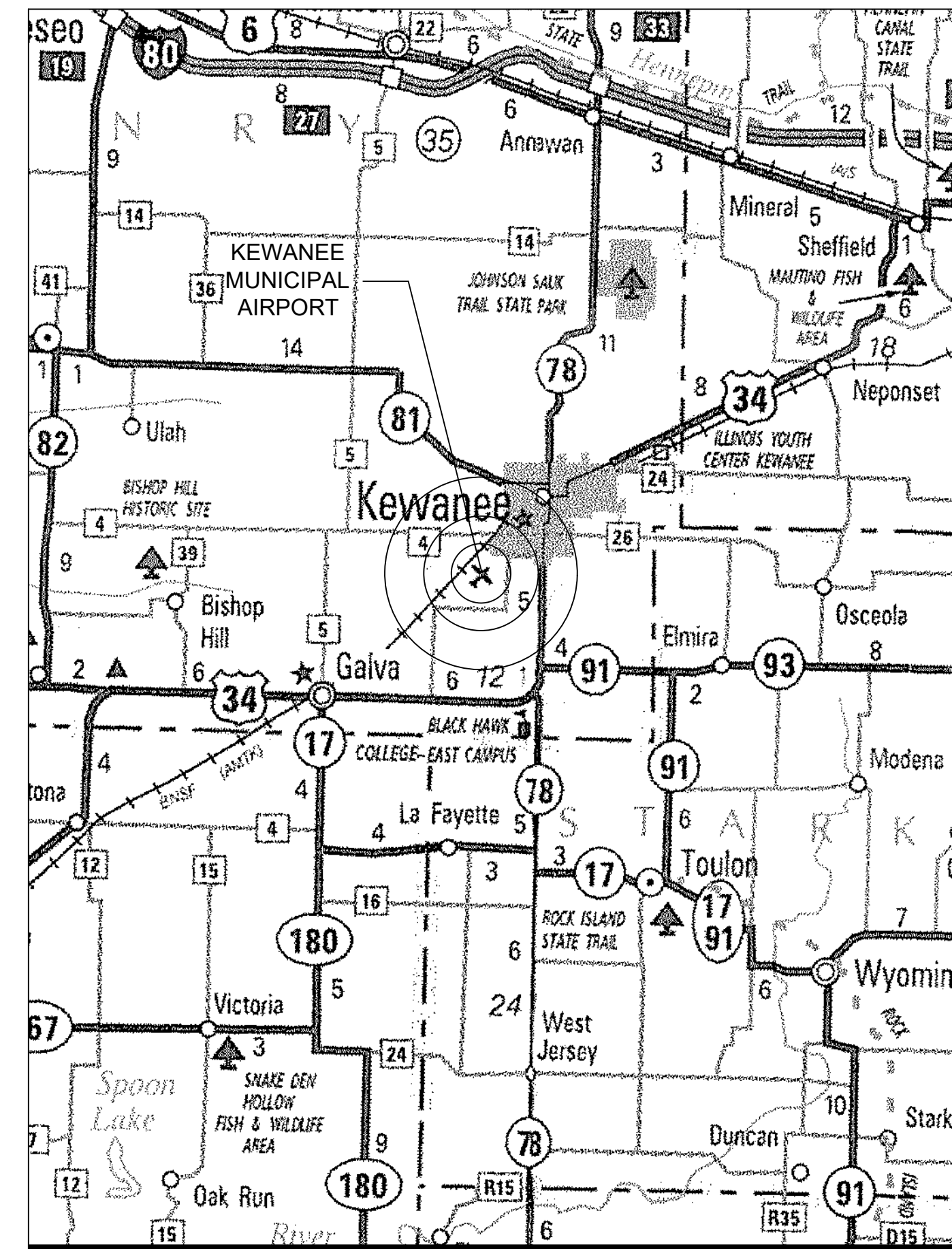


CONSTRUCTION PLANS

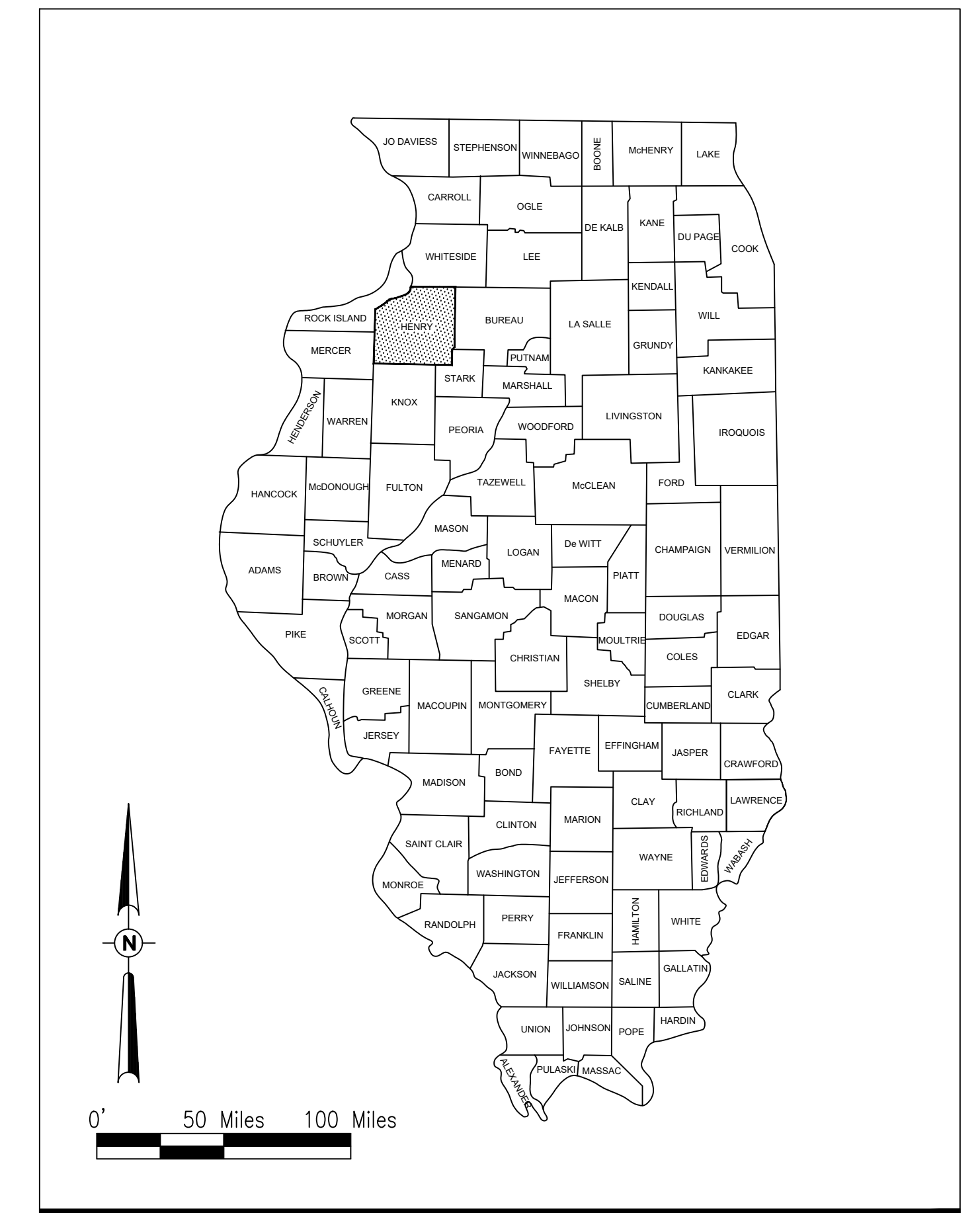
REPLACE TAXIWAY AIRFIELD LIGHTING

KEWANEE AIRPORT AUTHORITY
KEWANEE MUNICIPAL AIRPORT (EZI)
KEWANEE, HENRY COUNTY, ILLINOIS

SBG PROJECT NO. 3-17-SBGP-TBD
IDA PROJECT NO. EZI-4939
NOVEMBER 22, 2024
100% SUBMITTAL



VICINITY MAP



LOCATION MAP

SCOPE OF WORK:


THIS PROJECT WILL INCLUDE REMOVAL AND REPLACEMENT OF THE TAXIWAY LIGHTING SYSTEMS FOR TAXIWAY A AND TAXIWAY B, THE ASSOCIATED CABLING, CONDUITS AND DUCT WORK, JUNCTION STRUCTURES, VAULT WORK AND INCIDENTALS.

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.

No.	Issue/Description	Sheets Changed	Date	By

COVERING ELECTRICAL DESIGN:



Kevin N. Lightfoot, P.E.
Electrical Engineer

EXP. 11/30/2025

11/22/2024



HANSON PROFESSIONAL SERVICES INC.
1525 S. Sixth St.
Springfield, Illinois 62703
Telephone: 217.788.2450
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Lindsay D. Hausman, P.E.
Project Engineer

11/22/2024



KEWANEE MUNICIPAL AIRPORT
3769 Midland Road
Kewanee, Illinois 61443
Telephone: 309-853-8222

Ross Carbielar
Airport Manager

11/22/2024



SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	AS-BUILT QUANTITY
AR108108	1/C #8 5 KV UG CABLE	FOOT	8,000	
AR108158	1/C #8 5 KV UG CABLE IN UD	FOOT	15,000	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L SUM	1	
AR110012	2" DIRECTIONAL BORE	FOOT	1,020	
AR110202	2" PVC DUCT, DIRECT BURY	FOOT	2,000	
AR125411	MITL-STAKE MOUNTED-LED	EACH	63	
AR125416	MITL-BASE MOUNTED-LED	EACH	61	
AR125565	SPLICE CAN	EACH	4	
AR150510	ENGINEER'S FIELD OFFICE	L SUM	1	
AR150520	MOBILIZATION	L SUM	1	
AR150530	TRAFFIC MAINTENANCE	L SUM	1	
AR800476	REMOVE AIRFIELD LIGHTING	L SUM	1	
AR800545	MITL, BASE MOUNTED SIZE D	EACH	14	
AR800564	CABLE AND CCR TESTING AND CALIBRATION	L SUM	1	

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4	SITE AND SAFETY PLAN NOTES
5	PHASING PLAN - PHASE 1
6	PHASING PLAN - PHASE 2
7	PHASING PLAN - PHASE 3
8	EXISTING TAXIWAY A LTG DEMOLITION PLAN SHEET 1
9	EXISTING TAXIWAY A LTG DEMOLITION PLAN SHEET 2
10	EXISTING TAXIWAYS A AND B LTG DEMOLITION PLAN SHEET 3
11	EXISTING TAXIWAY A LTG DEMOLITION PLAN SHEET 4
12	EXISTING TAXIWAY B LTG DEMOLITION PLAN SHEET 5
13	EXISTING HOMERUN ELECTRICAL PLAN
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19	PROPOSED HOMERUN ELECTRICAL PLAN
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REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: G-002-FLP.DWG

DESIGN BY: KNL 8/21/2024

DRAWN BY: CWS 8/22/2024

REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

SUMMARY OF QUANTITIES AND INDEX TO SHEETS

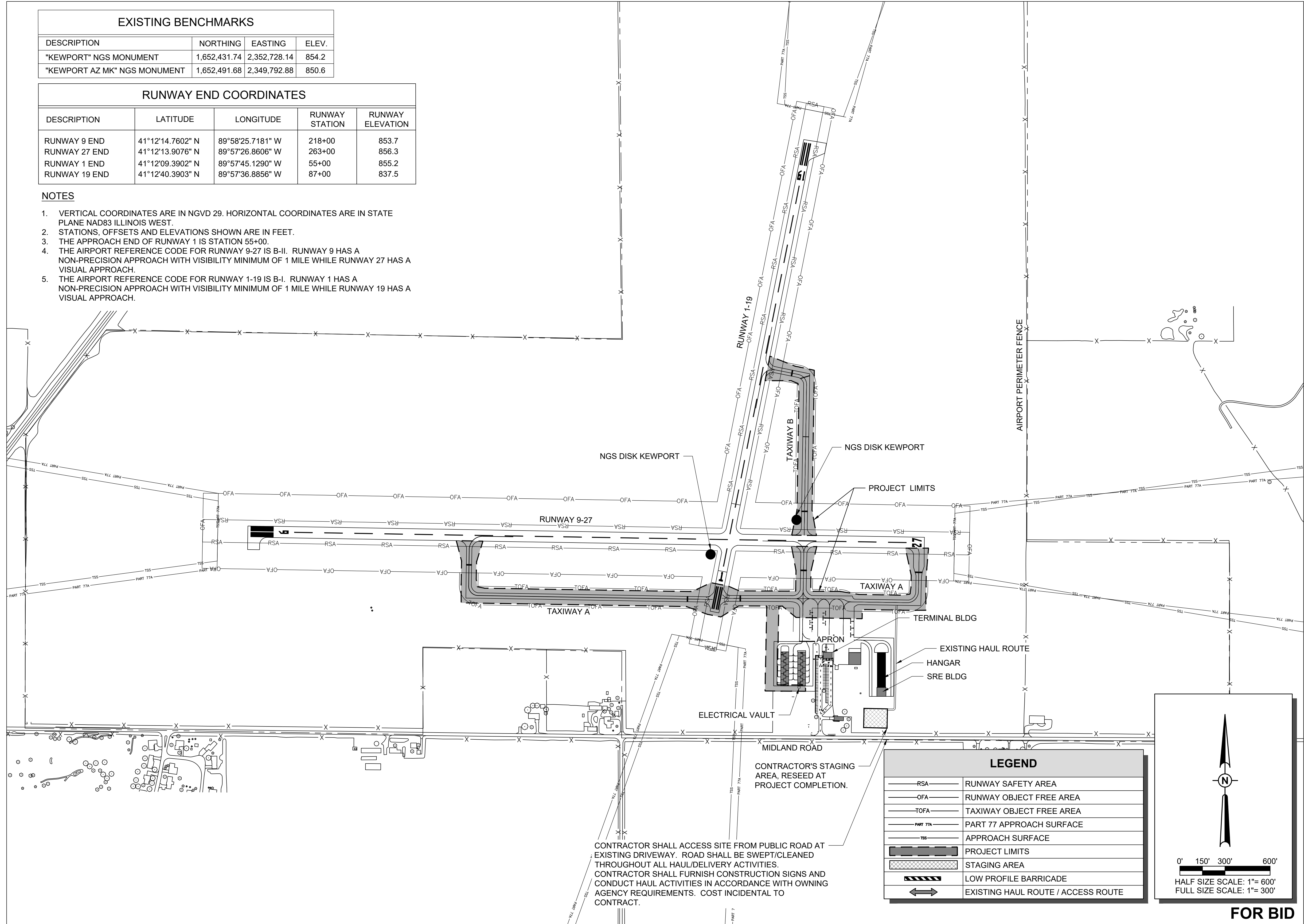
FOR BID

EXISTING BENCHMARKS			
DESCRIPTION	NORTHING	EASTING	ELEV.
"KEWPORT" NGS MONUMENT	1,652,431.74	2,352,728.14	854.2
"KEWPORT AZ MK" NGS MONUMENT	1,652,491.68	2,349,792.88	850.6

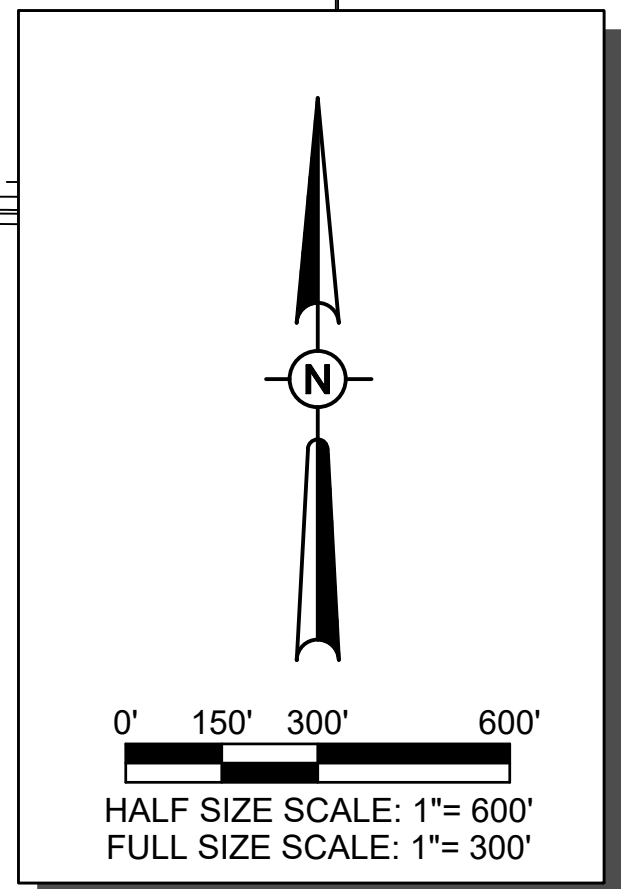
RUNWAY END COORDINATES				
DESCRIPTION	LATITUDE	LONGITUDE	RUNWAY STATION	RUNWAY ELEVATION
RUNWAY 9 END	41°12'14.7602" N	89°58'25.7181" W	218+00	853.7
RUNWAY 27 END	41°12'13.9076" N	89°57'26.8606" W	263+00	856.3
RUNWAY 1 END	41°12'09.3902" N	89°57'45.1290" W	55+00	855.2
RUNWAY 19 END	41°12'40.3903" N	89°57'36.8856" W	87+00	837.5

NOTES

- VERTICAL COORDINATES ARE IN NGVD 29. HORIZONTAL COORDINATES ARE IN STATE PLANE NAD83 ILLINOIS WEST.
- STATIONS, OFFSETS AND ELEVATIONS SHOWN ARE IN FEET.
- THE APPROACH END OF RUNWAY 1 IS STATION 55+00.
- THE AIRPORT REFERENCE CODE FOR RUNWAY 9-27 IS B-II. RUNWAY 9 HAS A NON-PRECISION APPROACH WITH VISIBILITY MINIMUM OF 1 MILE WHILE RUNWAY 27 HAS A VISUAL APPROACH.
- THE AIRPORT REFERENCE CODE FOR RUNWAY 1-19 IS B-I. RUNWAY 1 HAS A NON-PRECISION APPROACH WITH VISIBILITY MINIMUM OF 1 MILE WHILE RUNWAY 19 HAS A VISUAL APPROACH.



LEGEND	
— RSA —	RUNWAY SAFETY AREA
— OFA —	RUNWAY OBJECT FREE AREA
— TOFA —	TAXIWAY OBJECT FREE AREA
— PART 77A —	PART 77 APPROACH SURFACE
— TSS —	APPROACH SURFACE
▬▬▬▬▬	PROJECT LIMITS
▬▬▬▬▬	STAGING AREA
▬▬▬▬▬	LOW PROFILE BARRICADE
↔	EXISTING HAUL ROUTE / ACCESS ROUTE



REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: C-101-SOW.DWG
DESIGN BY: KNL 7/3/2024
DRAWN BY: JAP 10/23/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

SITE AND SAFETY PLAN

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CONSTRUCTION AND SAFETY NOTES

SAFETY IS REQUIRED

CONSTRUCTION OF THE PROJECT SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE GUIDELINES SPECIFIED IN FAA ADVISORY CIRCULAR 150/5370-2 (CURRENT ISSUE) AND THE AIRPORT RULES AND REGULATIONS. ANY CONTRACTOR ACTIVITIES REQUIRED FOR PROJECT SAFETY SHALL BE PROVIDED BY THE CONTRACTOR AND BE INCIDENTAL TO THE CONTRACT.

SEQUENCE OF CONSTRUCTION

TO MINIMIZE DISRUPTIONS OF AIRPORT OPERATIONS, CONSTRUCTION OPERATIONS MUST BE CONTROLLED THROUGHOUT THE PROJECT'S DURATION, AND WORK MUST BE COMPLETED EXPEDITIOUSLY. A CONSTRUCTION PHASING PLAN DETAILING THE SEQUENCING OF THE CONTRACTOR'S WORK THROUGHOUT THE PROJECT IS INCLUDED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE HIS WRITTEN ACCEPTANCE OF THE PROJECT CONSTRUCTION PHASING PLAN AT THE PRE-CONSTRUCTION CONFERENCE. ANY AND ALL CHANGES TO THE CONSTRUCTION PHASING PLAN THAT MAY BE REQUESTED BY THE CONTRACTOR MUST BE APPROVED BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT ADVANCE NOTICE OF ANY PROPOSED PHASING CHANGE TO PERMIT CONSIDERATION AND APPROVAL BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. THE CONTRACTOR SHALL NOT BE ENTITLED TO ANY EXTRA COMPENSATION, NOR EXTENSION TO THE CONTRACT TIME, BECAUSE OF A PHASING CHANGE REQUEST NOR FOR ANY TIME NECESSARY IN RECEIVING THE REQUIRED APPROVALS. THE CONTRACTOR SHALL EXPEDITE WORK AT THOSE STAGES WHERE ACTIVE RUNWAYS, TAXIWAYS, HANGAR ACCESS, APRONS, ROADWAYS OR PARKING LOTS MUST BE CLOSED, TO MINIMIZE THE LENGTH OF TIME THAT AIRPORT OPERATIONS ARE RESTRICTED.

AT THE PRE-CONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL PROVIDE A CONTRACTOR COORDINATION PLAN THAT COORDINATES HIS WORK WITH THE WORK OF HIS SUBCONTRACTORS AND THE WORK OF OTHER CONTRACTORS OF OTHER ON-GOING AIRPORT PROJECTS.

RUNWAY CLOSURE

RUNWAY 9-27 AND RUNWAY 1-19 WILL BE CLOSED FOR PORTIONS OF THE PROJECT. TO MINIMIZE DISRUPTION TO AIRCRAFT OPERATIONS ASSOCIATED WITH THE RUNWAY CLOSURES, CONSTRUCTION WORK MUST BE COMPLETED EXPEDITIOUSLY. RUNWAY CLOSINGS SHALL ONLY BE PERMITTED BY PRIOR AUTHORIZATION OF THE RESIDENT ENGINEER AND THE AIRPORT OWNER.

THE CONTRACTOR WILL PROVIDE, INSTALL, MAINTAIN AND REMOVE RUNWAY CLOSURE MARKERS AS DETAILED ON THIS SHEET AND IN THE SPECIAL PROVISIONS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL, RELOCATE AND MAINTAIN RUNWAY CLOSURE MARKERS AT THE LOCATIONS SHOWN IN THE PLAN, AND AS DIRECTED BY THE RESIDENT ENGINEER AND AIRPORT OWNER. THE COST OF PLACING AND RELOCATING THESE ITEMS, AND THEIR OPERATION AND MAINTENANCE, IS TO BE PAID UNDER ITEM AR150530 TRAFFIC MAINTENANCE.

THE AIRPORT OWNER AND CONTRACTOR SHALL DE-ENERGIZE AND LOCKOUT AIRPORT/RUNWAY NAVAIDS, AND AIRFIELD LIGHTING POWER AND CONTROL CIRCUITS WHEN THE RESPECTIVE RUNWAY IS CLOSED.

TEMPORARY BARRICADES

THE CONTRACTOR SHALL FURNISH BARRICADES FOR ANY AIRFIELD OR ROADWAY PAVEMENT TO BE CLOSED BY HIS WORK. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH, PLACE AND MAINTAIN BARRICADES AS SHOWN IN DETAIL B, THIS SHEET, AND AS DIRECTED BY THE RESIDENT ENGINEER AND AIRPORT DIRECTOR. THE COST OF THESE ITEMS, AND THEIR MAINTENANCE, IS TO BE PAID FOR UNDER AR150530 TRAFFIC MAINTENANCE. ANY WORK THAT REQUIRES PORTIONS OF AN ACTIVE RUNWAY, TAXIWAY OR APRON TO BE CLOSED MUST BE COMPLETED EXPEDITIOUSLY TO MINIMIZE DISRUPTION TO AIRCRAFT OPERATIONS.

VEHICULAR TRAFFIC CONTROL

THE CONTRACTOR SHALL ERECT AND MAINTAIN, AT NO COST TO THE CONTRACT, DIRECTIONAL AND INFORMATIONAL SIGNS FOR THE CONTRACTOR'S ACCESS ROUTES AT THE EXISTING CONSTRUCTION ENTRANCES AND FOR THE CONTRACTOR'S ROUTE WITHIN THE AIRPORT OPERATIONS AREA, AS NOTED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. WHERE CONTRACTOR EQUIPMENT IS OPERATING WITHIN ACTIVE AIRCRAFT OPERATIONS AREAS, RADIO-EQUIPPED FLAGGERS SHALL BE FURNISHED BY THE CONTRACTOR. CONTINUOUS PAVEMENT SWEEPING SHALL BE FURNISHED TO REMOVE DEBRIS FROM ACTIVE AIRCRAFT MOVEMENT PATHS. THE COST OF TRAFFIC CONTROL/FLAGGERS AND PAVEMENT SWEEPING SHALL BE PAID UNDER ITEM AR150530 TRAFFIC MAINTENANCE.

AIRFIELD OPERATIONAL SAFETY DURING CONSTRUCTION

THE CONTRACTOR SHALL NOT HAVE ACCESS TO ANY PART OF THE ACTIVE AIRFIELD (RUNWAYS, TAXIWAYS OR APRONS) FOR ANY EQUIPMENT OR PERSONNEL WITHOUT THE APPROVAL OF THE RESIDENT ENGINEER AND THE AIRPORT OWNER. ACTIVITIES WITHIN THE AIRPORT OPERATIONS AREA (AOA) ARE SUBJECT TO FEDERAL ACCESS CONTROL. BECAUSE OF THE HIGH REQUIREMENTS FOR AIRPORT SECURITY AND SAFETY, THE FOLLOWING REQUIREMENTS MUST BE ADHERED TO:

- ALL EMPLOYEES OF THE CONTRACTOR SHALL PARK THEIR PERSONAL VEHICLES IN THE DESIGNATED EQUIPMENT PARKING AND STORAGE AREA. EACH PERSON OR VEHICLE ENTERING THE CONTRACTOR AREA SHALL DO SO IN ACCORDANCE WITH THE POLICIES AND PROCEDURES OF THE AIRPORT OWNER. THE CONTRACTOR WILL TRANSPORT THE WORKERS FROM THE PARKING AREAS TO THE WORK AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE OF THE PROPOSED EQUIPMENT STORAGE AND PARKING AREAS.
- SHOULD ANY CONTRACTOR PERSONNEL BE IDENTIFIED AS NONCOMPLIANT WITH ANY VEHICLE DRIVING SAFETY REQUIREMENTS IN THIS PROJECT SAFETY PLAN OR IN THE AIRPORT VEHICLE OPERATIONS REGULATIONS, SUCH DRIVERS SHALL BE PENALIZED BY RESCISSION OF THEIR ON-AIRPORT DRIVING PRIVILEGES, AND THEIR ACCESS TO THE CONSTRUCTION LIMIT AREA WHEN OPERATING VEHICLES SHALL BE REVOKED.
- THE CONTRACTOR WILL BE REQUIRED TO BE IN CONTACT WITH AIRPORT OPERATIONS. THIS WILL KEEP THE CONTRACTOR IN CONTACT WITH AIRPORT PERSONNEL AND ENABLE THE AIRPORT PERSONNEL TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTICAL EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

THE CONTRACTOR SHALL REMAIN WITHIN THE PROJECT LIMITS LINE SHOWN IN THE PLANS. WHEN OUTSIDE THESE LIMITS, ALL CONTRACTOR ACTIVITIES SHALL REMAIN MORE THAN 250 FEET FROM THE CENTERLINE AND 300 FEET FROM THE END OF ACTIVE RUNWAY 9-27, AND 200 FEET FROM THE CENTERLINE AND 240 FEET FROM THE END OF ACTIVE RUNWAY 1-19. FOR WORK NEAR TAXIWAYS AND APRONS, THE CONTRACTOR'S PERSONNEL AND EQUIPMENT MUST REMAIN AT LEAST 44.5 FEET FROM CENTERLINE OF ACTIVE CATEGORY I TAXIWAYS, 65.5 FEET FROM ACTIVE CATEGORY II TAXIWAYS, AND TEN (10) FEET FROM ACTIVE APRONS. WHEN CONSTRUCTION OPERATIONS MUST BE CONDUCTED WITHIN THESE SEPARATIONS, THE PAVEMENT MUST BE CLOSED TO AIRCRAFT ACTIVITY BY THE CONTRACTOR BY PROVIDING TEMPORARY BARRICADES AS SHOWN IN THE PLANS, AND IN THE CASE OF RUNWAY PAVEMENTS, CLOSED RUNWAY MARKERS. WHEN HAUL VEHICLES ARE PERMITTED TO CROSS ACTIVE AIRFIELD PAVEMENTS, THE CONTRACTOR WILL PROVIDE POSITIVE CONTROL OF CONSTRUCTION VEHICLES USING RADIO-EQUIPPED FLAGGERS. CONTRACTOR SHALL ESTABLISH AND MAINTAIN RADIO CONTACT WITH KEWANEE AIRPORT UNICOM (122.8 MHz). ALL CONTRACTOR'S EQUIPMENT USED IN ACTIVE AIRPORT OPERATIONS AREAS SHALL BE EQUIPPED WITH AN FAA-STANDARD FLAG, AS REFERENCED IN FAA AC 150/5370-2, CURRENT ISSUE. AIRCRAFT SHALL HAVE THE RIGHT-OF-WAY.

THE CONTRACTOR SHALL KEEP ALL OF HIS EQUIPMENT AND PERSONNEL AT LEAST 15 FEET FROM THE EDGE OF ANY ACTIVE ROADWAY OR AUTO PARKING PAVEMENT. WHEN HIS ACTIVITIES REQUIRE WORKING WITHIN 15 FEET OF THE ROAD/PAVEMENT EDGE, THE CONTRACTOR SHALL PROVIDE FOR TRAFFIC CONTROL IN ACCORDANCE WITH IDOT SPECIFICATIONS (HIGHWAY STANDARDS).

OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIAL AT THE CONSTRUCTION SITE SHALL BE DELINEATED WITH THE USE OF BARRICADES DURING HOURS OF RESTRICTED VISIBILITY AND/OR DARKNESS. NO OPEN TRENCHES SHALL BE ALLOWED WITHIN THE RUNWAY SAFETY AREA (RSA) OR THE TAXIWAY SAFETY AREA (TSA) WHEN THE RUNWAY OR TAXIWAY IS OPEN TO AIR TRAFFIC (INCLUDING OVERNIGHT). THE RSA IS DEFINED AS 75 FEET FROM THE CENTERLINE AND 300 FEET FROM THE END OF RUNWAY 9-27, AND 60 FEET FROM THE CENTERLINE AND 240 FEET FROM THE END OF RUNWAY 1-19. THE TSA IS MEASURED AT 24.5 FEET FROM THE CATEGORY I TAXIWAY CENTERLINE AND 39.5 FEET FROM THE CATEGORY II TAXIWAY CENTERLINE. NO VERTICAL DROP OF GREATER THAN 3-INCHES IN HEIGHT FROM PAVEMENT EDGE TO EARTH GRADE OR EARTH GRADE TO EARTH GRADE WITHIN THE RSA OR TSA WILL BE PERMITTED WHEN THE RUNWAY OR TAXIWAY IS OPEN TO AIR TRAFFIC. THE CONTRACTOR WILL HAVE STEEL PLATES ON-SITE TO ALLOW FOR THE RAPID COVERING OF TRENCHES OR EARTH DROPS IN THE EVENT OF UNEXPECTED WORK STOPPAGES FOR WEATHER OR AIRPORT EMERGENCIES.

WHEN NOT IN USE AND DURING NONWORKING HOURS, CONTRACTOR'S EQUIPMENT SHALL BE PARKED WITHIN THE CONTRACTOR'S EQUIPMENT STORAGE AND PARKING AREAS. THE EQUIPMENT STORAGE AND PARKING AREAS ARE TO BE LOCATED AS SHOWN ON THE PHASING PLAN. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION ENTRANCES IN GOOD CONDITION. THE COST OF MAINTAINING THE CONSTRUCTION ENTRANCE AND CONTRACTOR AREAS IS TO BE INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL PROTECT ALL EXISTING PAVEMENT EDGES FROM DAMAGE FROM CONSTRUCTION EQUIPMENT AND HAUL VEHICLES.

AT NO TIME SHALL THE CONTRACTOR CONDUCT ANY ACTIVITIES OR OPERATE OR PARK EQUIPMENT SO AS TO OBSTRUCT ACTIVE PART 77 AIRPORT IMAGINARY

SURFACES OR THE RUNWAY PROTECTION ZONES (RPZ) AS DELINEATED IN THE PLANS. CONTRACTOR'S EQUIPMENT SHALL EXTEND NO HIGHER THAN 20 FEET.

BEFORE REOPENING TEMPORARILY CLOSED PAVEMENTS, THE CONTRACTOR SHALL INSPECT AND CLEAN, AS NECESSARY, THE PAVEMENT TO ASSURE THAT NO MATERIALS OR OBJECTS THAT MAY DAMAGE AIRCRAFT OR VEHICLES REMAIN. ANY REQUIRED CLEANING SHALL BE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT OWNER AND IS INCIDENTAL TO THE CONTRACT.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROVED PROJECT SAFETY PLAN, ISSUED BY THE ILLINOIS DIVISION OF AERONAUTICS.

FAILURE TO USE THESE PRESCRIBED PROCEDURES OR ADHERE TO THE SAFETY REQUIREMENTS WILL RESULT IN THE SUSPENSION OF WORK.

NOTIFICATIONS BY CONTRACTOR

THE CONTRACTOR MUST NOTIFY THE RESIDENT ENGINEER AND THE AIRPORT OWNER 3 DAYS IN ADVANCE OF ANY REQUIRED PARTIAL OR COMPLETE CLOSING OF ANY RUNWAY, TAXIWAY OR APRON. THE DATE, TIME AND SCHEDULED DURATION OF THE CLOSING MUST BE APPROVED BY THE RESIDENT ENGINEER AND THE AIRPORT OWNER. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT OWNER 3 DAYS IN ADVANCE OF THE CONTRACTOR'S CLOSING OF OTHER ACTIVE ROADWAYS, AIRFIELD OR ROADWAY LIGHTING CIRCUITS, OR OTHER AIRPORT FACILITIES.

CONTRACTOR'S USE OF SITE

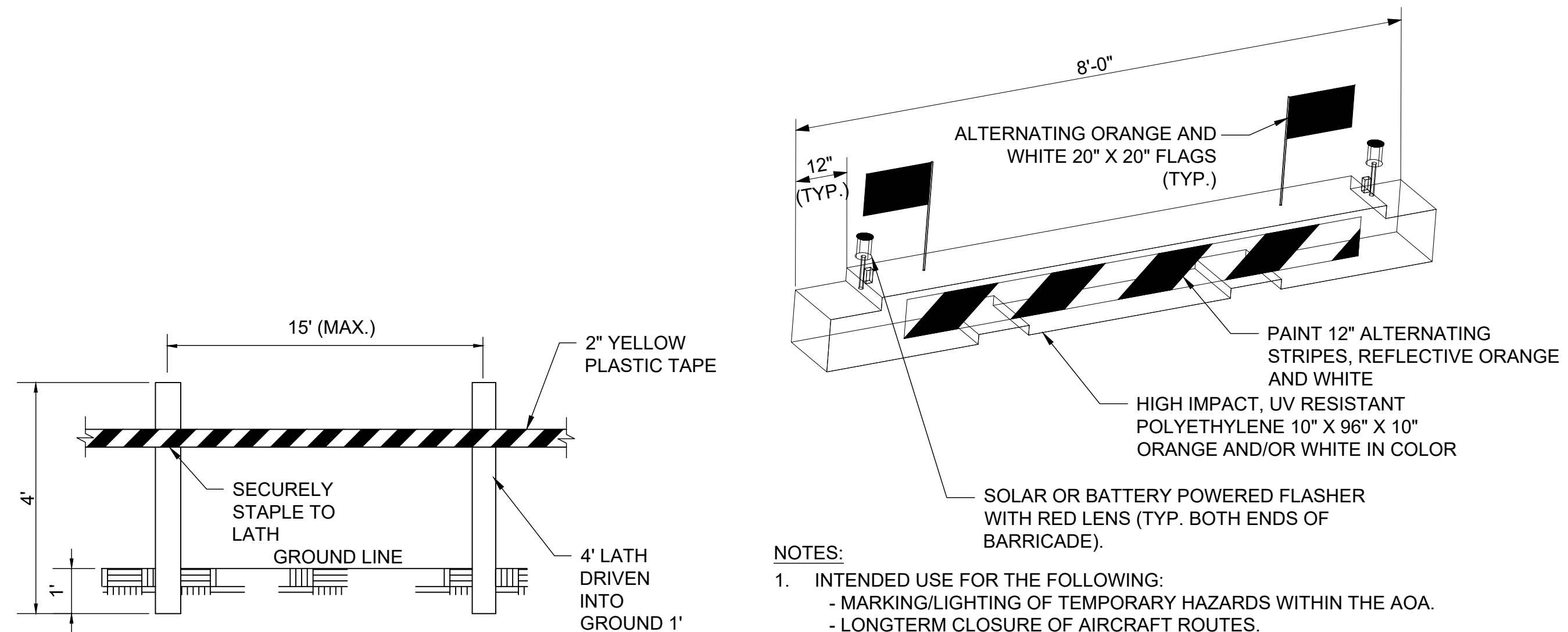
CONTRACTOR'S ACCESS TO THE PROJECT WHEN ON AIRPORT PROPERTY IS SHOWN IN THE PLANS. CONTRACTOR'S ACCESS TO THE AIRPORT ITSELF IS TO BE PROVIDED BY PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR IS TO SECURE ALL NECESSARY PERMITS FOR THE USE OF ANY PUBLIC RIGHTS-OF-WAY AND IS TO MAINTAIN TRAFFIC ON THESE PUBLIC ROADS AT ALL TIMES, WITH THE COSTS OF PERMITTING, CLEANING AND REPAIRING OF PAVEMENT DAMAGED BY CONTRACTOR'S ACTIVITIES INCIDENTAL TO THE CONTRACT. USE OF AND REPAIRS TO ANY PUBLIC FACILITIES ARE TO BE COMPLETED TO THE SATISFACTION OF THE FACILITY'S OWNER.

THE CONTRACTOR IS TO PROVIDE TEMPORARY CONSTRUCTION ROADS WITHIN THE PROJECT LIMIT LINES AS MAY BE REQUIRED BY HIS ACTIVITIES. HEAVY VEHICLES SHALL NOT CROSS EXISTING PAVEMENT SURFACES EXCEPT AS APPROVED BY THE AIRPORT OWNER AND THE RESIDENT ENGINEER. ANY DAMAGE TO PAVEMENTS THAT MAY OCCUR BY THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE AIRPORT OWNER AND THE RESIDENT ENGINEER. FOR HAUL ROUTES MADE BY THE CONTRACTOR THROUGH GRASSED AREAS, CONTRACTOR SHALL GRADE, LEVEL, TOPSOIL, SEED AND MULCH AT THE END OF THE PROJECT, COST INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR IS TO PROVIDE AN EQUIPMENT STORAGE AND PARKING AREA AT THE LOCATION SHOWN IN THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE ACCESS ROADS AND THE STORAGE AREA DURING CONSTRUCTION AND TO RESTORE THE AREAS AT PROJECT COMPLETION TO CONDITIONS SUITABLE TO THE AIRPORT OWNER AND THE RESIDENT ENGINEER. AT THE AIRPORT OWNER'S DISCRETION, THE TEMPORARY FACILITIES MAY REMAIN, BUT THEY MUST BE LEFT IN CONDITIONS SUITABLE TO THE AIRPORT OWNER. THE COST OF PROVIDING, MAINTAINING AND RESTORING THE TEMPORARY FACILITIES IS INCIDENTAL TO THE CONTRACT.

UTILITY OUTAGES AND SHUTDOWNS

THE CONTRACTOR SHALL PROVIDE 3 DAYS PRIOR NOTICE OF ANY OUTAGES OR SHUTDOWNS TO THE OWNER AND THE AGENCY OWNING THE AFFECTED UTILITY. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY CONNECTIONS OR OTHER MEASURES AS MAY BE REQUIRED TO MAINTAIN SERVICE AS MAY BE REQUIRED BY THE OWNING AGENCY AT NO COST TO THE OWNER.



MATERIALS ARE TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION. COST OF MATERIALS, INSTALLATION, RELOCATION AND MAINTENANCE OF LATHING AND WARNING TAPE IS TO BE INCIDENTAL TO THE CONTRACT.

DETAIL A LATHING AND WARNING TAPE

NOTES:

- INTENDED USE FOR THE FOLLOWING:
 - MARKING/LIGHTING OF TEMPORARY HAZARDS WITHIN THE AOA.
 - LONGTERM CLOSURE OF AIRCRAFT ROUTES.
- INSTALL AT 12" CENTER TO CENTER SPACING ALONG FULL WIDTH OF PAVEMENT.
- USE TYPE 2 AIRCRAFT BARRICADES IN AREAS SUBJECT TO JET BLAST AS SHOWN IN THE PHASING PLANS.
- BARRICADE SHALL BE EQUIPPED WITH ALTERNATING ORANGE AND WHITE 20" X 20" FLAGS.
- BARRICADES SHALL BE WATER-FILLED AND MODULAR TO ASSEMBLE/DISASSEMBLE AND NEST FOR COMPACT STORAGE.
- CONTRACTOR MAY SUBMIT ALTERNATIVE BARRICADE FOR APPROVAL BY ENGINEER. ALTERNATIVE MUST MEET MINIMUM REQUIREMENTS OF FAA AC 150/5370-2 (LATEST EDITION).
- FURNISHING, INSTALLING, MAINTAINING AND REMOVING BARRICADES SHALL BE PAID UNDER ITEM AR150530. SEE SPECIAL PROVISIONS.
- CONTRACTOR SHALL MAINTAIN THE BARRICADES. ANY DAMAGED BARRICADES SHALL BE REPLACED AND NEW BARRICADES PROVIDED.

DETAIL B

TYPE 2 - LOW PROFILE AIRCRAFT BARRICADE DETAIL

FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: C-101-SOW.DWG

DESIGN BY: KNL 7/3/2024

DRAWN BY: JAP 10/23/2024

REVIEWED BY: LDH 10/24/2024

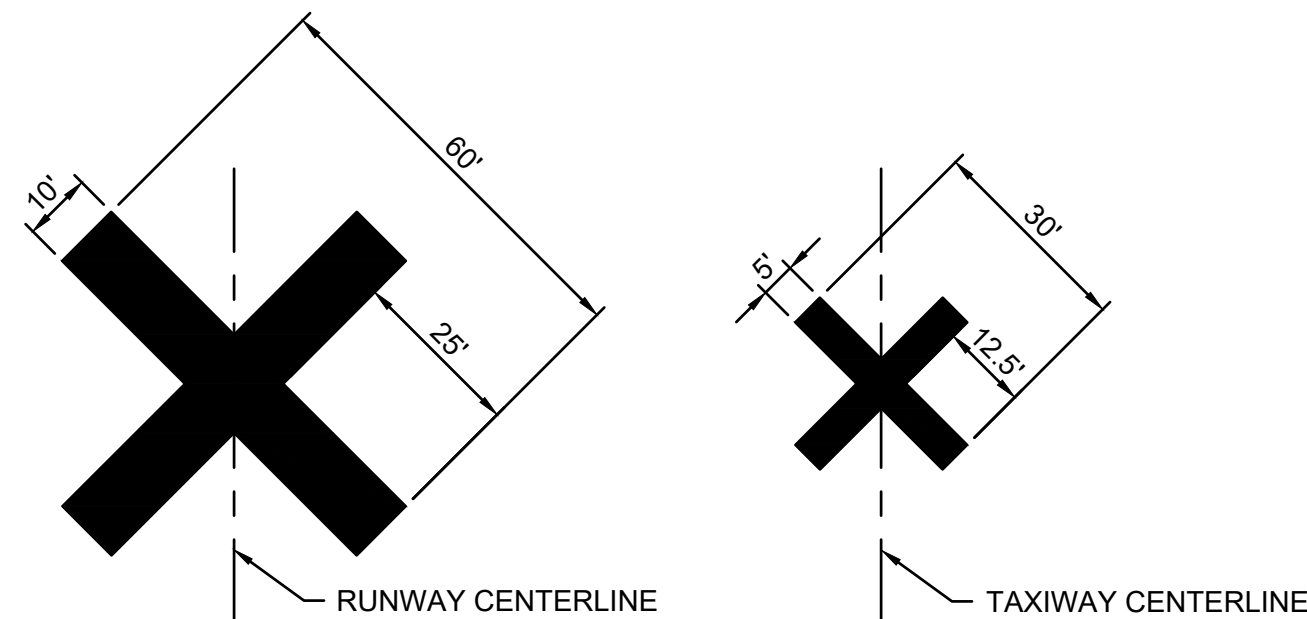
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SHEET TITLE

SITE AND SAFETY PLAN NOTES

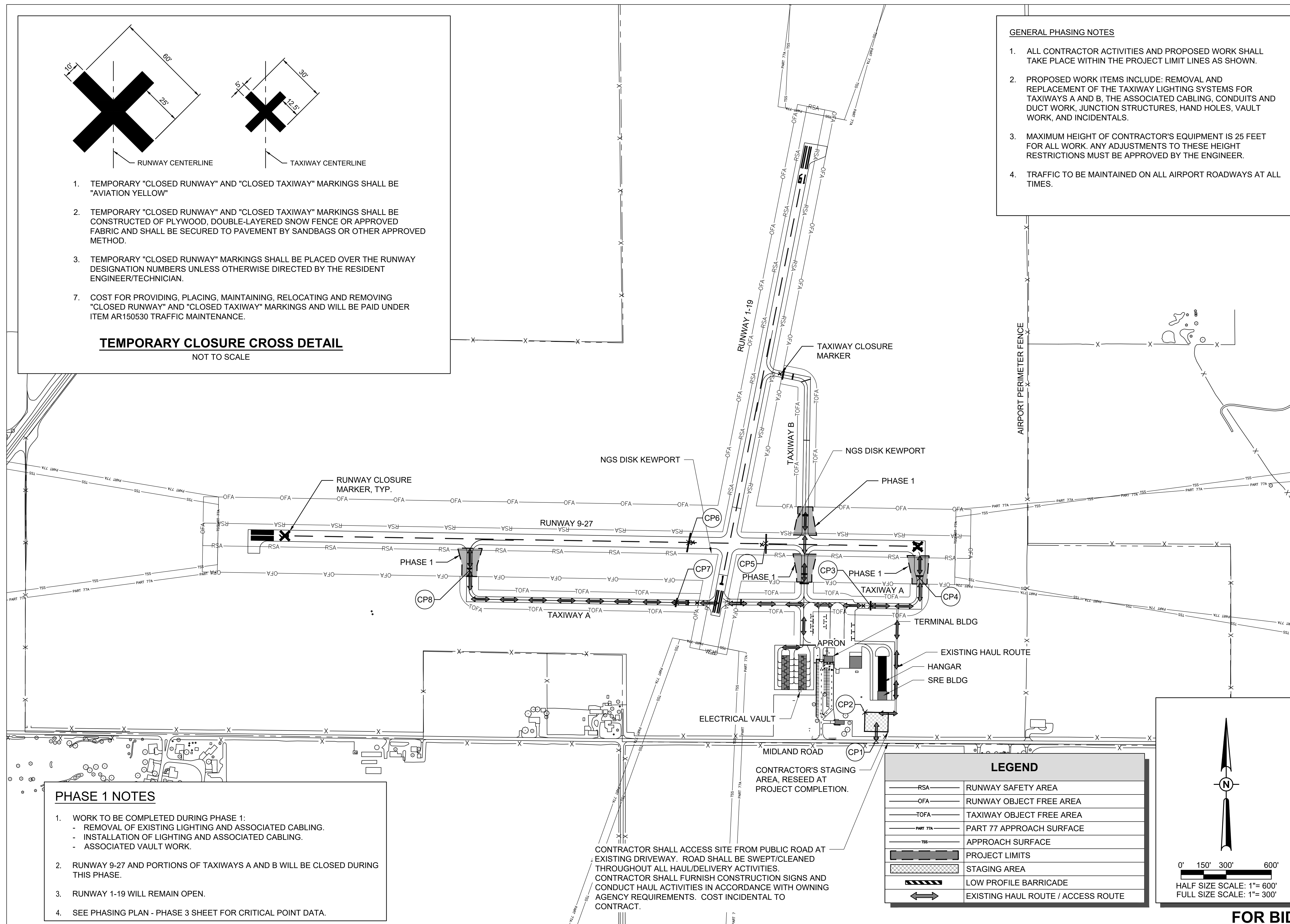
GENERAL PHASING NOTES

1. ALL CONTRACTOR ACTIVITIES AND PROPOSED WORK SHALL TAKE PLACE WITHIN THE PROJECT LIMIT LINES AS SHOWN.
2. PROPOSED WORK ITEMS INCLUDE: REMOVAL AND REPLACEMENT OF THE TAXIWAY LIGHTING SYSTEMS FOR TAXIWAYS A AND B, THE ASSOCIATED CABLING, CONDUITS AND DUCT WORK, JUNCTION STRUCTURES, HAND HOLES, VAULT WORK, AND INCIDENTALS.
3. MAXIMUM HEIGHT OF CONTRACTOR'S EQUIPMENT IS 25 FEET FOR ALL WORK. ANY ADJUSTMENTS TO THESE HEIGHT RESTRICTIONS MUST BE APPROVED BY THE ENGINEER.
4. TRAFFIC TO BE MAINTAINED ON ALL AIRPORT ROADWAYS AT ALL TIMES.



1. TEMPORARY "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS SHALL BE "AVIATION YELLOW"
2. TEMPORARY "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS SHALL BE CONSTRUCTED OF PLYWOOD, DOUBLE-LAYERED SNOW FENCE OR APPROVED FABRIC AND SHALL BE SECURED TO PAVEMENT BY SANDBAGS OR OTHER APPROVED METHOD.
3. TEMPORARY "CLOSED RUNWAY" MARKINGS SHALL BE PLACED OVER THE RUNWAY DESIGNATION NUMBERS UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER/TECHNICIAN.
7. COST FOR PROVIDING, PLACING, MAINTAINING, RELOCATING AND REMOVING "CLOSED RUNWAY" AND "CLOSED TAXIWAY" MARKINGS AND WILL BE PAID UNDER ITEM AR150530 TRAFFIC MAINTENANCE.

TEMPORARY CLOSURE CROSS DETAIL
NOT TO SCALE

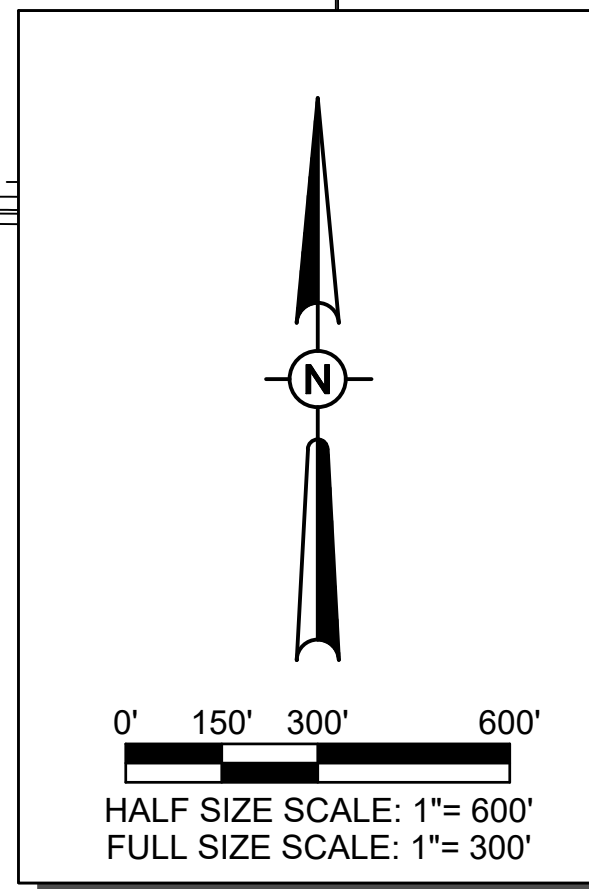


PHASE 1 NOTES

1. WORK TO BE COMPLETED DURING PHASE 1:
 - REMOVAL OF EXISTING LIGHTING AND ASSOCIATED CABLING.
 - INSTALLATION OF LIGHTING AND ASSOCIATED CABLING.
 - ASSOCIATED VAULT WORK.
2. RUNWAY 9-27 AND PORTIONS OF TAXIWAYS A AND B WILL BE CLOSED DURING THIS PHASE.
3. RUNWAY 1-19 WILL REMAIN OPEN.
4. SEE PHASING PLAN - PHASE 3 SHEET FOR CRITICAL POINT DATA.

CONTRACTOR SHALL ACCESS SITE FROM PUBLIC ROAD AT EXISTING DRIVEWAY. ROAD SHALL BE SWEEP/CLEANED THROUGHOUT ALL HAUL/DELIVERY ACTIVITIES. CONTRACTOR SHALL FURNISH CONSTRUCTION SIGNS AND CONDUCT HAUL ACTIVITIES IN ACCORDANCE WITH OWNING AGENCY REQUIREMENTS. COST INCIDENTAL TO CONTRACT.

LEGEND	
— RSA —	RUNWAY SAFETY AREA
— OFA —	RUNWAY OBJECT FREE AREA
— TOFA —	TAXIWAY OBJECT FREE AREA
— PART 77A —	PART 77 APPROACH SURFACE
— TSS —	APPROACH SURFACE
— [Dashed Line] —	PROJECT LIMITS
— [Hatched Area] —	STAGING AREA
— [Diagonal Lines] —	LOW PROFILE BARRICADE
— [Double Arrow] —	EXISTING HAUL ROUTE / ACCESS ROUTE



FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: C-101-SOW.DWG

DESIGN BY: KNL 7/3/2024

DRAWN BY: JAP 10/23/2024

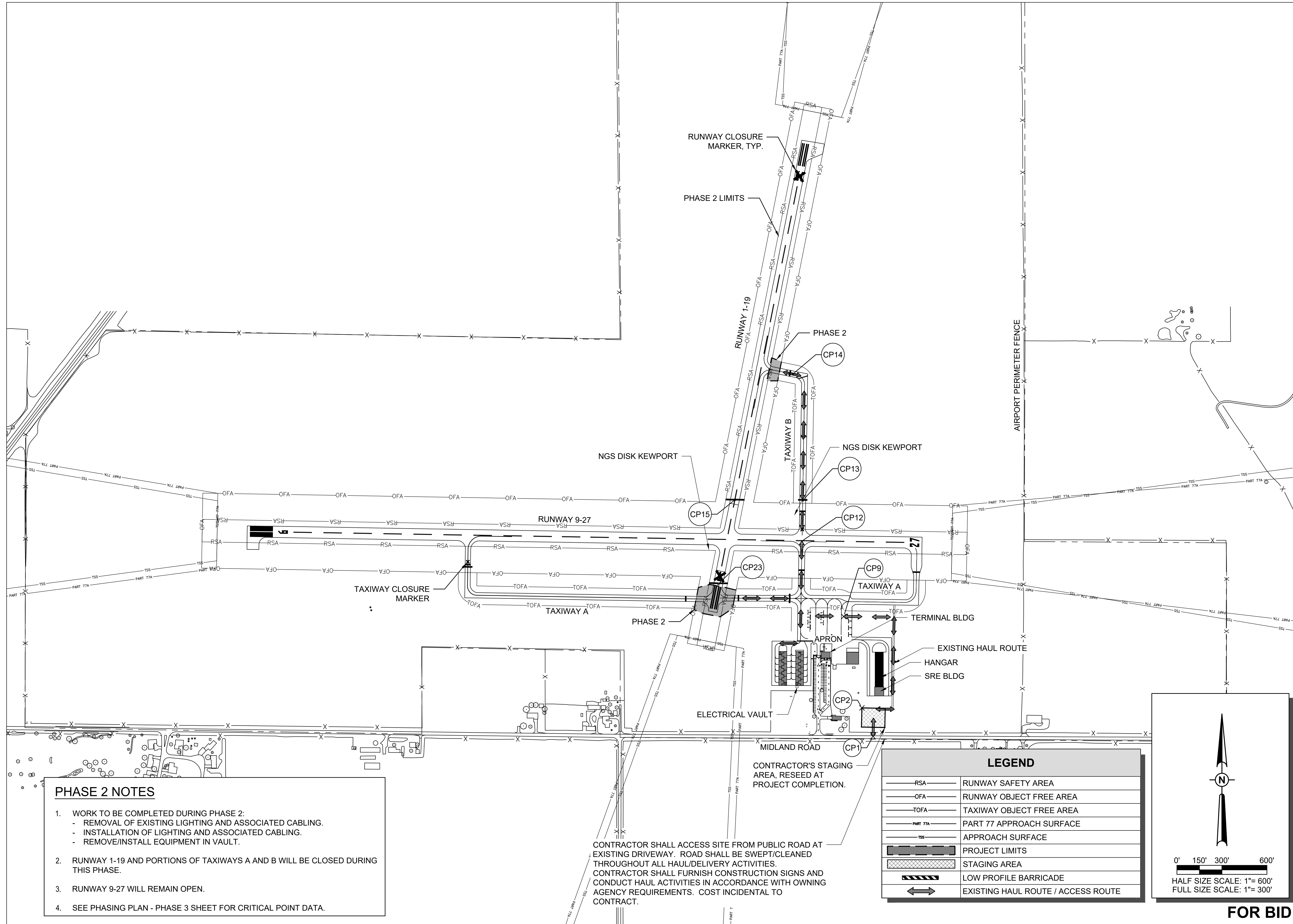
REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

PHASING PLAN - PHASE 1

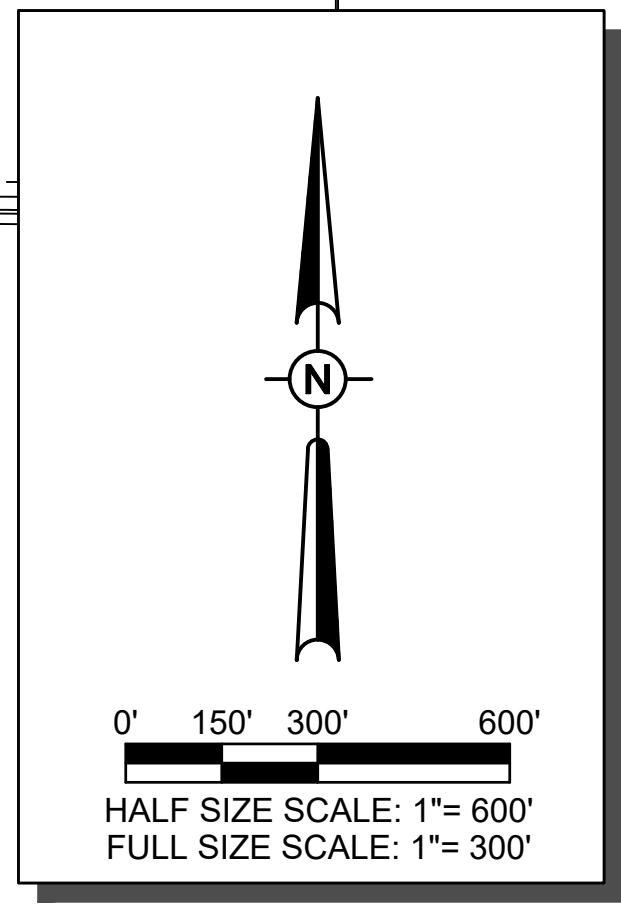
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PHASE 2 NOTES

1. WORK TO BE COMPLETED DURING PHASE 2:
 - REMOVAL OF EXISTING LIGHTING AND ASSOCIATED CABLING.
 - INSTALLATION OF LIGHTING AND ASSOCIATED CABLING.
 - REMOVE/INSTALL EQUIPMENT IN VAULT.
2. RUNWAY 1-19 AND PORTIONS OF TAXIWAYS A AND B WILL BE CLOSED DURING THIS PHASE.
3. RUNWAY 9-27 WILL REMAIN OPEN.
4. SEE PHASING PLAN - PHASE 3 SHEET FOR CRITICAL POINT DATA.

LEGEND	
	RUNWAY SAFETY AREA
	RUNWAY OBJECT FREE AREA
	TAXIWAY OBJECT FREE AREA
	PART 77 APPROACH SURFACE
	APPROACH SURFACE
	PROJECT LIMITS
	STAGING AREA
	LOW PROFILE BARRICADE
	EXISTING HAUL ROUTE / ACCESS ROUTE



FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: C-101-SOW.DWG
DESIGN BY: KNL 7/3/2024
DRAWN BY: JAP 10/23/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

PHASING PLAN - PHASE 2

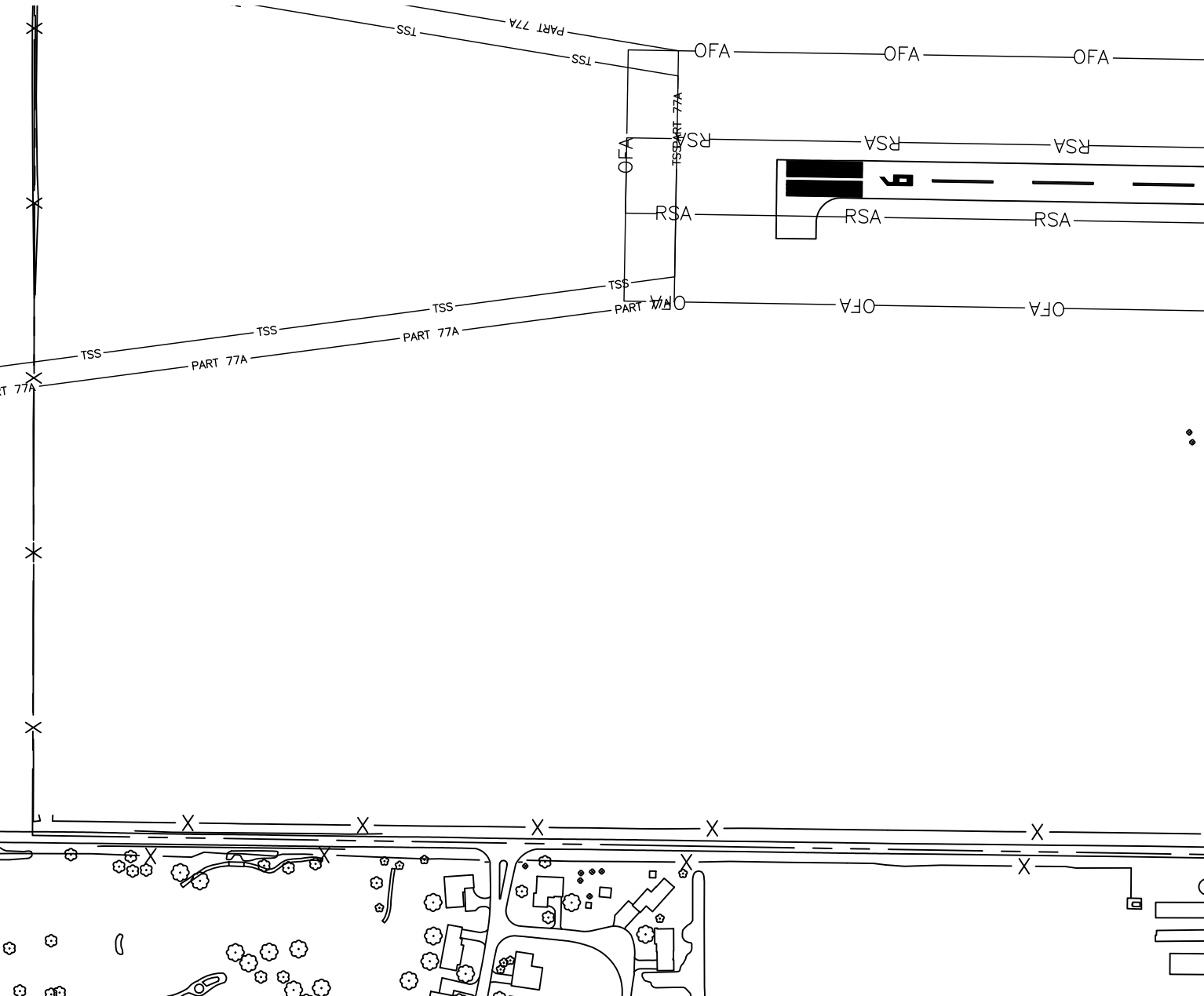
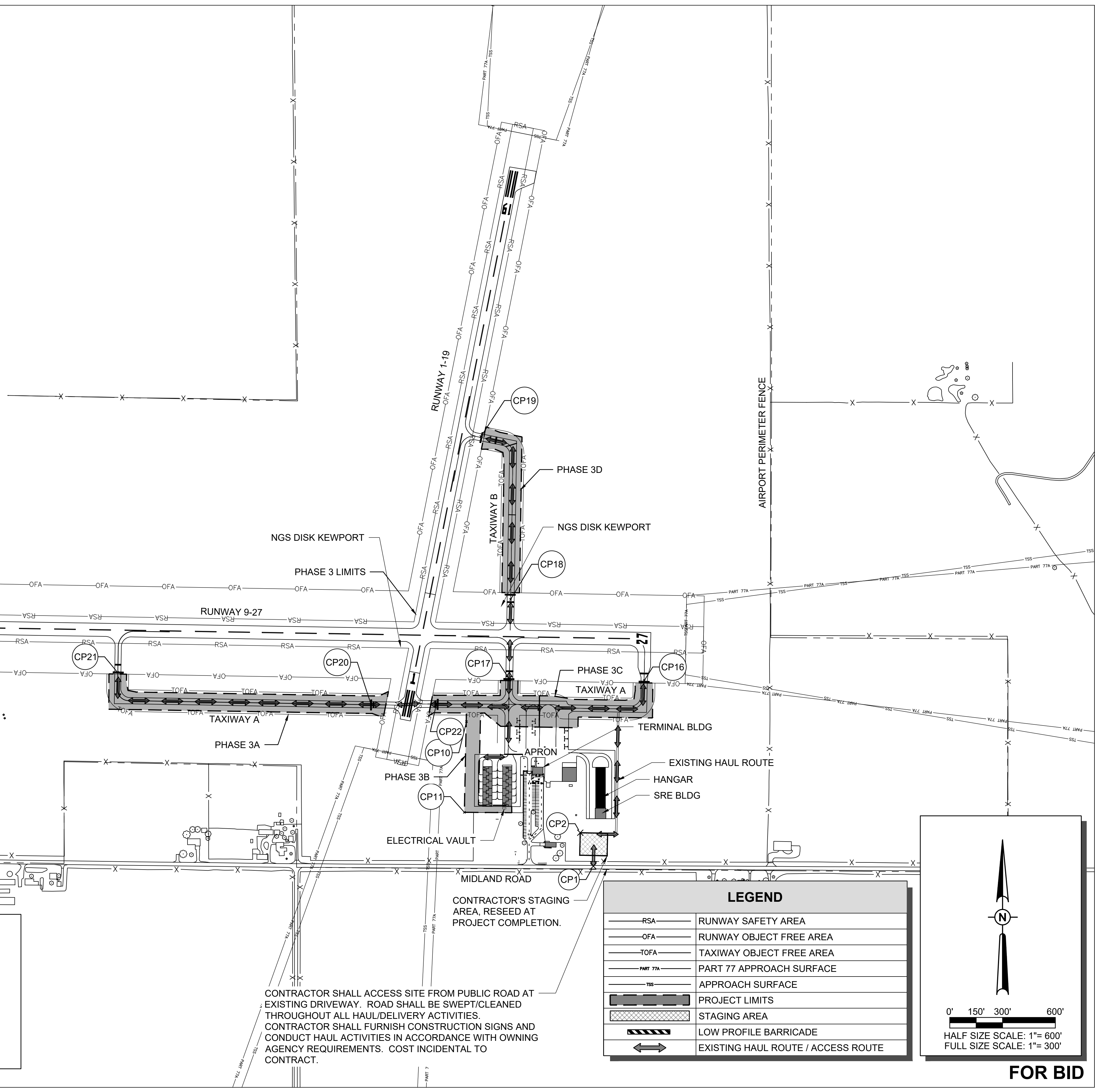
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NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
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SHEET TITLE

PHASING PLAN -
PHASE 3

CRITICAL POINTS						
POINT #	DESCRIPTION	LATITUDE	LONGITUDE	GND. ELEV. (MSL)	MAX. EQUIP. HEIGHT (FT)	TOP ELEV. (MSL)
1	EQUIPMENT	041° 12' 01.16"	-089° 57' 31.17"	848	25	873
2	EQUIPMENT	041° 12' 03.04"	-089° 57' 32.14"	847	25	872
3	BARRICADE	041° 12' 10.03"	-089° 57' 31.62"	852	25	877
4	BARRICADE	041° 12' 11.82"	-089° 57' 27.35"	854	25	879
5	BARRICADE	041° 12' 14.13"	-089° 57' 40.74"	858	25	883
6	BARRICADE	041° 12' 14.21"	-089° 57' 47.40"	855	25	880
7	BARRICADE	041° 12' 10.27"	-089° 57' 48.50"	853	25	877
8	EQUIPMENT	041° 12' 12.40"	-089° 58' 06.48"	848	25	873
9	EQUIPMENT	041° 12' 09.06"	-089° 57' 33.70"	850	25	875
10	EQUIPMENT	041° 12' 09.29"	-089° 57' 40.58"	851	25	851
11	EQUIPMENT	041° 12' 04.20"	-089° 57' 40.75"	846	25	871
12	EQUIPMENT	041° 12' 14.03"	-089° 57' 37.34"	858	25	883
13	BARRICADE	041° 12' 16.72"	-089° 57' 37.26"	857	25	882
14	EQUIPMENT	041° 12' 25.04"	-089° 57' 38.08"	852	25	877
15	BARRICADE	041° 12' 16.77"	-089° 57' 43.17"	856	25	881
16	BARRICADE	041° 12' 11.57"	-089° 57' 27.35"	853	25	878
17	BARRICADE	041° 12' 11.69"	-089° 57' 37.40"	854	25	879
18	EQUIPMENT	041° 12' 16.15"	-089° 57' 37.27"	857	25	882
19	BARRICADE	041° 12' 25.30"	-089° 57' 39.45"	856	25	881
20	EQUIPMENT	041° 12' 10.25"	-089° 57' 47.66"	853	25	878
21	EQUIPMENT	041° 12' 12.11"	-089° 58' 06.52"	855	25	880
22	EQUIPMENT	041° 12' 10.29"	-089° 57' 42.81"	855	25	880
23	BARRICADE	041° 12' 11.22"	-089° 57' 44.62"	858	25	883

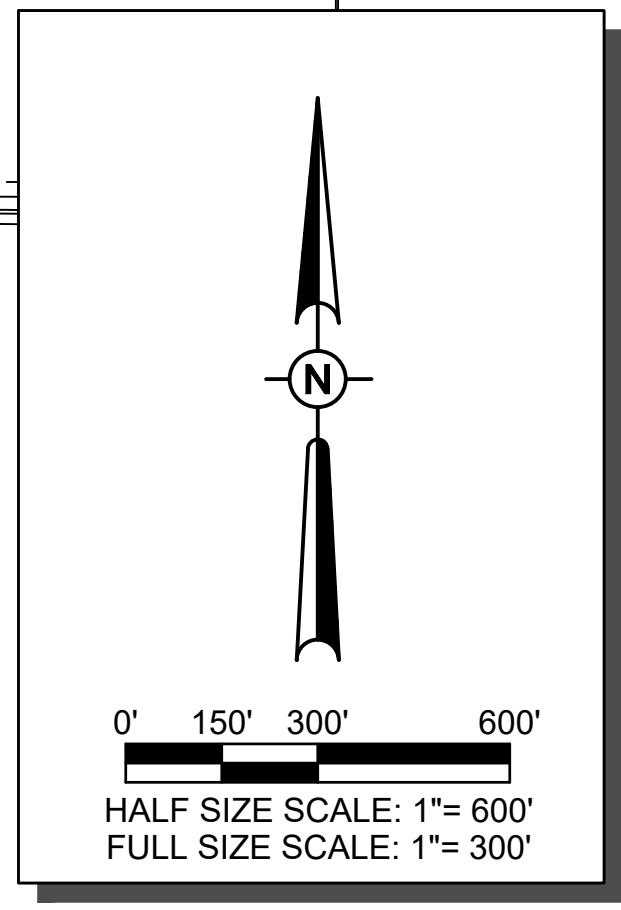


PHASE 3 NOTES

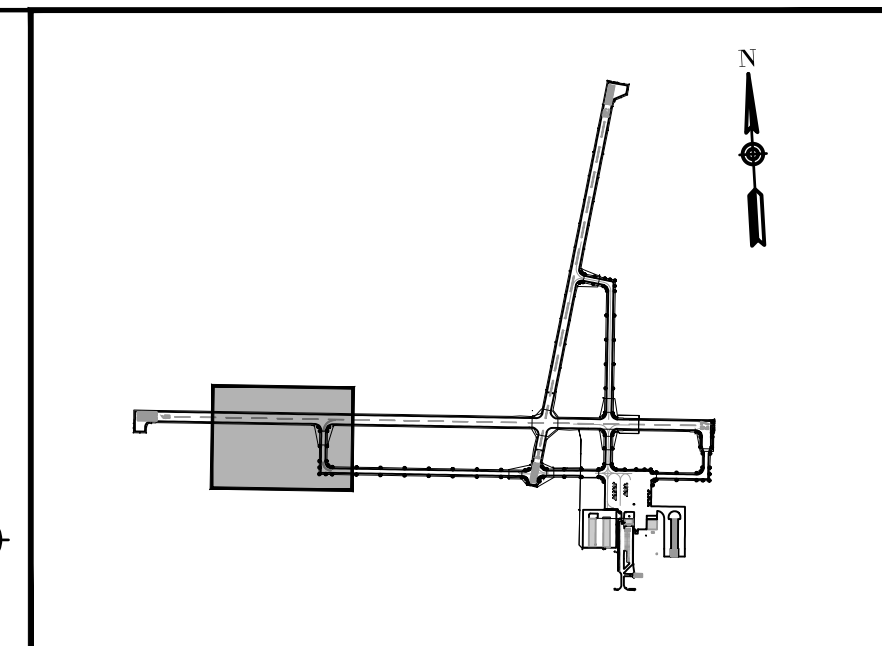
- WORK TO BE COMPLETED DURING PHASE 3:
 - REMOVAL OF EXISTING LIGHTING AND ASSOCIATED CABLING.
 - INSTALLATION OF LIGHTING AND ASSOCIATED CABLING.
 - ASSOCIATED VAULT WORK.
- PORTIONS OF TAXIWAYS A AND B WILL BE CLOSED DURING THIS PHASE.
- RUNWAY 9-27 AND 1-19 WILL REMAIN OPEN.
- SEE PHASING PLAN - PHASE 3 SHEET FOR CRITICAL POINT DATA.

CONTRACTOR SHALL ACCESS SITE FROM PUBLIC ROAD AT EXISTING DRIVEWAY. ROAD SHALL BE SWEEP/CLEANED THROUGHOUT ALL HAUL/DELIVERY ACTIVITIES. CONTRACTOR SHALL FURNISH CONSTRUCTION SIGNS AND CONDUCT HAUL ACTIVITIES IN ACCORDANCE WITH OWNING AGENCY REQUIREMENTS. COST INCIDENTAL TO CONTRACT.

LEGEND	
[Line with dashes]	RUNWAY SAFETY AREA
[Line with circles]	RUNWAY OBJECT FREE AREA
[Line with triangles]	TAXIWAY OBJECT FREE AREA
[Line with 'x' marks]	PART 77 APPROACH SURFACE
[Solid line]	APPROACH SURFACE
[Thick solid line]	PROJECT LIMITS
[Dotted area]	STAGING AREA
[Hatched area]	LOW PROFILE BARRICADE
[Double arrow]	EXISTING HAUL ROUTE / ACCESS ROUTE



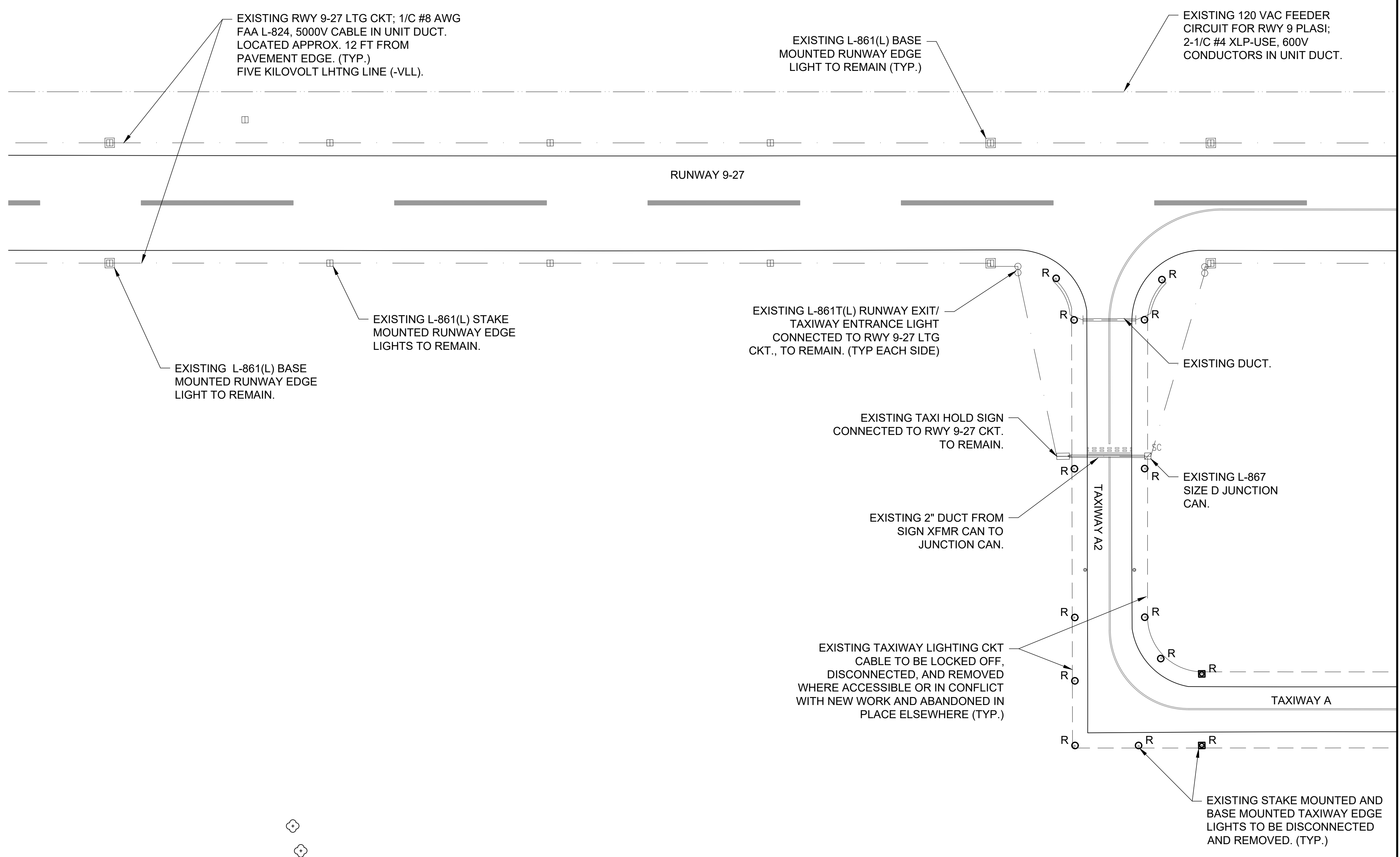
FOR BID



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- EXISTING STAKE MOUNTED RUNWAY EDGE LIGHT
- EXISTING BASE MOUNTED RUNWAY EDGE LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING TAXI/RUNWAY SIGN
- EXISTING STAKE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED
- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED.
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE NEXT SHEET



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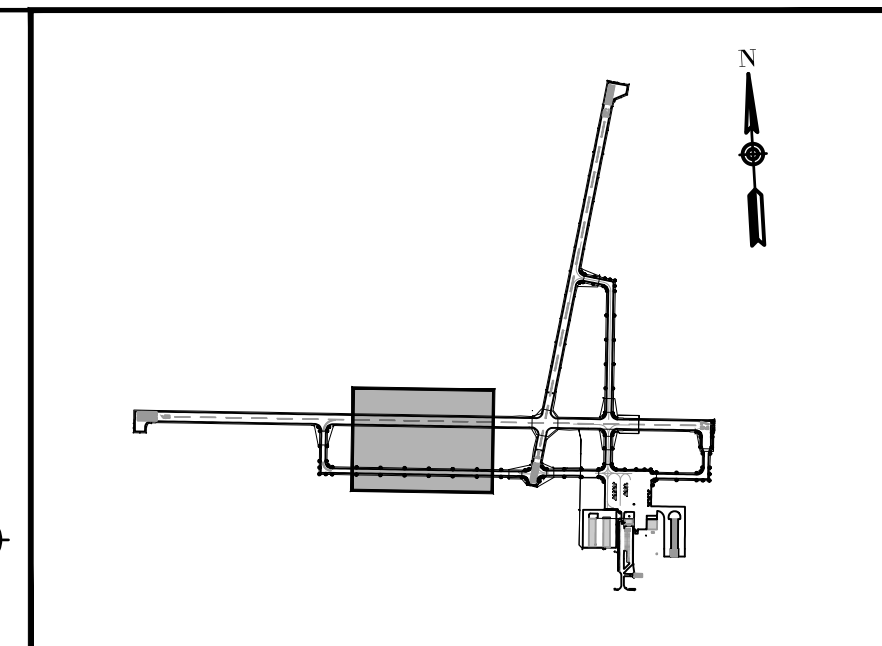
REPLACE TAXIWAY AIRFIELD LIGHTING
IDA No: EZI-4939
SBGP No: 3-17-SBGP-TBD
Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-101-PLN.DWG
DESIGN BY: KNL 7/3/2024
DRAWN BY: CWS 7/15/2024
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SHEET TITLE

EXISTING TAXIWAY A
LTG DEMOLITION
PLAN SHEET 1

FOR BID



KEYMAP

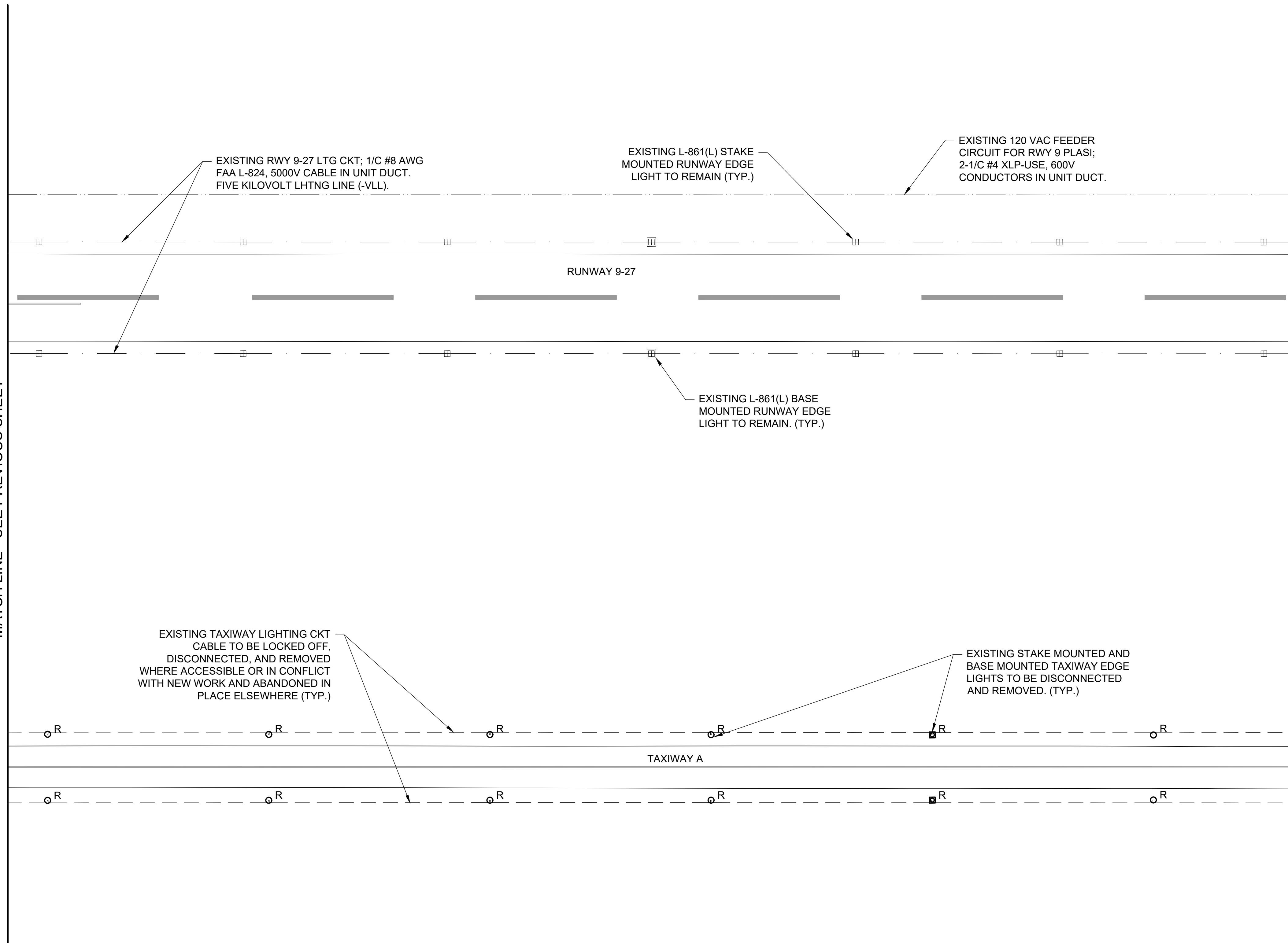


LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- EXISTING STAKE MOUNTED RUNWAY EDGE LIGHT
- EXISTING BASE MOUNTED RUNWAY EDGE LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING TAXI/RUNWAY SIGN
- EXISTING STAKE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED
- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED.
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE PREVIOUS SHEET

MATCH LINE - SEE NEXT SHEET



EXISTING TAXIWAY LIGHTING CKT CABLE TO BE LOCKED OFF, DISCONNECTED, AND REMOVED WHERE ACCESSIBLE OR IN CONFLICT WITH NEW WORK AND ABANDONED IN PLACE ELSEWHERE (TYP.)

EXISTING STAKE MOUNTED AND BASE MOUNTED TAXIWAY EDGE LIGHTS TO BE DISCONNECTED AND REMOVED. (TYP.)

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REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

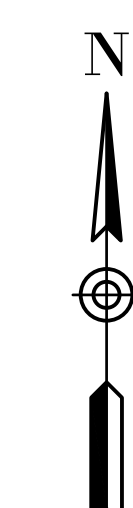
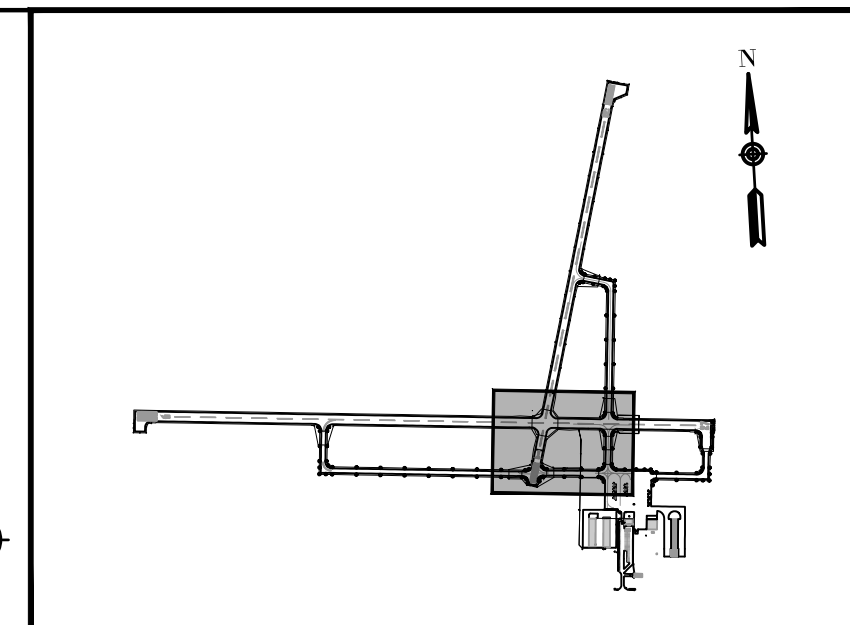
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SHEET TITLE

EXISTING TAXIWAY A LTG DEMOLITION PLAN SHEET 2

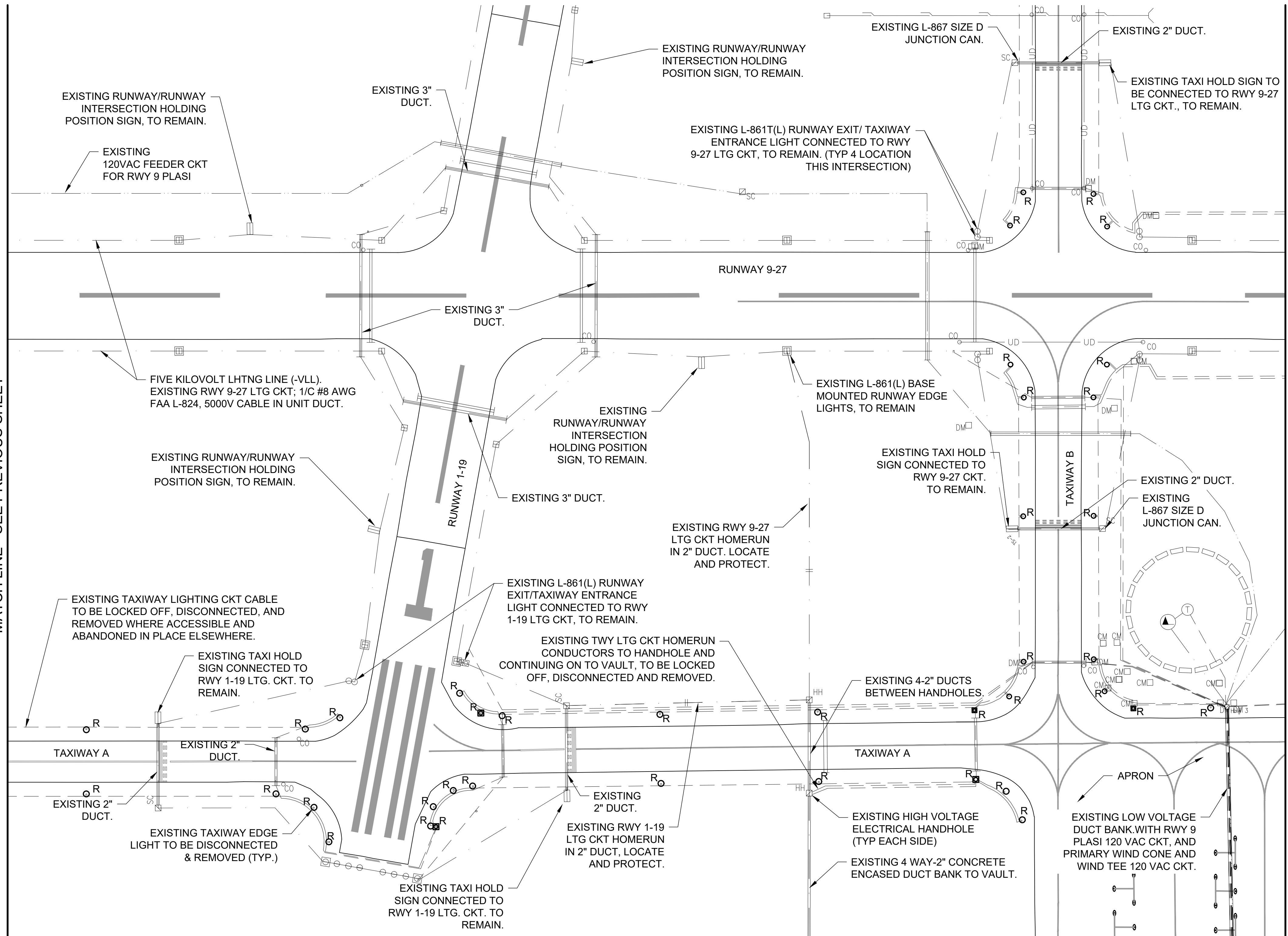
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MATCH LINE - SEE DEMOLITION SHEET 5

MATCH LINE - SEE PREVIOUS SHEET

MATCH LINE - SEE NEXT SHEET



- LEGEND**
- EXISTING PAVEMENT
 - EXISTING BUILDING
 - EXISTING MARKING
 - EXISTING ELECTRICAL DUCT
 - EXISTING ELECTRICAL CABLES
 - EXISTING ELECTRICAL CABLES
 - EXISTING ELECTRICAL CABLES
 - EXISTING UNDERDRAIN
 - EXISTING UNDERDRAIN CLEANOUT
 - EXISTING STORM SEWER/UNDERDRAIN
 - EXISTING ELECTRIC UTILITY UG PRIMARY
 - EXISTING TELEPHONE
 - EXISTING GAS
 - EXISTING FENCE
 - EXISTING STAKE MOUNTED RUNWAY EDGE LIGHT
 - EXISTING BASE MOUNTED RUNWAY EDGE LIGHT
 - EXISTING STAKE MOUNTED TAXIWAY LIGHT
 - EXISTING BASE MOUNTED TAXIWAY LIGHT
 - EXISTING TAXI/RUNWAY SIGN
 - EXISTING STAKE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED
 - EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED.
 - EXISTING ELECTRICAL HANDHOLE
 - EXISTING SPLICE CAN
 - EXISTING WIND CONE
 - EXISTING WIND TEE

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939
SBGP No: 3-17-SBGP-TBD

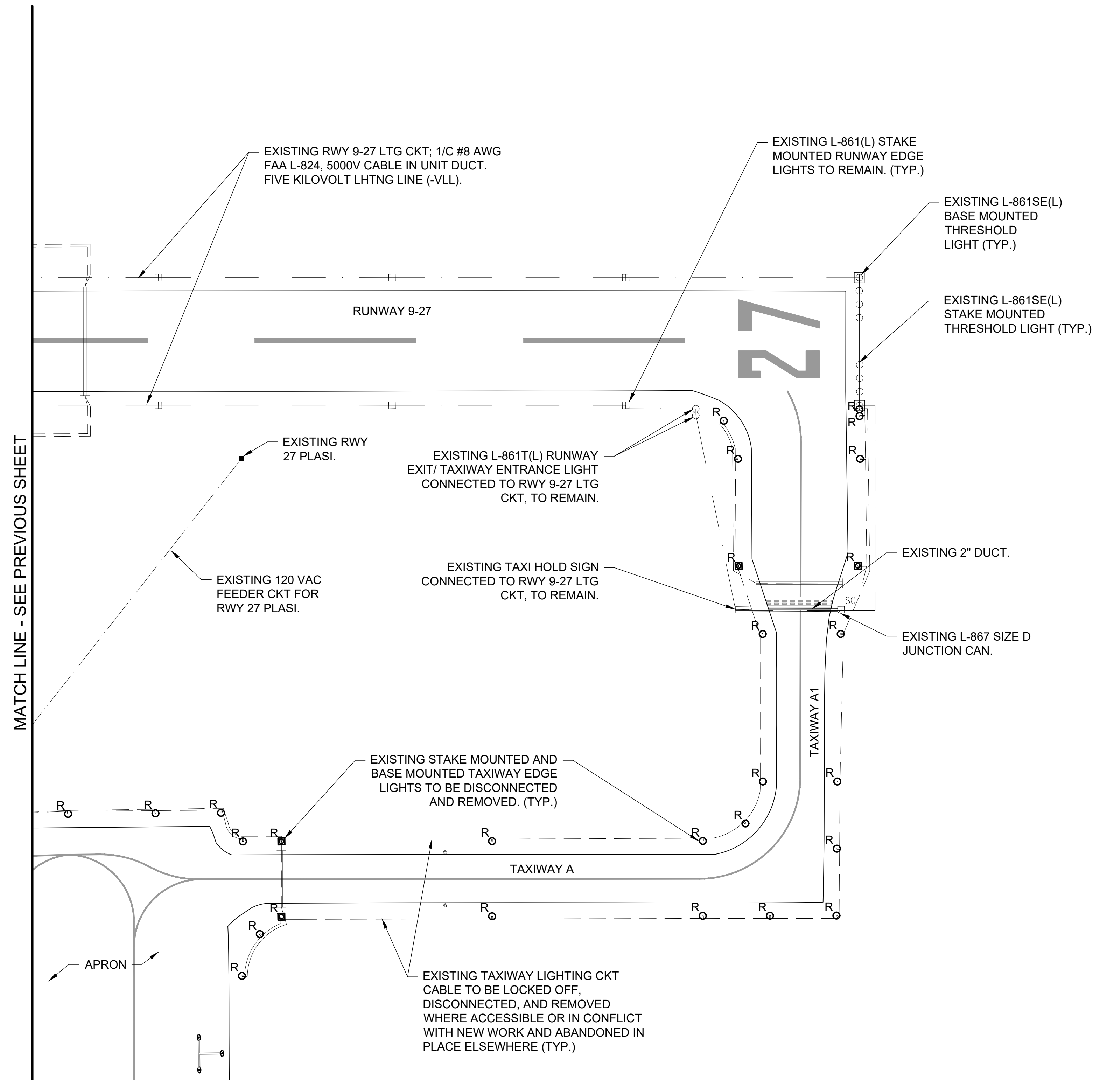
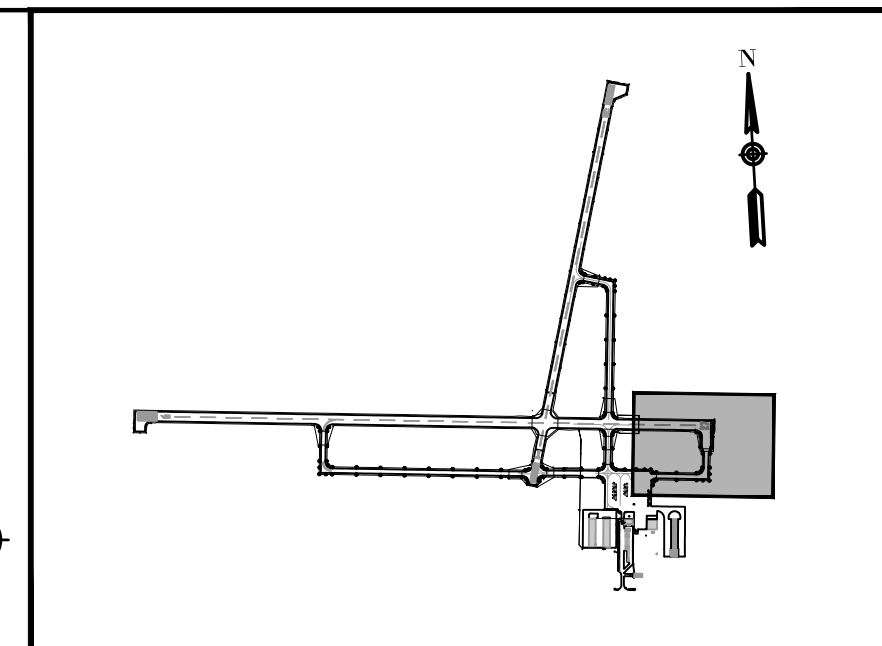
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NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
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SHEET TITLE

EXISTING TAXIWAYS A AND B LTG DEMOLITION PLAN SHEET 3

FOR BID



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- EXISTING STAKE MOUNTED RUNWAY EDGE LIGHT
- EXISTING BASE MOUNTED RUNWAY EDGE LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING TAXI/RUNWAY SIGN
- EXISTING STAKE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED
- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED.
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE PREVIOUS SHEET

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939
SBGP No: 3-17-SBGP-TBD

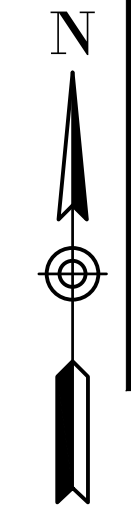
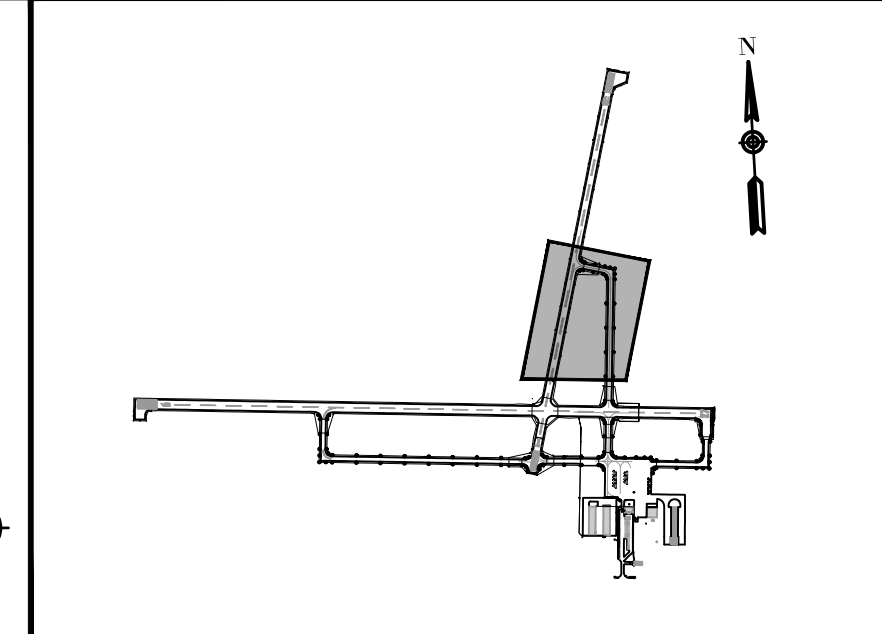
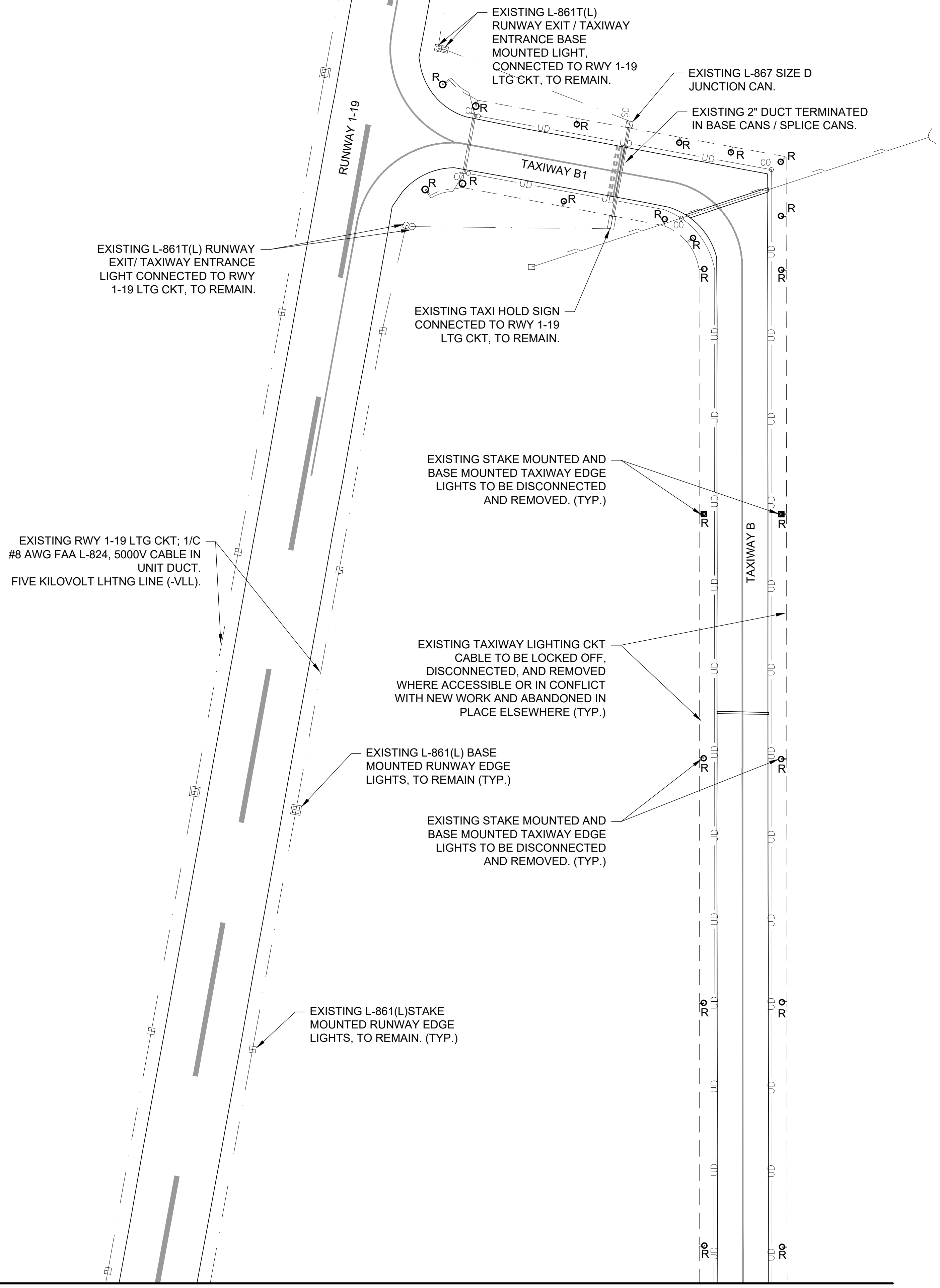
Contract No.: KE020

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SHEET TITLE				

EXISTING TAXIWAY A LTG DEMOLITION PLAN SHEET 4

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LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- EXISTING STAKE MOUNTED RUNWAY EDGE LIGHT
- EXISTING BASE MOUNTED RUNWAY EDGE LIGHT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING TAXI/RUNWAY SIGN
- EXISTING STAKE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED
- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT TO BE REMOVED.
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE LTG DEMOLITION SHEET 3

FOR BID

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 Springfield, IL 62568
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 fax: 217-788-2503

Illinois Licensed
 Professional Service Corporation
 #184-001084

KEWANEE MUNICIPAL AIRPORT

KEWANEE MUNICIPAL AIRPORT
 3769 Midland Road
 Kewanee, Illinois 61443
 Telephone: 309.853.8222

REPLACE TAXIWAY AIRFIELD LIGHTING

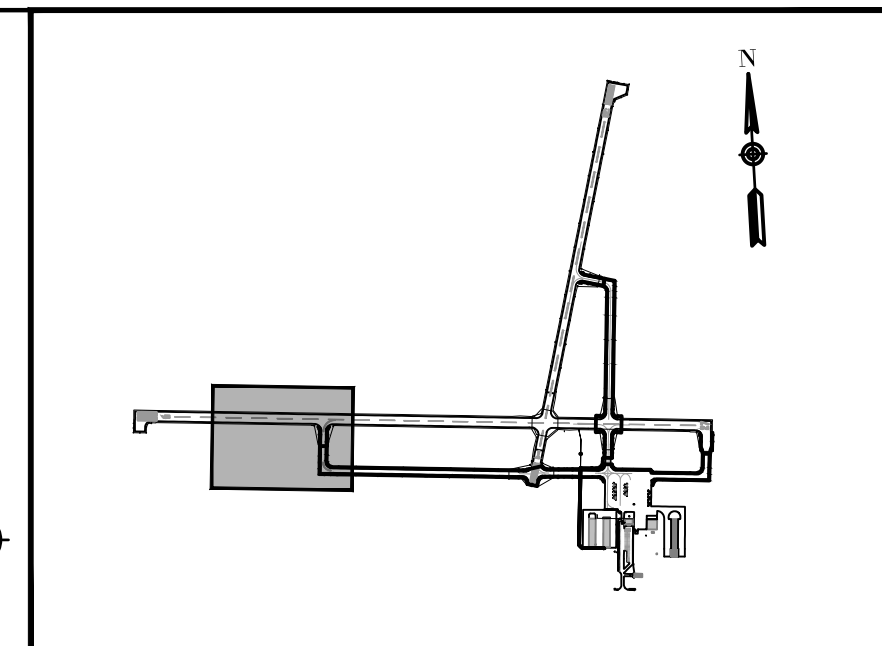
IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

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SHEET TITLE				

EXISTING TAXIWAY B
 LTG DEMOLITION
 PLAN SHEET 5



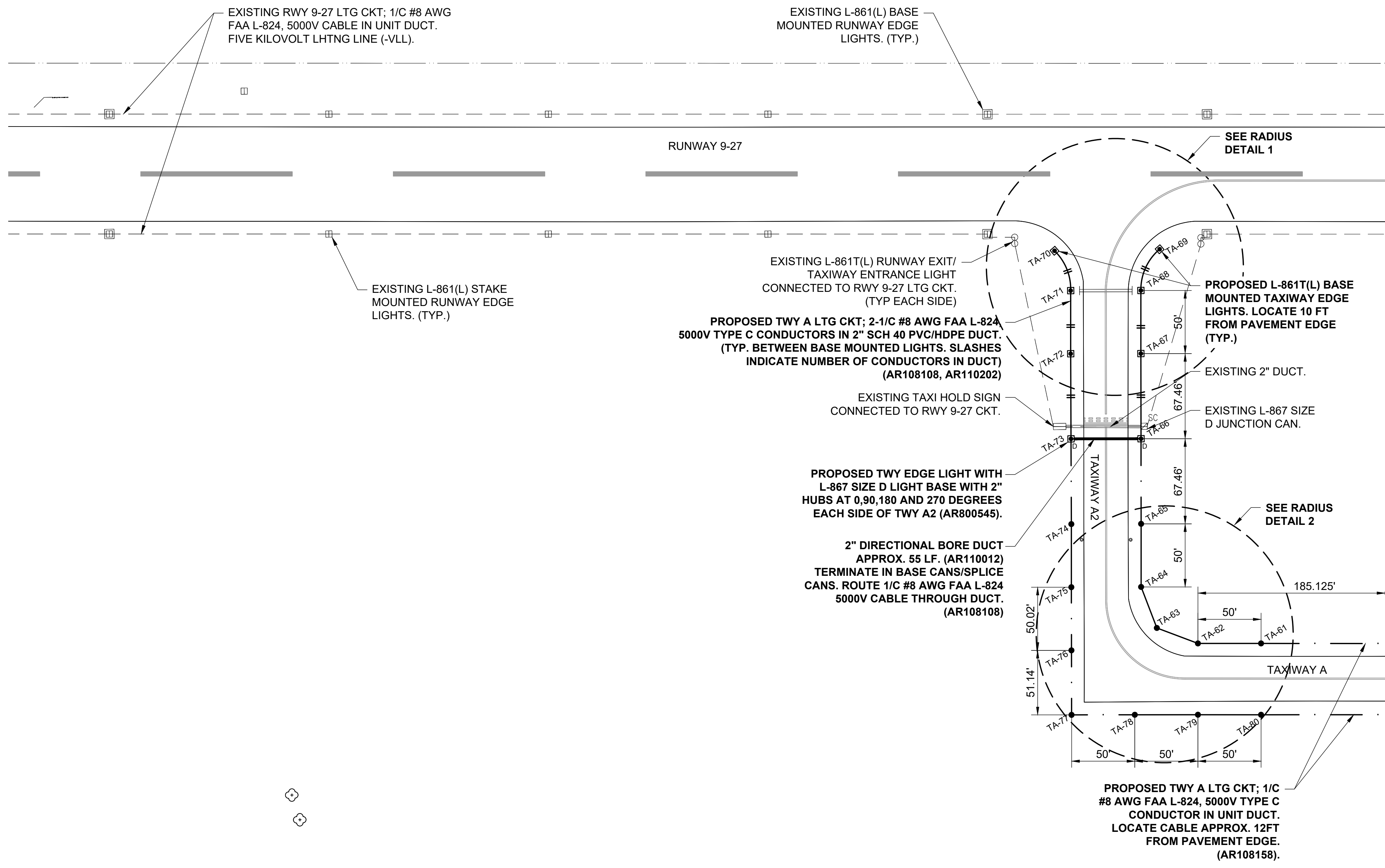
KEYMAP



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
-
-
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE.
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE NEXT SHEET



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REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-102-PLN.DWG

DESIGN BY: KNL 7/3/2024

DRAWN BY: CWS 7/15/2024

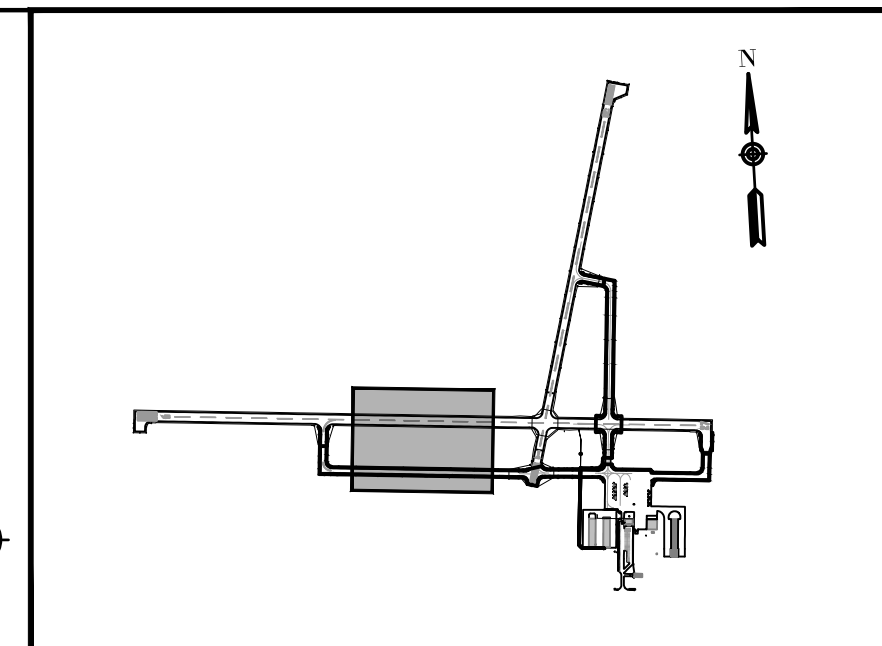
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SHEET TITLE

PROPOSED TAXIWAY A LTG ELECTRICAL PLAN SHEET 1

FOR BID



KEYMAP

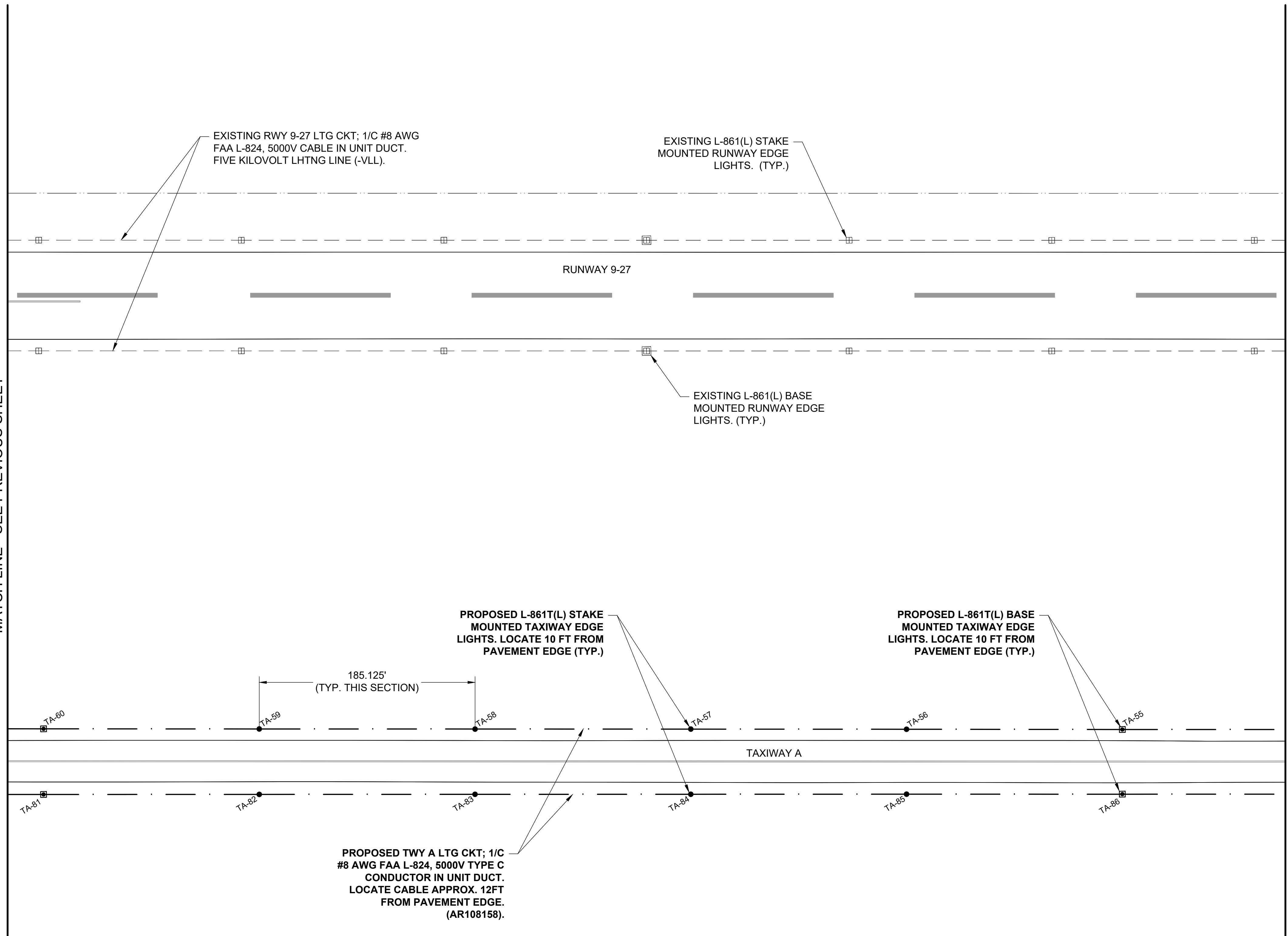


LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN) UNIT DUCT
- PROPOSED 2-1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 2" SCHED 40 (MIN.) PVC OR HDPE DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE.
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE PREVIOUS SHEET

MATCH LINE - SEE NEXT SHEET



EXISTING RWY 9-27 LTG CKT; 1/C #8 AWG
FAA L-824, 5000V CABLE IN UNIT DUCT.
FIVE KILOVOLT LHTNG LINE (-VLL).

EXISTING L-861(L) STAKE
MOUNTED RUNWAY EDGE
LIGHTS. (TYP.)

RUNWAY 9-27

EXISTING L-861(L) BASE
MOUNTED RUNWAY EDGE
LIGHTS. (TYP.)

PROPOSED L-861T(L) STAKE
MOUNTED TAXIWAY EDGE
LIGHTS. LOCATE 10 FT FROM
PAVEMENT EDGE (TYP.)

PROPOSED L-861T(L) BASE
MOUNTED TAXIWAY EDGE
LIGHTS. LOCATE 10 FT FROM
PAVEMENT EDGE (TYP.)

PROPOSED TWY A LTG CKT; 1/C
#8 AWG FAA L-824, 5000V TYPE C
CONDUCTOR IN UNIT DUCT.
LOCATE CABLE APPROX. 12FT
FROM PAVEMENT EDGE.
(AR108158).

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REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

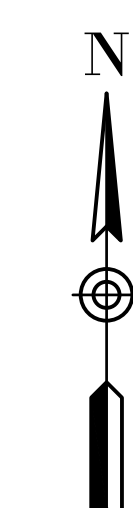
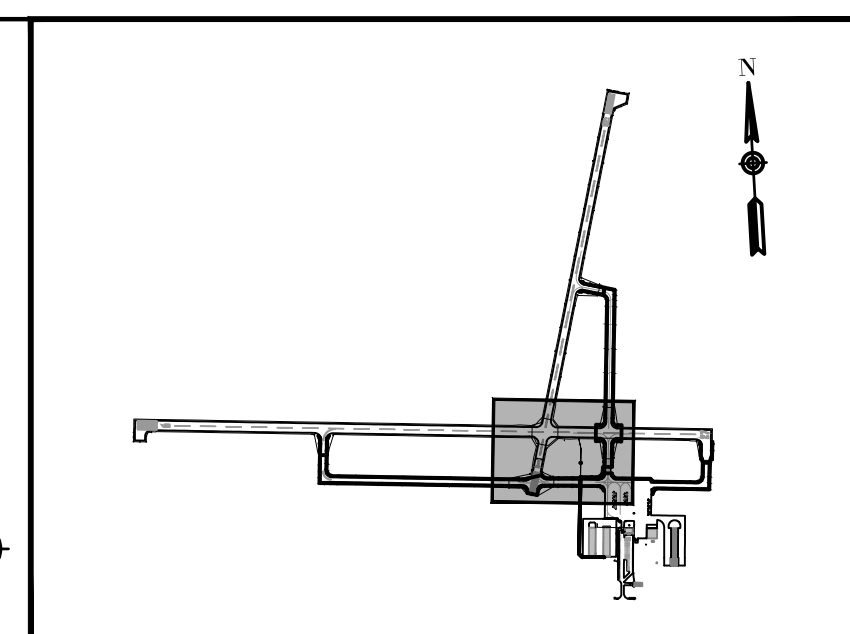
NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-102-PLN.DWG
DESIGN BY: KNL 7/3/2024
DRAWN BY: CWS 7/15/2024
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SHEET TITLE

PROPOSED TAXIWAY A LTG ELECTRICAL PLAN SHEET 2

FOR BID

MATCH LINE - SEE ELECTRICAL PLAN SHEET 3

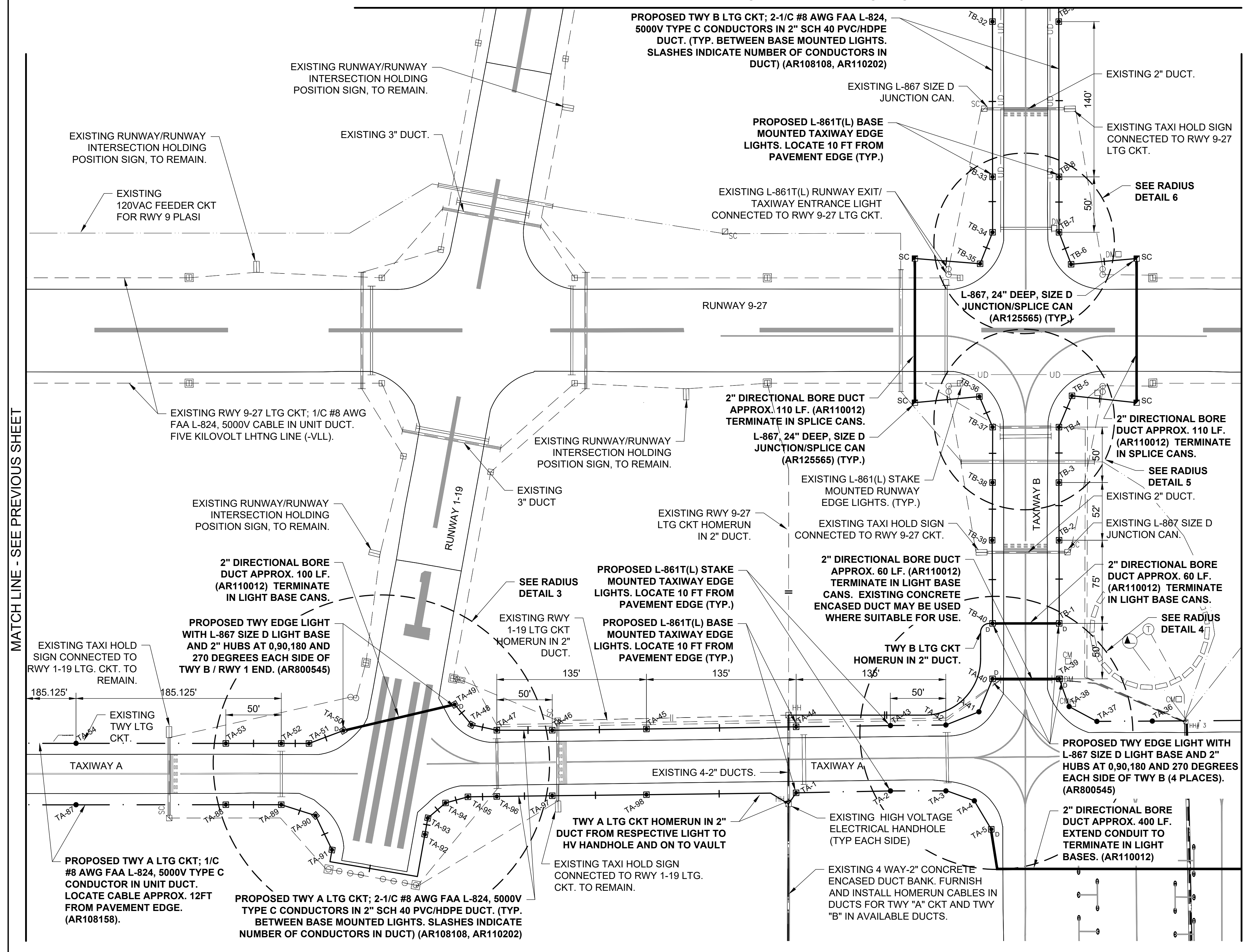


LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
-
-
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE PREVIOUS SHEET

MATCH LINE - SEE NEXT SHEET



FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

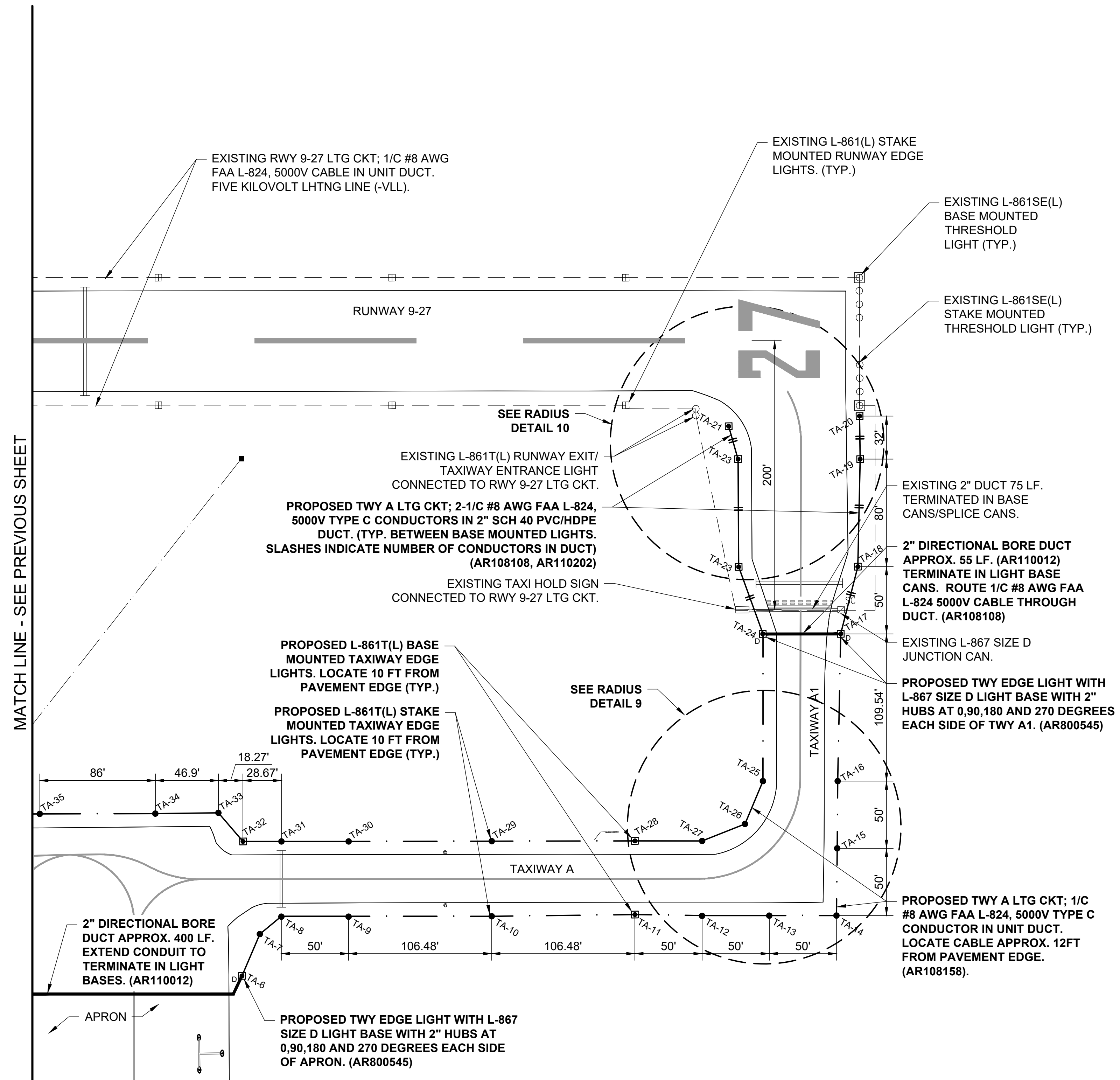
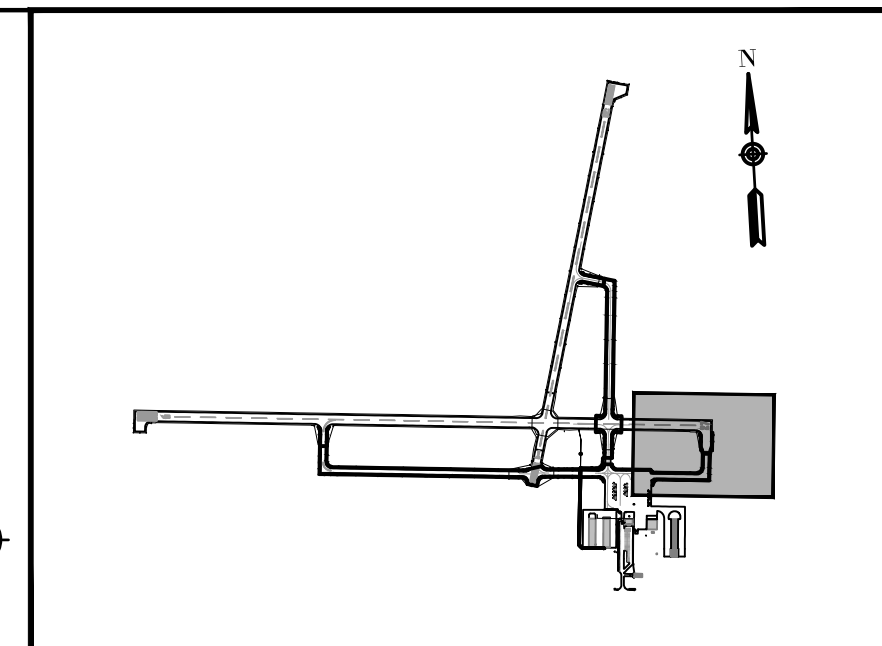
SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

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		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
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DRAWN BY: CWS 7/15/2024
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SHEET TITLE

PROPOSED TAXIWAYS A AND B LTG ELECTRICAL PLAN SHEET 3



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
- PROPOSED 1/2" #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT
- PROPOSED 2-1/2" #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 2" SCHED 40 (MIN.) PVC OR HDPE DUCT
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE.
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE

MATCH LINE - SEE PREVIOUS SHEET

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939
SBGP No: 3-17-SBGP-TBD

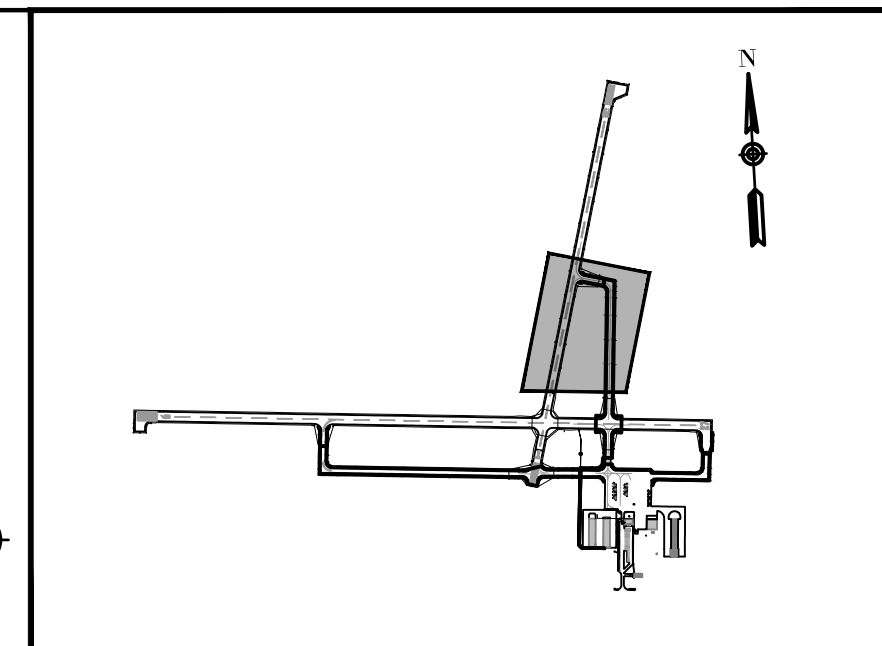
Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
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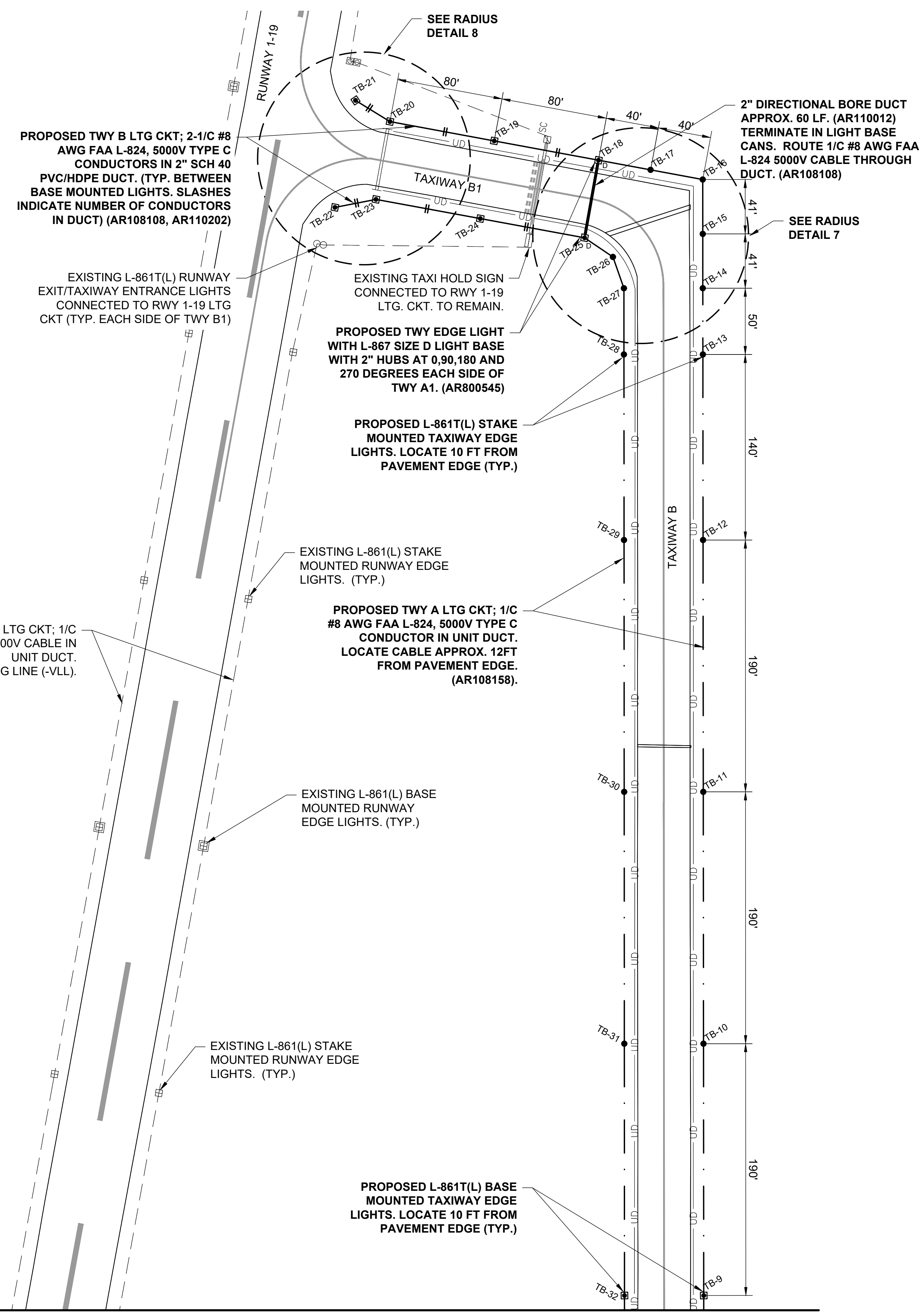
PROPOSED TAXIWAY A LTG ELECTRICAL PLAN SHEET 4

FOR BID



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
-
-
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE.
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE



MATCH LINE - SEE ELECTRICAL PLAN SHEET 3

FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

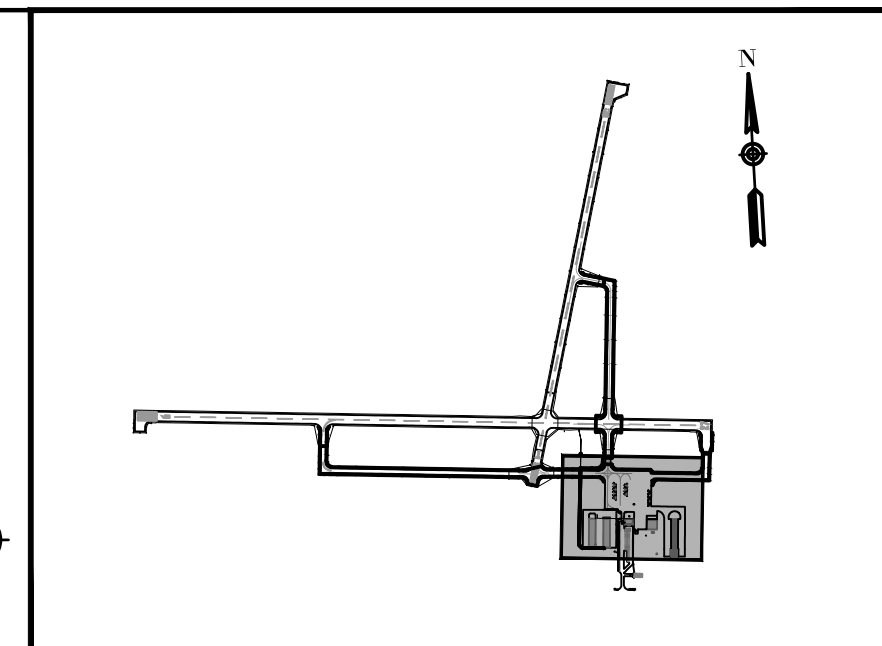
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Contract No.: KE020

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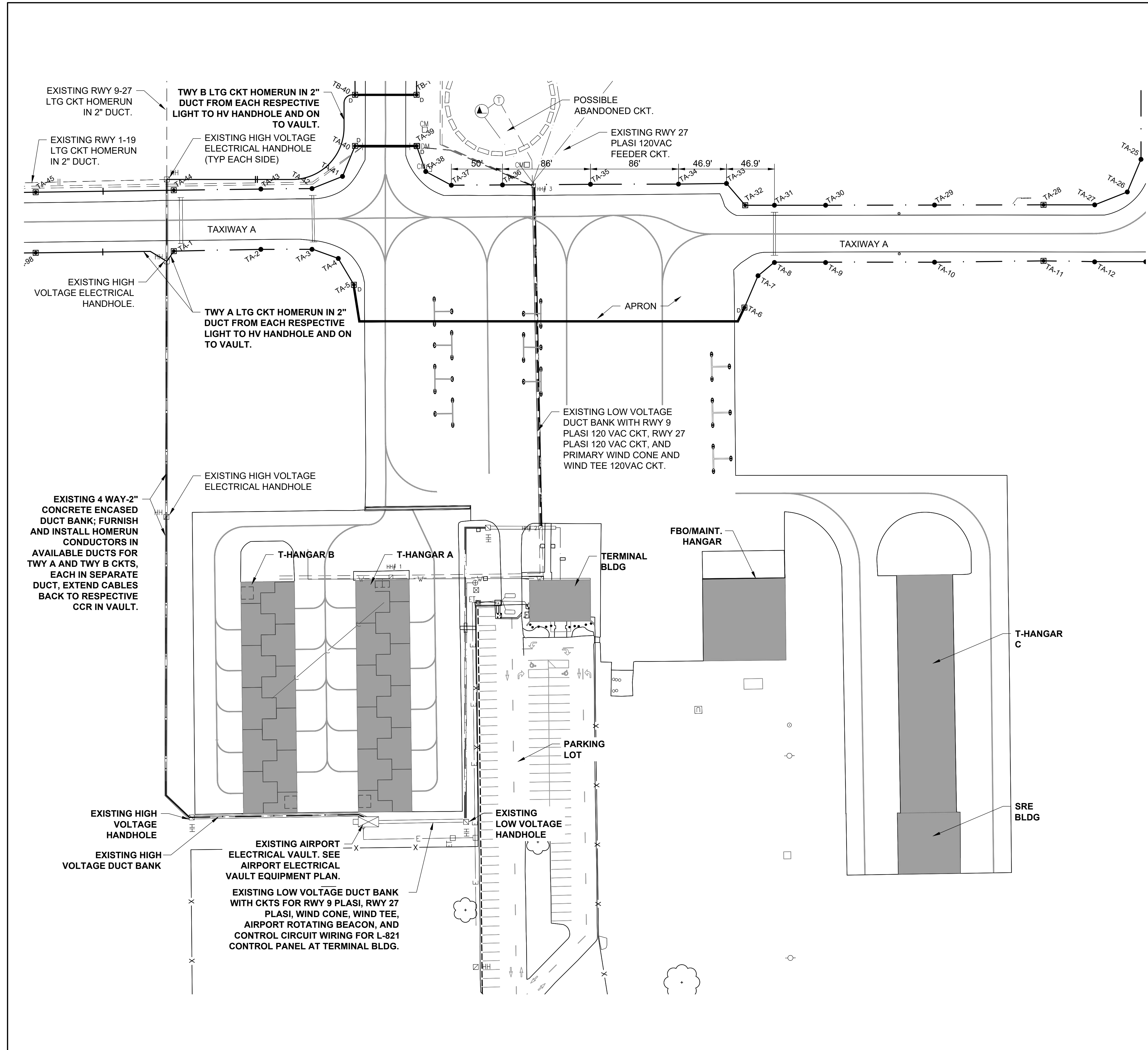
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 SHEET TITLE

PROPOSED TAXIWAY B LTG ELECTRICAL PLAN SHEET 5



LEGEND

- EXISTING PAVEMENT
- EXISTING BUILDING
- EXISTING MARKING
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING ELECTRICAL CIRCUIT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING UNDERDRAIN CLEANOUT
- EXISTING STORM SEWER/UNDERDRAIN
- EXISTING ELECTRIC UTILITY UG PRIMARY
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING FENCE
-
-
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING STAKE MOUNTED RUNWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED L-861T(L) STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT
- PROPOSED L-861T(L) BASE MOUNTED TAXIWAY LIGHT WITH L-867 SIZE D BASE.
- EXISTING RUNWAY/TAXI GUIDANCE SIGN
- EXISTING ELECTRICAL HANDHOLE
- EXISTING SPLICE CAN
- PROPOSED ELECTRICAL HANDHOLE
- PROPOSED SPLICE CAN
- EXISTING WIND CONE
- EXISTING WIND TEE



REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

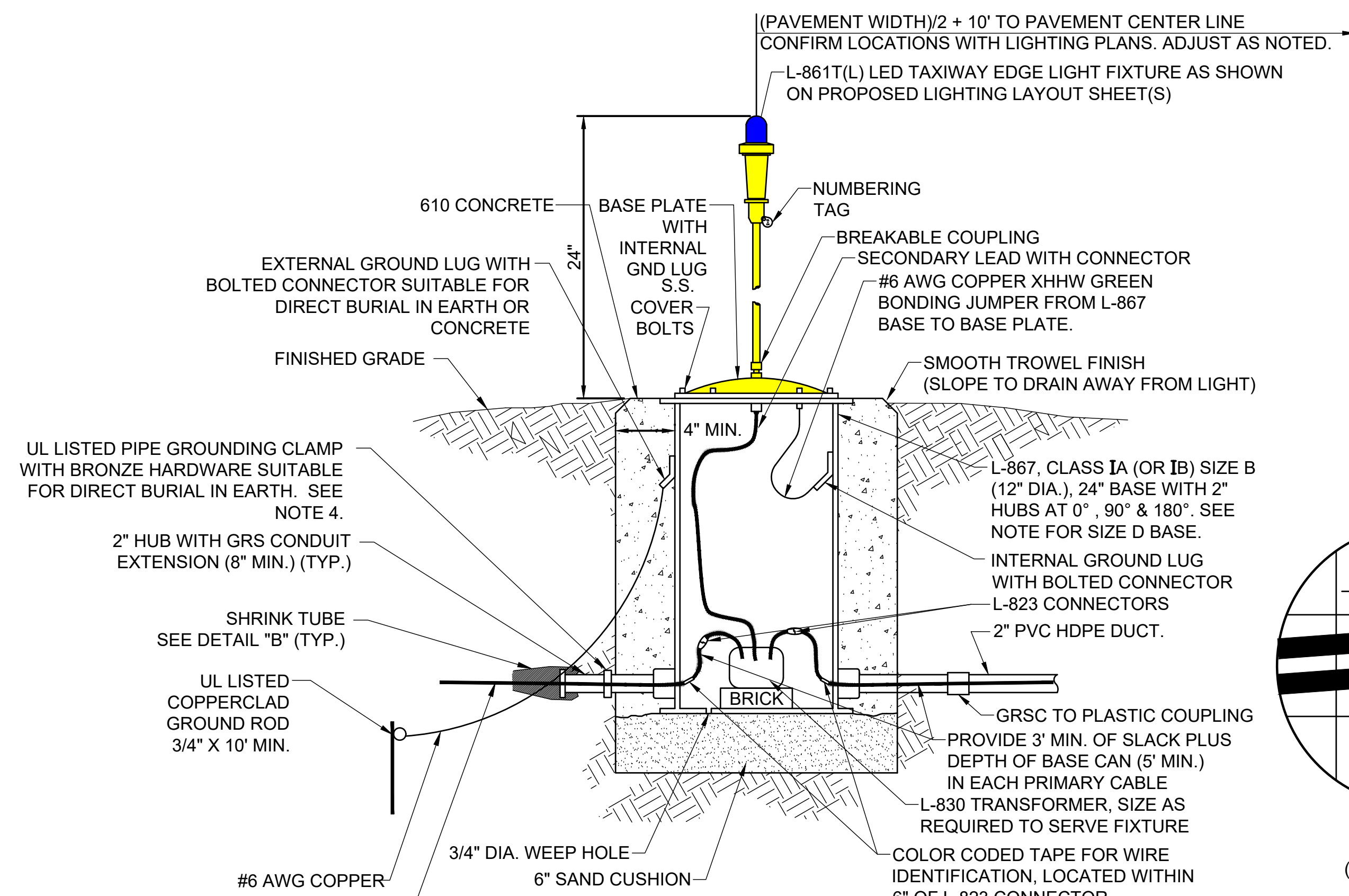
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Contract No.: KE020

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CAD FILE: E-102-PLN.DWG				
DESIGN BY: KNL 7/3/2024				
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SHEET TITLE				

PROPOSED HOMERUN ELECTRICAL PLAN

FOR BID

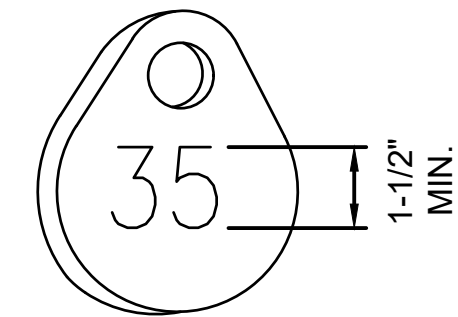


MEDIUM INTENSITY AIRFIELD EDGE LIGHT - BASE MOUNTED

(NOT TO SCALE)

WHERE NOTED ON THE PLANS PROVIDE SIZE D (16 IN. NOMINAL DIAMETER) LIGHT BASE WITH 2" HUBS AT 0, 90, 180 AND 270 DEGREES TO ACCOMMODATE CONDUIT, DUCT, AND CABLE INTERFACE.

DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.

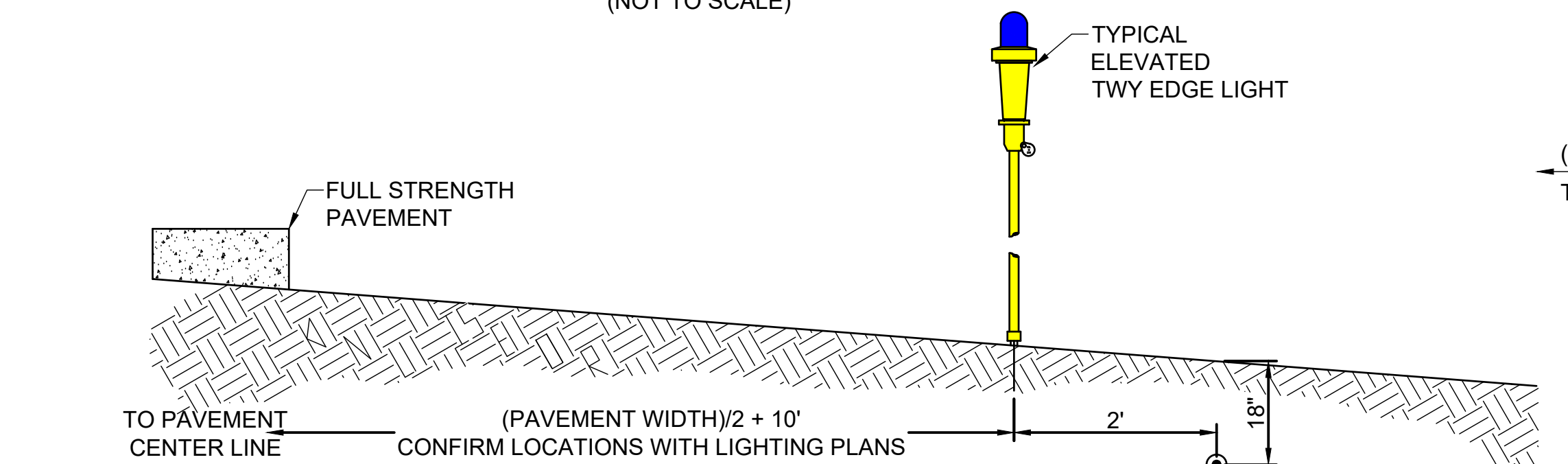


NUMBERING TAG DETAIL

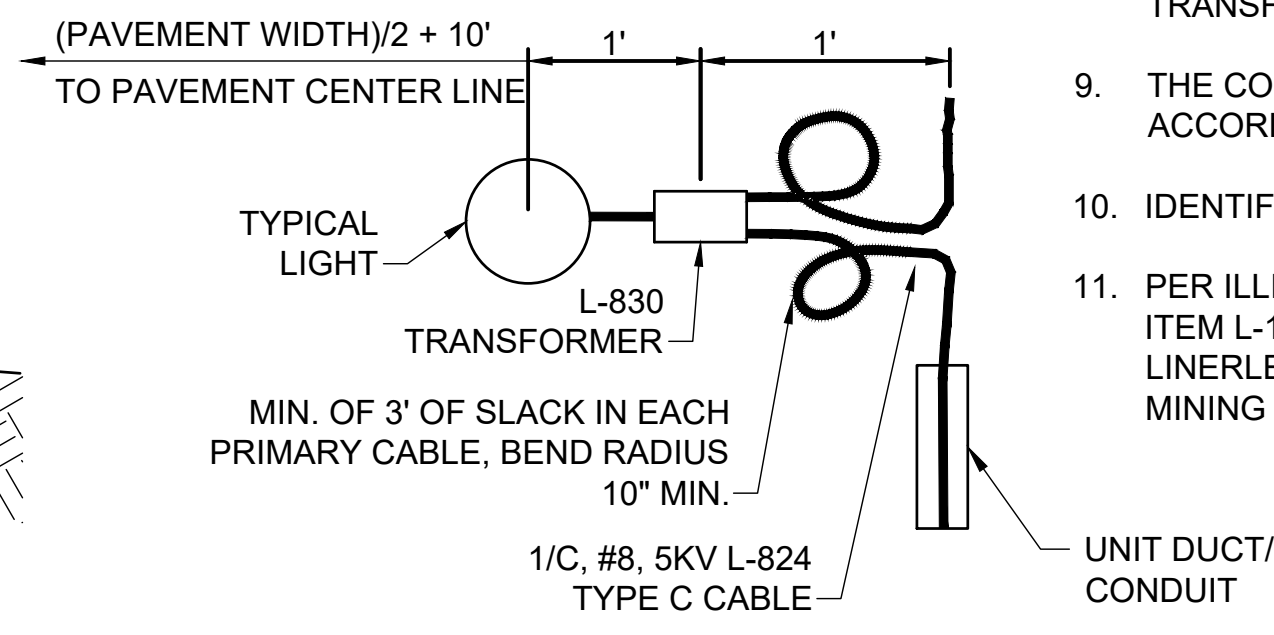
(NOT TO SCALE)

NOTE:

AFFIX NON-CORROSIVE, NON-BREAKABLE, TAG TO FIXTURE FACING RUNWAY/TAXIWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. NUMERALS SHALL BE ENGRAVED FOR PERMANENT READABILITY. STAINLESS STEEL OR BRASS TAGS WITH 1/2" HIGH STAMPED LETTERING WILL ALSO BE ACCEPTABLE.



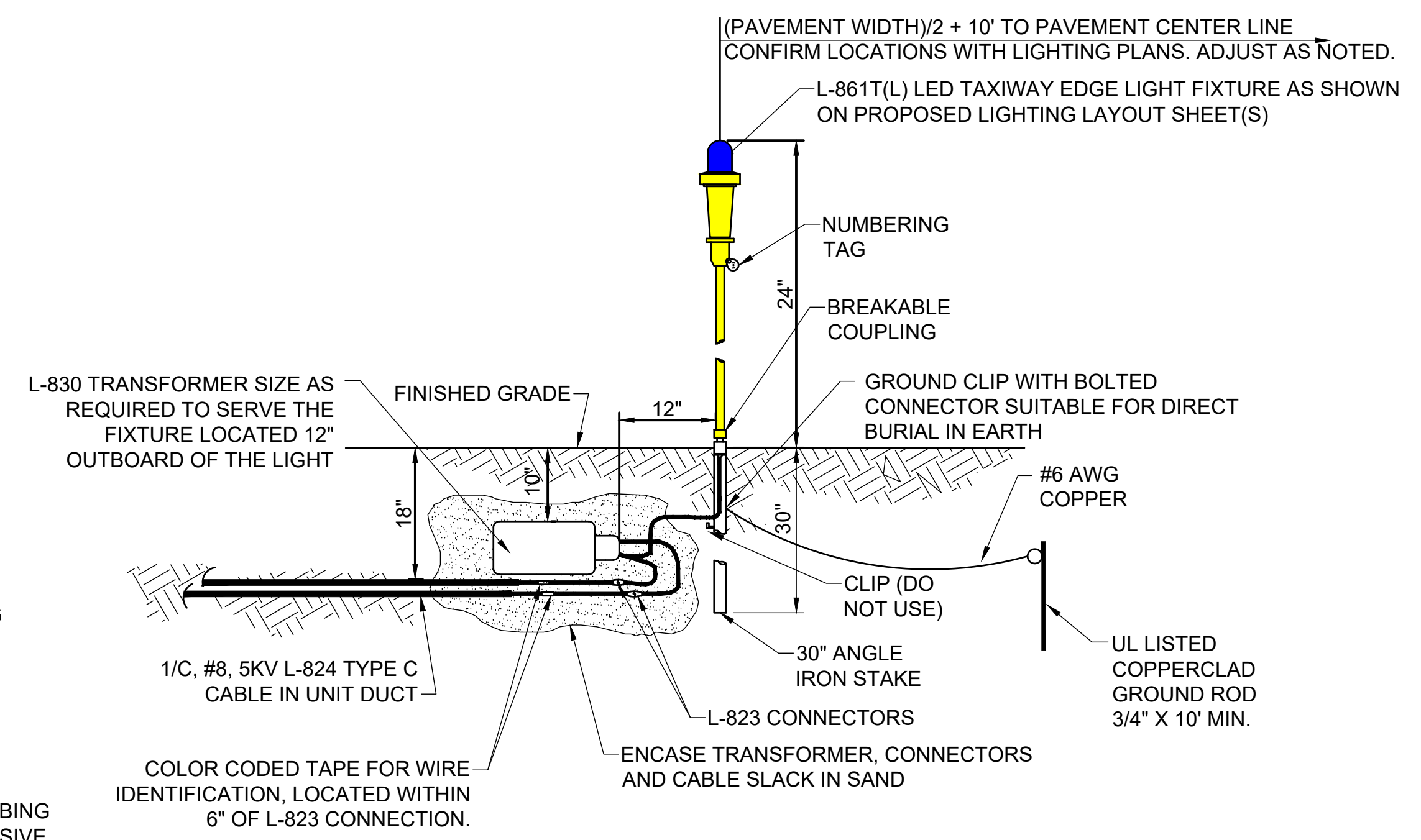
PROFILE VIEW



PLAN VIEW

LIGHT AND CABLE INSTALLATION DETAIL

(NOT TO SCALE)



MEDIUM INTENSITY AIRFIELD EDGE LIGHT - STAKE MOUNTED

(NOT TO SCALE)

NOTES:

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

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

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

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ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-501-DETL.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/3/2024

REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

AIRFIELD LIGHTING DETAIL

FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

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		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

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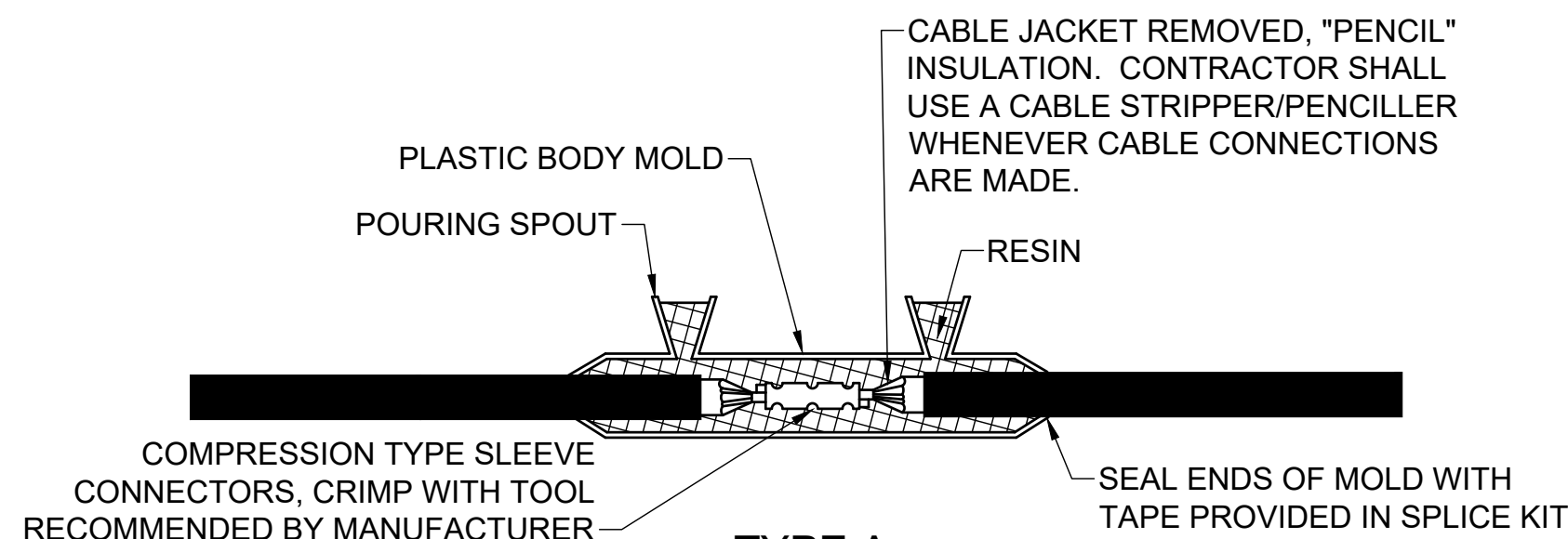
SHEET TITLE

AIRFIELD LIGHTING CABLE SPLICE DETAILS

FOR BID

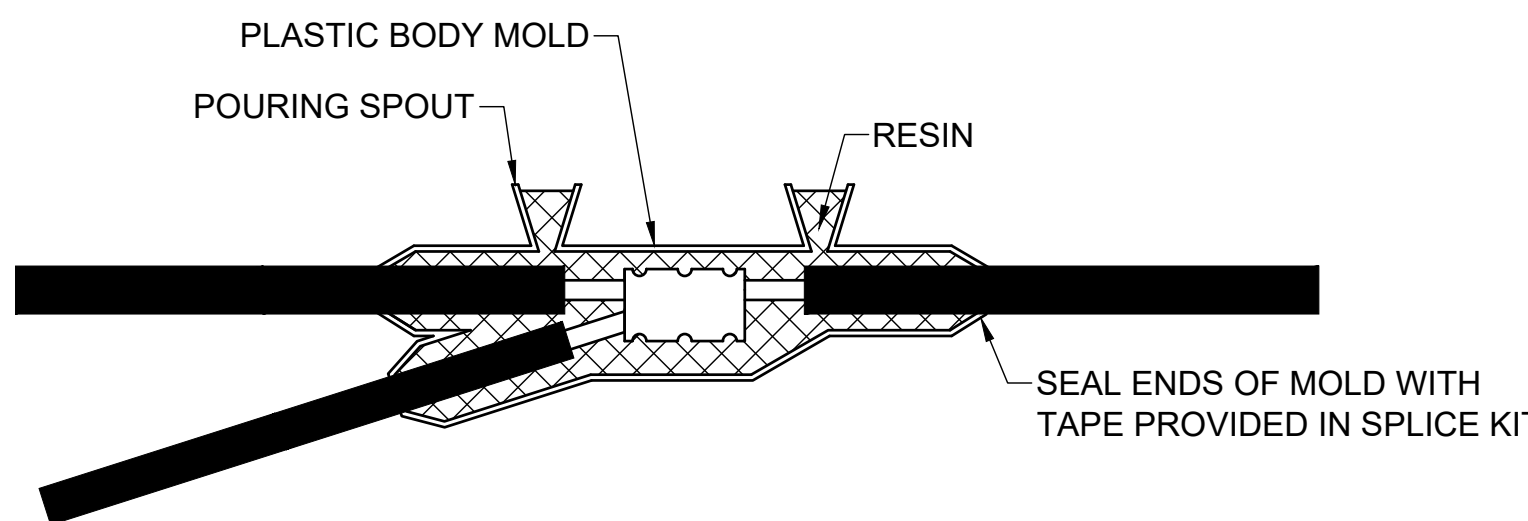
NOTES:

- 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 SPICER SHALL BE QUALIFIED AND EXPERIENCED 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.



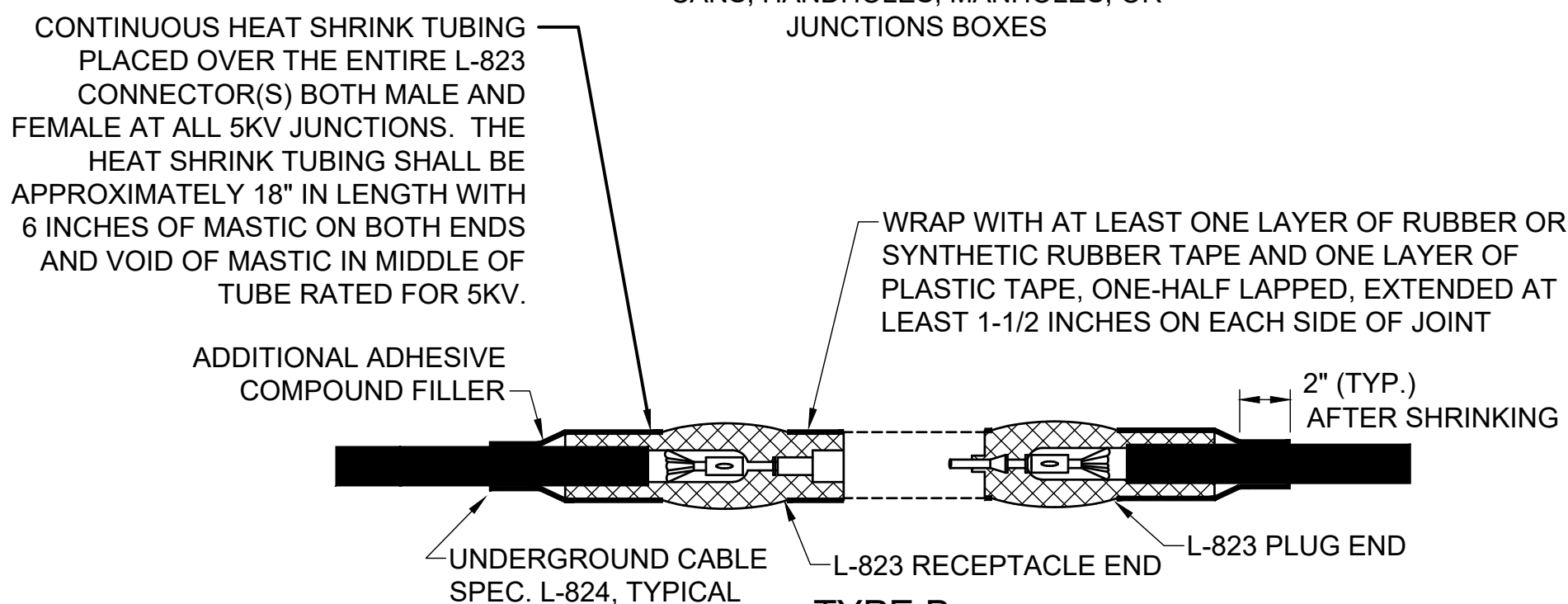
TYPE A

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 JUNCTIONS BOXES



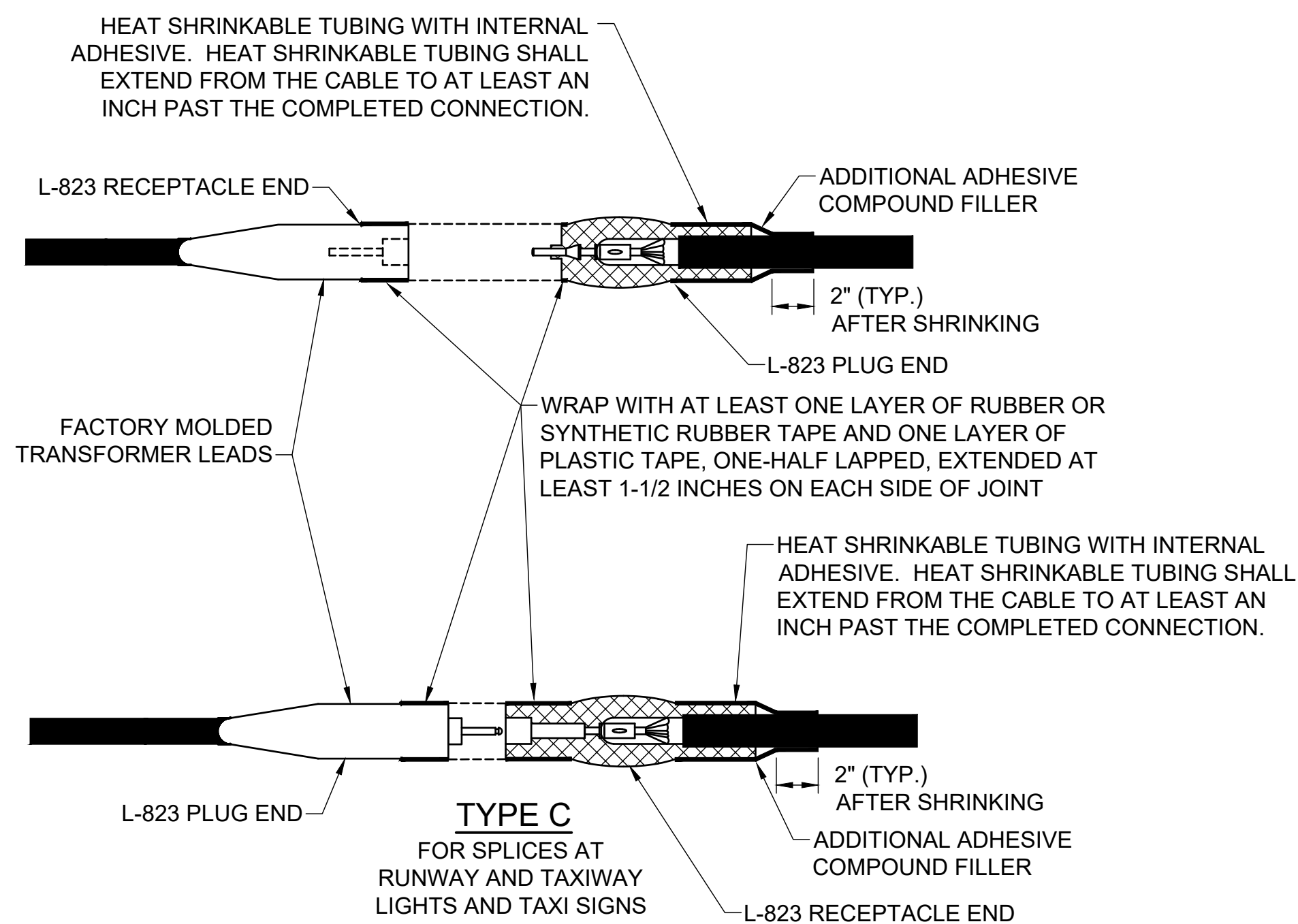
LOW VOLTAGE UNDERGROUND TAP SPLICE

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.



TYPE B

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



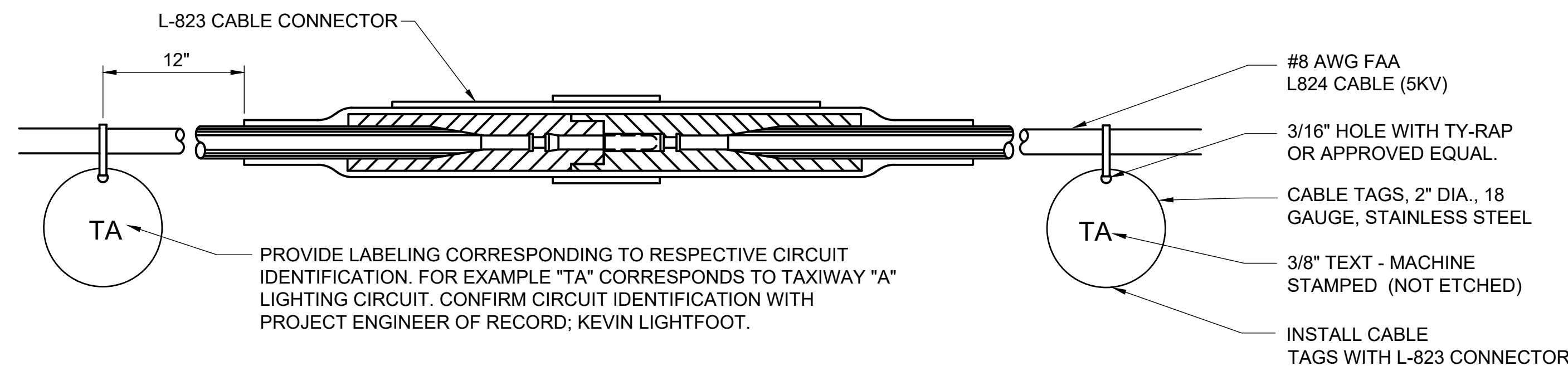
TYPE C

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

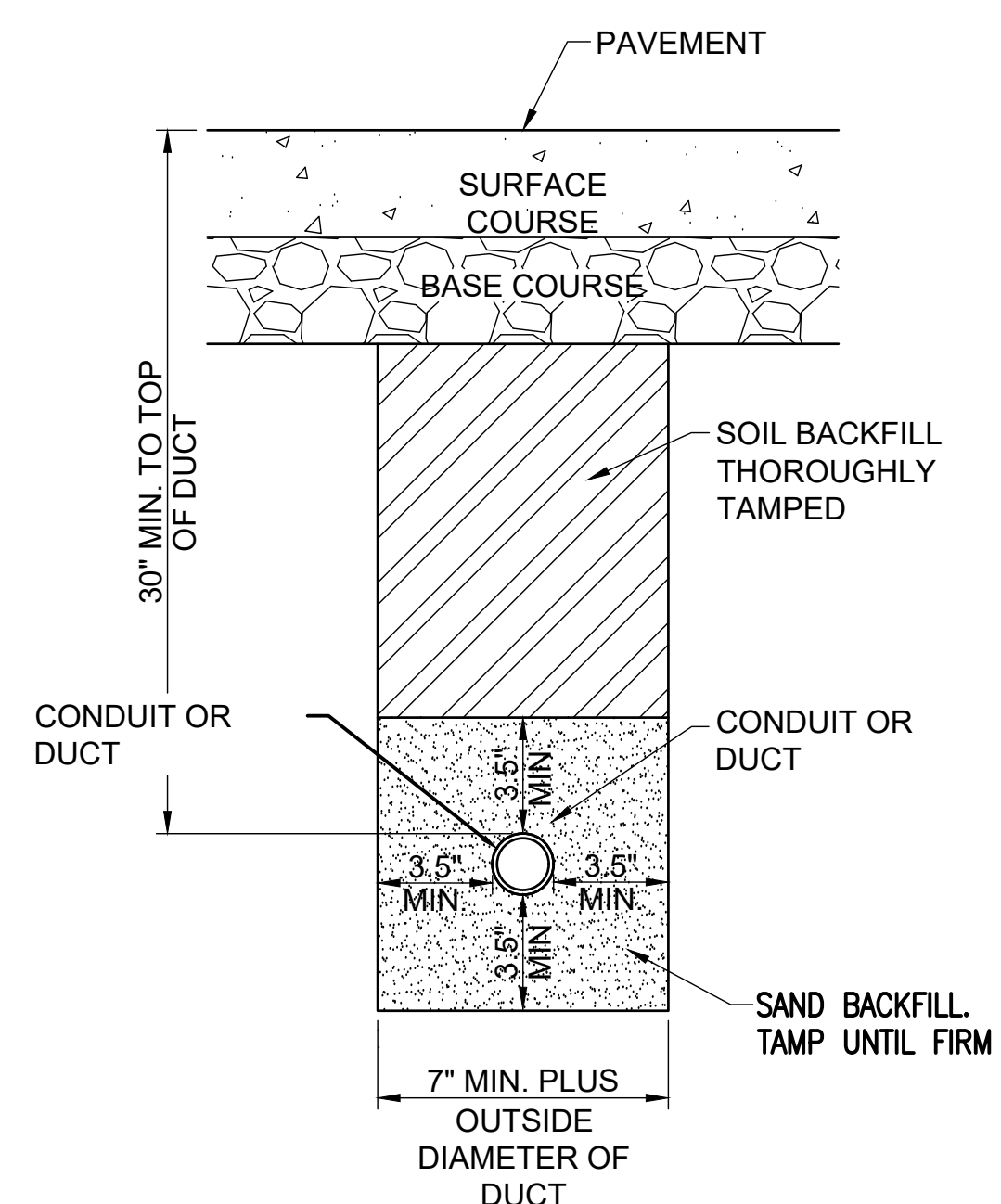
"NOT TO SCALE"



- CONTRACTOR SHALL PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION.
- 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 CIRCUITS,
RUNWAY 1-19 LIGHTING: R1
RUNWAY 9-27 LIGHTING: R2
TAXIWAYS A, A1 & A2 LIGHTING: TA
TAXIWAYS B & B1 LIGHTING: TB

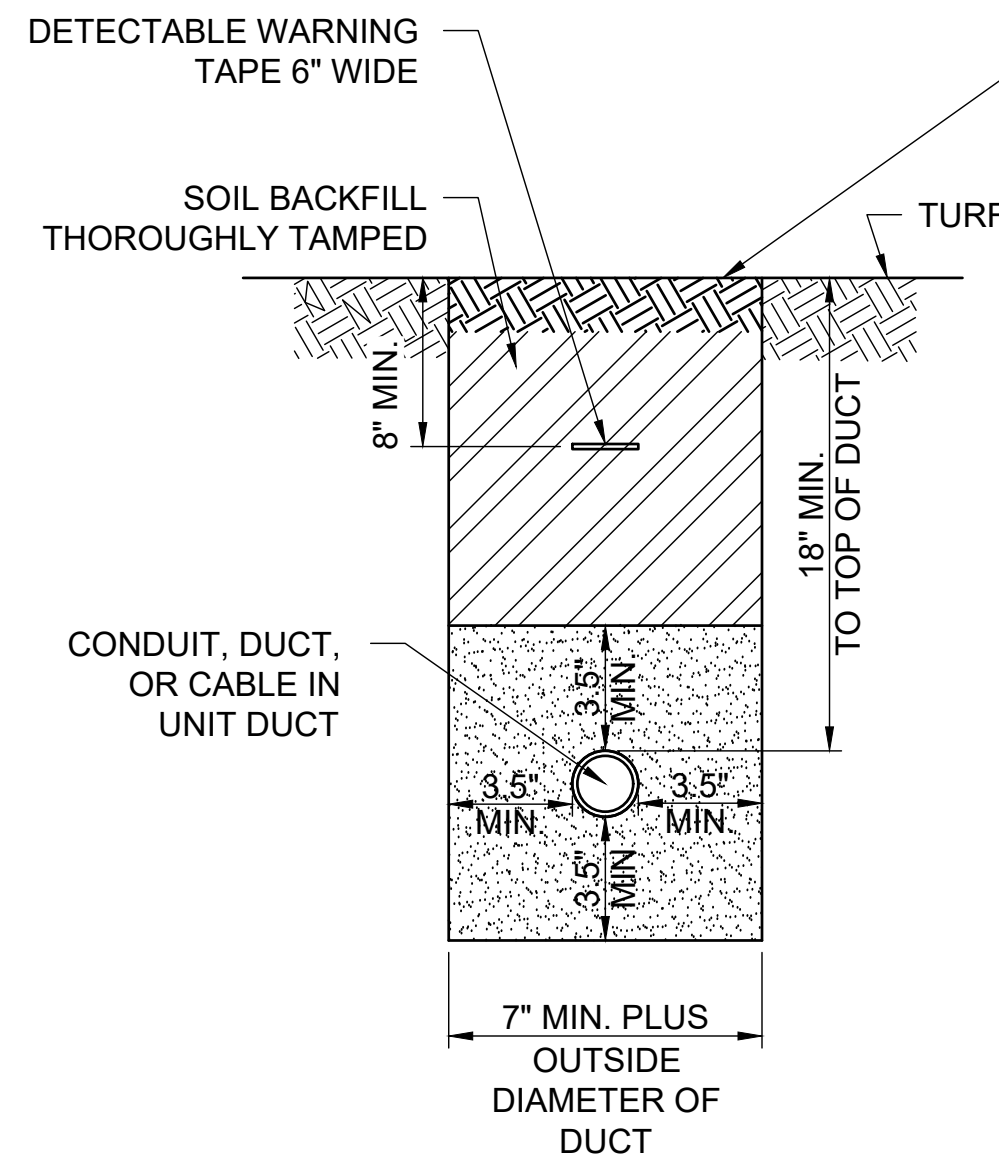
CABLE TAG DETAIL

"NOT TO SCALE"



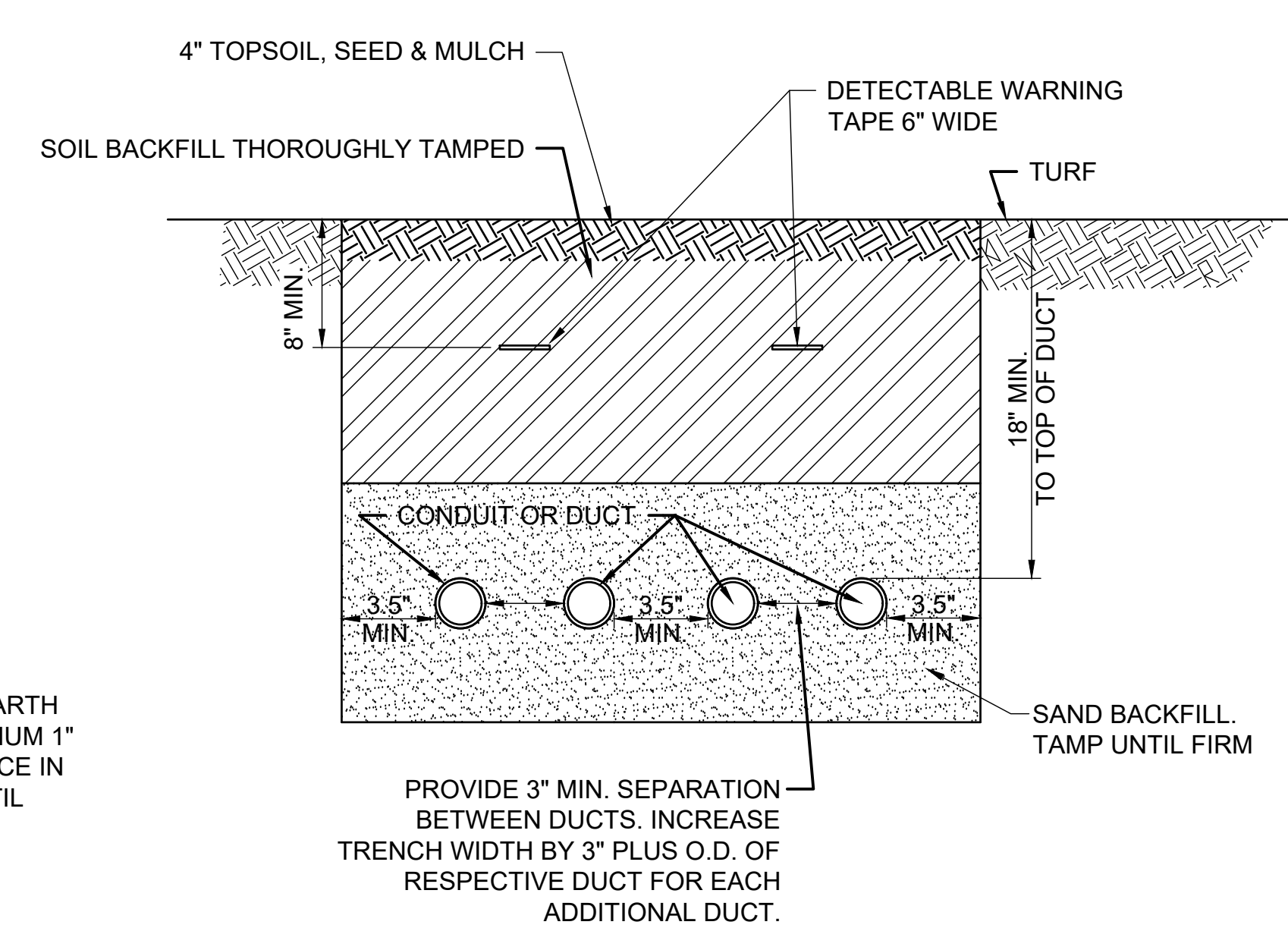
CONDUIT IN TRENCH - PAVED AREAS

"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.

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

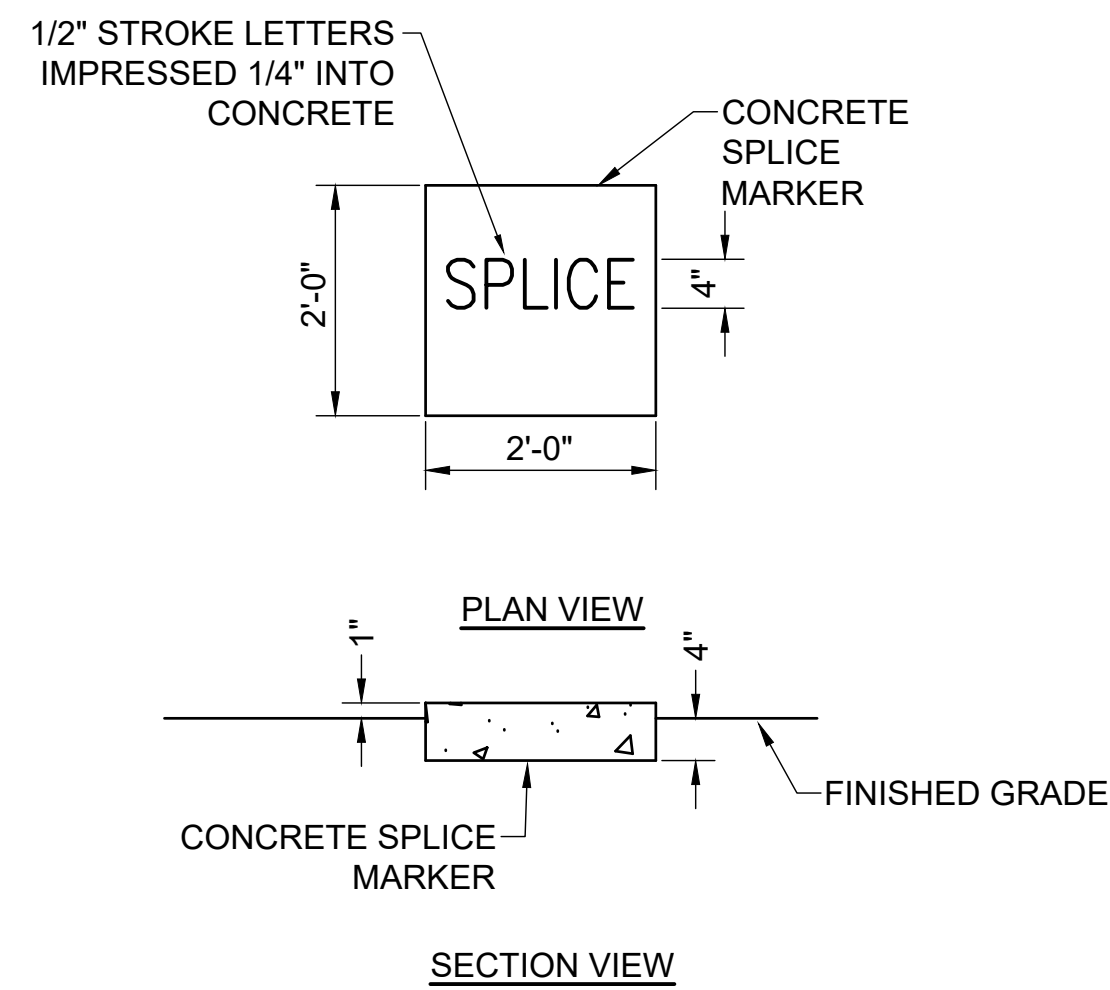
Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

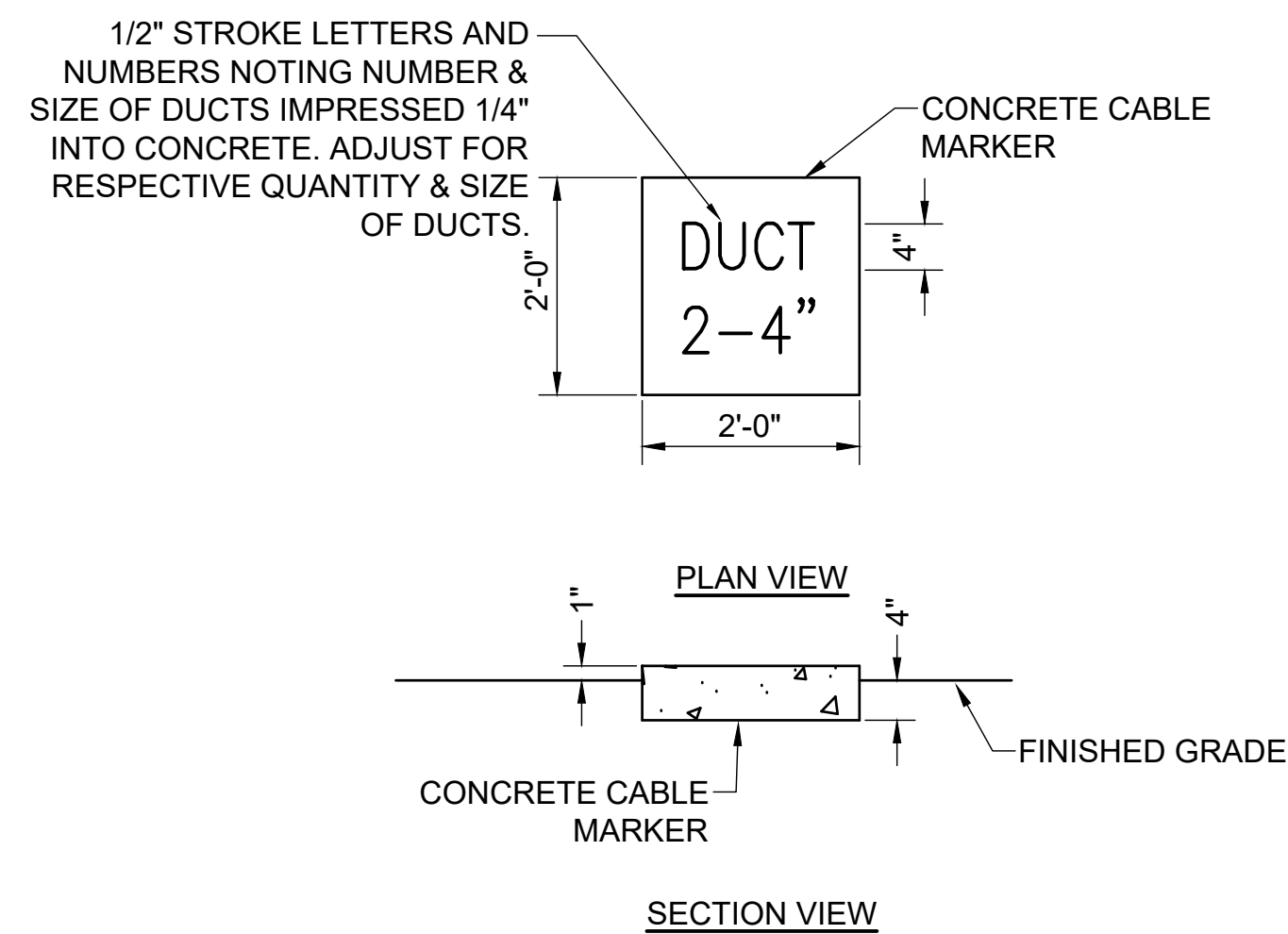
ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-503-DETL.DWG
DESIGN BY: KNL 6/29/2024
DRAWN BY: CWS 7/3/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

CONDUIT TRENCH DETAIL

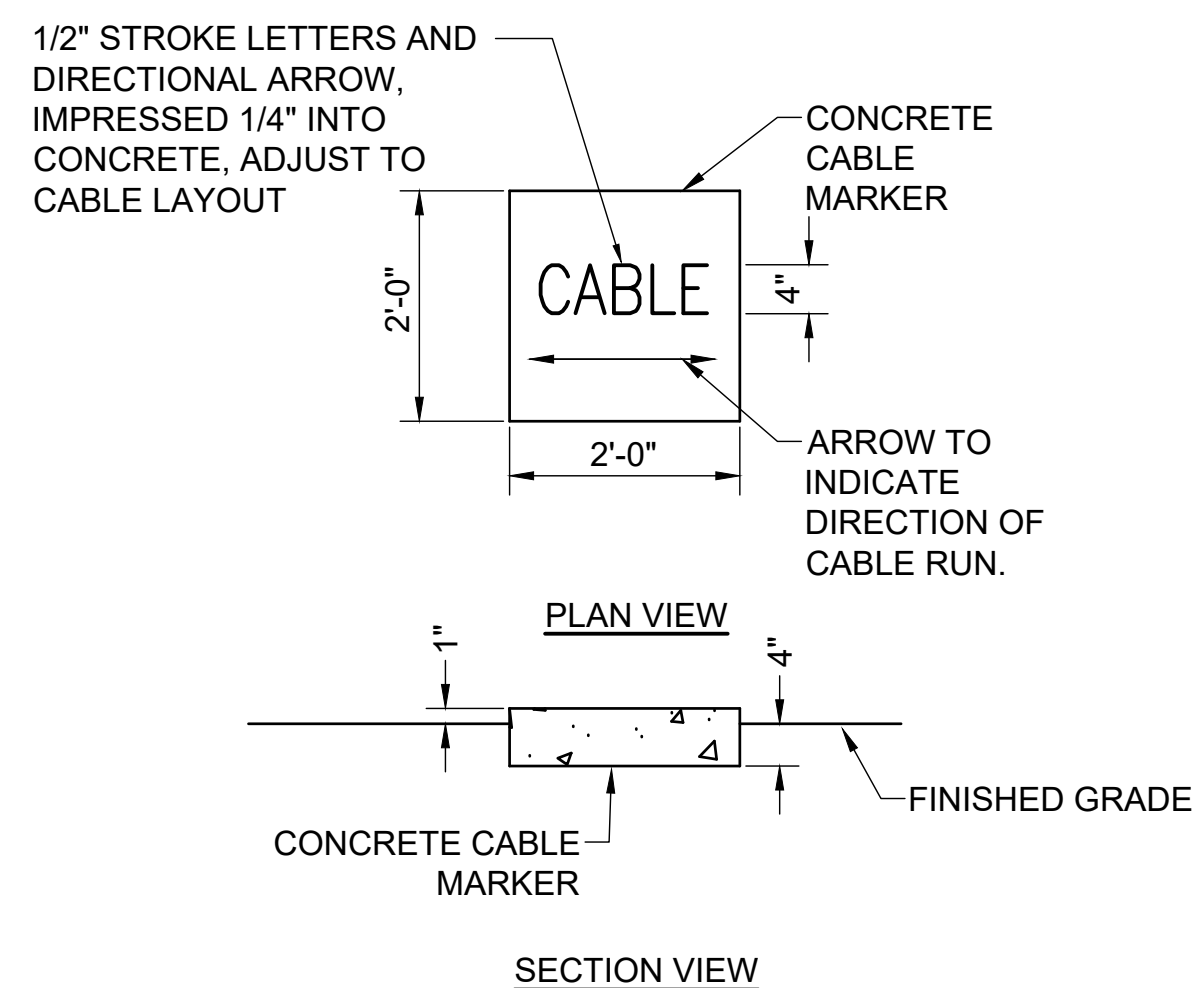
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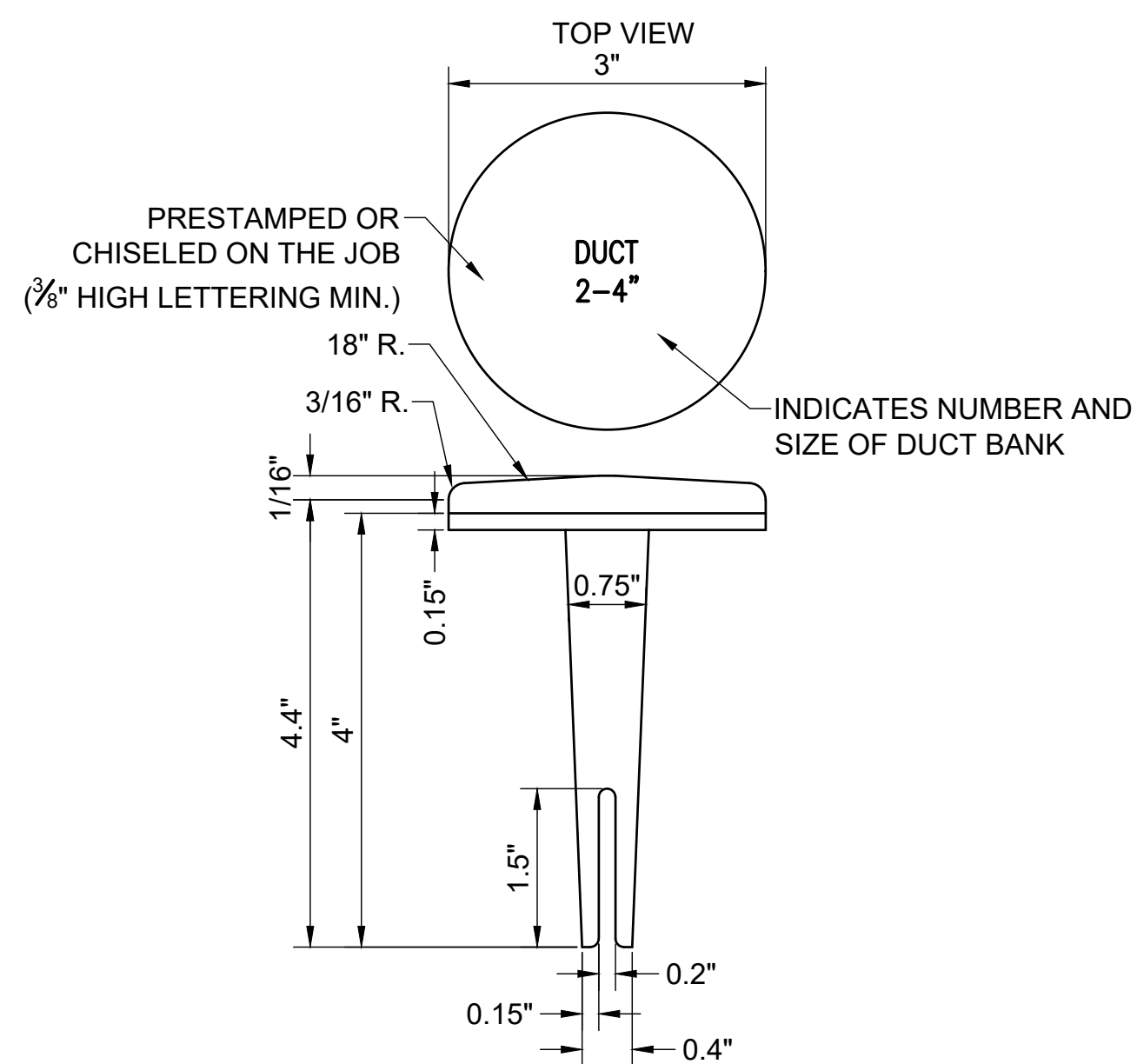
TURF SPLICE MARKERS
"NOT TO SCALE"



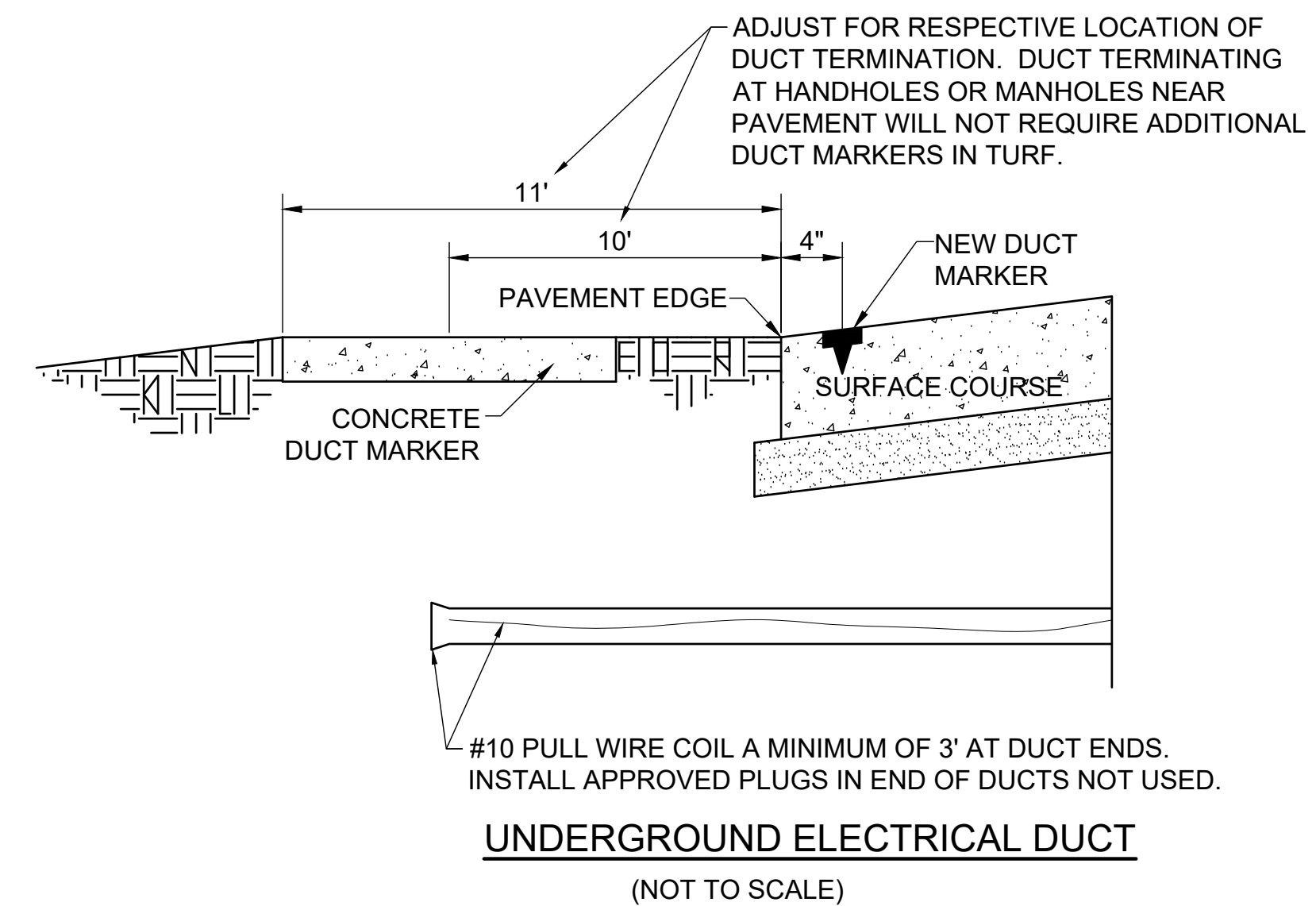
TURF DUCT MARKERS
"NOT TO SCALE"



TURF CABLE MARKERS
"NOT TO SCALE"



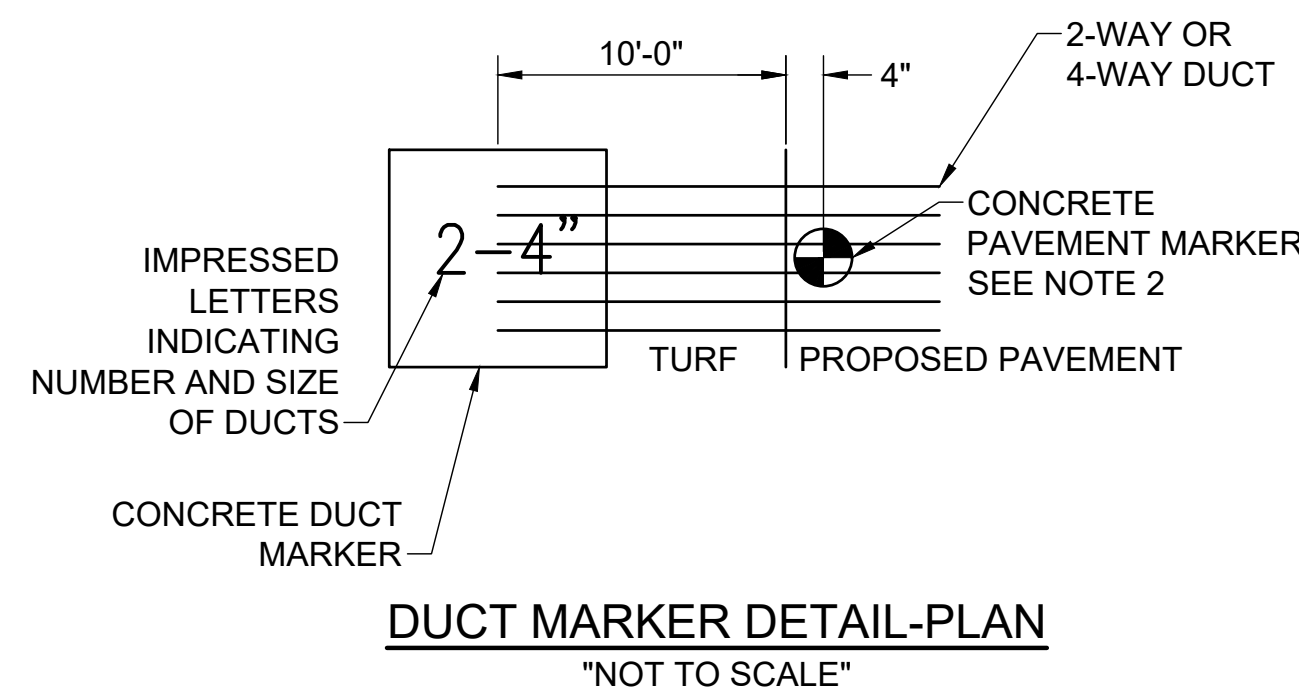
BITUMINOUS PAVEMENT DUCT MARKERS
"NOT TO SCALE"



UNDERGROUND ELECTRICAL DUCT
(NOT TO SCALE)

NOTE:

1. TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE
2. 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"

CABLE & DUCT MARKER NOTES:

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

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-504-DETL.DWG

DESIGN BY: KNL 7/3/2024

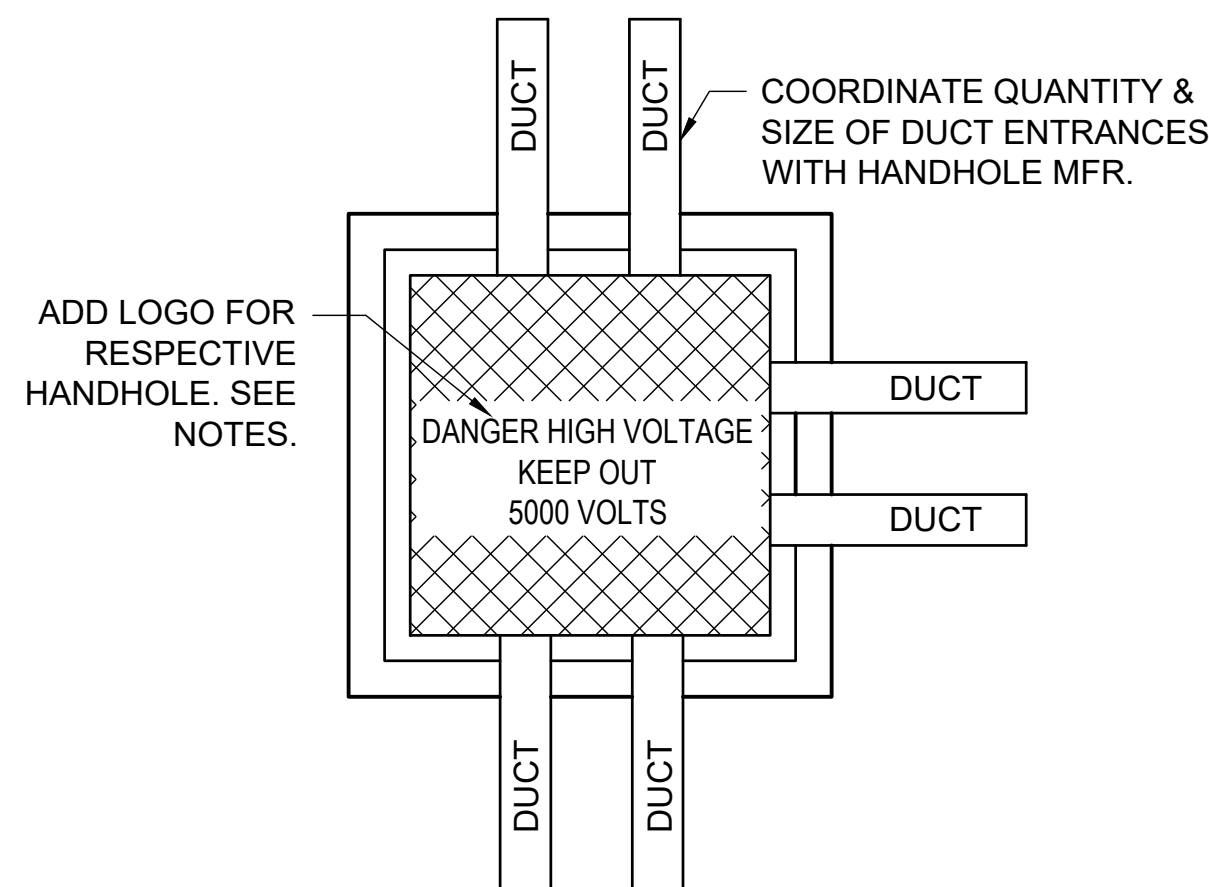
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REVIEWED BY: LDH 10/24/2024

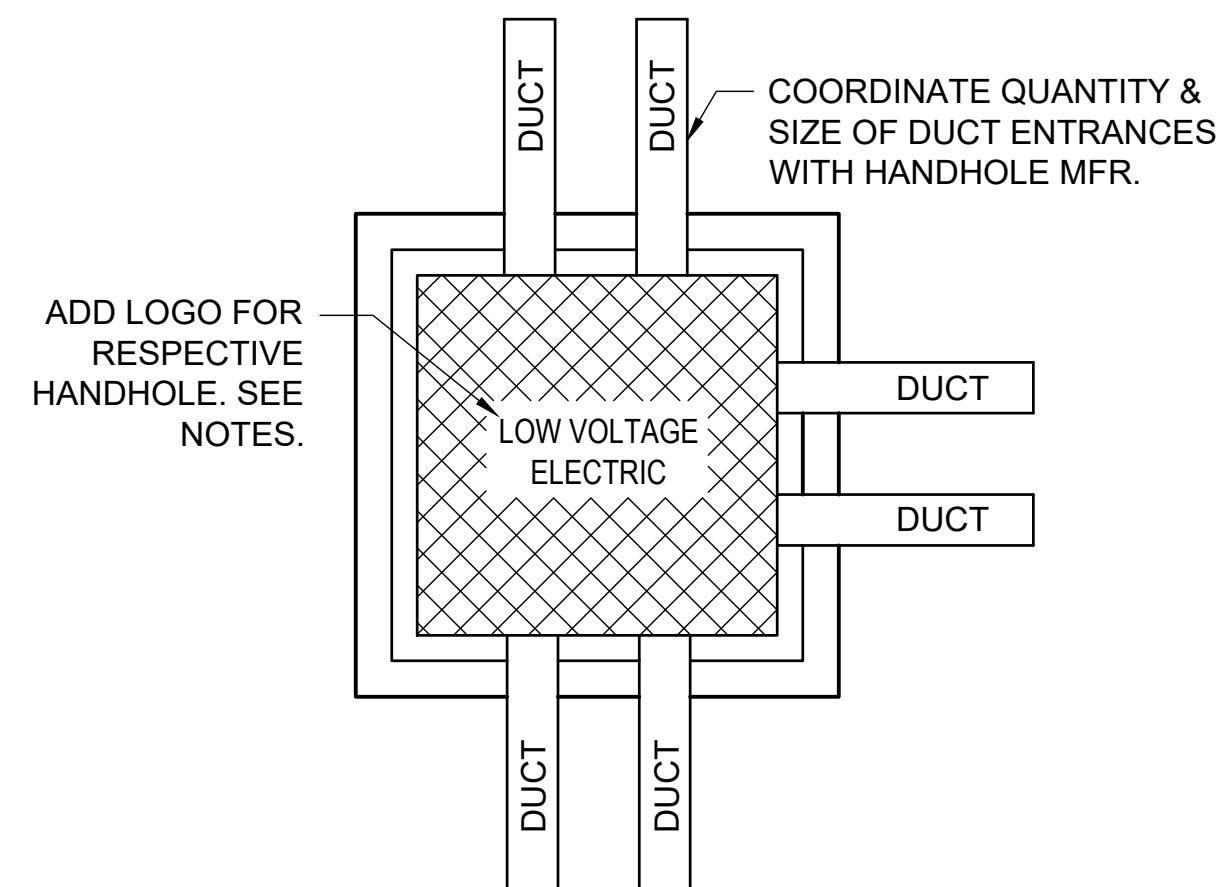
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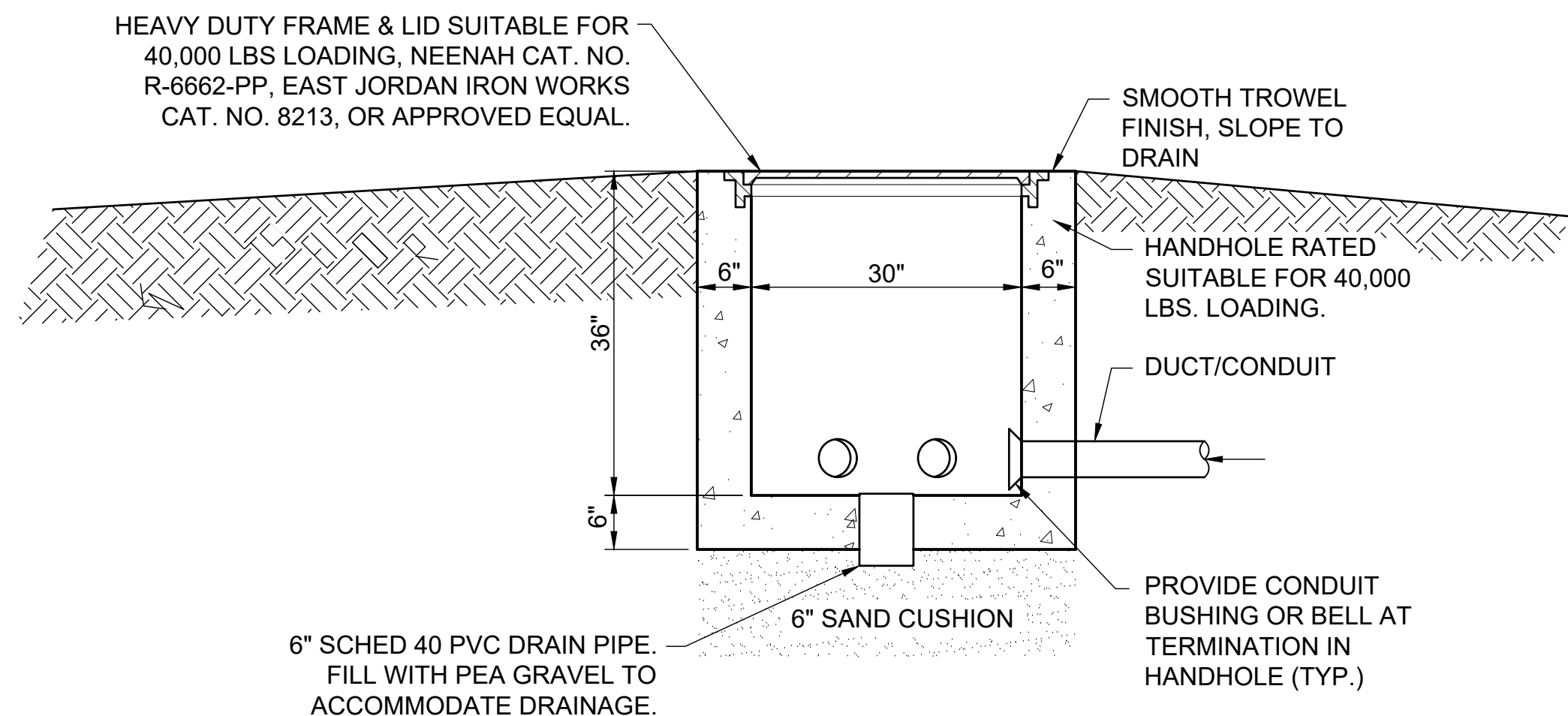
CABLE AND DUCT MARKER DETAILS



HIGH VOLTAGE HANDHOLE PLAN
"NOT TO SCALE"



LOW VOLTAGE HANDHOLE PLAN
"NOT TO SCALE"

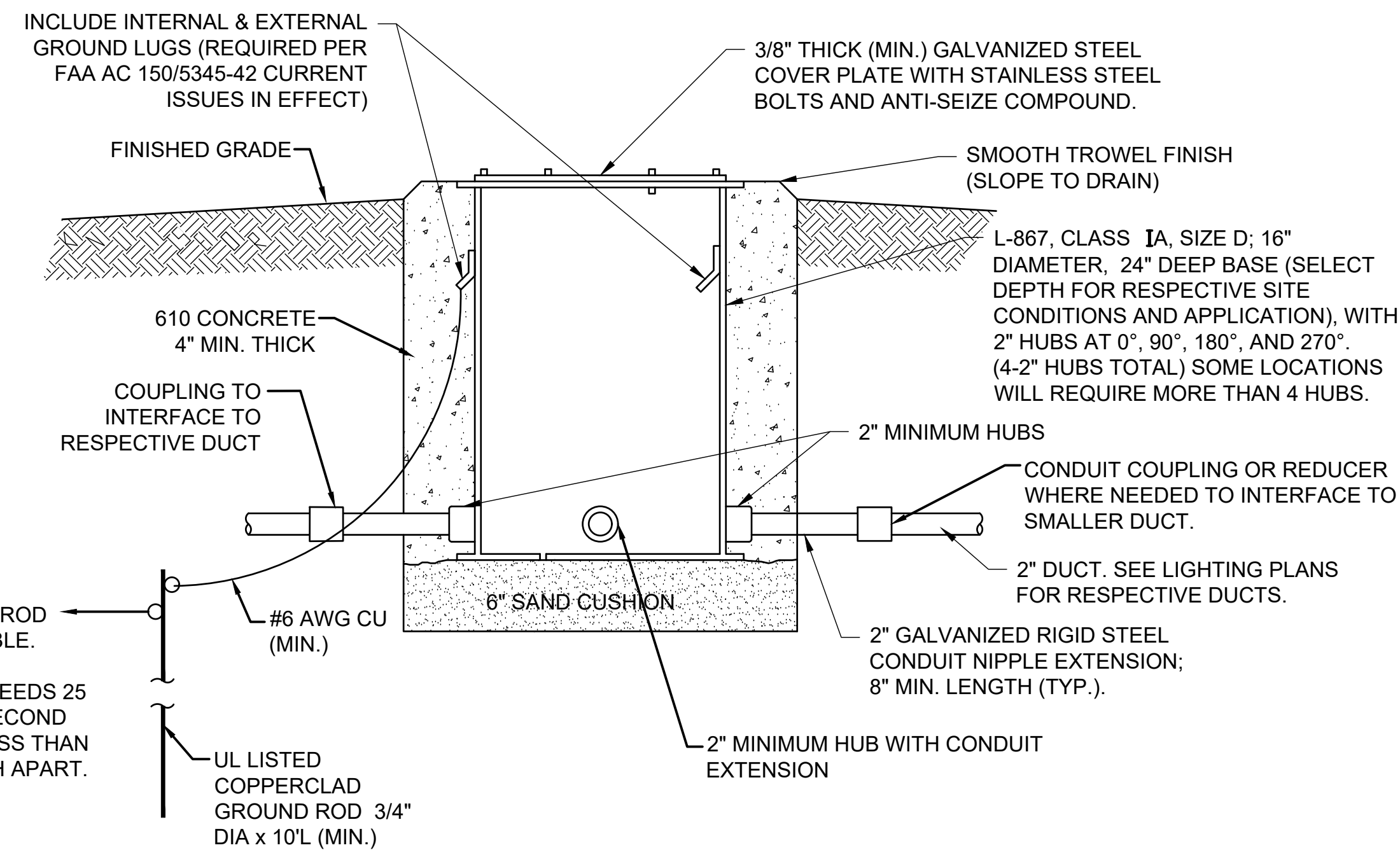


ELEVATION
"NOT TO SCALE"

HANDHOLE NOTES:

- LIDS FOR LOW VOLTAGE HANDHOLES (CONTAINING CIRCUITS RATED 600 VOLTS AND BELOW) SHALL BE LABELED "LOW VOLTAGE" OR "0V - 600V ELECTRIC". LIDS FOR HIGH VOLTAGE HANDHOLES CONTAINING AIRFIELD LIGHTING SERIES CIRCUIT WIRING SHALL BE LABELED "DANGER HIGH VOLTAGE KEEP OUT 5000 VOLTS" TO COMPLY WITH 2023 NEC ARTICLE 305.12 "WARNING SIGNS", NEC ARTICLE 314.30 "HANDHOLE ENCLOSURES" (D) "COVERS" AND NEC ARTICLE 314.72 (E) "SUITABLE COVERS". COORDINATE LETTERING WITH MFR. HANDHOLES PROVIDED WITH THE WRONG LIDS SHALL HAVE THE LIDS REPLACED WITH THE CORRECT LIDS AT NO ADDITIONAL COST TO THE CONTRACT.
- ELECTRICAL HANDHOLE, FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 40,000 POUND LOADS.
- REINFORCEMENT SHALL BE #6 BARS AT 6" CENTERS BASE & WALLS EACH WAY.
- CONCRETE SHALL BE 5000 PSI AT 28 DAYS.
- HANDHOLES SHALL BE PRECAST. PRECAST MANUFACTURER MUST BE ON THE IDOT (ILLINOIS DEPARTMENT OF TRANSPORTATION) APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
- FRAMES AND LIDS (CASTINGS) SHALL BE MADE IN THE USA TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCES REQUIREMENTS.
- COORDINATE INSTALLATION OF HANDHOLES WITH RESPECTIVE FINISHED GRADE ELEVATION.
- ALL CORING, INTERFACE, AND LABOR ASSOCIATED WITH CONDUIT, DUCT, CABLE IN UNIT DUCT, AND/OR CABLE ENTRIES WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE HANDHOLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- HANDHOLES WITH SIMILAR DIMENSIONS MEETING STRENGTH AND LOADING REQUIREMENTS WILL BE CONSIDERED.

ELECTRICAL HANDHOLE
"NOT TO SCALE"



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.

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-505-DETL.DWG

DESIGN BY: KNL 7/3/2024

DRAWN BY: CWS ----

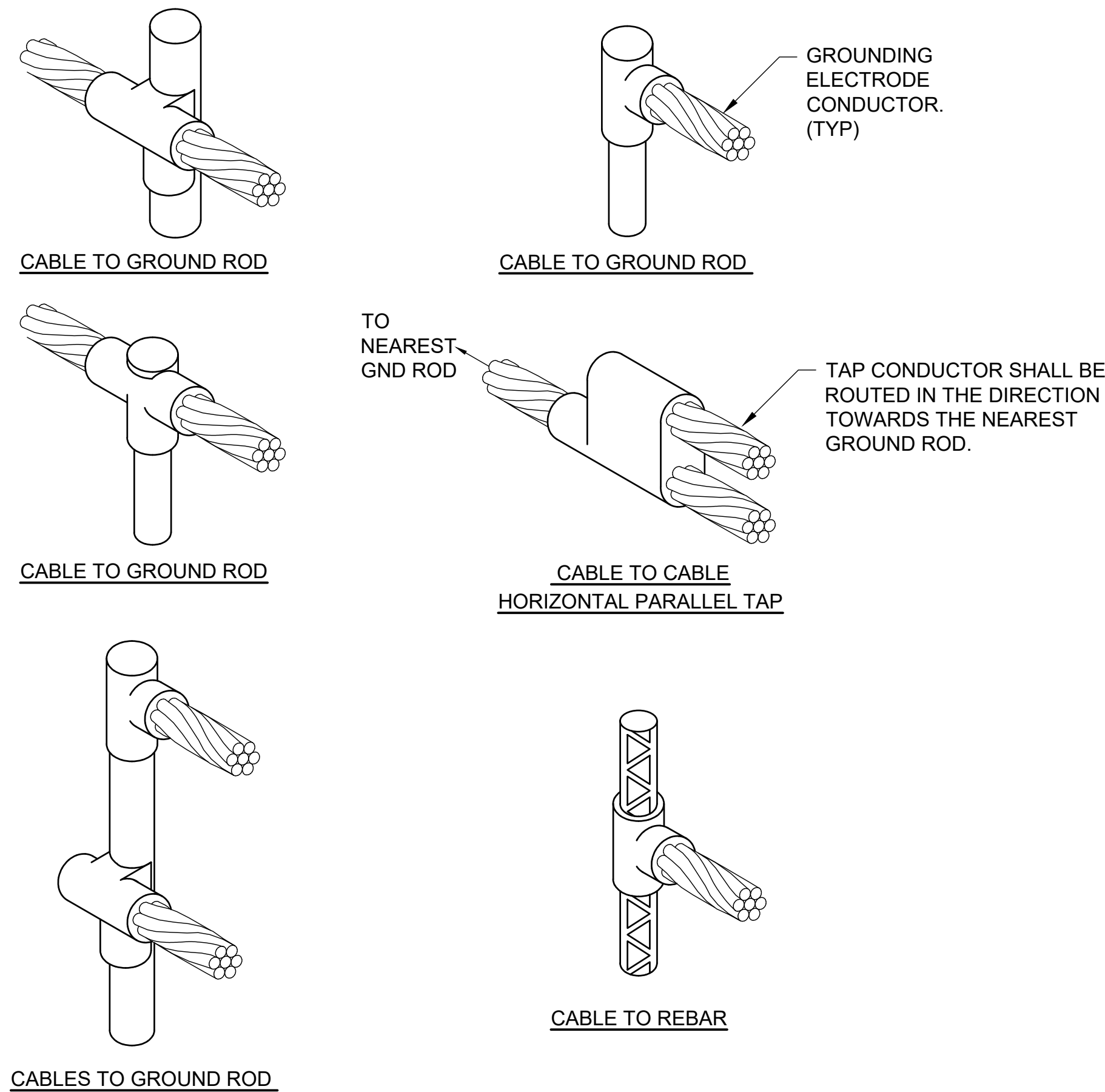
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SHEET TITLE

HANDHOLE AND SPLICE CAN DETAILS

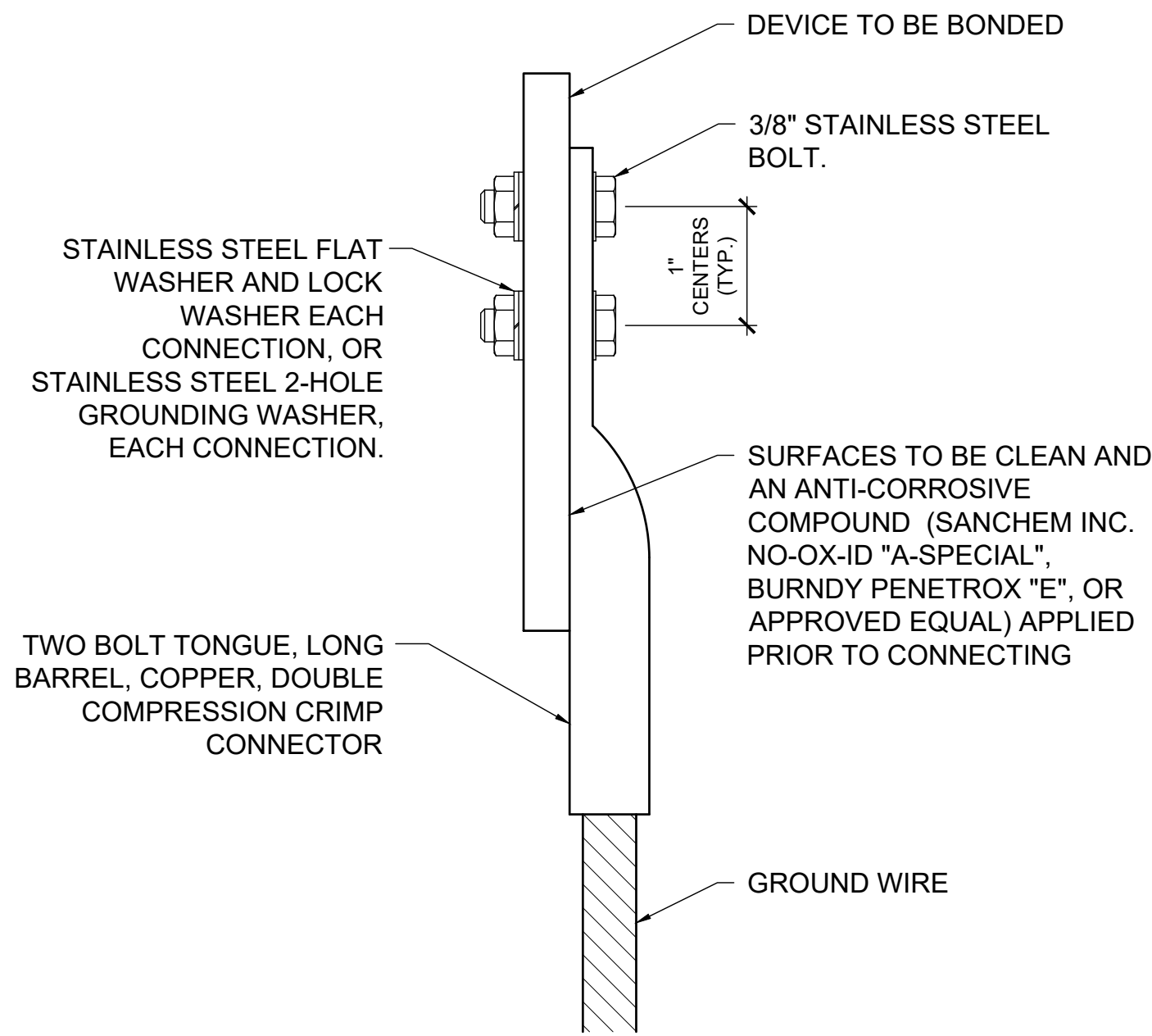
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DETAIL NOTES

- KNOWLEDGEABLE AND QUALIFIED PERSONNEL SHALL PERFORM EXOTHERMIC WELD CONNECTIONS TO ENSURE GOOD, SAFE, & RELIABLE CONNECTIONS. ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY PENTAIR ERICO PRODUCTS, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 80 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A GROUND CONDUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF MAGNETIC MATERIAL. THIS RING COULD BE A METALLIC CONDUIT, U-BOLT OR STRUT SUPPORT PIPE CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING GROUND CONDUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF THE GROUND CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF RESISTANCE THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE IN THE IMPEDANCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY MITIGATE RADIO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION WHERE A GROUND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN PHENOMENA KNOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING IS A RESULT OF VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS FOR A SHORT DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT LIGHTNING FREQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER AND FREQUENCY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND CONDUCTOR MUST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A LOW INDUCTIVE IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE PATH.
- ALL APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, SHALL REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.

EXOTHERMIC WELD DETAILS

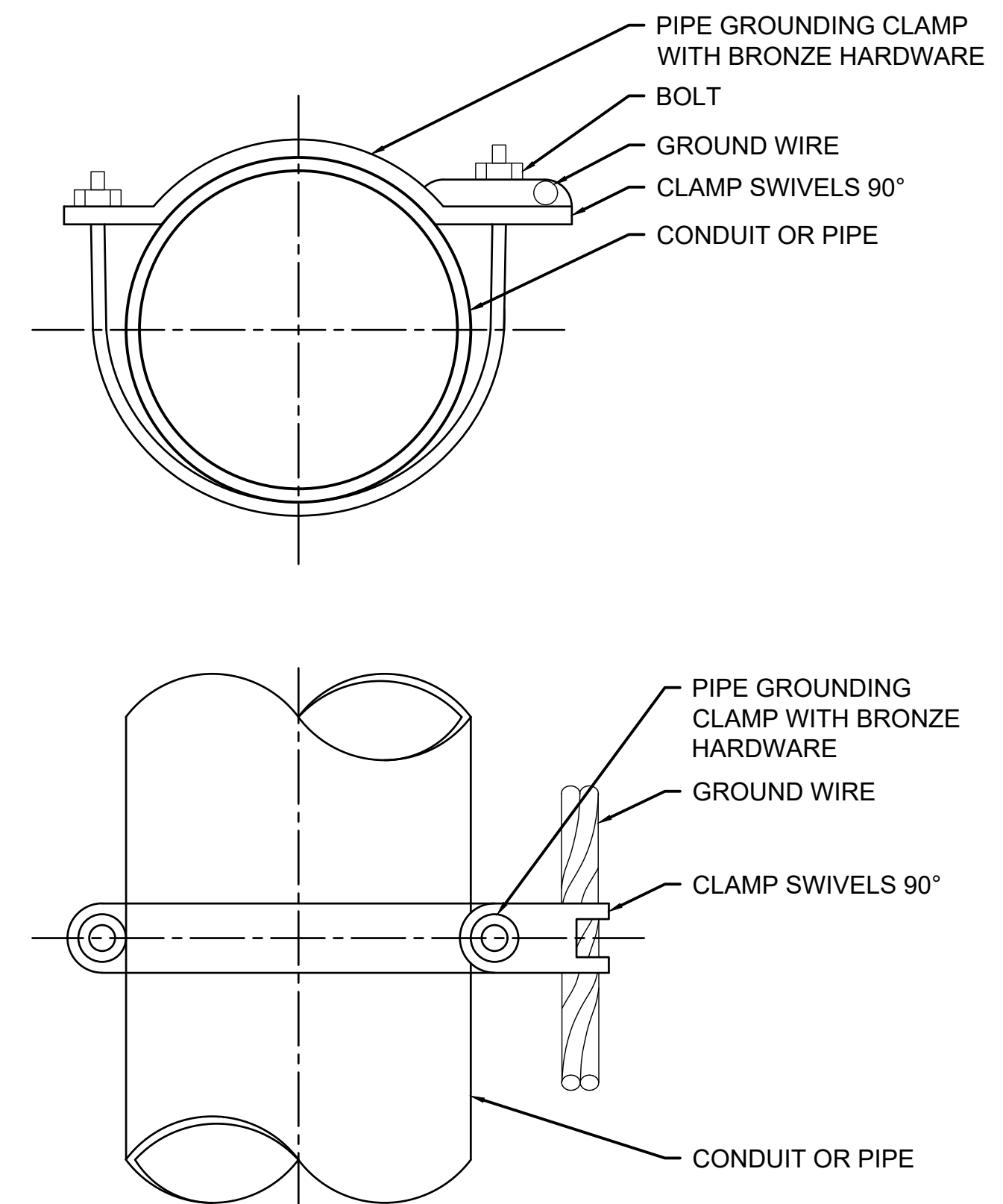


WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1	(CONTACT MFR)	(CONTACT MFR)
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	BBLU-3D-2TC38
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/0D-2TC38
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38

NOTES

- IT IS IMPORTANT TO HAVE GOOD SECURE GROUND CONNECTIONS THAT WILL WITHSTAND WEATHER CONDITIONS AND MAINTAIN CONTINUITY TO GROUND. OFTEN WEATHER CONDITIONS CAN AFFECT GROUNDING CONNECTIONS THAT RESULT IN LOOSE CONNECTIONS AND UNSAFE CONDITIONS.
- SAFETY OF PERSONNEL IS THE PRIORITY. PROTECTION OF EQUIPMENT IS SECONDARY. PLEASE BE AWARE THAT GROUNDING DOES NOT GUARANTEE YOU WILL NOT RECEIVE A SHOCK, BE INJURED, OR KILLED FROM DEFECTIVE OR DAMAGED EQUIPMENT OR MATERIALS. PROPER GROUNDING WILL HOWEVER SIGNIFICANTLY REDUCE THE POSSIBILITY OF SHOCK, INJURY, OR DEATH. PLEASE FOCUS ON SAFETY OF PERSONNEL AT ALL TIMES
- THE GROUND WIRE CONNECTIONS TO EQUIPMENT LOCATED ABOVE GRADE, SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE WITH 3/8-INCH STAINLESS STEEL BOLTS, NUTS, AND WASHERS OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE. THIS ALSO APPLIES TO CONNECTIONS TO GROUND BUS BARS.
- HARGER LIGHTNING PROTECTION AND GROUNDING EQUIPMENT ALSO MANUFACTURERS TWO HOLE LONG BARREL COMPRESSION LUGS.
- EACH CONNECTION SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR APPROVED EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

GROUNDING LUG CONNECTION DETAIL



BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PIPE SIZE
GAR3902-BU	3902BU	1/2" - 1"
GAR3903-BU	3903BU	1 1/4" - 2"
GAR3904-BU	3904BU	2 1/2" - 3 1/2"
GAR3905-BU	3905BU	4" - 5"
GAR3906-BU	3906BU	6"

NOTES

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

PIPE/CONDUIT GROUNDING CLAMP DETAIL

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

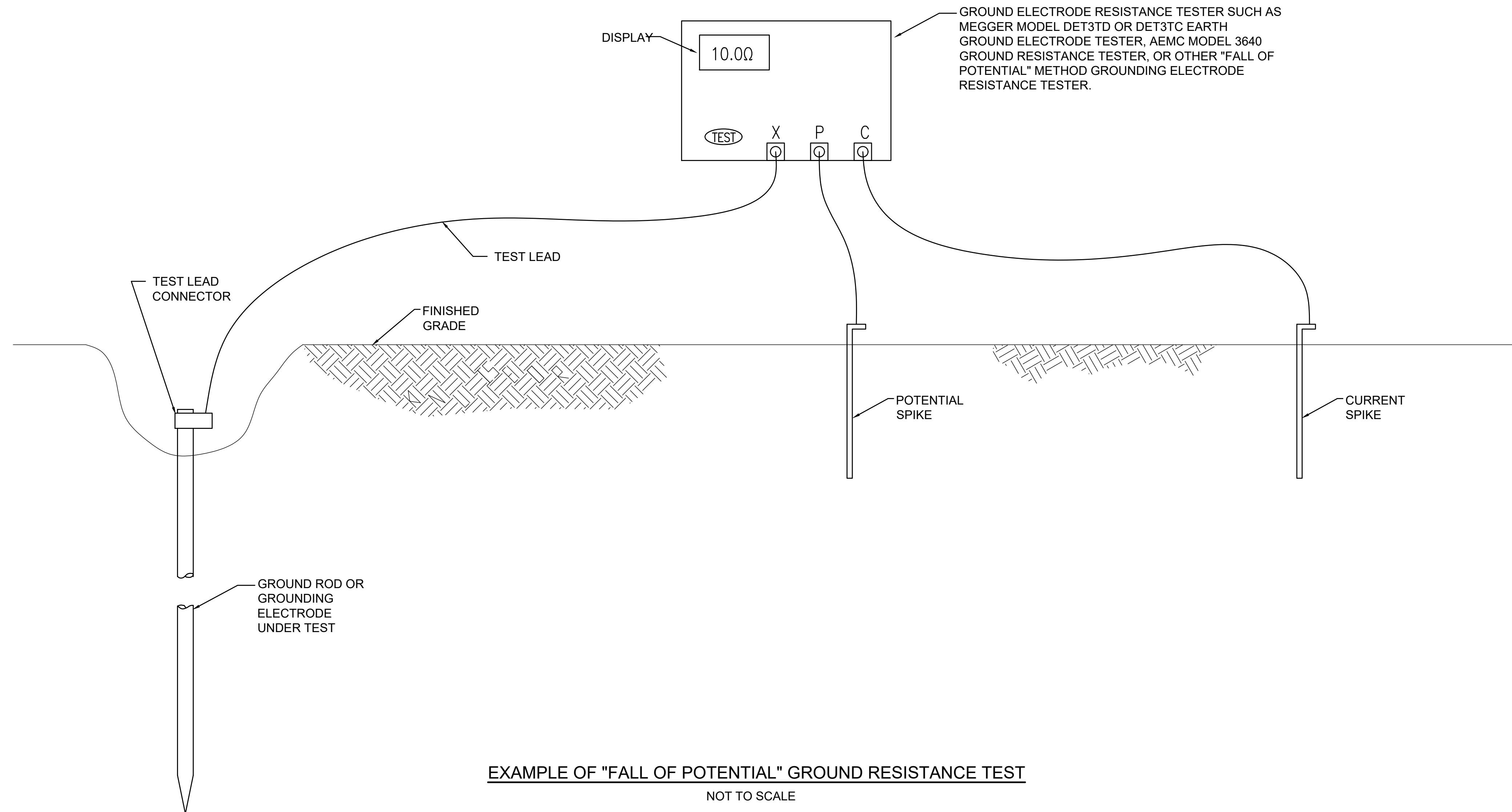
Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-506-DETL.DWG
DESIGN BY: KNL 6/29/2024
DRAWN BY: CWS 7/26/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

GROUNDING DETAILS

FOR BID



EXAMPLE OF "FALL OF POTENTIAL" GROUND RESISTANCE TEST

NOT TO SCALE

NOTES

1. 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.
2. 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.
3. GROUND RESISTANCE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE RESPECTIVE GROUND ELECTRODE RESISTANCE TESTING EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
4. RECORD SITE CONDITIONS DURING TESTS.
5. "FALL OF POTENTIAL" TYPE GROUND ELECTRODE RESISTANCE TESTER IS RECOMMENDED FOR TESTING INDIVIDUAL STAND ALONE GROUND RODS.

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-507-DETL.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/26/2024

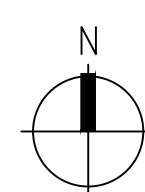
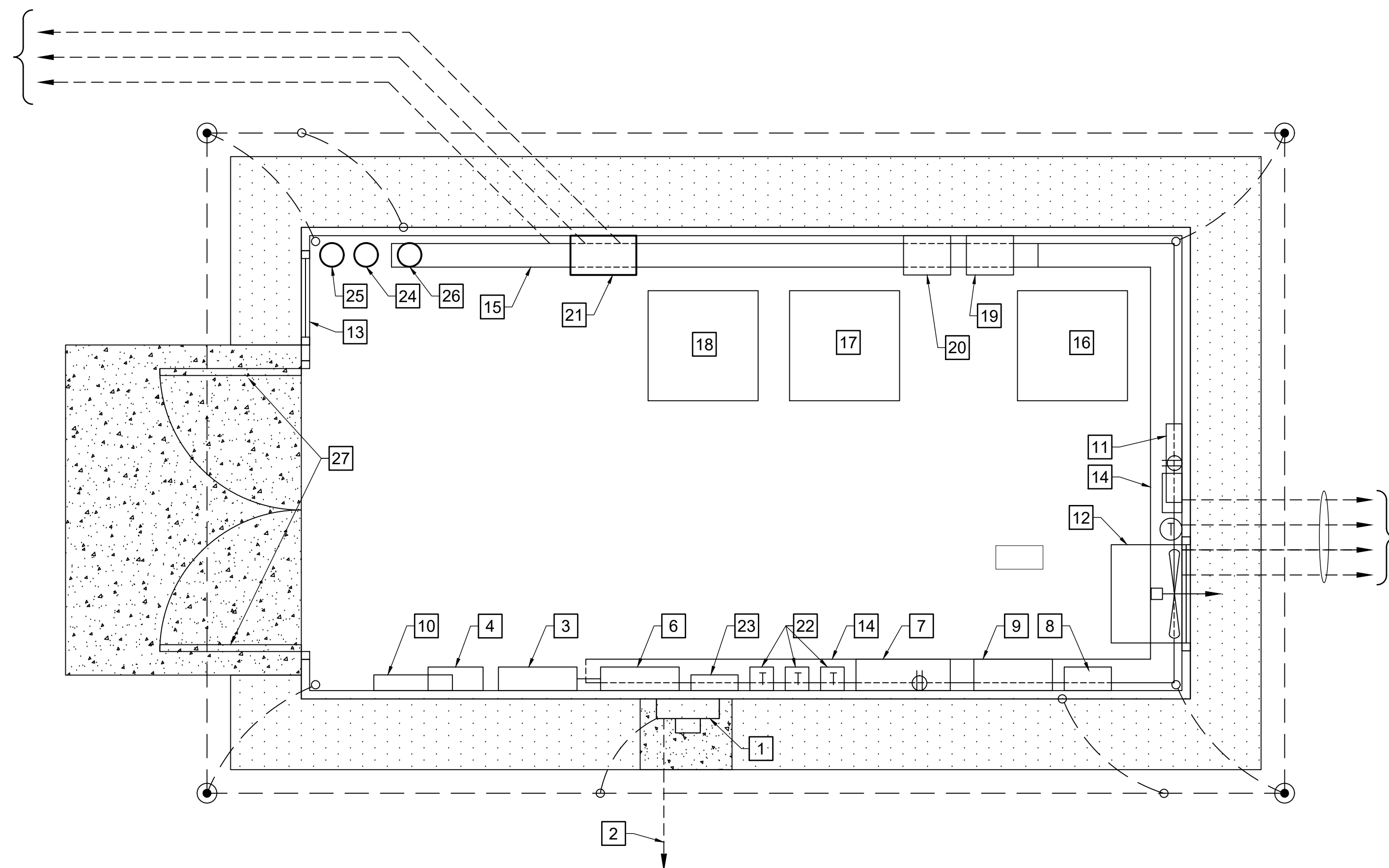
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SHEET TITLE

GROUND RESISTANCE TESTING DETAILS

FOR BID



VAULT ELECTRICAL EQUIPMENT PLAN

SCALE 1/2"=1'-0"
1 0 2 4 FEET

KEYED NOTES

- 1 EXISTING ELECTRIC UTILITY METER .
- 2 EXISTING UNDERGROUND ELECTRIC SERVICE.
- 3 EXISTING SERVICE PANEL A.
- 4 EXISTING AC SURGE PROTECTOR/TVSS
- 5 (RESERVED).
- 6 EXISTING PANEL B.
- 7 EXISTING LIGHTING CONTACTOR PANEL.
- 8 EXISTING L-854 RADIO CONTROL UNIT.
- 9 EXISTING RADIO RELAY INTERFACE PANEL.
- 10 EXISTING ELECTRIC WALL HEATER EH-1.
- 11 EXISTING ELECTRIC WALL HEATER EH-2.
- 12 EXISTING EXHAUST FAN EF-1.
- 13 EXISTING INTAKE LOUVER L-1.
- 14 EXISTING 6" BY 6" LOW VOLTAGE WIREWAY.
- 15 EXISTING 6" BY 6" HIGH VOLTAGE WIREWAY.
- 16 EXISTING RUNWAY 1-19 CONSTANT CURRENT REGULATOR.
- 17 EXISTING RUNWAY 9-27 CONSTANT CURRENT REGULATOR.
- 18 **EXISTING TAXIWAY CONSTANT CURRENT REGULATOR. TAXIWAY CCR OUTPUT TO BE REWIRED FOR TWO SERIES CKTS; TAXIWAY "A" & TAXIWAY "B".**
- 19 EXISTING SERIES PLUG CUTOUT TYPE S-1 WITH ENCLOSURE FOR RWY 1-19.
- 20 EXISTING SERIES PLUG CUTOUT TYPE S-1 WITH ENCLOSURE FOR RWY 9-27 .
- 21 **EXISTING SERIES PLUG CUTOUT TYPE S-1 WITH ENCLOSURE FOR TAXIWAYS TO BE REPLACED WITH TWO TYPE S-1 SERIES PLUG CUTOUTS IN A NEW ENCLOSURE.**
- 22 EXISTING BOOST TRANSFORMERS.
- 23 EXISTING LOCKOUT STATION.
- 24 EXISTING DRY CHEMICAL ABC FIRE EXTINGUISHER SUITABLE FOR USE ON CLASS A,B,C FIRES, IN THE VAULT SHELTER. **PROVIDE SIGNAGE OR PLACARD ABOVE FIRE EXTINGUISHER "FOR BUILDING FIRES", TO MEET REQUIREMENTS OF 2022 EDITION OF NFPA 10; STANDARD FOR PORTABLE FIRE EXTINGUISHERS, PARAGRAPH 6.1.1.4.**
- 25 EXISTING UL RATED, 10 POUND CARBON DIOXIDE FIRE EXTINGUISHER SUITABLE FOR USE ON CLASS C FIRES IN THE VAULT SHELTER. **PROVIDE SIGNAGE OR PLACARD ABOVE FIRE EXTINGUISHER "FOR ELECTRICAL FIRES", TO MEET REQUIREMENTS OF 2022 EDITION OF NFPA 10; STANDARD FOR PORTABLE FIRE EXTINGUISHERS, PARAGRAPH 6.1.1.4.**
- 26 **PROVIDE A NEW FIRE EXTINGUISHER 10LB UL RATING 1A:10B:C HALOTRON FIRE EXTINGUISHER. PROVIDE SIGNAGE OR PLACARD ABOVE FIRE EXTINGUISHER "FOR ELECTRICAL FIRES", TO MEET REQUIREMENTS OF 2022 EDITION OF NFPA 10; STANDARD FOR PORTABLE FIRE EXTINGUISHERS, PARAGRAPH 6.1.1.4.**
- 27 **PROVIDE PLACARD ON EACH VAULT DOOR INTERIOR LABELED "STOP - CHECK EACH CCR TO MAKE SURE THEY ARE IN THE PROPER OPERATING MODE BEFORE LEAVING".**

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS WITH THE AIRPORT DIRECTOR/MANAGER AND THE RESIDENT PROJECT REPRESENTATIVE. AND SHUTDOWN OF EXISTING SYSTEMS SHALL BE SCHEDULED WITH AND APPROVED BY THE AIRPORT MANAGER PRIOR TO SHUTDOWN. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT). FAILURE TO SHUT DOWN AND LOCKOUT THE RESPECTIVE CIRCUIT(S) PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THE SYSTEM.
2. 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. ONLY QUALIFIED ELECTRICAL CONTRACTORS SHALL PERFORM ELECTRICAL WORK ON THIS PROJECT. NEC DEFINES A QUALIFIED PERSON AS FOLLOWS: "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED".
3. CONTRACTOR SHALL EXAMINE THE SITE TO CONFIRM AND FIELD VERIFY EXISTING SITE CONDITIONS.
4. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
5. EACH ACTIVE CCR SERVING THE RESPECTIVE WORK AREAS OF THE PROJECT, SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, ADDITIONS AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS AND AGAIN AFTER THE AIRFIELD LIGHTING REPLACEMENTS AND VAULT ADDITIONS HAVE BEEN COMPLETED. CONTRACTOR SHALL TEST AND RECORD THE INPUT CURRENT AND OUTPUT CURRENT FOR EACH CONSTANT CURRENT REGULATOR IN THE AUTOMATIC AND MANUAL MODES OF OPERATION. CONTRACTOR SHALL REPORT CONCERNS AND/OR DEFICIENCIES TO THE PROJECT ENGINEER OF RECORD.

REPLACE TAXIWAY
AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION
		LAY DWN REV
8/22/2024		

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-101.DWG

DESIGN BY: KNL 7/3/2024

DRAWN BY: CWS 8/22/2024

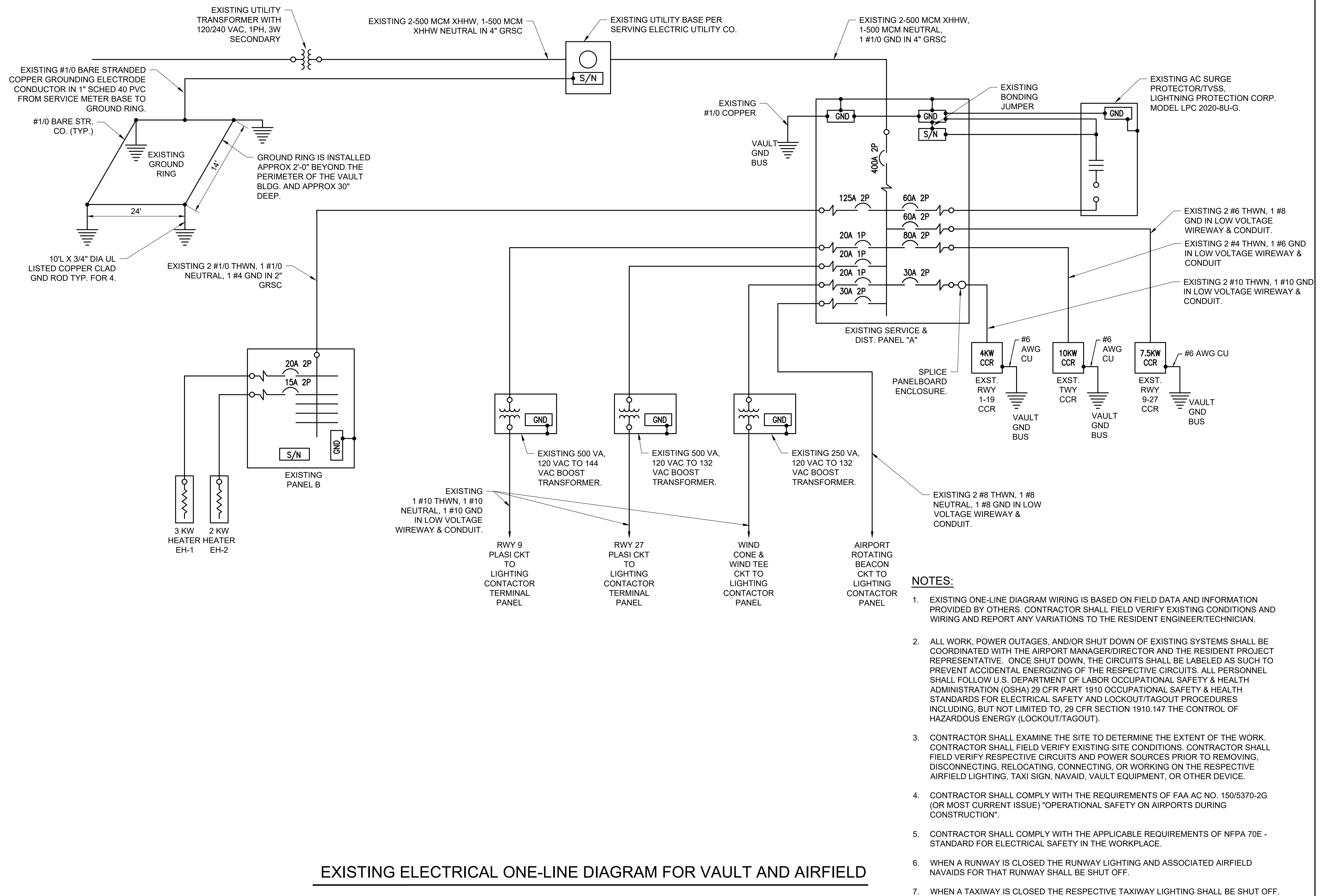
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SHEET TITLE

AIRPORT
ELECTRICAL VAULT
EQUIPMENT PLAN

FOR BID



NOTES:

- EXISTING ONE-LINE DIAGRAM WIRING IS BASED ON FIELD DATA AND INFORMATION PROVIDED BY OTHERS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND WIRING AND REPORT ANY VARIATIONS TO THE RESIDENT ENGINEER/TECHNICIAN.
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER/DIRECTOR AND THE RESIDENT PROJECT 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 EXAMINE THE SITE TO DETERMINE THE EXTENT OF THE WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, RELOCATING, CONNECTING, OR WORKING ON THE RESPECTIVE AIRFIELD LIGHTING, TAXI SIGN, NAVAID, 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.
- 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.

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REPLACE TAXIWAY
AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-601.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/26/2024

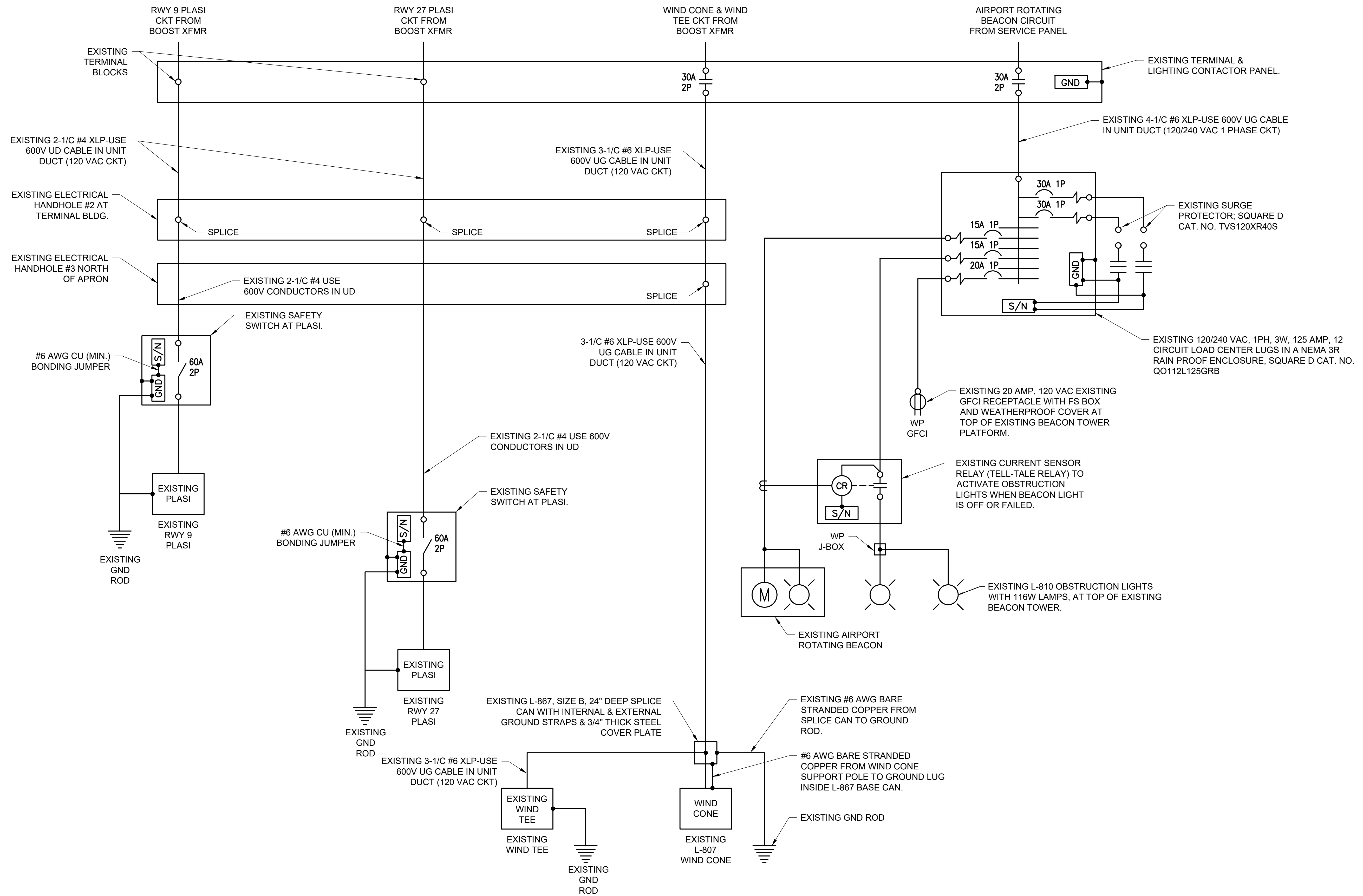
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SHEET TITLE

EXISTING ONE-LINE
DIAGRAM FOR VAULT
AND AIRFIELD

FOR BID



EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD (CONTINUED)

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

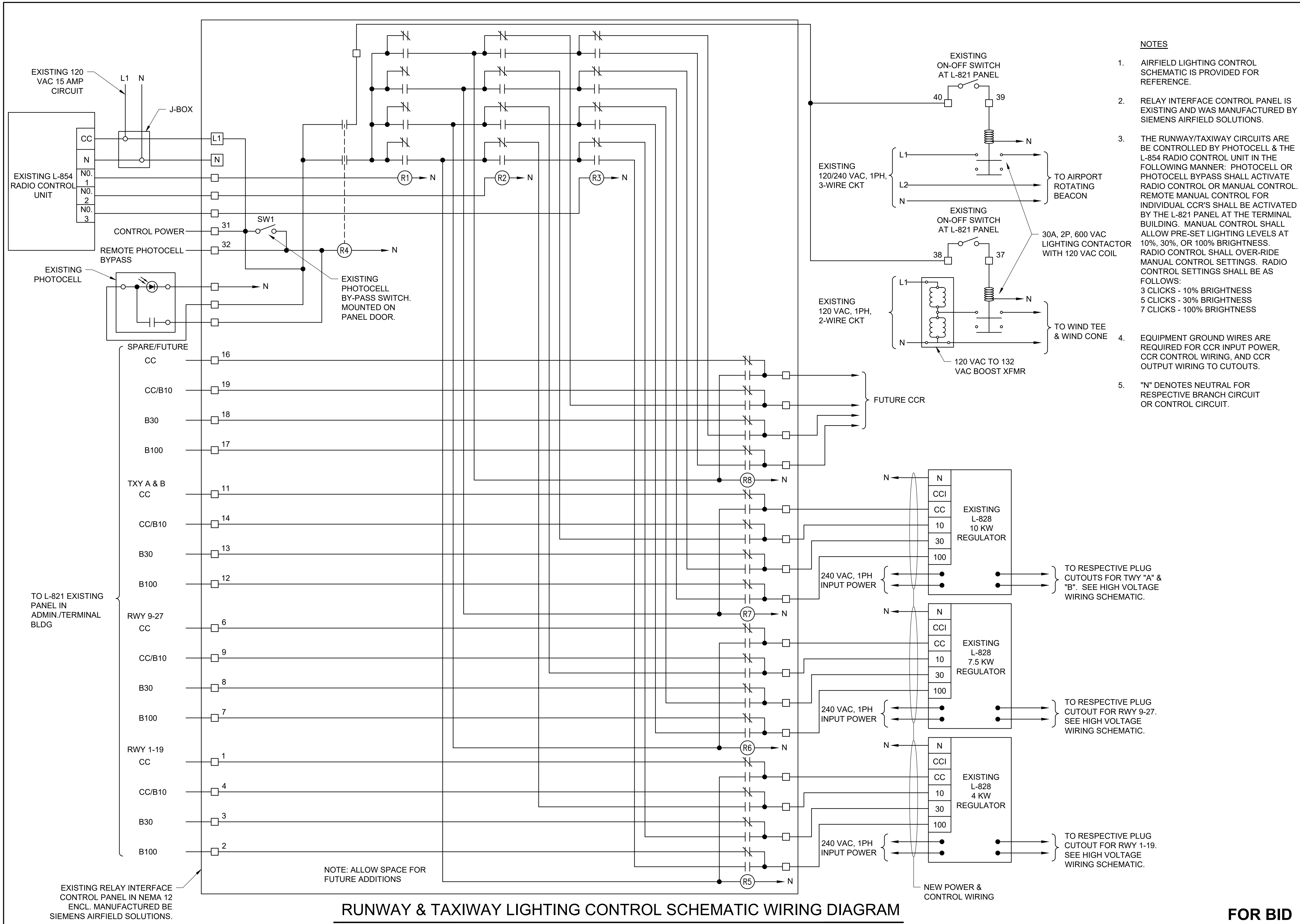
SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-601.DWG
DESIGN BY: KNL 6/29/2024
DRAWN BY: CWS 7/26/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

EXISTING ONE-LINE
DIAGRAM FOR VAULT
AND AIRFIELD
(CONTINUED)



RUNWAY & TAXIWAY LIGHTING CONTROL SCHEMATIC WIRING DIAGRAM

FOR BID

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024
PROJECT NO: 23A1040D
CAD FILE: E-602.DWG
DESIGN BY: KNL 6/29/2024
DRAWN BY: CWS 7/29/2024
REVIEWED BY: LDH 10/24/2024
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SHEET TITLE

AIRFIELD LIGHTING CONTROL SCHEMATIC

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REPLACE TAXIWAY
AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-602.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/29/2024

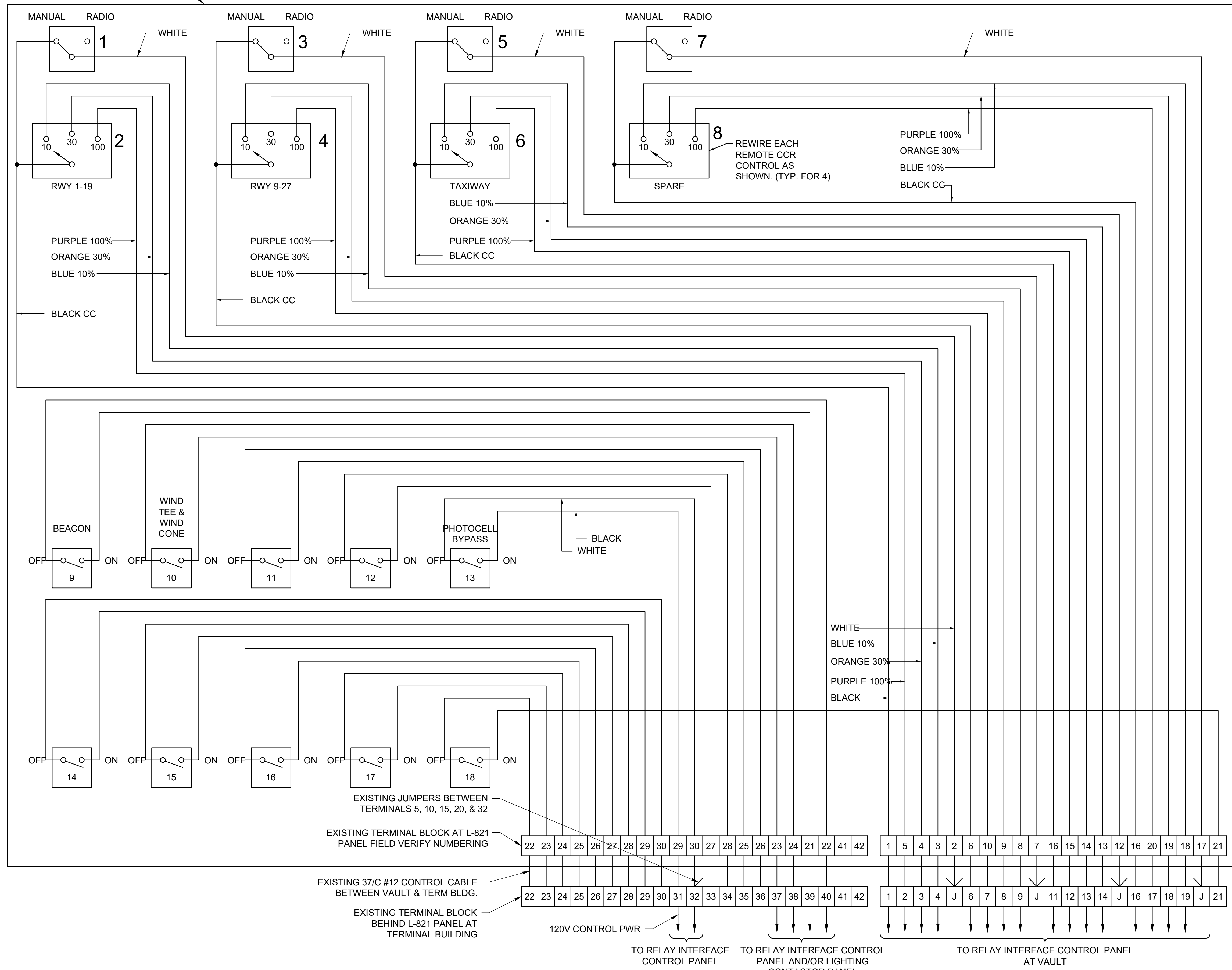
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SHEET TITLE

AIRFIELD LIGHTING
CONTROL
SCHEMATIC
(CONTINUED)

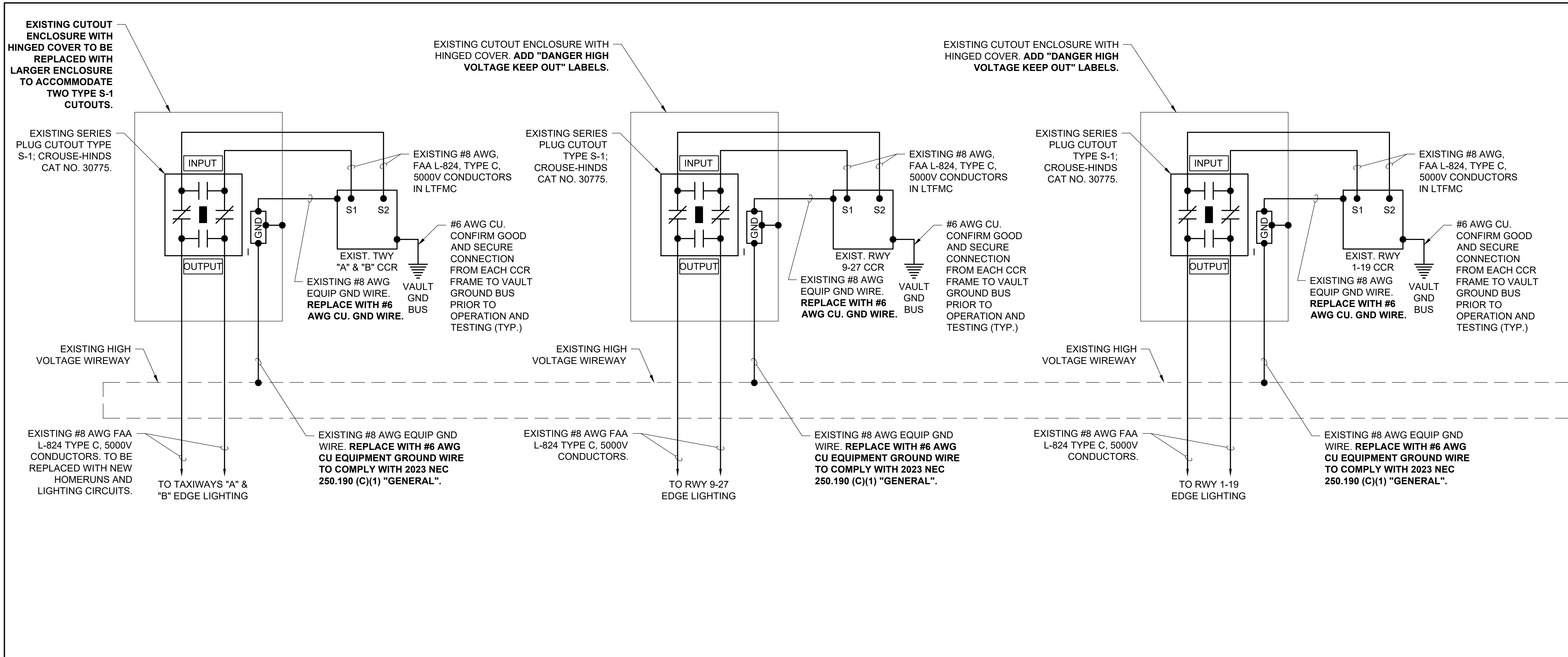
EXISTING L-821 PANEL AT TERMINAL BUILDING MANUFACTURED BY UNIVERSE.



RUNWAY & TAXIWAY LIGHTING CONTROL SCHEMATIC WIRING DIAGRAM

FOR BID

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EXISTING HIGH VOLTAGE WIRING SCHEMATIC

NOTES:

- KEEP ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS COORDINATED WITH THE AIRPORT MANAGER/DIRECTOR AND RESIDENT ENGINEER/TECHNICIAN. 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).
- EXAMINE THE SITE TO CONFIRM AND FIELD VERIFY EXISTING SITE CONDITIONS.
- VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES FOR RESPECTIVE SYSTEMS PRIOR TO REMOVING, DISCONNECTING, WORKING ON, RELOCATING, RECONNECTING, AND/OR INSTALLING THE RESPECTIVE AIRFIELD LIGHTING, TAXI SIGN, NAVAID, OR OTHER DEVICES. THE CONTRACTOR WILL NEED TO EXERCISE CAUTION WHEN WORKING IN THE VAULT AND ON THE AIRFIELD. CONTRACTOR SHALL REPORT ANY VARIATIONS, DEFICIENCIES, AND/OR APPARENT SAFETY CONCERNS TO THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT AND THE RESIDENT ENGINEER. CONTRACTOR SHALL FOLLOW LOCKOUT/TAGOUT PROCEDURES FOR SAFETY OF PERSONNEL.
- IDENTIFY EACH RESPECTIVE CIRCUIT PRIOR TO PERFORMING WORK ON THAT CIRCUIT.
- NEVER PULL A CUTOUT OR DISCONNECT AN L-823 CABLE CONNECTION WITH THE CIRCUIT ENERGIZED. SHUTOFF CIRCUITS PRIOR TO PULLING A SERIES PLUG CUTOUT OR DISCONNECTING A CABLE.
- 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. 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 RECOGNIZED AND AVOID THE HAZARDS INVOLVED.
- EXERCISE CAUTION, PRACTICE SAFETY, AND DISCONNECT THE SERIES CIRCUITS FROM THE RESPECTIVE CONSTANT CURRENT REGULATORS, AS APPLICABLE WHEN PERFORMING WORK ON THE AIRFIELD LIGHTING OR WORK THAT MIGHT AFFECT THE AIRFIELD LIGHTING. CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS TO DISCONNECT POWER AND LOCKOUT CIRCUITS FOR PROTECTION OF PERSONNEL.
- OVERSEE AND CONDUCT TESTS FOR AREAS OF WORK WHERE THE RESPECTIVE CIRCUITS MIGHT BE AFFECTED. MEGGER TEST AND RECORD EXISTING SERIES CIRCUITS (WITH A CABLE INSULATION TESTER) PRIOR TO CABLE WORK OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING SYSTEMS, AND AGAIN AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS, UPGRADES AND/OR OTHER WORK HAS BEEN COMPLETED. PROVIDE 5KV INSULATION TESTER FOR 5,000 VOLT SERIES CIRCUIT CABLES. ALSO TEST AND RECORD SERIES CIRCUIT LOOP RESISTANCE WITH AN OHMMETER. PROVIDE COPY OF TEST RESULTS TO THE PROJECT ENGINEER OF RECORD (EOR) WITHIN 5 DAYS OF CONDUCTING TESTS.
- RESPECTIVE CCR'S SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, ADDITIONS AND/OR ANY AIRFIELD WORK THAT MIGHT AFFECT LIGHTING CIRCUITS AND AGAIN AFTER THE AIRFIELD WORK AND ADDITIONS HAVE BEEN COMPLETED. CONTRACTOR SHALL TEST AND RECORD THE INPUT CURRENT AND OUTPUT CURRENT FOR EACH CONSTANT CURRENT REGULATOR IN THE AUTOMATIC AND MANUAL MODES OF OPERATION. PROVIDE A TRUE RMS AMMETER FOR CURRENT MEASUREMENTS. CONTRACTOR SHALL REPORT CONCERNS AND/OR DEFICIENCIES TO THE RESIDENT PROJECT REPRESENTATIVE AND THE ENGINEER OF RECORD (EOR). WRITTEN TEST RESULTS SHALL BE PROVIDED TO THE RESIDENT ENGINEER AND THE PROJECT ENGINEER OF RECORD (EOR).

LEGEND

- "I" DENOTES PLUG CUTOUT WITH PLUG INSERTED
- "P" DENOTES PLUG CUTOUT WITH PLUG PULLED
- DENOTES CONSTANT CURRENT REGULATOR

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-603.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/29/2024

REVIEWED BY: LDH 10/24/2024

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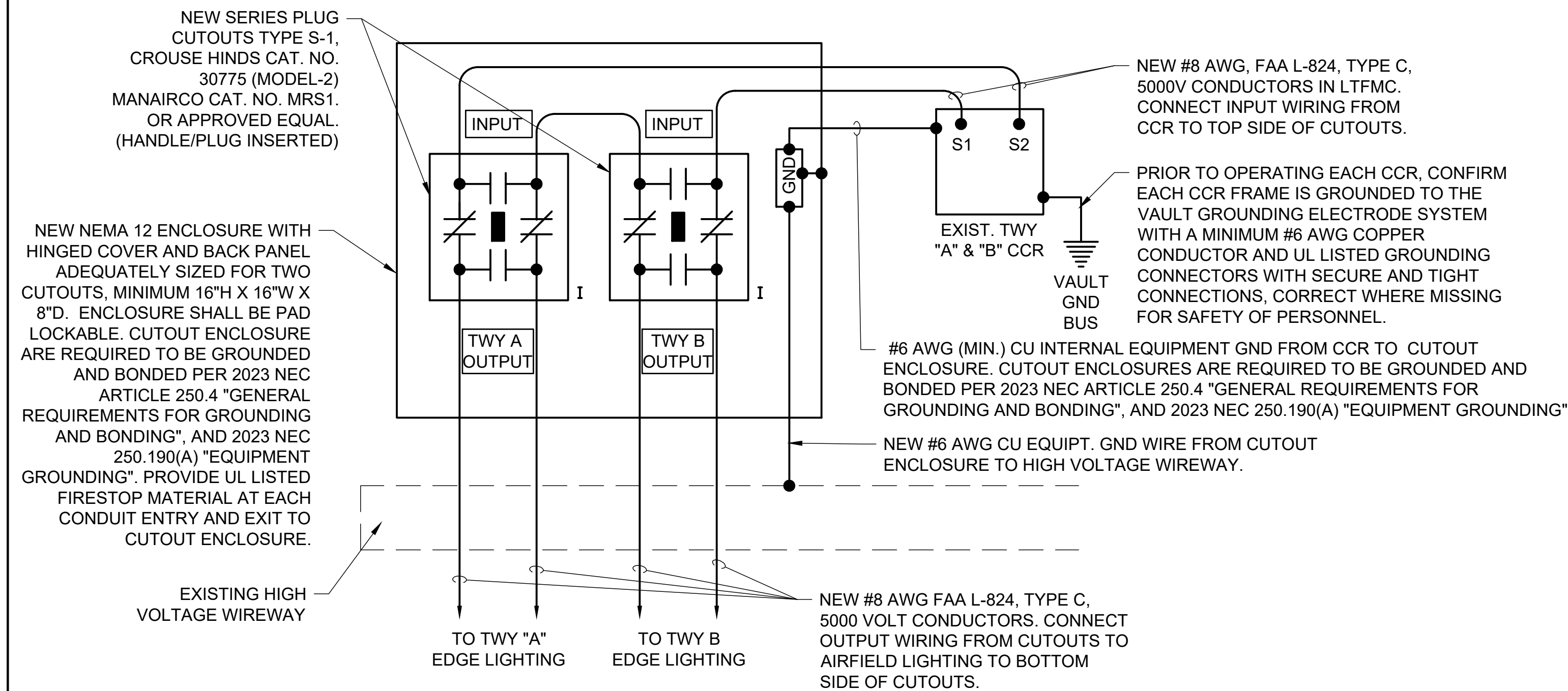
SHEET TITLE

EXISTING HIGH VOLTAGE WIRING SCHEMATICS

FOR BID

NOTES

1. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CONSTANT CURRENT REGULATOR NOTING THE REGULATOR DESIGNATION AND THE RUNWAY AND/OR TAXIWAY SERVED.
2. EACH PLUG CUTOUT CABINET SHALL BE FURNISHED WITH A PHENOLIC ENGRAVED LEGEND PLATE THAT IDENTIFIES THE RESPECTIVE CIRCUIT OR REGULATOR. INCLUDE AN ADDITIONAL LEGEND PLATE LABELED "CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF". FURNISH & INSTALL A WARNING LABEL FOR CUTOUT ENCLOSURE TO WARN PERSONS OF POTENTIAL ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "ARC-FLASH HAZARD WARNING".
3. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT TO IDENTIFY THE RESPECTIVE CUTOUT INPUT CONNECTION AND THE RESPECTIVE CUTOUT OUTPUT CONNECTION.
4. BOND EACH REGULATOR FRAME TO VAULT GROUND BUS WITH A DEDICATED #6 AWG COPPER BONDING JUMPER.
5. PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
6. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING AND SUNLIGHT RESISTANT. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL LISTED. CONFIRM LIQUID TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
7. SERIES PLUG CUTOUTS SHALL BE TYPE S-1, RATED 5000 VOLTS, 20-AMP. SERIES PLUG CUTOUTS SHALL BE RATED SUITABLE FOR NORMAL OPERATION WITH HANDLE REMOVED OR HANDLE INSERTED. CUTOUTS SHALL DISCONNECT THE INPUT FROM THE OUTPUT, SHORT THE INPUT TERMINALS, AND SHORT THE OUTPUT TERMINALS WHEN THE HANDLE/PLUG IS REMOVED. SERIES PLUG CUTOUTS FOR TAXIWAY A AND TAXIWAY B LIGHTING CIRCUITS SHALL BE WIRED TO POWER TWO SEPARATE SERIES LIGHTING CIRCUITS FROM ONE CCR. SERIES CIRCUIT PLUG CUTOUTS SHALL BE SUITABLE FOR NORMAL OPERATION WITH HANDLE PLUG REMOVED TO ACCOMMODATE OPERATING ONE TWY LTG CKT WHILE THE OTHER TWY LTG CKT IS OFF. SERIES PLUG CUTOUTS SHALL BE CROUSE-HINDS CAT. NO. 30775, MANAIRCO CAT. NO. MRS1, HUGHEY & PHILLIPS CAT. NO. MRS1 OR APPROVED EQUAL. THE RESPECTIVE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEIR CUTOUT IS SUITABLE AND RATED FOR THE RESPECTIVE APPLICATION.
8. MAINTAIN SEPARATION OF HIGH VOLTAGE WIRING (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND/OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) FROM LOW VOLTAGE WIRING (RATED 600 VOLTS AND BELOW) TO COMPLY WITH NEC 300.3(C)(2). HIGH VOLTAGE AND LOW VOLTAGE WIRING SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, WIREWAY, PULL BOX, SPLICE CAN, HANDHOLE, OR MANHOLE.
9. LOW VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE LOW VOLTAGE SECTION. HIGH VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE HIGH VOLTAGE SECTION.

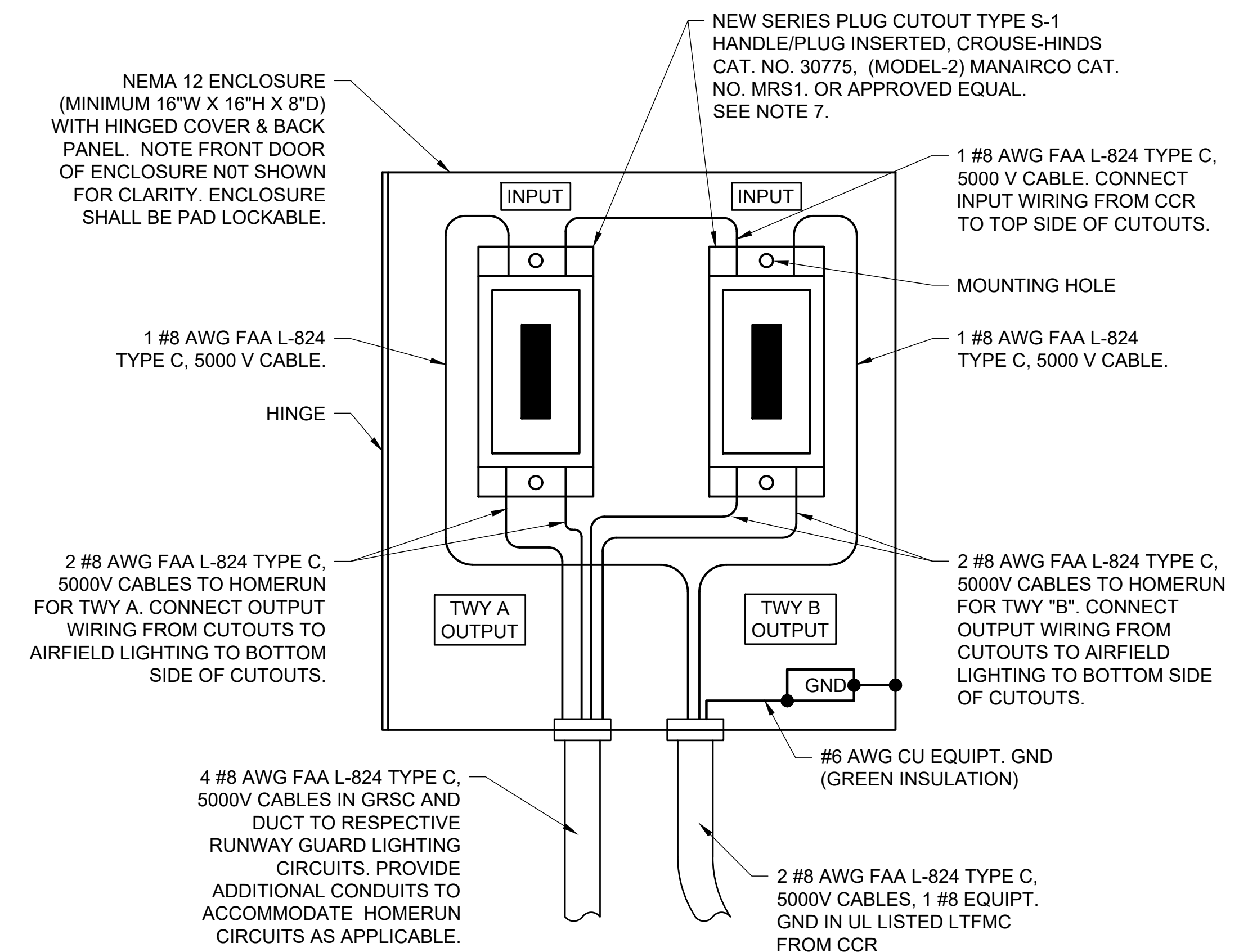


HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS A & B LIGHTING

NOT TO SCALE

LEGEND

- "I" DENOTES PLUG CUTOUT WITH PLUG INSERTED
- "P" DENOTES PLUG CUTOUT WITH PLUG PULLED
- "CCR" DENOTES CONSTANT CURRENT REGULATOR



SERIES PLUG CUTOUT MOUNTING DETAIL FOR TAXIWAY "A" & "B" CIRCUITS

NOT TO SCALE

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-604.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/30/2024

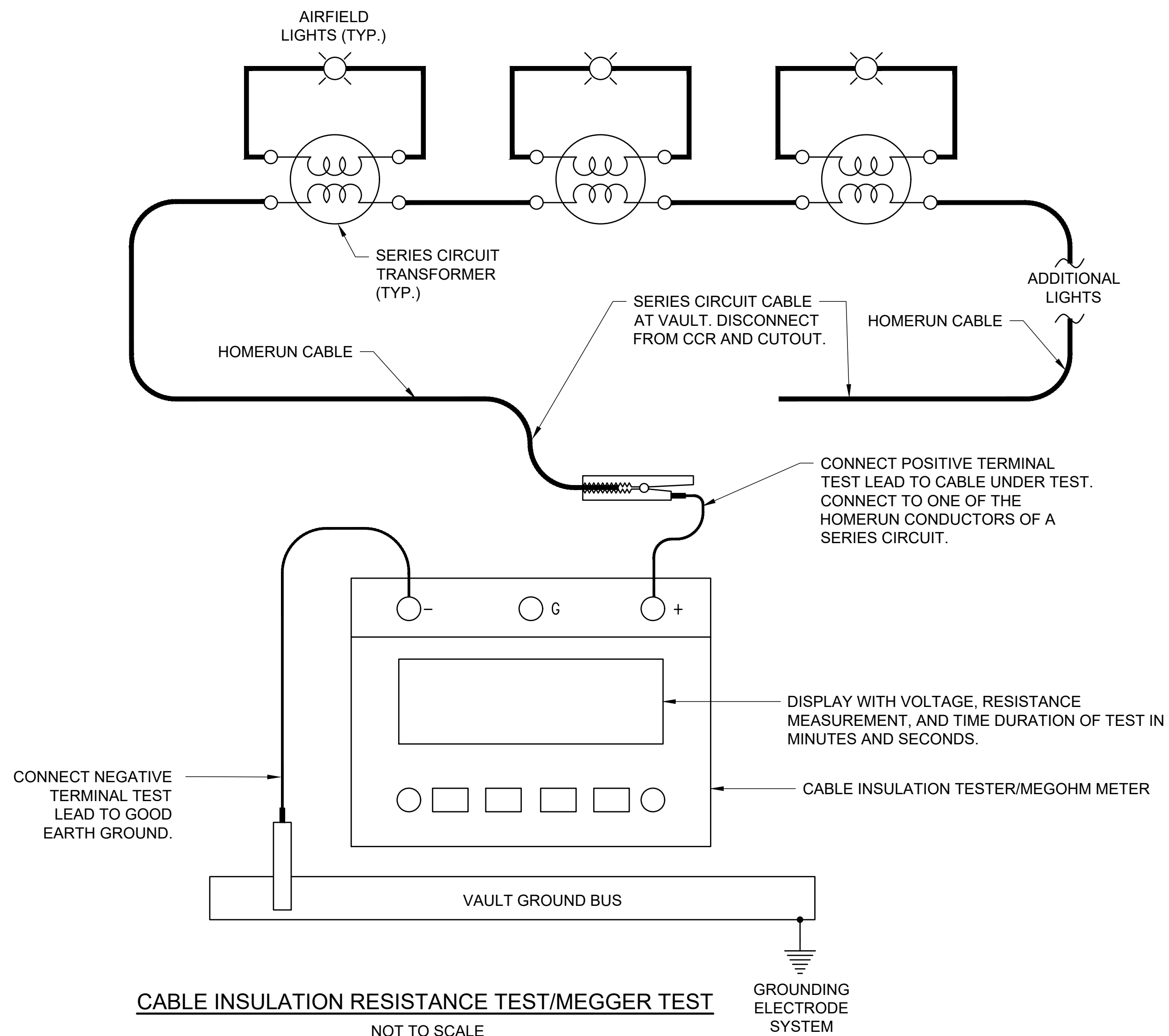
REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

PROPOSED HIGH VOLTAGE WIRING SCHEMATIC - TWY A & B

FOR BID

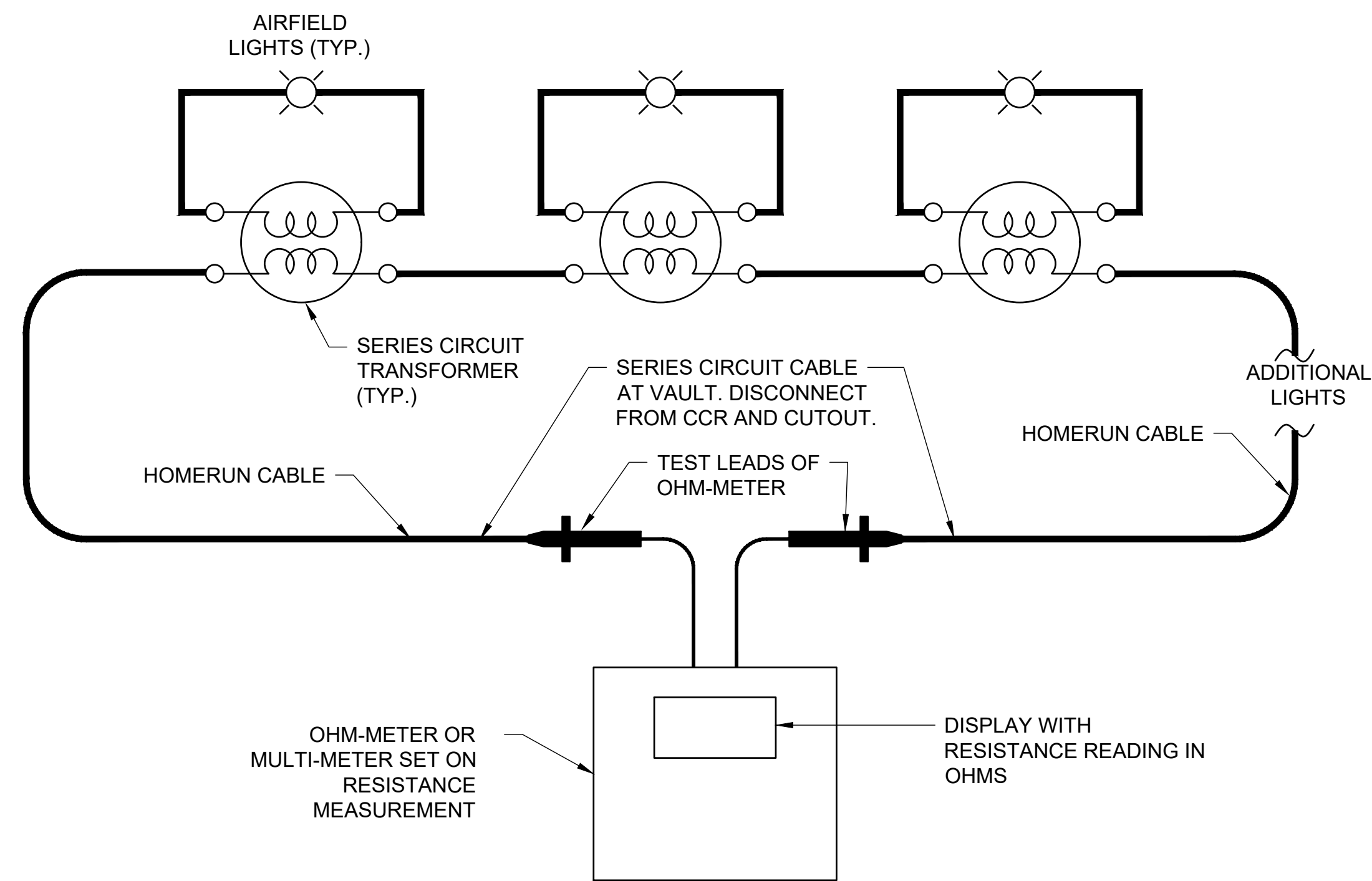


CABLE INSULATION RESISTANCE TEST/MEGGER TEST

NOT TO SCALE

CABLE INSULATION RESISTANCE TEST (MEGGER TEST) NOTES

- PRIOR TO BEGINNING EXCAVATIONS, AIRFIELD LIGHTING MODIFICATIONS, CABLE INSTALLATION, AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS, ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT. COORDINATE TESTS WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT.
- AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS, UPGRADES, AND/OR OTHER WORK AND ADDITIONS HAVE BEEN COMPLETED ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT. COORDINATE TESTS WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT.
- THE CONTRACTOR IS RESPONSIBLE TO EMPLOY THE SERVICES OF PERSONNEL QUALIFIED, FAMILIAR WITH, AND TRAINED TO PERFORM THE RESPECTIVE TESTS, AND QUALIFIED TO WORK ON 5000 VOLT AIRFIELD LIGHTING SERIES CIRCUITS, CONSTANT CURRENT REGULATORS, AND ASSOCIATED AIRPORT ELECTRICAL VAULT EQUIPMENT.
- INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 5,000 VOLT SERIES CIRCUIT CABLES SHALL USE AN INSULATION RESISTANCE TESTER CAPABLE OF TESTING THE CABLES AT 5,000 VOLTS. OLDER SERIES CIRCUIT CABLES AND/OR CABLES IN POOR CONDITION MAY REQUIRE THE TEST VOLTAGE TO BE PERFORMED AT A VOLTAGE LOWER THAN 5,000 VOLTS (EXAMPLE 1,000 VOLTS, 500 VOLTS, OR LESS THAN 500 VOLTS). THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST RESULT.
- INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 600 VOLT RATED CABLES SHALL USE A 500 VOLT INSULATION RESISTANCE TESTER. THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST RESULT.
- IT IS RECOMMENDED TO USE THE SAME INSULATION RESISTANCE TEST EQUIPMENT THROUGHOUT THE PROJECT TO ENSURE RELIABLE COMPARATIVE READINGS AT THE BEGINNING OF THE PROJECT AND AT THE COMPLETION OF THE PROJECT.
- DISCONNECT THE AIRFIELD LIGHTING SERIES CIRCUIT CABLES FROM THE CONSTANT CURRENT REGULATOR WHEN PERFORMING CABLE INSULATION RESISTANCE TESTS (MEGGER TESTS). TEST THE CABLES THAT GO TO THE AIRFIELD FOR THE RESPECTIVE 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.
- 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.
- BASED ON INFORMATION IN FAA AC NO. 150/5340-26C MAINTENANCE OF AIRPORT VISUAL AID FACILITIES, THE CABLE INSULATION RESISTANCE VALUE INEVITABLY DECLINES OVER THE SERVICE LIFE OF THE CIRCUIT; A 10-20 PERCENT DECLINE PER YEAR MAY BE CONSIDERED NORMAL. IN THE EVENT THAT THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH IT MIGHT INDICATE CABLE DAMAGE DUE TO LIGHTNING OR DAMAGE AS A RESULT OF CONTRACTOR OPERATIONS. WHERE THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH OVER THE PROJECT CONSTRUCTION DURATION AS A RESULT OF CONTRACTOR OPERATIONS, CONTRACTOR WILL NEED TO INVESTIGATE, ADDRESS, AND REPAIR THE RESPECTIVE CABLE CIRCUITS.



MEASURE RESISTANCE OF SERIES CIRCUIT LOOP.

NOT TO SCALE

SERIES CIRCUIT LOOP RESISTANCE MEASUREMENT NOTES

- PRIOR TO BEGINNING EXCAVATIONS, AIRFIELD LIGHTING MODIFICATIONS, CABLE INSTALLATION, AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS, THE RESPECTIVE SERIES CIRCUIT CABLE LOOPS SHALL HAVE THE RESISTANCE MEASURED WITH AN OHMMETER AND RECORDED FOR EACH CIRCUIT AT THE VAULT.
- 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.
- 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.
- COORDINATE TEST WITH THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT.

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-605.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/30/2024

REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

SERIES CIRCUIT CABLE TESTING DETAILS

FOR BID

LEGEND PLATE SCHEDULE	
DEVICE	LABEL
TAXIWAYS A & B LIGHTS CCR	TWY A & TWY B CCR
CUTOUT ENCLOSURE FOR TAXIWAYS A & B LIGHTS CCR	TWY A & TWY B CUTOUTS
TAXIWAYS A & B CUTOUT ENCLOSURE	CAUTION OPERATE CUTOUTS WITH CCR SHUT OFF
CUTOUTS INPUT TOP SIDE CONNECTIONS (PROVIDE 2 LEGEND PLATES)	INPUT
TWY A LIGHTS CUTOUT OUTPUT BOTTOM SIDE CONNECTION	TWY A OUTPUT
TWY B LIGHTS CUTOUT OUTPUT BOTTOM SIDE CONNECTION	TWY B OUTPUT
TOP OF CCR FOR TAXIWAYS A & B	KEEP CLEAR DO NO STORE MATERIALS ON TOP OF CCR
TOP OF CCR FOR RWY 9-27	KEEP CLEAR DO NO STORE MATERIALS ON TOP OF CCR
TOP OF CCR FO RWY 1-19	KEEP CLEAR DO NO STORE MATERIALS ON TOP OF CCR



CCR CHECK SIGN

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

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

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



"DANGER - HIGH VOLTAGE UNAUTHORIZED PERSONNEL KEEP OUT" SIGN

NOT TO SCALE
PROVIDE WEATHERPROOF WARNING SIGN FOR EACH DOOR TO AIRPORT ELECTRICAL VAULT LABELED "DANGER - HIGH VOLTAGE UNAUTHORIZED PERSONNEL KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C). SIGN SHALL BE APPROXIMATELY 10"H X 14"W OR 14" H X 20" W. NEW SIGNS SHALL REPLACE EXISTING SIGNS ON VAULT DOORS



"DANGER - HIGH VOLTAGE KEEP OUT" SIGN

NOT TO SCALE
FURNISH AND INSTALL "DANGER - HIGH VOLTAGE KEEP OUT" LABELS/SIGNS FOR HIGH VOLTAGE SECTION OF CONSTANT CURRENT REGULATORS, SERIES CIRCUIT DISCONNECT/CUTOUT ENCLOSURES, HIGH VOLTAGE WIREWAYS, AND HIGH VOLTAGE PULL BOXES. LABELS SHALL BE MINIMUM 3.5"H X 5" W.

NOTES:

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. FURNISH AND INSTALL A 10LB UL RATING 1A:10B:C HALOTRON FIRE EXTINGUISHER SUITABLE FOR USE ON CLASS A,B,C FIRES, IN THE VAULT SHELTER. INCLUDE WALL MOUNTING BRACKET. CONFIRM MODEL NUMBERS WITH THE RESPECTIVE FIRE EXTINGUISHER MANUFACTURER.
4. PROVIDE PLACARD/SIGN FOR HALOTRON FIRE EXTINGUISHER "FOR ELECTRICAL FIRES" WITH ARROW POINTING TO EXTINGUISHER.
5. PROVIDE PLACARD/SIGN FOR CARBON DIOXIDE FIRE EXTINGUISHER "FOR ELECTRICAL FIRES" WITH ARROW POINTING TO EXTINGUISHER.
6. PROVIDE PLACARD/SIGN FOR ABC DRY CHEMICAL FIRE EXTINGUISHER "FOR BUILDING FIRES" WITH ARROW POINTING TO FIRE EXTINGUISHER.

REPLACE TAXIWAY AIRFIELD LIGHTING

IDA No: EZI-4939

SBGP No: 3-17-SBGP-TBD

Contract No.: KE020

NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE: NOVEMBER 22, 2024

PROJECT NO: 23A1040D

CAD FILE: E-606.DWG

DESIGN BY: KNL 6/29/2024

DRAWN BY: CWS 7/30/2024

REVIEWED BY: LDH 10/24/2024

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SHEET TITLE

LEGEND PLATE SCHEDULES

FOR BID