

ADDENDUM No. 1

ITB No. 4781

Airport Reconstruct/Install Runway Visual Guidance System

Bids Due: February 23, 2026, at 11:00 AM (Local Time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes twenty-five (25) pages.**

Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.

The following forms provided within the ITB document should be included in submitted bids:

- City of Ann Arbor Prevailing Wage Declaration of Compliance
- City of Ann Arbor Living Wage Ordinance Declaration of Compliance
- Vendor Conflict of Interest Disclosure Form
- City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance

Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid document which are outlined below are referenced to a page or Section in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

<u>Section/Page(s)</u>	<u>Change</u>
Below	As updated herein: Updated Contract Drawings Updated Bid Sheets
All mentions	As provided in ITB No. 4781 Bid Document: Bid Due Date: Monday, February 23, 2026 at 11:00:00 a.m. (No change)

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

No Questions in this addendum.

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.



**CONTRACT DRAWINGS
FOR THE CONSTRUCTION OF
RECONSTRUCT RUNWAY VISUAL GUIDANCE SYSTEM -
RWY 6/24 PAPIS & RWY 6 REIL
INSTALL RUNWAY VISUAL GUIDANCE SYSTEM - RUNWAY 24 REIL
ANN ARBOR MUNICIPAL AIRPORT**

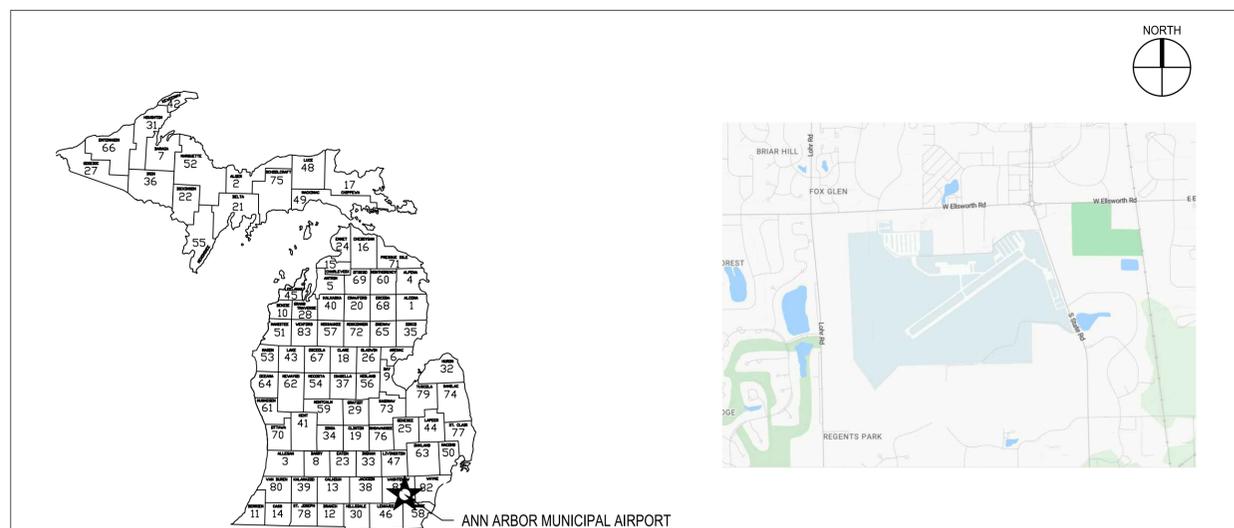
**CITY OF ANN ARBOR
ANN ARBOR, MICHIGAN**

FAA FEDERAL PROJECT NO.: B-26-0005-2624 (D), 3-26-0005-XXX26 (C), 3-26-0005-XXX26 (C)

MDOT PROJECT: 209086 (D), 209087 (C), 225754 (C)

C&S PROJECT: N75.006.001

**FEBRUARY 2026
BID DOCUMENTS**



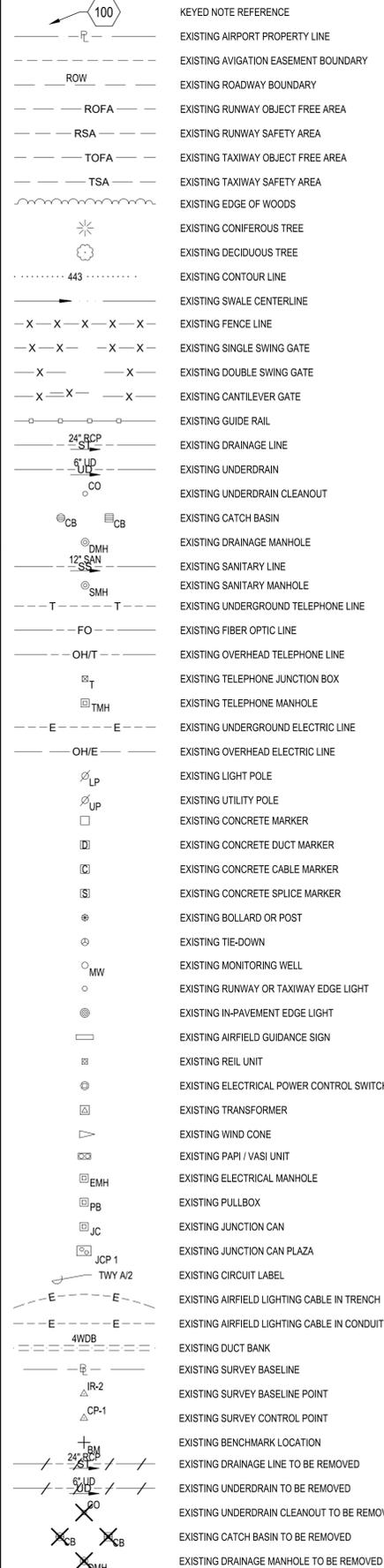
LOCATION MAP

Sheet Number	Sheet Title	Sheet Description
1	G-001	COVER SHEET
2	GI002	QUANTITIES FOR CANVASS OF BIDS AND SHEET INDEX
3	GI003	GENERAL NOTES
4	GI100	GENERAL PLAN
5	GC101	OVERALL CONSTRUCTION SAFETY AND PHASING PLAN
6	GC102	CONSTRUCTION SAFETY PHASING PLAN - PHASE 1
7	GC103	CONSTRUCTION SAFETY PHASING PLAN - PHASE 2
8	GC104	CONSTRUCTION SAFETY PHASING PLAN - PHASE 3
9	GC501	CONSTRUCTION SAFETY AND PHASING DETAILS
10	CD101	EXISTING CONDITIONS AND DEMOLITION PLAN
11	CD102	EXISTING CONDITIONS AND DEMOLITION PLAN
12	CD103	EXISTING CONDITIONS AND DEMOLITION PLAN
13	CD104	EXISTING CONDITIONS AND DEMOLITION PLAN
14	EL101	ELECTRICAL PLAN
15	EL102	ELECTRICAL PLAN
16	EL103	ELECTRICAL PLAN
17	EL104	ELECTRICAL PLAN
18	EL501	ELECTRICAL DETAILS
19	EL502	ELECTRICAL DETAILS
20	EL503	ELECTRICAL DETAILS

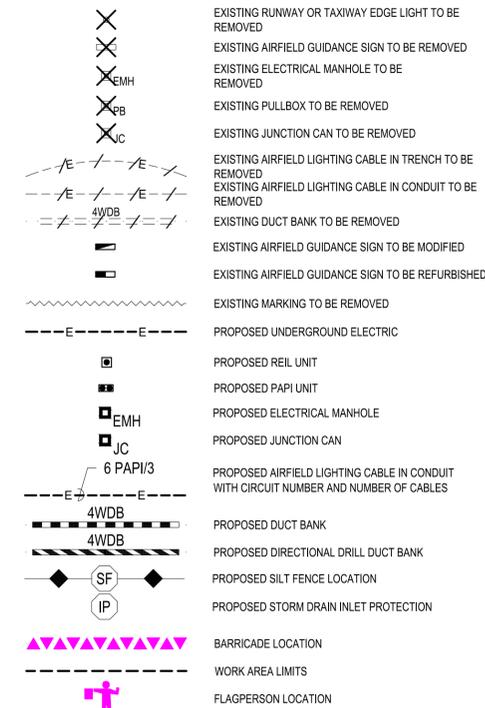
C1 SHEET INDEX
SCALE: NOT TO SCALE

BASE BID				
ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS
1	C-102	COMPLIANCE WITH TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL	1	LS
2	C-105	MOBILIZATION (10% MAX.)	1	LS
3	CX-106	SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC	1	LS
4	DX-800	SOFT DIG	4	DAYS
5	L-108	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE	3,210	LF
6	L-108	NO. 6 AWG, 600V (OR 5KV), L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	13,150	LF
7	L-108	NO. 8 AWG, 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	735	LF
8	L-109	AIRPORT ELECTRICAL VAULT EQUIPMENT	1	LS
9	L-110	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY, 2 INCH, SCH. 40 PVC CONDUIT, IN TURF	3,525	LF
10	LX-113	(1) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING	820	LF
11	LX-113	(4) 2-INCH SCHEDULE 80 HDPE CONDUIT BUNDLE INSTALLED BY DIRECTIONAL DRILLING	725	LF
12	L-115	ELECTRICAL MANHOLE	4	EA
13	L-115	ELECTRICAL JUNCTION CAN	10	EA
14	L-125	REMOVAL OF EXISTING PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM AND FOUNDATIONS	1	SET
15	L-125	REMOVAL OF EXISTING VISUAL APPROACH SLOPE INDICATOR (VASI) SYSTEM AND FOUNDATIONS	1	SET
16	L-125	REMOVAL OF EXISTING VISUAL APPROACH SLOPE INDICATOR (VASI) FOUNDATION	2	SET
17	L-125	REMOVAL OF EXISTING RUNWAY END IDENTIFIER LIGHT (REIL)	1	SET
18	L-125	PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM	2	SET
19	L-125	RUNWAY END IDENTIFER LIGHT (REIL) SYSTEM	2	SET
20	L-125	SUPPORT FOR FOLLOW-UP FAA FLIGHT CHECK	1	LS

A1 QUANTITIES FOR CANVASS OF BIDS
SCALE: NOT TO SCALE



A3 LEGEND
SCALE: NOT TO SCALE



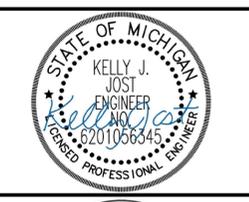
CONTROL POINT TABLE			
POINT NO.	NORTHING	EASTING	ELEV.
CP-1000	264,299.34	13,291,702.61	828.81
CP-1001	265,230.16	13,292,966.80	825.85

NOTE:
THE ABOVE CONTROL POINTS WERE USED IN THE SURVEY DONE FOR THIS PROJECT.

A4 SURVEY CONTROL POINTS DATA TABLE
SCALE: NOT TO SCALE



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www.cscos.com



RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.006.001		
DATE: FEBRUARY 2026		
DRAWN BY: K.J. FINNILA		
DESIGNED BY: K.J. FINNILA		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

QUANTITIES FOR CANVASS OF BIDS AND SHEET INDEX

GI002
SHEET NO. 2 OF 20
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GENERAL CONSTRUCTION NOTES

- 1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 70-08, ATTACHMENT A - CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) OF THE GENERAL PROVISIONS.
- 2. THESE DRAWINGS HAVE BEEN PREPARED, IN PART, BASED UPON RECORD DRAWINGS AND/OR CAD FILES FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THOSE UTILIZING THE INFORMATION ON THESE DRAWINGS ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY PURPOSE.
- 3. EXISTING UTILITIES WERE TAKEN FROM PLANS OF RECORD. THEY HAVE BEEN SHOWN TO THE EXTENT KNOWN AND ARE OFFERED IN GOOD FAITH SOLELY FOR INFORMATIONAL PURPOSES. THEY MAY NOT REFLECT ACTUAL LOCATIONS AND MAY NOT BE INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- 4. THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
- 5. IN THE EVENT OF DAMAGE TO EXISTING UTILITIES OR CABLES, THE ENGINEER AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
- 6. THE CONTRACTOR SHALL REPAIR ALL DAMAGE TO UTILITIES OR CABLES, AS DIRECTED BY THE ENGINEER, IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.
- 7. ALL AREAS DISTURBED AS A RESULT OF THE CONTRACTOR'S STAGING AND CONSTRUCTION OPERATIONS SHALL BE RESTORED EQUAL TO OR BETTER THAN ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- 8. DURING THE WORK OF THIS CONTRACT, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN WHATEVER TEMPORARY LIGHTING MAY BE NECESSARY TO KEEP THE RUNWAY OR TAXIWAY IN OPERATING CONDITION WHEN OPEN FOR AIRCRAFT.
- 9. ALL DIRT, DUST, STONES AND LOOSE DEBRIS SHALL BE CONTINUOUSLY REMOVED FROM ALL PAVED SURFACES DURING THIS CONTRACT.
- 10. THE CONTRACTOR SHALL RECONSTRUCT AND MAINTAIN EXISTING ACCESS ROADS AS REQUIRED FOR ACCESS TO THE WORK AREAS.
- 11. ALL OF THE CONTRACTOR'S OPERATIONS SHALL REMAIN ON AIRPORT PROPERTY AT ALL TIMES. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE ALLOWED ON ADJACENT PROPERTY.
- 12. THIS CONTRACT DOES NOT ALLOW FOR PRICE INCREASES DUE TO ESCALATION IN COST OF UNIT BID ITEMS. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION WHEN PREPARING UNIT PRICES FOR BID.
- 13. THE COST OF ALL FAILING TESTS PERFORMED BY THE OWNER OR ON THE OWNER'S BEHALF SHALL BE BORNE BY THE CONTRACTOR.
- 14. THE CONTRACTOR SHALL BE AWARE THAT OTHER CONCURRENT PROJECTS MAY BE UNDER CONSTRUCTION ON THE AIRPORT. IN MAY/JULY 2026 THE NORTHWEST T-HANGAR APRON WILL BE UNDER CONSTRUCTION. THIS PROJECT IS NOT ANTICIPATED TO OVERLAP WORK AREAS AND/OR HAUL ROUTES. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ACTIVITIES WITH THE OTHER CONTRACTORS ON THE AIRPORT. THE COST OF COORDINATION SHALL BE INCLUDED IN ITEM CX-106.

GRADING AND EXCAVATION NOTES

- 15. QUALITY ASSURANCE TESTS WILL BE MADE BY AND AT THE EXPENSE OF THE OWNER, UNLESS OTHERWISE NOTED. THE COST OF ALL FAILING TESTS SHALL BE BORNE BY THE CONTRACTOR.
- 16. TOPSOILING WILL BE CONSIDERED A NECESSARY AND INCIDENTAL PART OF THE WORK AND ITS COST SHALL BE CONSIDERED BY THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE FOR THE PAY ITEMS OF WORK INVOLVED.
- 17. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS SHALL BE IN PLACE PRIOR TO BEGINNING EARTHWORK OPERATIONS AND SHALL BE MAINTAINED UNTIL THE NEW SLOPES ARE STABILIZED WITH SEEDING AND/OR SLOPE PROTECTION.

ELECTRICAL AND SIGNAGE NOTES

- 18. ALL ELECTRICAL WORK SHALL CONFORM TO APPLICABLE LOCAL, STATE AND NATIONAL ELECTRICAL CODES.
- 19. THE ELECTRICAL CHARACTERISTICS OF PROPOSED EQUIPMENT SHALL BE VERIFIED TO BE COMPATIBLE WITH EXISTING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- 20. ABANDONED CABLES MAY EXIST IN THE VICINITY OF THE PROPOSED WORK. IF ENCOUNTERED, CONTRACTOR SHALL VERIFY THAT THEY ARE ABANDONED PRIOR TO REMOVAL. IF THEY ARE NOT ABANDONED, CABLES SHALL BE PROTECTED IN PLACE OR REPAIRED AT THE CONTRACTOR'S EXPENSE IF DAMAGED BY THE CONTRACTOR.
- 21. ITEMS OF SPECIFIC MANUFACTURE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND OR MANUFACTURER'S REPRESENTATIVE DIRECTIONS.
- 22. ALL GROUND CONNECTIONS SHALL BE MADE USING EXOTHERMIC CONNECTIONS.
- 23. GROUND RODS SHALL BE INSTALLED AT 500-FT INTERVALS ALONG COUNTERPOISE WIRE.

- 24. ALL CABLE CONNECTIONS SHALL BE MADE AT LIGHT UNITS OR AT ENDS OF DUCT BANKS UNLESS DIRECTED OTHERWISE.
- 25. THE OWNER RESERVES THE RIGHT TO SALVAGE LIGHTING EQUIPMENT. THE EQUIPMENT TO BE SALVAGED IS IDENTIFIED IN THE SPECIFICATION. SALVAGED EQUIPMENT SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE OWNER IN PROPER WORKING CONDITION. ALL OTHER LIGHTING EQUIPMENT SHALL BE SPOILED OFF AIRPORT PROPERTY AT A PROPER DISPOSAL SITE SELECTED BY THE CONTRACTOR.
- 26. PROVIDE WATERTIGHT TERMINATION FOR ALL BURIED CONDUIT ENDS.
- 27. THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY ELECTRICAL CIRCUITS ARE DE-ENERGIZED PRIOR TO COMMENCING WORK. A "LOCKOUT/TAGOUT" PROCEDURE SHALL BE IMPLEMENTED AT THE ELECTRICAL VAULT THAT IS ACCEPTABLE TO THE OWNER AND THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT ELECTRICIAN ON A DAILY BASIS FOR AFFECTED CIRCUITS.
- 28. ONE WEEK PRIOR TO EXCAVATING IN ANY AREA, THE CONTRACTOR SHALL HIRE AN APPROVED UTILITY LOCATING SERVICE TO LOCATE AND MARK OUT ALL UTILITIES. THE CONTRACTOR SHALL MEET WITH AIRPORT OPERATIONS AND THE RPR TO DETERMINE TAXIWAY OR RUNWAY CLOSURE TIMES AND DURATIONS FOR THE LOCATING TASKS. CONTRACTOR SHALL PERFORM SITE INVESTIGATIONS TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES AS NECESSARY. INVESTIGATION TECHNIQUES MAY INCLUDE BY RF TRACING, GROUND PENETRATING RADAR, VACUUM OR AIR PRESSURE POT-HOLING OR BY OTHER MEANS APPROVED BY THE RPR. CONTRACTOR SHALL ACCURATELY RECORD AND MARK THE LOCATION OF ALL UTILITIES. ALL MARKERS SHALL BE APPROVED BY AIRPORT OPERATIONS AND CANNOT PRESENT A HEIGHT OBSTRUCTION OR FOREIGN OBJECT DEBRIS HAZARD TO AIRCRAFT (DISLODGE DUE TO WIND). THE CONTRACTOR SHALL VERIFY THE ROUTING OF ALL EXISTING CABLES AND NOTIFY THE RPR IF DISCREPANCIES EXIST TO THE ROUTING SHOWN ON THE CONTRACT DRAWINGS. ADVANCE NOTICE WILL ALLOW THE RPR TO MODIFY THE DESIGN PRIOR TO CONSTRUCTION.
- 29. ALL INTERRUPTIONS OF APRON, TAXIWAY, OR RUNWAY LIGHTING AND NAVIGATIONAL AIDS SHALL BE COORDINATED WITH AIRPORT OPERATIONS AND SHALL BE SUBJECT TO THE APPROVAL OF AIRPORT OPERATIONS.
- 30. THE CONTRACTOR SHALL PROVIDE FINAL RED LINE AS-BUILT DRAWINGS UPON COMPLETION OF THE PROJECT. RED LINE AS-BUILT DRAWINGS SHALL IDENTIFY LOCATIONS OF ALL PERMITTED IN-LINE SPLICES. IDENTIFICATION OF CABLE SPLICES AT LIGHT AND SIGN L-823 CABLE CONNECTOR KITS ARE NOT REQUIRED TO BE SHOWN.
- 31. SELECTIVE GRADING AROUND PAPI AND REILS SHALL BE REQUIRED AS DIRECTED BY THE RPR. THE COST SHALL BE INCLUDED IN THE RESPECTIVE ELECTRICAL PAY ITEM.
- 32. ALL CABLE CONNECTIONS SHALL BE MADE AT LIGHT UNITS, JUNCTION CANS, PULL BOXES, MANHOLES, OR SIGNS UNLESS DIRECTED OTHERWISE. CABLE SPLICING ALONG THE CONDUIT RUNS OR WITHIN CONDUITS IS NOT ALLOWED. ALL CABLES SHALL BE CONTINUOUS WITHOUT SPLICES, INCLUDING HOME RUN CIRCUITS, UNLESS OTHERWISE APPROVED.
- 33. SOME EXISTING MANHOLES, JUNCTION CANS, PULL BOXES, CONDUITS, AND DUCT BANKS WHERE WORK IS SCHEDULED TO OCCUR MAY CONTAIN ADDITIONAL ENERGIZED CABLES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT PERSONNEL AND EQUIPMENT AS WELL AS TO MAINTAIN EXISTING CIRCUITS ASSOCIATED WITH ACTIVE AND OPEN PAVEMENTS.
- 34. THE CONTRACTOR IS ENCOURAGED TO USE PRECAST LIGHT BASES, SIGN FOUNDATIONS, AND ELECTRICAL STRUCTURES WHERE EVER POSSIBLE.
- 35. THE CONTRACTOR SHALL MARK OUT ALL PROPOSED PROJECT FEATURES FOR THE RPR'S APPROVAL PRIOR TO EXCAVATION AND FOUNDATION INSTALLATION. LAYOUT SHALL BE MADE BY A LICENSED LAND SURVEYOR. OFFSET PINS MAY BE INSTALLED TO TRIANGULATE TO THE PROPOSED FEATURE AFTER EXCAVATION.
- 36. IN THE EVENT ANY OBSTRUCTIONS AND/OR UTILITIES NOT SHOWN ON THE PLANS ARE ENCOUNTERED DURING CONSTRUCTION, AND ARE DEEMED TO BE CONFLICTS TO THE NEW WORK, ALL WORK SHALL STOP (ON THAT ITEM) AND THE RPR NOTIFIED PRIOR TO PROCEEDING WITH WORK. WORK MAY PROCEED ON OTHER WORK TASKS TO MAINTAIN SCHEDULE.
- 37. ROUTING OF CONDUIT IS DIAGRAMMATIC AND CONCEPTUAL IN NATURE AND NOT INTENDED TO SHOW ALL REQUIRED OFFSETS AND DETAILS. EXACT ROUTING WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE RPR.
- 38. NO IN-LINE SPLICES SHALL BE PERMITTED ON AIRFIELD CABLES UNLESS COORDINATED IN ADVANCE AND APPROVED OR SHOWN ON THE PLANS. THIS INCLUDES HOMERUN CIRCUITS.
- 39. IN AREAS WHERE PROPOSED CONDUIT IS DESIGNED TO BE INSTALLED AT A LOCATION WHERE EXISTING CONDUIT IS TO BE ABANDONED, THE CONTRACTOR SHALL REMOVE THE EXISTING CONDUIT. CONDUIT REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE PROPOSED CONDUIT.
- 40. RESTORATION OF DISTURBED SURFACES SHALL INCLUDE CREATING A SMOOTH STABLE UNIFORM SURFACE WITH TOPSOIL TO SUPPORT TURF GROWTH. ALL AREAS SHALL BE RAKED OR OTHERWISE CLEARED OF STONES AND OTHER MATERIAL LARGER THAN 1" IN ANY DIAMETER. SURFACES MUST MEET TSA/RSA STANDARDS AND SAFELY ACCOMMODATE THE AIRPORTS MOWING EQUIPMENT.
- 41. THE LOCATION OF JUNCTION CANS, PULL BOXES, AND CONDUITS MAY BE FIELD ADJUSTED TO AVOID CONFLICTS AS APPROVED BY THE RPR AND ENGINEER.

- 42. THE FINAL GRADE SHALL BE SMOOTH, FREE OF RUTS, DEPRESSIONS OR DROP OFFS. THE TOPSOIL SHALL BE THE FINISHED GRADE OF ALL LIGHTS, SIGNS, AND OTHER FEATURES AND BE PLACED WITH NO VERTICAL DROPS ALLOWED. TOPSOIL SHALL BE GRADED SLIGHTLY AWAY FROM ELECTRICAL FEATURES INCLUDING LIGHTS AND SIGNS WITH A MAXIMUM ALLOWABLE SLOP OF 3.0 PERCENT IN COMPLIANCE WITH RUNWAY AND TAXIWAY SAFETY AREA GRADING REQUIREMENTS. THE FINISHED SURFACE SHALL BE LEFT IN A MANNER TO SAFELY ACCOMMODATE THE OWNER'S MOWING EQUIPMENT AS APPROVED BY THE OWNER. AREAS THAT EXPERIENCE TRENCH SETTLEMENT OVER THE ONE-YEAR WARRANTY PERIOD SHALL BE RE-TOPSOILED, SEEDED, AND MULCHED TO RESTORE THE INTENDED GRADE.
- 43. ALL CONDUIT CONNECTIONS TO EXISTING LIGHT UNITS, DUCT BANKS, OR SIGNS SHALL BE MADE WITH INDUSTRY STANDARD UL LISTED WATERTIGHT CONNECTORS. ALL NECESSARY SWEEPS SHALL BE MADE WITH PRE-FORMED SWEEPS OR CONDUIT BENT ON-SITE USING APPROVED CONDUIT HEATING EQUIPMENT (HOT BOX). ALL CONNECTIONS SHALL BE INCIDENTAL TO ITEM L-110 PAYMENT ITEMS.
- 44. THE CONTRACTOR SHALL VERIFY ALL INPUT VOLTAGES, AMPERAGE AND OTHER ELECTRICAL CHARACTERISTICS FOR REPLACEMENT TRANSFORMERS, REGULATORS, ETC. PRIOR TO ORDERING THE EQUIPMENT.
- 45. IT IS THE INTENT OF THIS CONTRACT TO HAVE A WELL DRAINED, WATER FREE UNDERGROUND ELECTRICAL SYSTEM INCLUDING ALL ELECTRICAL STRUCTURES. ALTHOUGH WATERTIGHT CONNECTORS ARE SPECIFIED, THE JOINTS AND COUPLINGS WILL LEAK IN WATER AND THEREFORE IS CLASSIFIED AS A "WET SYSTEM". ELECTRICAL DRAINS HAVE BEEN DESIGNED INTO THE PROJECT TO DRAIN INCOMING WATER. ADDITIONAL DRAINS, ABOVE AND BEYOND THOSE SHOWN ON THE PLANS, MAY BE REQUIRED TO MEET THIS REQUIREMENT AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY THE RPR.
- 46. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AN EFFECTIVE SAFETY PROGRAM. SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL EMPLOYEES, REGARDLESS OF POSITION. SAFETY MUST BE PRACTICED DAILY IN EVERY WORK TASK FOLLOWING ALL INDUSTRY STANDARD AND OSHA REGULATIONS. AIRPORT LIGHTING CIRCUITS ARE, BY THEIR NATURE, VERY DANGEROUS AND REQUIRED SPECIALIZED TRAINING ON THEIR FUNCTIONALITY. AIRFIELD CIRCUITS RELAY ON CONSTANT CURRENT AND VOLTAGE METER READINGS CANNOT BE RELIED UPON AS PORTIONS OF THE CIRCUIT MAY READ NEAR ZERO VOLTS.
- 47. AT A MINIMUM THE FOLLOWING SAFETY PRACTICES SHOULD BE FOLLOWED BY ALL PERSONNEL:
 - A: DO NOT WORK ON LIVE CIRCUITS
 - B: ENSURE THAT ALL PERSONNEL ARE TRAINED AND FAMILIAR WITH ELECTRICAL SAFETY
 - C: STRICTLY OBSERVE SAFETY RULES. RULES SHALL BE LISTED IN THE CONTRACTOR SAFETY PLAN AND INCLUDE PERSONAL SAFETY PRECAUTIONS
 - D: ENSURE THAT ALL TEST AND SERVICE EQUIPMENT IS UL APPROVED AND RATED FOR THE CURRENT AND VOLTAGES EXPECTED
 - E: PRIOR TO BEGINNING ANY ELECTRICAL WORK, COORDINATE THE WORK SCHEDULE WITH AIRPORT OPERATIONS AND THE RPR. MAKE SURE CIRCUITS WILL NOT BE ENERGIZED DURING WORK BY OBSERVING STRICT LOCK OUT-TAG OUT PROCEDURES
 - F: AT LEAST TWO ELECTRICIANS SHOULD BE ASSIGNED WHEN WORKING ON HIGH VOLTAGE CIRCUITS, WITH AT LEAST ONE HAVING A THOROUGH KNOWLEDGE OF HIGH VOLTAGE AIRFIELD LIGHTING CIRCUITS. THE SECOND PERSON'S PRIMARY RESPONSIBILITY WILL BE AN OBSERVER
 - G: KNOW HOW TO SUMMON IMMEDIATE EMERGENCY AND MEDICAL AID
 - H: PROVIDE A SAFETY NOTICE BOARD AND ALL NECESSARY SAFETY EQUIPMENT.
- 48. THE CONTRACTOR IS ADVISED OF THE FOLLOWING:
 - A: ALWAYS ASSUME THAT THE CIRCUIT IS ENERGIZED, OR CAN BE ENERGIZED BY REMOTE CONTROL, UNTIL PROVEN OTHERWISE BY MECHANICAL DISCONNECTION AND LOCK OUT-TAG OUT.
 - B: NEVER UNDER ANY CIRCUMSTANCES. BREAK A LIVE CIRCUIT.
 - C: NEVER ENTER AN ELECTRICAL STRUCTURE WITH ENERGIZED CONDUCTORS AND NEVER HANDLE LIVE CABLES WHILE THERE IS CURRENT PRESENT UNLESS SPECIAL PRECAUTIONS ARE TAKEN.
 - D: TAKE CAUTION OF INDUCED VOLTAGES. VOLTAGES MAY BE INDUCED IN AN OTHERWISE UNENERGIZED CONDUCTOR FROM A NEARBY ENERGIZED CABLE.
 - E: CONFINED SPACE ENTRY AND EXCAVATION SHORING SHALL BE GOVERNED BY OSHA REQUIREMENTS.

C

B

A

C

B

A



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 38777 Six Mile Road, Suite 202
 Livonia, Michigan 48152
 Phone: 734-953-2571
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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION

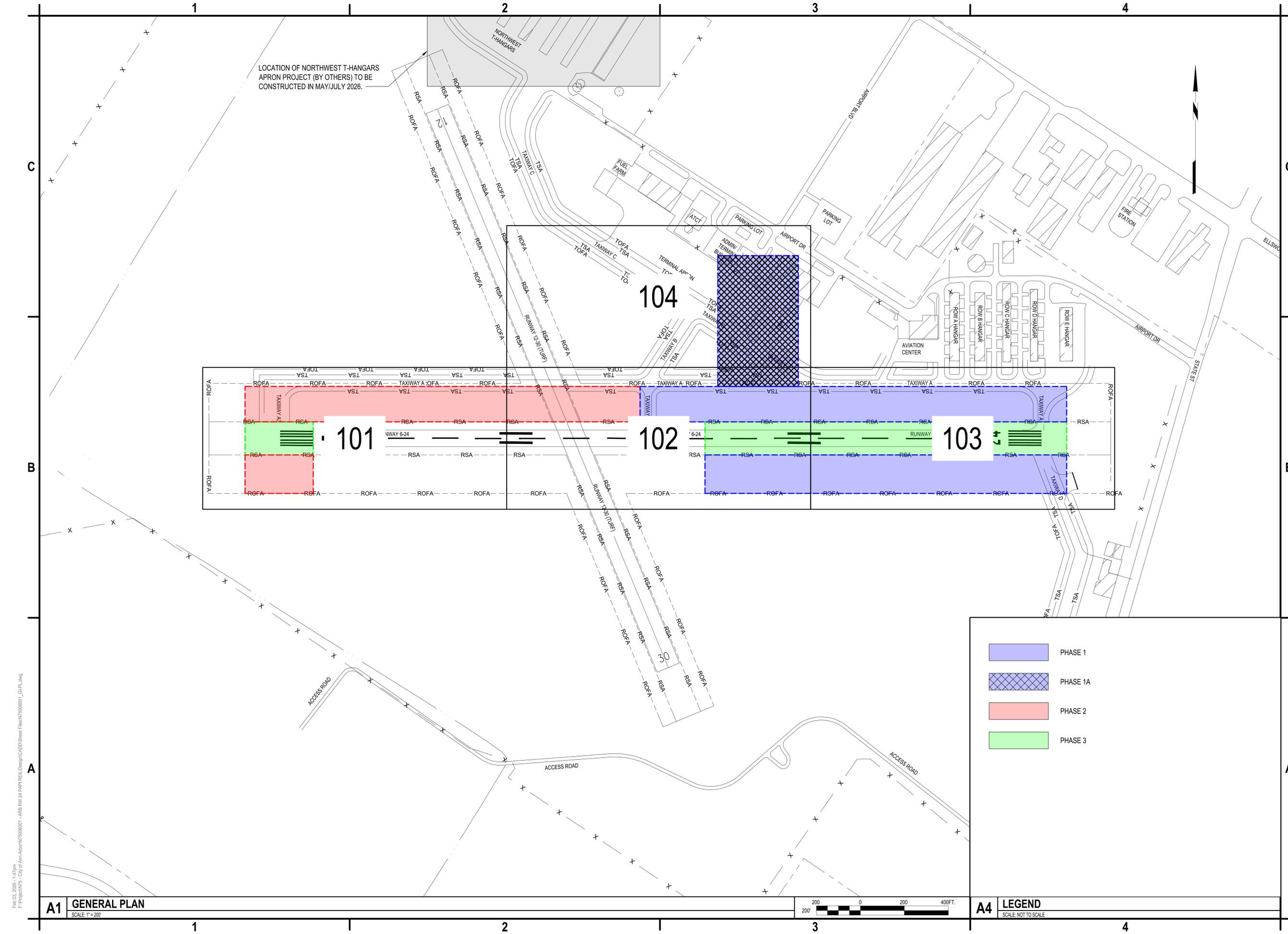
REVISIONS

PROJECT NO:	N75.006.001
DATE:	FEBRUARY 2026
DRAWN BY:	K.J. FINNILA
DESIGNED BY:	K.J. FINNILA
CHECKED BY:	S.L. MAKHLOUF

CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.

GENERAL NOTES

GI003



LOCATION OF NORTHWEST T-HANGARS APRON PROJECT (BY OTHERS) TO BE CONSTRUCTED IN MAY/JULY 2026.

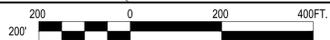
104

101

102

103

- PHASE 1
- PHASE 1A
- PHASE 2
- PHASE 3



Feb 03, 2025 - 1:47pm
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A1 GENERAL PLAN
SCALE: 1"=20'

A4 LEGEND
SCALE: NOT TO SCALE



C&S Engineers, Inc.
38777 Six Mile Road, Suite 202
Livonia, Michigan 48152
Phone: 734-953-2571
Fax: 734-206-7973
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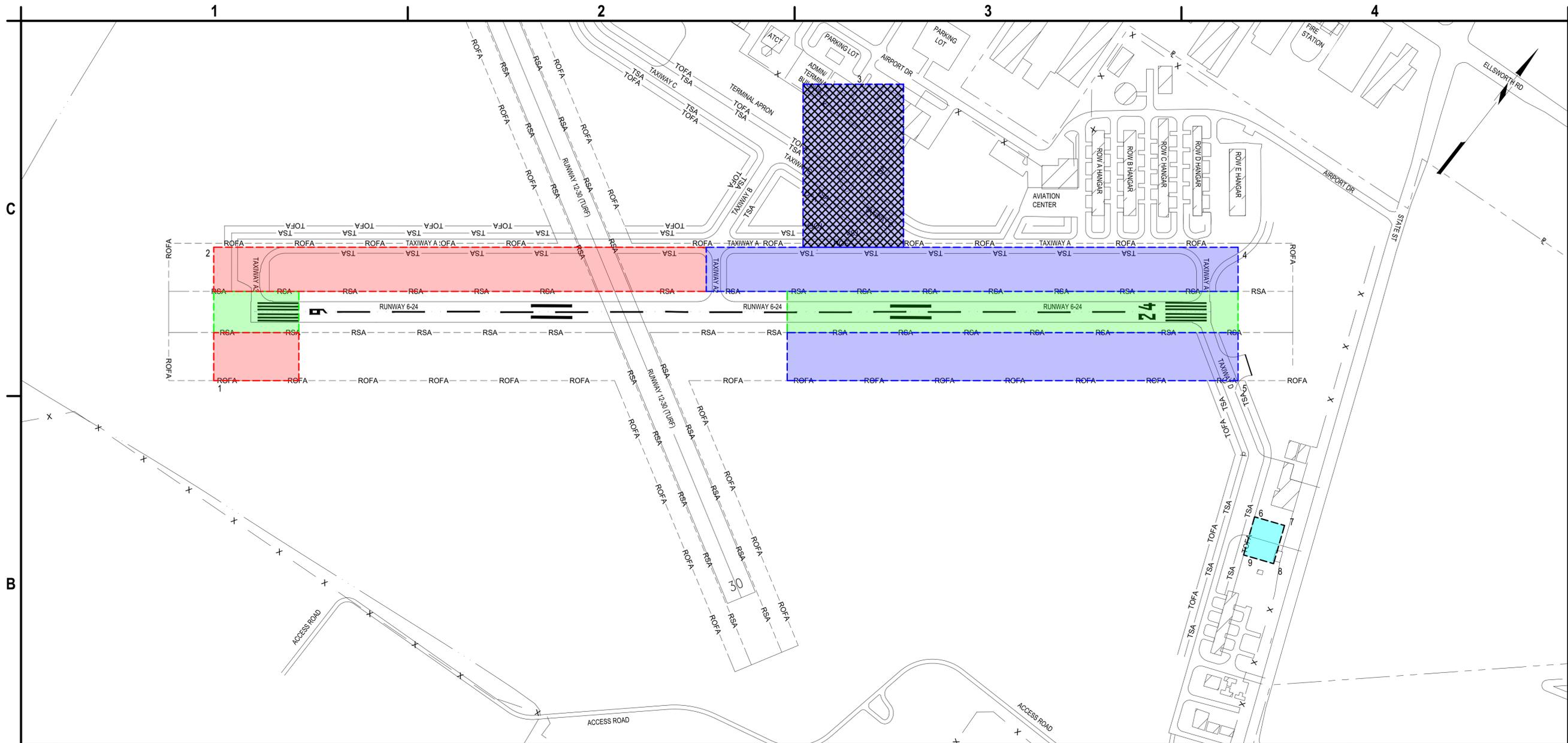


RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.006.001		
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DRAWN BY: K.J. FINNILA		
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CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

GENERAL PLAN

G100
SHEET NO. 4 OF 20
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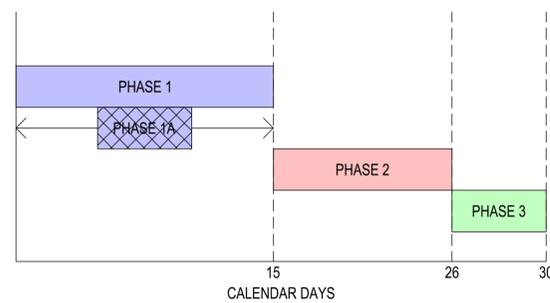
B1 OVERALL CONSTRUCTION SAFETY AND PHASING PLAN
SCALE: 1" = 200'



	PHASE 1
	PHASE 1A
	PHASE 2
	PHASE 3
	CONTRACTOR'S STAGING AREA

NOTES:

- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL, IN THE PRESENCE OF THE RPR, VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NTP. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, AS DIRECTED BY THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
- CONTRACTOR SHALL HAVE A FULL TIME PROJECT SUPERINTENDENT FOR THE PROJECT. THE PROJECT SUPERINTENDENT SHALL BE REQUIRED TO BE ONSITE AT ALL TIMES WHERE WORK IS UNDERWAY (INCLUDING SUBCONTRACTOR WORK). AN ALTERNATE BACK-UP PROJECT SUPERINTENDENT SHALL BE IDENTIFIED FOR PERIODS WHERE THE PRIMARY SUPERINTENDENT IS NOT AVAILABLE.
- CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR LEAVE EQUIPMENT WITHIN THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
- ANY WORK WITHIN THE RUNWAY SAFETY AREA, INCLUDING MAINTENANCE OF TRAFFIC ITEMS SHALL BE COORDINATED WITH THE RPR AND AIRPORT A MINIMUM OF 7 DAYS IN ADVANCE OF THE WORK COMMENCING.



CALENDAR DAYS:
 PHASE 1: 15 CALENDAR DAYS
 PHASE 1A: 6 CALENDAR DAYS
 PHASE 2: 11 CALENDAR DAYS
 PHASE 3: 4 CALENDAR DAYS

THE TOTAL CONTRACT TIME FOR THE INSTALLATION OF RUNWAY 6-24 PAPI AND REIL IS 30 DAYS. PHASE 1 AND PHASE 1A TO BE CONDUCTED CONCURRENTLY.

THE CONSTRUCTION START DATE IS ANTICIPATED TO BE FALL OF 2026, BUT MAY BEGIN AS LATE AS SPRING OF 2027. THE CONTRACTOR SHALL TAKE THIS INTO CONSIDERATION WHEN PREPARING UNIT PRICES FOR BID.

POINT TABLE				
POINT NO.	NORTHING	EASTING	ELEV.	DESCRIPTION
1	262,808.52	13,290,404.54	827.00	WORK AREA
2	263,202.24	13,290,119.70	831.00	WORK AREA
3	265,052.45	13,291,663.39	831.00	WORK AREA
4	265,394.93	13,293,149.98	825.00	WORK AREA
5	265,001.38	13,293,434.79	827.00	WORK AREA
6	264,634.98	13,293,774.44	821.00	STAGING AREA
7	264,673.47	13,293,881.58	821.00	STAGING AREA
8	264,537.41	13,293,930.46	821.00	STAGING AREA
9	264,498.92	13,293,823.32	821.00	STAGING AREA

A1 LEGEND
SCALE: NOT TO SCALE

A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 PROJECT SCHEDULE
SCALE: NOT TO SCALE

A4 POINT TABLE
SCALE: NOT TO SCALE



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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

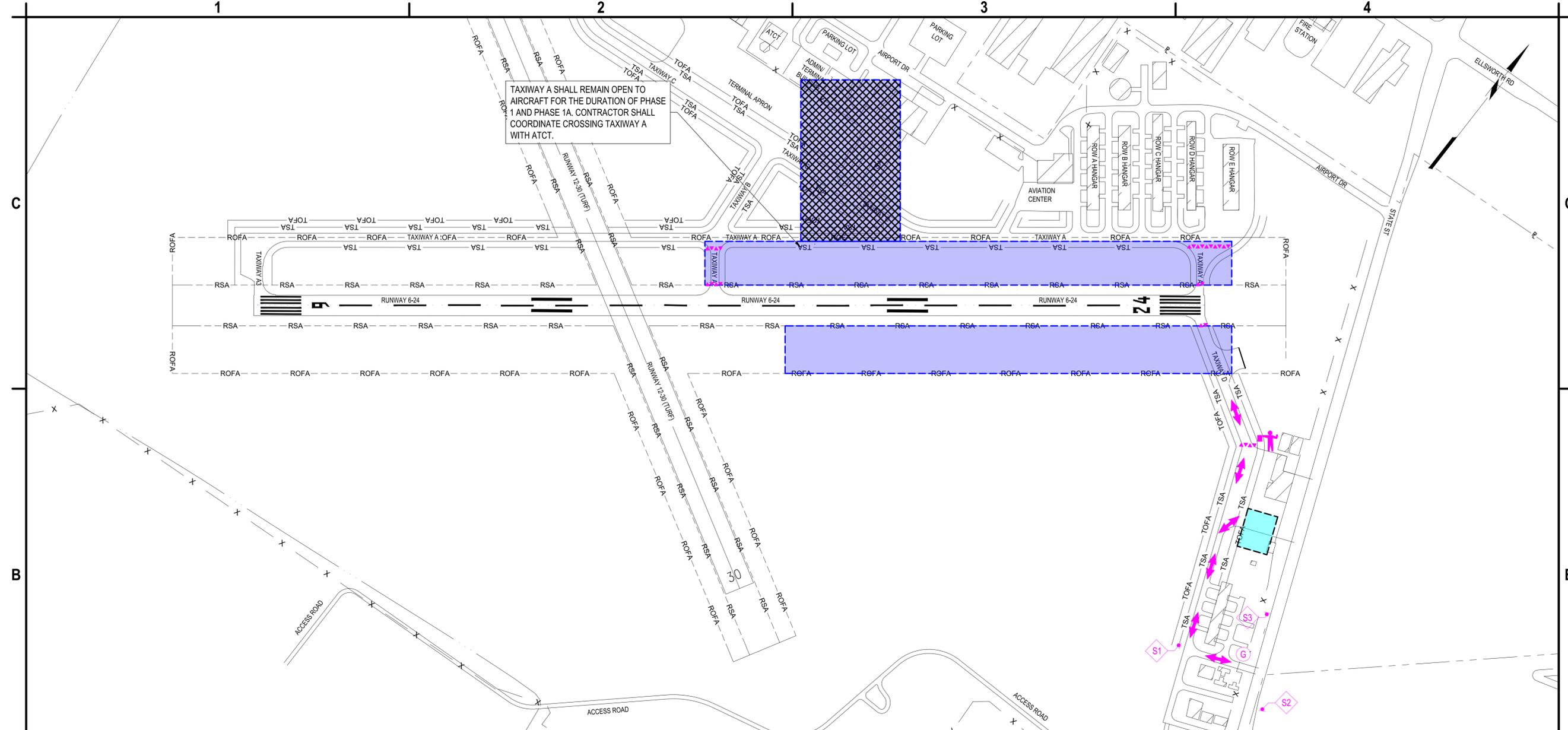
MARK	DATE	DESCRIPTION
REVISIONS		
		PROJECT NO: N75.006.001
		DATE: FEBRUARY 2026
		DRAWN BY: K.J. FINNILA
		DESIGNED BY: K.J. FINNILA
		CHECKED BY: S.L. MAKHLOUF
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

OVERALL CONSTRUCTION SAFETY AND PHASING PLAN

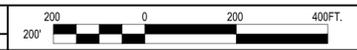
GC101

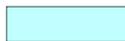
SHEET NO. 5 OF 20

TAXIWAY A SHALL REMAIN OPEN TO AIRCRAFT FOR THE DURATION OF PHASE 1 AND PHASE 1A. CONTRACTOR SHALL COORDINATE CROSSING TAXIWAY A WITH ATCT.



B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 1
SCALE: 1" = 200'



-  PHASE 1
-  PHASE 1A
-  CONTRACTOR'S STAGING AREA
-  CONTRACTOR PROVIDED GATE GUARD TO MONITOR ACCESS THROUGH GATE 5
-  CONTRACTOR PROVIDED FLAGGER WITH RADIO TO MONITOR CROSSING AT RUNWAY 6/24
-  CONTRACTOR'S ACCESS ROUTE
-  LOW PROFILE BARRICADES, ITEM CX-106. SEE DETAIL A4/GC501
-  TEMPORARY CONSTRUCTION SIGN, ITEM CX-106. SEE DETAIL C3/GC501

PHASE 1 - 15 CALENDAR DAYS
CONSTRUCTION:

- REMOVE EXISTING VASI SYSTEM AND CABLE ON RUNWAY 24 END
- INSTALL 4-BOX PAPI SYSTEM ON RUNWAY 24 END
- INSTALL REILS ON RUNWAY 24 END
- RESTORE TURF IN ALL DISTURBED AREAS

PHASE 1A - 6 CALENDAR DAYS
CONSTRUCTION:

- INSTALL NEW CONDUIT AND CABLE FOR HOMERUN
- ALL WORK INSIDE THE ELECTRICAL VAULT

PHASE 1 AND PHASE 1A ARE TO OCCUR CONCURRENTLY.

PHASE 1 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	OPEN - SEE NOTE BELOW
RUNWAY 12/30	OPEN
TAXIWAY A	OPEN
TAXIWAY A1	CLOSED
TAXIWAY A2	CLOSED
TAXIWAY A3	OPEN
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

NOTE:
WORK IN PHASE 1 AND PHASE 2 WILL BE WITHIN THE OBSTACLE FREE ZONE (OFZ) BUT OUTSIDE OF THE RUNWAY SAFETY AREA (RSA). THEREFORE, OPERATIONAL RESTRICTIONS MAY APPLY AND ALL WORK MUST BE COORDINATED WITH THE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE.

- GENERAL PHASING NOTES:**
1. REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
 2. THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
 3. PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 4. CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
 5. CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
 6. THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
 7. CONTRACTOR TO PROVIDE GATE GUARDS AT GATE 5. COSTS FOR GATE GUARDS SHALL BE INCIDENTAL TO ITEM CX-106 SAFETY, SECURITY, AND MAINTENANCE OF TRAFFIC.
 8. ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.

A1 LEGEND
SCALE: NOT TO SCALE

A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
	PROJECT NO:	N75.006.001
	DATE:	FEBRUARY 2026
	DRAWN BY:	K.J. FINNILA
	DESIGNED BY:	K.J. FINNILA
	CHECKED BY:	S.L. MAKHLOUF

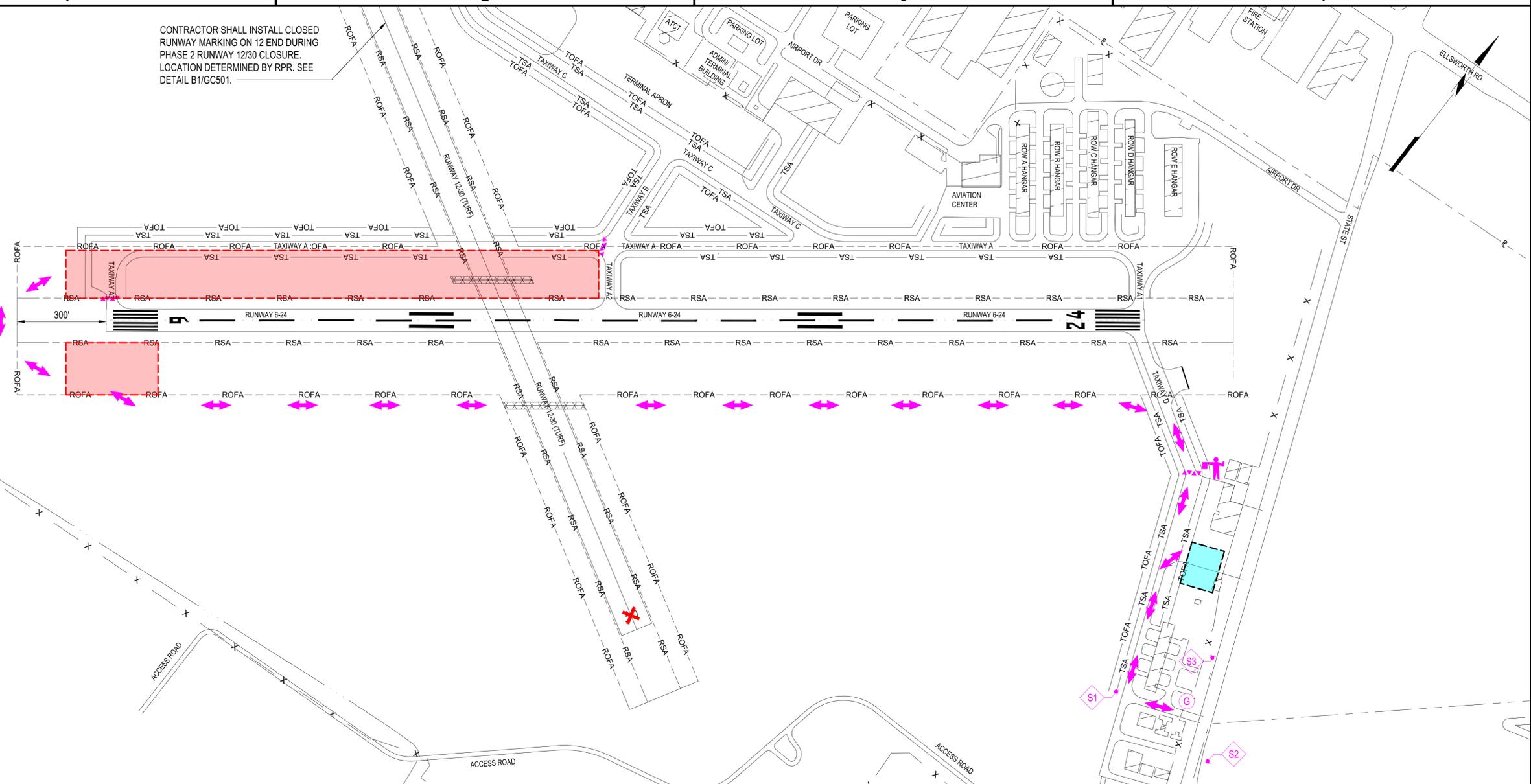
CONSTRUCTION SAFETY PHASING PLAN - PHASE 1

GC102

SHEET NO. 6 OF 20

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CONTRACTOR SHALL INSTALL CLOSED RUNWAY MARKING ON 12 END DURING PHASE 2 RUNWAY 12/30 CLOSURE. LOCATION DETERMINED BY RPR. SEE DETAIL B1/GC501.



B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 2
SCALE: 1" = 200'



- PHASE 2
- CONTRACTOR'S STAGING AREA
- G CONTRACTOR PROVIDED GATE GUARD TO MONITOR ACCESS THROUGH GATE 5
- CONTRACTOR PROVIDED FLAGGER WITH RADIO TO MONITOR CROSSING AT RUNWAY 6/24
- CONTRACTOR'S ACCESS ROUTE
- LOW PROFILE BARRICADES, ITEM CX-106. SEE DETAIL A4/GC501
- S# TEMPORARY CONSTRUCTION SIGN, ITEM CX-106. SEE DETAIL C3/GC501
- X TEMPORARY CLOSED RUNWAY MARKING, ITEM CX-106. SEE DETAIL B1/GC501
- FOD CONSTRUCTION MATS, ITEM CX-106. SEE DETAIL C4/GC501

A1 LEGEND
SCALE: NOT TO SCALE

- PHASE 2 - 11 CALENDAR DAYS**
CONSTRUCTION:
- REMOVE AND REPLACE EXISTING 4-BOX PAPI SYSTEM ON RUNWAY 6 END
 - REMOVE AND REPLACE EXISTING REILS ON RUNWAY 6 END
 - RESTORE TURF IN ALL DISTURBED AREAS
 - RUNWAY 12-30 ROFA TO BE RESTORED TO FAA GUIDELINES PRIOR TO OPENING TO AIRFIELD TRAFFIC

A2 SHEET NOTES
SCALE: NOT TO SCALE

PHASE 2 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	OPEN - SEE NOTE BELOW
RUNWAY 12/30	CLOSED
TAXIWAY A	CLOSED WEST OF TAXIWAY B
TAXIWAY A1	OPEN
TAXIWAY A2	OPEN
TAXIWAY A3	CLOSED
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

NOTE:
WORK IN PHASE 1 AND PHASE 2 WILL BE WITHIN THE OBSTACLE FREE ZONE (OFZ) BUT OUTSIDE OF THE RUNWAY SAFETY AREA (RSA). THEREFORE, OPERATIONAL RESTRICTIONS MAY APPLY AND ALL WORK MUST BE COORDINATED WITH THE FAA AIRPORTS REGIONAL OR DISTRICT OFFICE.

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

- GENERAL PHASING NOTES:**
1. REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
 2. THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
 3. PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 4. CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
 5. CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
 6. THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
 7. CONTRACTOR TO PROVIDE GATE GUARDS AT GATE 5. COSTS FOR GATE GUARDS SHALL BE INCIDENTAL TO ITEM CX-106 SAFETY, SECURITY, AND MAINTENANCE OF TRAFFIC.
 8. ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
		PROJECT NO: N75.006.001
		DATE: FEBRUARY 2026
		DRAWN BY: K.J. FINNILA
		DESIGNED BY: K.J. FINNILA
		CHECKED BY: S.L. MAKHLOUF

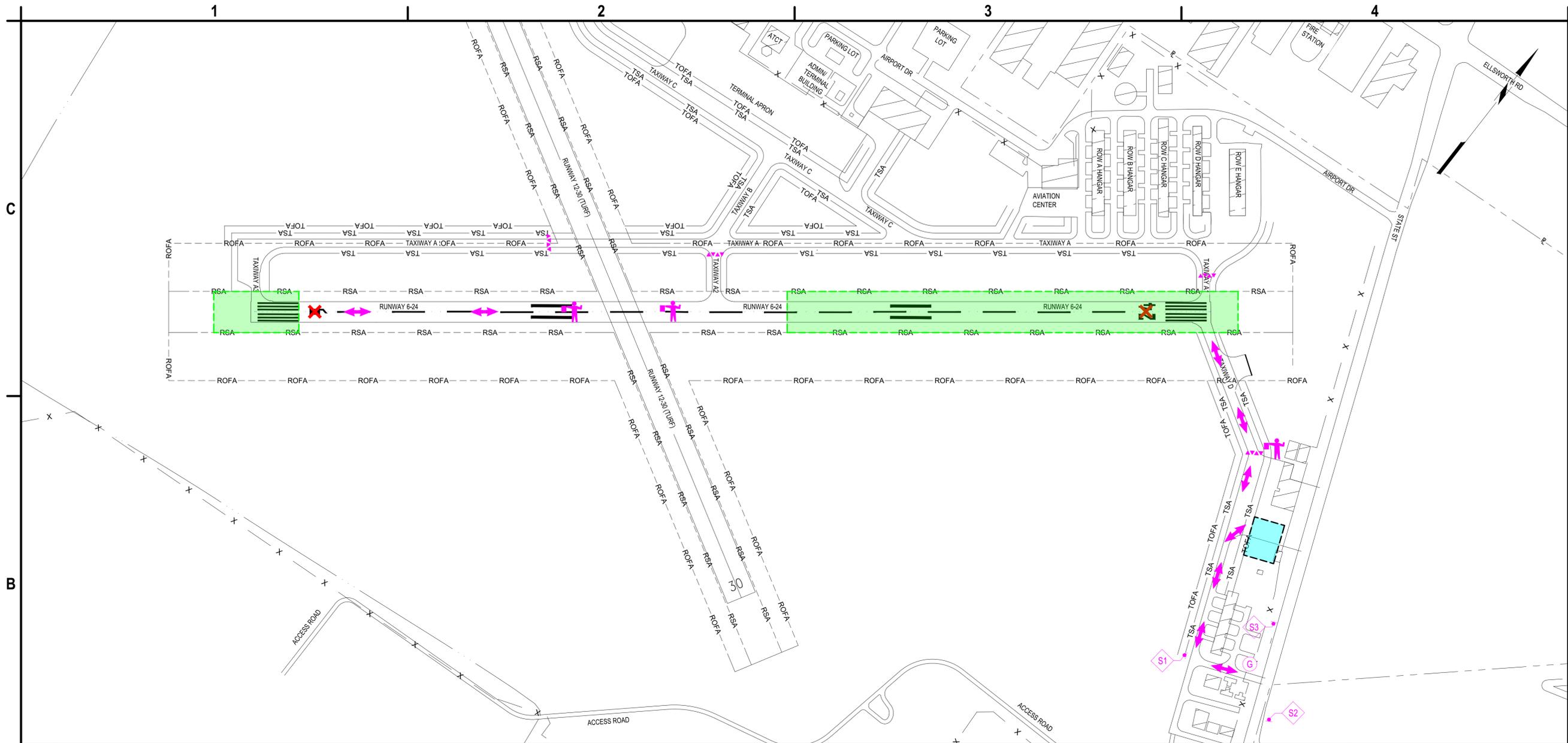
CONSTRUCTION SAFETY PHASING PLAN - PHASE 2

GC103

SHEET NO. 7 OF 20

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B1 CONSTRUCTION SAFETY PHASING PLAN - PHASE 3
SCALE: 1" = 200'

- PHASE 3
- CONTRACTOR'S STAGING AREA
- CONTRACTOR PROVIDED GATE GUARD TO MONITOR ACCESS THROUGH GATE 5
- CONTRACTOR PROVIDED FLAGGER WITH RADIO TO MONITOR CROSSING AT RUNWAY 6/24
- CONTRACTOR'S ACCESS ROUTE
- LOW PROFILE BARRICADES, ITEM CX-106. SEE DETAIL A4/GC501
- TEMPORARY CONSTRUCTION SIGN, ITEM CX-106. SEE DETAIL C3/GC501
- TEMPORARY LIGHTED CLOSED RUNWAY MARKING, ITEM CX-106. SEE DETAIL B2/GC501

- PHASE 3 - 4 CALENDAR DAYS**
CONSTRUCTION:
- REMOVE EXISTING REIL CABLE AND CONDUIT WITHIN THE RUNWAY SAFETY AREA
 - INSTALL NEW CABLE AND CONDUIT WITHIN THE RUNWAY SAFETY AREA
 - RESTORE THE TURF IN DISTURBED AREAS
 - AIRPORT MAINTENANCE MAY COORDINATE REPAINTING SELECT TAXIWAYS/RUNWAY DURING THE RUNWAY 6-24 CLOSURE. WORK WILL BE PERFORMED BY THE AIRPORT AND NOT AS PART OF THIS PROJECT

PHASE 3 OPERATIONAL CLOSURES AND RESTRICTIONS TABLE

LOCATION	STATUS
RUNWAY 6/24	CLOSED
RUNWAY 12/30	OPEN
TAXIWAY A	CLOSED WEST OF RUNWAY 12-30
TAXIWAY A1	CLOSED
TAXIWAY A2	CLOSED
TAXIWAY A3	CLOSED
TAXIWAY B	OPEN
TAXIWAY C	OPEN
TAXIWAY D	CLOSED
TERMINAL APRON	OPEN

- GENERAL PHASING NOTES:**
1. REFER TO ATTACHMENT A - CSPP OF THE GENERAL PROVISIONS FOR SPECIFIC OPERATING REQUIREMENTS DURING WORK ON THE AIRFIELD.
 2. THE CONTRACTOR WILL BE GIVEN THE SPECIFIC NUMBER OF CALENDAR DAYS TO COMPLETE THE WORK AS SHOWN. LIQUIDATED DAMAGES SHALL BE ASSESSED AFTER THE CONTRACT TIME HAS EXPIRED UNLESS THE CONTRACTOR CAN SHOW JUST CAUSE FOR DELAYS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE JUSTIFICATION FOR WAIVING ANY LIQUIDATED DAMAGES CHARGED.
 3. PRIOR TO CONSTRUCTION, CONTRACTOR AND ENGINEER SHALL VIDEOTAPE/PHOTOGRAPH ALL HAUL ROADS TO BE USED DURING THE PROJECT. THE INFORMATION SHALL BE PROVIDED TO THE OWNER PRIOR TO NOTICE TO PROCEED. ANY DAMAGE TO THE PAVEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, PER THE RPR. ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 4. CONTRACTOR SHALL COORDINATE SCHEDULE, RAMP CLOSURES, AND NOTAMS WITH THE RPR AND AIRPORT PRIOR TO STARTING WORK.
 5. CONTRACTOR SHALL DELINEATE THE RUNWAY SAFETY AREA (RSA) ALONG THE WORK AREA USING LOW-PROFILE BARRICADES SPACED 8FT APART, OR AS DIRECTED BY THE RPR.
 6. THE CONTRACTOR SHALL HAVE AT LEAST ONE FULLY OPERATIONAL VACUUM SWEEPER TRUCK AVAILABLE AT ALL TIMES TO CLEAN PAVEMENTS, INCLUDING THE HAUL ROUTE AND PAVEMENT ADJACENT TO THE WORK AREAS. ALL PAVEMENT IS TO BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO OPENING TO AIRCRAFT TRAFFIC.
 7. CONTRACTOR TO PROVIDE GATE GUARDS AT GATE 5. COSTS FOR GATE GUARDS SHALL BE INCIDENTAL TO ITEM CX-106 SAFETY, SECURITY, AND MAINTENANCE OF TRAFFIC.
 8. ANN ARBOR MUNICIPAL AIRPORT IS A TOWERED AIRPORT. PRIOR TO CONSTRUCTION, CONTRACTOR MUST MEET WITH THE FAA AIR TRAFFIC CONTROL TOWER (ATCT) FOR RADIO TRAINING FOR FLAGGING.

A1 LEGEND
SCALE: NOT TO SCALE

A2 SHEET NOTES
SCALE: NOT TO SCALE

A3 AIRFIELD OPERATIONAL REQUIREMENTS
SCALE: NOT TO SCALE

A4 GENERAL PHASING NOTES
SCALE: NOT TO SCALE



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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
		PROJECT NO: N75.006.001
		DATE: FEBRUARY 2026
		DRAWN BY: K.J. FINNILA
		DESIGNED BY: K.J. FINNILA
		CHECKED BY: S.L. MAKHLOUF

CONSTRUCTION SAFETY PHASING PLAN - PHASE 3

GC104

SHEET NO. 8 OF 20

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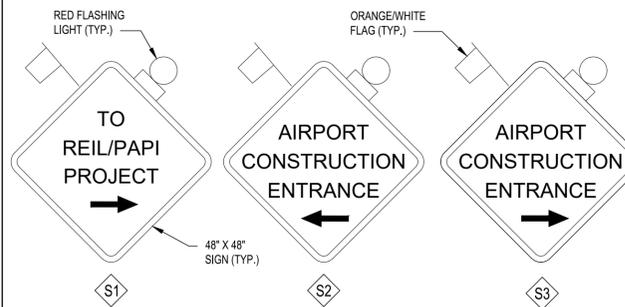
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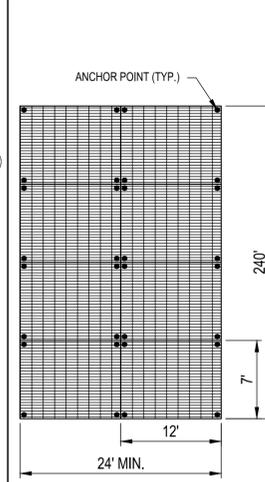
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- SIGN NOTES:**
- SIGN BACKGROUND IS TO BE ORANGE. SIGN LETTERING IS TO BE BLACK, MINIMUM HEIGHT OF 3", AND BE A BOLD LETTERING STYLE SIMILAR TO DETAIL SHOWN ON THIS SHEET.
 - SIGN SHALL BE LOCATED HIGH ENOUGH TO ALLOW EASY VIEWING FROM ALL CONSTRUCTION VEHICLES ENTERING THE CONSTRUCTION SITE.
 - SEE CONSTRUCTION SAFETY PHASING PLANS FOR GENERAL LOCATIONS. THE CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT AND LOCATION OF ALL CONSTRUCTION TRAFFIC SIGNS WITH THE AIRPORT AND RPR.
 - SEE DETAIL B3/EL501, FOR SIGN MOUNTING/ASSEMBLY AND STOP SIGN REQUIREMENTS.
 - ALL COSTS FOR PROVIDING INSTALLING, MAINTAINING, AND REMOVAL OF TEMPORARY SIGNS SHALL BE INCLUDED UNDER ITEM CX-106.



- NOTES:**
- FOD REUSABLE CONSTRUCTION MAT SHALL BE COMPRESSION MOLDED HDPE, WITH CRUSH RATING OF 20,000 LBS PER PYRAMID OR OTHER SHAPE. CONTRACTOR SHALL VERIFY DIMENSIONS OF MATS WITH MANUFACTURER PRIOR TO ORDERING FOR CORRECT SIZING.
 - THE CONTRACTOR TO LOCATE EXISTING UTILITIES PRIOR TO STAKING THE FODS REUSABLE CONSTRUCTION MAT TO ENSURE THAT EXISTING UTILITIES WILL NOT BE IMPACTED.
 - THE SIZE OF ONE (1) INDIVIDUAL FOD MAT IS 12 FEET WIDE AND 7 FEET LONG IN THE DIRECTION OF TRAVEL. LAYOUT CONFIGURATION SHOWN IS A TYPICAL LAYOUT. HOWEVER, EACH SITE MUST BE EVALUATED TO DETERMINE THE PROPER CONFIGURATION BASED ON THE SITE CONDITIONS. ADDITIONAL FOD MATS MAY BE NECESSARY TO ACCOMMODATE A LARGER CONSTRUCTION EQUIPMENT. CONTRACTOR TO COORDINATE WITH THE PHASING PLANS AD THE RPR AS NECESSARY.
 - ONCE THE LOCATION IS DETERMINED, ANY EXCESSIVE UNEVEN TERRAIN (SUCH AS LARGE ROCKS, LANDSCAPING MATERIALS, OR SUDDEN ABRUPT CHANGES IN ELEVATION) SHOULD BE LEVELED OUT OR REMOVED.
 - THE FOD REUSABLE CONSTRUCTION MAT SHALL BE INSTALLED, MAINTAINED AND REMOVED PER THE MANUFACTURER'S RECOMMENDATIONS.
 - VEHICLES SHOULD TRAVEL DOWN THE LENGTH OF THE FOD PREVENTION CONSTRUCTION MAT SYSTEM AND NOT CUT ACROSS THE MATS.
 - DRIVERS SHOULD TURN THE WHEEL OF THEIR VEHICLES SUCH THAT THE VEHICLE WILL MAKE A SHALLOW S-TURN ROUTE DOWN THE LENGTH OF THE FOD PREVENTIONS CONSTRUCTION MAT SYSTEM.
 - MATS SHOULD BE CLEANED ONCE THE VOIDS BETWEEN THE PYRAMIDS BECOME FULL OF SEDIMENT. TYPICALLY THIS WILL NEED TO BE PERFORMED WITHIN TWO WEEKS AFTER A STORM EVENT. BRUSHING IS THE PREFERRED METHOD OF CLEANING, EITHER MANUALLY OR MECHANICALLY.
 - THE USE OF ICE MELT, ROCK SALT, SNOW MELT, DE-ICER, ETC. SHOULD BE UTILIZED AS NECESSARY DURING THE WINTER MONTHS AND AFTER A SNOW EVENT TO PREVENT ICE BUILDUP.
 - AT THE END OF THE PHASE, FOD CONSTRUCTION MATS SHALL BE REMOVED AND ALL TURF ALONG THE HAUL ROUTE MUST BE RESTORED TO MEET RSA AND ROFA GRADING REQUIREMENTS.
 - THE INSTALLATION AND REMOVAL OF THIS SYSTEM SHALL BE PAID FOR UNDER CX-106.

C3 TEMPORARY CONSTRUCTION SIGN DETAIL

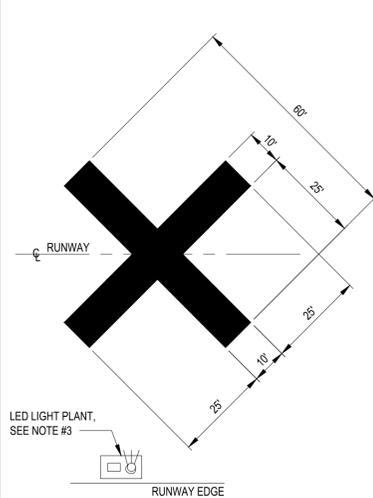
SCALE: NOT TO SCALE

C4 FOD CONSTRUCTION MAT DETAIL

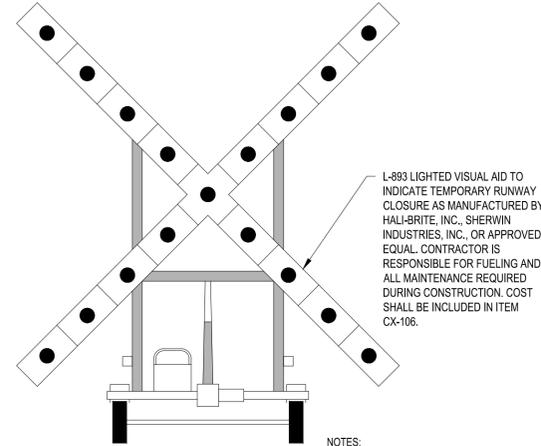
SCALE: NOT TO SCALE

B

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- NOTES:**
- CLOSED RUNWAY MARKINGS SHALL BE YELLOW AS MANUFACTURED BY NEUBERT AERO CORP., TAMPA FLA., OR APPROVED EQUAL. IN LIEU THEREOF, CONTRACTOR MAY CONSTRUCT CLOSED RUNWAY MARKINGS FROM ANY OF THE FOLLOWING MATERIALS: DOUBLE-LAYERED PAINTED SNOW FENCE, COLORED PLASTIC, PAINTED SHEETS OF PLYWOOD, OR SIMILAR MATERIALS.
 - CLOSED RUNWAY MARKINGS SHALL BE SECURED TO PREVENT MOVEMENT BY PROP WASH, JET BLAST, OR OTHER WIND CURRENTS.
 - NON-LIGHTED RUNWAY CLOSURE MARKINGS SHALL BE ILLUMINATED BY A LIGHT PLANT LOCATED AT THE EDGE OF RUNWAY PAVEMENT FROM DUSK TILL DAWN. MAXIMUM HEIGHT SHALL BE 25' OR MAXIMUM SPECIFIED IN THE CSPP.
 - CLOSED RUNWAY MARKINGS SHALL BE PLACED AT EACH END OF THE RUNWAY DIRECTLY OR OR AS NEAR AS PRACTICABLE TO THE RUNWAY DESIGNATION NUMBERS.



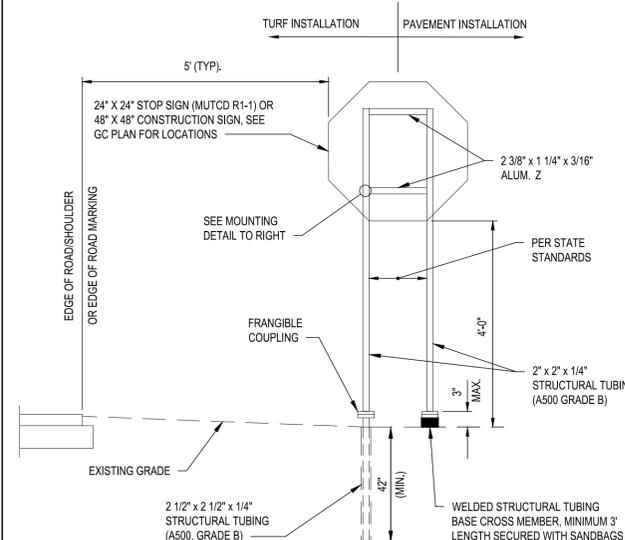
- NOTES:**
- CLOSED RUNWAY MARKINGS SHALL BE PLACED AT EACH END OF THE RUNWAY DIRECTLY OR OR AS NEAR AS PRACTICABLE TO THE RUNWAY DESIGNATION NUMBERS, OR AS DESIGNATED BY THE RPR.

B1 CLOSED RUNWAY MARKING DETAIL

SCALE: NOT TO SCALE

B2 LIGHTED CLOSED RUNWAY MARKING DETAIL

SCALE: NOT TO SCALE



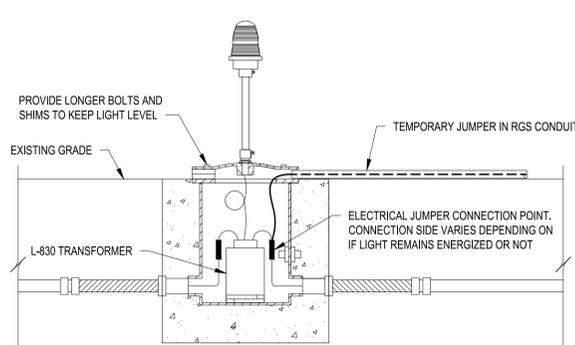
- NOTES:**
- COST FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVAL OF TEMPORARY SIGNS SHALL BE INCLUDED UNDER ITEM CX-106.
 - ALL SIGNS SHALL CONFORM IN SIZE, APPEARANCE AND REFLECTORIZATION TO THE REQUIREMENTS OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - AT PROJECT COMPLETION, ALL POSTS AND SIGNS SHALL BE REMOVED FROM AIRPORT PROPERTY AND SHALL REMAIN PROPERTY OF THE CONTRACTOR.
 - SIGNS SHALL NOT BE INSTALLED WITHIN ANY ACTIVE RSA, TSA, TOFA OR ROFA.

B3 TEMPORARY CONSTRUCTION SIGN ASSEMBLY DETAIL

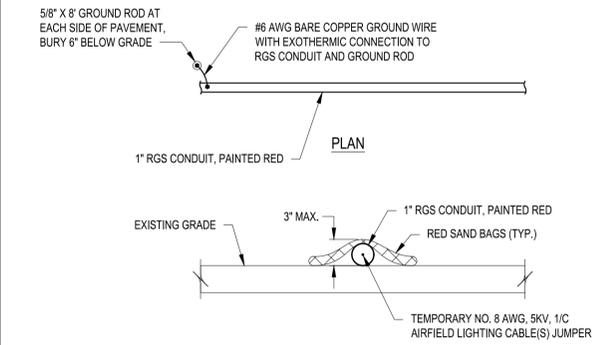
SCALE: NOT TO SCALE

A

A



- NOTES:**
- ALL COSTS ASSOCIATED WITH FURNISHING, MAINTAINING, AND REMOVAL OF ELECTRICAL JUMPER CONNECTIONS SHALL BE INCLUDED UNDER ITEM CX-106. SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC.



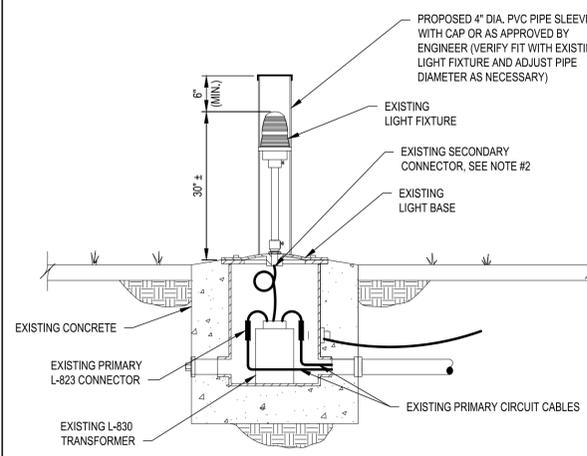
- NOTES:**
- CONNECT CABLES AT EXISTING TRANSFORMER OR AT EXISTING CABLE SPLICE POINTS. DO NOT INTRODUCE ANY NEW SPLICES.
 - CONDUIT STRAPS WITH MASONRY FASTENERS MAY BE USED IN LIEU OF SANDBAGS, ONLY ON PAVEMENT TO BE DEMOLISHED. FASTENERS SHALL NOT BE USED ON NEW PAVEMENT OR EXISTING PAVEMENT TO REMAIN. SPACING SHALL NOT EXCEED 5 FEET.
 - ALL COSTS ASSOCIATED WITH FURNISHING, MAINTAINING, AND REMOVAL OF TEMPORARY JUMPER CABLES SHALL BE INCLUDED UNDER ITEM CX-106. SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC.
 - TEMPORARY CABLE IN GRASS AREAS SHALL BE MARKED WITH STAKES AND FLAGGING. TEMPORARY CABLES IN PAVED AREAS SHALL BE MARKED WITH BARRICADES.

A1 ELECTRICAL JUMPER CONNECTION DETAIL

SCALE: NOT TO SCALE

A2 TEMPORARY JUMPER CONDUIT DETAIL

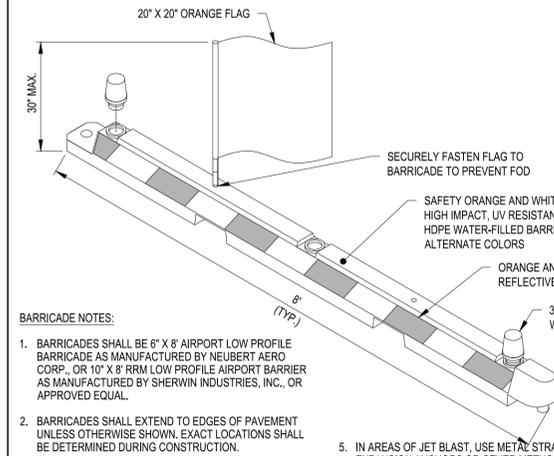
SCALE: NOT TO SCALE



- NOTES:**
- ALL COSTS ASSOCIATED WITH EDGE LIGHT COVERS SHALL BE INCLUDED IN ITEM CX-106.
 - THE CONTRACTOR MAY ELECT TO DISCONNECT THE LIGHT AT THE TRANSFORMER SECONDARY L-823 CONNECTION AT NO ADDITIONAL COST. CIRCUIT CONNECTIVITY MUST BE MAINTAINED FOR THOSE SECTIONS OF TAXIWAY / RUNWAY NOT CLOSED TO AIRCRAFT TRAFFIC.

A3 TEMPORARY EDGE LIGHT COVER DETAIL

SCALE: NOT TO SCALE



- BARRICADE NOTES:**
- BARRICADES SHALL BE 6" X 8" AIRPORT LOW PROFILE BARRICADE AS MANUFACTURED BY NEUBERT AERO CORP., OR 10" X 8" RRM LOW PROFILE AIRPORT BARRIER AS MANUFACTURED BY SHERWIN INDUSTRIES, INC., OR APPROVED EQUAL.
 - BARRICADES SHALL EXTEND TO EDGES OF PAVEMENT UNLESS OTHERWISE SHOWN. EXACT LOCATIONS SHALL BE DETERMINED DURING CONSTRUCTION.
 - BARRICADES SHALL BE FILLED WITH WATER AND INTERLOCKED WITH EACH OTHER. BARRICADES WHICH HAVE TO BE MOVED DAILY MAY BE ANCHORED TO THE PAVEMENT BY AN ALTERNATE METHOD APPROVED BY AIRPORT OPERATIONS OR THE RPR.
 - COORDINATE ARFF ACCESS WITH OPERATIONS.
 - IN AREAS OF JET BLAST, USE METAL STRAPS AND EXPANSION ANCHORS OR OTHER METHOD APPROVED BY RPR TO SECURE BARRICADES TO THE PAVEMENT.
 - ONE FLAG AND TWO WARNING LIGHTS SHALL BE ATTACHED TO EACH BARRICADE.
 - ALL COSTS ASSOCIATED WITH THIS ITEM SHALL BE INCLUDED IN ITEM CX-106.

A4 INTERLOCKING AIRFIELD BARRICADE DETAIL

SCALE: NOT TO SCALE



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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
	PROJECT NO:	N75.006.001
	DATE:	FEBRUARY 2026
	DRAWN BY:	K.J. FINNILA
	DESIGNED BY:	K.J. FINNILA
	CHECKED BY:	S.L. MAKHLOUF
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

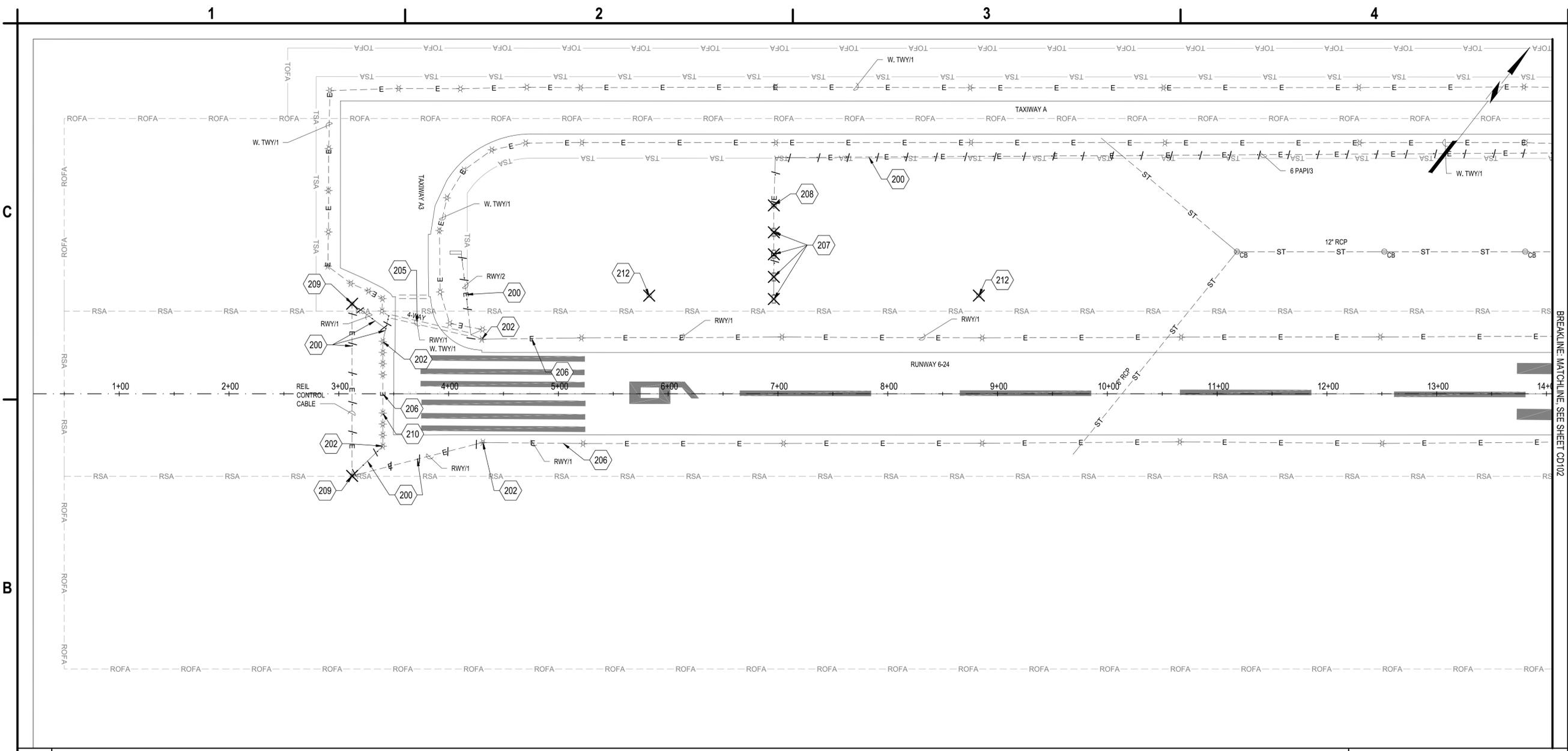
CONSTRUCTION SAFETY AND PHASING DETAILS

GC501

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B1 EXISTING CONDITIONS AND DEMOLITION PLAN
SCALE: 1" = 50'



- A1** KEYED NOTES
SCALE: NOT TO SCALE
- 200. REMOVE EXISTING AIRFIELD CABLES FROM CONDUIT AND ABANDON CONDUIT IN PLACE. IF CABLES ARE DIRECT BURIED, ABANDON CABLES IN PLACE. REMOVE PORTIONS OF CONDUIT IF ENCOUNTERED BY INCIDENTAL PROJECT EXCAVATION, COST INCIDENTAL TO ITEM L-110
 - 202. LIMIT OF CABLE/CONDUIT REMOVAL
 - 205. EXISTING DUCT BANK TO REMAIN (TYP.)
 - 206. EXISTING CONDUIT AND CABLES TO BE PROTECTED (TYP.)
 - 207. REMOVE EXISTING PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM LIGHT HOUSING ASSEMBLIES, LANDSCAPE TIMBERS, LANDSCAPE STONE, CONCRETE PIER FOUNDATIONS, AND ASSOCIATED ELECTRICAL JUNCTION CAN, ITEM L-125. AREA TO BE BACKFILLED AND RESTORED
 - 208. REMOVE EXISTING POWER CONTROL ASSEMBLY, INCLUDING RACK AND FOUNDATIONS. INCIDENTAL ITEM L-125 PAPI REMOVAL
 - 209. REMOVE EXISTING RUNWAY END IDENTIFIER LIGHT (REIL), ITEM L-125. EXISTING FOUNDATION TO BE REMOVED AND AREA RESTORED
 - 210. EXISTING RUNWAY THRESHOLD LIGHTS TO BE PROTECTED IN PLACE (TYP.) REMOVE AIRFIELD ELECTRICAL CABLE, ITEM L-108
 - 212. PREVIOUSLY ABANDONED VASI FOUNDATION TO BE REMOVED, ITEM L-125

- A3** SHEET NOTES
SCALE: NOT TO SCALE
- NOTES:**
1. THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN AT ALL TIMES. ALL EXISTING UTILITIES SHALL BE FIELD LOCATED AND CONSPICUOUSLY MARKED AND MAINTAINED.
 2. ANY DAMAGE OR CRACKING OF EXISTING CONCRETE OR BITUMINOUS PAVEMENT CAUSED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REMOVED AND REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
 3. THE PAY ITEM P-101 SOFT DIG, IS TO BE USED TO FIELD VERIFY ELECTRICAL CIRCUITRY AND DEPTHS OF UTILITY CROSSINGS.



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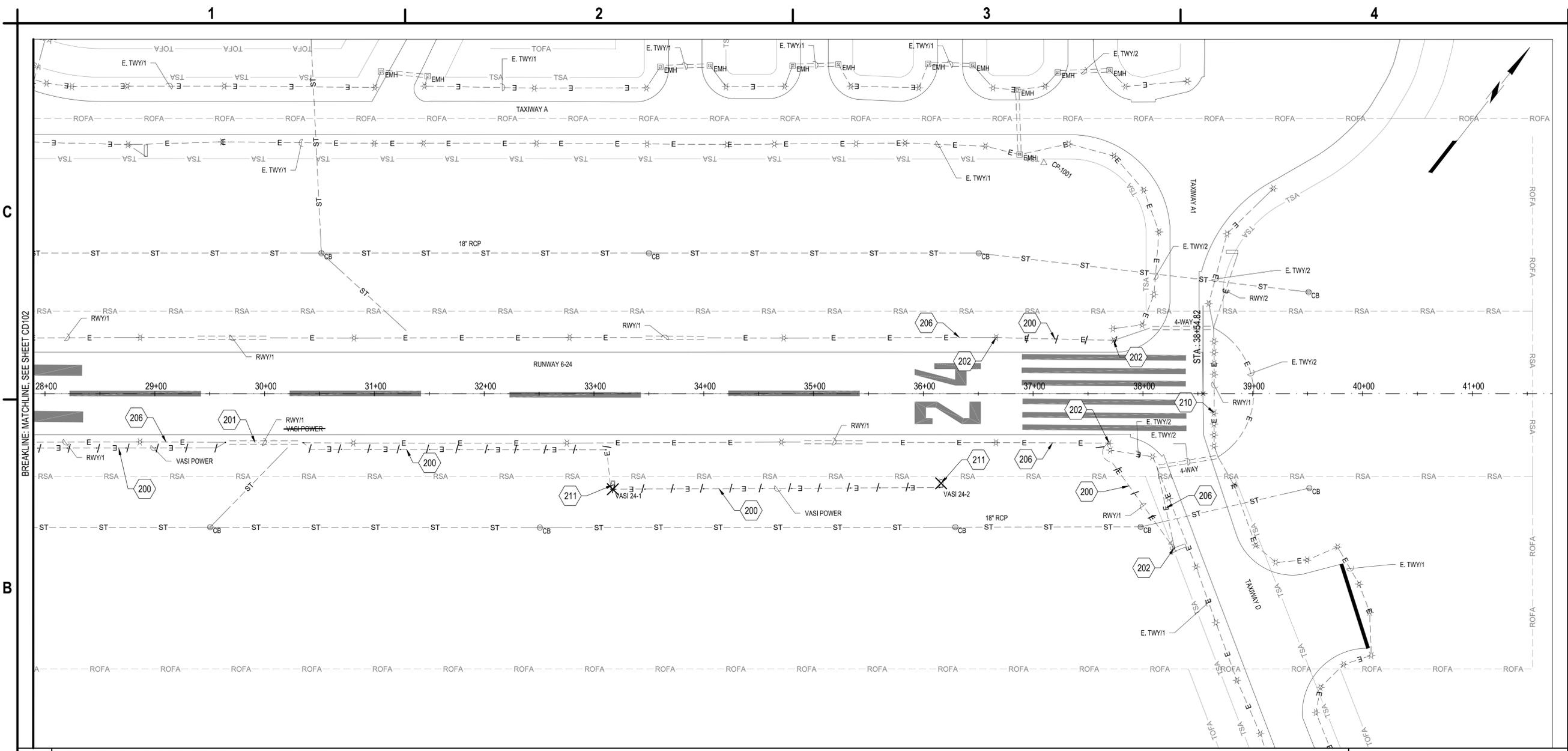
EXISTING CONDITIONS AND DEMOLITION PLAN

CD101

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RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

B1 EXISTING CONDITIONS AND DEMOLITION PLAN
 SCALE: 1" = 50'



- A1 KEYED NOTES**
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- 200. REMOVE EXISTING AIRFIELD CABLES FROM CONDUIT AND ABANDON CONDUIT IN PLACE. IF CABLES ARE DIRECT BURIED, ABANDON CABLES IN PLACE. REMOVE PORTIONS OF CONDUIT IF ENCOUNTERED BY INCIDENTAL PROJECT EXCAVATION. COST INCIDENTAL TO ITEM L-110
 - 201. REMOVE EXISTING AIRFIELD CABLE, DUCT BANK TO REMAIN. INCIDENTAL TO ITEM L-108
 - 202. LIMIT OF CABLE/CONDUIT REMOVAL
 - 206. EXISTING CONDUIT AND CABLES TO BE PROTECTED (TYP.)
 - 210. EXISTING RUNWAY THRESHOLD LIGHTS TO BE PROTECTED IN PLACE (TYP.) REMOVE AIRFIELD ELECTRICAL CABLE, ITEM L-108
 - 211. REMOVE EXISTING VISUAL APPROACH SLOPE INDICATOR (VASI) SYSTEM, ITEM L-125. EXISTING FOUNDATIONS TO BE REMOVED AND AREA RESTORED

- A3 SHEET NOTES**
 SCALE: NOT TO SCALE
- NOTES:**
1. THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN AT ALL TIMES. ALL EXISTING UTILITIES SHALL BE FIELD LOCATED AND CONSPICUOUSLY MARKED AND MAINTAINED.
 2. ANY DAMAGE OR CRACKING OF EXISTING CONCRETE OR BITUMINOUS PAVEMENT CAUSED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REMOVED AND REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
 3. THE PAY ITEM P-101 SOFT DIG, IS TO BE USED TO FIELD VERIFY ELECTRICAL CIRCUITRY AND DEPTHS OF UTILITY CROSSINGS.

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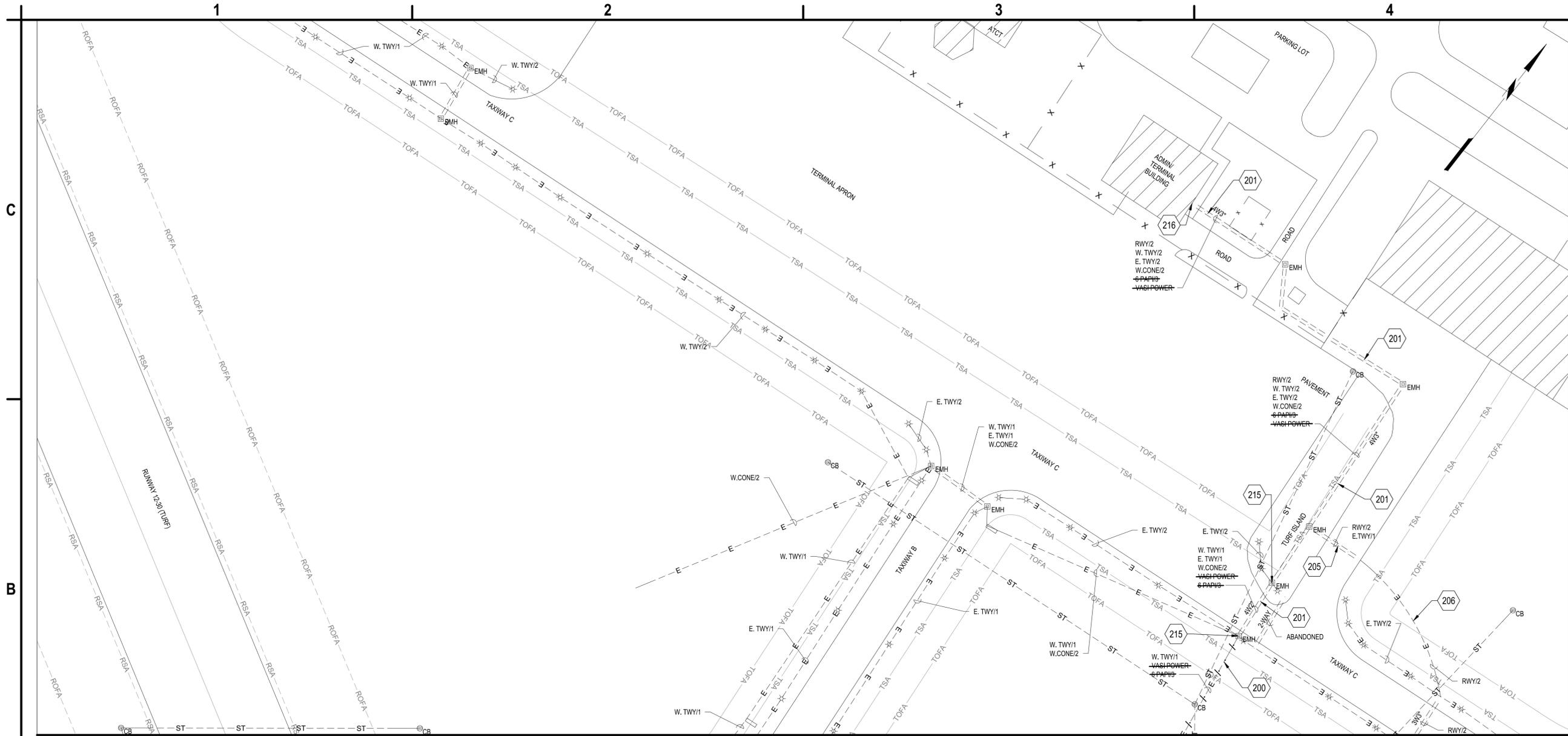
EXISTING CONDITIONS AND DEMOLITION PLAN

CD103

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BREAKLINE: MATCHLINE, SEE SHEET CD102



B1 EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 50'

- 200. REMOVE EXISTING AIRFIELD CABLES FROM CONDUIT AND ABANDON CONDUIT IN PLACE. IF CABLES ARE DIRECT BURIED, ABANDON CABLES IN PLACE. REMOVE PORTIONS OF CONDUIT IF ENCOUNTERED BY INCIDENTAL PROJECT EXCAVATION. COST INCIDENTAL TO ITEM L-110
- 201. REMOVE EXISTING AIRFIELD CABLE, DUCT BANK TO REMAIN. INCIDENTAL TO ITEM L-108
- 205. EXISTING DUCT BANK TO REMAIN (TYP.)
- 206. EXISTING CONDUIT AND CABLES TO BE PROTECTED (TYP.)
- 215. EXISTING ELECTRICAL STRUCTURE TO REMAIN, PROTECT IN PLACE (TYP.)
- 216. AIRFIELD ELECTRICAL EQUIPMENT INSIDE ADMINISTRATION/TERMINAL BUILDING. REMOVE EXISTING CABLES FROM WIREWAYS AND CONDUITS TO THE EXISTING CONTACTORS

NOTES:

1. THE ACTUAL LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN AT ALL TIMES. ALL EXISTING UTILITIES SHALL BE FIELD LOCATED AND CONSPICUOUSLY MARKED AND MAINTAINED.
2. ANY DAMAGE OR CRACKING OF EXISTING CONCRETE OR BITUMINOUS PAVEMENT CAUSED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REMOVED AND REPAIRED AS DETERMINED BY THE RPR AT THE CONTRACTOR'S EXPENSE.
3. THE PAY ITEM P-101 SOFT DIG, IS TO BE USED TO FIELD VERIFY ELECTRICAL CIRCUITRY AND DEPTHS OF UTILITY CROSSINGS.

A1 KEYED NOTES

SCALE: NOT TO SCALE

A3 SHEET NOTES

SCALE: NOT TO SCALE



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EXISTING CONDITIONS AND DEMOLITION PLAN

CD104

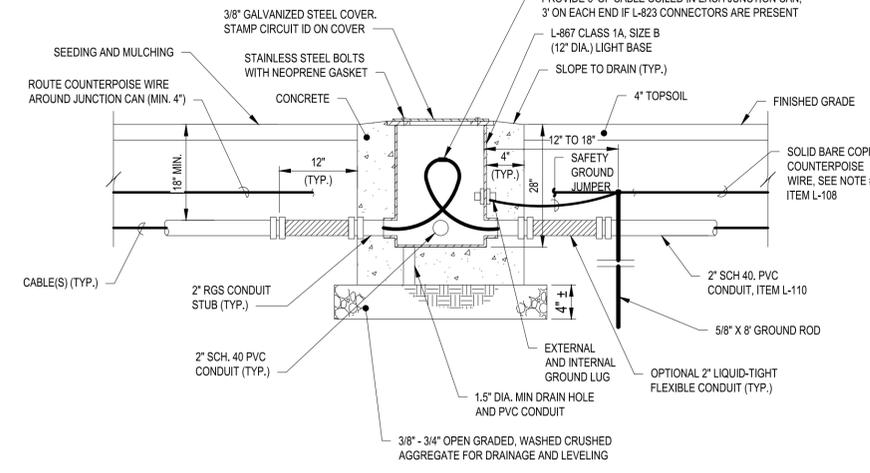
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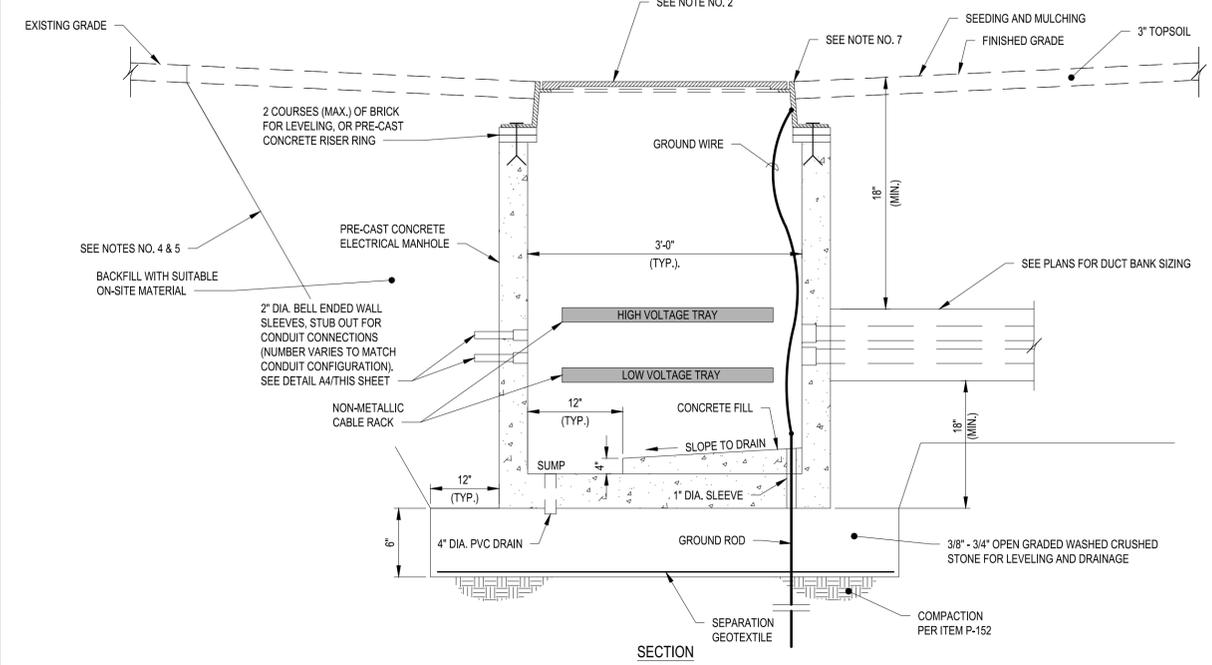
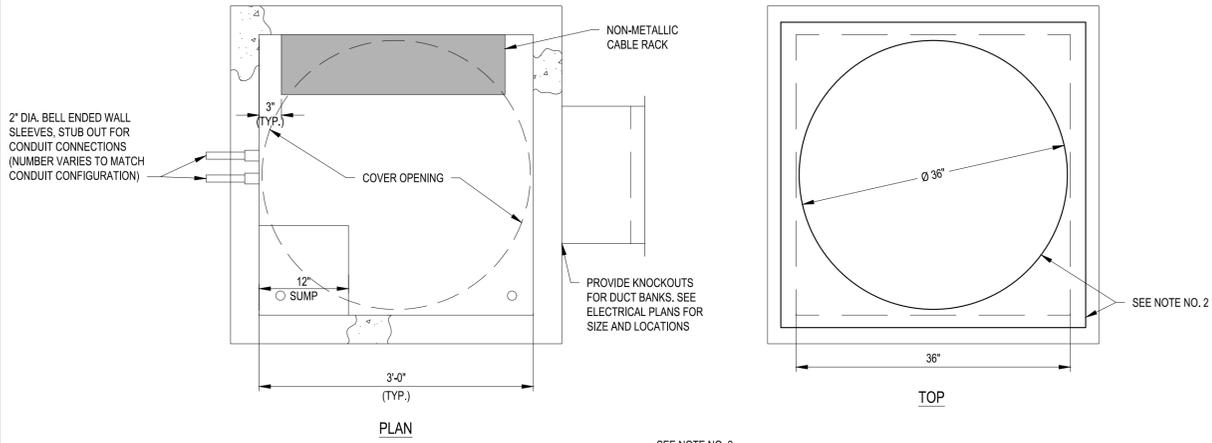
- PRE-CAST MANHOLE SHALL BE CONSTRUCTED TO SUPPORT AASHTO HS-25 LOADING, ITEM L-115.
- SQUARE FRAME FLANGE AND CIRCULAR COVER SHALL BE EJ CATALOG NO. 1833Z1PT/1833APT ASSEMBLY, NEEHAN FOUNDRY CATALOG NO. R-1795-M OR APPROVED EQUAL. FRAME SHALL BE ANCHORED TO CONCRETE STRUCTURE IN 4 LOCATIONS. DRILL AND GROUT (4) 1/2" DIA. ANCHOR BOLTS WITH 6" EMBEDMENT.
- EXCAVATIONS, TRENCHING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
- EXCAVATIONS SHALL NOT UNDERMINE EXISTING PAVEMENTS, STRUCTURES OR UTILITIES.
- ALL CONNECTIONS TO STRUCTURES SHALL BE SEALED WATERTIGHT.
- STAMP "ELECTRIC" ON COVERS OF ELECTRICAL PULLBOXES
- PROVIDE 1 THREADED INSERT AND PULLING EYE ON EACH WALL.
- BEDDING / SPECIAL BACKFILL AND SEPARATION GEOTEXTILE SHALL BE INCLUDED IN THE COST OF THE ELECTRICAL PULLBOX.
- REINFORCING STEEL IS NOT SPECIFICALLY SHOWN AND SHALL BE DESIGNED BY THE PRECAST MANUFACTURER AND INCLUDED IN THE SHOP DRAWING SUBMITTALS.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM-615, GRADE 60.
- THE MINIMUM REBAR COVER SHALL BE 2" FROM ANY SURFACE.
- ALL CONNECTIONS TO STRUCTURES SHALL BE SEALED WATERTIGHT.
- CONDUIT LOCATIONS VARY. SEE LIGHTING PLAN SHEET FOR DIRECTIONS.
- INSTALL 10' OF LOOPED CABLE IN EACH MANHOLE.
- GROUND ALL METALLIC PARTS OF THE MANHOLE, INCLUDING CASTING, WITH A NO. 6 AWG GREEN INSULATED STRANDED COPPER WIRE.
- DUCT BANKS SHALL DRAIN TOWARD THE MANHOLE WITH THE CROWN OF THE DUCT BANK MIDWAY BETWEEN STRUCTURES. THE DUCT SLOPE SHALL BE THREE (3) INCHES MINIMUM PER ONE HUNDRED (100) FEET, UNLESS OTHERWISE SPECIFIED.
- TWO 2" PVC SLEEVES SHALL BE INSTALLED IN EACH WALL OF EVERY MANHOLE WHERE DUCT BANKS AND CONDUITS ARE NOT SHOWN ON THE PLANS. THE SLEEVES SHALL BE POSITIONED 24" MINIMUM BELOW THE GROUND LEVEL TO THE TOP OF THE SLEEVE. THESE SLEEVES ARE FOR FUTURE USE.

- INSTALL PVC PLUGS IN ALL EMPTY SLEEVES AND DUCTS.
- CONTRACTOR SHALL CORE DRILL WITH A DIAMOND BIT DRILL, IF REQUIRED FOR OPENINGS FOR NEW CONDUIT. CORED OPENINGS AND CONDUIT PENETRATIONS SHALL BE SEALED WATERTIGHT PRIOR TO BACKFILL.
- MANHOLES SHALL BE LOCATED AS SHOWN ON THE PLANS. THE PLACEMENT DEPTH OF THE MANHOLE MAY VARY TO ACCOMMODATE THE DUCT BANKS.
- ALL MANHOLES SHALL BE PROVIDED WITH A HEAVY DUTY NON-METALLIC CABLE RACK. LOWER ARM OF CABLE RACK SHALL BE LOCATED 12" ABOVE THE FLOOR OF THE MANHOLE. PROVIDE TWO 6" ARMS PER CABLE RACK AS MANUFACTURED BY UNDERGROUND DEVICES INCORPORATED OR APPROVED EQUAL. BOTTOM SHALL BE A 3" SADDLE AND TOP A 6" ARM MOUNT USING STAINLESS STEEL HARDWARE AS SPECIFIED BY THE MANUFACTURER.
- A PULLING IRON SHALL BE PROVIDED IN EACH MANHOLE OPPOSITE EACH CONDUIT ENTRANCE AND KNOCKOUT. THE PULLING IRON WILL BE POSITIONED 4" BELOW THE LEVEL OF CONDUIT OR KNOCKOUT.
- IN THE EVENT ANY MANHOLE COVER IS NOT INSTALLED WHEN BOX IS PLACED, THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO ASSURE SAFETY. THE SAFETY MEASURES SHALL INCLUDE, BUT NOT LIMITED TO BARRICADING THE MANHOLE SITE AND COVERING THE HOLE.
- ALL MANHOLE STRUCTURES SHALL BE SET SLIGHTLY ABOVE THE FINISHED GRADE FOR THE SURROUNDING AREA. ASPHALT OR SODDING, AS CALLED FOR ON THE PLANS, SHALL BE PLACED FLUSH WITH THE TOP OF CASTING AND GENTLY SLOPED AWAY FROM THE STRUCTURE TO PREVENT THE PONDING OR INFILTRATION OF WATER.
- EACH MANHOLE SHALL INCLUDE A 5/8" DIAMETER BY 8'-0" MIN. LONG GROUND ROD. EACH GROUND ROD SHALL BE INDIVIDUALLY TESTED BY THE CONTRACTOR PRIOR TO CONNECTION TO THE COUNTERPOISE TO ENSURE A NOT-TO-EXCEED EARTH RESISTANCE OF 25 OHMS. ADDITIONAL SECTIONS OF GROUND ROD SHALL BE ADDED TO OR A GROUND GRID INSTALLED TO ACHIEVE THE 25 OHM REQUIREMENT.
- ALL CABLES AND CONNECTORS SHALL BE RACKED AND TIED ABOVE MANHOLE FLOOR. THE CONNECTORS AND CABLES SHALL BE EASILY ACCESSIBLE TO THE AIRFIELD MAINTENANCE ELECTRICIANS FROM THE EXTERIOR OF THE MANHOLE.
- THE MAXIMUM DEPTH OF THE STRUCTURES SHALL BE 3" MEASURED FROM THE SURFACE TO THE BOTTOM OF THE STRUCTURE.
- CONNECTIONS OF EXISTING OR PROPOSED CONDUITS OR DUCT BANK TO MANHOLE, INCLUDING CONCRETE, CONDUIT, CONNECTIONS AND BACKFILL SHALL BE INCIDENTAL TO ITEM L-115.
- ALL MATERIALS AND COMPONENTS SHOWN ARE INCIDENTAL TO THE ELECTRICAL MANHOLE, ITEM L-115.

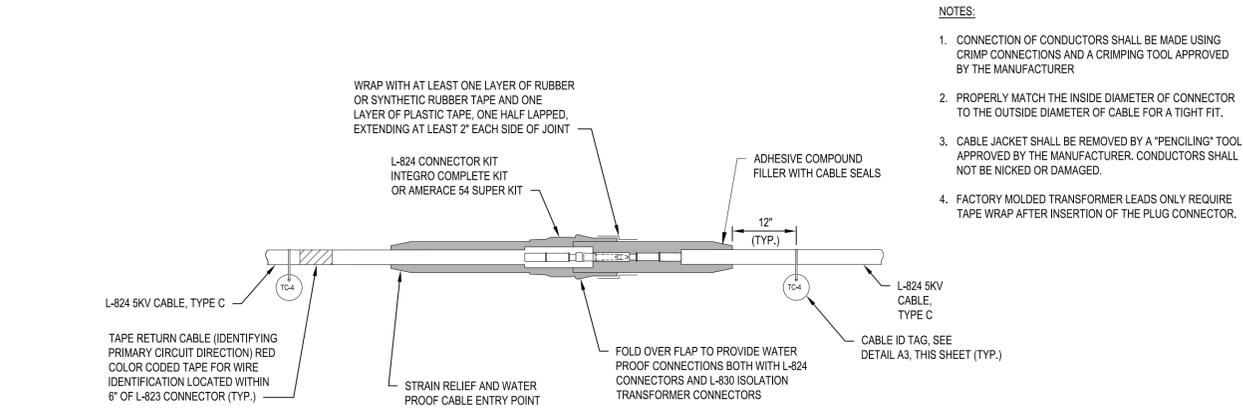


- JUNCTION CAN NOTES:
- ALL JUNCTION CANS SHALL HAVE FOUR CONDUIT STUBS SPACED 90° APART. CAP CONDUIT IF STUB IS NOT OCCUPIED. SEE PLANS FOR NUMBER AND LOCATION OF STUBS.
 - INSTALL A JUNCTION CAN AT INTERVALS NOT EXCEEDING 500 FT. WHERE THERE IS NOT ACCESS FOR PULLING CABLES AND TESTING.
 - CONNECT A SAFETY GROUND JUMPER TO THE EXTERNAL GROUND LUG AND ATTACH IT TO A 5/8" DIA. x 8 FT LONG (MIN.) GROUND ROD.
 - AT INTERVALS NOT EXCEEDING 500 FT, CONNECT THE COUNTERPOISE WIRE TO A 5/8" DIA. x 8 FT LONG (MIN.) GROUND ROD.
 - THE DESIGN INTENT IS TO MINIMIZE THE NUMBER OF SPLICES. SPLICE CABLES ONLY WHERE REQUIRED AND AS APPROVED BY THE RPR. SPLICES ARE NOT ALLOWED IN FAA REIL AND PAPI CONTROL CABLES.

C3 ELECTRICAL JUNCTION CAN DETAIL (IN TURF)
SCALE: NOT TO SCALE

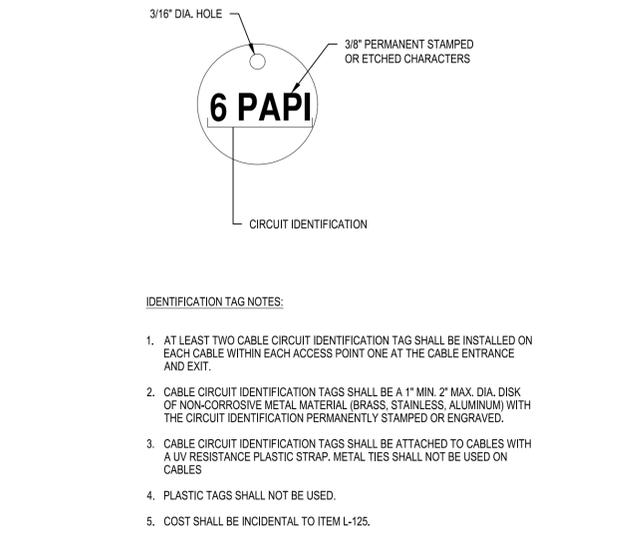


A1 PRECAST ELECTRICAL MANHOLE DETAIL [AASHTO RATED]
SCALE: NOT TO SCALE



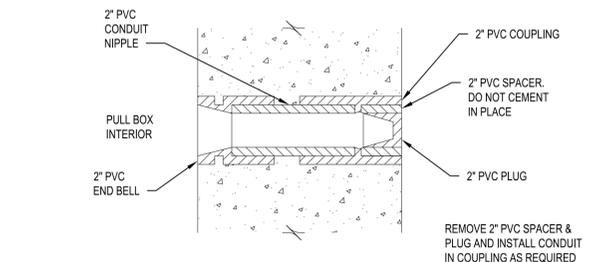
- NOTES:
- CONNECTION OF CONDUCTORS SHALL BE MADE USING CRIMP CONNECTIONS AND A CRIMPING TOOL APPROVED BY THE MANUFACTURER
 - PROPERLY MATCH THE INSIDE DIAMETER OF CONNECTOR TO THE OUTSIDE DIAMETER OF CABLE FOR A TIGHT FIT.
 - CABLE JACKET SHALL BE REMOVED BY A "PENICLING" TOOL APPROVED BY THE MANUFACTURER. CONDUCTORS SHALL NOT BE NICKED OR DAMAGED.
 - FACTORY MOLDED TRANSFORMER LEADS ONLY REQUIRE TAPE WRAP AFTER INSERTION OF THE PLUG CONNECTOR.

B3 CABLE CONNECTOR DETAIL
SCALE: NOT TO SCALE



- IDENTIFICATION TAG NOTES:
- AT LEAST TWO CABLE CIRCUIT IDENTIFICATION TAG SHALL BE INSTALLED ON EACH CABLE WITHIN EACH ACCESS POINT ONE AT THE CABLE ENTRANCE AND EXIT.
 - CABLE CIRCUIT IDENTIFICATION TAGS SHALL BE A 1" MIN. 2" MAX. DIA. DISK OF NON-CORROSIVE METAL MATERIAL (BRASS, STAINLESS ALUMINUM) WITH THE CIRCUIT IDENTIFICATION PERMANENTLY STAMPED OR ENGRAVED.
 - CABLE CIRCUIT IDENTIFICATION TAGS SHALL BE ATTACHED TO CABLES WITH A UV RESISTANCE PLASTIC STRAP. METAL TIES SHALL NOT BE USED ON CABLES
 - PLASTIC TAGS SHALL NOT BE USED.
 - COST SHALL BE INCIDENTAL TO ITEM L-125.

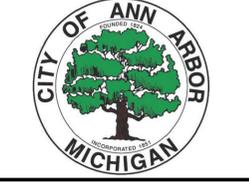
A3 CABLE CIRCUIT IDENTIFICATION TAG DETAIL
SCALE: NOT TO SCALE



A4 2" SLEEVE THROUGH PULL BOX DETAIL
SCALE: NOT TO SCALE



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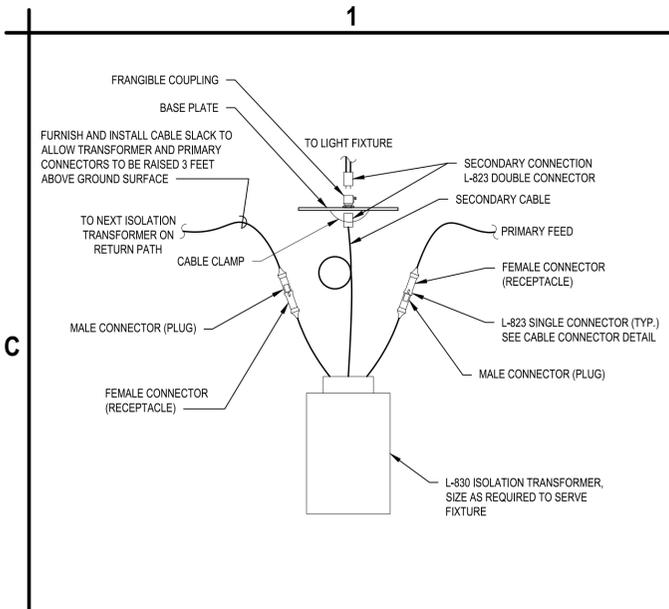
ELECTRICAL DETAILS

EL502

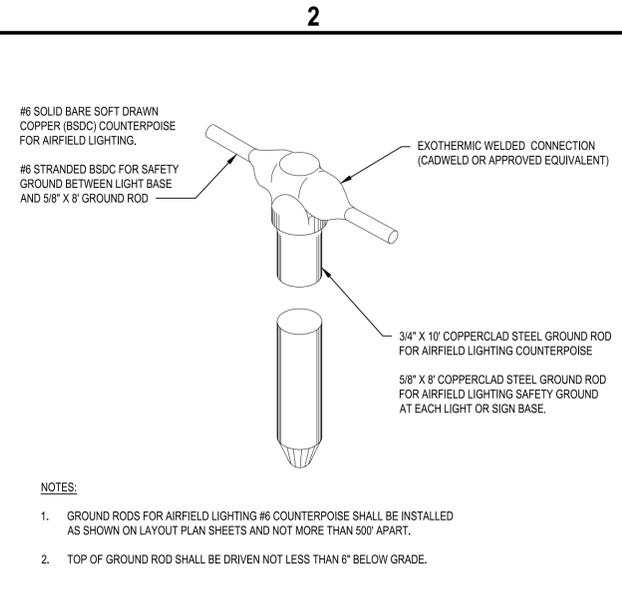
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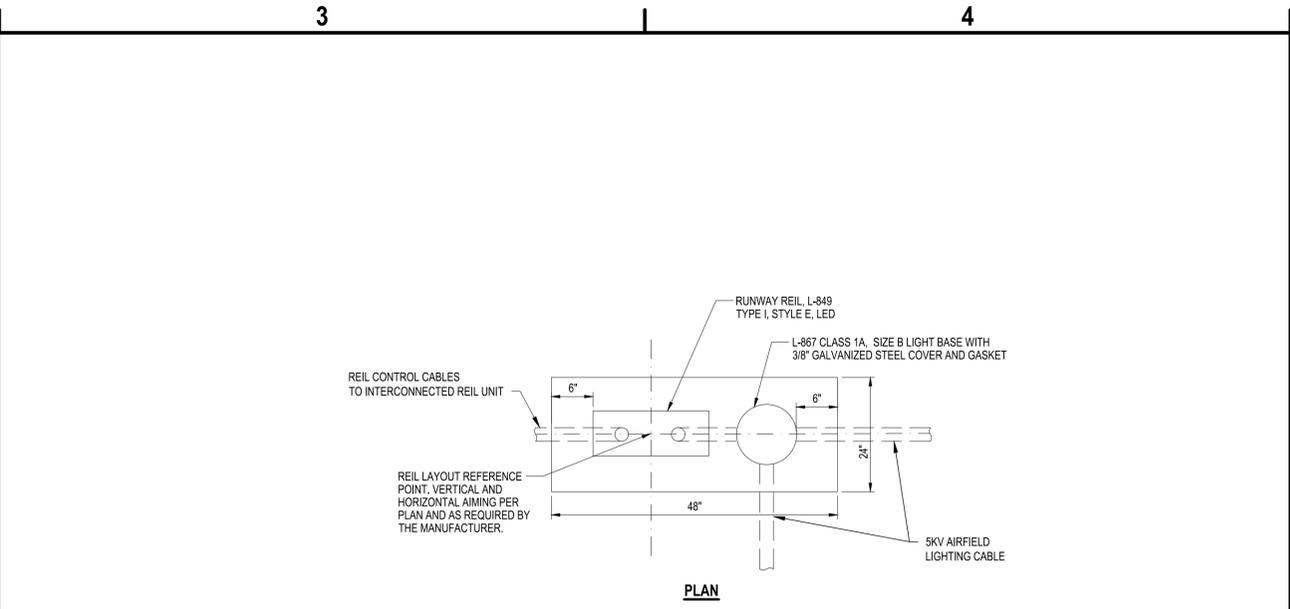
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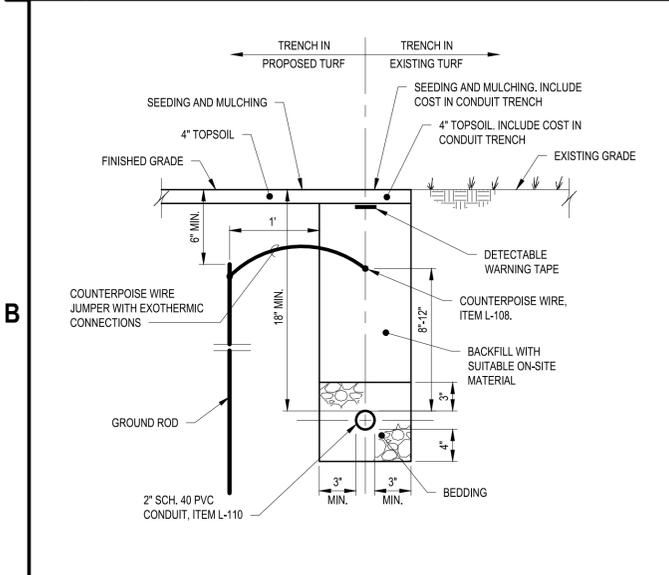
C1 TYPICAL ISOLATION TRANSFORMER CONNECTION DETAIL
SCALE: NOT TO SCALE



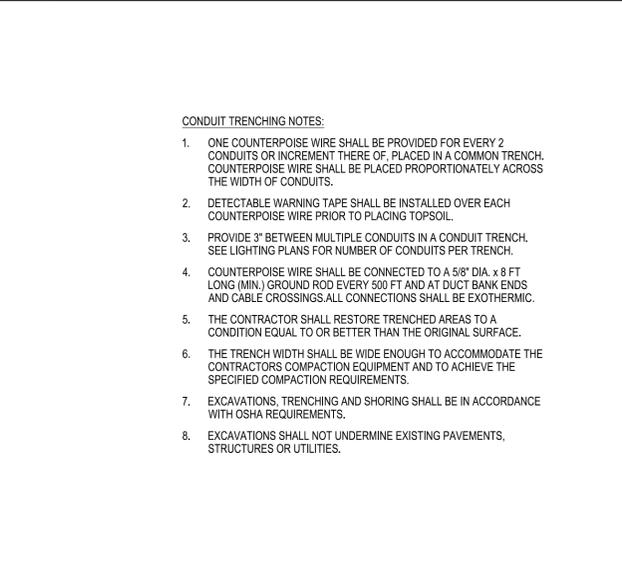
C2 AIRFIELD LIGHTING GROUND ROD CONNECTION DETAIL
SCALE: NOT TO SCALE



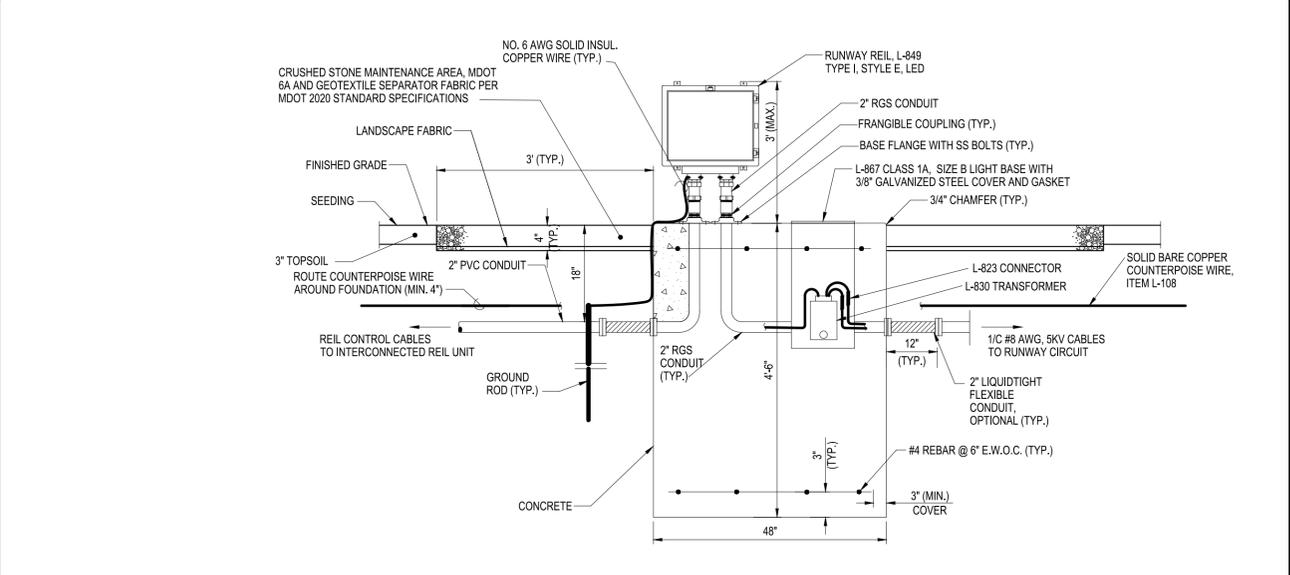
B3 REIL SYSTEM MOUNTING DETAIL
SCALE: NOT TO SCALE



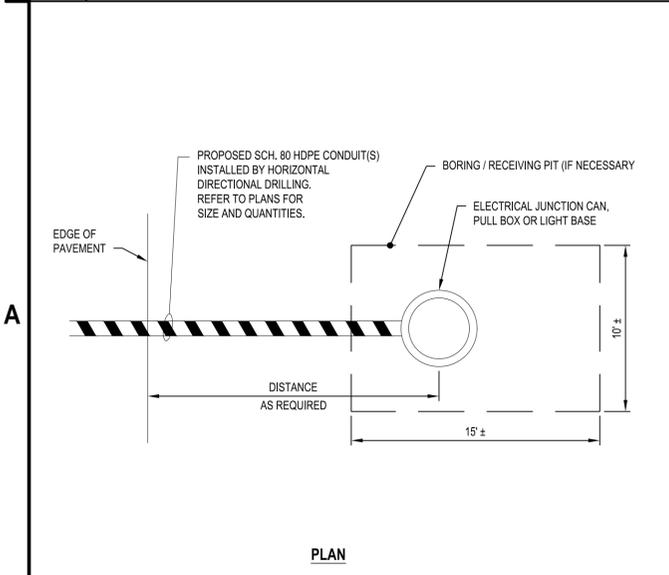
B1 CONDUIT TRENCHING DETAIL (IN TURF)
SCALE: NOT TO SCALE



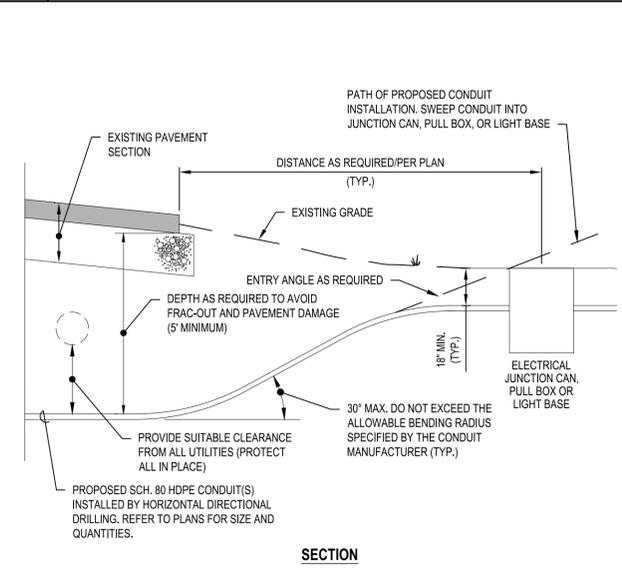
B2 CONDUIT TRENCHING NOTES
SCALE: NOT TO SCALE



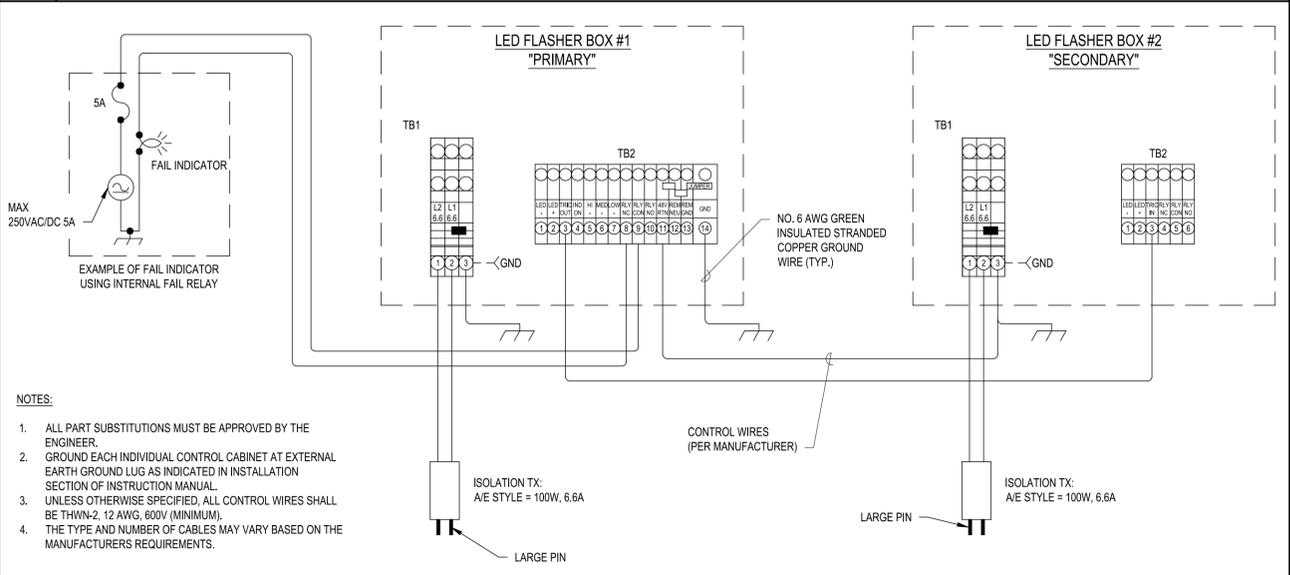
B3 REIL SYSTEM MOUNTING DETAIL
SCALE: NOT TO SCALE



A1 HORIZONTAL DIRECTIONAL DRILLING DETAIL
SCALE: NOT TO SCALE



A2 CONDUIT TRENCHING NOTES
SCALE: NOT TO SCALE



A3 REIL WIRING DIAGRAM
SCALE: NOT TO SCALE



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Fax: 734-206-7973
www.cscos.com



RECONSTRUCT VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIS & REILS ANN ARBOR MUNICIPAL AIRPORT CITY OF ANN ARBOR

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: N75.006.001		
DATE: FEBRUARY 2026		
DRAWN BY: K.J. FINNILA		
DESIGNED BY: K.J. FINNILA		
CHECKED BY: S.L. MAKHLOUF		
CONTRACTOR SHALL VERIFY ALL CONDITIONS ON JOB SITE & NOTIFY THE OWNER OF ANY VARIATIONS FROM DIMENSIONS SHOWN ON THESE DRAWINGS BEFORE PROCEEDING WITH ANY CONSTRUCTION.		

ELECTRICAL DETAILS

EL503

SHEET NO. 20 OF 20

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ANN ARBOR MUNICIPAL AIRPORT

RECONSTRUCT RUNWAY VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIs & REILs

BIDDERS ARE REQUIRED TO COMPLETE ALL FIELDS SHADED.

ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
BASE BID						
1	C-102-5.1a	COMPLIANCE WITH TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL	1	LS		
2	C-105-6.1	MOBILIZATION (10% MAX.)	1	LS		
3	CX-106-3.1	SAFETY, SECURITY AND MAINTENANCE OF TRAFFIC	1	LS		
4	DX-800-4.1	SOFT DIG	4	DAYS		
5	L-108-5.1	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE	3,210	LF		
6	L-108-5.2a	NO. 6 AWG, 600V (OR 5KV), L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	13,150	LF		
7	L-108-5.2b	NO. 8 AWG, 5 KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	735	LF		
8	L-109-7.1	AIRPORT ELECTRICAL VAULT EQUIPMENT	1	LS		
9	L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY, 2 INCH, SCH. 40 PVC CONDUIT, IN TURF	3,675	LF		

ANN ARBOR MUNICIPAL AIRPORT

RECONSTRUCT RUNWAY VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIs & REILs

BIDDERS ARE REQUIRED TO COMPLETE ALL FIELDS SHADED.

ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
10	LX-113-5.1a	(1) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING	820	LF		
11	LX-113-5.1b	(4) 2-INCH SCHEDULE 80 HDPE CONDUIT INSTALLED BY DIRECTIONAL DRILLING	725	LF		
12	L-115-5.1a	ELECTRICAL MANHOLE	4	EA		
13	L-115-5.1b	ELECTRICAL JUNCTION CAN	10	EA		
14	L-125-5.1a	REMOVAL OF EXISTING PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM AND FOUNDATIONS	1	SET		
15	L-125-5.1b	REMOVAL OF EXISTING VISUAL APPROACH SLOPE INDICATOR (VASI) SYSTEM AND FOUNDATION	1	SET		
16	L-125-5.1c	REMOVAL OF EXISTING VISUAL APPROACH SLOP INDICATOR (VASI) FOUNDATION	1	SET		
17	L-125-5.1d	REMOVAL OF EXISTING RUNWAY END IDENTIFIER LIGHT (REIL) AND FOUNDATION	2	SET		
18	L-125-5.2a	PRECISION APPROACH PATH INDICATOR (PAPI) SYSTEM	2	SET		
19	L-125-5.2b	RUNWAY END IDENTIFER LIGHT (REIL) SYSTEM	2	SET		

ANN ARBOR MUNICIPAL AIRPORT

RECONSTRUCT RUNWAY VISUAL GUIDANCE SYSTEM - RUNWAY 6/24 PAPIs & REILs

BIDDERS ARE REQUIRED TO COMPLETE ALL FIELDS SHADED.

ITEM NO	SPEC	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL
20	L-125-5.3	SUPPORT FOR FOLLOW-UP FAA FLIGHT CHECK	1	LS		
TOTAL CONTRACT - BASE BID						