall select the appropriate device to use
        - When a managed switch is required a Stratix switch shall be used with the part number 1783BMS10CGP
    - Desktop
        - All desktop switches will have use 120V wall port power
        - All desktop switches will be gigabit type switches
        - All desktop switches will have 5- 16 ports
        - All desktop switches will have at least 2 spare ports
- Media Converters

- All media convertors which require 120V power and do not reside on a Din Rail will use a media converter which has the following criteria
    - ST type connectors for multimode fiber applications
    - LC type connectors for singlemode fiber applications
    - Singlemode or multimode type fiber connection which fits the application
    - It must be rated for temperatures as low as -10 degrees Fahrenheit and as high as 140 degrees Fahrenheit
- All applications which require 24V power or are Din Rail mounted will use an N-TRON 110FX2-ST Ethernet switch with multimode fiber ports