ITEM NO. 07A IDOT LETTING: JUNE 14, 2024

SD064
TOTAL SHEETS = 99

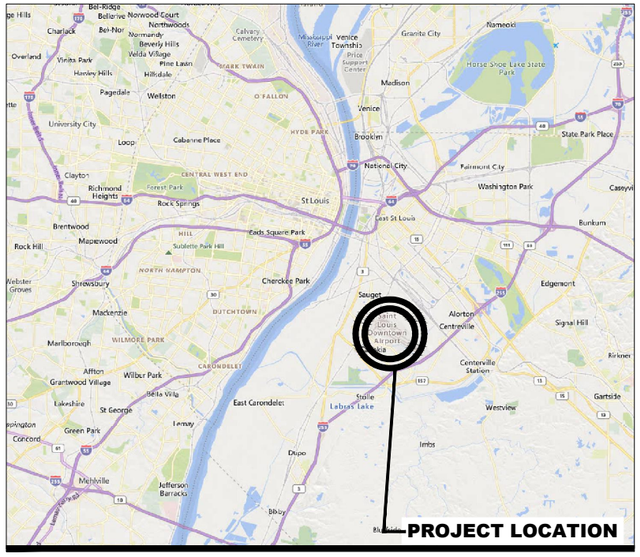
CONSTRUCTION PLANS - FOR BID, ISSUED APRIL 19, 2024

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

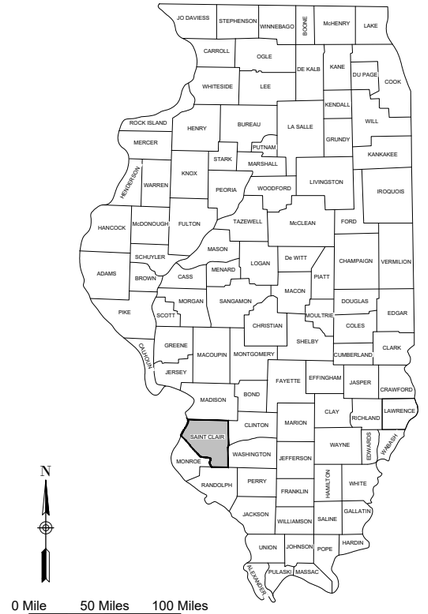
BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT (CPS)
CAHOKIA HEIGHTS, ST. CLAIR COUNTY, ILLINOIS

IDA PROJECT NO.: CPS-5078
SBG PROJECT NO.: 3-17-SBGP-TBD

VICINITY MAP



LOCATION MAP



SCOPE OF WORK:

THIS PROJECT CONSISTS OF RELOCATION/RECONSTRUCTION OF A PORTION OF TAXIWAY B AND ASSOCIATED TAXIWAY CONNECTORS. THE PROJECT INCLUDES PAVEMENT MILLING AND REMOVAL, EARTHWORK GRADING, AGGREGATE PLACEMENT, CONCRETE PAVING, BITUMINOUS PAVING, AIRFIELD LIGHTING AND SIGNAGE SYSTEMS INSTALLATION, PAVEMENT MARKING, EROSION CONTROL ITEMS 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

EXP. 11/30/25

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

Kevin N. Lightfoot, P.E.
Electrical Engineer

04/26/2024
Date

HANSON

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

EXP. 11/30/25

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

Barry S. Stolz, P.E.
Project Manager

04/26/2024
Date

ST. LOUIS DOWNTOWN AIRPORT

Bi-State Development
6100 Archview Drive
Cahokia Heights, Illinois 62206-1445
Telephone: 618.337.6060

Sandra Shore, A.A.E.
Airport Director

04/26/2024
Date

DEC 14, 2023 10:39 AM D001853
I:\23JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\G-001-CVR.DWG

INDEX TO SHEETS

GENERAL NOTES:

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

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

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

FOR BID

HANSON
Engineering | Planning | Allied Services

Offices Nationwide
www.hanson-inc.com

Hanson Professional Services Inc.
1525 South Sixth Street
Springfield, Illinois 62703-2886
Telephone: 217.788.2450
Fax: 217.788.2503

ST. LOUIS DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION	DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: G-002-FLP.DWG
DESIGN BY: JRH 3/22/2024
DRAWN BY: JRH 3/22/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

INDEX TO SHEETS

SUMMARY OF QUANTITIES - BASE BID

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	AS-BUILT QUANTITY
AR107508	L-806 WC 8' INTERNALLY LIT	EACH	1	
AR108066	REIL CABLE	FOOT	540	
AR108108	1/C #8 5 KV UG CABLE	FOOT	20,960	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L SUM	1	
AR110012	2" DIRECTIONAL BORE	FOOT	960	
AR110202	2 PVC DUCT, DIRECT BURY	FOOT	13,590	
AR125416	MITL-BASE MOUNTED-LED	EACH	98	
AR125565	SPLICE CAN	EACH	21	
AR125964	RELOCATE TAXI GUIDANCE SIGN	EACH	7	
AR150510	ENGINEER'S FIELD OFFICE	L SUM	1	
AR150520	MOBILIZATION	L SUM	1	
AR150530	TRAFFIC MAINTENANCE	L SUM	1	
AR152410	UNCLASSIFIED EXCAVATION	CU YD	17,221	
AR156500	TEMPORARY EROSION CONTROL	L SUM	1	
AR156530	TEMPORARY SEEDING	ACRE	7.21	
AR208540	OVERSIZE AGGREGATE	TON	21,073	
AR209510	CRUSHED AGGREGATE BASE COURSE	TON	7,306	
AR306606	LEAN CONCRETE BASE COURSE - 6"	SQ YD	11,744	
AR401613	BIT. SURF. CSE.-METHOD I, SUPERPAVE	TON	945	
AR401650	BITUMINOUS PAVEMENT MILLING	SQ YD	3,857	
AR403613	BIT. BASE CSE.-METHOD I, SUPERPAVE	TON	638	
AR501512	12" PCC PAVEMENT	SQ YD	11,399	
AR501530	PCC TEST BATCH	EACH	1	
AR501910	REMOVE & REPLACE PCC PAVEMENT	SQ YD	192	
AR602510	BITUMINOUS PRIME COAT	GALLON	779	
AR603510	BITUMINOUS TACK COAT	GALLON	512	
AR620520	PAVEMENT MARKING-WATERBORNE	SQ FT	3,313	
AR620525	PAVEMENT MARKING-BLACK BORDER	SQ FT	4,212	
AR701900	REMOVE PIPE	FOOT	610	
AR705506	6" PERFORATED UNDERDRAIN	FOOT	4,186	
AR705548	8" NON PERFORATED UNDERDRAIN	FOOT	210	
AR705620	UNDERDRAIN END SECTION	EACH	2	
AR705635	UNDERDRAIN COLLECTION STRUCTURE	EACH	2	
AR705640	UNDERDRAIN CLEANOUT	EACH	8	
AR800469	REMOVE BITUMINOUS & PCC PAVEMENT	SQ YD	11,473	
AR800476	REMOVE AIRFIELD LIGHTING	L SUM	1	
AR800538	TAXI SIGN 2 MODULE, LED UPGRADE	EACH	11	
AR800539	TAXI SIGN 3 MODULE, LED UPGRADE	EACH	7	
AR800540	TAXI SIGN 4 MODULE, LED UPGRADE	EACH	2	
AR800564	CABLE & CCR TESTING & CALIBRATION	L SUM	1	
AR901510	SEEDING	ACRE	7.21	
AR908514	LIGHT-DUTY HYDRAULIC MULCH	ACRE	7.21	

SUMMARY OF QUANTITIES - ADDITIVE ALTERNATE BID

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	AS-BUILT QUANTITY
AS109200	INSTALL ELECTRICAL EQUIPMENT	L SUM	1	

EARTHWORK QUANTITY SUMMARY

CALCULATION	CUT (CY)	FILL (CY)	FILL + 20% (CY)	NET (CY)
CPS-5078	17,221	5,338	6,405	10,816 (EXCESS)
TOTAL	17,221**	5,338	6,405	10,816 (EXCESS)

** USED TO CALCULATE AR152410 PAY ITEM QUANTITY

EARTHWORK NOTES:

1. EARTHWORK QUANTITIES (CUT/FILL VOLUMES) SHOWN ABOVE WERE CALCULATED UTILIZING AUTODESK CIVIL3D SOFTWARE THROUGH AUTOCAD. THE CALCULATION METHOD WAS BY A COMPARISON OF SURFACE MODELS CREATED WITH EXISTING SURVEY DATA AND PROPOSED DESIGN GRADES. THE VOLUMES WERE CALCULATED IN TWO PARTS: THE CUT/FILL VOLUME REQUIRED TO CORE OUT AND FILL FOR THE PROPOSED PAVEMENT SECTION AS COMPARED TO THE EXISTING SUBGRADE DATUM, AND THE CUT/FILL VOLUMES REQUIRED FOR PROPOSED GRADING WORK OUTSIDE OF THE PROPOSED PAVEMENT LIMITS AS COMPARED TO THE EXISTING GROUND SURFACE. THE NUMBERS IN THE SUMMARY TABLES ABOVE REPRESENT A TOTAL OF THESE TWO PARTS ADDED TOGETHER FOR CLARITY.

2. ANOTHER PROJECT (CPS-4839) WITHIN THIS PROJECT'S CONSTRUCTION AREA IS ANTICIPATED TO BE CONSTRUCTED PRIOR TO OR CONCURRENT WITH THIS PROJECT. THE PROPOSED DRAINAGE IMPROVEMENTS AND GRADING HAVE BEEN REFLECTED IN THIS PROJECT AS EXISTING, HOWEVER THE ACTUAL ITEMS LOCATION AND ELEVATIONS MAY VARY SLIGHTLY. THE CONTRACTOR WILL BE PROVIDED A COPY OF THE RECORD DRAWINGS ONCE AVAILABLE.

3. FOLLOWING THE PROJECT AWARD, THE ENGINEER CAN PROVIDE THE RELEVANT AUTOCAD AND CIVIL 3D SURFACE MODEL FILES TO THE AWARDED CONTRACTOR UPON REQUEST TO ASSIST WITH CONSTRUCTION LAYOUT.

3. EXCESS MATERIAL TO BE PLACED ON STOCKPILE AS IDENTIFIED ON THE PLANS, AND GRADED TO DRAIN AT A MAINTAINABLE SLOPE (MAX 4:1). DISTURBED AREAS OF STOCKPILE SHALL BE RESTORED WITH TEMPORARY SEEDING, SEEDING AND MULCHING IN ACCORDANCE WITH THE SPECIFICATIONS AND PAID FOR UNDER THE RESPECTIVE 156, 901 AND 908 PAY ITEMS. AN ESTIMATED QUANTITY OF 1.50 ACRES OF TEMPORARY SEEDING, SEEDING AND MULCHING EACH HAVE BEEN INCLUDED WITHIN THE BID QUANTITIES FOR STOCKPILE RESTORATION.

4. IF THE CONTRACTOR DOES NOT AGREE TO THE QUANTITIES DERIVED WITH THIS METHOD, THE CONTRACTOR MAY ELECT TO SURVEY THE EXISTING GRADES PRIOR TO BEGINNING EARTHWORK OPERATIONS AS PART OF THE PROJECT FOR THE ENGINEER TO REVIEW FOR A POTENTIAL ADJUSTMENT TO THE PAY ITEM QUANTITY. ANY COSTS ASSOCIATED WITH THE CONTRACTOR-PROVIDED SURVEY SHALL BE INCLUDED IN THE ORIGINAL BID AMOUNT, AND NO ADDITIONAL PAYMENT SHALL BE MADE. FOLLOWING THE CONTRACTOR'S VERIFICATION OF THE QUANTITIES, IF A DISAGREEMENT STILL EXISTS, THE MEASUREMENT OF THE EARTHWORK FOR PAYMENT SHALL BE MADE BY THE RESIDENT ENGINEER, PER THE 152 SPECIFICATION, WHO SHALL TAKE CROSS-SECTIONAL ELEVATIONS AND MEASUREMENTS OF THE EXISTING GROUND SURFACE AND THE FINAL GROUND GRADED SURFACE FOR COMPARISON.

FOR BID

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Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION	DES	DWN	REV

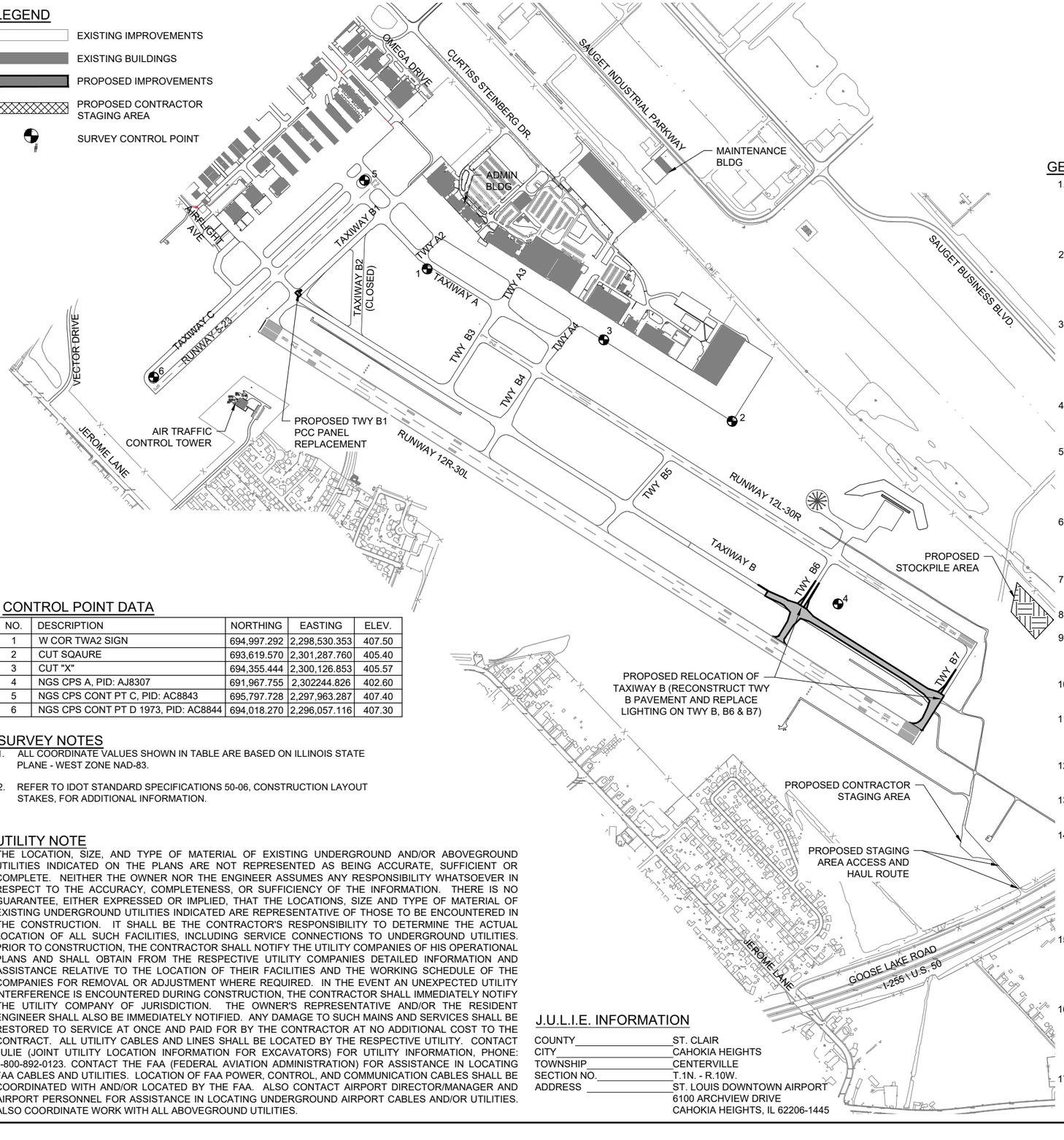
ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: G-002-FLP.DWG
DESIGN BY: JRH 1/16/2024
DRAWN BY: NLD 1/16/2024
REVIEWED BY: BSS 4/19/2024

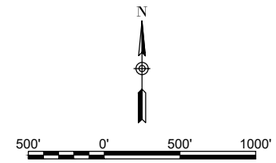
SHEET TITLE

SUMMARY OF QUANTITIES

LEGEND

- EXISTING IMPROVEMENTS
- EXISTING BUILDINGS
- PROPOSED IMPROVEMENTS
- PROPOSED CONTRACTOR STAGING AREA
- SURVEY CONTROL POINT





CONTROL POINT DATA

NO.	DESCRIPTION	NORTHING	EASTING	ELEV.
1	W COR TWA2 SIGN	694,997.292	2,298,530.353	407.50
2	CUT SQAURE	693,619.570	2,301,287.760	405.40
3	CUT "X"	694,355.444	2,300,126.853	405.57
4	NGS CPS A, PID: AJ8307	691,967.755	2,302244.826	402.60
5	NGS CPS CONT PT C, PID: AC8843	695,797.728	2,297,963.287	407.40
6	NGS CPS CONT PT D 1973, PID: AC8844	694,018.270	2,296,057.116	407.30

SURVEY NOTES

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

UTILITY NOTE

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.

J.U.L.I.E. INFORMATION

COUNTY	ST. CLAIR
CITY	CAHOKIA HEIGHTS
TOWNSHIP	CENTERVILLE
SECTION NO.	T.1N. - R.10W.
ADDRESS	ST. LOUIS DOWNTOWN AIRPORT 6100 ARCHVIEW DRIVE CAHOKIA HEIGHTS, IL 62206-1445

GENERAL NOTES

1. THE SCOPE OF WORK SHEET IS INTENDED ONLY AS A GENERAL DESCRIPTION OF WORK ITEMS AND THEIR APPROXIMATE LOCATIONS AND LIMITS, FOR THE PURPOSE OF UNDERSTANDING THE SCOPE OF THE PROJECT. THIS SHEET SHALL NOT BE USED AS A CONSTRUCTION PLAN. REFER TO THE FOLLOWING PLAN SHEETS FOR DETAILED CONSTRUCTION REQUIREMENTS, LOCATIONS, AND ITEMS OF WORK.
2. WORK FOR THIS PROJECT SHALL CONSIST OF, BUT IS NOT LIMITED TO, THIS PROJECT CONSISTS OF RELOCATION/RECONSTRUCTION OF A PORTION OF TAXIWAY B AND ASSOCIATED TAXIWAY CONNECTORS. THE PROJECT INCLUDES PAVEMENT MILLING AND REMOVAL, EARTHWORK GRADING, AGGREGATE PLACEMENT, CONCRETE PAVING, BITUMINOUS PAVING, AIRFIELD LIGHTING AND SIGNAGE SYSTEMS INSTALLATION, PAVEMENT MARKING, EROSION CONTROL ITEMS AND INCIDENTALS.
3. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, AND TRANSPORTATION NECESSARY TO CONSTRUCT ALL ELEMENTS OF THE PROJECT AS DESCRIBED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. THE PROJECT PAY ITEMS ARE INTENDED TO BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PLANS. ALL INCIDENTAL WORK REQUIRED TO COMPLETE THE PROJECT TO THE SATISFACTION OF THE RESIDENT ENGINEER/ TECHNICIAN IS TO BE INCLUDED IN THE COSTS OF PERFORMING THESE ITEMS.
4. THE RULES, REGULATIONS, AND SPECIFICATIONS ENUMERATED HEREIN SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS. THEY SHALL NOT PROHIBIT THE CONTRACTOR FROM FURNISHING AND INSTALLING HIGHER GRADES OF MATERIAL THAN ARE SPECIFIED HEREIN.
5. THE CONTRACTOR IS NOT PERMITTED TO USE THE AIRPORT ENTRANCE DRIVE AND AUTO PARKING LOT FOR MATERIAL AND EQUIPMENT HAULING OR STORAGE. THE CONSTRUCTION ENTRANCE AS SHOWN ON THE SCOPE OF WORK AND/OR SAFETY PHASING PLAN ARE ONLY TO BE USED FOR THE PROJECT. ACCESS TO THE PROJECT FOR ALL HAULING OF MATERIALS AND EQUIPMENT SHALL BE RESTRICTED TO THE DESIGNATED CONSTRUCTION ENTRANCE.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT, PRESERVE AND REPAIR THE EXISTING AIRFIELD AND ROADWAY PAVEMENTS AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING ELECTRICAL, DRAINAGE, AND PAVEMENT STRUCTURES AT NO ADDITIONAL COST TO THE CONTRACT.
7. NO EQUIPMENT SHALL BE PERMITTED TO CROSS OR USE ANY EXISTING PAVEMENT OUTSIDE THE CONSTRUCTION LIMITS, GENERAL PROJECT AREA OR HAUL ROUTE.
8. CONTRACTOR IS REQUIRED TO PROVIDE THEIR OWN RESTROOM FACILITIES.
9. UNLESS OTHERWISE NOTED, ALL DISTURBED AREAS OUTSIDE OF THE PROPOSED CONSTRUCTION LIMITS SHALL BE GRADED, SEEDED AND/OR HYDROMULCH SEEDED AT NO ADDITIONAL COST TO THE CONTRACT.
10. ALL WASTE MATERIAL SHALL BE HAULED FROM THE AIRPORT AND PROPERLY DISPOSED OF UNLESS OTHERWISE SPECIFIED HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS FOR HAULING ON PUBLIC ROADS, AS APPLICABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY DAMAGES TO ANY PAVEMENTS (PUBLIC OR PRIVATE) CAUSED BY HIS/HER CONSTRUCTION EQUIPMENT OR PERSONNEL.
12. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL FOR ALL SALVAGEABLE MATERIAL REMOVED ON THE PROJECT.
13. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEEER/ TECHNICIAN SO THEY MAY DEVELOP ONE SET OF REDLINED AS-BUILT DRAWINGS AT THE COMPLETION OF THE PROJECT.
14. CONTRACTOR SHALL NOTE THAT ALL AREAS WITHIN THE AIRPORT PROPERTY LINE AND OUTSIDE THE CONSTRUCTION LIMITS MAY BE USED FOR AGRICULTURAL PURPOSES. THE CONSTRUCTION LIMITS SHALL BE RESTRICTED TO AREAS THAT ARE ABSOLUTELY NECESSARY TO DISTURB TO COMPLETE THE REQUIRED WORK ITEMS. LIMITS SHALL BE COORDINATED WITH THE RESIDENT ENGINEER PRIOR TO BEGINNING ANY WORK. ALL AREAS WHICH HAVE BEEN FARMED AND OR DESIGNATED TO BE FARMED AFTER THE PROJECT COMPLETION, AND HAVE BEEN DISTURBED BY CONSTRUCTION ACTIVITY, SHALL BE CHISEL PLOWED (36" MAX.) OR OTHERWISE SCARIFIED TO RETURN THE AREA TO A REASONABLE TILLABLE CONDITION (IF SO PERMITTED BY THE AIRPORT MANAGER.)
15. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ALL GRASS, STONE, OR PAVEMENT DISTURBED BY CONTRACTOR'S CONSTRUCTION OPERATIONS, STAGING, AND CONSTRUCTION ACCESS ROUTES. DISTURBED AREAS TO BE REPAIRED, GRADED, AND MULCHED SEEDED UNLESS OTHERWISE NOTED. STAGING AREA AND SITE ACCESS RESTORATION SHALL BE INCLUDED IN THE COST OF THE HAUL ROUTE.
16. APPROXIMATE LOCATIONS OF UNDERGROUND UTILITIES ARE SHOWN THROUGHOUT THESE PLANS. THE CONTRACTOR SHALL DETERMINE EXACT LOCATIONS AND PROTECT THESE UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL COORDINATE WITH THE PROPER PERSONS FOR THE PURPOSE OF LOCATING AND PROTECTING EXISTING UNDERGROUND UTILITIES.
17. THE CONTRACTOR MUST AT ALL TIMES MAINTAIN PROPER DRAINAGE FOR ALL AREAS AFFECTED BY HIS/HER WORK.

FOR BID

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Springfield, Illinois 62703-2886
Telephone: 217.788.2450
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ST. LOUIS DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: G-003-SOW.DWG
DESIGN BY: JRH 1/16/2024
DRAWN BY: NLD 1/16/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

SCOPE OF WORK

APR 30, 2024 12:21 PM HERND01562
I:\23JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\G-003-SOW

GENERAL NOTES

1. AIRPORT SECURITY SHALL BE MAINTAINED THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL BE RESTRICTED TO THE DESIGNATED WORK AREAS. THE CONTRACTOR SHALL ENSURE THAT ACCESS POINTS USED BY CONSTRUCTION VEHICLES AND PERSONNEL ARE CLOSED WHEN NOT IN USE AND LOCKED AT THE END OF THE WORKING DAY TO PREVENT UNAUTHORIZED ACCESS TO THE AIRPORT MOVEMENT AREA.
2. CLOSURE CROSSES AND BARRICADES SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION.
3. AT THE COMPLETION OF ALL CONSTRUCTION, THE HAUL ROUTE AND CONSTRUCTION EQUIPMENT PARKING AREA SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS PER THE SPECIFICATIONS.
4. THE COSTS FOR PROVISION, PLACEMENT, MAINTENANCE AND REMOVAL OF BARRICADES, CLOSURE CROSSES, TRAFFIC CONTROL SIGNAGE, AND ALL ASSOCIATED INCIDENTALS SHALL BE PAID FOR UNDER TRAFFIC MAINTENANCE.
5. THE COSTS FOR CONSTRUCTION, MAINTENANCE OF ACCESS GATE, HAUL ROUTE AND EQUIPMENT STAGING AREA, AND ALL ASSOCIATED INCIDENTALS SHALL BE PAID FOR UNDER MOBILIZATION.

SAFETY PLAN COMPLIANCE DOCUMENT

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

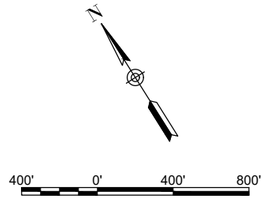
SEQUENCE OF CONSTRUCTION

1. THIS PROJECT WILL BE BROKEN INTO FOUR SEPARATE WORK AREAS IN AN EFFORT TO MINIMIZE IMPACTS TO AIRPORT OPERATIONS. THE CONTRACTOR SHALL EXPEDITE WORK TO ENSURE THE AIRCRAFT MOVEMENT AREAS ARE OPEN WHEN POSSIBLE.
2. TAXIWAY CONNECTORS B6 AND B7 SHALL BE CLOSED TO AIRCRAFT FOR THE DURATION OF THE PROJECT. A PORTION OF TAXIWAY B SHALL BE CLOSED FOR THE DURATION OF THE PROJECT, AND THE INTERSECTION OF TAXIWAY B AND B1 SHALL BE CLOSED FOR A PORTION OF THE PROJECT. DURING INSTALLATION OF THE AIRFIELD ELECTRICAL HOMERUN PORTIONS OF TAXIWAY B AND ASSOCIATED CONNECTOR TAXIWAYS WILL BE CLOSED.
3. THE CONTRACTOR IS REQUIRED TO COMPLETE ALL WORK AREAS, HOWEVER:
   - WORK AREAS 1 AND 3 MAY NOT BE PERFORMED SIMULTANEOUSLY.
   - WORK AREAS 2A AND 2B MAY NOT BE PERFORMED SIMULTANEOUSLY.
   - WORK AREA 4A SHALL BE PERFORMED WHILE WORK AREA 2A IS BEING PERFORMED TO MINIMIZE RUNWAY DOWNTIME.
   - WORK AREAS 4B THROUGH 4F SHALL BE PERFORMED CONSECUTIVELY TO MINIMIZE TAXIWAY B DOWNTIME.

   NO DEVIATION FROM THESE PROVISIONS WILL BE ALLOWED UNLESS THE CONTRACTOR CAN PROVIDE A SIGNIFICANT BENEFIT TO THE OWNER FOR.

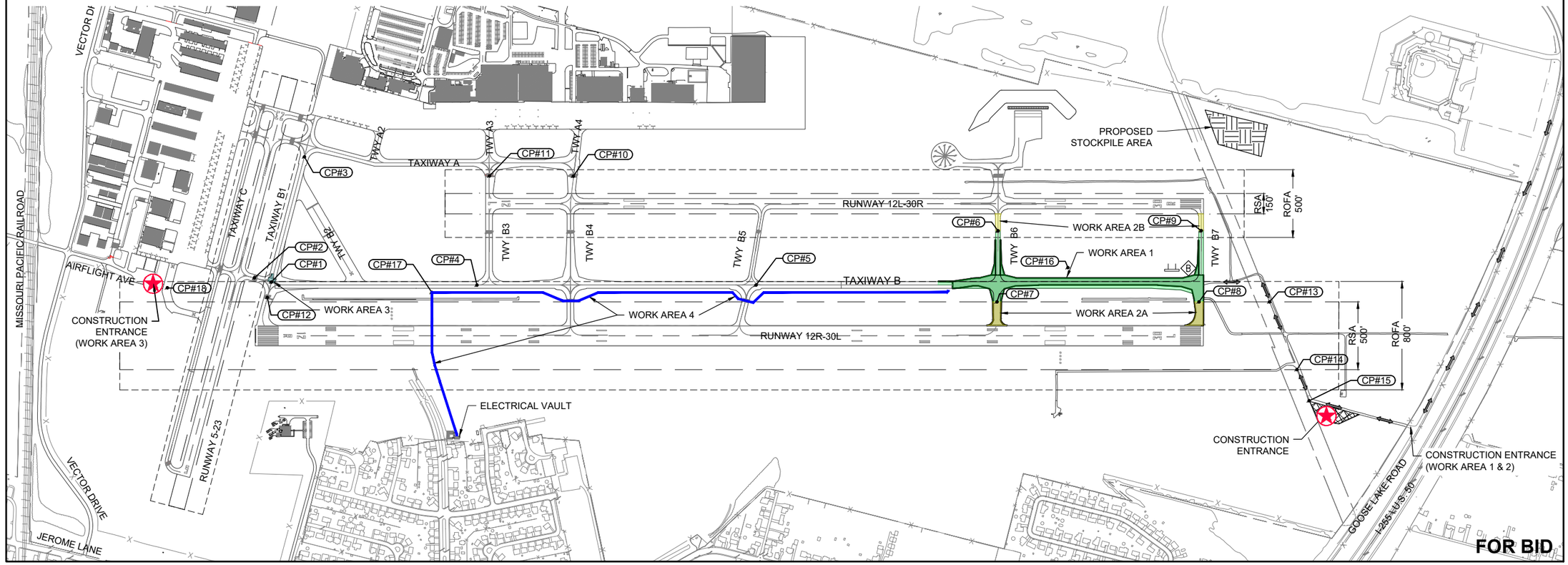
CRITICAL POINTS						
POINT #	LATITUDE	LONGITUDE	SE	AGL	AMSL	DESCRIPTION
1	038° 34' 29.09"	-090° 09' 50.30"	411'	25'	436'	EQUIPMENT
2	038° 34' 30.01"	-090° 09' 51.43"	405'	25'	430'	EQUIPMENT
3	038° 34' 35.53"	-090° 09' 41.50"	410'	2'	412'	BARRICADES
4	038° 34' 20.90"	-090° 09' 34.27"	411'	2'	413'	BARRICADES
5	038° 34' 10.04"	-090° 09' 12.32"	410'	2'	412'	BARRICADES
6	038° 34' 03.97"	-090° 08' 50.60"	404'	2'	406'	BARRICADES
7	038° 33' 59.63"	-090° 08' 54.20"	407'	25'	432'	EQUIPMENT
8	038° 33' 51.77"	-090° 08' 38.32"	406'	25'	431'	EQUIPMENT
9	038° 33' 56.08"	-090° 08' 34.61"	403'	2'	405'	BARRICADES
10	038° 34' 23.87"	-090° 09' 21.31"	401'	2'	403'	BARRICADES
11	038° 34' 27.15"	-090° 09' 27.88"	402'	2'	404'	BARRICADES
12	038° 34' 28.29"	-090° 09' 51.38"	411'	2'	413'	BARRICADES
13	038° 33' 49.02"	-090° 08' 32.76"	406'	25'	431'	HAUL ROUTE
14	038° 33' 43.77"	-090° 08' 33.97"	399'	25'	424'	HAUL ROUTE
15	038° 33' 41.37"	-090° 08' 34.55"	397'	25'	422'	STAGING AREA
16	038° 33' 58.98"	-090° 08' 46.93"	402'	25'	427'	WIND CONE
17	038° 34' 22.20"	-090° 09' 38.19"	410'	25'	435'	EQUIPMENT
18	038° 34' 32.78"	-090° 09' 58.77"	410'	25'	435'	STAGING AREA

DOWNTOWN GROUND FREQUENCY = 121.80



LEGEND

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED EQUIPMENT PARKING AREA
- EXISTING FENCE
- PROPOSED BARRICADES
- PROPOSED CLOSURE CROSS
- CONSTRUCTION SIGN
- CRITICAL POINT
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- AIRFIELD SECURITY GATE



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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		DES	DWN	REV

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DRAWN BY: CWS 3/22/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN OVERALL

APR 30, 2024 12:22 PM HERND01562
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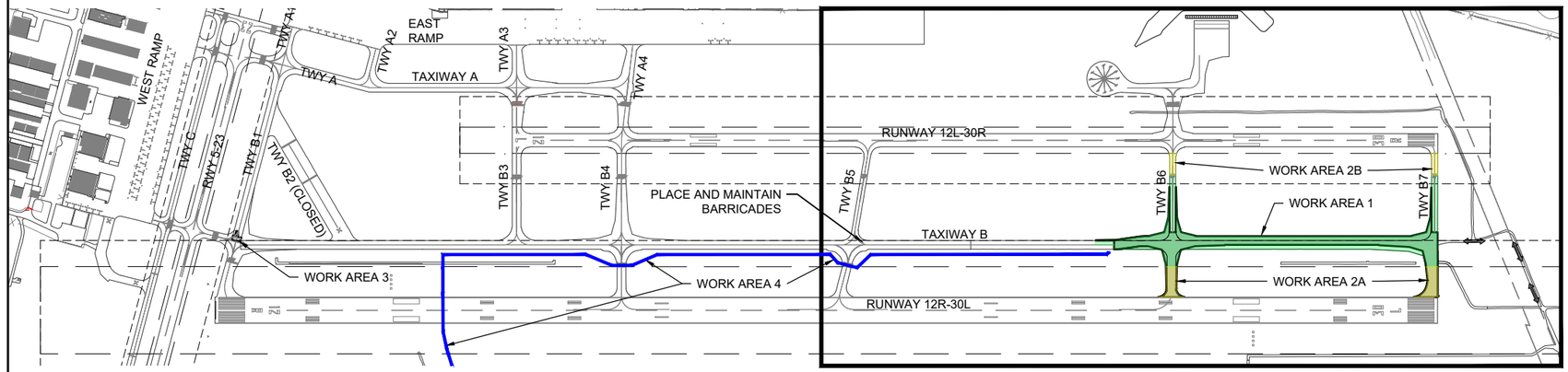

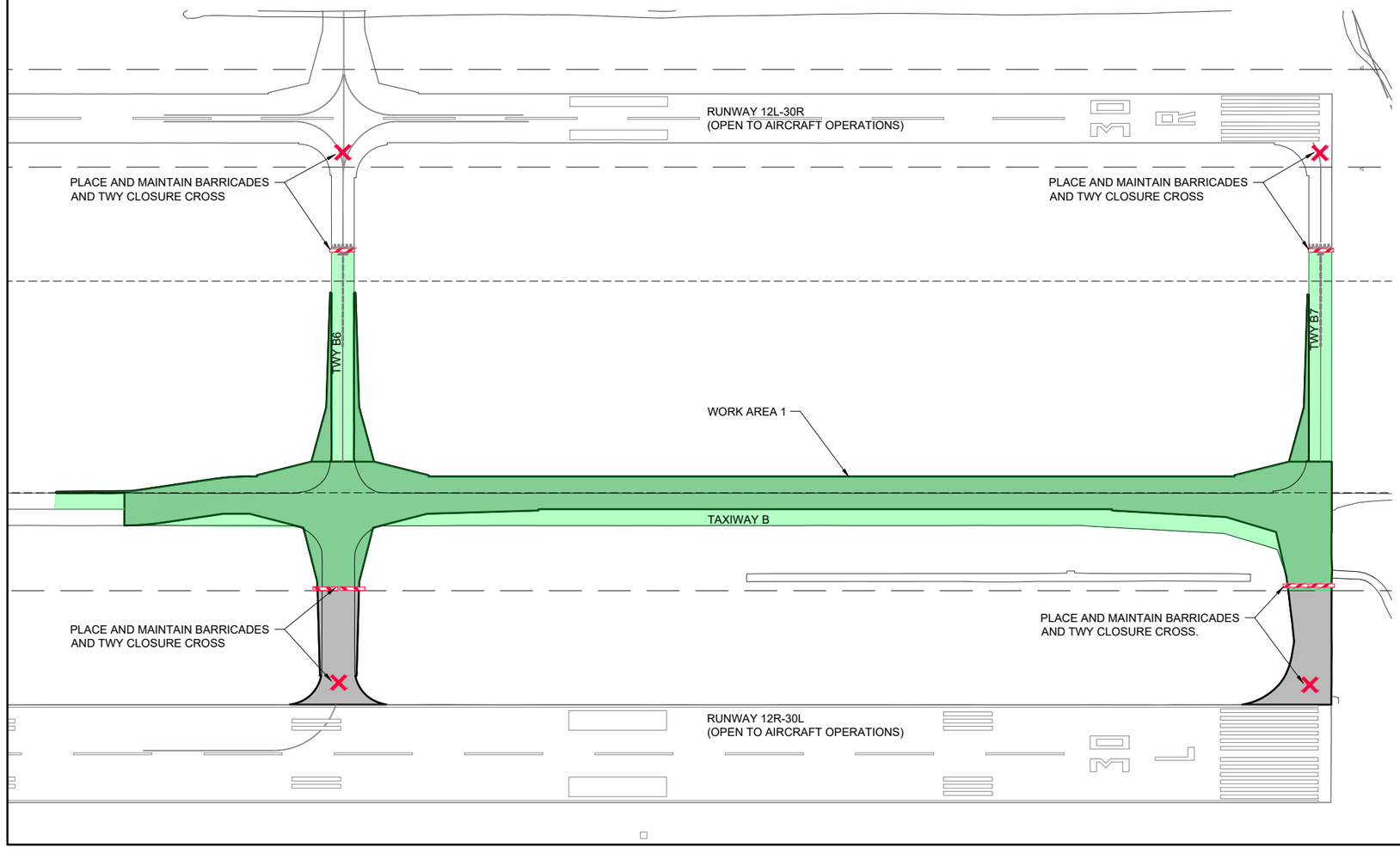

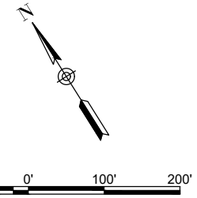

LEGEND

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED EQUIPMENT PARKING AREA
- EXISTING FENCE
- PROPOSED BARRICADES
- PROPOSED CLOSURE CROSS
- CONSTRUCTION SIGN
- CRITICAL POINT
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- AIRFIELD SECURITY GATE

AREA 1 WORK TO BE ACCOMPLISHED

1. THE WORK ITEMS TO BE COMPLETED IN THIS PHASE ARE TO INCLUDE EARTH EXCAVATION, DRAINAGE IMPROVEMENTS, PAVEMENT REMOVAL, INSTALL NEW BASE AND PCC PAVEMENT, AIRFIELD LIGHTING AND SIGNAGE SYSTEM INSTALLATION, PAVEMENT MARKING, SEEDING/MULCHING AND EROSION CONTROL.
2. WORK AREAS 1 AND 3 MAY NOT BE PERFORMED SIMULTANEOUSLY.
3. AT ALL TIMES, THE CONTRACTOR'S OPERATIONS SHALL BE SUCH AS TO MINIMIZE CLOSURES.
4. AT THE COMPLETION OF ALL WORK AREA CONSTRUCTION, THE HAUL ROUTE, EQUIPMENT PARKING AREA, AND GATE ARE TO BE LEFT IN PLACE IN THEIR PRE-CONSTRUCTION CONDITION.
5. ANY UTILITY DISCONNECTED OR DAMAGED SHALL BE RECONNECTED OR REPAIRED WITHIN NORMAL CONSTRUCTION HOURS SUCH THAT NO SINGLE UTILITY LINE IS OUT OF SERVICE OVERNIGHT, UNLESS APPROVAL IS OBTAINED FROM THE OWNER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND RESIDENT TECHNICIAN/ENGINEER IN ADVANCE IN ORDER TO SHUTDOWN THE UTILITIES FOR REROUTING IF REQUIRED.
6. PAVEMENTS SHALL BE CLEAN AND LIGHTING CIRCUITS SHALL BE OPERATIONAL, TO THE OWNER'S SATISFACTION BEFORE REOPENING TO AIRCRAFT TRAFFIC.

OPERATIONAL SAFETY NOTES:

1. FLAGPERSONS AND OR ESCORT WITH RADIOS SHALL BE REQUIRED TO CONTROL VEHICLE TRAFFIC ACROSS ACTIVE AIRFIELD PAVEMENTS. NO CONSTRUCTION PERSONNEL/EQUIPMENT ALLOWED WITHIN THE RUNWAY SAFETY AREA (RSA) OR TAXIWAY SAFETY AREA (TSA) WHEN PAVEMENTS ARE OPEN TO AIRCRAFT TRAFFIC. PAVEMENTS ARE TO BE KEPT FREE OF DEBRIS AT ALL TIMES. ANY DAMAGE TO PAVEMENTS BY THE CONTRACTOR'S FORCES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE CONTRACT.
2. CONTRACTOR SHALL DEMONSTRATE THE ABILITY TO ACCESS THE CONSTRUCTION SITE WHILE MAINTAINING AIRFIELD SECURITY DURING ALL PHASES OF CONSTRUCTION.
3. ALL NOTAMS TO BE ISSUED SHALL BE ISSUED BY AIRPORT REPRESENTATIVES.
4. AIRPORT AND CONTRACTOR SHALL COORDINATE THE LOCATION OF UNDERGROUND UTILITIES WITHIN WORK AREAS PRIOR TO THE START OF CONSTRUCTION.

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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
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SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN - WORK AREA 1

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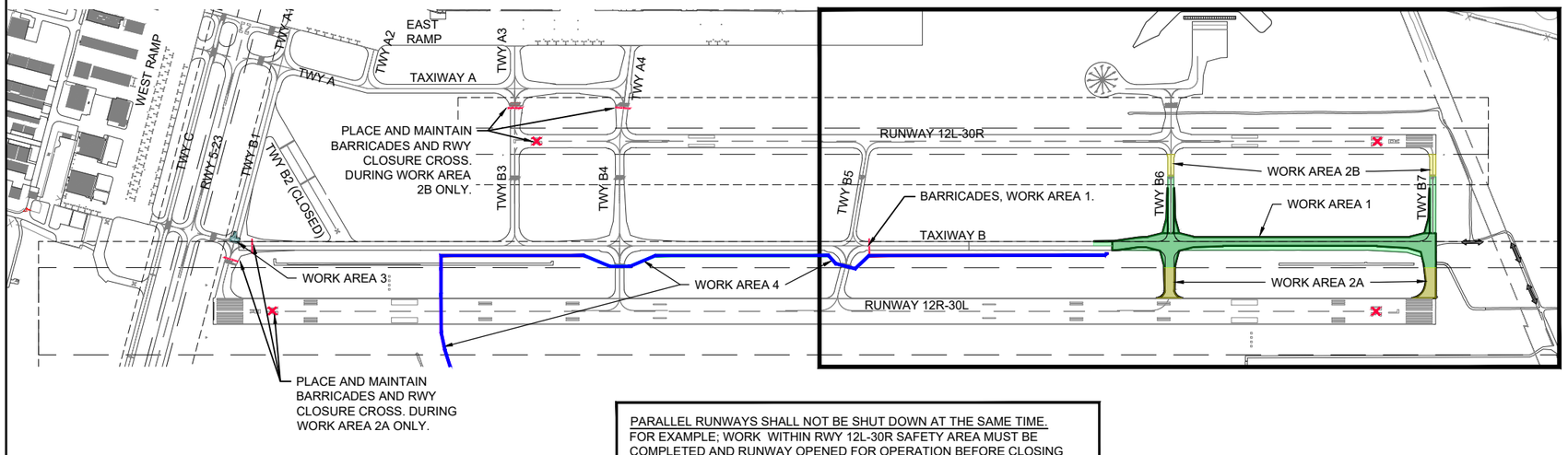
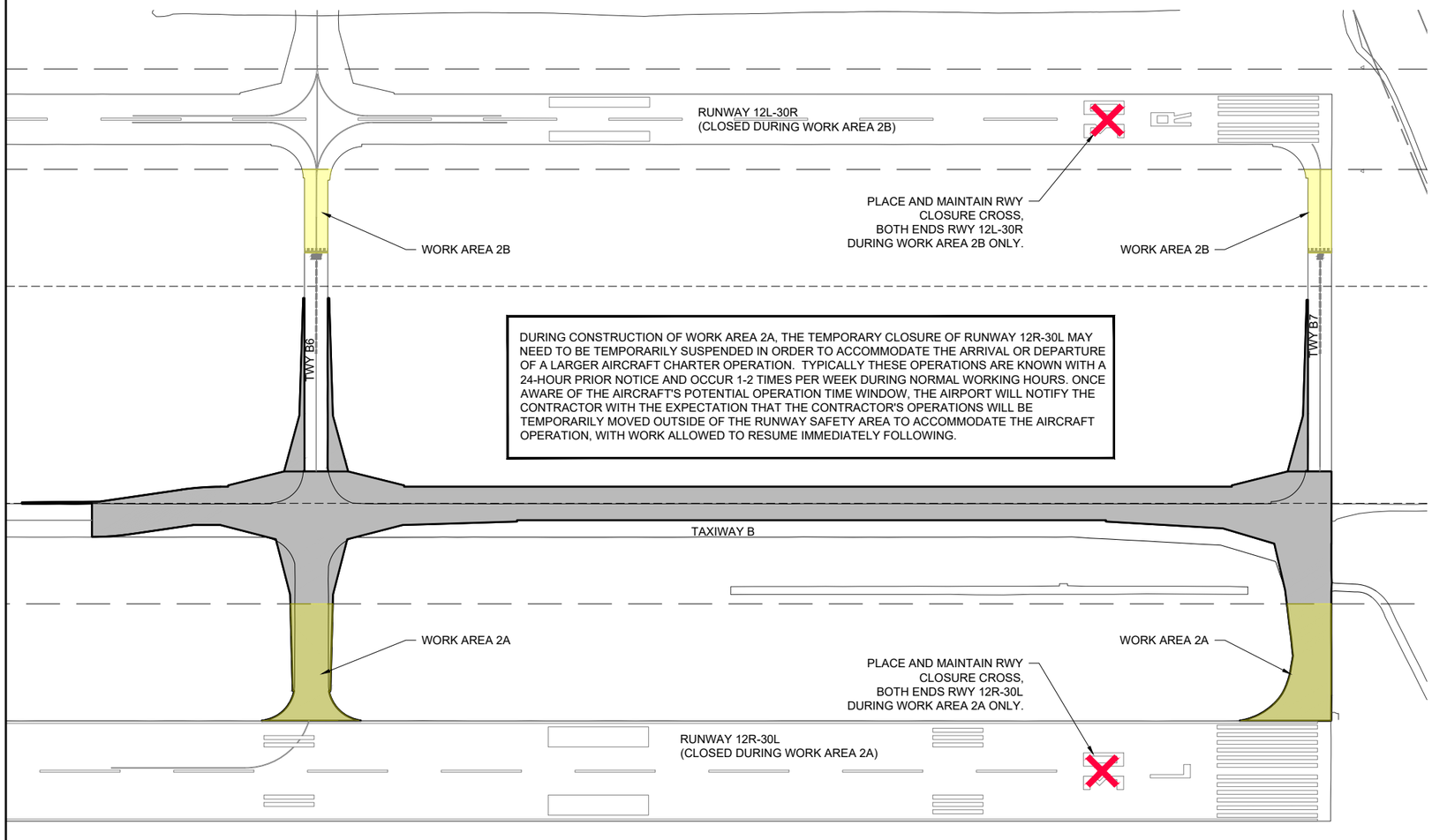
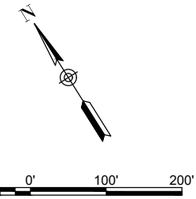


PARALLEL RUNWAYS SHALL NOT BE SHUT DOWN AT THE SAME TIME. FOR EXAMPLE; WORK WITHIN RWY 12L-30R SAFETY AREA MUST BE COMPLETED AND RUNWAY OPENED FOR OPERATION BEFORE CLOSING AND WORKING WITHIN THE SAFETY AREA OF RWY 12R-30L.



DURING CONSTRUCTION OF WORK AREA 2A, THE TEMPORARY CLOSURE OF RUNWAY 12R-30L MAY NEED TO BE TEMPORARILY SUSPENDED IN ORDER TO ACCOMMODATE THE ARRIVAL OR DEPARTURE OF A LARGER AIRCRAFT CHARTER OPERATION. TYPICALLY THESE OPERATIONS ARE KNOWN WITH A 24-HOUR PRIOR NOTICE AND OCCUR 1-2 TIMES PER WEEK DURING NORMAL WORKING HOURS. ONCE AWARE OF THE AIRCRAFT'S POTENTIAL OPERATION TIME WINDOW, THE AIRPORT WILL NOTIFY THE CONTRACTOR WITH THE EXPECTATION THAT THE CONTRACTOR'S OPERATIONS WILL BE TEMPORARILY MOVED OUTSIDE OF THE RUNWAY SAFETY AREA TO ACCOMMODATE THE AIRCRAFT OPERATION, WITH WORK ALLOWED TO RESUME IMMEDIATELY FOLLOWING.



LEGEND

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED EQUIPMENT PARKING AREA
- EXISTING FENCE
- PROPOSED BARRICADES
- PROPOSED CLOSURE CROSS
- CONSTRUCTION SIGN
- CRITICAL POINT
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- AIRFIELD SECURITY GATE

AREA 2 WORK TO BE ACCOMPLISHED

1. THE WORK ITEMS TO BE COMPLETED IN THIS PHASE ARE TO INCLUDE EARTH EXCAVATION, DRAINAGE IMPROVEMENTS, PAVEMENT REMOVAL, INSTALL NEW BASE AND PCC PAVEMENT, AIRFIELD LIGHTING AND SIGNAGE SYSTEM INSTALLATION, PAVEMENT MARKING, SEEDING/MULCHING AND EROSION CONTROL.
2. WORK AREAS 2A AND 2B MAY NOT BE PERFORMED SIMULTANEOUSLY.
3. WORK AREA 4A SHALL BE PERFORMED WHILE WORK AREA 2A IS BEING PERFORMED TO MINIMIZE RUNWAY DOWNTIME.
4. AT ALL TIMES, THE CONTRACTOR'S OPERATIONS SHALL BE SUCH AS TO MINIMIZE CLOSURES.
5. AT THE COMPLETION OF ALL WORK AREA CONSTRUCTION, THE HAUL ROUTE, EQUIPMENT PARKING AREA, AND GATE ARE TO BE LEFT IN PLACE IN THEIR PRE-CONSTRUCTION CONDITION.
6. ANY UTILITY DISCONNECTED OR DAMAGED SHALL BE RECONNECTED OR REPAIRED WITHIN NORMAL CONSTRUCTION HOURS SUCH THAT NO SINGLE UTILITY LINE IS OUT OF SERVICE OVERNIGHT, UNLESS APPROVAL IS OBTAINED FROM THE OWNER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND RESIDENT TECHNICIAN/ENGINEER IN ADVANCE IN ORDER TO SHUTDOWN THE UTILITIES FOR REROUTING IF REQUIRED.
7. PAVEMENTS SHALL BE CLEAN AND LIGHTING CIRCUITS SHALL BE OPERATIONAL, TO THE OWNER'S SATISFACTION BEFORE REOPENING TO AIRCRAFT TRAFFIC.

OPERATIONAL SAFETY NOTES:

1. FLAGPERSONS AND OR ESCORT WITH RADIOS SHALL BE REQUIRED TO CONTROL VEHICLE TRAFFIC ACROSS ACTIVE AIRFIELD PAVEMENTS. NO CONSTRUCTION PERSONNEL/EQUIPMENT ALLOWED WITHIN THE RUNWAY SAFETY AREA (RSA) OR TAXIWAY SAFETY AREA (TSA) WHEN PAVEMENTS ARE OPEN TO AIRCRAFT TRAFFIC. PAVEMENTS ARE TO BE KEPT FREE OF DEBRIS AT ALL TIMES. ANY DAMAGE TO PAVEMENTS BY THE CONTRACTOR'S FORCES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE CONTRACT.
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3. ALL NOTAMS TO BE ISSUED SHALL BE ISSUED BY AIRPORT REPRESENTATIVES.
4. AIRPORT AND CONTRACTOR SHALL COORDINATE THE LOCATION OF UNDERGROUND UTILITIES WITHIN WORK AREAS PRIOR TO THE START OF CONSTRUCTION.

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BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN - WORK AREA 2

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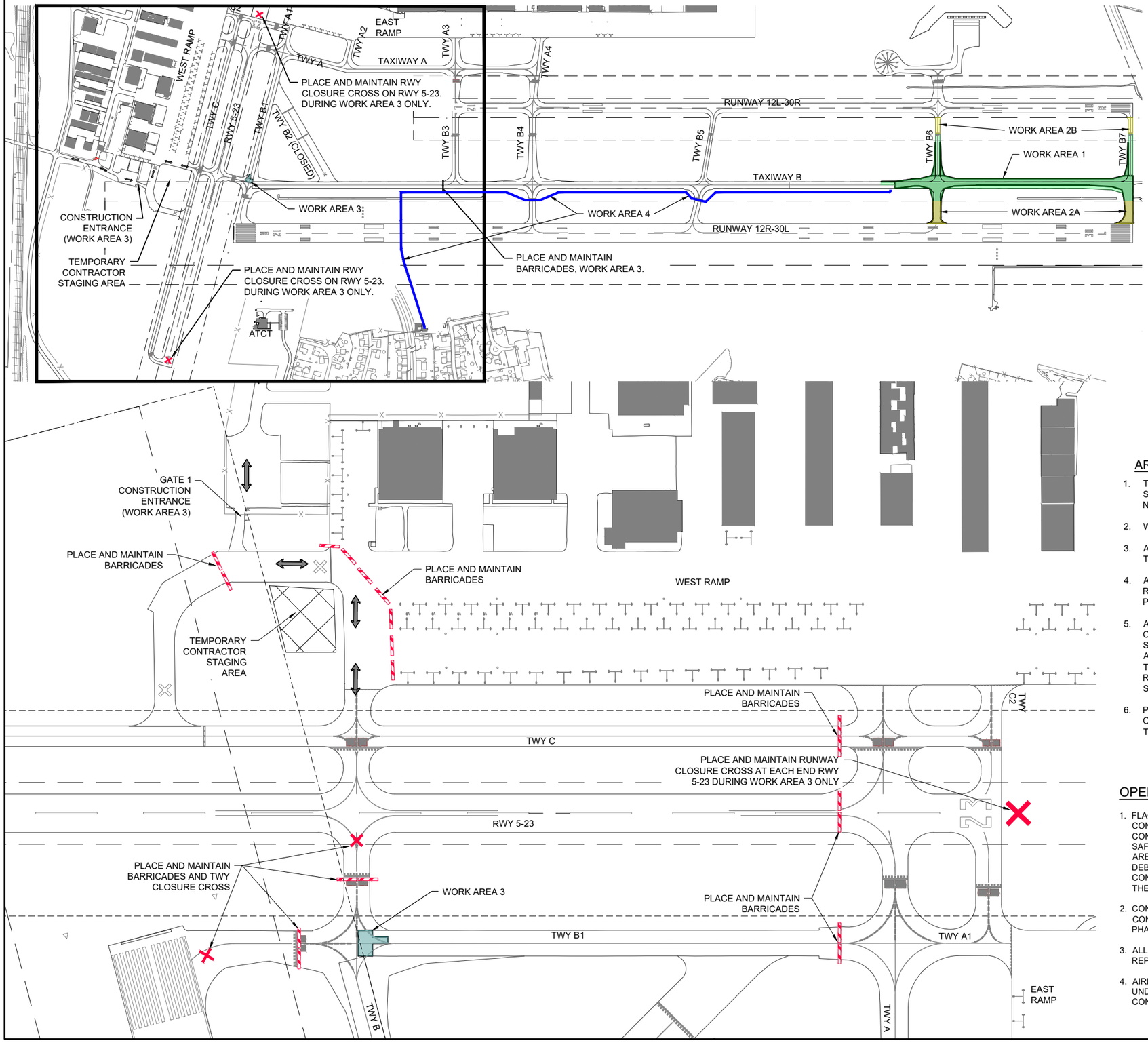

LEGEND

- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED EQUIPMENT PARKING AREA
- EXISTING FENCE
- PROPOSED BARRICADES
- PROPOSED CLOSURE CROSS
- CONSTRUCTION SIGN
- CRITICAL POINT
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- AIRFIELD SECURITY GATE

AREA 3 WORK TO BE ACCOMPLISHED

1. THE WORK ITEMS TO BE COMPLETED IN THIS PHASE ARE TO INCLUDE SAWCUT AND REMOVE SECTION OF TAXIWAY PAVEMENT, INSTALL NEW BASE AND PCC PAVEMENT, PAVEMENT MARKING.
2. WORK AREAS 1 AND 3 MAY NOT BE PERFORMED SIMULTANEOUSLY.
3. AT ALL TIMES, THE CONTRACTOR'S OPERATIONS SHALL BE SUCH AS TO MINIMIZE CLOSURES.
4. AT THE COMPLETION OF ALL WORK AREA CONSTRUCTION, THE HAUL ROUTE, EQUIPMENT PARKING AREA, AND GATE ARE TO BE LEFT IN PLACE IN THEIR PRE-CONSTRUCTION CONDITION.
5. ANY UTILITY DISCONNECTED OR DAMAGED SHALL BE RECONNECTED OR REPAIRED WITHIN NORMAL CONSTRUCTION HOURS SUCH THAT NO SINGLE UTILITY LINE IS OUT OF SERVICE OVERNIGHT, UNLESS APPROVAL IS OBTAINED FROM THE OWNER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND RESIDENT TECHNICIAN/ENGINEER IN ADVANCE IN ORDER TO SHUTDOWN THE UTILITIES FOR REROUTING IF REQUIRED.
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OPERATIONAL SAFETY NOTES:

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4. AIRPORT AND CONTRACTOR SHALL COORDINATE THE LOCATION OF UNDERGROUND UTILITIES WITHIN WORK AREAS PRIOR TO THE START OF CONSTRUCTION.

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CONSTRUCTION SAFETY AND PHASING PLAN - WORK AREA 3

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AREA 4 WORK TO BE ACCOMPLISHED

1. THE WORK ITEMS TO BE COMPLETED IN THIS PHASE ARE TO INCLUDE INSTALLATION OF THE AIRFIELD LIGHTING HOMERUN FROM THE TAXIWAY B WORK AREA BACK TO THE AIRFIELD ELECTRICAL VAULT BUILDING.
2. WORK AREA 4A SHALL BE PERFORMED WHILE WORK AREA 2A IS BEING PERFORMED TO MINIMIZE RUNWAY DOWNTIME.
3. WORK AREAS 4B THROUGH 4F SHALL BE PERFORMED CONSECUTIVELY TO MINIMIZE TAXIWAY B DOWNTIME.
4. AT ALL TIMES, THE CONTRACTOR'S OPERATIONS SHALL BE SUCH AS TO MINIMIZE CLOSURES.
5. AT THE COMPLETION OF ALL WORK AREA CONSTRUCTION, THE HAUL ROUTE, EQUIPMENT PARKING AREA, AND GATE ARE TO BE LEFT IN PLACE IN THEIR PRE-CONSTRUCTION CONDITION.
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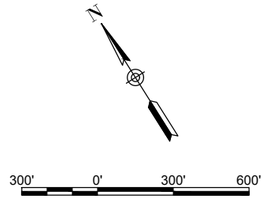

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- EXISTING IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- PROPOSED HAUL ROUTE
- PROPOSED EQUIPMENT PARKING AREA
- EXISTING FENCE
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SHEET TITLE

CONSTRUCTION SAFETY AND PHASING PLAN - WORK AREA 4

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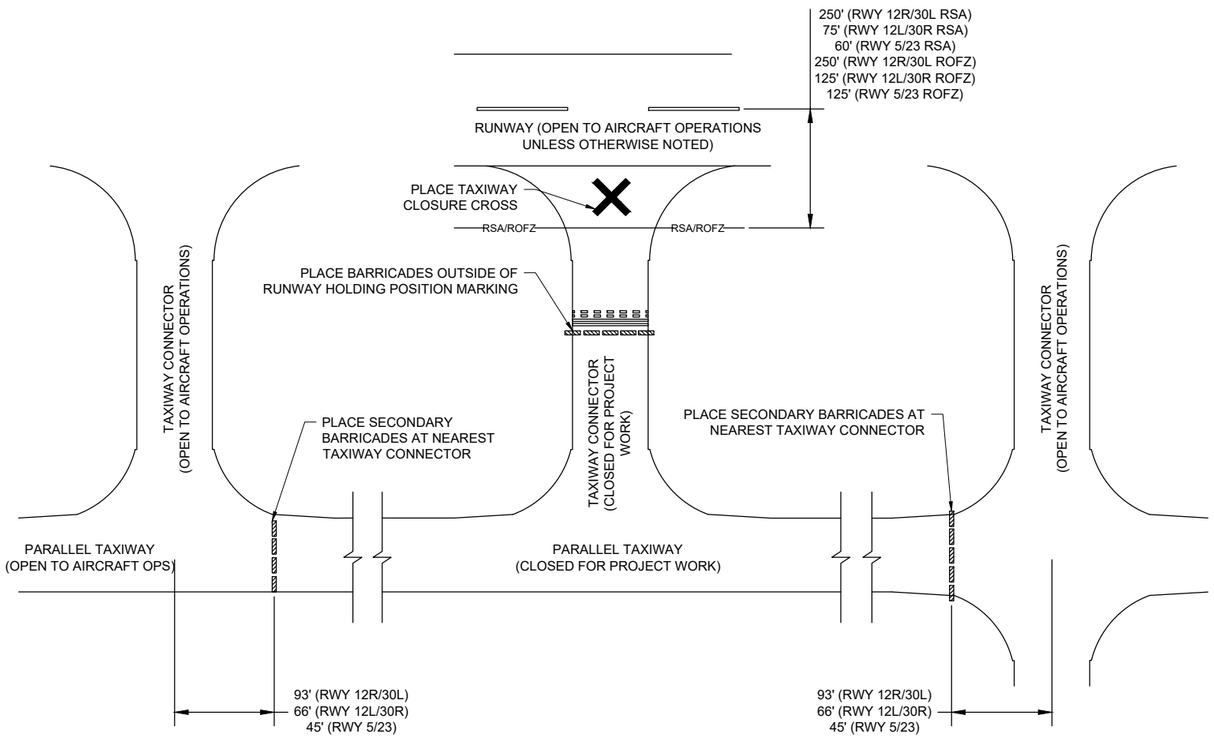

PLACEMENT OF BARRICADES AROUND WORK AREAS

NOT TO SCALE

SAFETY NOTES

1. FOLLOWING ARE THE CONSTRUCTION SAFETY PROCEDURES THAT THE CONTRACTOR SHALL FOLLOW THROUGHOUT THIS PROJECT. ADDITIONAL REQUIREMENTS ARE SHOWN ON THE CONSTRUCTION SAFETY AND PHASING PLAN SHEET AND THIS SHEET.
2. ALL PROVISIONS OF THE LATEST EDITION OF FAA ADVISORY CIRCULAR AC 150/5370-2 (CURRENT EDITION), "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION", APPLY TO THIS CONTRACT, EXCEPT AS MODIFIED BY THIS SAFETY PLAN, OR AS MODIFIED BY THE OWNER THROUGH THE RESIDENT ENGINEER/TECHNICIAN AT THE PRECONSTRUCTION CONFERENCE, OR DURING THE COURSE OF THE CONTRACT.
3. THE CONTRACTORS SHALL MINIMIZE DISRUPTION OF STANDARD OPERATING PROCEDURES FOR AERONAUTICAL ACTIVITY BY REMAINING WITHIN THE PRESCRIBED STAGING, CONSTRUCTION, AND PHASING AREAS PRESENTED ON THE CONSTRUCTION SAFETY AND PHASING PLAN SHEETS.
4. NO UNAUTHORIZED PERSONNEL SHALL ENTER ANY AREA OF THE AIRPORT THAT COULD POTENTIALLY BE HAZARDOUS. THE AIRPORT MANAGER RESERVES THE RIGHT TO SUSPEND OPERATIONS IN ORDER TO MAINTAIN SAFETY AT THE AIRPORT.
5. CONTRACTOR EQUIPMENT, VEHICLES, AND PROJECT MATERIALS SHALL BE STORED AT THE STAGING AREA SHOWN ON THE PLAN VIEW, EXCEPT AS OTHERWISE PROVIDED FOR AT THE PRECONSTRUCTION CONFERENCE.
6. ALL CONSTRUCTION EQUIPMENT OPERATING IN THE PRESCRIBED CONSTRUCTION AREA IS REQUIRED TO DISPLAY A CHECKERBOARD FLAG PROPERLY LOCATED OR A ROTATING BEACON (STROBE) AS SPECIFIED IN AC 150/5210-5, "PAINTING, MARKING, AND LIGHTING OF VEHICLES USED ON AN AIRPORT" LATEST EDITION.
7. NO CONSTRUCTION MATERIAL STOCKPILES SHALL BE LOCATED WITHIN 250' OF ANY ACTIVE RUNWAY, WITHIN 93' OF ANY OTHER ACTIVE AIRPORT OPERATIONS AREA, OR PENETRATE A PART 77 IMAGINARY SURFACE (PROVIDED BY THE RESIDENT ENGINEER/TECHNICIAN) EXTENDING OUT AND UPWARDS FROM ALL SIDES OF AN ACTIVE RUNWAY.
8. CLOSED AIRFIELD PHASING AREAS, OPEN TRENCHES, AND STOCKPILED MATERIALS AT THE CONSTRUCTION SITE SHALL BE PROMINENTLY MARKED WITH LIGHTED BARRICADES WITH STEADY BURNING OR FLASHING RED LIGHTS AS SPECIFIED IN 150/5370-2, "OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION, LATEST EDITION. LIGHTED BARRICADES MUST BE NO TALLER THAN 18" (EXCLUSIVE OF SUPPLEMENTARY LIGHTS AND FLAGS) ON THE TAXIWAYS AND COMPLY WITH ADVISORY CIRCULAR 150/5370-2, LATEST EDITION. CONTRACTOR SHALL NIGHT CHECK BARRICADES DAILY FOR PROPER OPERATION.
9. NO OPEN TRENCHES WITHIN 250' OF AN ACTIVE RUNWAY CENTERLINE OR WITHIN 93' OF ANY AIRPORT OPERATIONS AREA WILL BE PERMITTED UNLESS PROPERLY MARKED. OTHER TRENCHES SHALL BE MAINTAINED SAFE, I.E., BARRICADED OR COVERED WITH STEEL PLATES IN ALL OTHER AREAS.
10. OPEN TRENCHES, EXCAVATIONS, AND STOCKPILED MATERIALS AT THE CONSTRUCTION SITE SHOULD BE PROMINENTLY MARKED WITH ORANGE FLAGS AND LIGHTED WITH FLASHING RED LIGHTS DURING HOURS OF RESTRICTED VISIBILITY AND/OR DARKNESS.
11. NO CONSTRUCTION EQUIPMENT GREATER THAN 25' TALL WILL BE PERMITTED ON THE AIRPORT. HOWEVER OTHER EQUIPMENT TALLER THAN 25' MAY BE PERMITTED WITH THE APPROVAL OF THE AIRPORT MANAGER AND AIRSPACE APPROVAL BY THE FAA.
12. NO OPEN FLAME WELDING OR TORCH CUTTING OPERATION IS PERMITTED UNLESS ADEQUATE FIRE AND SAFETY PRECAUTIONS ARE PROVIDED AND HAVE BEEN APPROVED BY THE AIRPORT MANAGER NO FLARE POTS ARE ALLOWED ON THE PROJECT.
13. SOIL, DEBRIS, AND LOOSE MATERIAL DROPPED OR TRUCKED ONTO AIRPORT ROADS, TAXIWAYS, AND SOD SURFACES, OR WHICH CAN BE BLOWN ONTO SUCH SURFACES, SHALL BE IMMEDIATELY SWEPT, PICKED UP AND REMOVED, OR PLACED INTO CLOSED CONTAINERS. ANY DAMAGE TO AIRPORT PROPERTY SHALL BE REPAIRED IMMEDIATELY AT NO COST TO THE OWNER.
14. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAINTAINING AIRPORT LIGHTING AND NAVIGATIONAL ELECTRICAL SYSTEMS DURING CONSTRUCTION. A CONTACT PERSON AND TELEPHONE NUMBER FOR 24 HOUR EMERGENCY IMMEDIATE REPAIR SHALL BE SUBMITTED TO THE AIRPORT MANAGER AND RESIDENT ENGINEER/TECHNICIAN. HAUL ROUTES CROSSING PAVEMENT, DRAINAGE, MISCELLANEOUS. STRUCTURES AND/OR AIRFIELD CABLES SHALL BE PROTECTED FROM DAMAGE.
15. ALL AIRCRAFT AND AIRPORT OPERATIONS HAVE THE RIGHT-OF-WAY. CONTRACTOR TO YIELD TO VEHICLES AND REMAIN CLEAR AT ALL TIMES.
16. CONTRACTOR SHALL PLACE, SECURE, AND MAINTAIN LIGHTED BARRICADES AND CLOSURE CROSSES WHEN A RUNWAY/TAXIWAY/APRON IS CLOSED OR AS REQUIRED BY THE PLANS AND DESIGNATED BY THE RESIDENT ENGINEER/TECHNICIAN.
17. CONTRACTOR SHALL MARK HAZARDOUS AREA WITH STEADY-BURNING OR FLASHING RED LIGHTS DURING PERIODS OF LOW VISIBILITY AS REQUIRED.
18. THE CONTRACTOR SHALL PERIODICALLY PERFORM ONSITE INSPECTIONS THROUGHOUT THE DURATION OF THE PROJECT WITH THE IMMEDIATE REMEDY OF ANY DIFFERENCES, WHETHER CAUSED BY NEGLIGENCE, OVERSIGHT, OR PROJECT SCOPE CHANGE.
19. CONTRACTOR SHALL MOVE MAINTENANCE OF TRAFFIC COMPONENTS AT THE WRITTEN DIRECTION OF THE RESIDENT ENGINEER/TECHNICIAN AT NO ADDITIONAL COST.
20. CONTRACTOR SHALL NOT REMOVE THE BARRICADES WITHOUT THE APPROVAL BY THE RESIDENT ENGINEER/TECHNICIAN.
21. CONTRACTOR SHALL MAINTAIN FLASHERS, SIGNS AND/OR BARRICADES AS REQUIRED BY THE PLANS, CITY OR COUNTY REGULATIONS OR CONTRACTOR ACTIVITIES. CONTRACTOR SHALL OBTAIN ANY AND ALL REQUIRED LOCAL PERMITS UNLESS SPECIFIED OTHERWISE.
22. THE CONTRACTOR SHALL UTILIZE WATER AND/OR CHEMICALS APPROVED BY THE RESIDENT ENGINEER/TECHNICIAN AS NECESSARY TO CONTROL DUST.
23. NO CONSTRUCTION VEHICLES SHALL BE DRIVEN ACROSS ANY ACTIVE RUNWAY, INCLUDING TURF RUNWAYS. CONSTRUCTION EQUIPMENT OR CONSTRUCTION ACTIVITY WILL NOT BE PERMITTED WITHIN 250' OF ANY ACTIVE RUNWAY CENTERLINE (150' FOR RUNWAY 5-23) OR WITHIN 93' OF ANY OTHER ACTIVE AIRPORT TAXIWAY OR APRON. HOWEVER, CONSTRUCTION MAY BE PERMITTED IN THESE AREAS IF THE CONTRACTOR HAS GAINED APPROVAL FROM THE AIRPORT MANAGER AT LEAST 7 DAYS IN ADVANCE OF THE SCHEDULED CONSTRUCTION PERIOD AND THE OPERATIONAL AREA IS CLOSED TO TRAFFIC AND PROPER NOTAMS ARE ISSUED BY THE AIRPORT MANAGER TO THE APPROPRIATE FLIGHT SERVICE STATION.
24. UNLESS SPECIFIED OTHERWISE, COST FOR THE ABOVE IS TO BE CONSIDERED INCIDENTAL TO THE PROJECT. SEPARATE PAYMENT SHALL NOT BE MADE.

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062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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SHEET TITLE

CONSTRUCTION SAFETY DETAILS AND NOTES - SHEET 1

APR 30, 2024 12:23 PM HERND01562
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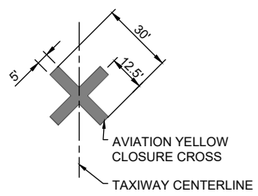
LIGHTED RUNWAY CLOSURE MARKER
NOT TO SCALE

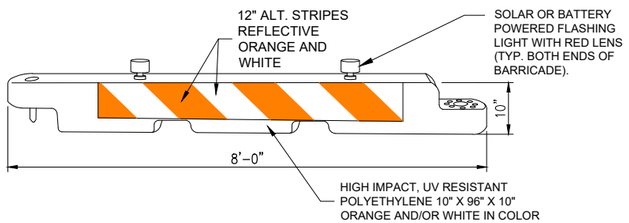
NOTES:

1. THE AIRPORT HAS TWO LIGHTED RUNWAY CLOSURE MARKERS AVAILABLE FOR USE ON THIS PROJECT. THE COST OF PLACING, OPERATING, MAINTAINING, AND REMOVING THE LIGHTED RUNWAY CLOSURE MARKERS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL RETURN THE AIRPORT-OWNED LIGHTED RUNWAY CLOSURE MARKERS IN THE SAME OR BETTER CONDITION THAN AT THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE LIGHTED CROSSES AND MAKE PROMPT REPAIRS AS NECESSARY.
3. THE CONTRACTOR SHALL BE ON-CALL FOR 24-HOUR EMERGENCY MAINTENANCE WHEN LIGHTED CROSSES ARE BEING USED.
4. THE LIGHTED MARKERS SHALL BE PLACED OVER THE RUNWAY NUMERALS AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.
5. LIGHTED MARKERS SHALL BE SECURED FROM WIND EFFECTS BY THE CONTRACTOR AS RECOMMENDED BY THE MANUFACTURER.
6. THE LIGHTED MARKERS SHALL BE IN PLACE AND OPERATING WHENEVER THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED.



TAXIWAY CLOSURE CROSS MARKER DETAIL

NOT TO SCALE



LOW-PROFILE BARRICADE DETAIL
NOT TO SCALE

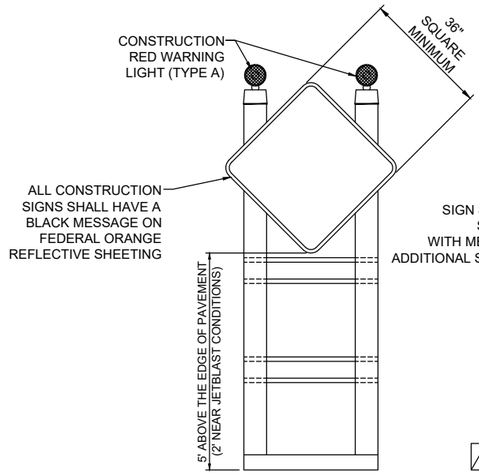
DETAIL ABOVE REPRESENTS ONE OPTION FOR LOW-PROFILE BARRICADES. OTHER OPTIONS MAY BE UTILIZED AS LONG AS THEY MEET THE REQUIREMENTS OF THE PROJECT, INCLUDING BARRICADE NOTE 1.

W20-3
48" x 48"
A

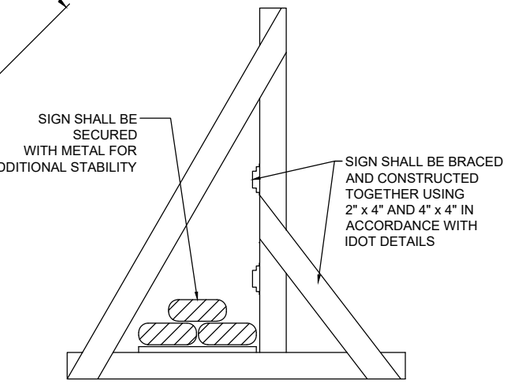
W20-3
48" x 48"
B

CONSTRUCTION SIGNS

NOT TO SCALE



FRONT VIEW



SIDE VIEW

SIGNAGE NOTES

1. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE ILLINOIS SUPPLEMENT (LATEST EDITION) AND THE FAA ADVISORY CIRCULARS (LATEST EDITION) UNLESS NOTED OTHERWISE. THE FAA OR MORE STRINGENT SPECIFICATIONS SHALL GOVERN.
2. UNLESS OTHERWISE SPECIFIED, CONSTRUCTION SIGNS SHALL BE MOUNTED ON PORTABLE OR NON-PORTABLE SUPPORTS. A PORTABLE SUPPORT IS DEFINED AS A TYPICAL SIGN STANDARD AS SHOWN ON THIS SHEET, OR A SMALL LIGHT WEIGHT TRAILER. A NON-PORTABLE SUPPORT IS DEFINED AS DRIVEN METAL OR WOOD POST. ALL SIGNS, REGARDLESS OF THE TYPE OF SUPPORTS USED, SHALL BE MOUNTED SUCH THAT THE MESSAGE ON THE SIGN IS LEVEL IN THE HORIZONTAL PLANE AFTER PLACEMENT. THE COST OF CONSTRUCTION WARNING LIGHTS SHALL BE INCLUDED IN THE COST OF THE CONSTRUCTION SIGNS.
3. CONSTRUCTION RED WARNING LIGHT: THESE ARE PORTABLE, LENS DIRECTED, ENCLOSED LIGHTS. THE COLOR OF THE LIGHT EMITTED SHALL BE RED. THEY ARE TO BE USED IN A LOW INTENSITY FLASHING MODE (TYPE A).
4. THE LIGHTING SHALL BE MAINTAINED IN OPERATION DURING THE HOURS OF DARKNESS BETWEEN 1/2 HOUR AFTER SUNSET AND 1/2 HOUR BEFORE SUNRISE AND WHEN CONDITIONS EXIST WHICH TEND TO OBSCURE VISION.
5. COST FOR PROVIDING, PLACING, MAINTAINING, AND REMOVING SIGNS SHALL BE INCLUDED IN ITEM AR150540 HAUL ROUTE.

BARRICADE NOTES

1. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE ILLINOIS SUPPLEMENT (LATEST EDITION) AND THE FAA ADVISORY CIRCULARS (LATEST EDITION) UNLESS NOTED OTHERWISE. THE FAA OR MORE STRINGENT SPECIFICATIONS SHALL GOVERN.
2. BARRICADES SHALL BE "LOW-PROFILE" WITH A MAXIMUM HEIGHT OF 18" ABOVE GROUND, EXCLUSIVE OF ASSOCIATED WARNING LIGHTS AND FLAGS.
3. BARRICADES SHALL BE SPACED END TO END THE WIDTH OF THE PAVEMENT, WITH GAPS BETWEEN BARRICADES NOT TO EXCEED 4' WIDE. BARRICADES ARE TO BE SET BACK 66' FROM THE ACTIVE TAXIWAY CENTERLINE OR AS SHOWN ON THE PLANS.
4. CONSTRUCTION RED WARNING LIGHT: THESE ARE PORTABLE, LENS DIRECTED, ENCLOSED LIGHTS. THE COLOR OF THE LIGHT EMITTED SHALL BE RED. THEY MAY BE USED IN EITHER A STEADY BURN (TYPE C) OR LOW INTENSITY FLASHING MODE (TYPE A) UNLESS NOTED OTHERWISE.
5. THE LIGHTING SHALL BE MAINTAINED IN OPERATION DURING THE HOURS OF DARKNESS BETWEEN 1/2 HOUR BEFORE SUNSET AND 1/2 HOUR AFTER SUNRISE AND WHEN CONDITIONS EXIST WHICH TEND TO OBSCURE VISION.
6. BARRICADES SHALL BE SECURED TO THE GROUND BY APPROVED METHODS TO PREVENT MOVEMENT BY PROP WASH, JET BLAST OR OTHER WIND CURRENTS.
7. THE ONLY COLOR COMBINATION ON BARRICADES IS ORANGE AND WHITE. THE ORANGE STRIPES SHALL BE ENCAPSULATED LENS REFLECTIVE SHEETING. THE WHITE STRIPES SHALL BE EITHER ENCAPSULATED OR ENCLOSED LENS REFLECTIVE SHEETING AND MUST BE IN ACCEPTABLE CONDITION.
8. COST FOR PROVIDING, PLACING, MAINTAINING, AND REMOVING BARRICADES SHALL BE PAID FOR UNDER ITEM AR150530 - TRAFFIC MAINTENANCE.

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LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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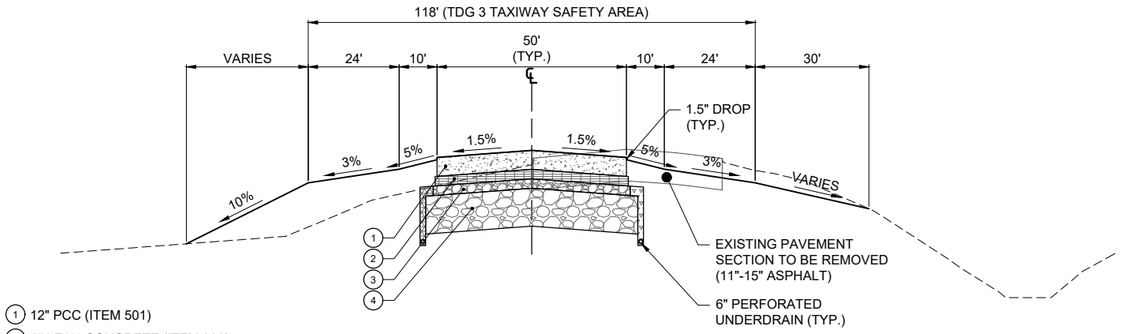
SHEET TITLE

CONSTRUCTION SAFETY DETAILS AND NOTES - SHEET 2

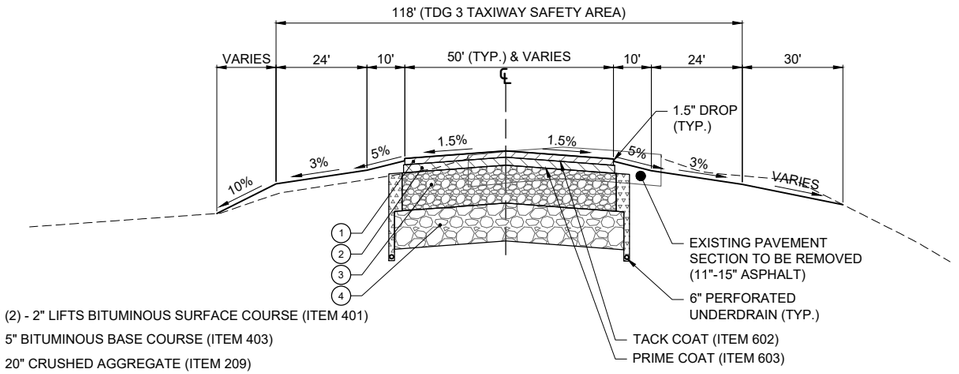


1. 12" PCC (ITEM 501)
2. 6" LEAN CONCRETE (ITEM 306)
3. 6" CRUSHED AGGREGATE (ITEM 209)
4. 24" OVERSIZE AGGREGATE (ITEM 208)

TYPICAL SECTION A-A - PROPOSED TAXIWAY B

NOT TO SCALE

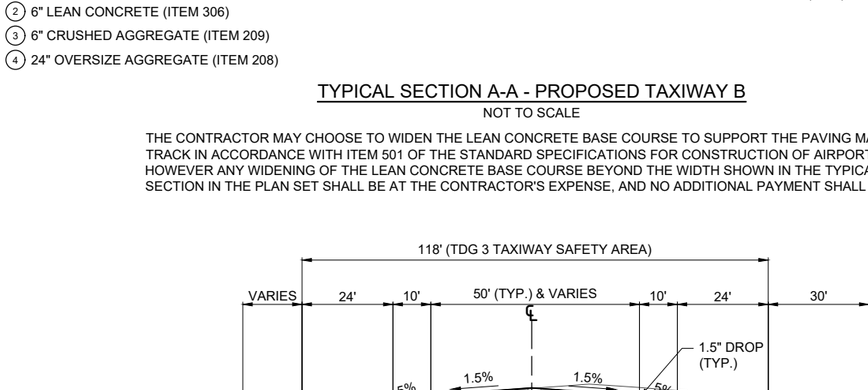
THE CONTRACTOR MAY CHOOSE TO WIDEN THE LEAN CONCRETE BASE COURSE TO SUPPORT THE PAVING MACHINE TRACK IN ACCORDANCE WITH ITEM 501 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS; HOWEVER ANY WIDENING OF THE LEAN CONCRETE BASE COURSE BEYOND THE WIDTH SHOWN IN THE TYPICAL CROSS SECTION IN THE PLAN SET SHALL BE AT THE CONTRACTOR'S EXPENSE, AND NO ADDITIONAL PAYMENT SHALL BE MADE.



1. (2) - 2" LIFTS BITUMINOUS SURFACE COURSE (ITEM 401)
2. 5" BITUMINOUS BASE COURSE (ITEM 403)
3. 20" CRUSHED AGGREGATE (ITEM 209)
4. 24" OVERSIZE AGGREGATE (ITEM 208)

TYPICAL SECTION B-B - PROPOSED TAXIWAY B TRANSITION

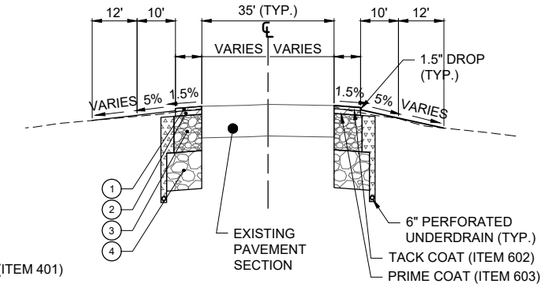
NOT TO SCALE



1. (2) - 2" LIFTS BITUMINOUS SURFACE COURSE (ITEM 401)
2. 5" BITUMINOUS BASE COURSE (ITEM 403)
3. 18" CRUSHED AGGREGATE (ITEM 209)
4. 24" OVERSIZE AGGREGATE (ITEM 208)

TYPICAL SECTION C-C - PROPOSED TAXIWAY B6 SOUTH - FILLETS

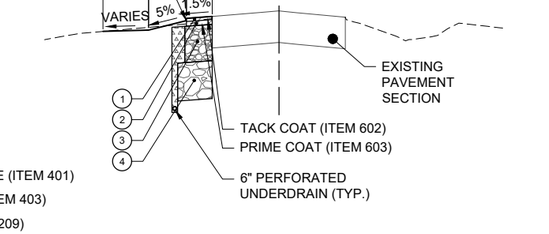
NOT TO SCALE



1. 2" BITUMINOUS SURFACE COURSE (ITEM 401)
2. 3" BITUMINOUS BASE COURSE (ITEM 403)
3. 23" CRUSHED AGGREGATE (ITEM 209)
4. 24" OVERSIZE AGGREGATE (ITEM 208)

TYPICAL SECTION D-D - PROPOSED TAXIWAY B6 NORTH - FILLETS

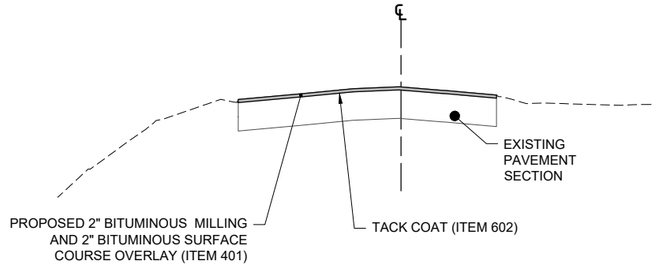
NOT TO SCALE



1. 2" BITUMINOUS SURFACE COURSE (ITEM 401)
2. 3" BITUMINOUS BASE COURSE (ITEM 403)
3. 23" CRUSHED AGGREGATE (ITEM 209)
4. 24" OVERSIZE AGGREGATE (ITEM 208)

TYPICAL SECTION E-E - PROPOSED TAXIWAY B7 NORTH - FILLET

NOT TO SCALE



TYPICAL SECTION F-F - PROPOSED TAXIWAY B7 SOUTH - MILL & OVERLAY

NOT TO SCALE

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062-057281
LICENSED
PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION,
PHASE 3: SOUTHEAST &
TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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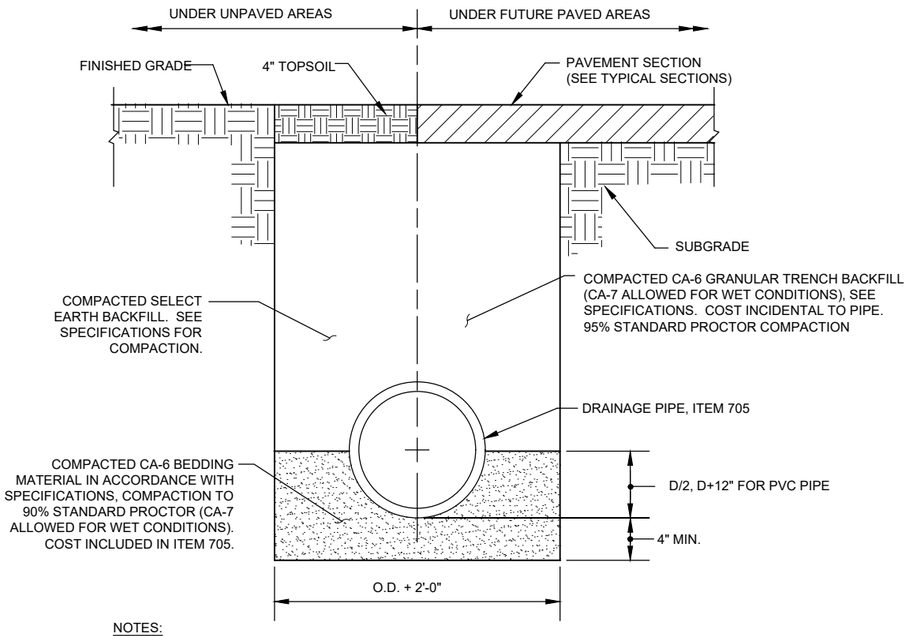
TYPICAL SECTIONS

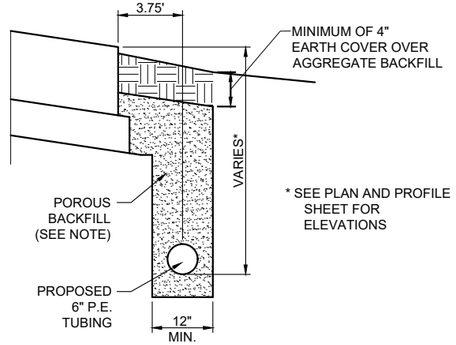
APR 30, 2024 12:23 PM HERND01562
I:\23.JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\C-301-TYP



NOTES:

1. UNSUITABLE MATERIAL ENCOUNTERED DURING PLACEMENT OF BEDDING SHALL BE REMOVED AND REPLACED.
2. WITHIN 3 FEET OF PAVED AREA, GRANULAR BACKFILL IS TO BE USED INSTEAD OF EARTH BACKFILL.
3. AT CONTRACTOR'S OPTION IDOT CONTROLLED LOW STRENGTH MATERIAL WITH A HIGH EARLY STRENGTH, "FLASH FILL", MAY BE USED INSTEAD OF GRANULAR TRENCH BACKFILL UNDER PAVEMENTS AT NO ADDITIONAL COST TO THE CONTRACT.

PIPE TRENCH DETAIL
NOT TO SCALE

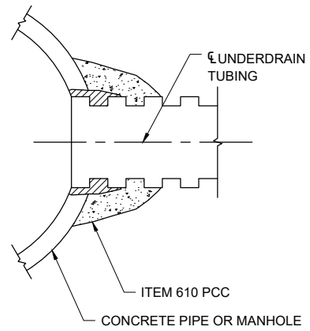


UNDERDRAIN DETAIL
NOT TO SCALE

NOTE:
POROUS BACKFILL SHALL CONFORM TO THE REQUIREMENTS FOR IDOT CA-14 OR IDOT CA-16 AND WILL BE CONSIDERED INCIDENTAL TO AR705506 6" PERF. UNDERDRAIN AND NO ADDITIONAL COMPENSATION ALLOWED. CONTRACTOR SHALL PLACE AND CONSOLIDATE THE POROUS BACKFILL TO THE SATISFACTION OF THE RESIDENT ENGINEER/TECHNICIAN.

UNDERDRAIN NOTES

1. THE CONTRACTOR SHALL INSTALL THE PROPOSED 6" P.E. TUBING UNDERDRAINS TO THE DEPTH AND GRADES SHOWN ON THE PLANS. THE UNDERDRAINS SHALL BE INSTALLED AFTER THE LIME SUBGRADE PROCESSING HAS BEEN COMPLETED.
2. THE 6" P.E. TUBING SHALL BE CAPPED AT THE ENDS WHICH DO NOT CONNECT INTO EXISTING STRUCTURES.
3. CONNECTING UNDERDRAINS TO EXISTING STRUCTURES SHALL BE INCLUDED IN THE COST OF THE UNDERDRAINS THEMSELVES, AND MAY INCLUDE CORING INTO THE EXISTING STRUCTURE WALL AND GROUTING THE UNDERDRAIN IN PLACE.
4. THE TRENCH SHALL BE BACKFILLED AND COMPACTED WITH POROUS BACKFILL NO. 1 MATERIAL. THE TRENCH LOCATED IN THE PROPOSED PAVEMENT AREAS WILL BE BACKFILLED AS SHOWN IN THE DETAIL ON THIS SHEET. THE TRENCH LOCATED IN TURF AREAS SHALL BE BACKFILLED UP TO WITHIN 12" OF THE EXISTING GROUND ELEVATION. THE REMAINING 12" OF TRENCH WILL BE BACKFILLED AND COMPACTED WITH EARTH MATERIAL.
5. POROUS BACKFILL SHALL CONFORM TO THE REQUIREMENTS FOR IDOT CA-14 OR IDOT CA-16 AND WILL BE CONSIDERED INCIDENTAL TO AR705506 6" PERFORATED UNDERDRAIN AND NO ADDITIONAL COMPENSATION ALLOWED. CONTRACTOR SHALL PLACE AND CONSOLIDATE THE POROUS BACKFILL TO THE SATISFACTION OF THE RESIDENT ENGINEER/TECHNICIAN.



STORM SEWER CONCRETE COLLAR AND GROUT CONNECTION
NOT TO SCALE

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ISSUE: APRIL 19, 2024
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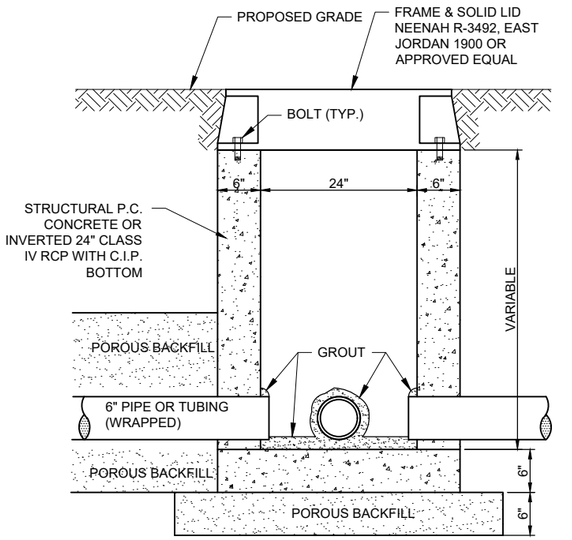
CAD FILE: C-301-TYP.DWG
DESIGN BY: JRH 3/26/2024
DRAWN BY: JRH 3/26/2024
REVIEWED BY: BSS 4/19/2024

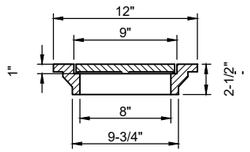
SHEET TITLE

DRAINAGE DETAILS - SHEET 1



UNDERDRAIN COLLECTION STRUCTURE DETAIL

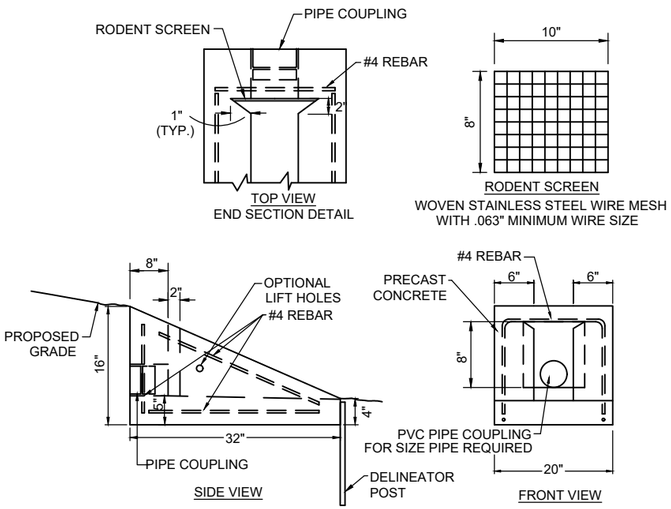
NOT TO SCALE



CAST IRON FRAME AND GRATE

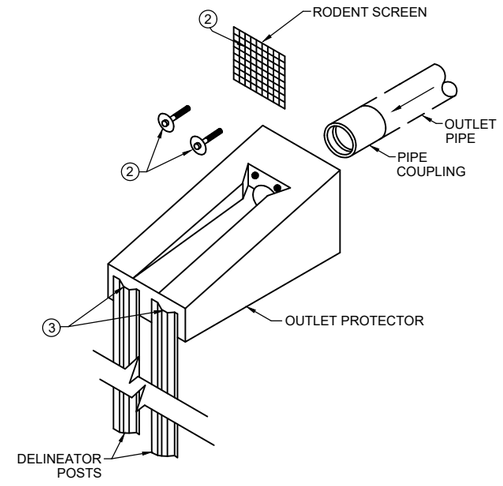
NEENAH R-6450-AG,
EAST JORDAN 6206 DRAINAGE GRATE,
OR APPROVED EQUAL

NOTE: CONTRACTOR TO VERIFY
FRAME/GRATE WILL WORK WITH PROPOSED
PIPE PRIOR TO ORDERING.



UNDERDRAIN END SECTION

NOT TO SCALE



UNDERDRAIN END SECTION NOTES:

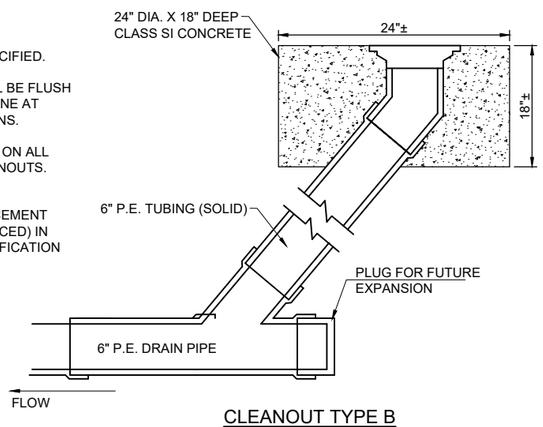
1. THE CONTRACTOR SHALL INSTALL THE PROPOSED UNDERDRAIN END SECTION AT THE LOCATION AND GRADE SHOWN ON THE PLANS. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. THE RODENT SCREEN SHALL BE 1/3" SQUARE (3 OPENINGS PER INCH). IT SHALL BE FASTENED TO THE OUTLET PROTECTOR WITH TWO 1/4" BY 1" HEX HEAD LAG SCREWS WITH FLAT WASHERS AND ANCHORS. THE APPROXIMATE LOCATION OF THE ANCHOR HOLES SHALL BE AS SHOWN ON THE DETAILS.
3. THE DELINEATOR POSTS USED TO ANCHOR THE OUTLET PROTECTOR SHALL BE EMBEDDED A MINIMUM OF 2'. THE EXPOSED END OF THESE DELINEATOR POSTS SHALL NOT PROTRUDE ABOVE THE TOP EDGE OF THE DOWNSTREAM END OF THE OUTLET PROTECTOR.
4. THE PROPOSED UNDERDRAIN END SECTION WILL BE PAID FOR UNDER ITEM AR705620 UNDERDRAIN END SECTION.

UNDERDRAIN END SECTION ISOMETRIC DETAIL

NOT TO SCALE

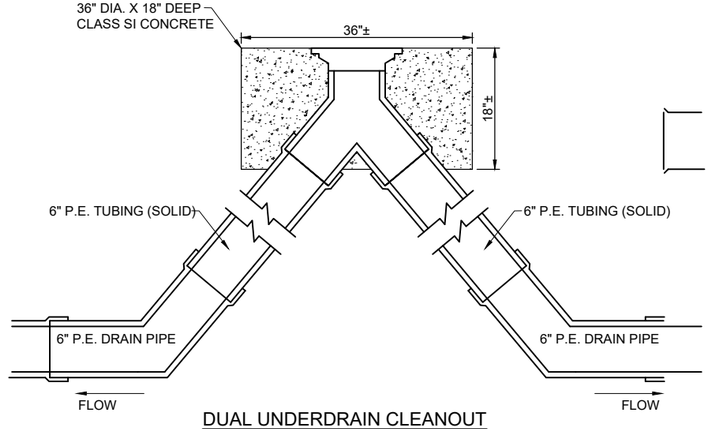
CLEANOUT NOTES

1. DIAMETER OF PIPE AS SPECIFIED.
2. TOP OF CLEANOUTS SHALL BE FLUSH WITH FINISHED GROUND LINE AT LOCATION SHOWN ON PLANS.
3. 1/2" CHAMFER TO BE USED ON ALL EXPOSED EDGES OF CLEANOUTS.
4. THE CONCRETE SHALL BE STRUCTURAL PORTLAND CEMENT CONCRETE (NON-REINFORCED) IN ACCORDANCE WITH SPECIFICATION 610.



CLEANOUT TYPE B

NOT TO SCALE



DUAL UNDERDRAIN CLEANOUT

NOT TO SCALE

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062-057231
LICENSED
PROFESSIONAL ENGINEER

DATE	LICENSE
SIGNED: 4/19/2024	EXPIRES: 11/30/2025

TAXIWAY B RELOCATION,
PHASE 3: SOUTHEAST &
TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
			DES	DWN	REV

ISSUE: APRIL 19, 2024
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DRAWN BY: JRH 3/26/2024
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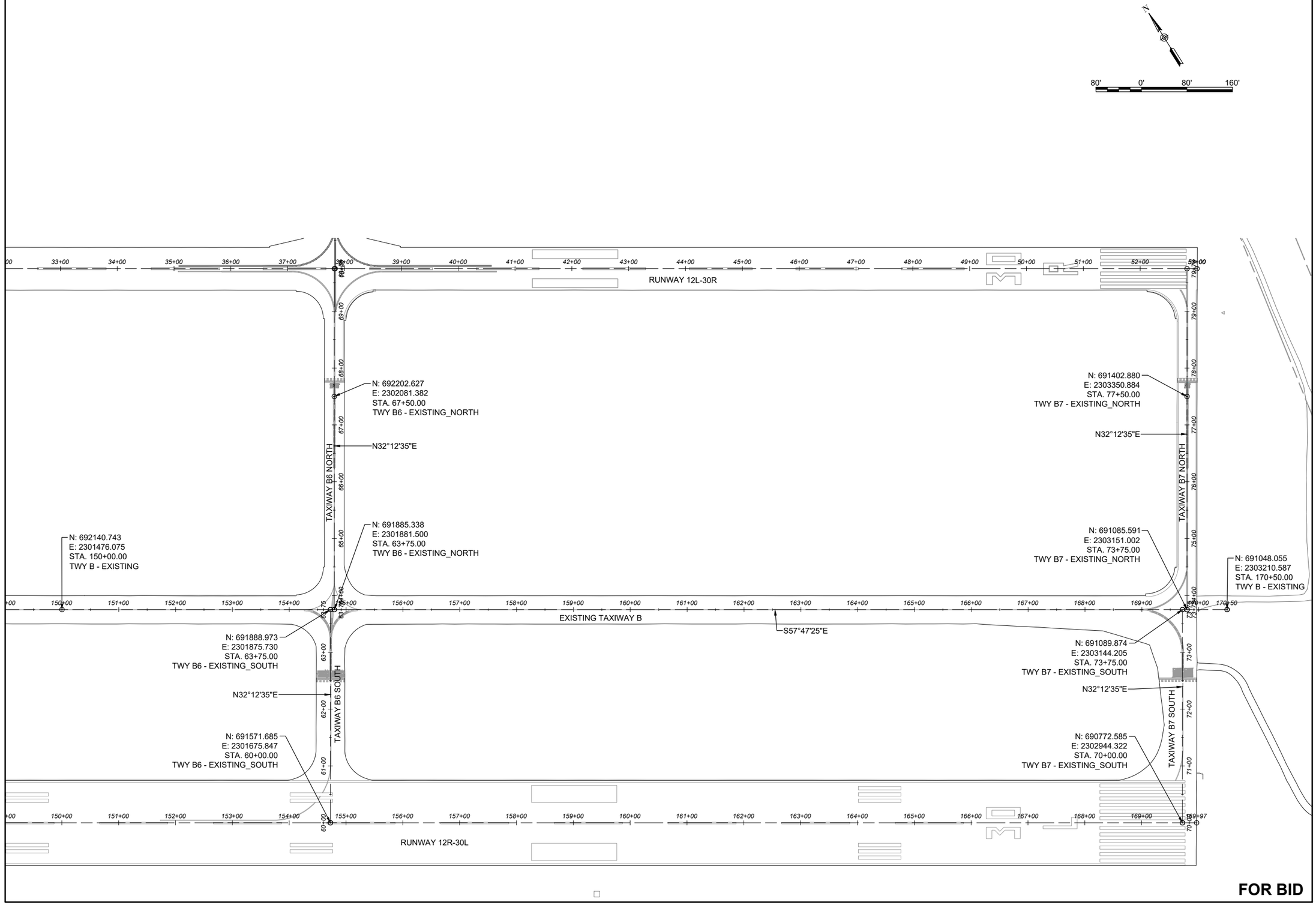
SHEET TITLE

DRAINAGE DETAILS -
SHEET 2



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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CONTRACT NO.: SD064

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ISSUE: APRIL 19, 2024
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CAD FILE: C-111-ALG.DWG
DESIGN BY: JRH 3/26/2024
DRAWN BY: JRH 3/26/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

EXISTING ALIGNMENT LAYOUT PLAN

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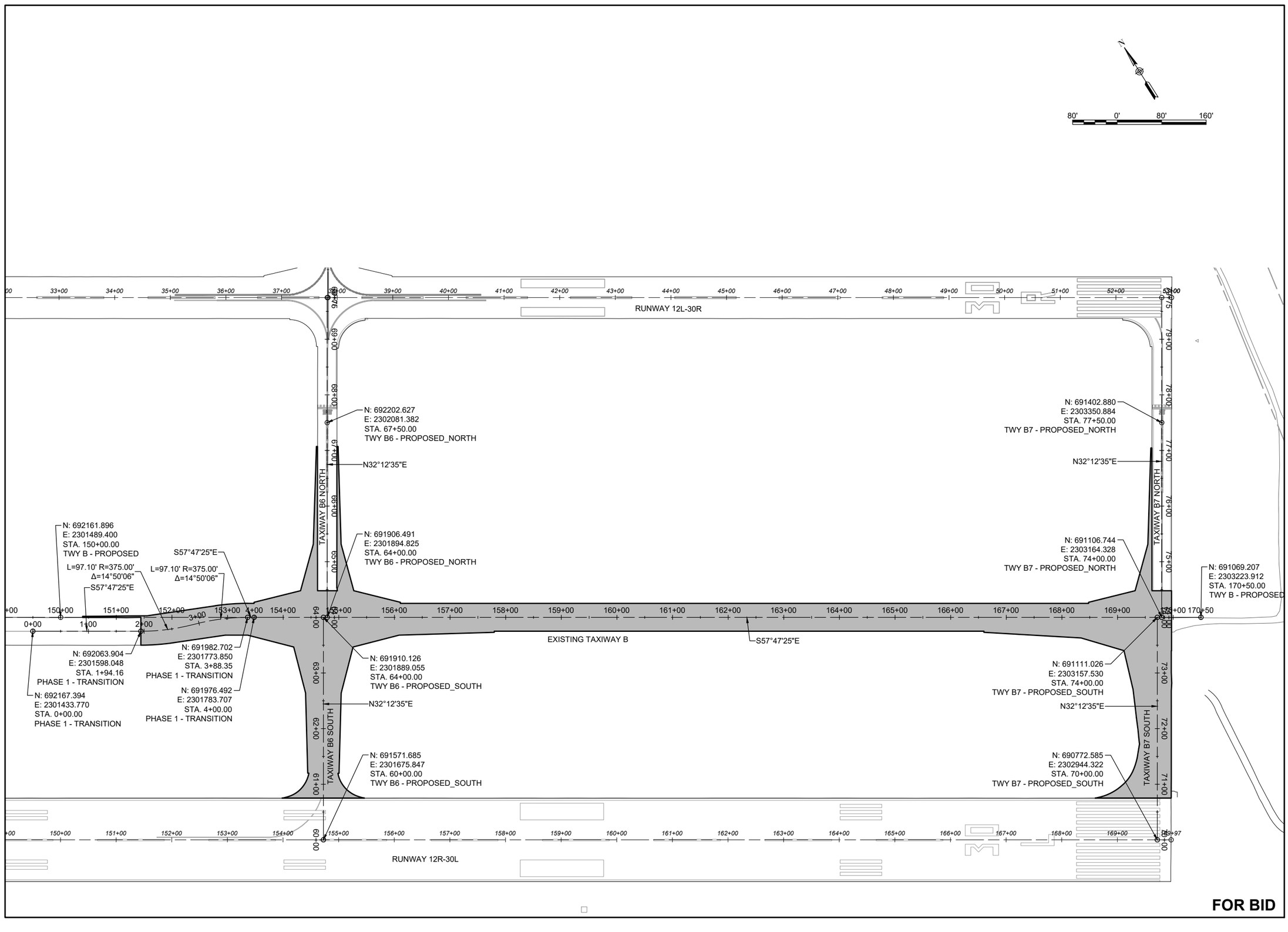

FOR BID

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PHASE 3: SOUTHEAST &
TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-112-ALG.DWG
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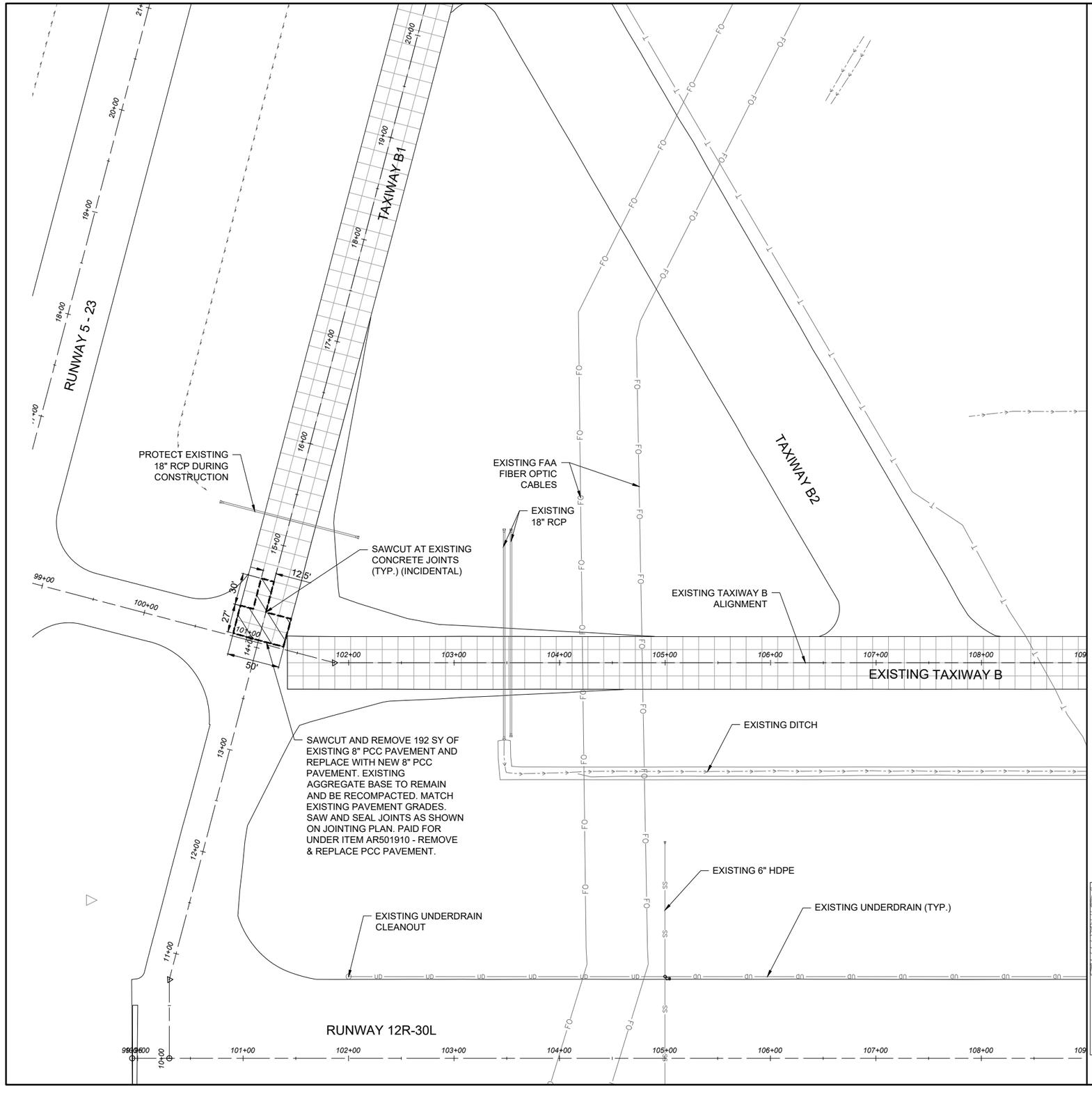
DRAWN BY: JRH 3/26/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED
ALIGNMENT LAYOUT
PLAN



50' 0' 50' 100'

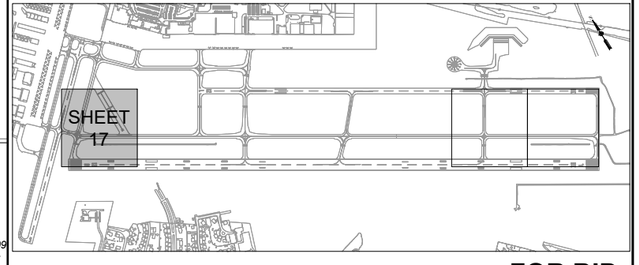
LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER
- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
- EXISTING FIBER OPTIC
- EXISTING TELEPHONE
- EXISTING COMMUNICATION
- PROPOSED PAVEMENT
- PROPOSED BITUMINOUS MILL & FILL
- PROPOSED PAVEMENT REMOVAL

DEMOLITION NOTES:

1. APPROXIMATE LOCATIONS OF KNOWN UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND SHALL PROTECT ALL UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO SATISFACTION OF THE UTILITY OWNER.
2. EXISTING CONCRETE PAVEMENT TO BE REMOVED ON THIS SHEET CONSISTS OF 8" PCC ON 6" CRUSHED AGGREGATE. THE 8" PCC SHALL BE REMOVED; THE 6" CRUSHED AGGREGATE BASE SHALL REMAIN.

DEMOLITION PLAN - KEY MAP



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LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 19, 2024
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CAD FILE: C-121-DEM.DWG
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REVIEWED BY: BSS 4/19/2024

SHEET TITLE

DEMOLITION PLAN STA. 100+00 TO STA. 109+00

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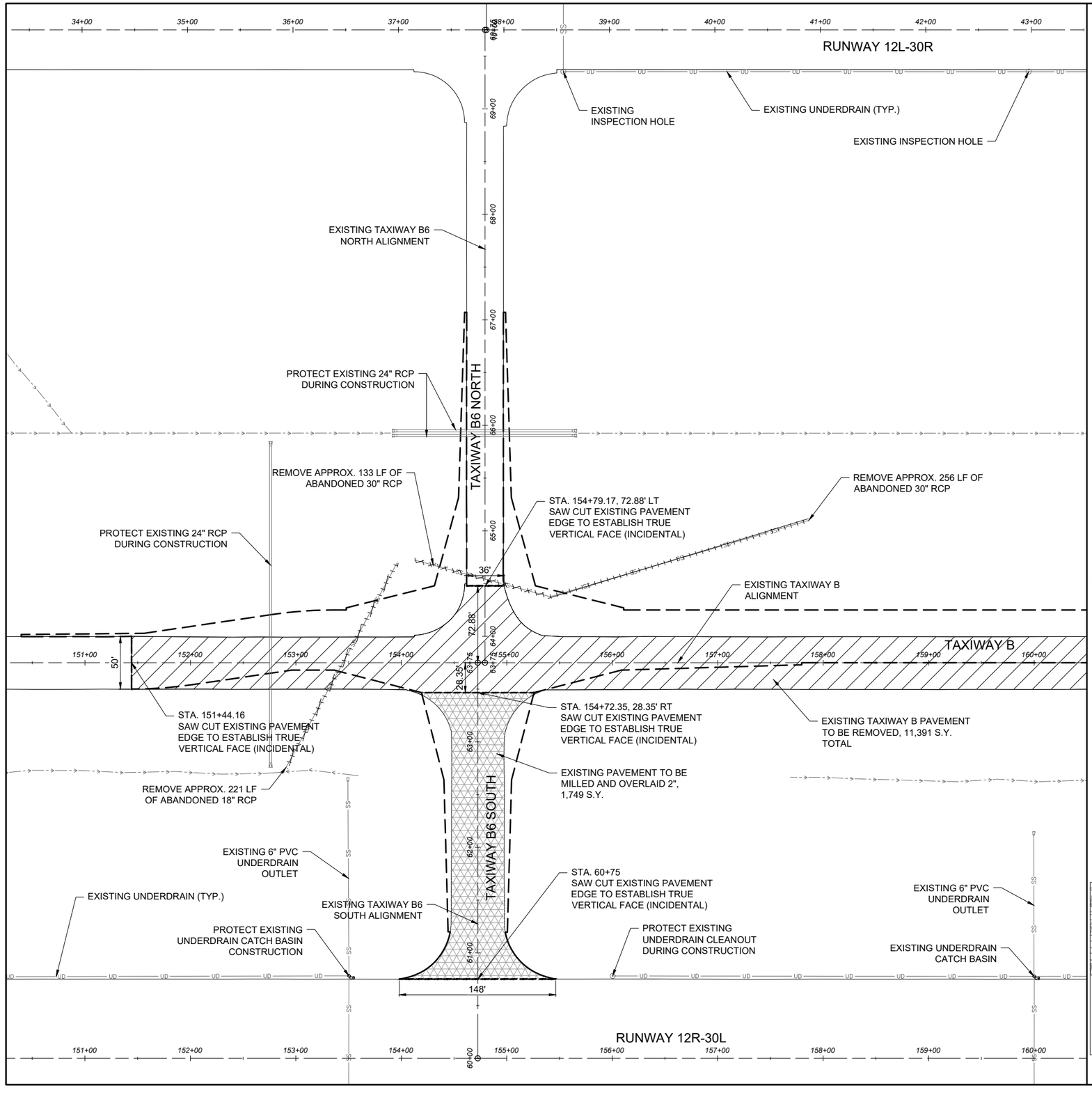

DEMOLITION NOTES:

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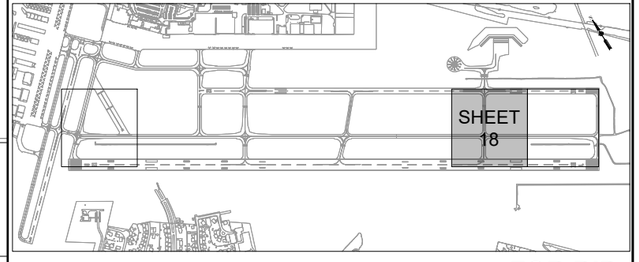
2. EXISTING PAVEMENT TO BE REMOVED CONSISTS OF 11"-15" ASPHALT ON SUBGRADE.

DEMOLITION PLAN - KEY MAP



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SHEET TITLE

DEMOLITION PLAN STA. 150+50 TO STA. 160+50

APR 30, 2024 12:25 PM HERND01562
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RUNWAY 12L-30R

44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00

EXISTING UNDERDRAIN (TYP.)

EXISTING INSPECTION HOLE

EXISTING INSPECTION HOLE

EXISTING TAXIWAY B7 NORTH ALIGNMENT

EXISTING CLEANOUT TO BE REMOVED TOP ELEV. 402.31 INV. ELEV. 400.45

PROTECT EXISTING CLEANOUT DURING CONSTRUCTION

PROTECT EXISTING 30" RCP DURING CONSTRUCTION

TAXIWAY B7 NORTH

PROTECT EXISTING UNDERDRAIN DURING CONSTRUCTION

EXISTING UNDERDRAIN TO BE REMOVED, 248 L.F.

STA. 169+79.58, 72.88' LT SAW CUT EXISTING PAVEMENT EDGE TO ESTABLISH TRUE VERTICAL FACE (INCIDENTAL)

PROTECT EXISTING 24" RCP DURING CONSTRUCTION

EXISTING CLEANOUT TO BE REMOVED TOP ELEV. 404.66 INV. ELEV. 402.66

STA. 169+71.54, 34.92' RT SAW CUT EXISTING PAVEMENT EDGE TO ESTABLISH TRUE VERTICAL FACE (INCIDENTAL)

35'

PROTECT EXISTING CLEANOUT DURING CONSTRUCTION

EXISTING TAXIWAY B ALIGNMENT

TAXIWAY B

161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 170+50

72.88'

34.92'

85.11'

EXISTING TAXIWAY B7 SOUTH ALIGNMENT

EXISTING TAXIWAY B PAVEMENT TO BE REMOVED, 11,391 S.Y. TOTAL

EXISTING DITCH

STA 169+11.62 34.92' RT.

66.91'

REMOVE 83 SY OF EXISTING BITUMINOUS ACCESS ROAD (UNKNOWN DEPTH). FILL WITH SOIL AND GRADE TO ESTABLISH POSITIVE DRAINAGE.

SAW CUT EXISTING PAVEMENT EDGE TO ESTABLISH TRUE VERTICAL FACE (INCIDENTAL)

STA 169+26.87 100.07' RT.

85.5'

TAXIWAY B7 SOUTH

EXISTING PAVEMENT TO BE MILLED AND OVERLAID 2", 2,109 S.Y.

EXISTING 6" PVC UNDERDRAIN OUTLET

STA. 70+75 SAW CUT EXISTING PAVEMENT EDGE TO ESTABLISH TRUE VERTICAL FACE (INCIDENTAL)

EXISTING UNDERDRAIN (TYP.)

EXISTING UNDERDRAIN CATCH BASIN

PROTECT EXISTING CLEANOUT DURING CONSTRUCTION

137'

RUNWAY 12R-30L

161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 169+97

MATCH LINE - STA. 160+50

50' 0' 50' 100'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER
- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
- EXISTING FIBER OPTIC
- EXISTING TELEPHONE
- EXISTING COMMUNICATION
- PROPOSED PAVEMENT
- PROPOSED BITUMINOUS MILL & FILL
- PROPOSED PAVEMENT REMOVAL

DEMOLITION NOTES:

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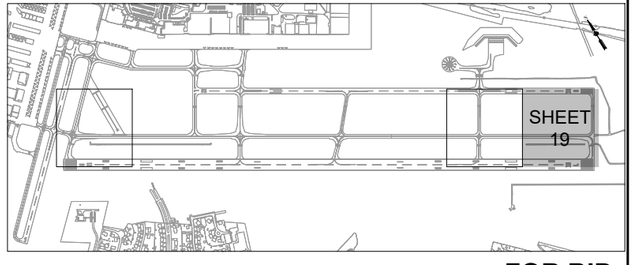
2. EXISTING PAVEMENT TO BE REMOVED CONSISTS OF 11"-15" ASPHALT ON SUBGRADE.

DEMOLITION PLAN - KEY MAP



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LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-121-DEM.DWG
DESIGN BY: JRH 3/17/2024
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SHEET TITLE

DEMOLITION PLAN STA. 160+50 TO STA. 170+50

APR 30, 2024 12:26 PM HERNDO1562
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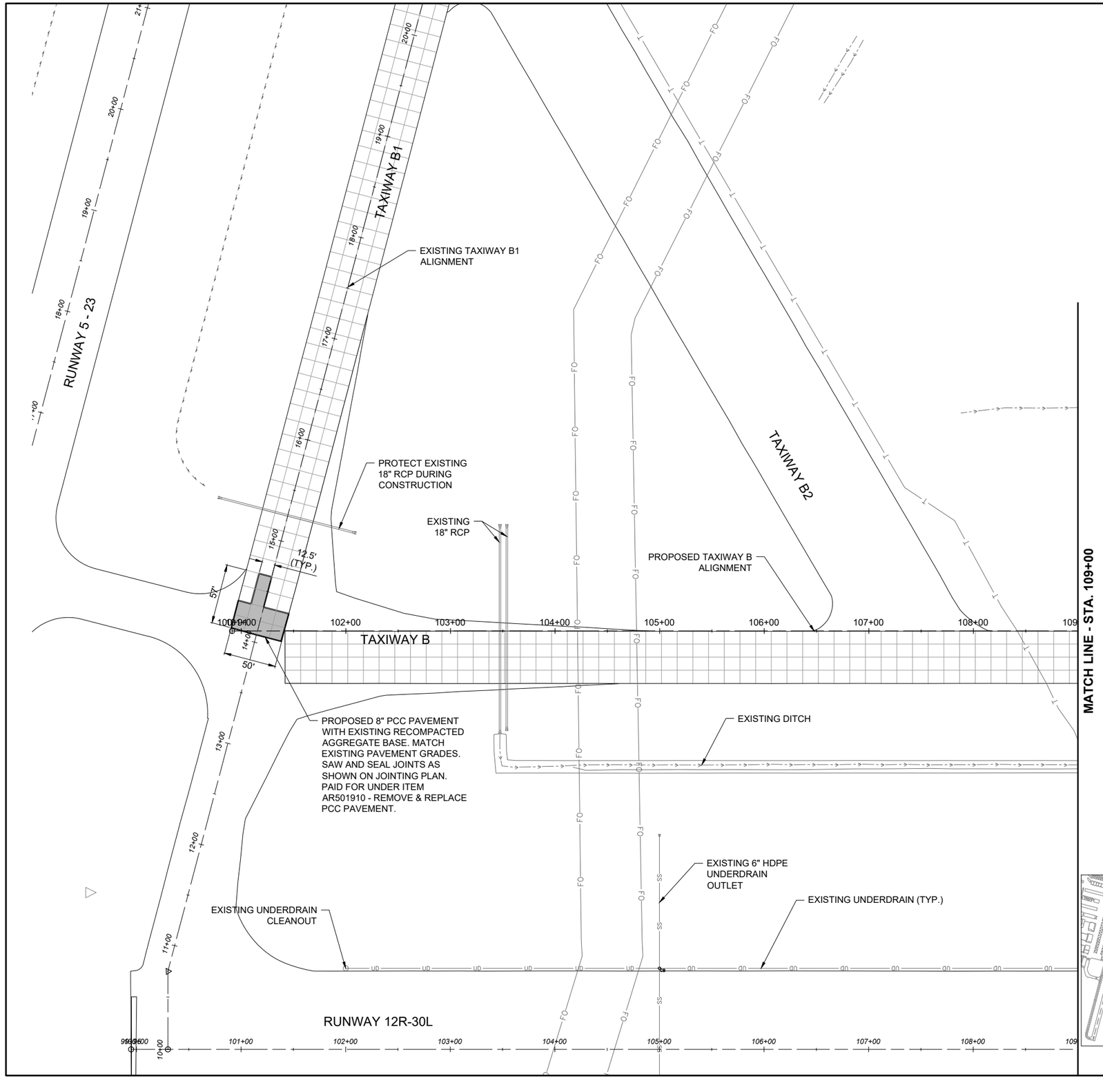

50' 0' 50' 100'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER
- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
- EXISTING FIBER OPTIC
- EXISTING TELEPHONE
- EXISTING COMMUNICATION
- PROPOSED CONCRETE PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED BITUMINOUS MILL & FILL

CONSTRUCTION NOTES:

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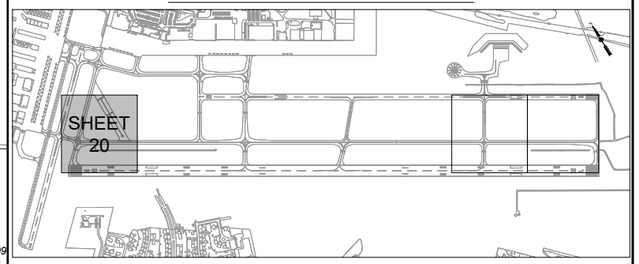
CONSTRUCTION PLAN - KEY MAP



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IDA NO.: CPS-5078
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ISSUE: APRIL 19, 2024
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CAD FILE: C-122-CON.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/24/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

CONSTRUCTION PLAN STA. 100+00 TO STA. 109+00

APR 30, 2024 12:26 PM HERND01562
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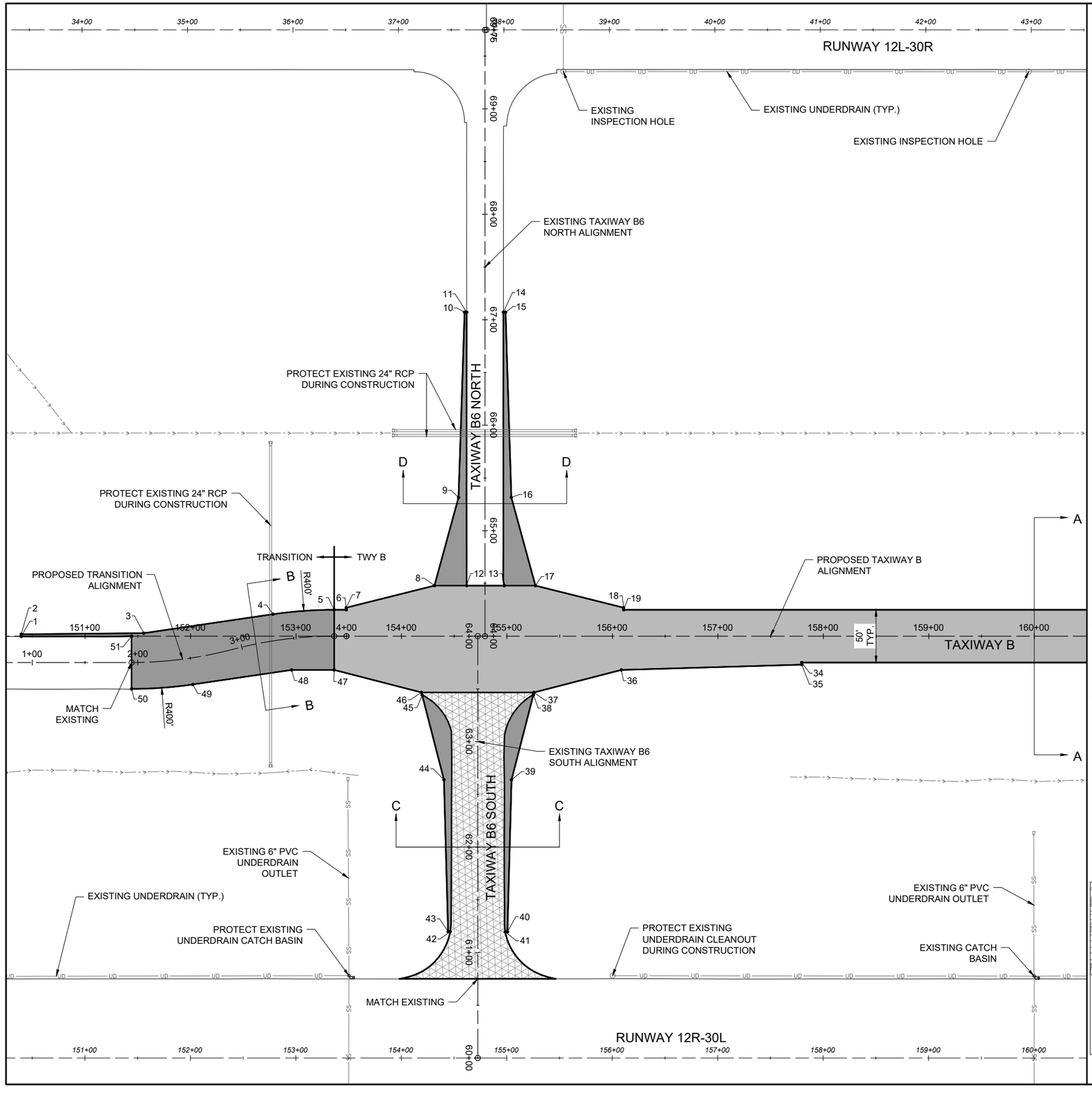

50' 0' 50' 100'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER
- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
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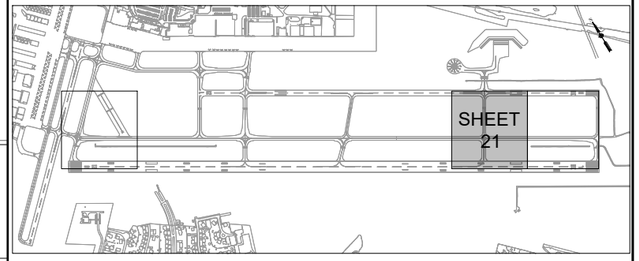

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Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

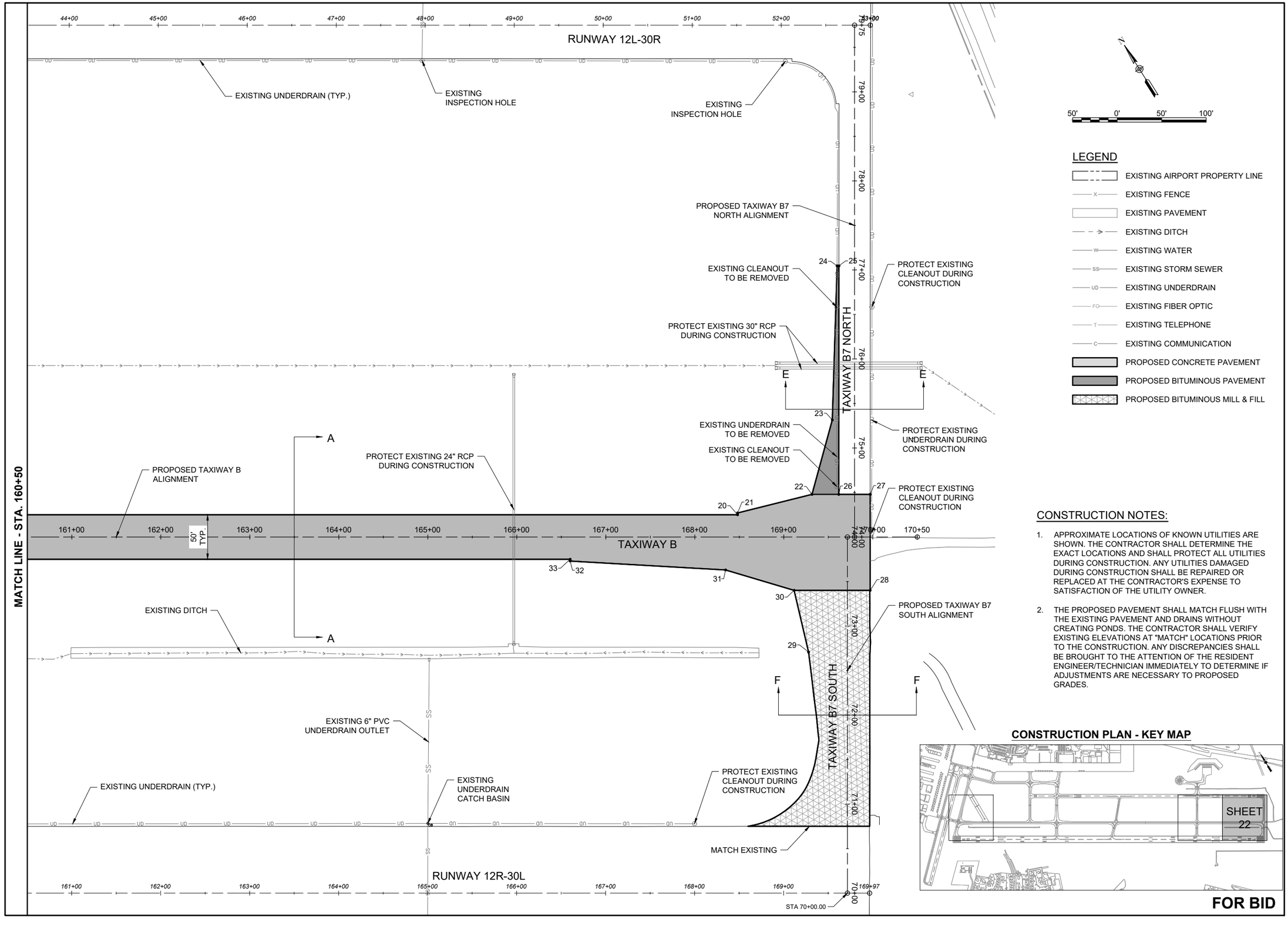
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-122-CON.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/24/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

CONSTRUCTION PLAN STA. 150+50 TO STA. 160+50



LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER
- EXISTING STORM SEWER
- EXISTING UNDERDRAIN
- EXISTING FIBER OPTIC
- EXISTING TELEPHONE
- EXISTING COMMUNICATION
- PROPOSED CONCRETE PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED BITUMINOUS MILL & FILL

CONSTRUCTION NOTES:

1. APPROXIMATE LOCATIONS OF KNOWN UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND SHALL PROTECT ALL UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO SATISFACTION OF THE UTILITY OWNER.
2. THE PROPOSED PAVEMENT SHALL MATCH FLUSH WITH THE EXISTING PAVEMENT AND DRAINS WITHOUT CREATING PONDS. THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AT "MATCH" LOCATIONS PRIOR TO THE CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER/TECHNICIAN IMMEDIATELY TO DETERMINE IF ADJUSTMENTS ARE NECESSARY TO PROPOSED GRADES.

CONSTRUCTION PLAN - KEY MAP

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CONSTRUCTION PLAN STA. 160+50 TO STA. 170+50

PAVEMENT GEOMETRY COORDINATE DATA TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	MATCH EXISTING	692140.6608	2301522.6272	406.56
2	EDGE OF PAVEMENT	692142.3530	2301523.6932	406.53
3	EDGE OF PAVEMENT	692081.3068	2301622.6220	406.49
4	EDGE OF PAVEMENT	692031.1871	2301735.8604	406.36
5	EDGE OF PAVEMENT	692003.8543	2301787.1753	406.24
6	EDGE OF PAVEMENT	691997.7354	2301796.8883	406.18
7	EDGE OF PAVEMENT	691999.4276	2301797.9544	406.14
8	EDGE OF PAVEMENT	691972.5232	2301879.8350	405.47
9	EDGE OF PAVEMENT	692031.0895	2301943.7479	404.10
10	EDGE OF PAVEMENT	692176.6450	2302042.1967	403.30
11	MATCH EXISTING	692175.5789	2302043.8889	403.33
12	MATCH EXISTING	691956.2731	2301905.6299	405.62
13	MATCH EXISTING	691937.2642	2301935.8044	405.56
14	MATCH EXISTING	692157.0194	2302073.3499	403.32
15	EDGE OF PAVEMENT	692155.9534	2302075.0421	403.29
16	EDGE OF PAVEMENT	692004.4173	2301986.0869	404.22
17	EDGE OF PAVEMENT	691921.4813	2301960.8578	405.41
18	EDGE OF PAVEMENT	691859.2436	2302020.4796	406.46
19	EDGE OF PAVEMENT	691857.5514	2302019.4135	406.50
20	EDGE OF PAVEMENT	691197.9885	2303066.3904	405.68
21	EDGE OF PAVEMENT	691199.6807	2303067.4564	405.64
22	EDGE OF PAVEMENT	691172.7763	2303149.3370	404.43
23	EDGE OF PAVEMENT	691231.3426	2303213.2500	403.10
24	EDGE OF PAVEMENT	691374.8861	2303310.0719	402.56
25	MATCH EXISTING	691373.8201	2303311.7642	402.59
26	MATCH EXISTING	691156.6901	2303174.8719	404.88

PAVEMENT GEOMETRY COORDINATE DATA TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
27	MATCH EXISTING	691137.9263	2303204.6572	404.58
28	MATCH EXISTING	691046.7164	2303147.1978	405.67
29	MATCH EXISTING	691024.9360	2303051.6890	405.61
30	MATCH EXISTING	691092.2661	2303074.8931	405.69
31	EDGE OF PAVEMENT	691152.6755	2303021.9744	405.90
32	EDGE OF PAVEMENT	691254.2534	2302879.5191	405.73
33	EDGE OF PAVEMENT	691255.9456	2302880.5851	405.95
34	EDGE OF PAVEMENT	691725.2352	2302135.6443	406.48
35	EDGE OF PAVEMENT	691723.5430	2302134.5783	406.26
36	EDGE OF PAVEMENT	691810.4408	2301987.1828	406.30
37	EDGE OF PAVEMENT	691836.5497	2301905.7583	406.68
38	EDGE OF PAVEMENT	691835.0703	2301904.1917	406.66
39	EDGE OF PAVEMENT	691777.8425	2301843.5886	406.30
40	EDGE OF PAVEMENT	691657.8908	2301763.3688	406.36
41	MATCH EXISTING	691658.9568	2301761.6766	406.53
42	MATCH EXISTING	691687.0527	2301717.6609	406.56
43	EDGE OF PAVEMENT	691688.1187	2301715.9687	406.33
44	EDGE OF PAVEMENT	691811.9983	2301789.3703	406.35
45	EDGE OF PAVEMENT	691890.9955	2301814.7008	406.67
46	EDGE OF PAVEMENT	691893.4228	2301815.4791	406.70
47	EDGE OF PAVEMENT	691955.5925	2301756.7719	406.42
48	EDGE OF PAVEMENT	691977.0713	2301722.6769	406.41
49	EDGE OF PAVEMENT	692015.4193	2301636.0360	406.56
50	MATCH EXISTING	692042.7514	2301584.7228	406.69

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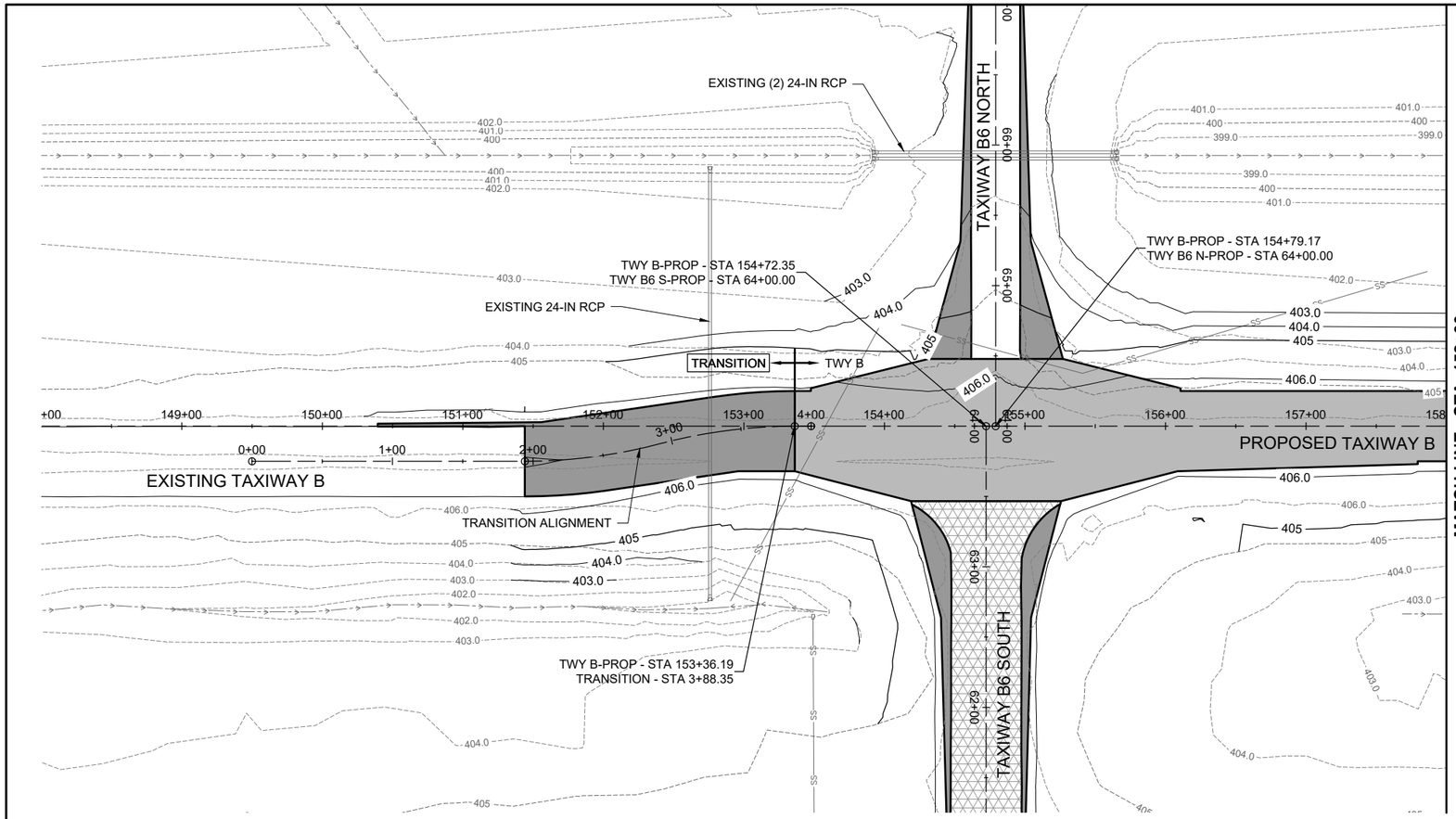
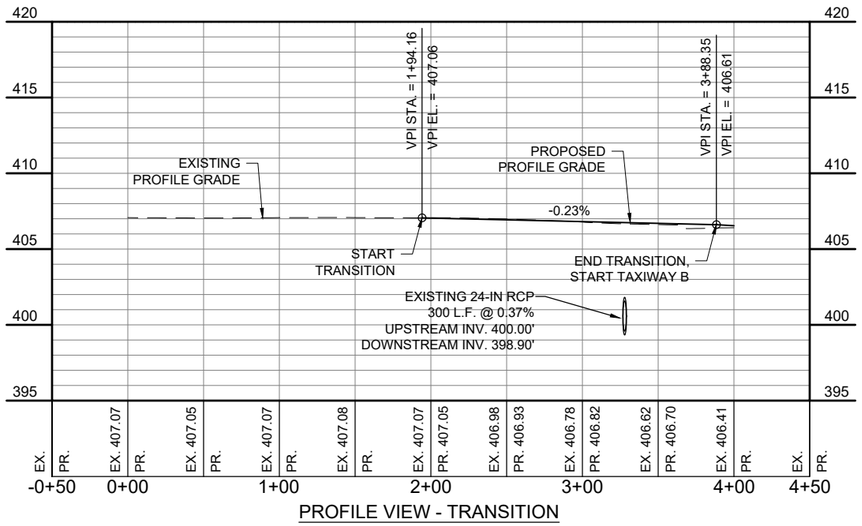


PLAN VIEW - TRANSITION



PROFILE VIEW - TRANSITION

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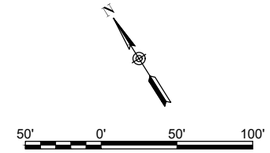

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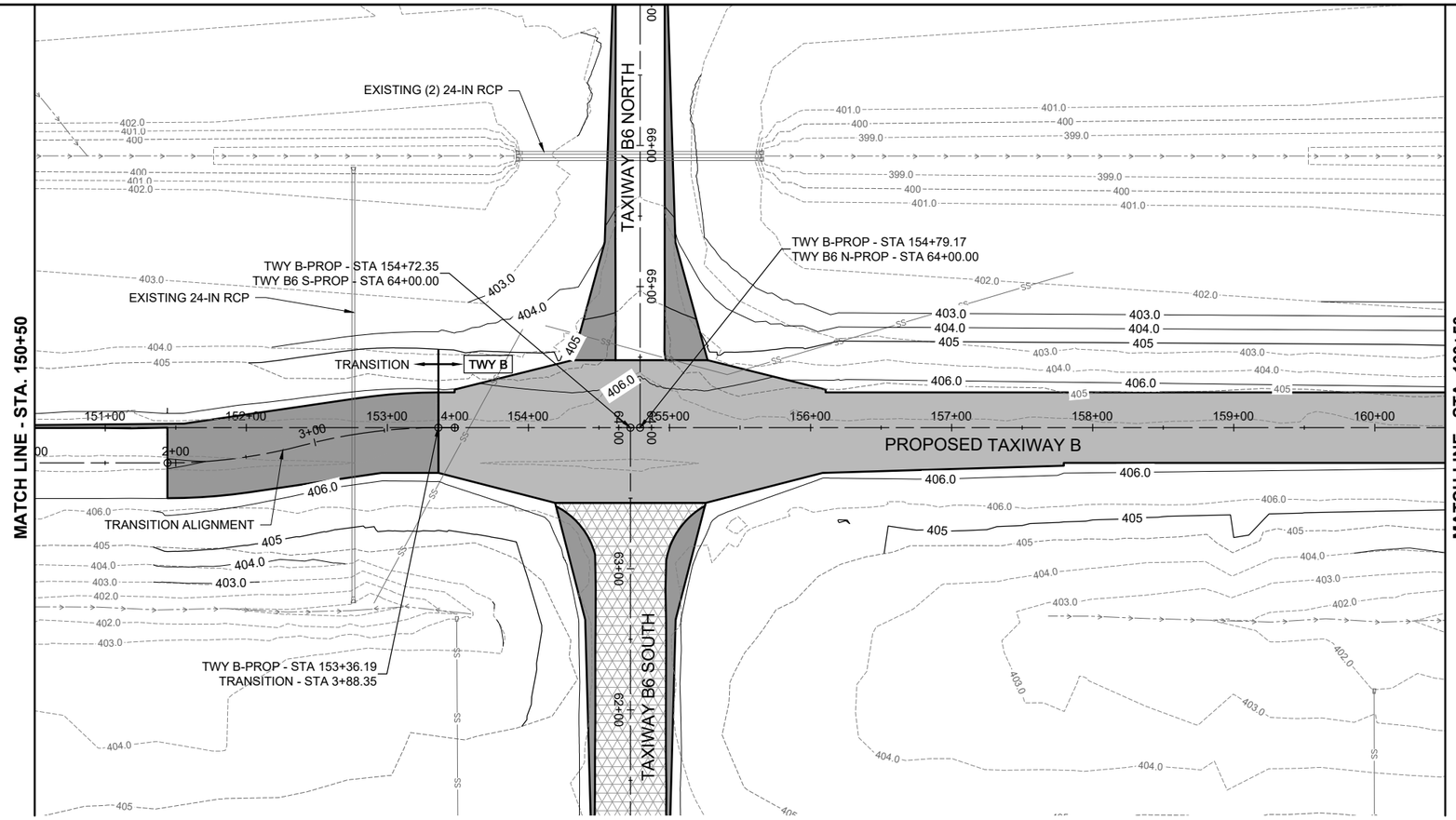
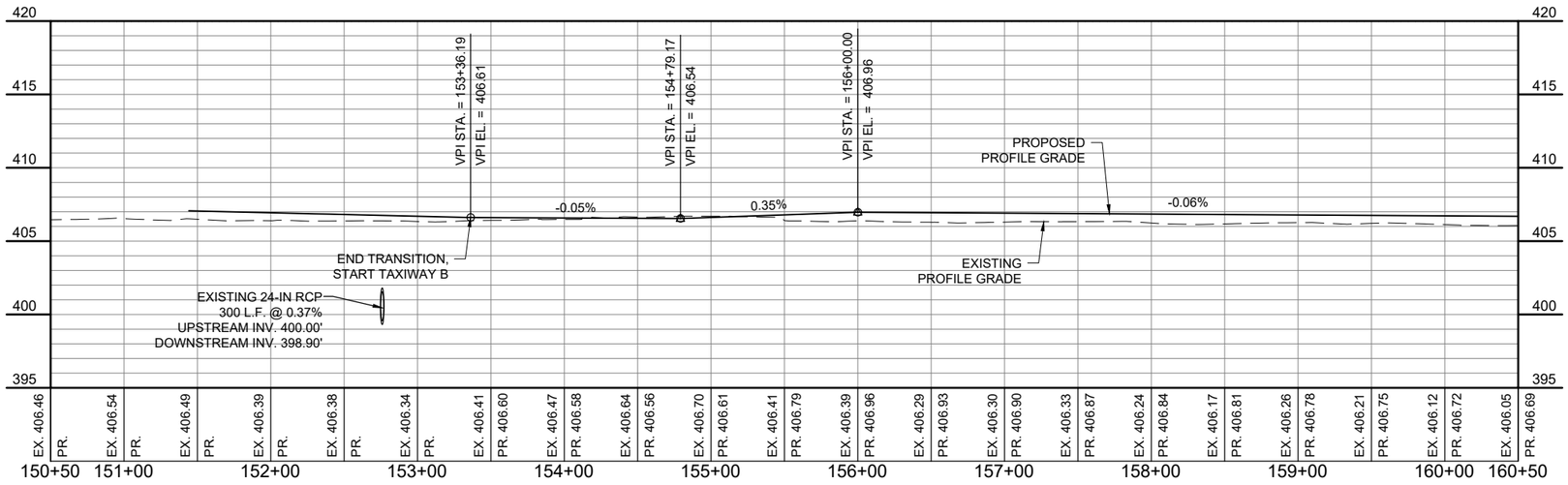
PROPOSED PLAN AND PROFILE - ALIGNMENT TRANSITION



PLAN VIEW - STA. 150+50 TO STA. 160+50



PROFILE VIEW - STA. 150+50 TO STA. 160+50

50' 0' 50' 100'

LEGEND

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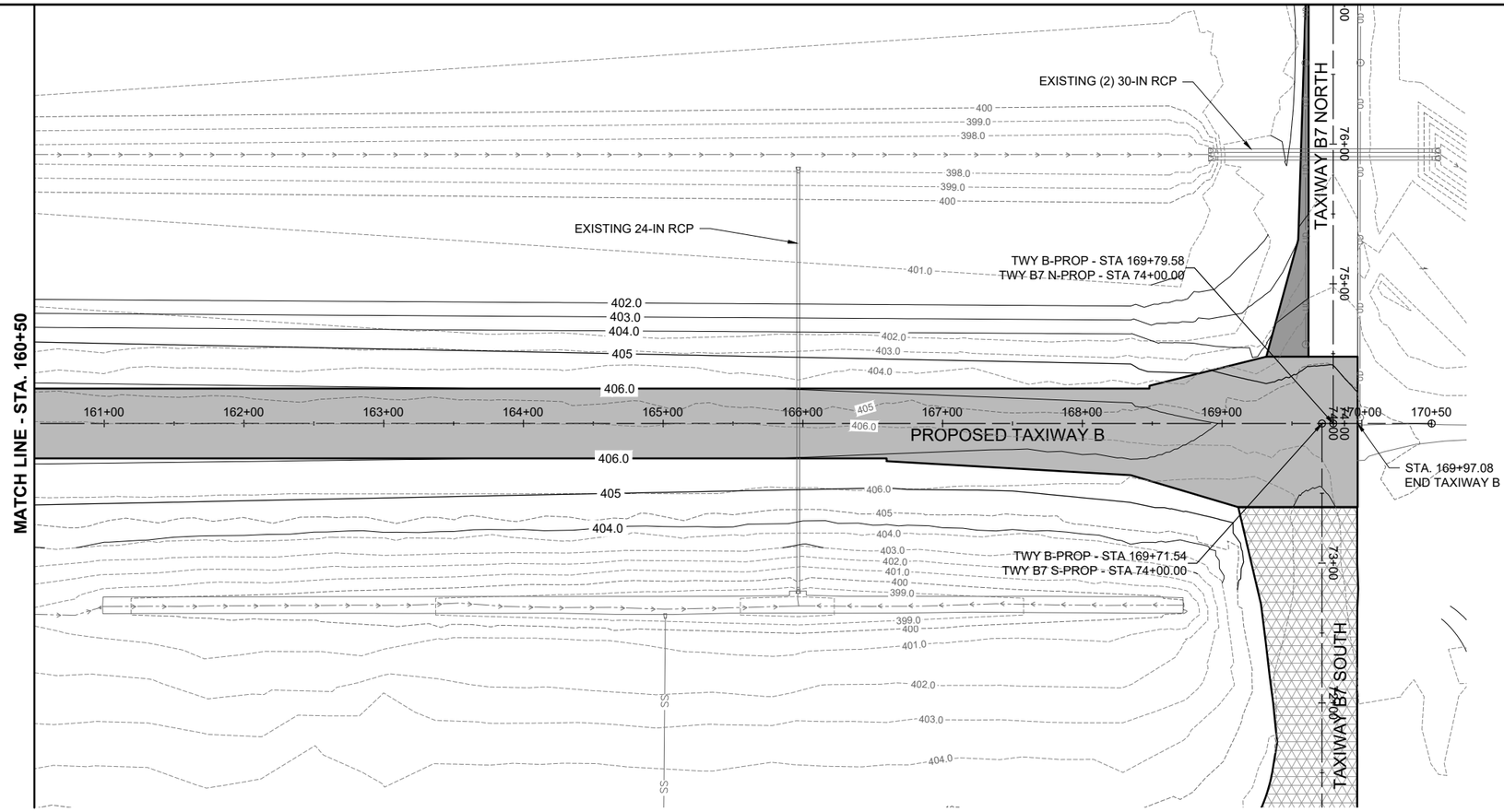
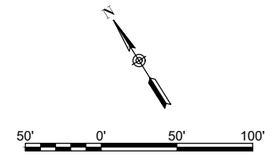


PLAN VIEW - STA. 160+50 TO STA. 170+50



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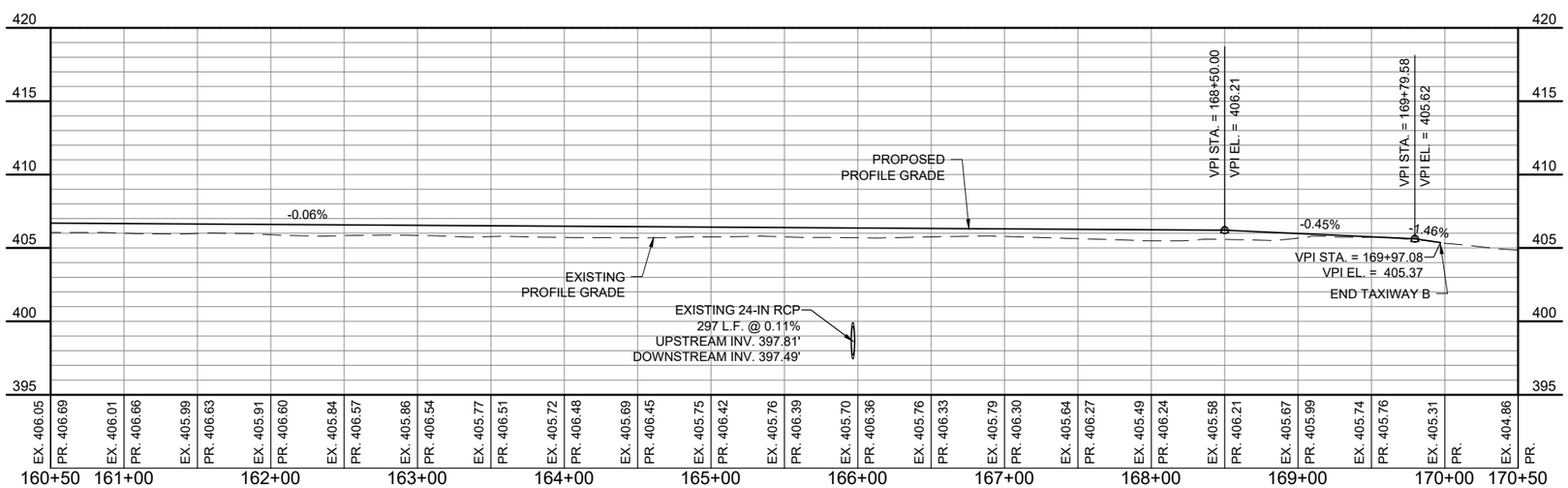

PROFILE VIEW - STA. 160+50 TO STA. 170+50

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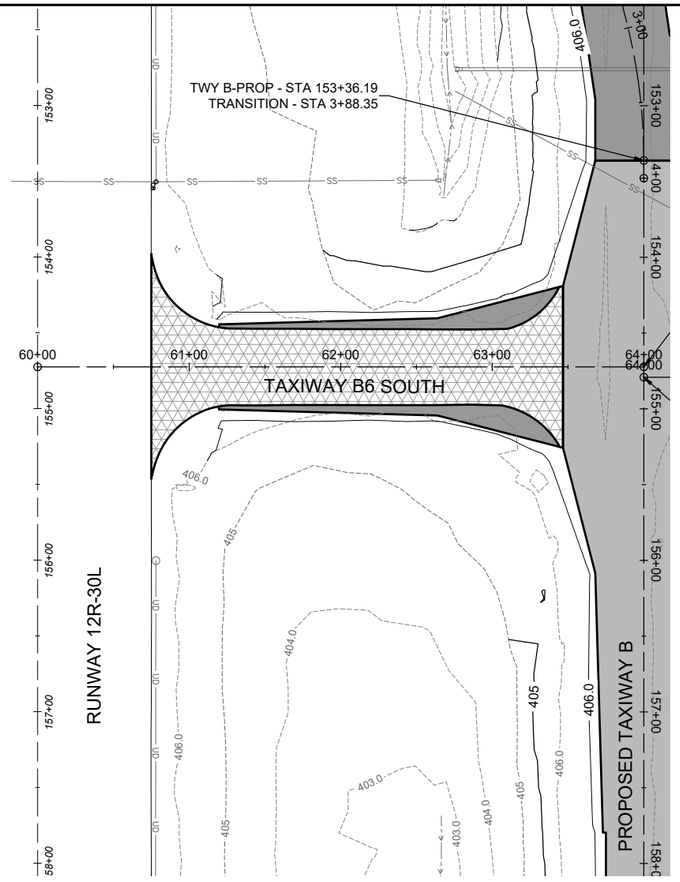
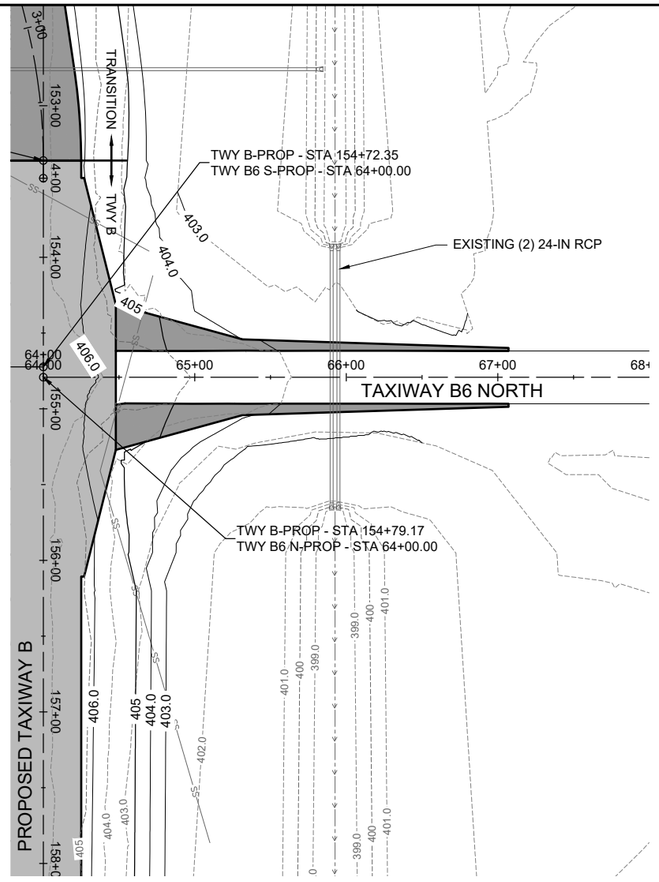
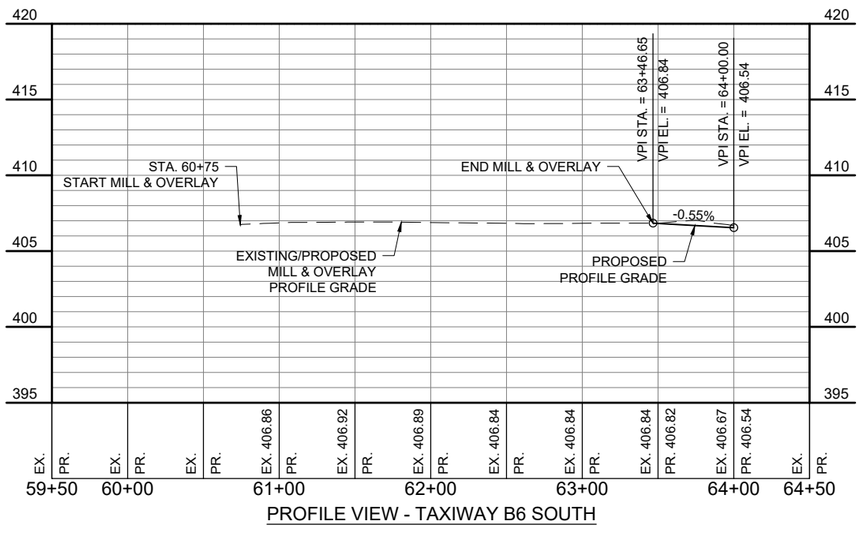


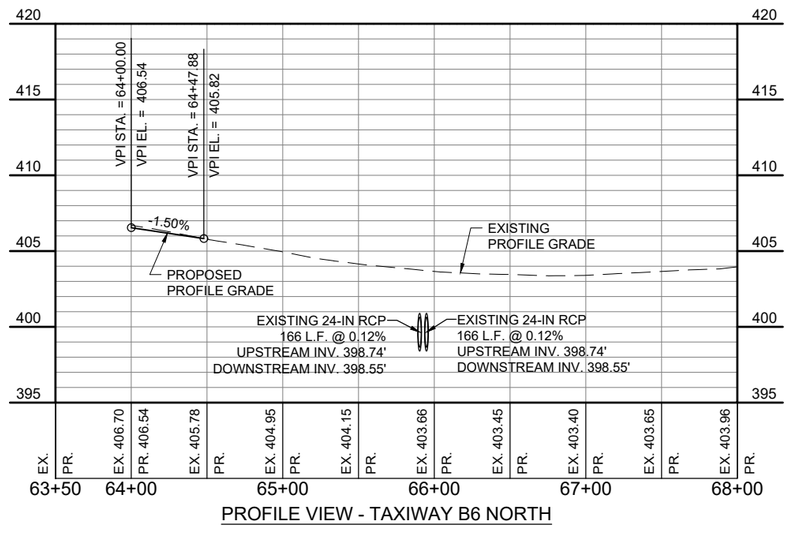
PLAN VIEW - TAXIWAY B6 SOUTH



PLAN VIEW - TAXIWAY B6 NORTH

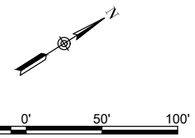


PROFILE VIEW - TAXIWAY B6 SOUTH



PROFILE VIEW - TAXIWAY B6 NORTH

FOR BID



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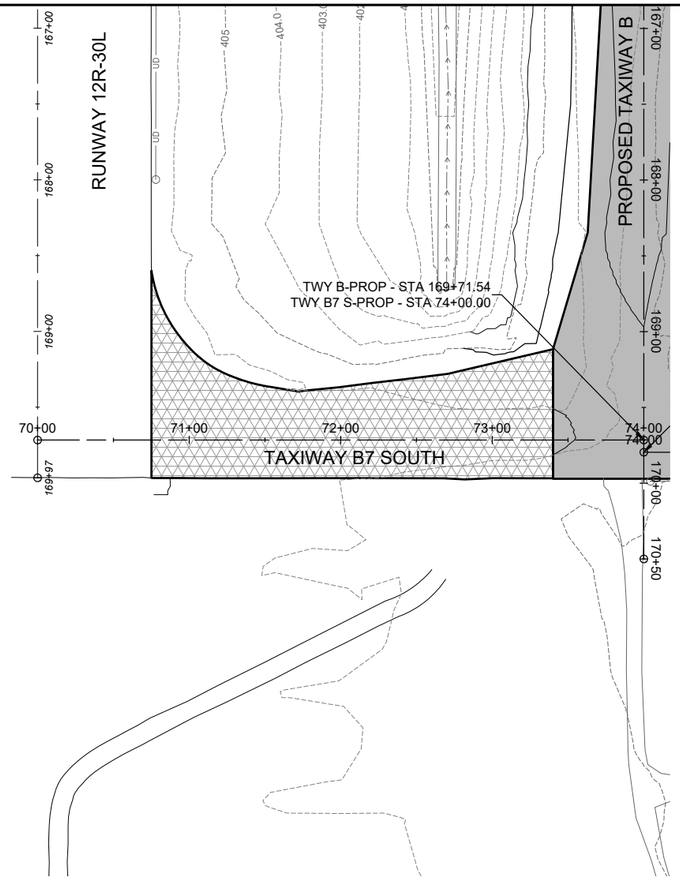
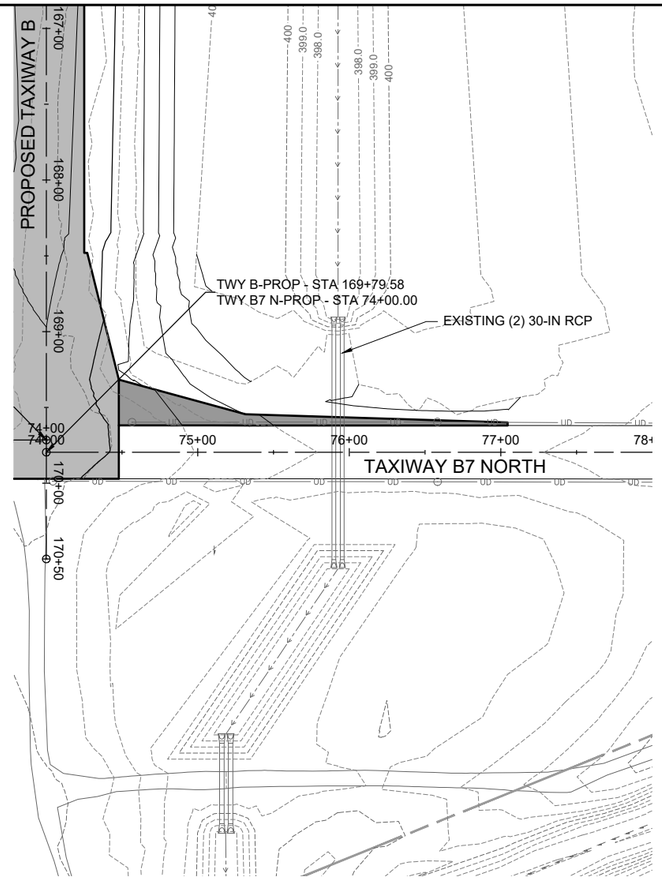
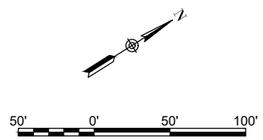


PLAN VIEW - TAXIWAY B7 SOUTH



PLAN VIEW - TAXIWAY B7 NORTH



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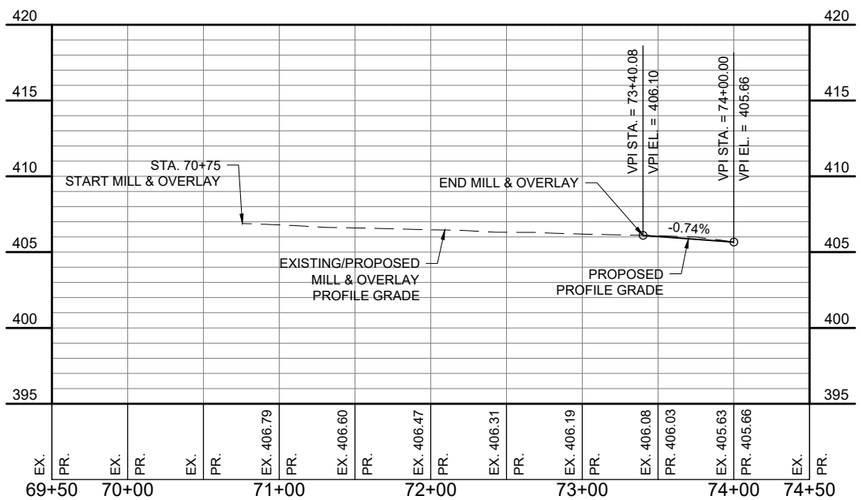

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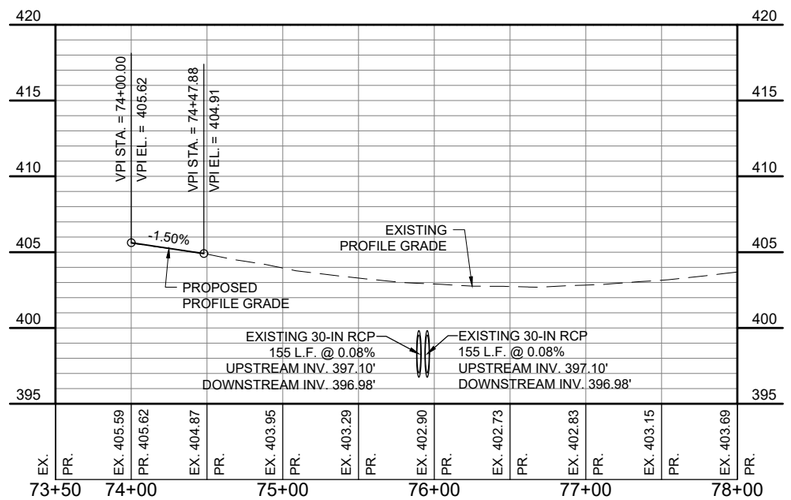

PROFILE VIEW - TAXIWAY B7 NORTH

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LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-701-PNP.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: JRH 3/24/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED PLAN AND PROFILE - TAXIWAY B7

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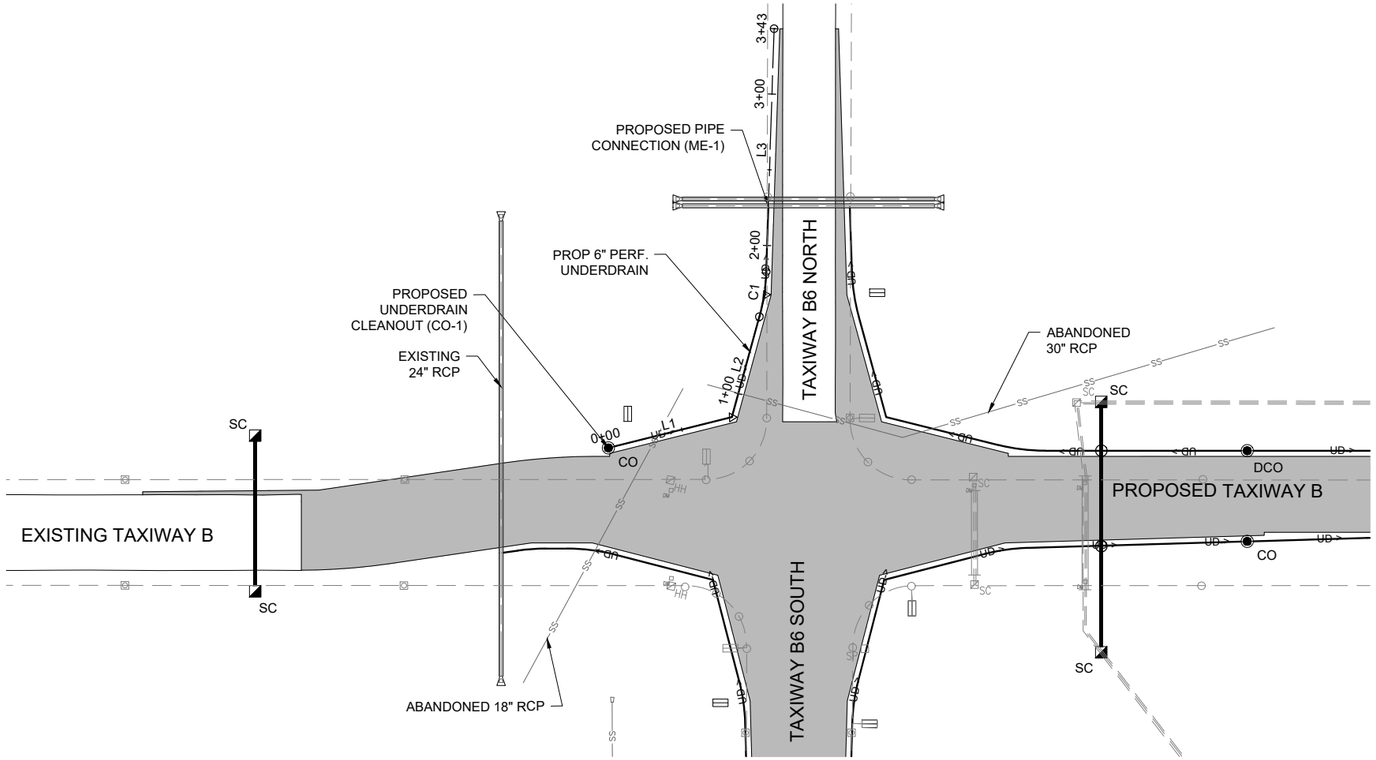
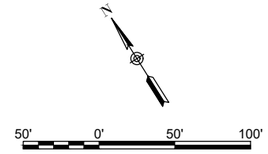


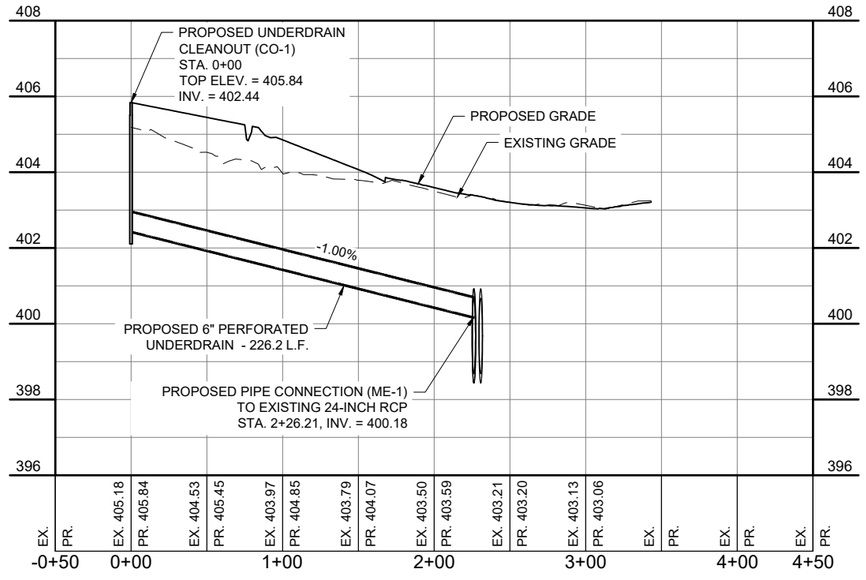


NOTES:

1. SEE ELECTRICAL PLANS FOR LOCATIONS OF ALL PROPOSED ELECTRICAL ITEMS.
2. SEE PROPOSED UNDERDRAIN SCHEDULES SHEET FOR FURTHER INFORMATION.

PLAN VIEW - NORTHWEST UNDERDRAINS

NORTHWEST UNDERDRAIN PROFILE



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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PROPOSED PLAN & PROFILE - NORTHWEST UNDERDRAINS

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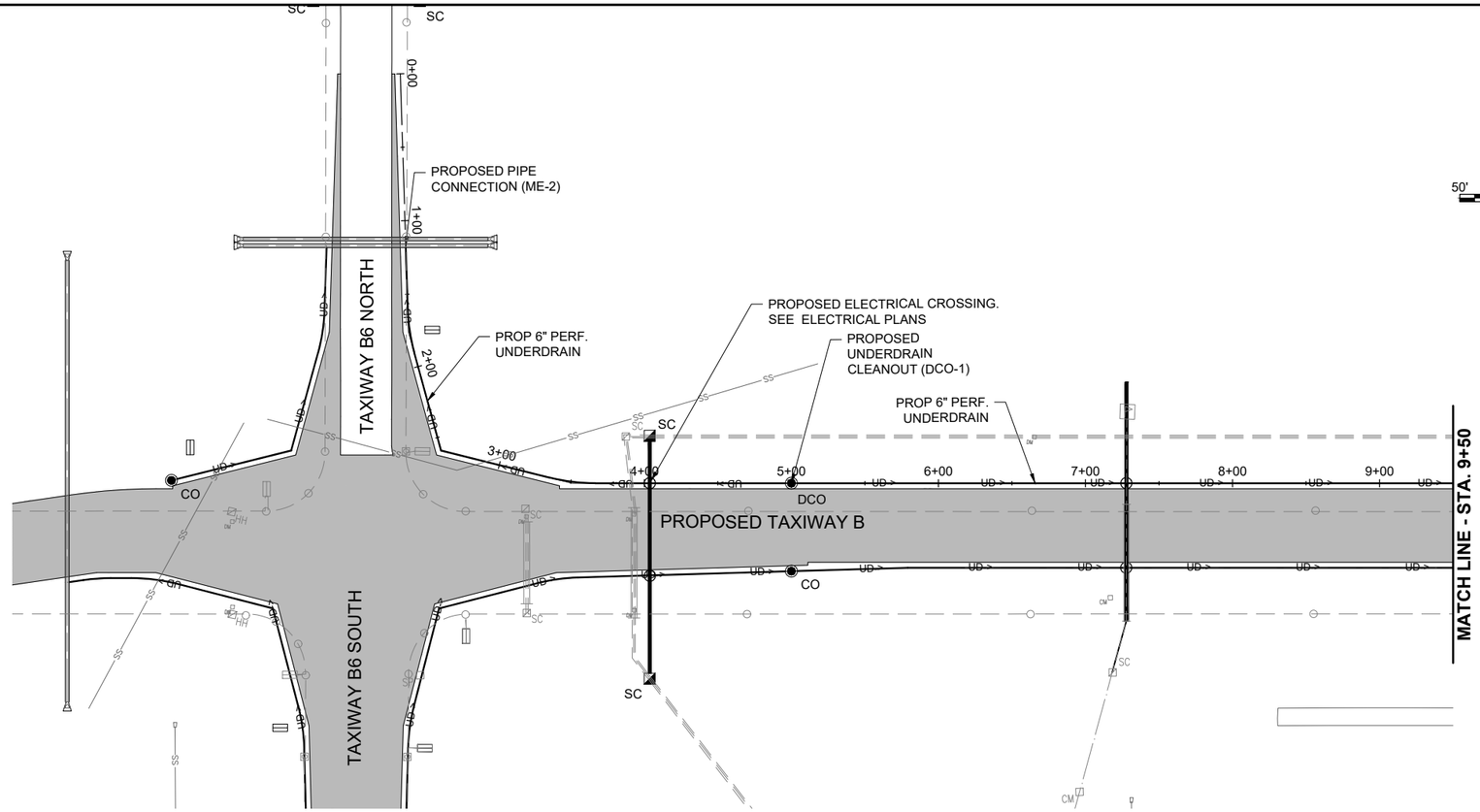
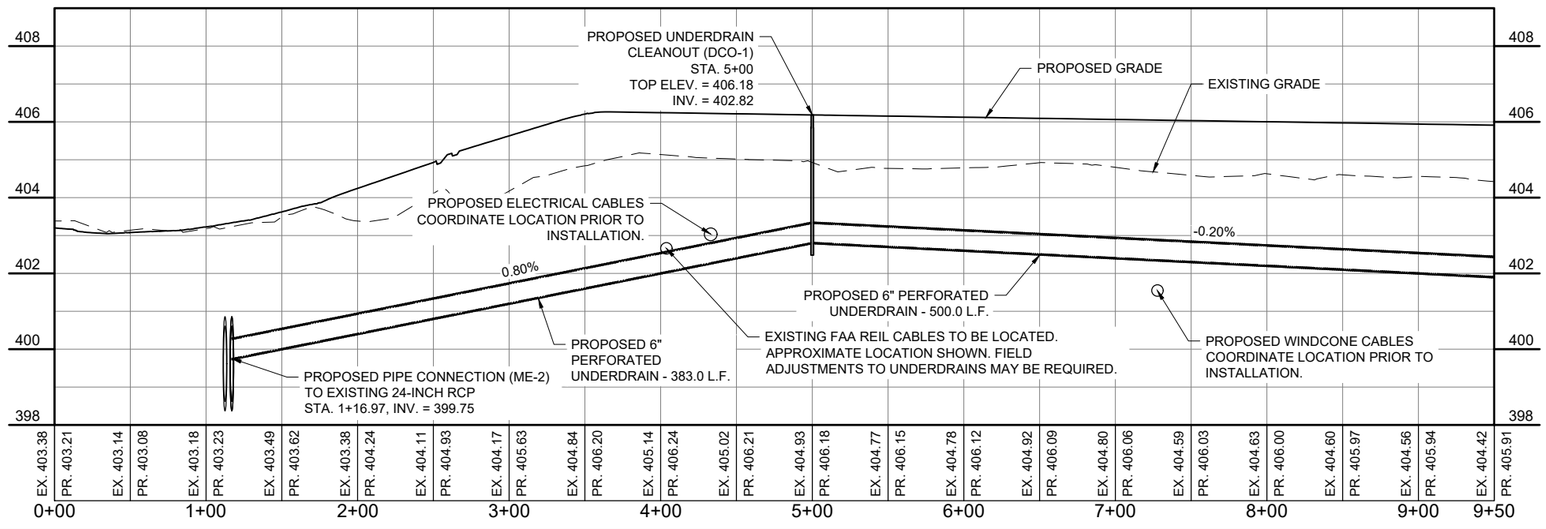


PLAN VIEW - NORTHEAST UNDERDRAINS

NORTHEAST UNDERDRAIN PROFILE SHEET 1



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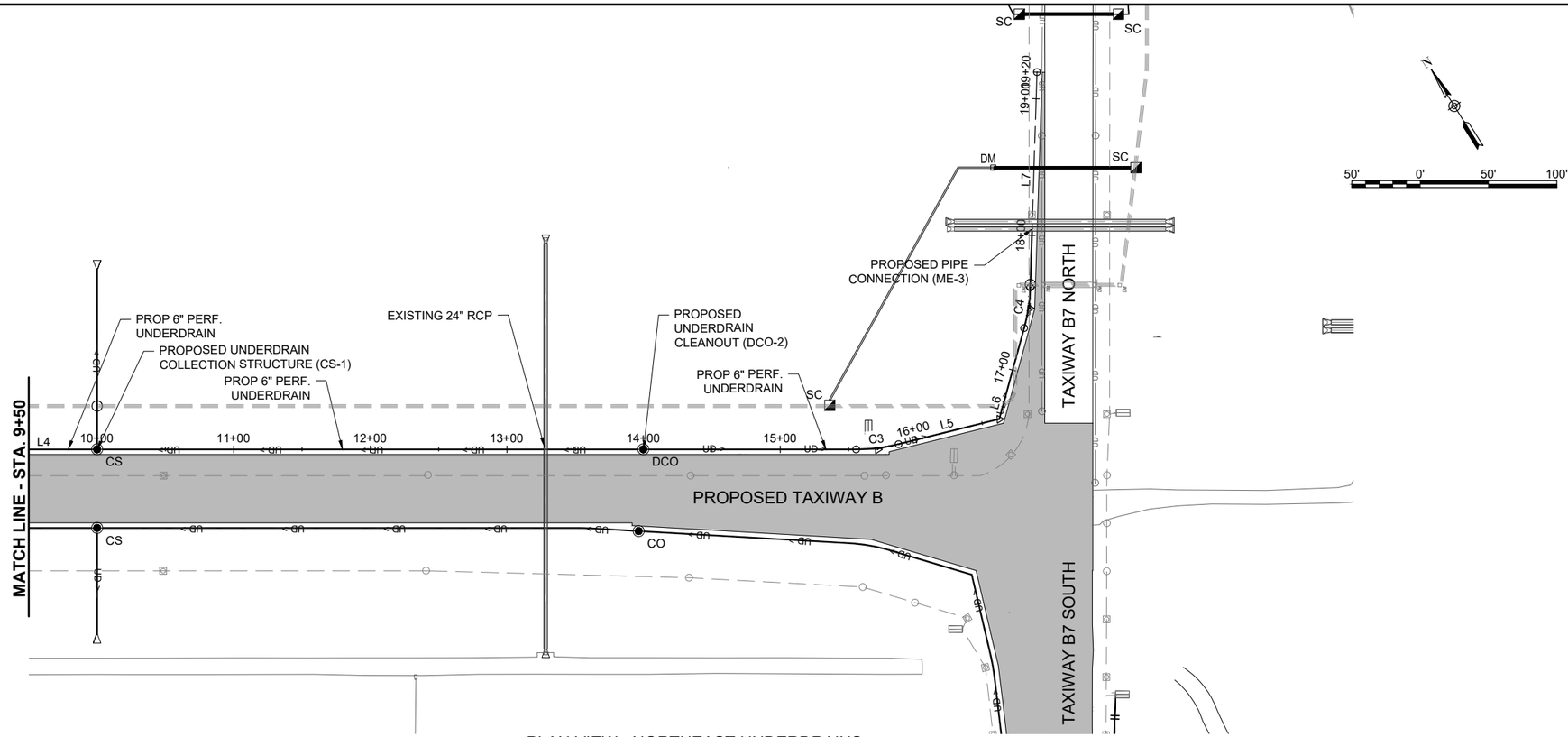
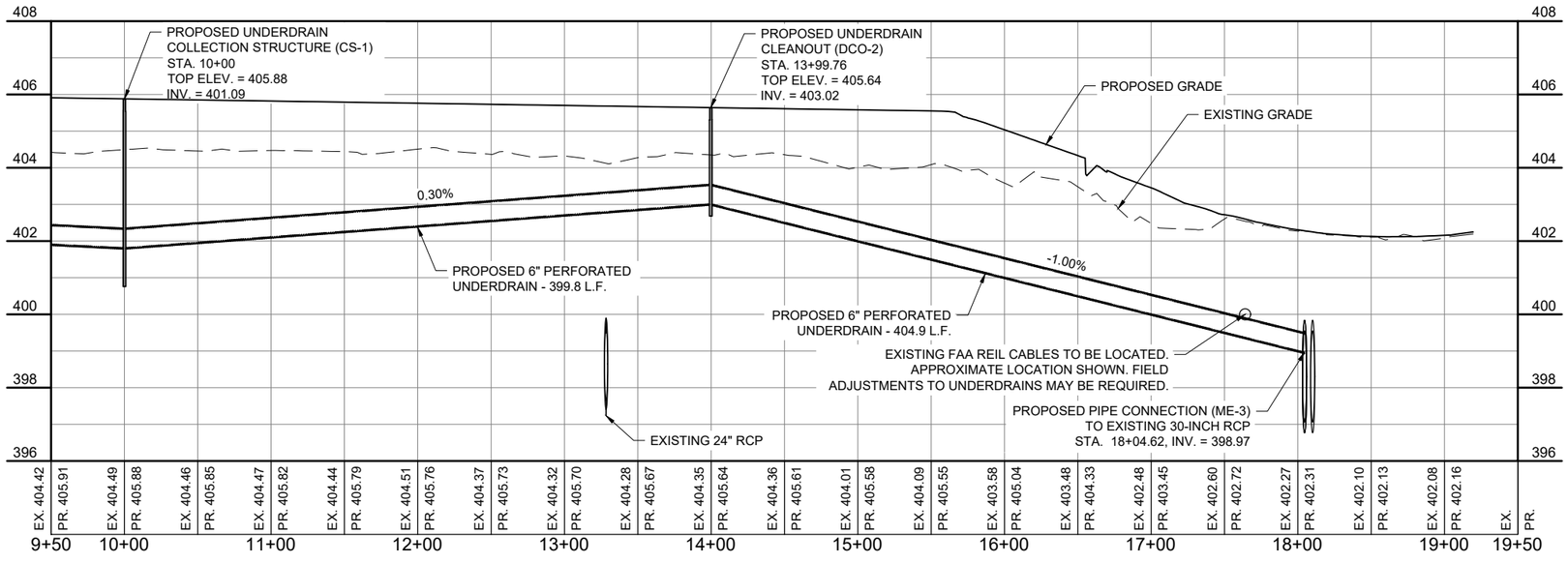


PLAN VIEW - NORTHEAST UNDERDRAINS

NORTHEAST UNDERDRAIN PROFILE SHEET 2



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PROPOSED PLAN & PROFILE - NORTHEAST UNDERDRAINS SHEET 2

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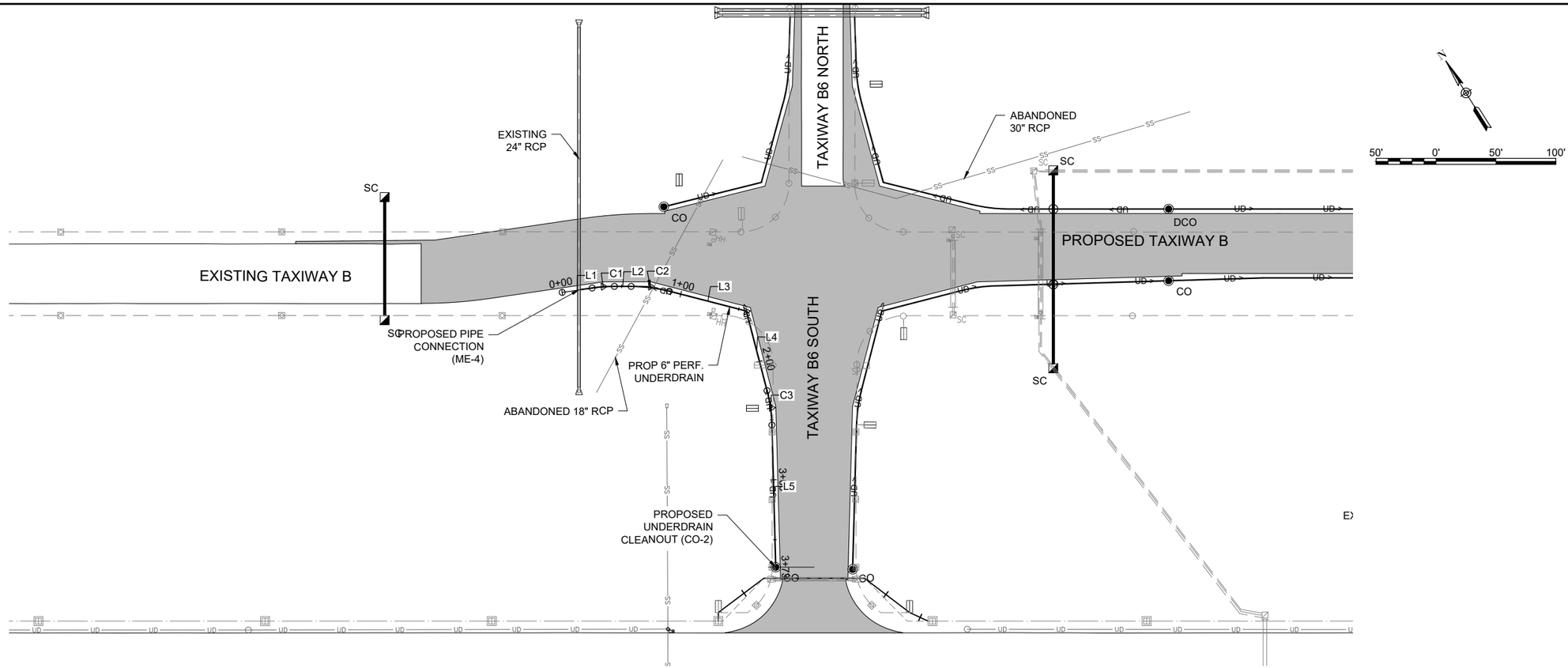
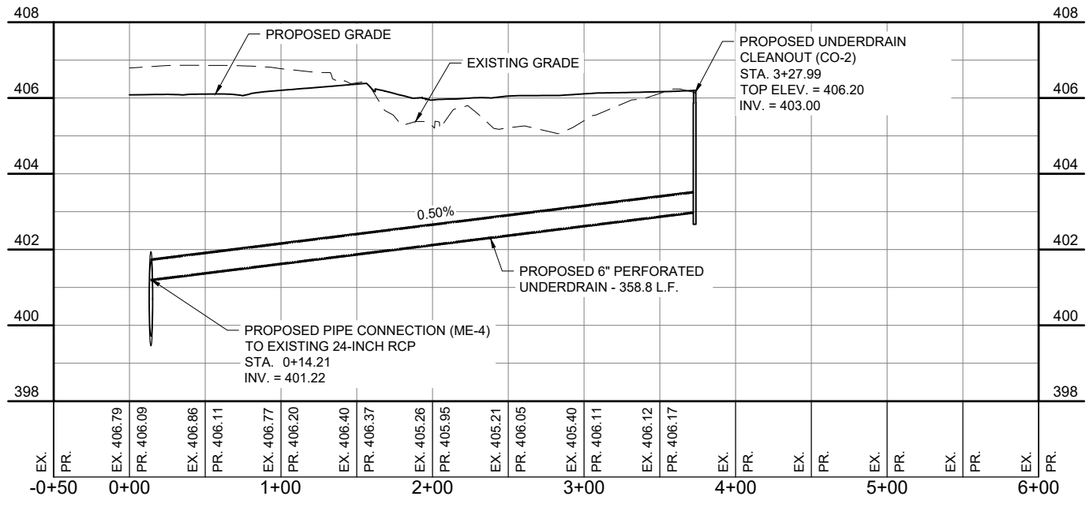


PLAN VIEW - SOUTHWEST UNDERDRAINS

SOUTHWEST UNDERDRAIN PROFILE



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PROPOSED PLAN & PROFILE - SOUTHWEST UNDERDRAINS

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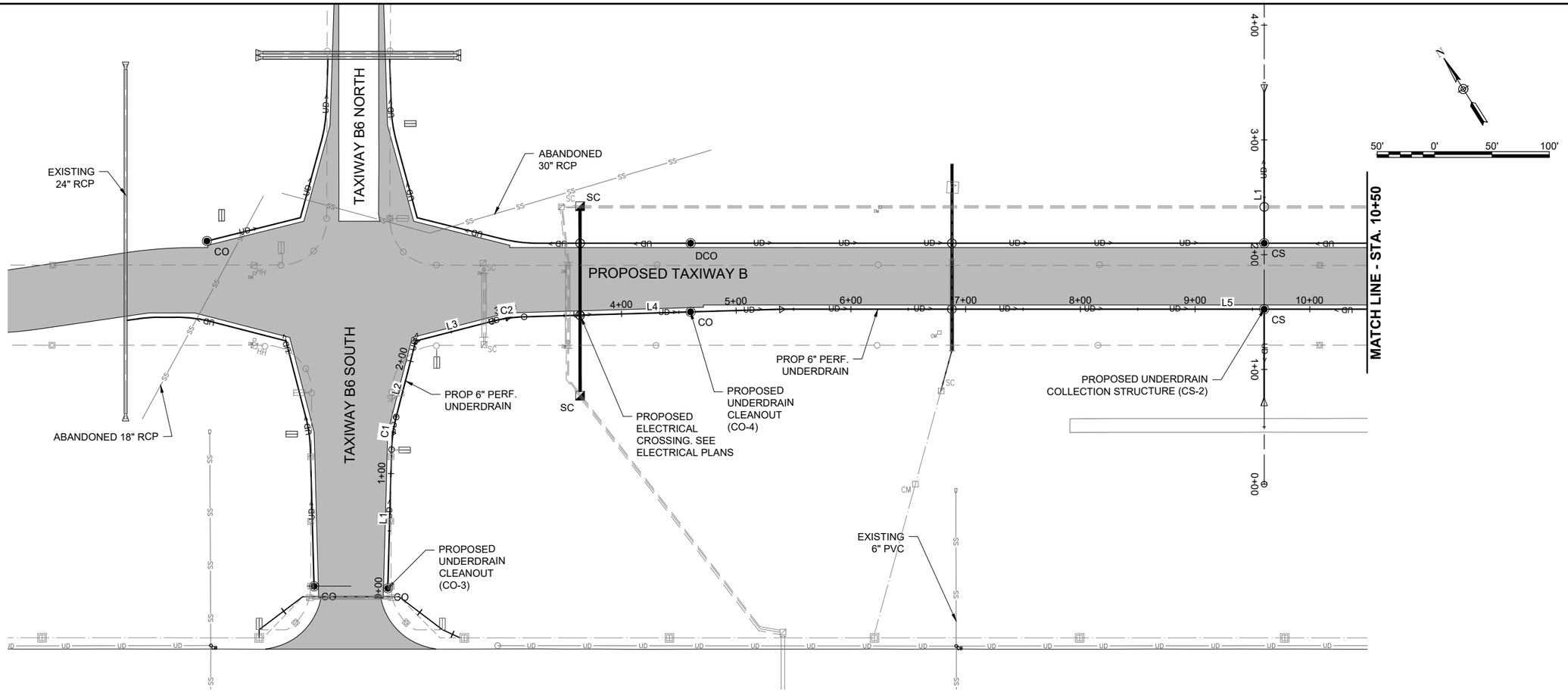
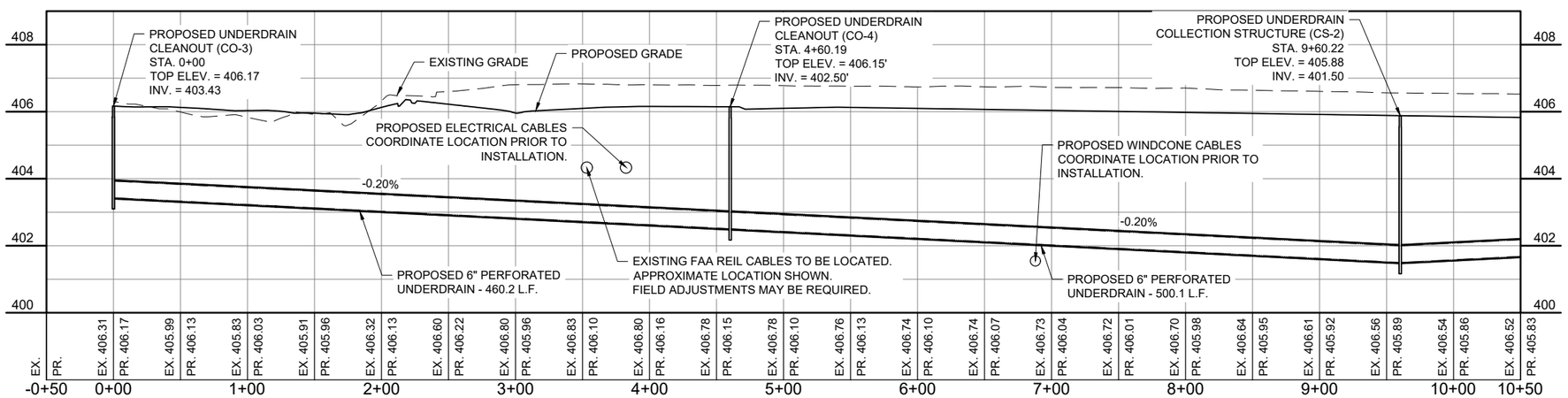


PLAN VIEW - SOUTHEAST UNDERDRAINS

SOUTHEAST UNDERDRAIN PROFILE SHEET 1



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PROPOSED PLAN & PROFILE - SOUTHEAST UNDERDRAINS SHEET 1

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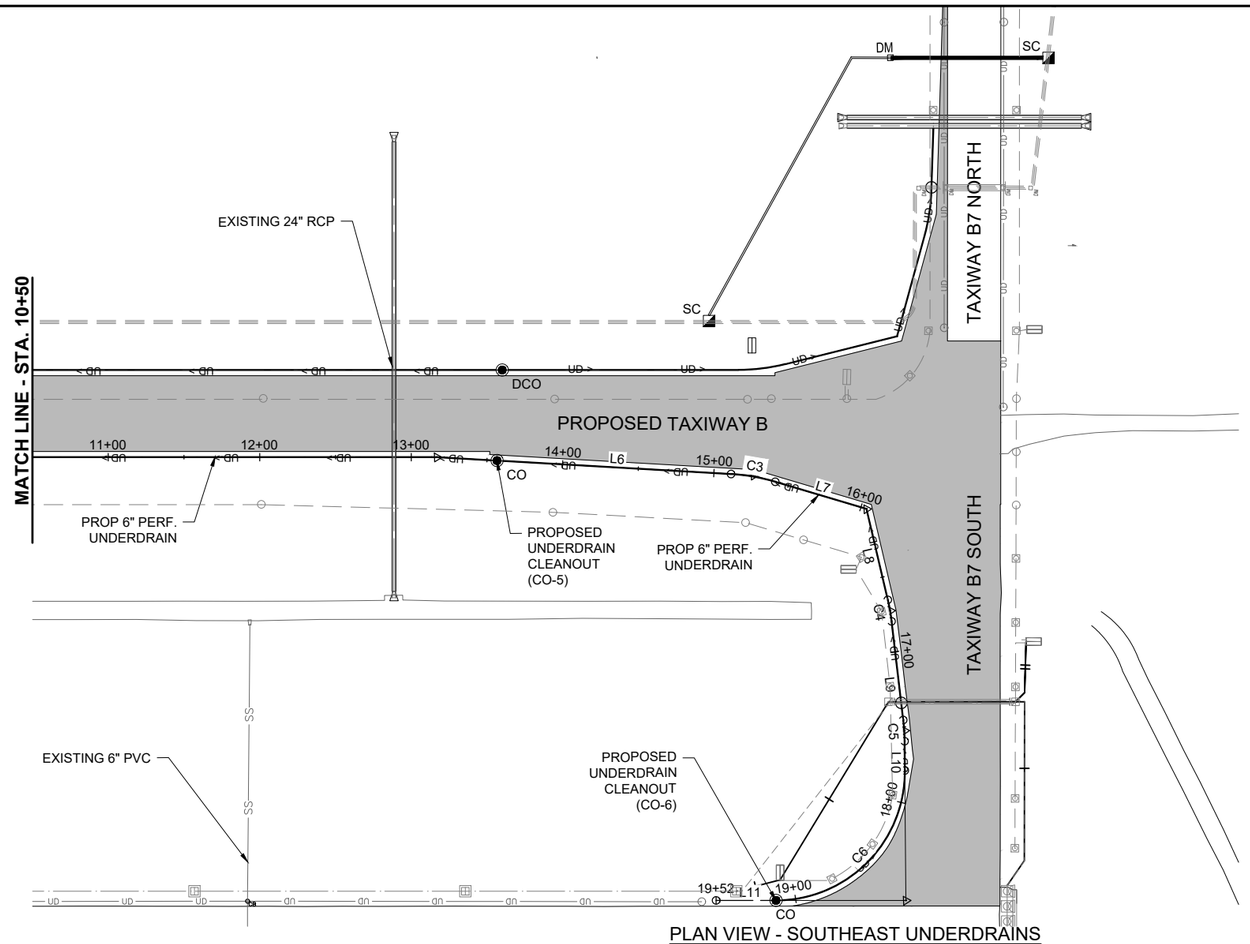
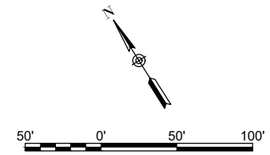
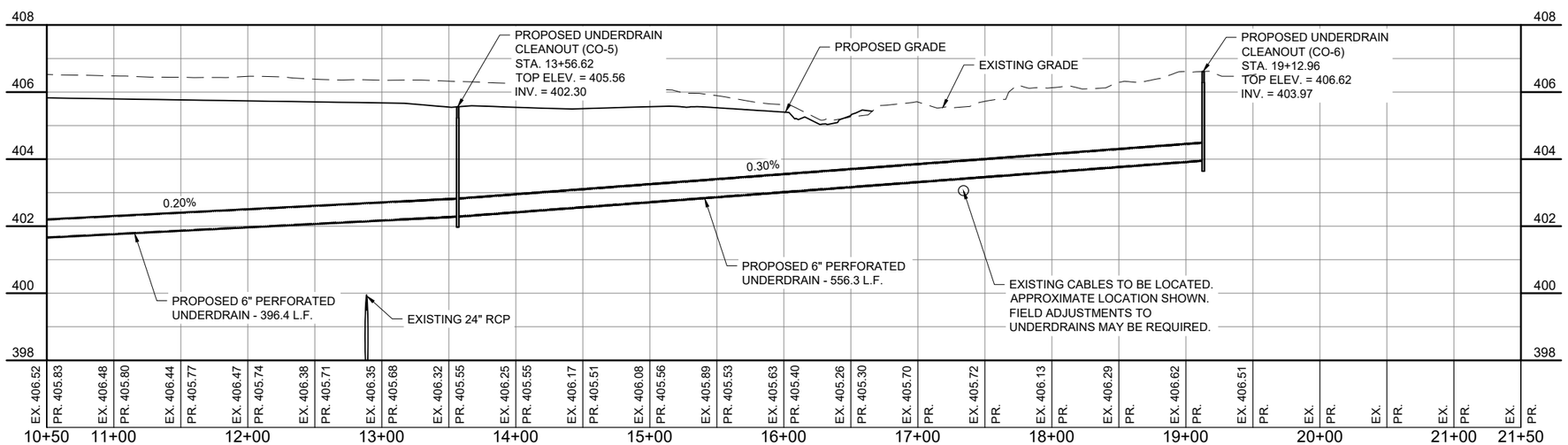


PLAN VIEW - SOUTHEAST UNDERDRAINS



SOUTHEAST UNDERDRAIN PROFILE SHEET 2



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PROPOSED PLAN & PROFILE - SOUTHEAST UNDERDRAINS SHEET 2

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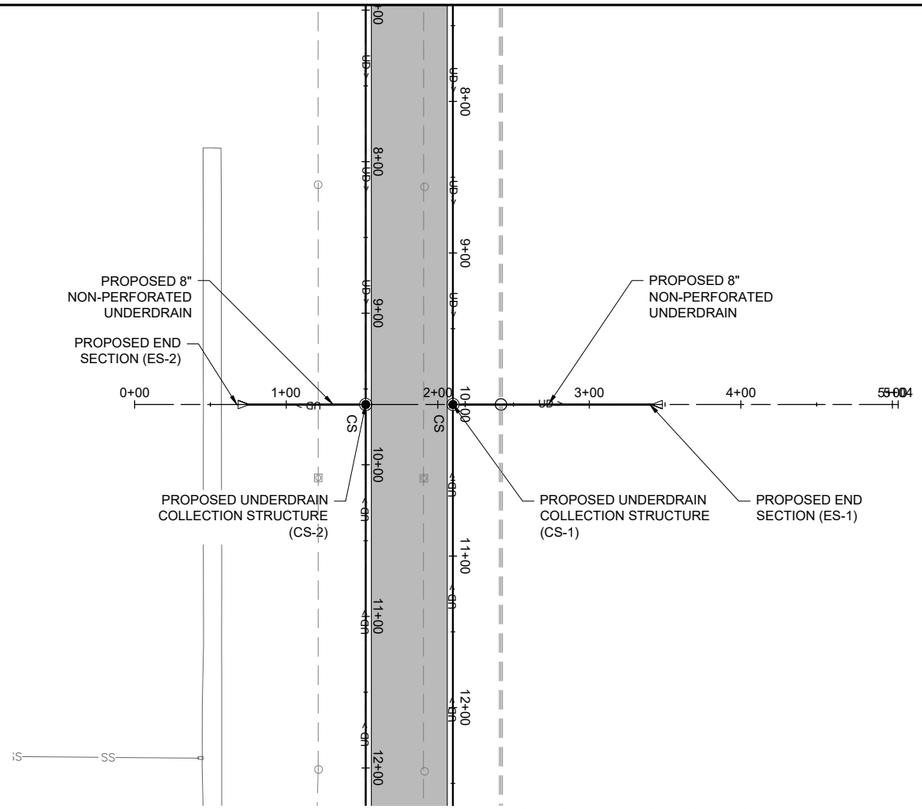
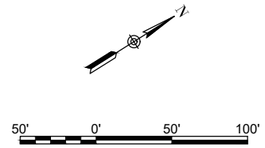
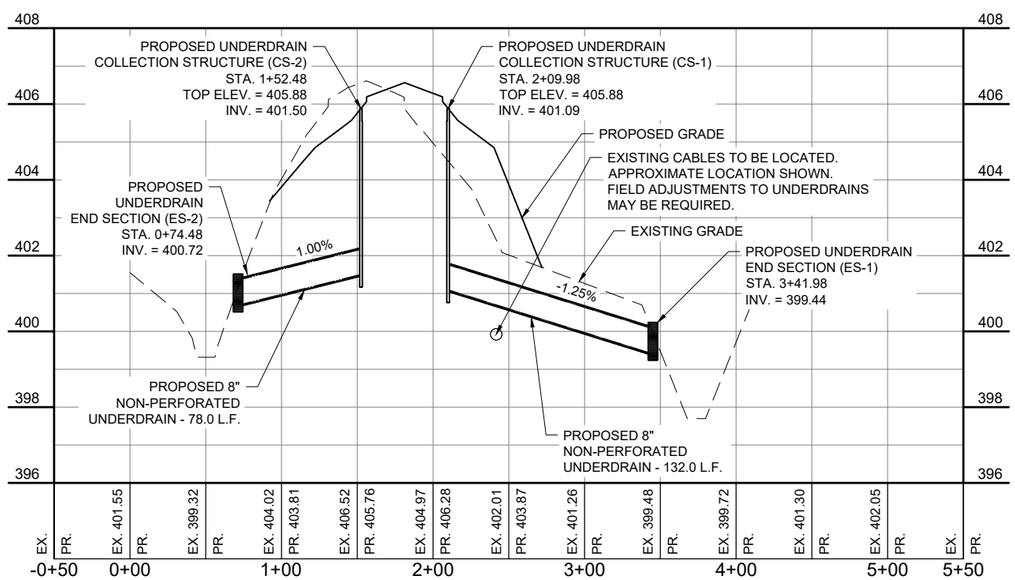




PLAN VIEW - TAXIWAY B UNDERDRAIN END SECTIONS

TAXIWAY B NORTH-SOUTH UNDERDRAIN PROFILE



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SHEET TITLE

PROPOSED PLAN & PROFILE - NORTH-SOUTH UNDERDRAINS

UNDERDRAIN SCHEDULE - NORTHWEST						
STRUCTURE	STATION	TYPE	RIM ELEV.	INVERT ELEV,	PAY LENGTH	SLOPE %
CO-1	0+00	CLEANOUT	405.84	402.44		
					226.2	-1.00
ME-1	2+26.21	RCP CONNECTION	-	400.18		

UNDERDRAIN SCHEDULE - NORTHEAST							
STRUCTURE	STATION	TYPE	RIM ELEV.	INVERT ELEV. (IN)	INVERT ELEV.(OUT)	PAY LENGTH	SLOPE %
ME-2	1+16.97	RCP CONNECTION	-	399.75	399.75		
						383.0	0.80
DCO-1	5+00	DOUBLE CLEANOUT	406.18	402.82	402.82		
						500.0	-0.20
CS-1	10+00	COLLECTION STRUCTURE	405.88	401.82(NEUD-3A) 401.09 (OUTLET UD-1)	401.09		
						399.8	0.30
DCO-2	13+99.76	DOUBLE CLEANOUT	405.64	403.02	403.02		
						404.9	-1.00
ME-3	18+04.62	RCP CONNECTION	-	398.97	398.97		

UNDERDRAIN SCHEDULE - NORTH-SOUTH						
STRUCTURE	STATION	TYPE	RIM ELEV.	INVERT ELEV.	PAY LENGTH	SLOPE %
ES-2	0+74.48	END SECTION	-	400.72		
					78.0	1.00
CS-2	1+52.48	COLLECTION STRUCTURE	405.88	401.5		
CS-1	2+09.98	COLLECTION STRUCTURE	405.88	401.09		
					132.0	-1.25
ES-1	3+41.98	END SECTION	-	399.44		

UNDERDRAIN SCHEDULE - SOUTHWEST						
STRUCTURE	STATION	TYPE	RIM ELEV.	INVERT ELEV.	PAY LENGTH	SLOPE %
ME-4	0+14.21	RCP CONNECTION	-	401.22		
					358.8	0.50
CO-2	3+72.99	CLEANOUT	406.2	403.00		

UNDERDRAIN SCHEDULE - SOUTHEAST						
STRUCTURE	STATION	TYPE	RIM ELEV.	INVERT ELEV,	PAY LENGTH	SLOPE %
CO-3	0+00	CLEANOUT	406.17	403.43		
					460.2	-0.20
CO-4	4+60.19	CLEANOUT	406.15	402.50		
					500.1	-0.20
CS-2	9+60.22	COLLECTION STRUCTURE	405.88	401.50		
					396.4	0.20
CO-5	13+56.62	CLEANOUT	405.56	402.30		
					556.3	0.30
CO-6	19+12.96	CLEANOUT	406.62	403.97		

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PROPOSED UNDERDRAIN SCHEDULES

ALIGNMENT DATA NORTHWEST UNDERDRAINS

LABEL	START STATION	END STATION	LENGTH	AZIMUTH	START (N,E)	END (N,E)
L1	0+00.00	0+83.99	83.99	108° 11' 22"	692002.990, 2301799.125	691976.771, 2301878.919
L2	0+83.99	1+52.69	68.70	47° 32' 21"	691976.771, 2301878.919	692023.151, 2301929.603
C1	1+52.69	1+82.78	30.08	IN=N47° 32' 21"E OUT=N34° 04' 23"E DEL=13°27'58"	692023.15, 2301929.603	692045.870, 2301949.218
L3	1+82.78	3+43.19	160.42	34° 04' 23"	692045.870, 2301949.218	692178.746, 2302039.091

ALIGNMENT DATA NORTHEAST UNDERDRAINS

LABEL	START STATION	END STATION	LENGTH	AZIMUTH	START (N,E)	END (N,E)
L1	0+00.00	1+60.13	160.13	210° 24' 50"	692154.055, 2302078.276	692015.961, 2301997.212
C1	1+60.13	1+90.28	30.15	IN=S30° 24' 50"W OUT=S16° 55' 11"W DEL=13°29'39"	692015.96, 2301997.212	691988.414, 2301985.138
L2	1+90.28	2+59.18	68.91	196° 55' 11"	691988.414, 2301985.138	691922.490, 2301965.084
L3	2+59.18	3+35.23	76.05	136° 13' 47"	691922.490, 2301965.084	691867.575, 2302017.692
C2	3+35.23	3+66.55	31.32	IN=S43° 46' 13"E OUT=S57° 47' 25"E DEL=14°01'12"	691867.57, 2302017.692	691847.820, 2302041.896
L4	3+66.55	15+55.54	1188.99	122° 12' 35"	691847.820, 2302041.896	691214.066, 2303047.905
C3	15+55.54	15+86.86	31.32	IN=S57° 47' 25"E OUT=S71° 48' 38"E DEL=14°01'12"	691214.07, 2303047.905	691200.763, 2303076.175
L5	15+86.86	16+62.91	76.05	108° 11' 22"	691200.763, 2303076.175	691177.024, 2303148.422
L6	16+62.91	17+31.81	68.90	47° 29' 58"	691177.024, 2303148.422	691223.573, 2303199.220
C4	17+31.81	17+61.97	30.16	IN=N47° 29' 58"E OUT=N34° 00' 01"E DEL=13°29'58"	691223.57, 2303199.220	691246.367, 2303218.861
L7	17+61.97	19+19.52	157.55	34° 00' 01"	691246.367, 2303218.861	691376.983, 2303306.963

ALIGNMENT DATA NORTH-SOUTH UNDERDRAINS

LABEL	START STATION	END STATION	LENGTH	AZIMUTH	START (N,E)	END (N,E)
L1	0+00.00	5+03.80	503.80	32° 12' 35"	691332.512, 2302465.935	691758.777, 2302734.469

ALIGNMENT DATA SOUTHWEST UNDERDRAINS

LABEL	START STATION	END STATION	LENGTH	AZIMUTH	START (N,E)	END (N,E)
L1	0+00.00	0+25.30	25.30	113° 52' 28"	691987.767, 2301689.248	691977.528, 2301712.381
C1	0+25.30	0+43.92	18.62	IN=S66° 07' 32"E OUT=S57° 47' 25"E DEL=8°20'06"	691977.53, 2301712.381	691968.781, 2301728.801
L2	0+43.92	0+57.93	14.02	122° 12' 35"	691968.781, 2301728.801	691961.311, 2301740.660
C2	0+57.93	0+90.17	32.24	IN=S57° 47' 25"E OUT=S43° 21' 33"E DEL=14°25'52"	691961.31, 2301740.660	691940.890, 2301765.498
L3	0+90.17	1+56.56	66.39	136° 38' 27"	691940.890, 2301765.498	691892.621, 2301811.079
L4	1+56.56	2+25.17	68.61	197° 38' 38"	691892.621, 2301811.079	691827.239, 2301790.283
C3	2+25.17	2+54.27	29.10	IN=S17° 38' 38"W OUT=S30° 40' 10"W DEL=13°01'32"	691827.24, 2301790.283	691800.745, 2301778.400
L5	2+54.27	3+72.99	118.72	210° 40' 10"	691800.745, 2301778.400	691698.631, 2301717.843

ALIGNMENT DATA SOUTHEAST UNDERDRAINS

LABEL	START STATION	END STATION	LENGTH	AZIMUTH	START (N,E)	END (N,E)
L1	0+00.00	1+20.89	120.89	33° 46' 24"	691662.919, 2301771.243	691763.408, 2301838.447
C1	1+20.89	1+49.64	28.75	IN=N33° 46' 24"E OUT=N46° 38' 27"E DEL=12°52'03"	691763.41, 2301838.447	691785.316, 2301856.965
L2	1+49.64	2+18.07	68.44	46° 38' 27"	691785.316, 2301856.965	691832.302, 2301906.723
L3	2+18.07	2+86.65	68.58	107° 46' 43"	691832.302, 2301906.723	691811.362, 2301972.028
C2	2+86.65	3+15.12	28.47	IN=S72° 13' 17"E OUT=S59° 28' 42"E DEL=12°44'36"	691811.36, 2301972.028	691799.739, 2301997.952
L4	3+15.12	5+39.36	224.24	120° 31' 18"	691799.739, 2301997.952	691685.857, 2302191.116
L5	5+39.36	13+16.88	777.53	122° 12' 35"	691685.857, 2302191.116	691271.421, 2302848.984
L6	13+16.88	15+11.33	194.44	125° 29' 27"	691271.421, 2302848.984	691158.534, 2303007.299
C3	15+11.33	15+41.02	29.69	IN=S54° 30' 33"E OUT=S41° 13' 06"E DEL=13°17'27"	691158.53, 2303007.299	691138.658, 2303029.268
L7	15+41.02	16+03.80	62.78	138° 46' 54"	691138.658, 2303029.268	691091.431, 2303070.639
L8	16+03.80	16+65.43	61.62	199° 00' 56"	691091.431, 2303070.639	691033.170, 2303050.560
C4	16+65.43	16+79.82	14.40	IN=S19° 00' 56"W OUT=S25° 27' 36"W DEL=6°26'40"	691033.17, 2303050.560	691019.851, 2303045.115
L9	16+79.82	17+45.37	65.55	205° 27' 36"	691019.851, 2303045.115	690960.667, 2303016.936
C5	17+45.37	17+59.38	14.01	IN=S25° 27' 36"W OUT=S31° 43' 54"W DEL=6°16'18"	690960.67, 2303016.936	690948.371, 2303010.233
L10	17+59.38	17+78.73	19.35	211° 43' 54"	690948.371, 2303010.233	690931.916, 2303000.058
C6	17+78.73	19+12.96	134.23	IN=S31° 43' 54"W OUT=N57° 47' 25"W DEL=90°28'40"	690931.92, 2303000.058	690904.703, 2302882.457
L11	19+12.96	19+52.48	39.52	302° 12' 35"	690904.703, 2302882.457	690925.769, 2302849.016

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6100 Archview Drive
Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

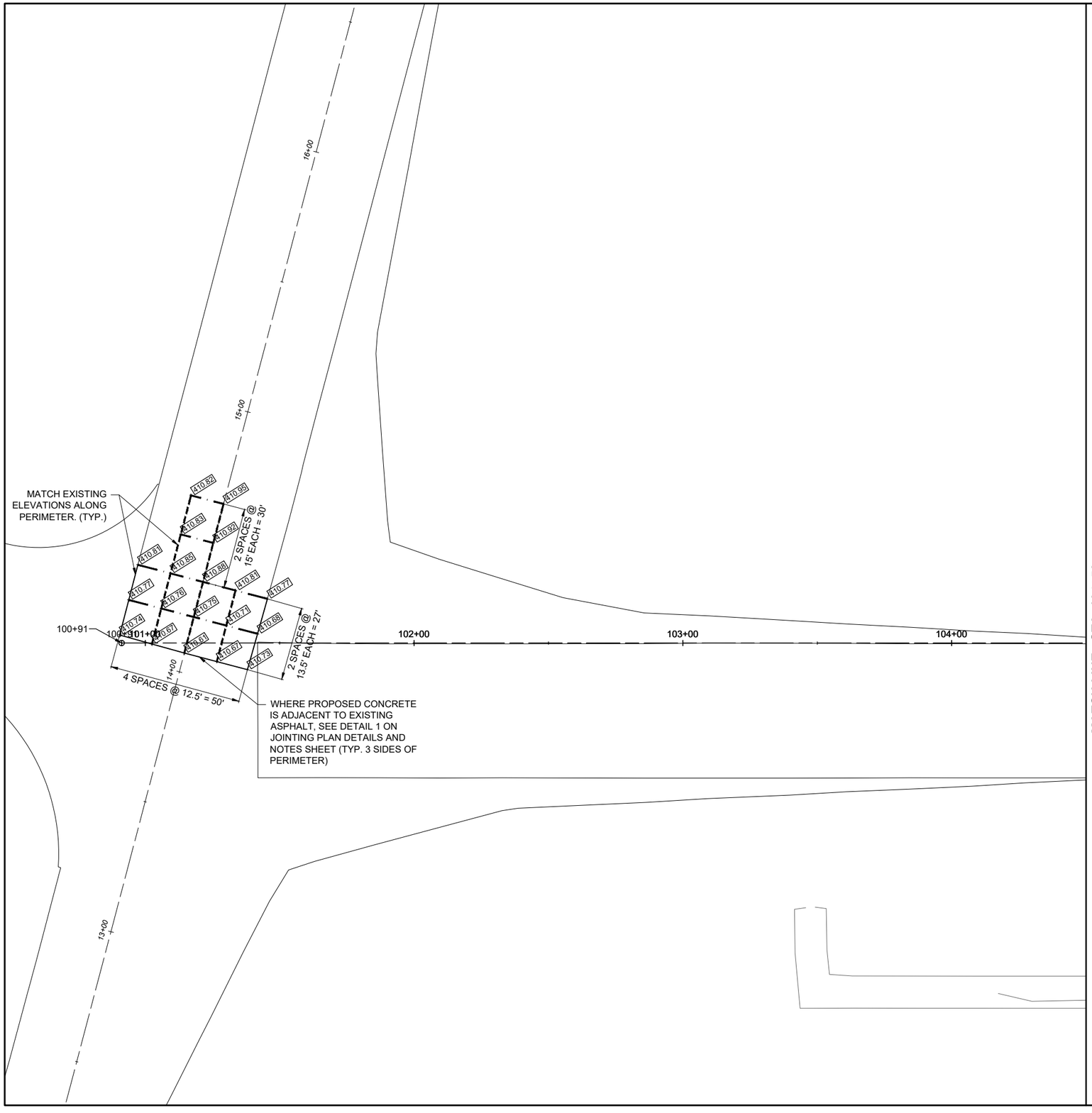
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-702-PNP.DWG
DESIGN BY: MJD 03/28/2024
DRAWN BY: AJL 04/08/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED UNDERDRAIN ALIGNMENT DATA TABLES



50' 0' 50' 100'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- A1 — TYPE A1-MODIFIED, ISOLATION JOINT
- TYPE B, CONTRACTION JOINT
- TYPE C, CONTRACTION JOINT
- TYPE D, CONTRACTION JOINT
- TYPE E, CONSTRUCTION JOINT
- PROPOSED REINFORCED PANEL
- PROPOSED PAVEMENT

NOTES:

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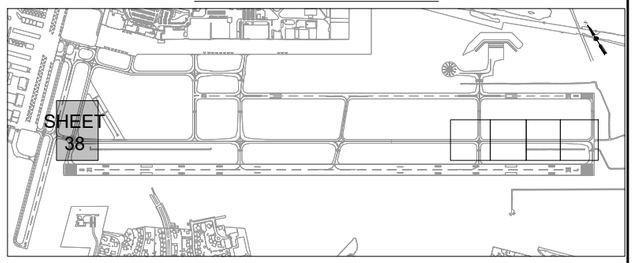
JOINTING PLAN - KEY MAP



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IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-161-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/20/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN STA. 100+00 TO STA. 104+50

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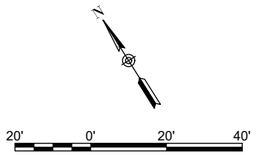

LEGEND

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- EXISTING FENCE
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- A1 — TYPE A1-MODIFIED, ISOLATION JOINT
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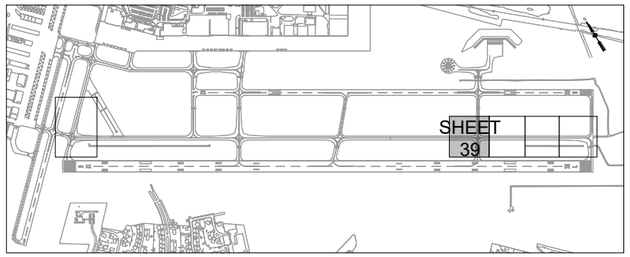
JOINTING PLAN - KEY MAP



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-161-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/20/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN STA. 150+00 TO STA. 155+50

NOTES:
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20' 0' 20' 40'

LEGEND

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- EXISTING FENCE
- EXISTING PAVEMENT
- A1 — TYPE A1-MODIFIED, ISOLATION JOINT
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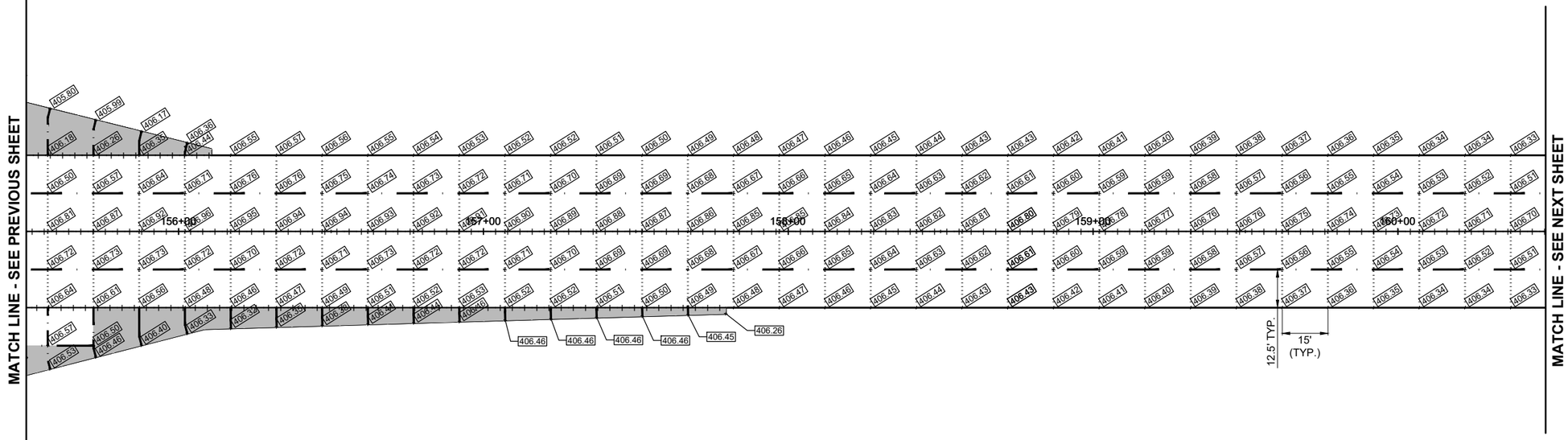
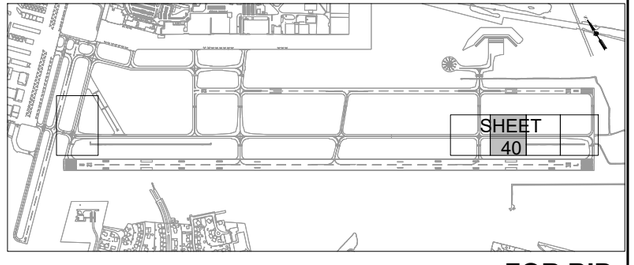
- TYPE D, CONTRACTION JOINT
- TYPE E, CONSTRUCTION JOINT
- PROPOSED REINFORCED PANEL
- PROPOSED PAVEMENT



JOINTING PLAN - KEY MAP



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-161-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/20/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN STA. 155+50 TO STA. 160+50

APR 30, 2024 12:33 PM HERND01562
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NOTES:
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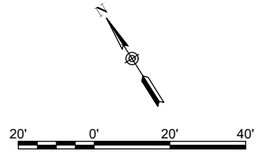

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE
- EXISTING PAVEMENT
- A1 — TYPE A1-MODIFIED, ISOLATION JOINT
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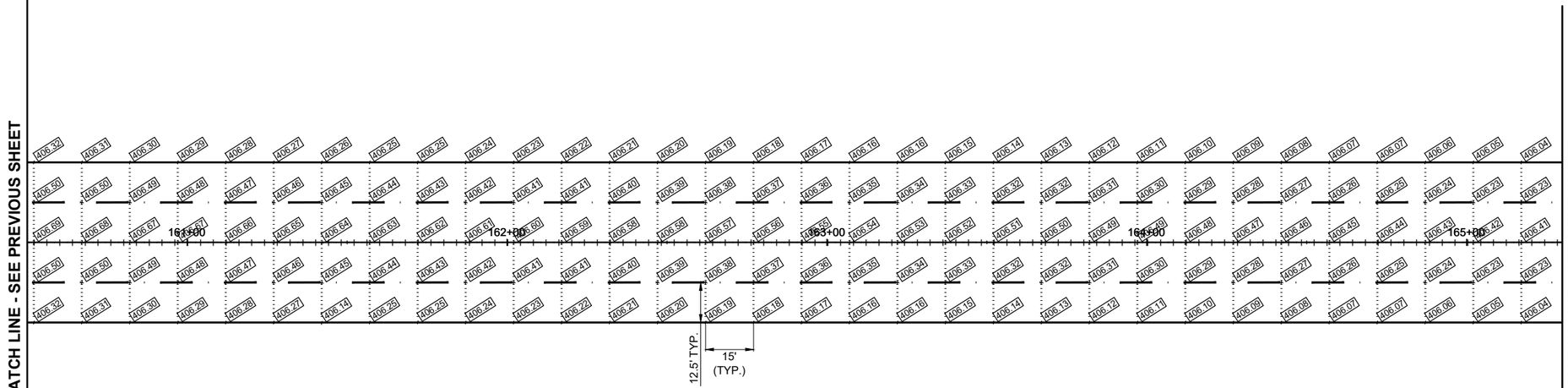
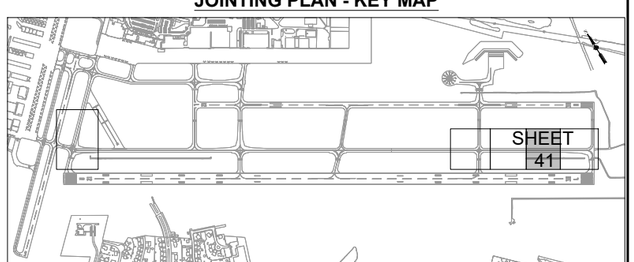
- TYPE D, CONTRACTION JOINT
- TYPE E, CONSTRUCTION JOINT
- PROPOSED REINFORCED PANEL
- PROPOSED PAVEMENT



JOINTING PLAN - KEY MAP



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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

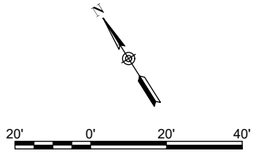
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-161-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/20/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN STA. 160+50 TO STA. 165+30



LEGEND

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- EXISTING PAVEMENT
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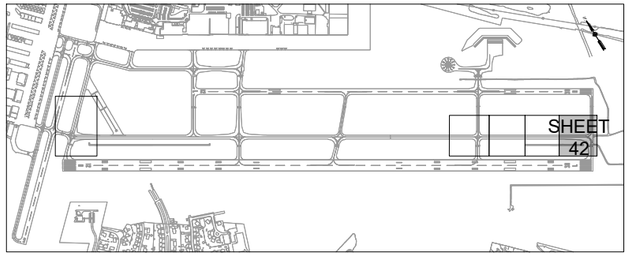
JOINTING PLAN - KEY MAP



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IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 19, 2024
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CAD FILE: C-161-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/20/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN STA. 165+30 TO STA. 170+50

APR 30, 2024 12:33 PM HERND01562
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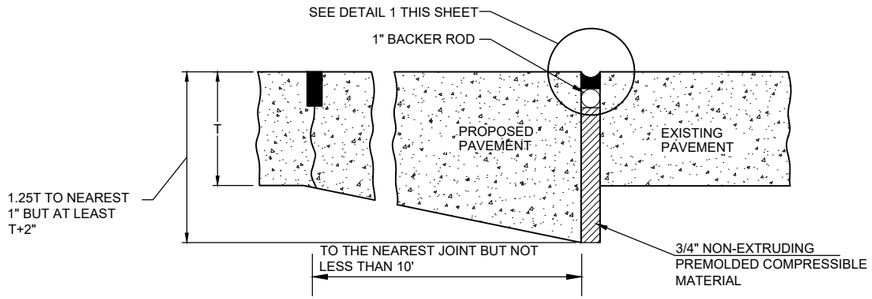
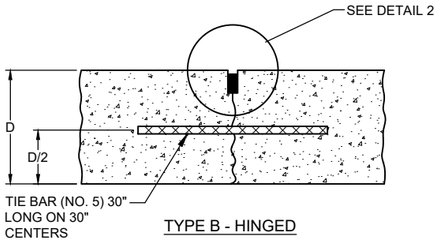
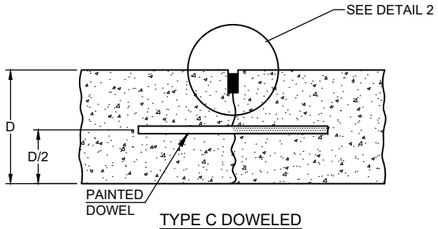


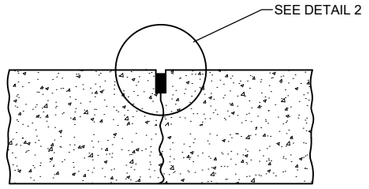
TYPE-A1 MODIFIED
ISOLATION JOINT



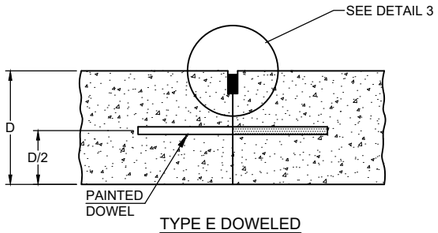
TYPE B - HINGED
CONTRACTION JOINT



TYPE C DOWELED
CONTRACTION JOINT



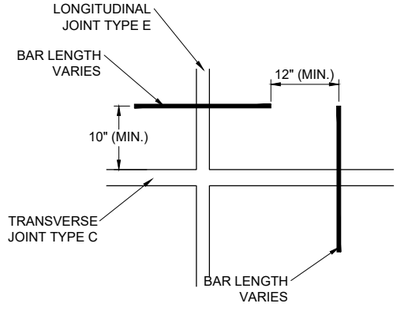
TYPE D DUMMY
CONTRACTION JOINT



TYPE E DOWELED
CONSTRUCTION JOINT

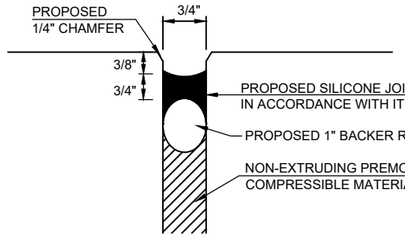
JOINTING NOTES

1. ALL JOINT EDGES SHALL BE SAWCUT TO PRODUCE THE 1/4" CHAMFER.
2. ALL LONGITUDINAL AND TRANSVERSE CONTRACTION JOINTS SHALL BE SAWED.
3. ALL DOWEL BARS SHALL BE SECURELY HELD IN PLACE BY MEANS OF A DOWEL BAR ASSEMBLY WHICH WILL ENSURE THAT THEY WILL REMAIN PARALLEL TO THE SURFACE OF THE PAVEMENT AND TO THE CENTERLINES OF THE PAVEMENT LANES. THE DOWEL BAR ASSEMBLIES SHALL BE APPROVED BY THE RESIDENT ENGINEER/TECHNICIAN PRIOR TO INSTALLATION.
4. DOWEL BARS FOR 12 IN. & 8 IN. THICK PAVEMENT SHALL BE 1 IN. DIAMETER, 18 IN. LONG AT 12 IN. SPACING.
5. ALL TIE BARS SHALL BE HELD IN PLACE BY SUPPORT PINS OR OTHER METHODS TO PREVENT SHIFTING DURING AND AFTER CONCRETE PLACEMENT. SUPPORT PINS SHALL BE OF SUFFICIENT LENGTH TO PENETRATE AT LEAST 6" INTO THE SUBGRADE.
6. ALL TIE BARS SHALL BE PLACED AT A POINT NOT LESS THAN 6" OR MORE THAN 15" FROM A TRANSVERSE OR EXPANSION JOINT.
7. DOWELS IN TRANSVERSE CONTRACTION AND LONGITUDINAL CONSTRUCTION JOINTS SHALL BE COATED WITH A RUSTPROOFING COMPOUND AND HALF THE LENGTH GREASED WITH A HEAVY GREASE.
8. ALLOWABLE TOLERANCES FOR GROOVE DEPTH WILL BE ±1/8" FOR CONSTRUCTION JOINTS AND ±1/4" FOR CONTRACTION JOINTS.
9. THE CONTRACTOR IS REQUIRED TO DRILL AND EPOXY THE PROPOSED DOWELS IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS. THE EPOXY MATERIAL MUST BE APPROVED BY THE DIVISION OF AERONAUTICS PRIOR TO USE.
10. THE COST OF ALL DOWEL BARS, TIE-BARS, SAWING AND SEALING SHALL BE INCLUDED IN THE COST OF THE PCC PAVEMENT.
11. WHEN CONSTRUCTING "FILL-IN" PAVEMENT LANES THE CONTRACTOR SHALL USE BELTING OR OTHER PROTECTIVE MATERIAL FOR THE PAVING MACHINE TO TRAVEL ON AND WILL PROTECT THE TRANSVERSE JOINTS.
12. JOINT SEALANT SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS, ITEM 605.
13. CURING COMPOUND SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS, ITEM 501-2.9, AND SHALL BE APPROVED PRIOR TO THE PAVING OPERATION BY THE RESIDENT ENGINEER/TECHNICIAN.
14. ALL NON-ALIGNED EDGES WILL BE SAWED FULL DEPTH.

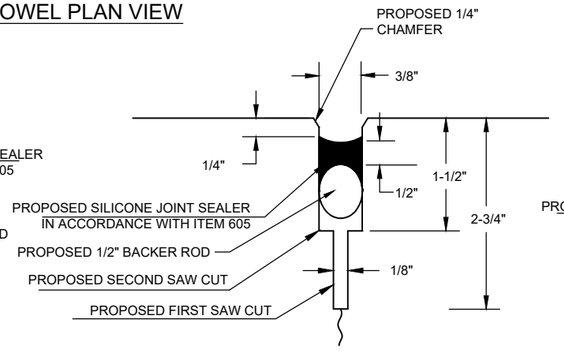


POSITION OF DOWELS AT EDGE OF JOINT TYPE C OR E

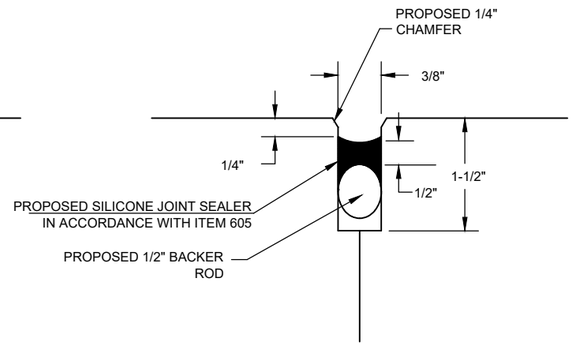
DOWEL PLAN VIEW



DETAIL 1
NOT TO SCALE

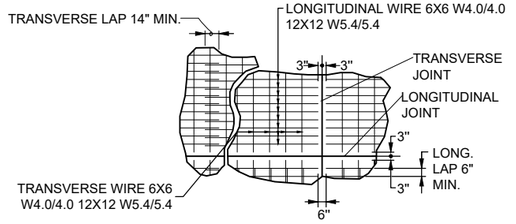


DETAIL 2
NOT TO SCALE



DETAIL 3
NOT TO SCALE

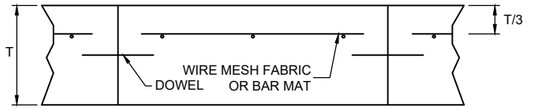
JOINT SEALING DETAILS
NOT TO SCALE



REINFORCEMENT SHEET WIRE FABRIC DETAIL

NOT TO SCALE

NOTE:
DIFFERENT WIRE MESH SIZES/CONFIGURATIONS ARE PERMITTED TO PROVIDE A MINIMUM OF 0.05% OF THE PANEL CROSS-SECTIONAL AREA IN BOTH DIRECTIONS.



PAVEMENT REINFORCING DETAIL

NOT TO SCALE

REINFORCING NOTES:

1. END LAPS SHALL BE A MINIMUM OF 12", BUT NOT LESS THAN 30 TIMES THE DIAMETER OF THE LONGITUDINAL WIRE OR BAR.
2. SIDE LAPS SHALL BE A MINIMUM OF 6", BUT NOT LESS THAN 20 TIMES THE DIAMETER OF TRANSVERSE WIRE OR BAR.
3. END AND SIDE CLEARANCES SHALL BE A MAXIMUM OF 6" AND A MINIMUM OF 2".
4. LONGITUDINAL MEMBERS SHALL BE SPACED NOT LESS THAN 4" NOR MORE THAN 12" APART.
5. TRANSVERSE MEMBERS SHALL BE SPACED NOT LESS THAN 4" NOR MORE THAN 24" APART.
6. REINFORCING SHALL CONSIST OF WELDED STEEL WIRE FABRIC CONFORMING TO THE REQUIREMENTS OF ASTM A 185 OR BAR MATS CONFORMING TO THE REQUIREMENTS OF ASTM A 184 OR A 704.
7. PAVEMENT REINFORCING SHALL BE INCIDENTAL TO ITEM 501 PCC PAVEMENT.

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062-057281
LICENSED
PROFESSIONAL ENGINEER

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

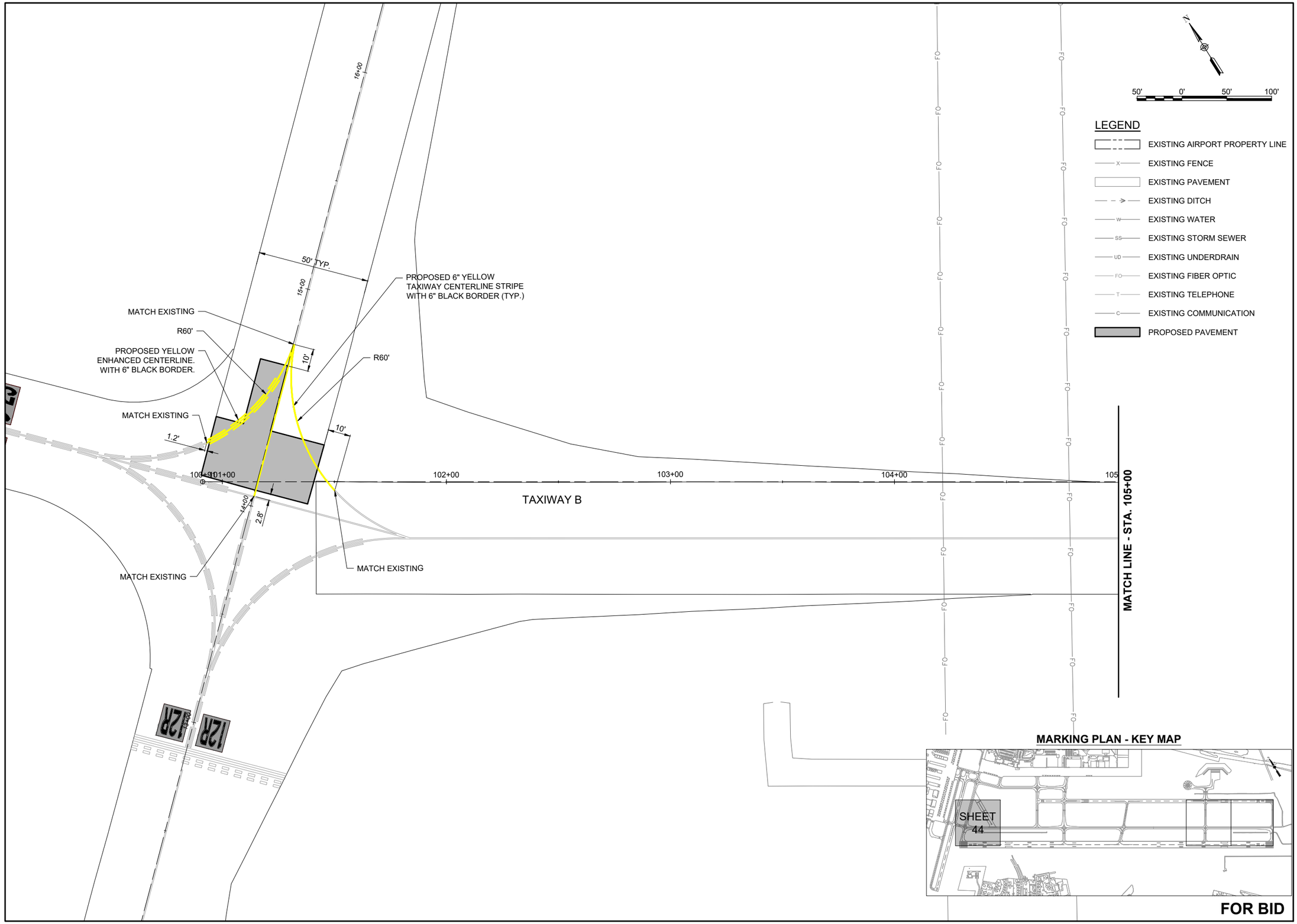
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-561-JNT.DWG
DESIGN BY: JRH 3/17/2024
DRAWN BY: AJL 3/22/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED JOINTING PLAN DETAILS AND NOTES



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ISSUE: APRIL 19, 2024
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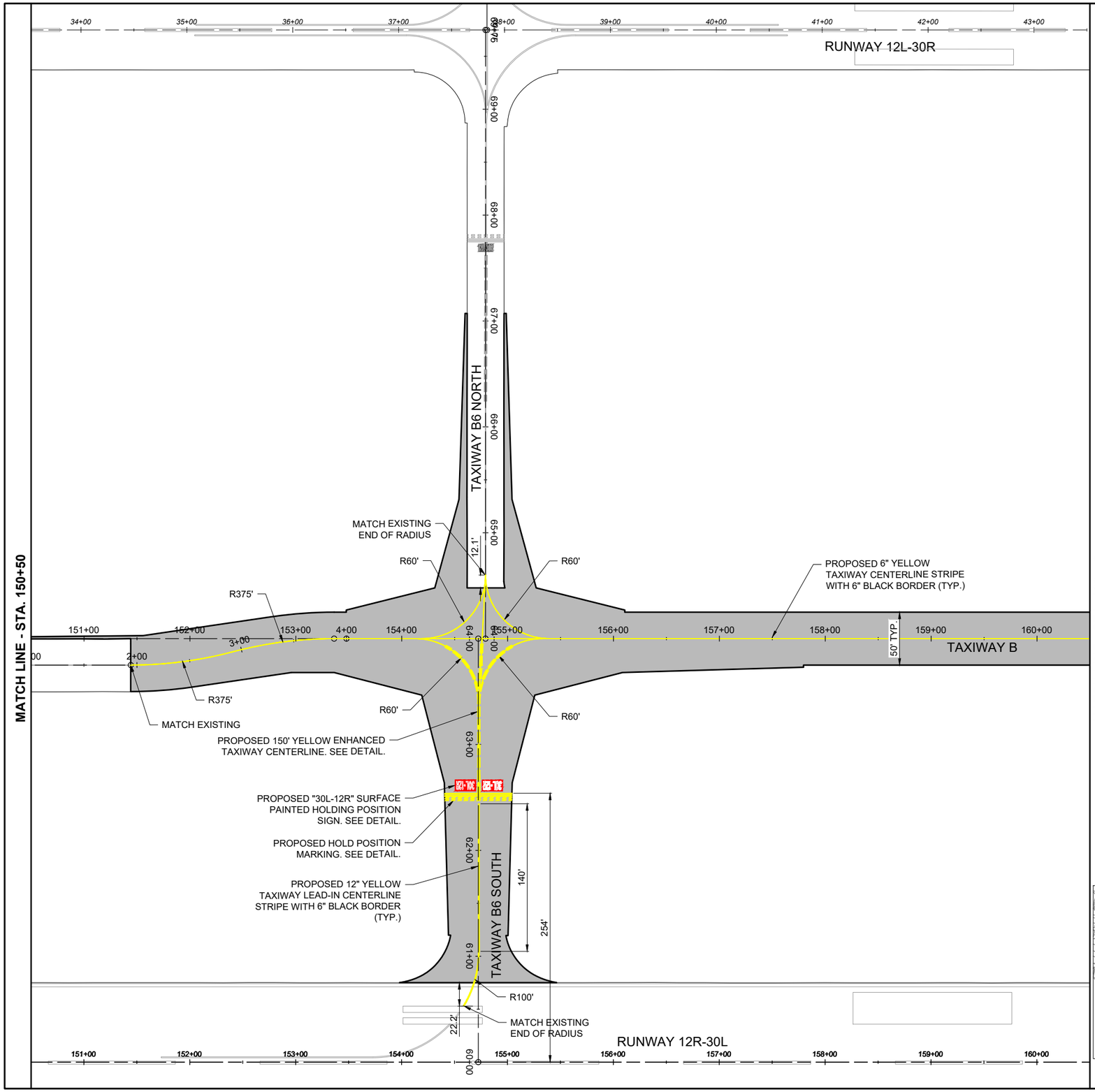
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED MARKING PLAN STA. 100+00 TO STA. 105+00

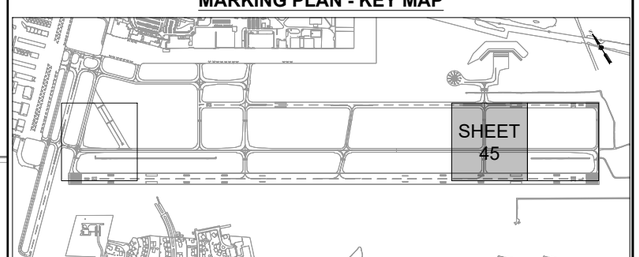


50' 0' 50' 100'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE (X)
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER (W)
- EXISTING STORM SEWER (SS)
- EXISTING UNDERDRAIN (UD)
- EXISTING FIBER OPTIC (FO)
- EXISTING TELEPHONE (T)
- EXISTING COMMUNICATION (C)
- PROPOSED PAVEMENT

MARKING PLAN - KEY MAP



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SHEET TITLE

PROPOSED MARKING PLAN STA. 150+50 TO STA. 160+50

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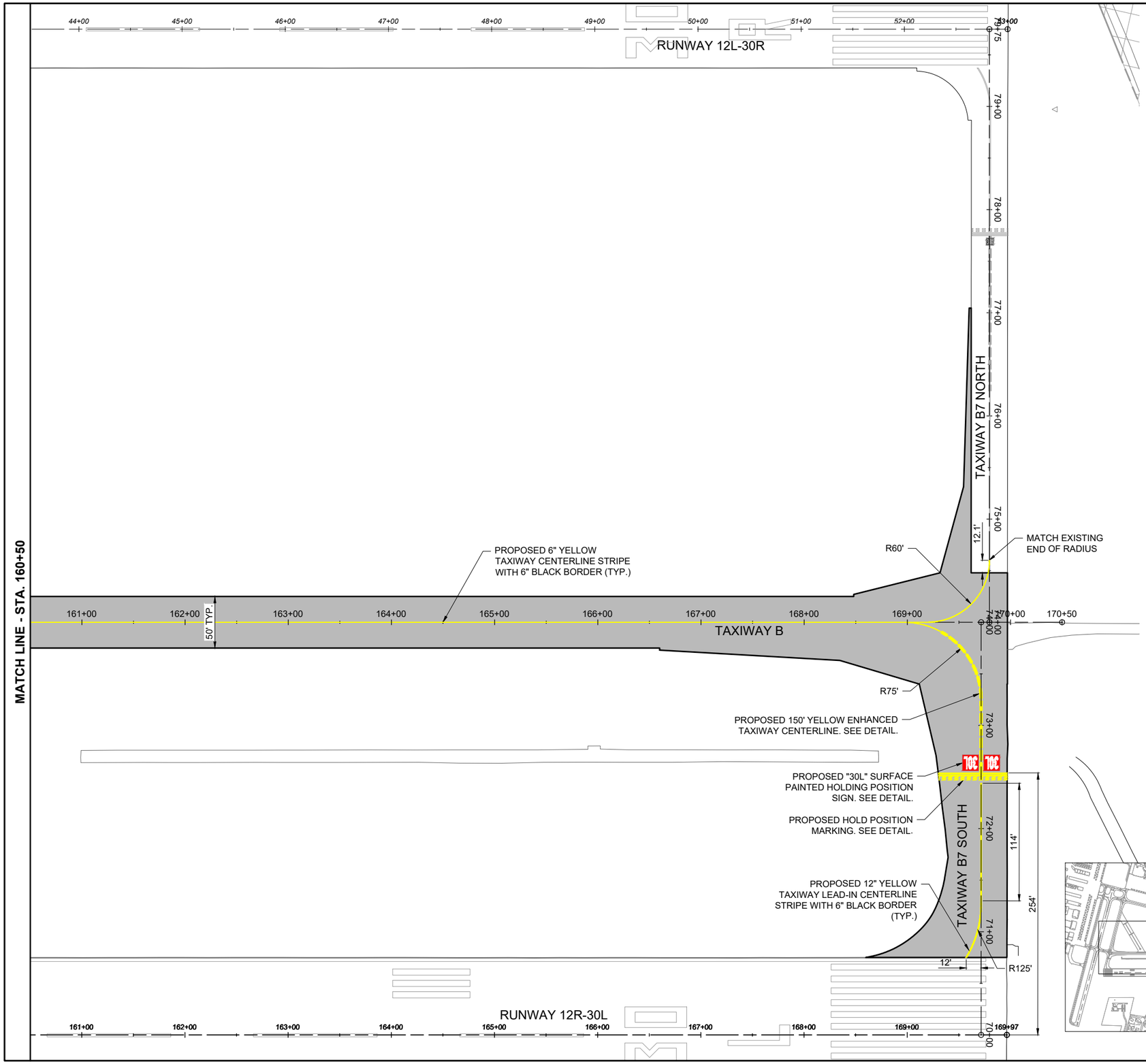
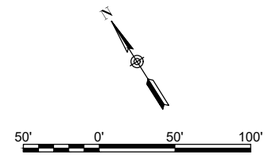


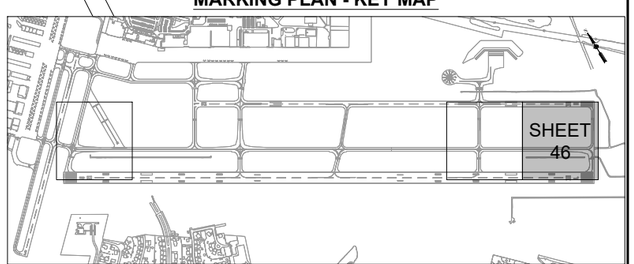


LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING FENCE (X)
- EXISTING PAVEMENT
- EXISTING DITCH
- EXISTING WATER (W)
- EXISTING STORM SEWER (SS)
- EXISTING UNDERDRAIN (UD)
- EXISTING FIBER OPTIC (FO)
- EXISTING TELEPHONE (T)
- EXISTING COMMUNICATION (C)
- PROPOSED PAVEMENT

MARKING QUANTITIES	
WHITE MARKING	
DESCRIPTION	**AREA (S.F.)**
SPHPS NUMERALS	201.0
TOTAL AREA	**201.0**
RED MARKING	
SPHPS BACKGROUND	634.0
TOTAL AREA	**634.0**
YELLOW MARKING	
DESCRIPTION	**AREA (S.F.)**
6" TAXIWAY CENTERLINES	1395.0
12" TAXIWAY LEAD-IN LINES	365.0
ENHANCED TAXIWAY DASHES	327.0
HOLDING POSITIONS	391.0
TOTAL AREA	**1083.0**
BLACK BORDER	
DESCRIPTION	**AREA (S.F.)**
SPHPS BORDER	123.0
TAXIWAY CENTERLINE BORDER	3429.0
HOLDING POSITIONS	660.0
TOTAL AREA	**4212.0**

MARKING PLAN - KEY MAP



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PROPOSED MARKING PLAN STA. 160+50 TO STA. 170+50

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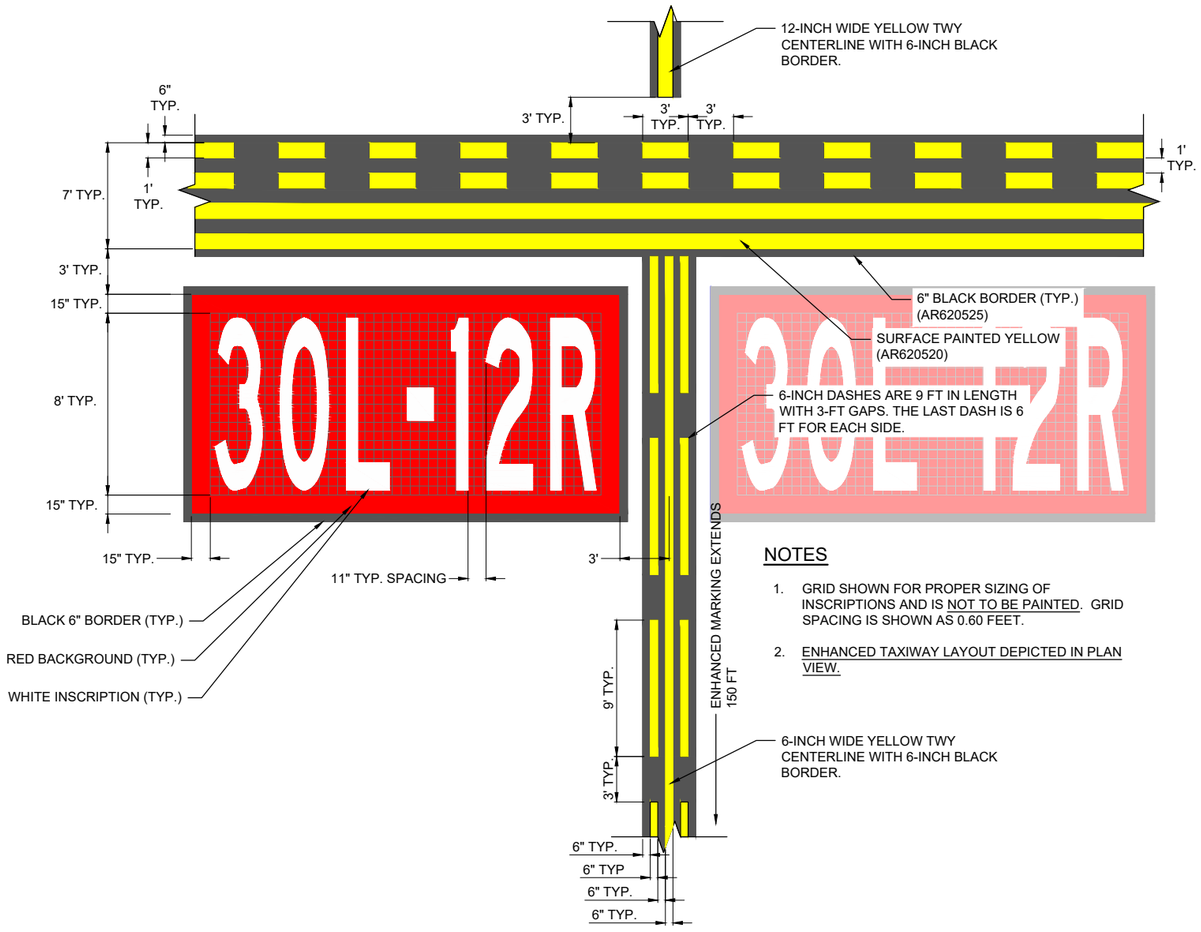
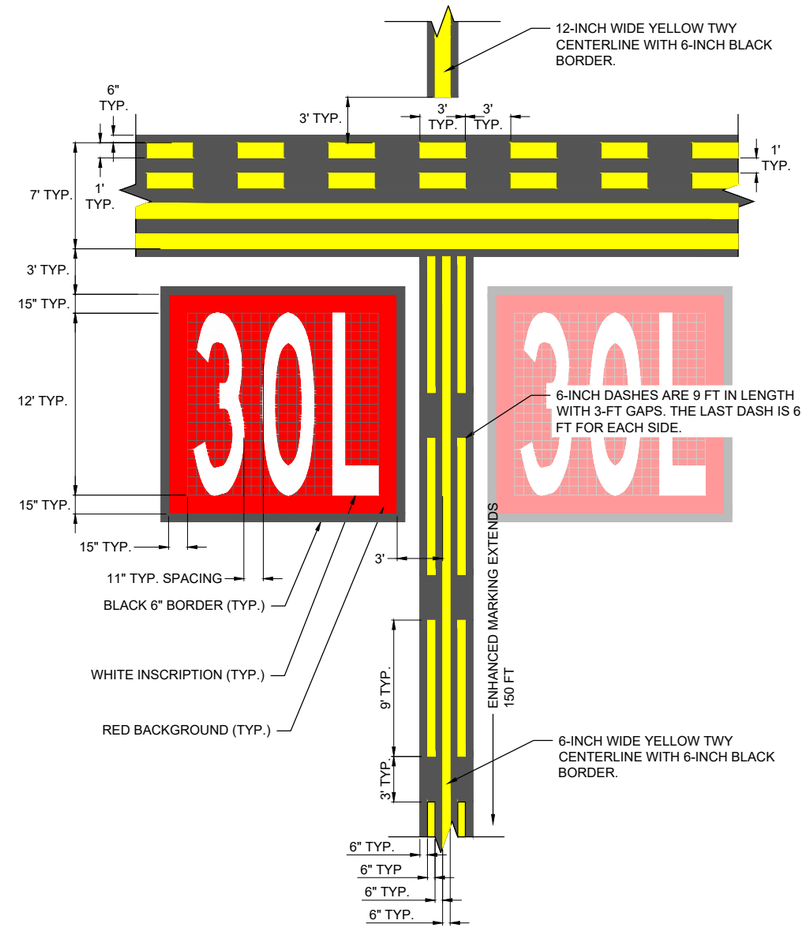


NOTES

1. GRID SHOWN FOR PROPER SIZING OF INSCRIPTIONS AND IS NOT TO BE PAINTED. GRID SPACING IS SHOWN AS 0.60 FEET.
2. ENHANCED TAXIWAY LAYOUT DEPICTED IN PLAN VIEW.

TAXIWAY B-6 HOLDING POSITION AND ENHANCED TAXIWAY CENTERLINE DETAIL
NOT TO SCALE



TAXIWAY B-7 HOLDING POSITION AND ENHANCED TAXIWAY CENTERLINE DETAIL
NOT TO SCALE

SURFACE PAINTED HOLDING POSITION SIGN NOTES:

1. SURFACE PAINTED HOLDING POSITION SIGNS SHALL BE PAINTED AT THE LOCATIONS SHOWN ON THE PAVEMENT MARKING PLAN SHEETS. THE CONTRACTOR SHALL FIELD VERIFY THAT THE SURFACE PAINTED HOLDING POSITION SIGNS MEET THE STANDARD DIMENSIONS SHOWN. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OF ANY VARIATION FROM THE DIMENSIONS AND LOCATIONS SHOWN.
2. THE STENCILS FOR THE SURFACE PAINTED HOLDING POSITION SIGNS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SET OF STENCILS TO THE AIRPORT THAT MATCH THE SIGN DIMENSIONS PAINTED AT THIS AIRPORT.
3. THE SURFACE PAINTED HOLDING POSITION SIGNS SHALL BE ORIENTED PARALLEL TO THE RUNWAY HOLDING POSITION MARKING.
4. SURFACE PAINTED HOLDING POSITIONS SIGNS SHALL BE LOCATED BASED ON DIMENSIONS FROM THE TAXIWAY CENTERLINE AND RUNWAY HOLDING POSITION MARKING. IF THE TAXIWAY CENTERLINE AND THE RUNWAY HOLDING POSITION MARKING ARE NOT PERPENDICULAR TO TO EACH OTHER, THE DIMENSION FROM THE CENTERLINE SHALL BE MEASURED TO THE NEAREST POINT ON THE SURFACE PAINTED SIGN.

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SHEET TITLE

PAVEMENT MARKING DETAILS - SHEET 1

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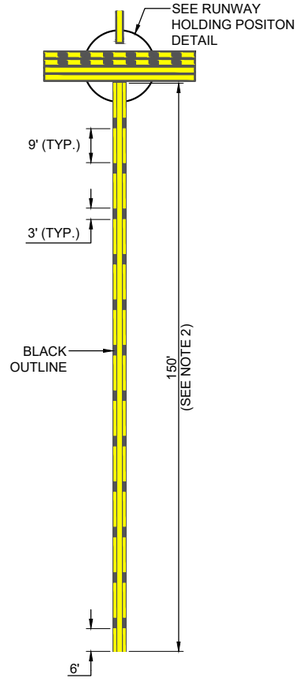
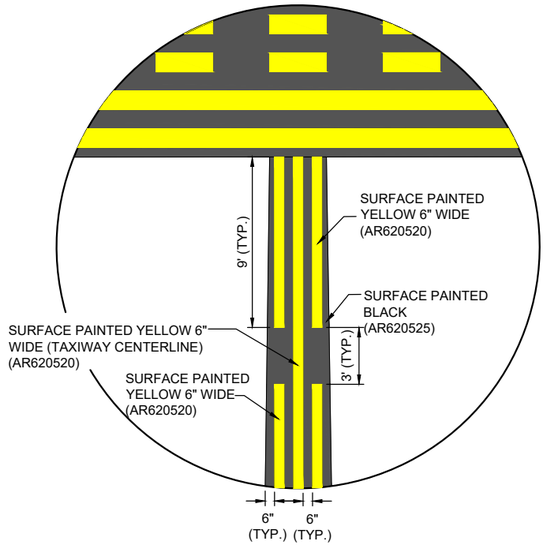
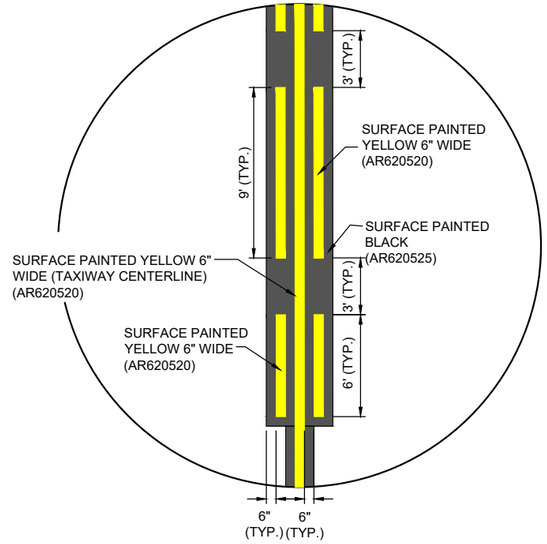


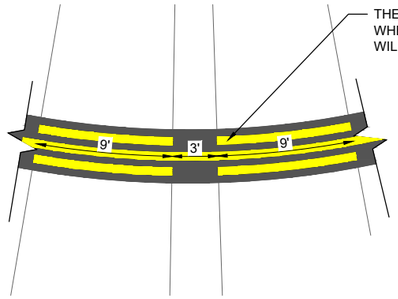
ENHANCED TAXIWAY CENTERLINE MARKING DETAIL
NOT TO SCALE



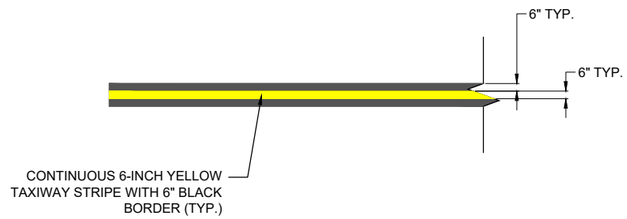
ENHANCED TAXIWAY MARKING DETAIL (BEGIN)
NOT TO SCALE



ENHANCED TAXIWAY MARKING DETAIL (END)
NOT TO SCALE



ENHANCED TAXIWAY CENTERLINE DETAIL ON CURVE
NOT TO SCALE



TAXIWAY CENTERLINE DETAIL
NOT TO SCALE

CONTINUOUS 12-INCH YELLOW TAXIWAY LEAD-IN STRIPE WITH 6" BLACK BORDER FROM HOLDING POSITION MARKING TO RWY 12R-30L.

ENHANCED TAXIWAY CENTERLINE MARKING NOTES:

1. TAXIWAY CENTERLINE MARKINGS SHALL BE YELLOW IN COLOR AND OUTLINED IN BLACK.
2. TAXIWAY CENTERLINE MARKINGS SHALL BE ENHANCED FOR 150-FT PRIOR TO A RUNWAY HOLDING POSITION MARKING, UNLESS NOTED OTHERWISE. FOR A CURVED TAXIWAY CENTERLINE, THIS DISTANCE SHALL BE MEASURED ALONG THE CENTERLINE BEING ENHANCED TO A DISTANCE OF 150-FT.
3. WHERE TWO TAXIWAY CENTERLINES CONVERGE AT OR BEFORE THE RUNWAY HOLDING POSITION MARKING, PARTIAL INNER DASHED LINES LESS THAN 5 FEET AT THE POINT OF CONVERGENCE MAY BE OMITTED.
4. DASHES ON EITHER SIDE OF THE TAXIWAY CENTERLINE MUST BE ALIGNED, STARTING AND STOPPING WITH THE DASHES ON THE OPPOSITE SIDE OF THE CENTERLINE. TO ACCOMPLISH THIS FOR CURVED TAXIWAY CENTERLINES, THE MEASUREMENTS FOR THE DASHES AND GAPS SHALL BE MADE AT THE CENTERLINE AND EXTENDED PERPENDICULAR FROM THE CENTERLINE TO OBTAIN THE LOCATIONS OF THE DASHES.
5. ENHANCED TAXIWAY CENTERLINE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF FAA AC 150/5340-1, "STANDARDS FOR AIRPORT MARKING".
6. IF THE CONTRACTOR ELECTS TO "BLOCK PAINT" THE BLACK PAINT AND THEN PAINT EITHER YELLOW, RED, OR WHITE PAINT OVER THE BLACK PAINT; ONLY THE VISIBLE BLACK PAINT WILL BE ELIGIBLE FOR PAYMENT.

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IDA NO.: CPS-5078
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REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PAVEMENT MARKING DETAILS - SHEET 2

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STORM WATER POLLUTION PREVENTION NOTES

1. THE CONTRACTOR SHALL IMPLEMENT ALL PROVISIONS OF THE CONTRACT DOCUMENTS TO ASSURE THAT STORM WATER POLLUTION PREVENTION ITEMS ARE CONSTRUCTED AND MAINTAINED IN A TIMELY MANNER. SEDIMENTATION MUST NOT BE TRANSPORTED OFF THE CONSTRUCTION SITE. PERMANENT DAMAGE FEATURES AND VEGETATIVE MEASURES SHALL BE PROVIDED AS SOON AS POSSIBLE.

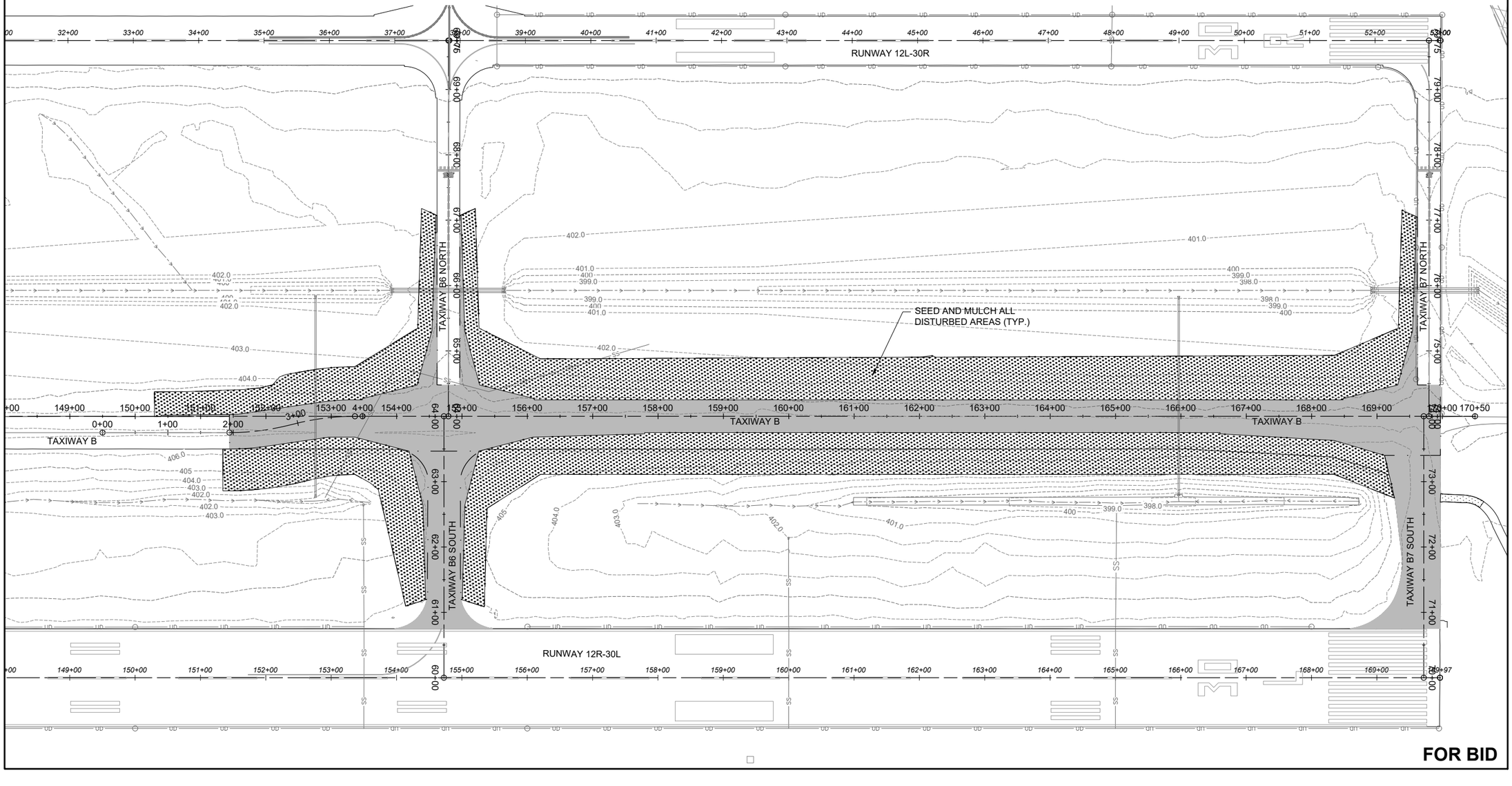
2. THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT AND MAINTAIN STORM WATER POLLUTION PREVENTION PRACTICES AND MEASURES PRIOR TO THE STRIPPING OF EXISTING VEGETATION WHERE EVER POSSIBLE AND AS SOON AS CONSTRUCTION PERMITS IN OTHER AREAS. POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, INCLUDING THESE CONSTRUCTION PLANS, AND WITH STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, CURRENT ISSUE. THE CONTRACTOR SHALL ADJUST HIS OPERATIONS AND IMPLEMENT POLLUTION CONTROL MEASURES SO THAT NO RUNOFF FROM STRIPPED AREAS WILL LEAVE THE CONSTRUCTION SITE OTHER THAN THROUGH SEDIMENT TRAPS OR OTHER SUITABLE CONTROL MEASURES.

3. POLLUTION CONTROL ITEMS SHALL BE PROVIDED AS NOTED ON THE STORM WATER POLLUTION PREVENTION PLAN AND IN THE STORM WATER POLLUTION PREVENTION DETAILS AND AS DIRECTED BY THE ENGINEER. THE LIMITS OF SUCH MEASURES SHALL BE STAKED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH LIMITS MAY BE ADJUSTED BY THE ENGINEER TO ACCOUNT FOR ACTUAL SITE CONDITIONS EXPERIENCED DURING CONSTRUCTION. ADDITIONAL COMPENSATION FOR MEASURES EXCEEDING THE PLAN QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH ITEM.

4. THE CONTRACTOR IS TO MAINTAIN AND ADJUST, REPAIR OR REPLACE ALL POLLUTION PREVENTION MEASURES AS REQUIRED OR AS DIRECTED BY THE ENGINEER UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED. MAINTENANCE OF POLLUTION CONTROL MEASURES IS TO BE PROVIDED AT NO ADDITIONAL COST TO THE CONTRACT.

EXISTING PAVEMENT
UD EXISTING UNDERDRAIN
EXISTING DITCH
EXISTING MANHOLE/INLET
SS EXISTING STORM SEWER
PROPOSED SEEDING/MULCHING
PROPOSED PAVEMENT

80' 0' 80' 160'



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DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

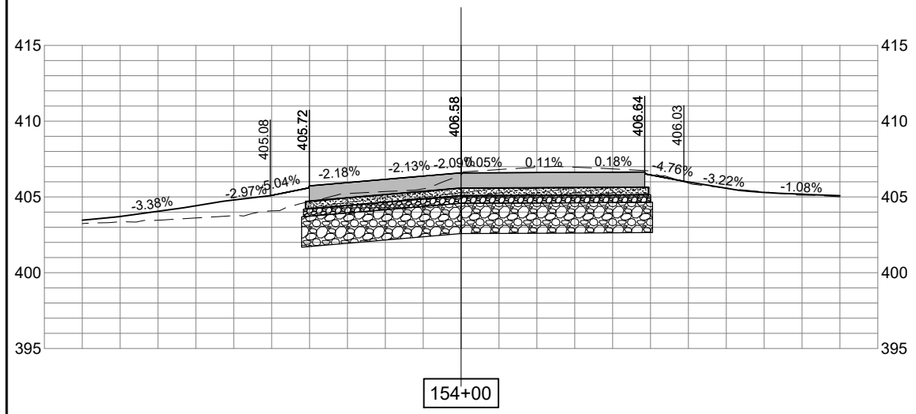
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

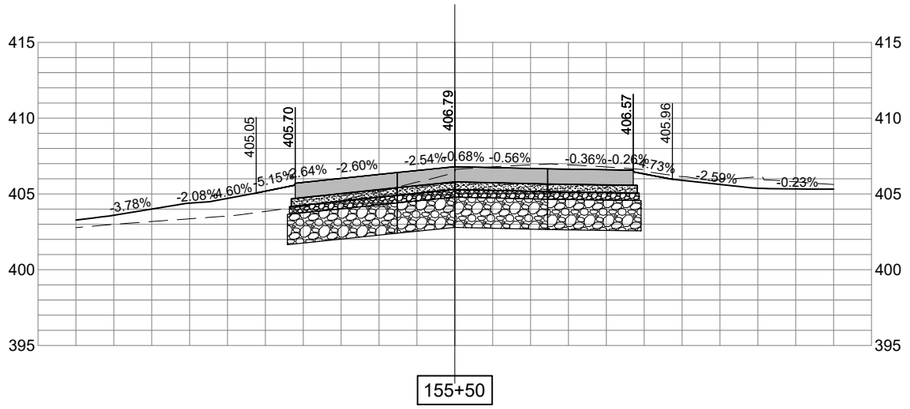
ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-181-SWP.DWG
DESIGN BY: JRH 3/25/2024
DRAWN BY: AJL 3/25/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN



154+00



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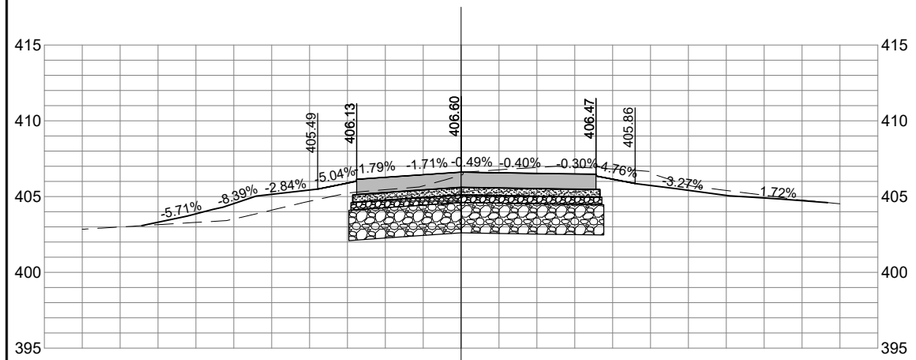

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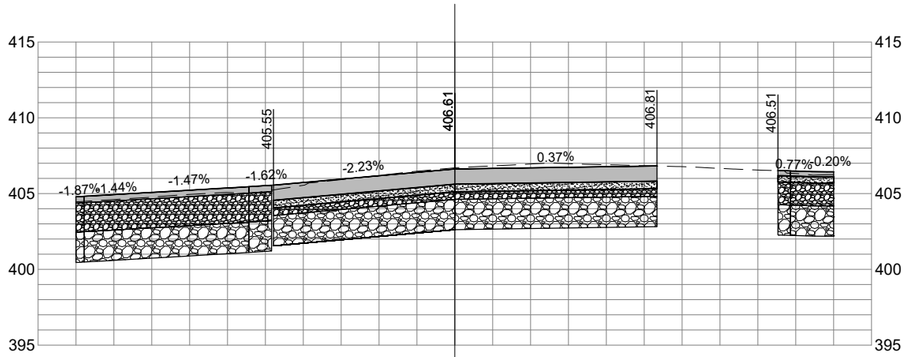

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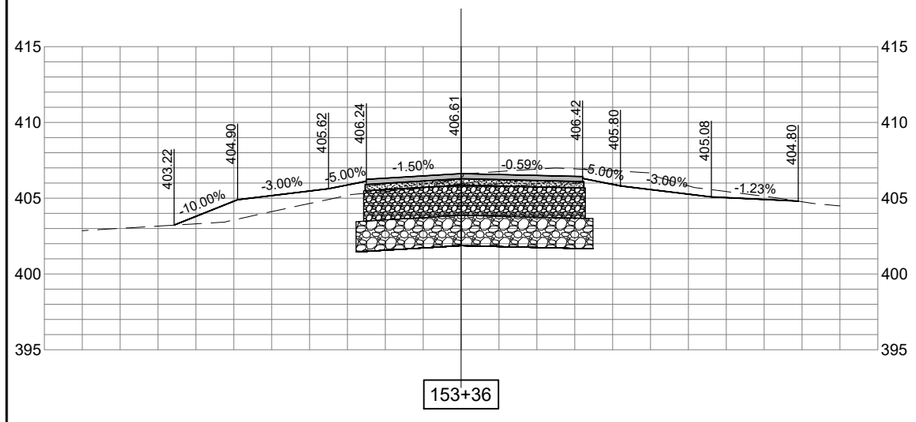
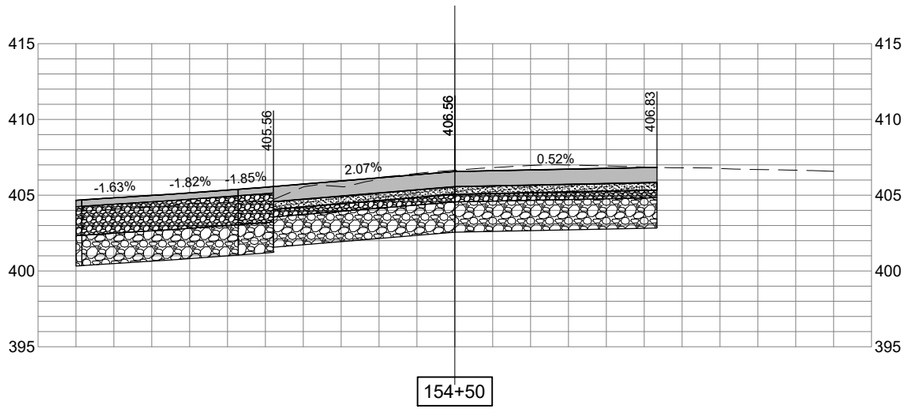


153+36



154+50

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DATE SIGNED: 4/19/2024
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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED CROSS SECTION STA. 153+36 TO STA. 155+50

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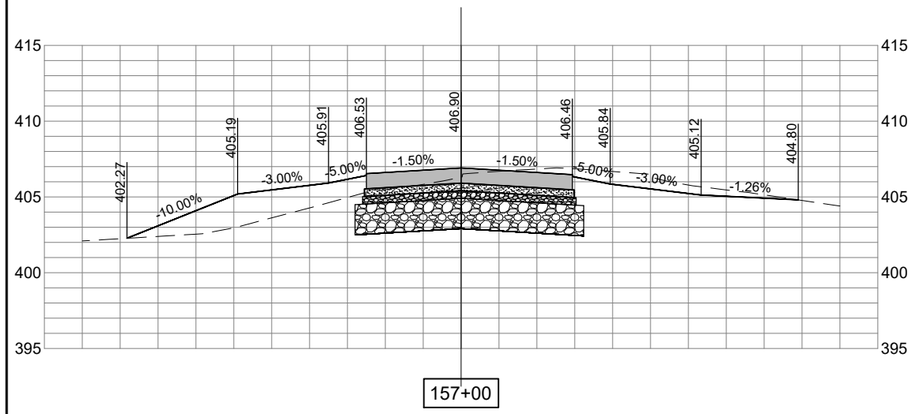

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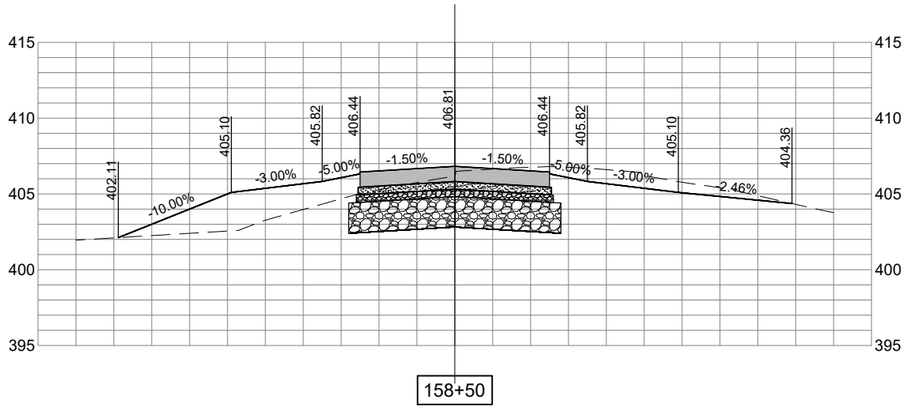

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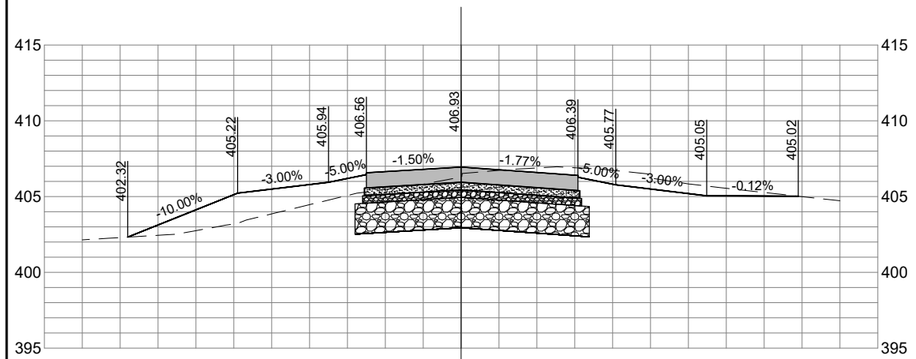

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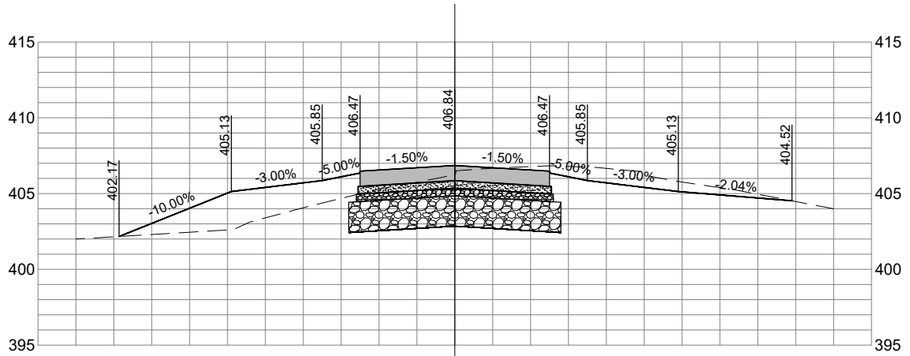

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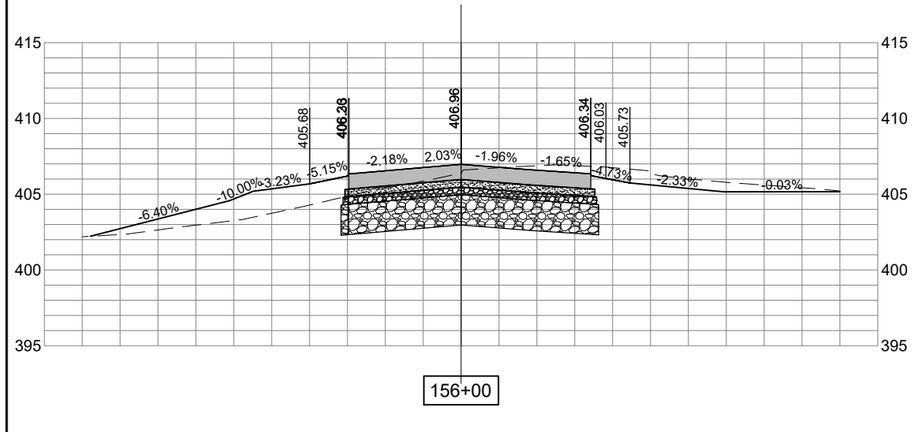

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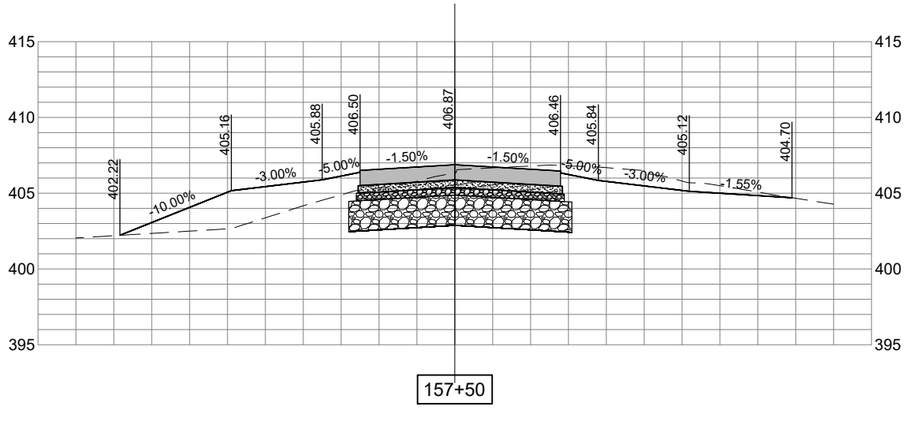

157+50

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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

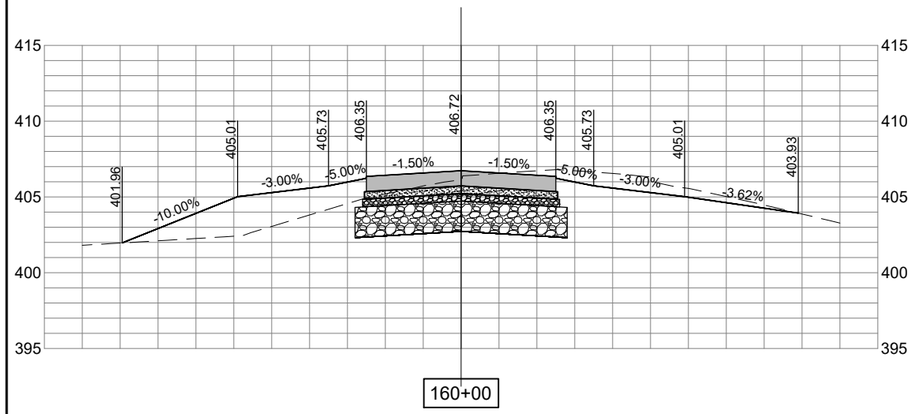
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED CROSS SECTION STA. 156+00 TO STA. 158+50



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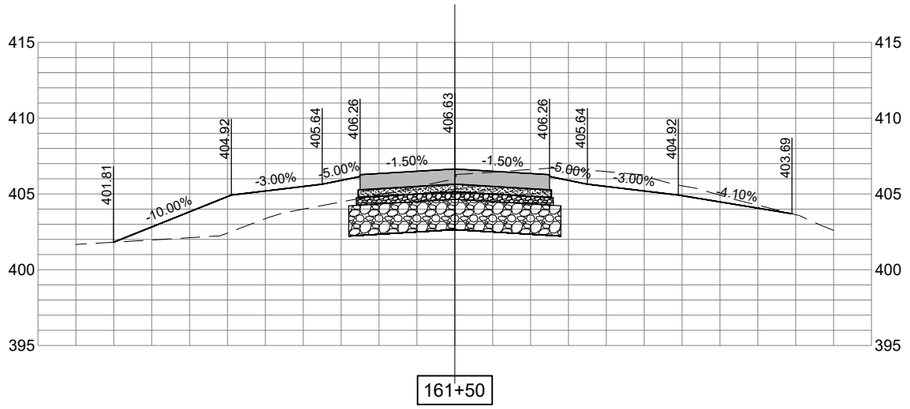

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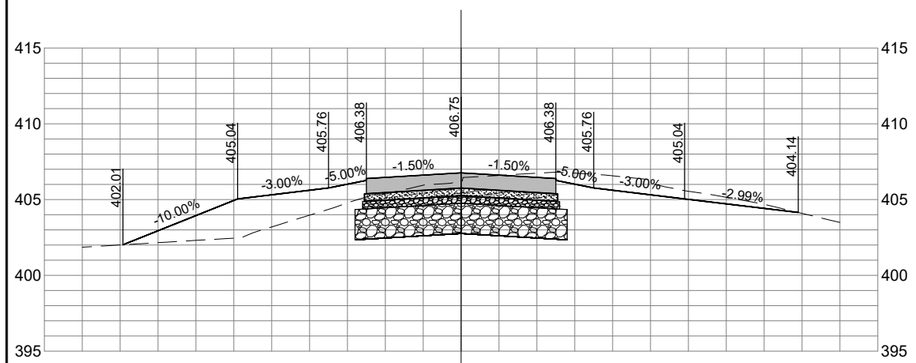

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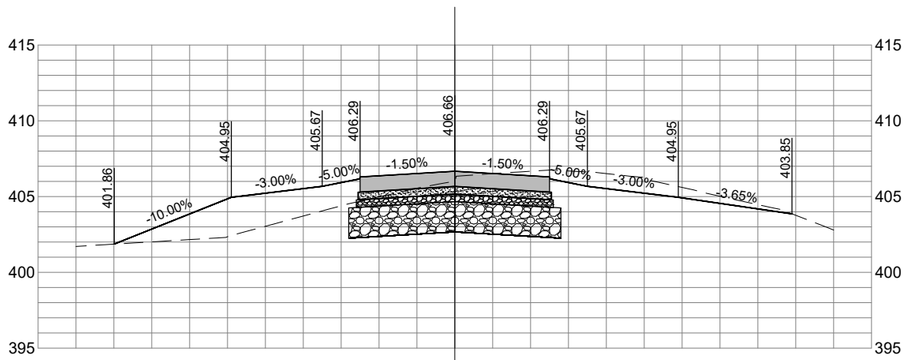

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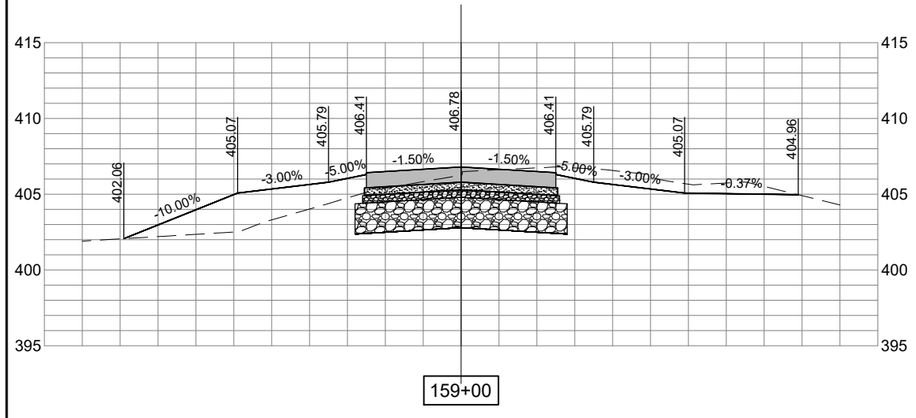

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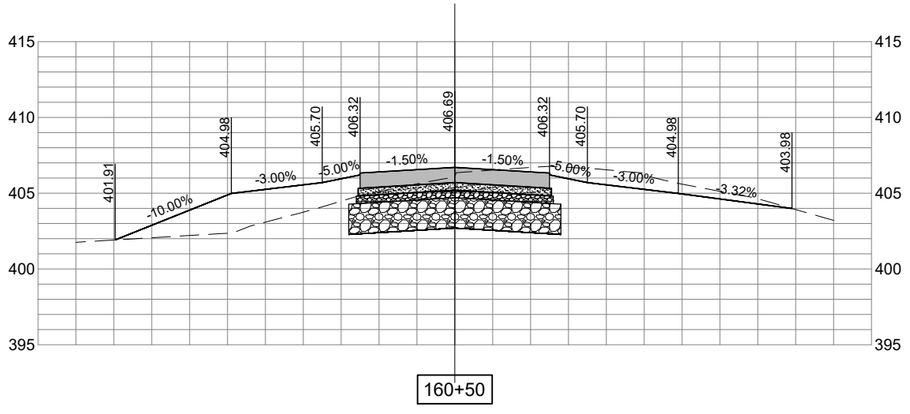

160+50

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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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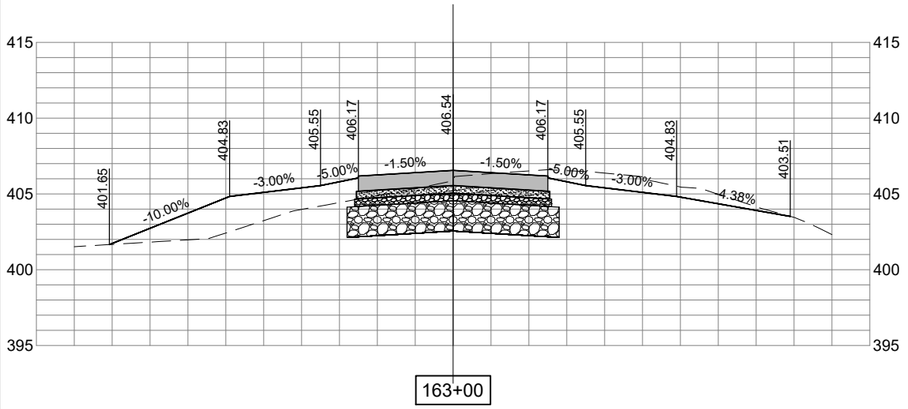
PROJECT NO: 23A0001D
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED CROSS SECTION STA. 159+00 TO STA. 161+50



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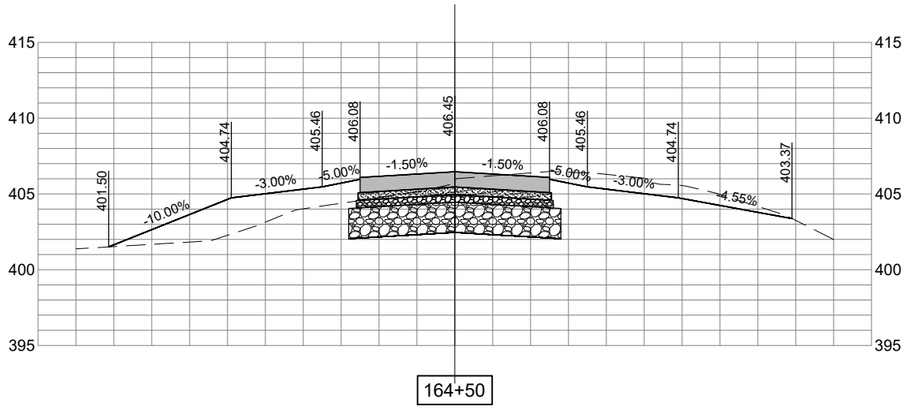

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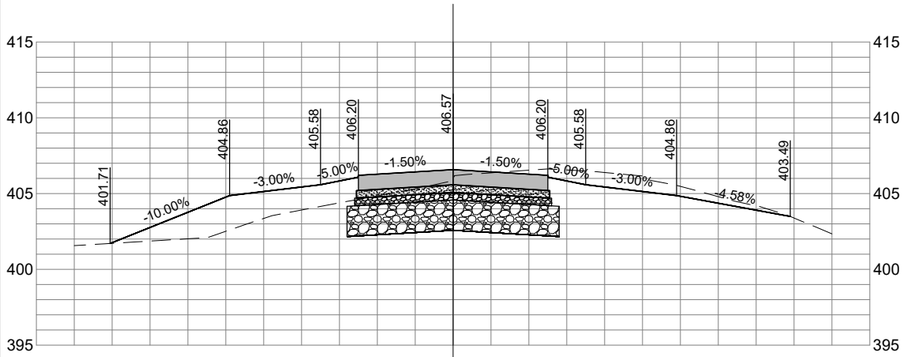

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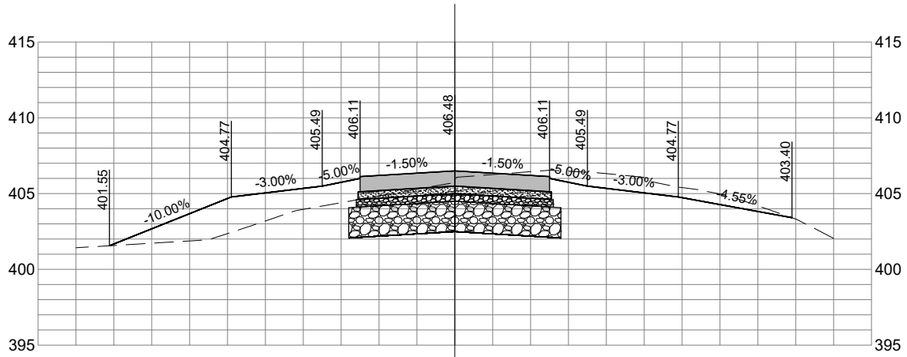

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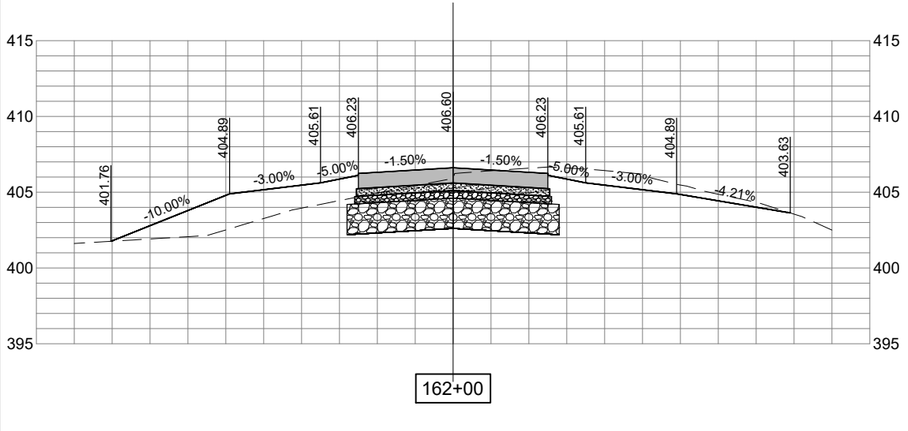

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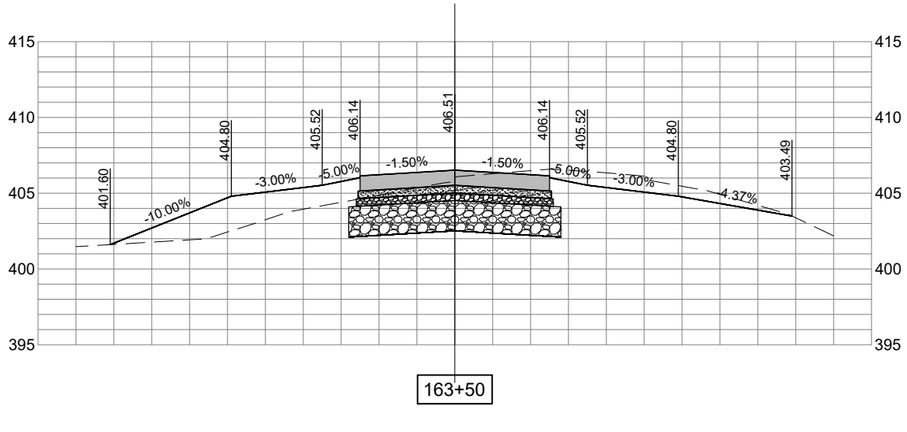

163+50

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APR 30, 2024 12:39 PM HERND01562
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DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

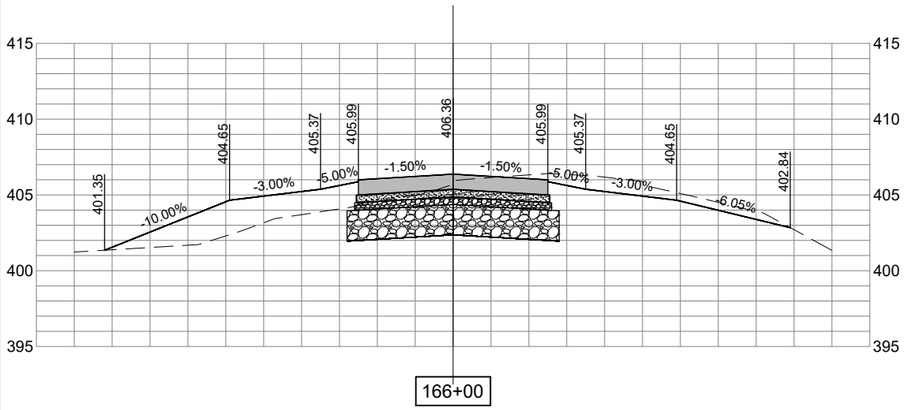
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED CROSS SECTION STA. 162+00 TO STA. 164+50



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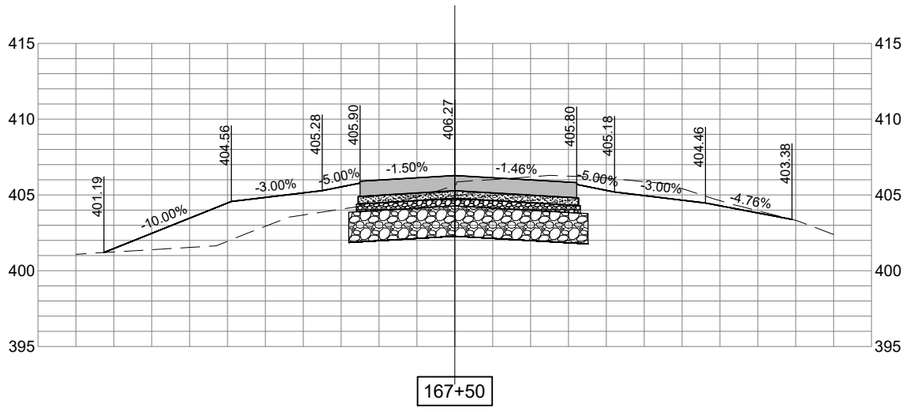

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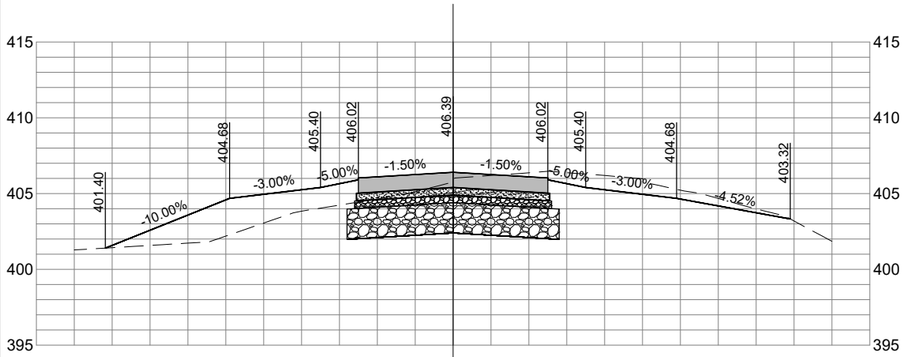
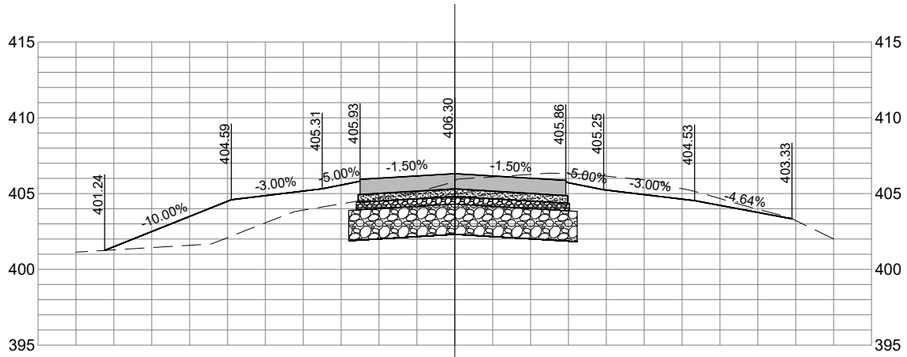


165+50



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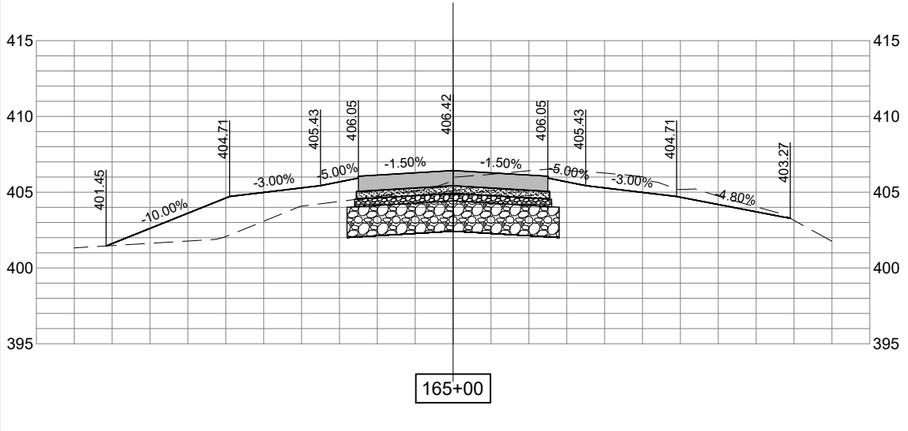
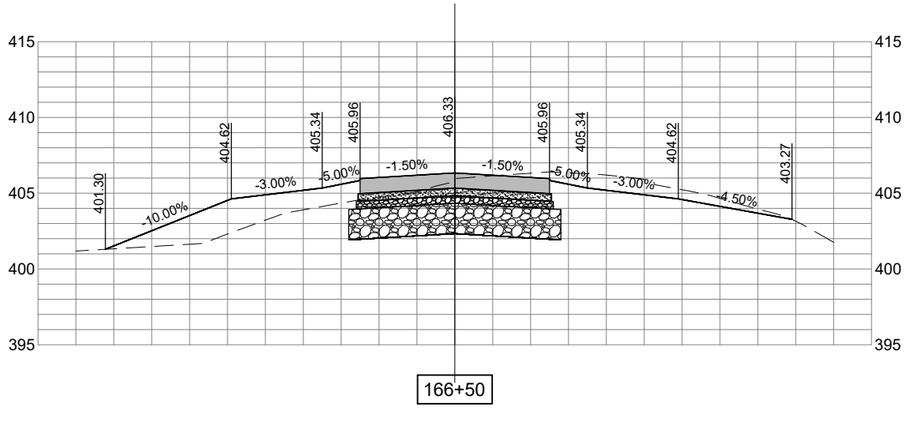


165+00



166+50

FOR BID

APR 30, 2024 12:39 PM HERNDO1562
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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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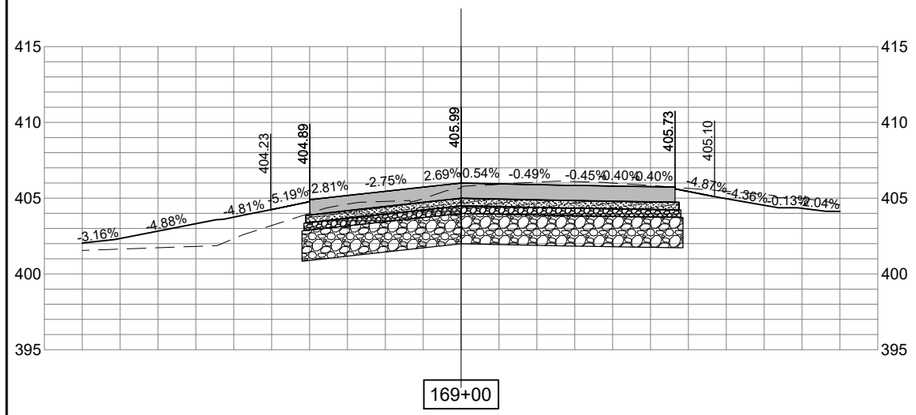
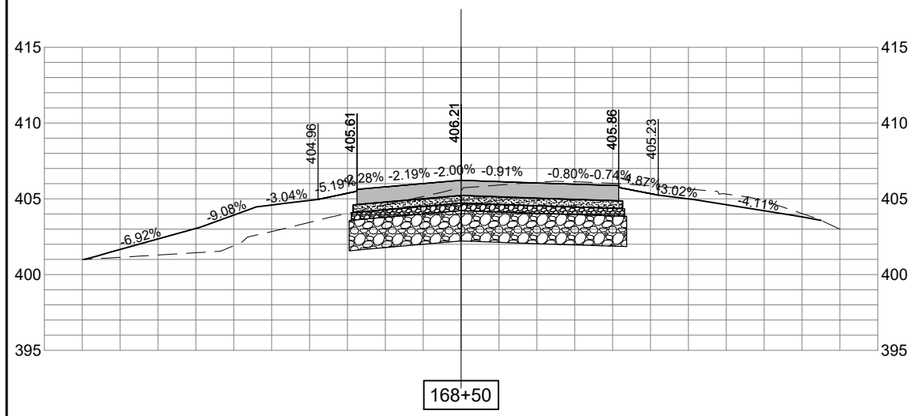
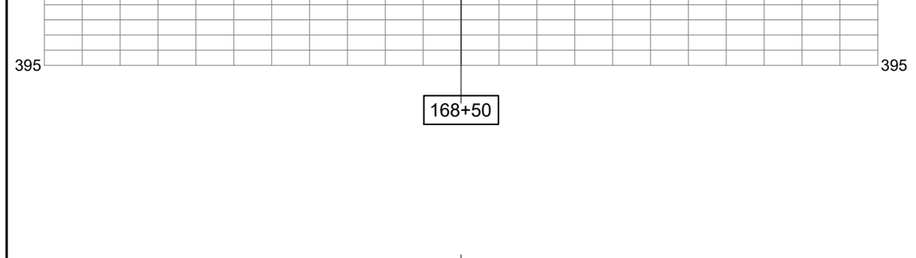
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

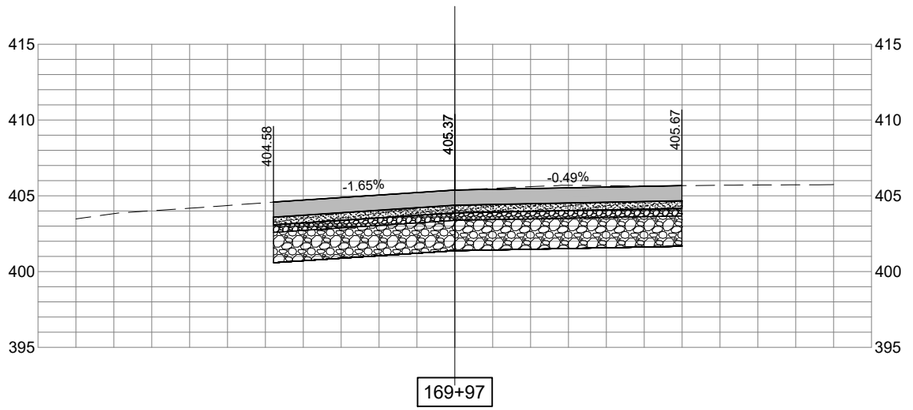
SHEET TITLE

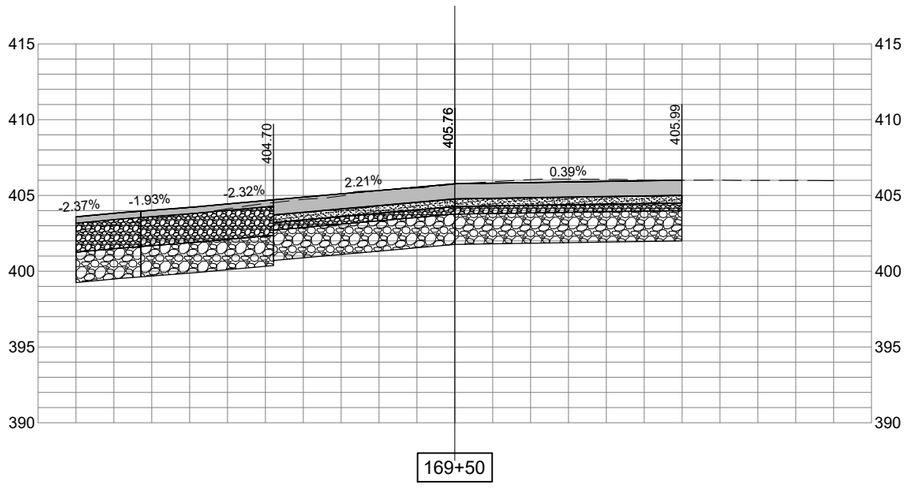
PROPOSED CROSS SECTION STA. 165+00 TO STA. 167+50











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IDA NO.: CPS-5078
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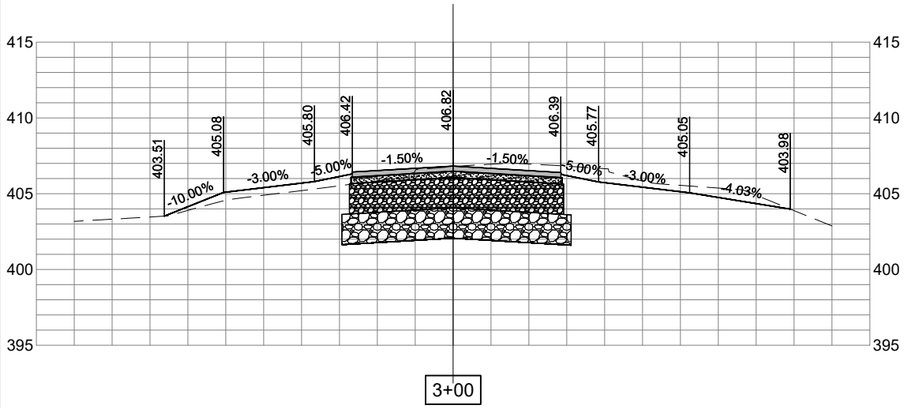
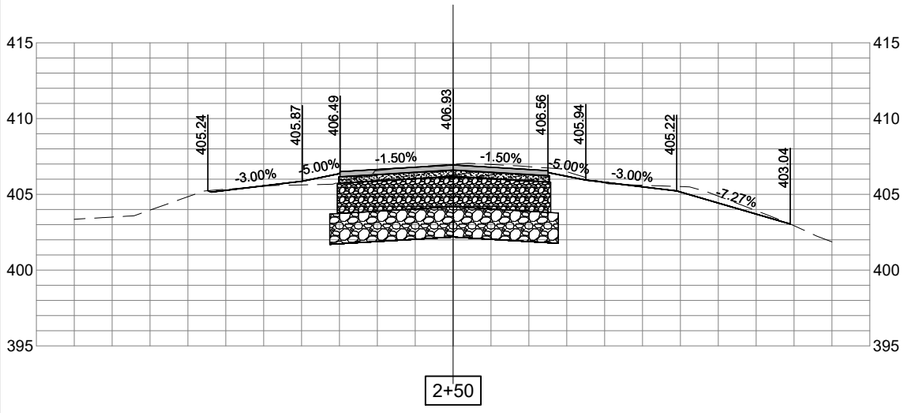
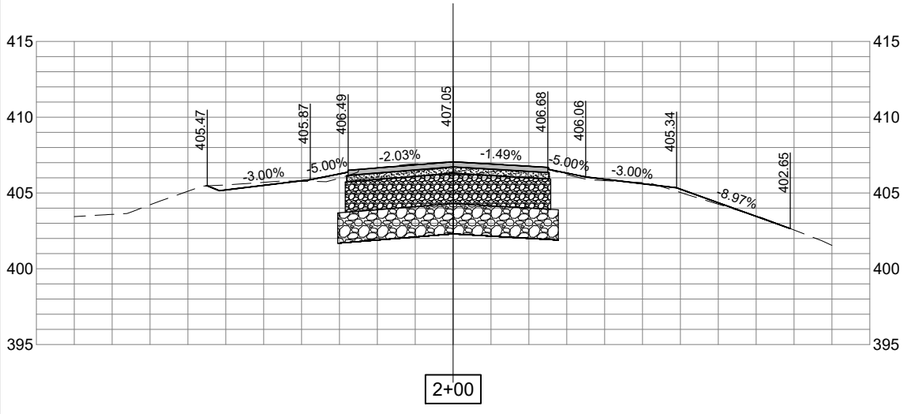
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

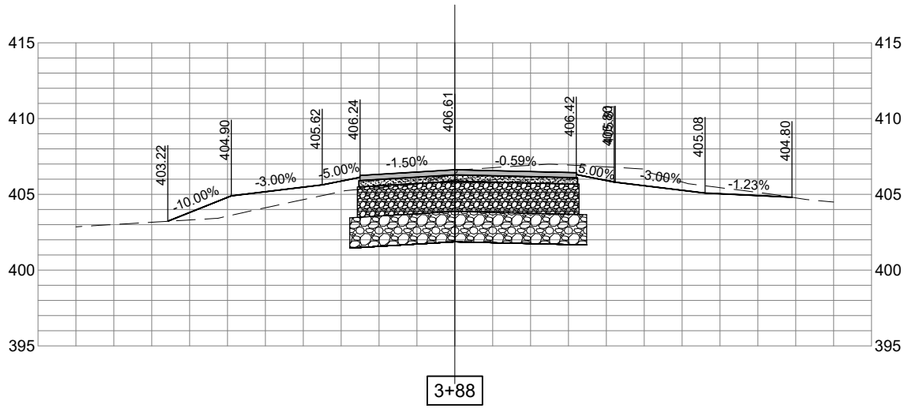
SHEET TITLE

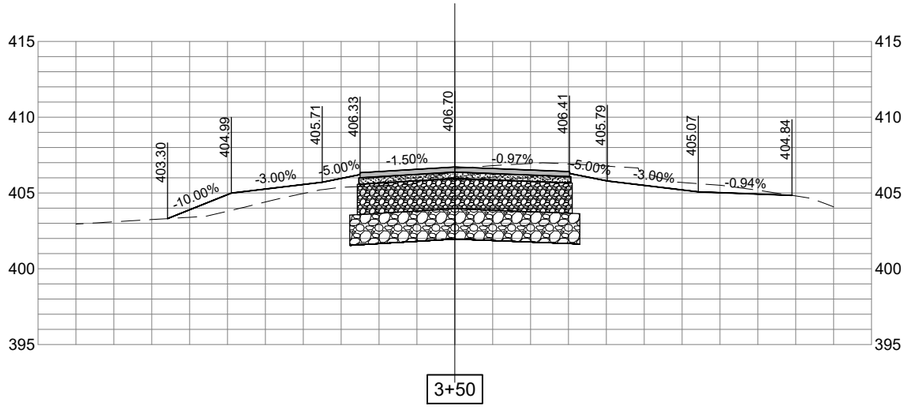
PROPOSED CROSS SECTION STA. 168+00 TO STA. 169+97











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ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

STATE OF ILLINOIS
BARRY S. STOLZ
062-057281
LICENSED
PROFESSIONAL ENGINEER

DATE	LICENSE
SIGNED: 4/19/2024	EXPIRES: 11/30/2025

TAXIWAY B RELOCATION,
PHASE 3: SOUTHEAST &
TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-302-XS.DWG
DESIGN BY: JRH 03/24/2024
DRAWN BY: JRH 4/19/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED CROSS SECTION - TRANSITION AREA

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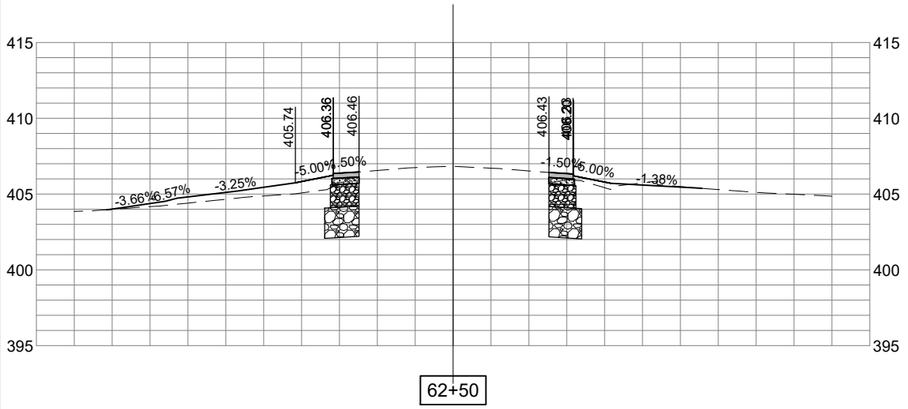

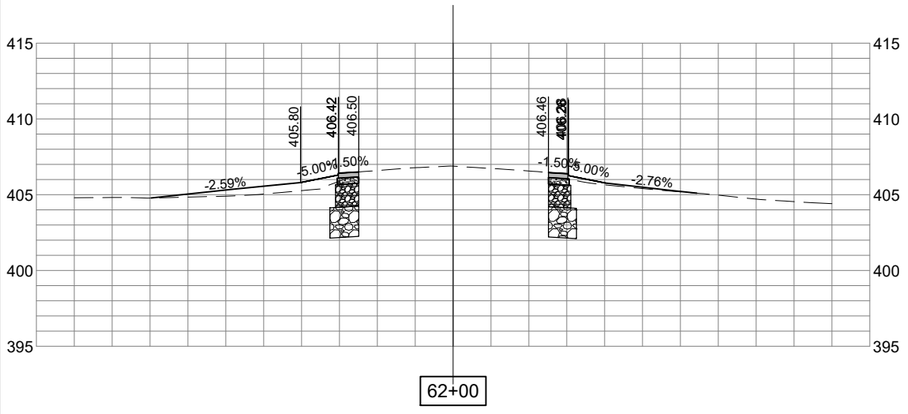

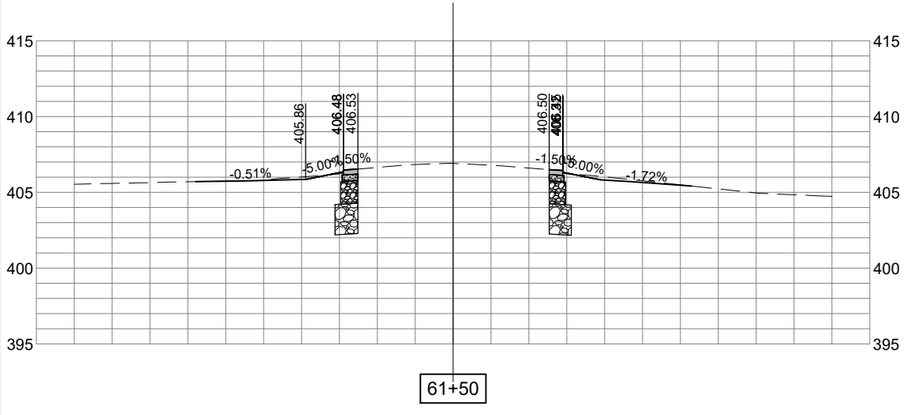

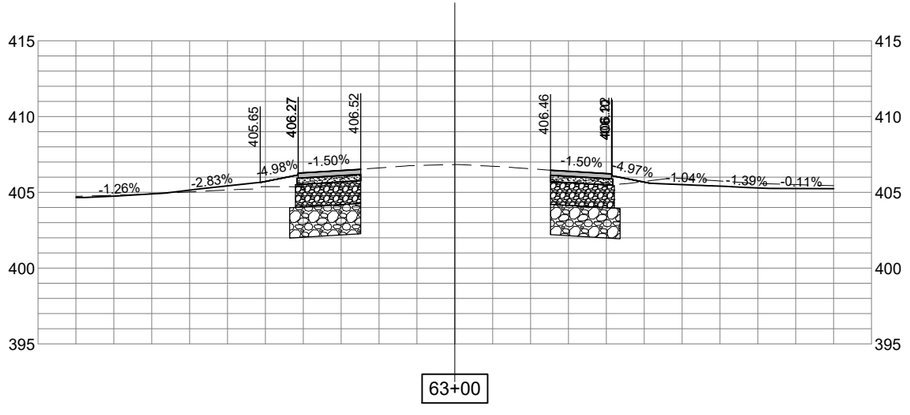

FOR BID

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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
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ISSUE: APRIL 19, 2024
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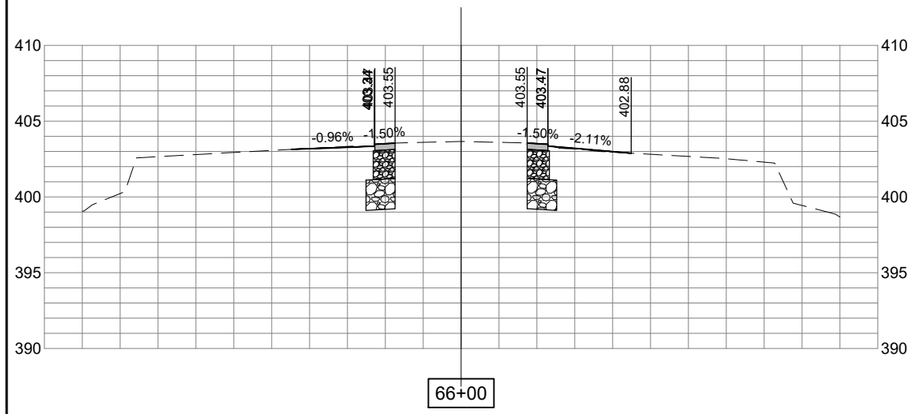
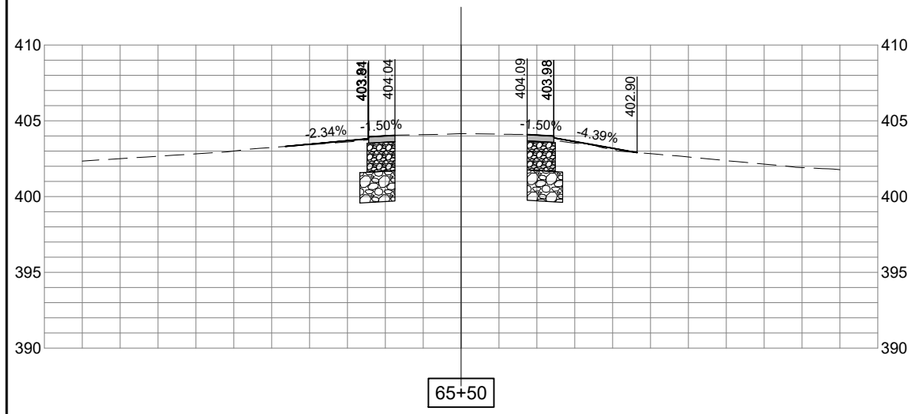
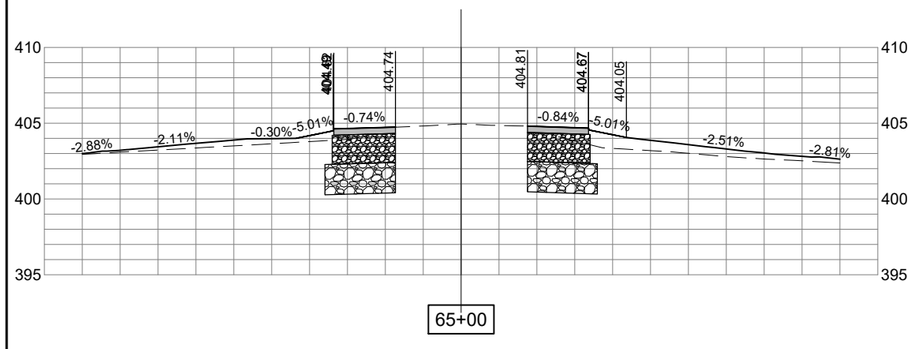
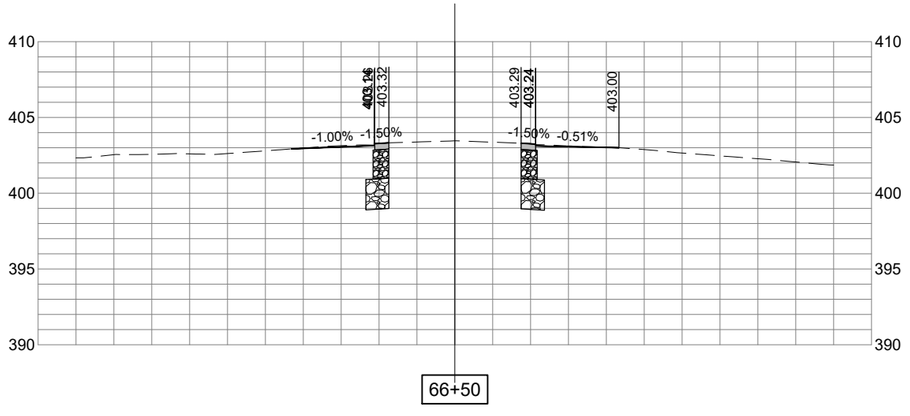
SHEET TITLE

PROPOSED CROSS SECTION - TWY B6 SOUTH









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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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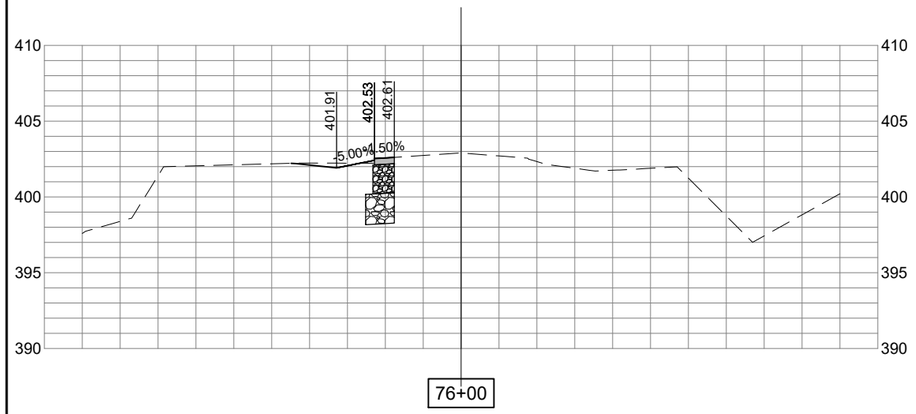
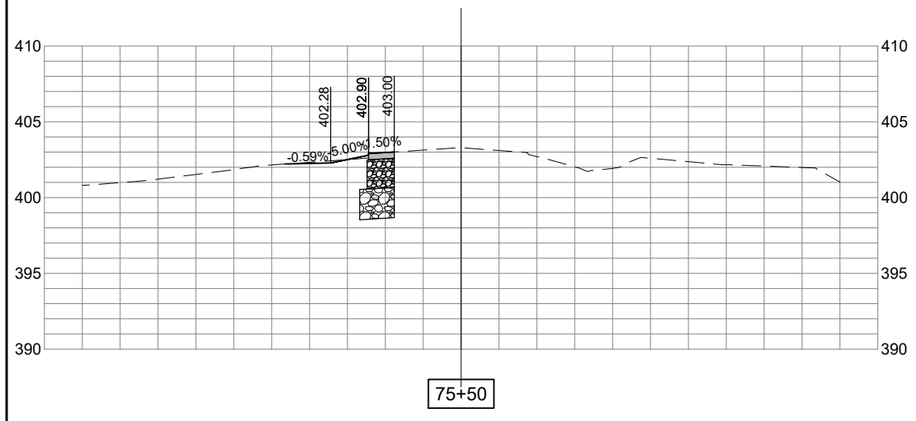
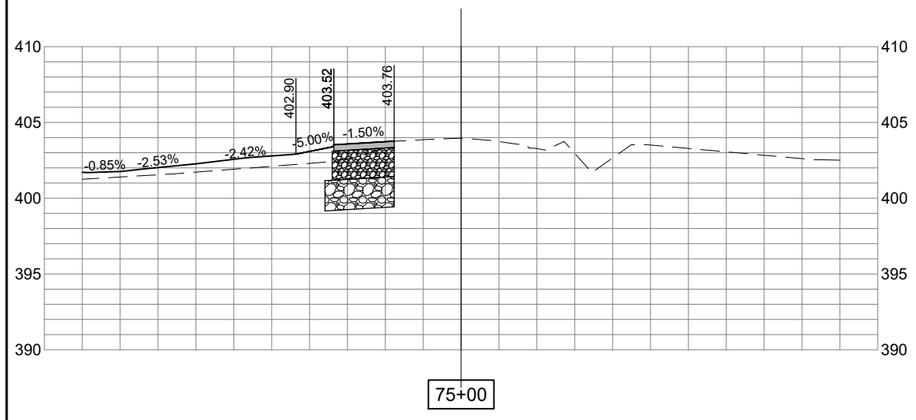
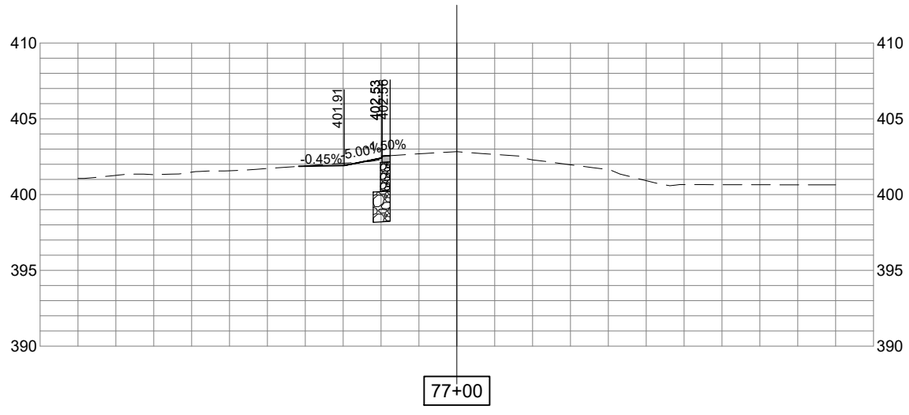
SHEET TITLE

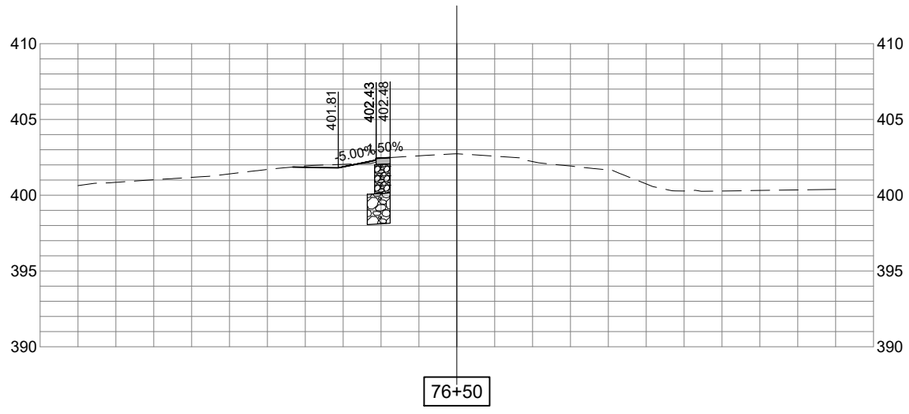
PROPOSED CROSS SECTION - TWY B6 NORTH











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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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SHEET TITLE

PROPOSED CROSS SECTION - TWY B7 NORTH

EXISTING RWY 12L-30R LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 3/4" HDPE CONDUIT (UNIT DUCT)

EXISTING DUCT

EXISTING SPLICE CAN

RUNWAY 12L-30R

EXISTING RUNWAY EXIT SIGN TGS-14 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXISTING HOMERUN FROM TWY A6 AND RUNUP AREA PRESENTLY CONNECTED TO TWY B CKT 1. RECONNECT TO TWY B CKT 3.

EXISTING MEDIUM INTENSITY RWY EDGE LIGHT.

EXISTING RUNWAY EXIT SIGN TGS-14A TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXISTING HOLD SIGN TGS-13 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXISTING TAXIWAY B CKT 1 TO BE REMOVED WHERE ACCESSIBLE OR IN CONFLICT WITH NEW WORK AND ABANDONED IN PLACE ELSEWHERE. (TYP. FOR RESPECTIVE LIGHT FIXTURE REMOVALS)

EXISTING TAXIWAY EDGE LIGHT TO BE DISCONNECTED AND REMOVED (TYP.)

EXIST. SPLICE CAN FOR FAA REIL CABLE TO BE REMOVED AND REPLACED TO ACCOMMODATE RELOCATION OF CABLES.

EXISTING TAXI SIGN TGS-5 TO BE RELOCATED. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXISTING FAA REIL CABLES; 3-1/C #2 XLP-USE IN HDPE DUCT, 6 PAIR #19 AWG SHIELDED CONTROL CABLE, 1 #6 BARE COPPER GUARD WIRE, THESE WILL NEED TO BE PROTECTED, REPLACED AND RELOCATED TO ACCOMMODATE PAVEMENT WORK. COORDINATE WITH FAA.

ABANDONED STORM SEWER PIPE.

EXIST. L-806 SUPPLEMENTAL LIGHTED WIND CONE TO BE DISCONNECTED, REMOVED, AND REPLACED WITH A NEW WIND CONE.

EXISTING TAXI SIGN TGS-12 TO BE RELOCATED. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

TAXIWAY B6 NORTH

MATCH LINE - STA. 150+50

MATCH LINE - STA. 160+50

151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00

EXISTING FAA REIL CABLES; 3-1/C #2 XLP-USE IN HDPE DUCT, 6 PAIR #19 AWG SHIELDED CONTROL CABLE, 1 #6 BARE COPPER GUARD WIRE, TO BE REPLACED AND RELOCATED TO ACCOMMODATE PAVEMENT WORK. COORDINATE WITH FAA.

TAXIWAY B

EXISTING TAXI SIGN TGS-8A TO BE RELOCATED. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXIST. JUNCTION STRUCTURES. FIELD VERIFY CIRCUITS. THESE WILL NEED TO BE REMOVED AND CIRCUITING REPLACED TO ACCOMMODATE PAVEMENT WORK.

EXIST. 2" DUCT TO BE REMOVED TO ACCOMMODATE PAVING WORK.

EXISTING TAXI SIGN TGS-6 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXIST. SPLICE CAN, SPLICE EXISTING CABLES IN SPLICE CAN TO MAINTAIN RWY LTG SERIES CKT LOOP. NEW REPLACEMENT CABLES SHALL BE FURNISHED AND INSTALLED TO NEW WIND CONE.

TAXIWAY B6 SOUTH

EXISTING HOLD SIGN TGS-8 TO BE RELOCATED. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

EXIST. RWY 12R-30L LTG CKT CABLE IN 2" HDPE CONDUIT TO SUPPLEMENTAL WIND CONE. CABLE AND CONDUIT SHALL BE PROTECTED.

EXISTING RUNWAY EXIT SIGN TGS-10 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

EXISTING RUNWAY EXIT SIGN TGS-9 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

EXIST. MANHOLE FOR FAA REIL CABLES TO REMAIN.

EXISTING RWY 12R-30L LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 2" HDPE DUCT.

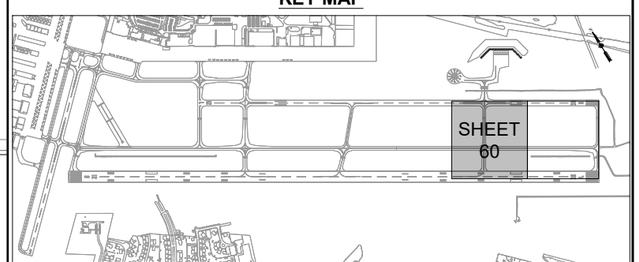
RUNWAY 12R-30L

50' 0' 50' 100'

LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
- EXISTING TAXIWAY LTG ELECTRICAL CABLE
- EXISTING RUNWAY LTG ELECTRICAL CABLE
- EXISTING UG ELECTRIC
- E — EXISTING ELECTRICAL CABLES
- SS — EXISTING STORM SEWER/UNDERDRAIN
- UD — EXISTING UNDERDRAIN
- SAN — EXISTING SANITARY SEWER
- C — EXISTING COMMUNICATION LINE
- FO — EXISTING FIBER OPTIC
- W — EXISTING WATER
- T — EXISTING TELEPHONE
- X — EXISTING FENCE
- EXISTING TAXIWAY LIGHT
- EXISTING TAXIWAY LIGHTS TO BE REMOVED
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING AND/OR RELOCATED RUNWAY/TAXI GUIDANCE SIGN
- EXISTING JUNCTION CAN, HANDHOLE, OR MANHOLE
- EXISTING DRAINAGE PIPE

KEY MAP



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Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-141-ELE.DWG
DESIGN BY: KNL 3/22/2024
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SHEET TITLE

EXISTING ELECTRICAL PLAN STA. 150+50 TO STA. 160+50

APR 30, 2024 12:40 PM HERND01562
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RUNWAY 12L-30R

EXISTING MEDIUM INTENSITY RWY EDGE LIGHT.

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

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

EXISTING RWY 12L-30R LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 3/4" HDPE CONDUIT (UNIT DUCT)

EXISTING RUNWAY EXIT SIGN TGS-4B TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXISTING HOLD SIGN TGS-4A TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXIST. FAA REIL (RWY 30R)

TAXIWAY B7 NORTH

79+75 79+00 78+00 77+00 76+00 75+00

EXISTING FAA REIL CABLES; 3-1/C #2 XLP-USE IN HDPE DUCT, 6 PAIR #19 AWG SHIELDED CONTROL CABLE, 1 #6 BARE COPPER GUARD WIRE, THESE WILL NEED TO BE PROTECTED, REPLACED AND RELOCATED TO ACCOMMODATE PAVING WORK, COORDINATE WITH FAA.

EXISTING TAXIWAY B CKT 1 TO BE REMOVED WHERE ACCESSIBLE OR IN CONFLICT WITH NEW WORK AND ABANDONED IN PLACE ELSEWHERE. (TYP. FOR RESPECTIVE LIGHT FIXTURE REMOVALS)

EXISTING TAXI SIGN TGS-4 TO BE RELOCATED. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXISTING TAXI SIGN TGS-4C TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 170+50

TAXIWAY B

MATCH LINE - STA. 160+50

EXISTING TAXIWAY EDGE LIGHT TO BE DISCONNECTED AND REMOVED (TYP.)

EXISTING CONCRETE DITCH.

EXISTING TAXI SIGN TGS-3 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXISTING HOLD SIGN TGS-1 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

TAXIWAY B7 SOUTH

74+00 73+00 72+00 71+00 70+00

EXISTING HIGH INTENSITY RWY EDGE LIGHT.

EXISTING RWY 12R-30L LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 2" HDPE DUCT.

EXISTING RUNWAY EXIT SIGN TGS-2 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

RUNWAY 12R-30L

50' 0' 50' 100'

LEGEND

- EXISTING PAVEMENT
- EXISTING ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
- EXISTING TAXIWAY LTG ELECTRICAL CABLE
- EXISTING RUNWAY LTG ELECTRICAL CABLE
- EXISTING UG ELECTRIC
- E — EXISTING ELECTRICAL CABLES
- SS — EXISTING STORM SEWER/UNDERDRAIN
- UD — EXISTING UNDERDRAIN
- SAN — EXISTING SANITARY SEWER
- C — EXISTING COMMUNICATION LINE
- FO — EXISTING FIBER OPTIC
- W — EXISTING WATER
- T — EXISTING TELEPHONE
- X — EXISTING FENCE
- EXISTING TAXIWAY LIGHT
- EXISTING TAXIWAY LIGHTS TO BE REMOVED
- EXISTING BASE MOUNTED RUNWAY LIGHT
- EXISTING AND/OR RELOCATED RUNWAY/TAXI GUIDANCE SIGN
- EXISTING JUNCTION CAN, HANDHOLE, OR MANHOLE
- EXISTING DRAINAGE PIPE

KEY MAP

SHEET 61

FOR BID

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
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STATE OF ILLINOIS

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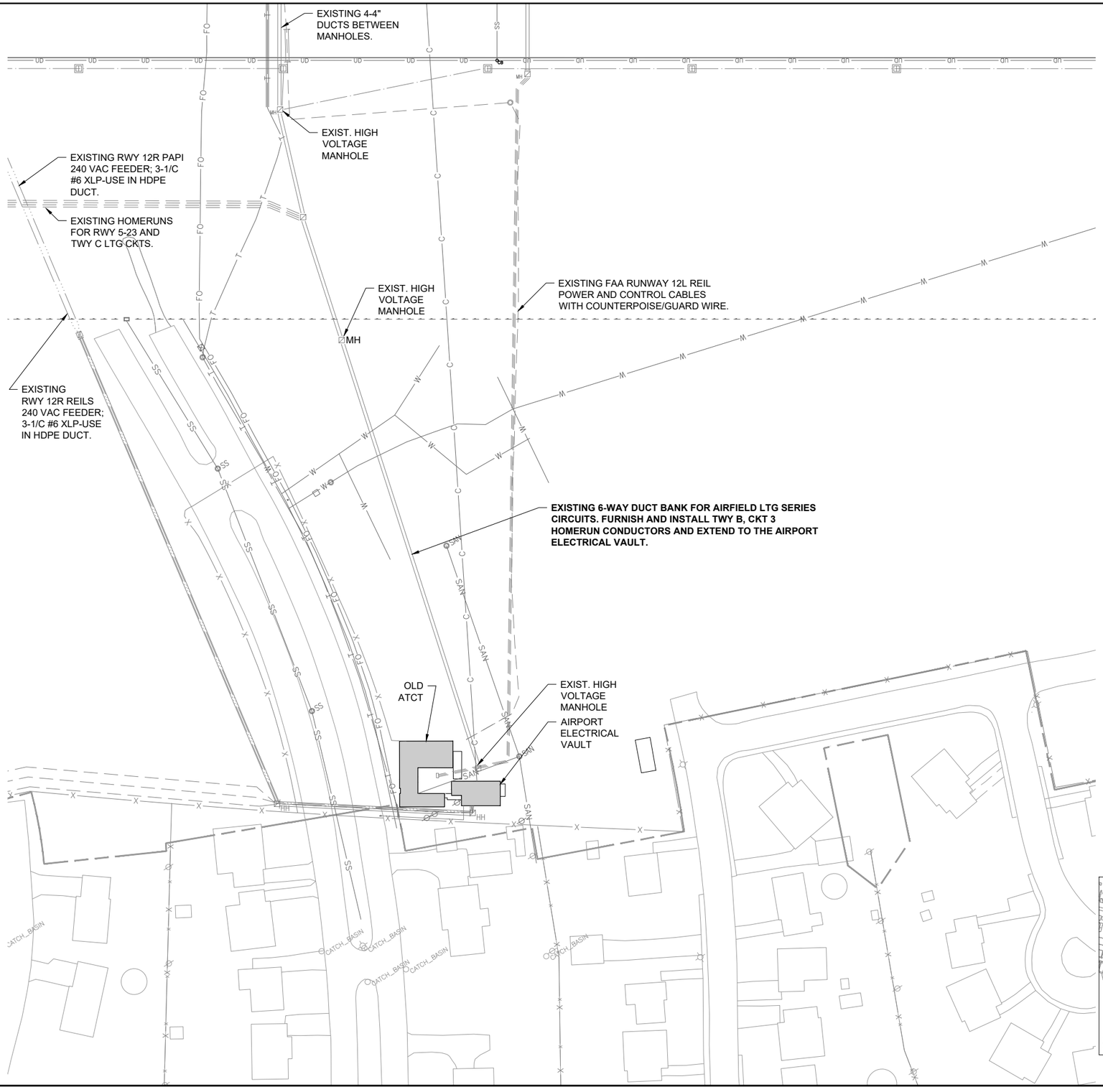
SHEET TITLE

EXISTING ELECTRICAL PLAN STA. 160+50 TO STA. 170+50

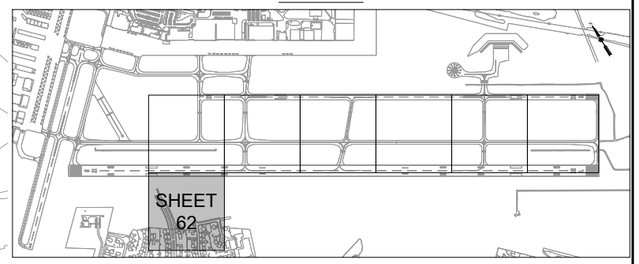


50' 0' 50' 100'

LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
- EXISTING TAXIWAY LTG ELECTRICAL CABLE
- EXISTING RUNWAY LTG ELECTRICAL CABLE
- EXISTING UG ELECTRIC
- E — EXISTING ELECTRICAL CABLES
- SS — EXISTING STORM SEWER/UNDERDRAIN
- UD — EXISTING UNDERDRAIN
- SAN — EXISTING SANITARY SEWER
- C — EXISTING COMMUNICATION LINE
- FO — EXISTING FIBER OPTIC
- W — EXISTING WATER
- T — EXISTING TELEPHONE
- X — EXISTING FENCE
- PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 2" SCHED 40 (MIN.) PVC OR HDPE 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 TAXIWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- EXISTING AND/OR RELOCATED RUNWAY/TAXI GUIDANCE SIGN
- EXISTING JUNCTION CAN, HANDHOLE, OR MANHOLE
- SC — PROPOSED SPLICE CAN

KEY MAP



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6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-142-ELE.DWG
DESIGN BY: KNL 3/22/2024
DRAWN BY: CWS 3/22/2024
REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED ELECTRICALVAULT HOMERUN PLAN

APR 30, 2024 12:40 PM HERND01562
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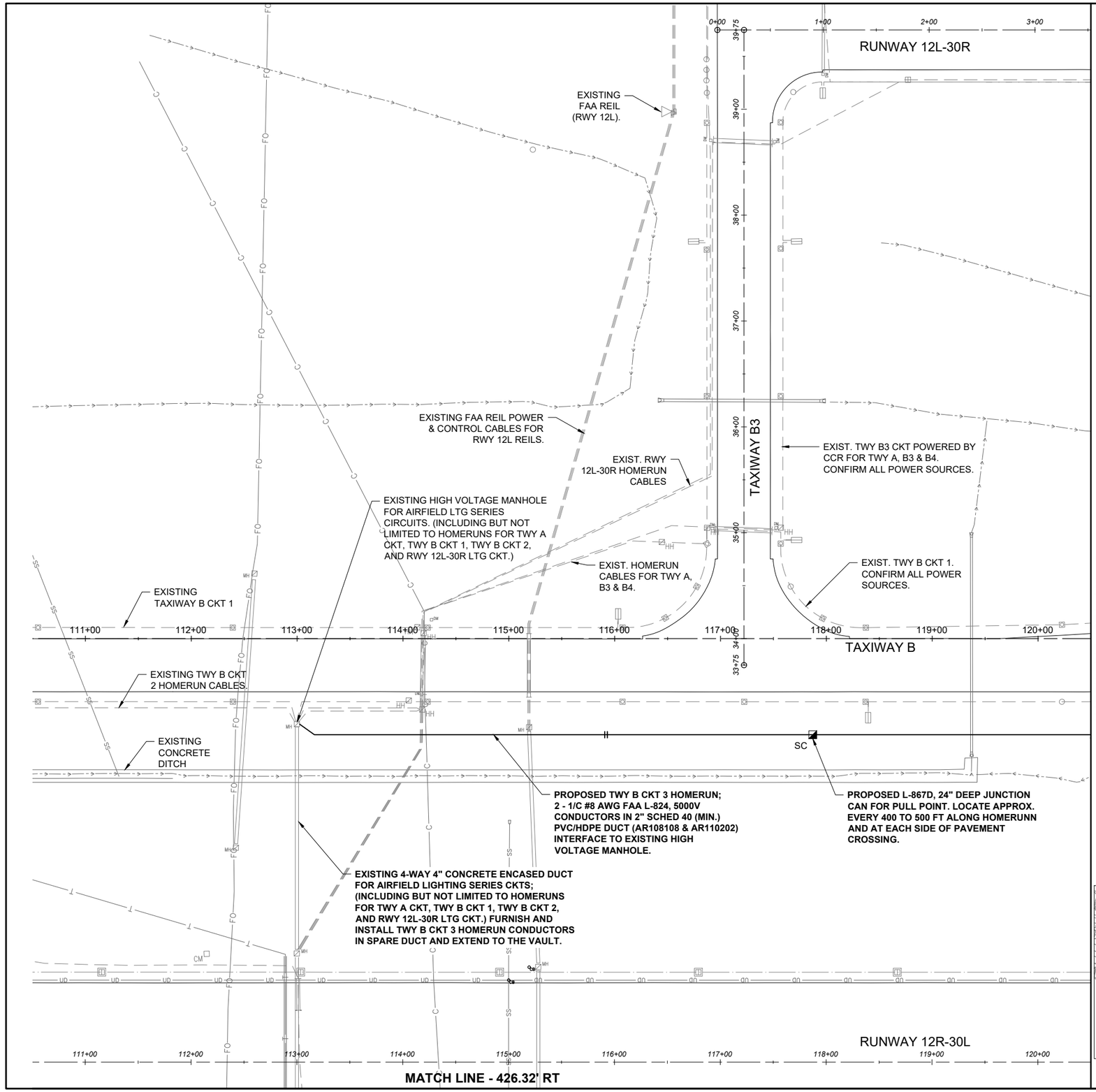

50' 0' 50' 100'

LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
- EXISTING TAXIWAY LTG ELECTRICAL CABLE
- EXISTING RUNWAY LTG ELECTRICAL CABLE
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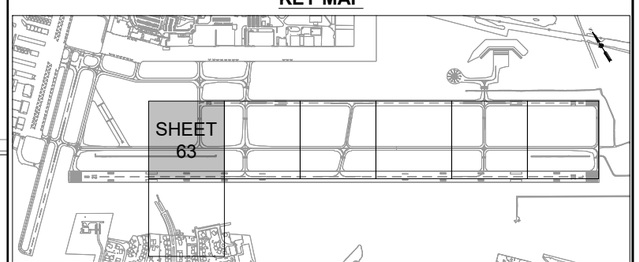
KEY MAP



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SHEET TITLE

PROPOSED ELECTRICAL PLAN STA. 110+50 TO STA. 120+50

APR 30, 2024 12:41 PM HERND01562
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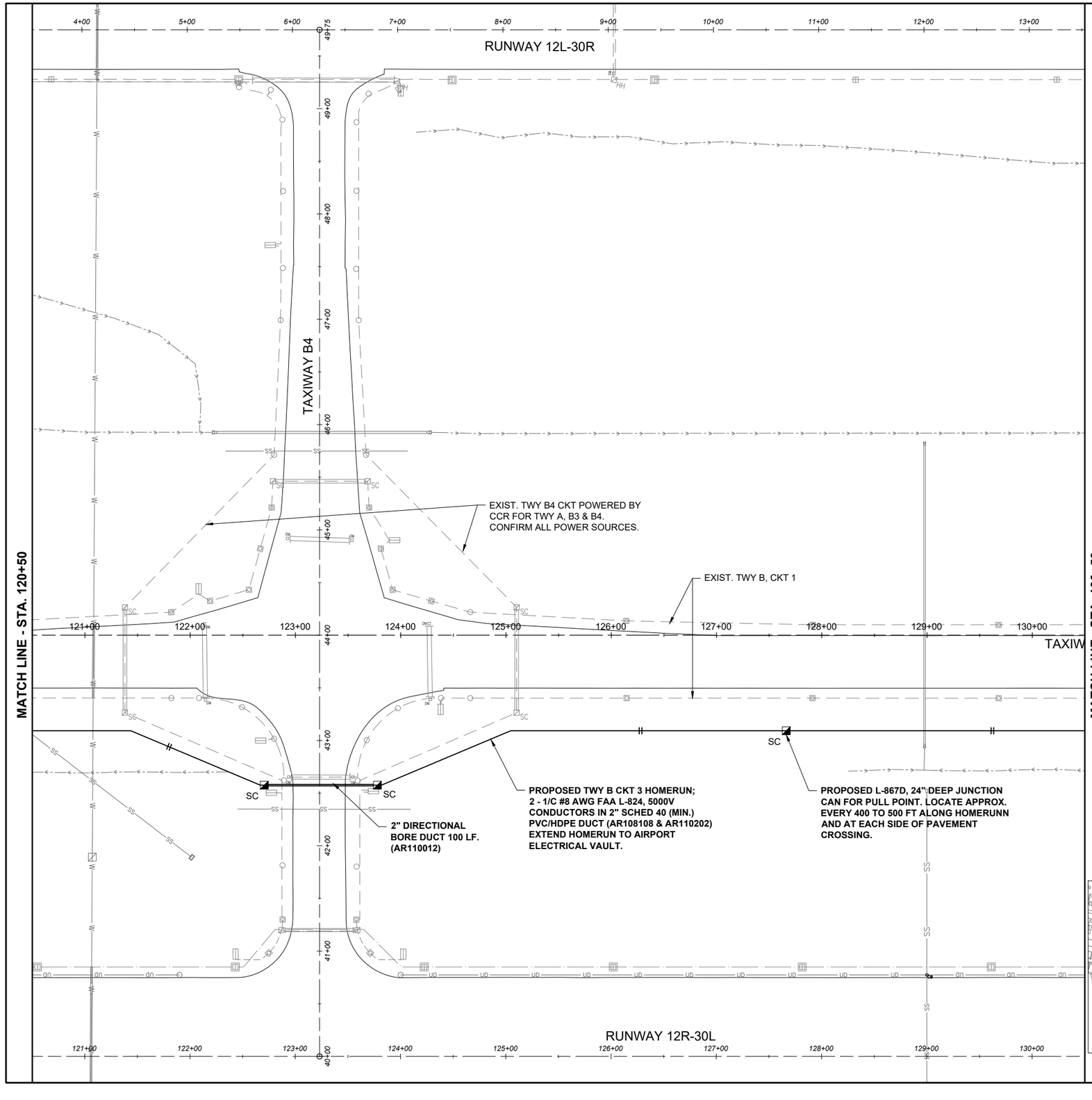

50' 0' 50' 100'

LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
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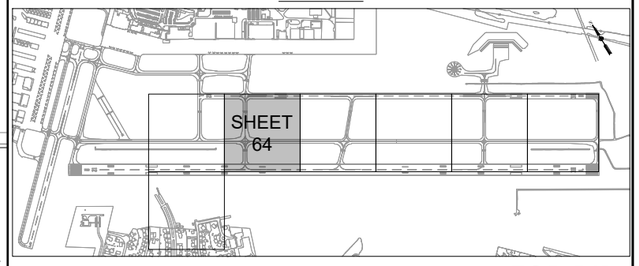
KEY MAP



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PROPOSED ELECTRICAL PLAN STA. 120+50 TO STA. 130+50

APR 30, 2024 12:41 PM HERND01562
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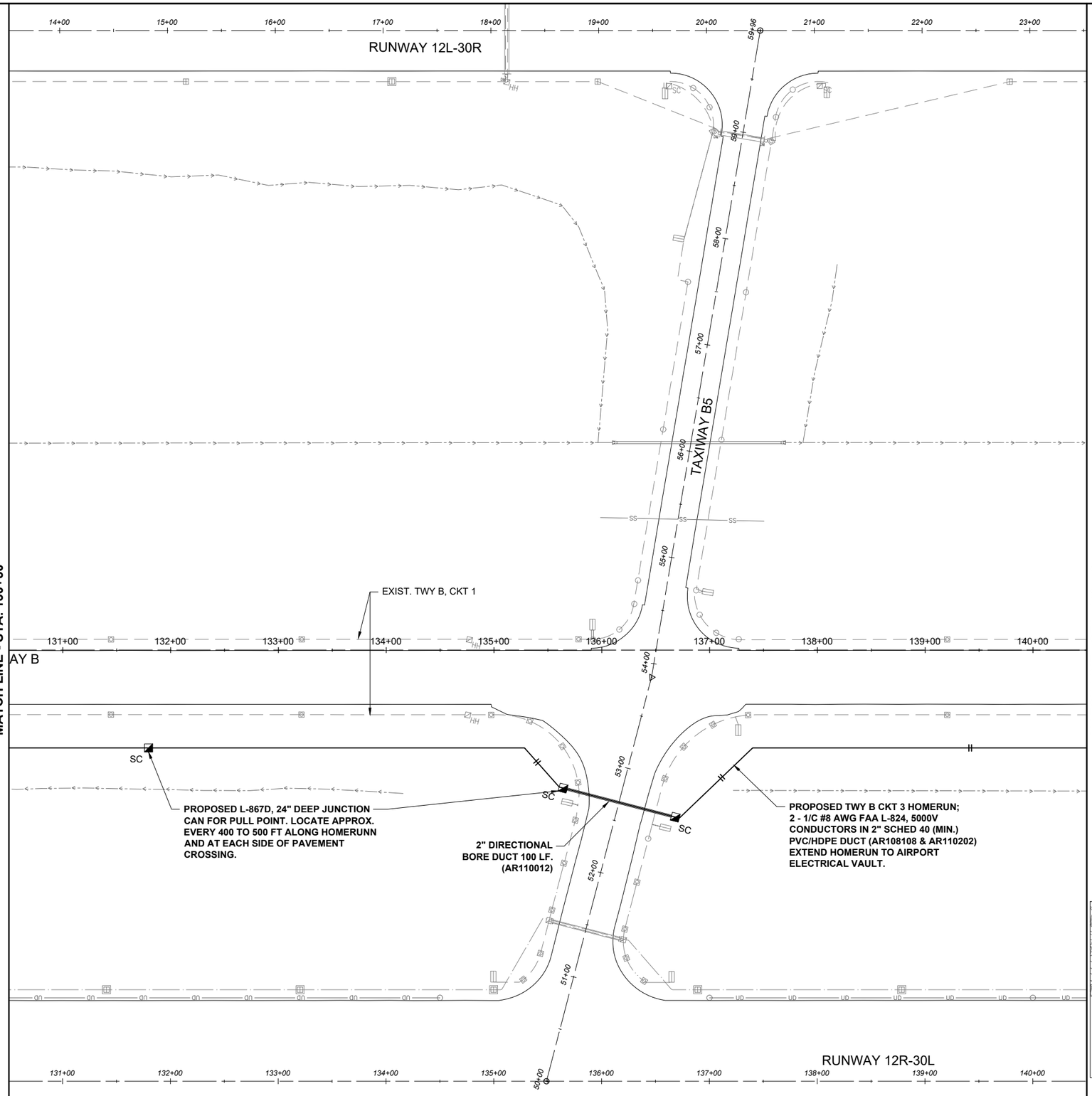

50' 0' 50' 100'

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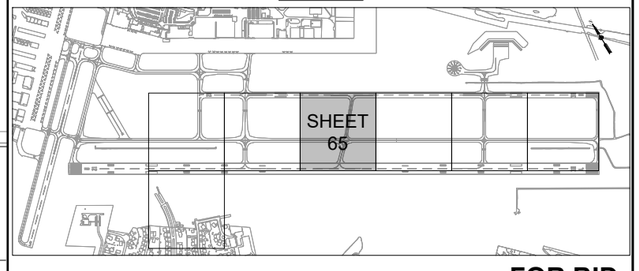
KEY MAP



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PROPOSED ELECTRICAL PLAN STA. 130+50 TO STA. 140+50

APR 30, 2024 12:41 PM HERND01562
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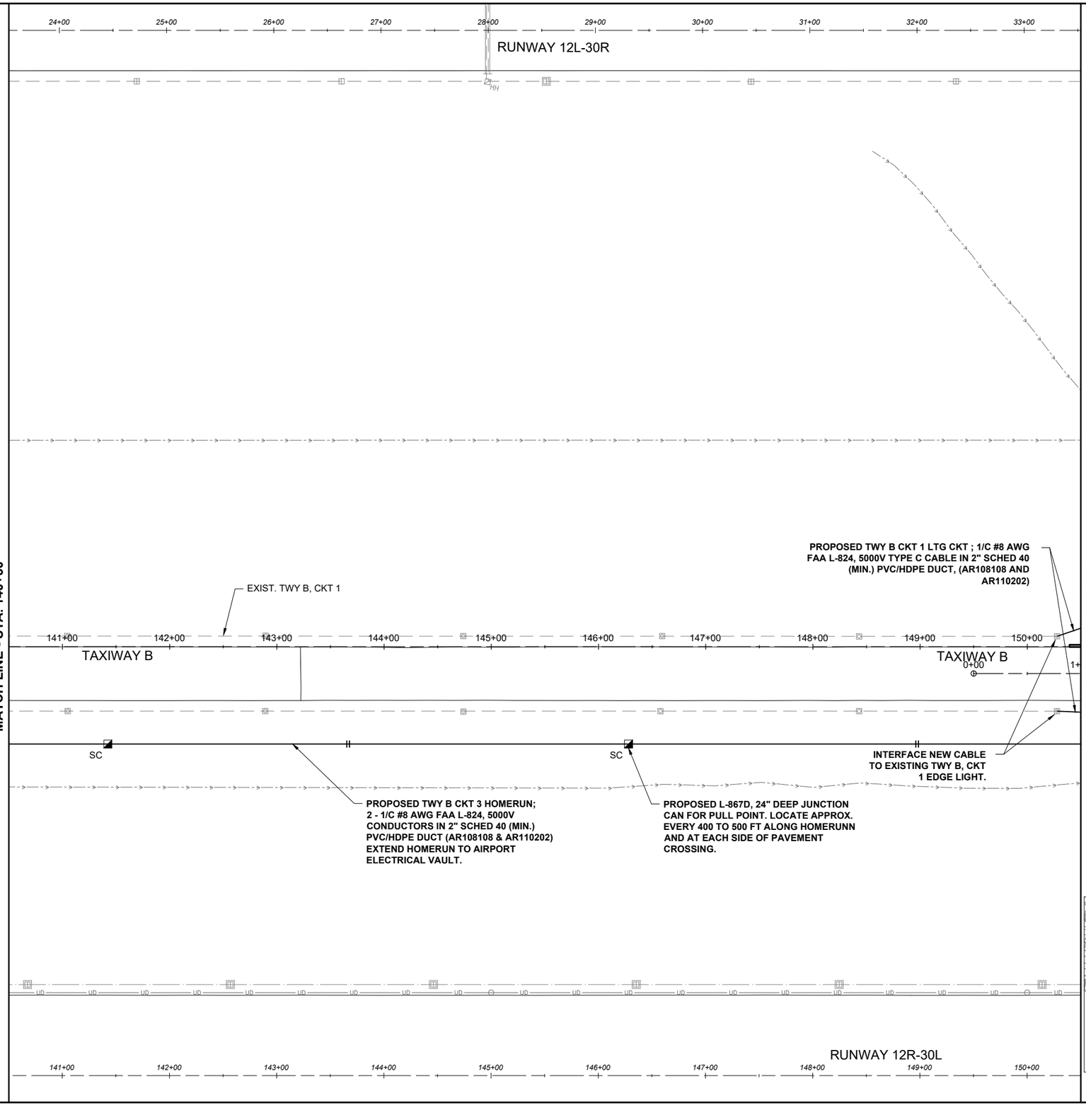

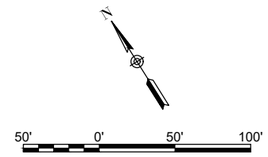

LEGEND:

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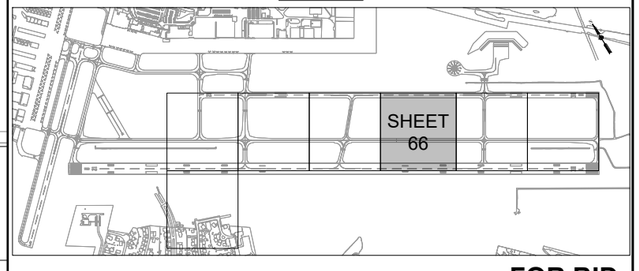
KEY MAP



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SHEET TITLE

PROPOSED ELECTRICAL PLAN STA. 140+50 TO STA. 150+50

APR 30, 2024 12:42 PM HERND01562
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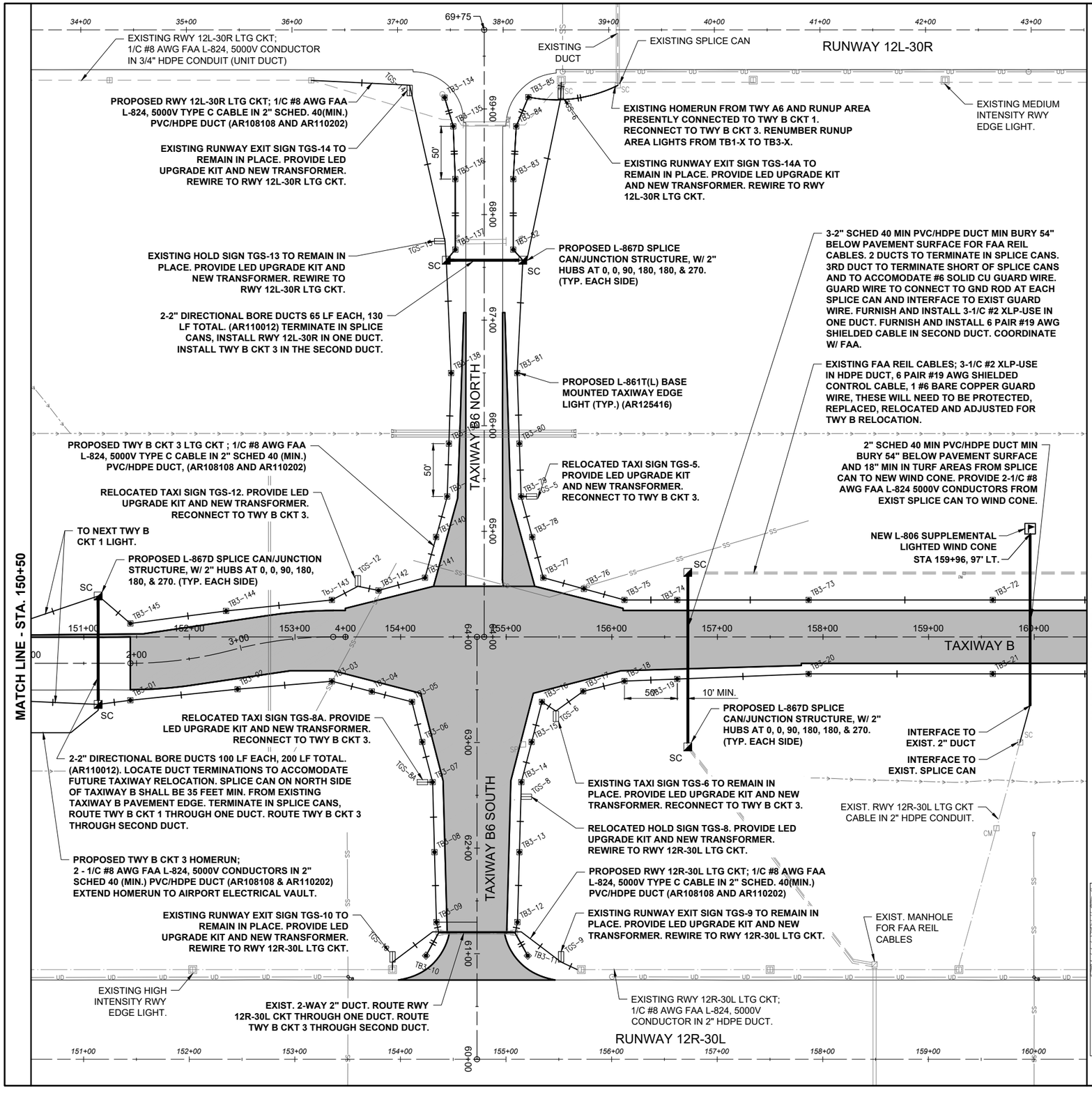

50' 0' 50' 100'

LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
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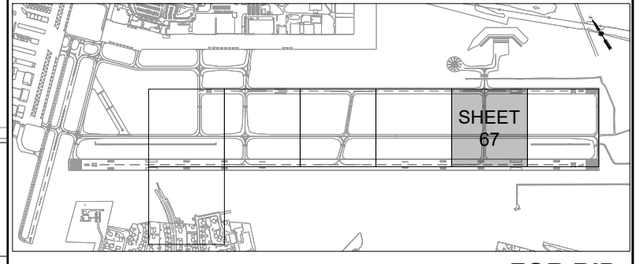

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PROPOSED ELECTRICAL PLAN STA. 150+50 TO STA. 160+50

APR 30, 2024 12:42 PM HERND01562
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RUNWAY 12L-30R

EXISTING MEDIUM INTENSITY RWY EDGE LIGHT.

EXISTING RWY 12L-30R LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 3/4" HDPE CONDUIT (UNIT DUCT)

PROPOSED RWY 12L-30R LTG CKT; 1/C #8 AWG FAA L-824, 5000V TYPE C CABLE IN 2" SCHED. 40(MIN.) PVC/HDPE DUCT (AR108108 AND AR110202)

EXISTING RWY EXIT SIGN TGS-4B TO REMAIN IN PLACE. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

EXISTING HOLD SIGN TGS-4A TO REMAIN IN PLACE. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12L-30R LTG CKT.

PROPOSED L-867D SPLICE CAN/JUNCTION STRUCTURE, W/ 2" HUBS AT 0, 0, 90, 180, 180, & 270. (TYP. EACH SIDE)

3-2" DIRECTIONAL BORE DUCTS FOR FAA REIL CABLES. 100LF EACH, 300LF TOTAL. 2 DUCTS TO TERMINATE IN SPLICE CAN AT EAST SIDE AND INTERFACE TO DIRECT BURY DUCTS. 3RD DUCT TO TERMINATE SHORT OF SPLICE CAN ON EAST SIDE TO ACCOMMODATE #6 SOLID CU GUARD WIRE. GUARD WIRE TO CONNECT TO GND ROD AT EAST SPLICE CAN, GND ROD AT DUCT TERMINATION ON WEST SIDE AND INTERFACE TO EXST. GUARD WIRE. FURNISH AND INSTALL 3-1/C #2 XLP-USE IN ONE DUCT. FURNISH AND INSTALL 6 PAIR #19 AWG SHIELDED CABLE IN SECOND DUCT. COORDINATE W/ FAA.

PROVIDE DUCT MARKER ABOVE GND ROD AT GUARD WIRE TERMINATION.

2-2" SCHED 40 MIN PVC/HDPE DUCTS FOR FAA POWER AND CONTROL CABLES. INSTALL 42" BELOW GRADE. INSTALL GUARD WIRE APPROX. 10" ABOVE. SEE FAA REIL CABLES CONDUIT TRENCH DETAIL.

EXIST. 2-WAY DUCT

2-2" DIRECTIONAL BORE DUCTS 65 LF EACH, 130 LF TOTAL. (AR110012) TERMINATE IN SPLICE CANS, INSTALL RWY 12L-30R IN ONE DUCT. INSTALL TWY B CKT 3 IN THE SECOND DUCT.

EXISTING FAA REIL CABLES; 3-1/C #2 XLP-USE IN UD, 6 PAIR #19 AWG SHIELDED CONTROL CABLE, 1 #6 BARE COPPER GUARD WIRE. THESE WILL NEED TO BE PROTECTED, REPLACED, RELOCATED. REQUIREMENTS TO BE DETERMINED BY FAA.

PROPOSED L-867D SPLICE CAN/JUNCTION STRUCTURE.

RELOCATED TAXI SIGN TGS-4. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

PROPOSED L-867D SPLICE CAN/JUNCTION STRUCTURE, W/ 2" HUBS AT 0, 0, 90, 180, 180, & 270. DEGREES. TYP FOR FAA REIL CABLE RELOCATION. SPLICE REIL POWER AND CONTROL CABLES TO ACCOMMODATE RELOCATION

PROPOSED L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT (TYP.) (AR125416)

PROPOSED TWY B CKT 3 LTG CKT ; 1/C #8 AWG FAA L-824, 5000V TYPE C CABLE IN 2" SCHED 40 (MIN.) PVC/HDPE DUCT, (AR108108 AND AR110202)

EXISTING FAA REIL CABLES; 3-1/C #2 XLP-USE IN HDPE DUCT, 6 PAIR #19 AWG SHIELDED CONTROL CABLE, 1 #6 BARE COPPER GUARD WIRE, THESE WILL NEED TO BE PROTECTED, REPLACED, RELOCATED, AND ADJUSTED FOR TWY B RELOCATION.

EXISTING TAXI SIGN TGS-4C TO REMAIN IN PLACE. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

EXISTING TAXI SIGN TGS-6 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. RECONNECT TO TWY B CKT 3.

MALSR ACCESS ROAD

EXISTING HOLD SIGN TGS-1 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

EXISTING HV ELECTRICAL HANDHOLE. (EACH SIDE)

EXISTING CONCRETE DITCH.

EXIST. 2-WAY 2" DUCT. ROUTE RWY 12R-30L CKT THROUGH ONE DUCT. ROUTE TWY B CKT 3 THROUGH SECOND DUCT.

PROPOSED RWY 12R-30L LTG CKT; 1/C #8 AWG FAA L-824, 5000V TYPE C CABLE IN 2" SCHED. 40(MIN.) PVC/HDPE DUCT (AR108108 AND AR110202)

EXISTING RUNWAY EXIT SIGN TGS-2 TO REMAIN. PROVIDE LED UPGRADE KIT AND NEW TRANSFORMER. REWIRE TO RWY 12R-30L LTG CKT.

EXISTING HIGH INTENSITY RWY EDGE LIGHT.

EXISTING RWY 12R-30L LTG CKT; 1/C #8 AWG FAA L-824, 5000V CONDUCTOR IN 2" HDPE DUCT.

RUNWAY 12R-30L

TAXIWAY B7 NORTH

TAXIWAY B7 SOUTH

TAXIWAY B

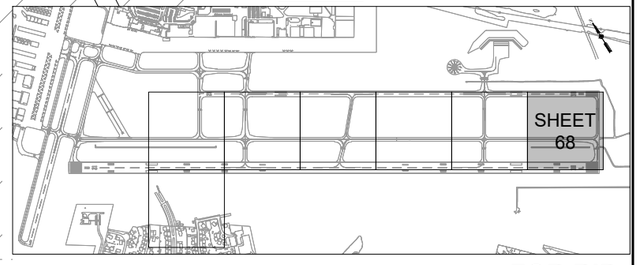
MATCH LINE - STA. 160+50

50' 0' 50' 100'

LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- EXISTING ELECTRICAL DUCT
- PROPOSED ELECTRICAL DUCT
- EXISTING DRAINAGE CHANNEL
- EXISTING TAXIWAY LTG ELECTRICAL CABLE
- EXISTING RUNWAY LTG ELECTRICAL CABLE
- EXISTING UG ELECTRIC
- E — EXISTING ELECTRICAL CABLES
- SS — EXISTING STORM SEWER/UNDERDRAIN
- UD — EXISTING UNDERDRAIN
- SAN — EXISTING SANITARY SEWER
- C — EXISTING COMMUNICATION LINE
- FO — EXISTING FIBER OPTIC
- W — EXISTING WATER
- T — EXISTING TELEPHONE
- X — EXISTING FENCE
- PROPOSED 1/C #8 AWG, FAA L-824, 5000 VOLT TYPE C UNDERGROUND CABLE IN 2" SCHED 40 (MIN.) PVC OR HDPE 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 TAXIWAY LIGHT
- EXISTING BASE MOUNTED RUNWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- EXISTING AND/OR RELOCATED RUNWAY/TAXI GUIDANCE SIGN
- EXISTING JUNCTION CAN, HANDHOLE, OR MANHOLE
- SC PROPOSED SPLICE CAN

KEY MAP



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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: C-142-ELE.DWG
DESIGN BY: KNL 3/22/2024
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REVIEWED BY: BSS 4/19/2024

SHEET TITLE

PROPOSED ELECTRICAL PLAN STA. 160+50 TO STA. 170+50

APR 30, 2024 12:42 PM HERND01562
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AIRFIELD LIGHTING REMOVAL, RELOCATION, AND INSTALLATION NOTES

1. KEEP ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS COORDINATED WITH THE AIRPORT DIRECTOR/MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).

2. EXAMINE THE SITE TO DETERMINE THE EXTENT OF THE WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS.

3. VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, RELOCATING, INSTALLING, CONNECTING OR WORKING ON THE RESPECTIVE AIRFIELD LIGHTING, DISTANCE REMAINING SIGN, RUNWAY SIGN, TAXI SIGN, NAVAID, VAULT EQUIPMENT OR OTHER DEVICE.

4. INSTALL AIRFIELD LIGHTING, SIGNS, SPLICE CANS, ELECTRICAL DUCTS, HANDHOLES, MANHOLES, AND CABLE AT THE LOCATIONS SHOWN AND IN COMPLIANCE WITH THE SPECIFICATIONS, SPECIAL PROVISIONS, RESPECTIVE DETAILS, AND MANUFACTURER'S RECOMMENDATIONS.

5. NEW AIRFIELD LIGHTING SYSTEM INSTALLATIONS, ADJUSTMENTS, RELOCATIONS, REINSTALLATIONS, AND/OR UPGRADES SHALL USE BASE (L-867 OR L-868) MOUNTED AND STAKE MOUNTED FIXTURES AND 1/C #8, FAA L-824 5000V TYPE C CABLE IN UNIT DUCT.

6. LIGHTING CABLE FOR AIRFIELD LIGHTING SERIES CIRCUITS SHALL BE 1/C, #8 AWG, FAA L-824, 5000 VOLT, TYPE C UNDERGROUND CABLE IN 3/4" (MIN.) UNIT DUCT. CABLE SHALL BE FAA APPROVED.

7. IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE CONTRACTOR IS REQUIRED TO HAND DIG THE TRENCH NECESSARY FOR THE PROPOSED CABLE. AT OTHER LOCATIONS, THE PROPOSED CABLE MAY BE TRENCHED OR PLOWED INTO PLACE. HAND DIGGING, TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLES AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

8. GROUND ROD MUST BE INSTALLED AT EACH LIGHT FIXTURE AND RUNWAY/TAXI SIGN. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. PER NATIONAL ELECTRICAL CODE ARTICLE 250.53 "GROUNDING ELECTRODE SYSTEM INSTALLATION" RESISTANCE FROM THE GROUND ROD/ELECTRODE TO EARTH GROUND MUST BE 25 OHMS OR LESS VIA MEASUREMENT WITH A GROUND TESTER. GROUNDS RODS FOR LIGHT BASE GROUNDS SHALL BE 3/4-INCH BY 10-FEET MINIMUM LENGTH UL LISTED COPPER-CLAD STEEL SECTIONAL RODS. GROUND RODS SHALL BE PRODUCED FROM 100% DOMESTIC STEEL. EACH GROUND ROD SHALL BE TESTED AND THE RESULTS RECORDED FOR EACH AIRFIELD LIGHT FIXTURE AND RUNWAY/TAXI SIGN INSTALLATION. COPIES OF GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE PROJECT ENGINEER AND/OR THE RESIDENT ENGINEER/TECHNICIAN.

9. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT THAT ARE INSTALLED IN CONDUIT OR DUCT SHALL BE RUN TOGETHER IN THE SAME RACEWAY OR DUCT.

10. THE CONTRACTOR SHALL TEST THE RESPECTIVE AIRFIELD LIGHTING CIRCUITS IN AREAS OF WORK WHERE RESPECTIVE CIRCUITS MIGHT BE AFFECTED. THE RESPECTIVE RUNWAY AND TAXIWAY LIGHTING CCR'S (FOR THE AREAS OF WORK ON THIS PROJECT) SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, AND/OR ADDITIONS AND AFTER THE NEW CABLES AND LIGHTING SYSTEM MODIFICATIONS AND ADDITIONS HAVE BEEN COMPLETED. CONTRACTOR SHALL TEST AND RECORD THE INPUT CURRENT AND OUTPUT CURRENT FOR EACH CONSTANT CURRENT REGULATOR IN THE AUTOMATIC AND MANUAL MODES OF OPERATIONS. CONTRACTOR SHALL REPORT CONCERNS AND/OR DEFICIENCIES TO THE RESIDENT ENGINEER/TECHNICIAN. TEST RESULTS SHALL BE PROVIDED TO THE PROJECT ENGINEER AND RESIDENT ENGINEER/ TECHNICIAN.

11. FAA AC 150/5370-10G "STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS", ITEM L-108 "UNDERGROUND POWER CABLE FOR AIRPORTS", REQUIRES THAT EVERY AIRFIELD LIGHTING CABLE SPLICER SHALL BE QUALIFIED IN MAKING CABLE SPLICES AND TERMINATIONS ON CABLES RATED ABOVE 5,000 VOLTS AC. CABLE SPLICING/TERMINATING PERSONNEL SHALL HAVE A MINIMUM OF THREE (3) YEARS CONTINUOUS EXPERIENCE IN TERMINATING/SPLICING MEDIUM VOLTAGE CABLE.

12. OTHER CONSTRUCTION PROJECTS MIGHT BE IN PROGRESS AT THE AIRPORT AT THE SAME TIME AS THIS PROJECT. THE CONTRACTOR WILL BE REQUIRED TO COOPERATE WITH ALL OTHER CONTRACTORS AND THE AIRPORT MANAGER IN THE COORDINATION OF THE WORK.

13. OBTAIN APPROVAL FROM THE AIRPORT MANAGER PRIOR TO SHUTTING DOWN A RUNWAY OR TAXIWAY. WHEN A RESPECTIVE RUNWAY IS CLOSED THE RESPECTIVE RUNWAY LIGHTING AND NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF. WHEN A RESPECTIVE TAXIWAY IS CLOSED THE RESPECTIVE TAXIWAY LIGHTING FOR THAT TAXIWAY SHALL BE SHUT OFF.

14. THE CONTRACTOR IS REQUIRED TO FILL IN ALL HOLES AND DEPRESSIONS RESULTING FROM THE NEW WORK, WITH EARTH MATERIAL. THE AREAS SHALL BE COMPACTED TO PREVENT FUTURE SETTLEMENT AND FERTILIZED, SEEDED, AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908 RESPECTIVELY.

15. IN THE EVENT A CONFLICT IS DETERMINED WITH RESPECT TO MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION.

16. SEE SAFETY PLAN AND NOTES FOR SAFETY AND CONSTRUCTION COORDINATION REQUIREMENTS.

17. EXISTING AIRFIELD LIGHTS AND/OR SIGNS DESIGNATED FOR REMOVAL SHALL BE CAREFULLY REMOVED IN THEIR ENTIRETY. THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE EXISTING LIGHTS AND SIGNS, AS NOT TO DAMAGE THEM, INCLUDING MOUNTING STAKES, BASES, FOUNDATIONS AND TRANSFORMERS. THE EXISTING AIRFIELD LIGHTS, TRANSFORMERS, LIGHT BASES, COVERS AND MOUNTING STAKES SHALL BE TURNED OVER TO THE AIRPORT. SIGNS SHALL BE TURNED OVER TO THE AIRPORT FOR THEIR RIGHT OF FIRST REFUSAL. LIGHT BASES AND SIGN FOUNDATIONS SHALL BE REMOVED AND DISPOSED OF OFF SITE. ANY MATERIAL NOT SALVAGED BY THE AIRPORT SHALL BE DISPOSED OF OFF THE AIRPORT SITE, IN A LEGAL MANNER, AT THE CONTRACTOR'S OWN EXPENSE. EXISTING DUCTS AND CABLES ASSOCIATED WITH AIRFIELD LIGHTING REMOVALS, RELOCATIONS, REPLACEMENTS AND/OR CABLE OR DUCT REPLACEMENTS SHALL BE REMOVED AND DISPOSED OF OFF SITE AT NO ADDITIONAL COST TO THE CONTRACT WHERE ACCESSIBLE AND ABANDONED IN PLACE ELSEWHERE. PROVIDE TEMPORARY CABLES AND DUCTS TO ACCOMMODATE AIRFIELD LIGHTING CIRCUITS THAT ARE TO REMAIN ACTIVE DURING CONSTRUCTION. CONTRACTOR MAY REMOVE ABANDONED CABLES AT NO ADDITIONAL COST TO THE CONTRACT AND SHALL HAVE THE SALVAGE RIGHTS TO ABANDONED CABLES. REMOVAL OF EXISTING AIRFIELD LIGHTING WILL BE PAID FOR UNDER ITEM AR800476 REMOVE AIRFIELD LIGHTING PER LUMP SUM.

18. OWNER SHALL BE KEPT INFORMED OF WORK AND SCHEDULES.

19. ROUTE NEW CABLES AND DUCTS TO AVOID INTERFERENCES WITH OTHER UTILITIES, LINES, CABLES AND STRUCTURES.

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

21. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2G (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

22. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.

23. RUNWAY AND TAXIWAY LIGHTING CIRCUITS SHALL BE ACTIVE AT THE END OF EACH CONSTRUCTION DAY FOR AN OPEN RUNWAY OR AN OPEN TAXIWAY. THE CONTRACTOR SHALL PROVIDE TEMPORARY CABLE & CONNECTIONS WHERE NECESSARY TO MAINTAIN A RUNWAY OR TAXIWAY LIGHTING SYSTEM. TEMPORARY CABLE FOR AIRFIELD LIGHTING SERIES CIRCUITS SHALL BE 1/C #8 FAA L-824 5KV UG CABLE IN DUCT OR UNIT DUCT.

24. WHEN A RUNWAY IS CLOSED THE LIGHTING AND NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF. KEEP RESPECTIVE NAVAIDS ACTIVE DURING TIMES WHEN RESPECTIVE RUNWAY IS OPEN. NAVAIDS RECEIVING MAINTENANCE SHALL BE SHUT OFF UNTIL OPERATING PROPERLY. COORDINATE WITH AIRPORT MANAGER TO ISSUE NOTAMS WHEN AIRFIELD LIGHTING AND/OR NAVAIDS ARE OUT OF SERVICE.

25. ALL ABOVEGROUND JUMPERS SHALL BE IN A DUCT WITH ALL CONNECTIONS SEALED. THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT, DUCT, OR UNIT DUCT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA 150/5370-2G, OPERATION SAFETY ON AIRPORTS DURING CONSTRUCTION, SECTION 2.18.3 "LIGHTING AND VISUAL NAVAIDS". ALL LABOR, MATERIALS, AND TIME NECESSARY TO COMPLY WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

26. CONTRACTOR SHALL INTERFACE EXISTING AIRFIELD LIGHTING AND/OR SIGNS TO THE NEW, REMOVED, REINSTALLED, ADJUSTED, REPLACED, AND/OR RELOCATED AIRFIELD LIGHTING AND ASSOCIATED CIRCUITS.

27. ALL AIRFIELD LIGHT FIXTURES SHALL BE TAGGED BY THE CONTRACTOR IN ACCORDANCE WITH THE RESPECTIVE LIGHT FIXTURE NUMBERS. CONFIRM LIGHT FIXTURE NUMBERING WITH THE AIRPORT MANAGER/MAINTENANCE SUPERVISOR.

28. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, RACEWAY, JUNCTION STRUCTURE, OR HANDHOLE.

29. THE CONTRACTOR IS REQUIRED TO RESTORE ALL DISTURBED PAVEMENT ASSOCIATED WITH REMOVAL WORK AND/OR NEW AIRFIELD LIGHTING INSTALLATIONS.

30. NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT WILL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.

THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, 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/TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

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

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION	DES	DWN	REV

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CAD FILE: E-001-NOTES.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

AIRFIELD LIGHTING NOTES

LIGHT LOCATION TABLE			
LIGHT NUMBER	NORTHING	EASTING	GROUND RESISTANCE
TB3-01	692034.29	2301579.39	
TB3-02	691989.10	2301670.81	
TB3-03	691947.81	2301750.37	
TB3-04	691919.41	2301777.19	
TB3-05	691890.85	2301804.15	
TB3-06	691853.49	2301792.17	
TB3-07	691816.13	2301780.19	
TB3-08	691759.08	2301746.39	
TB3-09	691702.06	2301712.60	
TB3-10	691680.39	2301687.28	
TB3-11	691629.02	2301768.81	
TB3-12	691661.10	2301777.55	
TB3-13	691716.23	2301814.42	
TB3-14	691771.35	2301851.27	
TB3-15	691798.29	2301879.80	
TB3-16	691825.22	2301908.33	
TB3-17	691812.92	2301946.70	
TB3-18	691800.23	2301984.89	
TB3-19	691775.25	2302028.25	
TB3-20	691713.10	2302136.14	
TB3-21	691620.14	2302283.72	
TB3-22	691527.17	2302431.29	
TB3-23	691434.21	2302578.86	
TB3-24	691341.24	2302726.44	
TB3-25	691248.27	2302874.01	
TB3-26	691174.75	2302974.74	
TB3-27	691145.21	2303015.22	
TB3-28	691117.63	2303039.39	
TB3-29	691090.04	2303063.56	
TB3-30	691059.39	2303052.98	
TB3-31	691028.67	2303042.41	
TB3-32	690984.80	2303021.50	
TB3-33	690940.87	2303000.59	
TB3-34	690922.22	2302983.79	
TB3-35	690900.75	2302948.49	
TB3-36	690899.56	2302907.80	
TB3-37	690856.68	2303038.67	
TB3-38	690878.85	2303052.63	
TB3-39	690899.72	2303065.90	
TB3-40	690940.66	2303091.57	

LIGHT LOCATION TABLE			
LIGHT NUMBER	NORTHING	EASTING	GROUND RESISTANCE
TB3-41	690981.54	2303117.32	
TB3-42	691008.25	2303134.15	
TB3-43	691034.96	2303150.98	
TB3-44	691069.84	2303173.16	
TB3-45	691104.72	2303195.35	
TB3-46	691139.61	2303217.53	
TB3-47	691172.11	2303238.01	
TB3-48	691204.61	2303258.48	
TB3-49	691246.92	2303285.14	
TB3-50	691301.49	2303319.51	
TB3-51	691398.29	2303380.67	
TB3-52	691452.94	2303414.93	
TB3-53	691495.25	2303441.58	
TB3-54	691529.64	2303463.24	
TB3-55	691587.73	2303384.59	
TB3-56	691558.19	2303402.22	
TB3-57	691524.57	2303395.04	
TB3-58	691482.26	2303368.39	
TB3-59	691427.76	2303333.99	
TB3-60	691332.89	2303269.68	
TB3-61	691279.39	2303233.59	
TB3-62	691237.92	2303205.62	
TB3-63	691211.01	2303176.26	
TB3-64	691184.10	2303146.90	
TB3-65	691197.74	2303105.40	
TB3-66	691214.53	2303058.89	
TB3-67	691241.18	2303016.59	
TB3-68	691307.50	2302911.32	
TB3-69	691400.46	2302763.74	
TB3-70	691493.43	2302616.17	
TB3-71	691586.40	2302468.60	
TB3-72	691679.36	2302321.03	
TB3-73	691772.33	2302173.45	
TB3-74	691838.65	2302068.19	
TB3-75	691865.30	2302025.88	
TB3-76	691894.66	2301998.98	
TB3-77	691924.03	2301972.09	
TB3-78	691962.20	2301983.70	
TB3-79	692000.38	2301995.31	
TB3-80	692043.52	2302020.63	

LIGHT LOCATION TABLE			
LIGHT NUMBER	NORTHING	EASTING	GROUND RESISTANCE
TB3-81	692101.21	2302054.50	
TB3-82	692202.10	2302113.61	
TB3-83	692258.68	2302149.23	
TB3-84	692299.46	2302178.29	
TB3-85	692316.70	2302202.78	
TB3-134	692358.59	2302135.40	
TB3-135	692331.29	2302127.78	
TB3-136	692287.93	2302102.81	
TB3-137	692231.32	2302067.22	
TB3-138	692134.57	2302001.56	
TB3-139	692079.10	2301964.15	
TB3-140	692037.67	2301936.13	
TB3-141	692010.71	2301906.71	
TB3-142	691983.75	2301877.29	
TB3-143	691997.02	2301833.63	
TB3-144	692013.10	2301791.26	
TB3-145	692057.52	2301701.09	
TB3-146	692095.82	2301618.16	

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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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REVIEWED BY: KNL 3/21/2024

SHEET TITLE

LIGHT LOCATION TABLE

FOR BID

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TAXI GUIDANCE SIGN SCHEDULE

SIGN NUMBER	LOCATION	EXISTING		REMARKS
		SIDE A	SIDE B	
TGS-1	TAXIWAY B7 INTERSECTION WITH RUNWAY 30L AT HOLD LINE	B7 30L		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO BE POWERED FROM RUNWAY 12R-30L LIGHTING CKT. PROVIDE LED UPGRADE KIT BY ORIGINAL EQUIPMENT MANUFACTURER. PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-2	RUNWAY 12R INTERSECTION WITH TAXIWAY B7.	← B7		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO BE POWERED FROM RUNWAY 12R-30L LIGHTING CKT. PROVIDE LED UPGRADE KIT BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-3	TAXIWAY B7 INTERSECTION WITH TAXIWAY B WEST OF TAXIWAY B7.	←B B7		EXISTING SIGN TO REMAIN IN PLACE. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-4	TAXIWAY B INTERSECTION WITH TAXIWAY B7 NORTH SIDE OF TAXIWAY B. NORTHING: 691218.76 EASTING: 2303061.55	← B7 B B7 →		EXISTING SIGN TO BE RELOCATED. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER FOR EACH SIGN. THIS SIGN ARRAY HAS A 2 MODULE SIGN AND A 3 MODULE SIGN.
TGS-4A	TAXIWAY B7 INTERSECTION WITH RUNWAY 30R AT HOLD LINE.	B7 30R		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12L-30R LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-4B	RUNWAY 12L INTERSECTION WITH TAXIWAY B7	B7 →		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12L-30R LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-4C	TAXIWAY B7 INTERSECTION WITH TAXIWAY B EAST SIDE OF TAXIWAY B7	B7 B→		EXISTING SIGN TO REMAIN IN PLACE. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-5	TAXIWAY B6 INTERSECTION WITH TAXIWAY B EAST SIDE OF TAXIWAY B6 NORTHING: 691997.71 EASTING: 2301999.54	←B B6 B→		EXISTING SIGN TO BE RELOCATED. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER FOR EACH SIGN.
TGS-6	TAXIWAY B INTERSECTION WITH TAXIWAY B6 SOUTH SIDE OF TAXIWAY B	← B6 B B6 →		EXISTING SIGN TO REMAIN IN PLACE. REWIRE TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER FOR EACH SIGN. THIS SIGN ARRAY HAS A 2 MODULE SIGN AND A 3 MODULE SIGN.
TGS-8	TAXIWAY B6 INTERSECTION WITH RUNWAY 12R-30L AT HOLD LINE NORTHING: 691759.76 EASTING: 2301843.71	B6 30L - 12R		EXISTING SIGN TO BE RELOCATED. RECONNECT TO RUNWAY 12R-30L LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-8A	TAXIWAY B6 INTERSECTION WITH TAXIWAY B WEST SIDE OF TAXIWAY B6 NORTHING: 691818.58 EASTING: 2301776.28	←B B6 B→		EXISTING SIGN TO BE RELOCATED. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-9	RUNWAY 30L INTERSECTION WITH TAXIWAY B6	B6 →		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12R-30L LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-10	RUNWAY 12L INTERSECTION WITH TAXIWAY B6	← B6		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12R-30L LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-12	TAXIWAY B INTERSECTION WITH TAXIWAY B6 AT NORTH SIDE OF TAXIWAY B NORTHING: 692010.90 EASTING: 2301819.29	← B6 B B6 →		EXISTING SIGN TO BE RELOCATED. RECONNECT TO TAXIWAY B CIRCUIT 3. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER. PROVIDE NEW FAA L-830-4 100W TRANSFORMER FOR EACH SIGN. THIS SIGN ARRAY HAS A 2 MODULE SIGN AND A 3 MODULE SIGN.
TGS-13	TAXIWAY B6 INTERSECTION WITH TAXIWAY RUNWAY 12L-30R AT HOLD LINE	B6 12L - 30R		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12L-30R LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-14	RUNWAY 12L INTERSECTION WITH TAXIWAY B6	B6 →		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12L-30R LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.
TGS-14A	RUNWAY 30R INTERSECTION WITH TAXIWAY B6	← B6		EXISTING SIGN TO REMAIN IN PLACE. REWIRE SIGN TO RUNWAY 12L-30R LIGHTING CIRCUIT. PROVIDE LED UPGRADE KIT(S) BY ORIGINAL EQUIPMENT MANUFACTURER, PROVIDE NEW FAA L-830-4 100W TRANSFORMER.

NOTES:

1. THE TAXI GUIDANCE SIGNS IN THE SCHEDULE ARE EXISTING SIGNS SIZE 1, 18-IN. SIGN FACE WITH A 12-IN. LEGEND; STYLE 2, POWERED FROM A 4.8 TO 6.6 AMP SERIES LIGHTING CIRCUIT WITH QUARTZ OR INCANDESCENT LAMPS AND ARE/MANUFACTURED BY LUMACURVE.
2. PROVIDE TETHERS FOR EACH TAXI SIGN IN ACCORDANCE WITH FAA AC 150/5345-44K (OR LATEST ISSUE IN FORCE). SIGN TETHER ANCHOR HARD POINTS MUST BE PROVIDED ON ONE SIGN MOUNTING LEG ABOVE THE FRANGIBLE BREAKING POINT. TETHER ANCHOR HARD POINTS MUST BE PROVIDED SO THAT ONE END OF THE TETHER ATTACHES TO THE SIGN STRUCTURE, AND THE OTHER END ATTACHES BELOW THE FRANGIBLE POINT ON THE COUPLING TO EITHER ONE OF THE LEG MOUNTING BOLTS OR AN INDEPENDENT BOLT IN THE SIGN CONCRETE MOUNTING PAD. SIGNS THAT CONSIST OF MULTIPLE SEPARATE HOUSINGS (NOT CONNECTED TOGETHER IN A CONTINUOUS FRAME) MUST HAVE A MINIMUM OF ONE TETHER PER HOUSING. SIGNS THAT USE MULTIPLE MODULES CONNECTED TOGETHER IN A CONTINUOUS FRAME MUST USE A TETHER AT BOTH ENDS.
3. PROVIDE A LEGEND PLATE/LABEL FOR EACH SIGN THAT NOTES THE RESPECTIVE POWER SOURCE. EXAMPLE: **"THIS SIGN IS CONNECTED TO _____ LIGHTING CIRCUIT. CONFIRM AND DISCONNECT POWER SOURCE PRIOR TO WORKING ON THIS SIGN."** IDENTIFY THE RESPECTIVE AIRFIELD LIGHTING CIRCUIT FOR EACH SIGN. LOCATE ON SIGN ABOVE OR BELOW SIGN NUMBER LABEL.
4. RUNWAY EXIT/TAXIWAY ENTRANCE SIGNS (TAXIWAY GUIDANCE SIGNS TO DEFINE THE THROAT OR ENTRANCE INTO THE INTERSECTING TAXIING ROUTE) OR RUNWAY EXIT/TAXIWAY ENTRANCE LIGHTS SHALL BE CONNECTED TO THE RESPECTIVE RUNWAY CIRCUIT TO BE ILLUMINATED WHEN THE RUNWAY EDGE LIGHTS ARE ON TO COMPLY WITH FAA AC 150/5340-18G, CHAPTER 1, PART 1.15 "SIGN OPERATION", AND/OR FAA AC 150/5340-30J PART 2.5.3.4.
5. HOLDING POSITION SIGNS FOR RUNWAYS SHALL BE CONNECTED TO THE RESPECTIVE RUNWAY SERIES CIRCUIT TO BE ILLUMINATED WHEN THE ASSOCIATED RUNWAY LIGHTS ARE ILLUMINATED TO COMPLY WITH FAA AC150/5340-18G, CHAPTER 1, PART 1.15 "SIGN OPERATION".
6. CONCRETE STEEL REINFORCEMENT SHALL BE TYPE ASTM A615 OR A706 GRADE 60 WELDED STEEL WIRE FABRIC SHALL CONFORM TO AASHTO M55 OR AASHTO M221. ALL REINFORCEMENT SHALL HAVE A 3" MINIMUM CONCRETE COVER. REINFORCEMENT MAY BE ADJUSTED TO MISS INTERFERENCES. CONCRETE SHALL CONFORM TO ITEM P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES.
7. SEE SPECIFICATION ITEM L-125 FOR ADDITIONAL REQUIREMENTS ON TAXI GUIDANCE SIGNS.
8. SEE "AIRFIELD LIGHTING NOTES" SHEET FOR ADDITIONAL REQUIREMENT ON TAXI GUIDANCE SIGNS.
9. CONTRACTOR SHALL TEST AND RECORD THE EARTH GROUND RESISTANCE FOR THE GROUND ROD AT EACH AIRFIELD LIGHT FIXTURE AND EACH TAXI GUIDANCE SIGN.
10. FAA AC 150/5340-26C, PART 3.6.6 USE OF ORIGINAL EQUIPMENT MANUFACTURER (OEM) PART, NOTES THE FOLLOWING: "THE USE OF NON-OEM PARTS OR LAMPS IN FAA APPROVED EQUIPMENT IS STRONGLY DISCOURAGED. THE FAA HAS STRICT SPECIFICATIONS FOR APPROVAL OF ALL AIRPORT LIGHTING EQUIPMENT AND USE OF NON-OEM PARTS OR LAMPS IN SUCH EQUIPMENT OR SYSTEMS CAN RENDER THE EQUIPMENT TO BE FUNCTIONALLY NON-FAA APPROVED. THIS COULD POSSIBLY LEAD TO SERIOUS LIABILITY CONSEQUENCES IN CASE OF AN AIRCRAFT INCIDENT AT AN AIRPORT FOLLOWING THESE PRACTICES."

TAXI GUIDANCE SIGN LEGEND

- A — TYPE L-858L(L) LOCATION SIGN - YELLOW LEGEND AND BORDER ON A BLACK BACKGROUND
- 5 — TYPE L-858R(L) MANDATORY INSTRUCTION SIGN - BLACK OUTLINE ON OUTSIDE EDGE OF WHITE LEGEND ON A RED BACKGROUND
- A→ — TYPE L-858Y(L) DIRECTION, DESTINATION, AND BOUNDARY SIGN - BLACK LEGEND ON A YELLOW BACKGROUND
- BLANK - BLACK BACKGROUND

* COORDINATE SIGN NUMBERING WITH AIRPORT DIRECTOR/MANAGER. EACH TAXI SIGN SHALL HAVE A TAG WITH ID NUMBER; 3" HIGH PERMANENT WHITE REFLECTIVE LETTERING/NUMBERING LOCATED ON THE EDGE OF THE SIGN.

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024 LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

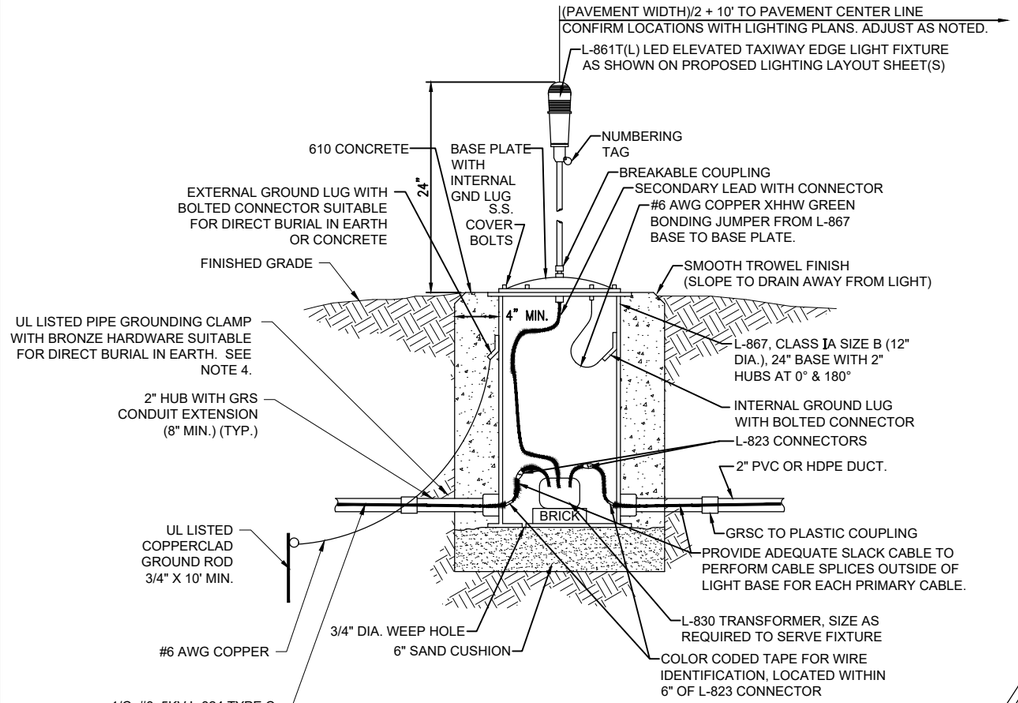
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-643-SCHED.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/11/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

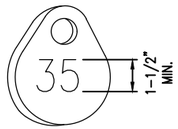
TAXI GUIDANCE SIGN SCHEDULE



MEDIUM INTENSITY ELEVATED AIRFIELD LIGHT - BASE MOUNTED

(NOT TO SCALE)

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



NOTE:

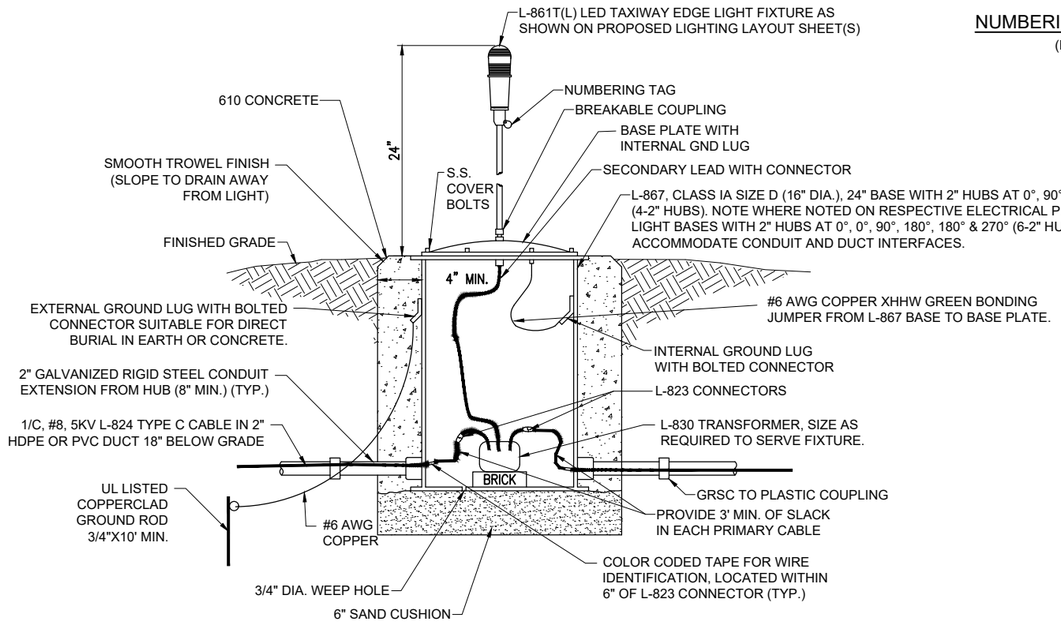
AFFIX NON-CORROSIVE, NON-BREAKABLE, TAG TO FIXTURE FACING RUNWAY/TAXIWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. NUMERALS SHALL BE ENGRAVED FOR PERMANENT READABILITY. STAINLESS STEEL OR BRASS TAGS WITH 1/2" HIGH STAMPED LETTERING WILL ALSO BE ACCEPTABLE.

NUMBERING TAG DETAIL

(NOT TO SCALE)

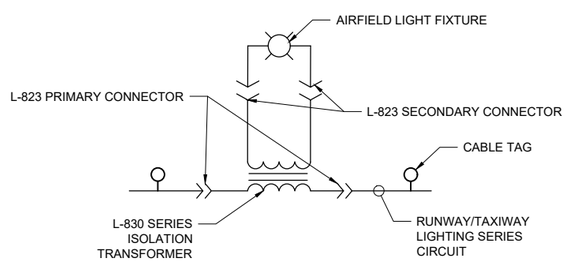
NOTES:

1. SEE ELECTRICAL NOTES SHEETS.
2. SEE "ELECTRICAL NOTES SHEET 2" AND "GROUNDING NOTES" SHEET FOR GROUNDING NOTES FOR AIRFIELD LIGHTING.
3. SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR LIGHT LOCATIONS
4. 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.
5. THE PROPOSED AIRFIELD LIGHT FIXTURES SHALL CONFORM TO ADVISORY CIRCULAR 150/5345-46 (CURRENT ISSUE(S) IN EFFECT) AND BE FAA APPROVED FOR TYPE L-861T(L) FOR TAXIWAY EDGE LIGHTS. AIRFIELD LIGHT FIXTURES SHALL HAVE LED (LIGHT EMITTING DIODE) ILLUMINATION AND SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF FAA ENGINEERING BRIEF NO. 67D LIGHT SOURCES OTHER THAN INCANDESCENT AND XENON FOR AIRPORT AND OBSTRUCTION LIGHTING FIXTURES.
6. 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.
7. 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.
8. 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.
9. THE CONCRETE USED IN THE CONSTRUCTION OF THE BASES FOR THE AIRFIELD LIGHTING AND SPLICE CANS SHALL BE IN ACCORDANCE WITH ITEM 610 CONCRETE FOR MISCELLANEOUS STRUCTURES.
10. IDENTIFICATION TAGS SHALL BE ATTACHED TO EACH AIRFIELD LIGHT FIXTURE.
11. PER ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS ITEM 108, ITEM 125, AND FAA AC 150/5370-10H ITEM L-108 AND L-125, RUBBER AND PLASTIC ELECTRICAL TAPES SHALL BE SCOTCH ELECTRICAL TAPE NUMBERS 130C LINERLESS RUBBER SPLICING TAPE (2" WIDE) AND 88 (1.5" WIDE) RESPECTIVELY, AS MANUFACTURED THE MINNESOTA MINING AND MANUFACTURING COMPANY, OR EQUIVALENT.



MEDIUM INTENSITY TAXIWAY EDGE LIGHT - BASE MOUNTED WITH L-867D CAN

"NOT TO SCALE"



LIGHTING CONNECTION SCHEMATIC

NOT TO SCALE

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ST. LOUIS DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
			DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-501-DETL.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

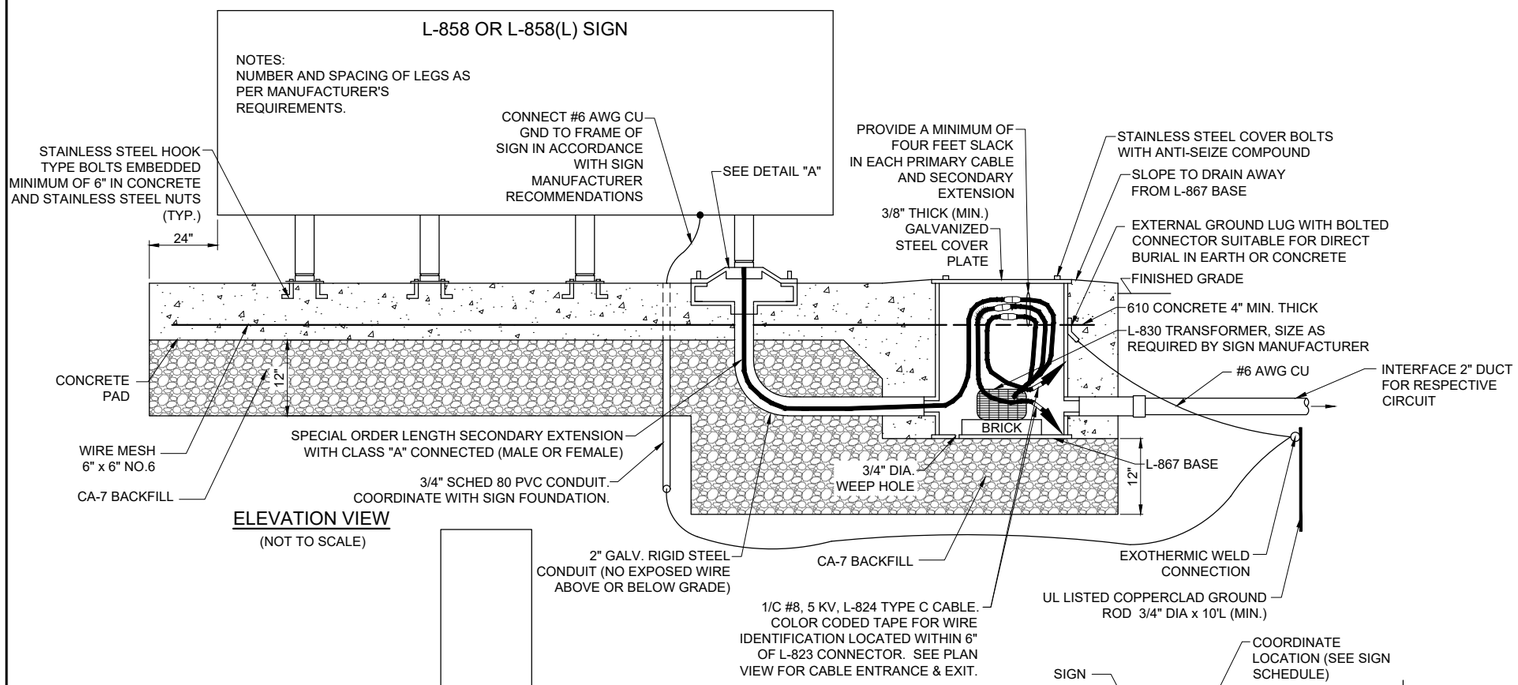
SHEET TITLE

AIRFIELD LIGHT DETAILS

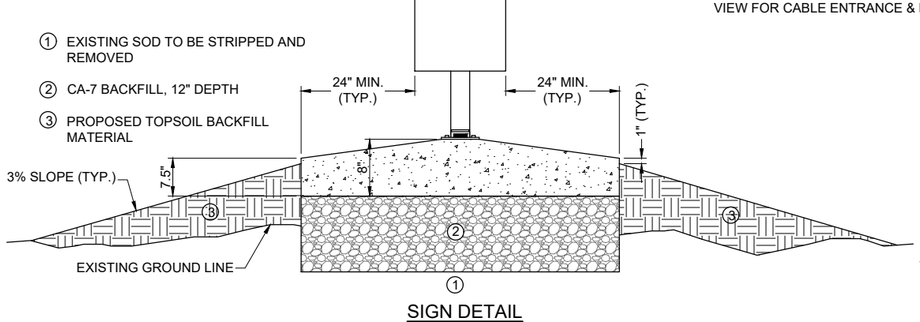
APR 30, 2024 12:43 PM HERND01562
I:\23JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\E-501-DETL

L-858 OR L-858(L) SIGN

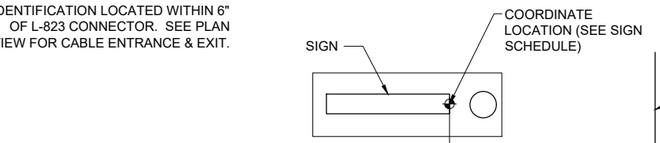
NOTES:
NUMBER AND SPACING OF LEGS AS PER MANUFACTURER'S REQUIREMENTS.



ELEVATION VIEW
(NOT TO SCALE)



SIGN DETAIL
(NOT TO SCALE)



SIGN COORDINATE LOCATION
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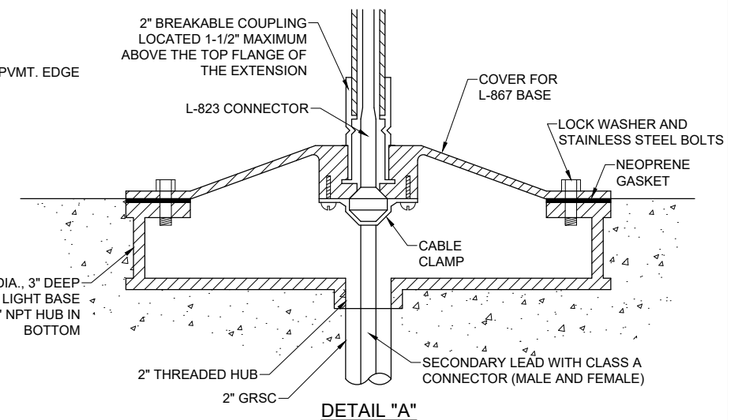
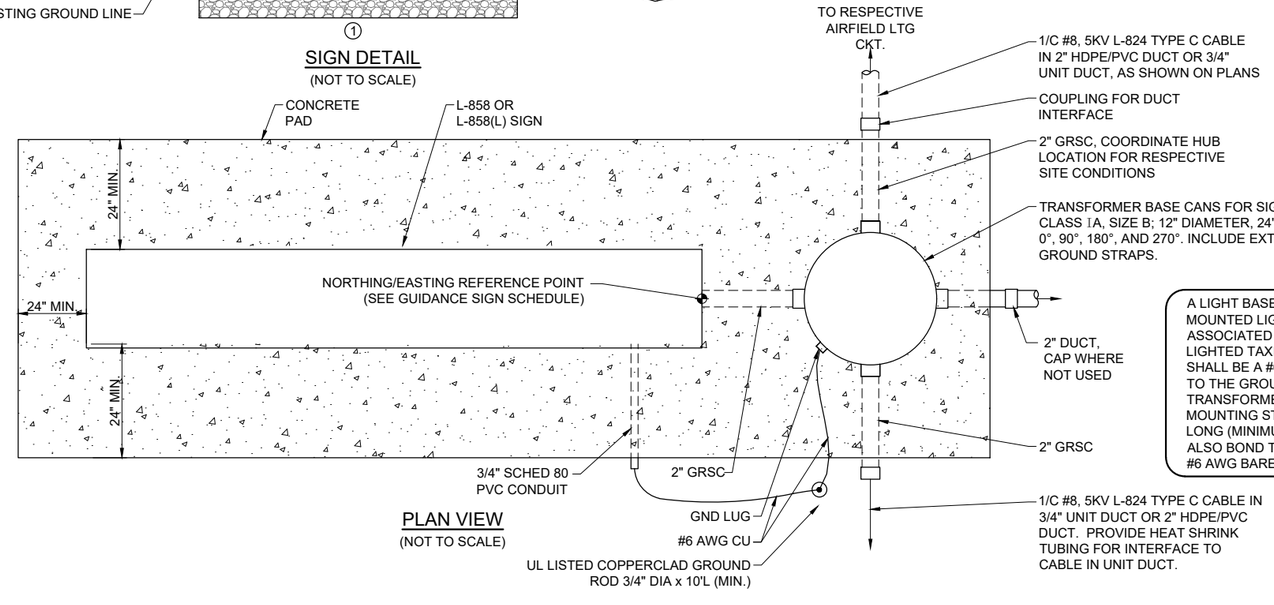


DETAIL "A"
(NOT TO SCALE)



PLAN VIEW
(NOT TO SCALE)

A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED 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, TAXI SIGN FRAME, OR MOUNTING STAKE AND A 3/4-INCH DIAMETER BY 10-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD. ALSO BOND THE SIGN FRAME TO THE GROUND ROD WITH A #6 AWG BARE COPPER CONDUCTOR.

GENERAL NOTES

1. SEE PROPOSED ELECTRICAL SHEETS, AIRFIELD LIGHTING NOTES AND TAXI GUIDANCE SIGN SCHEDULES FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
2. SEE ELECTRICAL NOTES SHEETS.

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Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
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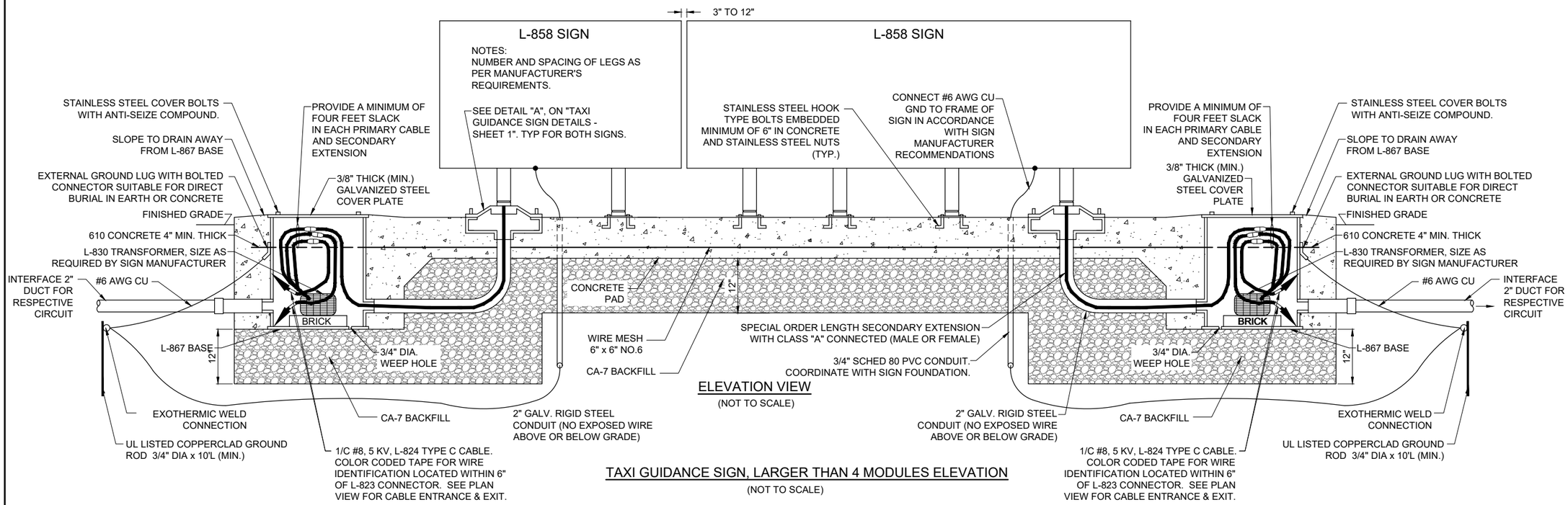
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

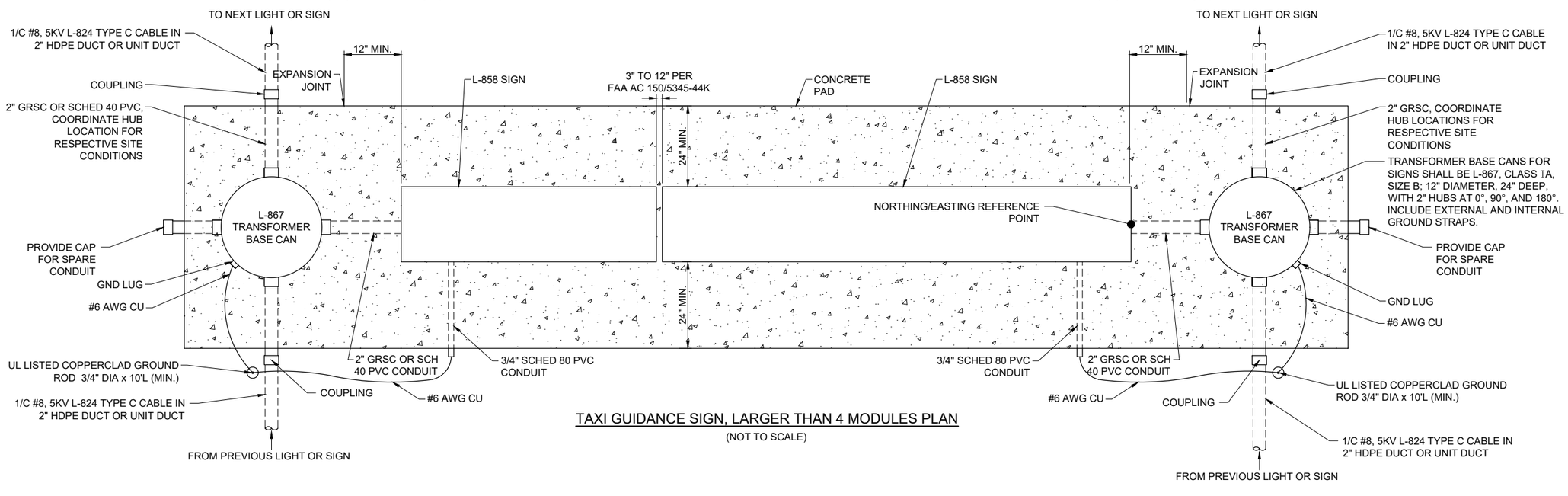
TAXI GUIDANCE SIGN DETAILS - SHEET 1

APR 30, 2024 12:43 PM HERND01562
I:\23JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\E-502-DETL



TAXI GUIDANCE SIGN, LARGER THAN 4 MODULES ELEVATION

(NOT TO SCALE)



TAXI GUIDANCE SIGN, LARGER THAN 4 MODULES PLAN

(NOT TO SCALE)

GENERAL NOTES

1. SEE PROPOSED ELECTRICAL SHEETS, AIRFIELD LIGHTING NOTES AND TAXI GUIDANCE SIGN SCHEDULES FOR SIGN LEGEND, LOCATION, TYPE, SIZE, STYLE, AND CLASS.
2. SEE ELECTRICAL NOTES SHEETS.

A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. THE LIGHT BASE GROUND SHALL BE A #2 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN, TAXI SIGN FRAME, OR MOUNTING STAKE AND A 3/4-INCH DIAMETER BY 10-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD.

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DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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SHEET TITLE

TAXI GUIDANCE SIGN DETAILS - SHEET 2

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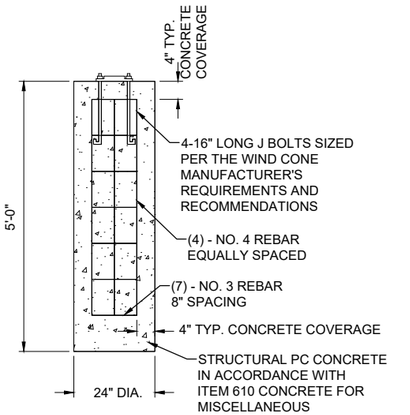
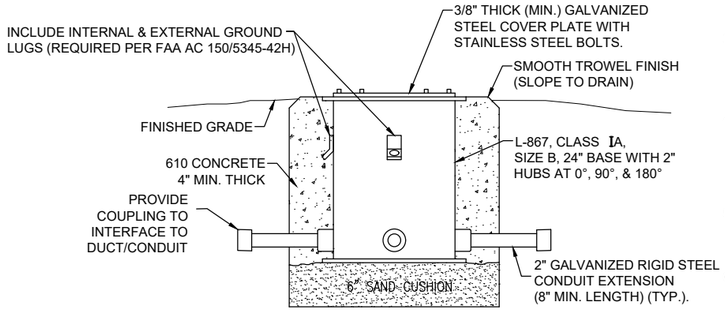


ANCHORING DETAIL

"NOT TO SCALE"

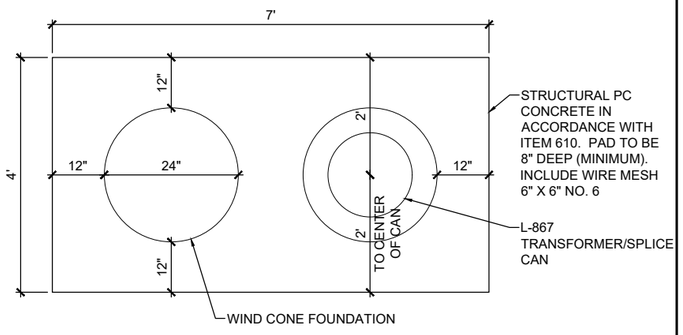
NOTES

1. ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
2. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, INSTALLING, OR RECONNECTING THE RESPECTIVE AIRFIELD LIGHTING, NAVAID, OR OTHER DEVICE.
3. SUPPLEMENTAL WIND CONES SHALL BE FAA APPROVED TYPE L-806(L) WITH LIGHT EMITTING DIODE ILLUMINATION, STYLE I-B (INTERNALLY LIGHTED), SIZE 1 (18-INCH DIAMETER BY 8 FEET LONG), AND SUITABLE FOR 6.6 AMP SERIES CIRCUIT POWER. WIND CONES SHALL INCLUDE CONSTANT-BRIGHTNESS SERIES CIRCUIT POWER ADAPTER. SEE SPECIAL PROVISION SPECS.
4. THE RESPECTIVE RUNWAY LIGHTING CIRCUIT IS POWERED BY AN L-828, CLASS 1 - 6.6 AMP OUTPUT CURRENT, STYLE 2; 5 BRIGHTNESS STEPS CONSTANT CURRENT REGULATOR. COORDINATE WITH THE RESPECTIVE WIND CONE MANUFACTURER TO PROVIDE A COMPATIBLE AND PROPERLY SIZED SERIES ISOLATION TRANSFORMER FOR EACH WIND CONE.
5. SUPPLEMENTAL L-806 WIND CONES WILL BE PAID FOR UNDER ITEM AR107508 L-806 WC 8' INTERNALLY LIT PER EACH. SPLICE/TRANSFORMER CANS FOR WIND CONE SERIES CIRCUIT TRANSFORMERS WILL BE INCIDENTAL TO THE RESPECTIVE WIND CONE PAY ITEM.
6. REBAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706 GRADE 60 OR ASTM A615 GRADE 6 AND SHALL BE MANUFACTURED FROM 100% DOMESTIC STEEL. WELDED WIRE FABRIC SHALL CONFORM TO AASHTO M55, ASTM A82, OR ASTM A185 AND SHALL BE MANUFACTURED FROM 100% DOMESTIC STEEL.
7. FOR EACH GROUNDING ELECTRODE SYSTEM (GROUND ROD) THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUNDING SYSTEM WITH A INSTRUMENT THAT IS SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH GROUNDING ELECTRODE SYSTEM. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE PROJECT ENGINEER OF RECORD.
8. RESTORE TURF AREAS AFFECTED BY WIND CONE INSTALLATION.



WIND CONE TRANSFORMER CAN DETAIL

"NOT TO SCALE"



CONCRETE PAD PLAN VIEW

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INTERNALLY LIGHTED L806 WIND CONE (SERIES CIRCUIT TYPE)

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COVERING ELECTRICAL DESIGN

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KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
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TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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L-806 WIND CONE DETAILS

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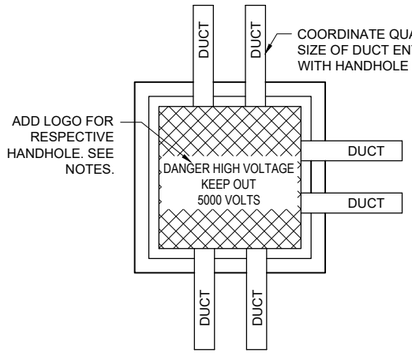

HIGH VOLTAGE HANDHOLE PLAN

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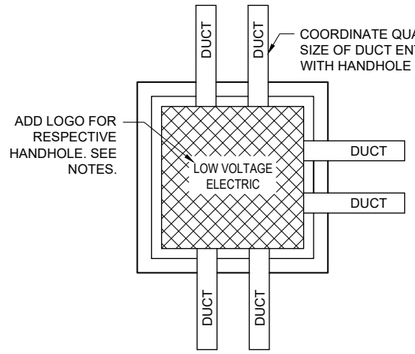
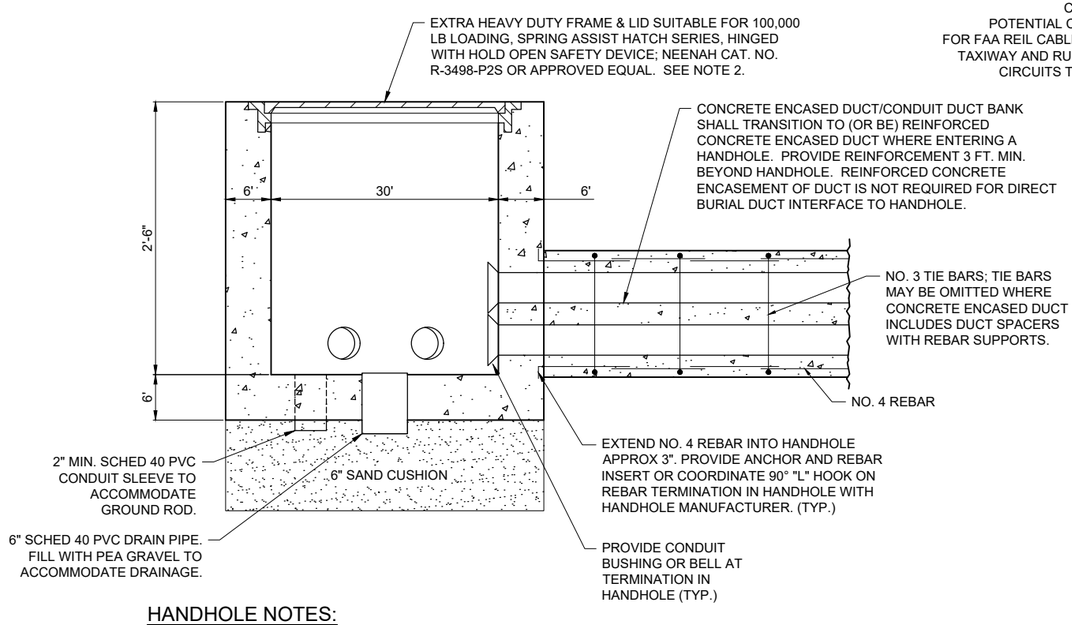


LOW VOLTAGE HANDHOLE PLAN

"NOT TO SCALE"

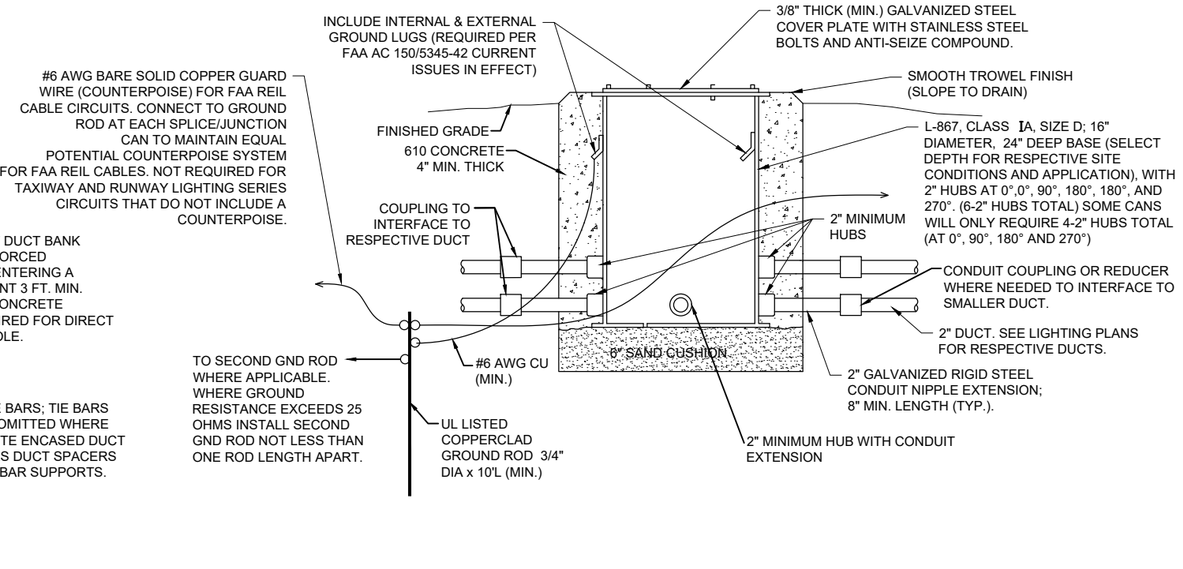


ELECTRICAL HANDHOLE

"NOT TO SCALE"

HANDHOLE NOTES:

1. LIDS FOR LOW VOLTAGE HANDHOLES (CONTAINING CIRCUITS RATED 600 VOLTS AND BELOW) SHALL BE LABELED "LOW VOLTAGE" OR "0V - 600V ELECTRIC". LIDS FOR HIGH VOLTAGE HANDHOLES CONTAINING AIRFIELD LIGHTING SERIES CIRCUIT WIRING SHALL BE LABELED "DANGER HIGH VOLTAGE KEEP OUT 5000 VOLTS" TO COMPLY WITH NEC ARTICLE 300.45 "WARNING SIGNS" AND NEC ARTICLE 314.30(D) "COVERS". COORDINATE LETTERING WITH MFR. HANDHOLES PROVIDED WITH THE WRONG LIDS SHALL HAVE THE LIDS REPLACED WITH THE CORRECT LIDS AT NO ADDITIONAL COST TO THE CONTRACT.
2. ELECTRICAL HANDHOLE, FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6F APPENDIX B, ITEM B.2.4 DIRECT LOADING, 1.A. AIRPORT HANDHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3498-P2S, EAST JORDAN IRON WORKS CAT NO. 8096 OR APPROVED EQUAL.
3. REINFORCEMENT SHALL BE #6 BARS AT 6" CENTERS BASE & WALLS EACH WAY.
4. CONCRETE SHALL BE 5000 PSI AT 28 DAYS.
5. HANDHOLES SHALL BE PRECAST. PRECAST MANUFACTURER MUST BE ON THE IDOT (ILLINOIS DEPARTMENT OF TRANSPORTATION) APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
6. FRAMES AND LIDS (CASTINGS) SHALL BE MADE IN THE USA TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCES REQUIREMENTS.
7. COORDINATE INSTALLATION OF HANDHOLES WITH RESPECTIVE FINISHED GRADE ELEVATION.
8. ALL CORING, INTERFACE, AND LABOR ASSOCIATED WITH CONDUIT, DUCT, CABLE IN UNIT DUCT, AND/OR CABLE ENTRIES WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE HANDHOLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
9. HANDHOLES WITH SIMILAR DIMENSIONS MEETING STRENGTH AND LOADING REQUIREMENTS WILL BE CONSIDERED.



SPLICE CAN/JUNCTION CAN DETAIL

"NOT TO SCALE"

NOTES FOR SPLICE CAN/JUNCTION CAN DETAIL:

1. 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.
2. FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42 (CURRENT ISSUES IN EFFECT).
3. APPLY AN OXIDE-INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS, AND ALL PLACES WHERE METAL COMES INTO CONTACT WITH METAL.
4. THE CONCRETE USED IN THE CONSTRUCTION OF THE BASES FOR THE AIRFIELD LIGHTING CANS SHALL BE IN ACCORDANCE WITH ITEM 610 STRUCTURAL PORTLAND CEMENT CONCRETE.
5. LIDS FOR THE SPLICE CANS CONTAINING HIGH VOLTAGE AIRFIELD LIGHTING CABLES SHALL INCLUDE MINIMUM 1/2-INCH HIGH LETTERING LABELED "DANGER HIGH VOLTAGE KEEP OUT" TO COMPLY WITH NEC ARTICLE 300.45 "WARNING SIGNS" AND NEC ARTICLE 314.71(E) "SUITABLE COVERS". THIS WILL NEED TO BE COORDINATED WITH THE SPLICE CAN MANUFACTURER.
6. LIDS FOR THE SPLICE CANS CONTAINING LOW VOLTAGE CABLES (RATED 600 VOLTS AND BELOW) WILL BE ACCEPTABLE TO USE BLANK COVERS.

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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HANDHOLE AND SPLICE CAN DETAILS

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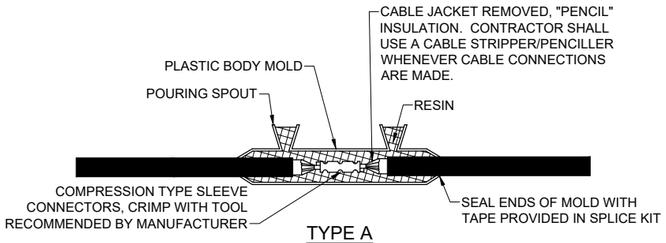
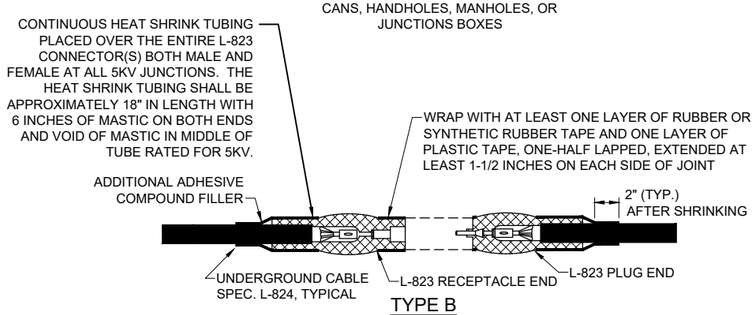


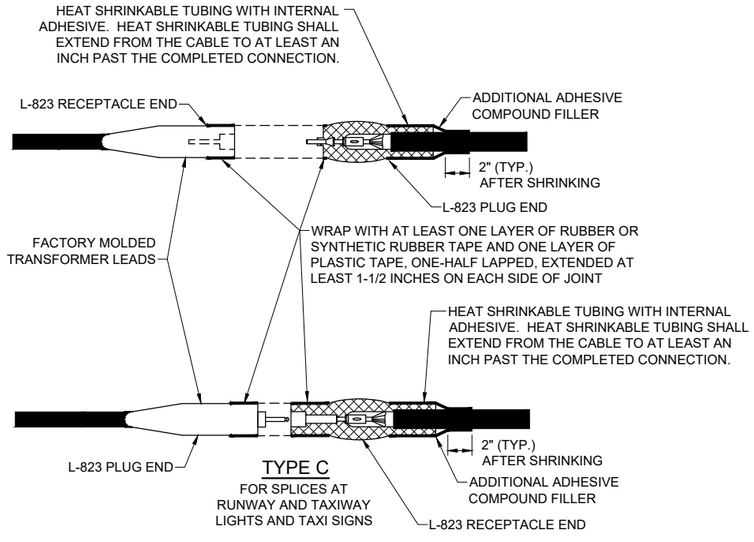
TYPE A

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



TYPE B

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

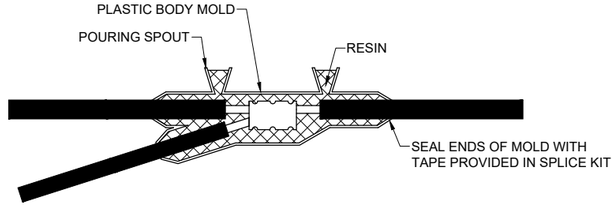


TYPE C

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"

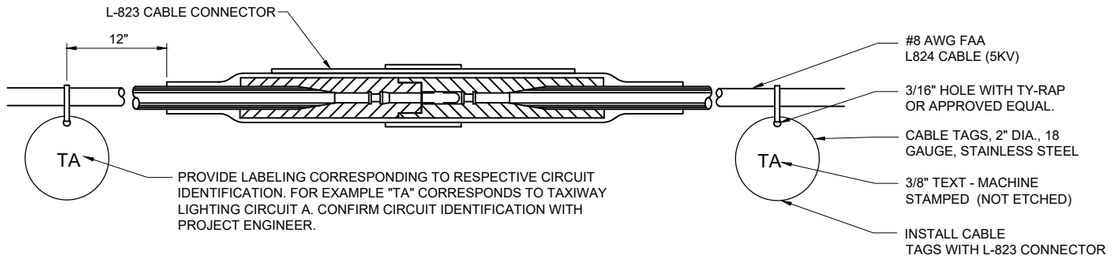


LOW VOLTAGE UNDERGROUND TAP SPLICE

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

NOTES:

1. SPLICE DETAILS ARE PROVIDED FOR NEW WORK AND TO ASSIST IN REPAIRS OF ACCIDENTAL OR UNEXPECTED INTERRUPTIONS AND/OR CUTS TO AIRFIELD LIGHTING CABLES.
2. KEEP ON HAND A MINIMUM OF 10 SETS OF SPLICE KITS FOR L-823 CONNECTORS AND A MINIMUM OF 10 SETS OF TYPE A LOW VOLTAGE SPLICE KITS TO ACCOMMODATE REPAIRS.
3. EVERY AIRFIELD LIGHTING CABLE SPLICER SHALL BE QUALIFIED IN MAKING CABLE SPLICES AND TERMINATIONS ON CABLES RATED AT AND/OR ABOVE 5,000 VOLTS AC TO COMPLY WITH THE REQUIREMENTS OF FAA AC 150/5370-10G ITEM L-108.
4. INSIDE DIAMETER OF RESPECTIVE CABLE CONNECTOR SHALL PROPERLY MATCH OUTSIDE DIAMETER OF CABLE.
5. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.
6. 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.
7. 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.
8. 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.



1. CONTRACTOR SHALL PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION.
2. CABLE IDENTIFICATION TAGS SHALL BE STAINLESS STEEL OR BRASS.
3. THE CABLE SHALL THOROUGHLY BE CLEANED PRIOR TO THE INSTALLATION OF THE L-823 CONNECTOR KIT.
4. ATTACH EACH CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING EDGE OF CABLE TAG INTO CONDUCTOR. TRIM OFF EXCESS CABLE TIE.
5. CABLE TAGS SHALL BE PROVIDED AT ALL POINTS OF ACCESS INCLUDING L-867 BASES, L-868 BASES, HANDHOLES, MANHOLES, JUNCTION BOXES, AND WIREWAYS.
6. CABLE TAGS SHALL BE LABELED AS FOLLOWS FOR RESPECTIVE AIRFIELD LIGHTING CIRCUITS,
   RUNWAY 12R-30L LIGHTING: R1
   RUNWAY 12L-30R LIGHTING: R2
   RUNWAY 5-23 LIGHTING: R3
   TAXIWAY A LIGHTING: TA
   TAXIWAY A6 & RUNUP AREA LIGHTING: TB3
   TAXIWAY B CKT 1 LIGHTING: TB1
   TAXIWAY B CKT 2 LIGHTING: TB2
   TAXIWAY B CKT 3 LIGHTING: TB3
   TAXIWAY C LIGHTING: TC

CABLE TAG DETAIL
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AIRFIELD LIGHTING CABLE SPLICE DETAILS

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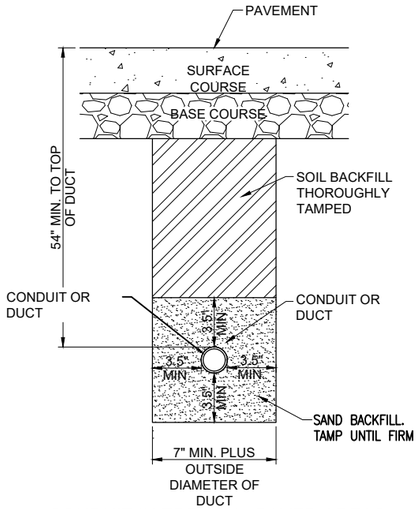

CONDUIT IN TRENCH - PAVED AREAS

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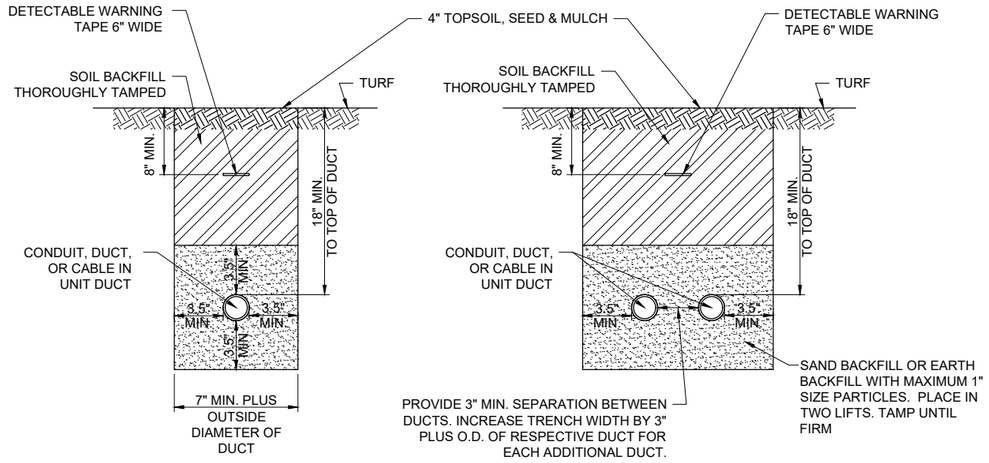

CONDUIT IN TRENCH - NON-PAVEMENT AREAS

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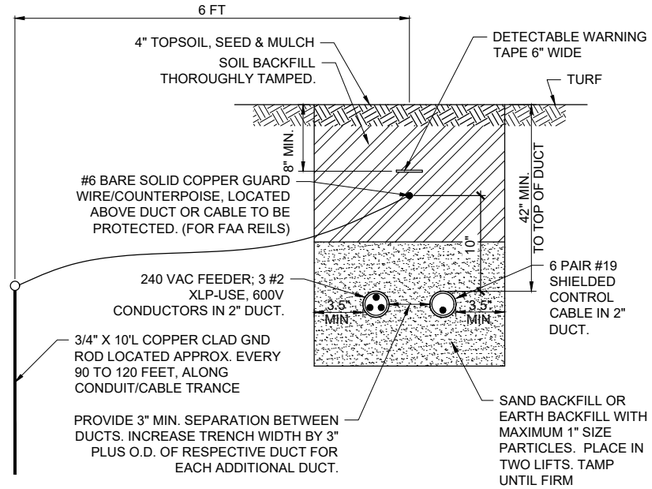

FAA REIL CABLES CONDUIT TRENCH

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NOTES:

1. DIMENSIONS FOR COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.

2. TRENCHES WITH MORE THAN TWO DUCTS OR CABLE IN UNIT DUCTS SHALL BE INCREASED 3" IN WIDTH PLUS DIAMETER OF RESPECTIVE DUCT FOR EACH ADDITIONAL CONDUIT, DUCT, OR CABLE IN UNIT DUCT; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.

3. DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS. MINIMUM COVER REQUIREMENTS FOR CABLES AND DUCTS AT AIRPORT RUNWAYS AND ADJACENT AREAS WHERE TRESPASSING IS PROHIBITED IS 18 INCHES PER NEC 300.5 AND 300.50. MINIMUM COVER REQUIREMENTS FOR DUCTS CONTAINING FAA NAVAID FEEDER CIRCUITS SHALL BE 42". MINIMUM COVER REQUIREMENTS FOR DUCTS LOCATED BELOW NEW TAXIWAY PAVEMENT OR ROADWAYS IS 54". MINIMUM COVER REQUIREMENTS FOR DUCTS LOCATED IN AREAS SUBJECT TO FARMING IS 42". MINIMUM COVER FOR DUCTS CONTAINING SECONDARY ELECTRIC SERVICE CONDUCTORS SHALL BE 36" OR AS REQUIRED BY THE SERVING ELECTRIC UTILITY COMPANY. ADJUST/INCREASE BURIAL DEPTHS TO ACCOMMODATE SITE CONDITIONS, DRAINAGE AND/OR OBSTRUCTIONS. COVER IS DEFINED AS THE SHORTEST DISTANCE IN INCHES MEASURED BETWEEN A POINT ON THE TOP SURFACE OF ANY DIRECT-BURIED CONDUCTOR, CABLE, CONDUIT, OR OTHER RACEWAY AND THE TOP SURFACE OF FINISHED GRADE, CONCRETE OR SIMILAR COVER.

4. HIGH-VOLTAGE CIRCUIT WIRING (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND/OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW-VOLTAGE CIRCUIT WIRING (RATED 600 VOLTS AND BELOW) SHALL MAINTAIN SEPARATION FROM EACH OTHER. HIGH-VOLTAGE WIRING AND LOW-VOLTAGE WIRING SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, RACEWAY, HANDHOLE, OR JUNCTION BOX. CORRECTIVE WORK WILL BE REQUIRED TO SEPARATE HIGH VOLTAGE SERIES CIRCUIT CONDUCTORS FROM LOW VOLTAGE CONDUCTORS WHERE THEY ARE INSTALLED IN THE SAME RACEWAY.

5. SERVICE CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, OR HANDHOLE WITH FEEDER CIRCUITS, BRANCH CIRCUITS OR CONTROL CIRCUITS.

6. COMMUNICATION CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, OR HANDHOLE WITH POWER CIRCUITS.

7. HOME RUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.

8. 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.

9. ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

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

11. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).

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

13. ADJUSTMENTS TO DUCT BANK ROUTES MIGHT BE REQUIRED TO ACCOMMODATE EXISTING SITE CONDITIONS AND UNDERGROUND LINES AND UTILITIES. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL COORDINATE DUCT ROUTE ADJUSTMENTS WITH THE RESIDENT PROJECT REPRESENTATIVE AND THE AIRPORT MANAGER.

14. CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING CABLES, LINES, OR UTILITIES WITHIN 10 FT OF PROPOSED EXCAVATING/TRENCHING AREA. ANY CABLES, LINES, AND UTILITIES FOUND INTERFERING WITH PROPOSED EXCAVATION OR CABLE/TRENCHING SHALL BE HAND DUG AND EXPOSED. ANY DAMAGED CABLES OR OTHER UTILITIES SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE RESPECTIVE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE. THE RESIDENT ENGINEER/RESIDENT TECHNICIAN AND OWNER SHALL BE NOTIFIED IMMEDIATELY IF ANY CABLES OR OTHER UTILITIES ARE DAMAGED.

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

16. THE CONTRACTOR WILL DETERMINE IF THERE IS A CONFLICT BETWEEN THE INSTALLATION OF THE PROPOSED ELECTRICAL DUCTS AND ANY EXISTING UTILITIES. THE CONTRACTOR WILL MAKE ALL NECESSARY ADJUSTMENTS IN DEPTH OF INSTALLATION TO AVOID ANY AND ALL PROPOSED UNDERGROUND IMPROVEMENTS

17. CONDUITS FOR DIRECT BURIAL OR CONCRETE ENCASED DUCT BANK SHALL BE SCHEDULE 40 (MINIMUM) PVC CONDUIT, UL-LISTED, RATED FOR 90°C CABLE-CONFORMING TO NEMA STANDARD TC-2 AND UL 651, LISTED SUITABLE FOR UNDERGROUND USE EITHER DIRECT-BURIED OR ENCASED IN CONCRETE, OR SCHEDULE 40 (MINIMUM) HDPE CONDUIT, UL LISTED, CONFORMING TO NEMA STANDARD TC-7 AND UL 651B AND LISTED SUITABLE FOR UNDERGROUND USE; EITHER DIRECT BURY OR ENCASED IN CONCRETE. HEAVIER WALL CONDUITS SHALL BE FURNISHED FOR RESPECTIVE APPLICATIONS WHERE DETAILED HEREIN.

18. CONDUITS FOR DIRECTIONAL BORING SHALL BE SCHEDULE 40 PVC CONDUIT OR SCHEDULE 80 PVC CONDUIT, UL-LISTED, RATED FOR 90°C CABLE-CONFORMING TO NEMA STANDARD TC-2 AND UL 651 AND SUITABLE FOR DIRECTIONAL BORING INSTALLATION, SCHEDULE 80 HDPE CONDUIT, UL-LISTED, CONFORMING TO NEMA STANDARD TC-7 AND UL 651B AND SUITABLE FOR DIRECTIONAL BORING INSTALLATION, OR 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.

19. UNDERGROUND DUCTS INSTALLED BY DIRECTIONAL-BORING METHOD SHALL BE INSTALLED IN A MANNER THAT WILL NOT DAMAGE ANY EXISTING UNDERGROUND UTILITIES, AND SHALL NOT DISTURB OR DAMAGE THE RESPECTIVE PAVEMENT OR ROADWAY SURFACE. DUCTS SHALL BE DIRECTIONAL-BORED AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. THE DUCTS WILL BE BORED AT A MINIMUM DEPTH OF 42 IN. BELOW THE RESPECTIVE PAVEMENT IT IS BEING BORED UNDER.

20. A PULL WIRE SHALL BE INSTALLED IN EACH CONDUIT OR DUCT TO BE LEFT VACANT.

21. CONTRACTOR SHALL COORDINATE DUCT MARKING WITH AIRPORT.

22. ALL POWER AND CONTROL CABLES IN HANDHOLES, MANHOLES, AND JUNCTION BOXES SHALL BE TAGGED TO IDENTIFY THE RESPECTIVE CABLE. A MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MANHOLE; ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT. CABLE TAGS SHALL BE STAMPED BRASS TAGS OR OTHER WEATHERPROOF/WATERPROOF CORROSION RESISTANT MATERIAL.

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ST. LOUIS DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024 LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-504-DETL.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

CONDUIT TRENCH DETAIL

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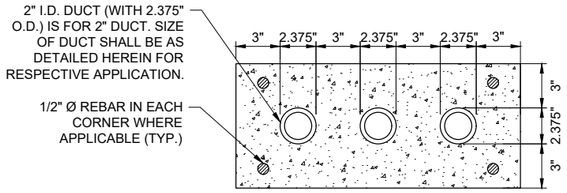
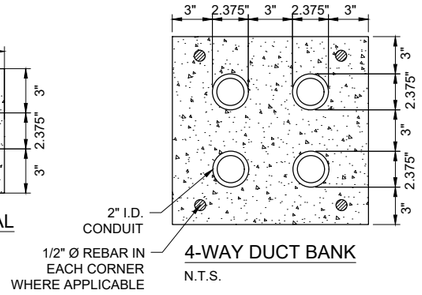


3-WAY DUCT BANK - HORIZONTAL

N.T.S.



4-WAY DUCT BANK

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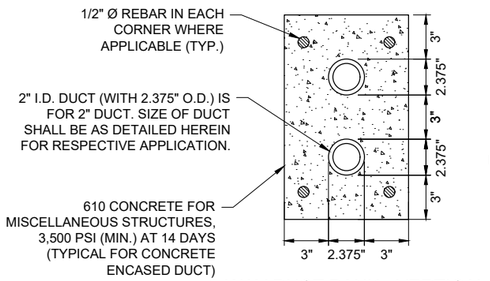

2-WAY DUCT BANK - VERTICAL

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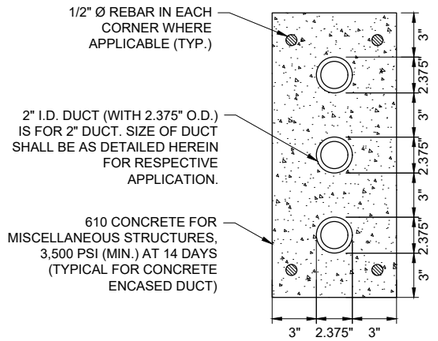

3-WAY DUCT BANK - VERTICAL

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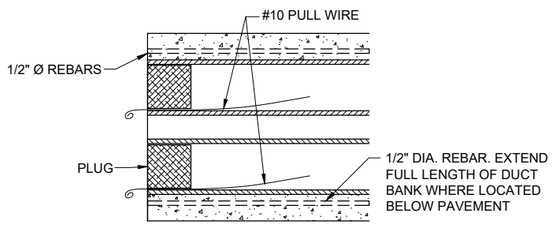

TYPICAL SECTION

N.T.S.

DUCT INSTALLATION NOTES

1. DIMENSIONS FOR CONCRETE COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
2. INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., CARLON, OR APPROVED EQUAL TO MAINTAIN PROPER SEPARATION OF CONDUITS.
3. PROVIDE REBAR WHERE APPLICABLE TO ACCOMMODATE INTERFACE OF CONCRETE ENCASED DUCT BANKS TERMINATING IN HANDHOLE. PROVIDE REBAR REINFORCEMENT WHERE DUCT BANK IS LOCATED BELOW PAVEMENT. REBAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60, OR ASTM A615, GRADE 60.

DUCT INSTALLATION NOTES

1. 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.
2. CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
3. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
4. THE 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 WHATEVER 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 INFORMATION FOR EXCAVATORS) FOR 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.
5. 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.
6. 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 RESIDENT PROJECT REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE. THE RESIDENT PROJECT REPRESENTATIVE AND OWNER SHALL BE NOTIFIED IMMEDIATELY IF ANY CABLES OR OTHER UTILITIES ARE DAMAGED.
7. 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.
8. THE CONTRACTOR WILL DETERMINE IF THERE IS A CONFLICT BETWEEN THE INSTALLATION OF THE PROPOSED ELECTRICAL DUCTS AND ANY EXISTING UTILITIES. HE WILL MAKE ALL NECESSARY ADJUSTMENTS IN DEPTH OF INSTALLATION TO AVOID ANY AND ALL PROPOSED UNDERGROUND IMPROVEMENTS
9. 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.
10. 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 SDR 13.5 OR 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.
11. INSTALLATION OF CONDUIT AND DUCTS SHALL CONFORM TO ITEM 110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS.
12. DUCTS INSTALLED IN TRENCH SHALL BE INSTALLED 18 IN. MINIMUM BELOW GRADE IN TURF AREAS NOT SUBJECT TO FARMING. DUCTS LOCATED IN AREAS SUBJECT TO FARMING SHALL BE 42 IN. MINIMUM BELOW GRADE. MINIMUM DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 24" IN AREAS UNDER AIRFIELD PAVEMENTS. WHERE DETAILED ON THE PLANS OR WHERE REQUIRED TO AVOID OBSTRUCTIONS, DUCTS SHALL BE BURIED DEEPER.
13. WHERE CONCRETE-ENCASED DUCT INTERFACES TO AN ELECTRICAL HANDHOLE OR MANHOLE, THE CONCRETE ENCASEMENT SHALL BE INSTALLED UP TO THE RESPECTIVE HANDHOLE OR MANHOLE. PROVIDE BUSHINGS OR BELLS AT CONDUIT TERMINATIONS IN ELECTRICAL HANDHOLES OR MANHOLES.
14. 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.
15. A PULL WIRE SHALL BE INSTALLED IN EACH CONDUIT OR DUCT TO BE LEFT VACANT.
16. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND/OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, HANDHOLE, OR MANHOLE.
17. CONTROL CABLES SHALL BE RUN IN SEPARATE DUCTS FROM POWER CABLES.
18. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.
19. 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.
20. CONTRACTOR SHALL COORDINATE DUCT MARKING WITH AIRPORT.
21. ALL POWER AND CONTROL CABLES IN HANDHOLES, MANHOLES, AND JUNCTION BOXES SHALL BE TAGGED TO IDENTIFY THE RESPECTIVE CABLE. A MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MANHOLE; ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT. CABLE TAGS SHALL BE STAMPED BRASS TAGS OR OTHER WEATHERPROOF/WATERPROOF CORROSION RESISTANT MATERIAL.

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ST. LOUIS DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

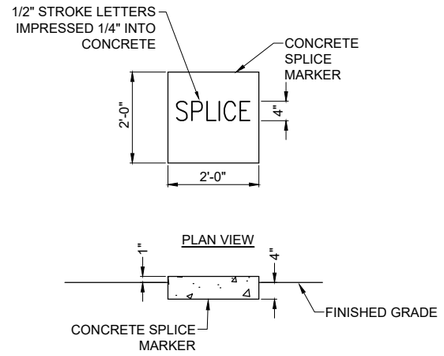
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-505-DETL.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

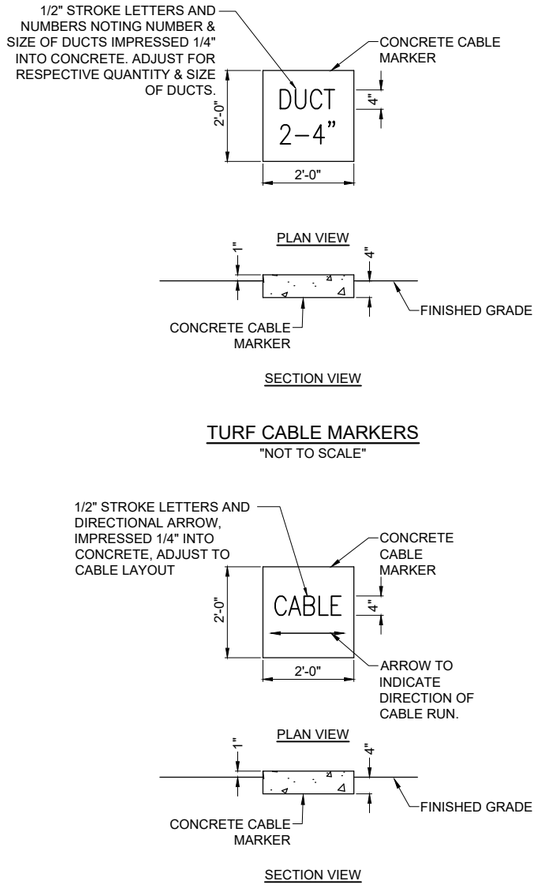
SHEET TITLE

DUCT BANK DETAILS AND NOTES



TURF CABLE MARKERS

"NOT TO SCALE"

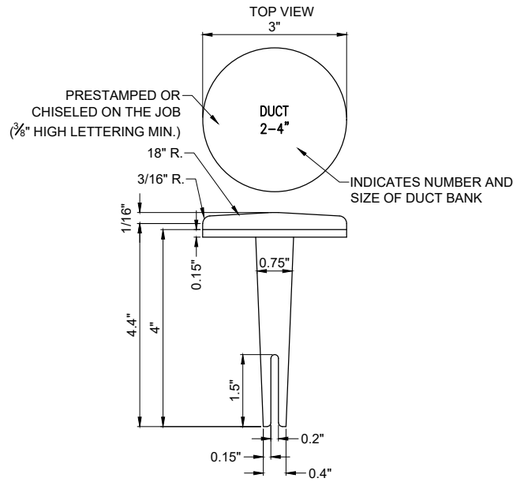


TURF CABLE MARKERS

"NOT TO SCALE"

TURF CABLE MARKERS

"NOT TO SCALE"



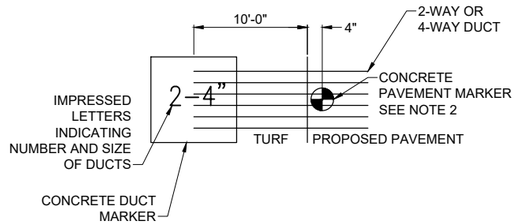
BITUMINOUS PAVEMENT DUCT MARKERS

"NOT TO SCALE"

NOTE:

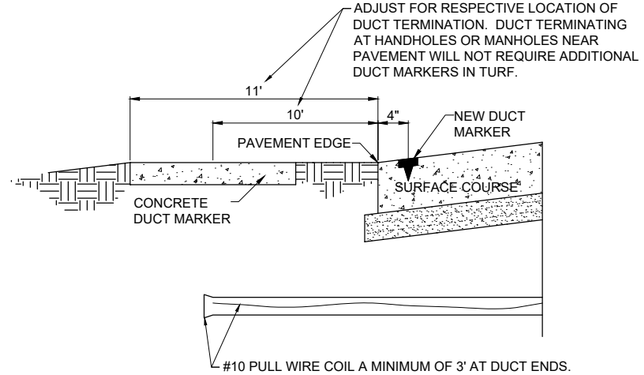
1. TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE

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"



UNDERGROUND ELECTRICAL DUCT

(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.

8. THE CABLE AND SPLICE MARKERS MUST IDENTIFY THE CIRCUITS TO WHICH THE CABLES BELONG. FOR EXAMPLE: RWY 12L-30R PAPI-12R, PAPI-30L.

9. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS MUST BE IDENTIFIED BY DUCT MARKERS.

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LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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CABLE AND DUCT MARKER DETAILS

GENERAL NOTES

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

2. CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.

3. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).

4. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.

5. IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.

6. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.

7. WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.

8. ANY AND ALL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT TECHNICIAN TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF AERONAUTICS. THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER/RESIDENT TECHNICIAN REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.

9. A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:

   A. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.

   B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.

   C. INSTALLATION INSTRUCTION.

   D. START-UP INSTRUCTIONS.

   E. PREVENTATIVE MAINTENANCE REQUIREMENTS.

   F. CHART FOR TROUBLE-SHOOTING.

   G. COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.

   H. PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.

   I. SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

1. PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.

2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK,RED AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 208/120VAC THREE-PHASE, FOUR WIRE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCMIL).

3. ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.

4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.

5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.

6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.

7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:

   A. IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.

   B. IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.

8. A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.

9. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.

10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.

11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.

12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.

13. ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMENTATIONS.

14. SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE.

15. CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.

16. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT UL. LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.

17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.

18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.

19. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.

20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.

21. WRAP ALL PRIMARY AND SECONDARY POWER CONNECTIONS WITH SUFFICIENT LAYERS OF HIGH VOLTAGE ELECTRICAL INSULATING TAPE (RUBBER SPLICING TAPE SUITABLE FOR PRIMARY ELECTRICAL INSULATION FOR SPLICING CABLE FROM 600 VOLTS TO 69,000 VOLTS) AND COVER WITH VINYL ELECTRICAL TAPE (ALL-WEATHER VINYL INSULATING TAPE SUITABLE FOR PROTECTIVE JACKETING FOR HIGH-VOLTAGE CABLE SPLICES AND REPAIRS) FOR FULL VALUE OF CABLE INSULATION VOLTAGE. PER ILLINOIS STANDARD SPECIFICATIONS FOR CONSTRUCTION OF AIRPORTS ITEM 108, ITEM 125 AND FAA AC 150/5370-10H ITEM L-108, HIGH VOLTAGE ELECTRICAL INSULATING TAPE SHALL BE 3M SCOTCH 130C (2 INCHES WIDE) OR APPROVED EQUIVALENT, AND VINYL ELECTRICAL TAPE SHALL BE 3M SCOTCH 88 (1.5 INCHES WIDE) OR APPROVED EQUIVALENT. TAPES MUST BE RATED SUITABLE FOR THE APPLICATION.

22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.

23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:

   A. FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.

   B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.

   C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.

   D. WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.

   E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.

   F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.

   G. A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.

   H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.

   I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.

   J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.

24. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "ARC FLASH HAZARD WARNING".

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DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

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AIRFIELD LIGHTING NOTES

1. UNLESS OTHERWISE NOTED, ALL UNDERGROUND AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED 5000 VOLT L-824 TYPE. ALL UNDERGROUND FIELD POWER LOW VOLTAGE (600 VOLT & BELOW) CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE UL LISTED 600 VOLT, TYPE XLP-USE-2 COPPER CONDUCTORS. CONDUCTOR SIZES SHALL BE AS SPECIFIED, HEREIN.
2. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
3. THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN APPLICABLE DETAILS.
4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON AIRFIELD LIGHTING CABLE SPLICE DETAILS.
5. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON AIRFIELD LIGHTING CABLE SPLICE DETAILS.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
9. DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
10. A SLACK OF THREE (3') FEET, MINIMUM, PLUS DEPTH OF BASE CAN (IF APPLICABLE), SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER. THERE SHALL BE NO ADDITIONAL PAYMENT FOR CABLE SLACK AND THEREFORE THE QUANTITY OF PROPOSED CABLE SLACK HAS NOT BEEN INCLUDED IN THE RESPECTIVE CABLE PAY ITEMS.
11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.
20. ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK.
21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING.
22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLES.
25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
29. CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3500 PSI (MINIMUM) AT 14 DAYS, IN ACCORDANCE WITH ITEM 610 STRUCTURAL PORTLAND CEMENT CONCRETE.
30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
31. THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER, CONTROL AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA. ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVE GROUND UTILITIES.
32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.

GROUNDING NOTES FOR AIRFIELD LIGHTING

1. GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. A GROUND ROD MUST BE INSTALLED AT EACH LIGHT FIXTURE, TAXI GUIDANCE SIGN AND L-867/L-868 BASE. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A LIGHT BASE GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. A LIGHT BASE GROUND SHALL BE INSTALLED AND CONNECTED TO THE METAL FRAME OF EACH TAXI GUIDANCE SIGN AS DETAILED ON THE PLANS AND IN ACCORDANCE WITH THE RESPECTIVE TAXI GUIDANCE SIGN MANUFACTURER RECOMMENDATIONS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 3/4-INCH DIAMETER BY 10-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL LISTED GROUNDING CONNECTOR. CONNECTIONS TO LIGHT BASES MAY ALSO BE MADE WITH A UL 467 LISTED PIPE CLAMP CONNECTED TO THE GRSC NIPPLE EXTENDING FROM A THREADED LIGHT BASE HUB. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY PENTAIR ERICO PRODUCTS, INC., THERMOWELD BY CONTINENTAL INDUSTRIES, INC., ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS. TOP OF GROUND RODS SHALL BE BURIED 12 INCHES MINIMUM BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
2. PER THE REQUIREMENTS OF FAA AC 150/5340-30J DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6 "LIGHT FIXTURE BONDING" IT NOTES THE FOLLOWING: BOND THE LIGHT FIXTURE TO THE LIGHT BASE INTERNAL GROUND LUG VIA A NO. 6 AWG STRANDED COPPER WIRE RATED 600 VOLTS WITH GREEN XHHW, THWN-2, OR OTHER SUITABLE INSULATION, BARE STRANDED CONDUCTOR OR A BRAIDED GROUND STRAP OF EQUIVALENT CURRENT RATING. THE BONDING CONDUCTOR LENGTH MUST BE SUFFICIENT TO ALLOW THE REMOVAL OF THE LIGHT FIXTURE FROM THE LIGHT BASE FOR ROUTINE MAINTENANCE. SEE THE LIGHT FIXTURE MANUFACTURER'S INSTRUCTIONS FOR PROPER METHODS OF ATTACHING A BONDING WIRE TO THE FIXTURE.
3. STEEL USED TO MANUFACTURE GROUND RODS SHALL BE 100 PERCENT DOMESTIC STEEL.
4. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL PER 2020 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
5. THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.
6. FOR EACH AIRFIELD LIGHT FIXTURE, TAXI GUIDANCE SIGN, DISTANCE REMAINING SIGN, JUNCTION STRUCTURE/L-867 BASE/L-868 BASE, OR OTHER AIRFIELD LIGHT FIXTURE, THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUND SYSTEM WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH AIRFIELD LIGHT FIXTURE AND EACH TAXI GUIDANCE SIGN INSTALLATION. IF GROUND RESISTANCE EXCEEDS 25 OHMS, LONGER GROUND RODS OR ADDITIONAL GROUND RODS MIGHT BE REQUIRED. IF GROUND RESISTANCE EXCEEDS 25 OHMS CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. ALSO REFER TO EOR-47643 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.

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

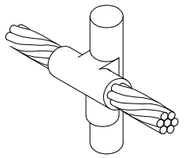
IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

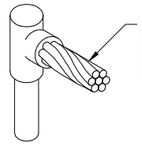
ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-003-NOTES.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

ELECTRICAL NOTES
SHEET 2



CABLE TO GROUND ROD



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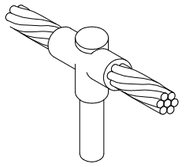
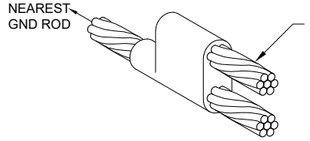
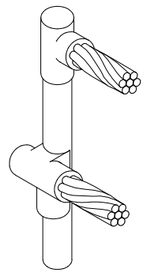


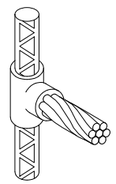
CABLE TO GROUND ROD



CABLE TO CABLE
HORIZONTAL PARALLEL TAP



CABLES TO GROUND ROD



CABLE TO REBAR

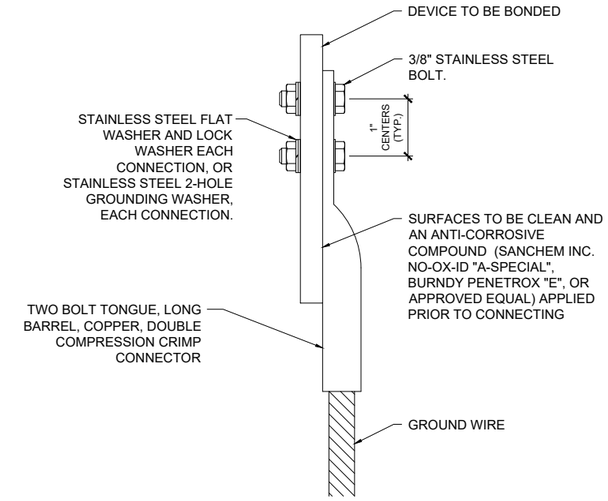
DETAIL NOTES

1. KNOWLEDGEABLE AND QUALIFIED PERSONNEL SHALL PERFORM EXOTHERMIC WELD CONNECTIONS TO ENSURE GOOD, SAFE, & RELIABLE CONNECTIONS. ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY PENTAIR ERICO PRODUCTS, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.

2. 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 ENCIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A GROUND CONDUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF MAGNETIC MATERIAL. THIS RING COULD BE A METALLIC CONDUIT, U-BOLT OR STRUT SUPPORT PIPE CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING GROUND CONDUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF THE GROUND CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF RESISTANCE THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE IN THE IMPEDANCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY MITIGATE RADIO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION WHERE A GROUND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN PHENOMENA KNOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING IS A RESULT OF VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS FOR A SHORT DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT LIGHTNING FREQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER AND FREQUENCY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND CONDUCTOR MUST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A LOW INDUCTIVE IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE PATH.

3. ALL APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, SHALL REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.

EXOTHERMIC WELD DETAILS



2 HOLE LONG BARREL COMPRESSION LUG TABLE (OR APPROVED EQUAL)			
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

1. IT IS IMPORTANT TO HAVE GOOD SECURE GROUND CONNECTIONS THAT WILL WITHSTAND WEATHER CONDITIONS AND MAINTAIN CONTINUITY TO GROUND. OFTEN WEATHER CONDITIONS CAN AFFECT GROUNDING CONNECTIONS THAT RESULT IN LOOSE CONNECTIONS AND UNSAFE CONDITIONS.

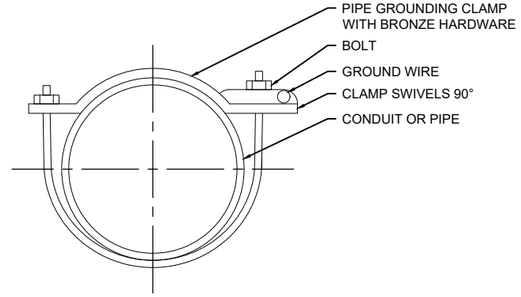
2. SAFETY OF PERSONNEL IS THE PRIORITY. PROTECTION OF EQUIPMENT IS SECONDARY.

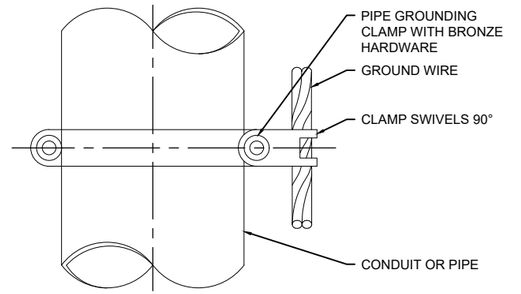
3. THE GROUND WIRE CONNECTIONS TO EQUIPMENT LOCATED ABOVE GRADE, SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE WITH 3/8-INCH STAINLESS STEEL BOLTS, NUTS, AND WASHERS OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE. THIS ALSO APPLIES TO CONNECTIONS TO GROUND BUS BARS.

4. HARGER LIGHTING PROTECTION AND GROUNDING EQUIPMENT ALSO MANUFACTURERS TWO HOLE LONG BARREL COMPRESSION LUGS.

5. 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





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

NOTES

1. EACH PIPE GROUNDING CLAMP SHALL HAVE BRONZE HARDWARE, BE CORROSION RESISTANT, SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE, & UL 467 LISTED.

2. FOR APPLICATIONS SUBJECT TO ADDITIONAL CORROSION, PROVIDE PIPE GROUNDING CLAMPS WITH TINNED COATED BRONZE HARDWARE

3. HARGER CPC AND APC SERIES PIPE GROUNDING CLAMPS PROPERLY SIZED FOR THE RESPECTIVE PIPE AND GROUND WIRE ARE ALSO ACCEPTABLE.

4. 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

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6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

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DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

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GROUNDING DETAILS

APR 30, 2024 12:45 PM HERND01562
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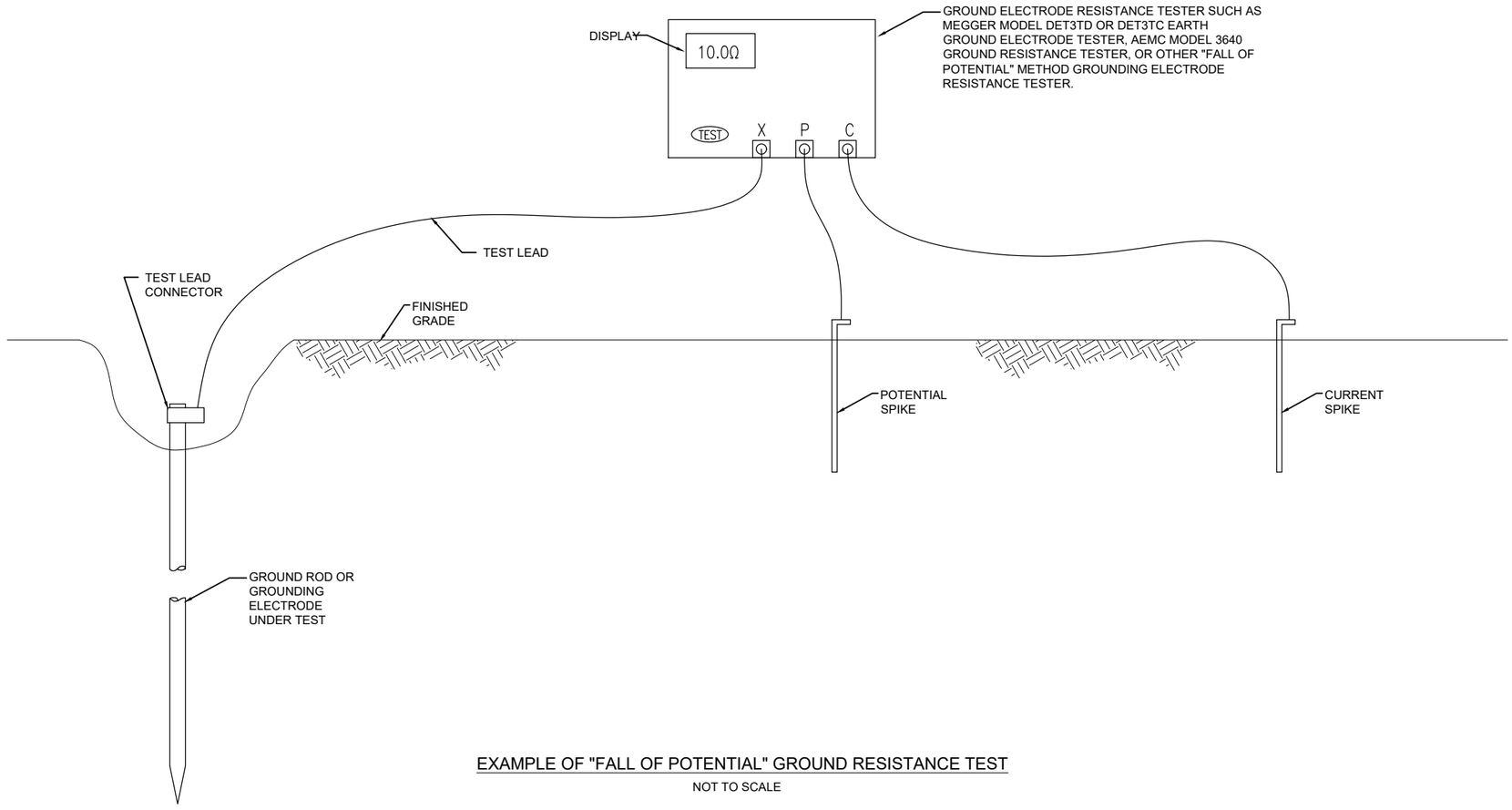

EXAMPLE OF "FALL OF POTENTIAL" GROUND RESISTANCE TEST

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 FOR FURTHER DIRECTION. COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER/RESIDENT TECHNICIAN, AND THE PROJECT ENGINEER.

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 FOR FURTHER DIRECTION. ALSO REFER TO EOR-47643 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.

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.

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6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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			DES	DWN	REV

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REVIEWED BY: KNL 3/21/2024

SHEET TITLE

GROUND RESISTANCE TESTING DETAILS

GROUNDING NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING SHOWN ON THE RESPECTIVE CONTRACT DOCUMENTS AND/OR AS MAY BE NECESSARY OR REQUIRED TO MAKE A COMPLETE GROUNDING SYSTEM, AS REQUIRED BY THE LATEST NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) IN FORCE, OTHER APPLICABLE CODES, AND IN ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND REQUIREMENTS FOR THE PRIORITY OF PROTECTION OF PERSONNEL AND ADDITIONALLY FOR THE PROTECTION OF EQUIPMENT. ALL PERSONNEL ARE RECOMMENDED TO ALSO COMPLY WITH NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE. THE RELIABILITY OF THE GROUNDING SYSTEM IS DEPENDENT ON CAREFUL, PROPER INSTALLATION, AND CHOICE OF MATERIALS. IMPROPER PREPARATION OF SURFACES TO BE JOINED TO MAKE AN ELECTRICAL PATH, LOOSE JOINTS, OR CORROSION CAN INTRODUCE IMPEDANCE THAT WILL SERIOUSLY IMPAIR THE ABILITY OF THE GROUND PATH TO PROTECT PERSONNEL AND EQUIPMENT AND TO ABSORB TRANSIENTS THAT CAN CAUSE NOISE IN COMMUNICATIONS CIRCUITS. THE FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND SYSTEM:

1. FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR AIRFIELD LIGHTING LIGHT BASE GROUNDS FOR (RUNWAY LIGHTING, TAXIWAY LIGHTING, TAXI GUIDANCE SIGNS, & DISTANCE REMAINING SIGNS) SHALL BE MINIMUM 3/4-IN. DIAMETER BY 10-FT LONG, UL-LISTED COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS FOR COUNTERPOISE/LIGHTNING PROTECTION SYSTEM ON THE AIRFIELD SHALL BE MINIMUM 3/4-IN. DIAMETER BY 10-FT. LONG UL-LISTED COPPER CLAD WITH 10-MIL MINIMUM COPPER COATING. GROUND RODS SHALL BE SPACED OR AS DETAILED ON THE RESPECTIVE PLANS, AND IN NO CASE SPACED LESS THAN ONE ROD LENGTH APART. ALL CONNECTIONS TO GROUND RODS AND THE GROUND RING SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY PENTAIR ERICO PRODUCTS, THERMOWELD BY CONTINENTAL INDUSTRIES, ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS OR AT BURIED GROUNDING ELECTRODE CONDUCTORS.

2. CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER OF RECORD FOR FURTHER DIRECTIONS. ALSO REFER TO EOR-47643 FOR ADDITIONAL INFORMATION ON GROUNDING REQUIREMENTS, WHERE APPLICABLE. COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT PROJECT REPRESENTATIVE, AND THE PROJECT ENGINEER OF RECORD.

3. ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL-LISTED AND LABELED.

4. ALL BOLTED OR MECHANICAL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTIVE COMPOUND BEFORE JOINING, SANCHEM INC. “NO-OX-ID “A-SPECIAL” COMPOUND, BURNDY PENETROX E, OR APPROVED EQUAL.

5. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL, PER 2020 NATIONAL ELECTRICAL CODE ARTICLE 250-12. ALL COPPER BUS BARS MUST BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION.

6. METALLIC RACEWAY FITTINGS SHALL BE MADE UP TIGHT TO PROVIDE A PERMANENT LOW IMPEDANCE PATH FOR ALL CIRCUITS. METAL CONDUIT TERMINATIONS IN ENCLOSURES SHALL BE BONDED TO THE ENCLOSURE WITH UL-LISTED FITTINGS SUITABLE FOR GROUNDING. PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING SERVICE EQUIPMENT (METER BASE, CT CABINET, MAIN SERVICE BREAKER ENCLOSURE, ETC.). PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING AN ENCLOSURE THROUGH CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND. STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR BONDING WHERE A CONDUIT ENTERS AN ENCLOSURE THROUGH A CONCENTRIC OR ECCENTRIC KNOCKOUT

7. ALL CONNECTIONS, LOCATED ABOVE GRADE, BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING UL-LISTED DOUBLE COMPRESSION CRIMP TYPE CONNECTORS OR UL-LISTED BOLTED GROUND CONNECTORS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, THOMAS AND BETTS, OR EQUAL. TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUES IN UL STANDARD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.

8. ALL METAL EQUIPMENT ENCLOSURES, CONDUITS, CABINETS, BOXES, RECEPTACLES, MOTORS, ETC. SHALL BE BONDED TO THE RESPECTIVE GROUNDING SYSTEM.

9. PROVIDE ALL BOXES FOR PROPOSED OUTLETS, SWITCHES, CIRCUIT BREAKERS, ETC. WITH GROUNDING SCREWS. PROVIDE ALL PANELBOARD, SWITCHGEAR, ETC., ENCLOSURES WITH GROUNDING BARS WITH INDIVIDUAL SCREWS, LUGS, CLAMPS, ETC., FOR EACH OF THE GROUNDING CONDUCTORS THAT ENTER THEIR RESPECTIVE ENCLOSURES.

10. EACH NEW FEEDER CIRCUIT AND/OR BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE. METAL RACEWAY OR CONDUIT SHALL NOT MEET THIS REQUIREMENT. THE EQUIPMENT GROUND WIRE FROM EQUIPMENT SHALL NOT BE SMALLER THAN ALLOWED BY 2020 NEC TABLE 250-122 “MINIMUM SIZE CONDUCTORS OR GROUNDING RACEWAY AND EQUIPMENT.” WHEN CONDUCTORS ARE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP, EQUIPMENT-GROUNDING CONDUCTORS SHALL BE ADJUSTED PROPORTIONATELY ACCORDING TO CIRCULAR MIL AREA. ALL EQUIPMENT GROUND WIRES SHALL BE COPPER, EITHER BARE OR INSULATED GREEN IN COLOR. WHERE THE EQUIPMENT GROUNDING CONDUCTORS ARE INSULATED, THEY SHALL BE IDENTIFIED BY THE COLOR GREEN, AND SHALL BE THE SAME INSULATION TYPE AS THE PHASE CONDUCTORS.

11. ALL EXTERIOR METAL CONDUIT, WHERE NOT ELECTRICALLY CONTINUOUS BECAUSE OF MANHOLES, HANDHOLES, NON-METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER-BONDING JUMPER SIZED IN CONFORMANCE WITH 2020 NEC 250-102. WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2020 NEC 250-102.

12. IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MOTOR FRAMES, PUMP BASES ELECTRICAL EQUIPMENT ENCLOSURES, PANEL HOUSINGS, CONDUITS, BOXES, ETC. HAVE A CONTINUOUS COPPER WIRE GROUND CONNECTION AND SHALL BE POSITIVELY BONDED TO THE RESPECTIVE GROUNDING SYSTEM. CONDUIT CONNECTORS WILL NOT BE CONSIDERED AS ADEQUATE GROUNDING.

13. PROVIDE A POSITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL EQUIPMENT ENCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. INSTALL A GROUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND CONDUCTOR TO HAVE 600-VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS GREEN COLOR COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES AND BE ENTIRELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, EXCEPT AT SUPPLY SIDE OF SERVICE DISCONNECTING MEANS, WHERE GROUNDING AND NEUTRAL SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.

14. EACH AND ALL GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL EQUIPMENT SHALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS SYSTEM BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE.

15. ALL CONNECTIONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS ABOVE GRADE SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND LUGS SHALL BE PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION BOXES. EQUIPMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED TO THESE GROUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, OR EQUAL.

16. BOND ALL NONCURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.

17. BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND SYSTEM.

18. INSTALL GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 40 OR SCHEDULE 80 PVC CONDUIT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, DO NOT COMPLETELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. USE NON-METALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL CONDUIT CLAMPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS.

19. IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2020 NEC 250-102 AND/OR 2020 NEC 250.64(E). NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS. CONFIRM REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION.

20. GROUNDING WORK AFFECTING OPERATIONS AT A FACILITY SHALL BE COORDINATED WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S) AND TO MINIMIZE DOWNTIME TO EXISTING SYSTEMS. THE RESPECTIVE PERSONNEL SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S). ANY SHUTDOWN OF EXISTING SYSTEMS SHALL BE SCHEDULED WITH AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO SHUT DOWN. ALL POWER SYSTEMS (AC OR DC) SHALL HAVE PROVISIONS TO LOCKOUT AND TAGOUT ANY CIRCUIT TO HELP ENSURE THE CIRCUIT IS SAFE TO WORK ON FOR PROTECTION OF PERSONNEL. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT). WHERE A FACILITY DOES NOT HAVE LOCKOUT/TAGOUT KITS THE RESPECTIVE PERSONNEL SHALL PROVIDE ADEQUATE QUANTITIES OF LOCKOUT/TAGOUT KITS SUITABLE FOR USE WITH THE RESPECTIVE EQUIPMENT. WHERE EXISTING ELECTRICAL EQUIPMENT DOES NOT HAVE FEATURES FOR LOCKOUT/TAGOUT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT AND MEASURES TO COMPLY WITH OSHA LOCKOUT/TAGOUT REQUIREMENTS. ALL PADLOCKS FOR USE WITH LOCKOUT/TAGOUT PROCEDURES SHALL HAVE A DIFFERENT KEY. PROVIDE LOCKOUT HASPS TO ACCOMMODATE MULTIPLE PADLOCKS WHERE MULTIPLE PEOPLE ARE WORKING ON THE SAME SYSTEM. INCLUDE LOCKOUT TAGS FOR EACH PIECE OF EQUIPMENT REQUIRING SERVICING AND SHUTDOWN. COMPLIANCE WITH LOCKOUT/TAGOUT PROCEDURES AND ALL OTHER SAFETY PROCEDURES AND REQUIREMENTS ARE THE RESPONSIBILITY OF THE RESPECTIVE PERSONNEL WORKING AT THE FACILITY.

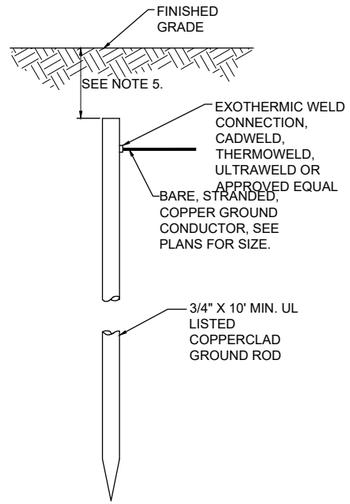
21. NEVER REMOVE, ALTER, OR ATTEMPT TO REPAIR CONDUCTORS OR CONDUIT SYSTEMS PROVIDING GROUNDING OR ELECTRICAL BONDING FOR ANY ELECTRICAL EQUIPMENT UNTIL ALL POWER IS REMOVED FROM EQUIPMENT. WARN ALL PERSONNEL OF THE UNGROUNDED CONDITION OF THE EQUIPMENT. DISPLAY APPROPRIATE WARNING SIGNS, SUCH AS DANGER TAGS, TO WARN PERSONNEL OF THE POSSIBLE HAZARDS.

22. GROUNDING WORK AND MODIFICATIONS SHALL NOT BE PERFORMED DURING A THUNDERSTORM OR WHEN A THUNDERSTORM IS PREDICTED IN THE AREA.

23. PER NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE IT DEFINES ELECTRICALLY SAFE WORK CONDITION AS “A STATE IN WHICH AN ELECTRICAL CONDUCTOR OR CIRCUIT PART HAS BEEN DISCONNECTED FROM ENERGIZED PARTS, LOCKED/TAGGED IN ACCORDANCE WITH ESTABLISHED STANDARDS, TESTED TO VERIFY THE ABSENCE OF VOLTAGE, AND, IF NECESSARY, TEMPORARILY GROUNDED FOR PERSONNEL PROTECTION.” PRIOR TO CONDUCTING TESTS OR WORKING ON EQUIPMENT, VERIFY EQUIPMENT ENCLOSURES AND FRAMES HAVE A GOOD AND SECURE GROUND CONNECTION. FAILURE TO PROPERLY GROUND THIS EQUIPMENT PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THIS SYSTEM.

24. WHERE A CONFLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS PER MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE PROJECT ENGINEER OF RECORD; KEVIN LIGHTFOOT FOR FURTHER DIRECTIONS.

25. GROUND RODS SHALL BE PRODUCED FROM 100 PERCENT DOMESTIC STEEL TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN PREFERENCES REQUIREMENT. THE BUY AMERICAN PREFERENCE REQUIREMENTS ESTABLISHED WITHIN 49 USC 50101 REQUIRE THAT ALL STEEL AND MANUFACTURED GOODS USED ON AIP PROJECTS MUST BE PRODUCED IN THE UNITED STATES.



10 FT. GROUND ROD
NOT TO SCALE

NOTES

1. TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.
2. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.
3. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.
4. GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LESS THAN ONE ROD LENGTH APART.
5. TOP OF GROUND RODS SHALL BE 12" MINIMUM BELOW GRADE UNLESS DETAILED OTHERWISE HEREIN.
6. GROUND RODS FOR SPLICE CANS AND AIRFIELD LIGHTING SHALL BE A MINIMUM 3/4-INCH DIAMETER BY 10-FT LONG UL LISTED COPPER CLAD.
7. FOR OTHER GROUNDING APPLICATIONS NOT DETAILED HEREIN, CONTACT ENGINEER OF RECORD; KEVIN LIGHTFOOT FOR DIRECTIONS.

GROUND RODS
NOT TO SCALE

FOR BID

HANSON
Engineering | Planning | Allied Services

Offices Nationwide
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ST. LOUIS
DOWNTOWN AIRPORT

BI-STATE DEVELOPMENT
ST. LOUIS DOWNTOWN AIRPORT
6100 Archview Drive
Cahokia Heights, Illinois 62206

COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

ISSUE: APRIL 19, 2024
PROJECT NO: 23A0001D
CAD FILE: E-004-NOTES.DWG
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/7/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

GROUNDING NOTES

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ELECTRICAL LEGEND - ONE-LINE DIAGRAM

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

ELECTRICAL LEGEND - SCHEMATIC

	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
S*	STARTER COIL, * = STARTER NUMBER
OL	OVERLOAD RELAY CONTACT
CR*	CONTROL RELAY, * = CONTROL RELAY NUMBER
R*	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
OFF AUTO OX	2-POSITION SELECTOR SWITCH
OFF HAND AUTO XOO OOX	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)
	N.O. THERMAL SWITCH
	N.C. THERMAL SWITCH
	2 POLE DISCONNECT SWITCH
	3 POLE DISCONNECT SWITCH
	PHOTOCELL
	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
GND	GROUND BUS OR TERMINAL
S/N	NEUTRAL BUS
	GROUND, GROUND ROD, GROUND BUS
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
P	TYPE S1 CUTOUT HANDLE REMOVED (MFRD BY CROUSE-HINDS, MANAIRCO, AND OTHERS)
I	TYPE S1 CUTOUT HANDLE INSERTED (MFRD BY CROUSE-HINDS, MANAIRCO, AND OTHERS)
	TYPE SCO CUTOUT (MFRD BY ADB)
	TYPE ALSC AIRFIELD LIGHTING SAFETY CUTOUT (MFRD BY ADB)
	L-830 SERIES ISOLATION TRANSFORMER

ELECTRICAL ABBREVIATIONS

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

ELECTRICAL ABBREVIATIONS (CONTINUED)

PB	PULL BOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UL	UNDERWRITER'S LABORATORIES
V	VOLTS
W/	WITH
W/O	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS

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

NOTES:

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

   120/240 VAC, 1 PHASE, 3 WIRE

PHASE A	BLACK
PHASE C	BLUE
NEUTRAL	WHITE
GROUND	GREEN

6. SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
7. ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES UL LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE, TO MAINTAIN THE NEMA 4, 4X RATING.
8. 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".
9. RESPECTIVE POWER SOURCES FOR EACH PANEL, EQUIPMENT, AIRFIELD LIGHT, SIGN, NAVAID, OR OTHER DEVICE SHALL BE VERIFIED PRIOR TO WORKING ON, RELOCATING, REMOVING, DISCONNECTING, AND/OR INSTALLING THE RESPECTIVE DEVICES. SHUT OFF, LOCKOUT, AND TAGOUT FOR PROTECTION OF PERSONNEL.
10. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS AND OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, RACEWAY, JUNCTION STRUCTURE OR HANDHOLE.

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024 LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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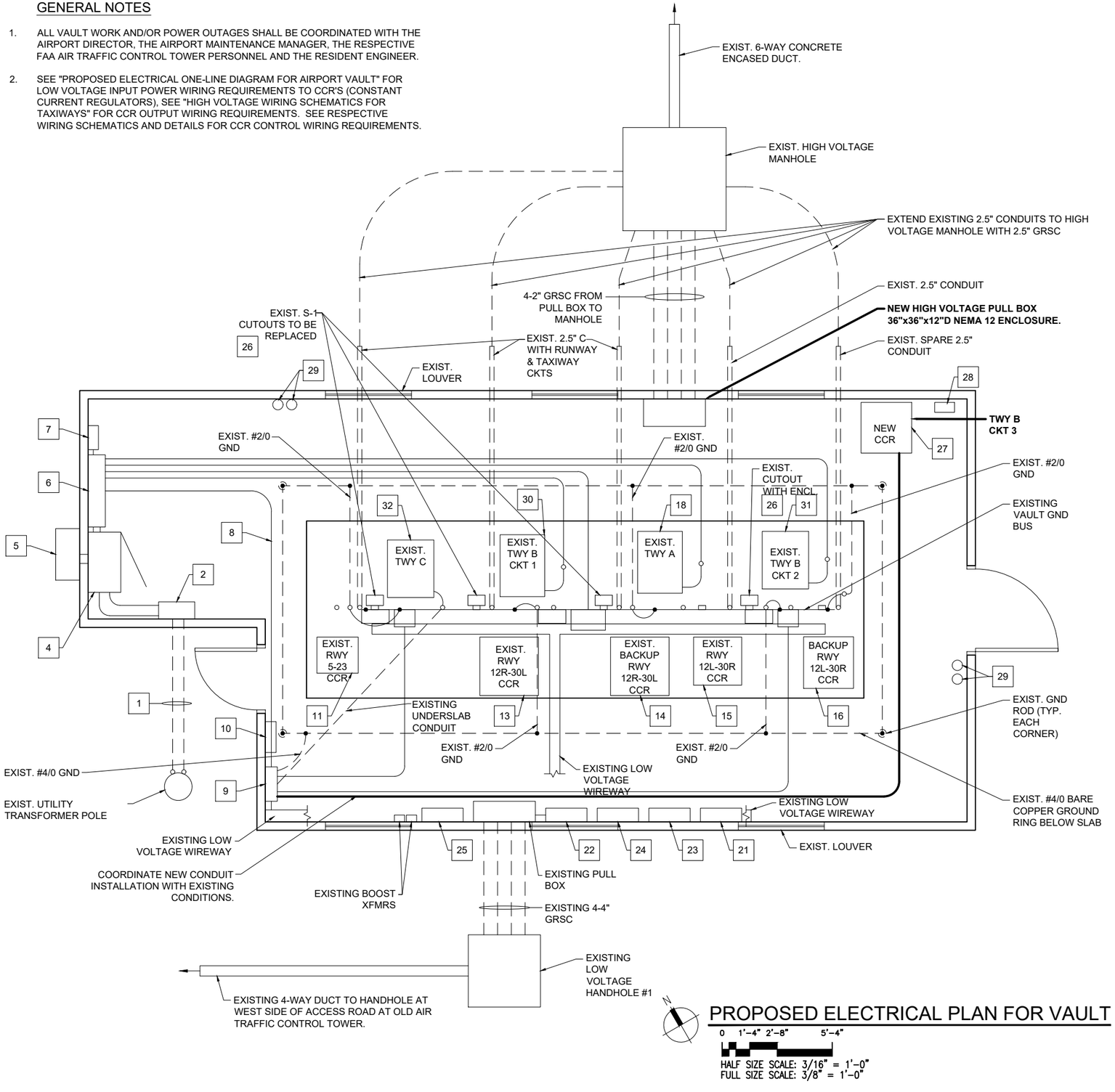
SHEET TITLE

ELECTRICAL LEGEND AND ABREVIATIONS

GENERAL NOTES

1. ALL VAULT WORK AND/OR POWER OUTAGES SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR, THE AIRPORT MAINTENANCE MANAGER, THE RESPECTIVE FAA AIR TRAFFIC CONTROL TOWER PERSONNEL AND THE RESIDENT ENGINEER.

2. SEE "PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT" FOR LOW VOLTAGE INPUT POWER WIRING REQUIREMENTS TO CCR'S (CONSTANT CURRENT REGULATORS), SEE "HIGH VOLTAGE WIRING SCHEMATICS FOR TAXIWAYS" FOR CCR OUTPUT WIRING REQUIREMENTS. SEE RESPECTIVE WIRING SCHEMATICS AND DETAILS FOR CCR CONTROL WIRING REQUIREMENTS.



PROPOSED ELECTRICAL PLAN FOR VAULT

0 1'-4" 2'-8" 5'-4"

HALF SIZE SCALE: 3/16" = 1'-0"
FULL SIZE SCALE: 3/8" = 1'-0"

KEYED NOTES

1. EXIST. UNDERGROUND 800 AMP, 120/240 VAC, 1PH, 3W SERVICE;
2. EXIST. 800 AMP, 2 POLE CIRCUIT BREAKER SERVICE ENTRANCE DISCONNECT SWITCH.
3. RESERVED.
4. EXIST. 800 AMP, 120/240 VAC, 1 PHASE AUTO TRANSFER SWITCH IN A NEMA 12 ENCLOSURE.
5. EXIST. 800 AMP, 120/240 VAC, 1 PHASE PORTABLE GENERATOR CONNECTION BOX.
6. EXIST. MAIN DISTRIBUTION PANELBOARD "A".
7. EXIST. TRANSIENT VOLTAGE SURGE SUPPRESSOR.
8. EXIST. 400 AMP FEEDER FROM PANEL A TO PANEL B.
9. EXIST. DISTRIBUTION PANELBOARD "B".
10. EXIST. TVSS.
11. EXIST. 4KW RWY 5-23 CCR.
12. RESERVED.
13. EXIST. RWY 12R-30L CCR.
14. EXIST. RWY 12R-30L BACKUP CCR.
15. EXIST. 7.5KW RWY 12L-30R CCR; PRIMARY CCR FOR RWY 12L-30R.
16. EXIST. 10KW RWY 12R-30L CCR; BACKUP UNIT FOR RWY 12L-30R CCR.
17. RESERVED
18. EXIST. 30KW TWY A CCR.
19. RESERVED
20. RESERVED
21. EXIST. TRANSFER RELAY PANEL.
22. EXIST. TERMINAL PANEL FOR 50 PAIR CONTROL CABLE.
23. EXIST. 48VDC PILOT RELAY PANEL #1.
24. EXIST. 48VDC PILOT RELAY PANEL #2.
25. EXIST. LIGHTING CONTACTOR PANEL.
26. **REMOVE EXISTING S-1 CUTOUT AND FURNISH AND INSTALL NEW TYPE S-1 CUTOUT IN EXISTING ENCLOSURE. (TYP EACH TAXIWAY CCR)(BASE BID)**
27. **NEW TAXIWAY B CIRCUIT 3 CCR. INTERFACE CONTROL WIRING TO EXISTING TAXIWAY "B" CIRCUIT 2 CCR SUCH THAT TAXIWAY B CIRCUIT 3 LIGHTING IS CONTROLLED BY L-821 PANEL AT ATCT BY TAXIWAY "B" CONTROL SELECTOR SWITCH. (BASE BID)**
28. **NEW S-1 CUTOUT WITH NEMA 12 ENCLOSURE FOR TAXIWAY "B" CIRCUIT 3 LIGHTING. (BASE BID)**
29. **PROVIDE TWO 10LB UL RATING 10B:C CARBON DIOXIDE FIRE EXTINGUISHERS FOR VAULT LOCATE NEAR EACH EXIT. PROVIDE TWO 10 LB UL RATING 1A: 10B:C HALOTRON FIRE EXTINGUISHERS LOCATE ADJACENT TO EACH CARBON DIOXIDE FIRE EXTINGUISHER. (BASE BID)**
30. **EXISTING 30KW TWY B CKT 1 CCR TO BE REPLACED WITH A NEW 15KW L-829 CCR. RELOCATE EXISTING CCR TO STORAGE. (ADD. ALT BID)**
31. **EXISTING 15KW TWY B CKT 2 CCR TO BE REPLACED WITH A NEW 15KW L-829 CCR. RELOCATE EXISTING TWY B, CKT 2 CCR FOR USE AS TWY C CCR. (ADD. ALT BID)**
32. **EXISTING 7.5KW TWY C CCR TO BE REPLACED WITH EXISTING TWY B CKT 2 CCR. RELOCATE EXISTING TWY C CCR FOR USE AS BACKUP CCR FOR RWY 5-23. (ADD. ALT BID)**

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PROPOSED ELECTRIAL PLAN FOR VAULT

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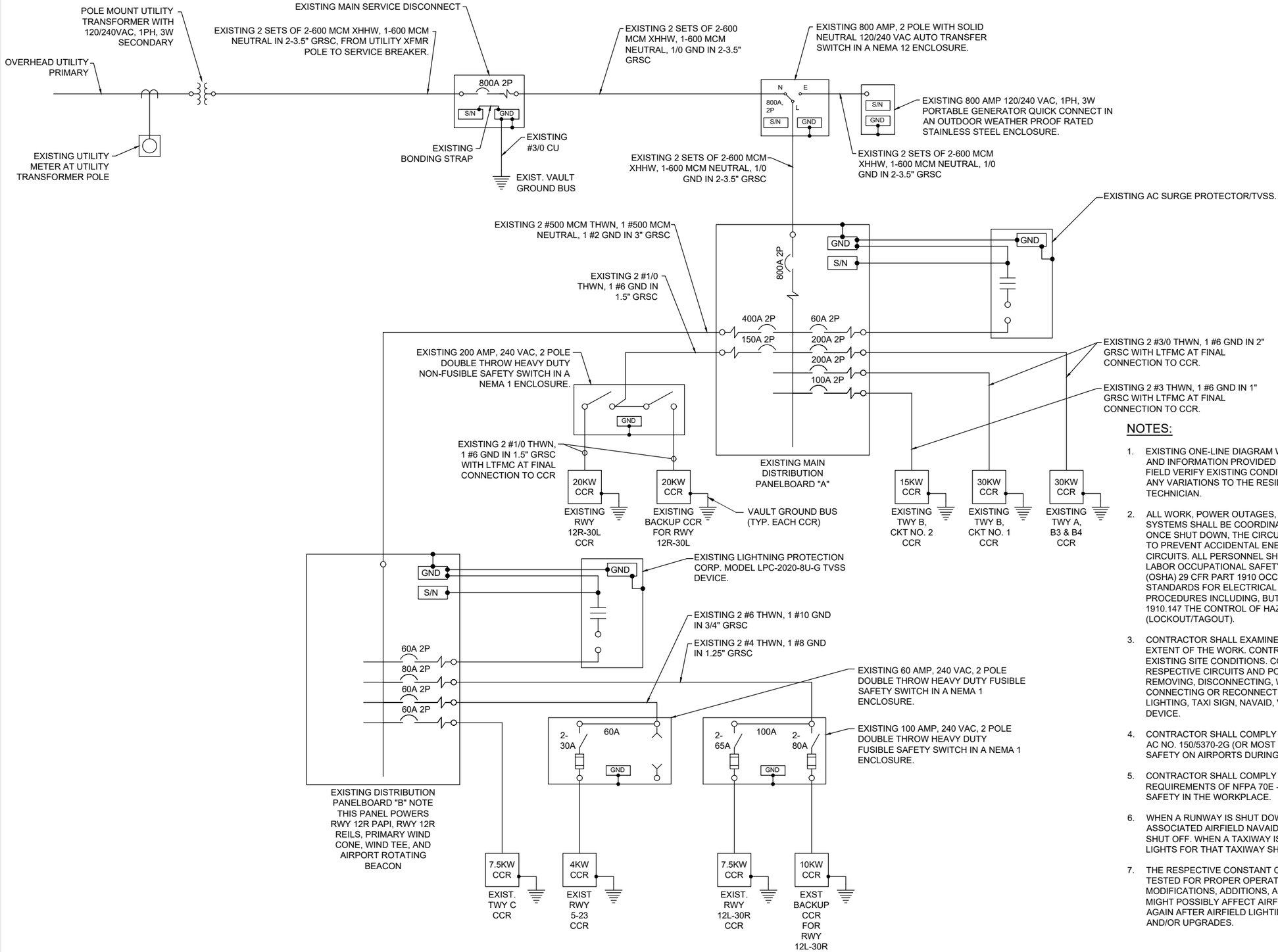

EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

NOTES:

1. 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/RESIDENT TECHNICIAN.
2. ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
3. CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE THE EXTENT OF THE WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING, DISCONNECTING, WORKING ON, RELOCATING, CONNECTING OR RECONNECTING THE RESPECTIVE AIRFIELD LIGHTING, TAXI SIGN, NAVAID, VAULT EQUIPMENT OR OTHER DEVICE.
4. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2G (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
5. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
6. WHEN A RUNWAY IS SHUT DOWN THE RUNWAY LIGHTING AND ASSOCIATED AIRFIELD NAVAIDS FOR THAT RUNWAY SHALL BE SHUT OFF. WHEN A TAXIWAY IS SHUT DOWN THE TAXIWAY LIGHTS FOR THAT TAXIWAY SHALL BE SHUT OFF.
7. THE RESPECTIVE CONSTANT CURRENT REGULATORS SHALL BE TESTED FOR PROPER OPERATION BEFORE REMOVAL WORK, MODIFICATIONS, ADDITIONS, AND/OR ANY AIRFIELD WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS, AND AGAIN AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS AND/OR UPGRADES.

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EXISTING ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

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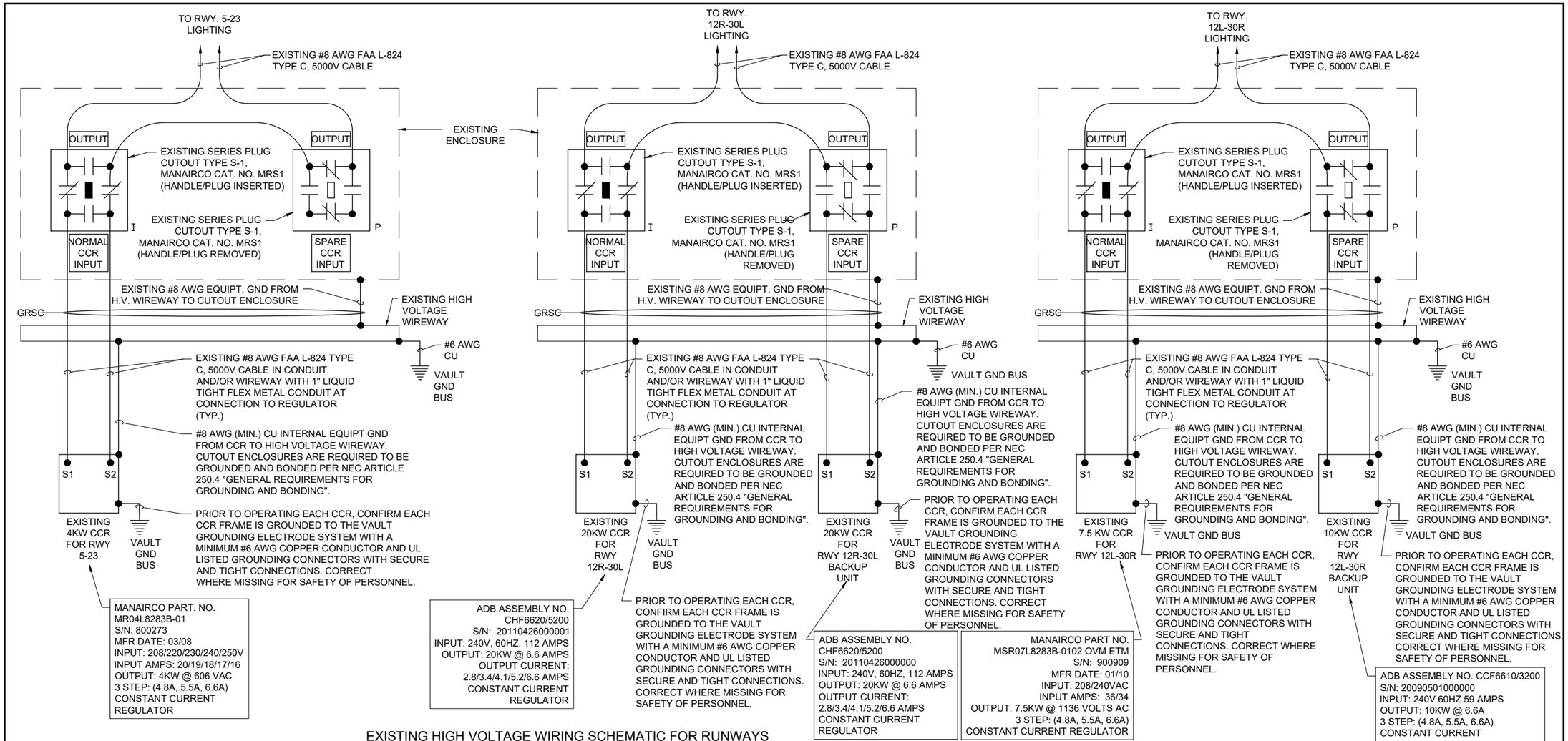

EXISTING HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAYS

NOTES

1. KEEP ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS COORDINATED WITH THE AIRPORT MANAGER/DIRECTOR AND 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). WHERE THE FACILITY IS NOT EQUIPPED WITH LOCKOUT/TAGOUT EQUIPMENT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT. WHERE EXISTING ELECTRICAL EQUIPMENT DOES NOT HAVE FEATURES FOR LOCKOUT/TAGOUT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT AND MEASURES TO ENSURE THE COMPLIANCE WITH OSHA LOCKOUT/TAGOUT PROCEDURES. FAILURE TO SHUT DOWN AND LOCKOUT THE CIRCUIT PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THE SYSTEM. COMPLIANCE WITH LOCKOUT/TAGOUT PROCEDURES AND ALL OTHER SAFETY PROCEDURES AND REQUIREMENTS ARE THE RESPONSIBILITY OF EACH INDIVIDUAL, THE CONTRACTOR, THE RESPECTIVE MAINTENANCE PERSONNEL, AND ANY OTHER PERSONNEL WORKING ON THE EQUIPMENT OR ELECTRICAL SYSTEM.
2. EXAMINE THE SITE TO CONFIRM AND FIELD VERIFY EXISTING SITE CONDITIONS.
3. 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, VAULT EQUIPMENT, 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 AND THE RESIDENT PROJECT REPRESENTATIVE. CONTRACTOR SHALL FOLLOW LOCKOUT/TAGOUT PROCEDURES TO COMPLY WITH OSHA REQUIREMENTS.
4. IDENTIFY EACH RESPECTIVE CIRCUIT PRIOR TO PERFORMING WORK ON THAT CIRCUIT. CONTRACTOR SHALL ARRANGE TO SHUTOFF, DISCONNECT, AND LOCKOUT/TAGOUT CIRCUITS WHEN WORKING ON THE RESPECTIVE AIRFIELD LIGHTING SYSTEMS FOR SAFETY OF PERSONNEL.
5. NOTE: SOME OF THE EXISTING RUNWAY LIGHTING CIRCUITS HAVE BEEN OBSERVED TO BE IN VERY POOR TO DANGEROUS CONDITIONS. EXERCISE CAUTION AND SAFETY PROCEDURES WHEN WORKING ON AIRFIELD LIGHTING SYSTEMS.
6. NEVER REMOVE OR INSERT A CUTOUT WITH THE CIRCUIT ENERGIZED. SHUTOFF CIRCUITS PRIOR TO PULLING OR INSERTING A SERIES PLUG CUTOUT.
7. 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. NEC DEFINES A QUALIFIED PERSON AS "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED."
8. 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.
9. 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 ENGINEER OF RECORD (EOR) WITHIN 5 DAYS OF CONDUCTING TESTS.
10. 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 TOT HE RESIDENT PROJECT REPRESENTATIVE AND THE ENGINEER OF RECORD (EOR). WRITTEN TEST RESULTS SHALL BE PROVIDED TO THE RESIDENT PROJECT REPRESENTATIVE AND THE ENGINEER OF RECORD (EOR).

LEGEND

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

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EXISTING HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAYS

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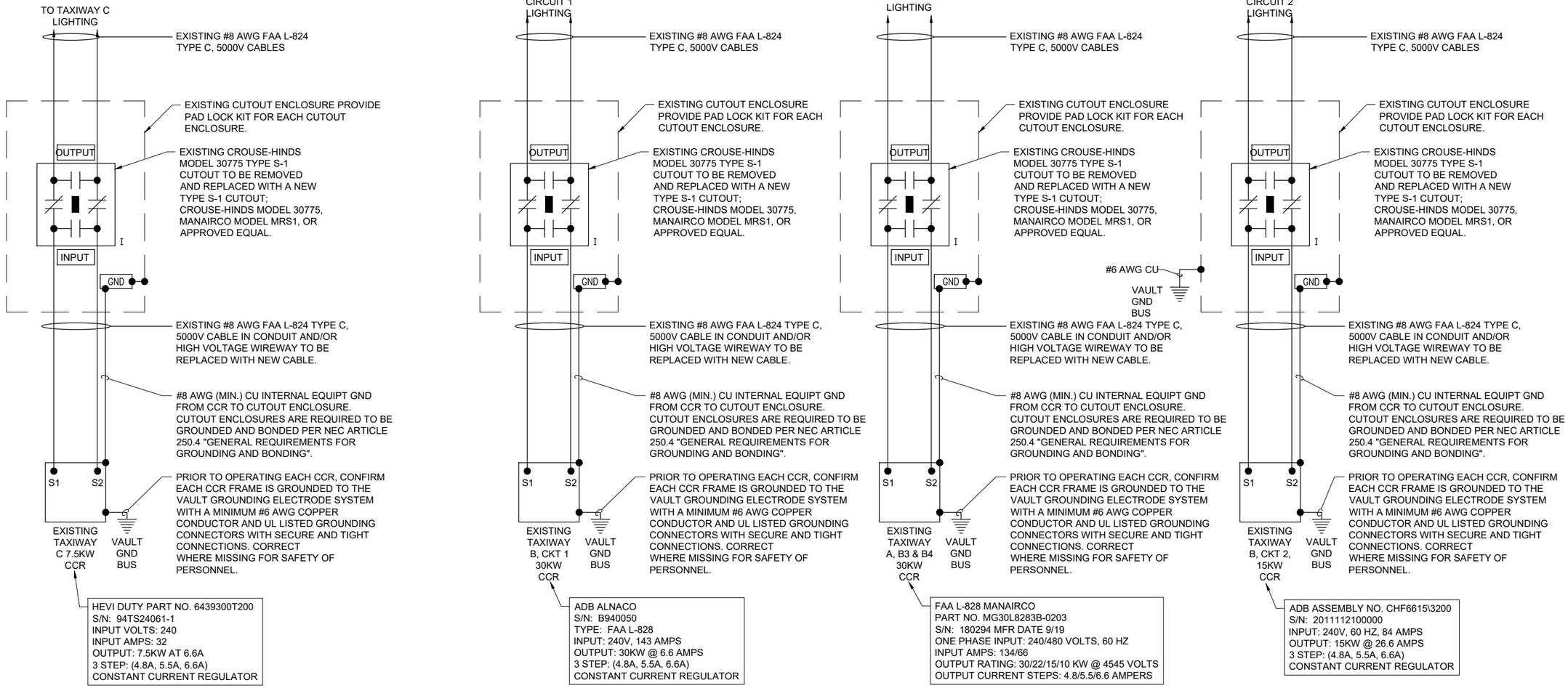

EXISTING HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS

NOTES

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"P"	DENOTES PLUG CUTOUT WITH PLUG PULLED
"CCR"	DENOTES CONSTANT CURRENT REGULATOR

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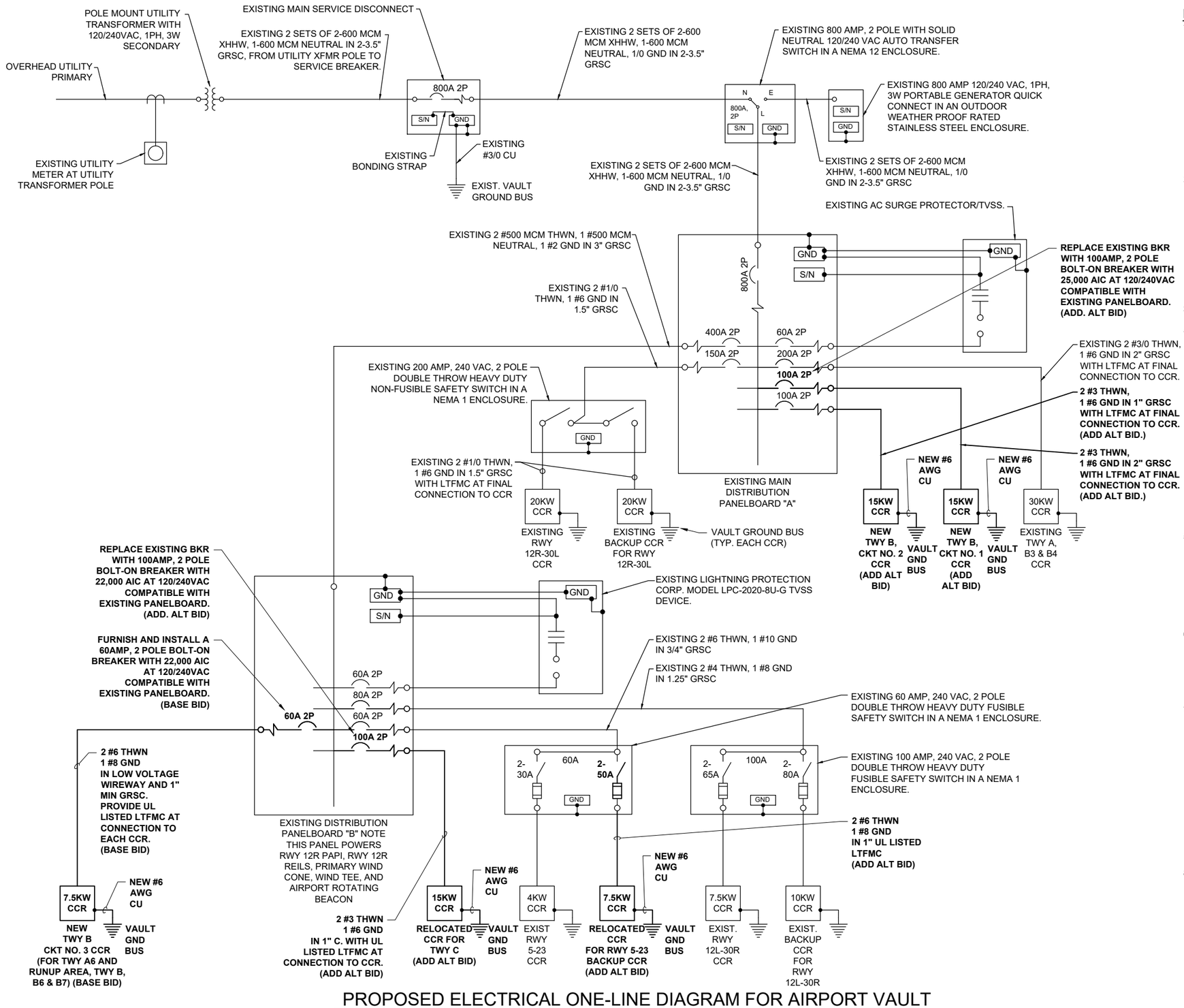
SHEET TITLE

EXISTING HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS



PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

FOR BID

NOTES

1. ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
2. 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.
3. ALL CONDUCTORS/WIRING SHALL BE COPPER.
4. COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 4 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 3 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

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

5. CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CONSTANT CURRENT REGULATOR (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKER, FUSES, WIRE SIZES & CONDUIT SIZES TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
6. HIGH VOLTAGE CIRCUITS (AIRFIELD LIGHTING 5000 VOLT SERIES CIRCUITS OR OTHER CIRCUITS RATED ABOVE 600 VOLTS) AND LOW VOLTAGE CIRCUITS (RATED 600 VOLTS AND BELOW) SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, HANDHOLE, JUNCTION BOX, OR RACEWAY.
7. LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.
8. EQUIPMENT AND MATERIALS NOT LABELED AS "EXISTING" ARE NEW.

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

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PROJECT NO: 23A0001D
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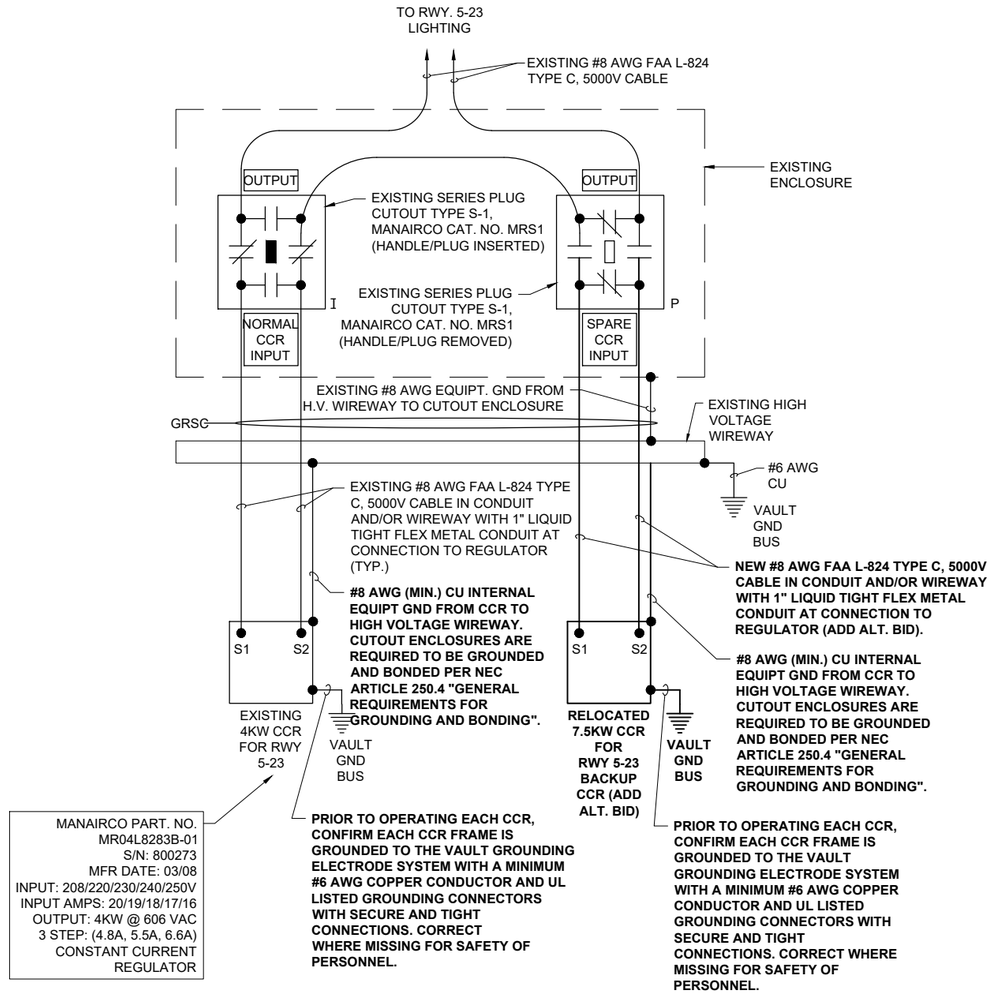
DESIGN BY: KNL 3/2/2024
DRAWN BY: CWS 3/11/2024
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR AIRPORT VAULT

APR 30, 2024 12:47 PM HERND01562
I:\23JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\E-604



PROPOSED HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAYS

NOTES:

1. KNOW 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, VAULT EQUIPMENT, 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 AND THE RESIDENT PROJECT REPRESENTATIVE. CONTRACTOR SHALL FOLLOW LOCKOUT/TAGOUT PROCEDURES FOR SAFETY PERSONNEL.
2. EQUIPMENT AND MATERIALS NOT LABELED AS EXISTING ARE NEW.
3. VERIFY EACH CUTOUT IS PROVIDED WITH LEGEND PLATES TO IDENTIFY THE RESPECTIVE CUTOUT INPUT AND OUTPUT.
4. INCLUDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
5. NOTE THE EXISTING TAXIWAY LIGHTING CIRCUITS HAVE BEEN OBSERVED TO BE IN VERY POOR TO DANGEROUS CONDITION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND CIRCUITS. CONTRACTOR WILL NEED TO EXERCISE CAUTION WHEN WORKING IN THE VAULT AND ON THE AIRFIELD.
6. NEVER REMOVE OR INSERT A CUTOUT WITH THE CIRCUIT ENERGIZED. SHUTOFF CIRCUITS PRIOR TO PULLING OR INSERTING A SERIES PLUG CUTOUT.
7. 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.
8. INSTALL UL LISTED FIRE STOP MATERIAL AT EACH CONDUIT ENTRY AND EXIT TO EACH RESPECTIVE CUTOUT ENCLOSURE (EXISTING AND NEW).
9. SERIES CIRCUIT DISCONNECTS/CUTOUTS ARE REQUIRED TO ACCOMODATE MAINENANCE PROCEDURES AS NOTED IN FAA AC 150/5340-26C AND IN ACCORDANCE WITH FAA AC 150/5340-30J, PART 3.5.5 CONSTANT CURRENT REGULATORS (CCRS). SERIES PLUG CUTOUTS SHALL BE TYPE S-1, RATED 5000 VOLTS, 20-AMP, SERIES PLUG CUTOUTS SHALL BE RATED SUITABLE FOR NORMAL OPERATIONS WITH HANDLE REMOVED OR HANDLE INSERTED. CUTOUTS SHALL DISCONNECT THE INPUT FROM THE OUTPUT, SHORT TERMINALS, AND SHORT THE OUTPUT TERMINALS WHEN THE HANDLE/PLUG IS REMOVED. SERIES PLUG CUTOUTS SHALL BE CROUSE-HINDS CAT. NO. 30775, OR APPROVED EQUAL THE RESPECTIVE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEIR CUTOUT IS SUITABLE AND RATED FOR THE RESPECTIVE APPLICATION.
10. EACH REGULATOR FRAME SHALL BE BONDED TO VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER.
11. OTHER PROJECTS MAY BE UNDER CONSTRUCTION DURING THIS PROJECT. COORDINATE WORK WITH OTHER CONTRACTORS.
12. RESPECTIVE LOW VOLTAGE WIRING SHALL ENTER RESPECTIVE CCR AT THE LOW VOLTAGE SECTION. HIGH VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE HIGH VOLTAGE SECTION. MAINTAIN SEPERATION OF HIGH VOLTAGE WIRING (AIRFIELD LIGHTING 5000 VOLTS 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.
13. WORK NOT LABELED AS "ADD ALT. BID" IS BASE BID WORK.

LEGEND

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

FOR BID

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

NO.	DATE	DESCRIPTION		
		DES	DWN	REV

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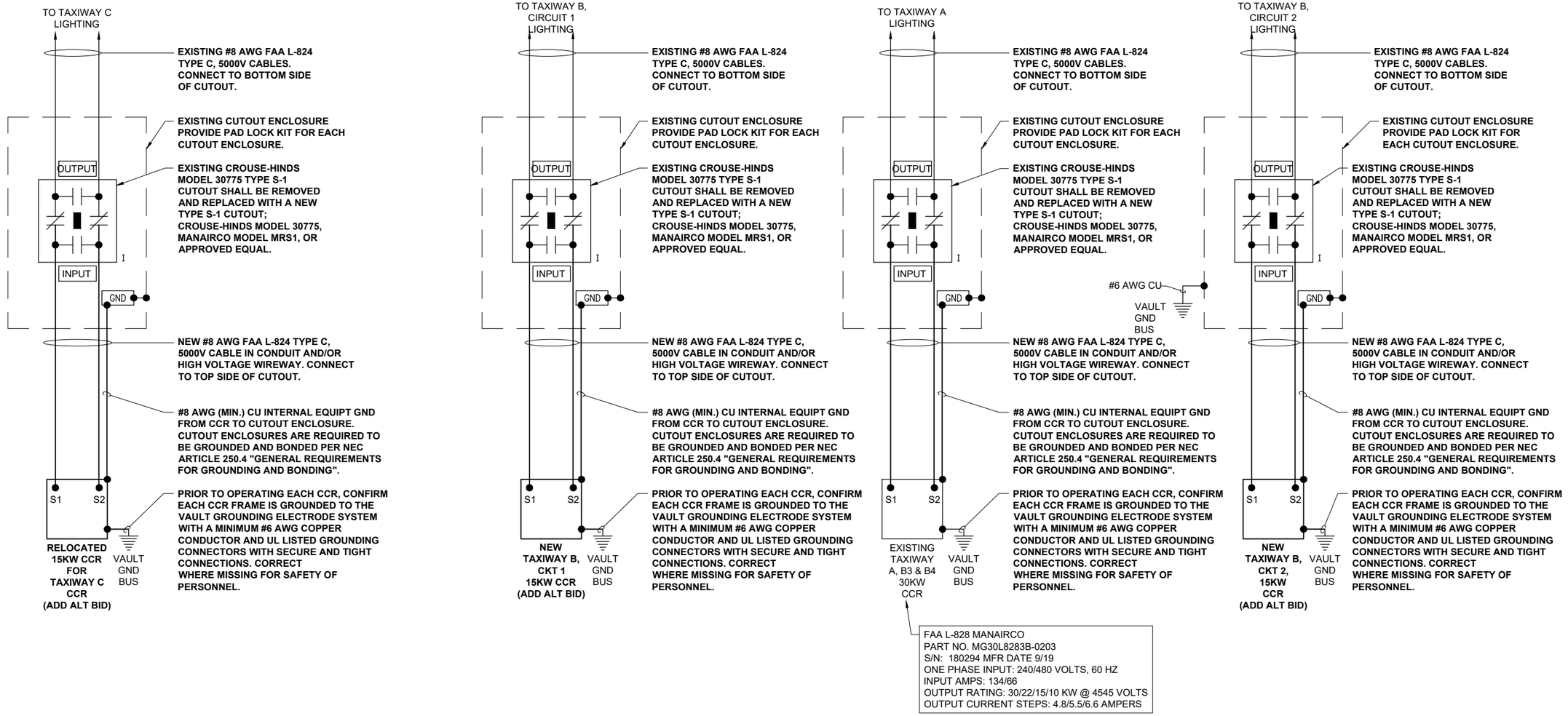
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

PROPOSED HIGH VOLTAGE WIRING SCHEMATIC FOR RUNWAY 5-23



PROPOSED HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS

NOTES:

1. KNOW 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, VAULT EQUIPMENT, 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 AND THE RESIDENT PROJECT REPRESENTATIVE. CONTRACTOR SHALL FOLLOW LOCKOUT/TAGOUT PROCEDURES FOR SAFETY PERSONNEL.
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4. INCLUDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
5. NOTE THE EXISTING TAXIWAY LIGHTING CIRCUITS HAVE BEEN OBSERVED TO BE IN VERY POOR TO DANGEROUS CONDITION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND CIRCUITS. CONTRACTOR WILL NEED TO EXERCISE CAUTION WHEN WORKING IN THE VAULT AND ON THE AIRFIELD.
6. NEVER REMOVE OR INSERT A CUTOUT WITH THE CIRCUIT ENERGIZED. SHUTOFF CIRCUITS PRIOR TO PULLING OR INSERTING A SERIES PLUG CUTOUT.
7. 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.
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9. SERIES CIRCUIT DISCONNECTS/CUTOUTS ARE REQUIRED TO ACCOMODATE MAINENANCE PROCEDURES AS NOTED IN FAA AC 150/5340-26C AND IN ACCORDANCE WITH FAA AC 150/5340-30J, PART 3.5.5 CONSTANT CURRENT REGULATORS (CCRS). SERIES PLUG CUTOUTS SHALL BE TYPE S-1, RATED 5000 VOLTS, 20-AMP, SERIES PLUG CUTOUTS SHALL BE RATED SUITABLE FOR NORMAL OPERATIONS WITH HANDLE REMOVED OR HANDLE INSERTED. CUTOUTS SHALL DISCONNECT THE INPUT FROM THE OUTPUT, SHORT TERMINALS, AND SHORT THE OUTPUT TERMINALS WHEN THE HANDLE/PLUG IS REMOVED. SERIES PLUG CUTOUTS SHALL BE CROUSE-HINDS CAT. NO. 30775, OR APPROVED EQUAL THE RESPECTIVE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEIR CUTOUT IS SUITABLE AND RATED FOR THE RESPECTIVE APPLICATION.
10. EACH REGULATOR FRAME SHALL BE BONDED TO VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER.
11. OTHER PROJECTS MAY BE UNDER CONSTRUCTION DURING THIS PROJECT. COORDINATE WORK WITH OTHER CONTRACTORS.
12. RESPECTIVE LOW VOLTAGE WIRING SHALL ENTER RESPECTIVE CCR AT THE LOW VOLTAGE SECTION. HIGH VOLTAGE WIRING SHALL ENTER THE RESPECTIVE CCR AT THE HIGH VOLTAGE SECTION. MAINTAIN SEPERATION OF HIGH VOLTAGE WIRING (AIRFIELD LIGHTING 5000 VOLTS 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.
13. WORK NOT LABELED AS "ADD ALT. BID" IS BASE BID WORK.

LEGEND

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

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024 LICENSE EXPIRES: 11/30/2025

TAXIWAY B RELOCATION, PHASE 3: SOUTHEAST & TAXIWAY B1 INTERSECTION

IDA NO.: CPS-5078
CONTRACT NO.: SD064

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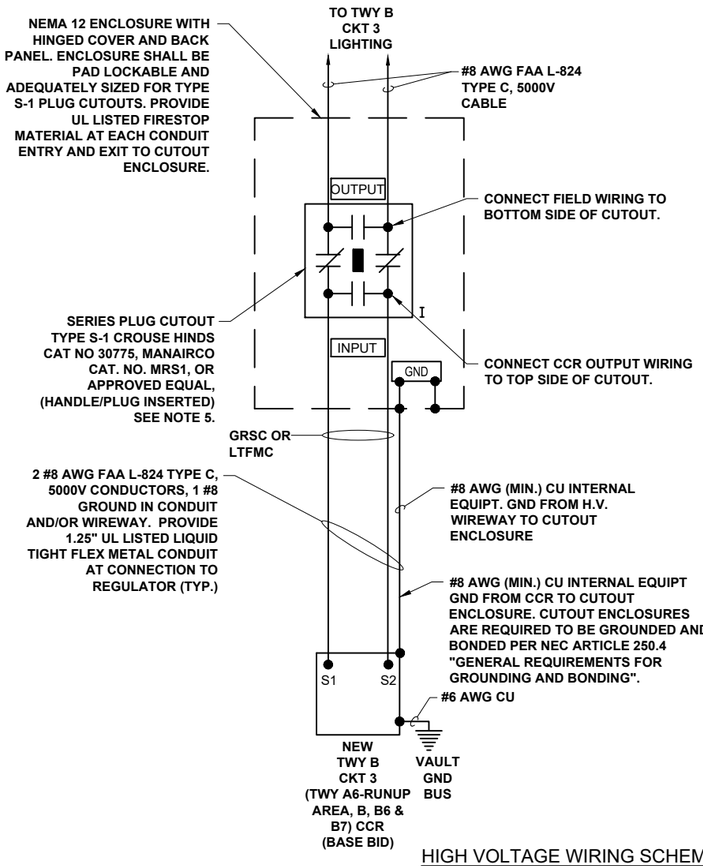
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

PROPOSED HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAYS

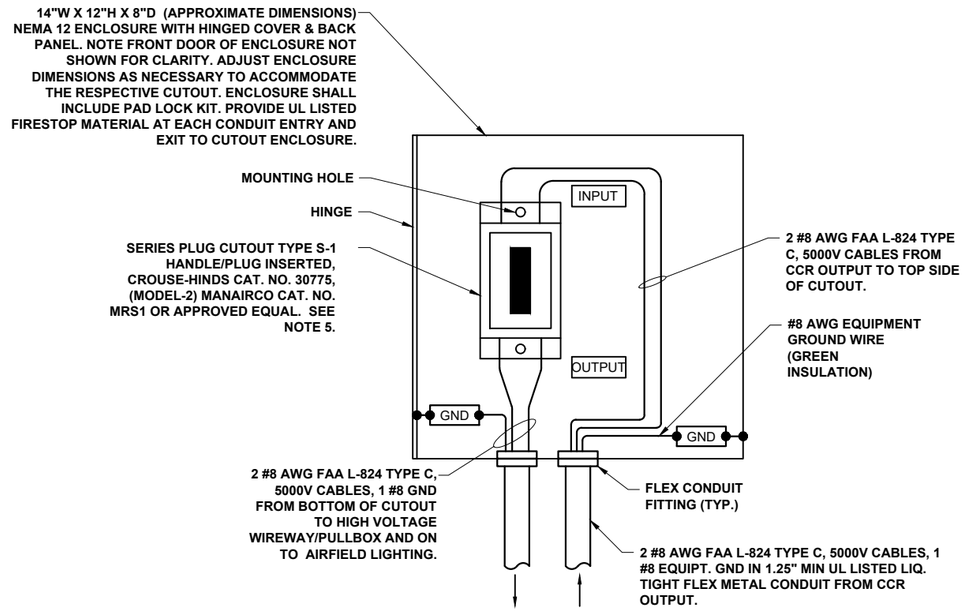
APR 30, 2024 12:47 PM HERND01562
I:\23\JOBS\23A0001D\CAD\AIRPORT\SHEET\2024 CPS-5078 SHEETS\E-605-SCHM



HIGH VOLTAGE WIRING SCHEMATIC FOR TAXIWAY TWY B CKT 3 (TAXIWAY A6-RUNUP AREA, B, B6 & B7) LIGHTING

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 LIGHTING

NOTES:

1. PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CONSTANT CURRENT REGULATOR NOTING THE REGULATOR DESIGNATION AND THE RUNWAY 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 "FLASH PROTECTION". PROVIDE PHENOLIC ENGRAVED LEGEND PLATES FOR EACH CUTOUT TO IDENTIFY THE RESPECTIVE CUTOUT INPUT CONNECTION AND THE RESPECTIVE CUTOUT OUTPUT CONNECTION.
3. PROVIDE ADEQUATE WORKING SPACE IN FRONT OF EACH CUTOUT ENCLOSURE TO MEET NEC CLEARANCE REQUIREMENTS.
4. 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 INSTALLATION
5. SERIES PLUG CUTOUTS SHALL BE TYPE S-1, RATED 5000 VOLTS, 20-AMP, AND VERIFIED BY THE MANUFACTURER AS SUITABLE FOR THE RESPECTIVE APPLICATION. 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 SHALL BE CROUSE-HINDS CAT. NO. 30775, MANAIRCO CAT. NO. MRS1 OR APPROVED EQUAL. THE RESPECTIVE MANUFACTURER SHALL CERTIFY IN WRITING THAT THEIR CUTOUT IS SUITABLE AND RATED FOR THE RESPECTIVE APPLICATION.
6. 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.
7. 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
8. PROVIDE UL LISTED FIRE STOP MATERIAL AT EACH CONDUIT ENTRY AND EXIT TO EACH RESPECTIVE CUTOUT ENCLOSURE.
9. BOND ALL REGULATORS TO THE RESPECTIVE VAULT GROUND BUS WITH A DEDICATED #6 AWG BONDING JUMPER FOR EACH REGULATOR.

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IDA NO.: CPS-5078
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ISSUE: APRIL 19, 2024
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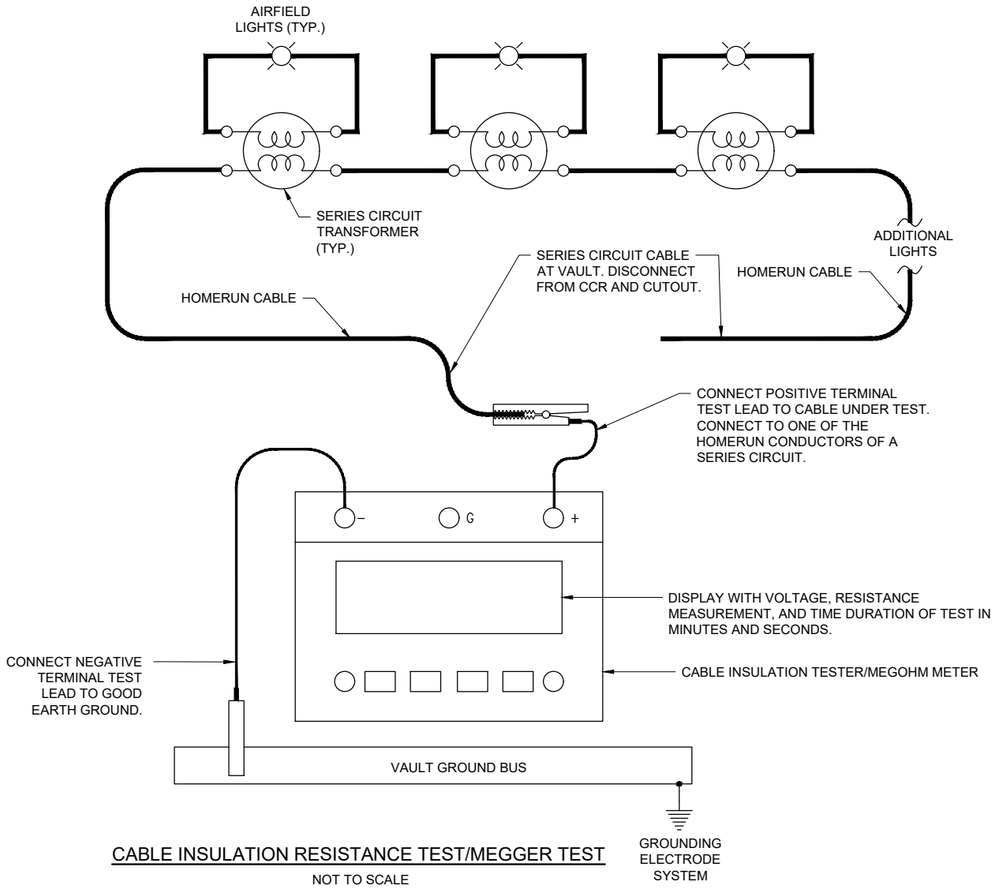
REVIEWED BY: KNL 3/21/2024

SHEET TITLE

HIGH VOLTAGE WIRING SCHEMATIC FOR TWY B CKT 3 LIGHTING

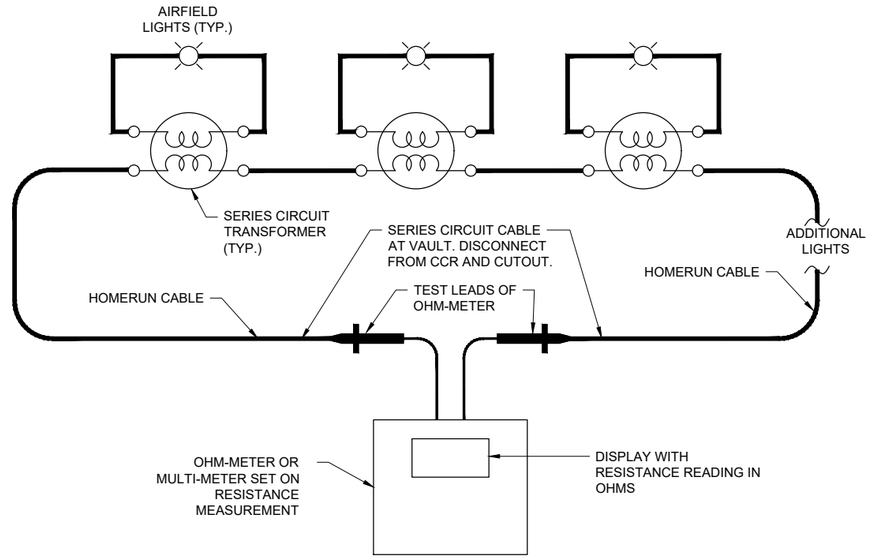


CABLE INSULATION RESISTANCE TEST/MEGGER TEST

NOT TO SCALE

CABLE INSULATION RESISTANCE TEST (MEGGER TEST) NOTES

1. PRIOR TO BEGINNING EXCAVATIONS, AIRFIELD LIGHTING MODIFICATIONS, CABLE INSTALLATION, AND/OR ANY OTHER WORK THAT MIGHT POSSIBLY AFFECT AIRFIELD LIGHTING CIRCUITS, ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT.
2. AFTER AIRFIELD LIGHTING MODIFICATIONS, ADDITIONS, UPGRADES, AND/OR OTHER WORK AND ADDITIONS HAVE BEEN COMPLETED ALL EXISTING SERIES CIRCUIT LIGHTING CABLES SHALL BE MEGGER TESTED WITH AN INSULATION RESISTANCE TESTER AND RECORDED AT THE RESPECTIVE AIRPORT ELECTRICAL VAULT.
3. THE CONTRACTOR IS RESPONSIBLE TO EMPLOY THE SERVICES OF PERSONNEL QUALIFIED, FAMILIAR WITH, AND TRAINED TO PERFORM THE RESPECTIVE TESTS, AND QUALIFIED TO WORK ON 5000 VOLT AIRFIELD LIGHTING SERIES CIRCUITS, CONSTANT CURRENT REGULATORS, AND ASSOCIATED AIRPORT ELECTRICAL VAULT EQUIPMENT.
4. INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 5,000 VOLT SERIES CIRCUIT CABLES SHALL USE AN INSULATION RESISTANCE TESTER CAPABLE OF TESTING THE CABLES AT 5,000 VOLTS. OLDER SERIES CIRCUIT CABLES AND/OR CABLES IN POOR CONDITION MAY REQUIRE THE TEST VOLTAGE TO BE PERFORMED AT A VOLTAGE LOWER THAN 5,000 VOLTS (EXAMPLE 1,000 VOLTS, 500 VOLTS, OR LESS THAN 500 VOLTS). THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST RESULT.
5. INSULATION RESISTANCE TESTING EQUIPMENT FOR USE WITH 600 VOLT RATED CABLES SHALL USE A 500 VOLT INSULATION RESISTANCE TESTER. THE RESPECTIVE TEST VOLTAGE SHALL BE RECORDED FOR EACH CABLE INSULATION RESISTANCE TEST RESULT.
6. IT IS RECOMMENDED TO USE THE SAME INSULATION RESISTANCE TEST EQUIPMENT THROUGHOUT THE PROJECT TO ENSURE RELIABLE COMPARATIVE READINGS AT THE BEGINNING OF THE PROJECT AND AT THE COMPLETION OF THE PROJECT.
7. DISCONNECT THE AIRFIELD LIGHTING SERIES CIRCUIT CABLES FROM THE CONSTANT CURRENT REGULATOR WHEN PERFORMING CABLE INSULATION RESISTANCE TESTS (MEGGER TESTS). TEST THE CABLES THAT GO TO THE AIRFIELD FOR THE RESPECTIVE AIRFIELD LIGHTING SERIES CIRCUIT. CONNECT THE CABLE INSULATION RESISTANCE TESTER TO ONE OF THE AIRFIELD LIGHTING SERIES CIRCUIT CABLES AND TO A GOOD GROUND IN THE AIRPORT ELECTRICAL VAULT SUCH AS THE AIRPORT VAULT GROUND BUS. CONDUCT THE CABLE INSULATION RESISTANCE TEST ON EACH RESPECTIVE CABLE FOR NOT LESS THAN 90 SECONDS. RECORD THE TEST RESULTS AT THE END OF THE TIME DURATION FOR THE TEST.
8. FAA ADVISORY CIRCULAR 150/5340-26C MAINTENANCE OF AIRPORT VISUAL AID FACILITIES PROVIDES GUIDANCE ON INSULATION RESISTANCE TESTS. ALSO REFER TO THE USER MANUAL FOR THE RESPECTIVE CABLE INSULATION RESISTANCE TESTER. REASONABLY NEW SERIES CIRCUIT CABLES AND TRANSFORMERS WITH GOOD CONNECTIONS SHOULD READ 500 MEGA-OHMS TO 1,000 MEGA-OHMS OR HIGHER. THE READINGS SHOULD DECREASE WITH AGE. THE RESISTANCE VALUE DECLINES OVER THE SERVICE LIFE OF THE CIRCUIT; A 10-20 PERCENT DECLINE PER YEAR MAY BE CONSIDERED NORMAL. A YEARLY DECLINE OF 50 PERCENT (4 PERCENT MONTHLY) OR GREATER INDICATES THE EXISTENCE OF A PROBLEM, SUCH AS A HIGH RESISTANCE GROUND, SERIOUS DETERIORATION OF THE CIRCUIT INSULATION, LIGHTNING DAMAGE, BAD CONNECTIONS, BAD SPLICES, CABLE INSULATION DAMAGE, OR OTHER FAILURE. FAA ADVISORY CIRCULAR 150/5340-26C NOTES “GENERALLY SPEAKING, ANY CIRCUIT THAT MEASURES LESS THAN 1 MEGOHM IS CERTAINLY DESTINED FOR RAPID FAILURE.” AIRFIELD LIGHTING SERIES CIRCUITS WITH CABLE INSULATION READINGS OF LESS THAN 1 MEGOHM ARE NOT UNCOMMON FOR OLDER CIRCUITS THAT ARE 20 YEARS OR MORE OF AGE.
9. BASED ON INFORMATION IN FAA AC NO. 150/5340-26C MAINTENANCE OF AIRPORT VISUAL AID FACILITIES, THE CABLE INSULATION RESISTANCE VALUE INEVITABLY DECLINES OVER THE SERVICE LIFE OF THE CIRCUIT; A 10-20 PERCENT DECLINE PER YEAR MAY BE CONSIDERED NORMAL. IN THE EVENT THAT THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH IT MIGHT INDICATE CABLE DAMAGE DUE TO LIGHTNING OR DAMAGE AS A RESULT OF CONTRACTOR OPERATIONS. WHERE THE CABLE INSULATION RESISTANCE READINGS HAVE DECLINED MORE THAN 2 PERCENT PER MONTH OVER THE PROJECT CONSTRUCTION DURATION AS A RESULT OF CONTRACTOR OPERATIONS, CONTRACTOR WILL NEED TO INVESTIGATE, ADDRESS, AND REPAIR THE RESPECTIVE CABLE CIRCUITS.



MEASURE RESISTANCE OF SERIES CIRCUIT LOOP.

NOT TO SCALE

SERIES CIRCUIT LOOP RESISTANCE MEASUREMENT NOTES

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

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SERIES CIRCUIT CABLE TESTING DETAILS

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LEGEND PLATE SCHEDULE

DEVICE	LABEL
VAULT MAIN SERVICE DISCONNECT	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE)
VAULT TRANSFER SWITCH	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE)
VAULT MAIN DIST. PANEL "A"	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE). FAULT CURRENT AT VAULT MAIN DIST PANEL WAS CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE).
VAULT MAIN DISTRIBUTION PANEL "A"	VAULT MAIN DIST. PANEL "A" 120/240 VAC, 1 PH, 3W FED FROM TERMINAL BUILDING AUTO TRANSFER SWITCH
VAULT MAIN DISTRIBUTION PANEL "A"	CONDUCTOR COLOR CODING SHALL BE AS FOLLOWS: PHASE A - BLACK PHASE B - RED NEUTRAL - WHITE GROUND - GREEN
VAULT DIST. PANEL "B"	MAX AVAILABLE FAULT CURRENT AT UTILITY XFMR SECONDARY CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE). FAULT CURRENT AT VAULT DIST PANEL "B" WAS CALCULATED TO BE _____ AMPS LINE TO LINE _____ AMPS LINE TO NEUTRAL ON (DATE).
NEW TAXIWAY B CKT 3 (TWY A6-RUNUP, B, B6 & B7) CCR	TAXIWAY B CKT 3 (TWY A6-RUNUP, B, B6 & B7) CCR
CUTOUT ENCLOSURE FOR TWY B CKT 3 (TWY A6-RUNUP, B, B6 & B7) CCR	TAXIWAY B CKT 3 (TWY A6-RUNUP, B, B6 & B7) CCR
TOP OF EACH CCR (PROVIDE 12 LEGEND PLATES)	KEEP CLEAR DO NOT STORE MATERIALS ON TOP OF CCR
EACH CUTOUT INPUT SIDE CONNECTION	INPUT
EACH CUTOUT OUTPUT SIDE CONNECTION	OUTPUT
EACH CUTOUT ENCLOSURE	CAUTION OPERATE CUTOUT WITH CCRS SHUT OFF

NOTES:

1. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.
2. PER NEC 110.22 "IDENTIFICATION OF DISCONNECTING MEANS", EACH DISCONNECTING MEANS SHALL BE LEGIBLY MARKED TO INDICATE ITS PURPOSE AND IDENTIFY THE POWER SOURCE THAT SUPPLIES THE DISCONNECTING MEANS.
3. PER NEC 408.4 "FIELD MARKING REQUIRED" PART (B) "SOURCE OF SUPPLY", ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS SUPPLIED BY A FEEDER(S) SHALL BE PERMANENTLY MARKED TO INDICATED EACH DEVICE OR EQUIPMENT WHERE THE POWER ORIGINATES.
4. PER NEC 110.24 "AVAILABLE FAULT CURRENT" PART (A) "FIELD MARKING", SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE AVAILABLE FAULT CURRENT.
5. PER NEC 408.6 "SHORT-CIRCUIT CURRENT RATING", THE AVAILABLE FAULT CURRENT AND THE DATE THE CALCULATION WAS PERFORMED SHALL BE FIELD MARKED ON THE ENCLOSURE AT THE POINT OF SUPPLY.
6. VERIFY ALL POWER SOURCES TO EQUIPMENT, REPORT ANY VARIATIONS FROM THE SCHEDULE TO AIRPORT MANAGER AND ENGINEER OF RECORD, PROVIDE CORRECTIVE LABELING FOR RESPECTIVE POWER SOURCE WHERE APPLICABLE. SAFETY OF PERSONNEL IS THE PRIORITY.

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LEGEND PLATE SCHEDULES - 1

ARC FLASH RISK LABELS

EQUIPMENT	LABEL
VAULT MAIN SERVICE DISCONNECT	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
VAULT TRANSFER SWITCH	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
VAULT MAIN DISTRIBUTION PANEL "A"	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
VAULT DISTRIBUTION PANEL "B"	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
CONTROL PANEL FOR AIRFIELD NAVAIDS	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
EACH RELAY INTERFACE PANEL FOR CCRS	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120 VAC, 1 PHASE, 2-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
DOUBLE THROW SAFETY SWITCH FOR RUNWAY 5-23 CCR'S	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
DOUBLE THROW SAFETY SWITCH FOR RUNWAY 12L-30R CCR'S	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1
DOUBLE THROW SAFETY SWITCH FOR RUNWAY 12R-30L CCRS	WARNING ARC FLASH HAZARD APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED NOMINAL VOLTAGE: 120/240 VAC, 1 PHASE, 3-WIRE ARC FLASH BOUNDARY: 19 INCHES ARC-FLASH PPE CATEGORY; 1

NOTE: LABELS ARE BASED ON FAULT CURRENT FROM UTILITY TRANSFORMER THAT IS LESS THAN 25,000 AMPS AT 240 VAC.

NOTES:

1. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.

2. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH SAFETY SWITCH, PANELBOARD, LOAD CENTER, CUTOUT, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "ARC-FLASH HAZARD WARNING".

3. FAULT CURRENT INFORMATION TO BE PROVIDED BY SERVING ELECTRIC UTILITY COMPANY OR FROM DATA OBTAINED FROM UTILITY TRANSFORMER NAMEPLATE. CONTACT PROJECT ENGINEER TO CONFIRM FAULT CURRENT CALCULATIONS.

4. CONTRACTOR SHALL PROVIDE APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT, IN ACCORDANCE WITH NFPA 70E ARTICLE 130 WORK INVOLVING ELECTRICAL HAZARDS, PART 130.5 ARC FLASH RISK ASSESSMENT, (H) EQUIPMENT LABELING. WHERE MAXIMUM CALCULATED FAULT CURRENT EXCEEDS 25,000 AMPS CONTACT PROJECT ENGINEER.

"DANGER - HIGH VOLTAGE UNAUTHORIZED PERSONNEL KEEP OUT" SIGN

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.

"DANGER - HIGH VOLTAGE" SIGN

FURNISH AND INSTALL "DANGER - HIGH VOLTAGE" LABELS/SIGNS FOR EACH CUTOUT ENCLOSURE, EACH CONSTANT CURRENT REGULATOR, AND THE HIGH VOLTAGE WIREWAY, TO COMPLY WITH FAA AC 150/5340-26C "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES PART 2.11.1 WARNING SIGNS". LABELS SHALL BE APPROXIMATELY 4" X 6" OR 5" X 7".

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COVERING ELECTRICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
KEVIN N. LIGHTFOOT
062-047643
STATE OF ILLINOIS

DATE SIGNED: 4/19/2024
LICENSE EXPIRES: 11/30/2025

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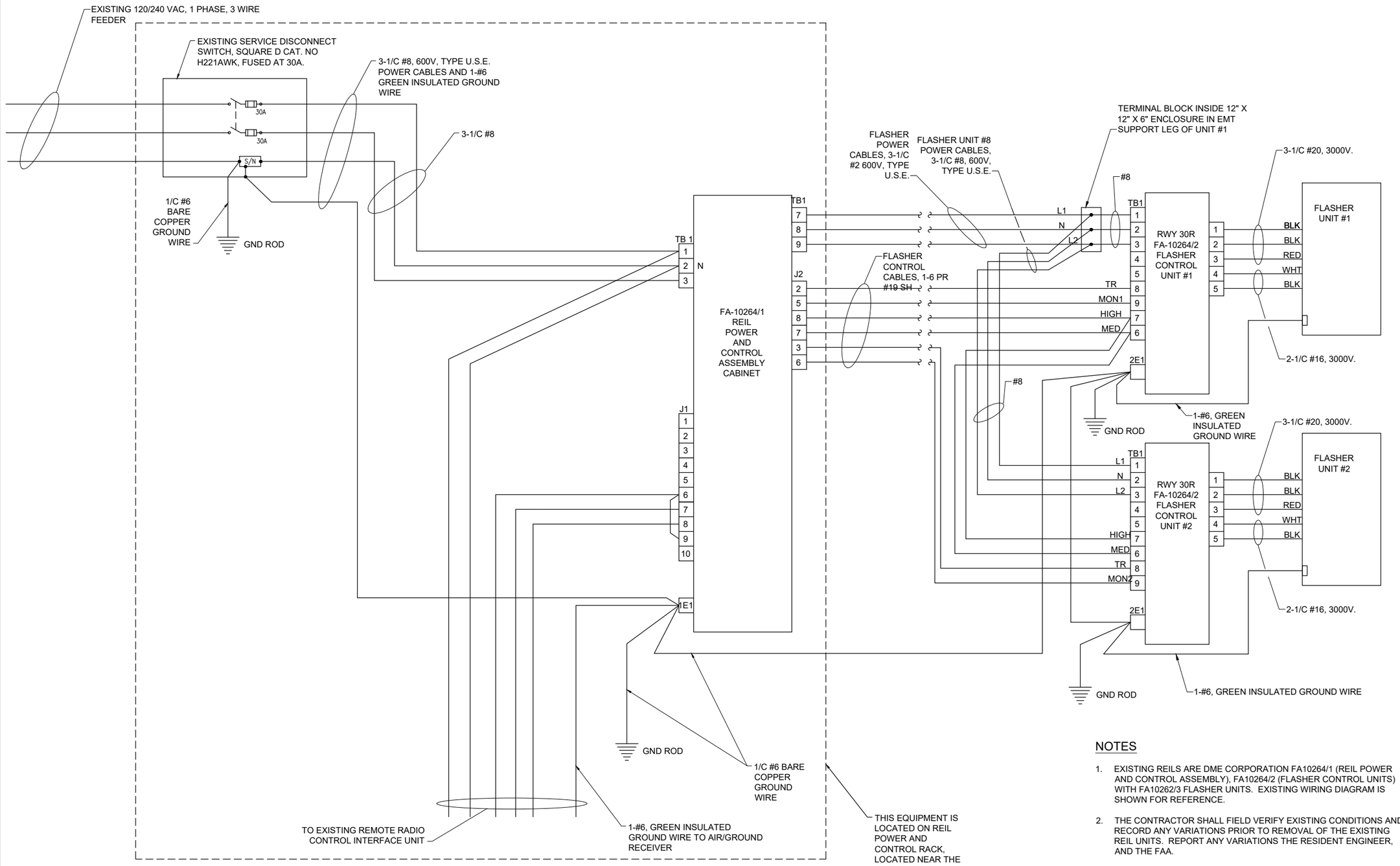
LEGEND PLATE AND SIGNAGE SCHEDULES - 2



EXISTING WIRING SCHEMATIC FOR RUNWAY 30R REILS

NOTES

1. EXISTING REILS ARE DME CORPORATION FA10264/1 (REIL POWER AND CONTROL ASSEMBLY), FA10264/2 (FLASHER CONTROL UNITS) WITH FA10262/3 FLASHER UNITS. EXISTING WIRING DIAGRAM IS SHOWN FOR REFERENCE.
2. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND RECORD ANY VARIATIONS PRIOR TO REMOVAL OF THE EXISTING REIL UNITS. REPORT ANY VARIATIONS THE RESIDENT ENGINEER, AND THE FAA.
3. WORK ON REIL CABLES, CONDUITS, AND/OR REIL UNITS SHALL BE COORDINATED WITH THE FAA, THE AIRPORT DIRECTOR AND THE RESIDENT ENGINEER. COORDINATE WORK WITH FAA; PAM LEGGANS, EMAIL; PAMELA.R.LEGGANS@FAA.GOV AND JIM KASTEN, EMAIL; JAMES.S.KASTEN@FAA.GOV.

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EXISTING WIRING SCHEMATIC FOR RUNWAY 30R REILS

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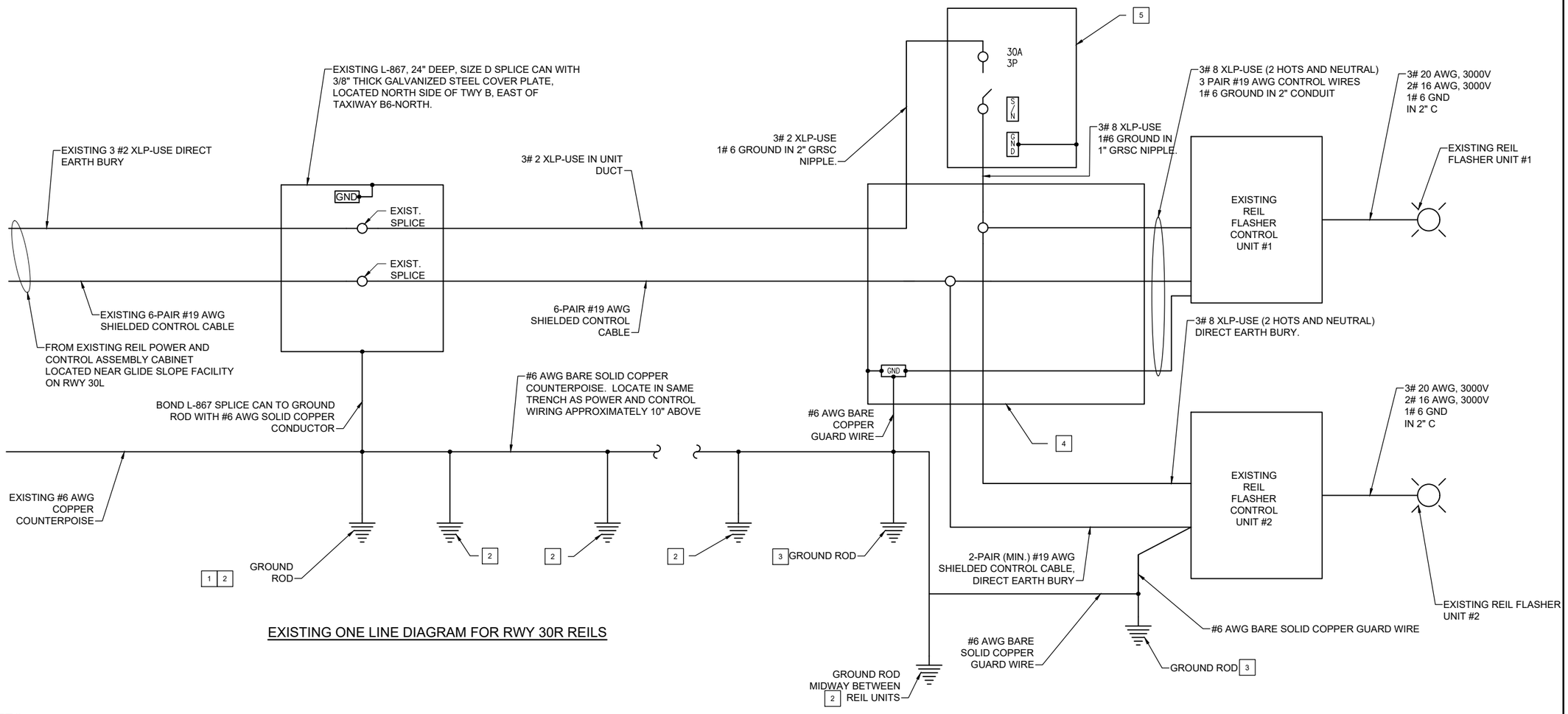

EXISTING ONE LINE DIAGRAM FOR RWY 30R REILS

NOTES:

1. EXISTING ONE LINE DIAGRAM FOR RUNWAY 30R REILS IS PROVIDED FOR REFERENCE. FIELD VERIFY EXISTING CONDITIONS.
2. REIL RELOCATION SHALL BE COORDINATED WITH THE FAA, THE AIRPORT DIRECTOR AND THE RESIDENT ENGINEER.
3. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (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, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.

KEYED NOTES

1. EXISTING 3/4" DIA X 10' LONG UL LISTED COPPERCLAD GROUND ROD, LOCATED AT SPLICE CAN. SPLICE CAN IS BONDED TO GROUND ROD AND COUNTERPOISE CONDUCTORS ARE CONNECTED TO GROUND ROD. CONNECTIONS TO GROUND ROD ARE EXOTHERMIC WELD.
2. EXISTING COUNTERPOISE IS BONDED TO GROUND RODS AT APPROXIMATELY 90-FOOT INTERVALS. GROUND RODS ARE 3/4" DIA X 10' LONG UL LISTED COPPERCLAD. THE SPACING OF GROUND RODS WAS VARIED BY 10% TO 20% TO PREVENT RESONANCE. INSTALL GROUND RODS 6 FEET ON EITHER SIDE OF THE TRENCH. ALL BELOW GRADE CONNECTIONS TO GROUND RODS AND COUNTERPOISE SHALL BE EXOTHERMIC WELD. THIS APPLIES TO NEW GUARD WIRE/COUNTERPOISE INSTALLATIONS FOR FAA REIL CABLES.
3. EXISTING 3/4" X 10' LONG UL LISTED COPPERCLAD GROUND ROD LOCATED AT EACH REIL UNIT. EACH REIL UNIT IS BONDED TO GROUND ROD WITH #6 COPPER CONDUCTOR. GUARD WIRE TERMINATES AT EACH GROUND ROD LOCATED AT REIL UNITS.
4. EXISTING 12" X 12" X 6" NEMA 4 JUNCTION BOX.
5. EXISTING 30 AMP, 3 POLE, 600 VAC, UL LISTED HEAVY DUTY NOT FUSIBLE SAFETY SWITCH IN A NEMA 3R & 12 ENCLOSURE.

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EXISTING ONELINE DIAGRAM FOR RWY 30R REILS