

**DOCUMENT 00 00 11**

**ADDENDUM NO. 1**

**May 18, 2026**

**Fuel Farm Relocation  
City of Duluth No. 26-4404  
SP No. A6901-230  
Duluth International Airport  
Duluth, Minnesota**

**SEH No. DULAI 188841**

From: Short Elliott Hendrickson Inc.  
3535 Vadnais Center Drive  
St. Paul, MN 55110-3507  
651.490.2000

To: Document Holders

DOCUMENT HOLDERS on the above-named project are hereby notified that this document shall be appended to, take precedence over and become part of the original bidding documents dated May 1, 2026, for this work. Bids submitted for the construction of this work shall conform to this document.

This addendum consists of 2 pages and attached Pre-bid Meeting Presentation, Document No. 00 41 00 Bid Form, Section Special Provisions – Mechanical, Fuel System Equipment, and Drawings G0.01, E5.00, E5.01, E5.02, E5.03, E5.04, E6.00, F101, F102, F103, F105, and F106.

A pre-bid meeting was held May 14, 2026. A recording of that meeting can be downloaded at the following link:

[Duluth International Airport Fuel Farm Relocation Pre-Bid Meeting](#)

Meeting Presentation is included in this addendum.

**Changes to Bidding Requirements:**

1. 00 41 00 Bid Form, Statement of Estimate Quantities was updated.

**Changes to Specifications:**

2. Fuel System Special Provisions
  - a. Fuel System Equipment, Part 2 Products
    - i. Section 2.02, Aboveground Storage Tank(s), (C)(8) - Remove in its entirety and replace with: "The new Diesel tank shall include signage on all sides for "No Smoking" and "Diesel". The two ends of the tank shall include an NFPA 704 diamond indicating Health - 1, Flammability - 2 and Reactivity – 0. Additional labeling shall be provided in accordance with the MSFC and MPCA requirements."
    - ii. Section 2.02, Aboveground Storage Tank(s), (D)(8) -Remove in its entirety and replace with: "The new Gasoline tank shall include signage on all sides for "No Smoking" and "Gasoline". The two ends of the tank shall include an NFPA 704 diamond indicating Health - 1, Flammability - 3 and Reactivity - 0. Additional labeling shall be provided in accordance with the MSFC and MPCA requirements."
    - iii. Section 2.03, Dispensers, (E)(1) - Remove in its entirety and replace with: "Diesel dispensers to be rated for up to 35 GPM."

- iv. Section 2.04, Fuel Management Unit (FMU), (D) - Add Subsection #5: "Fuel management units shall be provided with a weatherproof protective cover suitable for outdoor installation and exposure."
- v. Section 2.15, Aboveground Piping - Add Subsection E: "Aboveground piping to be labeled in accordance with the MSFC and MPCA requirements."
- vi. Section 2.16, Underground Piping, Remove in its entirety and replace with:
  - 1. 2.16 Underground Piping
    - a. Acceptable Manufacturers: Franklin Fueling (UPP), OmegaFlex (Double Trac), NOV (Dualoy) or Approved Equal
    - b. Materials:
      - i. Provide and install 3-inch and 2-inch (supply) double-walled fuel product piping as indicated on the drawings.
      - ii. Provide and install 3-inch single-walled vapor recovery piping as indicated on the drawings.
    - c. Piping to be installed per manufacturer recommendations including observance of minimum bend radius requirements and be approved for automotive fuel service.
    - d. No buried connections will be allowed and all piping connections must occur within a monitored sump.
    - e. Sump penetrations must be sealed with compatible transition boot manufactured for the specific pipe material used.
    - f. Piping must be compatible with ELLD system.
    - g. Piping must slope back to the containment sumps per manufacturer minimum slope requirements.
    - h. Piping transitions from underground to aboveground require a flexible connector rated for the application.

**Changes to Drawings:**

- 3. G0.01 Table of Contents and Statement of Estimate Quantities – Replace with attached G0.01.
- 4. E5.00 Electrical Site Plan – Replace with attached E5.00.
- 5. E5.01 Enlarged Electrical View – Replace with attached E5.01
- 6. E5.02 Electrical Details – Replace with attached E5.02.
- 7. E5.03 Electrical Details – Replace with attached E5.03.
- 8. E5.04 Electrical Details – Replace with attached E5.04.
- 9. E6.00 Electrical Specifications – Replace with attached E6.00.
- 10. F101 Fuel System Layout – Replace with attached F101.
- 11. F102 Fuel System Detail – Replace with attached F102.
- 12. F103 Fuel System Detail – Replace with attached F103.
- 13. F105 Diesel P&ID – Replace with attached F105.
- 14. F106 Gasoline P&ID – Replace with attached F106.

**NOTE:** Receipt of this Addendum No. 1, dated May 18, 2026 shall be acknowledged on [Bid Express](#).. Failure to do so will not allow Bidder to submit Bid.

**END OF ADDENDUM**



**Addendum 1**  
**Solicitation 26-4404**  
**Fuel Farm Relocation**

**QUESTIONS:**

The following questions were asked and have been answered in *italics* below.

- 1) In Bid Express it looks like I have the option to use a Surety2000 electronic bid bond but there is a bond form included in the bidding documents. Could you please confirm what method we are required to submit for the bid and if the Airport Authority should be listed as owner or the City of Duluth?
  - a) *The Surety2000 option in BidExpress has been removed. All bid bonds should be emailed to [Purchasing@duluthmn.gov](mailto:Purchasing@duluthmn.gov).*
- 2) The Invitation to Bid references a standard City construction contract, will the bidder be required to sign that?
  - a) *No, that language has been removed, the bidder will be required to sign the Airport's construction contract.*

Presentation for

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# Duluth International Airport Fuel Farm Relocation Pre-Bid Meeting

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May 14, 2026



**Meeting Attendees:**

DAA:  
Tristan Durfee  
Jana Kayser

**Contractors:**

John Pesonen - Northland Constructors  
Chip Marty- METCO  
Jim Peterson-Hunt Electric  
Mason Erickson - Rachel Contracting  
Heath Line - KGM Contractors  
Joe Barker - Petroleum Equipment, Inc  
Adam Johnson - Zahl Petroleum Maintenance Co.  
Troy Lyles

**SEH:**

Jessica Vinson  
Rothana Thorng  
Jon Kruse

**Endpoint Solutions:**

Wade Wollermann  
Brian Ferguson

**Minutes:**

This meeting was held at 11:00 am virtually. The meeting link was provided on the Instructions to Bidders document.

Jessica (SEH) opened the meeting and went through the slide presentation for the Duluth International Airport Fuel Farm Relocation project.

No questions were brought up.

Jessica went through the slide presentation for the Sky Harbor Airport Fuel Farm Improvements project.

No questions were brought up.

Meeting recording can be downloaded and viewed:

[https://sehincazure-my.sharepoint.com/:v/g/personal/jvinson\\_sehinc\\_com/IQAqkzEzti\\_7Q68xAScQgRJDAXHnDj8SWcA3O29Qc\\_V9CqQ?e=hf7Svy](https://sehincazure-my.sharepoint.com/:v/g/personal/jvinson_sehinc_com/IQAqkzEzti_7Q68xAScQgRJDAXHnDj8SWcA3O29Qc_V9CqQ?e=hf7Svy)

# Introductions

- Duluth Airport Authority
    - Ryan Welch, Director of Operations, Planning, and Construction
    - Jana Kayser, Director of Business and Property Development
    - Tristan Durfee, Airside Manager
  - SEH
    - Jessica Vinson, Project Manager
    - Shawn McMahon, Project Manager/Senior Engineer
    - Kaci Nowicki, Senior Planner
    - Jon Kruse, Electrical
    - Rothana Thorng, Electrical
  - Endpoint Solutions
    - Wade Wollermann
    - Brian Ferguson
- \* Please sign in by using the chat window:
- Name, company, email, and phone number

# Main Points of Contact

- Project Manager

- Jessica Vinson

- [jvinson@sehinc.com](mailto:jvinson@sehinc.com)

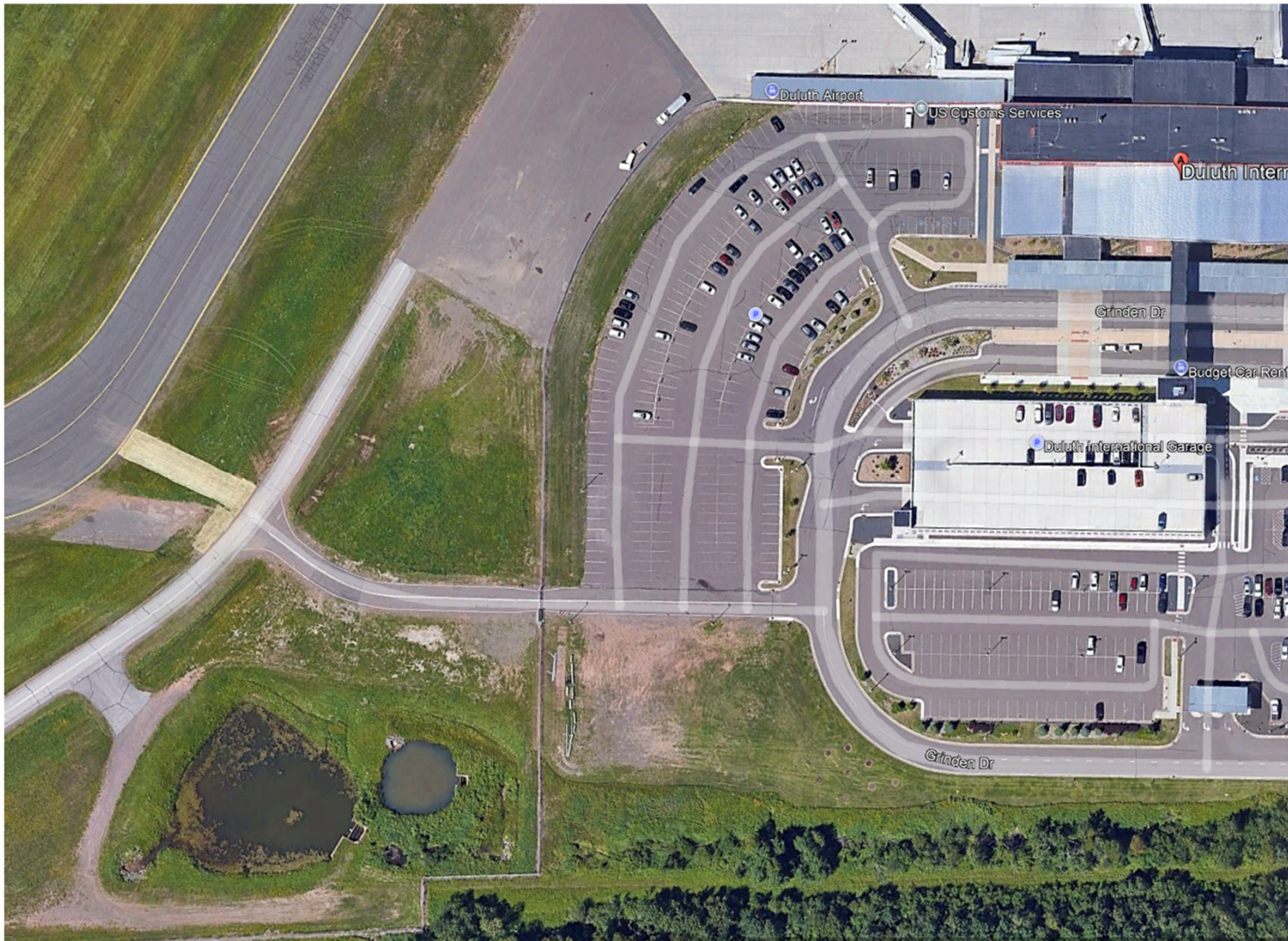
- Shawn McMahon

- [smcmahon@sehinc.com](mailto:smcmahon@sehinc.com)

# Project Schedule – DLH Fuel Farm Relocation

- May 6<sup>th</sup> Advertisement for bids
- May 14<sup>th</sup> Pre-Bid Meeting
- May 18<sup>th</sup> Addendum No.1 Issued (Expected)
- **May 19<sup>th</sup> Last day for questions**
- **May 20<sup>th</sup> Addendum No. 2 Issued (Tentative)**
- **May 27<sup>th</sup> 2 PM Bid opening (online) Bid Express**
- June 16<sup>th</sup> Airport Authority Consideration of Award
- June 16<sup>th</sup> Notice of Award
- July 2026 Construction start
- October 15, 2026 Substantial completion (90 days)

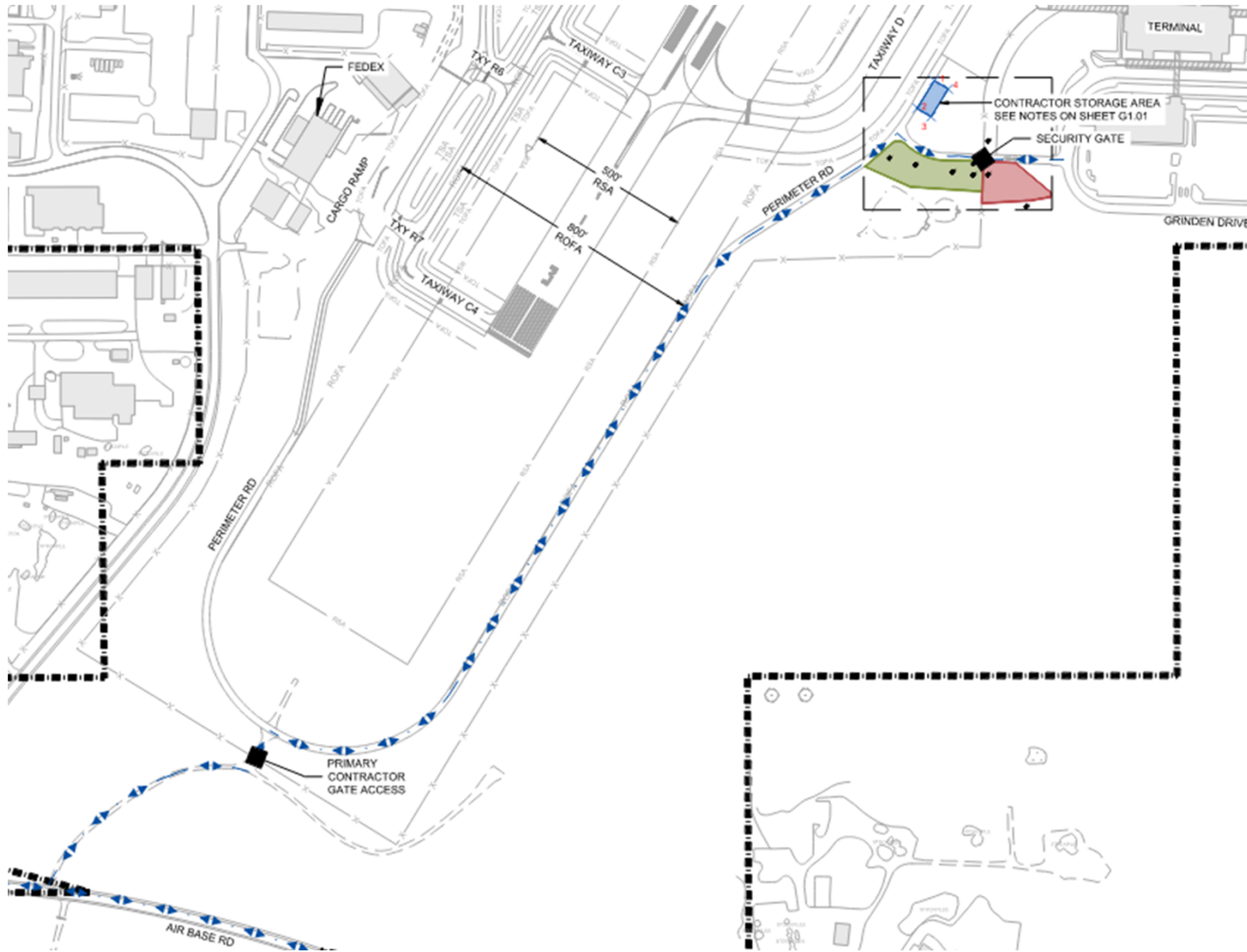
# Duluth International Airport (DLH) – Existing Site



- For Site Visits:

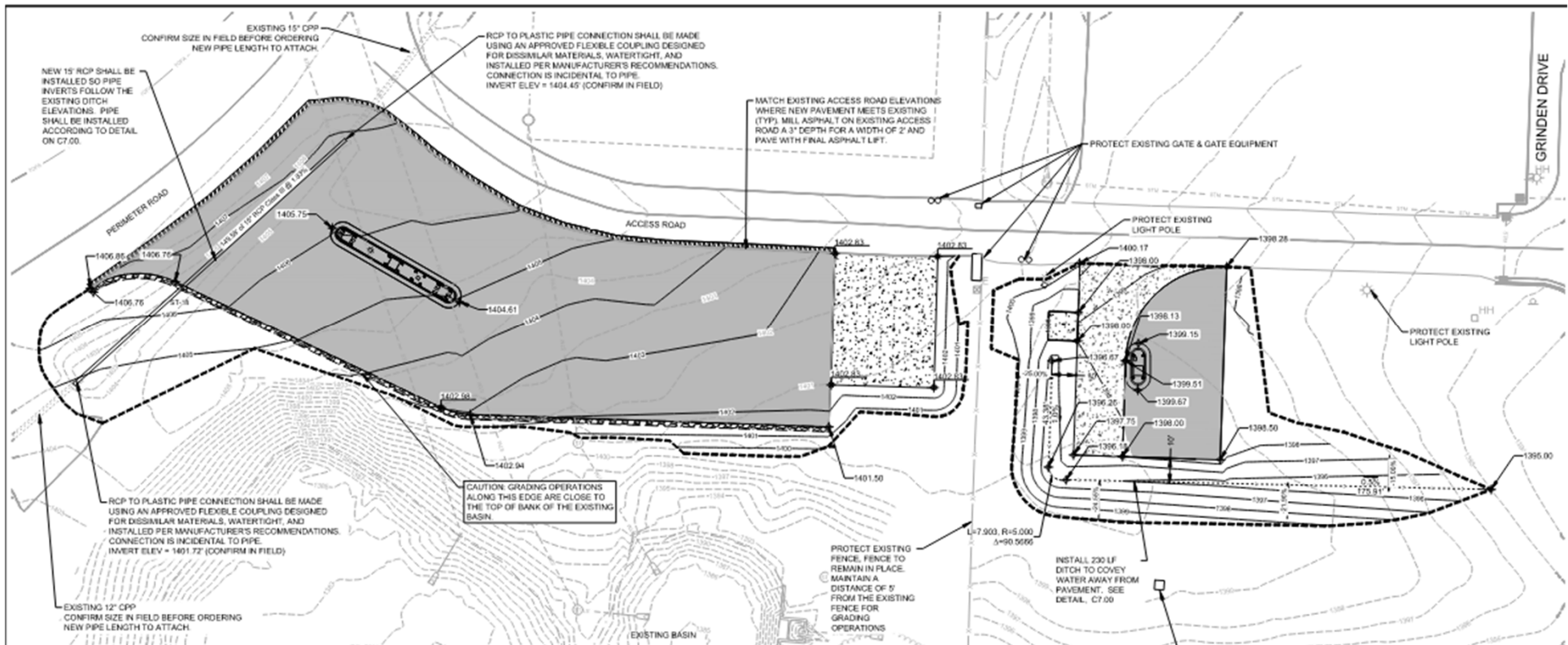
Unescorted landside access is available. For full site access, coordinate with Jessica Vinson, [jvinson@sehinc.com](mailto:jvinson@sehinc.com).

# DLH - Construction Safety Plan



- Existing Fence and Gate
- Contractor Parking and Staging
- Haul Route
- Active Airfield Pavement

# DLH Project Overview



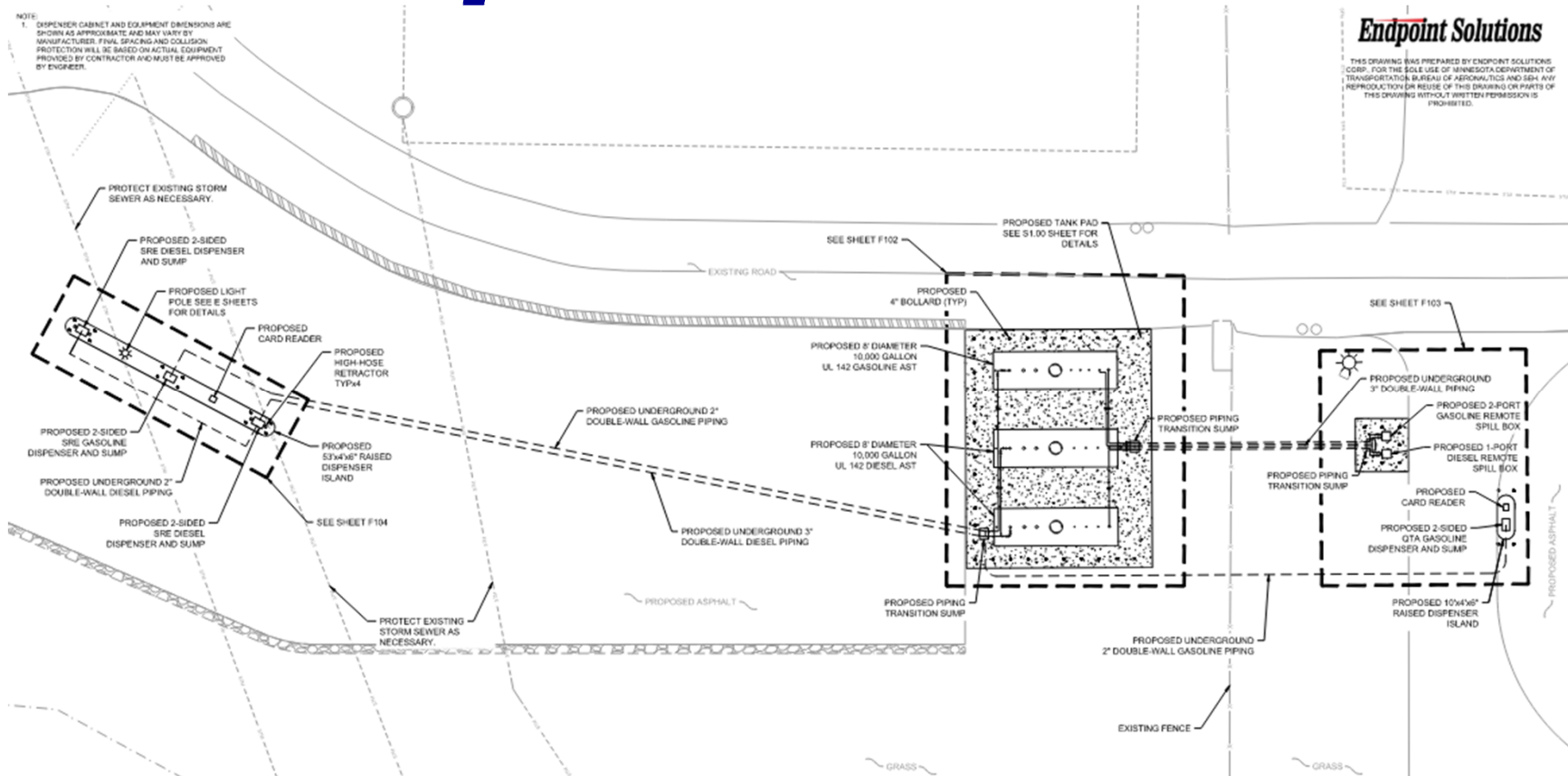
- Major Civil Work Items:

- Asphalt paving
- Concrete Paving, Reinforced Concrete pad
- Soil correction under fueling pad
- Gravel shoulder
- Storm pipe installation
- Grading
- Pavement edge protection (potentially guard rail) to be included with Addendum 1.

- NOTES:

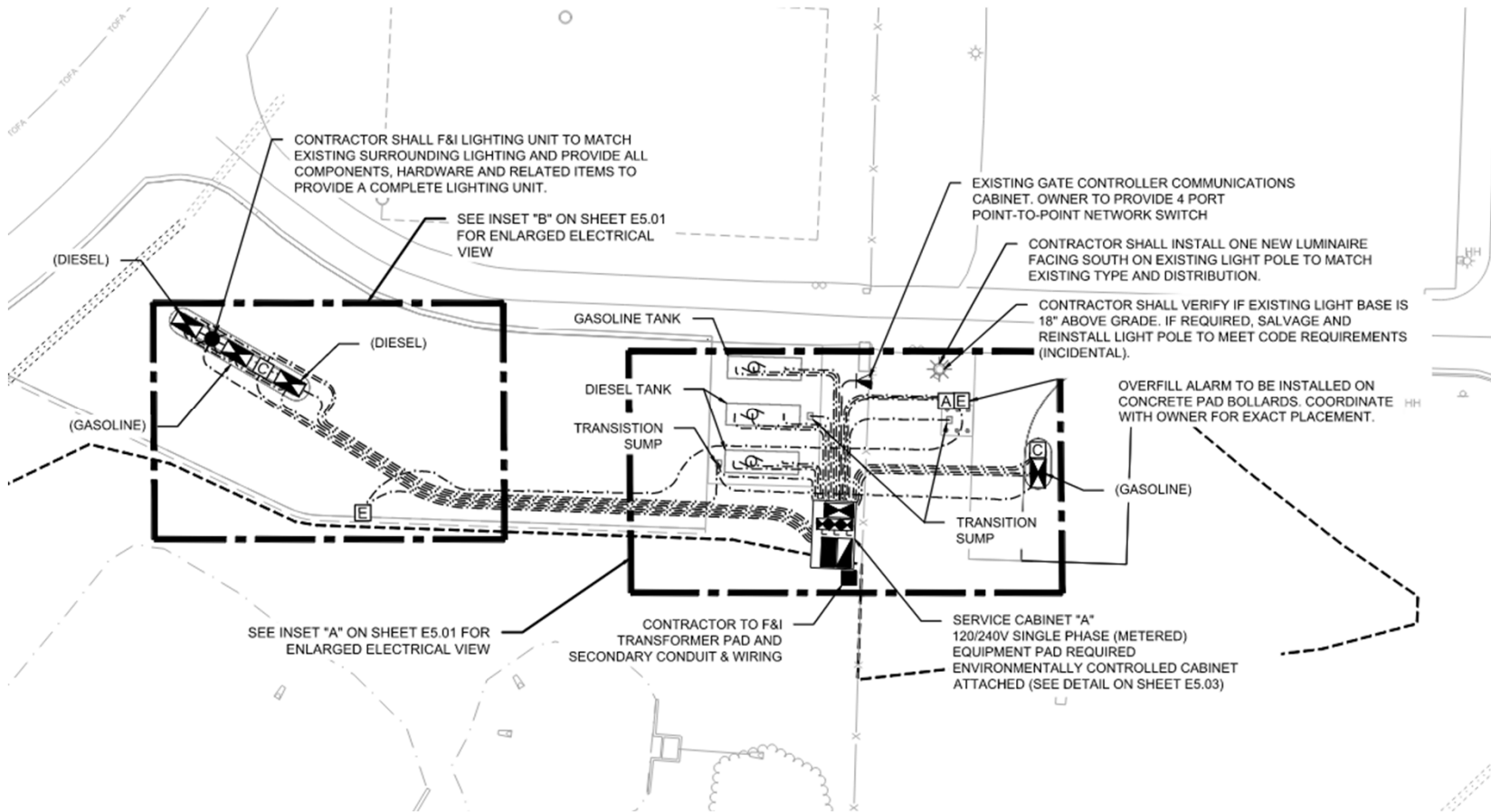
- Steep drop off near pavement edge may make grading operations more challenging
- Storm ponds need to be protected
- NPDES permit required, double row of silt fence required

# DLH Project Overview



- Major Fuel Work Items:
  - 2-10,000-gallon diesel AST
  - 1-10,000-gallon unleaded AST
  - 2 diesel dispensers, 2 unleaded dispensers
  - Underground piping
  - Remote Spill box
  - 2 card readers

# DLH Project Overview



- Major Electrical Work Items:
  - Environmentally Controlled Service Cabinet
  - Site Lighting
  - MN Power coordination

# Administrative Items

- Bid security – 5%
  - must be sent, received, and verified prior to bid
- Wage rates
  - MN prevailing wage rate requirements (Appendix B)
  - EEO (Appendix D).
- Substitution requests
  - Submit electronically to PM using form in project manual
- Survey
  - Control points (engineer's responsibility)
  - Construction staking (contractor's responsibility)
    - Including quantity surveys and as-built surveys
- **Construction Schedule**
  - Contractor to submit schedule prior to pre-construction meeting
  - Owner would prefer if tanks could be installed without a pause in work so construction start could shift to accommodate this depending on tank delivery date.
  - Schedule is important to uphold, the DAA needs functioning system for snow removal operations on the airfield

# Administrative Items (cont'd)

- Permits (To be completed by Contractor)
  - NPDES permit required for project, weekly inspections per permit requirements
  - Coordination with City of Duluth required
  - Erosion Control, Lighting, Electrical
    - List may not be comprehensive; it is the contractor's responsibility to ensure all permits that are required are submitted.
- Weekly construction meetings led by SEH
- Security badging
  - Contractor's working inside the Air Operations Area (AOA) will be required to be badged. The exception is for contractor's on site for 5 days or less. They must be escorted by a badge holder.  
<https://duluthairport.com/about/procedures-and-policies/badging/>
- Security Firm
  - Required for gate guarding any time access gates are unlocked and in use

# Administrative Items (Bid Procedures)

- Bid Express – all bids must be submitted through the City of Duluth Bid Express website.
  - Account is free, there is a \$50 fee to bid
  - [Bid Express :: City of Duluth](#) – Solicitation No. 26-4404
  - All addenda must be acknowledged, as well as the Declaration of Non-Collusion, Equal Employment Opportunity Statement, and Responsible Contractor Verification and Certification of Compliance.
  - Document 00 41 00 Bid Form
    - Email Bid Form and additional documents shown in that document to Jessica Vinson ([jvinson@sehinc.com](mailto:jvinson@sehinc.com)) within 72 hours after bid opening

# Addenda

- Any questions that result in a change to the bidding documents will be formally answered via addendum
- Verbal responses are not final
- Addendum No.1 – Issued May 18, 2026
- Addendum No.2 – Issued May 20, 2026

# Questions?

Presentation for

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# **Sky Harbor Airport Fuel Farm Improvements Pre-Bid Meeting**

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May 14, 2026



# Introductions

- Duluth Airport Authority
    - Ryan Welch, Director of Operations, Planning, and Construction
    - Jana Kayser, Director of Business and Property Development
    - Tristan Durfee, Airside Manager
  - SEH
    - Jessica Vinson, Project Manager
    - Shawn McMahon, Project Manager/Senior Engineer
    - Kaci Nowicki, Senior Planner
    - Jon Kruse, Electrical
    - Rothana Thorng, Electrical
  - Endpoint Solutions
    - Wade Wollermann
    - Brian Ferguson
- \* Please sign in by using the chat window:
- Name, company, email, and phone number

# Main Points of Contact

- Project Manager

- Jessica Vinson

[jvinson@sehinc.com](mailto:jvinson@sehinc.com)

- Shawn McMahon

[smcmahon@sehinc.com](mailto:smcmahon@sehinc.com)

# Project Schedule – DYT Fuel Farm Improvements

- May 6<sup>th</sup> Advertisement for bids
- May 14<sup>th</sup> Pre-Bid Meeting
- May 15<sup>th</sup> Addendum No.1 Issued (Expected)
- **May 19<sup>th</sup> Last day for questions**
- **May 20<sup>th</sup> Addendum No. 2 Issued (Tentative)**
- **May 27<sup>th</sup> 2 PM Bid opening (online) Bid Express**
- June 16<sup>th</sup> Airport Authority Consideration of Award
- June 16<sup>th</sup> Notice of Award
- April 2027 Construction start after material in hand
- May 30, 2027 Substantial completion (30 days)

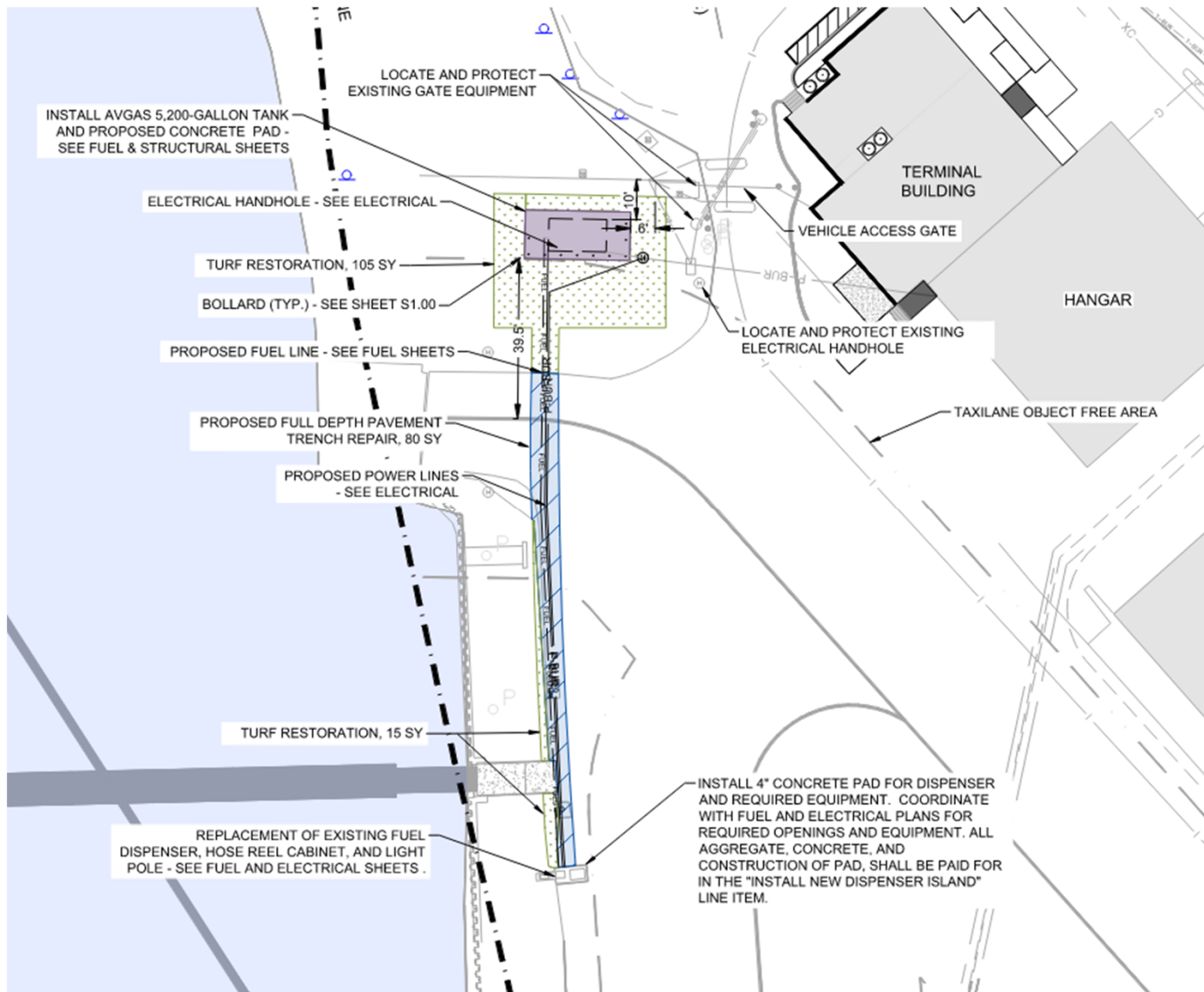
# Sky Harbor Airport (DYT) – Existing Site



- For Site Visits:  
For full site access,  
coordinate with  
Jessica Vinson,  
[jvinson@sehinc.com](mailto:jvinson@sehinc.com).



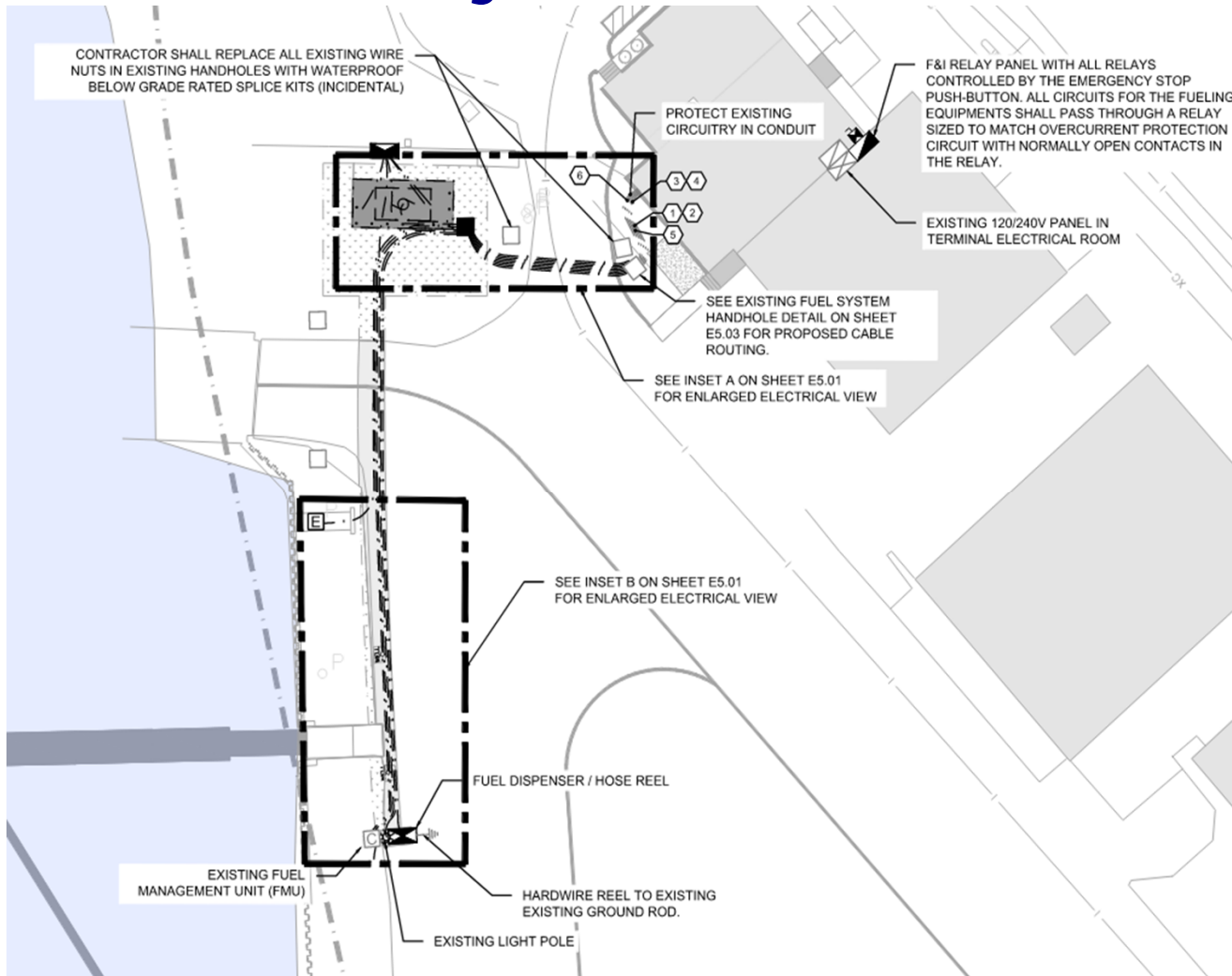
# DYT Project Overview



- Major Civil Work Items:
  - Concrete Pad Removal
  - Reinforced Concrete pad
  - Concrete pad for fueling dispenser and equipment
  - Sawcut asphalt
  - Pavement repair over utility trench



# DYT Project Overview



- Major Electrical Work Items:
  - Electrical demolition of existing lines as shown on plans
  - Site Lighting
  - Electrical lines to existing handhole
  - Work inside existing terminal mechanical room

# Administrative Items

- Bid security – 5%
  - must be sent, received, and verified prior to bid
- Wage rates
  - MN prevailing wage rate requirements (Appendix B)
  - EEO (Appendix D).
- Substitution requests
  - Submit electronically to PM using form in project manual
- Survey
  - Control points (engineer's responsibility)
  - Construction staking (contractor's responsibility)
    - Including quantity surveys and as-built surveys

# Administrative Items (cont'd)

- Permits (To be completed by Contractor)
  - Coordination with City of Duluth required
  - Erosion Control, Lighting, Electrical
    - List may not be comprehensive; it is the contractor's responsibility to ensure all permits that are required are submitted.
- Weekly construction meetings led by SEH
- **Construction schedule**
  - Construction cannot begin in spring 2027 until contractor has long lead time items.
  - Contractor should install pad and new tank first before taking old system offline.
  - Fuel system should be offline for no longer than 14 days.
  - Schedule is very important for this project, construction must be continuous.

# Administrative Items (Bid Procedures)

- Bid Express – all bids must be submitted through the City of Duluth Bid Express website.
  - Account is free, there is a \$50 fee to bid
  - [Bid Express :: City of Duluth](#) – Solicitation No. 26-4405
  - All addenda must be acknowledged, as well as the Declaration of Non-Collusion, Equal Employment Opportunity Statement, and Responsible Contractor Verification and Certification of Compliance.
  - Document 00 41 00 Bid Form
    - Email Bid Form and additional documents shown in that document to Jessica Vinson ([jvinson@sehinc.com](mailto:jvinson@sehinc.com)) within 72 hours after bid opening

# Addenda

- Any questions that result in a change to the bidding documents will be formally answered via addendum
- Verbal responses are not final
- Addendum No.1 – Issued May 18, 2026
- Addendum No.2 – Issued May 20, 2026

# Questions?

In addition to the Bid Worksheet electronically completed and submitted online, this BID FORM - DOCUMENT 00 41 00 and the attachments provided must be completed emailed to [jvinson@sehinc.com](mailto:jvinson@sehinc.com) within 72 hours of Bid opening.

**DOCUMENT 00 41 00**

**BID FORM**

Contractor's Name \_\_\_\_\_

Telephone \_\_\_\_\_

**PROJECT IDENTIFICATION:**           **Fuel Farm Relocation  
Duluth International Airport (DLH)  
Duluth, Minnesota  
SEH No. DULAI 188841**

**BIDS TO BE OPENED:**               **Wednesday, May 27, 2026 at 2:00 p.m.**

**TABLE OF ARTICLES**

Article 1 – Bid Recipient .....	1
Article 2 – Attachments to this Bid .....	1
Article 3 – Basis of Bid .....	1
Article 4 – Time of Completion .....	2
Article 5 – Bidder's Acknowledgements: Acceptance Period, Instructions, and Receipt of Addenda .....	2
Article 6 – Bidder's Representation and Certifications .....	2
Article 7 – Defined Terms .....	3
Article 8 – Bid Submittal .....	4

**ARTICLE 1 – BID RECIPIENT**

- 1.01 This Bid is submitted to [Bid Express](#) Online .
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 – ATTACHMENTS TO THIS BID**

- 2.01 The following documents are attached to and made a condition of this Bid and shall be uploaded via [Bid Express](#) Online :
  - A. Document 00 43 00 - Bid Bond
  - B. Document 00 43 37 - List of Proposed Suppliers.
  - C. Document 00 45 19 - Affidavit of Non-Collusion.
  - D. Document 00 45 45 - Verification of Compliance with Minnesota Statutes 16C.285.
  - E. Document 00 45 47 - Certification of Compliance with Minnesota Statutes 363A.36.

**ARTICLE 3 – BASIS OF BID**

- 3.01 Bidder will complete the Work in accordance with the Contract Documents for the prices as indicated on the [Bid Express](#) Online Bid Worksheet .

## UNIT PRICE BID

Unit Prices have been computed in accordance with Paragraph 13.03 of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

### ARTICLE 4 – TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

### ARTICLE 5 – BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

- 5.01 Bid Acceptance Period
- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the day of Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 5.02 Instructions to Bidder
- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security.
- 5.03 Receipt of Addenda
- A. Bidder hereby acknowledges receipt of the Addenda via **Bid Express** Online.

### ARTICLE 6 – BIDDER'S REPRESENTATION AND CERTIFICATIONS

- 6.01 Bidders Representations
- A. In submitting this Bid, Bidder represents that:
1. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents and acknowledged receipt of the Addenda via **Bid Express** online.
  2. Bidder has visited the site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  3. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress and performance of the Work.
  4. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
  5. Bidder has carefully studied reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, and (3) Bidder's safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 Bidder certifies that:

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
3. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 6.02.A:
  - a. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
  - b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - c. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  - d. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

## **ARTICLE 7 – DEFINED TERMS**

7.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions

**ARTICLE 8 – BID SUBMITTAL**

8.01 The Bid submitted by:

If Bidder is:

**An Individual**

Name (typed or printed): \_\_\_\_\_

By: \_\_\_\_\_ (SEAL)  
*(Individual's signature)*

Doing business as: \_\_\_\_\_

**A Partnership**

Partnership Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature of general partner - attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

**A Joint Venture**

Name of Joint Venturer: \_\_\_\_\_

First Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature of first joint venture partner - attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Second Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
*(Signature - attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

**A Corporation**

Corporation Name: \_\_\_\_\_

State of Corporation: \_\_\_\_\_

Name (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_  
*(Signature - attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_  
(CORPORATE SEAL)

Attest: \_\_\_\_\_  
*(Signature of Corporate Secretary)*

Date of Qualification to do business in \_\_\_\_\_ is \_\_\_\_/\_\_\_\_/\_\_\_\_.  
*(State Where Project is Located)*

**Contact Information**

Bidder's Business Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_ Facsimile: \_\_\_\_\_ E-mail: \_\_\_\_\_

Submitted on \_\_\_\_\_, 20\_\_\_\_.

State Contractor License No. \_\_\_\_\_. (If applicable)

**END OF DOCUMENT**

## STATEMENT OF ESTIMATED QUANTITIES

LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	01 71 13	MOBILIZATION	LS	1
2	01 71 13	REMOBILIZATION FOR LONG LEAD TIME EQUIPMENT INSTALL	LS	1
3	01 71 23	FIELD ENGINEERING	LS	1
4	01 55 15	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1
5	31 25 10	SILT FENCE, TYPE PREASSEMBLE (INCL. INSTALLATION, MAINTENANCE, & REMOVAL)	LF	1500
6	31 25 10	FILTER LOG, TYPE WOOD FIBER BIOROLL (INCL. MAINTENANCE)	LF	1400
7	31 25 10	EROSION CONTROL BLANKET (INCL. MAINTENANCE)	SY	280
8	32 91 13	ON-SITE TOPSOIL SALVAGING, & SPREADING	CY	190
9	02 41 33	SAWING BITUMINOUS PAVEMENT	LF	385
10	02 41 33	FLARED END SECTION REMOVAL	EA	2
11	33 42 20	15" REINFORCED CONCRETE PIPE, CLASS III WITH CLASS B BEDDING	LF	165
12	31 23 10	COMMON EXCAVATION (EV)	CY	3450
13	31 23 10	UNCLASSIFIED EXCAVATION	CY	500
14	31 22 10	SELECT GRANULAR/SUBBASE COURSE	CY	1480
15	32 11 11	SUBGRADE PREPARATION	SY	3200
16	31 34 10	GEOTEXTILE FABRIC	SY	3200
17	31 11 22	CRUSHED AGGREGATE BASE COURSE (CV)	CY	705
18	32 12 16	WEARING COURSE MIXTURE	TON	516
19	32 12 16	NON-WEAR COURSE MIXTURE	TON	530
20	32 12 13	EMULSIFIED BITUMINOUS TACK COAT	GAL	150
21	32 13 10	CONCRETE PAVING (6 INCH )	SY	230
22	32 13 10	CONCRETE SLAB (4 INCH)	SY	17
23	03 30 00	REINFORCED CONCRETE SLAB (12 INCH)	SY	260
24	32 17 25	PARKING LOT MARKING, WHITE	LS	1
25	32 15 10	SHOULDER BASE AGGREGATE	CY	25
26	32 01 16	MILL AND OVERLAY	SY	85
27	32 92 12	TURF ESTABLISHMENT (BRILLION) (INCL SEED, FERTILIZER, MULCH, & WATER)	AC	1
28	ELEC	SERVICE CABINET WITH ENVIRONMENTALLY CONTROLLED ENCLOSURE	EA	1
29	ELEC	EQUIPMENT PAD	EA	1
30	ELEC	LIGHTING UNIT	EA	1
31	ELEC	LIGHT POLE FOUNDATION	EA	1
32	ELEC	LUMINAIRE	EA	1
33	ELEC	EMERGENCY FUEL STOP SYSTEM	EA	1
34	ELEC	1" CONDUIT	LF	230
35	ELEC	2" NON-METALLIC CONDUIT	LF	20
36	ELEC	3/4" NON-METALLIC CONDUIT	LF	3520
37	ELEC	UNDERGROUND WIRE 1/C 10 AWG	LF	7805
38	ELEC	UNDERGROUND WIRE 1/C 2 AWG	LF	90
39	ELEC	BELDEN CABLE #8780	LF	2475
40	ELEC	CAT6A CABLE	LF	75
41	ELEC	COMMISSIONING	LS	1
42	Spec. Prov.	PROCURE AND INSTALL 10,000 GAL UNLEADED AST, APPURTENANCES AND PIPING	LS	1
43	Spec. Prov.	PROCURE AND INSTALL 2-10,000 GAL DIESEL AST, APPURTENANCES AND PIPING	LS	1
44	Spec. Prov.	PROCURE AND INSTALL - AST APPURTANANCES	LS	1
45	Spec. Prov.	PROCURE AND INSTALL- UG PIPING AND SUMPS	LS	1
46	Spec. Prov.	INSTALL NEW DISPENSER ISLANDS	LS	1
47	Spec. Prov.	PROCURE AND INSTALL - NEW DISPENSERS	LS	1
48	Spec. Prov.	PORTABLE SUPPLIES/SIGNAGE - AIRSIDE	LS	1
49	Spec. Prov.	PORTABLE SUPPLIES/SIGNAGE - LANDSIDE	LS	1
50	STRUCT.	CONCRETE BOLLARD WITH SLIP COVER	EA	59

## FUEL SYSTEM EQUIPMENT

### PART 1 - GENERAL

#### 1.01 Scope of Work

- A. The Work under this Contract includes installation of new Diesel and Gasoline Fuel systems, including the aboveground storage tanks (AST), dispensers, and all incidental items necessary to complete the Work as shown on the Plans and included in the Proposal and Contract.
- B. These Special Provisions and Technical Specifications will identify the equipment performance to be met by the Contractors.
- C. Due to the specific nature of how various equipment components are put together to make up a functioning fueling system, known manufacturers and suppliers of acceptable equipment will be identified.
- D. "Or approved equal" equipment is acceptable if, in fact, it is equal in performance, materials, code compliance, and serviceability as determined by the Engineer.

#### 1.02 References

- A. Work shall conform to procedures and practices in the following regulatory guidelines and industry standards when applicable:
  - 1. Minnesota State Fire Code (MSFC) Chapter 23 "Motor Fuel-Dispensing Facilities and Repair Garages"
  - 2. Minnesota Pollution Control Agency (MPCA) Chapter 7151 "Aboveground Storage of Liquid Substances"
  - 3. National Fire Protection Association, NFPA 30, "Flammable and Combustible Liquids Code", 2024 Edition.
  - 4. National Fire Protection Association, NFPA 30A, "Motor Fuel Dispensing Facilities and Repair Garages Code", 2024 Edition
  - 5. National Fire Protection Association NFPA 70, "National Electrical Code", 2026 edition.
  - 6. Petroleum Equipment Institute "Recommended Practices for the Installation of Aboveground Storage Systems for Motor Vehicle Fueling", PEI RP 200-24
  - 7. Petroleum Equipment Institute "Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment", PEI RP 500-24
  - 8. American Society of Mechanical Engineers, ASME B31.3 "Process Piping", 2024 Edition.

#### 1.03 Scope of Equipment and Special Services

- A. The Work under this Contract consists of obtaining and installing fueling equipment, fuel facilities, electrical, site work, prep work, and all incidental items necessary to complete the Work as shown on the Drawings and included in the Proposal.
- B. Significant major construction is planned for the area of this project.
- C. ENGINEER will provide the following:
  - 1. Engineer will review Shop Drawing Submittals of major equipment specified and furnished.
  - 2. Engineer will provide periodic construction site visits for design compliance review. Copies of all the installation paper work is to be given to the Owner with the Equipment and Warranty Manuals.

- D. **CONTRACTOR:** The qualified low bidding General Contractor (prime contractor), his/her subcontractors and equipment vendors will complete:
1. Submit major equipment cut sheet submittals and manufacturer's pre-production (shop) drawings showing details of construction and materials for the proposed work to the Owner and Engineer for approval before the start of work. Shop drawings and submittals should be assigned a submittal number and the contract number and project name shall be identified. The submittals shall have each page numbered, and the part number or model being furnished should be identified by highlighting (yellow marker) or asterisk. Shop drawings not containing the previously referenced identification will be sent back "Not Reviewed".
  2. Purchase equipment including freight and sales tax.
  3. Apply for and obtain the required Tank Installation Permit from the local code officials / Authority Having Jurisdiction (AHJ) based on the bidding documents. Provide one set of approved plans to the Engineer and one set to the Owner. Any Permit changes will be coordinated between the Engineer, AHJ, Owner, the Department and the Contractor.
  4. Obtain required local permits, i.e., electrical permit.
  5. Install equipment per the permit design drawings and specifications.
  6. The Contractor is responsible to call for and conduct all the inspections required by the local fire code enforcement officer at the correct time(s).
  7. Maintain record drawings and pictures of as-built system.
  8. Conduct factory and site pressure testing of all system parts. Submit the results to the Engineer, Owner and State Tank Inspector.
  9. Start up the systems and calibrate, verify and document flow rates and pressures. Verify functionality of all system components.
  10. Provide a minimum of 4-hours of Owner training on each major system (fueling dispensers, tank monitor, etc.).
  11. Provide owner documentation for the project per the contract documents.
  12. Provide completed punch list provided by Owner, Engineer and Department Project Manager for final payment
  13. Update AST registrations
- E. **OWNER:** The Owner will:
1. Order fuel delivery for initial AST fill and testing.
  2. Register dispenser meters with the Minnesota Department Of Commerce Weights and Measure Division and apply for operator permits(s) as required.

#### **1.04 Submittals**

- A. Equipment components to have shop drawings/submittals reviewed by the Engineer include, but are not limited to, the following items:
1. Aboveground Tanks
  2. Dispenser(s)
  3. FMU(s) (Fuel Management Unit)
  4. Submersible Pumps
  5. Tank Monitor
  6. Overfill Alarms
  7. Tank Level Probes
  8. Interstitial Probes
  9. Sump Probes
  10. Spill Boxes

11. Tank Level Indicator(s)
12. Overfill Valve & Drop Tubes
13. Aboveground Piping & Supports
14. Underground Piping
15. Line Leak Detection
16. Containment Sumps
17. Vents & Vent Piping
18. Fueling Hoses
19. Fueling Nozzles
20. Diesel Hose Retractors
21. Valves/Anti-Siphon Valve
22. Flex Connectors
23. Signs & Labeling
24. Aggregate, Asphalt and Concrete
25. Conduits and Wires
26. Emergency Stop
27. Portable Supplies
28. Bollards and Bollard Slip Covers

**1.05 Site Work.**

- A. See civil technical specifications and project drawings.

**1.06 Electrical Power for Fueling Equipment.**

- A. Construct Electrical Power for Fueling Equipment in accordance with all of the Drawings and this Special Provision.
  1. Provide Electrical Power for the Fueling Equipment as shown on the Drawings, Site Plan and Electrical Details (E5.00-E6.00) to provide a complete and operable power supply for fueling system. All electrical work in this Contract shall be done under the direct supervision of a currently certified State of Minnesota Certified Master Electrician.
  2. All electrical work is to be completed per the NFPA 30, and 70 codes. All electrical equipment and wiring shall be of a type specified by and installed in accordance with NFPA 70, National Electric Code (NEC).
  3. The Drawings are intended to locate loads, identify preferred materials of construction, locate connection points, suggest conduit layout and give general electrical information. It is the Contractors responsibility to meet the letter of the code, develop final wiring drawings as may be necessary, understand equipment wiring diagrams from equipment manufacturer drawings and cut sheets, assist the mechanical contractor in selecting required service for the various types of equipment to be efficient, install the distribution panels, conduit, wires, make the final connections, test the systems for operation, and pull the local electrical permit. Electrician must be aware of the total system Drawings and these specifications.
  4. The tank probe interface cable shall be Belden 87761, Carol C2534 or approved equal.
  5. Electrical power to the new fueling system(s) shall be routed from the identified tie-in location to the AST and dispensing areas (by the Contractor).
  6. Control and single-phase power (120/208 VAC) to various equipment loads are to be on separate circuits. Control and power circuits shall all be in separate conduits.

**PART 2 - PRODUCTS**

## **2.01 Construct Diesel and Gasoline Fuel Systems.**

- A. Construct Diesel and Gasoline Fueling Systems in accordance with the Drawings and these Special Provisions.
  - 1. Construct Diesel and Gasoline Fueling Systems as shown on Drawings (F101 – F107) to provide a complete and operable system. All materials must conform to the size and type called for in this specification and to applicable laws, codes and ordinances.
  - 2. The Contractor shall be responsible for the safe storage and handling of all materials used in the work. Store all materials in the Contractor storage area or areas designated by the Owner. Store and/or handle materials so as to not adversely affect traffic, drainage, fire protection, or public safety. Inconveniences to City personnel from the storage and handling of materials shall be kept to a minimum.
  - 3. The Contractor shall employ and furnish a power broom or sweeper to provide unobstructed and safe passage around the construction area for the duration of this project. Equipment shall be provided by the contractor on-site during this period. Paved surfaces shall be cleaned throughout the working day and at the end of each working day of dirt debris and other.

## **2.02 Aboveground Storage Tank(s)**

- A. Certifications: Underwriters Laboratories
- B. Acceptable Manufacturers: Lannon Tank, Modern Welding; or, Approved Equal
- C. Diesel System Tanks:
  - 1. Two (2) 10,000-gallon, 8-foot diameter, double wall, with painted steel exterior, aboveground tank with monitored interstice.
  - 2. Manufactured to Underwriters Laboratory (U.L.) 142 Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids.
  - 3. Fuel compartment will have smooth interior, and interior deflector plates at all wear points
  - 4. Tank fittings shall include:
    - a. One (1) 4" NPT tank fitting for the suction drop tube
    - b. One (1) 24" raised manway and cover.
    - c. One (1) 6" NPT tank fitting for the 3" fill line with overfill prevention valve and drop tube
    - d. One (1) 4" NPT fitting for the tank level probe
    - e. One (1) 4" NPT fitting for the tank level gauge
    - f. One (1) 3" NPT fitting for the 3" service vent
    - g. One (1) 8" NPT connection for the primary emergency vent,
    - h. One (1) 8" NPT connection for the secondary emergency vent.
    - i. One (1) 2" NPT tank fitting for the interstitial leak indicator
  - 5. Manufacturer's installation instructions, gauging charts and warranty documentation.
  - 6. Plug or blind-flange all unused opening.
  - 7. Factory and pre-installation integrity testing to be completed per manufacturer and documentation provided to Engineer.
  - 8. The new Diesel tanks shall include signage on all sides for "No Smoking" and "Diesel". The two ends of the tank shall include an NFPA 704 diamond indicating Health - 1, Flammability - 2 and Reactivity – 0. Additional labeling shall be provided in accordance with the MSFC and MPCA requirements.
- D. Gasoline System Tank:
  - 1. One (1) 10,000-gallon, 8-foot diameter, double wall, with painted steel exterior, aboveground tank with monitored interstice.

2. Manufactured to Underwriters Laboratory (U.L.) 142 Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids.
3. Fuel compartment will have smooth interior, and interior deflector plates at all wear points
4. Tank fittings shall include:
  - a. One (1) 4" NPT tank fitting for the suction drop tube
  - b. One (1) 24" raised manway and cover.
  - c. One (1) 6" NPT tank fitting for the 3" fill line with overfill prevention valve and drop tube
  - d. One (1) 4" NPT fitting for the tank level probe
  - e. One (1) 4" NPT fitting for the tank level gauge
  - f. One (1) 3" NPT fitting for the 3" service vent
  - g. One (1) 8" NPT connection for the primary emergency vent,
  - h. One (1) 8" NPT connection for the secondary emergency vent.
  - i. One (1) 2" NPT tank fitting for the interstitial leak indicator
5. Manufacturer's installation instructions, gauging charts and warranty documentation.
6. Plug or blind-flange all unused opening.
7. Factory and pre-installation integrity testing to be completed per manufacturer and documentation provided to Engineer.
8. The new Gasoline tank shall include signage on all sides for "No Smoking" and "Gasoline". The two ends of the tank shall include an NFPA 704 diamond indicating Health - 1, Flammability - 3 and Reactivity - 0. Additional labeling shall be provided in accordance with the MSFC and MPCA requirements.

### **2.03 Dispensers**

- A. Acceptable Manufacturers: Gasboy, Wayne, or approved equal.
- B. Description:
  1. Provide and install two (2) diesel dispensers, and two (2) gasoline dispensers.
  2. Two (2) diesel and two (2) gasoline dispensers to be 1-product, two-sided dispensers, 2-hose, electronic metering and totalizer and island-oriented nozzles for fueling products from either side of the island.
  3. All of the following equipment is to be furnished by the dispensers' Manufacturer.
  4. All piping shall be 304L stainless steel equivalent or better or painted steel (interior minimum of Schedule 10 with exterior flanges Schedule 40). Equipment to be factory painted and rated for automotive fuel service. Manufacturer pre-piped, pressure tested and pre-wired cabinets.
  5. Any equipment size or rating change must be identified and verified that the design flows and pressures can still be met and approved by the Engineer.
  6. Equipment Manufacturers must be familiar with other sections of this specification which affects the total fueling system (electrical, mechanical, etc.).
  7. Dispenser shall be UL Listed and built to comply with NFPA 30A requirements for motor fuel dispensing.
- C. Construction:
  1. Dispenser weather enclosures shall be of steel frame construction. Dispenser covers to be constructed of steel and have removable cover or panels. Dispensers shall include lockable single, double or triple weather tight front doors. Dispensers shall not have sharp corners or edges. No, galvanized steel, or aluminum cover material allowed.
  2. Dispensers shall be anchored to concrete slab. Contractor shall provide steel dispenser stands built to match the dispenser anchoring requirements.

3. Diesel dispensers shall include an elevated hose retractor.
  4. Product inlet connections shall be 1-1/2 inch.
- D. Configuration: All dispensers will have easy to read operating and safety instructions.
- E. Flow Rates:
1. Diesel dispensers to be rated for up to 35 GPM.
  2. Gasoline dispenser to be governed to a maximum of 10 GPM.
- F. Dispenser Components:
1. Electrical pump control from internal FMU (see "Fuel Management Unit").
  2. Dispensers shall include positive displacement metering with LCD totalizer (volume) display (US gallons) and LED backlighting. Display shall be capable of six (6) digit measurement (999.999 gallons). Metering shall have a minimum accuracy of +/- 0.3% from 1.5 GPM to 25 GPM.
  3. Emergency shear valves at base of dispenser and mounted to concrete.
  4. Air eliminator (discharge w/check valve, 1/4-inch piped back to the storage tank), digital numeral gallons fueled counter, 1/10th gallon and dollars sold totalizer electronic register, a 100:1 12vdc pulser compatible with and wired to internal FMU.
  5. Internal fuel filter, capable of removing water and particulates, rated for dispenser flow rate. Filter to be spin-on canister type.
  6. One (1) 1.5-inch product line from the tank to each dispenser.
  7. Dispenser Hose:
    - a. 18 feet of 1-inch hose for diesel dispenser and 12 feet of 3/4-inch hose for gasoline dispenser.
    - b. Diesel dispenser shall include an elevated hose retractor that holds the hose off of the ground when retracted.
    - c. The hose exterior shall provide abrasion resistance.
    - d. The hose assembly will be equipped with a same size hose breakaway that seals both sides of the breakaway. The breakaway shall be of the reconnectable type to allow reassembly without providing any new equipment. The breakaway shall be located between the nozzle and the point of attachment of the retractor (if applicable). Each hose will also be equipped with a same size swivel fitting at the nozzle connection.
  8. Dispenser Nozzles:
    - a. OPW 7HB or approved equal 1" nozzles for diesel.
    - b. OPW 11BP or approved equal 3/4" nozzle for gasoline.
    - c. Nozzles to be rated for cold weather.

#### **2.04 Fuel Management Unit (FMU)**

- A. Acceptable Manufacturers: Fuelmaster, Gasboy or approved equal.
- B. Provide Two (2) new Fuel management units/card readers. Units to provide access to new diesel and gasoline fueling dispensers.
1. One (1) unit to provide access to the QTA gasoline dispenser and one (1) unit to provide access to the maintenance equipment dispensers.
- C. Configuration:
1. System shall be stand-alone and capable of unattended operation 7 days per week, 24 hours per day.
  2. The site controller shall store up to 25,000 transactions and 50,000 vehicles/devices with the ability to set limitations and restrictions.

3. System to operate on a Cloud Hosted Software through a direct wired internet connection.
  4. System to support connection to tank monitoring system
- D. Components:
1. Multimedia color display capable to show detailed operating instructions or any other messaging determined by the Owner.
  2. Keypad must be durable and weather resistant for numeric entries.
  3. Power requirements must be 100-240 VAC for hazardous area rating.
  4. Contactless card/tag reader
  5. Fuel management units shall be provided with a weatherproof protective cover suitable for outdoor installation and exposure.
- E. Support:
1. Remote service for questions shall be available to a Manufacturer Certified Technicians free of charge during the Warranty period.

## **2.05 Dispenser Islands**

- A. Install one (1) 4 feet wide by 15 feet long by 9-inch-tall concrete island and one (1) 4 feet wide by 55 feet long by 9-inch-tall concrete island.
- B. Islands to be installed with transition sumps under dispenser locations and all utilities and connections stubbed prior to concrete installation.

## **2.06 Submersible Pumps**

- A. Acceptable Manufacturers: Franklin Fueling, Veeder Root or approved equal.
- B. Description:
  1. Provide one (1) submersible pump per tank (total of three (3)).
  2. Two (2) 2 HP, 1-phase, 208/230V, submersible pump with internal check valve mounted to the diesel tanks.
  3. One (1) 1.5 HP, 1-phase, 208/230V, submersible pump with internal check valve mounted to the gasoline tank.
  4. Design output:
    - a. 10 GPM at each gasoline dispenser nozzle.
    - b. Up to 35 GPM at each diesel dispenser nozzle.
  5. System expansion relief shall be set at 5 psi greater than system maximum pump pressure.
- C. Configuration:
  1. The submersible pump is to be furnished and installed by the Contractor.
  2. The remote smart pump controllers are to be furnished and installed by the Contractor to meet peak demand flows and alternate pump operation on diesel tanks.

## **2.07 Tank Monitor**

- A. Acceptable Manufacturers: Veeder Root TLS4, Franklin Fueling, or approved equal.
- B. Provide one (1) new tank monitor
- C. A new tank monitor shall be provided and installed. Location of monitor shall be coordinated with Owner and Engineer and as specified on drawings.
- D. The Tank monitor shall be connected to new fueling system components including:

1. Three (3) new interstitial leak detection probes
  2. Three (3) new level probes
  3. Seven (7) new sump probes
  4. Two (2) new ELLD
  5. One (1) new overflow alarm
- E. The Contractor is to coordinate the software programming and installation for the new components. This Work shall include a minimum of four-hours of training the Owner on use of the system after installed and operational.
- F. Tank monitor will display tank level information and perform inventory control, leak detection, liquid detection and reports and shall be remotely accessible via web-enable access to download and provide a printed record of tests for owner documentation.

**2.08 Overfill Alarm(s)**

- A. Acceptable Manufacturers: Veeder Root, or approved equal.
- B. Provide and install one (1) new overflow alarm compatible with proposed tank monitor.
- C. Alarm to be located per the drawings and will alarm when any of the ASTs reach 90% shell capacity.

**2.09 Tank Level Probe(s)**

- A. Acceptable Manufacturers: Veeder Root, or approved equal.
- B. Provide and install one (1) tank level probe on each AST (total of three (3)) with signal to new tank monitor.
- C. Tank level probes to be compatible with tank monitor.
- D. Tank level probe overflow alarm must be set to alarm through the new tank monitor at 90% tank shell capacity prior to the overflow valve actuation.

**2.10 Interstitial Probe(s)**

- A. Acceptable Manufacturers: Veeder Root, or approved equal.
- B. Provide and install one (1) electronic non-discriminating liquid probe on each AST (total of three (3)) for interstitial monitoring.
- C. Probes to be compatible with tank monitor.
- D. Interstitial probe must be set to alarm at the tank monitor if liquid is detected in the AST interstice.

**2.11 Sump Probe(s)**

- A. Acceptable Manufacturers: Franklin Fueling, Veeder Root, or approved equal.
- B. Provide and install one (1) non-discriminating liquid probe per sump (seven (7) total) for leak monitoring.
- C. Probes to be compatible with new Tank Monitor.
- D. Sump probes must be set to alarm at the Tank Monitor when liquid is detected in the sump.

**2.12 Mechanical Tank Gauge**

- A. Acceptable Manufacturers: Morrison 818, OPW 200TG or approved equal.

- B. Provide and install one (1) mechanical tank gauge on each AST (total of three [3]). Indicator to be float actuated. Display to be visible from offloading spill box locations.

### **2.13 Overfill Valve and Drop Tube(s)**

- A. Acceptable Manufacturers: Morrison 9095, Clay Bally, OPW, or approved equal.
- B. The 3-inch pressure fill drop tubes are to have a mechanical overfill valve set at 95% of full tank shell capacity.
- C. The overfill prevention valve shall be sized internally to match the off-load piping diameter and shall be suitable for use with offloading pump pressure.

### **2.14 Remote Fill Boxes**

- A. Acceptable Manufacturers: Morrison 515, OPW 211, or approved equal.
- B. Provide two (2) offloading spill boxes, one (1) for gasoline and one (1) for diesel offloading.
- C. Provide two (2) gang rear entry with a 3-inch connection for each, dry disconnect and cap for gasoline.
- D. Provide one (1) gang rear entry with a 3-inch connection for each, dry disconnect and cap for diesel
- E. Model to include 4-leg stand with painted steel construction, lockable cover and minimum of 15 gallons of capacity.

### **2.15 Aboveground Piping**

- A. Provide Piping Systems in accordance with these Special Provisions.
- B. This Work consisting of Fuel Piping Systems and other incidental items to provide a complete and operable site for the fueling system as shown on the Drawings.
- C. Materials:
  - 1. All aboveground piping shall be 3-inch and 2-inch welded or threaded Schedule 40 painted (white) carbon steel equivalent or better piping as indicated on the drawings.
  - 2. Piping and fittings shall be of metal, suitable for automotive fuel service, and designed for the working pressure and mechanically and thermally produced structural stresses to which they could be subjected and shall comply with ASME B31.3 Process Piping.
  - 3. Any deviation must be authorized by the authority having jurisdiction and the Engineer.
- D. Aboveground piping to be tested, supported and secured in accordance with ASME B31.3 Process Piping Standards.
- E. Aboveground piping to be labeled in accordance with the MSFC and MPCA requirements.

### **2.16 Underground Piping**

- A. Acceptable manufacturers: Franklin Fueling (UPP), OmegaFlex (Double Trac), NOV (Dualoy) or Approved Equal
- B. Materials:
  - 1. Provide and install 3-inch and 2-inch (supply) double-walled fuel product piping as indicated on the drawings.
  - 2. Provide and install 3-inch single-walled vapor recovery piping as indicated on the drawings.
- C. Piping to be installed per manufacturer recommendations including observance of minimum bend radius requirements and be approved for automotive fuel service.

- D. No buried connections will be allowed and all piping connections must occur within a monitored sump.
- E. Sump penetrations must be sealed with compatible transition boot manufactured for the specific pipe material used.
- F. Piping must be compatible with ELLD system.
- G. Piping must slope back to the containment sumps per manufacturer minimum slope requirements.
- H. Piping transitions from underground to aboveground require a flexible connector rated for the application.

#### **2.17 Line Leak Detection**

- A. Acceptable Manufacturers: Veeder Root, Franklin Fueling or Approved Equal
- B. Provide and install ELLD equipment for double-wall underground piping.
- C. ELLD to be compatible with tank monitor.
- D. ELLD system shall be compatible with pump model and Tank Monitor and be able to detect a 3 gallon per hour (gph) leak at 10 pounds per square inch (psi) within 1 hour with a 0.95 probability of detection and a 0.05 probability of false alarm.
- E. A 2" solenoid valve to be installed prior to each ELLD. The solenoid valve to be controlled by an adjustable timer set to open after a preset time delay upon startup of the submersible pump. The adjustable timer to be furnished and installed by the Electrical Contractor.

#### **2.18 Containment Sumps**

- A. Acceptable Manufacturers: Bravo, Franklin Fueling or Approved Equal
- B. Provide and install liquid-tight containment sump at piping transitions as shown.
- C. Any product pipe connections must occur within a containment sump. All sump penetrations must be water tight and compatible with piping products utilized. No penetrations through sump bottoms will be permitted.
- D. Electrical and signal connections should enter over the top of the sump wall.
- E. Sumps must be hydrostatically tested during installation.

#### **2.19 Valves**

- A. Valves and fittings shall be of metal, suitable for automotive fuel service and designed for the working pressure and mechanically and thermally produced structural stresses to which they could be subjected and shall comply with ASME B31.3 Process Piping.
- B. Any deviation must be authorized by the authority having jurisdiction and the Engineer.

#### **2.20 Sign(s)**

- A. Signage is to be furnished and installed by the Contractor per the Code. Signage to include:
  - 1. Emergency instructions
    - a. Signage at each dispenser in accordance with MN Fire Code 2305.6.
  - 2. Emergency Shut-Off
    - a. Provide two (2) emergency shut-off signs.
    - b. Signs should be minimum size of 12"x8" and have a minimum of 2-inch-high letters.
    - c. Signs to be mounted in location per drawings.

3. Tank Overfill Alarm
  - a. Sign should be minimum size of 12"x8" and have a minimum of 2-inch-high letters.
  - b. Sign to be mounted in location per drawings.
- B. Standard signs will be made of metal with white powder coated or dipped coating background with Red Vinyl letters unless directed otherwise. Or, alternately, heavy duty 0.060 plastic signs with a coating to resist sun, paints, and chemicals with mounting grommets may be utilized.
- C. Signs to be mounted to frame and braced for wind.

#### **2.21 Emergency Stop Switch**

- A. Locate two (2) remote shutoffs in accordance with NFPA 30A and as indicated on the Drawings.
- B. The emergency shutoff system will cut power to the pumps and control circuits. Pulling the power breaker at the power panel kills power to everything in the fueling system.
- C. All underground conduits shall be the size and materials as shown on the Drawings.

#### **2.22 Portable Supplies**

- A. Fire Extinguishers:
  1. Provide and install two (2) new fire extinguishers and cabinets for placement near dispensing system.
  2. Locate per NFPA 30A as shown on the Drawings.
- B. One (1) Manual Tank Gauge Stick for manual gauging each compartment.
- C. One (1) full spare set of replacement filter elements for each dispenser.

#### **2.23 Crash Protection Bollards.**

- A. Crash protection bollards for AST systems to be 6-inch ID Sch. 40 steel pipe set four (4) feet into the ground and anchored with concrete.
- B. Posts should extend four (4) feet above grade and be covered with yellow plastic sleeves.

### **PART 3 - EXECUTION**

#### **3.01 Work Sequence.**

- A. The Work on this project needs to be constructed to accommodate the Owner's occupancy and operational requirements during the construction period. Provide work in the following sequence. Modifications to the sequence shall be approved by the Engineer.
  1. Obtain required permits
  2. Set up low-profile construction barricades per the Construction Safety and Phasing Plan (CSPP).
  3. Set erosion control items.
  4. Make safety arrangements before using a crane or any equipment that exceeds twenty (20) feet in height.
  5. Install new buried conduits and connect underground electrical power from the electrical supply panels indicated on the drawings to the new AST area and dispensing area. Provide seal-offs above grade prior to their entry into the new stainless steel junction box. Contractor is required to coordinate this work through the Engineer to ensure it takes place before the aggregate base course has been compacted.

6. Open trench for conduit shall be backfilled immediately upon completion of the conduit installation.
7. Install concrete fueling island and dispenser sumps with non-discriminating leak probes.
8. Excavate, place structural fill and subbase, compact and install concrete for tank pad, and new AST area. Complete all grounding, electrical conduit installation and stub-outs within concrete slab footprints, collision protection bollards, transition sump with non-discriminating leak probes and other required underground components prior to pouring concrete pads.
9. Install steel concrete-filled collision protection bollards around new dispensers and ASTs. Install at locations shown on the drawings, providing adequate space to access dispensers.
10. Install three (3) aboveground fuel tanks (two (2) diesel and one (1) gasoline). Tanks to be installed per manufacturer instructions, MSFC and MPCA code, all reference codes and per the project drawings. Shim tanks to level as needed.
11. Cap all openings and perform integrity test on tank per manufacturer recommendation.
12. Install manual float level gauges on each AST.
13. Install electronic level gauge(s) on each AST tied into the new tank monitor.
14. Install electronic interstitial probe(s) in new AST(s) interstitial space. The electronic interstitial probes will be connected to the new tank monitor.
15. Install mechanical overfill shut off valves that will stop the transfer when the tank reaches 95% shell capacity. The overfill prevention valve shall be sized internally to match the off-load piping diameter.
16. Install service vents for the ASTs along with the vapor recovery line for the gasoline AST.
17. Furnish and install submersible pumps, aboveground supply piping and supports to transition sump and underground supply piping to the dispensers including ELLD, valves and flex connectors. Pressure test piping.
18. Leak test all sumps.
19. Furnish and install dispensers per the drawings.
20. Install remote off-loading spill boxes and connections. Label diesel spill box with a sticker labeled "Diesel" and gasoline spill box with a sticker labeled "Gasoline."
21. Install aboveground piping and piping supports from offloading connections to tanks. Pressure test piping.
22. Furnish and install a card readers/FMUs as shown on the drawings. Connect new dispenser(s) to FMU(s). The card reader shall activate power to the dispenser(s), pump(s), and solenoid valve(s) when payment is authorized and depower system after transaction has timed out.
23. Install new tank monitor in the terminal building location as specified on the drawings.
24. Install new audible/visual overfill alarm to sound when tank reaches 90% shell capacity, tied into the new tank monitor.
25. Pull signal from tank systems and dispensing areas to new tank monitors for all tank level probes, interstitial probes, sump probes and ELLD and connect to tank monitor.
26. Provide signage for Emergency Shut-Offs, Overfill Alarm, and Emergency Calling Instructions. Install signage per the drawings. Install labeling on tanks, dispensers, and fill connections per specifications.
27. Connect underground electrical to new fueling system equipment. Wire all the electrical power, control, electronic (data) equipment for the Fueling System.
28. Provide code required equipment testing and conduct a Minnesota Certified Calibration of all meters. Seal the meters after accurate calibration.
29. Conduct system pressure tests and equipment start up, including verifying and documenting flow rates. Conduct owner training on the new system.

30. Restore Fueling System areas and other vegetated areas disturbed by Contractor's operations to surrounding grade with suitable clean backfill, plus 4" topsoil, grass seed mix, fertilizer, and stabilized fiber matrix, or to match existing pavement.
31. Remove Construction Barriers and perform site cleanup.
32. Provide all portable supplies.
33. Deliver all equipment manuals, warranties, and as built drawings to the Engineer for review and approval.

**3.02 Electrical Modifications for Fueling Systems.**

- A. See electrical plans

**3.03 Owner Documentation.**

- A. Upon completion of the installation, all relevant information for the fueling system shall be provided to the Owner/Engineer including, but not limited to, following:
- B. Documentation shall be neatly bound into a single document (one document per site) and labeled and one (1) copy provided to Owner and one (1) copy to Engineer.
  1. Listing of new equipment including name and serial numbers
  2. Copies of all State of Minnesota correspondence/forms:
    - a. Installation Permit
    - b. Installation Application Form
    - c. Construction Installation Checklists
    - d. UST Removal Notification (State & Local)
  3. Piping and Sump Tightness Testing Reports
  4. Calibration Reports
  5. Manufacturer Drawings
  6. Tank Charts
  7. Equipment Warranty Documentation
  8. Bills of Lading
  9. Waste Disposal Records
  10. Tank Shipping & Receiving Records
  11. Equipment Installation & Operation Manuals
  12. Construction Photos
  13. Record Drawings

**3.04 Method of Measurement**

- A. Furnish and Install new Diesel Fueling System
  1. This item shall be full compensation for all labor, equipment, and materials required to install the:
    - a. Diesel ASTs and appurtenances,
    - b. Diesel aboveground piping,
    - c. Diesel underground piping,
    - d. Diesel dispensers,
    - e. Diesel remote spill box,
    - f. Tank gauging & overfill alarm,

- g. Signage, and
      - h. Portable supplies.
  - 2. Including but not limited to, valves, electrical connections to the appurtenances, meter calibration, testing, training, startup and owner documentation, together as a complete operating unit as required for complete operation as shown on the plans and provided in the specifications. This item shall also be full compensation for all materials, tools, equipment, labor, and incidentals necessary to complete the work. Separate measurement per tank.
  - 3. Cable and conduit required to install the appurtenances shall be considered incidental to the installation and will not be measured separately for payment.
  - 4. This item shall also be full compensation for all materials, tools, equipment, labor, and incidentals necessary to complete the work. Separate measurement per tank.
- B. Furnish and Install new Gasoline Fueling System
  - 1. This item shall be full compensation for all labor, equipment, and materials required to install the:
    - a. Gasoline AST and appurtenances,
    - b. Gasoline aboveground piping,
    - c. Gasoline underground piping,
    - d. Gasoline dispensers,
    - e. Gasoline remote spill box,
    - f. Tank gauging & overfill alarm,
    - g. Signage, and
    - h. Portable supplies.
  - 2. Including but not limited to, valves, electrical connections to the appurtenances, meter calibration, testing, training, startup and owner documentation, together as a complete operating unit as required for complete operation as shown on the plans and provided in the specifications. This item shall also be full compensation for all materials, tools, equipment, labor, and incidentals necessary to complete the work. Separate measurement per tank.
  - 3. Cable and conduit required to install the appurtenances shall be considered incidental to the installation and will not be measured separately for payment.
  - 4. This item shall also be full compensation for all materials, tools, equipment, labor, and incidentals necessary to complete the work. Separate measurement per tank.

### **3.05 Basis of Payment**

- A. Payment shall be made on a lump sum basis, as listed on the Bid Form.

Sheet List	
Sheet Number	Sheet Title
G0.00	TITLE SHEET
G0.01	TABLE OF CONTENTS & STATEMENT OF ESTIMATED QUANTITIES
G1.00	CONSTRUCTION SAFETY PLAN
G1.01	CONSTRUCTION SAFETY PLAN NOTES
G1.02	CONSTRUCTION SAFETY PLAN NOTES
G1.03	CONSTRUCTION SAFETY PLAN NOTES
G2.00	CONSTRUCTION SIGNAGE PLAN
G2.01	CONSTRUCTION SIGNAGE PLAN
G3.00	GENERAL NOTES
G4.00	EARTHWORK SUMMARY
G5.00	TYPICAL SECTION
C0.00	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
C0.01	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
C0.02	STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
C0.10	EROSION CONTROL PLAN
C0.11	EROSION CONTROL PLAN DETAILS
C0.12	EROSION CONTROL PLAN DETAILS
C0.13	EROSION CONTROL PLAN DETAILS
C1.00	TURF ESTABLISHMENT PLAN
C2.00	DEMOLITION PLAN
C5.00	PAVING PLAN
C6.00	GRADING PLAN
C7.00	GENERAL DETAILS
C7.01	CONCRETE JOINT DETAILS
E5.00	ELECTRICAL SITE PLAN
E5.01	ENLARGED ELECTRICAL VIEW
E5.02	ELECTRICAL DETAILS
E5.03	ELECTRICAL DETAILS
E5.04	ELECTRICAL DETAILS
E6.00	ELECTRICAL SPECIFICATIONS
S0.00	GENERAL ABBREVIATIONS AND SYMBOLS
S0.01	STRUCTURAL NOTES
S1.00	FUEL PAD PLAN AND DETAILS
F101	FUEL SYSTEM LAYOUT
F102	FUEL SYSTEM DETAIL
F103	FUEL SYSTEM DETAIL
F104	FUEL SYSTEM DETAIL
F105	DIESEL P&ID
F106	GASOLINE P&ID
F107	DETAIL SHEET

STATEMENT OF ESTIMATED QUANTITIES				
LINE NO.	ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	01 71 13	MOBILIZATION	LS	1
2	01 71 13	REMOBILIZATION FOR LONG LEAD TIME EQUIPMENT INSTALL	LS	1
3	01 71 23	FIELD ENGINEERING	LS	1
4	01 55 15	MAINTENANCE & RESTORATION OF HAUL ROADS	LS	1
5	31 25 10	SILT FENCE, TYPE PRASSEMBLE (INCL. INSTALLATION, MAINTENANCE, & REMOVAL)	LF	1500
6	31 25 10	FILTER LOG, TYPE WOOD FIBER BIOROLL (INCL. MAINTENANCE)	LF	1400
7	31 25 10	EROSION CONTROL BLANKET (INCL. MAINTENANCE)	SY	280
8	32 91 13	ON-SITE TOPSOIL SALVAGING, & SPREADING	CY	190
9	02 41 33	SAWING BITUMINOUS PAVEMENT	LF	385
10	02 41 33	FLARED END SECTION REMOVAL	EA	2
11	33 42 20	15" REINFORCED CONCRETE PIPE, CLASS III WITH CLASS B BEDDING	LF	165
12	31 23 10	COMMON EXCAVATION (EV)	CY	3450
13	31 23 10	UNCLASSIFIED EXCAVATION	CY	500
14	31 22 10	SELECT GRANULAR/SUBBASE COURSE	CY	1460
15	32 11 11	SUBGRADE PREPARATION	SY	3200
16	31 34 10	GEOTEXTILE FABRIC	SY	3200
17	31 11 22	CRUSHED AGGREGATE BASE COURSE (CV)	CY	705
18	32 12 16	WEARING COURSE MIXTURE	TON	516
19	32 12 16	NON-WEAR COURSE MIXTURE	TON	530
20	32 12 13	EMULSIFIED BITUMINOUS TACK COAT	GAL	150
21	32 13 10	CONCRETE PAVING (6 INCH )	SY	230
22	32 13 10	CONCRETE SLAB (4 INCH)	SY	17
23	03 30 00	REINFORCED CONCRETE SLAB (12 INCH)	SY	260
24	32 17 25	PARKING LOT MARKING, WHITE	LS	1
25	32 15 10	SHOULDER BASE AGGREGATE	CY	25
26	32 01 16	MILL AND OVERLAY	SY	85
27	32 92 12	TURF ESTABLISHMENT (BRILLION) (INCL SEED, FERTILIZER, MULCH, & WATER)	AC	1
28	ELEC	SERVICE CABINET WITH ENVIRONMENTALLY CONTROLLED ENCLOSURE	EA	1
29	ELEC	EQUIPMENT PAD	EA	1
30	ELEC	LIGHTING UNIT	EA	1
31	ELEC	LIGHT POLE FOUNDATION	EA	1
32	ELEC	LUMINAIRE	EA	1
33	ELEC	EMERGENCY FUEL STOP SYSTEM	EA	1
34	ELEC	1" CONDUIT	LF	230
35	ELEC	2" NON-METALLIC CONDUIT	LF	20
36	ELEC	3/4" NON-METALLIC CONDUIT	LF	3520
37	ELEC	UNDERGROUND WIRE 1/C 10 AWG	LF	7605
38	ELEC	UNDERGROUND WIRE 1/C 2 AWG	LF	90
39	ELEC	BELDEN CABLE #8760	LF	2475
40	ELEC	CAT6A CABLE	LF	75
41	ELEC	COMMISSIONING	LS	1
42	Spec. Prov.	PROCURE AND INSTALL 10,000 GAL UNLEADED AST, APPURTENANCES AND PIPING	LS	1
43	Spec. Prov.	PROCURE AND INSTALL 2-10,000 GAL DIESEL AST, APPURTENANCES AND PIPING	LS	1
44	Spec. Prov.	PROCURE AND INSTALL - AST APPURTANANCES	LS	1
45	Spec. Prov.	PROCURE AND INSTALL- UG PIPING AND SUMPS	LS	1
46	Spec. Prov.	INSTALL NEW DISPENSER ISLANDS	LS	1
47	Spec. Prov.	PROCURE AND INSTALL - NEW DISPENSERS	LS	1
48	Spec. Prov.	PORTABLE SUPPLIES/SIGNAGE - AIRSIDE	LS	1
49	Spec. Prov.	PORTABLE SUPPLIES/SIGNAGE - LANDSIDE	LS	1
50	STRUCT.	CONCRETE BOLLARD WITH SLIP COVER	EA	59

STATEMENT OF ESTIMATED QUANTITY NOTES:

LINE ITEM NO. 1: LIMITED TO 10% OF THE TOTAL PROJECT COSTS RELATED TO THE BID SCHEDULE.  
 LINE ITEM NO. 2: ITEM WILL BE PAID ONLY IF THERE ARE COSTS ASSOCIATED WITH STOPPING THE WORK TO WAIT FOR LONG LEAD TIME EQUIPMENT AND THEN RESTARTING AGAIN. CONTRACTOR'S SCHEDULE SHOULD ONLY PLAN FOR THIS IF THERE WILL BE KNOWN DELAYS.

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SEH Project	DULAI 188841	Rev.#	1	Plan Revision Issue Description	ISSUE FOR BID	Date	05/01/2026
Drawn By	NAP	Rev.#	△	Sheet Revision Issue Description	ADDENDUM NO. 1	Date	05/15/2026
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Checked By	JLV						

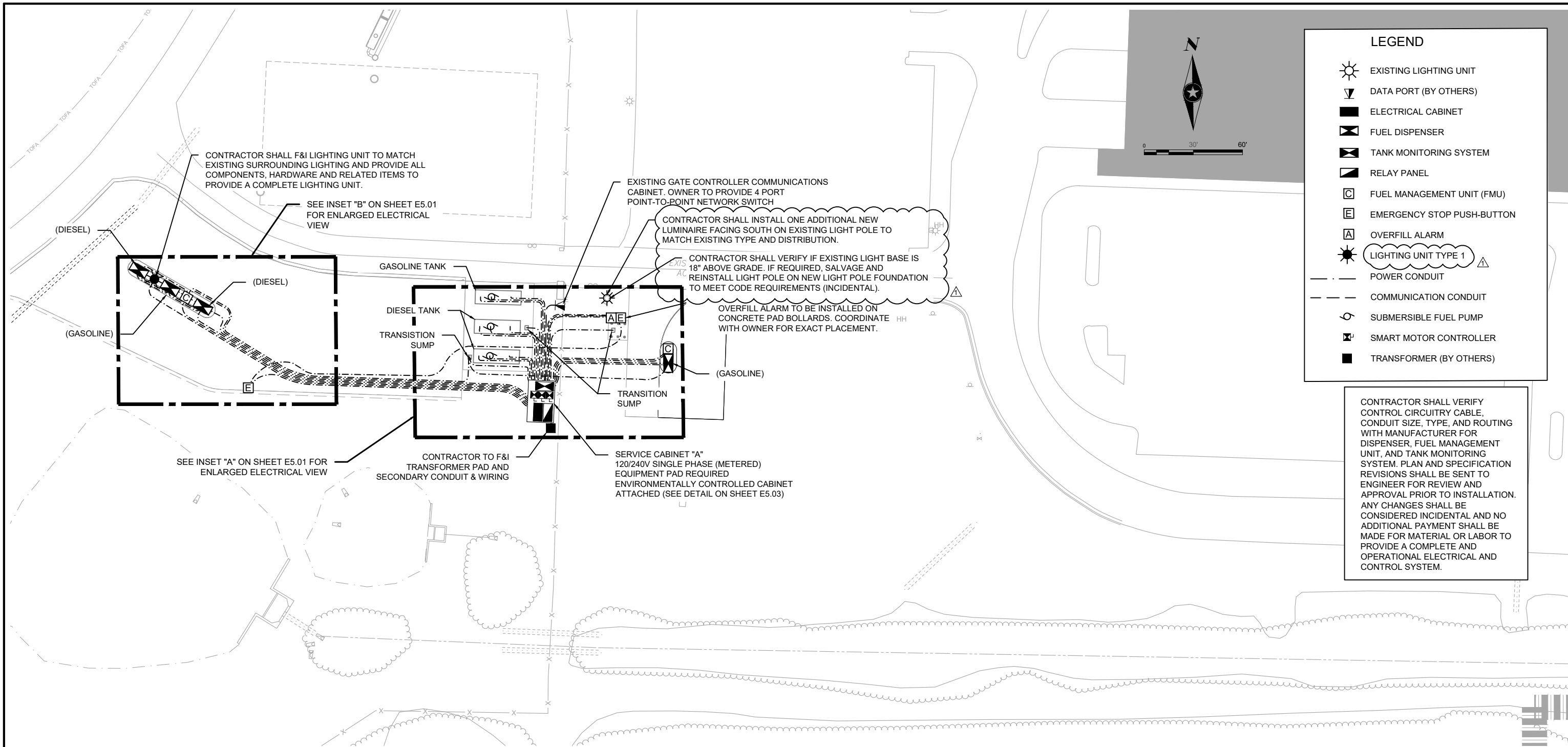
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Drawn By	NAP	Rev.#	△	Sheet Revision Issue Description	ADDENDUM NO. 1	Date	05/15/2026
Designed By	NAP						
Checked By	JLV						

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Jessica Vinson*  
 Jessica Vinson, PE  
 DATE: 05/01/2026 LICENSE NO. 63559

FUEL FARM RELOCATION  
 DULUTH, MN

TABLE OF CONTENTS & STATEMENT OF ESTIMATED QUANTITIES | G0.01



### LEGEND

- EXISTING LIGHTING UNIT
- DATA PORT (BY OTHERS)
- ELECTRICAL CABINET
- FUEL DISPENSER
- TANK MONITORING SYSTEM
- RELAY PANEL
- FUEL MANAGEMENT UNIT (FMU)
- EMERGENCY STOP PUSH-BUTTON
- OVERFILL ALARM
- LIGHTING UNIT TYPE 1
- POWER CONDUIT
- COMMUNICATION CONDUIT
- SUBMERSIBLE FUEL PUMP
- SMART MOTOR CONTROLLER
- TRANSFORMER (BY OTHERS)

CONTRACTOR SHALL VERIFY CONTROL CIRCUITRY CABLE, CONDUIT SIZE, TYPE, AND ROUTING WITH MANUFACTURER FOR DISPENSER, FUEL MANAGEMENT UNIT, AND TANK MONITORING SYSTEM. PLAN AND SPECIFICATION REVISIONS SHALL BE SENT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY CHANGES SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR MATERIAL OR LABOR TO PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL AND CONTROL SYSTEM.

**GENERAL NOTES:**

- A. ALL CONDUIT AND JUNCTION BOXES IN CLASSIFIED AREAS TO BE EXPLOSION PROOF.
- B. CONTRACTOR SHALL MAKE MODIFICATIONS AS NEEDED BASED ON FINAL EQUIPMENT AND MANUFACTURERS SELECTED (INCIDENTAL).

SEH Project DULAI 188841  
 Drawn By RT  
 Designed By RT  
 Checked By JEK

Rev.#	Plan Revision Issue Description	Date
1	ADDENDUM NO. 1	05/15/2026

Rev.#	Sheet Revision Issue Description	Date
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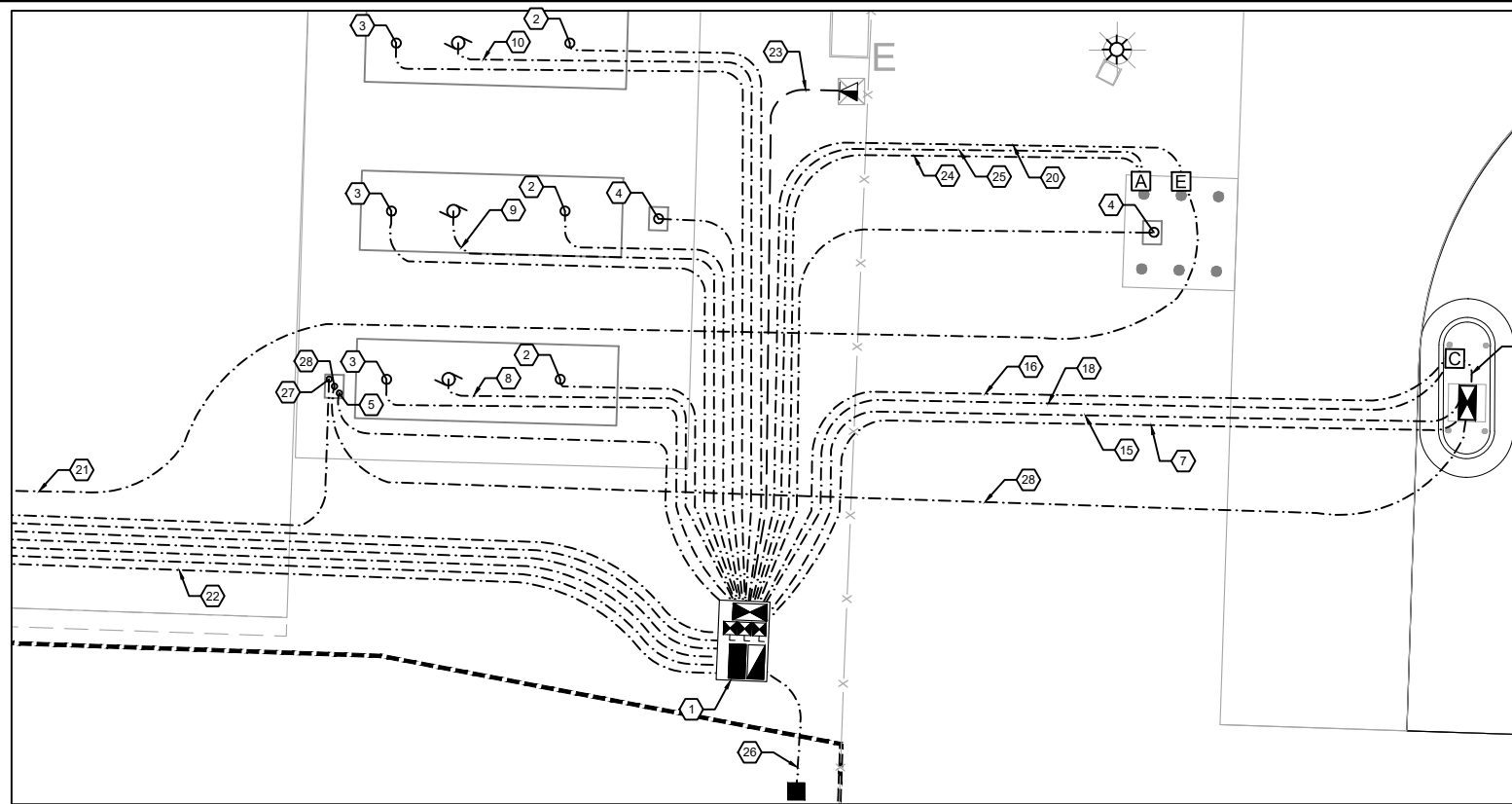
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

*Rothana Thorng*  
 ROTHANA THORNG, P.E.  
 DATE 05/01/2026 LICENSE NO. 63074

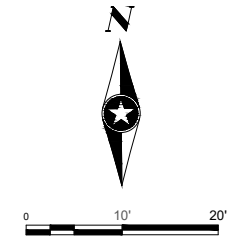
**FUEL FARM RELOCATION**  
 DULUTH, MN

**ELECTRICAL SITE PLAN**

**E5.00**

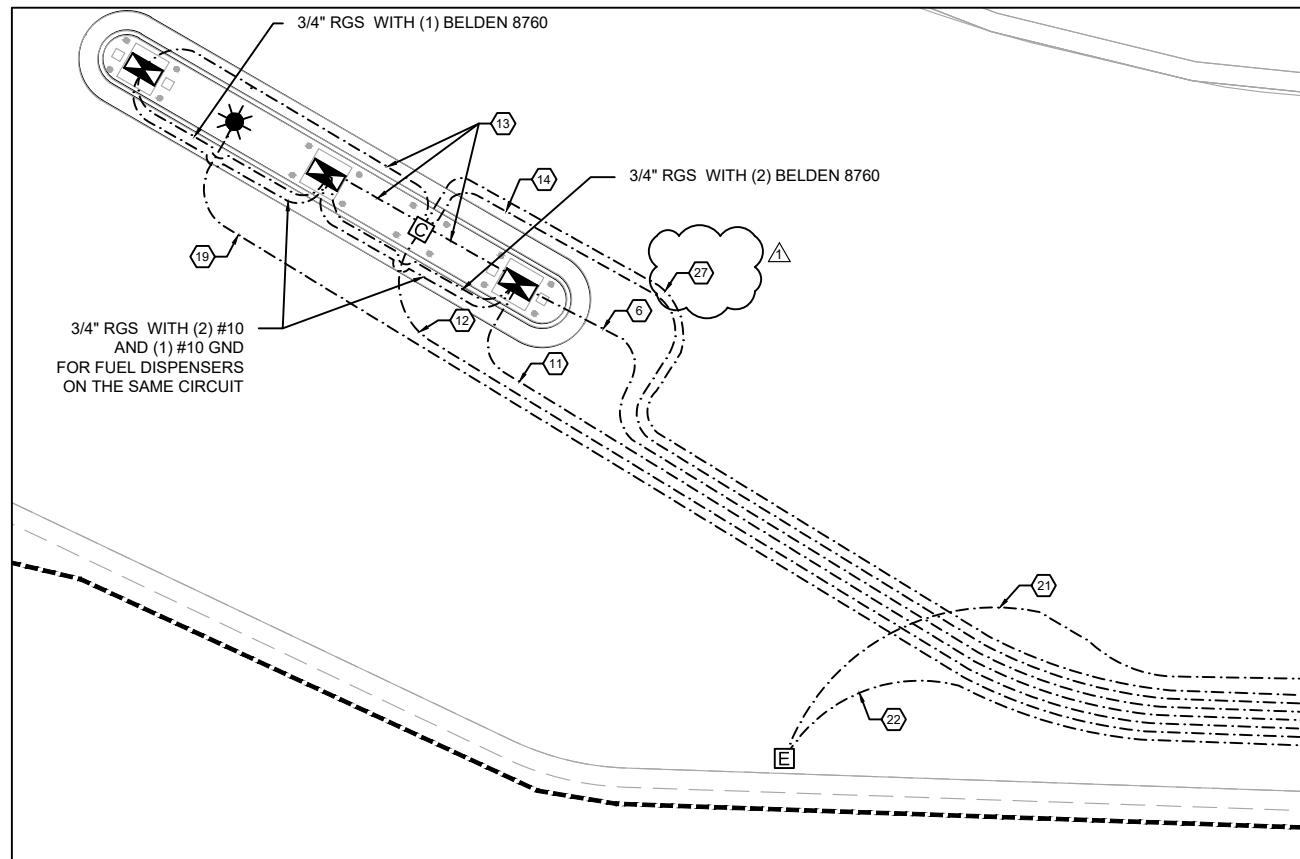


INSET A



CONTRACTOR SHALL VERIFY CONTROL CIRCUITRY CABLE, CONDUIT SIZE, TYPE, AND ROUTING WITH MANUFACTURER FOR DISPENSER, FUEL MANAGEMENT UNIT, AND TANK MONITORING SYSTEM. PLAN AND SPECIFICATION REVISIONS SHALL BE SENT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY CHANGES SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR MATERIAL OR LABOR TO PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL AND CONTROL SYSTEM.

LEGEND	
	EXISTING LIGHTING UNIT
	DATA PORT (BY OTHERS)
	ELECTRICAL CABINET
	FUEL DISPENSER
	TANK MONITORING SYSTEM
	RELAY PANEL
	FUEL MANAGEMENT UNIT (FMU)
	EMERGENCY STOP PUSH-BUTTON
	OVERFILL ALARM
	LIGHTING UNIT TYPE 1
	POWER CONDUIT
	COMMUNICATION CONDUIT
	SUBMERSIBLE FUEL PUMP
	MOTOR CONTROLLER
	TRANSFORMER (BY OTHERS)



INSET B

CONDUIT AND WIRE SCHEDULE

IDENTIFIER	LOAD SERVED "FROM"	LOAD SERVED "TO"	CONDUIT SIZE	CONDUCTORS	GROUND
1*	PROPOSED ELECTRICAL PANEL	TANK MONITORING SYSTEM	N/A	(2) #12	#12
	PROPOSED ELECTRICAL PANEL	PUMP CONTROLLER (1,2,& 3)	N/A	(6) #10	#12
	TANK MONITORING SYSTEM	PUMP CONTROLLER (1,2,& 3)	N/A	(2) BELDEN CABLE #8760	N/A
2	TANK MONITORING SYSTEM	TANK LEVEL GAUGE	3/4"	(1) BELDEN CABLE #8760	N/A
3	TANK MONITORING SYSTEM	INTERSTITIAL LEAK PROBE	3/4"	(1) BELDEN CABLE #8760	N/A
4	TANK MONITORING SYSTEM	TRANSITION SUMP LEAK PROBE	3/4"	(1) BELDEN CABLE #8760	N/A
5	TANK MONITORING SYSTEM	ELECTRONIC LINE LEAK DETECTION (ELLD) AND TRANSITION SUMP PROBE	3/4"	(2) BELDEN CABLE #8760	N/A
6	TANK MONITORING SYSTEM	FUEL DISPENSER SUMP LEAK PROBE (AIRSIDE)	1"	(3) BELDEN CABLE #8760	N/A
7	TANK MONITORING SYSTEM	FUEL DISPENSER SUMP LEAK PROBE (LANDSIDE)	3/4"	(1) BELDEN CABLE #8760	N/A
8	PUMP CONTROLLER 1	DIESEL SUBMERSIBLE FUEL PUMP 1	3/4"	(2) #10	#10
9	PUMP CONTROLLER 2	DIESEL SUBMERSIBLE FUEL PUMP 2	3/4"	(2) #10	#10
10	PUMP CONTROLLER 3	GASOLINE SUBMERSIBLE FUEL PUMP	3/4"	(2) #10	#10
11	PROPOSED ELECTRICAL PANEL	FUEL DISPENSERS (AIRSIDE)	3/4"	(2) #10	#10
12	PROPOSED ELECTRICAL PANEL	FUEL MANAGEMENT UNIT (AIRSIDE)	3/4"	(2) #10	#10
	FUEL MANAGEMENT UNIT (AIRSIDE)	PUMP CONTROLLER (PRIMARY)		(1) #10	#10
13	FUEL DISPENSER (AIRSIDE)	FUEL MANAGEMENT UNIT (AIRSIDE)	3/4"	(1) BELDEN CABLE #8760	N/A
14	TANK MONITORING SYSTEM	FUEL MANAGEMENT UNIT (AIRSIDE)	3/4"	(1) BELDEN CABLE #8760	N/A
15	PROPOSED ELECTRICAL PANEL	FUEL DISPENSER (LANDSIDE)	3/4"	(2) #10	#10
16	PROPOSED ELECTRICAL PANEL	FUEL MANAGEMENT UNIT (LANDSIDE)	3/4"	(2) #10	#10
	FUEL MANAGEMENT UNIT (LANDSIDE)	PUMP CONTROLLER (PRIMARY)		(1) #10	#10
17	FUEL DISPENSER (LANDSIDE)	FUEL MANAGEMENT UNIT (LANDSIDE)	3/4"	(1) BELDEN CABLE #8760	N/A
18	TANK MONITORING SYSTEM	FUEL MANAGEMENT UNIT (LANDSIDE)	3/4"	(1) BELDEN CABLE #8760	N/A
19	PROPOSED ELECTRICAL PANEL	LIGHT POLE	3/4"	(2) #10	#10
20	PROPOSED ELECTRICAL PANEL	EMERGENCY STOP PUSH-BUTTON (LANDSIDE)	3/4"	(1) #10	#10
21	EMERGENCY STOP PUSH-BUTTON (LANDSIDE)	EMERGENCY STOP PUSH-BUTTON (AIRSIDE)	3/4"	(1) #10	#10
22	EMERGENCY STOP PUSH-BUTTON (AIRSIDE)	RELAY PANEL	3/4"	(1) #10	#10
23	DATA PORT (BY OTHERS)	TANK MONITORING SYSTEM	3/4"	CAT 6	N/A
24	TANK MONITORING SYSTEM	OVERFILL ALARM	3/4"	(1) BELDEN CABLE #8760	N/A
25	PROPOSED ELECTRICAL PANEL	OVERFILL ALARM	3/4"	(2) #10	#10
26	PROPOSED ELECTRICAL PANEL	PROPOSED SERVICE CABINET	2"	(2) #2	N/A
27**	FUEL MANAGEMENT UNIT (AIRSIDE)	TRANSITION SUMP	3/4"	(4) #10	#10
28**	FUEL MANAGEMENT UNIT (LANDSIDE)	TRANSITION SUMP	3/4"	(2) #10	#10

\* = PROPOSED BELDEN 8760 CABLES TO BE DAISY CHAINED FROM THE TANK MONITOR SYSTEM TO THE PUMP CONTROLLERS FOR RS485 COMMUNICATION PER MANUFACTURER'S INSTRUCTIONS. THE FIRST DAISY CHAINED PUMP CONTROLLER SHALL BE DESIGNATED AS THE PRIMARY CONTROLLER.  
 \*\* = 120V WIRING FROM FMU FOR ANTI-SIPHON SOLENOID VALVE(S).

SEH Project	DULAI 188841	Rev.#	Plan Revision Issue Description	Date	Rev.#	Sheet Revision Issue Description	Date
Drawn By	RT	▲	ADDENDUM NO. 1	05/15/2026			
Designed By	RT						
Checked By	JEK						

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

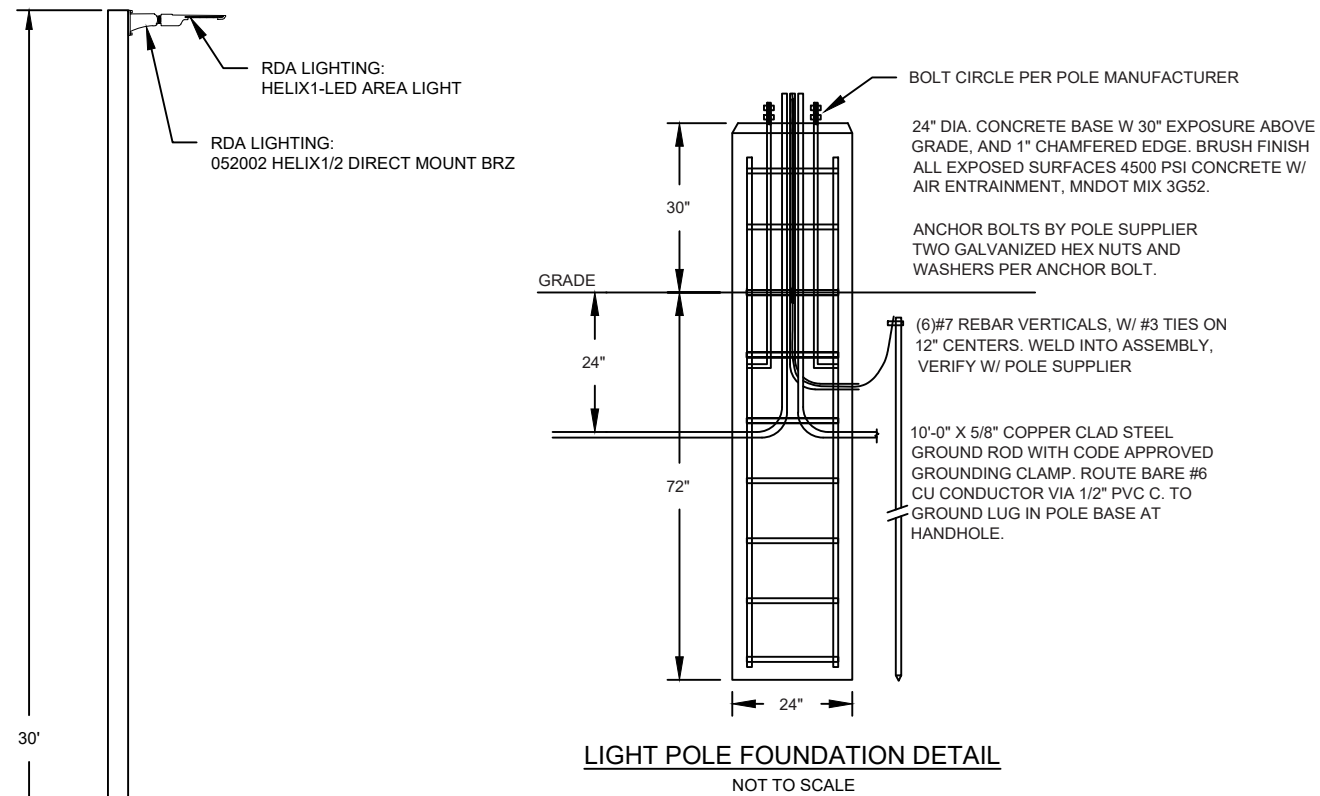
**SEH**

ROTHANA THORNG, P.E.  
 DATE: 05/01/2026  
 LICENSE NO. 63074

FUEL FARM RELOCATION  
 DULUTH, MN

ENLARGED ELECTRICAL VIEW

E5.01

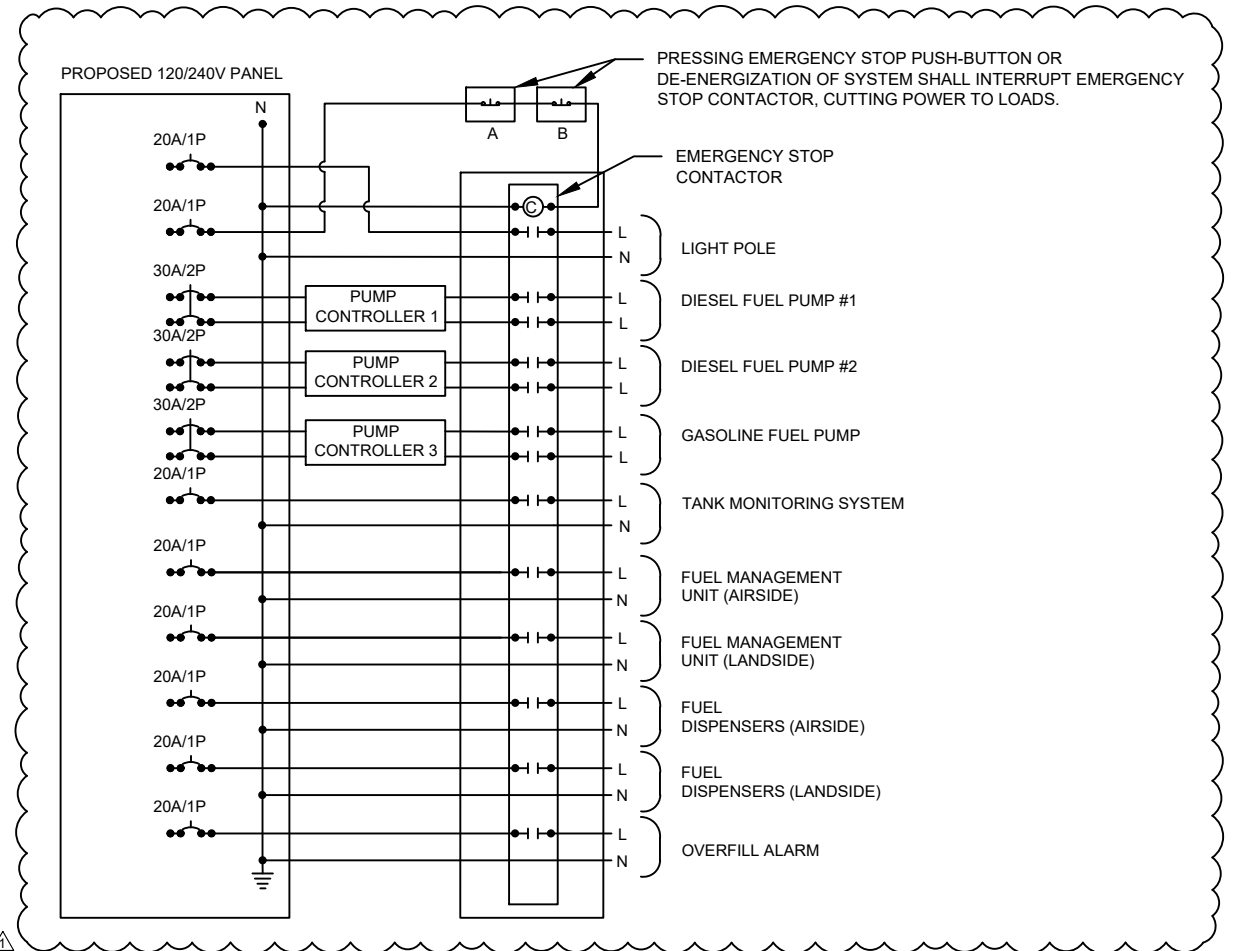


RDA LIGHTING 88SP-SERIES STEEL POLE:  
SSSP5-30-BRZ-G07

NOTES:

1. CONTRACTOR SHALL F&I LIGHTING UNIT TO MATCH EXACT FIXTURE (INCLUDING PERFORMANCE AND DISTRIBUTION) USED IN EXISTING SURROUNDING LIGHTING OR EQUAL.
2. CONTRACTOR SHALL PROVIDE ALL COMPONENTS, HARDWARE AND RELATED ITEMS TO PROVIDE A COMPLETE LIGHTING UNIT.

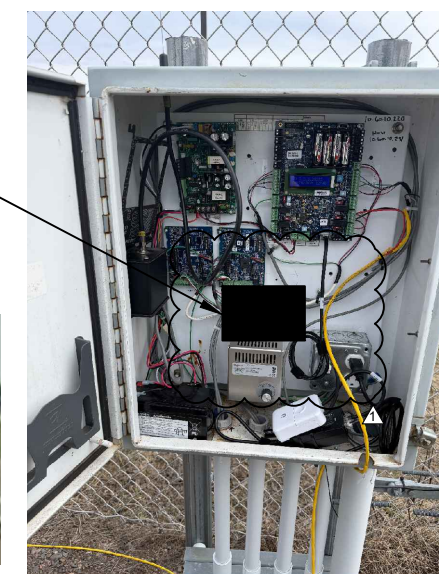
**LIGHT UNIT TYPE 1**  
NOT TO SCALE



EMERGENCY FUEL STOP SCHEMATIC

LEGEND

- |- NORMALLY OPEN CONTACT
- |- NORMALLY CLOSED PUSH-BUTTON



EXISTING GATE COMMUNICATIONS CABINET  
NOT TO SCALE

SEH Project	DULAI 188841	Rev.#	Plan Revision Issue Description	Date	Rev.#	Sheet Revision Issue Description	Date
Drawn By	RT	△	ADDENDUM NO. 1	05/15/2026	.		
Designed By	RT	.			.		
Checked By	JEK	.			.		

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

**SEH**

ROTHANA THORNG, P.E.  
DATE: 05/01/2026 LICENSE NO. 63074

FUEL FARM RELOCATION  
DULUTH, MN

ELECTRICAL DETAILS

E5.02

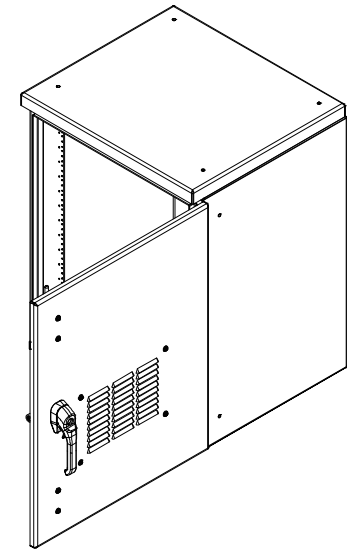
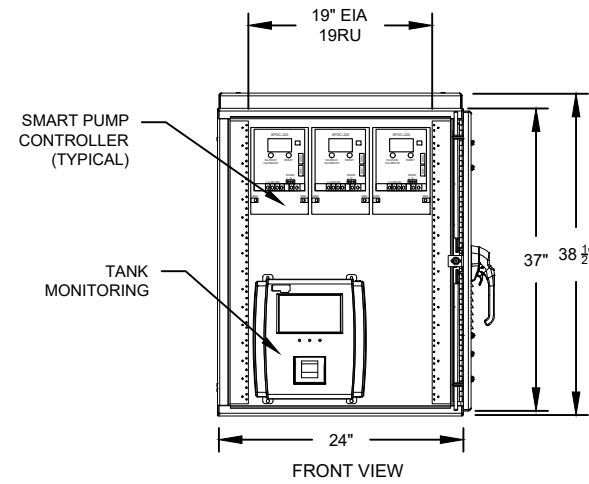
**ENVIRONMENTALLY CONTROLLED ENCLOSURE NOTES:**

1. CABINET SHALL BE MANUFACTURED BY DDB UNLIMITED. 1.800.753.8459.
2. MANUFACTURE SHALL INSTALL ACP-2000-T20-110 AIR CONDITIONER UNIT (WITH HEAT PACKAGE)
3. STAINLESS STEEL MIN. 1/4-20 MOUNTING HARDWARE WITH SEALING WASHERS SHALL BE USED FOR FASTENING ENVIRONMENTALLY CONTROLLED CABINET TO PROPOSED SERVICE CABINET "A"
4. CONTRACTOR TO ENSURE BOTH THE EXISTING ELECTRICAL CABINET AND THE NEW ENVIRONMENTALLY CONTROLLED ENCLOSURE ARE COMPLETELY WATER TIGHT.
5. COORDINATE WITH OWNER TO PROVIDE 4 PORT POINT-TO-POINT NETWORK SWITCH CONNECTION FROM EXISTING GATE CONTROLLER COMMUNICATIONS CABINET FOR INTERNET CONNECTION
6. CONTRACTOR SHALL REVIEW ALL EQUIPMENT FOR ENVIRONMENTAL (TEMPERATURE) REQUIREMENTS AND DETERMINE IF ENCLOSURE WILL HAVE THE HOUSING CAPACITY FOR ALL NECESSARY EQUIPMENT. IF NECESSARY, CONTRACTOR SHALL UPGRADE ENVIRONMENTAL ENCLOSURE SIZE AND TYPE (MAY NEED TO BE PADMOUNTED) AT NO ADDITIONAL COST.

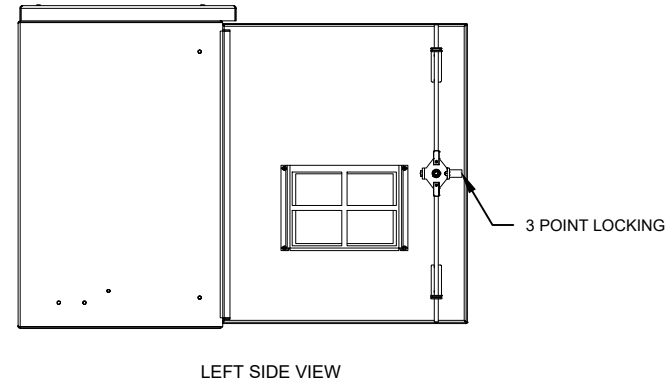
- ENVIRONMENTALLY CONTROLLED ENCLOSURE CONSTRUCTION
- NEMA 3R
  - DDB UNLIMITED-
  - OUTDOOR ENCLOSURE: SOD-372420
  - AC & HEATER: ACP-2000-T20-110
  - INSULATION: SOD-INS
  - BLACK PLATE: SOD37-BKPT



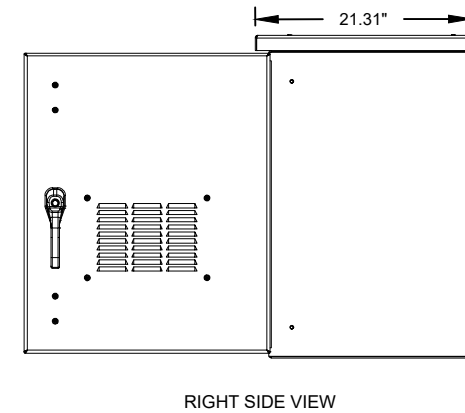
ACP-2000-T20-110 AIR CONDITIONER UNIT WITH BUILT-IN HEAT PACKAGE (MOUNTED TO BACK SIDE OF ENCLOSURE)



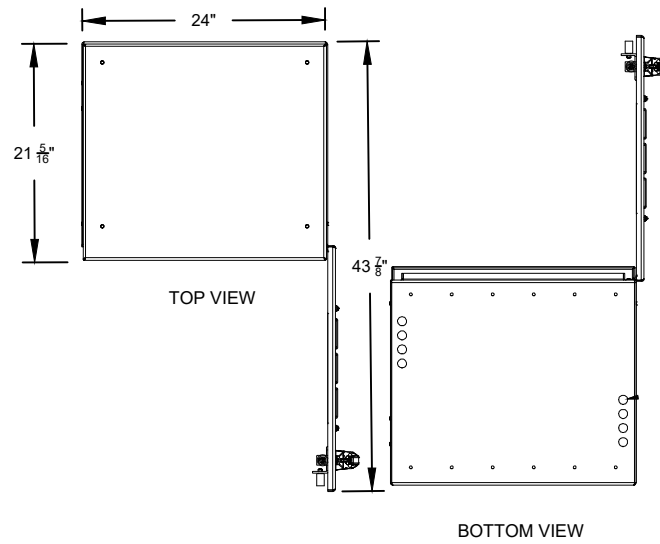
ISOMETRIC VIEW



LEFT SIDE VIEW



RIGHT SIDE VIEW



TOP VIEW

BOTTOM VIEW

**ENVIRONMENTALLY CONTROLLED ENCLOSURE DETAILS**  
NOT TO SCALE

SEH Project	DULAI 188841	Rev.#	Plan Revision Issue Description	Date	Rev.#	Sheet Revision Issue Description	Date
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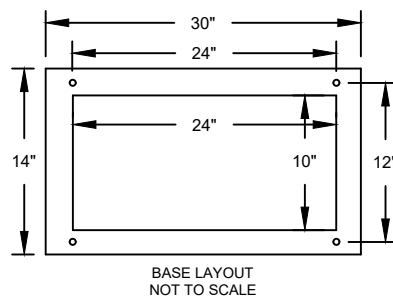
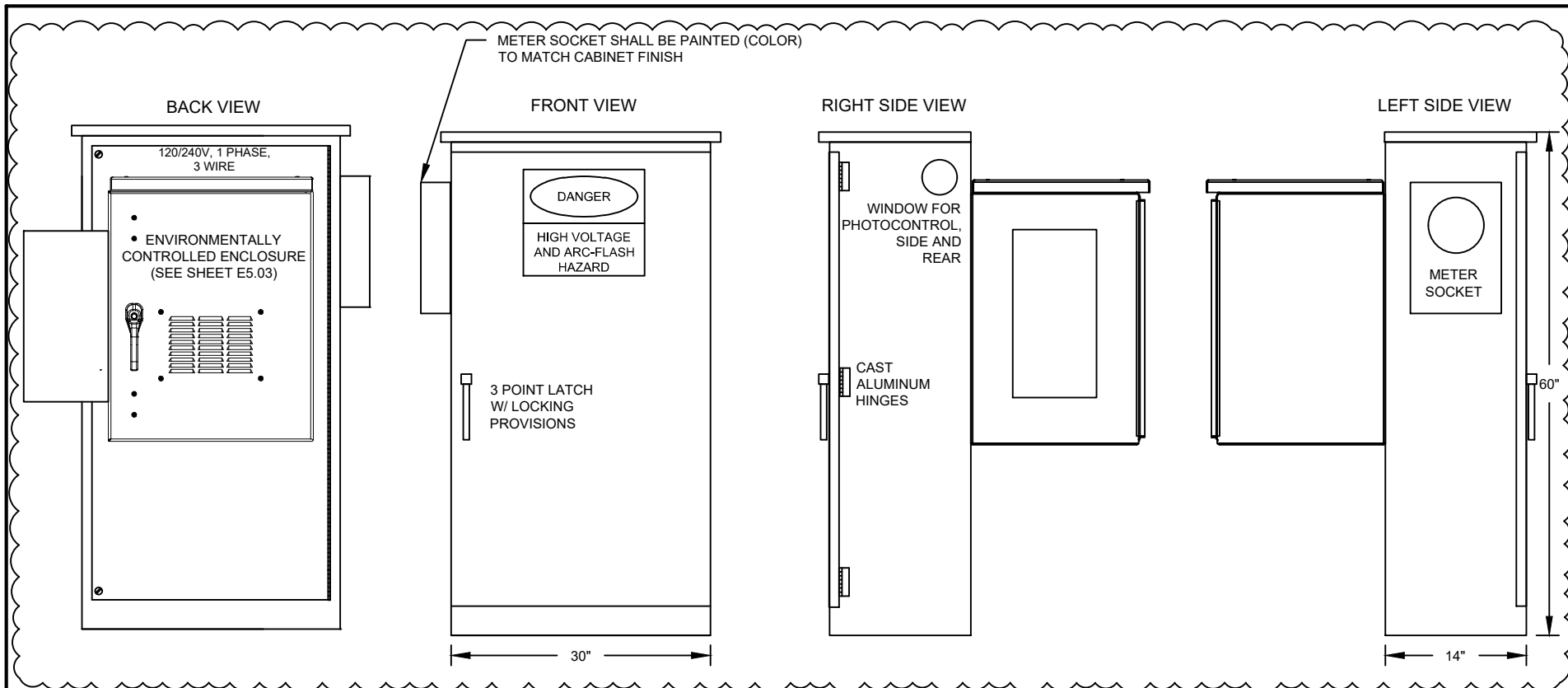
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ROTHANA THORNG, P.E.  
DATE: 05/01/2026 LICENSE NO. 63074

FUEL FARM RELOCATION  
DULUTH, MN

ELECTRICAL DETAILS

E5.03



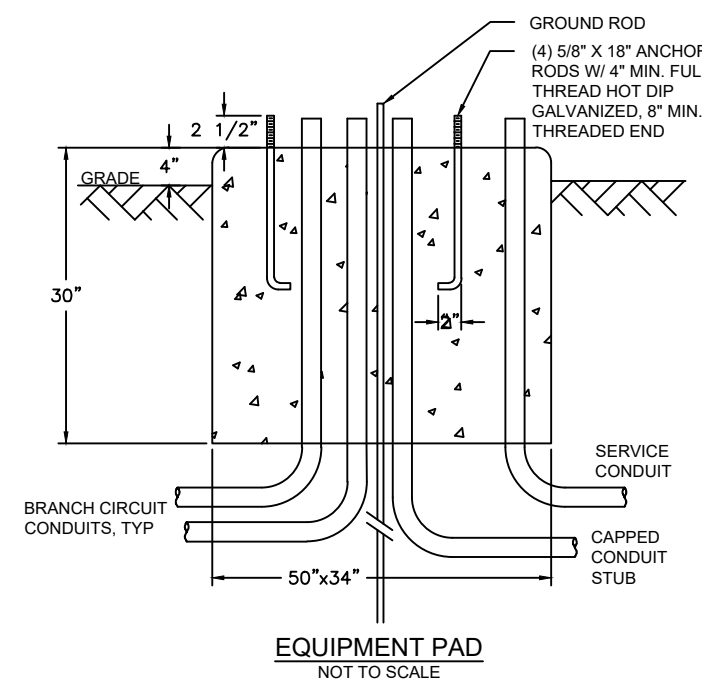
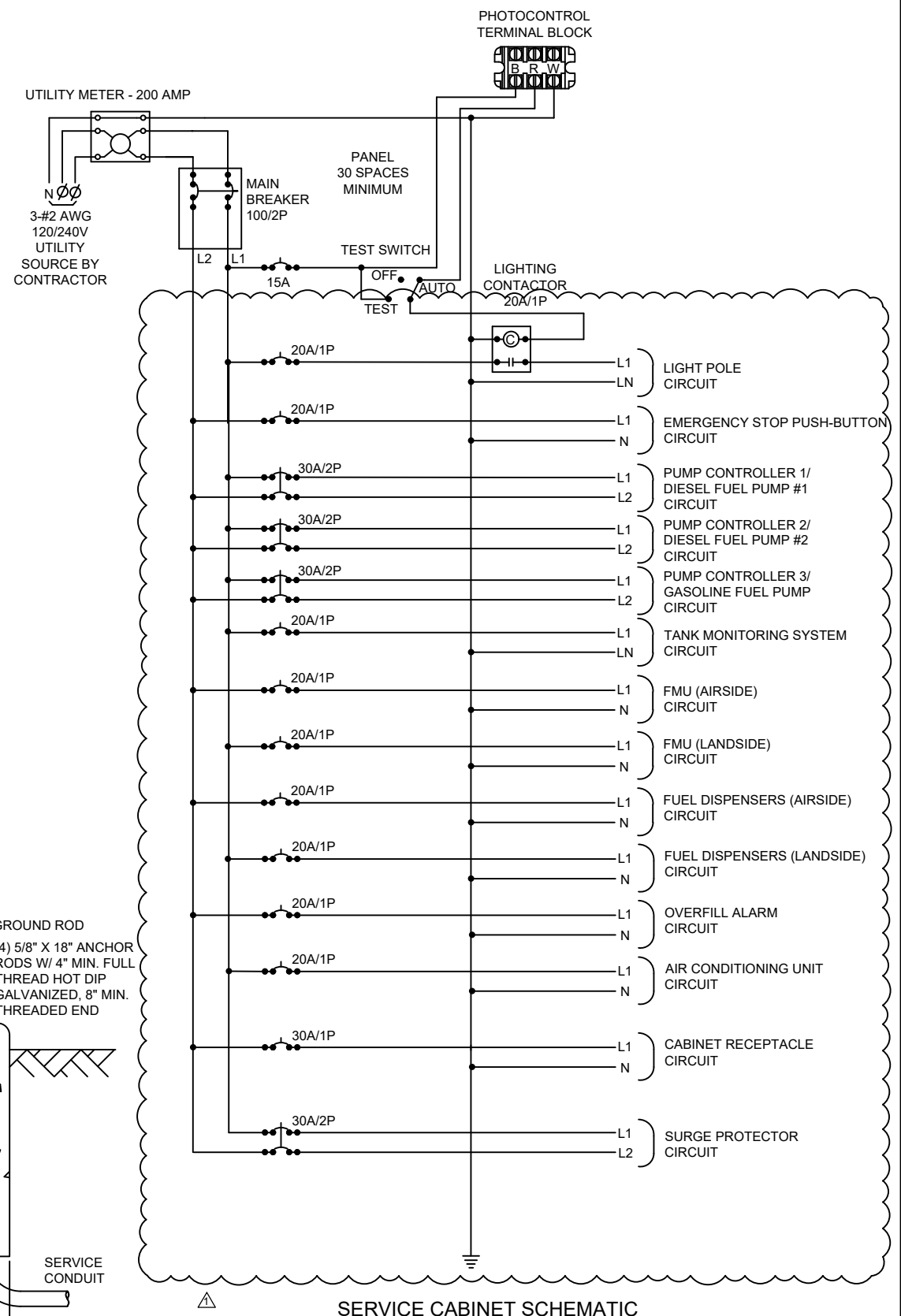
**CABINET CONSTRUCTION**

- NEMA 3R
- INTERIOR COMPONENTS MOUNTED ON BACK PANEL BEHIND DEAD FRONT
- 1/8" ANODIZED ALUMINUM (DURANODIC #314)
- NEOPRENE GASKETED DOORS
- STAINLESS STEEL HARDWARE
- ETL LISTED IN ACCORDANCE WITH UL508A

**SERVICE CABINET "A"**  
NOT TO SCALE

**SERVICE CABINET NOTES:**

- PROVIDE METER SOCKET PER UTILITY COMPANY REQUIREMENTS.
- CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60Hz AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING.
- SHORT CIRCUIT RATING - 22,000 AIC SYMMETRICAL.
- 3-POSITION SELECTOR SWITCH ALLEN BRADLEY #800T-J2A.
- CIRCUIT CONTACTORS SHALL HAVE A 240 VOLT RATING, WITH 120 VOLT COIL.
- PROVIDE 50KA SURGE PROTECTOR.
- PROVIDE PANEL WITH DIMENSIONS AS REQUIRED TO FIT EQUIPMENT PROPOSED.
- PROVIDE A 25-OHM GROUND AT CABINET AS PER NEC.
- PROVIDE 20A WR-RATED GFCI RECEPTACLE MOUNTED TO CABINET DEAD-FRONT.
- BOTH PHOTOCONTROL AND ITS SOCKET SHALL BE 3 TERMINAL, POLARIZED, TWIST-LOCK TYPE. IT SHALL BE EQUIPPED WITH A MOV TYPE LIGHTNING ARRESTER.
- CABINET SHALL BE MANUFACTURED BY POVOLNY SPECIALTIES INC. 651.452.7335.
- COORDINATE SERVICE CONNECTION(S) WITH MINNESOTA POWER.



1. THIS WORK SHALL CONSIST OF FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS FOR THE CONSTRUCTION OF A COMPLETE AND OPERATIONAL FUELING ELECTRICAL AND COMMUNICATION SYSTEM INCLUDING LIGHTING, ELECTRICAL, AND COMMUNICATION SYSTEMS.
2. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF SHOP DRAWINGS FOR ALL PROPOSED EQUIPMENT TO THE OWNER AND ENGINEER FOR REVIEW. THE SUBMITTED ITEMS MUST BE APPROVED PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL SUPPLY ACCURATE AS-BUILT DRAWINGS OF THE PROJECT TO THE OWNER. DRAWINGS SHALL INDICATE ALL ELECTRICAL AND COMMUNICATION EQUIPMENT ASSOCIATED WITH THE FUELING STATION SYSTEM, AND ALL CABLE, CONDUIT, LIGHT POLE, AND HANDHOLE LOCATIONS MEASURED FROM A KNOWN LOCATION.
4. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY PERMITS AND UTILITY COORDINATION.
5. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH PEI/RP200-96, NFPA 30, 30A, 407, 70(NEC), 2020 MINNESOTA STATE FIRE CODE, AND THE 2025 EDITION OF MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. COMPLIANCE WITH PROVISIONS OF MNDOT 2545 WILL BE PARTICULARLY ENFORCED IN CONJUNCTION WITH THE CONSTRUCTION OF ANY KIND OR TYPE OF ELECTRICAL, COMMUNICATION, AND LIGHTING SYSTEM, AND CONDUIT OR CONDUIT SYSTEMS FOR THE CONVEYANCE OF THE ELECTRICAL AND COMMUNICATION CONDUCTORS INCLUDING TRENCHING, BACKFILLING, AND COMPACTION REQUIREMENTS OR THE REQUIRED PORTIONS THEREOF, AS SPECIFIED IN THE CONTRACT.
6. HAZARDOUS LOCATION BOUNDARIES SHALL MEET THE REQUIREMENTS OF ARTICLE 515 PER NFPA 407 5.1.6. FUELING EQUIPMENT SHALL MEET CLASS 1 DIVISION 2 REQUIREMENTS OF A 20' RADIUS AROUND DISPENSERS, 18" ABOVE GRADE, AND AN 18" BUBBLE AROUND FUELING EQUIPMENT. PROVIDE SEAL OFFS AND EXPLOSION PROOF EQUIPMENT AS REQUIRED.
7. CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH THE GENERAL CONTRACTOR, OWNER, AND THE ENGINEER TO ENSURE ALL OUTDOOR AND UNDERGROUND WORK IS COMPLETED PRIOR TO ANY NEW HARD SURFACES BEING INSTALLED ON THE SITE. CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH ALL OTHER PARTIES OCCUPYING THE SITE SO AS TO NOT IMPEDE OR DELAY CONSTRUCTION PROGRESS. CONTRACTOR SHALL ATTEND ANY REGULARLY SCHEDULED CONSTRUCTION PROGRESS MEETINGS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AMONG SUPPLIERS AND CONTRACTORS PROVIDING EQUIPMENT FOR THE PROJECT. THE COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, OPERATORS, POWER REQUIREMENTS, ETC. COOPERATE WITH OTHER TRADES TO AVOID INTERFERENCES IN THE INSTALLATION OF THIS WORK. INSTALL ALL EQUIPMENT AND SYSTEMS SO AS NOT TO DELAY PROGRESS OF CONSTRUCTION, AND CORRELATE WITH OTHER TRADES TO AVOID DELAY. SHOULD DIFFERENCES OF OPINION DEVELOP; THE ENGINEER'S DECISION WILL BE FINAL. CONTRACT BID PRICES SHALL REFLECT ALL CONSTRUCTION AND INSTALLATION COSTS.
8. ALL MATERIALS SHALL BE LISTED BY A NATIONAL RECOGNIZED TESTING LABORATORY (NRTL) AS DEFINED BY THE U.S. DEPARTMENT OF LABOR. THE TESTING LABORATORY MUST BE LISTED BY OSHA IN ITS SCOPE OF RECOGNITION FOR THE APPLICABLE TEST BEING CONDUCTED AS REQUIRED BY THIS SPECIFICATION. A LIST OF RECOGNIZED TESTING LABS FOR PRODUCTS SOLD IN THE UNITED STATES MAY BE FOUND ON THE U.S. DEPARTMENT OF LABOR'S WEB SITE: [HTTP://WWW.OSHA.GOV/](http://www.osha.gov/)
9. ALL UNDERGROUND CONDUIT SHALL BE NMC SCHEDULE 80, UNLESS OTHERWISE NOTED.
10. ALL ABOVE GROUND CONDUIT SHALL BE RIGID STEEL, UNLESS OTHERWISE NOTED.
11. ALL CONDUIT IN MAINTENANCE BUILDING SHALL BE RIGID STEEL, UNLESS OTHERWISE NOTED.
12. ALL CONDUCTORS SHALL BE COPPER, TYPE XHHW-2.
13. ALL CONDUIT SHALL BE PLACED A MINIMUM OF 24" DEEP, AND BE PLACED BY TRENCHING, PLOWING OR DIRECTIONAL BORING.
14. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE WHILE KEEPING RUNS AS SHORT AS POSSIBLE WITHIN CONSTRUCTION LIMITS. CONDUITS SHALL BE INSTALLED IN COMMON TRENCH WHENEVER POSSIBLE.
15. SPLICING SHALL BE PERFORMED USING BURNDY UNITAP SPLICING HARDWARE OR APPROVED EQUAL. WIRE NUTS ARE NOT AN APPROVED METHOD OF SPLICING WITHIN JUNCTION BOXES.
16. THE CONTRACTOR SHALL COAT ALL THREADED HARDWARE WITH AN APPROVED ZINC-BASED ANTI-SEIZE COMPOUND PRIOR TO ASSEMBLY.
17. EXACT LOCATION OF CONDUIT STUB-UPS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
18. THE CONTRACTOR IS RESPONSIBLE TO REPLACE AND COMPACT THE SUBGRADE MATERIAL AND REPLACE THE PERMANENT SURFACE MATERIAL IN KIND (EXACTLY AS THE EXISTING).
19. THE CONTRACTOR SHALL GUARANTEE THE OPERATION OF THE INSTALLATION AND THAT THE MATERIALS AND WORKMANSHIP OF THE EQUIPMENT BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE, PROVIDING THE EQUIPMENT HAS BEEN OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IF A DISPUTE EXISTS REGARDING WHETHER THE EQUIPMENT HAS BEEN MAINTAINED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, THE ENGINEER'S DECISION WILL BE FINAL. THE GUARANTEE SHALL INCLUDE ALL PARTS AND LABOR NECESSARY TO RETURN THE SYSTEM TO NORMAL OPERATION. THE GUARANTEE ON ALL EQUIPMENT SHALL START AFTER FORMAL ACCEPTANCE OF EQUIPMENT AS DEFINED BY THE GENERAL CONDITIONS AND AFTER SUCCESSFUL COMPLETION OF STARTUP PROCEDURES.
20. THE CONTRACTOR SHALL COLLECT, GATHER AND ASSEMBLE INTO ONE BOOK THE INSTALLATION DETAILS, INSTRUCTIONS, SCHEMATICS OF ACTUAL EQUIPMENT AND OPERATIONS DIRECTIONS SUPPLIED BY THE MANUFACTURER WITH ALL EQUIPMENT. FINAL ACCEPTANCE OF THE WORK WILL BE WITHHELD UNTIL SUCH DATA HAS BEEN PRESENTED COMPLETE TO THE OWNER. THE MANUAL SHALL BE AVAILABLE FOR INSTRUCTION OF OPERATIONS AND MAINTENANCE OF EQUIPMENT AND SYSTEMS.
21. CONTRACTOR SHALL COORDINATE WITH OWNER'S IT DEPARTMENT TO PROVIDE CONNECTIVITY TO THE TANK MONITORING CONTROL SYSTEM.
22. CONTRACTOR SHALL PROVIDE TRAINING TO CITY STAFF ON HOW TO OPERATE THE NEW TANK MONITORING AND FUEL MANAGEMENT SYSTEM AND HOW TO ACCESS THE SYSTEM REMOTELY.
23. CONTRACTOR SHALL MAKE THEMSELVES AVAILABLE TO BE ON SITE AND DEDICATED IN ASSISTING WITH COMMISSIONING OF THE FUELING SYSTEMS AFTER CONSTRUCTION HAS BEEN COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THE SCHEDULE APPROVED BY ENGINEER AND OWNER.
24. CONTRACTOR SHALL COMPLY WITH THE SECTION 514 OF THE NEC FOR CONDUIT, JUNCTION BOXES, SEALS, AND ANY OTHER MISCELLANEOUS EQUIPMENT NEEDED TO PROVIDE A COMPLETE EXPLOSION PROOF INSTALLATION. ANY EQUIPMENT NOT SPECIFICALLY IDENTIFIED IN THE PLANS NEEDED TO MEET THIS REQUIREMENT SHALL BE INCIDENTAL.
25. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL SERVICE, PROVIDE POWER TO THE SERVICE CABINETS, AND VERIFY THE ACTUAL WORK TO BE DONE AND ALL ASSOCIATED COSTS. THE "APPLICATION FOR ELECTRICAL SERVICE" AND PAYMENT TO THE UTILITY COMPANY FOR PROVIDING THE ELECTRICAL SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SECURE APPROVAL FROM THE ENGINEER FOR ANY CHANGES TO THE ELECTRICAL SERVICE AS REFLECTED IN THE PLAN. NO MEASUREMENT WILL BE MADE OF THE VARIOUS ITEMS THAT CONSTITUTE ELECTRICAL SERVICE, HOWEVER ALL SUCH WORK WILL BE CONSTRUED TO BE INCLUDED AS PART OF THE PROJECT (THE ELECTRICAL SERVICE COSTS WILL NOT BE PAID FOR AS PART OF THE PAY ITEM). THE CONTRACTOR SHALL PROVIDE THE ENGINEER A COPY OF THE INVOICE FROM THE POWER COMPANY. PAYMENT WILL BE MADE FOR THE INVOICE COST PAID TO THE POWER COMPANY PLUS 10%. THE PAYMENT SHALL BE COMPENSATION IN FULL FOR ALL COSTS INCIDENTAL THERETO, INCLUDING, BUT NOT LIMITED TO PROVIDING POWER TO SERVICE CABINETS, POWER COMPANY FEES, POWER UTILITY COMPANY COORDINATION, NOTIFYING MNDOT OF OWNERSHIP DETAILS, AND ALL MATERIALS AND LABOR NECESSARY TO CONSTRUCT THE ELECTRICAL SERVICE
26. SPLICING SHALL BE PERFORMED USING BURNDY UNITAP SPLICING HARDWARE OR APPROVED EQUAL. WIRE NUTS ARE NOT AN APPROVED METHOD OF SPLICING WITHIN POLE BASES OR HANDHOLES.
27. PROVIDE BUSSMANN TYPE HEB-AW-RLC-A 1-POLE FUSE HOLDER, COMPLETE WITH WATERPROOF BOOTS AND 20-AMP FUSE, IN FEED LEAD OF RECEPTACLE POLE RISER WIRES.
28. PROVIDE (3)#12 STRANDED XHHW-2 CONDUCTORS FROM POLE BASE TO EACH LUMINAIRE.
29. CONTRACTOR SHALL INSTALL A GROUNDING GRID AROUND THE PERIMETER OF THE FUEL TANKS, INCLUDE TESTING CONNECTION POINT, AND FURNISH ALL LABOR, EQUIPMENT, AND MATERIALS FOR THE CONSTRUCTION OF A COMPLETE AND OPERATIONAL GROUNDING SYSTEM TO MEET CODE AT NO ADDITIONAL COST.

SEH Project DULAI 188841  
 Drawn By RT  
 Designed By RT  
 Checked By JEK

Rev.#	Plan Revision Issue Description	Date
△	ADDENDUM NO. 1	05/15/2026

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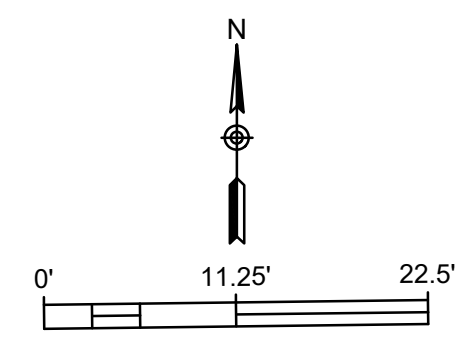
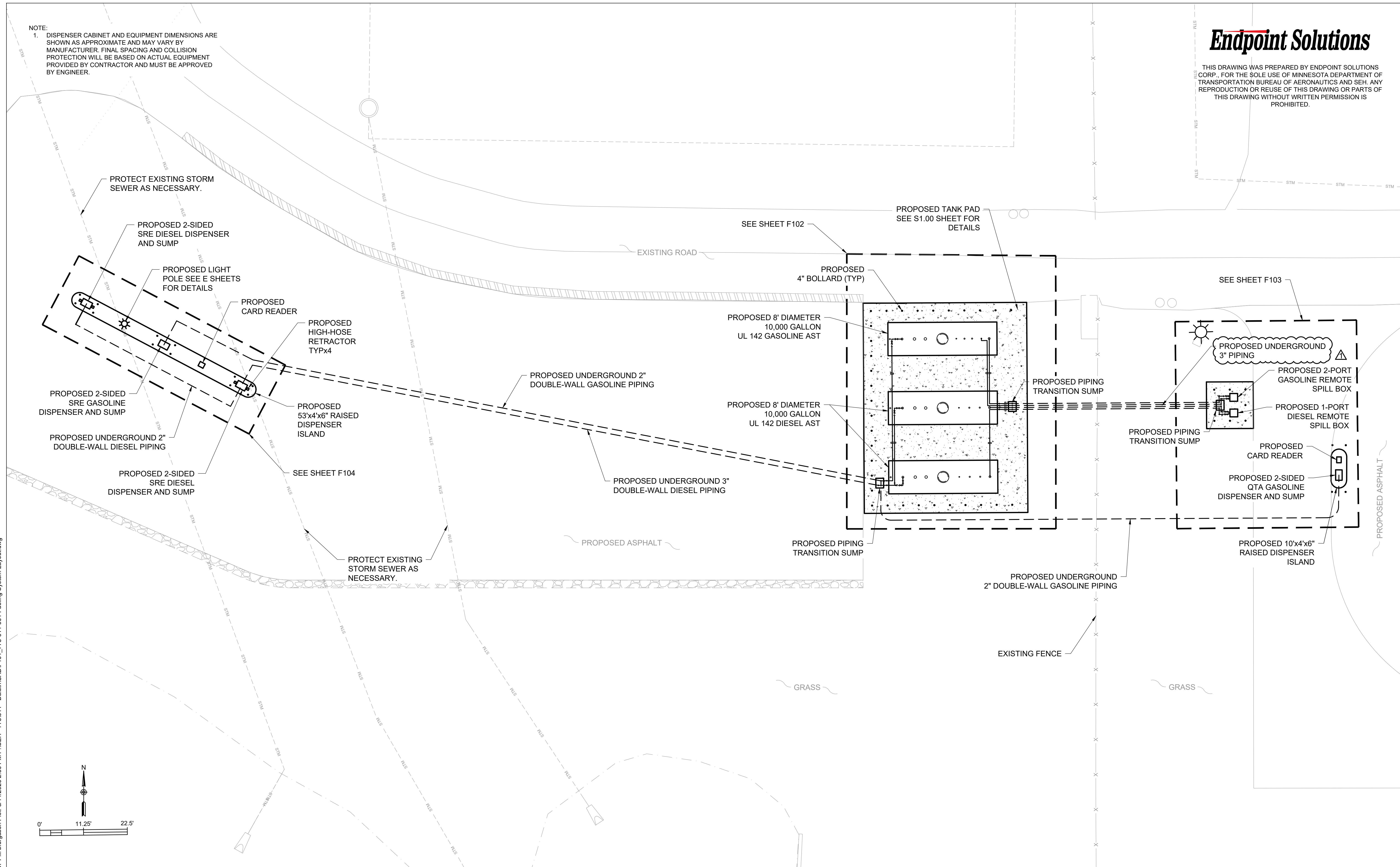
ROTHANA THORNG, P.E.  
 DATE 05/01/2026 LICENSE NO. 63074

FUEL FARM RELOCATION  
 DULUTH, MN

ELECTRICAL SPECIFICATIONS

E6.00

NOTE:  
1. DISPENSER CABINET AND EQUIPMENT DIMENSIONS ARE SHOWN AS APPROXIMATE AND MAY VARY BY MANUFACTURER. FINAL SPACING AND COLLISION PROTECTION WILL BE BASED ON ACTUAL EQUIPMENT PROVIDED BY CONTRACTOR AND MUST BE APPROVED BY ENGINEER.



Save: 5/14/2026 2:37 PM blurgason Plot: 5/14/2026 2:50 PM P:\SEH - 775011 - Duluth\CAD\F101\_775-011-001 Fueling System Layout.dwg

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Drawn By	BMF	▲	ADDENDUM NO.1	05/15/2026	.		
Designed By	WCW	.			.		
Checked By	WCW	.			.		

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**Endpoint Solutions**  
 WADE C. WOLLERMANN, PE  
 DATE: 05-15-26 LICENSE NO. 55562

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PROPOSED TANK PAD  
SEE S1.00 SHEET FOR  
DETAILS

PROPOSED COLLISION  
PROTECTION. SEE S1.00  
SHEET FOR DETAILS

EXISTING ROAD

SUBMERSIBLE  
PUMP

INTERSTITIAL  
LEAK PROBE

2" ELECTRICAL  
ANTI-SIPHON VALVE

PROPOSED ASPHALT

2" SCH 40 CS  
WELDED, PAINTED

INTERSTITIAL  
LEAK PROBE

PROPOSED FIRE  
EXTINGUISHER  
MOUNTED  
TO STEEL POST

2" ELECTRICAL  
ANTI-SIPHON VALVE

2" SCH 40 CS  
WELDED, PAINTED

SUBMERSIBLE  
PUMP

INTERSTITIAL  
LEAK PROBE

PROPOSED  
UNDERGROUND  
2" DOUBLE-WALL  
GASOLINE PIPING

PROPOSED  
UNDERGROUND  
3" DOUBLE-WALL  
DIESEL PIPING

PROPOSED PIPING  
TRANSITION SUMP  
W/ LEAK PROBE

3" SCH 40 CS  
WELDED, PAINTED

5' 8" EMERGENCY  
VENT

LEVEL PROBE

24" MANWAY

LEVEL GAUGE

VAPOR RECOVERY  
LINE

OVERFILL  
PREVENTION VALVE

3" SERVICE  
VENT

PROPOSED 8' DIAMETER  
10,000 GALLON  
UL 142 GASOLINE AST

2" BLOCK  
VALVE

OVERFILL  
PREVENTION VALVE

8" EMERGENCY  
VENT

LEVEL GAUGE

3" SCH 40 CS  
WELDED, PAINTED

LEVEL PROBE

24" MANWAY

3" SERVICE  
VENT

PROPOSED PIPING  
TRANSITION SUMP  
W/ LEAK PROBE

2" BLOCK  
VALVE

PROPOSED 8' DIAMETER  
10,000 GALLON  
UL 142 DIESEL AST

8" EMERGENCY  
VENT

LEVEL GAUGE

PIPING SUPPORT  
(TYP)

LEVEL PROBE

24" MANWAY

3" SERVICE  
VENT

3" SCH 40 CS  
WELDED, PAINTED

OVERFILL  
PREVENTION VALVE

2" ELECTRICAL  
ANTI-SIPHON VALVE

PROPOSED 8' DIAMETER  
10,000 GALLON  
UL 142 DIESEL AST

EXISTING FENCE

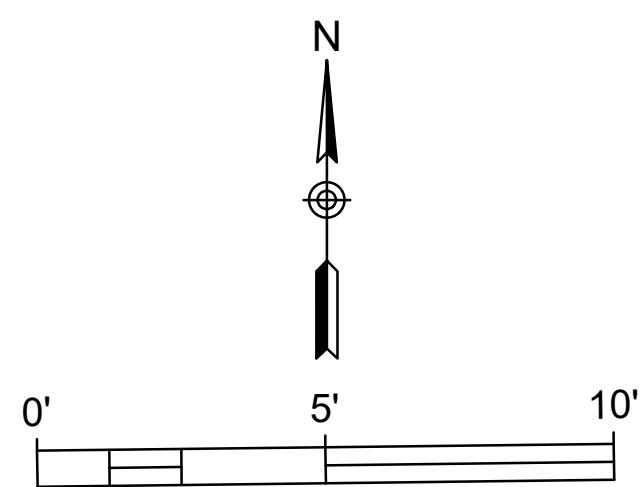
GRASS

PROPOSED  
UNDERGROUND  
3" SINGLE-WALL  
PIPING

PROPOSED  
UNDERGROUND  
3" DOUBLE-WALL  
PIPING

GRASS

PROPOSED  
UNDERGROUND  
2" DOUBLE-WALL  
GASOLINE PIPING



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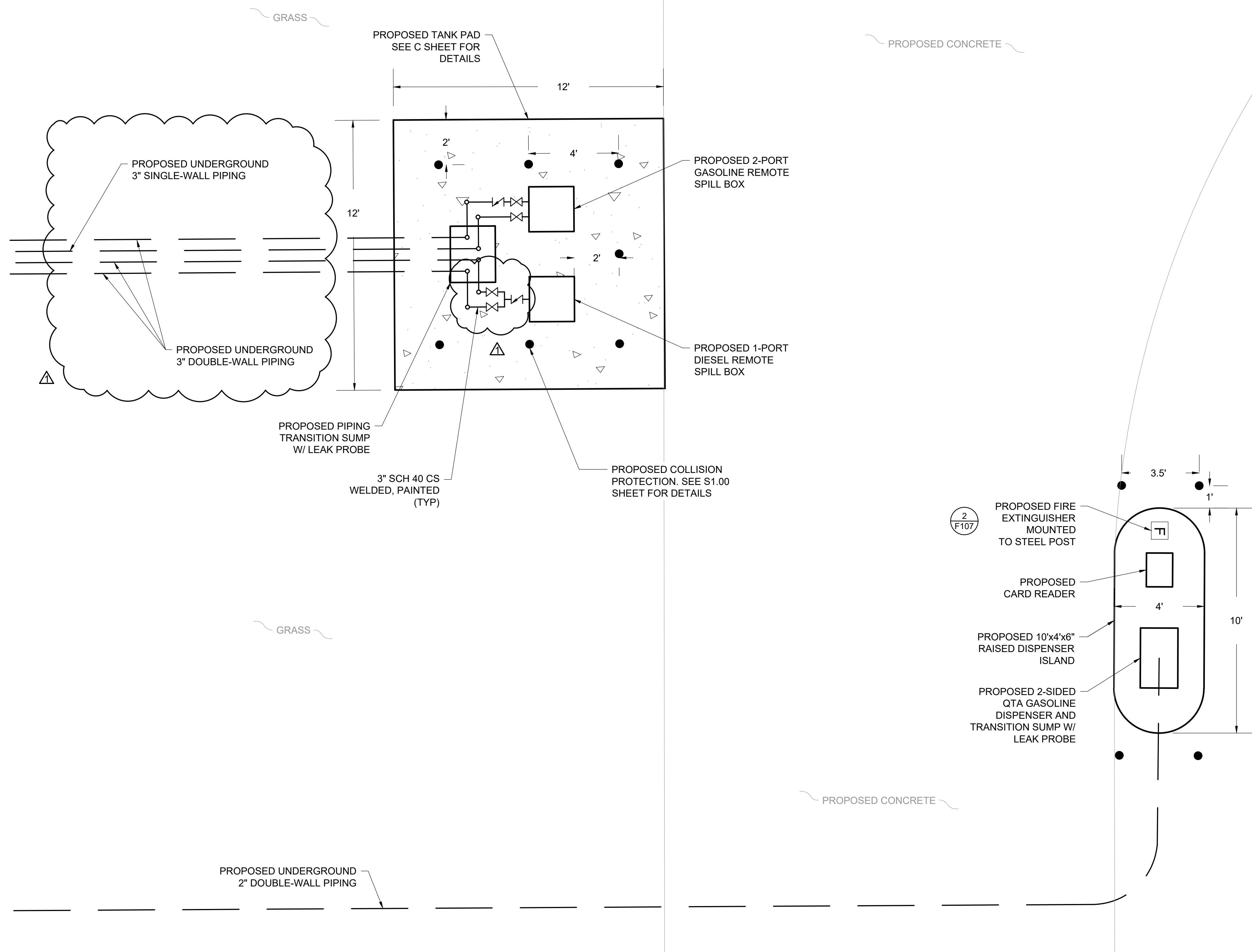
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 WADE C. WOLLERMANN, PE  
 DATE: 05-15-26 LICENSE NO. 55562

**FUEL FARM RELOCATION**  
DULUTH, MN

**FUEL SYSTEM DETAIL**

**F102**

NOTE:  
1. DISPENSER CABINET AND EQUIPMENT DIMENSIONS ARE SHOWN AS APPROXIMATE AND MAY VARY BY MANUFACTURER. FINAL SPACING AND COLLISION PROTECTION WILL BE BASED ON ACTUAL EQUIPMENT PROVIDED BY CONTRACTOR AND MUST BE APPROVED BY ENGINEER.



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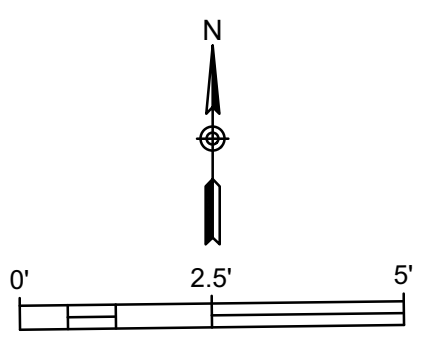


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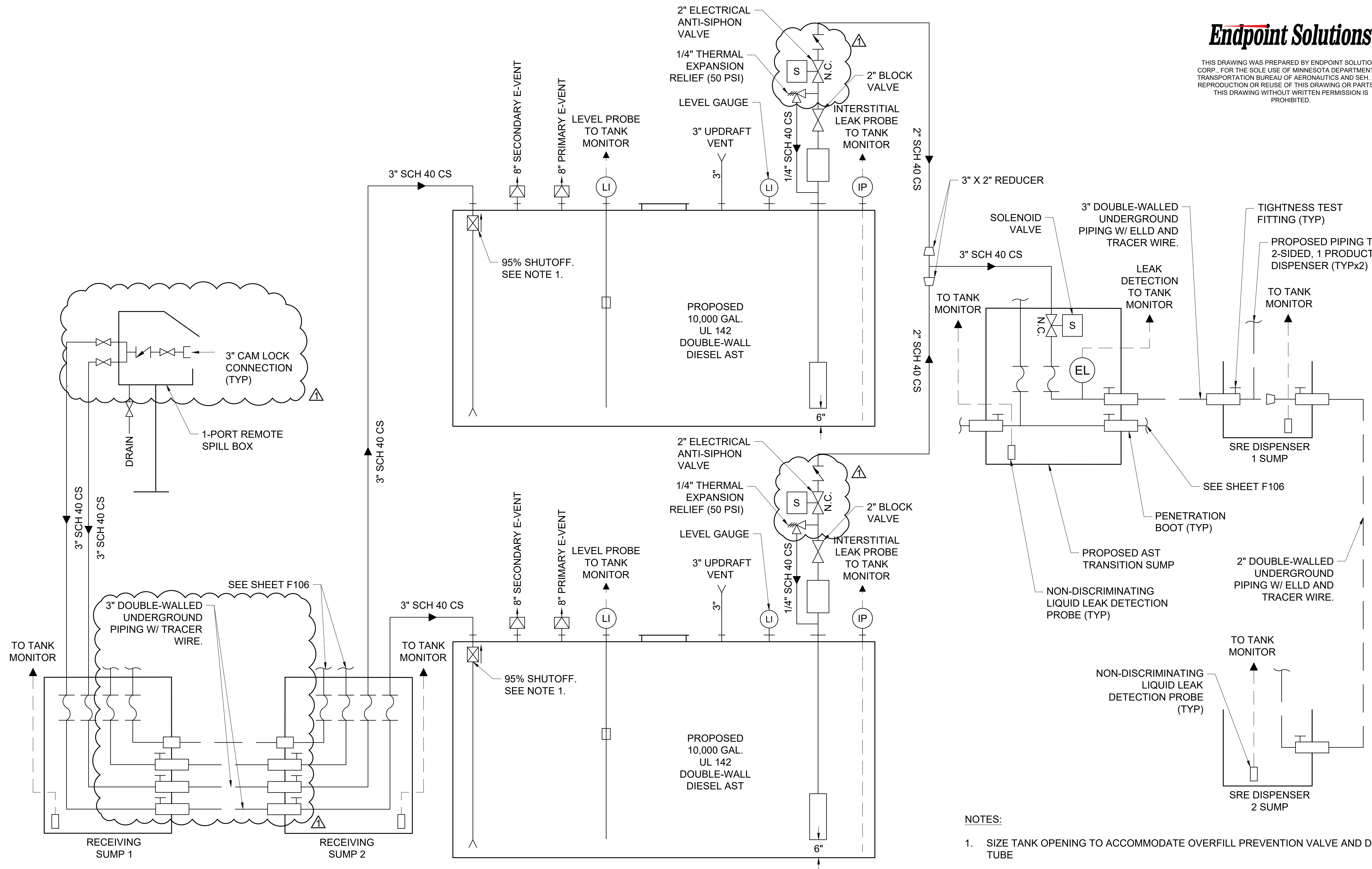
FUEL FARM RELOCATION  
DULUTH, MN

FUEL SYSTEM DETAIL

F103



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- NOTES:
1. SIZE TANK OPENING TO ACCOMMODATE OVERFILL PREVENTION VALVE AND DROP TUBE

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Checked By	WCW						

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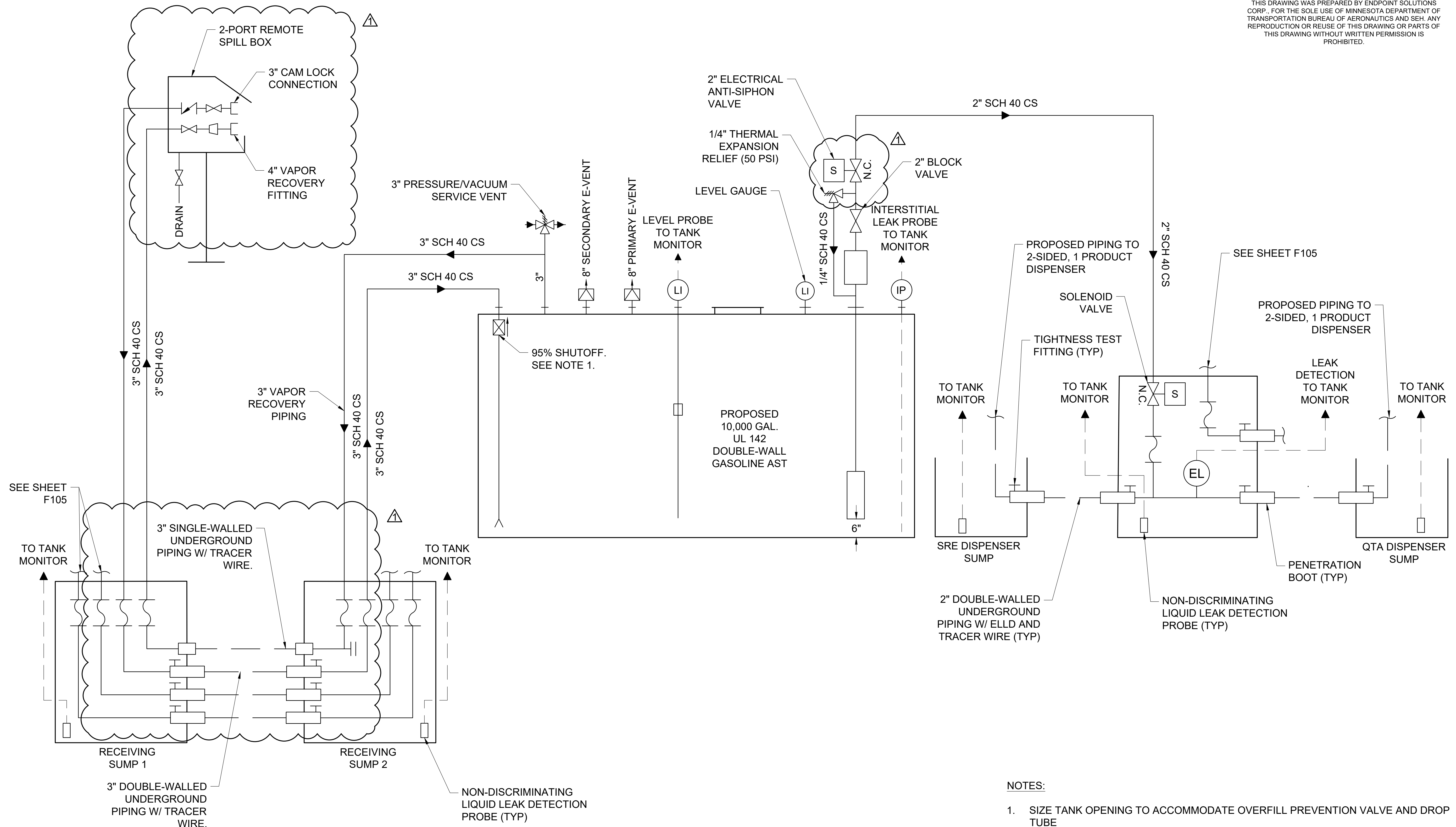
**Endpoint Solutions**  
 WADE C. WOLLERMANN, PE  
 DATE: 05-15-26 LICENSE NO. 55562

**FUEL FARM RELOCATION**  
DULUTH, MN

**DIESEL P&ID**

**F105**

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**NOTES:**

1. SIZE TANK OPENING TO ACCOMMODATE OVERFILL PREVENTION VALVE AND DROP TUBE

Save: 5/14/2026 2:44 PM blurgason Plot: 5/15/2026 11:07 AM P:\SEH - 775011 - Duluth\CAD\F106\_775-011-001 GAS P&ID.dwg

SEH Project	DULAI 188841	Rev.#	Plan Revision Issue Description	Date	Rev.#	Sheet Revision Issue Description	Date
Drawn By	BMF	△	ADDENDUM NO.1	05/15/2026			
Designed By	WCW						
Checked By	WCW						

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MN.

**Endpoint Solutions**  
 WADE C. WOLLERMANN, PE  
 DATE: 05-15-26 LICENSE NO. 55562

**FUEL FARM RELOCATION**  
DULUTH, MN

**GASOLINE P&ID**

**F106**