

6/6/2025

Re: Parallel Taxiway Construction  
Sturgis Municipal Airport  
Sturgis, South Dakota  
A.I.P. #3-46-0054-024-2025  
A-10027

Bid Opening: **June 11, 2025**  
**1:30 pm (local time)**

**ADDENDUM NUMBER 2**

The following modifications are made to the plans and specifications for the Parallel Taxiway Construction Project at the Sturgis Municipal Airport.

**CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS**

- 1. Contract Documents, Proposal, Pages 471-474 delete in its entirety and replace with the attached pages.**

Adjusted bid item quantities.

- 2. Contract Documents, Special Conditions, SC-6 Construction Limitations, Page 22, delete in its entirety and replace with the following:**

The Contractor shall comply with the requirements of the Construction Safety Phasing Plan as shown on Sheets c3 through c8 of the project plans. The Contractor shall have a continuous operation once work begins.

**Base Bid, and Selected Alternate Bid Schedules:**

Grading, underdrain, and storm sewer will be allowed to be constructed southwest of the turf crosswind runway in the fall of 2025.

The paving of the taxiway shall be completed by June 24, 2026.

The work shall be completed in accordance with Paragraph 50-15 of the General Provisions by July 25, 2026.

No Construction shall occur from August 1-18, 2026.

Seeding and punchlist items shall be completed by September 15, 2026.

**3. Contract Documents, Special Conditions, SC-14 Special Provision for Disadvantaged Business Enterprise, Page 26, Definition Item C, delete in its entirety and replace with the following:**

- C. Disadvantaged Business Enterprise (DBE): A for-profit small business directory that is certified by the SDDOT and is listed in the DBE Directory available on the SDDOT's web site.

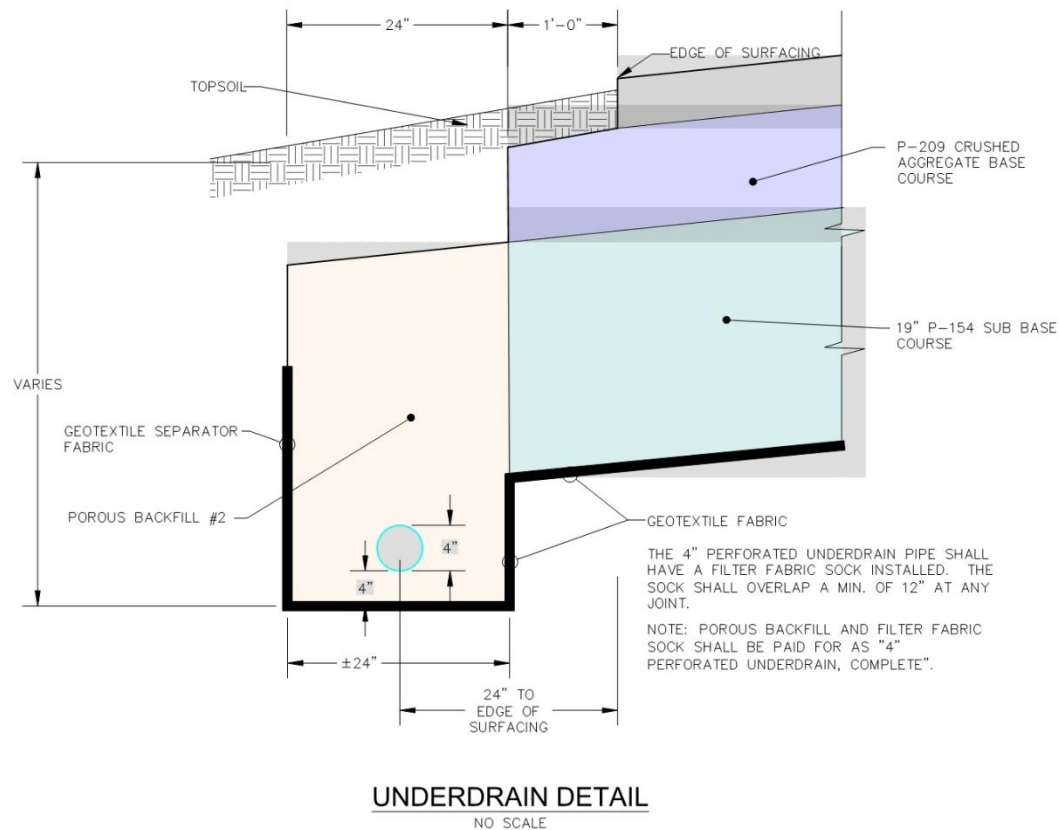
**PLANS**

**1. Civil Plans, Sheet c10, Earthwork Table, delete in its entirety and replace with the following table.**

Adjustments to the table include 12" of Scarify and Recompect versus 6".

<b>Earthwork Table</b>		
<b>Description</b>	<b>Cut (CuYd)</b>	<b>Fill (CuYd)</b>
Parallel Taxiway	15,954	12,241
Strip & Stockpile 6" Topsoil	11,816	--
Scarify & Recompect	6,771	6,771
Subtotal	34,541	19,012
35% Shrinkage	--	6,654
Topsoil (Obtained on Site)	--	8,476
Disposal of Excess Material	--	399
Balance	34,541	34,541

2. Civil Plans, Sheet c57, Underdrain Detail delete in its entirety and replace with the following detail.



## **CLARIFICATIONS**

### **1. Civil Plans, Sheet c4 - Phase I, Construction Safety Phasing Plan.**

The temporary taxilane shall be constructed prior to the implementation of the remainder of the CSPP. The taxilane shall be constructed of 3" of asphalt and 6" P-208 base course. The quantities and construction of the taxilane shall be incidental to the CSPP. The taxilane is not required to be removed upon completion of the project.

### **2. Civil Plans, Sheet c56 – Fencing Layout Plan.**

The new wildlife fencing shall be installed prior to the removal of the existing fencing. The airport will primarily remain open to air traffic during construction, therefore, if the fencing is not completed in that order, temporary fencing to prevent wildlife from entering the airfield will be required.

### **3. The pre bid meeting minutes are attached to this addendum for informational purposes.**

## **ELECTRICAL TECHNICAL SPECIFICATIONS AND PLANS**

1. Electrical Technical Specifications, Item L-125 – Installation of Airport Lighting Systems, Pages 339-245 shall be deleted in its entirety and the attached specification shall be included in the contract documents and technical specifications.
2. Electrical Plans, Sheets 16 and 17, shall be deleted in its entirety and replace with the attached sheets.

## **ALL OTHER ITEMS OF THE PLANS AND SPECIFICATIONS REMAIN UNCHANGED**



BY: \_\_\_\_\_

PROJECT ENGINEER – HELMS & ASSOCIATES

**Acknowledge receipt of the Addendum by inserting its number on the Bid Form. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the Contract Documents. It modifies them as above.**

**PARALLEL TAXIWAY CONSTRUCTION  
STURGIS MUNICIPAL AIRPORT  
AIP #3-46-0054-024-2025  
A-10027**

**Base Bid - Taxiway Grading**

Item #	Spec #	Item Description	Quantity	Unit	Unit Price	Total Price
1	C-105	Mobilization (Max of 10% of Total Cost)	1	L.S.	\$	\$
2	C-100	Contractor Quality Control Plan	1	L.S.	\$	\$
3	S-100	Construction Safety Phasing Plan	1	L.S.	\$	\$
4	P-101	Asphalt Pavement/Base Removal (7" and 9" Nominal Depth)	6,730	SqYd	\$	\$
5	P-101	Cold Milling (2" Nominal Depth)	206	SqYd	\$	\$
6	P-152	Unclassified Excavation	34,541	CuYd	\$	\$
7	P-152	Disposal of Excess Material	400	CuYd	\$	\$
8	P-154	Subbase Course	12,200	CuYd	\$	\$
9	P-154	Geotextile Separator Fabric	23,190	SqYd	\$	\$
10	P-154	Geogrid	7,500	SqYd	\$	\$
11	P-208	Aggregate Base Course	3,520	CuYd	\$	\$
12	D-701	15" RCP Pipe (Class III)	250	Ft	\$	\$
13	D-701	15" RCP Flared End (Class III)	4	Each	\$	\$
14	D-701	18" RCP Arch Pipe (Class III)	89	Ft	\$	\$
15	D-701	18" RCP Arch Flared End (Class III)	2	Each	\$	\$
16	D-701	36" RCP Arch Pipe (Class III)	137	Ft	\$	\$
17	D-701	36" RCP Arch Flared End (Class III)	2	Each	\$	\$
18	D-705	4" Perforated Underdrain Piping	10,070	Ft	\$	\$
19	D-705	4" Underdrain Tee	4	Each	\$	\$
20	D-705	Underdrain Cleanout	34	Each	\$	\$
21	D-705	Connect Underdrain to RCP	6	Each	\$	\$
22	F-162	Remove and Dispose Existing Wildlife Fence	694	Ft	\$	\$
23	F-162	10' Wildlife Fence	796	Ft	\$	\$
24	T-901	Seeding and Fertilizing	11	Acre	\$	\$
25	T-905	Topsoil (Obtained on Site)	8,476	CuYd	\$	\$
26	T-908	Mulching	51,800	SqYd	\$	\$
27	TL-100	Field Laboratory	1	Each	\$	\$
28	Plans	Remove and Salvage 12" RCP	102	Ft	\$	\$

29	Plans	Remove and Salvage 12" RCP Flared Ends	4	Each	\$	\$
30	Plans	Remove and Salvage 15" RCP	186	Ft	\$	\$
31	Plans	Remove and Salvage 15" RCP Flared Ends	4	Each	\$	\$
32	Plans	Sawcut Existing Asphalt	146	Ft	\$	\$
33	Plans	Remove and Relocate Runway Edge Marker	2	Each	\$	\$
34	Plans	Reflectorized Runway Sign	4	Each	\$	\$
35	Plans	Storm Water Pollution Prevention Plan	1	L.S.	\$	\$
36	Plans	Silt Fence	300	Ft	\$	\$
37	Plans	Inlet Protection	19	Each	\$	\$

Subtotal Base Bid items 1 – 37 inclusive \$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars

**Alternate Bid Schedule No. 1 - Electrical**

Item #	Spec #	Item Description	Quantity	Unit	Unit Price	Total Price
1	C-105	Mobilization (Max of 10% of Total Cost)	1	L.S.	\$	\$
2	L-108-5.1	No. 8, 5KV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	16,000	Ft	\$	\$
3	L-108-5.2	No. 6 AWG, Solid Bare Copper Counterpoise Wire, Installed in Trench,	10,500	Ft	\$	\$
4	L-110-5.1	Concrete Encased Electrical Duct Bank, 2-Way 2-Inch	272	Ft	\$	\$
5	L-110-5.2	Non-Encased Eleectrical Conduit, 1-Way 2-Inch	10,700	Ft	\$	\$
6	L-115-5.1	Base Can Plaza (2 Cans)	6	Each	\$	\$
7	L-125-5.1	L-861T(L) Taxiway Edge Light on New Base Can	113	Each	\$	\$
8	L-125-5.2	L-861T(L) Taxiway Edge Light on Existing Base Can	38	Each	\$	\$
9	L-125-5.4	L-858(L) Guidance Sign, Size 1, 2-MOD	8	Each	\$	\$
10	L-125-5.5	L-858(L) Guidance Sign, Sizl 1, 3-MOD	3	Each	\$	\$
11	L-125-5.6	L-821 Control Panel	1	L.S.	\$	\$
12	L-125-5.7	Electrical Panel Replacement	1	L.S.	\$	\$
13	L-125-5.8	Miscellaneous Lighting Equipment	1	L.S.	\$	\$
14	NS-100-4.1	Locate and Protect Existing Equipment	1	L.S.	\$	\$
15	NS-101-4.1	Remove Airfield Electrical Equipment	1	L.S.	\$	\$
16	NS-102-5.1	Temporary Lighting	1	L.S.	\$	\$
17	NS-151-5.1	L-828 Constant Current Regulator, 7.5KW, 3-Step, 240V, In Place	2	Each	\$	\$

Subtotal Alternate Bid No. 1 items 1 – 17 inclusive \$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars  
\_\_\_\_\_

**Alternate Bid No. 2 - Concrete Paving**

Item #	Spec #	Item Description	Quantity	Unit	Unit Price	Total Price
1	C-105	Mobilization (Max of 10% of Total Cost)	1	L.S.	\$	\$
2	P-501	7" PCC Pavement	20,150	SqYd	\$	\$
3	P-605	Silicone Joint Sealing Filler	32,400	Ft	\$	\$
4	P-605	Silicone Joint Sealing Filler w/ Expansion Board	545	Ft	\$	\$
5	P-620	Pavement Markings (Concrete Surfacing)	1	L.S.	\$	\$

Subtotal Alternate Bid No. 2 items 1 – 5 inclusive \$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars  
\_\_\_\_\_

**Alternate Bid No. 3 - Asphalt Paving**

Item #	Spec #	Item Description	Quantity	Unit	Unit Price	Total Price
1	C-105	Mobilization (Max of 10% of Total Cost)	1	L.S.	\$	\$
2	P-208	Aggregate Base Course	1,780	CuYd	\$	\$
3	P-401	Asphalt Base / Surface Course	4,980.0	Ton	\$	\$
4	P-401	Asphalt Binder (PG 64-34)	350.0	Ton	\$	\$
5	P-602	Emulsified Asphalt Prime Coat	27.0	Ton	\$	\$
6	P-603	Emulsified Asphalt Tack Coat	10.0	Ton	\$	\$
7	P-620	Pavement Markings (Asphalt Surfacing)	1	L.S.	\$	\$

Subtotal Alternate Bid No. 3 items 1 – 7 inclusive \$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars  
\_\_\_\_\_

Total Base Bid, Alternate Bid No. 1, and Alternate Bid No. 2 (Concrete Paving), all items inclusive

\$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars  
\_\_\_\_\_

Total Base Bid, Alternate Bid No. 1, and Alternate Bid No. 3 (Asphalt Paving), all items inclusive

\$ \_\_\_\_\_

Written: \_\_\_\_\_ Dollars  
\_\_\_\_\_

**\*\*BIDDERS MUST BID ON THE BASE BID AND ALTERNATE BID NO. 1 AND  
EITHER ALTERNATE BID NO. 2 OR ALTERNATE BID NO. 3\*\***

All Items Furnished and Installed

\*For Base Bid and all Alternate Bids, Unit Prices will govern where used. Incorrect extensions or totals will be corrected and the corrected figures will be used in determining the low bidder. Final contract amount after construction will be determined based upon final quantities and unit price.



**Pre-Bid Conference Minutes**

**Parallel Taxiway Construction  
Sturgis Municipal Airport  
Sturgis, South Dakota  
AIP #3-46-0054-024-2025, Helms # A-10027  
June 4, 2025  
1:30 pm (Mountain)**

**I. Bidding**

- A. Delivery of Bids  
Sealed: Office of the City of Sturgis  
1040 Harley -Davidson Way  
Sturgis, SD 57785
- B. Mailing of Bids  
Sealed: Office of the City of Sturgis  
1040 Harley-Davidson Way  
Sturgis, SD 57785
- C. Opening of Bids  
June 11<sup>th</sup> @ 1:30 P.M. (Local Time)  
Bids will be publicly opened and read aloud
- D. Bid Documents
  - 1. Proposal (Pages 461-480)
    - a. Acknowledgement of Addendum(s)
    - b. Site examination of existing conditions
    - c. Insert all Unit Prices and Total Prices as required (Unit Prices will control)
    - d. Buy American Certificate
    - e. Sign and Date the Proposal
    - f. Bid Schedules

1. Base Bid – Grading
2. Alternate Bid No. 1. – Electrical
3. Alternate Bid No. 2. – Concrete Paving
4. Alternate Bid No. 3. – Asphalt Paving

**g. Mobilization – SHALL BE LIMITED TO 10%**

2. Attachment to Proposal (Pages 454-456) – 3.5% DBE Goal, Sign and Date
  - a. DBE Manufacturers 100% Credit
  - b. DBE Suppliers 60% Credit
  - c. DBE Wholesalers only receive credit for mark-up
  - d. If the Contractor is not going to meet DBE Goal, he/she must show a “Good Faith Effort” (Documentation must be provided within 2 business days from the date that the apparent low bidder is contacted. This documentation must be approved prior to issuing of a Contract).

**Use SDDOT DBE list for solicitations.**

3. Bid Security
  - a. 10% Bid Bond – Made out to City of Sturgis
  - b. 5% Cashier’s Check – Made out to City of Sturgis

**\*\*MAKE SURE ALL OF THE ABOVE MENTIONED FORMS ARE COMPLETELY FILLED OUT, SIGNED, AND DATED, PRIOR TO SUBMITTAL OF YOUR BID\*\***

## **II. General Provisions**

- A. Bonding, Insurance, Utility Contacts, Etc.

## **III. Specific Project Requirements**

- A. Non-Discrimination in Contractor’s work force

1. Goals
  - a. Minority – 3.4%
  - b. Female – 6.9%

- B. Buy American

1. Helms and Associates will submit Waiver to the FAA, if needed.

#### C. Posters

1. EEO Posters – Available from SD-DOT (On Site)
2. Wage Rates (On Site)

#### D. Payrolls

1. Need to be submitted weekly by the Prime Contractor and all Subcontractors performing work on-site.

#### E. Reports to be Filed

1. Annual EEO-1 Report - Standard Form 100 must have been filed within past 12 months. Special Conditions page 23 & 24.
2. Construction Contractor Identification Data - Award Notification shall be given within 10 working days of Contract Award, see Special Conditions Pages 24.

#### F. Storm Water Pollution Prevention Plan (SWPPP)

1. Contractor shall review the SWPPP included in the Plans.
2. Contractor will be required to keep a copy of the SWPPP on site during construction, comply with the requirements of it, and modify it as necessary to meet changing conditions.
3. Contractor will be issued and will sign the Contractor Certification Form after the Permit has been issued.
4. All costs associated with complying with the SWPPP shall be included in the Bid.

### **IV. Permits**

- A. State/Local Permits must be obtained by the Contractor as required (i.e. Haul Road Permit).

### **V. Technical Specifications**

- A. Items for all Base Items are found in Part VI of the Construction Specifications and Contract Documents or in the Plans.

- B. All questions shall be directed to Helms & Associates and Mead & Hunt:

Helms & Associates:

Brooke Edgar, P.E.

(605) 225-1212

[brookee@helmsengineering.com](mailto:brookee@helmsengineering.com)

Mead & Hunt

Chris Horner, P.E.

(701) 566-6451

[Chris.Horner@meadhunt.com](mailto:Chris.Horner@meadhunt.com)

- C. Helms & Associates will issue all Addendums.

## **VI. Miscellaneous**

- A. Review of Bids and approval by the FAA will be prior to Award of the Contract.  
(Anticipate up to 60 days after the Bid Opening)
- B. A Pre-Construction Conference will be held prior to construction starting.
- C. Construction Observation
1. Helms & Associates/Mead & Hunt
  2. SD-DOT / FAA – Intermittent and Final
- D. Payments
1. Monthly
  2. RETAINAGE – 10% (General Provisions, Section 90)
  3. Stockpiled Materials
    - a. Cost documentation / Invoice
    - b. Certificate of Compliance or test results to show it meets the specification requirements
    - c. Proof of Insurance
- E. Project Completion – Special Conditions (SC-6)
1. Construction Limitations – see Special Conditions Page 22.

**\*\*Work shall not commence until April 2026 with the existing Runway, Taxiways, Taxilanes, and Apron remaining open until March 31, 2026 unless written authorization from the Owner allows closure prior to April 1, 2026\*\***

**Base Bid-Grading, Alternate Bid No. 1. - Electrical, Alternative Bid No. 2 – Concrete Paving and Alternative Bid No. 3 - Asphalt Paving:**

The paving, final grading and electrical portion of the Parallel Taxiway shall be completed by June 24, 2026 in order to open Runways 11/29 and 5/23 (Phase II). Liquidated Damages set forth in section SC-1 of the Special Conditions may be assessed if this timeframe is not met.

The Final Pavement Markings and all work shall be completed in accordance with Paragraph 50-15 of the General Provisions by July 25, 2026. Liquidated Damages set forth in section SC-1 of the Special Conditions may be assessed if this timeframe is not met.

**FURTHER DISCUSSION ON CONSTRUCTION SCHEDULE**

**Anticipated NTP timing – Not to occur until after 2025 Rally**

**Fall 2025 Grading – Fall 2025 Grading will be acceptable; however, the turf crosswind runway shall not be impacted until 2026. It would be anticipated that storm sewer, underdrain, P-154 and P-208 be installed on excavated areas.**

**Rally Shutdown Considerations – No work will begin until after the 2025 Rally. The parallel taxiway is to be completed prior to the 2026 Rally.**

**VII. Construction Methods / Discussion**

- A. Construction Meetings will be held throughout the project. All Contractors involved with work at the time of the meeting must attend. Frequency and time shall be coordinated at the Pre-Construction Conference.
- B. Bid quantities may be adjusted to stay within project funds.
- C. Contractor will be responsible for Aggregate Testing (Gradations). The Engineer will perform all density testing.
- D. FAA General Provisions / Technical Specification Changes **(make sure your read the specs as they have been updated):**
  - 1. Mobilization shall be limited to 10 percent of the total project cost (Section 105)
  - 2. Contractor Quality Control Program is now a pay item.
  - 3. Subbase Course shall have a CBR of at least 20

## **Item L-125 Installation of Airport Lighting Systems**

### **DESCRIPTION**

**125-1.1** This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

### **EQUIPMENT AND MATERIALS**

#### **125-2.1 General.**

**a.** Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

**b.** Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

**c.** All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

**d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

**e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

### **EQUIPMENT AND MATERIALS**

**125-2.2 Conduit/Duct.** Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

**125-2.3 Cable and Counterpoise.** Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

**125-2.4 Tape.** Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

**125-2.5 Cable Connections.** Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

**125-2.6 Retroreflective Markers.** Not required.

**125-2.7 Runway and Taxiway Lights.** Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by the fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Type	Class	Mode	Style	Option	Base	Transformer	Notes
L-861T(L)	2	1	NA	NA	L-867B	L-830	LED, 30" Height – Blue Lens. Install on new or existing base cans per plan

New taxiway lights are to be provided with new isolation transformer and cover plates by the Contractor. Edge lights being installed are to include new base cans (or on existing base cans), isolation transformers, and material as shown per the detail.

**125-2.8 Runway and Taxiway Signs.** Runway and Taxiway Guidance Signs shall conform to the requirements of AC 150/5345-44.

Type	Size	Style	Class	Mode	Notes
L-858R/L/Y(L)	1	2	2	2	Provide LED Signs, install on new foundation.

**New airfield guidance signs are to be installed at locations shown on new foundations. Contractor shall provide all necessary foundations, base cans, wiring, grounding, and isolation transformers to complete the installation per the detail.**

**125-2.9 Runway End Identifier Light (REIL).** Not required.

**125-2.10 Precision Approach Path Indicator (PAPI).** Not required.

**125-2.11 Circuit Selector Cabinet.** Not required.

**125-2.12 Light Base and Transformer Housings.** Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42. Light bases shall be Type L-867, Class 1A, Size B, Size D shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

**125-2.13 Isolation Transformers.** Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

**125-2.14 Miscellaneous.** Miscellaneous components, such as connectors, tape, bolts, etc., shall conform to current N.E.C., FAA Specifications and Advisory Circulars. All costs associated with these items shall be incidental to other bid items and no additional compensation will be allowed.

**125-2.15 L-821 Control Panel.** Provide and install a new L-821 Control Panel, Type 1, Class W in the existing electrical building. The control panel shall meet the requirements of FAA Advisory Circuit 150/5345-3 current edition. The control panel shall contain rotary and toggle switches, relays, timeclock, any miscellaneous equipment to operate the airfield lighting system as detailed in the project documents. Contractor shall utilize existing photoeye on the exterior of the electrical vault. Final operation of the entire airfield lighting system shall be approved by the Engineer and Owner during the submittal process.

The Contractor shall be responsible for properly integrating the new control panel with the new constant current regulators, existing L-854 radio controller, existing photoeye, and existing PAPIs, wind cone, and beacon. Contractor to provide all the required conduit, wiring, and connections needed to achieve a fully functional airfield lighting system acceptable to the RPR and Owner.

The existing L-821 Control Panel and interface cabinet shall be removed prior to installing the new control panel. The Contractor shall verify physical dimensions of the new L-821 Control Panel fits in the designated location as shown on the plans. It is anticipated the new control panel will be contained in a single enclosure with all the necessary components. Coordinate with the RPR if any existing equipment needs to be rearranged to complete the installation. All working space clearances are to be maintained. Coordinate with the RPR during which phase for installation and any downtime of the existing airfield lighting system.

**125-2.16 Electrical Panel Replacement.** As indicated on the plans, the existing 200A panel inside the electrical vault shall be disconnected, removed, and replaced with a new 400A, 120/208V, SUSE rated panelboard in a NEMA 1 enclosure. New panel shall contain a 300A main circuit breaker. Provide all the necessary breakers as shown in the panel schedule. All existing and proposed circuits shall be connected up to the new panel. Provide all the necessary wiring, conduit, and connection needed to install the new panelboard complete and accepted by the RPR. Provide new grounding system as required by the NEC.

Panelboard shall be surface mounted and installed in the current location as the existing panel. Contractor shall verify dimensions of new panel prior to installation.

Refer to project details for additional requirements.

The Contractor shall provide an exterior surge protection device to the panelboard. Provide the necessary breaker to complete the installation. SPD unit shall meet the requirements of UL 1449 current edition standard.

The Contractor shall coordinate with the local utility on upsizing the current service. The Contractor shall provide and install service conductors, conduit, trenching, 320A meter socket with bypass lever to complete the installation. Installation shall meet the requirements of the local utility. Any direct cost imposed by the utility shall be coordinated by the Contractor and paid for by the Owner. Contractor shall provide trenching between the utility transformer and meter socket.

Installation shall meet the requirements of the NEC.

**125-2.17 Miscellaneous Lighting Equipment.** In addition to the specified airfield equipment, the Contractor shall provide the following miscellaneous spare lighting equipment:

- 10 Spare MITL, L-861T(L), complete light fixtures (include stem, base plate, and isolation transformer)
- 10 spare frangible couplings for the elevated lights
- 5 Spare frangible couplings for the installed signs
- Spare Isolation Transformers (provide 3 spare isolation transformers for each size provided on the project)



## INSTALLATION

**125-3.1 Installation.** The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

**125-3.2 Testing.** All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

The Contractor shall furnish all the necessary equipment to test the airfield lighting system. The following is a minimum of required test to be performed by the Contractor:

- Perform a megger and continuity test on all underground circuits. Refer to L-108 for additional requirements.

**125-3.3 Shipping and Storage.** Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

**125-3.4 Install Elevated Fixtures and Signs.** Where called for on the Plans to install fixtures and guidance signs, this work shall include the installation of new light bases and sign foundation pads, isolation transformers, connectors, grounding wire, ground rods and all miscellaneous equipment and incidental necessary to provide a new fully functional fixture/system of the type indicated on the Plans. All components used in this item shall be new and shall be installed as shown on the Plans.

Water, debris, and other foreign substances shall be removed prior to installing fixture base and light. A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

## METHOD OF MEASUREMENT

**125-4.1.** Taxiway lights will be measured by the number of each type furnished and installed including base can (if required by bid item), concrete, base plate, hardware, isolation transformer, grounding/ground rods, as completed units in place, ready for operation, and accepted by the RPR. Separate bid items are provided for fixtures installed on existing base cans and new base cans.

**125-4.2** L-858(L) guidance signs will be measured by the number of each sign location, per size, per module furnished and installed, including foundation, base can, cover plates, hardware, grounding/ground rods, and isolation transformer as completed units, in place, ready for operation, and accepted by the RPR.

**125-4.3.** The L-821 Control Panel will be measured and paid for on a per each basis, meeting the requirements of the project specifications and details. Included shall be L-821 Control Panel, removal of existing, all equipment, materials, labor, mounting, testing, cable, conduit and connections in place and accepted as a complete operational unit.

**125-4.4.** Electrical panel replacement will be measured on a lump sum basis, meeting the requirements of the project specifications and details, to fully replace and install a new panelboard complete and accepted by the RPR.

**125-4.5.** Miscellaneous Lighting Equipment will be measured on a lump sum basis, delivered to the Owner and accepted by the RPR.

## **BASIS OF PAYMENT**

**125-5.1 L-861T(L) Taxiway Edge Light on New Base Cans** will be paid at the Contract unit price per each taxiway light furnished and installed and accepted by the RPR. This price shall include full compensation to furnish all materials, labor, equipment, excavation, preparation, assembly, associated light base, concrete, cover, hardware, fixture, light source, isolation transformer, wiring grounding, testing, incidentals and associated items as are applicable for a complete and operational installation.

**125-5.2 L-861T(L) Taxiway Edge Light on Existing Base Cans** will be paid at the Contract unit price per each taxiway light furnished and installed and accepted by the RPR on existing base can. This price shall include full compensation to furnish all materials, labor, equipment, excavation, preparation, assembly, cover plate, hardware, fixture, light source, isolation transformer, wiring grounding, testing, incidentals and associated items as are applicable for a complete and operational installation.

**125-5.3 L-858(L) Guidance Sign with new pad** will be paid at the Contract unit price per each sign provided and installed per location and per number of modules and accepted by the RPR. This price shall include full compensation to furnish all materials, labor, equipment, excavation, preparation, LED lighted guidance sign, assembly, associated light base, concrete, cover, hardware, isolation transformer, wiring grounding, testing, incidentals and associated items as are applicable for a complete and operational installation.

**125-5.4 L-821 Control Panel** will be paid for at the contract unit price per each unit installed complete and accepted by the RPR. The price shall include full compensation to furnish and install all necessary equipment, materials, labor, removal of existing, cable, conduit, and connections, testing, and incidentals needed for a complete and operational installation.

**125-5.5 Electrical Panel Replacement** will be paid for at the contract unit price per lump sum to replace, provide, and install a new electrical panel complete and accepted by the RPR. This price shall include full compensation to furnish all materials, labor, panel, breakers, SPD unit, grounding, meter socket, conductors, utility coordination, trenching, testing, and incidentals an associated items as applicable for a complete and operational installation.

**125-5.6 Miscellaneous Lighting Equipment** will be paid at the Contract unit price per Lump Sum, furnished and delivered by the Contractor. This price shall include full compensation to furnish all materials, labor, incidentals, and associated items as are applicable to complete this item.

Payment will be made under:

Item 125-5.1	L-861T(L) Taxiway Light on New Base Can – per each
Item 125-5.2	L-861T(L) Taxiway Light on Existing Base Can – per each
Item 125-5.3	L-858(L) Guidance Sign, Size 1, 2 Module – per each
Item 125-5.4	L-858(L) Guidance Sign, Size 1, 3 Module – per each

Item 125-5.5	L-821 Control Panel – per each
Item 125-5.6	Electrical Panel Replacement – per lump sum
Item 125-5.7	Miscellaneous Lighting Equipment – per lump sum

## **REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

### **Advisory Circulars (AC)**

AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

### **Engineering Brief (EB)**

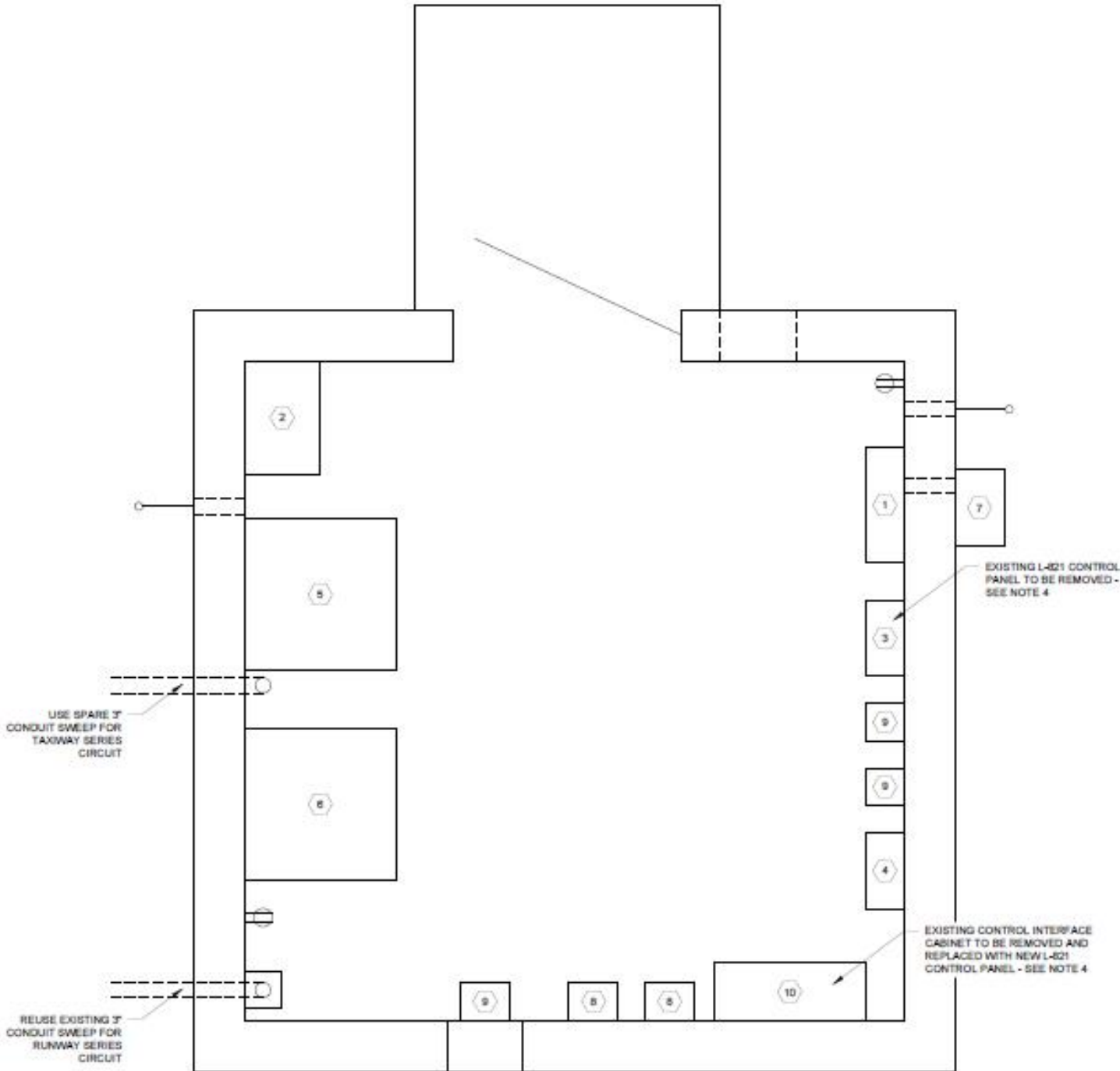
EB No. 67	Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures
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**END OF ITEM L-125**

No.	Revised	By	Date
1	ADDendum #2		

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota.  
Registration No.

416 Production St N.  
P.O. Box 111,  
Aberdeen, S.D. 57402  
Phone: 605.225.1212,  
Fax: 605.225.3189  
Email: bob@meadhuntengineering.com



# PLAN NOTES

GENERAL: DIMENSIONS OF EXISTING ELECTRIC ROOM ARE APPROX 9'-11" BY 5'-7"

- EXISTING 120 / 240V 200A MAIN PANEL TO BE REPLACED WITH NEW PANEL - REFER TO PANEL SCHEDULE
- EXISTING SUB PANEL "A1" 100 AMP
- EXISTING L-821 AIRFIELD LIGHTING CONTROL PANEL - TO BE REMOVED AND REPLACED
- EXISTING L-854 AIRFIELD CONTROL PANEL
- PROVIDE NEW FERRORESONANT TWY 7.5 KW CONSTANT CURRENT REGULATOR WITH INTERNAL S-1 CUTOUT
- PROVIDE NEW FERRORESONANT RWY 7.5 KW CONSTANT CURRENT REGULATOR WITH INTERNAL S-1 CUTOUT DISCONNECT AND SALVAGE 10 KW CCR
- ELECTRIC METER TO BE REPLACED WITH 320A METER SOCKET WITH BYPASS LEVER BY CONTRACTOR
- NEMA 1, HEAVY DUTY, DISCONNECT
- EXISTING NEMA 1, 5KVA, SINGLE PHASE 120 / 240-480V STEP-UP TRANSFORMER
- EXISTING CONTROL INTERFACE CABINET - TO BE REMOVED AND REPLACED

# GENERAL NOTES

- ALL WORK SHALL BE DONE IN A WORKMAN LIKE MANNER
- ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL CODES
- ALL METAL CABINETS SHALL BE GROUNDED TO GROUND BUS AS PER THE REQUIREMENTS OF THE NEC.
- EXISTING L-821 CONTROL PANEL AND CONTROL INTERFACE CABINET IS TO BE DISCONNECTED, REMOVED, AND REPLACED WITH NEW L-821 CONTROL PANEL. NEW L-821 CONTROL PANEL TO BE INSTALLED AT LOCATION OF KEYNOTE 10. NEW L-821 CONTROL TO BE INTERFACED WITH EXISTING L-854 RADIO CONTROLLER ALONG WITH NEW CONSTANT CURRENT REGULATORS AND EXISTING NAVIGATION AIDS INCLUDING PAPI 11, PAPI 25, ROTATING BEACON, AND LIGHTED WIND CONE. ALL WIRING, CONDUIT AND CONNECTIONS NEEDED TO INCORPORATE A NEW CONTROL PANEL TO THE AIRFIELD LIGHTING CONTROL SYSTEM SHALL BE INCLUDED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- BUILDING CONDUIT IS INCIDENTAL TO ELECTRICAL EQUIPMENT BID ITEM.
- CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS OF EQUIPMENT AND PLACE NEW EQUIPMENT MEETING PROPER WORKING SPACE REQUIREMENTS. CONTRACTOR IS PERMITTED TO REARRANGE EXISTING EQUIPMENT TO MAINTAIN WORKING SPACE CLEARANCES.
- CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, CONDUIT, CONNECTIONS AND HARDWARE NECESSARY FOR AIRFIELD ELECTRICAL SYSTEM.
- COORDINATE WITH LOCAL UTILITY ON UPGRADING THE ELECTRICAL SERVICE. CONTRACTOR TO PROVIDE NECESSARY CONDUIT SWEEPS, CONDUCTORS, GROUNDING, METER SOCKET, TRENCHING, AND CONNECTIONS AS REQUIRED BY UTILITY AND BY THE NEC.

# ELECTRICAL VAULT PLAN

STURGIS PARALLEL TAXIWAY  
CITY OF STURGIS  
STURGIS, SOUTH DAKOTA

Drawn By:	BTH
Chk By:	CGH
Proj. No.:	4889040-251775
Disc. No.:	ELECTRICAL
Date:	MAY 16, 2025



## SEQUENCE OF OPERATION

	MASTER		TIME			RADIO - 3 CLICKS		RADIO - 6 CLICKS		RADIO - 7 CLICKS	
	MANUAL	AUTO	DAWN TO DUSK	DUSK TO 11 P.M.	11 P.M. TO DAWN	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
RUNWAY CCR		ON	OFF	LOW	OFF	LOW	LOW	MED	MED	HIGH	HIGH
TAXIWAY CCR		ON	OFF	LOW	OFF	LOW	LOW	MED	MED	HIGH	HIGH
BEACON		ON	OFF	ON	ON	-	-	-	-	-	-
PRIMARY WIND CONE		ON	OFF	ON	OFF	ON	ON	ON	ON	ON	ON
PAPI 11		ON	OFF	ON	OFF	ON	ON	ON	ON	ON	ON
PAPI 29		ON	OFF	ON	OFF	ON	ON	ON	ON	ON	ON

### NOTES:

- RADIO CONTROL WILL OVERRIDE MANUAL SWITCH OPERATION.
- VERIFY OPERATION OF EXISTING VOLTAGE POWERED PAPI UNITS BETWEEN DAY AND NIGHT TIME OPERATION.
- THE FINAL AIRFIELD LIGHTING OPERATION IS TO BE REVIEWED BY THE AIRPORT DURING THE SUBMITTAL PROCESS.

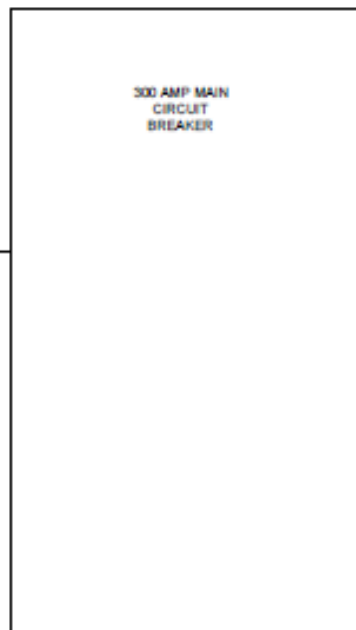
PANEL SCHEDULE:				PANEL L				1 PHASE 3 WIRE				VOLTAGE LL: 208				VOLTAGE LG: 120					
OC DEVICES:		300A MCB		DEVICE FAMILY:				MOUNTING:				Surface		ENCLOSURE:		NEMA 1					
COMMENTS:								BUS RATING:				400A Copper		AVAILABLE FAULT DUTY:		22,000 A					
CKT NO	DESCRIPTION/ LOCATION	LOAD TYPE	CRITERIA		DEM	TOTAL VA	REMARKS	DEVICE		P	DEVICE		REMARKS	TOTAL VA	LOAD TYPE	CRITERIA		DEM	DESCRIPTION/ LOCATION	CKT NO	
			EA	QTY				AMPS	P	H	AMPS	P				EA	QTY				
1	TVSS		100	1	0	100		30	2	A	60	2		5304		5304	1	0	7.5kW Regulator	2	
3	-		100	1	0	100			--	B		--		5304		5304	1	0	--	4	
5	L-821 Control Panel		600	1	0	600		20	1	A	20	2		1200		1200	1	0	PAPI 11	6	
7	L-854 Radio Controller		250	1	0	250		20	1	B		--		1200		1200	1	0	--	8	
9	Windcone		500	1	2	500		20	1	A	20	2		1200		1200	1	0	PAPI 29	10	
11	Exhaust Fan/Outlet		750	1	3	750		20	1	B		--		1200		1200	1	0	--	12	
13	Photoeye		180	1	0	180		20	1	A	60	2		5304		5304	1	0	7.5kW Regulator	14	
15	Beacon		500	1	3	500		20	1	B		--		5304		5304	1	0	--	16	
17	Outlet		180	2	3	360		20	1	A	20	1		500		500	1	0	Beacon Heater	18	
19	Apron Light		750	1	2	750		30	2	B	30	2		1750		1750	1	0	AWOS	20	
21	-		750	1	2	750			--	A		--		1750		1750	1	0	--	22	
23	Fuel Sub-Panel		5000	1	0	5000		100	2	B	20	1		0					Spare	24	
25	-		5000	1	0	5000			--	A	20	1		0					Spare	26	
27						0				B				0						28	
29						0				A				0						30	
ENDUSE LOADS:		PHASE "A" KVA		23		PHASE "B" KVA		22		DESIGN KVA		45		DESIGN FLA		214					
TOTAL LOADS:		CONNECTED KVA		45		DEMAND KVA		44													
		CONNECTED FLA		216		DEMAND FLA		212													

**Mead & Hunt**  
Mead and Hunt, Inc.  
800 South 2nd Street,  
Suite 120  
Bismarck, ND 58504  
phone: 701-566-6451  
meadhunt.com

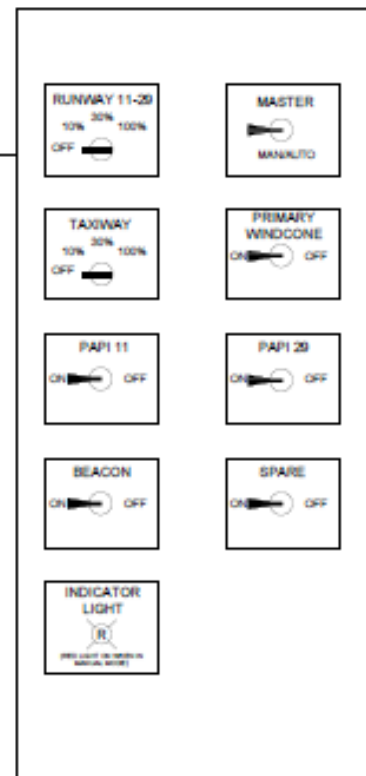
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the law of the State of South Dakota, Registration No.

416 Production St. N.  
P.O. Box 111,  
Aberdeen, S.D. 57402  
Phone: 605-225-1212  
Fax: 605-225-3189  
Email: bob@meadhunting.com

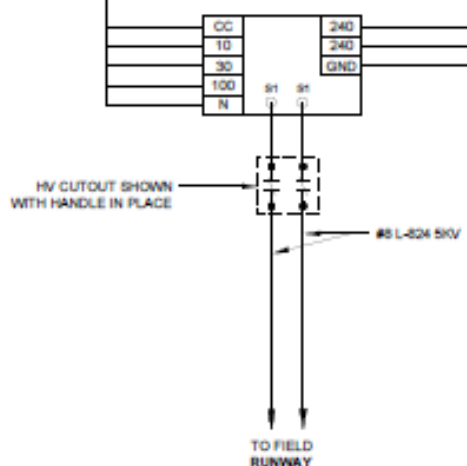
### NEW PANEL BOARD



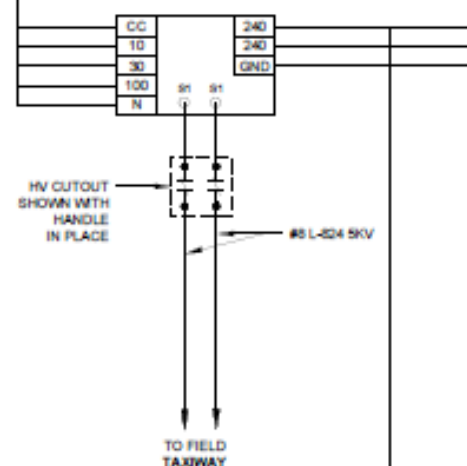
### NEW L-821 CONTROL PANEL



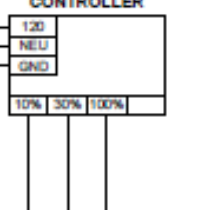
### NEW 7.5kW CCR - RUNWAY



### NEW 7.5kW CCR - TAXIWAY



### EXISTING L-854 RADIO CONTROLLER



RUNWAY REGULATOR LOAD SCHEDULE (WATTS)			
CCR LOADS	QUANTITY	DESIGN LOAD	TOTAL LOAD
L-861	48	54	2592
L-861E	16	54	864
SIZE 1, 2 MODULE LED GUIDANCE SIGN	6	95	570
SIZE 1, 3 MODULE LED GUIDANCE SIGN	1	95	95
CONDUCTOR LOAD	15000		510
TOTAL PRESENT CONFIGURATION			4631

TAXIWAY REGULATOR LOAD SCHEDULE (WATTS)			
CCR LOADS	QUANTITY	DESIGN LOAD	TOTAL LOAD
L-861T (L)	151	15	2265
SIZE 1, 2 MODULE LED GUIDANCE SIGN	2	95	190
SIZE 1, 3 MODULE LED GUIDANCE SIGN	2	95	190
CONDUCTOR LOAD	15000		510
TOTAL PRESENT CONFIGURATION			3155

### NOTES:

- NAVIGATIONAL AIDS NOT SHOWN ON THE SCHEMATIC. PROVIDE CONDUIT, WIRING, AND CONNECTIONS AS REQUIRED TO CONTROL AND OPERATE EACH UNIT.



### WIRING DIAGRAM AND ELECTRICAL VAULT DETAILS

STURGIS PARALLEL TAXIWAY  
CITY OF STURGIS  
STURGIS, SOUTH DAKOTA

Drawn By: BTH  
CHK By: CGH  
Proj. No: 4889040-251779  
Disc. No: ELECTRICAL  
Date: MAY 16, 2025