BE005 TOTAL SHEETS = 51

CONSTRUCTION PLANS

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND

VAULT WORK

GREATER BEARDSTOWN AIRPORT (K06) BEARDSTOWN, CASS COUNTY, ILLINOIS

IDA PROJECT NO. K06-4871 SBG PROJECT NO. 3-17-SBGP-197/220/TBD

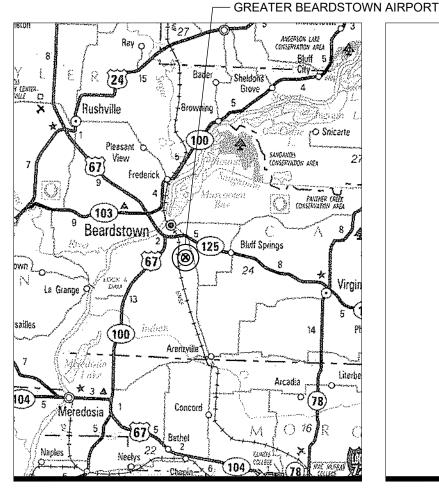
100% SUBMITTAL, SEPTEMBER 12, 2025

SCOPE OF WORK

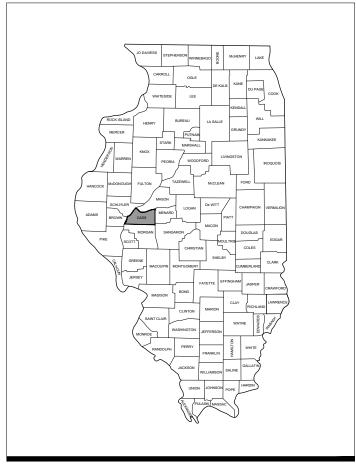
THIS PROJECT SHALL CONSIST OF REPLACING THE MEDIUM INTENSITY LIGHTS ON RUNWAY 18-36 AND ALL TAXIWAYS.

NOTICE TO CONTRACTORS AND BIDDERS

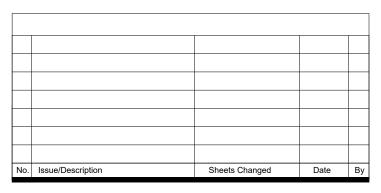
THESE CONSTRUCTION PLANS RELY UPON THE SPECIAL PROVISIONS AND THE SPECIFICATIONS TO PROVIDE FOR A COMPLETE DESCRIPTION OF THE WORK AND CONSTRUCTION REQUIREMENTS. THE PLANS SHALL ONLY BE USED IN COMBINATION WITH ALL CONTRACT DOCUMENTS.



VICINITY MAP



LOCATION MAP







GREATER BEARDSTOWN AIRPORT-K06 9487 Airport Road Beardstown, Illinois 62618 Telephone: 217-323-3261

Airport Manag

4 Nullander

September 12, 2025

| SUMMARY OF QUANTITIES - BASE | | | | |
|------------------------------|---|-------|-------------------|----------------------|
| ITEM NO. | DESCRIPTION | UNIT | TOTAL QUANTITY | AS-BUILT QUANTITY |
| AR108158 | 1/C #8 5 KV UG CABLE IN UD | FOOT | 13,825 | |
| AR108706 | 1/C #6 COUNTERPOISE | FOOT | 13,825 | |
| AR109200 | INSTALL ELECTRICAL EQUIPMENT | L SUM | 1 | |
| AR110013 | 3" DIRECTIONAL BORE | FOOT | 240 | |
| AR125411 | MITL-STAKE MOUNTED-LED | EACH | 53 | |
| AR125416 | MITL-BASE MOUNTED-LED | EACH | 16 | |
| AR125442 | TAXI GUIDANCE SIGN, 2 CHARACTER | EACH | 2 | |
| AR125445 | TAXI GUIDANCE SIGN, 5 CHARACTER | EACH | 2 | |
| AR125506 | MEDIUM INTENSITY RUNWAY LIGHTS, STAKE MOUNTED-LED | EACH | 33 | |
| AR125511 | MIRL, BASE MOUNTED-LED | EACH | 8 | |
| AR125541 | MI THRESHOLD LIGHT STAKE MTD-LED | EACH | 8 | |
| AR125546 | MI THRESHOLD LIGHT BASE MTD-LED | EACH | 4 | |
| AR125565 | SPLICE CAN | EACH | 2 | |
| AR150510 | ENGINEER'S FIELD OFFICE | L SUM | 1 | |
| AR150520 | MOBILIZATION | L SUM | 1 | |
| AR150530 | TRAFFIC MAINTENANCE | L SUM | 1 | |
| AR800476 | REMOVE AIRFIELD LIGHTING | L SUM | 1 | |
| AR800564 | CABLE & CCR TESTING & CALIBRATION | L SUM | 1 | |
| AR800585 | WIND CONE LED UPGRADE KIT | EACH | 1 | |

| SUMMARY OF QUANTITIES - ADDITIVE ALTERNATE BID NUMBER 1 | | | | | |
|---|----------------------------|------|-------------------|----------------------|--|
| ITEM NO. | DESCRIPTION | UNIT | TOTAL QUANTITY | AS-BUILT QUANTITY | |
| AS107508 | L-806 WC 8' INTERNALLY LIT | EACH | 2 | | |
| AS107900 | REMOVE WIND CONE | EACH | 2 | | |
| AS108158 | 1/C #8 5 KV UG CABLE IN UD | FOOT | 400 | | |
| AS108706 | 1/C #6 COUNTERPOISE | FOOT | 200 | | |

NOTE:

IF ADDITIVE ALTERNATE BID NUMBER 1 IS AWARDED, THE QUANTITY FOR ITEM AR800585 IN THE BASE BID WILL BECOME ZERO. THIS WILL BE DONE BY CHANGE ORDER ONCE CONSTRUCTION IS AWARDED.

GENERAL NOTES:

QUANTITIES

PAYMENT WILL BE MADE UNDER THE ITEM NUMBERS, DESCRIPTIONS AND UNITS NOTED IN THE ABOVE TABLE IN ACCORDANCE WITH THE BASIS OF PAYMENT FOR EACH RESPECTIVE WORK ITEM COMPLETED AND ACCEPTED BY THE ENGINEER.

CERITIFIED PAYROLLS

THE RESIDENT ENGINEER/TECHNICIAN CANNOT FORWARD CONSTRUCTION REPORTS TO THE ILLINOIS DIVISION OF AERONAUTICS FOR PROCESSING UNTIL ALL CERTIFIED PAYROLLS FOR THE PERIOD HAVE BEEN RECEIVED.

MATERIAL CERTIFICATIONS

MATERIALS TO BE INCORPORATED INTO THE PROJECT CANNOT BE USED WITHOUT PRIOR APPROVAL. ALL MATERIALS TO BE USED IN THE PROJECT MUST BE SUBMITTED TO THE RESIDENT ENGINEER/TECHNICIAN FOR APPROVAL. USE OF MATERIALS WITHOUT PRIOR APPROVAL AND ULTIMATELY DETERMINED TO BE UNACCEPTABLE BY THE ILLINOIS DIVISION OF AERONAUTICS ARE SUBJECT TO REMOVAL AND/OR NON-PAYMENT.

| SHEET | INDEX OF SHEETS |
|-------|--|
| NO. | SHEET TITLE |
| 1 | COVER SHEET |
| 2 | SUMMARY OF QUANTITIES AND INDEX TO SHEETS |
| 3 | LOG OF BORINGS |
| 4 | CONSTRUCTION SAFETY AND PHASING PLAN |
| 5 | CONSTRUCTION SAFETY AND PHASING PLAN NOTES |
| 6 | ELECTRICAL DEMOLITION PLAN - STA. 125+00 - 135+50 |
| 7 | ELECTRICAL DEMOLITION PLAN - STA. 135+50 - 146+00 |
| 8 | ELECTRICAL DEMOLITION PLAN - STA. 146+00 - 156+50 |
| 9 | ELECTRICAL DEMOLITION PLAN - STA. 156+50 - 167+00 |
| 10 | ELECTRICAL DEMOLITION PLAN - VAULT AND APRON |
| 11 | PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 125+00 - 135+50 |
| 12 | PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 135+50 - 146+00 |
| 13 | PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 146+00 - 156+50 |
| 14 | PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 156+50 - 167+00 |
| 15 | PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 125+00 - 135+50 |
| 16 | PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 135+50 - 146+00 |
| 17 | PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 146+00 - 156+50 |
| 18 | PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 156+50 - 167+00 |
| 19 | PROPOSED ELECTRICAL SITE PLAN - VAULT AND APRON |
| 20 | PROPOSED ENLARGED AIRFIELD LIGHTING PLANS |
| 21 | AIRFIELD LIGHTING NOTES |
| 22 | LIGHT LENS SCHEDULE |
| 23 | AIRFIELD ELEVATED EDGE LIGHT DETAILS |
| 24 | ADJACENT EDGE LIGHT GROUNDING DETAILS |
| 25 | TAXI GUIDANCE SIGN SCHEDULE AND NOTES |
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| 27 | COUNTERPOISE PLAN DETAIL 1 |
| 28 | COUNTERPOISE PLAN DETAIL 2 |
| 29 | CONDUIT TRENCH DETAILS & NOTES |
| 30 | AIRFIELD LIGHTING CABLE SPLICE DETAILS |
| 31 | HANDHOLE AND SPLICE CAN DETAILS |
| 32 | CABLE AND DUCT MARKER DETAILS |
| 33 | L-806 WIND CONE DETAILS |
| 34 | ELECTRICAL NOTES SHEET 1 |
| 35 | ELECTRICAL NOTES SHEET 2 |
| 36 | GROUNDING DETAILS SHEET 1 |
| 37 | GROUNDING DETAILS SHEET 2 |
| 38 | GROUNDING DETAILS SHEET 3 |
| 39 | GROUNDING DETAILS SHEET 4 |
| 40 | GROUND RESISTANCE TESTING DETAILS |
| 41 | GROUNDING NOTES |
| 42 | ELECTRICAL LEGEND AND ABBREVIATIONS |
| 43 | ELECTRICAL VAULT FLOOR PLAN |
| 44 | EXISTING ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD |
| 45 | PROPOSED ELECTRICAL ONE-LINE FOR VAULT AND AIRFIELD |
| 46 | PROPOSED HIGH VOLTAGE WIRING SCHEMATIC RWY 18-36 & TWY LIGHTIN |
| 47 | AIRFIELD LIGHTING CONTROL WIRING SCHEMATIC |
| 48 | VAULT GROUND BUS RISER |
| 49 | SERIES CIRCUIT CABLE TESTING DETAILS |
| 50 | LEGEND PLATE SCHEDULES - SHEET 1 |
| 00 | ··· |



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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2025

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

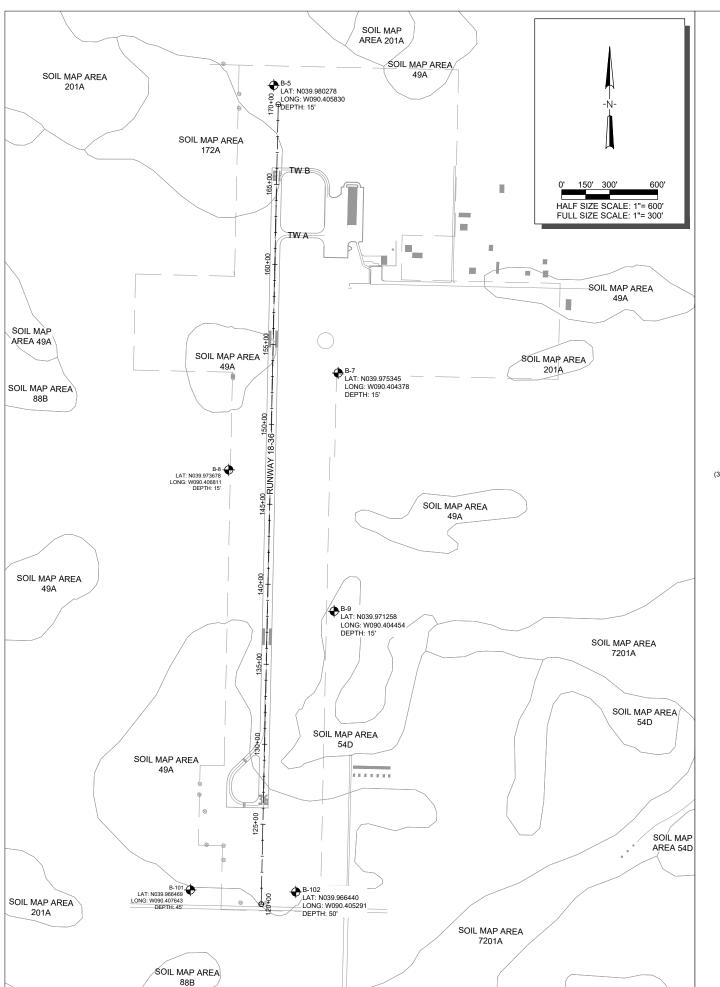
| | NO. | DATE | DES | CRIPT | ION |
|------------------------|----------------------------|--------|--------|--------|-----|
| | NO. | DAIL | DES | DWN | REV |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| PROJECT NO: 23A1032.00 | | | | | |
| | CAD FILE: G-002-FLP.DWG | | | | |
| | DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
| | DRAWN BY: A.IC. 08/01/2025 | | | | |

REVIEWED BY: KNL 08/04/2025

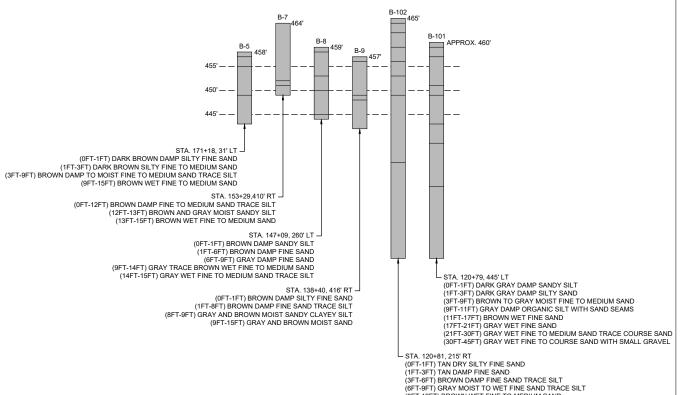
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SHEET TITLE

SUMMARY OF **QUANTITIES AND** INDEX TO SHEETS



| SOIL MAP AREA | DESCRIPTION |
|---------------|--|
| 49A | WATSEKA LOAMY FINE SAND, O TO 2 PERCENT SLOPES |
| 54D | PLAINFIELD SAND, 1 TO 7 PERCENT SLOPES |
| 88B | SPARTA LOAMY SAND, ILLINOIS TILL PLAIN, 2 TO 6 PERCENT SLOPES |
| 172A | HOOPESTON SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| 201A | GILFORD FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES |
| 7201A | GILFORD FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED |



 $\underline{\mathsf{NOTE}} \\ \texttt{BORING} \\ \texttt{DATA} \\ \texttt{FOUND} \\ \texttt{AT} \\ \texttt{ILLINOIS} \\ \texttt{STATE} \\ \texttt{GEOLOGICAL} \\ \texttt{SURVEY}, \\ \texttt{GEOLOGICAL} \\ \texttt{RECORDS} \\ \texttt{UNIT}. \\$

(9FT-12FT) BROWN WET FINE TO MEDIUM SAND

(12FT-16FT) GRAY WET SILTY FINE SAND WITH BLACK SILT SEAMS (16FT-30FT) GRAY SATURATED FINE SAND

(30FT-50FT) GRAY WET FINE TO MEDIUM SAND WITH SMALL GRAVEL

LOG OF BORINGS VERTICAL SCALE: 1"=10'

BID DOCUMENTS



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Professional Service Corporation #184-001084

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DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2025

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | | |
|---------------------------|----------|-------------|------|-----|--|
| INO. | DAIL | DES | DWN | REV | |
| ISSUE: SEPTEMBER 12, 2025 | | | | | |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | | |

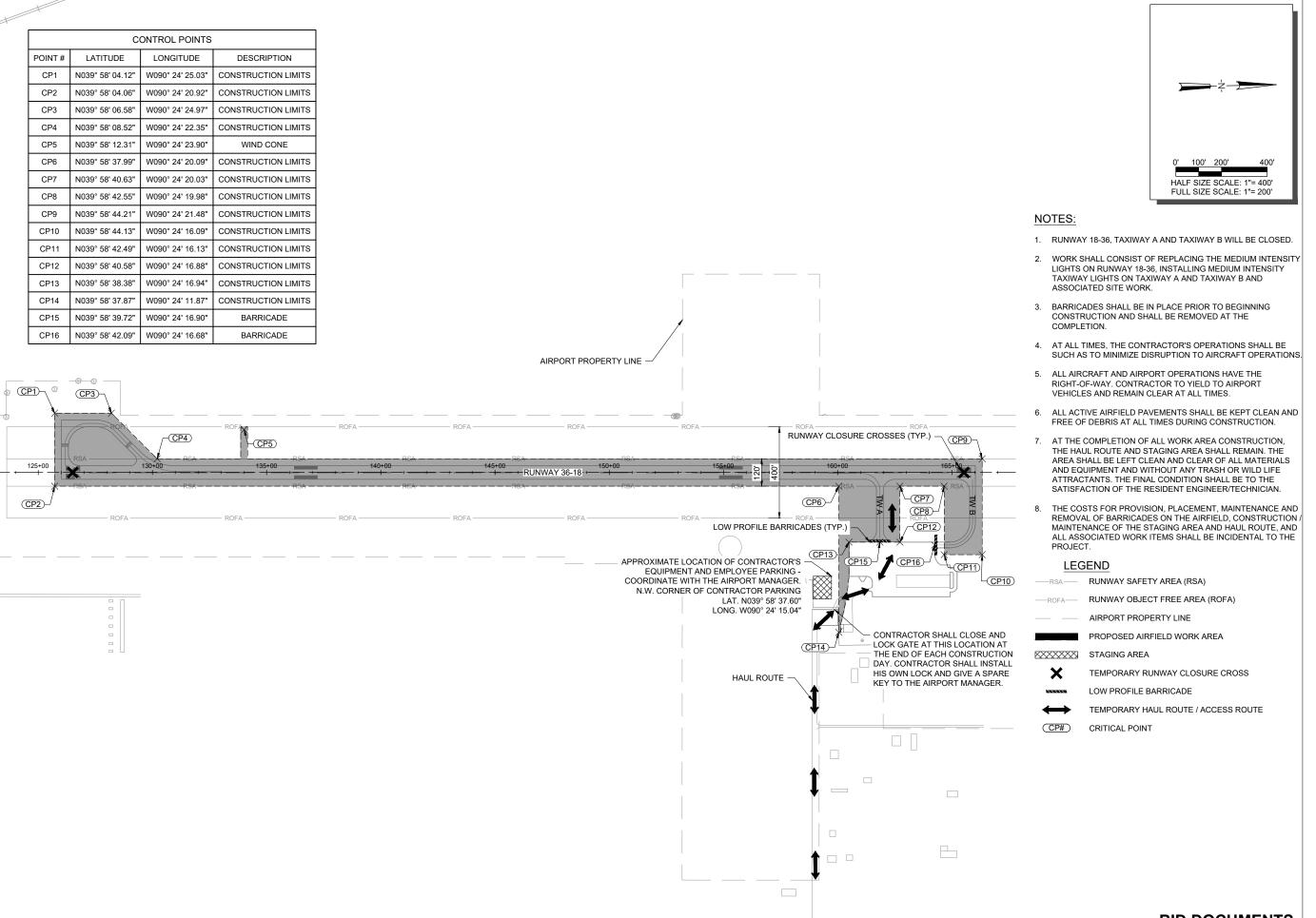
CAD FILE: G-003-BRNG.DWG

DESIGN BY: ---- ---DRAWN BY: ---

REVIEWED BY: ----

SHEET TITLE

LOG OF BORINGS





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GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



SIGNED: 9/12/2025 EXPIRES: 11/30/2025

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY

LIGHTS, AND VAULT WORK SBGP No: 3-17-SBGP-197/220/TBD

IDA No: K06-4871

DESCRIPTION NO. DATE DES DWN REV ISSUE: SEPTEMBER 12, 2025

PROJECT NO: 23A1032.00 CAD FILE: G-004-CSPP.DWG DESIGN BY: ---- ----

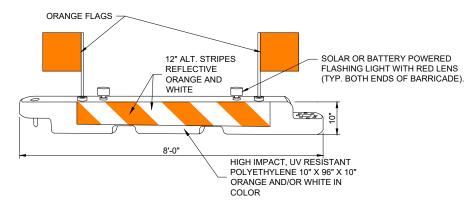
DRAWN BY: MRG REVIEWED BY: ----

SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN

BID DOCUMENTS

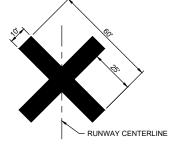
- THE CONTRACTOR SHALL PROVIDE A SCHEDULE AT THE PRECONSTRUCTION MEETING DETAILING ANY ANTICIPATED RUNWAY/TAXIWAY
 CLOSURE DATES AND DURATIONS.
- 2. THE HAUL ROUTE, VEHICLE PARKING, AND MATERIAL STORAGE AREAS CONSIST TURF AND PAVED AREAS. THE CONTRACTOR WILL MAINTAIN THE HAUL ROUTES. AT THE COMPLETION OF THE PROJECT DISTURBED TURF AREAS WILL BE RESHAPED AND RESTORED, PAVEMENTS CLEANED AND, IF DAMAGED, RE-MARKED, AND ALL OTHER AREAS RESTORED TO PRE-CONSTRUCTION CONDITION.
- 3. THE CONTRACTOR SHALL HAVE THE SAFETY PLAN COMPLIANCE DOCUMENT (SPCD), AS DETAILED IN THE SPECIAL PROVISIONS, SUBMITTED AND APPROVED PRIOR TO BEING ISSUED THE "NOTICE TO PROCEED."
- 4. AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. ONLY CONTRACTOR EMPLOYEES SHALL BE ALLOWED WITHIN THE PROJECT LIMITS. GATES SHALL BE CLOSED AND LOCKED AT ALL TIMES UNLESS THE CONTRACTOR IS IN A CONTINUOUS HAULING OPERATIONS, DURING WHICH TIME HE WILL PROVIDE A PERSON TO MONITOR THE GATE AREA.
- 5. RADIO CONTROL- GREATER BEARDSTOWN AIRPORT IS A NON-TOWER CONTROLLED AIRPORT. THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT WITH THE AIRPORT UNICOM (XXX MHz) WHEN THERE ARE EQUIPMENT AND/OR PERSONNEL ON ANY ACTIVE AIRFIELD PAVEMENTS.



LOW PROFILE AIRCRAFT BARRICADE DETAIL

BARRICADE NOTES

- ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
 INCLUDING THE ILLINOIS SUPPLEMENT (LATEST EDITION) AND THE FAA ADVISORY CIRCULARS (LATEST EDITION) UNLESS NOTED OTHERWISE.
 THE FAA OR MORE STRINGENT SPECIFICATIONS SHALL GOVERN.
- 2. BARRICADES SHALL BE SPACED END TO END THE WIDTH OF THE PAVEMENT WITH A MAXIMUM SPACING OF 4' BETWEEN ENDS. BARRICADES ARE TO BE SET BACK 250' FROM THE ACTIVE RUNWAY CENTERLINE, 62' FROM THE ACTIVE TAXIWAY CENTERLINE OR AS SHOWN ON THE PLANS.
- 3. CONSTRUCTION RED WARNING LIGHT: THESE ARE PORTABLE, LENS DIRECTED, ENCLOSED LIGHTS. THE COLOR OF THE LIGHT EMITTED SHALL BE RED. THEY MAY BE USED IN EITHER A STEADY BURN (TYPE C) OR LOW INTENSITY FLASHING MODE (TYPE A) UNLESS NOTED OTHERWISE.
- 4. THE LIGHTING SHALL BE MAINTAINED IN OPERATION DURING THE HOURS OF DARKNESS BETWEEN 1/2 HOUR AFTER SUNSET AND 1/2 HOUR BEFORE SUNRISE AND WHEN CONDITIONS EXIST WHICH TEND TO OBSCURE VISION.
- BARRICADES SHALL BE SECURED TO THE GROUND BY APPROVED METHODS TO PREVENT MOVEMENT BY PROP WASH, JET BLAST OR OTHER WIND CURRENTS.
- 6. THE ONLY COLOR COMBINATION ON BARRICADES IS ORANGE AND WHITE. THE ORANGE STRIPES SHALL BE ENCAPSULATED LENS REFLECTIVE SHEETING. THE WHITE STRIPES SHALL BE EITHER ENCAPSULATED OR ENCLOSED LENS REFLECTIVE SHEETING AND MUST BE IN ACCEPTABLE CONDITION.



TEMPORARY CLOSURE CROSS DETAIL

- 1. TEMPORARY "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS SHALL BE "AVIATION YELLOW"
- 2. TEMPORARY "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS SHALL BE CONSTRUCTED OF PLYWOOD, DOUBLE-LAYERED SNOW FENCE OR APPROVED FABRIC AND SHALL BE SECURED TO PAVEMENT BY SANDBAGS OR OTHER APPROVED METHOD.
- 3. TEMPORARY "CLOSED RUNWAY" MARKINGS SHALL BE PLACED OVER THE RUNWAY DESIGNATION NUMBERS UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER/TECHNICIAN.
- 4. COST FOR PROVIDING, PLACING, MAINTAINING, RELOCATING AND REMOVING "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS SHALL BE INCLUDED AS AN INCIDENTAL COST TO THE CONTRACT, UNLESS OTHERWISE NOTED.

SAFETY NOTES

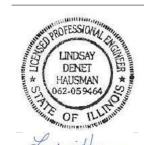
- THE FOLLOWING NOTES ARE THE CONSTRUCTION SAFETY PROCEDURES THAT THE CONTRACTOR SHALL FOLLOW THROUGHOUT THIS
 PROJECT. ADDITIONAL REQUIREMENTS ARE SHOWN ON THE CONSTRUCTION SAFETY AND PHASING PLAN SHEET AND THIS SHEET.
- ALL PROVISIONS OF THE LATEST EDITION OF FAA ADVISORY CIRCULAR AC 150/5370-2 (CURRENT EDITION), "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION," APPLY TO THIS CONTRACT EXCEPT AS MODIFIED BY THIS SAFETY PLAN, AS MODIFIED BY THE OWNER THROUGH THE RESIDENT ENGINEER/TECHNICIAN AT THE PRE-CONSTRUCTION CONFERENCE, OR DURING THE COURSE OF THE CONTRACT.
- THE CONTRACTORS SHALL MINIMIZE DISRUPTION OF STANDARD OPERATING PROCEDURES FOR AERONAUTICAL ACTIVITY BY REMAINING WITHIN THE PRESCRIBED STAGING, CONSTRUCTION, AND PHASING AREAS PRESENTED ON THE CONSTRUCTION SAFETY AND PHASING PLAN SHEETS.
- 4. NO UNAUTHORIZED PERSONNEL SHALL ENTER ANY AREA OF THE AIRPORT THAT COULD POTENTIALLY BE HAZARDOUS. THE AIRPORT MANAGER RESERVES THE RIGHT TO SUSPEND OPERATIONS IN ORDER TO MAINTAIN SAFETY AT THE AIRPORT.
- CONTRACTOR EQUIPMENT, VEHICLES, AND PROJECT MATERIALS SHALL BE STORED AT THE STAGING AREA SHOWN ON THE PLAN VIEW, EXCEPT AS OTHERWISE PROVIDED FOR AT THE PRE-CONSTRUCTION CONFERENCE.
- ALL CONSTRUCTION EQUIPMENT OPERATING IN THE PRESCRIBED CONSTRUCTION AREA IS REQUIRED TO DISPLAY A CHECKERBOARD FLAG PROPERLY LOCATED OR A ROTATING BEACON (STROBE) AS SPECIFIED IN AC 150/5210-5, "PAINTING, MARKING, AND LIGHTING OF VEHICLES USED ON AN AIRPORT" (CURRENT EDITION).
- 7. NO CONSTRUCTION MATERIAL STOCKPILES SHALL BE LOCATED WITHIN 250' OF ANY ACTIVE RUNWAY CENTERLINE, WITHIN 62' OF ANY OTHER ACTIVE AIRPORT OPERATIONS AREA (EX. TAXIWAY), OR PENETRATE A PART 77 IMAGINARY SURFACE (PROVIDED BY THE RESIDENT ENGINEER/TECHNICIAN) EXTENDING OUT AND UPWARDS FROM ALL SIDES OF AN ACTIVE RUNWAY. REFER TO THE 7460 DETERMINATION FOR SPECIFIC INFORMATION ON THE ALLOWABLE WORKING HEIGHTS.
- 8. CLOSED AIRFIELD PHASING AREAS, OPEN TRENCHES, AND STOCKPILED MATERIALS AT THE CONSTRUCTION SITE SHALL BE PROMINENTLY MARKED WITH LIGHTED BARRICADES WITH STEADY BURNING OR FLASHING RED LIGHTS AS SPECIFIED IN 150/5370-2, "OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION (LATEST EDITION). LIGHTED BARRICADES MUST BE NO TALLER THAN 18" (EXCLUSIVE OF SUPPLEMENTARY LIGHTS AND FLAGS) ON THE TAXIWAYS AND COMPLY WITH ADVISORY CIRCULAR 150/5370-2 (LATEST EDITION). CONTRACTOR SHALL NIGHT CHECK BARRICADES DAILY FOR PROPER OPERATION.
- . NO OPEN TRENCHES WITHIN 250' OF AN ACTIVE RUNWAY CENTERLINE OR WITHIN 62' OF ANY TAXIWAY CENTERLINE WILL BE PERMITTED. OTHER TRENCHES SHALL BE MAINTAINED SAFE, I.E., MARKED, BARRICADED OR COVERED WITH STEEL PLATES IN ALL OTHER AREAS.
- 10. NO CONSTRUCTION EQUIPMENT GREATER THAN 25' TALL WILL BE PERMITTED ON THE AIRPORT, WITH THE EXCEPTION OF CRANES WITHIN THE DESIGNATED AREA SHOWN ON THE SAFETY PLAN, UNLESS PERMITTED WITH THE APPROVAL OF THE AIRPORT MANAGER AND ADDITIONAL AIRSPACE APPROVAL BY THE FAA.
- 11. NO OPEN FLAME WELDING OR TORCH CUTTING OPERATION IS PERMITTED UNLESS ADEQUATE FIRE AND SAFETY PRECAUTIONS ARE PROVIDED AND HAVE BEEN APPROVED BY THE AIRPORT MANAGER. NO FLARE POTS ARE ALLOWED ON THE PROJECT.
- 12. SOIL, DEBRIS, AND LOOSE MATERIAL DROPPED OR TRUCKED ONTO AIRPORT ROADS, TAXIWAYS, AND SOD SURFACES, OR WHICH CAN BE BLOWN ONTO SUCH SURFACES, SHALL BE IMMEDIATELY SWEPT, PICKED UP AND REMOVED, OR PLACED INTO CLOSED CONTAINERS. ANY DAMAGE TO AIRPORT PROPERTY SHALL BE REPAIRED IMMEDIATELY AT NO COST TO THE OWNER.
- 13. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAINTAINING AIRPORT LIGHTING AND NAVIGATIONAL ELECTRICAL SYSTEMS DURING CONSTRUCTION. A CONTACT PERSON AND TELEPHONE NUMBER FOR 24 HOUR EMERGENCY IMMEDIATE REPAIR SHALL BE SUBMITTED TO THE AIRPORT MANAGER AND RESIDENT ENGINEER/TECHNICIAN. HAUL ROUTES CROSSING PAVEMENT, DRAINAGE. MISCELLANEOUS STRUCTURES AND/OR AIRFIELD CABLES SHALL BE PROTECTED FROM DAMAGE.
- 14. ALL AIRCRAFT AND AIRPORT OPERATIONS HAVE THE RIGHT-OF-WAY. CONTRACTOR TO YIELD TO VEHICLES AND REMAIN CLEAR AT ALL TIMES
- 15. CONTRACTOR SHALL PLACE, SECURE, AND MAINTAIN LIGHTED BARRICADES AND CLOSURE CROSSES WHEN A RUNWAY/TAXIWAY/APRON IS CLOSED OR AS REQUIRED BY THE PLANS AND DESIGNATED BY THE RESIDENT ENGINEER/TECHNICIAN.
- 16. CONTRACTOR SHALL MARK HAZARDOUS AREAS WITH STEADY-BURNING OR FLASHING RED LIGHTS DURING PERIODS OF LOW VISIBILITY AS REQUIRED.
- 17. THE CONTRACTOR SHALL PERIODICALLY PERFORM ONSITE INSPECTIONS THROUGHOUT THE DURATION OF THE PROJECT WITH THE IMMEDIATE REMEDY OF ANY DIFFERENCES, WHETHER CAUSED BY NEGLIGENCE, OVERSIGHT, OR PROJECT SCOPE CHANGE.
- 18. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING MEASURES TO CONTROL OR AVOID CREATING ATTRACTANTS TO WILDLIFE. MEASURES MAY INCLUDE CONTINUOUSLY REMOVING ANY WASTE OR LOOSE MATERIALS, PLACEMENT OF MATERIALS IN APPROPRIATE STORAGE CONTAINERS, PROPERLY MAINTAINING FENCES AND GATES TO PREVENT ACCESS, AND PREVENTING PONDING OF WATER THROUGHOUT THE SITE.
- CONTRACTOR SHALL MOVE MAINTENANCE OF TRAFFIC COMPONENTS AT THE WRITTEN DIRECTION OF THE RESIDENT ENGINEER/TECHNICIAN AT NO ADDITIONAL COST.
- 20. CONTRACTOR SHALL NOT REMOVE THE BARRICADES WITHOUT THE APPROVAL BY THE RESIDENT ENGINEER/TECHNICIAN.
- 21. CONTRACTOR SHALL MAINTAIN FLASHERS, SIGNS AND/OR BARRICADES AS REQUIRED BY THE PLANS, CITY OR COUNTY REGULATIONS OR CONTRACTOR ACTIVITIES. CONTRACTOR SHALL OBTAIN ANY AND ALL REQUIRED LOCAL PERMITS UNLESS SPECIFIED OTHERWISE.
- 22. THE CONTRACTOR SHALL UTILIZE WATER AND/OR CHEMICALS APPROVED BY THE RESIDENT ENGINEER/TECHNICIAN AS NECESSARY TO CONTROL DUST.
- 23. NO CONSTRUCTION VEHICLES SHALL BE DRIVEN ACROSS ANY ACTIVE AIRFIELD PAVEMENT AREA WITHOUT AN APPROPRIATE ESCORT. CONSTRUCTION EQUIPMENT OR CONSTRUCTION ACTIVITY WILL NOT BE PERMITTED WITHIN 250' OF ANY ACTIVE RUNWAY CENTERLINE OR WITHIN 62' OF ANY OTHER ACTIVE AIRPORT TAXIWAY OR APRON.
- 24. UNLESS SPECIFIED OTHERWISE, COST FOR THE ABOVE IS TO BE CONSIDERED INCIDENTAL TO THE PROJECT. SEPARATE PAYMENT SHALL NOT BE MADE.

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Illinois Licensed
Professional Service Corporation
#184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



DATE LICENSE

SIGNED: 9/12/2025 EXPIRES: 11/30/2025
INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | | | |
|---------------------------|------|-------------|-----|-----|--|--|
| NO. | DATE | DES | DWN | REV | | |
| ISSUE: SEPTEMBER 12, 2025 | | | | | | |
| PROJECT NO: 23A1032.00 | | | | | | |
| CAD EILE: C 004 CSBB DWC | | | | | | |

CONSTRUCTION SAFETY AND PHASING PLAN NOTES

DESIGN BY: ----

DRAWN BY: MRG

SHEET TITLE

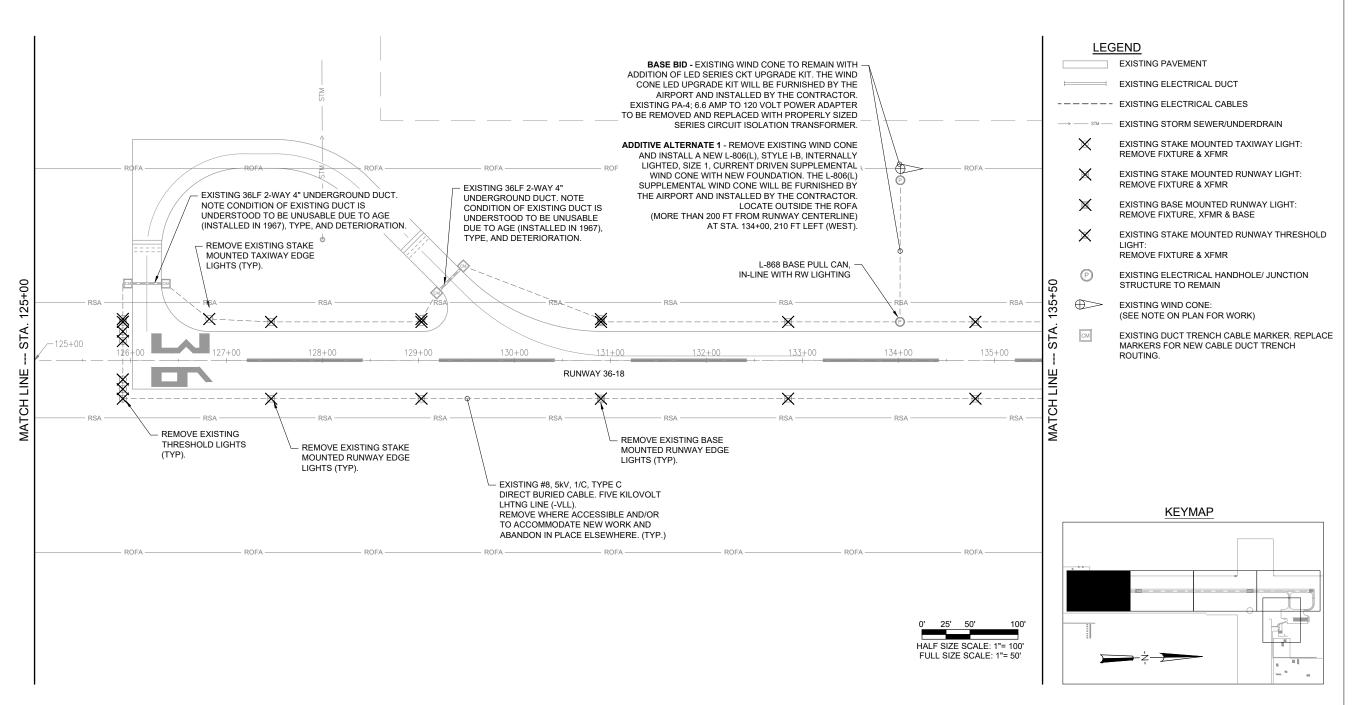
REVIEWED BY: ---- ----

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Offices Nationwide www.hanson-inc.com

Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION | |
|---|-------------------------|---------|------|--------|-----|--|
| | NO. | DAIL | DES | DWN | REV | |
| | ISSUE: | SEPTE | MBER | 12, 20 | 25 | |
| i | PROJECT NO: 23A1032.00 | | | | | |
| | CAD FILE: E-101-PLN.DWG | | | | | |
| | DESIGN | BY: A.I | 07/2 | 22/202 | 5 | |

ELECTRICAL DEMOLITION PLAN -STA. 125+00 - 135+50

DRAWN BY: AJC 07/22/2025 REVIEWED BY: KNL 07/22/2025

SHEET TITLE

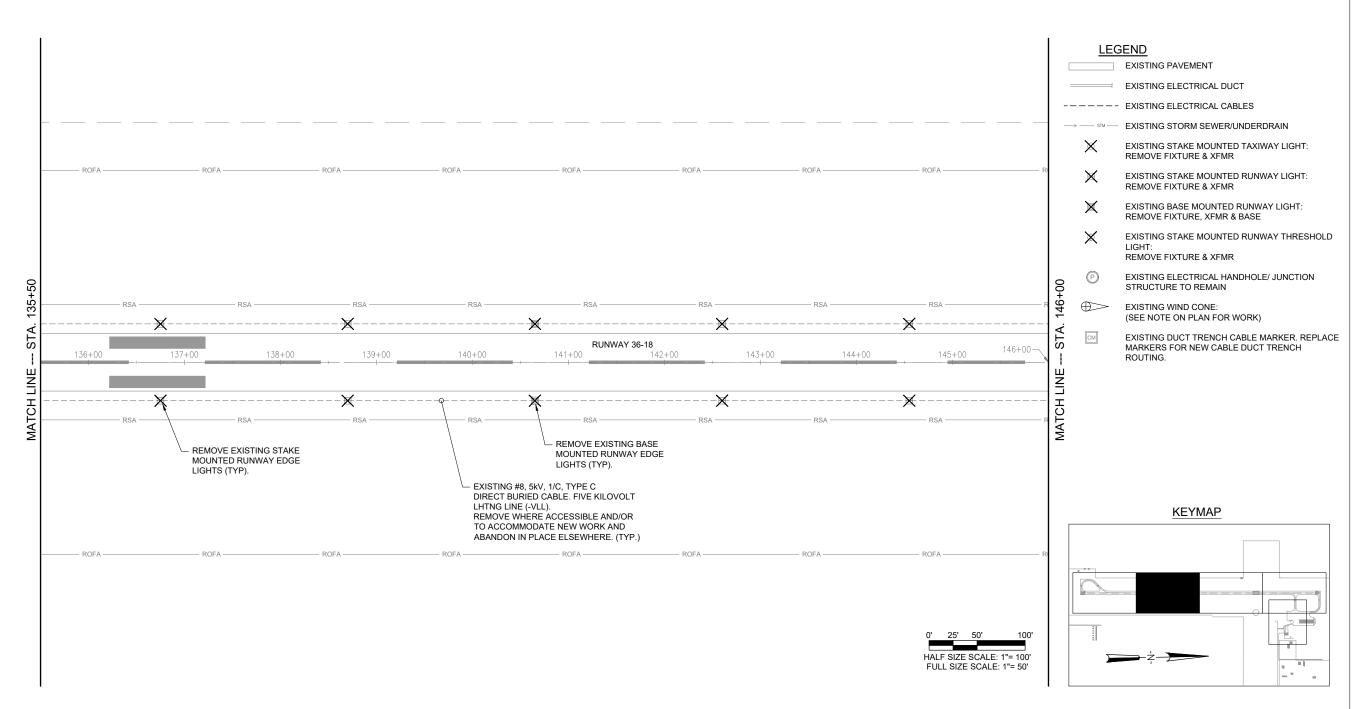
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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE EXPIRES: 11/30/2027

INSTALL MEDIUM

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
|---|---------------------------|------|-----|-------|-----|
| | NO. | DATE | DES | DWN | REV |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| i | PROJECT NO: 23A1032.00 | | | | |
| | CAD FILE: E-101-PLN.DWG | | | | |

DESIGN BY: AJC 07/22/2025

DRAWN BY: AJC 07/22/2025

REVIEWED BY: KNL 07/22/2025

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SHEET TITLE

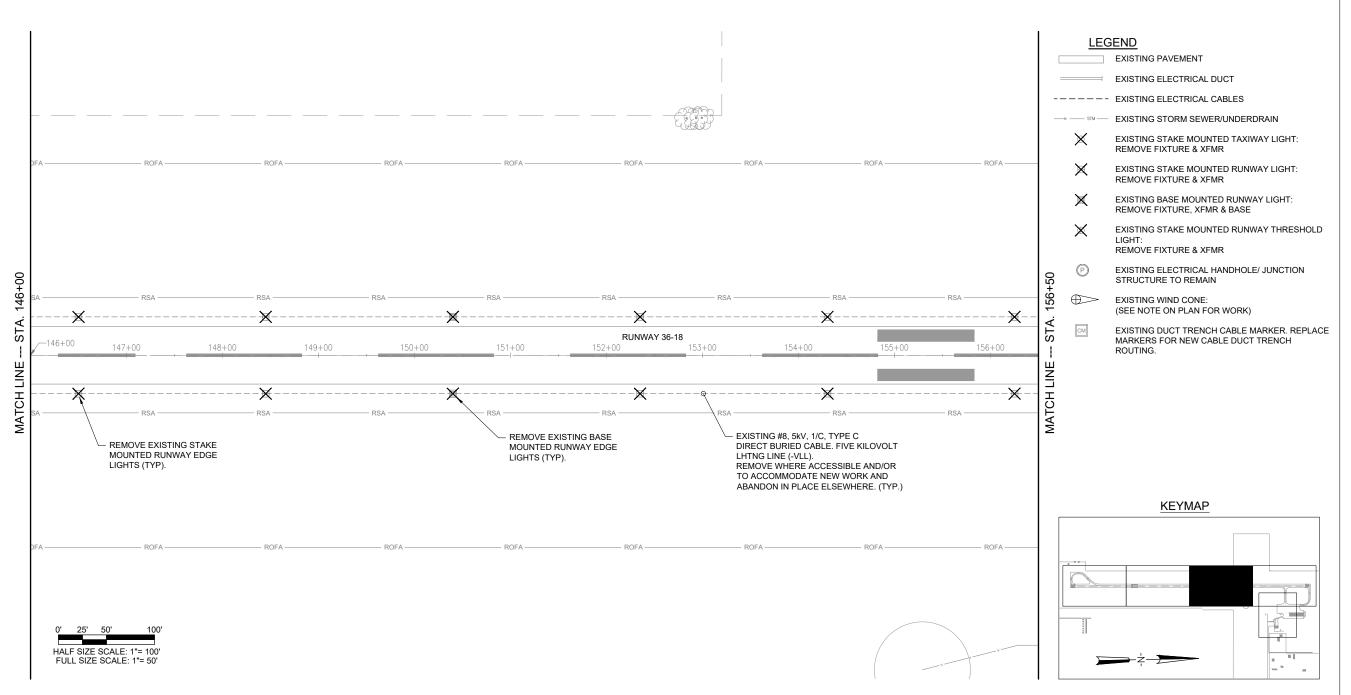
ELECTRICAL DEMOLITION PLAN -STA. 135+50 - 146+00

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COVERING ELECTRICAL DESIGN

DATE SIGNED: 9/12/2025 LICENSE EXPIRES: 11/30/2027
INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY

LIGHTS, AND VAULT WORK SBGP No: 3-17-SBGP-

SBGP No: 3-17-SBGF 197/220/TBD IDA No: K06-4871

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| SSUE: | SEPTE | MBER | 12, 20 | 25 | | | |
| PROJECT NO: 23A1032.00 | | | | | | | |
| CAD FILE: E-101-PLN.DWG | | | | | | | |
| DESIGN BY: AJC 07/22/2025 | | | | | | | |
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ELECTRICAL DEMOLITION PLAN -STA. 146+00 - 156+50

REVIEWED BY: KNL 07/22/2025

SHEET TITLE

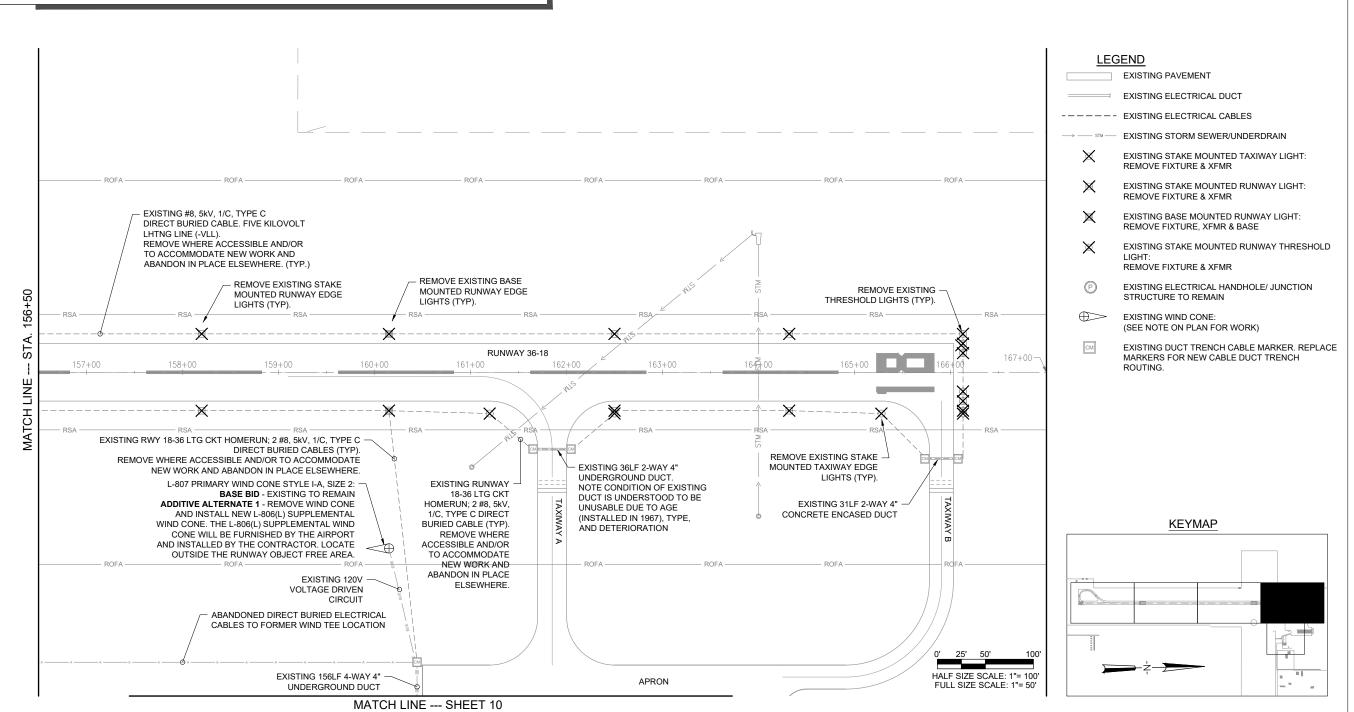
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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE SIGNED: 9/12/2025 LICENSE EXPIRES: 11/30/2027 INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM

INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
|---|---------------------------|------|-----|-------|-----|
| | NO. | DATE | DES | DWN | REV |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| i | PROJECT NO: 23A1032.00 | | | | |
| | CAD FILE: E-101-PLN.DWG | | | | |

CAD FILE: E-101-PLN.DWG

DESIGN BY: AJC 07/22/2025

DRAWN BY: AJC 07/22/2025

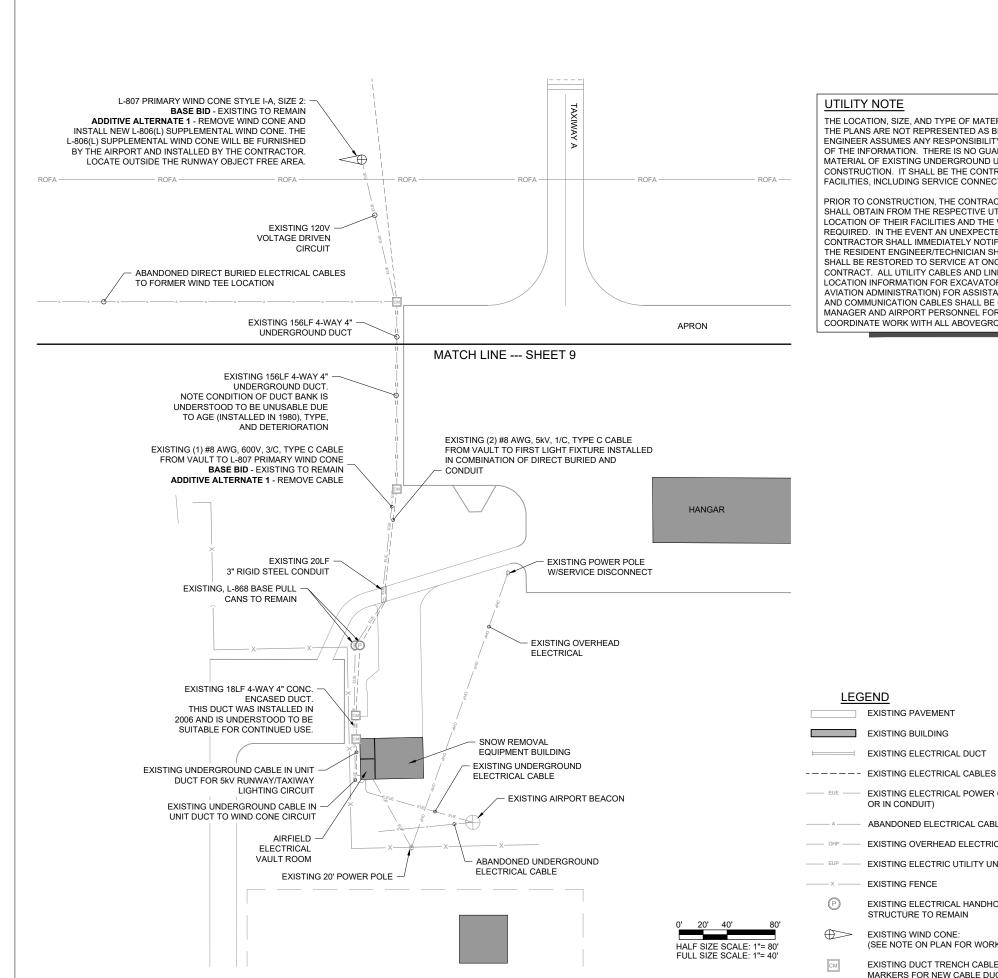
DRAWN BY: AJC 07/22/2025
REVIEWED BY: KNL 07/22/2025

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SHEET TITLE

ELECTRICAL DEMOLITION PLAN -STA. 156+50 - 167+00

BID DOCUMENTS



LEGEND

EXISTING PAVEMENT

EXISTING ELECTRICAL DUCT

ABANDONED ELECTRICAL CABLES OR CONDUIT

EXISTING OVERHEAD ELECTRICAL POWER LINES

EXISTING ELECTRICAL HANDHOLE/ JUNCTION

EXISTING DUCT TRENCH CABLE MARKER, REPLACE

MARKERS FOR NEW CABLE DUCT TRENCH ROUTING

EXISTING BUILDING

OR IN CONDUIT)

EXISTING FENCE

STRUCTURE TO REMAIN EXISTING WIND CONE (SEE NOTE ON PLAN FOR WORK)

P

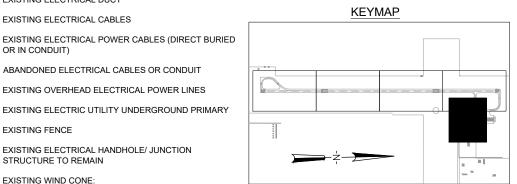
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SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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| | DESIGN BY: AJC 07/22/2025 | | | | |

SHEET TITLE

DRAWN BY: AJC 07/22/2025

REVIEWED BY: KNL 07/22/2025

ELECTRICAL DEMOLITION PLAN -VAULT AND APRON

3 EQUAL SPACES

@ 41.62' = 124.86'

3 EQUAL @ 42.70'

126+00

 $\left(\begin{array}{c}1\\20\end{array}\right)$

125+00

က

MATCH LINE

-125+00

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2 EQ. SPACES

4 EQ. SPACES AT ± 30.24'

ARC LENGTH = 120.95'

2 EQ. SPACES AT ± 31.43'

ARC LENGTH = 62.86

128+00

ARC LENGTH = 78.54'

AT ± 39.28'

2 - 3" DIRECTIONAL BORE DUCTS 40' EACH, 80' TOTAL. ROUTE

ROUTE COUNTERPOISE THROUGH SECOND DUCT. (AR110013)

3 FQ SPACES AT + 39 27'

ARC LENGTH = 117.81'

129+00

PROPOSED L-861T(L)

2 EQ. SPACES AT ± 17.67' ARC LENGTH = 35.34'

RUNWAY 36-18

PROPOSED L-861(L), MEDIUM INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP).

EDGE LIGHTS (TYP).

PROPOSED L-861(L), MEDIUM INTENSITY, BASE MOUNTED, ELEVATED RUNWAY

130+00

ELEVATED BASE MOUNTED

TAXIWAY EDGE LIGHT (TYP).

TAXIWAY EDGE LIGHTS (TYP).

PROPOSED L-861T(L) STAKE MOUNTED

3 EQ. SPACES AT ± 49.74'

ARC LENGTH = 149.23'

131+00

ENTRANCE-EXIT LIGHTS:

SEE ENLARGED PLANS FOR

SPACING/LOCATIONS (TYP)

SERIES CKT CABLES IN UNIT DUCT THROUGH ONE DUCT.

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED OTHERWISE).
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.

ADDITIVE ALTERNATE 1 - REMOVE EXISTING WIND CONE AND

CURRENT DRIVEN, SUPPLEMENTAL WIND CONE WITH NEW

FURNISHED BY THE AIRPORT AND INSTALLED BY THE

182.73' (TYP.)

132+00

BASE BID - EXISTING WIND CONE TO REMAIN

WITH ADDITION OF LED SERIES CKT UPGRADE

KIT. THE WIND CONE LED UPGRADE KIT WILL

BE FURNISHED BY THE AIRPORT AND

INSTALLED BY THE CONTRACTOR.

133+00

INSTALL A NEW L-806(L), STYLE I-B INTERNALLY LIGHTED, SIZE 1,

FOUNDATION. THE L-806(L) SUPPLEMENTAL WIND CONE WILL BE

CONTRACTOR, LOCATE OUTSIDE THE ROFA, (MORE THAN 200 FT

FROM RUNWAY CENTERLINE), AT STA. 134+00, 210 FT LEFT (WEST).

KEY NOTES: (#)

210

135+00

HALF SIZE SCALE: 1"= 100' FULL SIZE SCALE: 1"= 50'

P

134+00

- (1.) ALIGNMENT LINE; FIXTURES SHALL BE ALIGNED ACROSS RUNWAY OR TAXIWAY FROM EACH OTHER.
- (2) GUIDANCE SIGN AND FOUNDATION SHALL BE ALIGNED WITH THE CENTER OF THE LAST LINE OF THE HOLD POSITION MARKING, AND 15' FROM THE EDGE OF THE TAXIWAY. SEE DETAILS FOR LOCATION POINTS AND SIGN REQUIREMENTS.

LEGEND



EXISTING BUILDING

EXISTING ELECTRICAL DUCT

PROPOSED ELECTRICAL DUCT

EXISTING ELECTRICAL CIRCUIT

— EXISTING ELECTRICAL CABLES

EXISTING FENCE

 PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE.

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C
UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2
CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1
CONDUCTOR IN CONDUIT/UNIT DUCT.

- PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY
 THRESHOLD LIGHT
- PROPOSED BASE MOUNTED L-861SE(L) RUNWAY
 THRESHOLD LIGHT
- PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT
 - PROPOSED TAXI GUIDANCE SIGN
- P EXISTING ELECTRICAL JUNCTION STRUCTURE
 - PROPOSED SPLICE CAN/JUNCTION STRUCTURE
 - 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS.

EXISTING WIND CONE:

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CM

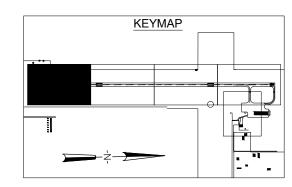
(SEE NOTE ON PLAN FOR WORK)

T

POINT OF TANGENCY ON TAXIWAY CURVES

EXISTING DUCT TRENCH CABLE MARKER. REPLACE MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

PROPOSED L-806(L) SUPPLEMENTAL WIND CONE



BID DOCUMENTS

CHANSON

Offices Nationwide www.hanson-inc.com

Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Illinois Licensed
Professional Service Corporation
#184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY

WORK
SBGP No: 3-17-SBGP-

LIGHTS, AND VAULT

SBGP No: 3-17-SBGP 197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | |
|---------------------------|----------|-------------|--------|-----|
| NO. | DATE | DES | DWN | REV |
| ISSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJE | CT NO: 2 | 3A103 | 2.00 | |
| CAD FILE: E-201-PLN.DWG | | | | |
| DESIGN BY: KNL 07/22/2025 | | | | |
| DRAWN | BY: AJC | 07/2 | 8/202 | 5 |

PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 125+00 -135+50

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF ITS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND THE RESIDENT ENGINEER/TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND LOCATED BY THE FAA. ALSO CONTACT AIRPORT MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

182.73' (TYP.)

PROPOSED L-861(L), MEDIUM INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP).

140+00

139+00

SHEET NOTES:

RUNWAY 36-18

142+00

PROPOSED L-861(L), MEDIUM INTENSITY,

BASE MOUNTED, ELEVATED RUNWAY

EDGE LIGHTS (TYP).

143+00

144+00

141+00

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED)
 PER FAA ADVISORY CIRCULAR AC 150/5340-30.J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED OTHERWISE).
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.

EXISTING STORM SEWER/UNDERDRAIN EXISTING BUILDING EXISTING FLECTRICAL DUCT PROPOSED ELECTRICAL DUCT EXISTING ELECTRICAL CIRCUIT EXISTING ELECTRICAL CABLES **EXISTING FENCE** PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE. PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT. PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT PROPOSED TAXI GUIDANCE SIGN P EXISTING ELECTRICAL JUNCTION STRUCTURE o. PROPOSED SPLICE CAN/JUNCTION STRUCTURE • 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS. MATCH \bigoplus WIND CONE: (SEE NOTE ON PLAN FOR WORK) POINT OF TANGENCY ON TAXIWAY CURVES EXISTING DUCT TRENCH CABLE MARKER REPLACE CM MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

LEGEND

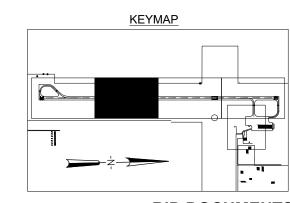
146+00-

145+00

HALF SIZE SCALE: 1"= 100"

FULL SIZE SCALE: 1"= 50"

EXISTING PAVEMENT



BID DOCUMENTS

CHANSON

Offices Nationwide

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Illinois Licensed
Professional Service Corporation
#184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
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| | INO. | DATE | DES | DWN | REV |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| į | PROJECT NO: 23A1032.00 | | | | |
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CAD FILE: E-201-PLN.DWG

DESIGN BY: KNL 07/22/2025

DRAWN BY: AJC 07/28/2025

REVIEWED BY: KNL 08/04/2025

pyright Hanson Professional Services Inc. 2025

SHEET TITLE

PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 135+50 -

PLAN - STA. 135+50 - 146+00

SEP 15, 2025 8:41 AM CRAFT02387 I:\23JOBS\2341032_00\CAD\AIRPORT\SHEET\E-201-PLN.DWG S.

MATCH LINE

136+00

137+00

138+00

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

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182.73' (TYP.)

151+00

PROPOSED L-861(L), MEDIUM INTENSITY,

BASE MOUNTED, ELEVATED RUNWAY

EDGE LIGHTS (TYP).

152+00

153+00

154+00

155+00

156+00

150+00

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED OTHERWISE).
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LEGEND

EXISTING PAVEMENT

EXISTING STORM SEWER/UNDERDRAIN

EXISTING BUILDING

EXISTING FLECTRICAL DUCT

PROPOSED ELECTRICAL DUCT EXISTING ELECTRICAL CIRCUIT

EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE.

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT.

PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT

PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT

PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY

PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT

PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT

PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT

PROPOSED TAXI GUIDANCE SIGN P EXISTING ELECTRICAL JUNCTION STRUCTURE

PROPOSED SPLICE CAN/JUNCTION STRUCTURE

3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS.

 \bigoplus WIND CONE:

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CM

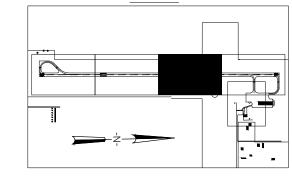
MATCH I

(SEE NOTE ON PLAN FOR WORK)

POINT OF TANGENCY ON TAXIWAY CURVES

> EXISTING DUCT TRENCH CABLE MARKER REPLACE MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

KEYMAP



BID DOCUMENTS



Offices Nationwide www.hanson-inc.com

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY

WORK SBGP No: 3-17-SBGP-

LIGHTS, AND VAULT

197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | |
|--------------------------|----------|-------------|--------|-----|
| NO. | DAIL | DES | DWN | REV |
| SSUE: | SEPTE | MBER | 12, 20 | 25 |
| ROJEC | CT NO: 2 | 3A103 | 2.00 | |
| AD FILE: E-201-PLN.DWG | | | | |
| ESIGN BY: KNL 07/22/2025 | | | | |
| RAWN | BY: AJC | 07/2 | 8/202 | 5 |

PROPOSED AIRFIELD LIGHTING LAYOUT PLAN - STA. 146+00 -156+50

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

S

MATCH I

-146+00

147+00

HALF SIZE SCALE: 1"= 100'

FULL SIZE SCALE: 1"= 50

148+00

149+00

PROPOSED L-861(L), MEDIUM

EDGE LIGHTS (TYP).

INTENSITY, STAKE MOUNTED RUNWAY

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PROPOSED L-861(L), MEDIUM

160+00

INTENSITY, BASE MOUNTED

ELEVATED RUNWAY EDGE

(TYP)

LIGHTS (TYP)

BASE BID - FXISTING PRIMARY

EXISTING LOCATION SHOWN

WIND CONE TO REMAIN;

ENTRANCE-EXIT LIGHTS: SEE SHEET 20 FOR SPACING/LOCATIONS

ADDITIVE ALTERNATE 1 - REMOVE EXISTING WIND CONE AND

RUNWAY CENTERLINE) AT STA. 160+00, 210 FT RIGHT (EAST).

WIND CONE WITH NEW FOUNDATION. THE L-806(L) SUPPLEMENTAL

INSTALL A NEW L-806(L) STYLE I-B INTERNALLY

LIGHTED, SIZE 1, CURRENT DRIVEN, SUPPLEMENTAL

LOCATE OUTSIDE ROFA (MORE THAN 200 FEET FROM

WIND CONE WILL BE FURNISHED BY THE AIRPORT

AND INSTALLED BY THE CONTRACTOR.

ABANDONED DIRECT BURIED ELECTRICAL

CABLES TO FORMER WIND TEE LOCATION

EXISTING 156LF 4-WAY 4'

UNDERGROUND DUCT

PROPOSED L-861(L), MEDIUM

INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP).

RUNWAY 36-18

161+00

2 EQUAL SPACES AT ± 31.42'

ARC LENGTH = 62.83°

2 - 3" DIRECTIONAL BORE-

DUCTS 40' EACH, 80' TOTAL.

ROUTE SERIES CKT CABLE

COUNTERPOISE THROUGH

2 EQUAL SPACES

AT ± 31.42'

ARC I FNGTH =

62.83'

MATCH LINE --- SHEET 19

IN UNIT DUCT THROUGH

ONE DUCT. ROUTE

SECOND DUCT

APRON

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
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182.73' (TYP.)

2 EQUAL SPACES AT ± 31.42'

ARC LENGTH = 62.83'

2 EQUAL SPACES

AT ± 31.42'

ARC LENGTH =

62.83'

2 - 3" DIRECTIONAL BORE-

DUCTS 40' EACH, 80' TOTAL.

LINIT DUCT THROUGH ONE

THROUGH SECOND DUCT.

ROUTE SERIES CKT CABLE IN

DUCT. ROUTE COUNTERPOISE

163+00

164+00

2 EQUAL SPACES AT ± 31.42'

ARC I FNGTH = 62 83'

PROPOSED L-861T(L)

STAKE MOUNTED

TAXIWAY EDGE LIGHTS (TYP).

ELEVATED BASE MOUNTED

TAXIWAY EDGE LIGHTS (TYP)

3 EQUAL SPACES AT ± 40.58'

ARC LENGTH = 121.74'

PROPOSED L-861T(L)

KEY NOTES: (#)

HALE SIZE SCALE: 1"= 100 FULL SIZE SCALE: 1"= 50'

167+00-

4 FOUAL SPACES

AT ± 48.11'

ARC LENGTH = 192.42'

165+00

 $\langle 2 \rangle$

- (1.) ALIGNMENT LINE; FIXTURES SHALL BE ALIGNED ACROSS RUNWAY OR TAXIWAY FROM EACH OTHER.
- GUIDANCE SIGN AND FOUNDATION SHALL BE ALIGNED WITH THE CENTER OF THE LAST LINE OF THE HOLD POSITION MARKING, AND 15' FROM THE EDGE OF THE TAXIWAY. SEE DETAILS FOR LOCATION POINTS AND SIGN REQUIREMENTS.

LEGEND

EXISTING PAVEMENT EXISTING STORM SEWER/UNDERDRAIN

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EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE.

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- PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY
- PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT
 - PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT

PROPOSED TAXI GUIDANCE SIGN

- P EXISTING ELECTRICAL JUNCTION STRUCTURE
- PROPOSED SPLICE CAN/JUNCTION STRUCTURE
- 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS.

 \bigoplus EXISTING WIND CONE:

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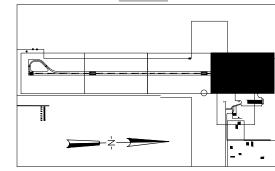
(SEE NOTE ON PLAN FOR WORK)

POINT OF TANGENCY ON TAXIWAY CURVES

EXISTING DUCT TRENCH CABLE MARKER REPLACE MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

PROPOSED L-806(L) SUPPLEMENTAL WIND CONE

KEYMAP



BID DOCUMENTS

HANSON

www.hanson-inc.com

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM

INTENSITY RUNWAY LIGHTS, MEDIUM **INTENSITY TAXIWAY** LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-

197/220/TBD IDA No: K06-4871

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| Ē | PROJECT NO: 23A1032.00 | | | | |
| (| CAD FILE: E-201-PLN.DWG | | | | |
| Ī | DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
| - | | | | | |

DES DRAWN BY: AJC 07/28/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

LIGHTING LAYOUT PLAN - STA. 156+50 -167+00

PROPOSED AIRFIELD

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MATCH LINE

157+00

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE LITILITY COMPANIES OF ITS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND THE RESIDENT ENGINEER/TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION. PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND LOCATED BY THE FAA. ALSO CONTACT AIRPORT MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

2 - 3" DIRECTIONAL BORE DUCTS 40' EACH, 80' TOTAL. ROUTE

ROUTE COUNTERPOISE THROUGH SECOND DUCT. (AR110013)

SERIES CKT CABLES IN UNIT DUCT THROUGH ONE DUCT.

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF (2.) PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.

ADDITIVE ALTERNATE 1 - REMOVE EXISTING WIND CONE AND

CURRENT DRIVEN, SUPPLEMENTAL WIND CONE WITH NEW

FURNISHED BY THE AIRPORT AND INSTALLED BY THE

BASE BID - EXISTING WIND CONE TO REMAIN

WITH ADDITION OF LED SERIES CKT UPGRADE

KIT. THE WIND CONE LED UPGRADE KIT WILL

CONDUCTORS IN UNIT DUCT WITH 1/C #6 AWG

BE FURNISHED BY THE AIRPORT AND

SOLID TINNED COPPER COUNTERPOISE

INSTALLED BY THE CONTRACTOR

2 - 1/C #8 AWG FAA L-824 5000V

BASE BID

3/4" X 30'L GND ROD FOR

GR

PROPOSED RWY 18-36 AND TAXIWAY LIGHTING CIRCUIT:

PAVEMENT EDGE. BURY 24" (MIN.) BELOW GRADE.

1/C #8 AWG, FAA L-824, 5000V TYPE C UNDERGROUND CABLE IN

TINNED COPPER GROUND WIRE/COUNTERPOISE WIRE IN SAME

GROUND WIRE/COUNTERPOISE WIRE TO EACH GROUND ROD AT

THE RESPECTIVE AIRFIELD LIGHT FIXTURE AND TAXI SIGN AND TO THE COUNTERPOISE GROUND RODS (AR108706) (TYP.) LOCATE

APPROXIMATELY 12 FEET (OR 8 FEET WHERE APPLICABLE) FROM

HALF SIZE SCALE: 1"= 100" FULL SIZE SCALE: 1"= 50"

UNIT DUCT (AR108158). FURNISH AND INSTALL 1/C #6 SOLID

TRENCH ABOVE RWY & TWY LIGHTING CABLE. BOND 1/C #6

COUNTERPOISE. LOCATE APPROX.

EVERY 350 FT TO NO MORE THAN

BETWEEN LIGHT FIXTURES. (TYP.)

500 FT AND APPROX MIDWAY

INSTALL A NEW L-806(L), STYLE I-B INTERNALLY LIGHTED, SIZE 1,

FOUNDATION. THE L-806(L) SUPPLEMENTAL WIND CONE WILL BE

CONTRACTOR. LOCATE OUTSIDE THE ROFA, (MORE THAN 200 FT

FROM RUNWAY CENTERLINE), AT STA. 134+00, 210 FT LEFT (WEST).

PROPOSED L-861T(L)

GRY GRY

RUNWAY 36-18

PROPOSED L-861(L), MEDIUM

INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP).

PROPOSED L-861(L), MEDIUM INTENSITY,

BASE MOUNTED, ELEVATED RUNWAY

EDGE LIGHTS (TYP).

ELEVATED BASE MOUNTED

TAXIWAY EDGE LIGHT (TYP).

TAXIWAY EDGE LIGHTS (TYP).

PROPOSED I -861T(L) STAKE MOUNTED

ENTRANCE-EXIT LIGHTS:

SEE ENLARGED PLANS FOR

SPACING/LOCATIONS (TYP)

KEY NOTES: (#)

ADD ALT 1 -

2 -1/C #8 AWG FAA L-824

5000V CONDUCTORS IN

UNIT DUCT WITH

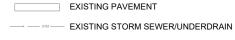
1/C #6 AWG SOLID

TINNED COPPER

COUNTERPOISE

- (1.) ALIGNMENT LINE; FIXTURES SHALL BE ALIGNED ACROSS RUNWAY OR TAXIWAY FROM EACH OTHER.
- GUIDANCE SIGN AND FOUNDATION SHALL BE ALIGNED WITH THE CENTER OF THE LAST LINE OF THE HOLD POSITION MARKING, AND 15' FROM THE EDGE OF THE TAXIWAY. SEE DETAILS FOR LOCATION POINTS AND SIGN REQUIREMENTS.

LEGEND



EXISTING BUILDING

EXISTING FLECTRICAL DUCT

EXISTING ELECTRICAL CIRCUIT

PROPOSED ELECTRICAL DUCT

EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT.

- PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY
- PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT
- PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED TAXI GUIDANCE SIGN
- P EXISTING ELECTRICAL JUNCTION STRUCTURE
- PROPOSED SPLICE CAN/JUNCTION STRUCTURE
- 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN

PLAN VIEWS. EXISTING WIND CONE:

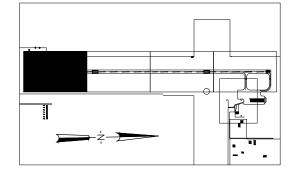
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(SEE NOTE ON PLAN FOR WORK) POINT OF TANGENCY ON TAXIWAY CURVES

- EXISTING DUCT TRENCH CABLE MARKER REPLACE CM MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.
- PROPOSED L-806(L) SUPPLEMENTAL WIND CONE

KEYMAP



BID DOCUMENTS

www.hanson-inc.com

Offices Nationwide

HANSON

Hanson Professional Services Inc 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
|---------------------------|------|-----|-------|-----|
| INO. | DATE | DES | DWN | REV |
| ISSUE: SEPTEMBER 12, 2025 | | | | |

PROJECT NO: 23A1032.00

CAD FILE: E-201-PLN.DWG DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/28/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 125+00 -135+50

STA.

3/4" X 30' L COUNTERPOISE GND ROD TO

BE INSTALLED AT EACH SIDE OF

PAVEMENT CROSSING.

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

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138+00

139+00

140+00

PROPOSED L-861(L), MEDIUM

INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP).

3/4" X 30'L GND ROD FOR

137+00

COUNTERPOISE LOCATE APPROX

EVERY 350 FT TO NO MORE THAN

BETWEEN LIGHT FIXTURES. (TYP.)

136+00

500 FT AND APPROX. MIDWAY

SHEET NOTES:

PROPOSED RWY 18-36 AND TAXIWAY LIGHTING CIRCUIT 1/C #8 AWG, FAA L-824, 5000V TYPE C UNDERGROUND CABLE IN

PAVEMENT EDGE. BURY 24" (MIN.) BELOW GRADE.

141+00

UNIT DUCT (AR108158). FURNISH AND INSTALL 1/C #6 SOLID TINNED COPPER GROUND WIRE/COUNTERPOISE WIRE IN SAME

TRENCH ABOVE RWY & TWY LIGHTING CABLE. BOND 1/C #6

GROUND WIRE/COUNTERPOISE WIRE TO EACH GROUND ROD AT

THE COUNTERPOISE GROUND RODS (AR108706) (TYP.) LOCATE APPROXIMATELY 12 FEET (OR 8 FEET WHERE APPLICABLE) FROM

RUNWAY 36-18

EDGE LIGHTS (TYP)

142+00

PROPOSED L-861(L), MEDIUM INTENSITY,

BASE MOUNTED, ELEVATED RUNWAY

143+00

144+00

145+00

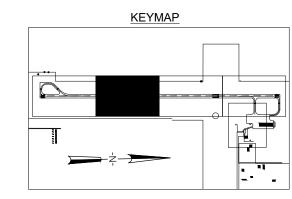
HALF SIZE SCALE: 1"= 100'

FULL SIZE SCALE: 1"= 50'

THE RESPECTIVE AIRFIELD LIGHT FIXTURE AND TAXI SIGN AND TO

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.

LEGEND EXISTING PAVEMENT EXISTING STORM SEWER/UNDERDRAIN EXISTING BUILDING EXISTING FLECTRICAL DUCT PROPOSED ELECTRICAL DUCT EXISTING ELECTRICAL CIRCUIT EXISTING ELECTRICAL CABLES **EXISTING FENCE** PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE. PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C OR UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT. PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT 9 PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT 146 PROPOSED TAXI GUIDANCE SIGN P ⋖ EXISTING ELECTRICAL JUNCTION STRUCTURE က 146+00 PROPOSED SPLICE CAN/JUNCTION STRUCTURE • 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND II I RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS. Ë \bigoplus WIND CONE (SEE NOTE ON PLAN FOR WORK) MAT POINT OF TANGENCY ON TAXIWAY CURVES



EXISTING DUCT TRENCH CABLE MARKER REPLACE

MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

BID DOCUMENTS



Offices Nationwide www.hanson-inc.com

Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM

INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
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| | INO. | DAIL | DES | DWN | REV |
| į | ISSUE: | SEPTE | MBER | 12, 20 | 25 |
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| | CAD FIL | E: E-201-P | LN.DWG | | |
| | DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
| | DRAWN BY: AJC 07/28/2025 | | | | |
| ì | REVIEWED BY: KNL 08/04/2025 | | | | |

PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 135+50 -146+00

SHEET TITLE

-146 + 00

147+00

HALE SIZE SCALE: 1"= 100" FULL SIZE SCALE: 1"= 50"

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3/4" X 30'L GND ROD FOR

148+00

149+00

PROPOSED L-861(L), MEDIUM

EDGE LIGHTS (TYP).

INTENSITY, STAKE MOUNTED RUNWAY

150+00

151+00

PROPOSED L-861(L), MEDIUM INTENSITY,

BASE MOUNTED, ELEVATED RUNWAY

EDGE LIGHTS (TYP).

COUNTERPOISE LOCATE APPROX

EVERY 350 FT TO NO MORE THAN

BETWEEN LIGHT FIXTURES. (TYP.)

500 FT AND APPROX. MIDWAY

SHEET NOTES:

PROPOSED RWY 18-36 AND TAXIWAY LIGHTING CIRCUIT 1/C #8 AWG, FAA L-824, 5000V TYPE C UNDERGROUND CABLE IN

UNIT DUCT (AR108158). FURNISH AND INSTALL 1/C #6 SOLID TINNED COPPER GROUND WIRE/COUNTERPOISE WIRE IN SAME

TRENCH ABOVE RWY & TWY LIGHTING CABLE. BOND 1/C #6

PAVEMENT EDGE. BURY 24" (MIN.) BELOW GRADE.

152+00

GROUND WIRE/COUNTERPOISE WIRE TO EACH GROUND ROD AT

THE COUNTERPOISE GROUND RODS (AR108706) (TYP.) LOCATE APPROXIMATELY 12 FEET (OR 8 FEET WHERE APPLICABLE) FROM

THE RESPECTIVE AIRFIELD LIGHT FIXTURE AND TAXI SIGN AND TO

RUNWAY 36-18

153+00

154+00

155+00

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.

LEGEND

EXISTING PAVEMENT EXISTING STORM SEWER/UNDERDRAIN

EXISTING BUILDING

EXISTING FLECTRICAL DUCT

PROPOSED ELECTRICAL DUCT

EXISTING ELECTRICAL CIRCUIT

EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE.

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT.

- PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY
- PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT
 - PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED TAXI GUIDANCE SIGN P EXISTING ELECTRICAL JUNCTION STRUCTURE
- PROPOSED SPLICE CAN/JUNCTION STRUCTURE
- 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN PLAN VIEWS.

WIND CONE

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MATCH

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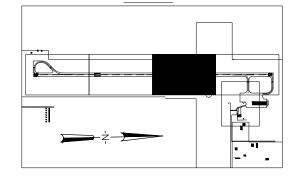
156+00

(SEE NOTE ON PLAN FOR WORK)

POINT OF TANGENCY ON TAXIWAY CURVES

EXISTING DUCT TRENCH CABLE MARKER REPLACE MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

KEYMAP



BID DOCUMENTS



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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY

SBGP No: 3-17-SBGP-

LIGHTS, AND VAULT

WORK

197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | |
|---------------------------|-------|-------------|--------|-----|
| NO. | DAIL | DES | DWN | REV |
| SSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJECT NO: 23A1032.00 | | | | |
| CAD FILE: E-201-PLN.DWG | | | | |
| DESIGN BY: KNL 07/22/2025 | | | | |
| RAWN RV: Δ IC 07/28/2025 | | | | |

PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 146+00 -156+50

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE. SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

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PROPOSED RWY 18-36 AND TAXIWAY LIGHTING CIRCUIT

PAVEMENT EDGE. BURY 24" (MIN.) BELOW GRADE

LIGHTS (TYP).

BASE BID - EXISTING PRIMARY

ADDITIVE ALTERNATE 1 - REMOVE EXISTING WIND CONE AND

RUNWAY CENTERLINE) AT STA. 160+00, 210 FT RIGHT (EAST).

WIND CONE WITH NEW FOUNDATION. THE L-806(L) SUPPLEMENTAL WIND CONE WILL BE FURNISHED BY THE AIRPORT

INSTALL A NEW L-806(L) STYLE I-B INTERNALLY

AND INSTALLED BY THE CONTRACTOR.

ABANDONED DIRECT BURIED ELECTRICAL

CABLES TO FORMER WIND TEE LOCATION

LIGHTED, SIZE 1, CURRENT DRIVEN, SUPPLEMENTAL

LOCATE OUTSIDE ROFA (MORE THAN 200 FEET FROM

EXISTING LOCATION SHOWN

WIND CONE TO REMAIN:

BASE BID

EXISTING 120V VOLTAGE

DRIVEN CIRCUIT TO REMAIN

PROPOSED L-861(L), MEDIUM

INTENSITY, BASE MOUNTED,

ELEVATED RUNWAY EDGE

1/C #8 AWG, FAA L-824, 5000V TYPE C UNDERGROUND CABLE IN UNIT DUCT (AR108158). FURNISH AND INSTALL 1/C #6 SOLID

TINNED COPPER GROUND WIRE/COUNTERPOISE WIRE IN SAME

GROUND WIRE/COUNTERPOISE WIRE TO EACH GROUND ROD AT

THE COUNTERPOISE GROUND RODS (AR108706) (TYP.) LOCATE

APPROXIMATELY 12 FEET (OR 8 FEET WHERE APPLICABLE) FROM

THE RESPECTIVE AIRFIELD LIGHT FIXTURE AND TAXI SIGN AND TO

TRENCH ABOVE RWY & TWY LIGHTING CABLE. BOND 1/C #6

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J.
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF (2.) PAVEMENT TO THE CENTER OF THE FIXTURE (UNLESS NOTED
- C. EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE

KEY NOTES: (#)

HALF SIZE SCALE: 1"= 100'

FULL SIZE SCALE: 1"= 50'

3/4" X 30'L GND ROD FOR

PROPOSED L-861T(L)

STAKE MOUNTED

TAXIWAY EDGE LIGHTS (TYP)

ELEVATED BASE MOUNTED

TAXIWAY EDGE LIGHTS (TYP).

3/4" X 30'L COUNTERPOISE-

2 - 3" DIRECTIONAL BORE

DUCTS 40' EACH, 80' TOTAL.

ROUTE SERIES CKT CABLE IN

UNIT DUCT THROUGH ONE DUCT. ROUTE COUNTERPOISE

THROUGH SECOND DUCT.

GND ROD TO BE INSTALLED AT EACH SIDE OF PAVEMENT PROPOSED L-861T(L)

COUNTERPOISE. LOCATE APPROX.

EVERY 350 FT TO NO MORE THAN

BETWEEN LIGHT FIXTURES. (TYP.)

18

GR -

500 FT AND APPROX. MIDWAY

- (1.) ALIGNMENT LINE; FIXTURES SHALL BE ALIGNED ACROSS RUNWAY OR TAXIWAY FROM EACH OTHER.
- GUIDANCE SIGN AND FOUNDATION SHALL BE ALIGNED WITH THE CENTER OF THE LAST LINE OF THE HOLD POSITION MARKING, AND 15' FROM THE EDGE OF THE TAXIWAY. SEE DETAILS FOR LOCATION POINTS AND SIGN REQUIREMENTS.

LEGEND

EXISTING PAVEMENT EXISTING STORM SEWER/UNDERDRAIN

EXISTING BUILDING

EXISTING FLECTRICAL DUCT PROPOSED ELECTRICAL DUCT

EXISTING ELECTRICAL CIRCUIT

EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS. THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT.

- PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT
- PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY
- PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT
- PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT
- PROPOSED TAXI GUIDANCE SIGN
- (P) EXISTING ELECTRICAL JUNCTION STRUCTURE
- PROPOSED SPLICE CAN/JUNCTION STRUCTURE
 - 3/4" X 30'L GND ROD FOR COUNTERPOISE. NOTE: GND RODS FOR AIRFIELD LIGHT FIXTURES NOT SHOWN IN

PLAN VIEWS.

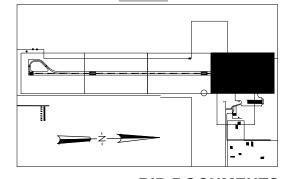
EXISTING WIND CONE: (SEE NOTE ON PLAN FOR WORK)

POINT OF TANGENCY ON TAXIWAY CURVES

EXISTING DUCT TRENCH CABLE MARKER REPLACE CM MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

PROPOSED L-806(L) SUPPLEMENTAL WIND CONE

KEYMAP



BID DOCUMENTS

HANSON

Offices Nationwide www.hanson-inc.com

Hanson Professional Services Inc 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

WORK

DESCRIPTION NO. DATE DES DWN REV

ISSUE: SEPTEMBER 12, 2025 PROJECT NO: 23A1032.00

CAD FILE: E-201-PLN.DWG DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/28/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PROPOSED AIRFIELD LIGHTING CIRCUIT PLAN - STA. 156+50 -167+00

18

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36-18

ADD ALT 1 -

2 -1/C #8 AWG

FAA L-824 5000V

CONDUCTORS IN

UNIT DUCT WITH

1/C #6 AWG SOLID

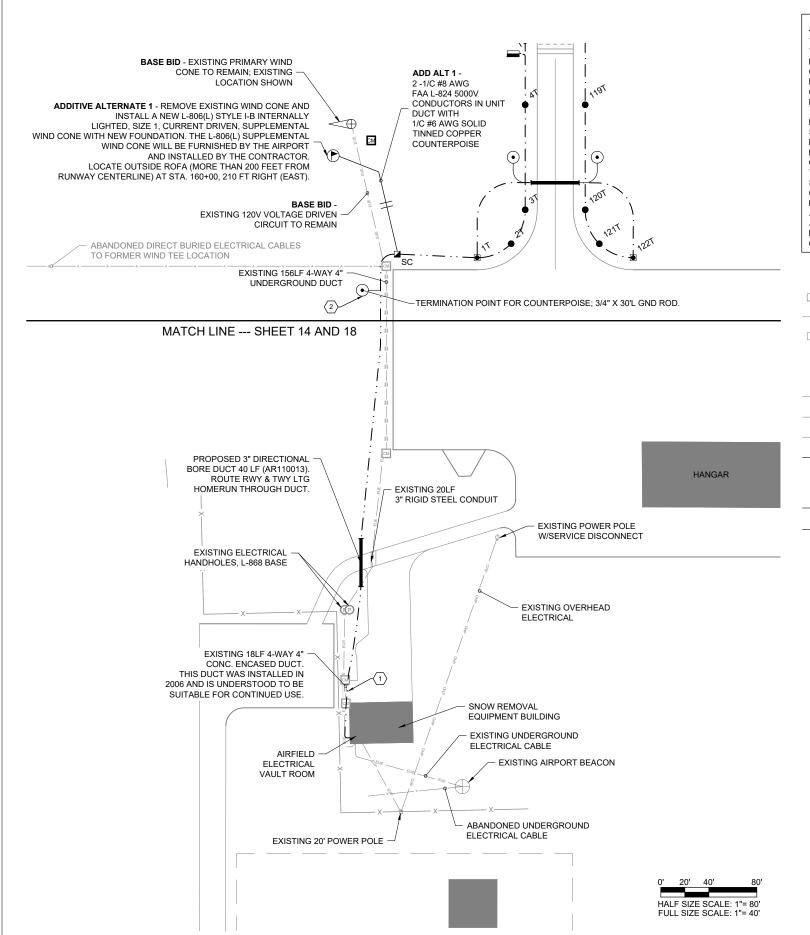
TINNED COPPER

COUNTERPOISE

PROPOSED L-861(L), MEDIUM
- INTENSITY, STAKE MOUNTED

RUNWAY EDGE LIGHTS (TYP)

RUNWAY 36-18



THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF ITS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND THE RESIDENT ENGINEER/TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND LOCATED BY THE FAA. ALSO CONTACT AIRPORT MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

LEGEND

EXISTING PAVEMENT

EXISTING STORM SEWER/UNDERDRAIN

EXISTING BUILDING

EXISTING ELECTRICAL DUCT

PROPOSED ELECTRICAL DUCT EXISTING ELECTRICAL CIRCUIT

EXISTING ELECTRICAL CABLES

EXISTING FENCE

PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. INSTALL #6 AWG TINNED SOLID COPPER COUNTERPOISE APPROX. 8" TO 12" ABOVE SERIES CKT CABLE.

PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN UNIT DUCTS, THIS MAY BE 2 CONDUCTORS IN ONE CONDUIT OR 2 SETS OF 1 CONDUCTOR IN CONDUIT/UNIT DUCT

PROPOSED STAKE MOUNTED L-861(L) RUNWAY LIGHT

PROPOSED BASE MOUNTED L-861(L) RUNWAY LIGHT

PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT

PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT

PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT

PROPOSED BASE MOUNTED L-861T(L) TAXIWAY LIGHT

PROPOSED TAXI GUIDANCE SIGN

P EXISTING ELECTRICAL JUNCTION STRUCTURE

PROPOSED SPLICE CAN/JUNCTION STRUCTURE

PROPOSED 3/4" X 30'L COPPER CLAD GROUND ROD (EXOTHERMIC BOND)

 \bigoplus

EXISTING WIND CONE (SEE NOTE ON PLAN FOR WORK)

POINT OF TANGENCY ON TAXIWAY CURVES

EXISTING DUCT TRENCH CABLE MARKER. REPLACE MARKERS FOR NEW CABLE DUCT TRENCH ROUTING.

PROPOSED L-806(L) SUPPLEMENTAL WIND CONE

KEY NOTES: ⟨#⟩

- (1.) NEW HOMERUN CKT CONDUCTORS FOR RWY & TWY LTG SHALL PASS THROUGH EXISTING DUCT BANK.
- (2) THE COUNTERPOISE SHALL NOT BE EXTENDED TO THE VAULT. TERMINATE ALL CABLE / CONDUIT COUNTERPOISE CONDUCTORS WITH A GROUND ROD NOT LESS THAN 200 FT OR GREATER THAN 400 FT FROM THE VAULT.

KEYMAP

197/220/TBD

IDA No: K06-4871

WORK

DRAWN BY: AJC 07/28/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PROPOSED ELECTRICAL SITE PLAN - VAULT AND

BID DOCUMENTS



Offices Nationwide www.hanson-inc.com

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT

SBGP No: 3-17-SBGP-

| NO. | DATE | DESCRIPTION | | |
|-----------------------------|------|-------------|-----|-----|
| NO. | DATE | DES | DWN | REV |
| SSUE: SEPTEMBER 12, 2025 | | | | 25 |
| PROJECT NO: 23A1032.00 | | | | |
| CAD FILE: E-201-PLN.DWG | | | | |
| SECION DV. I/NII 07/00/000E | | | | |

APRON

PROPOSED L-861T(L)

TAXIWAY LIGHT (TYP)

STAKE MOUNTED

PROPOSED L-861SE(L) STAKE

MOUNTED THRESHOLD LIGHT (TYP OF 4 EACH END, 8 TOTAL)

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES.

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126+00

RW EDGE LIGHTING

REFERENCE LINE

127+00

RW EDGE LIGHTING

REFERENCE LINE

SHEET NOTES:

- A. LIGHT FIXTURE COLORS SHALL BE ORIENTED AND AIMED (TOED) PER FAA ADVISORY CIRCULAR AC 150/5340-30J
- B. ALL AIRFIELD LIGHTING SHALL BE INSTALLED 10' OFF THE EDGE OF PAVEMENT TO THE CENTER OF THE FIXTURE UNLESS NOTED OTHERWISE
- EXISTING INSTALLED EDGE OF PAVEMENT MAY NOT BE STRAIGHT AND EVEN. ESTABLISH DEFINED EDGE OF PAVEMENT USING OFFSET FROM RUNWAY CENTERLINE SUCH THAT ALL LIGHTS ARE ALIGNED IN A STRAIGHT LINE.
- D. DETAIL #3 SHALL BE REFERENCE FOR ALL INSTANCES OF ENTRANCE/EXIT LIGHTS FROM RUNWAY

LEGEND

PROPOSED STAKE MOUNTED L-861T(L) TAXIWAY LIGHT:

PROPOSED STAKE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT:

POINT OF TANGENCY ON TAXIWAY CURVES

PROPOSED L-861SE(L) BASE MOUNTED THRESHOLD LIGHT (TYP OF 2 EACH END, 4 RW EDGE LIGHTING PROPOSED L-861SE(L) STAKE -MOUNTED THRESHOLD LIGHT (TYP OF 4 EACH END, 8 TOTAL) **RUNWAY 36-18** 165+00 166+00 RW EDGE LIGHTING REFERENCE LINE PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT (TYP) (2) RUNWAY 18 END THRESHOLD

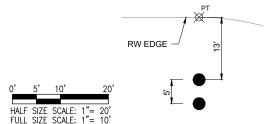
RUNWAY 36 END THRESHOLD

PROPOSED L-861SE(L) BASE

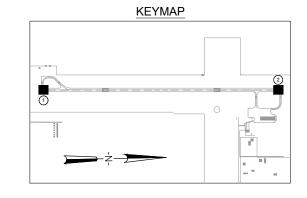
MOUNTED THRESHOLD LIGHT

(TYP OF 2 EACH END, 4 TOTAL)

RUNWAY 18-36



(3) TYPICAL ENTRANCE-EXIT LIGHTS LAYOUT DETAIL



EXISTING PAVEMENT

PROPOSED BASE MOUNTED L-861SE(L) RUNWAY THRESHOLD LIGHT:

COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027 **INSTALL MEDIUM**

KEVIN N

LIGHTFOOT

062-047643

HANSON

Hanson Professional Services Inc.

Professional Service Corporation #184-001084

GREATER BEARDSTOWN

MUNICIPAL AIRPORT BEARDSTOWN, IL 62618

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INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
|---|---------------------------|------|-----|-------|-----|
| | NO. | DATE | DES | DWN | REV |
| į | ISSUE: SEPTEMBER 12, 2025 | | | | |
| i | PROJECT NO: 23A1032.00 | | | | |
| | | | | | |

CAD FILE: E-401-PLN.DWG DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/29/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PROPOSED ENLARGED AIRFIELD LIGHTING PLANS

BID DOCUMENTS

AIRFIELD LIGHTING REMOVAL, RELOCATION, AND INSTALLATION NOTES

- . KEEP ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS COORDINATED WITH THE AIRPORT DIRECTOR/MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT). WHERE THE FACILITY IS NOT EQUIPPED WITH LOCK/TAGOUT EQUIPMENT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT. FAILURE TO SHUT DOWN AND LOCKOUT THE CIRCUIT(S) PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THIS SYSTEM.
- 2. EACH RESPECTIVE PERSON PERFORMING AIRFIELD LIGHTING WORK, VAULT WORK, AND/OR TESTS SHALL BE FAMILIAR WITH, AND QUALIFIED TO WORK ON, 5000 VOLT AIRFIELD LIGHTING SERIES CIRCUITS, CONSTANT CURRENT REGULATORS AND ASSOCIATED AIRPORT ELECTRICAL VAULT EQUIPMENT. ONLY QUALIFIED ELECTRICAL CONTRACTORS SHALL PERFORM ELECTRICAL WORK ON THIS PROJECT. NEC DEFINES A QUALIFIED PERSON AS FOLLOWS; "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED".
- VERIFY RESPECTIVE CIRCUITS, POWER SOURCES AND SITE CONDITIONS PRIOR TO REMOVING, DISCONNECTING, RELOCATING, INSTALLING, CONNECTING OR WORKING ON THE RESPECTIVE AIRFIELD LIGHTING, DISTANCE REMAINING SIGN, RUNWAY SIGN, TAXI SIGN, NAVAID, VAULT EQUIPMENT OR OTHER DEVICE.
- 4. INSTALL AIRFIELD LIGHTING, SIGNS, SPLICE CANS, ELECTRICAL DUCTS, HANDHOLES, MANHOLES, AND CABLE AT THE LOCATIONS SHOWN AND IN COMPLIANCE WITH THE SPECIFICATIONS, SPECIAL PROVISIONS, RESPECTIVE DETAILS, AND MANUFACTURER'S RECOMMENDATIONS
- 5. NEW AIRFIELD LIGHTING SYSTEM INSTALLATIONS, ADJUSTMENTS, RELOCATIONS, REINSTALLATIONS, AND/OR UPGRADES SHALL USE BASE (L-867 OR L-868) MOUNTED AND STAKE MOUNTED FIXTURES AND 1/C #8. FAA L-824 5000V TYPE C CABLE IN UNIT DUCT.
- LIGHTING CABLE FOR AIRFIELD LIGHTING SERIES CIRCUITS SHALL BE 1/C, #8 AWG, FAA L-824, 5000 VOLT, TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. CABLE SHALL BE FAA APPROVED.
- 7. IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE CONTRACTOR IS REQUIRED TO HAND DIG THE TRENCH NECESSARY FOR THE PROPOSED CABLE. AT OTHER LOCATIONS, THE PROPOSED CABLE MAY BE TRENCHED OR PLOWED INTO PLACE. HAND DIGGING, TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLES AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 8. GROUND ROD MUST BE INSTALLED AT EACH LIGHT FIXTURE. RUNWAY/TAXI SIGN AND SPLICE CAN. THE PURPOSE OF THE LIGHT BASE GROUND IS PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. PER NATIONAL ELECTRICAL CODE ARTICLE 250.53 "GROUNDING ELECTRODE SYSTEM INSTALLATION" RESISTANCE FROM THE GROUND ROD/ELECTRODE TO EARTH GROUND MUST BE 25 OHMS OR LESS VIA MEASUREMENT WITH A GROUND TESTER. GROUNDS RODS FOR LIGHT BASE GROUNDS SHALL BE 3/4-INCH BY 20-FEET MINIMUM LENGTH UL LISTED COPPER-CLAD STEEL SECTIONAL RODS. GROUND RODS AT LIGHT FIXTURES AND SIGNS SHALL BE CONNECTED TO A #6 TINNED SOLID COPPER COUNTERPOISE CONDUCTOR TO FORM AN EQUAL POTENTIAL GROUNDING & COUNTERPOISE SYSTEM. COUNTERPOISE SYSTEM SHALL INCLUDE 3/4-INCH BY 30 FEET LONG GROUND RODS LOCATED AS DETAILED HEREIN. GROUND RODS SHALL BE PRODUCED FROM 100% DOMESTIC STEEL. EACH GROUND ROD SHALL BE TESTED AND THE RESULTS RECORDED FOR EACH AIRFIELD LIGHT FIXTURE AND RUNWAY/TAXI SIGN INSTALLATION. COPIES OF GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE PROJECT ENGINEER OF RECORD: KEVIN LIGHTFOOT, AND/OR THE RESIDENT ENGINEER/TECHNICIAN
- 9. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT THAT ARE INSTALLED IN CONDUIT OR DUCT SHALL BE RUN TOGETHER IN THE SAME RACEWAY OR DUCT.
- 10. THE CONTRACTOR SHALL TEST THE RESPECTIVE AIRFIELD LIGHTING CIRCUITS IN AREAS OF WORK WHERE RESPECTIVE CIRCUITS MIGHT BE AFFECTED. THE RESPECTIVE RUNWAY AND TAXIWAY LIGHTING CCR'S (FOR THE AREAS OF WORK ON THIS PROJECT) SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, AND/OR ADDITIONS AND AFTER THE NEW CABLES AND LIGHTING SYSTEM MODIFICATIONS AND ADDITIONS HAVE BEEN COMPLETED. CONTRACTOR SHALL TEST AND RECORD THE INPUT CURRENT AND OUTPUT CURRENT FOR EACH CONSTANT CURRENT REGULATOR IN THE AUTOMATIC AND MANUAL MODES OF OPERATIONS. CONTRACTOR SHALL REPORT CONCERNS AND/OR DEFICIENCIES TO THE RESIDENT ENGINEER/TECHNICIAN. TEST RESULTS SHALL BE COORDINATED WITH AND PROVIDED TO THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT, AND RESIDENT ENGINEER/TECHNICIAN.
- 11. FAA AC 150/5370-10G "STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS", ITEM L-108 "UNDERGROUND POWER CABLE FOR AIRPORTS", REQUIRES THAT EVERY AIRFIELD LIGHTING CABLE SPLICES SHALL BE QUALIFIED IN MAKING CABLE SPLICES AND TERMINATIONS ON CABLES ARED ABOVE 5,000 VOLTS AC. CABLE SPLICING/TERMINATING PERSONNEL SHALL HAVE A MINIMUM OF THREE (3) YEARS CONTINUOUS EXPERIENCE IN TERMINATING/SPLICING MEDIUM VOLTAGE CABLE.

- 12. OTHER CONSTRUCTION PROJECTS MIGHT BE IN PROGRESS AT THE AIRPORT AT THE SAME TIME AS THIS PROJECT. THE CONTRACTOR WILL BE REQUIRED TO COOPERATE WITH ALL OTHER CONTRACTORS AND THE AIRPORT MANAGER IN THE COORDINATION OF THE WORK.
- 13. OBTAIN APPROVAL FROM THE AIRPORT MANAGER PRIOR TO SHUTTING DOWN A RUNWAY OR TAXIWAY. WHEN A RESPECTIVE RUNWAY IS CLOSED THE RESPECTIVE RUNWAY LIGHTING AND NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF. WHEN A RESPECTIVE TAXIWAY IS CLOSED THE RESPECTIVE TAXIWAY LIGHTING FOR THAT TAXIWAY SHALL BE SHUT OFF.
- 14. THE CONTRACTOR IS REQUIRED TO FILL IN ALL HOLES AND DEPRESSIONS RESULTING FROM THE NEW WORK, WITH EARTH MATERIAL. THE AREAS SHALL BE COMPACTED TO PREVENT FUTURE SETTLEMENT AND FERTILIZED, SEEDED, AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908 RESPECTIVELY.
- 15. IN THE EVENT A CONFLICT IS DETERMINED WITH RESPECT TO MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION.
- 16. SEE SAFETY PLAN AND NOTES FOR SAFETY AND CONSTRUCTION COORDINATION REQUIREMENTS.
- 17. EXISTING AIRFIELD LIGHTS AND/OR SIGNS DESIGNATED FOR REMOVAL SHALL BE CAREFULLY REMOVED IN THERE ENTIRETY. THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING LIGHTS AND SIGNS, AS NOT TO DAMAGE THEM, INCLUDING MOUNTING STAKES BASES FOUNDATIONS AND TRANSFORMERS. THE EXISTING AIRFIELD LIGHTS TRANSFORMERS LIGHT BASES COVERS AND MOUNTING STAKES SHALL BE TURNED OVER TO THE AIRPORT. SIGNS SHALL BE TURNED OVER TO THE AIRPORT FOR THEIR RIGHT OF FIRST REFUSAL. LIGHT BASES AND SIGN FOUNDATIONS SHALL BE REMOVED AND DISPOSED OF OFF SITE. ANY MATERIAL NOT SALVAGED BY THE AIRPORT SHALL BE DISPOSED OF OFF THE AIRPORT SITE, IN A LEGAL MANNER, AT THE CONTRACTOR'S OWN EXPENSE. EXISTING DUCTS AND CABLES ASSOCIATED WITH AIRFIELD LIGHTING REMOVALS, RELOCATIONS, REPLACEMENTS AND/OR CABLE OR DUCT REPLACEMENTS SHALL BE REMOVED AND DISPOSED OF OFF SITE AT NO ADDITIONAL COST TO THE CONTRACT WHERE ACCESSIBLE AND ABANDONED IN PLACE ELSEWHERE. PROVIDE TEMPORARY CABLES AND DUCTS TO ACCOMMODATE AIRFIELD LIGHTING CIRCUITS THAT ARE TO REMAIN ACTIVE DURING CONSTRUCTION. CONTRACTOR MAY REMOVE ABANDONED CABLES AT NO ADDITIONAL COST TO THE CONTRACT AND SHALL HAVE THE SALVAGE RIGHTS TO ABANDONED CABLES. REMOVAL OF EXISTING AIRFIELD LIGHTING WILL BE PAID FOR UNDER ITEM AR800476 REMOVE AIRFIELD LIGHTING PER
- 18. OWNER SHALL BE KEPT INFORMED OF WORK AND SCHEDULES.
- ROUTE NEW CABLES AND DUCTS TO AVOID INTERFERENCES WITH OTHER UTILITIES, LINES, CABLES AND STRUCTURES.
- 20. ALL ELECTRICAL EQUIPMENT (INCLUDING AIRFIELD LIGHTING AND NAVADS) AND MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 NATIONAL ELECTRIC CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS, AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, INTERNEK TESTING SERVICES VERIFICATION/ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- 21. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2G (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
- 22. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
- 23. RUNWAY AND TAXIWAY LIGHTING CIRCUITS SHALL BE ACTIVE AT THE END OF EACH CONSTRUCTION DAY FOR AN OPEN RUNWAY OR AN OPEN TAXIWAY. THE CONTRACTOR SHALL PROVIDE TEMPORARY CABLE & CONNECTIONS WHERE NECESSARY TO MAINTAIN A RUNWAY OR TAXIWAY LIGHTING SYSTEM. TEMPORARY CABLE FOR AIRFIELD LIGHTING SERIES CIRCUITS SHALL BE 1/C #8 FAA L-824 5KV UG CABLE IN DUCT OR UNIT DUCT.
- 24. ALL ABOVEGROUND JUMPERS SHALL BE IN A DUCT WITH ALL CONNECTIONS SEALED. THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT, DUCT, OR UNIT DUCT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA 150/5370-26, OPERATION SAFETY ON AIRPORTS DURING CONSTRUCTION, SECTION 2.18.3 "LIGHTING AND VISUAL NAVAIDS". ALL LABOR, MATERIALS, AND TIME NECESSARY TO COMPLY WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 25. CONTRACTOR SHALL INTERFACE EXISTING AIRFIELD LIGHTING AND/OR SIGNS TO THE NEW, REMOVED, REINSTALLED, ADJUSTED, REPLACED, AND/OR RELOCATED AIRFIELD LIGHTING AND ASSOCIATED CIRCUITS.
- 26. ALL AIRFIELD LIGHT FIXTURES SHALL BE TAGGED BY THE CONTRACTOR IN ACCORDANCE WITH THE RESPECTIVE LIGHT FIXTURE NUMBERS. CONFIRM LIGHT FIXTURE NUMBERING WITH THE AIRPORT MANAGER/MAINTENANCE SUPERVISOR.

- 27. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, RACEWAY, ILLINCTION STRUCTURE, OR HANDHOLF.
- 28. THE CONTRACTOR IS REQUIRED TO RESTORE ALL DISTURBED PAVEMENT ASSOCIATED WITH REMOVAL WORK AND/OR NEW AIRFIELD LIGHTING INSTALLATIONS.
- 29. NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT WILL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE FITHER EXPRESSED OR IMPLIED. THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER/TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
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| | NO. | DAIL | DES | DWN | RE\ |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| i | PROJECT NO: 23A1032.00 | | | | |

PROJECT NO: 23A1032.00
CAD FILE: E-001-NOTES.DWG

DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/29/2025

REVIEWED BY: KNL 08/04/2025

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SHEET TITLE

AIRFIELD LIGHTING

NOTES

| antil. | PROFESSIONAL |
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| | KEVIN N. LIGHTFOOT |
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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618

Offices Nationwide www.hanson-inc.com

COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

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SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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| | INO. | DAIL | DES | DWN | REV | |
| į | ISSUE: SEPTEMBER 12, 2025 | | | | | |
| i | PROJECT NO: 23A1032.00 | | | | | |
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CAD FILE: E-641-SCHED.DWG

DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/29/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

LIGHT LENS SCHEDULE

| RUNWAY 18-36 AND TAXIWAYS LIGHT LENS SCHEDULE | | | | | | |
|---|-----------|---|--------------|---------------------------------------|--|--|
| LIGHT NUMBERS LENS | | ORIENTATION | FIXTURE TYPE | NOTES | | |
| 1T TO 8T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |
| 9R TO 27R | WHITE | _ | L-861(L) | NEW ELEVATED RUNWAY EDGE LIGHT | | |
| 28R TO 33R | RED/GREEN | GREEN SIDE FACING SOUTH (TOWARD RUNWAY 18 APPROACH) | L-861SE(L) | NEW ENHANCED ELEVATED THRESHOLD LIGHT | | |
| 34R TO 48T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |
| 49R | WHITE | _ | L-861(L) | NEW ELEVATED RUNWAY EDGE LIGHT | | |
| 50T TO 70T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |
| 71R TO 89R | WHITE | _ | L-861(L) | NEW ELEVATED RUNWAY EDGE LIGHT | | |
| 90R TO 95R | RED/GREEN | GREEN SIDE FACING NORTH (TOWARD RUNWAY 36 APPROACH) | L-861SE(L) | NEW ENHANCED ELEVATED THRESHOLD LIGHT | | |
| 96T TO 112T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |
| 113R | WHITE | _ | L-861(L) | NEW ELEVATED RUNWAY EDGE LIGHT | | |
| 114T TO 115T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |
| 116R | WHITE | _ | L-861(L) | NEW ELEVATED RUNWAY EDGE LIGHT | | |
| 117T TO 122T | BLUE | _ | L-861T(L) | NEW ELEVATED TAXIWAY EDGE LIGHT | | |

NOTE:

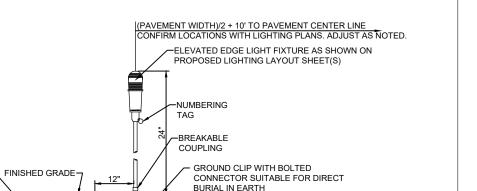
1. PROVIDE NEW LIGHT NUMBER TAGS FOR AIRFIELD LIGHTS.

TYPE C CABLE IN DUCT

PROFILE VIEW

LIGHT AND CABLE INSTALLATION DETAIL (NOT TO SCALE)

PLAN VIEW



COPPER

#6 AWG BARE TINNED SOLID

WIRE/COUNTERPOISE WIRE TO

NEXT LIGHT FIXTURE GROUND ROD

COPPER GROUND

UL LISTED COPPERCLAD

GROUND ROD 3/4" X 20' MIN

MEDIUM INTENSITY AIRFIELD ELEVATED EDGE LIGHT - STAKE MOUNTED

(NOT TO SCALE)

NOTES:

FIXTURE LOCATED 12

1. SEE ELECTRICAL NOTES SHEETS

1/C, #8, 5KV L-824 TYPE C

CABLE IN UNIT DUCT

COLOR CODED TAPE FOR WIRE

6" OF L-823 CONNECTION-

IDENTIFICATION, LOCATED WITHIN

2. SEE "ELECTRICAL NOTES SHEET 2" AND "GROUNDING NOTES" SHEET FOR GROUNDING NOTES FOR AIRFIELD LIGHTING.

-CLIP (DO

NOT USE

-30" ANGLE

-823 CONNECTORS

─ENCASE TRANSFORMER, CONNECTORS

AND CABLE SLACK IN SAND

- SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR LIGHT LOCATIONS
- WHERE GROUND LUGS ARE NOT ACCESSIBLE ON BASE CANS, PROVIDE A UL LISTED PIPE GROUND CLAMP RATED FOR DIRECT BURIAL IN EARTH AND BOND TO THE METAL CONDUIT EXTENSION TO PROVIDE GROUND PATH TO LIGHT BASE
- THE PROPOSED TAXIWAY LIGHT FIXTURES SHALL CONFORM TO ADVISORY CIRCULAR 150/5345-46 (CURRENT ISSUE(S) IN EFFECT) AND BE FAA APPROVED FOR TYPE L-861T(L) FOR TAXIWAY EDGE LIGHTS. AIRFIELD LIGHT FIXTURES SHALL HAVE LED (LIGHT EMITTING DIODE) ILLUMINATION AND SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF FAA ENGINEERING BRIEF NO. 67D LIGHT SOURCES OTHER THAN INCANDESCENT AND XENON FOR AIRPORT AND OBSTRUCTION LIGHTING FIXTURES
- LIGHT BASE CANS FOR THE AIRFIELD LIGHT FIXTURES SHALL CONFORM TO THE REQUIREMENTS OF FAA AC 150/5345-42 (CURRENT ISSUE IN EFFECT), FOR TYPE L-867, CLASS IA, SIZE B (12 IN. NOMINAL DIAMETER), OR SIZE D (16 IN. NOMINAL DIAMETER) AND 24 IN. DEEP AND/OR AS DETAILED ON THE PLANS. EACH LIGHT BASE CAN SHALL INCLUDE INTERNAL AND EXTERNAL GROUND LUGS TO ACCOMMODATE THE RESPECTIVE APPLICATIONS. LIGHT BASE PLATES SHALL BE SIZED AND COMPATIBLE WITH THE RESPECTIVE LIGHT BASES AND LIGHT FIXTURES WITH STAINLESS STEEL BOLTS.
- PRIOR TO INSTALLING THE AIRFIELD LIGHT FIXTURES, APPLY AN OXIDE-INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS, BREAKABLE COUPLING, AND ALL PLACES WHERE METAL COMES INTO CONTACT WITH METAL
- SERIES CIRCUIT ISOLATION TRANSFORMERS FOR THE AIRFIELD LIGHTING SHALL BE MANUFACTURED TO FAA SPECIFICATION AC 150/5345-47, (CURRENT EDITION IN EFFECT), AND SHALL BE FAA-APPROVED (ETL/INTERTEK TESTING SERVICES-CERTIFIED). SERIES CIRCUIT TRANSFORMER SHALL BE PROPERLY SIZED FOR THE RESPECTIVE AIRFIELD LIGHTING DEVICE, AND SHALL BE AS RECOMMENDED BY THE RESPECTIVE EQUIPMENT MANUFACTURER. CONFIRM PROPER TRANSFORMER SELECTION AND SIZING WITH THE RESPECTIVE EQUIPMENT MANUFACTURER.
- THE CONCRETE USED IN THE CONSTRUCTION OF THE BASES FOR THE AIRFIELD LIGHTING AND SPLICE CANS SHALL BE IN ACCORDANCE WITH ITEM 610 CONCRETE FOR MISCELLANEOUS STRUCTURES.
- 10. IDENTIFICATION TAGS SHALL BE ATTACHED TO EACH AIRFIELD LIGHT FIXTURE.
- PER ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS ITEM 108, ITEM 125, AND FAA AC 150/5370-10H ITEM L-108 AND L-125, RUBBER AND PLASTIC ELECTRICAL TAPES SHALL BE SCOTCH ELECTRICAL TAPE NUMBERS 130C LINERLESS RUBBER SPLICING TAPE (2" WIDE) AND 88 (1.5" WIDE) RESPECTIVELY, AS MANUFACTURED THE MINNESOTA MINING AND MANUFACTURING COMPANY, OR EQUIVALENT

A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, RUNWAY DISTANCE REMAINING SIGNS, AND LIGHTED RUNWAY/TAXI GUIDANCE SIGNS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/4-INCH DIAMETER BY 10-FEET LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD.

BID DOCUMENTS

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

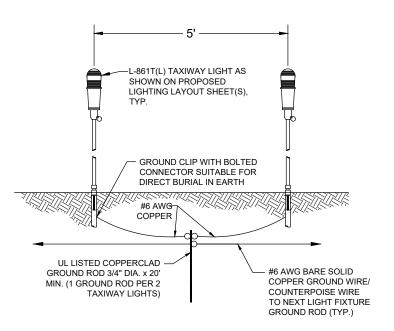
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| PROJECT NO: 23A1032.00 | | | | | | |
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| | DESIGN | BY: KN | 1 07/ | 22/202 | 5 | |

SHEET TITLE

DRAWN BY: AJC 07/29/2025

REVIEWED BY: KNL 08/04/2025

AIRFIELD ELEVATED **EDGE LIGHT DETAILS**



GROUNDING DETAIL FOR ADJACENT ELEVATED TAXIWAY LIGHTS

(NOT TO SCALE)

10' OR LESS --ELEVATED EDGE LIGHT AS SHOWN ON PROPOSED LIGHTING LAYOUT SHEET(S). L-861SE(L) THRESHOLD LÌGHT OR OTHER ELEVATED **EDGE LIGHT** BREAKABLE GROUND CLIP WITH BOLTED CONNECTOR SUITABLE FOR DIRECT BURIAL IN EARTH - FINISHED GRADE (TYP CABLE FROM L-830 TRANSFORMER, #6 AWG #6 AWG COPPER COPPER UL LISTED COPPERCLAD #6 AWG BARE SOLID GROUND ROD 3/4" DIA. X 20' MIN. COPPER COUNTERPOISE (1 GROUND ROD PER 2 LIGHTS) WIRE TO NEXT LIGHT FIXTURE GROUND ROD

GROUNDING DETAIL FOR ADJACENT ELEVATED LIGHTS

(NOT TO SCALE)

GROUNDING NOTES FOR AIRFIELD LIGHTING FIXTURES AND TAXI GUIDANCE SIGNS

- 1. A GROUND ROD WILL BE INSTALLED AT EACH LIGHT FIXTURE, EACH TAXI SIGN, AND AT EACH SPLICE CAN. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. PER NATIONAL ELECTRICAL CODE ARTICLE 250.53 "GROUNDING ELECTRODE SYSTEM INSTALLATION" RESISTANCE FROM THE GROUND ROD/ELECTRODE MUST BE 25 OHMS OR LESS VIA MEASUREMENT WITH A GROUND TESTER. THIS IS A SAFETY ISSUE FOR PROTECTION OF PERSONNEL.
- 2. GROUND RODS FOR AIRFIELD LIGHTING FIXTURES AND TAXI GUIDANCE SIGNS SHALL TO BE 3/4 IN. BY 20-FT LONG MINIMUM. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/4-IN. DIAMETER BY 20-FT LONG (MINIMUM), UL-LISTED, COPPER-CLAD GROUND ROD. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL-LISTED GROUNDING CONNECTOR. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC-WELD TYPE CONNECTORS, CADWELD BY PENTAIR ERICO PRODUCTS, INC., THERMOWELD BY CONTINENTAL INDUSTRIES, INC., ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC-WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS, AS REQUIRED FOR EACH RESPECTIVE APPLICATION. A #6 AWG BARE SOLID COPPER COUNTERPOISE WIRE SHALL BE INSTALLED TO BOND TOGETHER EACH GROUND ROD AT THE RESPECTIVE AIRFIELD LIGHT FIXTURES AND TAXI GUIDANCE SIGNS TO FORM A GROUND RING FOR THE RESPECTIVE AIRFIELD LIGHTING SYSTEM. THE #6 AWG BARE SOLID COPPER COUNTERPOISE SHALL BE DIRECT BURIAL IN TRENCH APPROXIMATELY 10 INCHES BELOW GRADE. THE COUNTERPOISE CONDUCTOR SHALL BE INSTALLED ABOVE THE #8 FAA L-824. 5.000-VOLT CABLE IN UNIT DUCT. THE #6 AWG COUNTERPOISE SHALL BE CONNECTED TO EACH RESPECTIVE GROUND ROD WITH AN EXOTHERMIC WELD CONNECTION. THE COMPLETED GROUND WIRE INSTALLATION WILL PROVIDE A EQUAL POTENTIAL COUNTERPOISE SYSTEM FOR THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT. THE COUNTERPOISE WIRE WILL NOT BE INSTALLED WITH THE HOMERUN CABLES FOR THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT. THIS IS TO HELP ACCOMPLISH A GROUND RESISTANCE OF 25 OHMS OR LESS FOR THE GROUND ROD AT EACH LIGHT FIXTURE FOR SAFETY OF PERSONNEL AND ADDITIONALLY PROVIDE LIGHTNING PROTECTION FOR THE AIRFIELD LIGHTING SYSTEM. THE #6 AWG BARE SOLID COPPER COUNTERPOISE WILL BE PAID FOR UNDER ITEM AR108706 "1/C #6 COUNTERPOISE" PER FOOT.

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



TE LIGENOE

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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| Ì | PROJECT NO: 23A1032.00 | | | | |
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ADJACENT EDGE LIGHT GROUNDING

DESIGN BY: KNI 07/22/2025

DRAWN BY: AJC 07/29/2025

SHEET TITLE

REVIEWED BY: KNL 08/04/2025

LIGHT GROUNDING DETAILS

| | | TAXI GU | IDANCE SIGN SCHEDU | JLE | | | |
|--------|---|----------|--------------------|------------|--|--|--|
| SIGN | LOCATION | PROPOSED | | GROUND | REMARKS | | |
| NUMBER | LOCATION | SIDE A | SIDE B | RESISTANCE | KEWIAKKO | | |
| TGS 1 | TAXIWAY INTERSECTION WITH RUNWAY 36-18 AT HOLD LINE | 36 -18 | ==== | | NEW SIGN TYPE: L-858RY(L), SIZE 1, STYLE 2, CLASS 2 MANDATORY HOLDING POSITION SIGN FOR TAXIWAY/RUNWAY INTERSECTION. CONNECT TO RUNWAY 18-36 AND TAXIWAY LIGHTING CIRCUIT. | | |
| TGS 2 | TAXIWAY TURNAROUND INTERSECTION WITH RUNWAY 36 AT HOLD LINE | 36 | | | NEW SIGN TYPE: L-858R(L), SIZE 1, STYLE 2, CLASS 2 MANDATORY HOLDING POSITION SIGN FOR RUNWAY/RUNWAY INTERSECTION. CONNECT TO RUNWAY 18-36 AND TAXIWAY LIGHTING CIRCUIT. | | |
| TGS 3 | TAXIWAY TURNAROUND INTERSECTION WITH RUNWAY 18-36 AT HOLD LINE | 18- 36 | ==== | | NEW SIGN TYPE: L-858RY(L), SIZE 1, STYLE 2, CLASS 2 MANDATORY HOLDING POSITION SIGN FOR TAXIWAY/RUNWAY INTERSECTION. CONNECT TO RUNWAY 18-36 AND TAXIWAY LIGHTING CIRCUIT. | | |
| TGS 4 | TAXIWAY INTERSECTION WITH RUNWAY 18 AT HOLD LINE | 18 | | | NEW SIGN TYPE: L-858R(L), SIZE 1, STYLE 2, CLASS 2 MANDATORY HOLDING POSITION SIGN FOR RUNWAY/RUNWAY INTERSECTION. CONNECT TO RUNWAY 18-36 AND TAXIWAY LIGHTING CIRCUIT. | | |

TAXI GUIDANCE SIGN LEGEND



TYPE L-858L(L) LOCATION SIGN -YELLOW LEGEND AND BORDER ON A BLACK BACKGROUND



TYPE L-858R(L) MANDATORY INSTRUCTION SIGN - BLACK OUTLINE ON OUTSIDE EDGE OF WHITE LEGEND ON A RED BACKGROUND



TYPE L-858Y(L) DIRECTION, DESTINATION, AND BOUNDARY SIGN -BLACK LEGEND ON A YELLOW BACKGROUND



BLANK - BLACK BACKGROUND

NOTES:

- 1. THE PROPOSED LIGHTED TAXI GUIDANCE SIGNS SHALL CONFORM TO ADVISORY CIRCULAR 150/5345-44J (OR LATEST ISSUE IN FORCE) AND BE FAA-APPROVED FOR TYPE L-858Y(L) DIRECTION, DESTINATION, AND BOUNDARY SIGNS (BLACK LEGEND ON YELLOW BACKGROUND): TYPE L-858R(L) MANDATORY INSTRUCTION SIGN (BLACK OUTLINE ON OUTSIDE EDGÉ OF WHITE LEGEND ON RED BACKGROUND); AND/OR TYPE L-858L(L) LOCATION SIGN (YELLOW LEGEND AND BORDER ON BLACK BACKGROUND). THE SIGNS SHALL BE SIZE 1, 18-IN. SIGN FACE WITH A 12-IN. LEGEND; STYLE 2, POWERED FROM A 4.8 TO 6.6 AMP SERIES LIGHTING CIRCUIT; CLASS 2, FOR OPERATION FROM -40 DEGREES F TO 131 DEGREES F; MODE 2, TO WITHSTAND WIND LOADS OF 200 M.P.H., BASE-MOUNTED, DOUBLE-SIDED, AS SPECIFIED ON THE PLANS. THE PROPOSED TAXI GUIDANCE SIGNS SHALL USE LED (LIGHT EMITTING DIODE) TYPE ILLUMINATION. ALSO SEE FAA ENGINEERING BRIEF 67 (MOST CURRENT ISSUE) "LIGHT SOURCES OTHER THAN INCANDESCENT AND XENON FOR AIRPORT AND OBSTRUCTION LIGHTING FIXTURES".
- ALL SIGNS SHALL BE FURNISHED WITH TETHERS. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN AND BASE BY BEING SANDWICHED BETWEEN TWO STAINLESS STEEL FENDER WASHERS, WITH A 1/2" MINIMUM STAINLESS STEEL BOLT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN BASE. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER. PROVIDE 3" ± 1/2" SLACK IN TETHER AND ALL TETHERS SHALL BE THE SAME LENGTH.
- PROVIDE A LEGEND PLATE/LABEL FOR EACH SIGN THAT NOTES THE RESPECTIVE POWER SOURCE. EXAMPLE: "THIS SIGN IS CONNECTED TO RWY 18-36 LIGHTING CIRCUIT. CONFIRM AND DISCONNECT POWER SOURCE PRIOR TO WORKING ON THIS SIGN." IDENTIFY THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT FOR EACH SIGN, LOCATE ON SIGN ABOVE OR BELOW SIGN NUMBER LABEL.
- ALL SIGNS SHALL BE ORIENTATED SUCH THAT THE LONGITUDINAL CENTERLINE OF THE SIGN IS PERPENDICULAR TO THE RESPECTIVE TAXIWAY/RUNWAY CENTERLINE, UNLESS NOTED OTHERWISE.
- 5. ALL MANDATORY SIGNS (SIZE 1) SHALL BE LOCATED 15' OFF THE EDGE OF FULL STRENGTH PAVEMENT (UNLESS DETAILED OTHERWISE) AND ALIGNED WITH THE FRONT EDGE OF THE FIRST YELLOW STRIPE (FURTHEST FROM THE RUNWAY) OF THE HOLD POSITION MARKING UNLESS SHOWN OTHERWISE FOR A RESPECTIVE SIGN. CONFIRM LOCATIONS WITH THE PROJECT ENGINEER OF
- HOLDING POSITION SIGNS FOR RUNWAYS SHALL BE CONNECTED TO THE RESPECTIVE RUNWAY SERIES CIRCUIT TO BE ILLUMINATED. WHEN THE ASSOCIATED RUNWAY LIGHTS ARE ILLUMINATED TO COMPLY WITH FAA AC150/5340-18G, CHAPTER 1, PART 1.15 "SIGN
- CONCRETE STEEL REINFORCEMENT SHALL BE TYPE ASTM A615 OR A706 GRADE 60 WELDED STEEL WIRE FABRIC SHALL CONFORM TO AASHTO M55 OR AASHTO M221. ALL REINFORCEMENT SHALL HAVE A 3" MINIMUM CONCRETE COVER REINFORCEMENT MAY BE ADJUSTED TO MISS INTERFERENCES. CONCRETE SHALL CONFORM TO ITEM 610 CONCRETE FOR MISCELLANEOUS STRUCTURES.
- SEE SPECIFICATION ITEM L-125 FOR ADDITIONAL REQUIREMENTS ON TAXI GUIDANCE SIGNS.
- CONTRACTOR SHALL TEST AND RECORD THE EARTH GROUND RESISTANCE FOR THE GROUND ROD AT EACH AIRFIELD LIGHT FIXTURE AND EACH RUNWAY/TAXI GUIDANCE SIGN.
- 10. FAA AC 150/5340-26C, PART 3.6.6 USE OF ORIGINAL EQUIPMENT MANUFACTURER (OEM) PART, NOTES THE FOLLOWING: "THE USE OF NON-OEM PARTS OR LAMPS IN FAA APPROVED EQUIPMENT IS STRONGLY DISCOURAGED. THE FAA HAS STRICT SPECIFICATIONS FOR APPROVAL OF ALL AIRPORT LIGHTING EQUIPMENT AND USE OF NON-OFM PARTS OR LAMPS IN SUCH FOUIPMENT OR SYSTEMS CAN RENDER THE EQUIPMENT TO BE FUNCTIONALLY NON-FAA APPROVED. THIS COULD POSSIBLY LEAD TO SERIOUS LIABILITY CONSEQUENCES IN CASE OF AN AIRCRAFT INCIDENT AT AN AIRPORT FOLLOWING THESE PRACTICES."

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
|---|---------------------------|------|-----|-------|-----|
| | INO. | DATE | DES | DWN | REV |
| | ISSUE: SEPTEMBER 12, 2025 | | | | |
| i | PROJECT NO: 23A1032.00 | | | | |
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CAD FILE: E-642-SCHED.DWG

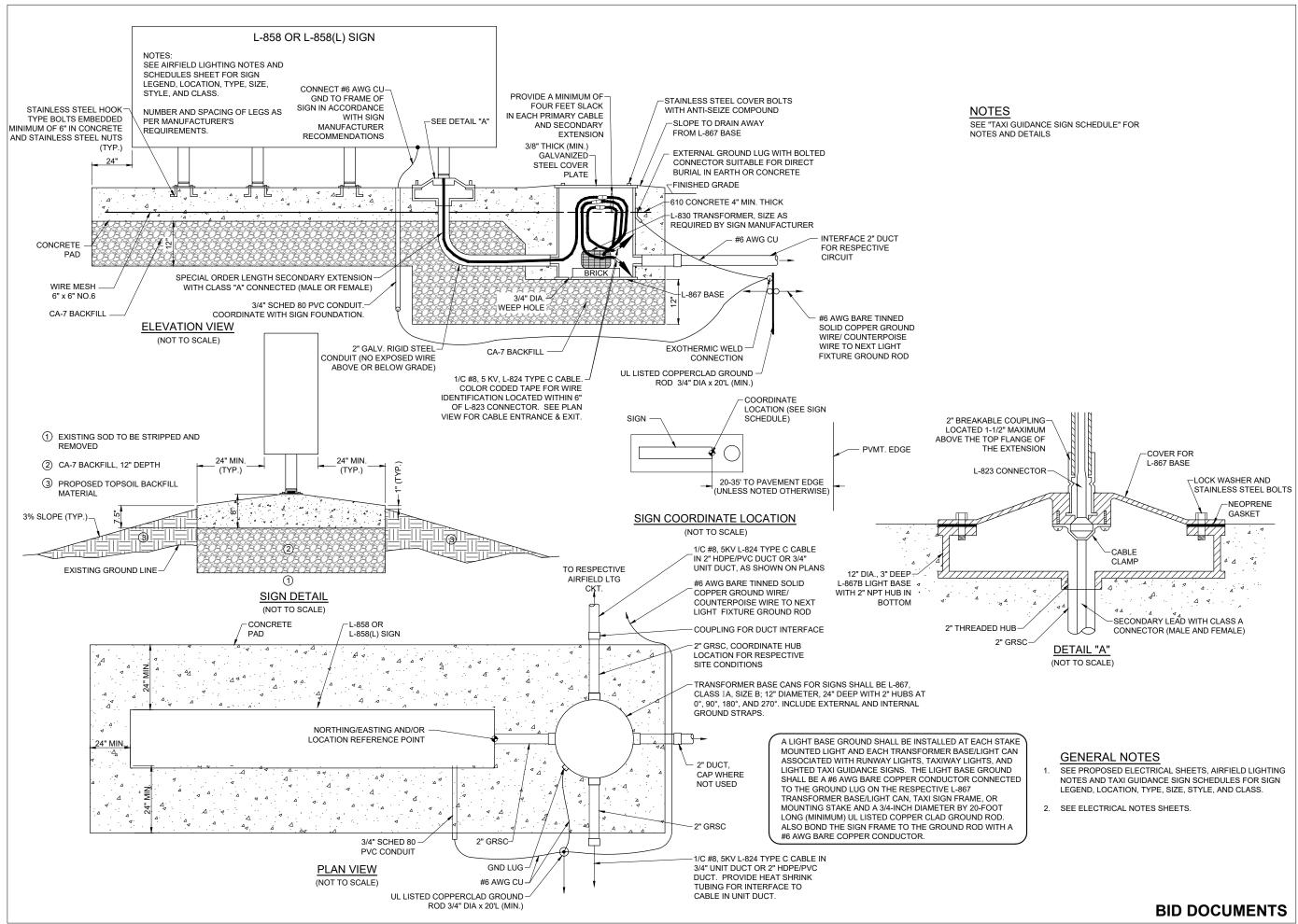
DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/30/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

TAXI GUIDANCE SIGN

SCHEDULE AND **NOTES**



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| ISSUE: SEPTEMBER 12, 2025 | | | | | | |
| PROJECT NO: 23A1032.00 | | | | | | |
| CAD FIL | CAD FILE: E-503-DETL.DWG | | | | | |

DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/30/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

TAXI GUIDANCE SIGN **DETAILS**

BASED ON FIELD OBSERVATIONS, THE BEARDSTOWN AIRPORT HAS EXPERIENCED LIGHTNING DAMAGE

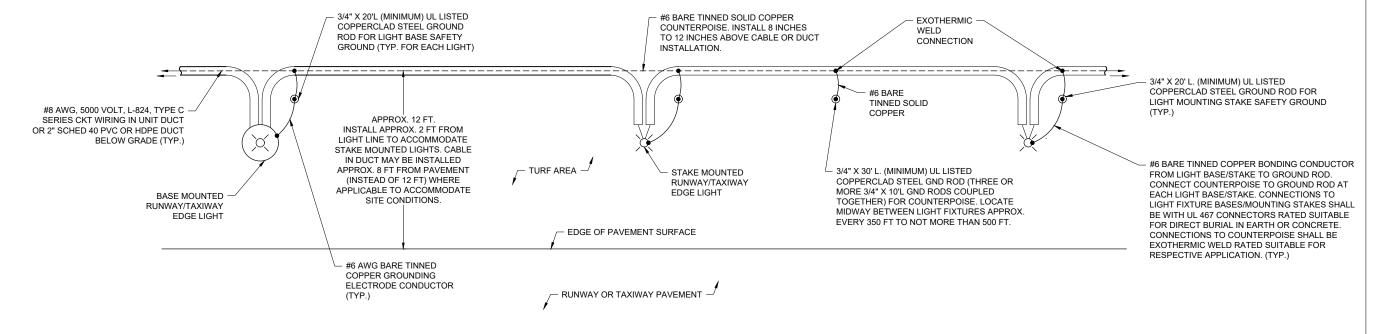
OR STAKE GROUND ROD SHALL BE BONDED TO THE COUNTERPOISE TO HELP ACCOMPLISH EQUAL

THE COUNTERPOISE SHALL NOT BE EXTENDED TO THE VAULT. THE COUNTERPOISE FOR EACH HOMERUN CIRCUIT SHALL BE TERMINATED AT A GROUND ROD (3/4-INCH DIAMETER BY 30-FEET LONG MINIMUM) IN A MANHOLE OR HANDHOLE OR NEAR HOMERUN LIGHT BASE, RECOMMENDED TO BE NOT

POTENTIAL BETWEEN THE LIGHT BASES/STAKES AND THE COUNTERPOISE

LESS THAN 200 FEET OR GREATER THAN 400 FEET FROM THE VAULT.

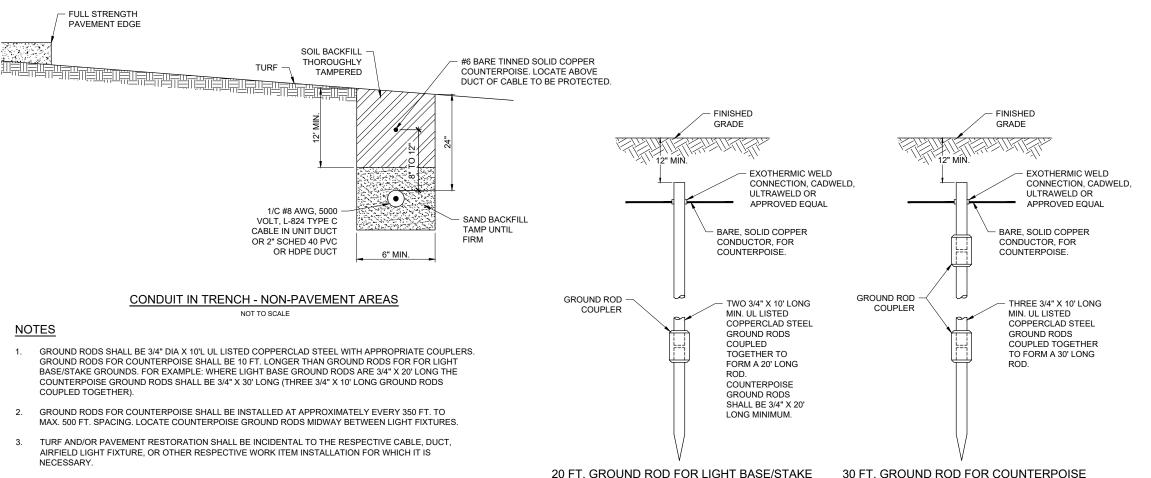
AND POOR SOIL RESISTIVITY DUE TO SANDY SOIL CONDITIONS. THEREFORE EACH LIGHT FIXTURE BASE



NOT TO SCALE

COUNTERPOISE PLAN DETAIL BETWEEN POWER CABLE/DUCT AND EDGE OF PAVEMENT

NOT TO SCALE



NOTES

NOT TO SCALE

- TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLANS.
- THE RESISTANCE TO GROUND OF THE RESPECTIVE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS
- COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED
 ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED
- GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LESS THAN ONE ROD LENGTH APART
- TOP OF GROUND RODS SHALL BE 12" MINIMUM BELOW GRADE UNLESS DETAILED OTHERWISE HEREIN

COUNTERPOISE

BID DOCUMENTS

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM **INTENSITY TAXIWAY** LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION | | |
|--------------------------|--------------------------|-----|-------|-----|--|--|
| NO. | DATE | DES | DWN | REV | | |
| SSUE: | SSUE: SEPTEMBER 12, 2025 | | | | | |
| PROJECT NO: 23A1032.00 | | | | | | |
| CAD FILE: E-504-DETL.DWG | | | | | | |

DESIGN BY: KNI 07/22/2025

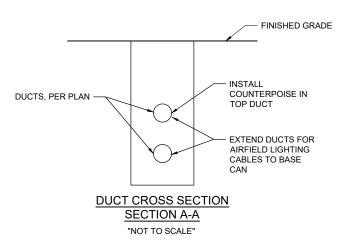
DRAWN BY: AJC 07/30/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PLAN DETAIL 1

NOTES

- GROUND RODS SHALL BE 3/4" X 10' LONG UL LISTED COPPERCLAD STEEL WITH APPROPRIATE COUPLERS. GROUND RODS FOR COUNTERPOISE SHALL BE 10 FT. LONGER THAN GROUND RODS FOR LIGHT BASE/STAKE SAFETY GROUNDS. FOR EXAMPLE: WHERE LIGHT BASE/STAKE GROUND RODS ARE 3/4" X 20' LONG THE COUNTERPOISE GROUND RODS SHALL BE 3/4" X 30' LONG (THREE 3/4" X 10' LONG GROUND RODS COUPLED TOGETHER).
- 2. SEE "DUCT BANK DETAILS AND NOTES" SHEET FOR INFORMATION ON CONCRETE ENCASED DUCT REQUIREMENTS.
- 3. COUNTERPOISE SHALL BE BONDED TO GROUND RODS AT EACH SIDE OF A DUCT CROSSING.
- 4. CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS; CADWELD, ULTRAWELD, OR APPROVED EQUAL USING PROPERLY SIZED MOLDS AND MATERIAL FOR THE RESPECTIVE APPLICATION.
- 5. CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE ENGINEER OF RECORD FOR FURTHER DIRECTIONS. COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER AND THE PROJECT ENGINEER OF RECORD.
- TURF/AND/OR PAVEMENT RESTORATION SHALL BE INCIDENTAL TO THE RESPECTIVE CABLE, DUCT, HANDHOLE, MANHOLE, JUNCTION STRUCTURE, AIRFIELD LIGHT FIXTURES, OR OTHER RESPECTIVE WORK ITEM INSTALLATION FOR WHICH IT IS NECESSARY.



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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

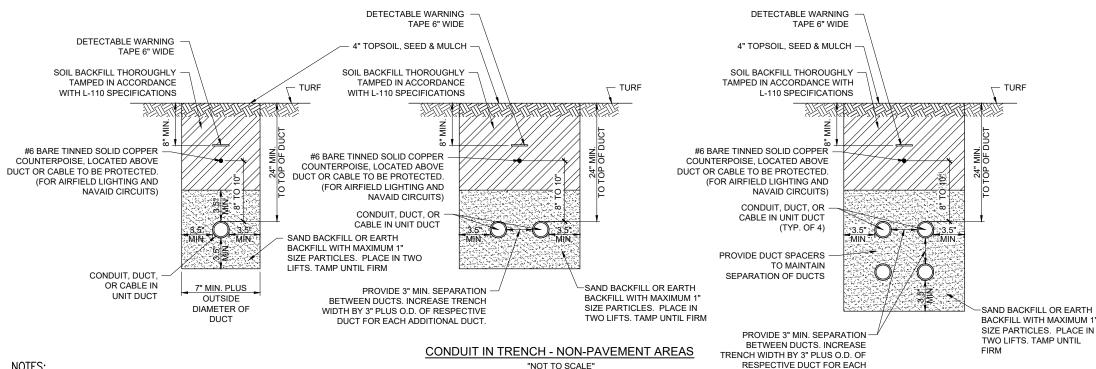
SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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| | DRAWN | BY: AJC | 07/3 | 0/2025 | 5 |

REVIEWED BY: KNL 08/04/2025

COUNTERPOISE PLAN DETAIL 2

SHEET TITLE



COUNTERPOISE NOTES:

- WHERE AN EXISTING AIRFIELD LIGHTING SYSTEM IS BEING EXTENDED OR MODIFIED. THE NEW COUNTERPOISE CONDUCTORS SHALL BE INTERCONNECTED TO EXISTING COUNTERPOISE CONDUCTORS AT EACH INTERSECTION OF THE NEW AND EXISTING AIRFIELD LIGHTING COUNTERPOISE SYSTEMS. LOCATE AND INTERFACE TO EXISTING COUNTERPOISE ON THE AIRFIELD FOR PROTECTION OF AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS AND NAVAID 120 VOLT OR 240 VOLT FEEDER CIRCUIT CONDUCTORS.
- COUNTERPOISE WIRES FOR HOMERUNS SHALL BE INSTALLED ABOVE MULTIPLE CONDUITS/DUCT BANKS FOR AIRFIELD LIGHTING CABLES, WITH THE INTENT BEING TO PROVIDE A COMPLETE AREA OF PROTECTION OVER THE AIRFIELD LIGHTING CABLES. WHEN MULTIPLE CONDUITS AND/OR DUCT BANKS FOR AIRFIELD CABLE ARE INSTALLED IN THE SAME TRENCH, THE NUMBER AND LOCATION OF COUNTERPOISE WIRES ABOVE THE CONDUITS SHALL BE ADEQUATE TO PROVIDE A COMPLETE AREA OF PROTECTION MEASURED 45 DEGREES EACH SIDE OF VERTICAL
- FURNISH AND INSTALL A 3/4-INCH BY 30 FEET LONG GROUND ROD AT EACH HANDHOLE CONTAINING AIRFIELD LIGHTING CIRCUITS AND/OR NAVAID CIRCUITS TO ACCOMMODATE INTERFACE TO COUNTERPOISE AND/OR TERMINATION OF COUNTERPOISE.

NOTES:

- 1. DIMENSIONS FOR COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
- 2. TRENCHES WITH MORE THAN TWO DUCTS OR CABLE IN UNIT DUCTS SHALL BE INCREASED 3" IN WIDTH PLUS DIAMETER OF RESPECTIVE DUCT FOR EACH ADDITIONAL CONDUIT, DUCT, OR CABLE IN UNIT DUCT: IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
- 3. DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS. MINIMUM COVER REQUIREMENTS FOR CABLES AND DUCTS AT AIRPORT RUNWAYS AND ADJACENT AREAS WHERE TRESPASSING IS PROHIBITED IS 18 INCHES PER NEC 300.5 AND 300.50. MINIMUM COVER REQUIREMENTS FOR DUCTS CONTAINING NAVAID FEEDER CIRCUITS SHALL BE 24". MINIMUM COVER REQUIREMENTS FOR DUCTS LOCATED BELOW PAVEMENT OR ROADWAYS IS 30". MINIMUM COVER REQUIREMENTS FOR DUCTS LOCATED IN AREAS SUBJECT TO FARMING IS 42". MINIMUM COVER FOR DUCTS CONTAINING SECONDARY ELECTRIC SERVICE CONDUCTORS SHALL BE 36" OR AS REQUIRED BY THE SERVING ELECTRIC UTILITY COMPANY, ADJUST/INCREASE BURIAL DEPTHS TO ACCOMMODATE SITE CONDITIONS, DRAINAGE AND/OR OBSTRUCTIONS. COVER IS DEFINED AS THE SHORTEST DISTANCE IN INCHES MEASURED BETWEEN A POINT ON THE TOP SURFACE OF ANY DIRECT-BURIED CONDUCTOR, CABLE, CONDUIT, OR OTHER RACEWAY AND THE TOP SURFACE OF FINISHED GRADE, CONCRETE OR SIMILAR COVER.
- 4. HIGH-VOLTAGE CIRCUIT WIRING (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND/OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW-VOLTAGE CIRCUIT WIRING (RATED 600 VOLTS AND BELOW) SHALL MAINTAIN SEPARATION FROM EACH OTHER. HIGH-VOLTAGE WIRING AND LOW-VOLTAGE WIRING SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, RACEWAY, HANDHOLE, OR JUNCTION BOX. CORRECTIVE WORK WILL BE REQUIRED TO SEPARATE HIGH VOLTAGE SERIES CIRCUIT CONDUCTORS FROM LOW VOLTAGE CONDUCTORS WHERE THEY ARE INSTALLED IN THE SAME RACEWAY.
- 5. SERVICE CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME RACEWAY CONDUIT DUCT, OR HANDHOLE WITH FEEDER CIRCUITS, BRANCH CIRCUITS OR CONTROL CIRCUITS
- 6. COMMUNICATION CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, OR HANDHOLE WITH POWER CIRCUITS.
- 7. HOME RUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT
- COORDINATE DUCT INTERFACE TO MANHOLES AND HANDHOLES. FIELD CUT OPENINGS FOR CONDUITS AND DUCTS TO INTERFACE TO MANHOLES AND/OR HANDHOLES. CUT WALL OF RESPECTIVE HANDHOLE OR MANHOLE WITH A TOOL DESIGNED FOR MATERIAL TO BE CUT. SIZE HOLES FOR RESPECTIVE DUCTS, CONDUITS, AND TERMINATION FITTINGS AND SEAL AROUND PENETRATIONS. ALL CORING, INTERFACE, CUTTING, AND SEALING WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE DUCT INSTALLATION AND/OR RESPECTIVE HANDHOLE/MANHOLE INSTALLATION, PROVIDE BUSHINGS OR BELLS AT CONDUIT TERMINATIONS IN ELECTRICAL HANDHOLES OR MANHOLES.
- ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.
- 10. ALL ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, INTERTEK TESTING SERVICES VERIFICATION/ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.

- 11. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- 12. THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO ACCURACY. COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT MISSOURI ONE CALL 811 FOR UTILITY INFORMATION PHONE: 811 (IN MISSOURI) OR 1-800-DIG-RITE (344-7483), BEFORE YOU DIG. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.
- 13. ADJUSTMENTS TO DUCT BANK ROUTES MIGHT BE REQUIRED TO ACCOMMODATE EXISTING SITE CONDITIONS AND UNDERGROUND LINES AND UTILITIES. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL COORDINATE DUCT ROUTE ADJUSTMENTS WITH THE RESIDENT PROJECT REPRESENTATIVE AND THE AIRPORT MANAGER
- 14. CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING CABLES, LINES, OR UTILITIES WITHIN 10 FT OF PROPOSED EXCAVATING/TRENCHING AREA. ANY CABLES, LINES, AND UTILITIES FOUND INTERFERING WITH PROPOSED EXCAVATION OR CABLE/TRENCHING SHALL BE HAND DUG AND EXPOSED. ANY DAMAGED CABLES OR OTHER UTILITIES SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE RESPECTIVE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE. THE RESIDENT ENGINEER/RESIDENT TECHNICIAN AND OWNER SHALL BE NOTIFIED IMMEDIATELY IF ANY CABLES OR OTHER UTILITIES ARE DAMAGED.

15. PAYMENT FOR LOCATING AND MARKING UNDERGROUND UTILITIES AND CABLES WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE **DUCT INSTALLATION**

ADDITIONAL DUCT

- 16. THE CONTRACTOR WILL DETERMINE IF THERE IS A CONFLICT BETWEEN THE INSTALLATION OF THE PROPOSED ELECTRICAL DUCTS AND ANY EXISTING UTILITIES. THE CONTRACTOR WILL MAKE ALL NECESSARY ADJUSTMENTS IN DEPTH OF INSTALLATION TO AVOID ANY AND ALL PROPOSED UNDERGROUND IMPROVEMENTS
- 17. CONDUITS FOR DIRECT BURIAL OR CONCRETE ENCASED DUCT BANK SHALL BE SCHEDULE 40 (MINIMUM) PVC CONDUIT, UL-LISTED, RATED FOR 90°C CABLE-CONFORMING TO NEMA STANDARD TC-2 AND UL 651, LISTED SUITABLE FOR UNDERGROUND USE EITHER DIRECT-BURIED OR ENCASED IN CONCRETE, OR SCHEDULE 40 (MINIMUM) HDPE CONDUIT UL LISTED. CONFORMING TO NEMA STANDARD TC-7 AND UL 651B AND LISTED SUITABLE FOR UNDERGROUND USE: EITHER DIRECT BURY OR ENCASED IN CONCRETE. HEAVIER WALL CONDUITS SHALL BE FURNISHED FOR RESPECTIVE APPLICATIONS WHERE DETAILED
- 18. CONDUITS FOR DIRECTIONAL BORING SHALL BE SCHEDULE 40 PVC CONDUIT OR SCHEDULE 80 PVC CONDUIT, UL-LISTED, RATED FOR 90°C CABLE-CONFORMING TO NEMA STANDARD TC-2 AND UL 651 AND SUITABLE FOR DIRECTIONAL BORING INSTALLATION, SCHEDULE 80 HDPE CONDUIT, UL-LISTED, CONFORMING TO NEMA STANDARD TC-7 AND UL 651B AND SUITABLE FOR DIRECTIONAL BORING INSTALLATION, OR MINIMUM STANDARD DIMENSIONAL RATIO TYPE SDR 11 HDPE CONDUIT MANUFACTURED IN ACCORDANCE WITH ASTM D-3350 (SPECIFICATION OF POLYETHYLENE PLASTICS PIPE AND FITTINGS MATERIALS) AND ASTM F2160 (STANDARD SPECIFICATION FOR SOLID WALL, HIGH-DENSITY POLYETHYLENE CONDUIT BASED ON CONTROLLED OUTSIDE DIAMETER), AND SUITABLE FOR DIRECTIONAL BORING INSTALLATION. PER NEC 300.5 (K), RACEWAYS INSTALLED USING DIRECTIONAL BORING EQUIPMENT SHALL BE APPROVED FOR THE PURPOSE.
- 19. UNDERGROUND DUCTS INSTALLED BY DIRECTIONAL-BORING METHOD SHALL BE INSTALLED IN A MANNER THAT WILL NOT DAMAGE ANY EXISTING UNDERGROUND UTILITIES, AND SHALL NOT DISTURB OR DAMAGE THE RESPECTIVE PAVEMENT OR ROADWAY SURFACE. DUCTS SHALL BE DIRECTIONAL-BORED AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. THE DUCTS WILL BE BORED AT A MINIMUM DEPTH OF 42 IN. BELOW THE RESPECTIVE PAVEMENT IT IS BEING BORED UNDER.
- 20. A PULL WIRE SHALL BE INSTALLED IN EACH CONDUIT OR DUCT TO BE LEFT VACANT
- 21. CONTRACTOR SHALL COORDINATE DUCT MARKING WITH AIRPORT
- 22. ALL POWER AND CONTROL CABLES IN HANDHOLES, MANHOLES, AND JUNCTION BOXES SHALL BE TAGGED TO IDENTIFY THE RESPECTIVE CABLE. A MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MANHOLE: ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT. CABLE TAGS SHALL BE STAMPED BRASS TAGS OR OTHER WEATHERPROOF/WATERPROOF CORROSION RESISTANT MATERIAL

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/30/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

CONDUIT TRENCH DETAILS & NOTES

FOR SPLICES AT JUNCTION OF HOMERUN

WITH LOOP CIRCUIT AND FOR SPLICES IN

HOMERUNS TO EXISTING CABLES

HEAT SHRINKABLE TUBING WITH INTERNAL

L-823 PLUG END-

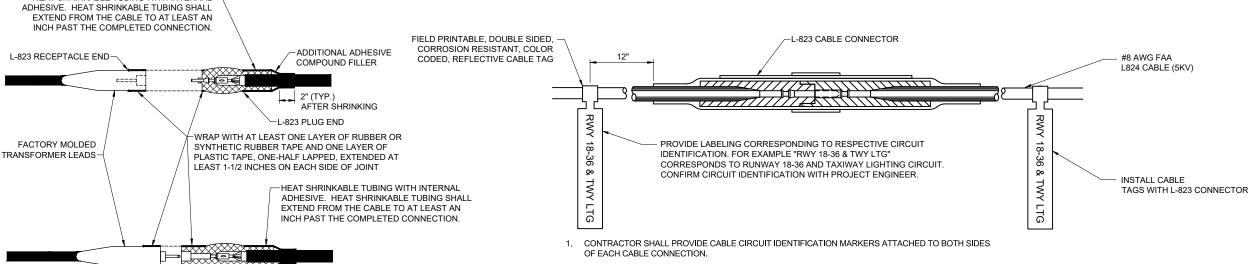
PLASTIC BODY MOLD-POURING SPOUT -RESIN SEAL ENDS OF MOLD WITH TAPE PROVIDED IN SPLICE KIT

LOW VOLTAGE UNDERGROUND TAP SPLICE

FOR TAP SPLICES IN LOW VOLTAGE (600V) CABLE SPLICES SHALL BE RATED AND LISTED SUITABLE FOR DIRECT BURIAL LOCATIONS. FOR SPLICES UP TO #2 AWG CONDUCTOR, SPLICES SHALL BE WYE RESIN TYPE POWER CABLE TAP SPLICE KIT SUITABLE FOR THE RESPECTIVE CABLES AND RESPECTIVE APPLICATION

NOTES:

- SPLICE DETAILS ARE PROVIDED FOR NEW WORK AND TO ASSIST IN REPAIRS OF ACCIDENTAL OR UNEXPECTED INTERRUPTIONS AND/OR CUTS TO AIRFIELD LIGHTING CARLES
- 2. KEEP ON HAND A MINIMUM OF 10 SETS OF SPLICE KITS FOR L-823 CONNECTORS AND A MINIMUM OF 10 SETS OF TYPE A LOW VOLTAGE SPLICE KITS TO ACCOMMODATE REPAIRS.
- 3. EVERY AIRFIELD LIGHTING CABLE SPLICER SHALL BE QUALIFIED IN MAKING CABLE SPLICES AND TERMINATIONS ON CABLES RATED AT AND/OR ABOVE 5 000 VOLTS AC TO COMPLY WITH THE REQUIREMENTS OF FAA AC. 150/5370-10H ITEM L-108.
- INSIDE DIAMETER OF RESPECTIVE CABLE CONNECTOR SHALL PROPERLY MATCH OUTSIDE DIAMETER OF CABLE.
- WHEN PREPARING CABLE FOR SPLICES. THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE
- WRAP ALL PRIMARY AND SECONDARY POWER CONNECTIONS WITH SUFFICIENT LAYERS OF HIGH VOLTAGE ELECTRICAL INSULATING TAPE (RUBBER SPLICING TAPE SUITABLE FOR PRIMARY ELECTRICAL INSULATION FOR SPLICING CABLE FROM 600 VOLTS TO 69,000 VOLTS) AND COVER WITH VINYL ELECTRICAL TAPE (ALL-WEATHER VINYL INSULATING TAPE SUITABLE FOR PROTECTIVE JACKETING FOR HIGH-VOLTAGE CABLE SPLICES AND REPAIRS) FOR FULL VALUE OF CABLE INSULATION VOLTAGE. PER ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS ITEM 108, ITEM 125, AND FAA AC 150/5370-10H ITEM L-108 AND L-125, HIGH VOLTAGE ELECTRICAL INSULATING TAPE SHALL BE 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE (2 INCHES WIDE) OR APPROVED EQUIVALENT, AND VINYL ELECTRICAL TAPE SHALL BE 3M SCOTCH 88 (1.5 INCHES WIDE) OR APPROVED EQUIVALENT. TAPES MUST BE RATED SUITABLE FOR THE APPLICATION
- PROVIDE CABLE TAGS TO IDENTIFY THE RESPECTIVE CIRCUITS ALL POINTS OF ACCESS INCLUDING L-867 BASES, L-868 BASES, HANDHOLES, MANHOLES, JUNCTION BOXES, AND WIREWAYS.
- CONNECTION OF CONDUCTORS MUST BE MADE BY USING CRIMP CONNECTORS AND A CRIMPING TOOL APPROVED BY THE CONNECTOR/LUG MANUFACTURER. THE TOOL MUST PRODUCE A COMPLETE CRIMP BEFORE IT CAN BE REMOVED. FOR THE L-823 CONNECTORS, THE CRIMPING TOOL USED MUST BE LISTED BY THE L-823 KIT MANUFACTURER. MAKE THE NUMBER AND TYPE OF CRIMPS PER THE KIT MANUFACTURER'S INSTRUCTIONS.



- OF EACH CABLE CONNECTION.
- 2. CABLE IDENTIFICATION TAGS SHALL BE FIELD PRINTABLE, DOUBLE SIDE, CORROSION RESISTANT, COLOR CODED, REFLECTIVE CABLE TAGS SUITABLE FOR THE RESPECTIVE ENVIRONMENT.
- THE CABLE SHALL THOROUGHLY BE CLEANED PRIOR TO THE INSTALLATION OF THE L-823
- 4. ATTACH EACH CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING EDGE OF CABLE TAG INTO CONDUCTOR. TRIM OFF EXCESS CABLE TIE.
- 5. CABLE TAGS SHALL BE PROVIDED AT ALL POINTS OF ACCESS INCLUDING L-867 JUNCTION/SPLICE CANS, L-868 JUNCTION/SPLICE CANS, HANDHOLES, MANHOLES, JUNCTION BOXES, AND WIREWAYS.

CABLE SPLICES "NOT TO SCALE"

MATCH THE OUTSIDE DIAMETER OF CABLE.

TYPE C

FOR SPLICES AT

RUNWAY AND TAXIWAY LIGHTS AND TAXI SIGNS

NOTES: INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY

2" (TYP.)

—I -823 RECEPTACLE END.

AFTER SHRINKING

ADDITIONAL ADHESIVE

COMPOUND FILLER

CABLE TAG DETAIL "NOT TO SCALE"

BID DOCUMENTS

HANSON

Offices Nationwide www.hanson-inc.com

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS. MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

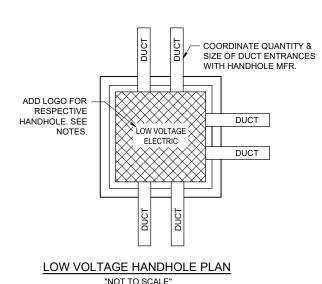
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| PROJEC | CT NO: 2 | 3A103 | 2.00 | |
| CAD FIL | E: E-507-D | ETL.DWG | ; | |
| DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
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AIRFIELD LIGHTING CABLE SPLICE **DETAILS**

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

"NOT TO SCALE'



HEAVY DUTY FRAME & LID SUITABLE FOR 40,000 LBS LOADING, NEENAH CAT. NO. R-6662-PP, EAST JORDAN IRON WORKS SMOOTH TROWEL CAT. NO. 8213, OR APPROVED EQUAL. FINISH, SLOPE TO HANDHOLF RATED SUITABLE FOR 40,000 LBS. LOADING. DUCT/CONDUIT PROVIDE CONDUIT 6" SAND CUSHION BUSHING OR BELL AT 6" SCHED 40 PVC DRAIN PIPE. TERMINATION IN FILL WITH PEA GRAVEL TO HANDHOLE (TYP.) ACCOMMODATE DRAINAGE

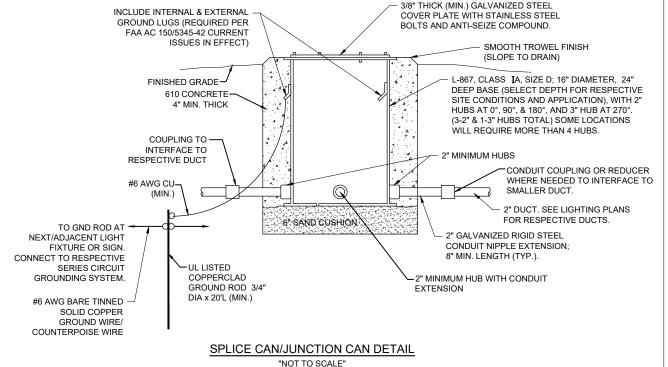
HANDHOLE NOTES:

1. LIDS FOR LOW VOLTAGE HANDHOLES (CONTAINING CIRCUITS RATED 600 VOLTS AND BELOW) SHALL BE LABELED "LOW VOLTAGE" OR "0V - 600V ELECTRIC". LIDS FOR HIGH VOLTAGE HANDHOLES CONTAINING AIRFIELD LIGHTING SERIES CIRCUIT WIRING SHALL BE LABELED "DANGER HIGH VOLTAGE KEEP OUT 5000 VOLTS" TO COMPLY WITH NEC ARTICLE 300.45 "WARNING SIGNS" AND NEC ARTICLE 314.30(D) "COVERS". COORDINATE LETTERING WITH MFR. HANDHOLES PROVIDED WITH THE WRONG LIDS SHALL HAVE THE LIDS REPLACED WITH THE CORRECT LIDS AT NO ADDITIONAL COST TO THE CONTRACT.

ELEVATION

"NOT TO SCALE"

- 2. ELECTRICAL HANDHOLE, FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 40,000 POUND LOADS.
- 3. REINFORCEMENT SHALL BE #6 BARS AT 6" CENTERS BASE & WALLS EACH WAY.
- 4. CONCRETE SHALL BE 5000 PSI AT 28 DAYS.
- HANDHOLES SHALL BE PRECAST. PRECAST MANUFACTURER MUST BE ON THE IDOT (ILLINOIS DEPARTMENT OF TRANSPORTATION) APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
- 6. FRAMES AND LIDS (CASTINGS) SHALL BE MADE IN THE USA TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCES REQUIREMENTS.
- 7. COORDINATE INSTALLATION OF HANDHOLES WITH RESPECTIVE FINISHED GRADE ELEVATION.
- ALL CORING, INTERFACE, AND LABOR ASSOCIATED WITH CONDUIT, DUCT, CABLE IN UNIT DUCT, AND/OR CABLE ENTRIES
 WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE HANDHOLE AND NO ADDITIONAL COMPENSATION WILL
 BE ALLOWED.
- 9. HANDHOLES WITH SIMILAR DIMENSIONS MEETING STRENGTH AND LOADING REQUIREMENTS WILL BE CONSIDERED.



NOTES FOR SPLICE CAN/JUNCTION CAN DETAIL:

- SPLICE CANS SHALL CONFORM TO THE REQUIREMENTS OF FAA AC 150/5345-42 (CURRENT ISSUES IN EFFECT), FOR TYPE L-867, CLASS IA, SIZE D, (16 IN. NOMINAL DIAMETER), AND 24 IN. DEEP AND/OR AS DETAILED ON THE PLANS. EACH SPLICE CAN SHALL INCLUDE INTERNAL AND EXTERNAL GROUND LUGS TO ACCOMMODATE THE RESPECTIVE APPLICATIONS. SPLICE CANS AND/OR JUNCTION CANS SHALL HAVE GALVANIZED STEEL COVERS, 3/8-INCH THICK (MINIMUM), WITH STAINLESS STEEL BOLTS.
- FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42 (CURRENT ISSUES IN EFFECT).
- 3. APPLY AN OXIDE-INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS, AND ALL PLACES WHERE METAL COMES INTO CONTACT WITH METAL.
- 4. THE CONCRETE USED IN THE CONSTRUCTION OF THE BASES FOR THE AIRFIELD LIGHTING CANS SHALL BE IN ACCORDANCE WITH ITEM 610 STRUCTURAL PORTLAND CEMENT CONCRETE.
- 5. LIDS FOR THE SPLICE CANS CONTAINING HIGH VOLTAGE AIRFIELD LIGHTING CABLES SHALL INCLUDE MINIMUM 1/2-INCH HIGH LETTERING LABELED "DANGER HIGH VOLTAGE KEEP OUT" TO COMPLY WITH NEC ARTICLE 300.45 "WARNING SIGNS" AND NEC ARTICLE 314.71(E) "SUITABLE COVERS". THIS WILL NEED TO BE COORDINATED WITH THE SPLICE CAN MANUFACTURER.
- LIDS FOR THE SPLICE CANS CONTAINING LOW VOLTAGE CABLES (RATED 600 VOLTS AND BELOW) WILL BE ACCEPTABLE TO USE BLANK COVERS.
- 7. PROVIDE ADEQUATE SLACK CABLE AT SPLICE CANS/JUNCTION CANS TO PERFORM SPLICES OUTSIDE OF THE SPLICE CAN.

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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

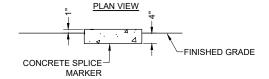
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| NO. | DATE | DES | DWN | REV | | |
| ISSUE: | ISSUE: SEPTEMBER 12, 2025 | | | | | |
| PROJEC | PROJECT NO: 23A1032.00 | | | | | |
| CAD FILE: E-508-DETL.DWG | | | | | | |
| DESIGN BY: KNL 07/22/2025 | | | | | | |

HANDHOLE AND SPLICE CAN DETAILS

DRAWN BY: AJC 07/30/2025

SHEET TITLE

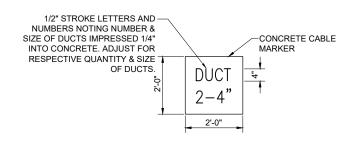
REVIEWED BY: KNL 08/04/2025

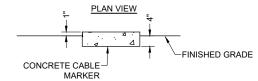


SECTION VIEW

TURF SPLICE MARKERS

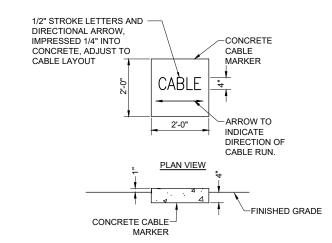
"NOT TO SCALE"





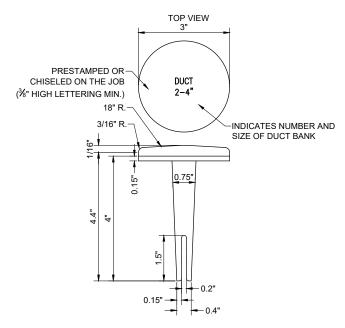
SECTION VIEW

TURF DUCT MARKERS "NOT TO SCALE"



SECTION VIEW

TURF CABLE MARKERS "NOT TO SCALE"

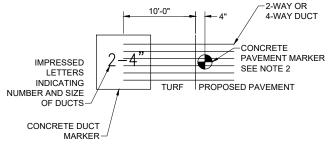


BITUMINOUS PAVEMENT DUCT MARKERS

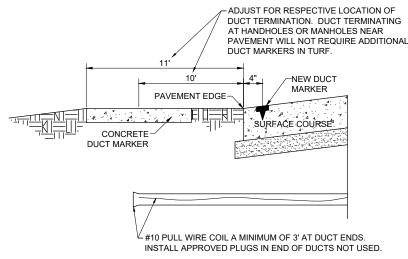
"NOT TO SCALE"

NOTE:

- TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE
- BRASS DUCT MARKERS ARE AVAILABLE FROM BERNTSEN INTERNATIONAL INC., P.O. BOX 8670, MADISON, WI. 53708-8670, PHONE: 1-877-959-8556, SURV-KAP, 3225 E. 47TH ST., TUCSON, AZ 85713, PHONE: (502)-622-6011, OR OTHER EQUIVALENT MANUFACTUREDE



DUCT MARKER DETAIL-PLAN
"NOT TO SCALE"



UNDERGROUND ELECTRICAL DUCT

(NOT TO SCALE)

CABLE & DUCT MARKER NOTES:

- . THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
- BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE INFORMED AS DESCRIBED IN NOTE 4.
- 3. UNDERGROUND CABLE RUNS MUST BE IDENTIFIED BY CABLE MARKERS AT 200 FEET (61 M) MAXIMUM SPACING WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS MUST BE INSTALLED ABOVE THE CABLE. CABLE MARKERS ARE NOT REQUIRED FOR CABLE RUNS BETWEEN RUNWAY/TAXIWAY EDGE LIGHTS.
- CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.
- EMPLOY THE FOLLOWING METHODS WHERE ADDITIONAL SPACE TO FIT THE LEGEND IS REQUIRED:
 - A. REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.
 - B. INCREASE THE MARKER SIZE TO 30" X 30".
 - C. PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE
- TURF DUCT MARKERS ARE NOT REQUIRED AT PAVEMENT CROSSINGS WHERE DUCTS TERMINATE IN HANDHOLES, OR JUNCTION STRUCTURES.
- 7. LOCATION OF ALL DIRECT EARTH BURIAL UNDERGROUND CABLE SPLICE/CONNECTIONS, EXCEPT THOSE AT ISOLATION TRANSFORMERS, MUST BE IDENTIFIED BY SPLICE MARKERS. SPLICE MARKERS MUST BE PLACED ABOVE THE SPLICE/CONNECTIONS. DIRECT EARTH BURIAL UNDERGROUND CABLE SPLICES SHALL BE PROHIBITED UNLESS OTHERWISE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. CABLE SPLICES SHALL BE LOCATED IN SPLICE CANS, LIGHT BASES, HANDHOLES, MANHOLES, OR OTHER JUNCTION STRUCTURES UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER OF RECORD.
- 8. THE CABLE AND SPLICE MARKERS MUST IDENTIFY THE CIRCUITS TO WHICH THE CABLES BELONG. FOR EXAMPLE: TWY A, TWY B.
- LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS MUST BE IDENTIFIED BY DUCT MARKERS.

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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPTION | |
|---------------------------|-----|------|-----|----------|-----|
| | | | DES | DWN | REV |
| ISSUE: SEPTEMBER 12, 2025 | | | | | |
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DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/30/2025

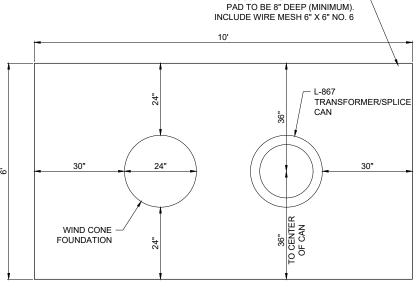
REVIEWED BY: KNL 08/04/2025

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SHEET TITLE

CABLE AND DUCT

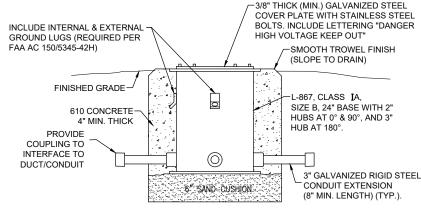
MARKER DETAILS



STRUCTURAL PC CONCRETE IN ACCORDANCE WITH ITEM 610

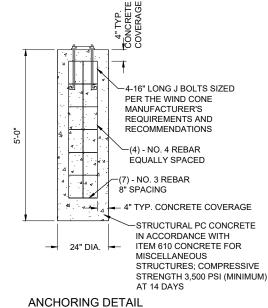
CONCRETE PAD PLAN VIEW

'NOT TO SCALE'



WIND CONE TRANSFORMER CAN DETAIL

"NOT TO SCALE"



"NOT TO SCALE"

BID DOCUMENTS

- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, INSTALLING, OR RECONNECTING THE RESPECTIVE AIRFIELD LIGHTING, NAVAID, OR OTHER
- THE L-806(L) SUPPLEMENTAL WIND CONE(S) WILL BE FURNISHED BY THE AIRPORT AND INSTALLED BY THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE CONCRETE FOUNDATION, CONCRETE PAD, REINFORCING STEEL, L-867 TRANSFORMER CAN, SERIES ISOLATION TRANSFORMER, CONDUITS, WIRING, CONNECTIONS, GROUNDING, AND ASSOCIATED INCIDENTALS TO INSTALL THE WIND CONE(S).
- THE RESPECTIVE RUNWAY LIGHTING CIRCUIT IS POWERED BY AN L-828, CLASS 1 6.6 AMP OUTPUT CURRENT, STYLE 1; 3 BRIGHTNESS STEPS CONSTANT CURRENT REGULATOR. COORDINATE WITH THE RESPECTIVE WIND CONE MANUFACTURER TO PROVIDE A COMPATIBLE AND PROPERLY SIZED SERIES ISOLATION TRANSFORMER FOR EACH WIND CONE.
- SPLICE/TRANSFORMER CANS FOR WIND CONE SERIES CIRCUIT TRANSFORMERS WILL BE INCIDENTAL TO THE RESPECTIVE WIND CONE PAY ITEM.
- REBAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GRADE 60 OR ASTM A615 GRADE 6 AND SHALL BE MANUFACTURED FROM 100% DOMESTIC STEEL. WELDED WIRE FABRIC SHALL CONFORM TO AASHTO M55, ASTM A82, OR ASTM A185 AND SHALL BE MANUFACTURED FROM 100%
- FOR EACH GROUNDING ELECTRODE SYSTEM (GROUND ROD) THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUNDING SYSTEM WITH A INSTRUMENT THAT IS SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH GROUNDING ELECTRODE SYSTEM. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE PROJECT ENGINEER OF RECORD
- 8. RESTORE TURF AREAS AFFECTED BY WIND CONE INSTALLATION.

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 1/10/2025 EXPIRES: 11/30/2025

INSTALL MEDIUM

INTENSITY RUNWAY LIGHTS. MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | |
|----------------------------|------|-------------|-----|-----|
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| RAWN BY: AJC 07/30/2025 | | | | |
| EVIEWED BY: KNL 08/04/2025 | | | | |
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L-806 WIND CONE **DETAILS**

SHEET TITLE

- CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
- 3. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- 4. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
- 5. IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
- 6. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
- WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.
- 8. ANY AND ALL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT TECHNICIAN TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF AERONAUTICS. THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT TECHNICIAN REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- 9. A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
 - A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - C. INSTALLATION INSTRUCTION.
 - D. START-UP INSTRUCTIONS.
 - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - F. CHART FOR TROUBLE-SHOOTING.
 - G. COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.
- H. PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
- SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

- PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.
- 2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, RED AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 208/120VAC THREE-PHASE, FOUR WIRE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).
- ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
- IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL. ETC.
- LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
- 6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND
- 7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - A. IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
 - B. IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- 8. A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
- EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
- SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
- 11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
- DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
- 3. ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMENTATIONS.
- 14. SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE.

- 5. CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.
- 16. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL. LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALL LIQUID IT
- 17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- 18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
- 20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 1. WRAP ALL PRIMARY AND SECONDARY POWER CONNECTIONS WITH SUFFICIENT LAYERS OF HIGH VOLTAGE ELECTRICAL INSULATING TAPE (RUBBER SPLICING TAPE SUITABLE FOR PRIMARY ELECTRICAL INSULATION FOR SPLICING CABLE FROM 600 VOLTS TO 69,000 VOLTS) AND COVER WITH VINYL ELECTRICAL TAPE (ALL-WEATHER VINYL INSULATING TAPE SUITABLE FOR PROTECTIVE JACKETING FOR HIGH-VOLTAGE CABLE SPLICES AND REPAIRS) FOR FULL VALUE OF CABLE INSULATION VOLTAGE. PER ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS ITEM 108, ITEM 125 AND FAA AC 150/5370-10H ITEM L-108, HIGH VOLTAGE ELECTRICAL INSULATING TAPE SHALL BE 3M SCOTCH 130C (2 INCHES WIDE) OR APPROVED EQUIVALENT, AND VINYL ELECTRICAL TAPE SHALL BE 3M SCOTCH 88 (1.5 INCHES WIDE) OR APPROVED EQUIVALENT. TAPES MUST BE RATED SUITABLE FOR THE APPLICATION.
- 22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
- 23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - A. FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - D. WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - 6. A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- 4. THE ABOVE GENERAL NOTES & POWER AND CONTROL NOTES
 ARE BASED ON DEPT. OF TRANSPORTATION FAA GREAT LAKES REGION
 ELECTRICAL NOTES SUBMITTED BY AL GRIGAITIS, DATE: 2/11/1987 AND HAVE
 BEEN UPDATED BY KEVIN LIGHTFOOT TO ACCOMMODATE CODE CHANGES, FAA
 ADVISORY CIRCULAR CHANGES, AND OTHER RESPECTIVE APPLICATIONS.

 BID DOCUMENTS

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | | |
|--------|----------|-------------|---------|-----|--|
| NO. | | DES | DWN | REV | |
| ISSUE: | SEPTE | MBER | 12, 202 | 25 | |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | | |

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ELECTRICAL NOTES SHEET 1

AIRFIELD LIGHTING NOTES

- I. UNLESS OTHERWISE NOTED, ALL UNDERGROUND AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED 5000 VOLT L-824 TYPE. ALL UNDERGROUND FIELD POWER LOW VOLTAGE (600 VOLT & BELOW) CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE UL LISTED 600 VOLT, TYPE XLP-USE-2 COPPER CONDUCTORS. CONDUCTOR SIZES SHALL BE AS SPECIFIED HEREIN
- NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
- THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE
 THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE
 EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES
 SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH
 BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN
 APPLICABLE DETAILS.
- 4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON AIRFIELD LIGHTING CABLE SPLICE DETAILS.
- 5. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON AIRFIELD LIGHTING CABLE SPLICE DETAILS.
- L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
- 7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
- ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO
 CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL
 NOT BE TAPED.
- DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE BLINWAY/TAXIWAY
- 10. A SLACK OF THREE (3') FEET, MINIMUM, PLUS DEPTH OF BASE CAN (IF APPLICABLE), SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER. THERE SHALL BE NO ADDITIONAL PAYMENT FOR CABLE SLACK AND THEREFORE THE QUANTITY OF PROPOSED CABLE SLACK HAS NOT BEEN INCLUDED IN THE RESPECTIVE CABLE PAY ITEMS.
- 11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
- 12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
- 13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
- 14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
- 15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
- 16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
- 17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
- 18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
- 19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.

- ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK.
- 21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING
- 22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
- 23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
- 24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLES.
- 25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN
- 26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
- 27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS
- 28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
- 29. CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3500 PSI (MINIMUM) AT 14 DAYS, IN ACCORDANCE WITH ITEM 610 STRUCTURAL PORTLAND CEMENT CONCRETE
- 30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
- THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER. ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO ACCURACY COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER CONTROL AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVE GROUND UTILITIES.
- 32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.
- 33. THE ABOVE AIRFIELD LIGHTING NOTES ARE BASED ON DEPT. OF TRANSPORTATION FAA GREAT LAKES REGION ELECTRICAL NOTES SUBMITTED BY AL GRIGAITIS, DATE: 2/11/1987 AND HAVE BEEN UPDATED BY KEVIN LIGHTFOOT TO ACCOMMODATE CODE CHANGES, FAA ADVISORY CIRCULAR CHANGES, AND OTHER RESPECTIVE APPLICATIONS.

GROUNDING NOTES FOR AIRFIELD LIGHTING

- GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. A GROUND ROD MUST BE INSTALLED AT EACH LIGHT FIXTURE. TAXLIGUIDANCE SIGN AND L-867/L-868 BASE. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A LIGHT BASE GROUND SHALL BE INSTALLED AND CONNECTED TO THE METAL FRAME OF EACH TAXI GUIDANCE SIGN AS DETAILED ON THE PLANS AND IN ACCORDANCE WITH THE RESPECTIVE TAXI GUIDANCE SIGN MANUFACTURER RECOMMENDATIONS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/4-INCH DIAMETER BY 20 FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL LISTED GROUNDING CONNECTOR. CONNECTIONS TO LIGHT BASES MAY ALSO BE MADE WITH A UL 467 LISTED PIPE CLAMP CONNECTED TO THE GRSC NIPPLE EXTENDING FROM A THREADED LIGHT BASE HUB. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS: CADWELD BY PENTAIR ERICO PRODUCTS, INC., THERMOWELD BY CONTINENTAL INDUSTRIES, INC., ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS, TOP OF GROUND RODS SHALL BE BURIED 12 INCHES MINIMUM BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS
- PER NATIONAL ELECTRICAL CODE ARTICLE 250.53 "GROUNDING ELECTRODE SYSTEM INSTALLATION" RESISTANCE FROM THE GROUND ROD/ELECTRODE MUST BE 25 OHMS OR LESS VIA MEASUREMENT WITH A GROUND TESTER. THIS IS A SAFETY ISSUE FOR PROTECTION OF PERSONNEL. BASED ON OBSERVATIONS AND TEST DATA BEARDSTOWN AIRPORT HAS A POOR SOIL RESISTANCE DUE TO SANDY SOIL AND APPEARS TO HAVE A DEEP-WATER TABLE, WHICH IMPAIRS THE RESISTANCE TO GROUND FOR INDIVIDUAL GROUND RODS. THEREFORE, THE SOIL CONDITIONS WILL REQUIRE ADDITIONAL GROUNDING TO COMPLY WITH NEC 250.53 AND FOR THE SAFETY OF PERSONNEL. THE GROUNDING SYSTEM DESCRIBED BELOW IS A EQUIPOTENTIAL METHOD COUNTERPOISE SYSTEM. A #6 AWG BARE SOLID COPPER GROUND WIRE SHALL BE INSTALLED TO BOND TOGETHER EACH GROUND ROD AT THE RESPECTIVE AIRFIELD LIGHT FIXTURES AND TAXI GUIDANCE SIGNS TO FORM A GROUND RING FOR THE RESPECTIVE AIRFIELD LIGHTING SYSTEM. THE #6 AWG BARE SOLID COPPER COUNTERPOISE SHALL BE DIRECT BURIAL IN TRENCH APPROXIMATELY 10 INCHES BELOW GRADE. THE COUNTERPOISE CONDUCTOR SHALL BE INSTALLED ABOVE THE #8 FAA L-824 5,000 VOLT CABLE IN UNIT DUCT. THE #6 AWG COUNTERPOISE SHALL BE CONNECTED TO EACH RESPECTIVE GROUND ROD WITH AN EXOTHERMIC WELD CONNECTION. COUNTERPOISE GROUND RODS SHALL BE 3/4-INCH BY 30 FEET LONG COUNTERPOISE GROUND RODS SHALL BE INSTALLED APPROXIMATELY EVERY 350 FEET TO NOT MORE THAN 500 FEET & LOCATED MIDWAY BETWEEN LIGHT FIXTURES COUNTERPOISE GROUND RODS SHALL ALSO BE INSTALLED AT EACH SIDE OF A PAVEMENT CROSSING. THE COMPLETED GROUND WIRE/COUNTERPOISE WIRE INSTALLATION WILL PROVIDE A GROUND RING AND COUNTERPOISE SYSTEM FOR THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT. THE COUNTERPOISE WIRE WILL NOT BE INSTALLED WITH THE HOMERUN CABLES FOR THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT. THIS IS TO HELP ACCOMPLISH A GROUND RESISTANCE OF 25 OHMS OR LESS FOR THE GROUND ROD AT EACH LIGHT FIXTURE FOR SAFETY OF PERSONNEL AND ALSO PROVIDES LIGHTNING PROTECTION FOR THE AIRFIELD LIGHTING SYSTEM. THE #6 AWG BARE SOLID COPPER COUNTERPOISE WILL BE PAID FOR UNDER ITEM AR108706 1/C #6 COUNTERPOISE PER FOOT
- PER THE REQUIREMENTS OF FAA AC 150/5340-30J DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6 "LIGHT FIXTURE BONDING" IT NOTES THE FOLLOWING: BOND THE LIGHT FIXTURE TO THE LIGHT BASE INTERNAL GROUND LUG VIA A NO. 6 AWG STRANDED COPPER WIRE RATED 600 VOLTS WITH GREEN XHHW, THWN-2, OR OTHER SUITABLE INSULATION, BARE STRANDED CONDUCTOR OR A BRAIDED GROUND STRAP OF EQUIVALENT CURRENT RATING. THE BONDING CONDUCTOR LENGTH MUST BE SUFFICIENT TO ALLOW THE REMOVAL OF THE LIGHT FIXTURE FROM THE LIGHT BASE FOR ROUTINE MAINTENANCE. SEE THE LIGHT FIXTURE MANUFACTURER'S INSTRUCTIONS FOR PROPER METHODS OF ATTACHING A BONDING WIRE TO THE FIXTURE.
- I. STEEL USED TO MANUFACTURE GROUND RODS SHALL BE 100 PERCENT DOMESTIC STEEL.
- CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL PER 2023 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
- 6. THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.
- FOR EACH AIRFIELD LIGHT FIXTURE, TAXI GUIDANCE SIGN, DISTANCE REMAINING SIGN, JUNCTION STRUCTURE/L-867 BASE/L-868 BASE, OR OTHER AIRFIELD LIGHT FIXTURE, THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUND SYSTEM WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH AIRFIELD LIGHT FIXTURE AND EACH TAXI GUIDANCE SIGN INSTALLATION. IF GROUND RESISTANCE EXCEEDS 25 OHMS, LONGER GROUND RODS OR ADDITIONAL GROUND RODS MIGHT BE REQUIRED. IF GROUND RESISTANCE EXCEEDS 25 OHMS CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER/RESIDENT TECHNICIAN AND THE PROJECT ENGINEER.

BID DOCUMENTS

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DESCRIPTION | | |
|---------------------------|-----|------|-------------|-----|-----|
| | | | DES | DWN | REV |
| ISSUE: SEPTEMBER 12, 2025 | | | | | |
| PROJECT NO: 23A1032.00 | | | | | |

CAD FILE: E-003-NOTES.DWG

DESIGN BY: KNL 07/22/2025

DRAWN BY: AJC 07/30/2025

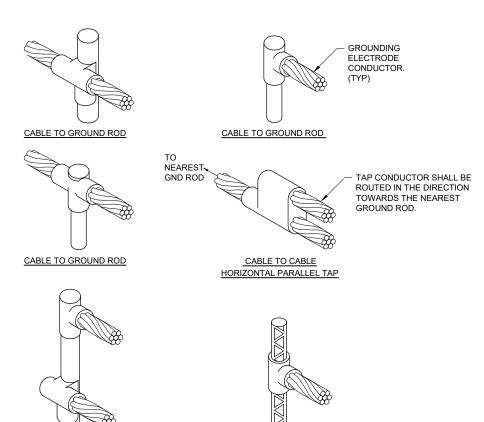
REVIEWED BY: KNL 08/04/2025

SHEET TITLE

SHEET 2

ELECTRICAL NOTES

025 8:46 AM CRAFT02387



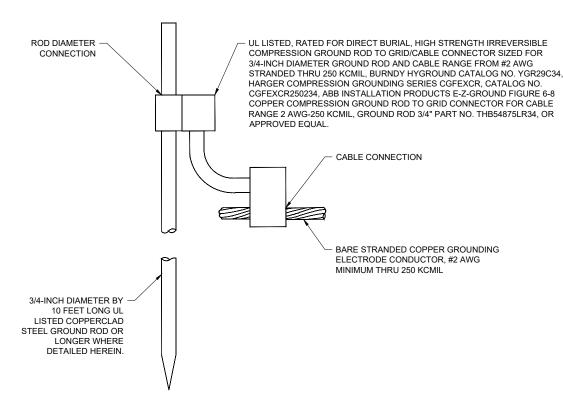
CABLE TO REBAR

CABLES TO GROUND ROD

DETAIL NOTES

- 1. KNOWLEDGEABLE AND QUALIFIED PERSONNEL SHALL PERFORM EXOTHERMIC WELD CONNECTIONS TO ENSURE GOOD, SAFE, & RELIABLE CONNECTIONS. ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS UNLESS OTHERWISE APPROVED BY THE PROJECT ENGINEER OF RECORD: KEVIN LIGHTFOOT. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY PENTAIR ERICO PRODUCTS, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- 2. INTERIOR APPLICATIONS MIGHT NEED SMOKELESS EXOTHERMIC WELD WHERE ELECTRONIC EQUIPMENT IS LOCATED WITHIN THE RESPECTIVE WORK AREA.
- 3. ALL APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, SHALL REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- 4. THE EXOTHERMIC WELD DETAILS SHOWN ARE FOR A FEW COMMON APPLICATIONS. CONTACT THE RESPECTIVE EXOTHERMIC WELD MANUFACTURER FOR DETAILS AND INFORMATION ON OTHER APPLICATIONS.
- 5. FOR APPLICATIONS USING STAINLESS STEEL GROUND RODS CONTACT THE EXOTHERMIC WELD MANUFACTURER TO DETERMINE AND CONFIRM APPROPRIATE SIZE MOLDS AND MATERIALS FOR THE RESPECTIVE APPLICATION. PLEASE BE AWARE THAT AN EXOTHERMIC WELD KIT SUITABLE FOR A 3/4-INCH DIA x 10-FEET LONG COPPERCLAD-STEEL GROUND ROD WILL NOT BE SUITABLE FOR A 3/4-INCH DIA x 10-FEET LONG STAINLESS STEEL GROUND ROD. 3/4-INCH NOMINAL DIAMETER COPPERCLAD-STEEL GROUND RODS TYPICALLY HAVE A SMALLER ACTUAL DIAMETER THAN 3/4-INCH NOMINAL DIAMETER STAINLESS STEEL GROUND RODS AND THIS WILL AFFECT EXOTHERMIC WELD TYPE CONNECTIONS.

EXOTHERMIC WELD DETAILS



NOTES:

- THE GROUND ROD COMPRESSION CONNECTOR DETAIL ABOVE APPLIES TO #2 AWG MINIMUM COPPER GROUNDING ELECTRODE CONDUCTORS.
- 2. THE EARTH GROUND RESISTANCE FOR EQUIPMENT SHALL BE ACCORDING TO THE APPLICABLE CODE REQUIREMENTS AND IN NO CASE MORE THAN 25 OHMS FOR AIRFIELD LIGHTING AND NO MORE THAN 10 OHMS FOR THE AIRPORT ELECTRICAL VAULT. TESTS SHALL BE MADE TO ESTABLISH THAT THE PROPER VALUE HAS BEEN OBTAINED. WHERE REQUIRED MAXIMUM GROUND RESISTANCE LEVELS CANNOT BE ACHIEVED AFTER TESTING NOTIFY THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT FOR FURTHER DIRECTIONS
- BEFORE CRIMPING, BOTH CONNECTOR ELEMENTS CAN BE TURNED ON ROD DIAMETER 'D' TO ANY DESIRED POSITION.
- 4. CONFIRM CRIMPING TOOLS WITH RESPECTIVE CONNECTOR MANUFACTURER AND FOLLOW THEIR DIRECTIONS.

GROUND ROD COMPRESSION CONNECTOR DETAIL

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM

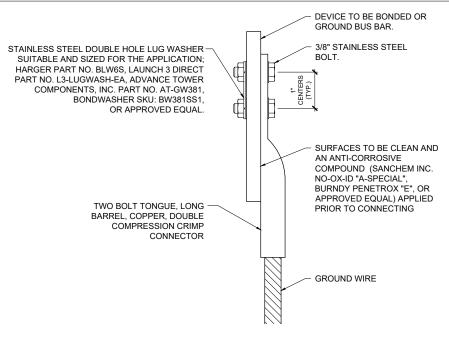
INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DESCRIPTION | | |
|----------------------------|------|-------------|-----|-----|
| NO. | DATE | DES | DWN | REV |
| SSUE: SEPTEMBER 12, 2025 | | | | |
| ROJECT NO: 23A1032.00 | | | | |
| AD FILE: E-512-DETL.DWG | | | | |
| ESIGN BY: KNL 07/22/2025 | | | | |
| RAWN BY: AJC 07/30/2025 | | | | |
| EVIEWED BY: KNL 08/04/2025 | | | | |
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GROUNDING DETAILS SHEET 1

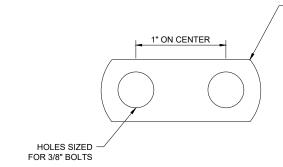
SHEET TITLE



| 2 HOLE LONG BARREL COMPRESSION LUG TABLE (OR APPROVED EQUAL) | | | | |
|--|----------------------------------|----------------------------|------------------------|--------------------|
| WIRE SIZE | BURNDY CAT. NO. | THOMAS & BETTS CAT. NO. | PENN-UNION CAT. NO. | HARGER CAT. NO. |
| #8 AWG STRANDED | YA8C-2TC38 | 256-30695-1157 | BBLU-8D-2TC38 | (CONTACT MFR) |
| #6 AWG SOLID | YA8C-2TC38 OR YGA6C-2TC38E2G1 | (CONTACT MFR) | (CONTACT MFR) | (CONTACT MFR) |
| #6 AWG STRANDED | YA6C-2TC38 | 256-30695-1158 | BBLU-6D-2TC38 | GECLB62C |
| #4 AWG STRANDED | YA4C-2TC38 | 256-30695-1159 | BBLU-4D-2TC38 | GECLB42C |
| #2 AWG STRANDED | YA2C-2TC38 | 256-30695-1160 | BBLU-2D-2TC38 | GECLB22C |
| #2 AWG SOLID | YA3C-2TC38 | 256-30695-1160 | BBLU-3D-2TC38 | GECLB22CS |
| #1/0 AWG STRANDED | YA25-2TC38 | 256-30695-1162 | BBLU-1/0D-2TC38 | GECLB1/02C |
| #2/0 AWG STRANDED | YA26-2TC38 | 256-30695-1116 | BBLU-2/0D-2TC38 | GECLB2/02C |
| #3/0 AWG STRANDED | YA27-2TC38 | 54816BE | BBLU-3/0D-2TC38 | (CONTACT MFR) |
| #4/0 AWG STRANDED | YA28-2TC38 | 256-30695-1117 | BBLU-4/0D-2TC38 | GECLB4/02C |
| 250 KCMIL | YA29-2TC38 | 256-30695-1245 | BBLU-025D-2TC38 | GECLB2502C |
| 350 KCMIL | YA31-2TC38 | 256-30695-1118 | BBLU-035D-2TC38 | (CONTACT MFR) |
| 500 KCMIL | YA34-2TC38 | 256-30695-1119 | BBLU-050D-2TC38 | GECLB5002C |
| 750 KCMIL | YA39-2TC38 | 256-30695-1222 | BBLU-075D-2TC38 | GECLB7502C |

- 1. IT IS IMPORTANT TO HAVE GOOD SECURE GROUND CONNECTIONS THAT WILL WITHSTAND WEATHER CONDITIONS AND MAINTAIN CONTINUITY TO GROUND. OFTEN WEATHER CONDITIONS CAN AFFECT GROUNDING CONNECTIONS THAT RESULT IN LOOSE CONNECTIONS AND UNSAFE CONDITIONS. A TWO-HOLE BOLTED CONNECTOR WILL TYPICALLY MAINTAIN A BETTER AND MORE SECURE CONNECTION THAN A ONE-HOLE BOLTED CONNECTOR. ONE HOLE BOLTED CONNECTORS HAVE BEEN OBSERVED ON PAST PROJECTS TO HAVE LOOSENED AND LOST CONTINUITY OVER A SHORT PERIOD OF A FEW MONTHS OR LESS WHERE SUBJECTED TO WEATHER AND TEMPERATURE FLUCTUATIONS AND THEREFORE WILL NOT BE PERMITTED ON THIS PROJECT.
- 2. SAFETY OF PERSONNEL IS THE PRIORITY. PROTECTION OF EQUIPMENT IS SECONDARY. PLEASE BE AWARE THAT GROUNDING DOES NOT GUARANTEE YOU WILL NOT RECEIVE A SHOCK, BE INJURED, OR KILLED FROM DEFECTIVE OR DAMAGED EQUIPMENT OR MATERIALS. PROPER GROUNDING WILL HOWEVER SIGNIFICANTLY REDUCE THE POSSIBILITY OF SHOCK, INJURY, OR DEATH. PLEASE FOCUS ON SAFETY OF PERSONNEL AT ALL TIMES
- THE GROUND WIRE CONNECTIONS TO EQUIPMENT LOCATED ABOVE GRADE, SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE WITH 3/8-INCH STAINLESS STEEL BOLTS, NUTS, AND WASHERS OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE. THIS ALSO APPLIES TO CONNECTIONS TO GROUND BUS BARS.
- 4. HIGH VOLTAGE CIRCUITS OVER 1000 VOLTS CODE UPDATE. PER 2023 NEC ARTICLE 250, PART X. "GROUNDING OF SYSTEMS AND CIRCUITS OF OVER 1000 VOLTS," 250.190 "GROUNDING OF EQUIPMENT", PART (C) (1) "GENERAL" IT NOTES "EQUIPMENT GROUNDING CONDUCTORS THAT ARE NOT AN INTEGRAL PART OF A CABLE ASSEMBLY SHALL NOT BE SMALLER THAN 6 AWG COPPER OR 4 AWG ALUMINUM OR COPPER-CLAD ALUMINUM". GROUND WIRE TO BE USED WITH 6.6 AMP OR 20 AMP SERIES CIRCUITS SHALL BE #6 AWG COPPER CONDUCTOR. THIS APPLIES TO EQUIPMENT GROUND WIRES RUN WITH OUTPUT WIRING FROM CONSTANT CURRENT REGULATORS, THE ASSOCIATED SERIES CIRCUIT CUTOUT DISCONNECTS AND THEIR ENCLOSURES, AND ASSOCIATED HIGH VOLTAGE RACEWAYS AND JUNCTION BOXES CONTAINING AIRFIELD LIGHTING SERIES CIRCUITS.
- EACH CONNECTION SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR APPROVED EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

GROUNDING LUG CONNECTION DETAIL



DOUBLE HOLE LUG WASHER SUITABLE AND SIZED FOR THE APPLICATION FOR USE WITH 2-HOLE TONGUE COMPRESSION LUGS: HARGER PART NO. BLW6S, LAUNCH 3 DIRECT PART NO. L3-LUGWASH-EA, ADVANCE TOWER COMPONENTS, INC. PART NO. AT-GW381, BONDWASHER SKU: BW381SS1, OR APPROVED EQUAL.

GROUNDING TWO HOLE LUG FLAT WASHER DETAIL

| TIGHTENING TORQUE TABLE | | | | |
|--|--|--|--|--|
| SILICONE BRONZE GALVANIZED OR STAINLESS STEEL | | | | |
| Ft-Lbs. | Inch-Lbs | | | |
| 15 | 180 | | | |
| 20 | 240 | | | |
| 40 | 480 | | | |
| 55 | 660 | | | |
| 80 | 960 | | | |
| | SILICONE GALVANIZED OR S Ft-Lbs. 15 20 40 55 | | | |

TABLE ABOVE SHOWS THE RECOMMENDED TIGHTENING TORQUES FOR SILICON BRONZE, STAINLESS STEEL AND GALVANIZED STEEL HARDWARE. THIS TABLE REPRESENTS TORQUES PRESENTLY RECOMMENDED BY NEMA-CC1-1984 SPECIFICATION. FOR SPECIFIC EQUIPMENT CONFIRM TIGHTENING TORQUES WITH RESPECTIVE MANUFACTURERS

TIGHTENING TORQUE TABLE

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
|--------|----------|-------|--------|-----|
| NO. | DAIL | DES | DWN | REV |
| ISSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | |

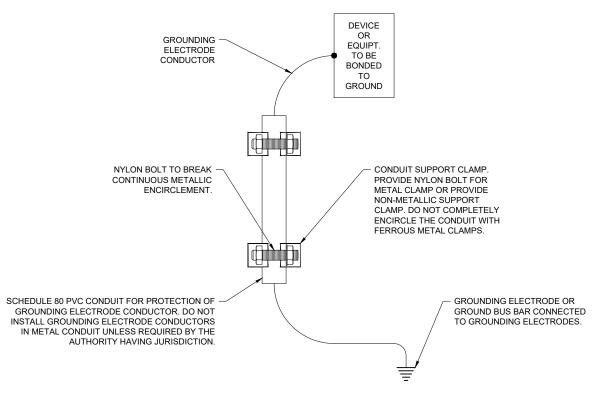
CAD FILE: E-513-DETL.DWG

DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/30/2025

REVIEWED BY: KNL 08/04/2025

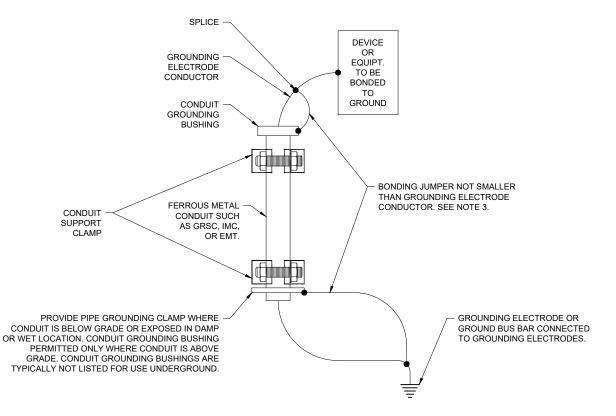
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GROUNDING DETAILS SHEET 2





- 1. EFFECTIVE WITH 2020 NEC ARTICLE 250.64 "GROUNDING ELECTRODE CONDUCTOR INSTALLATION", WHERE A GROUNDING ELECTRODE CONDUCTOR #6 AWG OR LARGER IS EXPOSED TO PHYSICAL DAMAGE IT SHALL BE PROTECTED IN RIGID METAL CONDUIT (RMC), INTERMEDIATE METAL CONDUIT (IMC), SCHEDULE 80 RIGID POLYVINYL CHLORIDE CONDUIT (PVC), REINFORCED THERMOSETTING RESIN CONDUIT TYPE XW (RTRC-XW), ELECTRICAL METALLIC TUBING (EMT), OR CABLE ARMOR. SCHED 40 PVC CONDUIT IS NO LONGER ADEQUATE. AVOID METAL CONDUIT UNLESS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. SEE DETAILS FOR ADDITIONAL BONDING REQUIREMENTS WHERE A GROUNDING ELECTRODE CONDUCTOR IS INSTALLED IN METAL CONDUIT
- NOTE THAT INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT UNLESS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 80 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENCIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A GROUND CONDUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF MAGNETIC MATERIAL. THIS RING COULD BE A METALLIC CONDUIT, U-BOLT OR STRUT SUPPORT PIPE CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING GROUND CONDUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF THE GROUND CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF RESISTANCE THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE IN THE IMPEDANCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY MITIGATE RADIO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION WHERE A GROUND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN PHENOMENA KNOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING IS A RESULT OF VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS FOR A SHORT DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT LIGHTNING FREQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER AND FREQUENCY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND CONDUCTOR MUST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A LOW INDUCTIVE IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE PATH.
- DIRECT CONNECTIONS BETWEEN DEVICE OR EQUIPMENT TO BE BONDED AND THE GROUNDING ELECTRODE SYSTEM SHALL BE PROVIDED AVOID SPLICING OF GROUNDING FLECTRODE CONDUCTORS



GROUNDING ELECTRODE CONDUCTOR INSTALLED IN FERROUS METAL CONDUIT

NOTES

- 2020/2023 NEC ARTICLE 250.64 "GROUNDING ELECTRODE CONDUCTOR INSTALLATION", PART (E) "RACEWAYS AND ENCLOSURES FOR GROUNDING ELECTRODE CONDUCTORS", PARAGRAPH 1 "GENERAL" NOTES THE FOLLOW: "FERROUS METAL RACEWAYS, ENCLOSURES, AND CABLE ARMOR FOR GROUNDING ELECTRODE CONDUCTORS SHALL BE ELECTRICALLY CONTINUOUS FROM THE POINT OF ATTACHMENT TO CABINETS OR EQUIPMENT TO THE GROUNDING ELECTRODE AND SHALL BE SECURELY FASTENED TO THE GROUND CLAMP OR FITTING. FERROUS METAL RACEWAYS, ENCLOSURES, AND CABLE ARMOR SHALL BE BONDED AT EACH END OF THE RACEWAY OR ENCLOSURE TO THE GROUNDING ELECTRODE OR GROUNDING ELECTRODE CONDUCTOR TO CREATE AN ELECTRICALLY PARALLEL PATH. NONFERROUS METAL RACEWAYS, ENCLOSURES, AND CABLE ARMOR SHALL NOT BE REQUIRED TO BE ELECTRICALLY
- AVOID INSTALLING GROUNDING ELECTRODE CONDUCTORS IN FERROUS METAL CONDUIT UNLESS REQUIRED BY THE AUTHORITY HAVING JURISDICTION OR RESPECTIVE CODES IN FORCE. FOR EXAMPLE: THE CITY OF CHICAGO ELECTRICAL CODE HAS HISTORICALLY PROHIBITED THE USE OF PVC CONDUIT INSIDE BUILDINGS AND THEREFORE GROUNDING ELECTRODE CONDUCTORS ARE OFTEN REQUIRED TO BE IN METAL CONDUIT
- IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2023 NEC 250-102 AND/OR 2023 NEC 250.64(E), NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS. CONFIRM REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION

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| | NO. | DATE | DES | CRIPT | ION |
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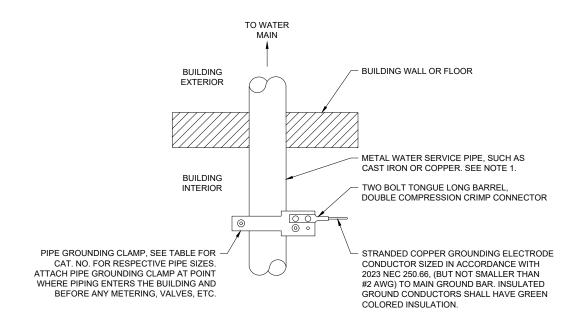
CAD FILE: E-514-DETL.DWG

DESIGN BY: KNI 07/22/2025 DRAWN BY: AJC 07/30/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

GROUNDING DETAILS SHEET 3

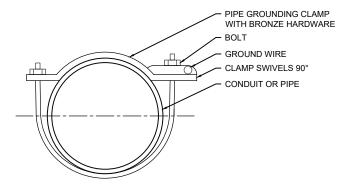


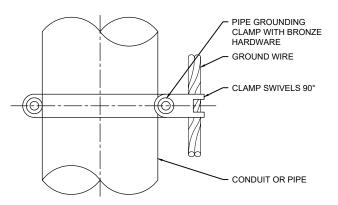
| PIPE GROUNDING CLAMP TABLE (OR APPROVED EQUAL) | | | | |
|--|--------------------|-----------------|--|--|
| HUBBELL CAT. NO. | BURNDY CAT. NO. | PIPE SIZE | | |
| GAR3902TC | GAR3902TC | 1/2" - 1" | | |
| GAR3903TC | GAR3903TC | 1 1/4" - 2" | | |
| GAR3904TC | GAR3904TC | 2 1/2" - 3 1/2" | | |
| GAR3905TC | GAR3905TC | 4" - 5" | | |
| GAR3906TC | GAR3906TC | 6" | | |
| GAR3907TC | GAR3907TC | 8" | | |
| GAR3908TC | GAR3908TC | 10" | | |
| GAR3909TC | GAR3909TC | 12" | | |

- 1. METAL WATER PIPE TO BE USED AS A GROUNDING ELECTRODE SHALL MEET THE REQUIREMENTS OF 2023 NEC 250.52 "GROUNDING ELECTRODES", (A)(1) "METAL UNDERGROUND WATER PIPE" WHICH NOTES THE FOLLOWING:

 A METAL UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR 3.0 m (10 ft) OR MORE (INCLUDING ANY METAL WELL CASING BONDED TO THE PIPE) AND ELECTRICALLY CONTINUOUS (OR MADE ELECTRICALLY CONTINUOUS BY BONDING AROUND INSULATING JOINTS OR INSULATING PIPE) TO THE POINTS OF CONNECTION OF THE GROUNDING ELECTRODE CONDUCTOR AND THE BONDING CONDUCTOR(S) OR JUMPER(S), IF INSTALLED.
- 2. PROVIDE PIPE GROUNDING CLAMPS AT BOTH SIDES OF WATER METER WITH #2 AWG (MINIMUM) COPPER BONDING JUMPER ACROSS THE METER.
- 3. FOR DAMP OR WET LOCATIONS USE PIPE CLAMPS WITH ALL BRONZE HARDWARE.

WATER SERVICE PIPE GROUNDING DETAIL





| PIPE GROUNDING CLAMP TABLE (OR APPROVED EQUAL) | | | | |
|--|----------------------------|-----------------|--|--|
| BURNDY CAT. NO. | THOMAS & BETTS CAT. NO. | PIPE SIZE | | |
| GAR3902-BU | 3902BU | 1/2" - 1" | | |
| GAR3903-BU | 3903BU | 1 1/4" - 2" | | |
| GAR3904-BU | 3904BU | 2 1/2" - 3 1/2" | | |
| GAR3905-BU | 3905BU | 4" - 5" | | |
| GAR3906-BU | 3906BU | 6" | | |

NOTES

- EACH PIPE GROUNDING CLAMP SHALL HAVE BRONZE HARDWARE, BE CORROSION RESISTANT, SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE, & UL 467 LISTED.
- 2. FOR APPLICATIONS SUBJECT TO ADDITIONAL CORROSION, PROVIDE PIPE GROUNDING CLAMPS WITH TINNED COATED BRONZE HARDWARE
- 3. HARGER CPC AND APC SERIES PIPE GROUNDING CLAMPS PROPERLY SIZED FOR THE RESPECTIVE PIPE AND GROUND WIRE ARE ALSO ACCEPTABLE.
- PENN-UNION TYPE "GPL" SERIES PIPE GROUNDING CLAMPS PROPERLY SIZED FOR THE RESPECTIVE PIPE AND GROUND WIRE ARE ALSO ACCEPTABLE.

PIPE/CONDUIT GROUNDING CLAMP DETAIL



Offices Nationwide

Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIG

DATE SIGNED: 9/12/2025 LICENSE EXPIRES: 11/30/2027
INSTALL MEDIUM
INTENSITY RUNWAY

INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
|---------|------------|---------|---------|------|
| NO. | DATE | DES | DWN | REV |
| SSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | |
| CAD FIL | E: E-515-D | ETL.DWG | ; | |
| DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
| RAWN | BY: AJC | 07/3 | 0/202 | 5 |
| REVIEW | /ED BY: | KNL (| 08/04/2 | 2025 |

GROUNDING DETAILS SHEET 4

SHEET TITLE

- CONTRACTOR SHALL TEST AND RECORD THE RESISTANCE FOR EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUNDING ELECTRODE SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT FOR FURTHER DIRECTIONS. COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER/RESIDENT TECHNICIAN, AND THE PROJECT ENGINEER OF RECORD.
- FOR EACH AIRFIELD LIGHT FIXTURE, TAXI GUIDANCE SIGN, SPLICE CAN AND NAVAID THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUND SYSTEM WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH AIRFIELD LIGHT FIXTURE, TAXI GUIDANCE SIGN, AND NAVAIDS INSTALLATION. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER OF RECORD FOR FURTHER DIRECTIONS. ALSO REFER TO EOR-062-047643 FOR ADDITIONAL INFORMATION ON GROUNDING REQUIREMENTS WHERE APPLICABLE. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER / RESIDENT TECHNICIAN, AND THE PROJECT ENGINEER OF RECORD.
- GROUND RESISTANCE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE RESPECTIVE GROUND ELECTRODE RESISTANCE TESTING EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
- RECORD SITE CONDITIONS DURING TESTS. RECORD RAIN FALL TOTALS FOR 3 DAYS PRIOR & DAY OF TEST.
- "FALL OF POTENTIAL" TYPE GROUND ELECTRODE RESISTANCE TESTER IS RECOMMENDED FOR TESTING INDIVIDUAL STAND ALONE GROUND RODS.

THANSON

Offices Nationwide www.hanson-inc.com

Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
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| INO. | DATE | DES | DWN | REV |
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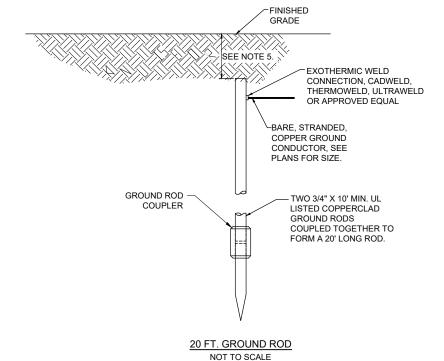
SHEET TITLE

GROUND RESISTANCE **TESTING DETAILS**

- FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR AIRFIELD LIGHTING LIGHT BASE GROUNDS FOR (RUNWAY LIGHTING, TAXIWAY LIGHTING, TAXI GUIDANCE SIGNS, & JUNCTION CANS) SHALL BE MINIMUM 3/4-IN. DIAMETER BY 20-FT LONG, UL-LISTED COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS FOR COUNTERPOISE/LIGHTNING PROTECTION SYSTEM ON THE AIRFIELD SHALL BE MINIMUM 3/4-IN. DIAMETER BY 30-FT. LONG UL-LISTED COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING, GROUND RODS SHALL BE SPACED OR AS DETAILED ON THE RESPECTIVE PLANS, AND IN NO CASE SPACED LESS THAN ONE ROD LENGTH APART. ALL CONNECTIONS TO GROUND RODS AND THE GROUND RING SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY PENTAIR ERICO PRODUCTS, THERMOWELD BY CONTINENTAL INDUSTRIES, ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS OR AT BURIED GROUNDING ELECTRODE CONDUCTORS
- CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER OF RECORD FOR FURTHER DIRECTIONS. ALSO REFER TO EOR-47643 FOR ADDITIONAL INFORMATION ON GROUNDING REQUIREMENTS, WHERE APPLICABLE, COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT PROJECT REPRESENTATIVE. AND THE PROJECT ENGINEER OF RECORD.
- ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL-LISTED AND
- ALL BOLTED OR MECHANICAL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTIVE COMPOUND BEFORE JOINING, SANCHEM INC. "NO-OX-ID "A-SPECIAL" COMPOUND, BURNDY PENETROX E. OR APPROVED EQUAL
- METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL, PER 2023 NATIONAL ELECTRICAL CODE ARTICLE 250-12. ALL COPPER BUS BARS MUST BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION.
- METALLIC RACEWAY FITTINGS SHALL BE MADE UP TIGHT TO PROVIDE A PERMANENT LOW IMPEDANCE PATH FOR ALL CIRCUITS. METAL CONDUIT TERMINATIONS IN ENCLOSURES SHALL BE BONDED TO THE ENCLOSURE WITH UL-LISTED FITTINGS SUITABLE FOR GROUNDING. PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING SERVICE EQUIPMENT (METER BASE, CT CABINET, MAIN SERVICE BREAKER ENCLOSURE, ETC.). PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING AN ENCLOSURE THROUGH CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND. STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR BONDING WHERE A CONDUIT ENTERS AN ENCLOSURE THROUGH A CONCENTRIC OR ECCENTRIC KNOCKOUT
- ALL CONNECTIONS, LOCATED ABOVE GRADE, BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING UL-LISTED DOUBLE COMPRESSION CRIMP TYPE CONNECTORS OR UL-LISTED BOLTED GROUND CONNECTORS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, THOMAS AND BETTS, OR EQUAL. TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUES IN UL STANDARD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING
- ALL METAL FOLIPMENT ENCLOSURES CONDUITS CABINETS BOXES RECEPTACLES MOTORS, ETC. SHALL BE BONDED TO THE RESPECTIVE GROUNDING SYSTEM.
- PROVIDE ALL BOXES FOR PROPOSED OUTLETS, SWITCHES, CIRCUIT BREAKERS, ETC. WITH GROUNDING SCREWS. PROVIDE ALL PANELBOARD, SWITCHGEAR, ETC., ENCLOSURES WITH GROUNDING BARS WITH INDIVIDUAL SCREWS, LUGS, CLAMPS, ETC., FOR EACH OF THE GROUNDING CONDUCTORS THAT ENTER THEIR RESPECTIVE **ENCLOSURES**
- EACH NEW FEEDER CIRCUIT AND/OR BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE. METAL RACEWAY OR CONDUIT SHALL NOT MEET THIS REQUIREMENT. THE EQUIPMENT GROUND WIRE FROM EQUIPMENT SHALL NOT BE SMALLER THAN ALLOWED BY 2023 NEC TABLE 250-122 "MINIMUM SIZE CONDUCTORS OR GROUNDING RACEWAY AND EQUIPMENT." WHEN CONDUCTORS ARE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP, EQUIPMENT-GROUNDING CONDUCTORS SHALL BE ADJUSTED PROPORTIONATELY ACCORDING TO CIRCULAR MIL AREA. ALL EQUIPMENT GROUND WIRES SHALL BE COPPER. EITHER BARE OR INSULATED GREEN IN COLOR. WHERE THE EQUIPMENT GROUNDING CONDUCTORS ARE INSULATED, THEY SHALL BE IDENTIFIED BY THE COLOR GREEN, AND SHALL BE THE SAME INSULATION TYPE AS THE

- 11 ALL EXTERIOR METAL CONDUIT WHERE NOT ELECTRICALLY CONTINUOUS RECAUSE OF MANHOLES, HANDHOLES, NON-METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER-BONDING JUMPER SIZED IN CONFORMANCE WITH 2023 NEC 250-102. WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2023 NEC 250-102.
- IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MOTOR FRAMES, PUMP BASES ELECTRICAL EQUIPMENT ENCLOSURES, PANEL HOUSINGS, CONDUITS, BOXES, ETC. HAVE A CONTINUOUS COPPER WIRE GROUND CONNECTION AND SHALL BE POSITIVELY BONDED TO THE RESPECTIVE GROUNDING SYSTEM. CONDUIT CONNECTORS WILL NOT BE CONSIDERED AS ADEQUATE GROUNDING.
- 13. PROVIDE A POSITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL EQUIPMENT ENCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. INSTALL A GROUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND CONDUCTOR TO HAVE 600-VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS GREEN COLOR COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES AND BE ENTIRELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, EXCEPT AT SUPPLY SIDE OF SERVICE DISCONNECTING MEANS. WHERE GROUNDING AND NEUTRAL SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.
- EACH AND ALL GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL EQUIPMENT SHALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS SYSTEM BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE
- ALL CONNECTIONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS ABOVE GRADE SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND LUGS SHALL BE PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION BOXES. EQUIPMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED TO THESE GROUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, OR EQUAL.
- BOND ALL NONCURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.
- BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND
- INSTALL GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 80 PVC CONDUIT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, <u>DO NOT</u> COMPLETELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. USE NON-METALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL CONDUIT CLAMPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS.
- IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2023 NEC 250-102 AND/OR 2023 NEC 250.64(E). NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS. CONFIRM REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION.
- 20. GROUNDING WORK AFFECTING OPERATIONS AT A FACILITY SHALL BE COORDINATED WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S) AND TO MINIMIZE DOWNTIME TO EXISTING SYSTEMS. THE RESPECTIVE PERSONNEL SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S). ANY SHUTDOWN OF EXISTING SYSTEMS SHALL BE SCHEDULED WITH AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO SHUT DOWN. ALL POWER SYSTEMS (AC OR DC) SHALL HAVE PROVISIONS TO LOCKOUT AND TAGOUT ANY CIRCUIT TO HELP ENSURE THE CIRCUIT IS SAFE TO WORK ON FOR PROTECTION OF PERSONNEL. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT). WHERE A FACILITY DOES NOT HAVE LOCKOUT/TAGOUT KITS THE RESPECTIVE PERSONNEL SHALL PROVIDE ADEQUATE QUANTITIES OF LOCKOUT/TAGOUT KITS SUITABLE FOR USE WITH THE RESPECTIVE EQUIPMENT. WHERE EXISTING ELECTRICAL EQUIPMENT DOES NOT HAVE FEATURES FOR LOCKOUT/TAGOUT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT AND MEASURES TO COMPLY WITH OSHA LOCKOUT/TAGOUT REQUIREMENTS. ALL PADLOCKS FOR USE WITH LOCKOUT/TAGOUT PROCEDURES SHALL HAVE A DIFFERENT KEY. PROVIDE LOCKOUT HASPS TO ACCOMMODATE MULTIPLE PADLOCKS WHERE MULTIPLE PEOPLE ARE WORKING ON THE SAME SYSTEM. INCLUDE LOCKOUT TAGS FOR EACH PIECE OF EQUIPMENT REQUIRING SERVICING AND SHUTDOWN. COMPLIANCE WITH LOCKOUT/TAGOUT PROCEDURES AND ALL OTHER SAFETY PROCEDURES AND REQUIREMENTS ARE THE RESPONSIBILITY OF THE RESPECTIVE PERSONNEL WORKING AT THE FACILITY

- NEVER REMOVE, ALTER, OR ATTEMPT TO REPAIR CONDUCTORS OR CONDUIT SYSTEMS PROVIDING GROUNDING OR ELECTRICAL BONDING FOR ANY ELECTRICAL EQUIPMENT LINTIL ALL POWER IS REMOVED FROM FOLIPMENT. WARN ALL PERSONNEL OF THE UNGROUNDED CONDITION OF THE EQUIPMENT. DISPLAY APPROPRIATE WARNING SIGNS, SUCH AS DANGER TAGS, TO WARN PERSONNEL OF THE POSSIBLE HAZARDS.
- GROUNDING WORK AND MODIFICATIONS SHALL NOT BE PERFORMED DURING A THUNDERSTORM OR WHEN A THUNDERSTORM IS PREDICTED IN THE AREA.
- PER NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE IT DEFINES ELECTRICALLY SAFE WORK CONDITION AS "A STATE IN WHICH AN ELECTRICAL CONDUCTOR OR CIRCUIT PART HAS BEEN DISCONNECTED FROM ENERGIZED PARTS LOCKED/TAGGED IN ACCORDANCE WITH ESTABLISHED STANDARDS, TESTED TO VERIFY THE ABSENCE OF VOLTAGE, AND, IF NECESSARY, TEMPORARILY GROUNDED FOR PERSONNEL PROTECTION." PRIOR TO CONDUCTING TESTS OR WORKING ON EQUIPMENT, VERIFY EQUIPMENT ENCLOSURES AND FRAMES HAVE A GOOD AND SECURE GROUND CONNECTION, FAILURE TO PROPERLY GROUND THIS EQUIPMENT PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THIS SYSTEM.
- 24. WHERE A CONFLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS PER MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT FOR FURTHER DIRECTIONS.
- GROUND RODS SHALL BE PRODUCED FROM 100 PERCENT DOMESTIC STEEL TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCES REQUIREMENT. THE BUY AMERICAN PREFERENCE REQUIREMENTS ESTABLISHED WITHIN 49 USC 50101 REQUIRE THAT ALL STEEL AND MANUFACTURED GOODS USED ON AIP PROJECTS MUST BE PRODUCED IN THE UNITED STATES.



- THE GROUNDING SYSTEM HAS BEEN DESIGNED BASED ON EXISTING CONDITIONS AT THE AIRPORT. GROUND RODS SHALL BE AS SPECIFIED ON THE PLANS AND
- THE RESISTANCE TO GROUND OF THE AIRFIELD LIGHTING GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS. WHERE TESTING RESULTS INDICATE 25 OHMS CANNOT BE ACHIEVED. CONTACT THE ENGINEER OF RECORD, KEVIN LIGHTFOOT FOR FURTHER DIRECTIONS
- COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.
- GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LESS THAN ONE ROD LENGTH APART
- TOP OF GROUND RODS SHALL BE 12" MINIMUM BELOW GRADE UNLESS DETAILED
- GROUND RODS FOR SPLICE CANS AND AIRFIELD LIGHTING SHALL BE A MINIMUM 3/4-INCH DIAMETER BY 20-FT LONG UL LISTED COPPER CLAD.

GROUND RODS NOT TO SCALE

BID DOCUMENTS

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Hanson Professional Services Inc 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
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REVIEWED BY: KNL 08/04/2025

SHEET TITLE

GROUNDING NOTES

| EL | ECTRICAL LEGEND - SCHEMATIC | | |
|--|---|--|--|
| ⊢ | NORMALLY OPEN (N.O.) CONTACT | | |
| → # | NORMALLY CLOSED (N.C.) CONTACT | | |
| (S*) | STARTER COIL, * = STARTER NUMBER | | |
| OL OL | OVERLOAD RELAY CONTACT | | |
| <u>-</u> ∦ - (R*) | CONTROL RELAY, * = CONTROL RELAY NUMBER | | |
| (R*) | RELAY, * = RELAY NUMBER | | |
| | TOGGLE SWITCH / 2 POSITION SWITCH | | |
| OFF_AUTO | | | |
| OFF AUTO | 2-POSITION SELECTOR SWITCH | | |
| HAND T AUTO XOO OOX | 3-POSITION SELECTOR SWITCH (H-O-A SHOWN) | | |
| ¹ / ₂ | N.O. THERMAL SWITCH | | |
| ्रु | N.C. THERMAL SWITCH | | |
| 11 | 2 POLE DISCONNECT SWITCH | | |
| 111 | 3 POLE DISCONNECT SWITCH | | |
| > | PHOTOCELL | | |
| | TERMINAL BLOCK, * = TERMINAL NUMBER | | |
| | DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER | | |
| | INTERNAL PANEL WIRING | | |
| | FIELD WIRING | | |
| | FUSE | | |
| GND | GROUND BUS OR TERMINAL | | |
| S/N | NEUTRAL BUS | | |
| # | GROUND, GROUND ROD, GROUND BUS | | |
| 0 0 | INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR | | |
| # F F F F F F F F F | TYPE S1 CUTOUT HANDLE REMOVED (MFRD BY CROUSE-HINDS, MANAIRCO, AND OTHERS) | | |
| ###################################### | TYPE S1 CUTOUT HANDLE INSERTED (MFRD BY CROUSE-HINDS, MANAIRCO, AND OTHERS) | | |
| | TYPE SCO CUTOUT (MFRD BY ADB) | | |
| *** | TYPE ALSC AIRFIELD LIGHTING SAFETY CUTOUT (MFRD BY ADB) | | |
| | | | |

L-830 SERIES ISOLATION TRANSFORMER

| A F F | ELECTRICAL ABBREVIATIONS |
|--------|---|
| A.F.F. | ABOVE FINISHED FLOOR |
| A, AMP | AMPERES |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AWG | AMERICAN WIRE GAUGE |
| BKR | BREAKER |
| С | CONDUIT |
| СВ | CIRCUIT BREAKER |
| CKT | CIRCUIT |
| CR | CONTROL RELAY |
| CU | COPPER |
| DPDT | DOUBLE POLE DOUBLE THROW |
| DPST | DOUBLE POLE SINGLE THROW |
| EM | EMERGENCY |
| EMT | ELECTRICAL METALLIC TUBING |
| ENCL | ENCLOSURE |
| EOR | ENGINEER OF RECORD |
| EP | EXPLOSION PROOF |
| ES | EMERGENCY STOP |
| ETL | INTERTEK - ELECTRICAL TESTING LABS |
| ETM | ELAPSE TIME METER |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GFI | GROUND FAULT INTERRUPTER |
| GND | GROUND |
| GRSC | GALVANIZED RIGID STEEL CONDUIT |
| HOA | HAND OFF AUTOMATIC |
| HP | HORSEPOWER |
| J | JUNCTION BOX |
| KVA | KILOVOLT AMPERE(S) |
| KNL | KEVIN NEIL LIGHTFOOT |
| KW | KILOWATTS |
| LC | LIGHTING CONTACTOR |
| LED | LIGHT EMITTING DIODE |
| LTFMC | LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED) |
| LTG | LIGHTING |
| | LIGHTING |
| LHTNG | LIGHTING LIGHTING PANEL |
| LP | |
| MAX | MAXIMUM MAIN CIRCUIT PREAKER |
| MCB | MAIN CIRCUIT BREAKER |
| MCM | THOUSAND CIRCULAR MIL |
| MDP | MAIN DISTRIBUTION PANEL |
| MFR | MANUFACTURER |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| NEC | NATIONAL ELECTRICAL CODE (NFPA 70) |
| NC | NORMALLY CLOSED |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| OHE | OVERHEAD ELECTRIC |
| | |

| PB | PULL BOX |
|------|--|
| | PHOTO CELL |
| PC | |
| PDB | POWER DISTRIBUTION BLOCK |
| PNL | PANEL |
| RCPT | RECEPTACLE |
| R | RELAY |
| S | STARTER |
| SD | SHUT DOWN; TURNOFF, DISCONNECT POWER, LOCKOUT/TAGOUT |
| SPD | SURGE PROTECTION DEVICE |
| SPST | SINGLE POLE SINGLE THROW |
| TYP | TYPICAL |
| UG | UNDERGROUND |
| UGE | UNDERGROUND ELECTRIC |
| UL | UNDERWRITER'S LABORATORIES |
| V | VOLTS |
| W/ | WITH |
| W/O | WITHOUT |
| WP | WEATHER PROOF |
| XFER | TRANSFER |
| XFMR | TRANSFORMER |
| - | DASH, HYPHEN, OR MINUS SIGN |
| XXX | LETTERS AND / OR NUMBERS (TO BE DETERMINED |

| | ALITOMATED OUDEAGE ODGED (INC. OVGTEM |
|-------|--|
| ASOS | AUTOMATED SURFACE OBSERVING SYSTEM |
| ATCT | AIR TRAFFIC CONTROL TOWER |
| AWOS | AUTOMATED WEATHER OBSERVING SYSTEM |
| CCR | CONSTANT CURRENT REGULATOR |
| DME | DISTANCE MEASURING EQUIPMENT |
| FAR | FEDERAL AVIATION REGULATION |
| GS | GLIDE SLOPE FACILITY |
| HIRL | HIGH INTENSITY RUNWAY LIGHT |
| ILS | INSTRUMENT LANDING SYSTEM |
| IM | INNER MARKER |
| LIR | LOW IMPACT-RESISTANT |
| LOC | LOCALIZER FACILITY |
| MALS | MEDIUM INTENSITY APPROACH LIGHTING SYST |
| MALSR | MEDIUM INTENSITY APPROACH LIGHTING SYST WITH RUNWAY ALIGNMENT INDICATING LIGHTS |
| MIRL | MEDIUM INTENSITY RUNWAY LIGHT |
| MITL | MEDIUM INTENSITY TAXIWAY LIGHT |
| NDB | NON-DIRECTIONAL BEACON |
| PAPI | PRECISION APPROACH PATH INDICATOR |
| PLASI | PULSE LIGHT APPROACH SLOPE INDICATOR |
| RAIL | RUNWAY ALIGNMENT INDICATING LIGHTS |
| REIL | RUNWAY END IDENTIFIER LIGHT |
| RVR | RUNWAY VISUAL RANGE |
| | VISUAL APPROACH DESCENT INDICATOR |
| VADI | |
| VASI | VISUAL APPROACH SLOPE INDICATOR |

WIND CONE

WC.

NOTES:

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, INTERTEK TESTING SERVICES VERIFICATION/ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- 2. KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING/CONSTRUCTION FOR USE AS A REFERENCE.
- NEW WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW ILS DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- 4. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED SUNLIGHT RESISTANT & SUITABLE FOR GROUNDING LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.
- INSULATED CONDUCTORS SHALL COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

120/240 VAC, 1 PHASE, 3 WIRE PHASE A PHASE B RED NEUTRAL WHITE GROUND GREEN

- SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
- 7. ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES UL LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE, TO MAINTAIN THE NEMA 4, 4X
- ONLY QUALIFIED ELECTRICAL CONTRACTORS SHALL PERFORM ELECTRICAL WORK ON THIS PROJECT. NEC DEFINES A QUALIFIED PERSON AS "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED."
- RESPECTIVE POWER SOURCES FOR EACH PANEL EQUIPMENT, AIRFIELD LIGHT, SIGN, NAVAID, OR OTHER DEVICE SHALL BE VERIFIED PRIOR TO WORKING ON, RELOCATING, REMOVING, DISCONNECTING, AND/OR INSTALLING THE RESPECTIVE DEVICES. SHUT OFF, LOCKOUT. AND TAGOUT FOR PROTECTION OF PERSONNEL
- 10. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY CONDUIT, DUCT, RACEWAY, JUNCTION STRUCTURE OR HANDHOLE.

BID DOCUMENTS

EHANSON

Offices Nationwide www.hanson-inc.com

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS. MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
|--------|----------|-------|--------|-----|
| 140. | DATE | DES | DWN | REV |
| ISSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | |
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CAD FILE: E-005-LGND.DWG

DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/30/2025 REVIEWED BY: KNL 08/04/2025

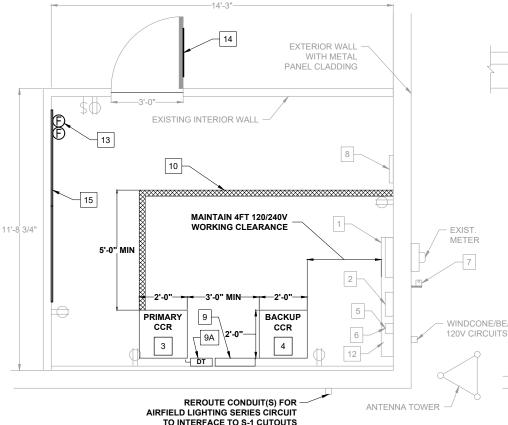
SHEET TITLE

ELECTRICAL LEGEND AND ABBREVIATIONS

AIRFIELD ELECTRICAL VAULT ROOM - SOUTH ELEVATION

NOT TO SCALE

SCALE: 1" = 2'-0'



AIRFIELD ELECTRICAL VAULT ROOM - FLOOR PLAN

AIRFIELD ELECTRICAL VAULT ROOM - EAST ELEVATION

SHEET NOTES:

A. ALL WORK SHOWN ON THIS SHEET SHALL BE MEASURED AND PAID UNDER ITEM AR109200

ALL ELEMENTS SHOWN ARE EXISTING TO REMAIN, UON. CONFIRM AND FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO STARTING WORK

EXISTING VAULT ROOM MAY HAVE POTENTIAL CODE VIOLATIONS SAFETY CONCERNS THAT COULD CAUSE UNSAFE WORKING CONDITIONS INCLUDING BUT NOT LIMITED TO:

MAIN SERVICE DISCONNECTING MEAN NOT IDENTIFIED

AVAILABLE FAULT CURRENT NOT IDENTIFIED ON SERVICE DISCONNECT

POWER SOURCES FOR EACH PANELBOARD NOT IDENTIFIED,

CIRCUIT DIRECTORIES IN PANELBOARDS MAY NOT BE UP TO DATE INSUFFICENT WORKING CLEARANCES

CONSISTENCY OF CIRCUIT INSULATION COLOR CODING OF BRANCH CIRCUITS

MISSING EQUIPMENT GROUND WIRES

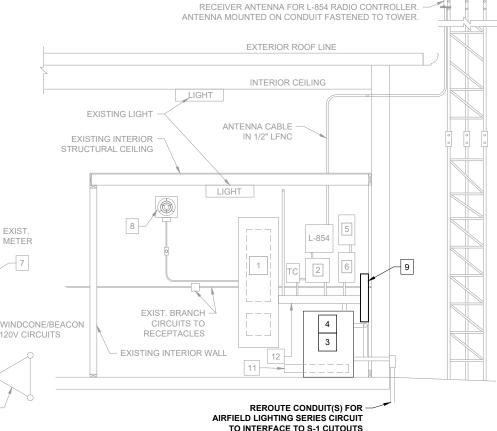
EQUIPMENT NOT CLEARY IDENTIFIED

EXERCISE EXESSIVE CAUTION WHEN WORKING IN THE VAULT ROOM AND ON THE AIRFIELD. PERSONNEL PERFORMING AIRFIELD LIGHTING WORK, VAULT WORK, AND/OR TESTS SHALL BE FAMILIAR WITH AND QUALIFIED TO WORK ON 5000 VOLT AIRFIELD LIGHTING SERIES CIRCUITS, CONSTANT CURRENT REGULATORS, AND ASSOCIATED AIRPORT ELECTRICAL VAULT **FOUIPMENT**

COORDINATE WORK POWER OUTAGES AND/OR SHUT DOWN OF EXISTING SYSTEMS WITH THE AIRPORT AND RPR. SHUTDOWN OF EXISTING SYSTEMS MUST BE SCHEDULED IN ADVANCE AND APPROVED BY THE AIRPORT MANAGER. USE LOCK-OUT / TAG-OUT / TRY-OUT PROCEDURES TO LABEL INACTIVE CIRCUITS TO PREVENT ACCIDENTAL ENERGIZING OF

EACH ACTIVE CCR SERVING THE RESPECTIVE WORK AREAS OF THE PROJECT, SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, ADDITIONS AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS AND AGAIN AFTER THE AIRFIELD LIGHTING REPLACEMENTS AND VAULT ADDITIONS HAVE BEEN COMPLETED. CONTRACTOR SHALL TEST AND RECORD THE INPUT CURRENT AND OUTPUT CURRENT FOR EACH CONSTANT CURRENT REGULATOR IN THE AUTOMATIC AND MANUAL MODES OF OPERATION. CONTRACTOR SHALL REPORT CONCERNS AND/OR DEFICIENCIES TO THE PROJECT ENGINEER

PROVIDE ARC FLASH RISK LABELS PER NEPA 70E, ARTICLE 130, PART 130.5 (H), FAA AC 150/5340-26C FOR ALL NEW AND EXISTING EQUIPMENT. SUBMIT AN ARC-FLASH ANALYSIS TO THE ENGINEER BASED ON UTILITY, EXISTING AND NEW EQUIPMENT, EXISTING AND NEW FEEDERS, AND CONNECTED LOADS. ARC-FLASH LABELS SHALL IDENTIFY EQUIPMENT NAME,



AVAILABLE FAULT CURRENT, SHOCK HAZARD, HAZARD BOUNDARIES, AND REQUIRED PPE PER NFPA 70E "STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE". IF AVAILABLE FAULT CURRENT FOR 240V SYSTEM IS LESS THAN 25KAIC WITH MAX FAULT CLEARING TIME OF 0.03 (2 CYCLES), THE MIN WORKING DISTANCE IS 18 INCHES AND ARC FLASH CATEGORY 1 WITH 19 INCH ARC FLASH BOUNDARY. FOR 240V FIXED EQUIPMENT LIMITED APPROACH BOUNDARY IS

| KEY NOTES: | # |
|------------|---|
|------------|---|

1 EXISTING PANELBOARD

NEW L-821 RADIO CONTROL RELAY INTERFACE PANEL WITH NEW L-854 RADIO CONTROLLER. ADJUST LOCATION AS APPLICABLE. EXTEND CONTROL WIRES TO

EXISTING 7.5KW L-828 REGULATOR TO BE REWIRED FOR BACKUP UNIT (APPROX 25"W X 25"D X 33"T).

3 FT 6 INCHES WITH 12 INCH RESTRICTED APPROACH BOUNDARY.

FURNISH AND INSTALL NEW 7.5KW, L-828/L-829 CONSTANT CURRENT REGULATOR.

EXISTING CONTACTOR FOR BEACON.

6 EXISTING CONTACTOR FOR WIND CONE.

EXISTING PHOTOCELL CONTROL FOR AIRFIELD LIGHTING TO BE REPLACED.

8 EXISTING 120V, 60 HZ, 180 CFM WALL MOUNTED EXHAUST FAN.

9 NEW TRANSFER PAIR TYPE S-1 CUTOUTS IN NEMA 12 ENCLOSURE.

9A NEW HEAVY DUTY 60A, 240VAC, 2 POLE DOUBLE THROW NON-FUSIBLE SAFETY SWITCH IN A NEMA 1 ENCLOSURE. SWITCH SHALL BE WIRED FOR ONE POWER SOURCE AND CONNECTION TO EITHER OF TWO LOADS

APPLY YELLOW FLOOR MARKING PAINT IDENTIFYING NEC 5KV WORKING CLEARANCE IN FRONT OF EQUIPMENT

EXISTING GROUND BAR

12 EXISTING 4" X 4" X 36" LOW VOLTAGE WIREWAY

13 PROVIDE AT LEAST (1) 10LB UL LISTED CLASS C NO RESIDUE HALOTRON FIRE EXTINGUISHER PER NFPA 10 AND FAA AC 150/5340-26C. PROVIDE AT LEAST (1) 10LB ULLUSTED CLASS B & C CARBON DIOXIDE FIRE EXTINGUISHER, AMEREX MODEL 330. BUCKEYE MODEL 10CD, OR APPROVED EQUAL. WALL MOUNT FIRE EXTINGUISHERS WITH MOUNTING BRACKETS ADJACENT TO EACH OTHER NEAR THE VAULT EXIT. PROVIDE SIGN ABOVE CLASS C. EXTINGUISHER THAT READS "CLASS C - ELECTRICAL ONLY". PROVIDE SIGN ABOVE CLASS B & C **EXTINGUISHER THAT READS "CLASS BC"**

PROVIDE DANGER HIGH VOLTAGE LINALITHORIZED PERSONNEL KEEP OUT SIGNS ON VAULT DOORS, NEC 110.34(C), SEE DETAIL ON LEGEND PLATE SCHEDULES.

PROVIDE (2) SHEETS OF 8'-0"T X 4'-0"W X 3/4"D WIDE AC GRADE CLASS C FIRE TREATED PLYWOOD MOUNTING BACKBOARD WITH A SIDE EXPOSED. PROVIDE 1 COAT PRIMER AND 2 COATS OF OIL-BASED LIGHT GRAY PAINT. DO NOT PAINT OVER FIRE RATING STAMP/LABEL. PROVIDE AND MOUNT THE FOLLOWING ITEMS:

> PORTABLE HARD CASED 25 PERSON FIRST-AID KIT WITH TREATMENTS FOR STINGS, HEAT STRESS AND BASIC INJURIES ON THE JOB SITE (ABSORBENT COMPRESS, ANTIBIOTIC OINTMENTS, ANTISEPTIC TOWELETTES, ASPIRIN, CPR MASK, EYE PAD, FABRIC BANDAGES, BURN CREAM, TAPE, GAUZE PAD, GAUZE ROLL, INSTANT ICE PACK, NITRILE GLOVES, PLASTIC BANDAGES, SCISSORS, SALINE)

6'-0" ASTM F711 NON-CONDUCTIVE BODY RESCUE HOOK

STATIC DISCHARGE GROUNDING STICK

ASTM D120 CERTIFIED RUBBER GLOVES RATED FOR MAXIMUM VOLTAGE PRESENT WITH LEATHER GLOVES AND PROTECTIVE STORAGE BAG

RECHARGEABLE NON-METALLIC PORTABLE WORK LIGHT (MILWAUKEE 2354-20 M18 OR EQUAL) WITH BATTERY CHARGER

PORTABLE NON-CONDUCTIVE WARNING SIGNS WITH NON-CONDUCTIVE HANGERS

PORTABLE EMERGENCY EYEWASH STATION

DISPOSABLE MANUAL RESUSCITATION MASK

AUTOMATIC EXTERNAL DEFIBRILLATOR AND INSTRUCTIONS FOR USE.

ACCIDENT AND FIRE PROCEDURES (FURNISHED BY AIRPORT)

SAFETY POSTERS AND BULLETINS (FURNISHED BY AIRPORT)

EMERGENCY TELEPHONE NUMBERS, (E.G. DOCTOR, HOSPITAL, RESCUE SQUAD, FIRE DEPARTMENT, AIRPORT OPERATIONS, POLICE AND AIR TRAFFIC CONTROL TOWER) (FURNISHED BY AIRPORT)

HANSON

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Hanson Professional Services Inc. 1525 S. 6th Street Springfield, IL 62703 phone: 217-788-2450 fax: 217-788-2503

Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT **WORK**

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | DATE | DES | CRIPT | ION |
|-------|----------|-------|--------|-----|
| NO. | DATE | DES | DWN | REV |
| SSUE: | SEPTE | MBER | 12, 20 | 25 |
| ROJEC | CT NO: 2 | 3A103 | 2.00 | |

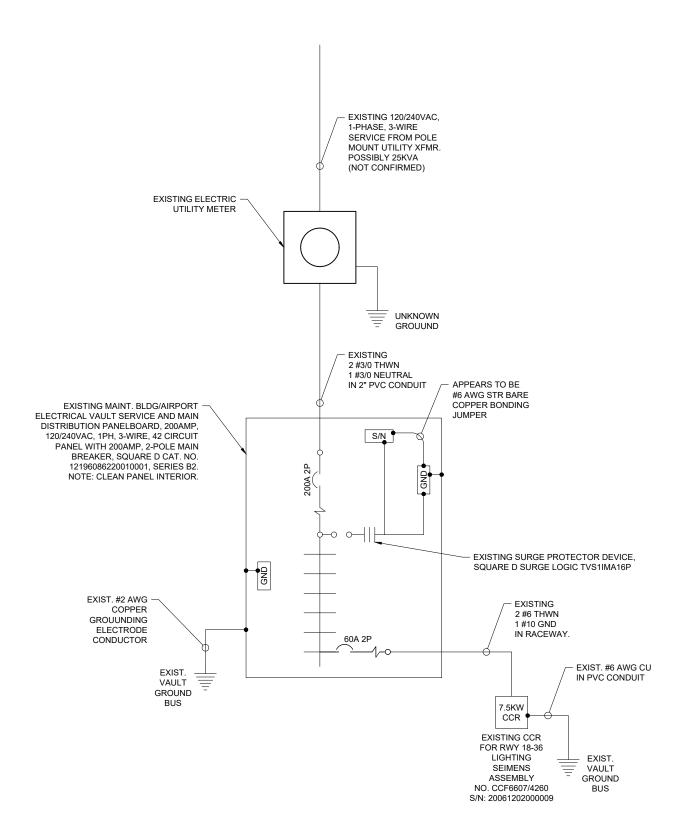
CAD FILE: E-410-VLT.DWG DESIGN BY: KNI 07/22/2025

DRAWN BY: AJC 07/31/2025

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

ELECTRICAL VAULT FLOOR PLAN



- 1. PLEASE NOTE THE ELECTRICAL VAULT WAS CONSTRUCTED IN ABOUT 2006. THERE HAVE BEEN LIMITED CHANGES SINCE ITS CONSTRUCTION. SINCE THE CONSTRUCTION OF THE VAULT THERE HAVE BEEN NATIONAL ELECTRICAL CODE AND FAA REQUIREMENT UPDATES THAT HAVE TAKEN PLACE, AND THE EXISTING INSTALLATION MAY NOT BE TO THE CURRENT ELECTRICAL CODES IN EFFECT. TO ADDRESS NFPA/NEC UPDATES SINCE THE ORIGINAL INSTALLATION AND OTHER SAFETY IMPROVEMENTS, THIS PROJECT WILL ADD RESTRICTED ACCESS LABELING ON VAULT, ADD LABELING TO IDENTIFY SERVICE DISCONNECT, ADD LABELING TO IDENTIFY FAULT CURRENT ON SERVICE EQUIPMENT AND PANELBOARDS, ADD LABELING TO IDENTIFY POWER SOURCE ON PANELBOARDS, ADD ARC FLASH RISK LABELS TO SOME EQUIPMENT, ADD NEW GROUNDING TO CONSTANT CURRENT REGULATORS, ADD HIGH VOLTAGE LABELING ON EQUIPMENT, ADD SERIES CIRCUIT DISCONNECTS CUTOUTS WITH ENCLOSURE, ADD CUTOUT ENCLOSURE PADLOCK HASPS, ADD COLOR CODING REQUIREMENTS FOR 120/240V CKTS, ADD FIRE EXTINGUISHERS, ADD LOCKOUT/TAGOUT KITS, ADD EQUIPMENT LABELING, AND ADD CLEARANCE WARNING LABELS AND ADD OTHER SAFETY LABELING/SIGNAGE. THE CONTRACTOR SHOULD EVALUATE EXISTING VAULT CONDITIONS AND USE APPROPRIATE SAFETY MEASURES. PROTECTION OF PERSONNEL IS THE TOP PRIORITY.
- EXISTING ONE-LINE DIAGRAM WIRING IS BASED ON FIELD DATA AND INFORMATION PROVIDED BY OTHERS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND WIRING AND REPORT ANY VARIATIONS TO THE PROJECT ENGINEER OF RECORD.
- 3. ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- 4. CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE THE EXTENT OF THE WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, WORKING ON, RELOCATING, CONNECTING OR RECONNECTING THE RESPECTIVE AIRFIELD LIGHTING, TAXI SIGN, NAVAID, VAULT EQUIPMENT OR OTHER DEVICE.
- 5. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
- WHEN A RUNWAY IS SHUT DOWN THE RUNWAY LIGHTING AND ASSOCIATED AIRFIELD NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF. WHEN A TAXIWAY IS SHUT DOWN THE TAXIWAY LIGHTS FOR THAT TAXIWAY SHALL BE SHUT OFF.
- 7. THE RESPECTIVE CONSTANT CURRENT REGULATORS SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, ADDITIONS, AND/OR ANY AIRFIELD WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS, AND AGAIN AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS AND/OR UPGRADES.
- PROVIDE LOCKOUT/TAGOUT KIT WITH 5 PAD LOCKS EACH WITH DIFFERENT KEY, 3 PADLOCK HASPS, AND 50 LOCKOUT TAGS. PROVIDE NUMBERING 1 THROUGH 5 FOR PADLOCKS & KEYS. INCLUDE WALL MOUNTING KIT.



Offices Nationwide www.hanson-inc.com

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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

WORK

| NO. | DATE | DES | CRIPT | ION |
|---------|------------|-------|---------|-----|
| NO. | DAIL | DES | DWN | REV |
| ISSUE: | SEPTE | MBER | 12, 202 | 25 |
| PROJE | CT NO: 2 | 3A103 | 2.00 | |
| CAD FII | F: F-601 D | WG | | |

DESIGN BY: KNL 07/22/2025

DRAWN BY: AJC 07/31/2025

SHEET TITLE

REVIEWED BY: KNL 08/04/2025

EXISTING ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD

EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD

WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING. INTERTEK TESTING SERVICES VERIFICATION/ETL LISTING. (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.

3. ALL CONDUCTORS/WIRING SHALL BE COPPER.

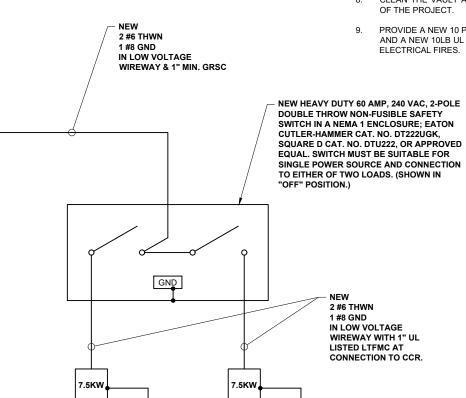
CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CCR, NAVAID, (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKERS, SAFETY SWITCHES, FUSES, WIRE SIZES & CONDUIT SIZES TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN

CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, HANDHOLE JUNCTION BOX, OR RACEWAY.

RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABÉL PRIOR TO INSTALLATION.

EQUIPMENT AND MATERIALS NOT LABELED AS "EXISTING" ARE NEW

PROVIDE A NEW 10 POUND UL LISTED CLASS 10B:C CARBON DIOXIDE FIRE EXTINGUISHER AND A NEW 10LB UL RATING 1A:10B:C HALOTRON FIRE EXTINGUISHER IN THE VAULT FOR



BACKUP

CCR FOR

RWY 18-36

& TWY LTG

(EXISTING CCR

REWIRED)

VAULT

GROUND

BUS

EXIST

VAULT

GROUND

BUS

NEW

PRIMARY

CCR FOR

RWY 18-36 &

TWY LTG

ALL ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN CONFORMANCE

HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS OR OTHER

LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT

CLEAN THE VAULT AT THE BEGINNING OF THE PROJECT AND AGAIN NEAR COMPLETION

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

HANSON'

Hanson Professional Services Inc.

Professional Service Corporation

GREATER BEARDSTOWN

BEARDSTOWN, IL 62618

KEVIN N.

LIGHTFOOT 062-047643

COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM

INTENSITY RUNWAY LIGHTS, MEDIUM

INTENSITY TAXIWAY

LIGHTS, AND VAULT

WORK

MUNICIPAL AIRPORT

Offices Nationwide

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| į | PROJEC | CT NO: 2 | 3A103 | 2.00 | |
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SHEET TITLE

DRAWN BY: AJC 07/31/2025

REVIEWED BY: KNL 08/04/2025

PROPOSED ELECTRICAL ONE-LINE FOR VAULT AND AIRFIELD

PROPOSED ELECTRICAL ONE-LINE FOR VAULT AND AIRFIELD

EXISTING 120/240VAC,

1-PHASE, 3-WIRE SERVICE FROM POLE MOUNT UTILITY XFMR

POSSIBLY 25KVA

EXISTING ELECTRIC

EXISTING MAINT. BLDG/AIRPORT

ELECTRICAL VAULT SERVICE AND MAIN

DISTRIBUTION PANELBOARD, 200AMP.

120/240VAC, 1PH, 3-WIRE, 42 CIRCUIT

EXIST. #2 AWG COPPER

GROUUNDING ELECTRODE

CONDUCTOR

EXIST.

VAULT

GROUND

BUS

FURNISH & INSTALL

NEW CKT BKRS FOR CCR

POWER & CONTROL CKTS.

PANEL WITH 200AMP, 2-POLE MAIN

BREAKER, SQUARE D CAT. NO.

12196086220010001, SERIES B2.

NOTE: CLEAN PANEL INTERIOR.

UTILITY METER

(NOT CONFIRMED)

UNKNOWN

GROUUND

APPEARS TO BE

#6 AWG STR BARE

COPPER BONDING

EXISTING SURGE PROTECTOR DEVICE, SQUARE D SURGE LOGIC TVS1IMA16P

JUMPER

- EXISTING

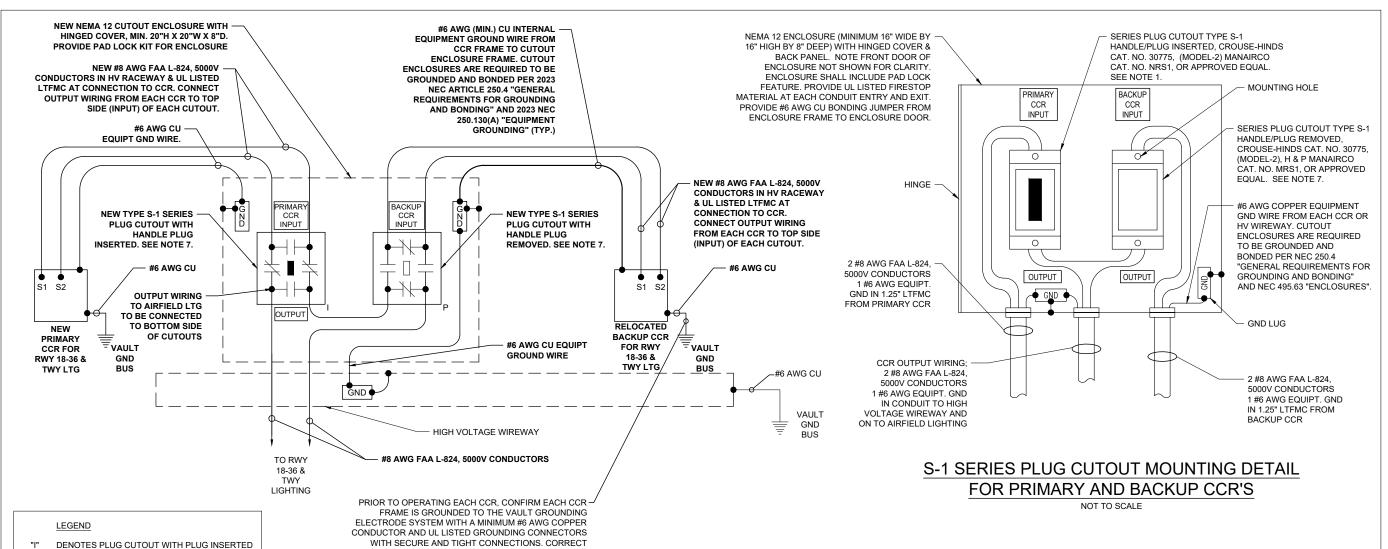
2 #3/0 THWN

1 #3/0 NEUTRAL

S/N

IN 2" PVC CONDUIT

BID DOCUMENTS



PROPOSED HIGH VOLTAGE WIRING SCHEMATICS FOR RWY 18-36 & TWY LIGHTING

TONGUE LONG BARREL DOUBLE COMPRESSION LUG

WASHERS. CONNECTION TO CCR FRAME SHALL BE THE SAME OR WITH CCR MFR GND LUG. (TYP. EACH CCR)

WHERE MISSING FOR SAFETY OF PERSONNEL. CONNECTIONS TO GROUND BAR SHALL BE WITH 2-HOLE

WITH 3/8" STAINLESS STEEL BOLTS, NUTS, AND

NOTES

DENOTES PLUG CUTOUT WITH PLUG PULLED

"CCR" DENOTES CONSTANT CURRENT REGULATOR

- PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CONSTANT CURRENT REGULATOR NOTING THE REGULATOR DESIGNATION AND THE RUNWAY AND/OR TAXIWAY SERVED.
- EACH PLUG CUTOUT CABINET SHALL BE FURNISHED WITH A PHENOLIC ENGRAVED LEGEND PLATE THAT IDENTIFIES THE RESPECTIVE CIRCUIT OR REGULATOR. INCLUDE AN ADDITIONAL LEGEND PLATE LABELED "CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF". FURNISH & INSTALL A WARNING LABEL FOR CUTOUT ENCLOSURE TO WARN PERSONS OF POTENTIAL ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "ARC-FLASH HAZARD WARNING".
- PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT TO IDENTIFY THE RESPECTIVE CUTOUT INPUT CONNECTION AND THE RESPECTIVE CUTOUT OUTPUT CONNECTION
- BOND REGULATOR FRAME TO VAULT GROUND BUS WITH A DEDICATED #6 AWG COPPER BONDING JUMPER.
- PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
- 6. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED. CONFIRM LIQUID TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
- 7. PLEASE BE AWARE THAT ALL TYPE S-1 CUTOUTS ARE NOT EQUAL. THERE IS NO FAA APPROVAL REQUIREMENT, NO ETL CERTIFICATION REQUIREMENT, NO UL LISTING REQUIREMENT, NOR ANY OTHER NATIONAL RECOGNIZED TESTING LAB REQUIREMENT FOR TYPE S-1 CUTOUTS. CAREFUL EVALUATION NEEDS TO BE DONE TO DETERMINE IF THE RESPECTIVE S-1 CUTOUT IS SUITABLE FOR THE APPLICATION. SERIES PLUG CUTOUTS SHALL BE TYPE S-1, RATED 5000 VOLTS, 20-AMP. SERIES PLUG CUTOUTS SHALL BE ATTED SUITABLE FOR NORMAL OPPERATION WITH HANDLE REMOVED OR HANDLE INSERTED. CUTOUTS SHALL DISCONNECT THE INPUT FROM THE OUTPUT, SHORT THE INPUT TERMINALS, AND SHORT THE OUTPUT TERMINALS WHEN THE HANDLE/PLUG IS REMOVED. SERIES PLUG CUTOUTS FOR RUNWAY 18-36 & TAXIWAY LIGHTING CIRCUIT SHALL BE WIRED TO POWER ONE SERIES LIGHTING CIRCUIT FROM EITHER OF TWO CCR'S. SERIES CIRCUIT PLUG CUTOUTS SHALL BE SUITABLE FOR NORMAL OPERATION WITH HANDLE PLUG REMOVED TO ACCOMMODATE OPERATING A MANUAL TRANSFER PAIR OF CCRS. SERIES PLUG CUTOUTS SHALL BE CROUSE-HINDS CAT. NO. 30775, MANAIRCO CAT. NO. MRS1, HUGHEY & PHILLIPS CAT. NO. MRS1 OR APPROVED EQUAL. THE RESPECTIVE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEIR CUTOUT IS SUITABLE AND RATED FOR THE RESPECTIVE APPLICATION.
- MAINTAIN SEPARATION OF HIGH VOLTAGE WIRING (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND/OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) FROM LOW VOLTAGE WIRING (RATED 600 VOLTS AND BELOW) TO COMPLY WITH NEC 300.3(C)(2). HIGH VOLTAGE AND LOW VOLTAGE WIRING SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, WIREWAY, PULL BOX. SPLICE CAN. HANDHOLE. OR MANHOLE.
- LOW VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE LOW VOLTAGE SECTION.
 HIGH VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE HIGH VOLTAGE SECTION.

10. WHERE AN AIRFIELD LIGHTING SERIES CIRCUIT HAS A PRIMARY CCR AND A BACKUP CCR IT IS REQUIRED TO HAVE A DOUBLE THROW SAFETY SWITCH (MANUAL TRANSFER SWITCH) CONNECTED FOR ONE INPUT POWER SOURCE AND TWO LOADS TO PREVENT SIMULTANEOUS ENERGIZING OF BOTH CCR'S. PROCEDURES MUST BE IN PLACE TO ONLY ALLOW ONE OF THE TWO CCR'S TO BE ENERGIZED AT A TIME. **CHANSON**

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Illinois Licensed Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM
INTENSITY RUNWAY
LIGHTS, MEDIUM
INTENSITY TAXIWAY
LIGHTS, AND VAULT
WORK

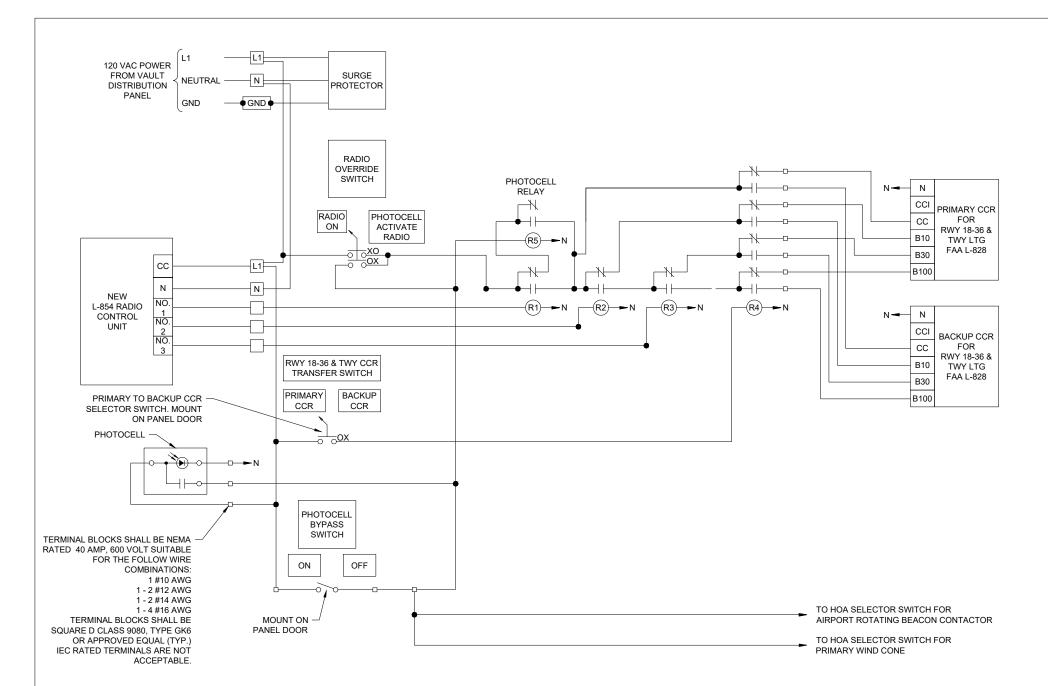
SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| NO. | NO. DATE | DES | CRIPT | ION |
|---------|------------|--------|--------|-----|
| NO. | DATE | DES | DWN | REV |
| SSUE: | SEPTE | MBER | 12, 20 | 25 |
| PROJEC | CT NO: 2 | 3A103 | 2.00 | |
| CAD FIL | E: E-603.D | WG | | |
| DESIGN | BY: KN | L 07/2 | 22/202 | 5 |
| RAWN | BY: A.IC | 07/3 | 1/202 | 5 |

REVIEWED BY: KNL 08/04/2025

SHEET TITLE

PROPOSED HIGH VOLTAGE WIRING SCHEMATIC RWY 18-36 & TWY LIGHTING



AIRFIELD LIGHTING CONTROL WIRING SCHEMATIC

NOTES:

- RELAY INTERFACE CONTROL PANEL SHALL BE MANUFACTURED BY AN FAA
 APPROVED L-821 CONTROL PANEL MANUFACTURER OR A UL 508 INDUSTRIAL
 CONTROL PANEL BUILDER, AND SHALL BE MANUFACTURED IN THE UNITED
 STATES TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY
 AMERICAN REQUIREMENT AND THE "BUY AMERICAN ACT". RELAY INTERFACE
 CONTROL PANEL SHALL BE A SEPARATE PANEL. DO NOT COMBINE WITH
 LIGHTING CONTACTOR PANEL.
- 2. PANEL SHALL BE IN A NEMA 12 ENCLOSURE WITH HINGED COVER. DRILL HOLE IN BOTTOM OF ENCLOSURE TO ALLOW CONDENSATION TO ESCAPE.
- EXTERNAL CONTROL CABLE SHALL BE NO. 12 AWG COPPER, 600 VOLT CABLE. ALL PANEL INTERIOR CONTROL CABLE SHALL BE MINIMUM 16 AWG, COPPER, 600 VOLT CABLE.
- 4. IN THE AUTOMATIC MODE OF OPERATION THE RUNWAY 18-36 AND TAXIWAY LIGHTING CONSTANT CURRENT REGULATORS (PRIMARY UNIT & BACKUP UNIT) SHALL BE CONTROLLED BY THE PHOTOCELL & THE L-854 RADIO CONTROL UNIT IN THE FOLLOWING MANNER:

PHOTOCELL --10% BRIGHTNESS & ACTIVATE RADIO CONTROL --30% BRIGHTNESS

7 CLICKS --100% BRIGHTNESS

- 5. THE RADIO OVERRIDE SWITCH WILL ACTIVATE L-854 RADIO CONTROL 24 HOURS PER DAY IN THE "RADIO ON" POSITION. THE PHOTOCELL WILL ACTIVATE RADIO CONTROL IN THE "PHOTOCELL ACTIVATE RADIO" POSITION.
- IN THE AUTOMATIC MODE OF OPERATION THE AIRPORT ROTATING BEACON SHALL BE ACTIVATED BY THE PHOTOCELL OR PHOTOCELL BYPASS SWITCH.
- 7. EQUIPMENT GROUND WIRES SHALL BE INCLUDED WITH EACH BRANCH CIRCUIT & EACH CONTROL CIRCUIT.
- 8. INCLUDE PHOTOCELL BYPASS SWITCH.
- SURGE PROTECTOR SHALL BE UL LISTED PER UL 1449, SUITABLE FOR 120
 VAC, 1 PH, 2 WIRE PLUS GROUND SYSTEM WITH SURGE CURRENT RATING
 OF 40 KA (MIN.), 8x20 MICROSECOND WAVE, AND STATUS INDICATION LIGHTS
 IN A WEATHERPROOF HOUSING. MAINTAIN LEADS AS SHORT & STRAIGHT AS
 POSSIBLE. INCLUDE MOUNTING BRACKET.
- 10. INCLUDE EQUIPMENT GROUND BAR, PROPERLY SIZE FOR ALL EQUIPMENT GROUND WIRES TO OR FROM CONTROL PANEL.
- 11. CONTROL RELAYS SHALL HAVE 10 AMP CONTACT RATINGS AT 240 VAC WITH 120 VAC COILS. PROVIDE 3 SPARE RELAYS FOR EACH TYPE USED IN THE RELAY INTERFACE PANEL.
- 12. COLOR CODING FOR THE CONTROL WIRING TO EACH CONSTANT CURRENT REGULATOR SHALL BE CONSISTENT FOR ALL REGULATORS. COLOR CODING SHALL BE AS FOLLOWS:

CC --RED
10% --ORANGE
30% --YELLOW
100% --BLUE
NEUTRAL --WHITE

EQUIPT. GND --GREEN

ALSO TAG THE CONTROL WIRES WITH THE RESPECTIVE DESIGNATION (CC, 10%, 30%, 100%)

13. "N" DESIGNATES NEUTRAL CONNECTION OR NEUTRAL CONDUCTOR.

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GREATER BEARDSTOWN MUNICIPAL AIRPORT 9487 AIRPORT ROAD BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM

LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

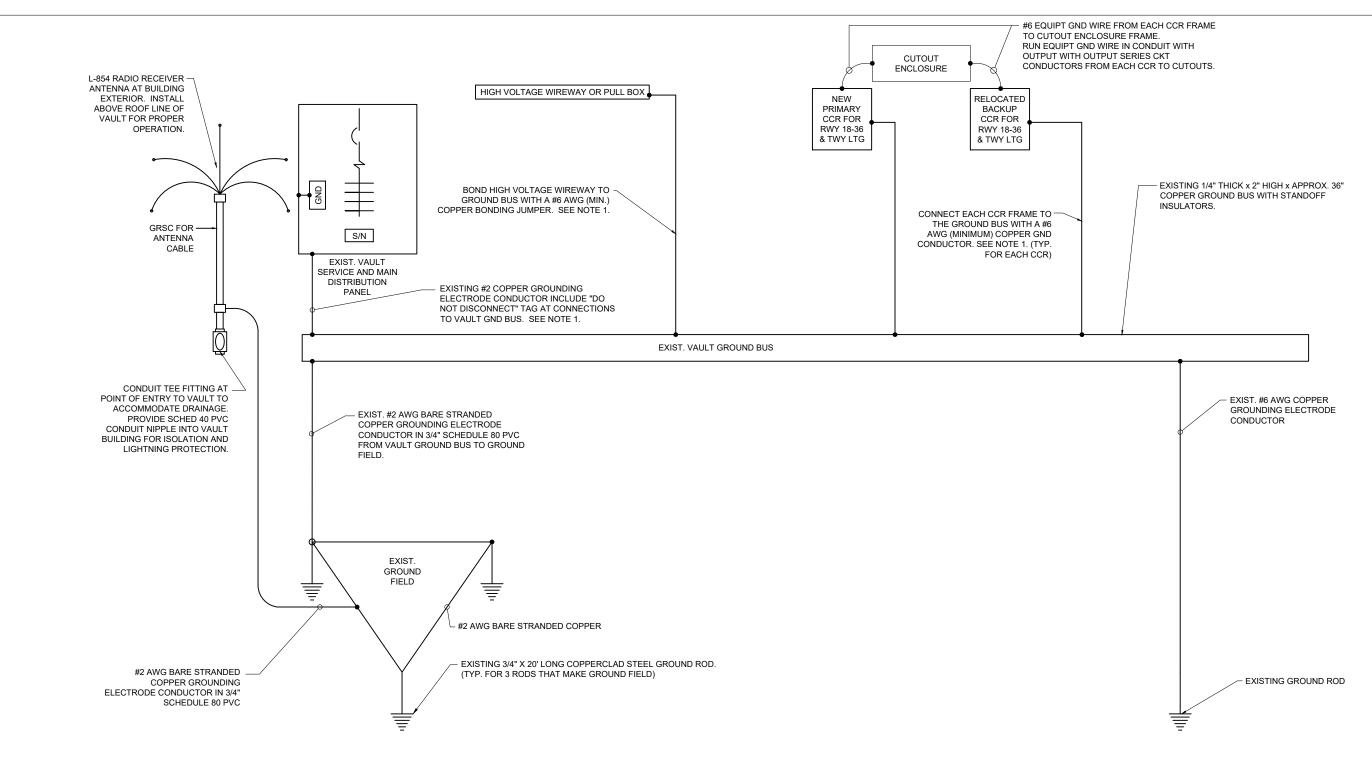
SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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AIRFIELD LIGHTING CONTROL WIRING SCHEMATIC

SHEET TITLE

DESIGN BY: KNL 07/22/2025 DRAWN BY: AJC 07/31/2025 REVIEWED BY: KNL 08/04/2025



VAULT GROUND BUS RISER

- CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2-HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- 2. ALL CONNECTIONS TO THE GROUND RING AND GROUND RODS SHALL BE EXOTHERMIC WELD.
- ALL INSULATED GROUND WIRES SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND KCMIL.
- ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR109200 "INSTALL ELECTRICAL EQUIPMENT" PER LUMP SUM.
- TEST GROUND RING AND RECORD RESULTS. WHERE GROUND RESISTANCE TEST RESULTS FOR THE VAULT GROUND RING EXCEED 10 OHMS CONTACT PROJECT ENGINEER OF RECORD FOR FURTHER DIRECTION.

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GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



DATE LICENSE SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

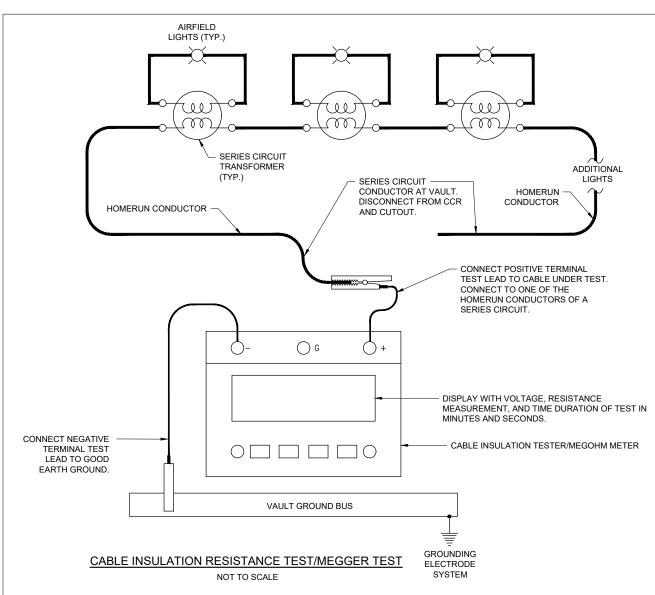
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SHEET TITLE

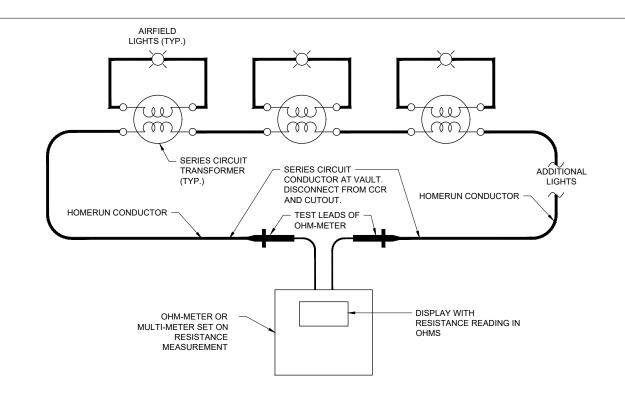
VAULT GROUND BUS RISER



CABLE INSULATION RESISTANCE TEST (MEGGER TEST) NOTES

- PRIOR TO BEGINNING EXCAVATIONS, AIRFIELD LIGHTING MODIFICATIONS, CABLE INSTALLATION, AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS. ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT. COORDINATE TESTING WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT. PROJECT ENGINEER OF RECORD SHALL BE ON SITE TO
- AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS, UPGRADES, AND/OR OTHER WORK AND ADDITIONS HAVE BEEN COMPLETED ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT. COORDINATE TESTING WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT. PROJECT ENGINEER OF RECORD SHALL BE ON SITE TO OBSERVE TEST.
- THE CONTRACTOR IS RESPONSIBLE TO EMPLOY THE SERVICES OF PERSONNEL QUALIFIED, FAMILIAR WITH, AND TRAINED TO PERFORM THE RESPECTIVE TESTS, AND QUALIFIED TO WORK ON 5000 VOLT AIRFIELD LIGHTING SERIES CIRCUITS, CONSTANT CURRENT REGULATORS, AND ASSOCIATED AIRPORT ELECTRICAL VAULT EQUIPMENT
- INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 5,000 VOLT SERIES CIRCUIT CABLES SHALL USE AN INSULATION RESISTANCE TESTER CAPABLE OF TESTING THE CABLES AT 5,000 VOLTS. OLDER SERIES CIRCUIT CABLES AND/OR CABLES IN POOR CONDITION MAY REQUIRE THE TEST VOLTAGE TO BE PERFORMED AT A VOLTAGE LOWER THAN 5,000 VOLTS (EXAMPLE 1,000 VOLTS, 500 VOLTS, OR LESS THAN 500 VOLTS). THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST RESULT
- INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 600 VOLT RATED CABLES SHALL USE A 500 VOLT INSULATION RESISTANCE TESTER. THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST
- IT IS RECOMMENDED TO USE THE SAME INSULATION RESISTANCE TEST EQUIPMENT THROUGHOUT THE PROJECT TO ENSURE RELIABLE COMPARATIVE READINGS AT THE BEGINNING OF THE PROJECT AND AT THE COMPLETION OF THE PROJECT.

- DISCONNECT THE AIRFIELD LIGHTING SERIES CIRCUIT CABLES FROM THE CONSTANT CURRENT REGULATOR WHEN PERFORMING CABLE INSULATION RESISTANCE TESTS (MEGGER TESTS). TEST THE CABLES THAT GO TO THE AIRFIELD FOR THE RESPECTIVE AIREIELD LIGHTING SERIES CIRCUIT. CONNECT THE CABLE INSULATION RESISTANCE TESTER TO ONE OF THE AIRFIELD LIGHTING SERIES CIRCUIT CABLES AND TO A GOOD GROUND IN THE AIRPORT ELECTRICAL VAULT SUCH AS THE AIRPORT VAULT GROUND BUS. CONDUCT THE CABLE INSULATION RESISTANCE TEST ON EACH RESPECTIVE CABLE FOR NOT LESS THAN 90 SECONDS. RECORD THE TEST RESULTS AT THE END OF THE TIME DURATION FOR THE TEST.
- FAA ADVISORY CIRCULAR 150/5340-26C MAINTENANCE OF AIRPORT VISUAL AID FACILITIES PROVIDES GUIDANCE ON INSULATION RESISTANCE TESTS. ALSO REFER TO THE USER MANUAL FOR THE RESPECTIVE CABLE INSULATION RESISTANCE TESTER. REASONABLY NEW SERIES CIRCUIT CABLES AND TRANSFORMERS WITH GOOD CONNECTIONS SHOULD READ 500 MEGA-OHMS TO 1,000 MEGA-OHMS OR HIGHER. THE READINGS SHOULD DECREASE WITH AGE. THE RESISTANCE VALUE DECLINES OVER THE SERVICE LIFE OF THE CIRCUIT; A 10-20 PERCENT DECLINE PER YEAR MAY BE CONSIDERED NORMAL. A YEARLY DECLINE OF 50 PERCENT (4 PERCENT MONTHLY) OR GREATER INDICATES THE EXISTENCE OF A PROBLEM. SUCH AS A HIGH RESISTANCE GROUND. SERIOUS DETERIORATION OF THE CIRCUIT INSUI ATION LIGHTNING DAMAGE, BAD CONNECTIONS BAD SPLICES, CABLE INSULATION DAMAGE, OR OTHER FAILURE. FAA ADVISORY CIRCULAR 150/5340-26C NOTES "GENERALLY SPEAKING, ANY CIRCUIT THAT MEASURES LESS THAN 1 MEGOHM IS CERTAINLY DESTINED FOR RAPID FAILURE." AIRFIELD LIGHTING SERIES CIRCUITS WITH CABLE INSULATION READINGS OF LESS THAN 1 MEGOHM ARE NOT UNCOMMON FOR OLDER CIRCUITS THAT ARE 20 YEARS OR MORE OF AGE.
- BASED ON INFORMATION IN FAA AC NO. 150/5340-26C MAINTENANCE OF AIRPORT VISUAL AID FACILITIES, THE CABLE INSULATION RESISTANCE VALUE INEVITABLY DECLINES OVER THE SERVICE LIFE OF THE CIRCUIT; A 10-20 PERCENT DECLINE PER YEAR MAY BE CONSIDERED NORMAL. IN THE EVENT THAT THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH IT MIGHT INDICATE CABLE DAMAGE DUE TO LIGHTNING OR DAMAGE AS A RESULT OF CONTRACTOR OPERATIONS. WHERE THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH OVER THE PROJECT CONSTRUCTION DURATION AS A RESULT OF CONTRACTOR OPERATIONS. CONTRACTOR WILL NEED TO INVESTIGATE. ADDRESS, AND REPAIR THE RESPECTIVE CABLE CIRCUITS



MEASURE RESISTANCE OF SERIES CIRCUIT LOOP.

NOT TO SCALE

SERIES CIRCUIT LOOP RESISTANCE MEASUREMENT NOTES

- PRIOR TO BEGINNING EXCAVATIONS. AIRFIELD LIGHTING MODIFICATIONS CABLE INSTALLATION, AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS. THE RESPECTIVE SERIES CIRCUIT CABLE LOOPS SHALL HAVE THE RESISTANCE MEASURED WITH AN OHMMETER AND RECORDED FOR EACH CIRCUIT AT THE VAULT. COORDINATE TESTING WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT. PROJECT ENGINEER OF RECORD SHALL BE ON SITE TO OBSERVE TEST
- AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS, UPGRADES, AND/OR OTHER WORK AND ADDITIONS HAVE BEEN COMPLETED THE RESPECTIVE SERIES CIRCUIT CABLE LOOPS SHALL HAVE THE RESISTANCE MEASURED WITH AN OHMMETER AND RECORDED FOR EACH CIRCUIT AT THE VAULT. COORDINATE TESTING WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT. PROJECT ENGINEER OF RECORD SHALL BE ON SITE TO OBSERVE
- ALL EXISTING SERIES CIRCUIT CABLE LOOPS SHALL HAVE THE RESISTANCE MEASURED WITH AN OHMMETER AND RECORDED FOR EACH CIRCUIT AT THE VAULT. THE RESISTANCE OF THE SERIES CIRCUIT LOOP WITH CONNECTIONS USING #8 AWG COPPER CONDUCTOR SHOULD BE APPROXIMATELY 0.8 TO 1 OHM PER THOUSAND FEET OF CABLE LENGTH. THE RESISTANCE OF THE SERIES CIRCUIT LOOP WITH CONNECTIONS USING #6 AWG COPPER CONDUCTOR SHOULD BE APPROXIMATELY 0.5 TO 0.7 OHM PER THOUSAND FEET OF CABLE LENGTH. THE NUMBER OF SERIES CIRCUIT TRANSFORMERS AND CONNECTIONS WILL AFFECT THE OVERALL RESISTANCE OF THE SERIES CIRCUIT LOOP AND THEREFORE THE MEASUREMENTS MIGHT BE SLIGHTLY HIGHER THAN THE CALCULATED RESISTANCE FOR THE RESPECTIVE LENGTH

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COVERING ELECTRICAL DESIGN

SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT **WORK**

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DES | CRIPT | ION |
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| i | DESIGN | BY: KN | L 07/2 | 22/202 | 5 |

DRAWN BY: AJC 07/31/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

SERIES CIRCUIT CABLE TESTING **DETAILS**

| FAULT CURRENT CALCULATION LEGEND PLATE SCHEDULE | | | | |
|--|--|--|--|--|
| DEVICE | LABEL | | | |
| VAULT SERVICE & MAIN DISTRIBUTION PANELBOARD "A" (SEE NOTES 4 & 5) | MAX AVAILABLE FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY WAS CALCULATED TO BE:AMPS LINE TO NEUTRAL ON (DATE) | | | |

| DEVICE | LABEL | | |
|---|---|--|--|
| VAULT SERVICE & MAIN DIST. PANEL | MAINT. BLDG & AIRPORT ELECTRICAL VAULT SERVICE & MAIN DIST. PANEL 120/240VAC, 1-PH, 3-WIRE SERVED FROM UTILITY XFMR | | |
| VAULT SERVICE & MAIN DIST. PANEL | 120/240VAC, 1-PH, 3-WIRE CONDUCTOR COLOR CODING SHALL BE AS FOLLOWS: PHASE A BLACK PHASE B RED NEUTRAL WHITE GROUND GREEN | | |
| PRIMARY CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | PRIMARY CCR FOR RWY 18-36 & TWY LIGHTING | | |
| PRIMARY CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | NOTICE: THIS CCR HAS AN ADDITIONAL 120VAC CONTROL POWER CIRCUIT FEEDING IT. DISCONNECT ALL POWER SOURCES TO CCR BEFORE SERVICING. | | |
| TOP OF PRIMARY CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR | | |
| BACKUP/SPARE CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | BACKUP CCR FOR RWY 18-36 & TWY LIGHTING | | |
| BACKUP CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | NOTICE: THIS CCR HAS AN ADDITIONAL 120VAC CONTROL POWER CIRCUIT FEEDING IT. DISCONNECT ALL POWER SOURCES TO CCR BEFORE SERVICING. | | |
| TOP OF BACKUP CCR FOR RUNWAY 18-36 & TAXIWAY LIGHTING | KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR | | |
| CUTOUT ENCLOSURE FOR RUNWAY 18-36 & TAXIWAY LIGHTING | RUNWAY 18-36 AND TAXIWAY LIGHTING CUTOUTS | | |
| PRIMARY CUTOUT INPUT SIDE CONNECTION FOR RUNWAY 18-36 AND TAXIWAY LIGHTING | PRIMARY CCR INPUT | | |
| BACKUP CUTOUT INPUT SIDE CONNECTION FOR RUNWAY 18-36 AND TAXIWAY LIGHTING | BACKUP CCR INPUT | | |
| EACH CUTOUT (RUNWAY 18-36 AND TAXIWAY LIGHTING) OUTPUT SIDE CONNECTION (2 LEGEND PLATES) | OUTPUT | | |
| EACH CUTOUT ENCLOSURE | CAUTION OPERATE CUTOUTS WITH CCR'S SHUT OFF | | |
| RADIO RELAY INTERFACE PANEL | RADIO RELAY INTERFACE PANEL | | |

| LEGEND PLATE SCHEDULE CONTINUED | | | | | |
|---|--|--|--|--|--|
| DEVICE | LABEL | | | | |
| MANUAL TRANSFER SWITCH FOR RUNWAY 18-36 & TAXIWAY LIGHTING PRIMARY CCR AND BACKUP/SPARE CCR | TRANSFER SWITCH FOR RUNWAY 18-36 & TAXIWAY LIGHTING CONSTANT CURRENT REGULATORS FED FROM VAULT SERVICE & MAIN DIST. PANEL | | | | |
| MANUAL TRANSFER SWITCH FOR RUNWAY 18-36 & TAXIWAY LIGHTING PRIMARY CCR AND BACKUP/SPARE CCR PRIMARY SWITCH POSITION | PRIMARY CCR | | | | |
| MANUAL TRANSFER SWITCH FOR RUNWAY 18-36 & TAXIWAY LIGHTING PRIMARY CCR AND BACKUP/SPARE CCR BACKUP SWITCH POSITION | BACKUP/SPARE CCR | | | | |
| LOW VOLTAGE WIREWAY (1/2" HIGH BLACK LETTERS WHITE BACKGROUND) | LOW VOLTAGE | | | | |
| GROUNDING ELECTRODE CONDUCTORS TERMINATED ON VAULT GROUND BUS. (PROVIDE 2 LEGEND PLATES & SECURE TO CONDUCTORS WITH NYLON STRING OR CABLE TIES) | DO NOT DISCONNECT | | | | |

DIRECTIONS TO TRANSFER RUNWAY 18-36 & TAXIWAY LIGHTING FROM PRIMARY TO

- 1. SHUT OFF INPUT POWER (CIRCUIT BREAKER) TO BOTH RWY 18-36 & TWY CCR'S & TURN
- 2. OPERATE MANUAL TRANSFER SWITCH FOR RWY 18-36 & TWY AND MOVE HANDLE FROM "PRIMARY" POSITION TO "BACKUP/SPARE" POSITION.
- 3. PULL CUTOUT HANDLE FROM PRIMARY CCR UNIT & INSERT INTO BACKUP CCR CUTOUT.
- 4. GO TO RADIO RELAY INTERFACE PANEL & TURN "RWY 18-36 & TWY CCR TRANSFER" SELECTOR SWITCH FROM "PRIMARY" TO "BACKUP/SPARE" POSITION.
- 5. TURN ON INPUT POWER (CIRCUIT BREAKER) TO RWY 18-36 & TWY CCR
- 6. TURN SELECTOR SWITCH ON BACKUP/SOARE CCR TO "REMOTE" POSITION.

PROVIDE PLACARD OR LEGEND PLATE FOR RUNWAY CONSTANT CURRENT REGULATOR PAIR AS NOTED ABOVE: LETTERING TO BE MIN. 1/4" HIGH, BLACK ON WHITE BACKGROUND. LOCATE PLACARD ABOVE OR ADJACENT TO CUTOUT ENCLOSURE FOR RESPECTIVE RUNWAY.

RUNWAY 18-36 & TAXIWAYS CCR TRANSFER PROCEDURE PLACARD DETAIL

NOTES:

- 1. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.
- 2. PER NEC 110.22 "IDENTIFICATION OF DISCONNECTING MEANS". EACH DISCONNECTING MEANS SHALL BE LEGIBLY MARKED TO INDICATE ITS PURPOSE AND IDENTIFY THE POWER SOURCE THAT SUPPLIES THE DISCONNECTING MEANS.
- 3. PER NEC 408.4 "FIELD MARKING REQUIRED" PART (B) "SOURCE OF SUPPLY", ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS SUPPLIED BY A FEEDER(S) SHALL BE PERMANENTLY MARKED TO INDICATED EACH DEVICE OR EQUIPMENT WHERE THE POWER ORIGINATES.
- 4. PER NEC 110.24 "AVAILABLE FAULT CURRENT" PART (A) "FIELD MARKING", SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE AVAILABLE FAULT CURRENT. FAULT CURRENT INFORMATION TO BE PROVIDED BY SERVING ELECTRIC UTILITY COMPANY OR FROM DATA OBTAINED FROM UTILITY TRANSFORMER NAMEPLATE. CONTACT PROJECT ENGINEER OF RECORD TO CONFIRM FAULT CURRENT CALCULATIONS.
- 5. PER NEC 408.6 "SHORT-CIRCUIT CURRENT RATING" THE AVAILABLE FAULT CURRENT AND THE DATE, THE CALCULATION WAS PERFORMED SHALL BE FIELD MARKED ON THE ENCLOSURE AT THE POINT OF SUPPLY FAULT CURRENT INFORMATION TO BE PROVIDED BY SERVING ELECTRIC UTILITY COMPANY OR FROM DATA OBTAINED FROM UTILITY TRANSFORMER NAMEPLATE. CONTACT PROJECT ENGINEER OF RECORD TO CONFIRM FAULT CURRENT CALCULATIONS.
- VERIFY ALL POWER SOURCES TO EQUIPMENT. REPORT ANY VARIATIONS FROM THE SCHEDULE TO AIRPORT MANAGER AND ENGINEER OF RECORD, PROVIDE CORRECTIVE LABELING FOR RESPECTIVE POWER SOURCE WHERE APPLICABLE. SAFETY OF
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SAFETY SWITCH PANELBOARD, LOAD CENTER, CUTOUT, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "ARC-FLASH HAZARD WARNING"
- CONTRACTOR SHALL PROVIDE APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT, IN ACCORDANCE WITH NFPA 70E ARTICLE 130 WORK INVOLVING ELECTRICAL HAZARDS, PART 130.5 ARC FLASH RISK ASSESSMENT, (H) EQUIPMENT LABELING. WHERE MAXIMUM CALCULATED FAULT CURRENT EXCEEDS 25,000 AMPS CONTACT PROJECT ENGINEER.
- 9 ALL LABELING WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE WORK
- 10. LEGEND PLATES MUST BE PLACED WHERE THEY ARE CLEARLY VISIBLE FOR THE RESPECTIVE EQUIPMENT OR DEVICE. WHERE THE EQUIPMENT/DEVICE DOES NOT HAVE ADEQUATE SPACE TO ACCOMMODATE THE LABEL OR LEGEND PLATE INSTALL THE LABEL/LEGEND PLATE IMMEDIATELY ADJACENT TO OR ABOVE THE RESPECTIVE DEVICE. INCLUDE MOUNTING PLAQUE SUITABLE FOR THE RESPECTIVE ENVIRONMENT.



Appropriate PPE Required NOMINAL VOLTAGE: 120/240 VAC.

SINGLE-PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC FLASH PPE CATEGORY: 1



Refer to NFPA 70E for minimum PPE Requirements

EXAMPLE OF ARC FLASH AND SHOCK HAZARD RISK LABEL FOR 120/240 VAC, SINGLE-PHASE, 3-WIRE PANELBOARD OR OTHER EQUIPMENT WHERE THE MAXIMUM AVAILABLE FAULT CURRENT IS LESS THAN 25.000 AMPS

PROVIDE THESE LABELS FOR THE FOLLOWING EQUIPMENT:

- 1. VAULT MAIN SERVICE & DIST. PANEL
- DTNFSS FOR CCR'S (MANUAL XFER SWITCH FOR CCR'S)
- WIND CONE LIGHTING CONTACTOR CONTROL PANEL
- VAULT RELAY INTERFACE CONTROL PANEL BEACON LIGHTING CONTACTOR CONTROL PANEL
 - ARC FLASH RISK LABEL DETAIL

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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



SIGNED: 9/12/2025 EXPIRES: 11/30/2027

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM INTENSITY TAXIWAY LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

| | NO. | DATE | DESCRIPTION | | | | |
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| | | DATE | DES | DWN | REV | | |
| ISSUE: SEPTEMBER 12, 2025 | | | | | | | |
| PROJECT NO: 23A1032.00 | | | | | | | |
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CAD FILE: E-607.DWG DESIGN BY: KNI 07/22/2025

DRAWN BY: AJC 07/31/2025 REVIEWED BY: KNL 08/04/2025

SHEET TITLE

LEGEND PLATE SCHEDULES - SHEET

BID DOCUMENTS

CAUTION

AREA IN FRONT OF THIS ELECTRICAL PANEL MUST BE KEPT CLEAR FOR 36 INCHES OSHA-NEC REGULATIONS

OSHA-NEC CLEARANCE LABEL FOR PANELBOARDS, LOAD CENTERS, SAFETY SWITCHES, AND CONTROL PANELS. LABELS SHALL BE APPROXIMATELY 3.5" BY 5". PROVIDE THESE LABELS (OR EQUIVALENT) FOR ALL 120/240 VAC PANELBOARDS AND LOAD CENTERS

OSHA WARNING LABEL DETAIL FOR PANELS

CAUTION

AREA IN FRONT OF THIS ELECTRICAL PANEL MUST BE KEPT CLEAR FOR 60 INCHES OSHA-NEC REGULATIONS

OSHA-NEC CLEARANCE LABEL FOR SERIES CIRCUIT DISCONNECT/CUTOUT ENCLOSURES LABELS SHALL BE APPROXIMATELY 3.5" BY 5" PROVIDE THESE LABELS (OR EQUIVALENT) FOR ALL CUTOUT ENCLOSURES.

OSHA WARNING LABEL DETAIL FOR CUTOUT ENCLOSURES



"DANGER - LOCKOUT/TAGOUT" SIGN

NOT TO SCALE

PROVIDE ONE SIGN FOR EACH INTERIOR DOOR AT THE VAULT SIGN SHALL BE APPROXIMATELY

STOP CHECK EACH CCR 1" MIN. LETTERING (TYP.) □ TO MAKE SURE IT IS IN THE PROPER MODE **OF OPERATION BEFORE LEAVING** THE VAULT

CCR CHECK SIGN

NOT TO SCALE PROVIDE ONE SIGN FOR EACH INTERIOR DOOR AT THE VAULT.

> "DANGER HIGH VOLTAGE KEEP OUT" LABELS, MARKINGS, AND/OR SIGNS ARE REQUIRED FOR EQUIPMENT RATED OVER 1000 VOLTS AC IN ACCORDANCE WITH THE FOLLOWING:

- 2020/2023 NEC 110.34(C) "LOCKED ROOMS OR ENCLOSURES"
- 2020 NEC 300.45 "DANGER SIGNS".
- 2023 NEC 305.12 "DANGER SIGNS".
- 2020/2023 NEC 314.72(E) "SUITABLE COVERS"
- 2020 NEC 490.35 (A) "HIGH-VOLTAGE EQUIPMENT". 2023 NEC 495.35 (A) "HIGH-VOLTAGE EQUIPMENT".
- AC 150/5340-26C "MAINTENANCE OF AIRPORT VISUAL AID



"DANGER - HIGH VOLTAGE UNAUTHORIZED PERSONNEL KEEP OUT" SIGN

NOT TO SCALE

PROVIDE WEATHERPROOF WARNING SIGN FOR EACH DOOR TO AIRPORT ELECTRICAL VAULT LABELED "DANGER - HIGH VOLTAGE UNAUTHORIZED PERSONNEL KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C). SIGN SHALL BE APPROXIMATELY 10"H X 14"W OR 14" H X 20" W. NEW SIGNS SHALL REPLACE EXISTING SIGNS ON VAULT DOORS



"DANGER - HIGH VOLTAGE KEEP OUT" SIGN

FURNISH AND INSTALL "DANGER - HIGH VOLTAGE KEEP OUT" LABELS/SIGNS FOR HIGH VOLTAGE SECTION OF CONSTANT CURRENT REGULATORS, SERIES CIRCUIT DISCONNECT/CUTOUT ENCLOSURES HIGH VOLTAGE WIREWAYS AND HIGH VOLTAGE PULL BOXES. LABELS SHALL BE MINIMUM 3.5"H X 5" W.

NOTES:

- LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS, FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SAFETY SWITCH, PANELBOARD, LOAD CENTER, CUTOUT, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. PER THE REQUIREMENTS OF NEC 110.16 "ARC-FLASH HAZARD WARNING"
- PROVIDE PLACARD/SIGN FOR HALOTRON FIRE EXTINGUISHER "FOR ELECTRICAL FIRES" WITH ARROW POINTING TO EXTINGUISHER
- PROVIDE PLACARD/SIGN FOR CARBON DIOXIDE FIRE EXTINGUISHER "FOR ELECTRICAL FIRES" WITH ARROW POINTING TO EXTINGUISHER.
- PROVIDE PLACARD/SIGN FOR ABC DRY CHEMICAL FIRE EXTINGUISHER "FOR BUILDING FIRES" WITH ARROW POINTING TO FIRE EXTINGUISHER

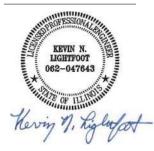
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Professional Service Corporation #184-001084

GREATER BEARDSTOWN MUNICIPAL AIRPORT BEARDSTOWN, IL 62618



COVERING ELECTRICAL DESIGN

SIGNED: 2/26/2025 EXPIRES: 11/30/2025

INSTALL MEDIUM INTENSITY RUNWAY LIGHTS, MEDIUM **INTENSITY TAXIWAY** LIGHTS, AND VAULT WORK

SBGP No: 3-17-SBGP-197/220/TBD IDA No: K06-4871

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REVIEWED BY: KNL 08/04/2025

SHEET TITLE

LEGEND PLATE AND SIGNAGE **SCHEDULES - SHEET** 2

BID DOCUMENTS