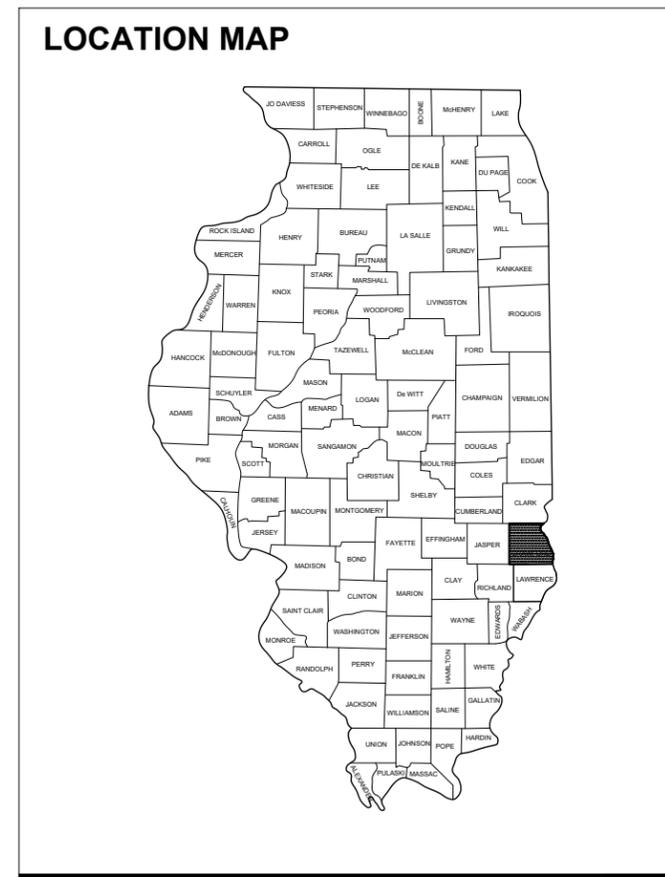
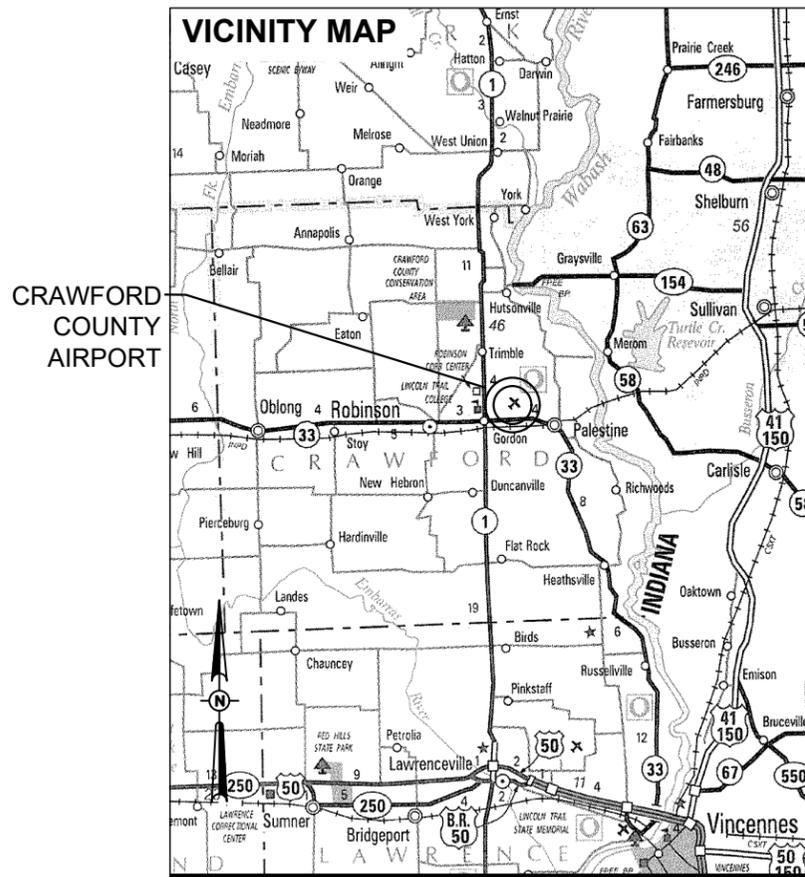


CONSTRUCTION PLANS - FOR BID - ISSUED FEBRUARY 28, 2025

INSTALL LED PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM AND ASSOCIATED ELECTRICAL IMPROVEMENTS OF DUCT, STRUCTURES, CABLING, AND VAULT WORK

**CRAWFORD COUNTY AIRPORT AUTHORITY
CRAWFORD COUNTY AIRPORT (RSV)
ROBINSON, CRAWFORD COUNTY, ILLINOIS**

**IDA PROJECT NO.: RSV-5062
SBG PROJECT NO.: 3-17-SBGP-TBD**



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.

I:\23\JOBS\23A003\8D\CAD\AIRPORT\SHSHEET\G-001-CV.R.DWG

No.	Issue/Description	Sheets Changed	Date	By

COVERING ELECTRICAL DESIGN

Kevin N. Lightfoot

Kevin N. Lightfoot, P.E.
Electrical Engineer

EXP. 11/30/2025

February 28, 2025
Date

HANSON

HANSON PROFESSIONAL SERVICES INC.
1525 South Sixth Street
Springfield, Illinois 62703-2886
Telephone: 217.788.2450
Fax: 217.788.2503

Jeff Olson

Jeff Olson, P.E.
Project Engineer

EXP. 11/30/2025

February 28, 2025
Date

CRAWFORD COUNTY AIRPORT AUTHORITY
CRAWFORD COUNTY AIRPORT
10748 North 1650th Street
Palestine, Illinois 62451
Telephone: 618.586.2121

David Shaw

David Shaw
Authority Chairman

February 28, 2025
Date



J. Olson
DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

**INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS**

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: G-002-FLP.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

**SUMMARY OF
QUANTITIES AND
INDEX OF SHEETS**

SUMMARY OF QUANTITIES - BASE BID				
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	AS-BUILT QUANTITY
AR108658	3/C #8 600 V UG CABLE IN UD	FOOT	2,300	
AR110012	2" DIRECTIONAL BORE	FOOT	140	
AR125565	SPLICE CAN	FOOT	2	
AR125615	PAPI (L-880 SYSTEM)	EACH	1	
AR125910	REMOVE PLASI	EACH	1	
AR150520	MOBILIZATION	L SUM	1	

SUMMARY OF QUANTITIES - ADDITIVE ALTERNATE BID				
ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	AS-BUILT QUANTITY
AS108658	3/C #8 600V UG CABLE IN UD	FOOT	6,200	
AS110012	2" DIRECTIONAL BORE	FOOT	120	
AS125565	SPLICE CAN	EACH	2	
AS125615	PAPI (L-880 SYSTEM)	EACH	1	
AS125910	REMOVE PLASI	EACH	1	

INDEX OF SHEETS	
SHEET NO.	SHEET TITLE
1	COVER SHEET
2	SUMMARY OF QUANTITIES AND INDEX OF SHEETS
3	SCOPE OF WORK
4	CONSTRUCTION SAFETY NOTES & DETAILS SHEET 1
5	CONSTRUCTION SAFETY NOTES & DETAILS SHEET 2
6	CONSTRUCTION SAFETY AND PHASING PLAN
7	EXISTING ELECTRICAL PLAN (STA. 0+00 TO 7+50)
8	EXISTING ELECTRICAL PLAN (STA. 7+50 TO 18+00)
9	EXISTING ELECTRICAL PLAN (STA. 18+00 TO 28+50)
10	EXISTING ELECTRICAL PLAN (STA. 28+50 TO 39+00)
11	EXISTING ELECTRICAL PLAN (STA. 39+00 TO 49+50)
12	EXISTING ELECTRICAL PLAN (STA. 49+50 TO 51+08)
13	PROPOSED ELECTRICAL PLAN (STA. 0+00 TO 7+50)
14	PROPOSED ELECTRICAL PLAN (STA. 7+50 TO 18+00)
15	PROPOSED ELECTRICAL PLAN (STA. 18+00 TO 28+50)
16	PROPOSED ELECTRICAL PLAN (STA. 28+50 TO 39+00)
17	PROPOSED ELECTRICAL PLAN (STA. 39+00 TO 49+50)
18	PROPOSED ELECTRICAL PLAN (STA. 49+50 TO 51+08)
19	PAPI SITING DETAILS AND NOTES RUNWAY END 9
20	PAPI SITING DETAILS AND NOTES RUNWAY END 27
21	PAPI FOUNDATION DETAILS
22	AIRFIELD LIGHTING CABLE SPLICE DETAILS
23	CONDUIT TRENCH DETAIL
24	CABLE AND DUCT MARKER DETAILS
25	SPLICE CAN DETAILS
26	ELECTRICAL NOTES SHEET 1
27	ELECTRICAL NOTES SHEET 2
28	GROUNDING DETAILS
29	GROUND RESISTANCE TESTING DETAILS
30	GROUNDING NOTES
31	ELECTRICAL LEGEND AND ABBREVIATIONS
32	EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD
33	PROPOSED ELECTRICAL ONE-LINE FOR RUNWAY 9-27 PAPI'S
34	EXISTING HIGH VOLTAGE WIRING SCHEMATICS
35	SERIES CIRCUIT CABLE TESTING DETAILS
36	LEGEND PLATE SCHEDULES

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.

CERTIFIED 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.

FOR BID

UTILITY NOTE

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 THEIR 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 ABOVEGROUND UTILITIES.

J.U.L.I.E. INFORMATION

COUNTY.....CRAWFORD
 CITY.....ROBINSON
 TOWNSHIP.....LAMOTTE
 SECTION NO.....28, 29 & 33
 ADDRESS.....CRAWFORD COUNTY AIRPORT
 P.O. BOX 6
 ROBINSON, ILLINOIS 62454



RSV CTAF/UNICOM FREQUENCY = 123.00 MHz

GENERAL NOTES

1. THE SCOPE OF WORK SHEET IS INTENDED ONLY AS A GENERAL DESCRIPTION OF WORK ITEMS AND THEIR APPROXIMATE LOCATIONS AND LIMITS, FOR THE PURPOSE OF UNDERSTANDING THE SCOPE OF THE PROJECT. THIS SHEET SHALL NOT BE USED AS A CONSTRUCTION PLAN. REFER TO THE FOLLOWING PLAN SHEETS FOR DETAILED CONSTRUCTION REQUIREMENTS, LOCATIONS, AND ITEMS OF WORK.
2. WORK FOR THIS PROJECT SHALL CONSIST OF, BUT IS NOT LIMITED TO, REMOVAL AND REPLACEMENT OF THE EXISTING PULSE LIGHT APPROACH SLOPE INDICATORS (PLASI'S) ON RUNWAY 9-27 WITH PRECISION APPROACH PATH INDICATORS (PAPI'S) WITH ASSOCIATED CABLING, DUCT WORK, VAULT WORK AND OTHER ASSOCIATED ITEMS.
3. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, AND TRANSPORTATION NECESSARY TO CONSTRUCT ALL ELEMENTS OF THE PROJECT AS DESCRIBED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. THE PROJECT PAY ITEMS ARE INTENDED TO BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PLANS. ALL INCIDENTAL WORK REQUIRED TO COMPLETE THE PROJECT TO THE SATISFACTION OF THE RESIDENT ENGINEER/TECHNICIAN IS TO BE INCLUDED IN THE COSTS OF PERFORMING THESE ITEMS.
4. THE RULES, REGULATIONS, AND SPECIFICATIONS ENUMERATED HEREIN SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS. THEY SHALL NOT PROHIBIT THE CONTRACTOR FROM FURNISHING AND INSTALLING HIGHER GRADES OF MATERIAL THAN ARE SPECIFIED HEREIN.
5. THE CONSTRUCTION ENTRANCE AS SHOWN ON THE SCOPE OF WORK AND/OR SAFETY PHASING PLAN ARE ONLY TO BE USED FOR THE PROJECT. ACCESS TO THE PROJECT FOR ALL HAULING OF MATERIALS AND EQUIPMENT SHALL BE RESTRICTED TO THE DESIGNATED CONSTRUCTION ENTRANCE.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT, PRESERVE AND REPAIR THE EXISTING AIRFIELD AND ROADWAY PAVEMENTS AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING ELECTRICAL, DRAINAGE, AND PAVEMENT STRUCTURES AT NO ADDITIONAL COST TO THE CONTRACT.
7. NO EQUIPMENT SHALL BE PERMITTED TO CROSS OR USE ANY EXISTING PAVEMENT OUTSIDE THE CONSTRUCTION LIMITS, GENERAL PROJECT AREA OR HAUL ROUTE.
8. CONTRACTOR IS REQUIRED TO PROVIDE THEIR OWN RESTROOM FACILITIES.
9. UNLESS OTHERWISE NOTED, ALL DISTURBED AREAS OUTSIDE OF THE PROPOSED CONSTRUCTION LIMITS SHALL BE GRADED, SEEDED AND MULCHED, OR HYDROMULCH SEEDED, AT NO ADDITIONAL COST TO THE CONTRACT.

10. EXCESS EXCAVATION MATERIAL SHALL BE PLACED AT A LOCATION ON AIRPORT PROPERTY TO BE DETERMINED BY THE AIRPORT MANAGER. ALL OTHER WASTE MATERIAL SHALL BE HAULED FROM THE AIRPORT AND PROPERLY DISPOSED OF UNLESS OTHERWISE SPECIFIED HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS FOR HAULING ON PUBLIC ROADS, AS APPLICABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY DAMAGES TO ANY PAVEMENTS (PUBLIC OR PRIVATE) CAUSED BY THEIR CONSTRUCTION EQUIPMENT OR PERSONNEL.
12. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL FOR ALL SALVAGEABLE MATERIAL REMOVED ON THE PROJECT.
13. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER/TECHNICIAN SO THEY MAY DEVELOP ONE SET OF RELINED AS-BUILT DRAWINGS AT THE COMPLETION OF THE PROJECT.
14. CONTRACTOR SHALL NOTE THAT ALL AREAS WITHIN THE AIRPORT PROPERTY LINE AND OUTSIDE THE CONSTRUCTION LIMITS MAY BE USED FOR AGRICULTURAL PURPOSES. THE CONSTRUCTION LIMITS SHALL BE RESTRICTED TO AREAS THAT ARE ABSOLUTELY NECESSARY TO DISTURB TO COMPLETE THE REQUIRED WORK ITEMS. LIMITS SHALL BE COORDINATED WITH THE RESIDENT ENGINEER PRIOR TO BEGINNING ANY WORK. ALL AREAS WHICH HAVE BEEN FARMED AND/OR DESIGNATED TO BE FARMED AFTER THE PROJECT COMPLETION, AND HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITY, SHALL BE CHISEL PLOWED (36" MAX.) OR OTHERWISE SCARIFIED TO RETURN THE AREA TO A REASONABLE TILLABLE CONDITION (IF SO PERMITTED BY THE AIRPORT MANAGER.)
15. CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ALL GRASS, STONE, OR PAVEMENT DISTURBED BY CONTRACTOR'S CONSTRUCTION OPERATIONS, STAGING, AND CONSTRUCTION ACCESS ROUTES. DISTURBED AREAS TO BE REPAIRED, GRADED, AND MULCHED SEEDED UNLESS OTHERWISE NOTED. STAGING AREA AND SITE ACCESS RESTORATION SHALL BE INCLUDED IN THE COST OF THE HAUL ROUTE.
16. APPROXIMATE LOCATIONS OF UNDERGROUND UTILITIES ARE SHOWN THROUGHOUT THESE PLANS. THE CONTRACTOR SHALL DETERMINE EXACT LOCATIONS AND PROTECT THESE UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL COORDINATE WITH THE PROPER PERSONS FOR THE PURPOSE OF LOCATING AND PROTECTING EXISTING UNDERGROUND UTILITIES.
17. THE CONTRACTOR MUST AT ALL TIMES MAINTAIN PROPER DRAINAGE FOR ALL AREAS AFFECTED BY THEIR WORK.



Offices Nationwide
 www.hanson-inc.com
 Hanson Professional Services Inc.
 1525 S. 6th Street
 Springfield, IL 62568
 phone: 217-788-2450
 fax: 217-788-2503
 Illinois Licensed
 Professional Service Corporation
 #184-001084

Crawford County Airport
 10748 North 1650th St.
 Palestine, Illinois 62451



DATE SIGNED: 2/28/2025
 LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

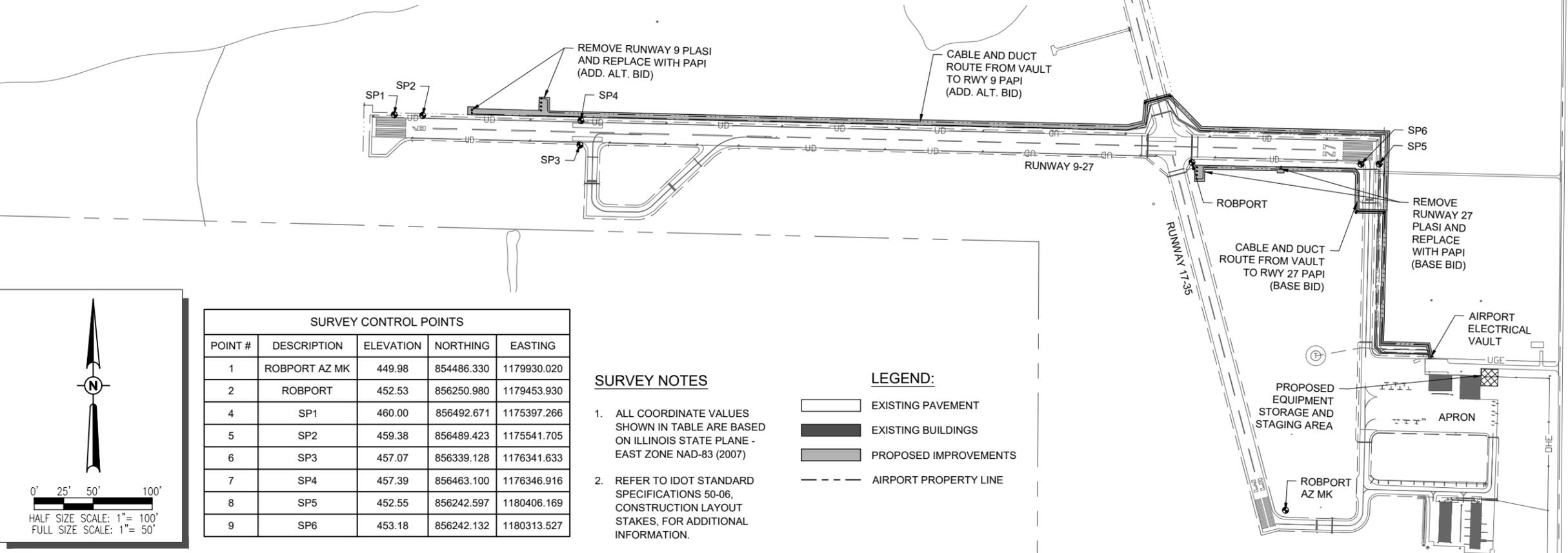
IDA No: RSV-5062
 AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
 PROJECT NO: 23A0038D
 CAD FILE: C-101-SOW.DWG
 DESIGN BY: HLE 8/18/2023
 DRAWN BY: HLE 8/18/2023
 REVIEWED BY: JMO 9/15/2023

SCOPE OF WORK



SURVEY CONTROL POINTS

POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
1	ROBPORT AZ MK	449.98	854486.330	1179930.020
2	ROBPORT	452.53	856250.980	1179453.930
4	SP1	460.00	856492.671	1175397.266
5	SP2	459.38	856489.423	1175541.705
6	SP3	457.07	856339.128	1176341.633
7	SP4	457.39	856463.100	1176346.916
8	SP5	452.55	856242.597	1180406.169
9	SP6	453.18	856242.132	1180313.527

SURVEY NOTES

1. ALL COORDINATE VALUES SHOWN IN TABLE ARE BASED ON ILLINOIS STATE PLANE - EAST ZONE NAD-83 (2007)
2. REFER TO IDOT STANDARD SPECIFICATIONS 50-06, CONSTRUCTION LAYOUT STAKES, FOR ADDITIONAL INFORMATION.

LEGEND:

- EXISTING PAVEMENT
- EXISTING BUILDINGS
- PROPOSED IMPROVEMENTS
- AIRPORT PROPERTY LINE

FOR BID

MAR 03, 2025 9:44 AM SCHUB01446 1:23:08S23A0038D\CAD\AIRPORT\101-SOW.DWG



Jeffrey M. Olson
DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

**INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS**

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: C-102-CSPP.DWG
DESIGN BY: HLE 8/18/2023
DRAWN BY: HLE 8/18/2023
REVIEWED BY: JMO 9/15/2023

SHEET TITLE

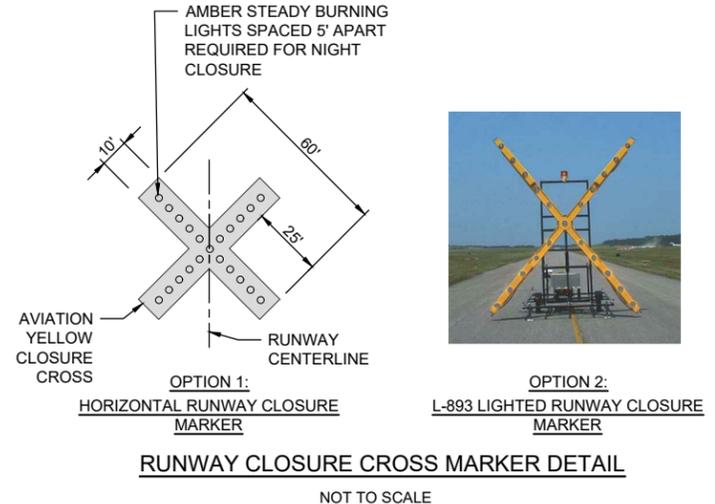
**CONSTRUCTION
SAFETY NOTES &
DETAILS SHEET 2**

CLOSURE CROSS NOTES

1. RUNWAY CLOSURE CROSS MARKINGS SHALL BE LIGHTED DURING DARKNESS AND PERIODS OF REDUCED VISIBILITY. THE LIGHTED MARKERS SHALL BE PLACED OVER THE RUNWAY NUMERALS OR IMMEDIATELY OFF THE END OF THE RUNWAY ON THE EXTENDED CENTERLINE, AS DIRECTED BY THE RESIDENT ENGINEER/TECHNICIAN.
2. THE CONTRACTOR SHALL PROVIDE THE RUNWAY CLOSURE CROSSES BY ONE OF TWO OPTIONS:

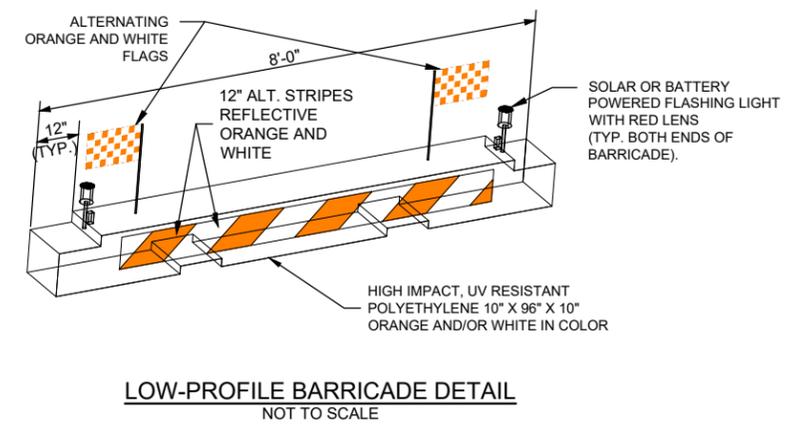
OPTION 1: TEMPORARY CLOSURE CROSS MARKINGS SHALL BE CONSTRUCTED OF PLYWOOD, SNOW FENCE OR APPROVED FABRIC AND SHALL BE SECURED TO PAVEMENT BY SANDBAGS OR OTHER APPROVED METHOD.

OPTION 2: THE CONTRACTOR SHALL PROVIDE TWO (2) L-893 LIGHTED RUNWAY CLOSURE MARKERS, MEETING THE REQUIREMENTS IN FAA ADVISORY CIRCULAR 150/5345-55 AND SHALL BE IN PLACE AND OPERATING WHENEVER THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED.
3. TAXIWAY CLOSURE CROSSES SHALL MEET OPTION 1 IN THE ABOVE NOTE.
4. THE CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE LIGHTED CROSSES AND MAKE PROMPT REPAIRS AS NECESSARY.
5. THE CONTRACTOR SHALL BE ON-CALL FOR 24-HOUR EMERGENCY MAINTENANCE WHEN LIGHTED CROSSES ARE BEING USED.
6. LIGHTED MARKERS SHALL BE SECURED FROM WIND EFFECTS BY THE CONTRACTOR AS RECOMMENDED BY THE MANUFACTURER.
7. COST FOR PROVIDING, PLACING, OPERATING, MAINTAINING, RELOCATING AND REMOVING CLOSURE CROSSES WILL BE CONSIDERED INCIDENTAL TO ITEM AR150520 AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.



BARRICADE NOTES

1. 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 "LOW-PROFILE" WITH A MAXIMUM HEIGHT OF 18" ABOVE GROUND, EXCLUSIVE OF ASSOCIATED WARNING LIGHTS AND FLAGS.
3. BARRICADES SHALL BE SPACED END TO END THE WIDTH OF THE PAVEMENT, WITH GAPS BETWEEN BARRICADES NOT TO EXCEED 4' WIDE. BARRICADES ARE TO BE SET BACK 66' FROM THE ACTIVE TAXIWAY CENTERLINE OR AS SHOWN ON THE PLANS.
4. 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.
5. THE LIGHTING SHALL BE MAINTAINED IN OPERATION DURING THE HOURS OF DARKNESS BETWEEN 1/2 HOUR BEFORE SUNSET AND 1/2 HOUR AFTER SUNRISE AND WHEN CONDITIONS EXIST WHICH TEND TO OBSCURE VISION.
6. BARRICADES SHALL BE SECURED TO THE GROUND BY APPROVED METHODS TO PREVENT MOVEMENT BY PROP WASH, JET BLAST OR OTHER WIND CURRENTS.
7. 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.
8. COST FOR PROVIDING, PLACING, MAINTAINING, AND REMOVING BARRICADES SHALL BE PAID FOR UNDER ITEM AR150520 - MOBILIZATION.



DETAIL ABOVE REPRESENTS ONE OPTION FOR LOW-PROFILE BARRICADES. OTHER OPTIONS MAY BE UTILIZED AS LONG AS THEY MEET THE REQUIREMENTS OF THE PROJECT, INCLUDING BARRICADE NOTE 1.



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D
CAD FILE: C-102-CSPP.DWG

DESIGN BY: HLE 8/18/2023
DRAWN BY: HLE 8/18/2023

REVIEWED BY: JMO 9/15/2023

SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN

PROPOSED SAFETY PLAN

GENERAL - THE CRAWFORD COUNTY AIRPORT IS COMPRISED OF TWO RUNWAYS. THE PROPOSED CONSTRUCTION WILL NECESSITATE CLOSING THE RUNWAYS. ANY TIME THE CONTRACTOR IS WORKING WITHIN 200' OF RUNWAY 9-27 CENTERLINE THE RUNWAY WILL BE CLOSED. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO TURN OFF AND TAG THE RESPECTIVE AIRFIELD LIGHTING CIRCUITS. THE CONTRACTOR SHALL PROVIDE AND INSTALL CLOSURE CROSSES PRIOR TO THE START OF CONSTRUCTION WITHIN 200' OF THE RUNWAY CENTERLINE.

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CRANE SHALL BE MARKED WITH A FLAG AS DESCRIBED ABOVE. THE CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (123.00 MHz) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE EDGAR COUNTY AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTICAL EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR THEIR PERSONNEL.

SAFETY PLAN COMPLIANCE DOCUMENT

PRIOR TO THE ISSUANCE OF A CONSTRUCTION NOTICE-TO-PROCEED (NTP), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING A SAFETY PLAN COMPLIANCE DOCUMENT IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2G, PARAGRAPH 2.4.2, OR EQUIVALENT SECTION IN SUBSEQUENT/CURRENT ISSUE. THE AIRPORT DIRECTOR SHALL APPROVE THIS DOCUMENT AND SUBMIT TO THE AIRPORT AUTHORITY FOR APPROVAL PRIOR TO THE NTP ISSUANCE.

AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE THE EXISTING GATE AT THE END OF EACH WORKING DAY. THE CONTRACTOR WILL PROVIDE A CABLE AND 2 POSTS OR OTHER APPROVED METHOD TO PREVENT READY ACCESS TO THE HAUL ROUTE AND AIRFIELD PAVEMENTS.

HEIGHT OF CONSTRUCTION EQUIPMENT

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 25 FEET, WHICH IS EXPECTED TO BE A TRACTOR AND TRAILER FULLY EXTENDED, A DUMP TRUCK, A CONCRETE TRUCK, OR A LINE TRUCK.

EROSION CONTROL

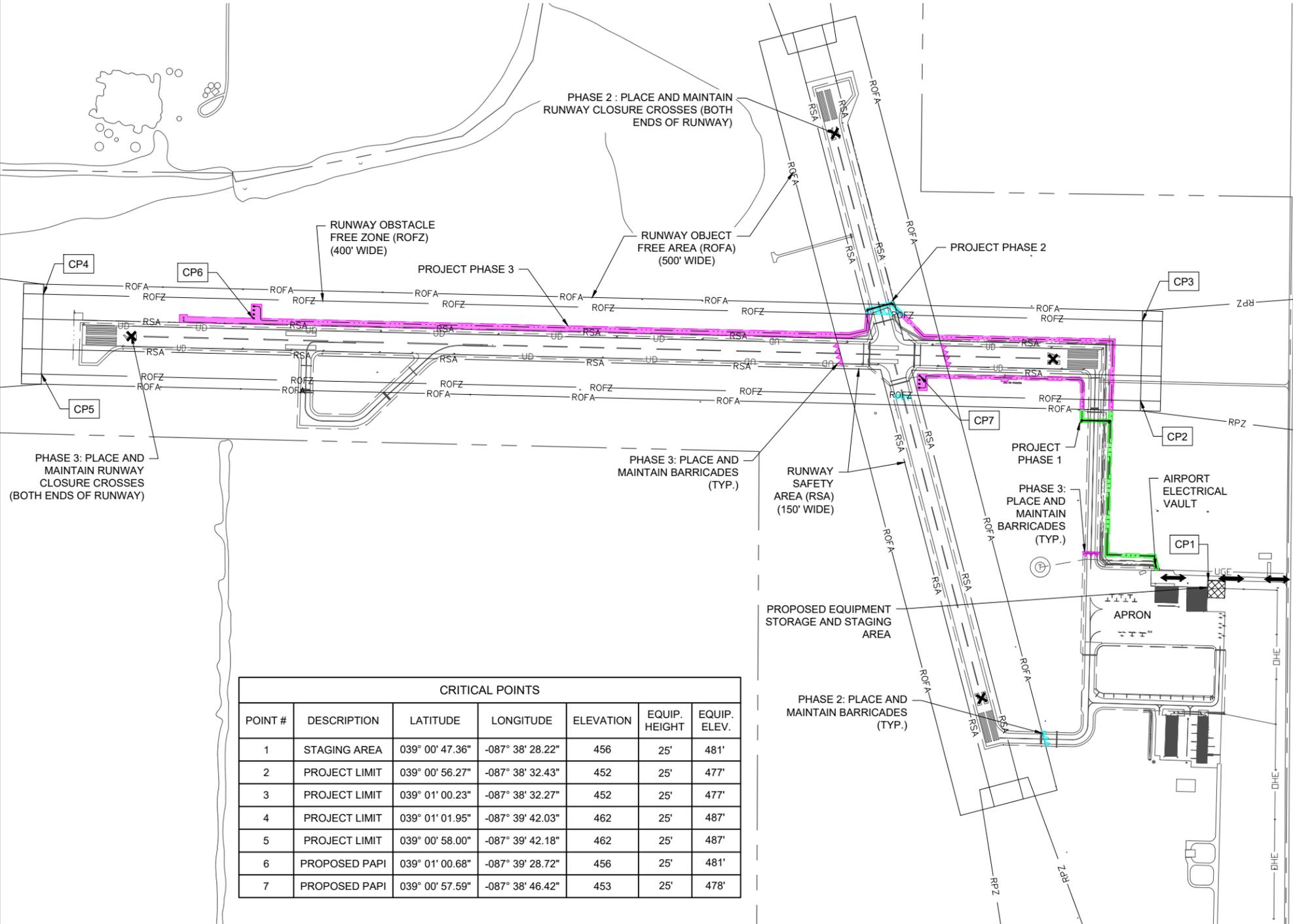
THIS PROJECT WILL NOT DISTURB MORE THAN 1 ACRE OF LAND, THEREFORE, A N.P.D.E.S. PERMIT WILL NOT BE REQUIRED.

LEGEND:

- EXISTING PAVEMENT
- EXISTING BUILDINGS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED BARRICADES
- CONSTRUCTION SIGN

PHASING NOTES

1. THE PROPOSED PROJECT WILL REQUIRE TEMPORARY CLOSURES OF RUNWAY 9/27 AND RUNWAY 18/36 AND TAXIWAYS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING, PLACING, MAINTAINING, AND REMOVING THE CLOSURE CROSSES REQUIRED TO DELINEATE RUNWAY CLOSURES AS DETAILED ON THE SAFETY PLAN AND DETAIL SHEETS, AND BARRICADES FOR TAXIWAY CLOSURES.
2. **PHASE 1:**
 - 2.1. PHASE 1 INCLUDES REMOVAL OF EXISTING CABLES AND INSTALLATION OF CABLE IN UNIT DUCT, AND DUCTS FROM THE AIRPORT ELECTRICAL VAULT UP TO THE RESPECTIVE RUNWAY OBJECT FREE AREAS.
 - 2.2. TAXIWAYS SHALL BE CLOSED WHEN WORKING WITHIN THE TAXIWAY OBJECT FREE AREA 65.5 FT FROM THE TAXIWAY CENTER LINE).
3. **PHASE 2:**
 - 3.1. PHASE 2 INCLUDES INSTALLATION OF CABLE IN UNIT DUCT AND DUCTS WITHIN THE RUNWAY OBJECT FREE AREA AND RUNWAY SAFETY AREA OF RUNWAY 17-35.
 - 3.2. CONTRACTOR SHALL HAVE A TOTAL OF 2 CONSECUTIVE CALENDAR DAYS TO COMPLETE THE WORK IN THIS PHASE.
 - 3.3. RUNWAY 17-35 SHALL BE CLOSED DURING THIS PHASE.
 - 3.4. ALL EQUIPMENT MUST BE LOWERED WHEN NOT IN USE OR IN TRANSIT AND MAY NOT BE LEFT WITHIN THE RUNWAY OBJECT FREE AREA (250 FEET OF THE RUNWAY CENTERLINE, EXTENDED).
4. **PHASE 3:**
 - 4.1. PHASE 3 INCLUDES REMOVAL OF EXISTING PAPI'S, INSTALLATION OF NEW PAPI'S, AND INSTALLATION OF CABLES, CABLE IN UNIT DUCT, AND ASSOCIATED MATERIALS WITHIN THE RUNWAY OBJECT FREE AREA AND/OR RUNWAY SAFETY AREA OF RUNWAY 9-27.
 - 4.2. RUNWAY 9-27 SHALL BE CLOSED DURING THIS PHASE.
 - 4.3. ALL EQUIPMENT MUST BE LOWERED WHEN NOT IN USE OR IN TRANSIT AND MAY NOT BE LEFT WITHIN THE RUNWAY OBJECT FREE AREA (250 FEET OF THE RUNWAY CENTERLINE, EXTENDED).
5. CLOSURE CROSSES AND BARRICADES SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION IN EACH PHASE AND SHALL BE REMOVED AT THE COMPLETION OF EACH PHASE.
6. WHENEVER CONSTRUCTION ACTIVITY NECESSITATES CLOSURE OF A RUNWAY OR TAXIWAY, THE AIRFIELD LIGHTING ASSOCIATED WITH THE CLOSED PAVEMENT SHALL BE TURNED OFF OR COMPLETELY COVERED, INCLUDING THE EDGE LIGHTS, SIGNAGE AND RUNWAY NAVAIDS. IF NECESSARY, CONTRACTOR SHALL PROVIDE TEMPORARY AIRFIELD LIGHTING CIRCUIT JUMPER CABLES, CONDUIT ENCASED ABOVE GROUND, DURING CONSTRUCTION TO MAINTAIN EXISTING LIGHTING CIRCUITS, UNLESS OTHERWISE APPROVED BY THE AIRPORT MANAGER. CONTRACTOR SHALL COORDINATE CLOSURES WITH THE AIRPORT MANAGER AT LEAST 7 DAYS IN ADVANCE SO NOTAMS CAN BE COORDINATED. IT IS THE RESPONSIBILITY OF THE AIRPORT MANAGER TO ISSUE ALL REQUIRED NOTAMS.
7. AT ALL TIMES, THE CONTRACTOR'S OPERATIONS SHALL BE SUCH AS TO MINIMIZE DISRUPTION TO AIRCRAFT OPERATIONS.
8. ALL AIRCRAFT AND AIRPORT OPERATIONS HAVE THE RIGHT-OF-WAY. CONTRACTOR TO YIELD TO AIRPORT VEHICLES AND REMAIN CLEAR AT ALL TIMES.
9. ALL ACTIVE AIRFIELD PAVEMENTS SHALL BE KEPT CLEAN AND FREE OF DEBRIS AT ALL TIMES DURING CONSTRUCTION.
10. AT THE COMPLETION OF ALL WORK AREA CONSTRUCTION, THE HAUL ROUTE AND CONSTRUCTION EQUIPMENT PARKING AREA SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS PER THE SPECIFICATIONS.
11. THE COSTS FOR PROVISION, PLACEMENT, MAINTENANCE AND REMOVAL OF BARRICADES/CLOSURE CROSSES ON THE AIRFIELD, CONSTRUCTION/MAINTENANCE OF THE EQUIPMENT STAGING AREA AND HAUL ROUTE, AND ALL ASSOCIATED INCIDENTALS SHALL BE PAID FOR UNDER ITEM AR150520 MOBILIZATION.



CRITICAL POINTS						
POINT #	DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION	EQUIP. HEIGHT	EQUIP. ELEV.
1	STAGING AREA	039° 00' 47.36"	-087° 38' 28.22"	456	25'	481'
2	PROJECT LIMIT	039° 00' 56.27"	-087° 38' 32.43"	452	25'	477'
3	PROJECT LIMIT	039° 01' 00.23"	-087° 38' 32.27"	452	25'	477'
4	PROJECT LIMIT	039° 01' 01.95"	-087° 39' 42.03"	462	25'	487'
5	PROJECT LIMIT	039° 00' 58.00"	-087° 39' 42.18"	462	25'	487'
6	PROPOSED PAPI	039° 01' 00.68"	-087° 39' 28.72"	456	25'	481'
7	PROPOSED PAPI	039° 00' 57.59"	-087° 38' 46.42"	453	25'	478'

FOR BID



INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

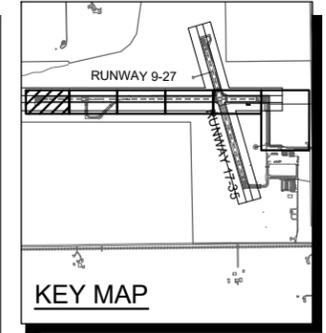
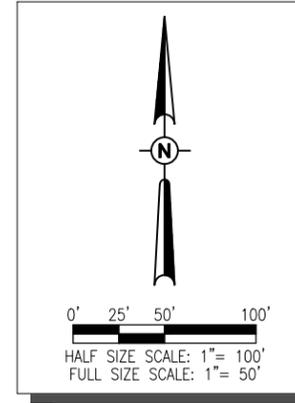
NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D
CAD FILE: E-141-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

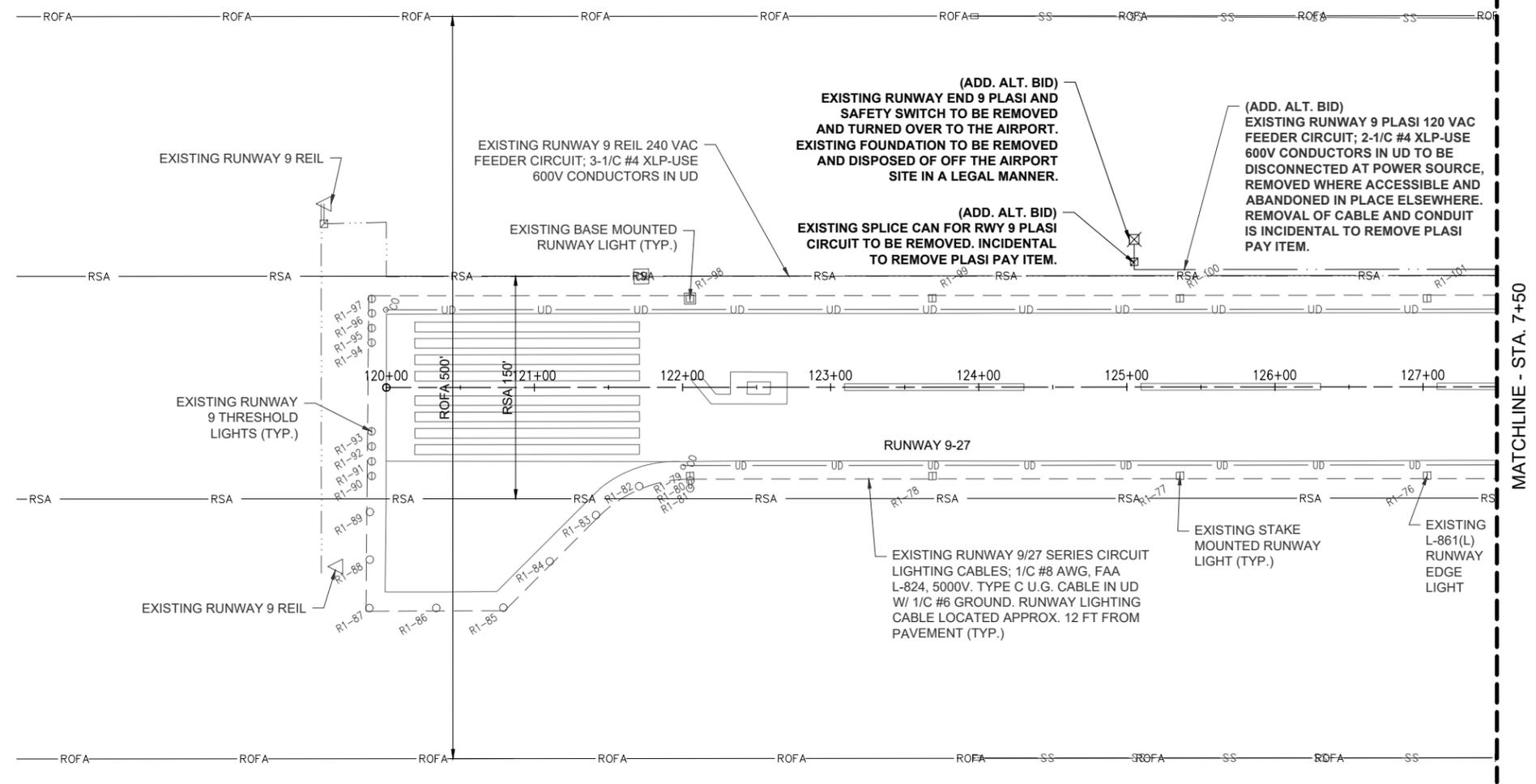
SHEET TITLE

EXISTING ELECTRICAL PLAN (STA. 0+00 TO 7+50)



LEGEND

- [Symbol] EXISTING PAVEMENT
- [Symbol] EXISTING BUILDING
- [Symbol] EXISTING ELECTRICAL DUCT
- [Symbol] EXISTING ELECTRICAL CABLE/AIRFIELD LIGHTING CABLE
- [Symbol] EXISTING REIL CIRCUIT
- [Symbol] EXISTING PLASI CIRCUIT
- [Symbol] EXISTING UNDERDRAIN
- [Symbol] EXISTING STORM SEWER
- [Symbol] EXISTING REIL
- [Symbol] EXISTING PLASI TO BE REMOVED
- [Symbol] EXISTING TAXI GUIDANCE SIGN
- [Symbol] EXISTING SPLICE CAN
- [Symbol] EXISTING STAKE MOUNTED TAXIWAY LIGHT
- [Symbol] EXISTING STAKE MOUNTED RUNWAY LIGHT
- [Symbol] EXISTING BASE MOUNTED RUNWAY LIGHT
- [Symbol] EXISTING STAKE MOUNTED THRESHOLD LIGHT
- [Symbol] EXISTING BASE MOUNTED THRESHOLD LIGHT
- [Symbol] EXISTING ELECTRICAL HANDHOLE
- [Symbol] EXISTING ELECTRICAL MANHOLE
- [Symbol] EXISTING CABLE MARKER
- [Symbol] EXISTING DUCT MARKER
- [Symbol] EXISTING CLEAN-OUT
- [Symbol] EXISTING INLET



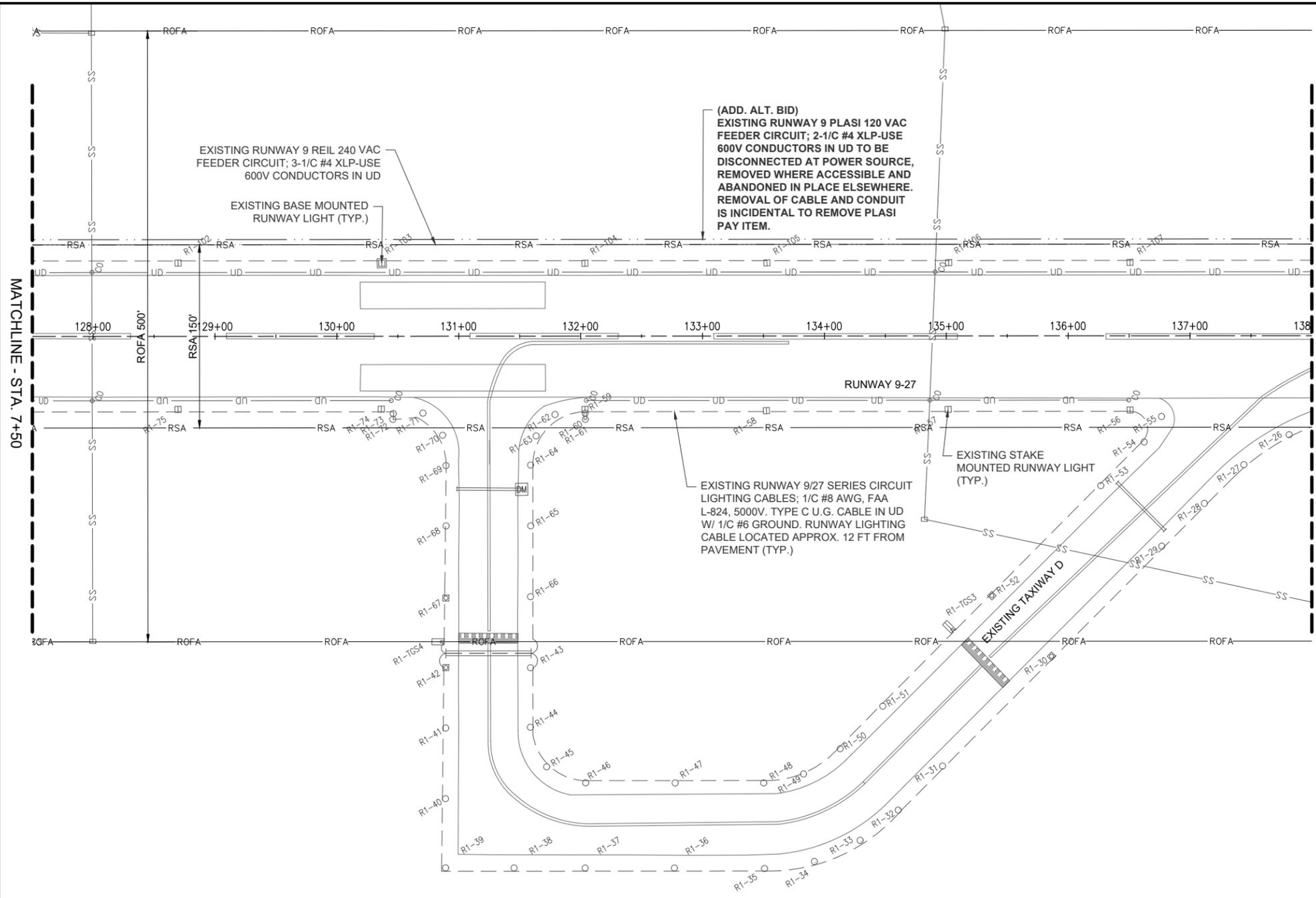
PLASI REMOVAL NOTES

- 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).
- 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, RELOCATING, DISCONNECTING, CONNECTING, OR WORKING ON THE RESPECTIVE AIRFIELD LIGHTING, PLASI UNITS, VAULT EQUIPMENT, OR OTHER DEVICE.
- CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2G (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
- CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
- EXISTING PLASI UNITS SHOWN TO BE REMOVED ARE TO BE REMOVED AND TURNED OVER TO THE AIRPORT. IN THE EVENT THE AIRPORT DOES NOT WANT THE PLASI UNITS THEY SHALL BE DISPOSED OF OFF THE AIRPORT SITE IN A LEGAL MANNER. THE EXISTING PLASI CONCRETE BASES ARE TO BE REMOVED TO THEIR FULL DEPTH AND DISPOSED OF OFF THE AIRPORT SITE IN A LEGAL MANNER. THE HOLES LEFT FROM THE REMOVAL OF PLASI BASES SHALL BE FILLED IN WITH EARTH AND COMPACTED TO PREVENT FUTURE SETTLEMENT, SEEDED AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908, RESPECTIVELY. REMOVAL OF THE EXISTING PLASI UNITS WILL BE PAID FOR UNDER ITEM AR125910 REMOVE PLASI PER EACH.
- THE EXISTING AIRFIELD LIGHTING/NAVAID CABLES ASSOCIATED WITH AIRFIELD LIGHTING/NAVAID REMOVALS SHALL BE REMOVED WHERE ACCESSIBLE AND ABANDONED IN PLACE ELSEWHERE UNLESS IT CONFLICTS WITH THE INSTALLATION OF A PROPOSED LIGHT, NAVAID, SIGN, CABLE, DUCT, PAVEMENT, OR OTHER WORK. THEN IT SHALL BE REMOVED AND DISPOSED OF OFF SITE AT NO ADDITIONAL COST TO THE CONTRACT. CONTRACTOR MAY REMOVE ABANDONED CABLES AT NO ADDITIONAL COST TO THE CONTRACT AND SHALL HAVE THE SALVAGE RIGHTS TO ABANDONED CABLES. EXPOSED CABLES AND CONDUITS ASSOCIATED WITH PLASI'S TO BE REMOVED, SHALL BE REMOVED.
- WHEN A RUNWAY IS CLOSED, THE NAVAIDS AND LIGHTING FOR THAT RUNWAY SHALL BE SHUT OFF.
- NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT, NAVAID, OR OTHER CIRCUIT SHALL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH THE ABOVE 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, 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. 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.

MAR 03, 2025 9:45 AM SCHUB01446
 I:\23\085\23A0038D\CAD\AIRPORT\141-ELE.DWG



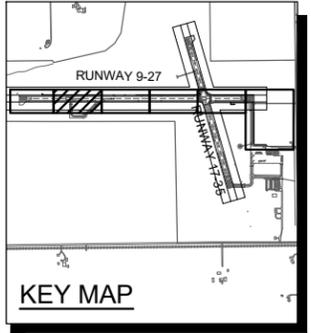
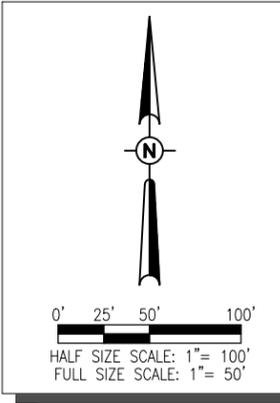
(ADD. ALT. BID)
 EXISTING RUNWAY 9 PLASI 120 VAC
 FEEDER CIRCUIT; 2-1/C #4 XLP-USE
 600V CONDUCTORS IN UD TO BE
 DISCONNECTED AT POWER SOURCE,
 REMOVED WHERE ACCESSIBLE AND
 ABANDONED IN PLACE ELSEWHERE.
 REMOVAL OF CABLE AND CONDUIT
 IS INCIDENTAL TO REMOVE PLASI
 PAY ITEM.

EXISTING RUNWAY 9 REIL 240 VAC
 FEEDER CIRCUIT; 3-1/C #4 XLP-USE
 600V CONDUCTORS IN UD

EXISTING BASE MOUNTED
 RUNWAY LIGHT (TYP.)

EXISTING RUNWAY 9/27 SERIES CIRCUIT
 LIGHTING CABLES; 1/C #8 AWG, FAA
 L-824, 5000V. TYPE C U.G. CABLE IN UD
 W/ 1/C #6 GROUND. RUNWAY LIGHTING
 CABLE LOCATED APPROX. 12 FT FROM
 PAVEMENT (TYP.)

EXISTING STAKE
 MOUNTED RUNWAY LIGHT
 (TYP.)



- LEGEND**
- EXISTING PAVEMENT
 - EXISTING BUILDING
 - EXISTING ELECTRICAL DUCT
 - EXISTING ELECTRICAL CABLE/AIRFIELD LIGHTING CABLE
 - EXISTING REIL CIRCUIT
 - EXISTING PLASI CIRCUIT
 - EXISTING UNDERDRAIN
 - EXISTING STORM SEWER
 - EXISTING REIL
 - EXISTING PLASI TO BE REMOVED
 - EXISTING TAXI GUIDANCE SIGN
 - EXISTING SPLICE CAN
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - EXISTING BASE MOUNTED TAXIWAY LIGHT
 - EXISTING STAKE MOUNTED RUNWAY LIGHT
 - EXISTING BASE MOUNTED RUNWAY LIGHT
 - EXISTING STAKE MOUNTED THRESHOLD LIGHT
 - EXISTING BASE MOUNTED THRESHOLD LIGHT
 - EXISTING ELECTRICAL HANDHOLE
 - EXISTING ELECTRICAL MANHOLE
 - EXISTING CABLE MARKER
 - EXISTING DUCT MARKER
 - EXISTING CLEAN-OUT
 - EXISTING INLET



Offices Nationwide
 www.hanson-inc.com

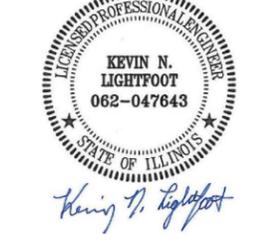
Hanson Professional Services Inc.
 1525 S. 6th Street
 Springfield, IL 62568
 phone: 217-788-2450
 fax: 217-788-2503

Illinois Licensed
 Professional Service Corporation
 #184-001084

Crawford County Airport

10748 North 1650th St.
 Palestine, Illinois 62451

COVERING ELECTRICAL DESIGN



DATE SIGNED: 2/28/2025
 LICENSE EXPIRES: 11/30/2025

**INSTALL PAPI SYSTEM
 & ASSOCIATED
 ELECTRICAL
 IMPROVEMENTS**

IDA No: RSV-5062
 AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-141-ELE.DWG

DESIGN BY: KNL 7/26/2023

DRAWN BY: HLE 7/26/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING
 ELECTRICAL PLAN
 (STA. 7+50 TO 18+00)

FOR BID



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

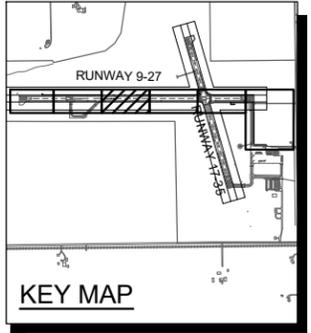
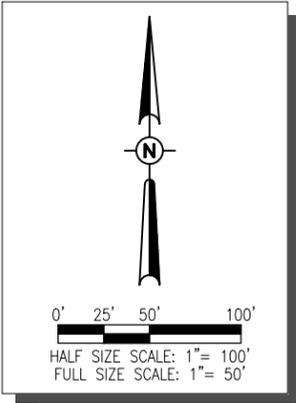
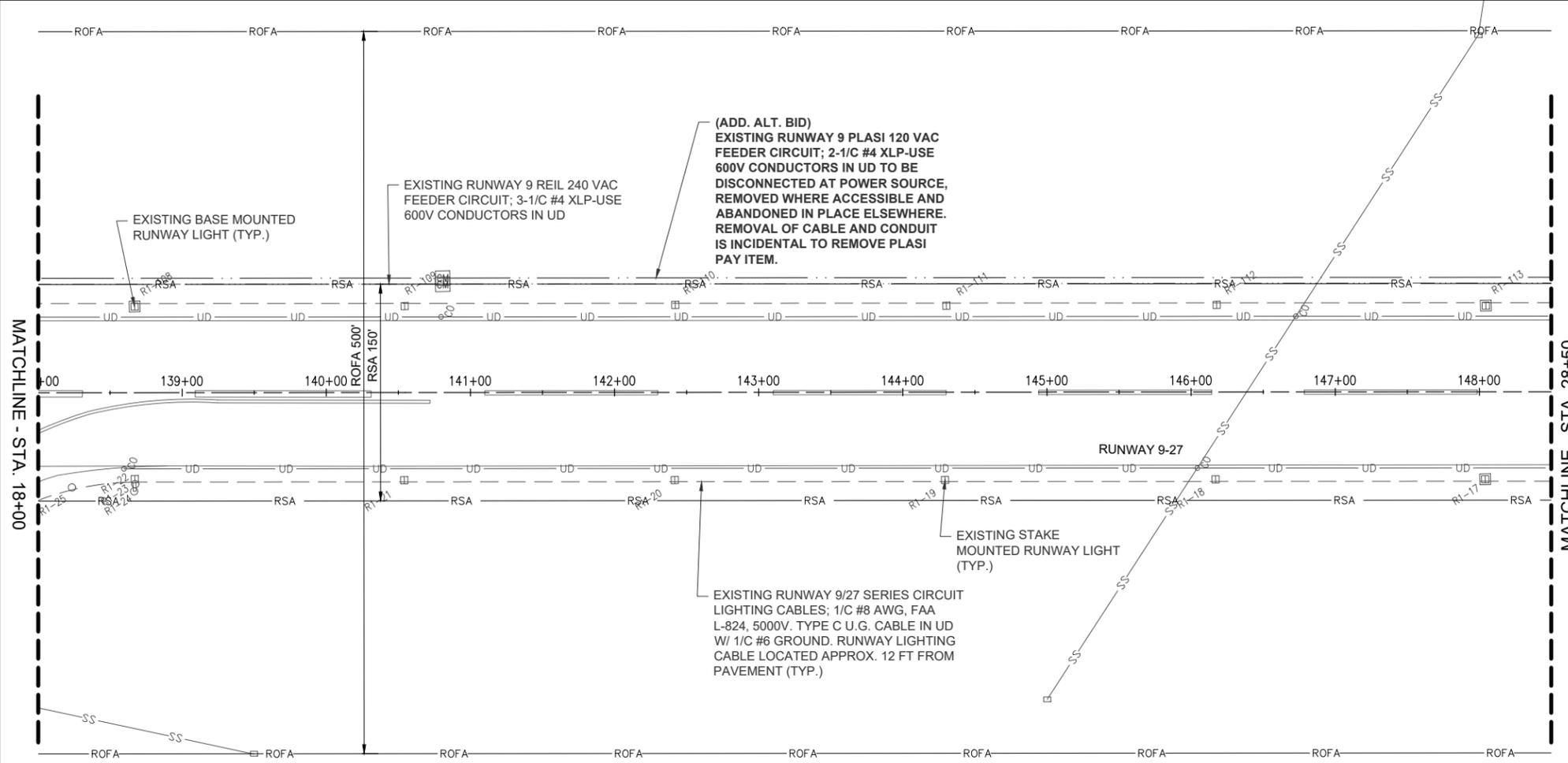
Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

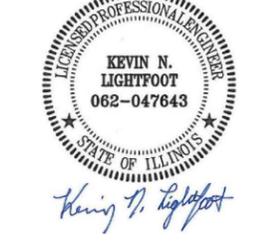
ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-141-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING ELECTRICAL PLAN (STA. 18+00 TO 28+50)



- LEGEND**
- EXISTING PAVEMENT
 - EXISTING BUILDING
 - EXISTING ELECTRICAL DUCT
 - EXISTING ELECTRICAL CABLE/AIRFIELD LIGHTING CABLE
 - EXISTING REIL CIRCUIT
 - EXISTING PLASI CIRCUIT
 - EXISTING UNDERDRAIN
 - EXISTING STORM SEWER
 - EXISTING REIL
 - EXISTING PLASI TO BE REMOVED
 - EXISTING TAXI GUIDANCE SIGN
 - EXISTING SPLICE CAN
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - EXISTING BASE MOUNTED TAXIWAY LIGHT
 - EXISTING STAKE MOUNTED RUNWAY LIGHT
 - EXISTING BASE MOUNTED RUNWAY LIGHT
 - EXISTING STAKE MOUNTED THRESHOLD LIGHT
 - EXISTING BASE MOUNTED THRESHOLD LIGHT
 - EXISTING ELECTRICAL HANDHOLE
 - EXISTING ELECTRICAL MANHOLE
 - EXISTING CABLE MARKER
 - EXISTING DUCT MARKER
 - EXISTING CLEAN-OUT
 - EXISTING INLET



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

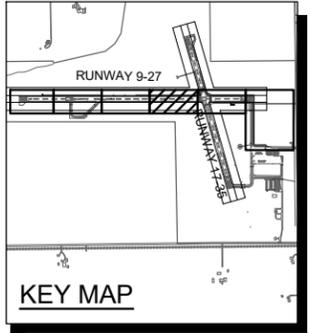
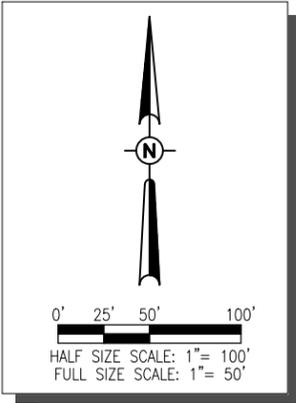
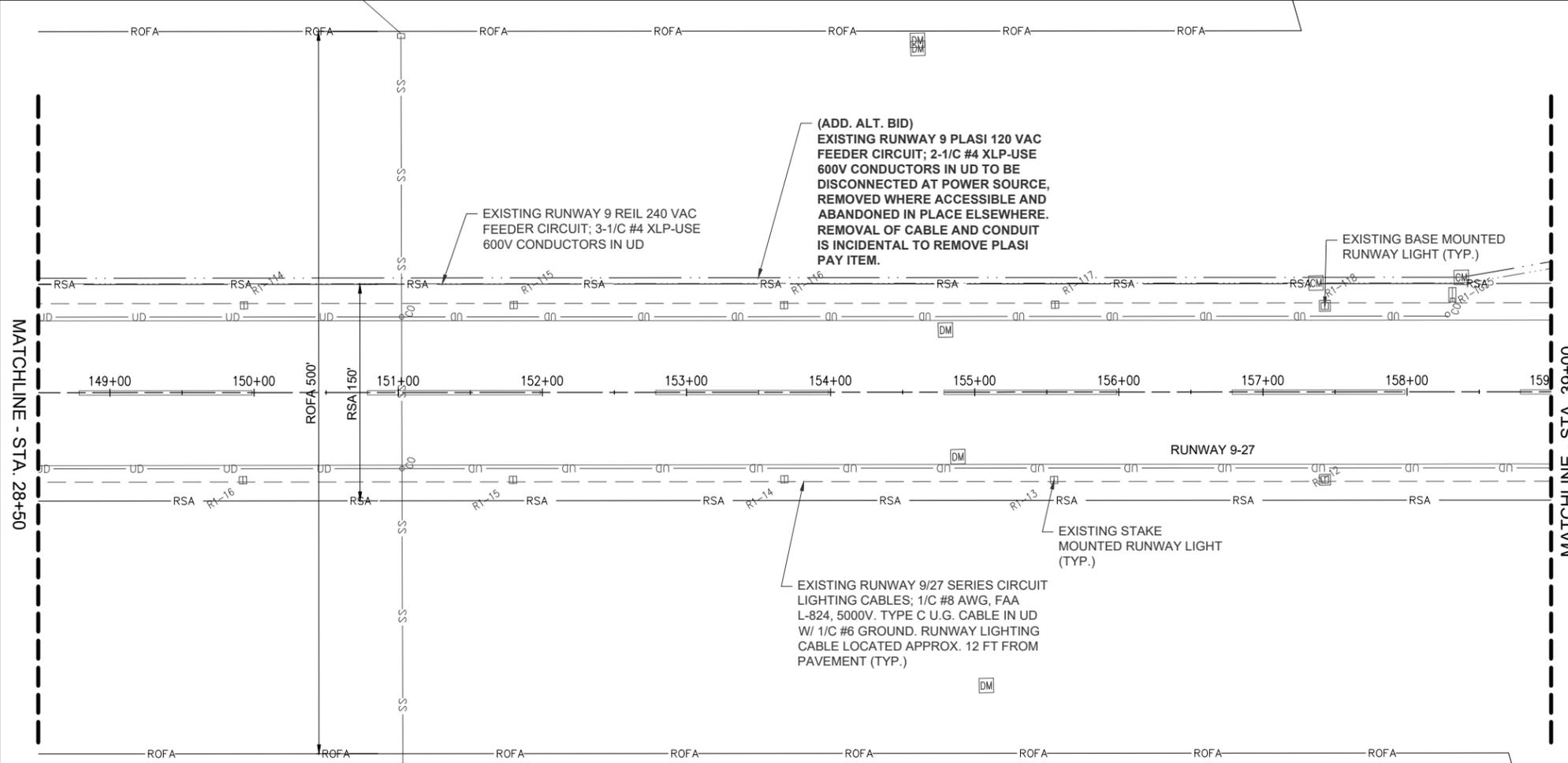
Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-141-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING ELECTRICAL PLAN
(STA. 28+50 TO 39+00)

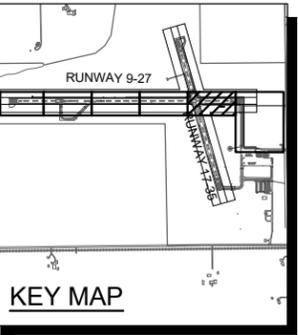
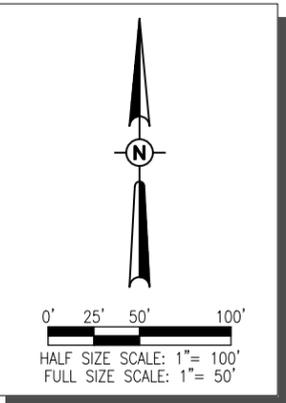
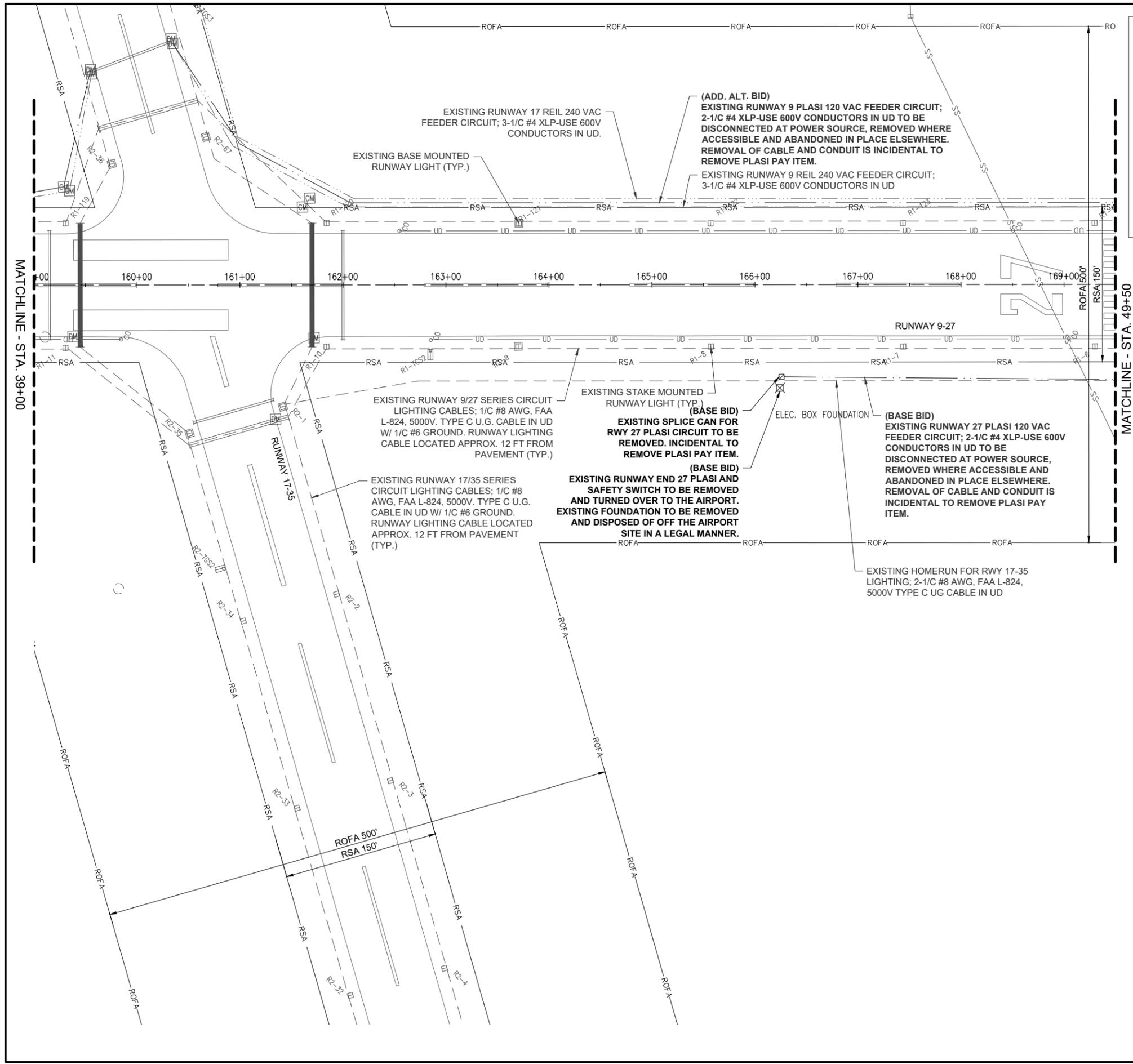


- LEGEND**
- [Solid Line] EXISTING PAVEMENT
 - [Hatched Area] EXISTING BUILDING
 - [Dashed Line] EXISTING ELECTRICAL DUCT
 - [Dotted Line] EXISTING ELECTRICAL CABLE/AIRFIELD LIGHTING CABLE
 - [Line with 'R'] EXISTING REIL CIRCUIT
 - [Line with 'P'] EXISTING PLASI CIRCUIT
 - [Line with 'UD'] EXISTING UNDERDRAIN
 - [Line with 'SS'] EXISTING STORM SEWER
 - [Triangle] EXISTING REIL
 - [Square with X] EXISTING PLASI TO BE REMOVED
 - [Square with 'T'] EXISTING TAXI GUIDANCE SIGN
 - [Square with 'S'] EXISTING SPLICE CAN
 - [Circle] EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - [Square with 'B'] EXISTING BASE MOUNTED TAXIWAY LIGHT
 - [Square with 'R'] EXISTING STAKE MOUNTED RUNWAY LIGHT
 - [Square with 'B'] EXISTING BASE MOUNTED RUNWAY LIGHT
 - [Circle with 'T'] EXISTING STAKE MOUNTED THRESHOLD LIGHT
 - [Circle with 'B'] EXISTING BASE MOUNTED THRESHOLD LIGHT
 - [Square with 'H'] EXISTING ELECTRICAL HANDHOLE
 - [Square with 'M'] EXISTING ELECTRICAL MANHOLE
 - [Square with 'C'] EXISTING CABLE MARKER
 - [Square with 'D'] EXISTING DUCT MARKER
 - [Circle with 'C'] EXISTING CLEAN-OUT
 - [Square] EXISTING INLET

MAR 03, 2025 9:45 AM SCHUB01446
I:\23\JOBS\23A0038D\CAD\AIRPORT\141-ELE.DWG

FOR BID

MAR 03, 2025 9:45 AM SCHUB01446
 1\23\JOBS\23A0038D\CAD\AIRPORT\141-ELE.DWG



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLE/AIRFIELD LIGHTING CABLE
- EXISTING REIL CIRCUIT
- EXISTING PLASI CIRCUIT
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING REIL
- EXISTING PLASI TO BE REMOVED
- EXISTING TAXI GUIDANCE SIGN
- EXISTING SPLICE CAN
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING STAKE MOUNTED THRESHOLD LIGHT
- EXISTING BASE MOUNTED THRESHOLD LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING ELECTRICAL MANHOLE
- EXISTING CABLE MARKER
- EXISTING DUCT MARKER
- EXISTING CLEAN-OUT
- EXISTING INLET



Offices Nationwide
 www.hanson-inc.com

Hanson Professional Services Inc.
 1525 S. 6th Street
 Springfield, IL 62568
 phone: 217-788-2450
 fax: 217-788-2503

Illinois Licensed
 Professional Service Corporation
 #184-001084

Crawford County Airport

10748 North 1650th St.
 Palestine, Illinois 62451

COVERING ELECTRICAL DESIGN



DATE SIGNED: 2/28/2025
 LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
 AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
 PROJECT NO: 23A0038D
 CAD FILE: E-141-ELE.DWG
 DESIGN BY: KNL 7/26/2023
 DRAWN BY: HLE 7/26/2023
 REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING ELECTRICAL PLAN
 (STA. 39+00 TO 49+50)

FOR BID



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

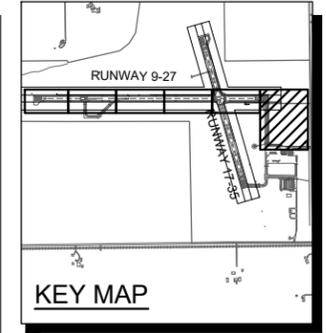
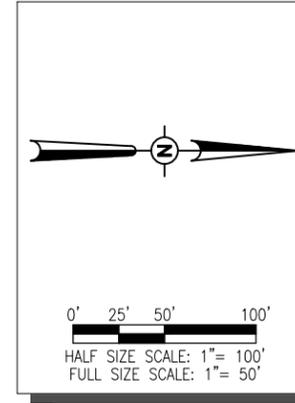
Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

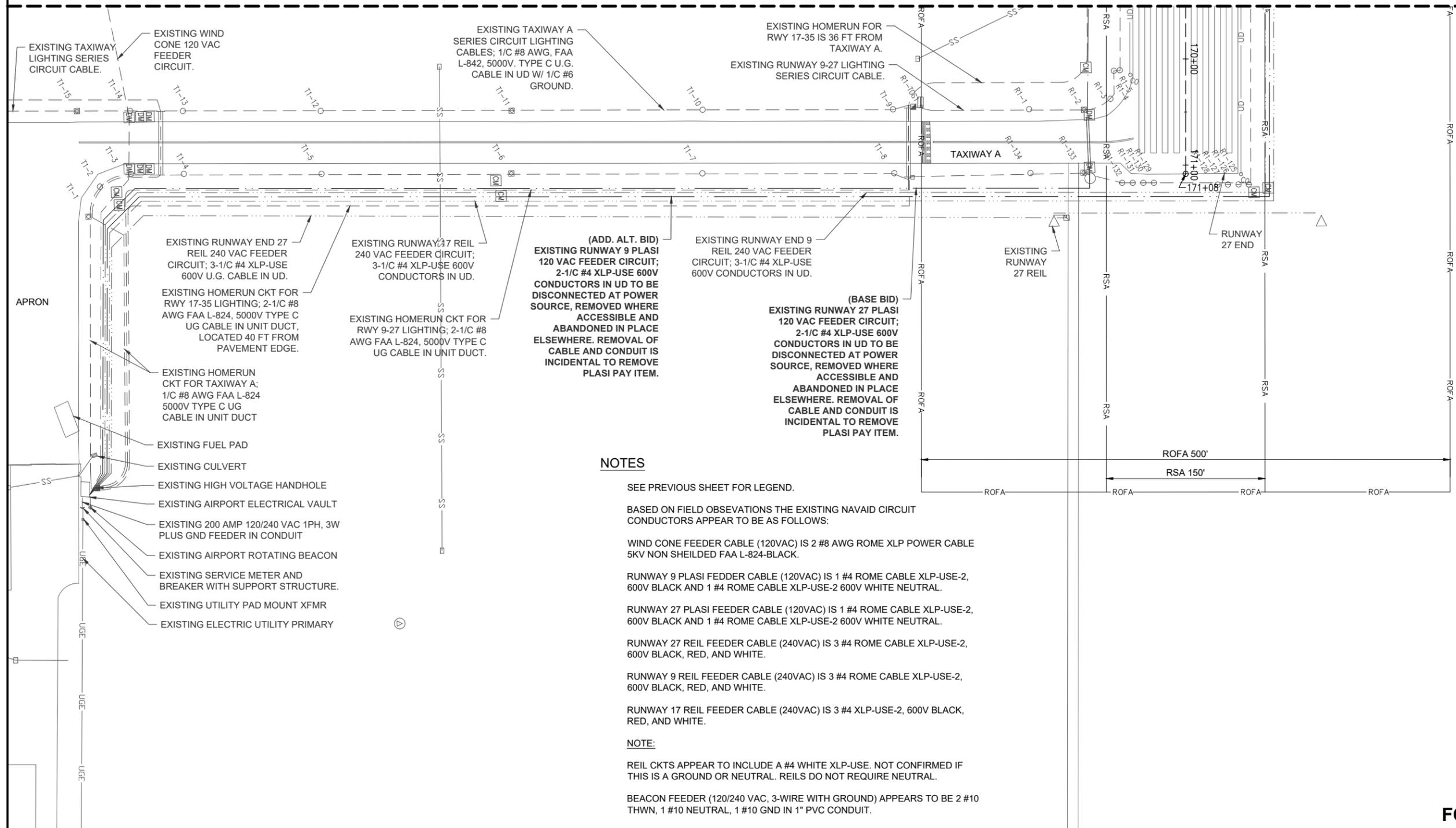
ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-141-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING ELECTRICAL PLAN (STA. 49+50 TO 51+08)



MATCHLINE - STA. 49+50



NOTES

- SEE PREVIOUS SHEET FOR LEGEND.
 - BASED ON FIELD OBSERVATIONS THE EXISTING NAVAID CIRCUIT CONDUCTORS APPEAR TO BE AS FOLLOWS:
 - WIND CONE FEEDER CABLE (120VAC) IS 2 #8 AWG ROME XLP POWER CABLE 5KV NON SHEILDED FAA L-824-BLACK.
 - RUNWAY 9 PLASI FEEDER CABLE (120VAC) IS 1 #4 ROME CABLE XLP-USE-2, 600V BLACK AND 1 #4 ROME CABLE XLP-USE-2 600V WHITE NEUTRAL.
 - RUNWAY 27 PLASI FEEDER CABLE (120VAC) IS 1 #4 ROME CABLE XLP-USE-2, 600V BLACK AND 1 #4 ROME CABLE XLP-USE-2 600V WHITE NEUTRAL.
 - RUNWAY 27 REIL FEEDER CABLE (240VAC) IS 3 #4 ROME CABLE XLP-USE-2, 600V BLACK, RED, AND WHITE.
 - RUNWAY 9 REIL FEEDER CABLE (240VAC) IS 3 #4 ROME CABLE XLP-USE-2, 600V BLACK, RED, AND WHITE.
 - RUNWAY 17 REIL FEEDER CABLE (240VAC) IS 3 #4 XLP-USE-2, 600V BLACK, RED, AND WHITE.
- NOTE:**
- REIL CKTS APPEAR TO INCLUDE A #4 WHITE XLP-USE. NOT CONFIRMED IF THIS IS A GROUND OR NEUTRAL. REILS DO NOT REQUIRE NEUTRAL.
 - BEACON FEEDER (120/240 VAC, 3-WIRE WITH GROUND) APPEARS TO BE 2 #10 THWN, 1 #10 NEUTRAL, 1 #10 GND IN 1" PVC CONDUIT.

MAR 03, 2025 9:45 AM SCHUB01446 1\23\JOBS\23A0038D\CAD\AIRPORT\141-ELE.DWG

FOR BID



**INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS**

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-142-ELE.DWG

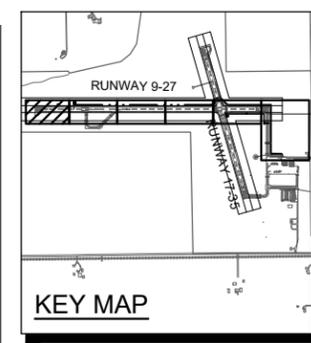
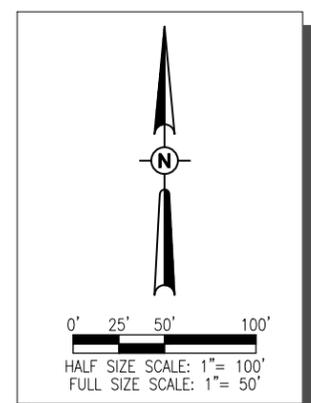
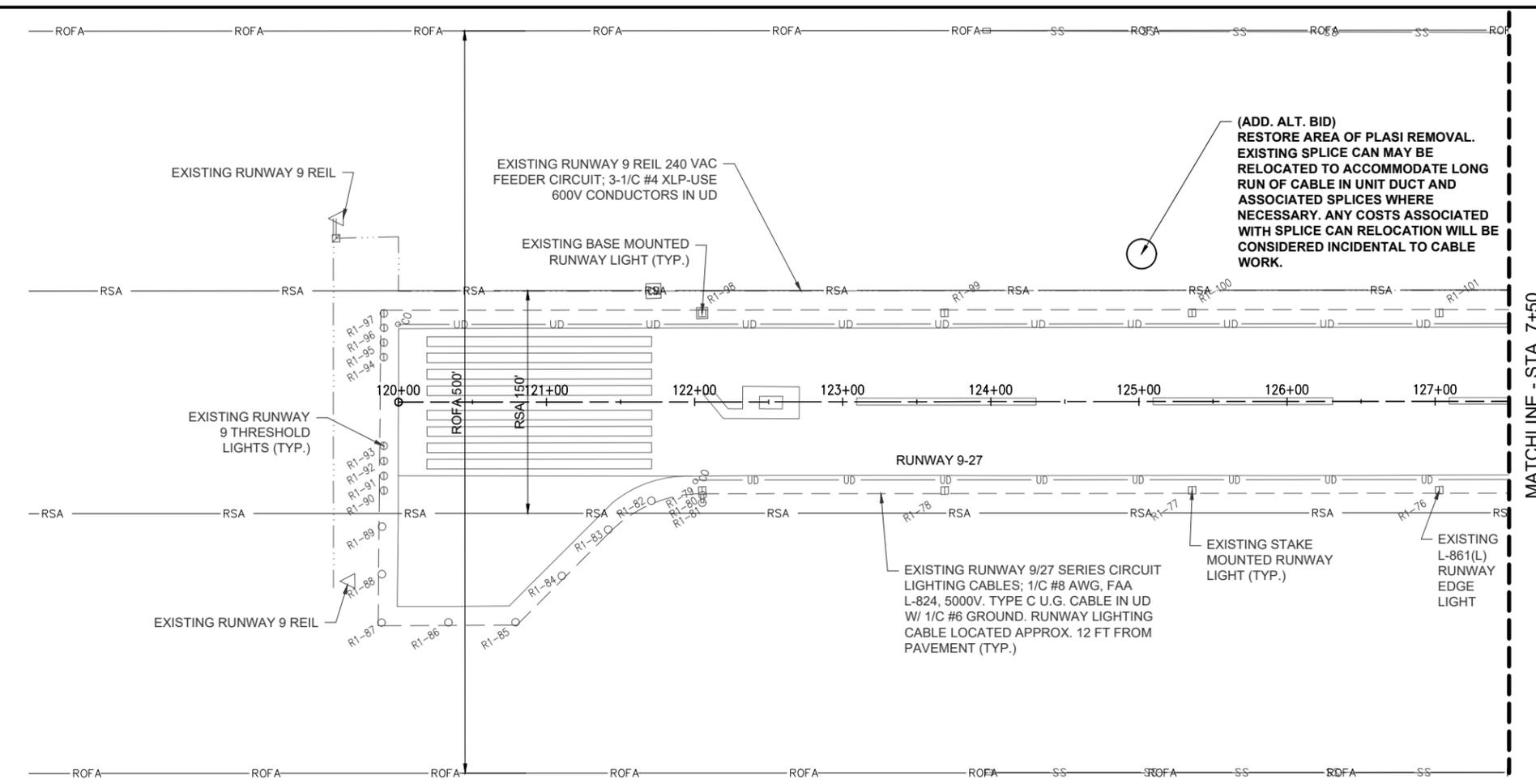
DESIGN BY: KNL 7/26/2023

DRAWN BY: HLE 7/26/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

**PROPOSED
ELECTRICAL PLAN
(STA. 0+00 TO 7+50)**



- LEGEND**
- EXISTING PAVEMENT
 - EXISTING ELECTRICAL DUCT
 - PROPOSED ELECTRICAL DUCT
 - EXISTING PROPERTY LINE
 - EXISTING ELECTRICAL CABLE
 - EXISTING REIL CIRCUIT
 - EXISTING PLASI CIRCUIT
 - PROPOSED 3-1/8 XLP-USE, 600V UG CABLE IN UNIT DUCT
 - EXISTING UNDERDRAIN
 - EXISTING STORM SEWER
 - EXISTING REIL
 - EXISTING PLASI
 - EXISTING TAXI GUIDANCE SIGN
 - EXISTING SPLICE CAN
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - PROPOSED PAPI LIGHT HOUSING UNIT
 - EXISTING BASE MOUNTED TAXIWAY LIGHT
 - EXISTING STAKE MOUNTED RUNWAY LIGHT
 - PROPOSED STAKE MOUNTED RUNWAY LIGHT
 - EXISTING BASE MOUNTED RUNWAY LIGHT
 - EXISTING STAKE MOUNTED THRESHOLD LIGHT
 - EXISTING BASE MOUNTED THRESHOLD LIGHT
 - EXISTING ELECTRICAL HANDHOLE
 - EXISTING CABLE MARKER
 - EXISTING DUCT MARKER
 - EXISTING CLEAN-OUT
 - EXISTING INLET
 - PROPOSED L-867, SIZE D, 24" DEEP SPLICE CAN
 - PROPOSED ELECTRICAL HANDHOLE

PAPI AND AIRFIELD WORK INSTALLATION NOTES

- 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).
- ALL ELECTRICAL EQUIPMENT (INCLUDING AIRFIELD LIGHTING AND NAVAIDS) 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 UL LISTING, INTERTEK TESTING SERVICES VERIFICATION/ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- PER FAA 150/5340-30J, 7.5.4 PAPI, 7.5.4.11.2 LOCATION OF THE PCU, IT NOTES TO LOCATE THE PCU AS FAR FROM THE RUNWAY AS POSSIBLE FOR A MINIMUM OBSTRUCTION TO AIRCRAFT. IF THE PCU IS ESSENTIAL (INTERNAL) WITH A LIGHT UNIT, PLACE IT FARTHEST FROM THE RUNWAY. PER FAA ORDER 6850.2C, 507 PAPI ASSEMBLIES, 507.A POWER AND CONTROL ASSEMBLY, AN EXTERNAL PCA/PCU SERVING A LED PAPI MUST BE LOCATED OUTSIDE OF THE RUNWAY OBJECT FREE AREA (ROFA).
- 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
- 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 AC 150/5370-2G, SECTION 218.3. 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.
- HOMERUN CABLES FOR A RESPECTIVE CIRCUIT THAT ARE INSTALLED IN CONDUIT OR DUCT SHALL BE RUN TOGETHER IN THE SAME RACEWAY OR DUCT.
- 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. THIS WORK WILL BE CONSIDERED AS AN INCIDENTAL ITEM AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS OR 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, HANDHOLE, OR MANHOLE.
- NO CONNECTION TO AN ACTIVE LIGHTING, NAVAID, OR OTHER CIRCUIT WILL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.

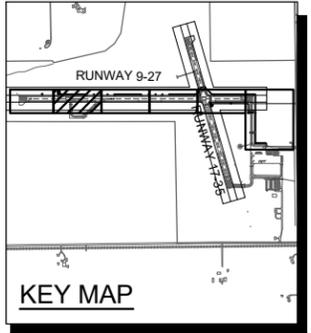
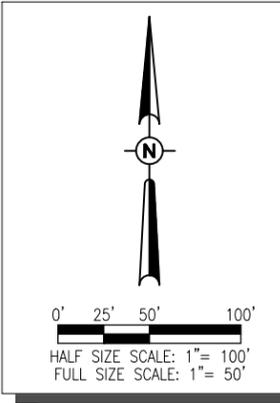
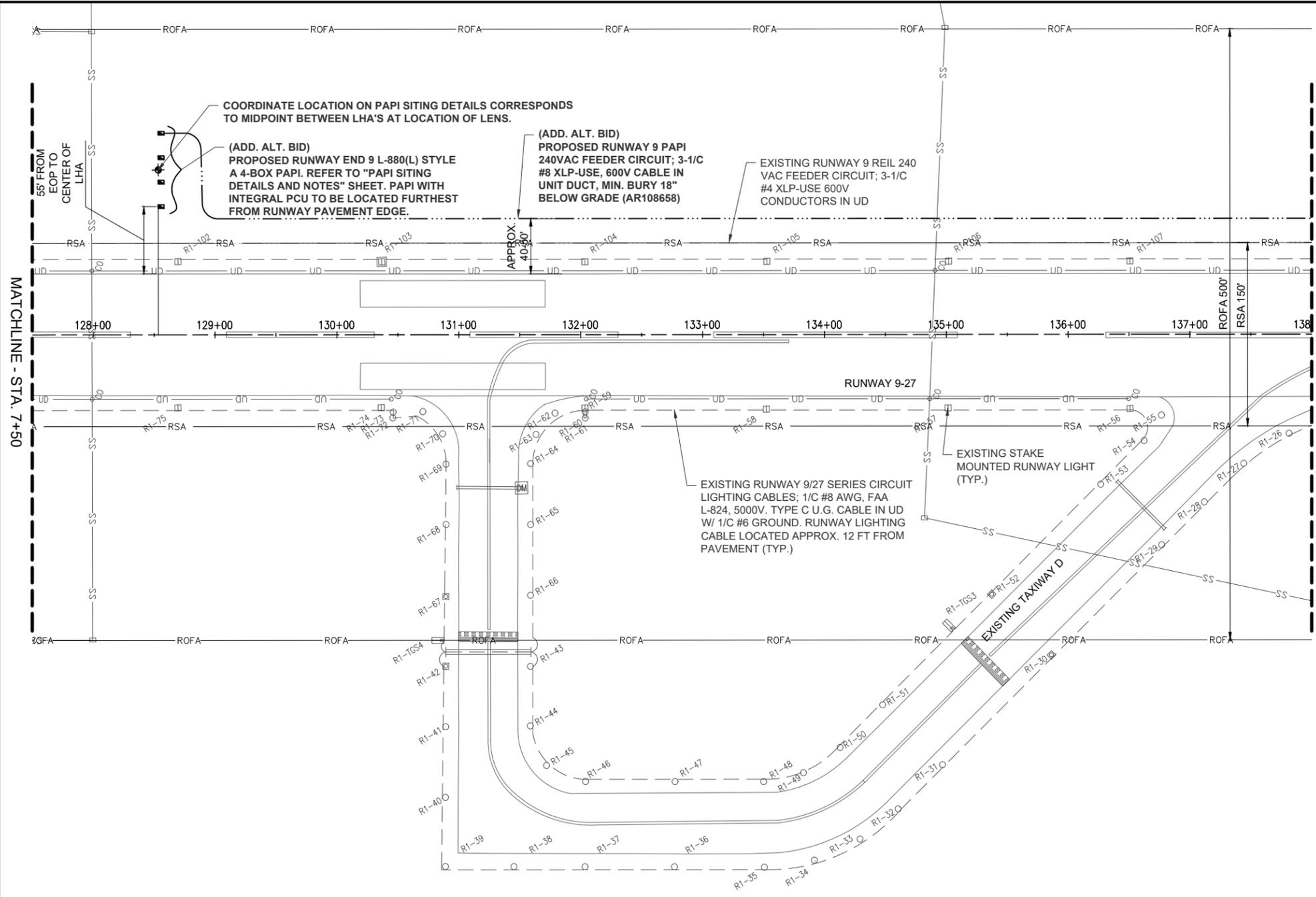
THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, 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. 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.

MAR 03, 2025 9:45 AM SCHUB01446 1:23:05S23A0038D\CAD\AIRPORT\SHHEETE-142-ELE.DWG

FOR BID

MAR 03, 2025 9:45 AM SCHUB01446
 I:\23\JOBS\23A0038D\CAD\AIRPORT\142-ELE.DWG



LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING PROPERTY LINE
- EXISTING ELECTRICAL CABLE
- EXISTING REIL CIRCUIT
- EXISTING PLASI CIRCUIT
- PROPOSED 3-1/C #8 XLP-USE, 600V UG CABLE IN UNIT DUCT
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING REIL
- EXISTING PLASI
- EXISTING TAXI GUIDANCE SIGN
- EXISTING SPLICE CAN
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- PROPOSED STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING STAKE MOUNTED THRESHOLD LIGHT
- EXISTING BASE MOUNTED THRESHOLD LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING CABLE MARKER
- EXISTING DUCT MARKER
- EXISTING CLEAN-OUT
- EXISTING INLET
- PROPOSED L-867, SIZE D, 24" DEEP SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE



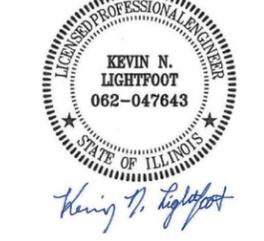
Offices Nationwide
 www.hanson-inc.com

Hanson Professional Services Inc.
 1525 S. 6th Street
 Springfield, IL 62568
 phone: 217-788-2450
 fax: 217-788-2503

Illinois Licensed
 Professional Service Corporation
 #184-001084

Crawford County Airport
 10748 North 1650th St.
 Palestine, Illinois 62451

COVERING ELECTRICAL DESIGN



DATE SIGNED: 2/28/2025
 LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
 AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D
 CAD FILE: E-142-ELE.DWG

DESIGN BY: KNL 7/26/2023
 DRAWN BY: HLE 7/26/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

PROPOSED ELECTRICAL PLAN (STA. 7+50 TO 18+00)

FOR BID



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

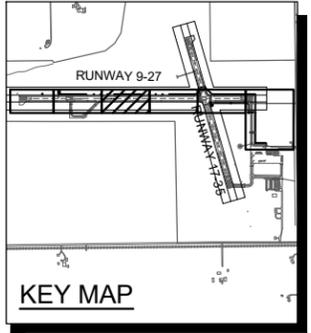
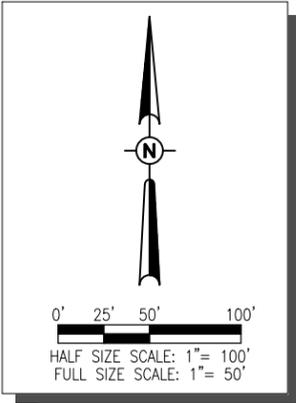
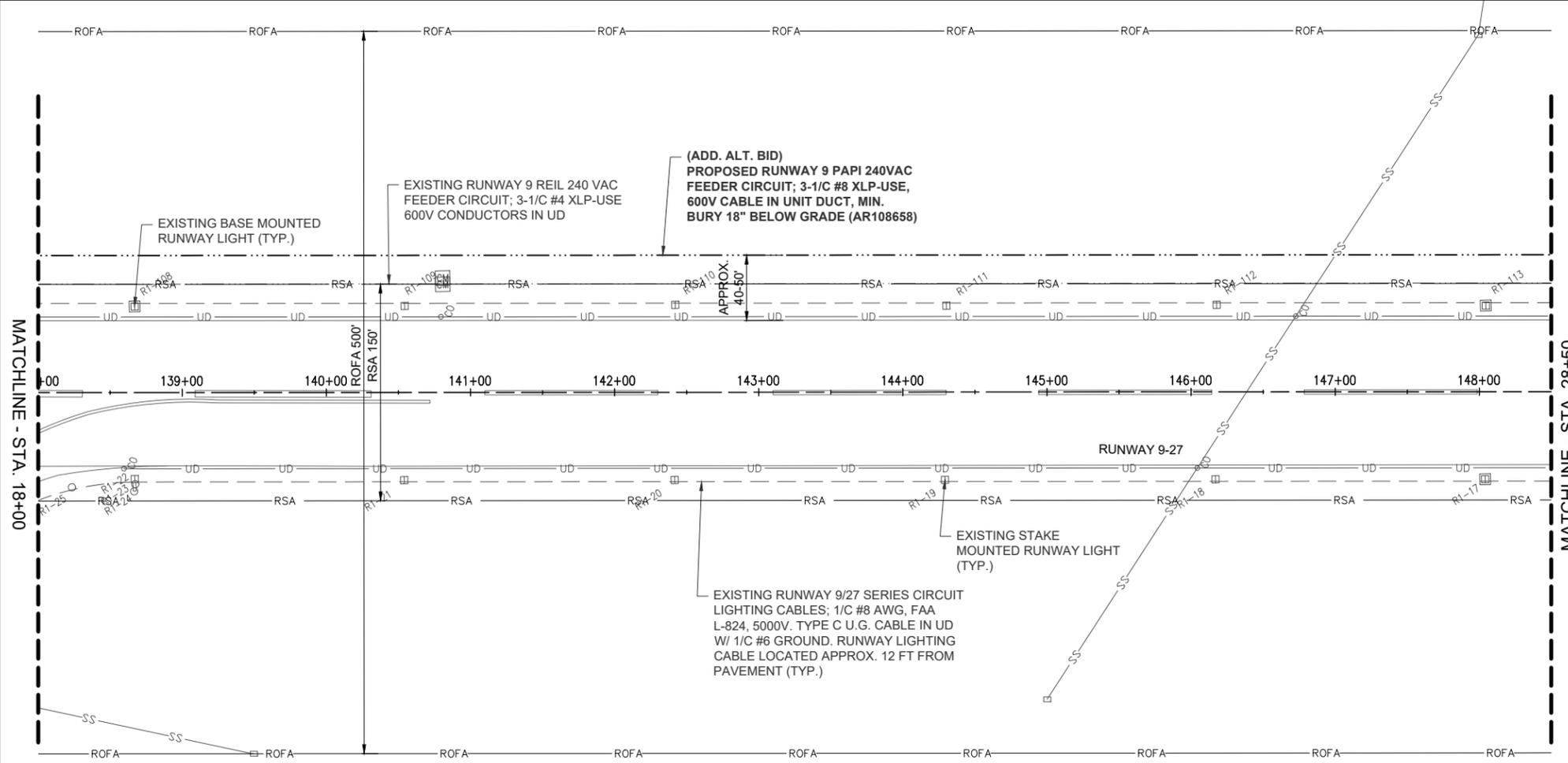
Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-142-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

PROPOSED ELECTRICAL PLAN (STA. 18+00 TO 28+50)



LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING PROPERTY LINE
- EXISTING ELECTRICAL CABLE
- EXISTING REIL CIRCUIT
- EXISTING PLASI CIRCUIT
- PROPOSED 3-1/C #8 XLP-USE, 600V UG CABLE IN UNIT DUCT
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING REIL
- EXISTING PLASI
- EXISTING TAXI GUIDANCE SIGN
- EXISTING SPLICE CAN
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED PAPI LIGHT HOUSING UNIT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- PROPOSED STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING STAKE MOUNTED THRESHOLD LIGHT
- EXISTING BASE MOUNTED THRESHOLD LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING CABLE MARKER
- EXISTING DUCT MARKER
- EXISTING CLEAN-OUT
- EXISTING INLET
- PROPOSED L-867, SIZE D, 24" DEEP SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE

MAR 03, 2025 9:45 AM SCHUB01446 1:23:08S23A0038D\CAD\AIRPORT\142-ELE.DWG

FOR BID



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

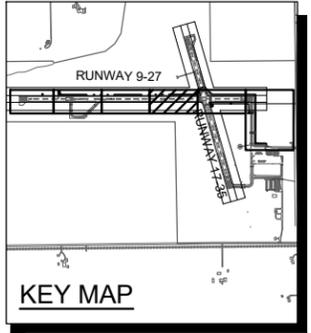
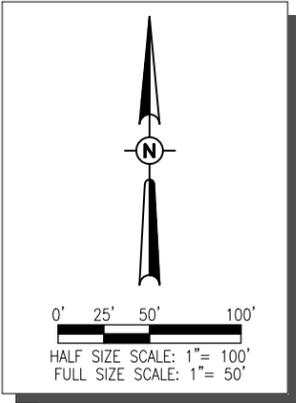
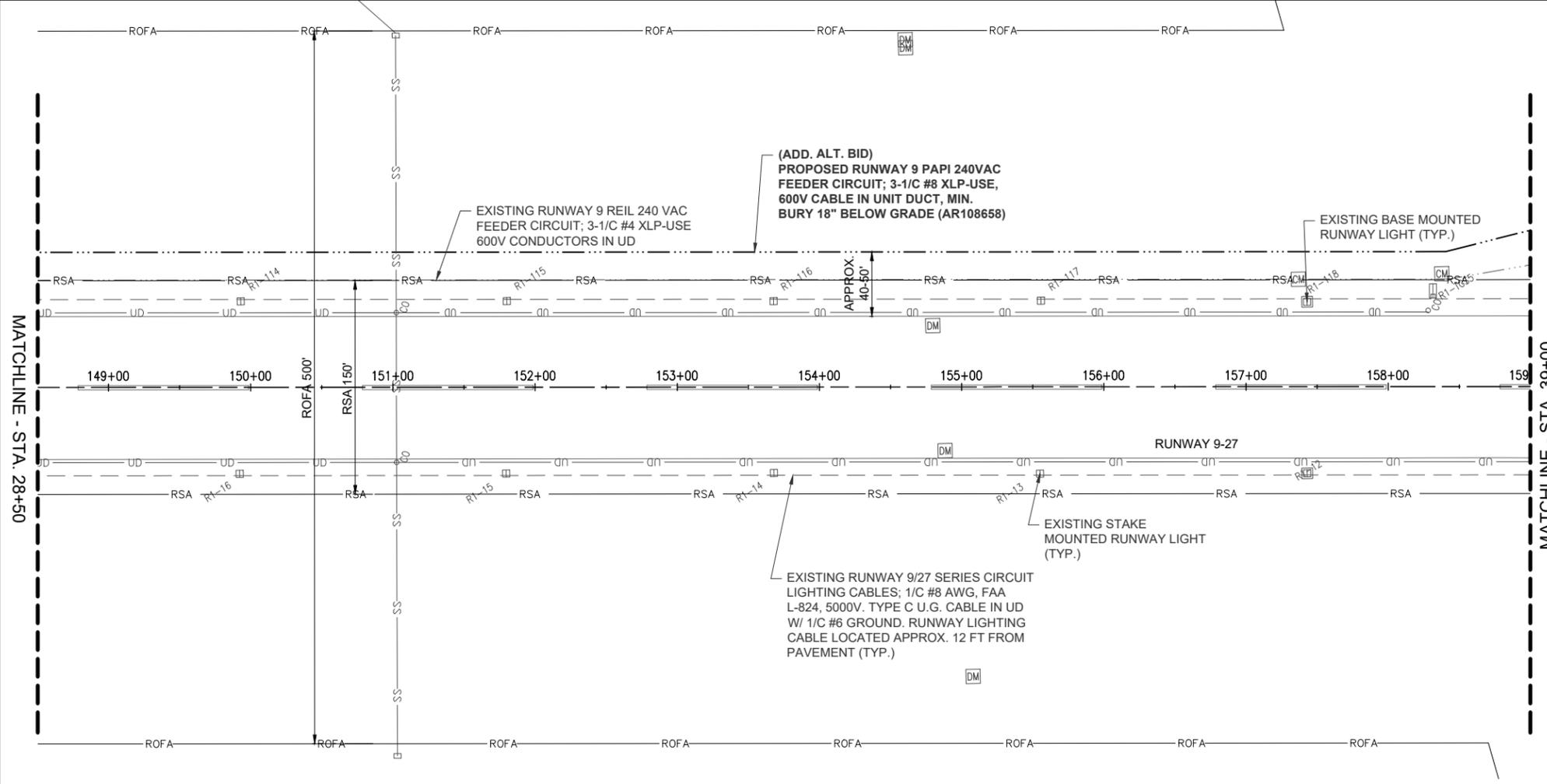
NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-142-ELE.DWG
DESIGN BY: KNL 7/26/2023
DRAWN BY: HLE 7/26/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

PROPOSED ELECTRICAL PLAN (STA. 28+50 TO 39+00)

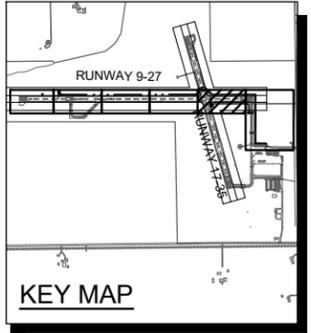
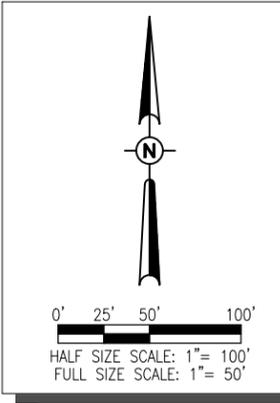
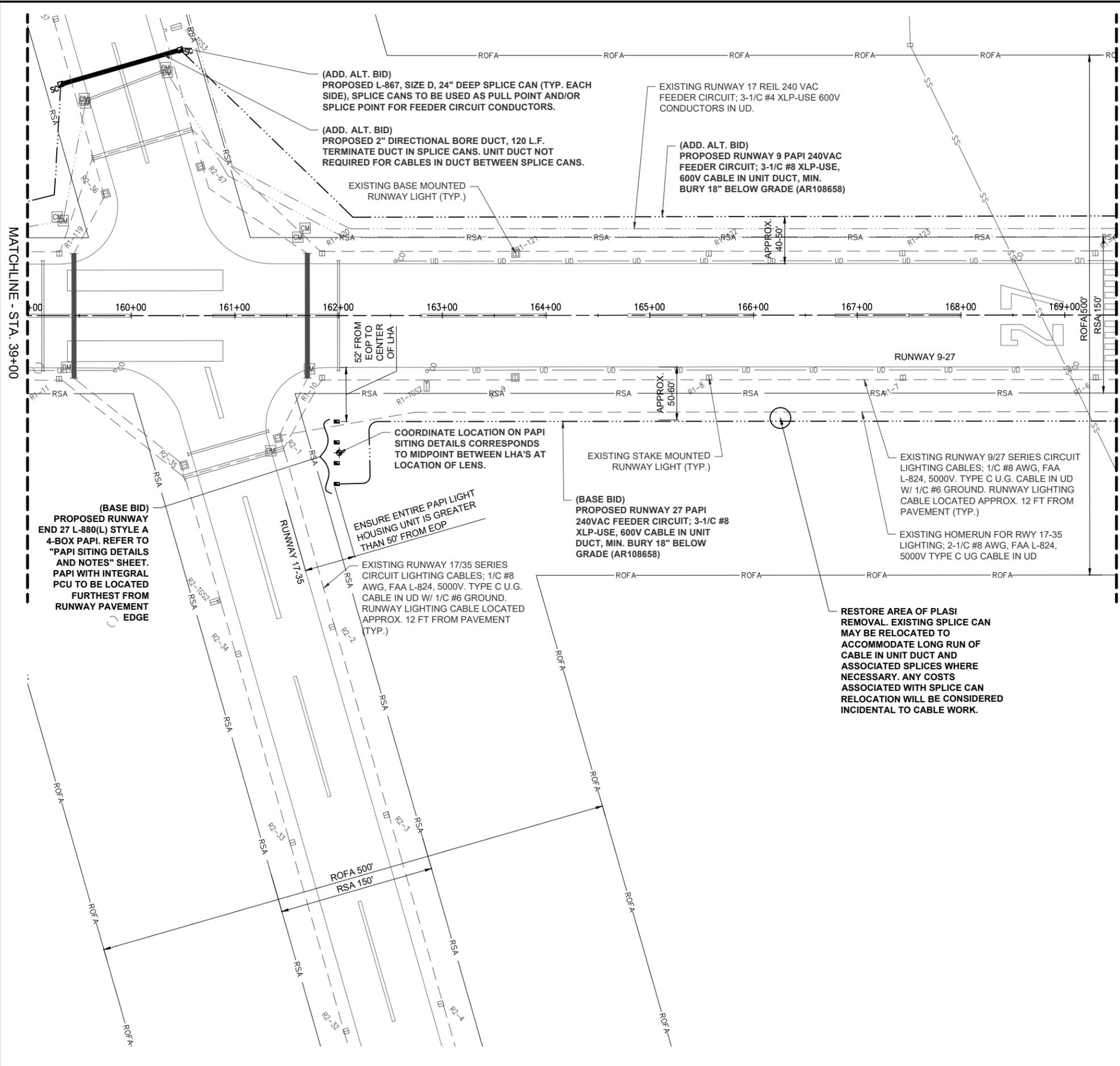
FOR BID



LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING PROPERTY LINE
- EXISTING ELECTRICAL CABLE
- EXISTING REIL CIRCUIT
- EXISTING PLASI CIRCUIT
- PROPOSED 3-1/C #8 XLP-USE, 600V UG CABLE IN UNIT DUCT
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING REIL
- EXISTING PLASI
- EXISTING TAXI GUIDANCE SIGN
- EXISTING SPLICE CAN
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED PAPI LIGHT HOUSING UNIT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- PROPOSED STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING STAKE MOUNTED THRESHOLD LIGHT
- EXISTING BASE MOUNTED THRESHOLD LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING CABLE MARKER
- EXISTING DUCT MARKER
- EXISTING CLEAN-OUT
- EXISTING INLET
- PROPOSED L-867, SIZE D, 24" DEEP SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE

MAR 03, 2025 9:46 AM SCHUB01446
 I:\23\JOBS\23A0038D\CAD\AIRPORT\SHEETE-142-ELE.DWG



LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING PROPERTY LINE
- EXISTING ELECTRICAL CABLE
- EXISTING REIL CIRCUIT
- EXISTING PLASI CIRCUIT
- PROPOSED 3-1/C #8 XLP-USE, 600V UG CABLE IN UNIT DUCT
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING REIL
- EXISTING PLASI
- EXISTING TAXI GUIDANCE SIGN
- EXISTING SPLICE CAN
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED PAPI LIGHT HOUSING UNIT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- PROPOSED STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING STAKE MOUNTED THRESHOLD LIGHT
- EXISTING BASE MOUNTED THRESHOLD LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING CABLE MARKER
- EXISTING DUCT MARKER
- EXISTING CLEAN-OUT
- EXISTING INLET
- PROPOSED L-867, SIZE D, 24" DEEP SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE



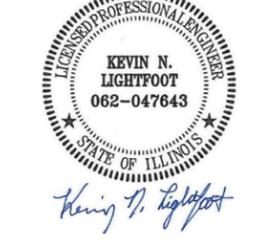
Offices Nationwide
 www.hanson-inc.com

Hanson Professional Services Inc.
 1525 S. 6th Street
 Springfield, IL 62568
 phone: 217-788-2450
 fax: 217-788-2503

Illinois Licensed
 Professional Service Corporation
 #184-001084

Crawford County Airport
 10748 North 1650th St.
 Palestine, Illinois 62451

COVERING ELECTRICAL DESIGN



DATE SIGNED: 2/28/2025
 LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
 AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-142-ELE.DWG

DESIGN BY: KNL 7/26/2023

DRAWN BY: HLE 7/26/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

PROPOSED ELECTRICAL PLAN (STA. 39+00 TO 49+50)

FOR BID



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

**INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS**

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: C-501-DETL.DWG
DESIGN BY: HLE 8/18/2023
DRAWN BY: HLE 8/18/2023
REVIEWED BY: JMO 9/15/2023

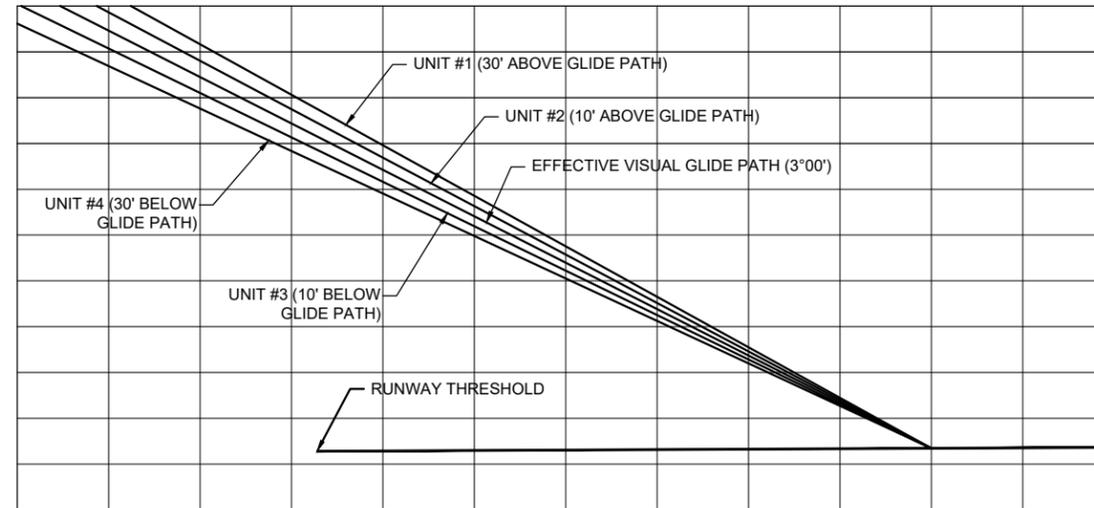
SHEET TITLE

**PAPI SITING DETAILS
AND NOTES RUNWAY
END 9**

P.A.P.I. NOTES

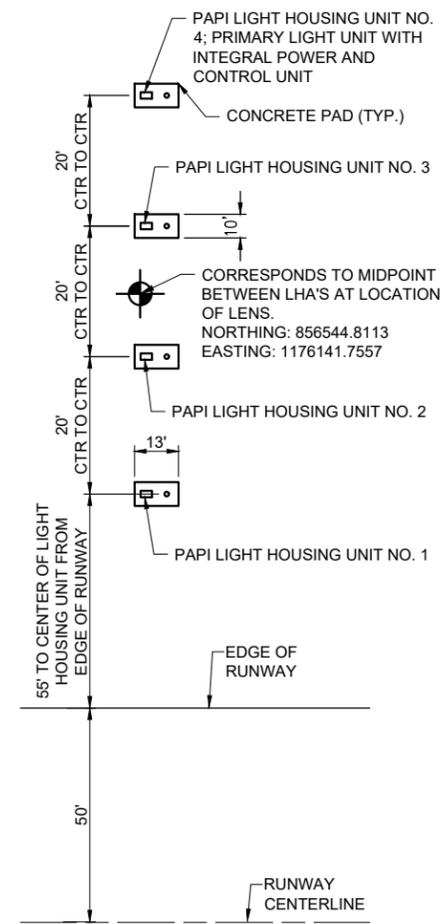
- EACH PROPOSED PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM WILL BE PLACED AT THE LOCATION SHOWN ON RESPECTIVE PROPOSED ELECTRICAL SITE PLAN SHEETS AND/OR AS DETAILED HEREIN ON THIS SHEET. LOCATE THE PAPI WITH THE POWER AND CONTROL UNIT FURTHEST FROM THE RUNWAY PAVEMENT EDGE TO COMPLY WITH FAA REQUIREMENTS.
- ANY REQUIRED ELECTRICAL EQUIPMENT BESIDES THE FOUR PAPI LIGHT UNITS THAT IS NOT CONSIDERED BY THE FAA TO BE FIXED-BY-FUNCTION SHALL BE INSTALLED OUTSIDE OF THE RUNWAY OBJECT FREE AREA, WHICH IS 400' FROM THE RUNWAY CENTERLINE.
- THE PROPOSED CONCRETE FOUNDATION PIERS SHALL BE AS DETAILED ON THE "PAPI FOUNDATION DETAILS" SHEET.
- EACH PAPI UNIT SHALL BE CONSTRUCTED SUCH THAT THE BEAM CENTERS WILL BE WITHIN ±1" OF THE RESPECTIVE SPECIFIED ELEVATION.
- THE INBOARD LIGHT UNIT MUST NOT BE LESS THAN 50 FT. FROM THE RUNWAY EDGE (MEASURED TO THE EDGE OF THE LIGHT UNIT) OR TO OTHER RUNWAYS OR TAXIWAYS, AND THE PAPI LIGHT UNITS SHALL HAVE A LATERAL SEPARATION OF 20 FT (MEASURED CENTER TO CENTER), IN ACCORDANCE WITH AC 150/5340-30J PART 7.5.4 PAPI, 7.5.4.7.2 SEPARATION BETWEEN LIGHT UNITS, AND FIGURE A-81. FOR THE L-880 AND L-881, THE DISTANCE BETWEEN LIGHT UNITS MAY NOT VARY BY MORE THAN PLUS OR MINUS 1 FOOT. SEE "RWY 14 PAPI LAYOUT DETAIL" FOR DIMENSIONS BETWEEN UNITS.
- THE PROPOSED PAPI SIGNAL SHALL BE VISIBLE FOR A 10 DEGREE ZONE ON EITHER SIDE OF THE RUNWAY CENTERLINE IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5340-30J, FIGURE A-81 PAPI OBSTACLE CLEARANCE SURFACE, AND FAA ORDER JO 6850.2C FIGURE 5-4 PAPI OBSTACLE CLEARANCE SURFACE. PER FAA AC 150/5345-28H, 3.2.4 LIGHT UNIT ADJUSTMENTS, PART 3.2.4.1.3 HORIZONTAL LIGHT BEAM COVERAGE, THE PAPI SHALL BE DESIGNED TO BE CAPABLE OF MODIFYING THE HORIZONTAL LIGHT BEAM COVERAGE OF THE PAPI FOR OBSTACLE AVOIDANCE IN THE APPROACH AREA AND LIGHT SIGNAL CLEARANCE SURFACE. THIS MAY BE ACCOMPLISHED USING BAFFLES (ALSO REFERRED TO AS BLANKING DEVICES).
- PER FAA 150/5340-30J, 7.5.4 PAPI, 7.5.4.11.2 LOCATION OF THE PCU, IT NOTES TO LOCATE THE PCU AS FAR FROM THE RUNWAY AS POSSIBLE FOR A MINIMUM OBSTRUCTION TO AIRCRAFT. IF THE PCU IS ESSENTIAL (INTERNAL) WITH A LIGHT UNIT, PLACE IT FARTHEST FROM THE RUNWAY. PER FAA ORDER 6850.2C, 507 PAPI ASSEMBLIES, 507.A POWER AND CONTROL ASSEMBLY, AN EXTERNAL PCA/PCU SERVING A LED PAPI MUST BE LOCATED OUTSIDE OF THE RUNWAY OBJECT FREE AREA (ROFA).

THRESHOLD CROSSING HEIGHT
3° 00' 0" = 40'

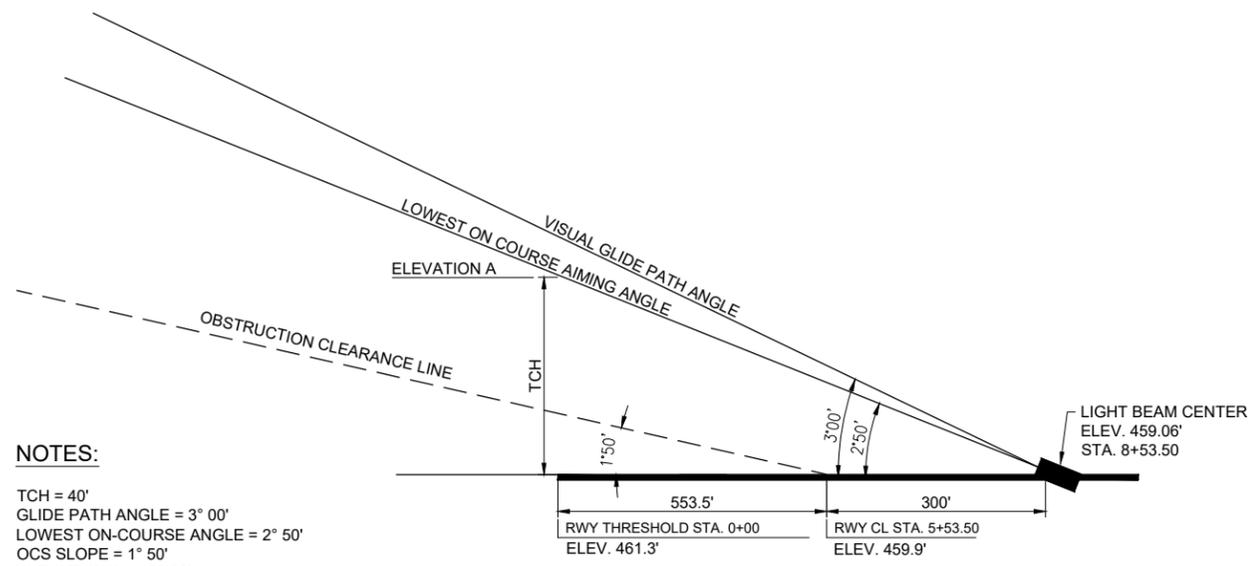


RUNWAY CENTERLINE PROFILE

PAPI DATA-RUNWAY END 9				
	P.A.P.I. UNIT #1	P.A.P.I. UNIT #2	P.A.P.I. UNIT #3	P.A.P.I. UNIT #4
AIMING ANGLE	3° 30' (3.50°)	3° 10' (3.17°)	2° 50' (2.83°)	2° 30' (2.50°)
APPROXIMATE EXISTING GROUND ELEVATION	456.8'	456.5'	456.2'	455.8'
P.A.P.I. UNIT APERTURE ELEVATION	459.06'	459.06'	459.06'	459.06'



RWY 9 P.A.P.I. LAYOUT DETAIL
"NOT TO SCALE"



P.A.P.I. AIMING DIAGRAM 9 END
"NOT TO SCALE"

- NOTES:**
- TCH = 40'
 - GLIDE PATH ANGLE = 3° 00'
 - LOWEST ON-COURSE ANGLE = 2° 50'
 - OCS SLOPE = 1° 50'
 - ELEVATION A = 477.62'
 - ADJUSTED DISTANCE FROM THRESHOLD (d) = 853.5'
 - ADJUSTED RUNWAY REFERENCE POINT = 459.06'



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION

ISSUE: FEBRUARY 28, 2025

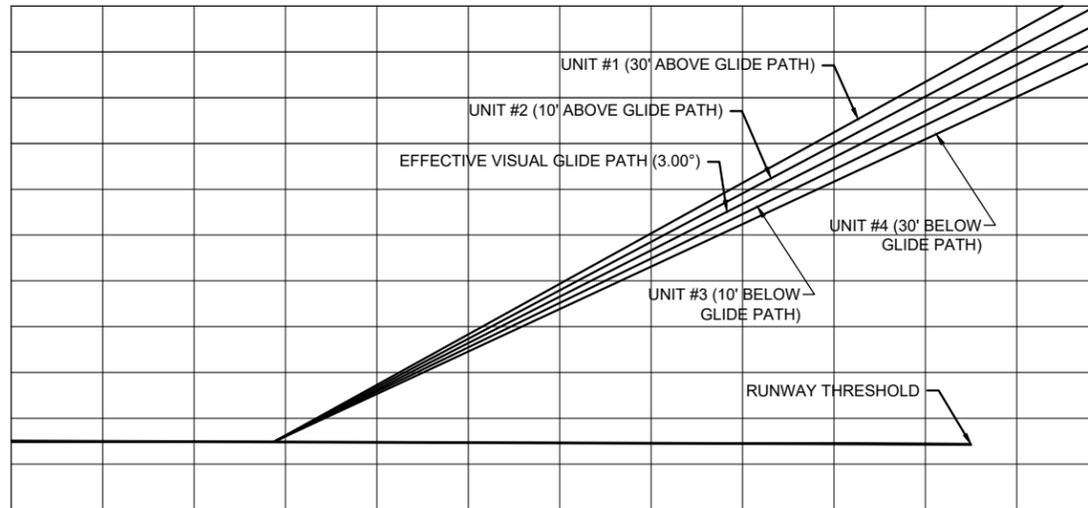
PROJECT NO: 23A0038D
CAD FILE: C-501-DETL.DWG
DESIGN BY: HLE 8/18/2023
DRAWN BY: HLE 8/18/2023
REVIEWED BY: JMO 9/15/2023

SHEET TITLE

PAPI SITING DETAILS
AND NOTES RUNWAY
END 27

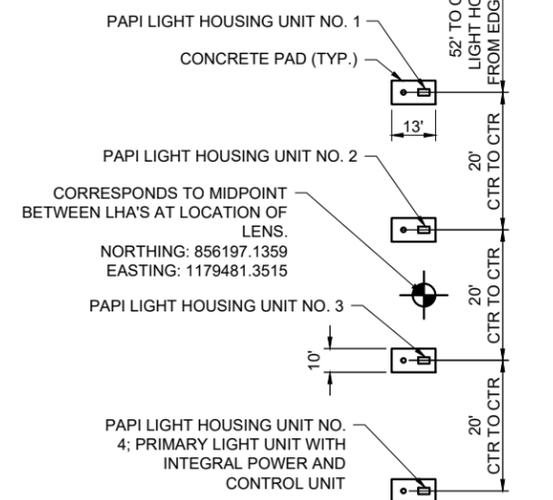
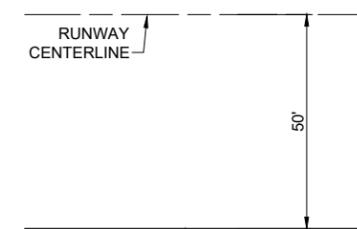
P.A.P.I. NOTES

- EACH PROPOSED PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM WILL BE PLACED AT THE LOCATION SHOWN ON RESPECTIVE PROPOSED ELECTRICAL SITE PLAN SHEETS AND/OR AS DETAILED HEREIN ON THIS SHEET. LOCATE THE PAPI WITH THE POWER AND CONTROL UNIT FURTHEST FROM THE RUNWAY PAVEMENT EDGE TO COMPLY WITH FAA REQUIREMENTS.
- ANY REQUIRED ELECTRICAL EQUIPMENT BESIDES THE FOUR PAPI LIGHT UNITS THAT IS NOT CONSIDERED BY THE FAA TO BE FIXED-BY-FUNCTION SHALL BE INSTALLED OUTSIDE OF THE RUNWAY OBJECT FREE AREA, WHICH IS 400' FROM THE RUNWAY CENTERLINE.
- THE PROPOSED CONCRETE FOUNDATION PIERS SHALL BE AS DETAILED ON THE "PAPI FOUNDATION DETAILS" SHEET.
- EACH PAPI UNIT SHALL BE CONSTRUCTED SUCH THAT THE BEAM CENTERS WILL BE WITHIN ±1" OF THE RESPECTIVE SPECIFIED ELEVATION.
- THE INBOARD LIGHT UNIT MUST NOT BE LESS THAN 50 FT. FROM THE RUNWAY EDGE (MEASURED TO THE EDGE OF THE LIGHT UNIT) OR TO OTHER RUNWAYS OR TAXIWAYS, AND THE PAPI LIGHT UNITS SHALL HAVE A LATERAL SEPARATION OF 20 FT (MEASURED CENTER TO CENTER), IN ACCORDANCE WITH AC 150/5340-30J PART 7.5.4 PAPI, 7.5.4.7.2 SEPARATION BETWEEN LIGHT UNITS, AND FIGURE A-81. FOR THE L-880 AND L-881, THE DISTANCE BETWEEN LIGHT UNITS MAY NOT VARY BY MORE THAN PLUS OR MINUS 1 FOOT. SEE "RWY 14 PAPI LAYOUT DETAIL" FOR DIMENSIONS BETWEEN UNITS.
- THE PROPOSED PAPI SIGNAL SHALL BE VISIBLE FOR A 10 DEGREE ZONE ON EITHER SIDE OF THE RUNWAY CENTERLINE IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5340-30J, FIGURE A-81 PAPI OBSTACLE CLEARANCE SURFACE, AND FAA ORDER JO 6850.2C FIGURE 5-4 PAPI OBSTACLE CLEARANCE SURFACE. PER FAA AC 150/5345-28H, 3.2.4 LIGHT UNIT ADJUSTMENTS, PART 3.2.4.1.3 HORIZONTAL LIGHT BEAM COVERAGE, THE PAPI SHALL BE DESIGNED TO BE CAPABLE OF MODIFYING THE HORIZONTAL LIGHT BEAM COVERAGE OF THE PAPI FOR OBSTACLE AVOIDANCE IN THE APPROACH AREA AND LIGHT SIGNAL CLEARANCE SURFACE. THIS MAY BE ACCOMPLISHED USING BAFFLES (ALSO REFERRED TO AS BLANKING DEVICES).
- PER FAA 150/5340-30J, 7.5.4 PAPI, 7.5.4.11.2 LOCATION OF THE PCU, IT NOTES TO LOCATE THE PCU AS FAR FROM THE RUNWAY AS POSSIBLE FOR A MINIMUM OBSTRUCTION TO AIRCRAFT. IF THE PCU IS ESSENTIAL (INTERNAL) WITH A LIGHT UNIT, PLACE IT FARTHEST FROM THE RUNWAY. PER FAA ORDER 6850.2C, 507 PAPI ASSEMBLIES, 507.A POWER AND CONTROL ASSEMBLY, AN EXTERNAL PCA/PCU SERVING A LED PAPI MUST BE LOCATED OUTSIDE OF THE RUNWAY OBJECT FREE AREA (ROFA).



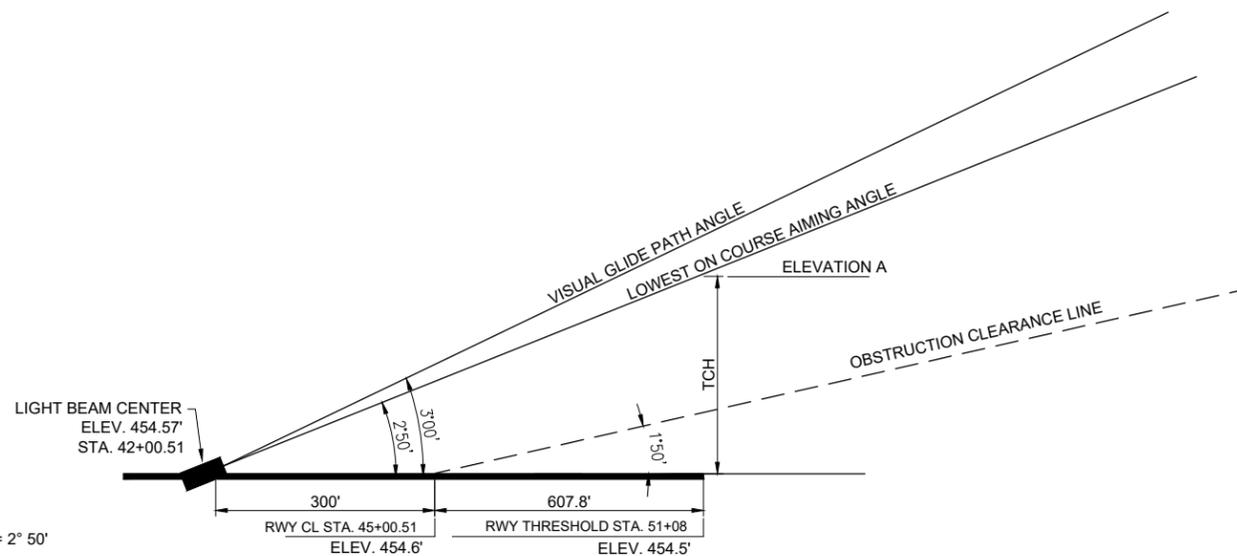
RUNWAY CENTERLINE PROFILE

PAPI DATA-RUNWAY END 27				
	P.A.P.I. UNIT #1	P.A.P.I. UNIT #2	P.A.P.I. UNIT #3	P.A.P.I. UNIT #4
AIMING ANGLE	3° 30' (3.50°)	3° 10' (3.17°)	2° 50' (2.83°)	2° 30' (2.50°)
APPROXIMATE EXISTING GROUND ELEVATION	452.9'	452.5'	452.3'	452.1'
P.A.P.I. UNIT APERTURE ELEVATION	454.57'	454.57'	454.57'	454.57'



RWY 27 P.A.P.I. LAYOUT DETAIL

"NOT TO SCALE"



P.A.P.I. AIMING DIAGRAM 27 END

"NOT TO SCALE"

NOTES:

- TCH = 45'
- GLIDE PATH ANGLE = 3° 00'
- LOWEST ON-COURSE ANGLE = 2° 50'
- OCS SLOPE = 1° 50'
- ELEVATION A = 474.04'
- ADJUSTED DISTANCE FROM THRESHOLD (d) = 907.8'
- ADJUSTED RUNWAY REFERENCE POINT = 454.57'

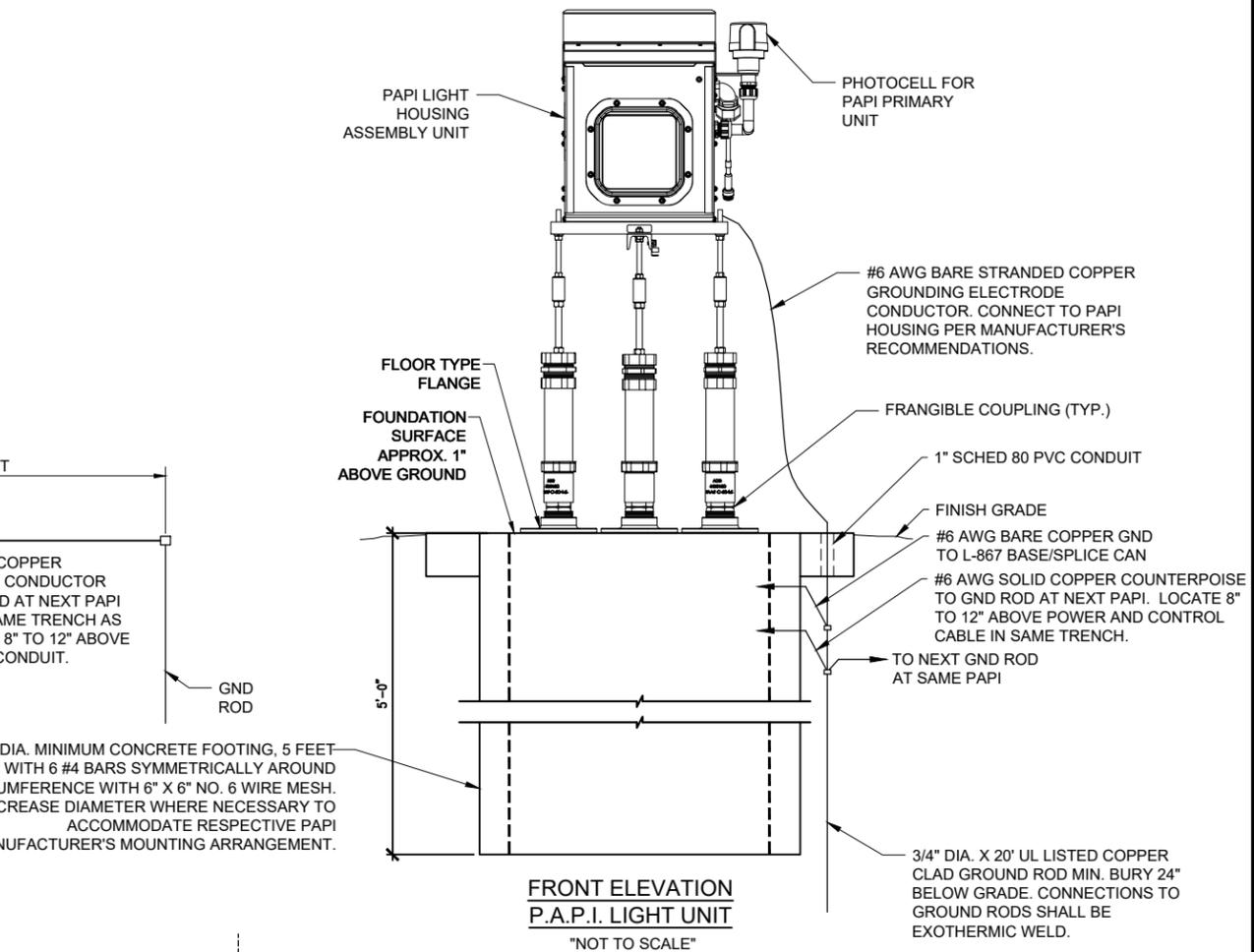
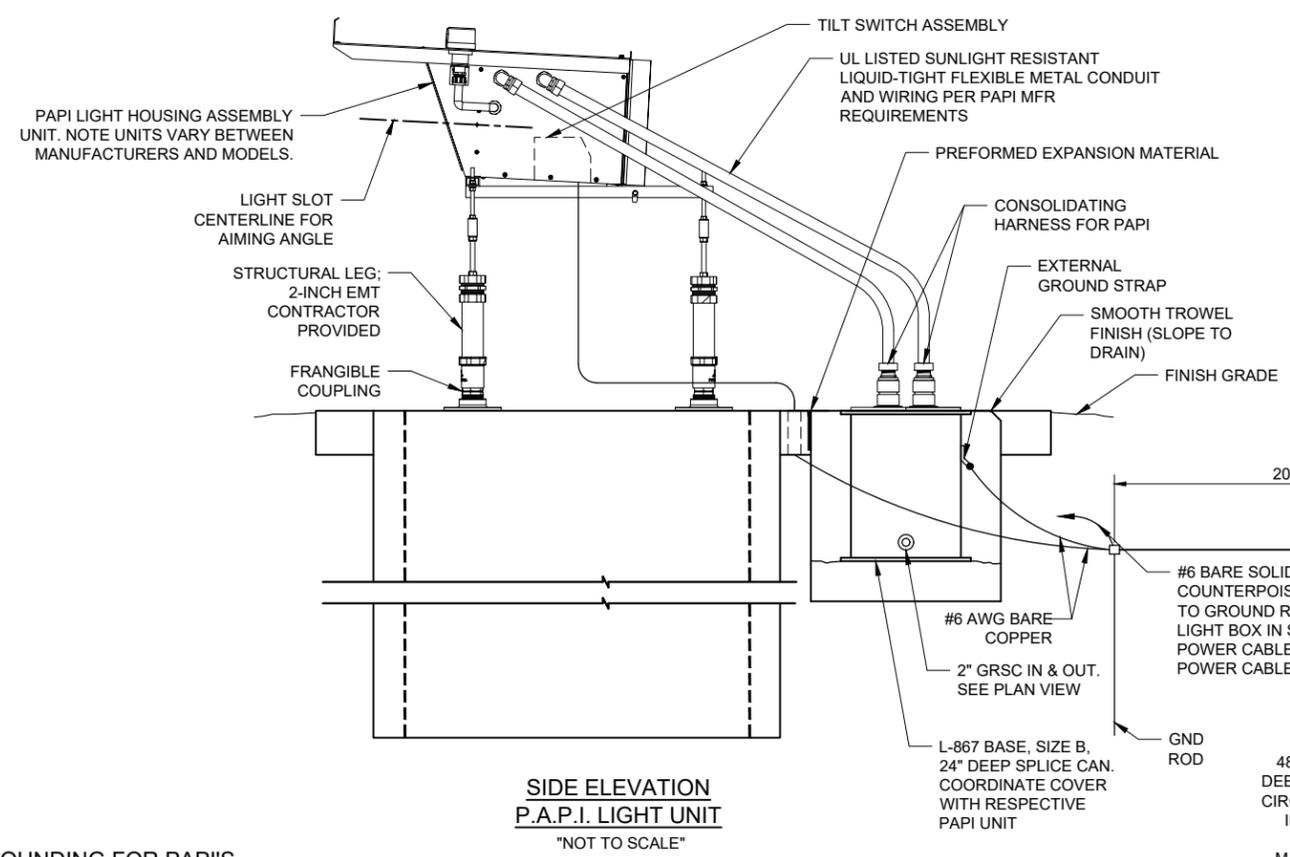


NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

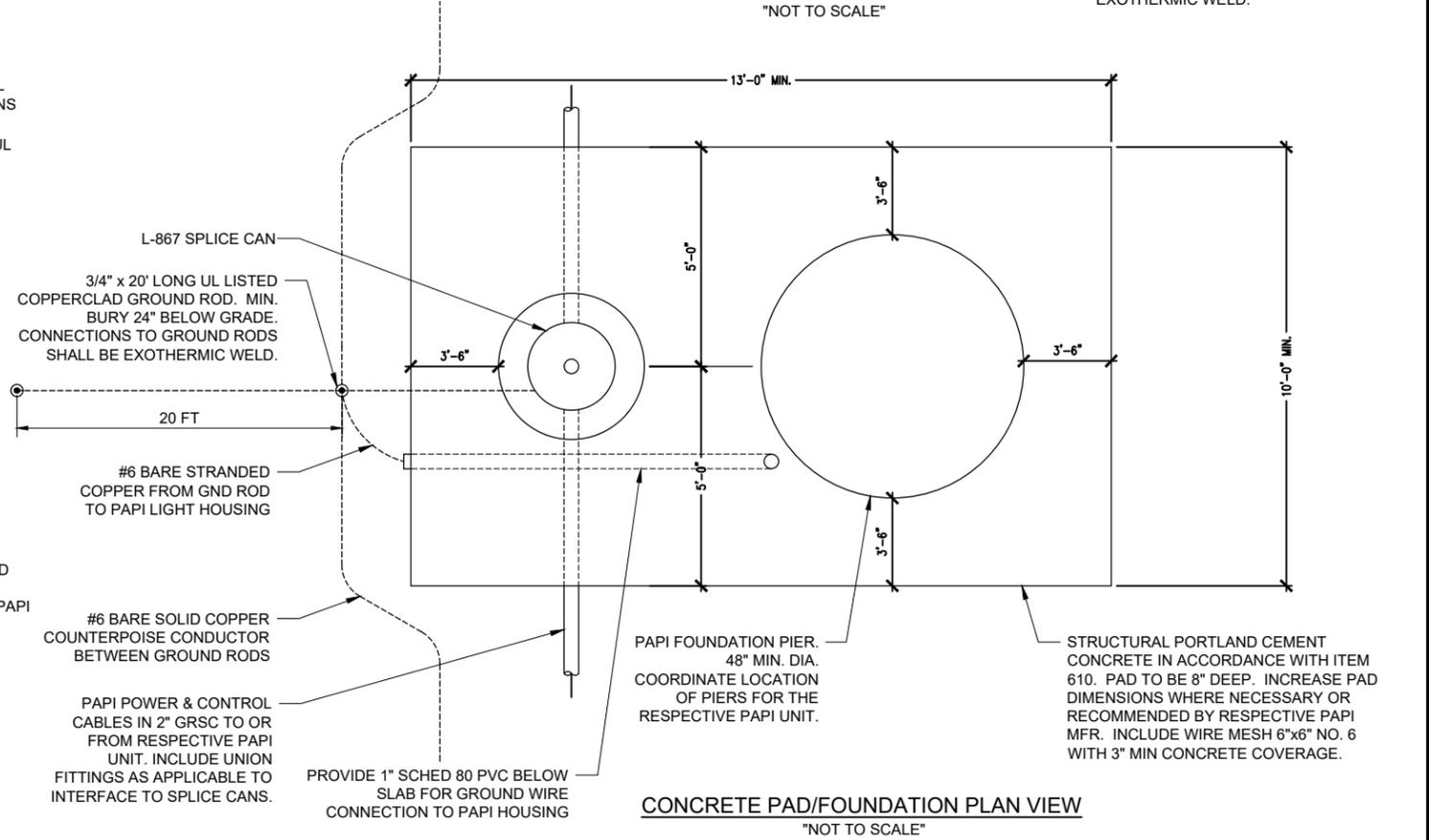
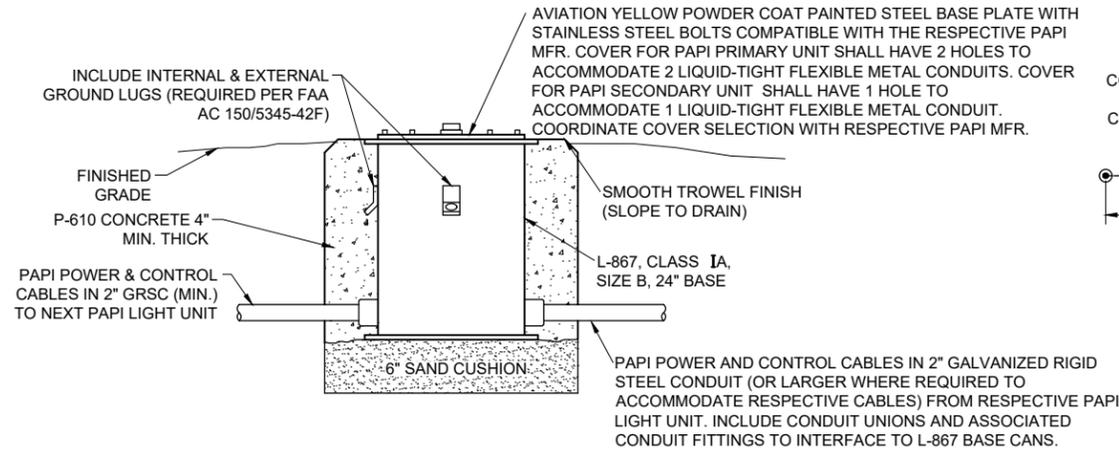
PROJECT NO: 23A0038D
CAD FILE: E-501-DETL.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE



GROUNDING FOR PAPI'S

- GROUNDING FOR PAPI'S SHALL CONFORM TO THE RESPECTIVE PAPI MANUFACTURER'S INSTALLATION INSTRUCTIONS. AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. THE POWER CIRCUIT TO EACH PAPI UNIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE OF THE SAME SIZE AND TYPE AS THE PHASE CONDUCTORS. FURNISH AND INSTALL TWO 3/4-INCH DIAMETER BY 20-FOOT LONG COPPER CLAD GROUND RODS AT EACH PAPI LIGHTING UNIT SPACED NOT LESS THAN ONE GND ROD LENGTH APART. BOND EACH PAPI UNIT AND THE RESPECTIVE L-867 SPLICE CAN TO THE RESPECTIVE GROUND ROD WITH A #6 AWG STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR. TOP OF GROUND RODS SHALL BE BURIED APPROXIMATELY 24 INCHES BELOW GRADE. ALL CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS; CADWELD BY ERICO PRODUCTS, THERMOWELD BY CONTINENTAL INDUSTRIES, INC., OR ULTRAWELD BY HARGER LIGHTNING PROTECTION GROUNDING EQUIPMENT, OR APPROVED EQUAL. CONNECTIONS TO L-867 SPLICE CANS SHALL BE WITH UL LISTED GROUNDING CONNECTORS SUITABLE FOR USE IN DIRECT BURIAL OR CONCRETE ENCASUREMENT APPLICATIONS. CONNECTIONS TO PAPI UNIT FRAME SHALL BE AS RECOMMENDED BY THE MANUFACTURER OR WITH A UL LISTED GROUNDING CONNECTOR. ALL GROUND RODS ASSOCIATED WITH THE COMPLETE PAPI INSTALLATION SHALL BE BONDED TOGETHER WITH A #6 AWG SOLID COPPER COUNTERPOISE CONDUCTOR. THIS COUNTERPOISE CONDUCTOR SHALL BE INSTALLED IN THE SAME TRENCH LOCATED 10 INCHES ABOVE THE POWER AND CONTROL CONDUCTORS, BETWEEN EACH RESPECTIVE PAPI UNIT.



NOTE:
FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AND 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 150/5345-42H (AND/OR OTHER CURRENT ISSUES IN EFFECT).

PAPI L-867 SPLICE CAN DETAIL
(NOT TO SCALE)

CONCRETE PAD/FOUNDATION PLAN VIEW
(NOT TO SCALE)



INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-502-DETL.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

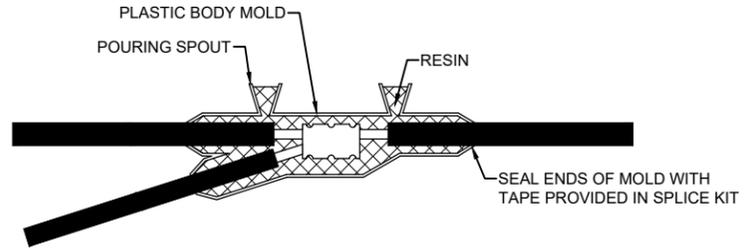
SHEET TITLE

AIRFIELD LIGHTING CABLE SPLICE DETAILS

FOR BID

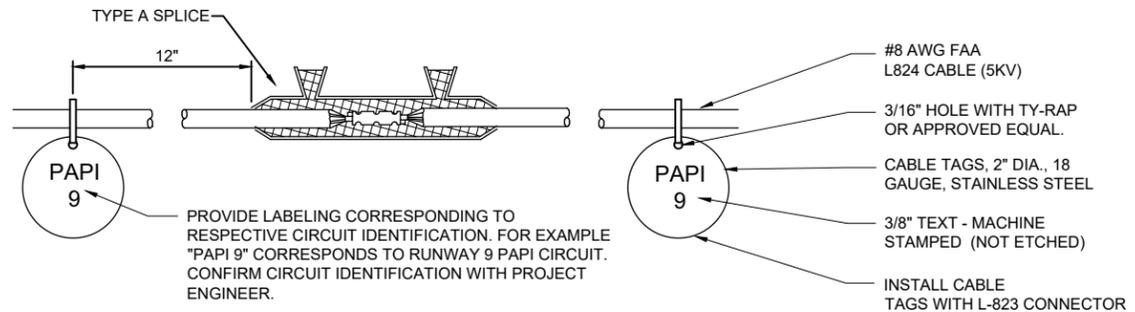
NOTES:

- SPLICE DETAILS ARE PROVIDED FOR NEW WORK AND TO ASSIST IN REPAIRS OF ACCIDENTAL OR UNEXPECTED INTERRUPTIONS AND/OR CUTS TO AIRFIELD LIGHTING CABLES.
- 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.
- 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 150/5370-10G 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.



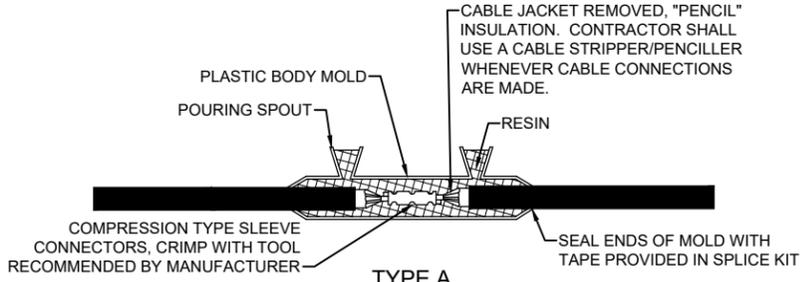
LOW VOLTAGE UNDERGROUND TAP SPLICE

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.



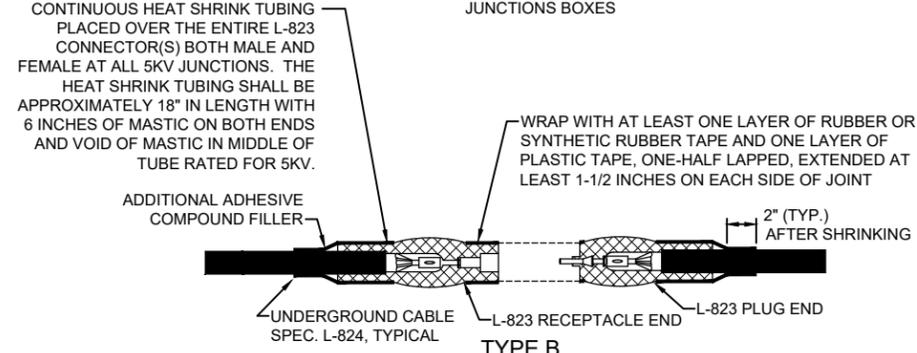
- CONTRACTOR SHALL PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION. PROVIDE TWO CABLE TAGS FOR CABLES IN MANHOLES; ONE AT ENTRY TO MANHOLE AND SECOND ONE AT EXIT FROM MANHOLE.
- CABLE IDENTIFICATION TAGS SHALL BE STAINLESS STEEL OR BRASS.
- THE CABLE SHALL THOROUGHLY BE CLEANED PRIOR TO THE INSTALLATION OF THE L-823 CONNECTOR KIT.
- ATTACH EACH CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING EDGE OF CABLE TAG INTO CONDUCTOR. TRIM OFF EXCESS CABLE TIE.
- CABLE TAGS SHALL BE PROVIDED AT ALL POINTS OF ACCESS INCLUDING L-867 BASES, L-868 BASES, HANDHOLES, MANHOLES, JUNCTION BOXES, AND WIREWAYS.
- CABLE TAGS SHALL BE LABELED AS FOLLOWS FOR RESPECTIVE AIRFIELD LIGHTING/NAVAID CIRCUITS:
RUNWAY 9 PAPI CIRCUIT: PAPI 9
RUNWAY 27 PAPI CIRCUIT: PAPI 27

CABLE TAG DETAIL
"NOT TO SCALE"



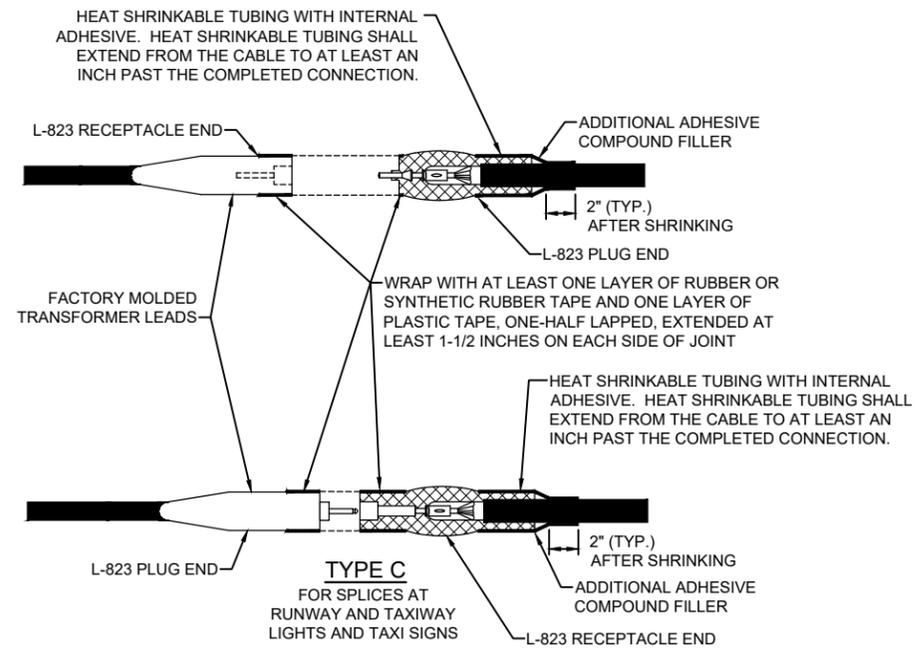
TYPE A

FOR SPLICES IN LOW VOLTAGE CABLE (600V) HOMERUNS FOR EXTENSIONS TO EXISTING LOW VOLTAGE CABLES ONLY. TYPE A SPLICES SHALL BE MADE IN SPLICE CANS, HANDHOLES, MANHOLES, OR JUNCTION BOXES



TYPE B

FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT AND FOR SPLICES IN HOMERUNS TO EXISTING CABLES



TYPE C

FOR SPLICES AT RUNWAY AND TAXIWAY LIGHTS AND TAXI SIGNS

NOTES:
INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

CABLE SPLICES



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-503-DETL.DWG

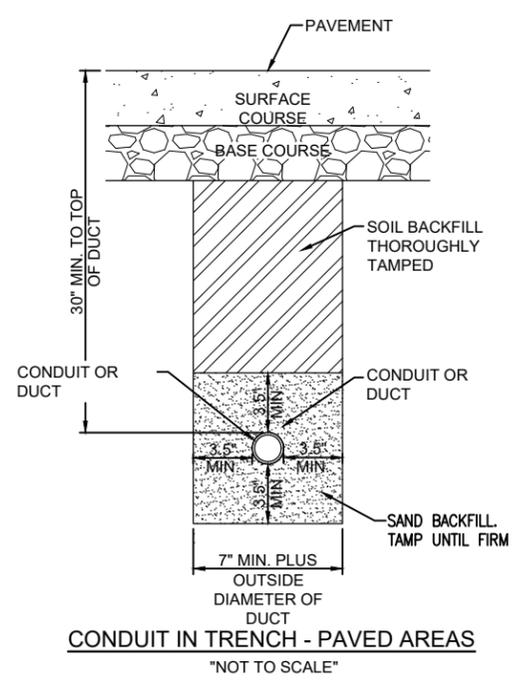
DESIGN BY: KNL 8/3/2023

DRAWN BY: HLE 8/3/2023

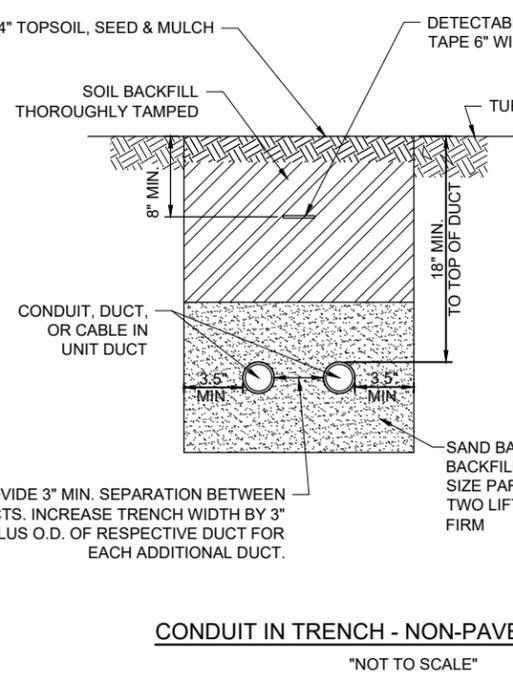
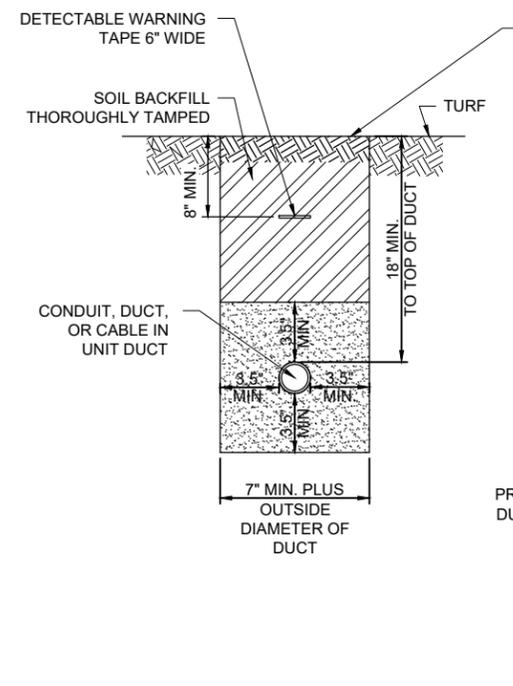
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

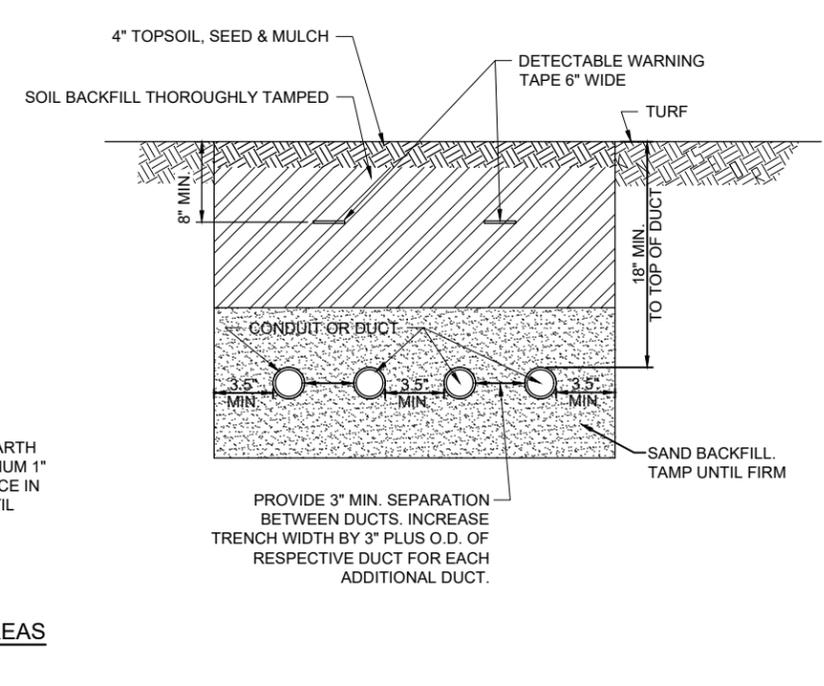
CONDUIT TRENCH DETAIL



CONDUIT IN TRENCH - PAVED AREAS
"NOT TO SCALE"



CONDUIT IN TRENCH - NON-PAVEMENT AREAS
"NOT TO SCALE"



CONDUIT IN TRENCH - NON-PAVEMENT AREAS
"NOT TO SCALE"

NOTES:

- DIMENSIONS FOR COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
- 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.
- 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 NAVOID 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.
- 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.
- SERVICE CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, OR HANDHOLE WITH FEEDER CIRCUITS, BRANCH CIRCUITS OR CONTROL CIRCUITS.
- COMMUNICATION CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, OR HANDHOLE WITH POWER CIRCUITS.
- 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.
- 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.
- 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). WHERE THE FACILITY IS NOT EQUIPPED WITH LOCKOUT/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.
- 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. 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.
- 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.
- 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.
- 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.
- 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
- 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 HEREIN.
- 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 WALL TYPE MINIMUM 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.
- 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.
- A PULL WIRE SHALL BE INSTALLED IN EACH CONDUIT OR DUCT TO BE LEFT VACANT.
- CONTRACTOR SHALL COORDINATE DUCT MARKING WITH AIRPORT.
- 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.

FOR BID

MAR 03, 2025 9:46 AM SCHUB01446 1:23:05S23A0038D\CRAWFORD\AIRPORT\SHEETE-503-DETL.DWG



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

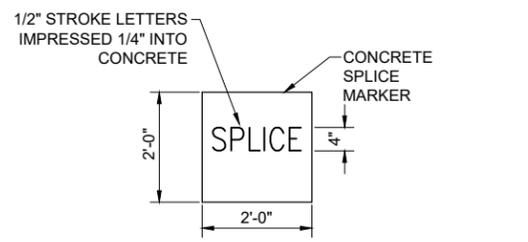
Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

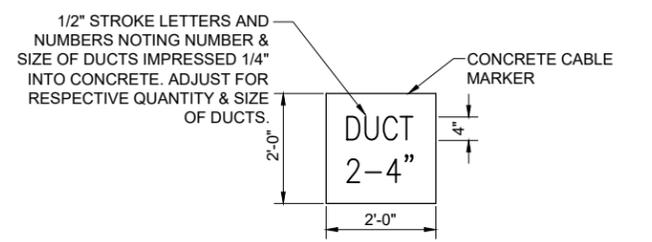
ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-504-DETL.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

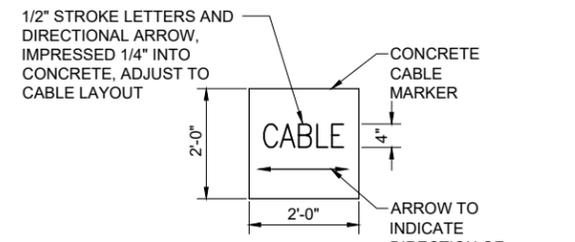
CABLE AND DUCT MARKER DETAILS



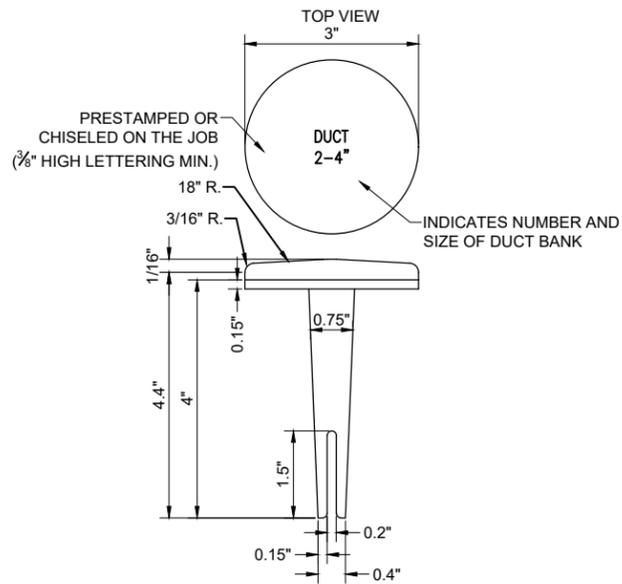
TURF SPLICE MARKERS
"NOT TO SCALE"



TURF DUCT MARKERS
"NOT TO SCALE"

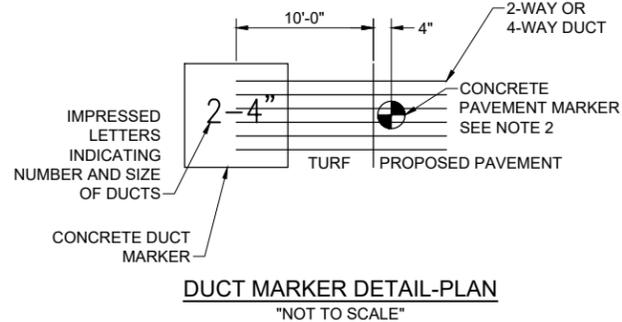


TURF CABLE MARKERS
"NOT TO SCALE"

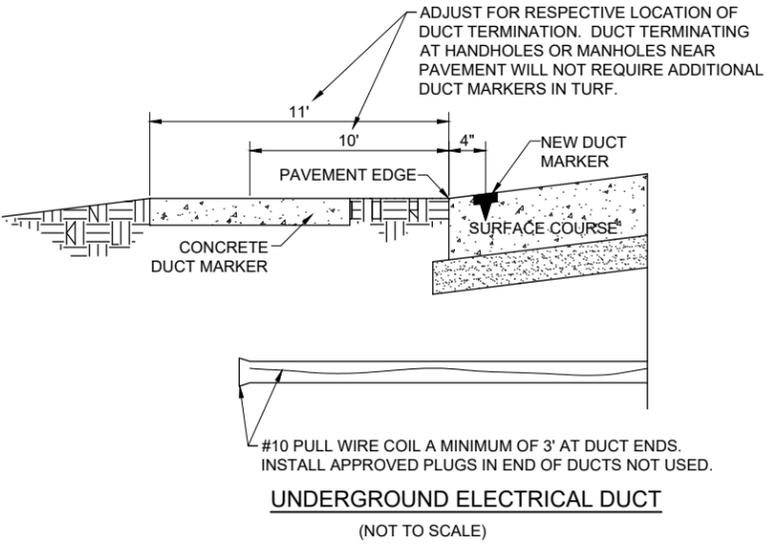


BITUMINOUS PAVEMENT DUCT MARKERS
"NOT TO SCALE"

- 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 MANUFACTURERS.



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.
- 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:
 - REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.
 - INCREASE THE MARKER SIZE TO 30" X 30".
 - PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE
- TURF DUCT MARKERS ARE NOT REQUIRED AT PAVEMENT CROSSINGS WHERE DUCTS TERMINATE IN HANDHOLES, OR JUNCTION STRUCTURES.
- 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 AVOIDED WHERE POSSIBLE. 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.
- 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.



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-505-DETLDWG

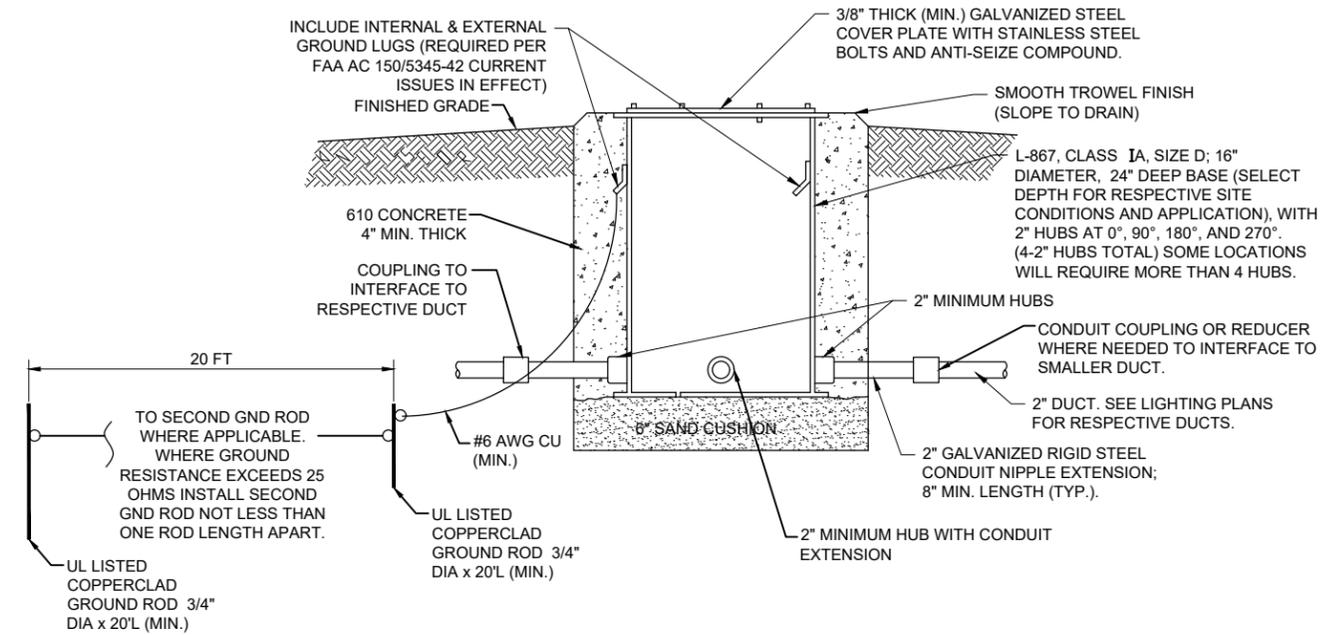
DESIGN BY: KNL 8/3/2023

DRAWN BY: HLE 8/3/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

SPLICE CAN DETAILS



SPLICE CAN/JUNCTION CAN DETAIL

"NOT TO SCALE"

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).
- APPLY AN OXIDE-INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS, AND ALL PLACES WHERE METAL COMES INTO CONTACT WITH METAL.
- 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.
- 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.
- PROVIDE NEW GROUND RODS FOR EXISTING SPLICE CANS DESIGNATED FOR RELOCATION.
- PROVIDE ADEQUATE SLACK CABLE AT SPLICE CANS/JUNCTION CANS TO PERFORM SPLICES OUTSIDE OF THE SPLICE CAN.

Crawford County Airport

10748 North 1650th St.
Palestine, Illinois 62451

COVERING ELECTRICAL DESIGN



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-001-NOTES.DWG

DESIGN BY: KNL 8/3/2023

DRAWN BY: HLE 8/3/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

ELECTRICAL NOTES SHEET 1

FOR BID

GENERAL 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.
- CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
- 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).
- 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.
- 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.
- 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.
- 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.
- 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.
 - THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - INSTALLATION INSTRUCTION.
 - START-UP INSTRUCTIONS.
 - PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - CHART FOR TROUBLE-SHOOTING.
 - 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.
 - 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.
- 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.
- NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - 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.
 - 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.
- 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.
- 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.
- 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.
- SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE.

- 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.
- 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 INSTALLING IT.
- UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
- 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.
- USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
- 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.
- UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
- THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - 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.
 - THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - 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.
 - ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
- 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.



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

**INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS**

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-507-DETLDWG

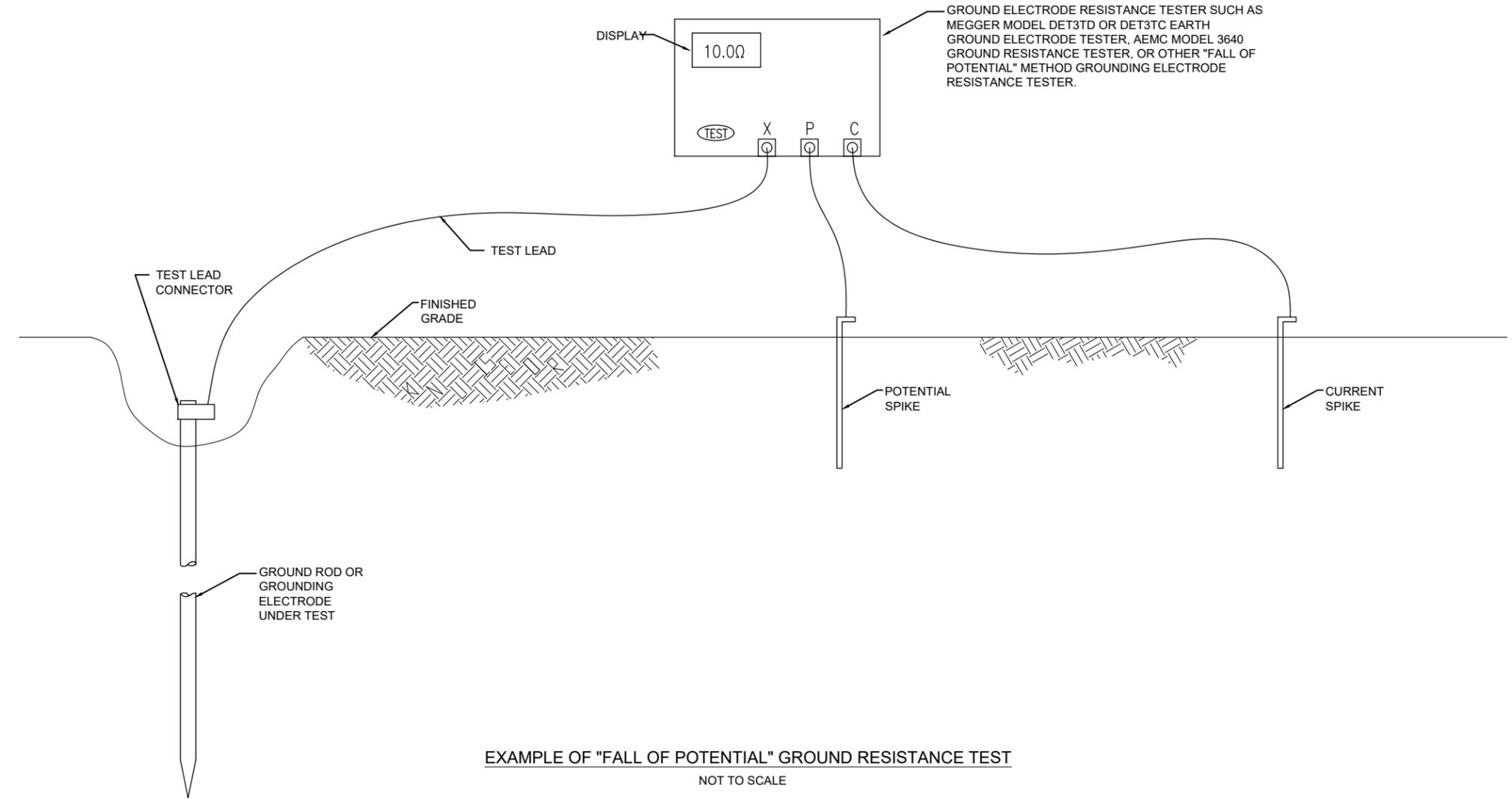
DESIGN BY: KNL 8/3/2023

DRAWN BY: HLE 8/3/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

**GROUND
RESISTANCE
TESTING DETAILS**



EXAMPLE OF "FALL OF POTENTIAL" GROUND RESISTANCE TEST
NOT TO SCALE

NOTES

- 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.
- "FALL OF POTENTIAL" TYPE GROUND ELECTRODE RESISTANCE TESTER IS RECOMMENDED FOR TESTING INDIVIDUAL STAND ALONE GROUND RODS.

MAR 03, 2025 9:47 AM SCHUB01446
1:23:08S23A0038D\CAD\AIRPORT\18HEETE-507-DETLDWG

FOR BID



NO.	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-004-LGND.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

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.
- 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 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).
- LTFCM 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 LTFCM THAT IS NOT UL LISTED. CONFIRM LTFCM 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 BLACK
PHASE B RED
NEUTRAL WHITE
GROUND GREEN
- SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
- 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 RATING.
- 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.
- 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.

ELECTRICAL ABBREVIATIONS (CONTINUED)	
PB	PULL BOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
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)

AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS	
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 SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM 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
VADI	VISUAL APPROACH DESCENT INDICATOR
VASI	VISUAL APPROACH SLOPE INDICATOR
VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE FACILITY
WC	WIND CONE

ELECTRICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	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
LTFCM	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LHTNG	LIGHTING
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCULAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
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
OL	OVERLOAD

ELECTRICAL LEGEND - SCHEMATIC	
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	STARTER COIL, * = STARTER NUMBER
	OVERLOAD RELAY CONTACT
	CONTROL RELAY, * = CONTROL RELAY NUMBER
	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
	2-POSITION SELECTOR SWITCH
	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)
	N.O. THERMAL SWITCH
	N.C. THERMAL SWITCH
	2 POLE DISCONNECT SWITCH
	3 POLE DISCONNECT SWITCH
	PHOTOCELL
	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
	GROUND BUS OR TERMINAL
	NEUTRAL BUS
	GROUND, GROUND ROD, GROUND BUS
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
	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 ALSA AIRFIELD LIGHTING SAFETY CUTOUT (MFRD BY ADB)
	L-830 SERIES ISOLATION TRANSFORMER

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	CABLE TERMINATOR/LUG
	TRANSFORMER
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	FUSE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
	INDICATING LIGHT
	MOTOR
	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
	JUNCTION BOX WITH SPLICE
	EQUIPMENT, XXX = DEVICE DESCRIPTION
	GROUND BUS OR TERMINAL
	NEUTRAL BUS
	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
	TRANSFER SWITCH
	ENGINE GENERATOR SET



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

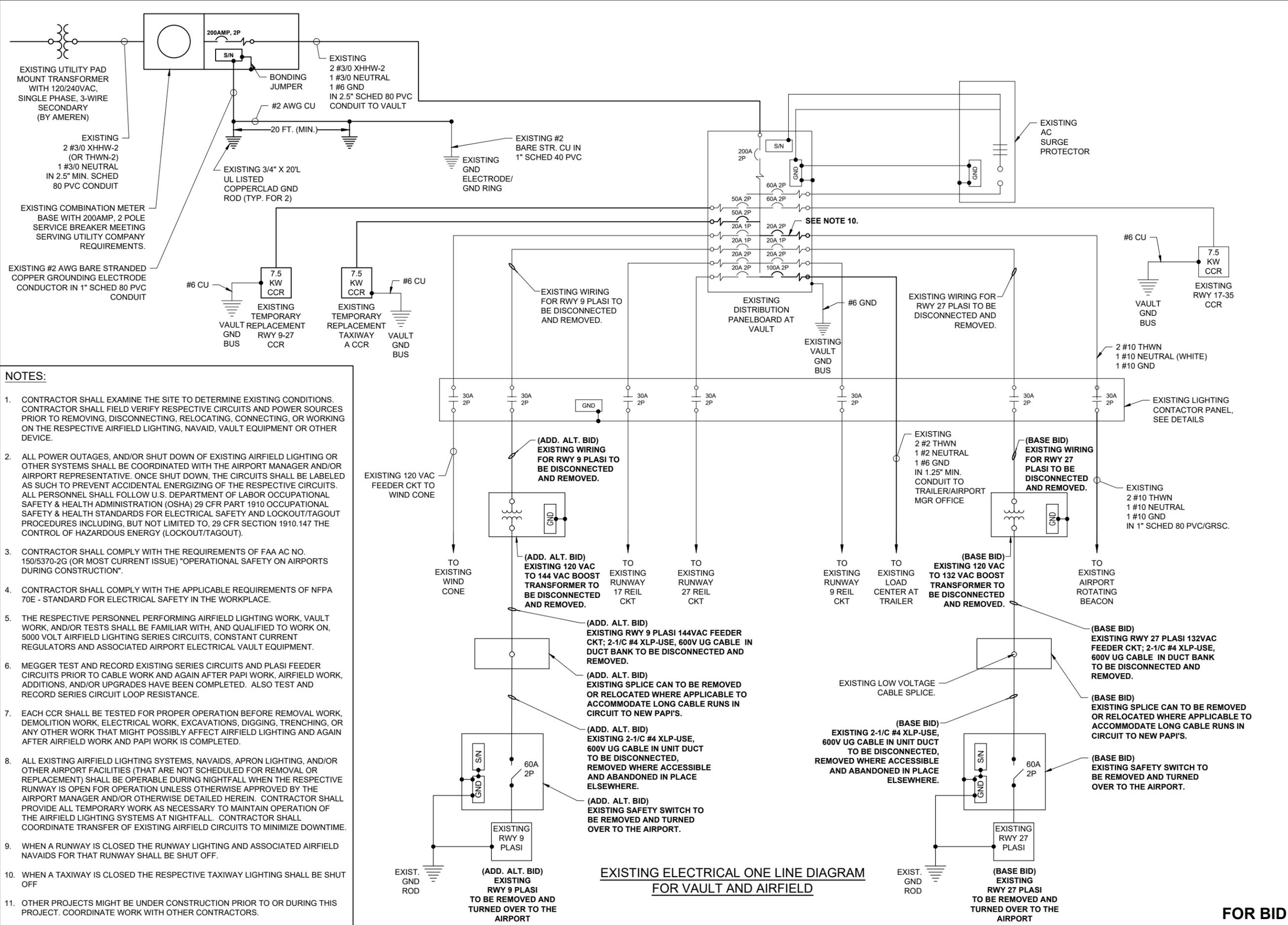
NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D
CAD FILE: E-601.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD



- NOTES:**
- CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE EXISTING CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, RELOCATING, CONNECTING, OR WORKING ON THE RESPECTIVE AIRFIELD LIGHTING, NAVAID, VAULT EQUIPMENT OR OTHER DEVICE.
 - ALL POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING AIRFIELD LIGHTING OR OTHER SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER AND/OR AIRPORT REPRESENTATIVE. 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 COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2G (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
 - CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
 - THE RESPECTIVE 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 EQUIPMENT.
 - MEGGER TEST AND RECORD EXISTING SERIES CIRCUITS AND PLASI FEEDER CIRCUITS PRIOR TO CABLE WORK AND AGAIN AFTER PAPI WORK, AIRFIELD WORK, ADDITIONS, AND/OR UPGRADES HAVE BEEN COMPLETED. ALSO TEST AND RECORD SERIES CIRCUIT LOOP RESISTANCE.
 - EACH CCR SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, DEMOLITION WORK, ELECTRICAL WORK, EXCAVATIONS, DIGGING, TRENCHING, OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING AND AGAIN AFTER AIRFIELD WORK AND PAPI WORK IS COMPLETED.
 - ALL EXISTING AIRFIELD LIGHTING SYSTEMS, NAVAIDS, APRON LIGHTING, AND/OR OTHER AIRPORT FACILITIES (THAT ARE NOT SCHEDULED FOR REMOVAL OR REPLACEMENT) SHALL BE OPERABLE DURING NIGHTFALL WHEN THE RESPECTIVE RUNWAY IS OPEN FOR OPERATION UNLESS OTHERWISE APPROVED BY THE AIRPORT MANAGER AND/OR OTHERWISE DETAILED HEREIN. CONTRACTOR SHALL PROVIDE ALL TEMPORARY WORK AS NECESSARY TO MAINTAIN OPERATION OF THE AIRFIELD LIGHTING SYSTEMS AT NIGHTFALL. CONTRACTOR SHALL COORDINATE TRANSFER OF EXISTING AIRFIELD CIRCUITS TO MINIMIZE DOWNTIME.
 - WHEN A RUNWAY IS CLOSED THE RUNWAY LIGHTING AND ASSOCIATED AIRFIELD NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF.
 - WHEN A TAXIWAY IS CLOSED THE RESPECTIVE TAXIWAY LIGHTING SHALL BE SHUT OFF
 - OTHER PROJECTS MIGHT BE UNDER CONSTRUCTION PRIOR TO OR DURING THIS PROJECT. COORDINATE WORK WITH OTHER CONTRACTORS.

MAR 03, 2025 9:48 AM SCHUB01446 1\23\JOBS\23A0038D\CAD\AIRPORT\SHHEETE-601.DWG

FOR BID



DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV
ISSUE: FEBRUARY 28, 2025				
PROJECT NO: 23A0038D				
CAD FILE: E-602.DWG				
DESIGN BY: KNL 8/3/2023				
DRAWN BY: HLE 8/3/2023				
REVIEWED BY: KNL 9/15/2023				

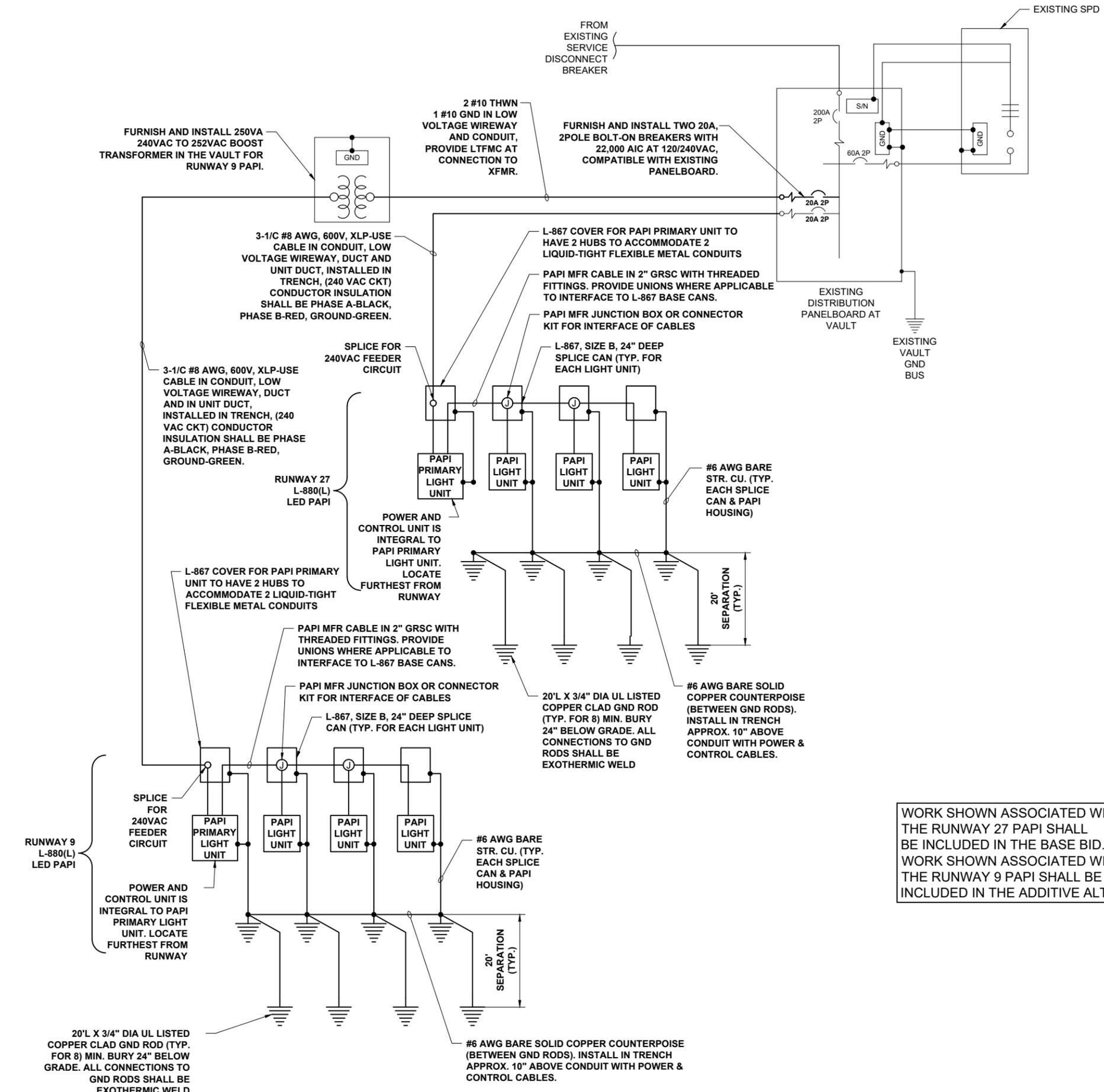
SHEET TITLE

PROPOSED ELECTRICAL ONE-LINE FOR RUNWAY 9-27 PAPI'S

NOTES

- ALL VAULT 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).
- 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.
- ALL CONDUCTORS/WIRING SHALL BE COPPER.
- CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH PAPI (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKER, FUSES, WIRE SIZES & CONDUIT SIZES TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
- HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS OR OTHER 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.
- 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.
- EQUIPMENT AND MATERIALS NOT LABELED AS "EXISTING" ARE NEW.
- ALL NEW VAULT WORK WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAPI WORK PAY ITEM.

WORK SHOWN ASSOCIATED WITH THE RUNWAY 27 PAPI SHALL BE INCLUDED IN THE BASE BID. WORK SHOWN ASSOCIATED WITH THE RUNWAY 9 PAPI SHALL BE INCLUDED IN THE ADDITIVE ALTERNATE BID.



MAR 03, 2025 9:48 AM SCHUB01446
1\23\JOBS\23A0038D\CAD\AIRPORT\1\SHEETE-602.DWG

FOR BID



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM & ASSOCIATED ELECTRICAL IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025

PROJECT NO: 23A0038D

CAD FILE: E-604.DWG

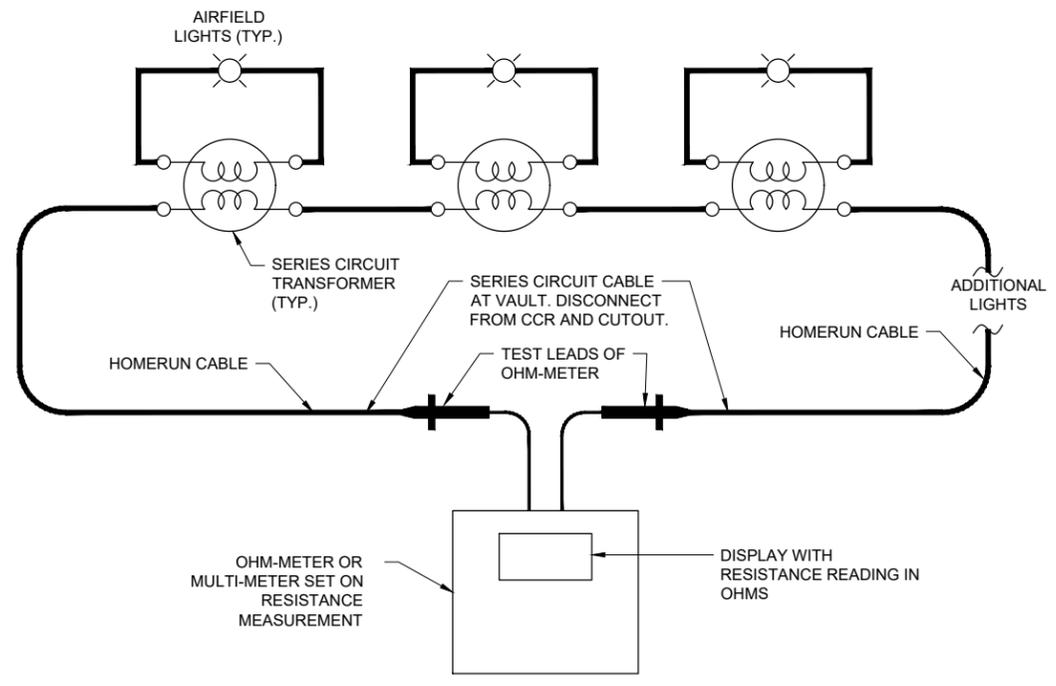
DESIGN BY: KNL 8/3/2023

DRAWN BY: HLE 8/3/2023

REVIEWED BY: KNL 9/15/2023

SHEET TITLE

SERIES CIRCUIT CABLE TESTING DETAILS

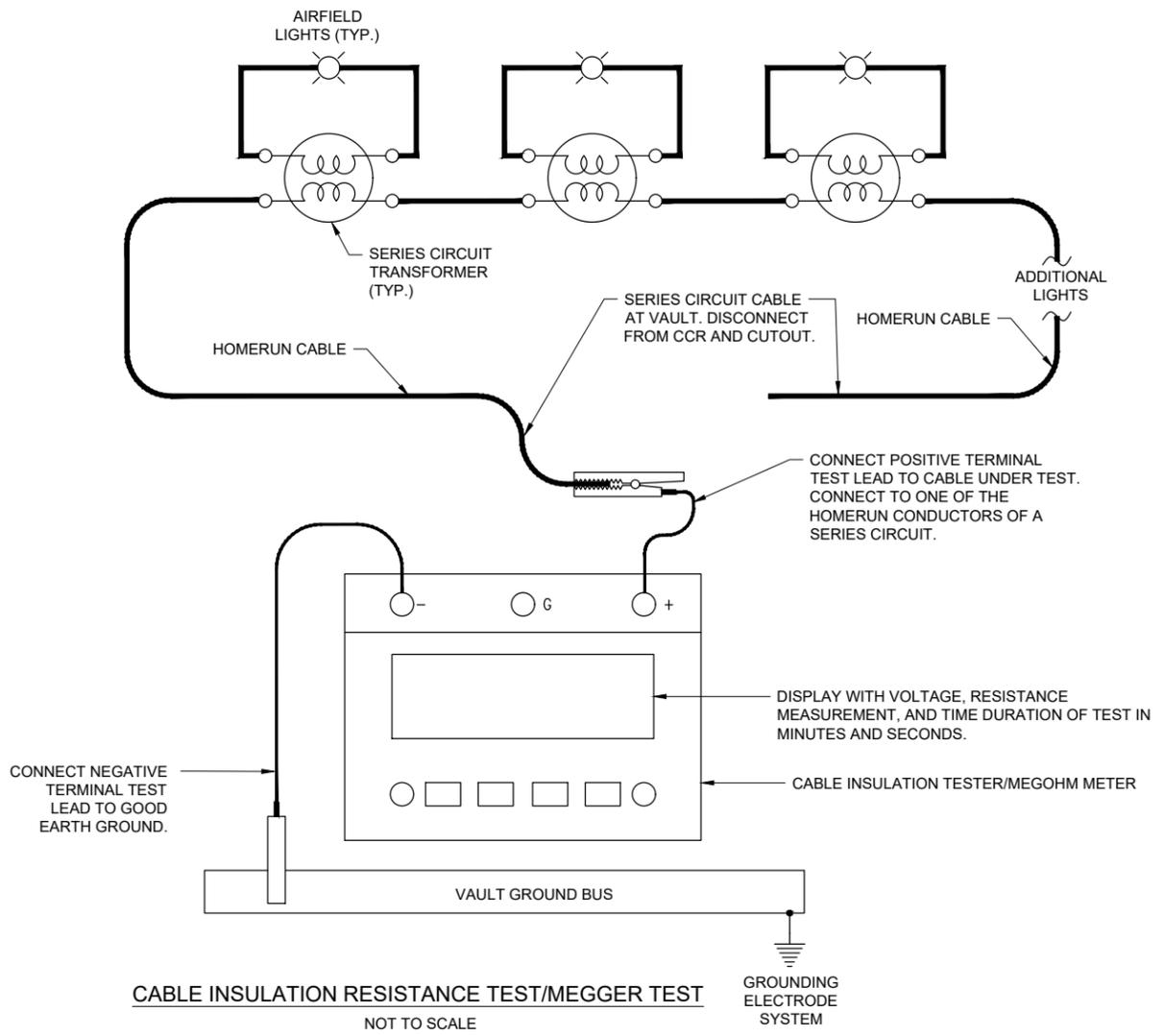


MEASURE RESISTANCE OF SERIES CIRCUIT LOOP.

NOT TO SCALE

SERIES CIRCUIT LOOP RESISTANCE MEASUREMENT NOTES

1. 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.
2. 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.
3. 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 OF CABLE.



CABLE INSULATION RESISTANCE TEST/MEGGER TEST

NOT TO SCALE

CABLE INSULATION RESISTANCE TEST (MEGGER TEST) NOTES

1. 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.
2. 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.
3. 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.
4. 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.
5. 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 RESULT.
6. 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.
7. 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 AIRFIELD 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.
8. 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 INSULATION, 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.
9. 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.

FOR BID



Kevin N. Lightfoot

DATE SIGNED: 2/28/2025
LICENSE EXPIRES: 11/30/2025

INSTALL PAPI SYSTEM
& ASSOCIATED
ELECTRICAL
IMPROVEMENTS

IDA No: RSV-5062
AIP No: 3-17-SBGP-TBD

Contract No. RB022

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: FEBRUARY 28, 2025
PROJECT NO: 23A0038D
CAD FILE: E-605.DWG
DESIGN BY: KNL 8/3/2023
DRAWN BY: HLE 8/3/2023
REVIEWED BY: KNL 9/15/2023

SHEET TITLE

LEGEND PLATE
SCHEDULES

LEGEND PLATE SCHEDULE	
DEVICE	LABEL
UTILITY METERING COMBINATION BREAKER CABINET	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY WAS ESTIMATED BY AMEREN TO BE 13,021 AMPS ON 7/25/2023
VAULT DISTRIBUTION PANEL	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY WAS ESTIMATED BY AMEREN TO BE 13,021 AMPS ON 7/25/2023
VAULT DISTRIBUTION PANEL	VAULT DIST. PANEL 120/240 VAC, 1 PH, 3W FED FROM COMBINATION METER SERVICE BREAKER AT EXTERIOR OF VAULT
VAULT DISTRIBUTION PANEL	CONDUCTOR COLOR CODING SHALL BE AS FOLLOWS: PHASE A - BLACK PHASE B - RED NEUTRAL - WHITE GROUND - GREEN
LIGHTING CONTACTOR PANEL	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY WAS ESTIMATED BY AMEREN TO BE 13,021 AMPS ON 7/25/2023
RELAY INTERFACE PANEL	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY WAS ESTIMATED BY AMEREN TO BE 13,021 AMPS ON 7/25/2023
TOP OF RUNWAY 9-27 CCR	KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR
TOP OF TAXIWAY "A" AND "B" CCR	KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR
TOP OF RUNWAY 17-35 CCR	KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR
RUNWAY 9 PAPI POWER AND CONTROL UNIT	RUNWAY 9 PAPI FED FROM VAULT DISTRIBUTION PANEL. DISCONNECT POWER BEFORE SERVICING.
RUNWAY 27 PAPI POWER AND CONTROL UNIT	RUNWAY 27 PAPI FED FROM VAULT DISTRIBUTION PANEL. DISCONNECT POWER BEFORE SERVICING.

! WARNING

**Arc Flash and Shock Hazard
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. UTILITY METERING COMBINATION METERING SERVICE DISCONNECT CABINET
 2. VAULT MAIN DIST. PANEL
 3. VAULT LIGHTING CONTACTOR CONTROL PANEL
 4. VAULT RELAY INTERFACE CONTROL PANEL

ARC FLASH RISK LABEL DETAIL 1

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. 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".
3. FAULT CURRENT INFORMATION TO BE PROVIDED BY SERVING ELECTRIC UTILITY COMPANY OR FROM DATA OBTAINED FROM UTILITY TRANSFORMER NAMEPLATE. CONTACT PROJECT ENGINEER TO CONFIRM FAULT CURRENT CALCULATIONS.
4. 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.
5. ALL LABELING WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAPI WORK PAY ITEM