BENCHMARK D	ATA	
DESCRIPTION	ELEVATION ENGLISH	
S.E. CORNER OF CONCRETE BASE FOR OLD WIND SOCK AT OFFICE BLDG	(589.10)	
BRASS PLUG IN WEST WALL @ GRACE LUTH. CHURCH	(589.84)	
DESCRIPT	ION	
MORRIS MUNICIPAL	AIRPORT	

SECTIONS 10 & 15, TOWNSHIP 34N., RANGE 7E. OF 3RD P.M. SARATOGA TOWNSHIP GRUNDY COUNTY,

# THE CITY OF MORRIS, ILLINOIS

MORRIS MUNICIPAL AIRPORT

JAMES R. WASHBURN FIELD

CONSTRUCTION PLANS FOR

REPLACE ELECTRICAL VAULT AND ASSOCIATED EQUIPMENT

**ILLINOIS PROJECT NO. C09-4889** AIP PROJECT NO. 3-17-SBGP-156/162/171/197

LATITUDE 41° - 25' - 31.8" LONGITUDE 88° - 25' - 7.2" **ELEVATION 585.01** LETTING DATE: JUNE 14, 2024 **RUNWAY CATEGORY B, GROUP II** 



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sigles	DATE: 5/2/2024		-			- PLANS	FILE NO .:	1218-00	OF	10

	SUMMARY OF QUANTITIES			
ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	
R106030	1/C #3/0 600V UG CABLE	FOOT	200	
R108158	1/C #8 5 KV UNDERGROUND CABLE IN UD	FOOT	5000	
R108754	1/C#4 GROUND	FOOT	70	
R109110	ERECT PREFABRICATED VAULT	LSUM	4	
R109321	10 KW REGULATOR, STYLE 1	EACH	2	
R110012	2" DIRECTIONAL BORE	FOOT	200	
R110202	2" PVC DUCT, DIRECT BURY	FOOT	200	
R110204	4" PVC DUCT, DIRECT BURY	FOOT	90	
R115610	ELECTRICAL HANDHOLE	EACH	5	
R150520	MOBILIZATION	LSUM	1	
R801300	NEW ELECTRICAL SERVICE	LSUM	1	
R801301	POLYMER CONCRETE HANDHOLE	EACH	2	



CITY OF MORRIS 5/2/2024 2024 DATE APPROVED Kariwarden CITY CLERK May 2 \_ 2024 DATE

### TOTAL NUMBER OF SHEETS = 10 CONTRACT NO. = MR025 ITEM NO. 06A

	INDEX OF SHEETS
SHEET #	DESCRIPTION
1	COVER SHEET
2	CONSTRUCTION SAFETY PLAN PHASES 1 & 3
3	CONSTRUCTION SAFETY PLAN PHASE 2
4	EXISTING AIRPORT LIGHTING LAYOUT PLAN
5	PROPOSED AIRPORT LIGHTING LAYOUT PLAN
6	ELECTRICAL NOTES
7	EXISTING VAULT ELECTRICAL LAYOUT
8	ELECTRICAL DETAILS
9	PROPOSED EQUIPMENT VAULT
10	PROPOSED ELECTRICAL EQUIPMENT





DRAWN BY: Tim H				REVISIONS				
Brown Br. min H	LEVEL	BY	DATE	DESCRIPTION		PERU MORRIS		
CHECKED BY: Casey M.						OTTAWA MENDOTA	SEPARATE RUNWAY CIRCUITS	
· · · · · · · · · · · · · · · · · · ·						ILLINOIS	AND CONSTRUCT VAULT	PHASE 1 &
DATE: 6-2022					Chamlin & Associates	ILLINOIS	MORRIS, ILLINOIS	



ILLINOIS PROJECT NO. C09-4889



DHAMLIN & ASSOCIAT



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#### **GENERAL NOTES**

1. THE ELECTRICAL INSTALLATION, AS A MINIMUM, MUST MEET THE NEC AND LOCAL REGULATIONS

- 2. THE CONTRACTOR MUST ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM (INCLUDING FAA APPROVED EQUIPMENT) ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMANDER OF THE NEWEXISTING SYSTEM. ANY NON-COMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (IDFFERENT MODEL OR DIFFERENT MANUFACTURER). THAT IS COMPATIBLE WITH THE REMANDER OF THE AIRPORT LIGHTING SYSTEM.
- IN CASE THE CONTRACTOR SELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATIONS, ANY COST FOR THESE ITEMS MUST BE INCIDENTAL TO THE EQUIPMENT COST.
- 4. THE CONTRACTOR-INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) MUST 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 MUST BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
- 5. WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC., OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, ETC., WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES, STYLE, CLASS, ETC., MAY BE FAA APPROVED.
- 6. ANY AND ALL INSTRUCTIONS FROM THE ENGINEER TO THE CONTRACTOR REGARDING CHANGES IN, OR DEVIATIONS FROM, THE PLANS AND SPECIFICATIONS MUST BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR MUST NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
- A MINIMUM OF THREE COPIES OF INSTRUCTION BOOKS MUST BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC., AT A MINIMUM MUST 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 INSTRUCTIONS.

(D) START-UP INSTRUCTIONS.

(E) PREVENTATIVE MAINTENANCE REQUIREMENTS.

(F) CHART FOR TROUBLESHOOTING.

- (G) COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT. "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OR THE NARRATIVE MUST SHOW VOLTAGES/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLESHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS MUST BE INDICATED FOR ALL THE DIFFERENT MODES.
- (H) PARTS LIST WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS, SUCH AS RESISTORS, DIODES, ETC. IT MUST INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
- SAFETY INSTRUCTIONS.
- 8. THE SUGGESTED SEQUENCE OF CONSTRUCTION SHOWN IS INTENDED TO ALLOW FOR THE ORDERLY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WHILE MAINTAINING AIRCRAFT ACCESS AT ALL TIMES. THE PHASING SHOWN IS A SUGGESTED SEQUENCE OF CONSTRUCTION ONLY. THIS SEQUENCE MAY BE MODIFIED HOWEVER, ALTERNATE STAGING PLANS MUST MAINTAIN AIRPORT OPERATIONS TO THE SATISFACTION OF THE AIRPORT MANAGER AND RESIDENT ENGINEER AND BE APPROVED BY THE DIVISION OF AERONAUTICS AND FEDERAL AVATION ADMINISTRATION.
- 9. ALL OPERATIONS SHALL BE IN CONFORMANCE WITH AC 150/5370-2G (LATEST EDITION) OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
- CONTRACTOR'S EQUIPMENT SHALL BE STORED IN THE EQUIPMENT AND MATERIAL STORAGE/STAGING AREA WHEN CONSTRUCTION IS NOT IN PROGRESS.

THE AIRPORT MANAGER IN CONSULTATION WITH THE RESIDENT ENGINEER SHALL HAVE FINAL SAY IN THE APPROVAL OF THE CONSTRUCTION OPERATING SEQUENCE AS IT RELATES TO PEDESTRIAN, VEHICULAR AND AIRCRAFT SAFETY.

- 11. ALL EXISTING PAVEMENTS, DRIVES OR ANY OTHER AREAS USED AS A HAUL ROAD OR STORAGE AREA BY THE CONTRACTOR SHALL BE RESTORED IN KIND TO THEIR PRE-CONSTRUCTION CONDITION OR TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER. THE COST OF MAINTAINING, REPARING OR CONSTRUCTING THESE PAVEMENTS AND AREAS SHALL BE INCIDENTAL TO THE CONTRACT. EXISTING AREAS OUTSIDE THE PROJECT LIMITS WHICH ARE DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND THE AIRPORT MANAGER.
- 12. THE CONTRACTOR SHALL KEEP ALL TRUCKS, EQUIPMENT AND MATERIALS OFF OF THE EXISTING TAXIWAYS, APPRONS AND RUNWAYS OUTSIDE OF THE PROJECT LIMITS EXCEPT AS SHOWN OR WITH THE PRIOR PERMISSION OF THE RESIDENT ENGINEER.
- MATERIALS REMOVED FROM THE PROJECT WILL BE DISPOSED OF OFF AIRPORT PROPERTY, UNLESS NOTED OTHERWISE.
- 14. PAYMENT FOR TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO BARRICADES, SIGNING, RUNWAY CLOSED MARKERS, AIR OPERATIONS AREA (A.O.A.) LATHE AND RIBBON, ETC. SHALL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. BARRICADES WITH TWO ORANGE FLAGS (20° x.20°) ON EACH BARRICADE SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. BARRICADES SHALL BE WEIGHTED TO PREVENT BLOWING OVER. BARRICADES SHALL HAVE A STEADY BURN OR FLASHING RED LIGHT. BARRICADE INSTALLATION WILL BE REQUIRED PRIOR TO ACCESS TO THE A.O.A. BY CONTRACTOR'S WORKERS, EQUIPMENT OR MATERIAL. SIGNS SHALL BE PLACED AT EACH TAXIMAY/RUNWAY CLOSURE LOCATION AND SHALL BE ATTACHED TO THE BARRICADES. EACH DARRICADE LOCATION SHALL CONSIST OF ONE "DO NOT ENTER" SIGN AND ONE 'ARCRAFT MOVEMENT AREA" SIGN. SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL SUPPLY AND USE AS DIRECTED BY THE AIRPORT, REFLECTIVE LOW PROFILE TYPE BARRICADES. ALL BARRICADE SHALL BE PLACED OUTSIDE OF ACTIVE SAFETY AREAS.
- THE CONTRACTOR SHALL CONTACT THE AIRPORT MANAGER THROUGH THE RESIDENT ENGINEER FOURTEEN (14) WORKING DAYS IN ADVANCE OF THE START OF CONSTRUCTION SO THAT THE APPROPRIATE NOTAMS MAY BE ISSUED.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL CONSTRUCTION ACCESS GATES CLOSED DURING NON WORKING HOURS. THE CONTRACTOR SHALL PROVIDE A SIGN AT THE ACCESS GATE SAYING "AUTHORIZED PERSONNEL ONLY". THE CONTRACTOR SHALL CLOSE AND LOCK THE ACCESS GATE UPON LEAVING THE SITE. THROUGHOUT THE DURATION OF THE CONTRACT, ANY DAMAGES TO THE ACCESS GATE OR FENCING ADJACENT TO THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT ENGINEER. ALL COST RELATING TO CONTRACTOR'S ACCESS AND SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 17. CONTRACTOR WILL BE REQUIRED TO PUT AIRPORT FLAGS AND HAVE BEACON LIGHTS ON ALL EQUIPMENT AT ALL TIMES DURING CONSTRUCTION. SEE FLAG DETAIL.
- 18. IN THE CASE OF AN EMERGENCY, CONTRACTOR SHALL NOTIFY AIRPORT MANAGER AND THE RESIDENT ENGINEER IMMEDIATELY.

- THE TALLEST PIECE OF CONSTRUCTION EQUIPMENT IS ANTICIPATED TO BE A CRANE WHICH HAS A MAXIMUM HEIGHT OF 70 FEET.
- 20. THE AIRPORT WILL BE IN OPERATION DURING THE CONSTRUCTION OF THIS PROJECT. COORDINATION OF WORK WITH THE AIRPORT IS MANDATORY SO AS TO MINIMIZE IMPACTS ON AIRPORT OPERATIONS.
- MOBILIZATIONEOUIPMENT STORAGE AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE AS SHOWN ON THE PLANS. THIS AREA SHALL BE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT AT THE CONTRACTOR'S EXPENSE.
- 22. LOCATION OF KNOWN EXISTING AIRPORT UNDERGROUND CABLES ARE SHOWN ON THE PLANS AND MUST BE VERIFIED BY THE CONTRACTOR. REPAIR OF DAMAGED CABLE MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL COMPLETED. ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER OF THE CABLE OR FACILITY, AND SHALL BE AT THE CONTRACTOR'S EXPENSE. IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE FROM PREVIOUS EXISTING TERMINATION POINT TO NEXT EXISTING TERMINATION POINT IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF A FAA REPRESENTATIVE. THE OWNER MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS IN WHICH CASE THE CONTRACTOR'S EXPENSE.
- 23. THE CONTRACTOR SHALL PROVIDE THE PHONE NUMBERS OF THREE PERSONNEL, INCLUDING THE PROJECT SUPERINTENDENT, WHO MAY BE CONTACTED IN AN EMERGENCY. PERSONNEL SHALL BE ON CALL 24 HOURS PER DAY FOR MAINTAINING AIRPORT HAZARD LIGHTING AND BARRICADES.
- 24. CONTRACTOR PERSONNEL, VEHICLES, EQUIPMENT AND BARRICADES SHALL NOT BE ALLOWED WITHIN THE TAXIMAY / TAXILANE OBJECT FREE AREA (TOFA) OF ACTIVE TAXIWAYS / TAXILANES AND THE RUNWAYS ARCRAFT OPERATIONS AREA.
- 25. CONTRACTOR SHALL STORE EQUIPMENT AND MATERIALS IN SUCH A MANNER AS NOT TO VIOLATE FEDERAL AVIATION ADMINISTRATION PART 77 IMAGINARY SURFACES OR RUNWAY AND TAXIWAY SAFETY AREAS.
- 26. ALL EXISTING TAXIWAY AND RUWWAY AIRFIELD LIGHTING CIRCUITS, FAA CABLES AND OTHER ELECTRICAL CABLES SHALL REMAIN IN SERVICE AT ALL IMES ALL EXISTING IGHTING AND VAULT EQUIPMENT SHALL REMAIN IN SERVICE UNTIL PROPOSED IMPROVEMENTS ARE INSTALLED AND OPERATIONAL, UNLESS OTHERWISE APPROVED BY THE RESIDENT ENGINEER. ANY CABLES DAMAGED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPARED AT HIS EXPENSE. ANY NECESSARY TEMPORARY JUMPER CABLES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 27. COORDINATION BY THE CONTRACTOR WITH THE EXISTING UTILITIES SHALL BE COMPLETED BEFORE CONSTRUCTION IS STARTED. CONTRACTOR IS REFERRED TO THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS FOR SPECIFIC REQUIREMENTS. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAVE BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER OR THE DESIGN ENGINEER ASSUME ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACURACY. COMPLETENESS OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED THAT THE LOCATIONS, SIZE AND TYPE MATERIAL OF EXISTING UNDERGROUND UTILITIES AS INDICATED ARE REPRESENTATIVE OF THOSE TO DE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION. IT SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATION UTILITIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATION UTILITIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATION UTILIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS RECOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATION UTILIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS DECOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATION UTILIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS DECOUNTERED DURING CONSTRUCTIONED IMMEDIATELY AND THE SATISFACTION OF THE RESIDENT ENGINEER AND THE AIRPORT MANAGER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTORS' OPERATIONS SHALL BE RESIDENT ENGINEER AND THE AIRPORT MANAGER.
- 28. ALL AIRFIELD LIGHTING AND LIGHTING GUIDANCE SYSTEMS (NAVAIDS) LOCATED WITHIN AND IMMEDIATELY ADJACENT TO THE CONTRACTORS WORK ZONE SHALL BE CHECKED FOR OPERATIONAL CONDITION PRIOR TO THE DEPARTURE FROM THE AIRPORT WITH THE AIRPORT MANAGER. ANY DEFECIENCIES IN THESE SYSTEMS DUE TO THE ACTS OF CONTRACTOR OR HIS SUBCONTRACTORS, SUPPLIERS OR CONSULTANTS SHALL BE REPAIRED IMMEDIATELY.
- 29. CRANES SHALL BE FLAGGED AND LIT IN ACCORDANCE WITH AC 70/7460-1 (LATEST EDITION) OBSTRUCTION MARKING AND LIGHTING.

#### CONTRACTOR WORKING WITHIN OR CROSSING RUNWAY/TAXIWAY/TAXILANE/APRON AIR OPERATIONS AREA (A.O.A.)

- ANYTIME THE CONTRACTOR IS REQUIRED TO UTILIZE OR CROSS ACTIVE AIRFIELD PAVEMENTS FOR ACCESS TO AND FROM THE WORK ZONE, A CROSSING GUARD IN RADIO CONTACT WITH AIR TRAFFIC SHALL BE FURNISHED BY THE CONTRACTOR FOR MOVEMENTS OF VEHICLES OR EQUIPMENT TO AND FROM THE WORK ZONE. THE RADIO OPERATOR SHALL BE FAMILIAR WITH AIRPORT GROUND CONTROL PROCEDURES AND DEMONSTRATE KNOWLEDGE OF SAME TO THE AIRPORT. THE AIRPORT RESERVES THE RIGHT TO APPROVE THE CROSSING GUARDS. THE CONTRACTOR SHALL PROVIDE THEIR OWN RADIOS. THIS COST SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF ANY FINES APPLIED DUE TO AIRFIELD INCURSIONS BY HIS EMPLOYEES, SUBCONTRACTORS, SUPLENS, CONSULTANTS AND/DRA GEDITS.
- 2. ANY PAVEMENT DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY HIM TO THE SATISFACTION OF THE RESIDENT ENSINEER AND AIRPORT MANAGER AT NO ADDITIONAL COST TO THE OWNER. PAVEMENT SHALL BE CONTINUALLY SWEPT TO PROVIDE DEBRIS FREE SURFACE DURING ALL HAUL ROAD OPERATIONS. THIS COST SHALL NOT BE PAID SEPERATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 3. ANY WORK WITHIN THE A.O.A. SHALL BE EXPEDITED. PROVIDE SIGNS AND BARRICADES AS REQUIRED. NO MATERIAL SHALL BE STOCKPILED WITHIN THE A.O.A. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO TEMPORABILY RELOCATE MEN AND EQUIPMENT TO ALLOW AIRCRAFT TO PASS, THEY SHALL DO SO AT NO EXTRA COST TO THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER TEN (10) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS.

## LIMITATIONS ON CONSTRUCTION WITHIN RUNWAY AIRCRAFT OPERATIONS AREA (A.O.A.) AND TAXIWAY/TAXILANE OBJECT FREE AREA (T.O.F.A.)

RUNWAYS:

THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER TEN (10) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS. WORK SHALL BE EXPEDITED.

#### TAXIWAYS / TAXILANES:

ANY WORK WITHIN TAXIWAY / TAXILANE OBJECT FREE AREA (TOFA) WILL REQUIRE A TAXIWAY / TAXILANE CLOSURE. WORK WITHIN THE TOFA SHALL BE EXPEDITED. PROVIDE SIGNS & BARRICADES AS REQUIRED. NO MATERIAL SHALL BE STOCKPILED WITHIN THE TOFA. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO TEMPORARILY RELOCATE EQUIPMENT TO ALLOW AIRCRAFT TO PASS, THEY SHALL DO SO AT NO EXTRA COST TO THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER FIVE (5) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS. NO DROP-OFFS OR OPEN EXCAVATIONS WILL BE ALLOWED WITHIN THE TAXIWAY / TAXILANE SAFETY AREAS OF OPEN TAXIWAYS / TAXILANES.

#### POWER AND CONTROL

- STENCIL ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICI FUSES, ALSO STENCIL THE FUSE OR FUSE LINK AMPERE RATING, WHERE THE EQUIPMENT DOES NOT HAVE SUFFICI AREA, THE STENCILING MUST BE DONE ON THE WALL NEXT TO THE UNIT. THE LETTERS MUST BE ONE INCH HIGH AN WHITE OR BLACK PAINT TO PROVIDE THE HIGHEST CONTRAST WITH THE BACKGROUND.
- 2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAP WIRE INSULATION MUST BE BLACK, BLACK AND RED MUST BE USED FOR SINGLE-PHASE. THREE WIRE SYSTEMS ANU AND BLUE MUST BE USED FOR THREE-PHASE SYSTEMS NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, MU IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL CONDUCTORS LARGER THAN NO. 6 AWG MUST BE IDENTIFIED EI CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE TERMINATIONS AND INSUE ACCESSIBLE WIREWAYS.
- ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE MUST BE IDENTIFIED WITH THE SAME C COLOR CODING MUST EXTEND TO THE POINT OF UTILIZATION.
- IN CONTROL WIRING THE SAME COLOR MUST BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH 100 % BRIGHTNESS CONTROL, ETC.
- ALL POWER AND CONTROL CIRCUIT CONDUCTORS MUST BE COPPER; ALUMINUM WILL NOT BE ACCEPTED. THIS INC CABLE, BUSSES, TERMINALS, SWITCH/PANEL COMPONENTS, ETC.
- 6. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS MUST BE INSTALLED IN SEPARATE WIREWAYS.
- 7. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND PULL/JUNCTION BOXES.
- THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND THE SIZE OF THE CONDUCTOR BE AS FOLLOWS:
- a) IN STRAIGHT PULLS THE LENGTH OF THE BOX MUST NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CORSS-SECTIONAL AREA) OF A BOX END MUST BE AT LEJ GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
- b) IN ANGLE OR U-PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE W/ MUST NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE MUST B FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES WALL OF THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR MUST NOT SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
- A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION B NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE E IMMEDIATELY AT THE TERMINATIONS. CAST, CONDUIT TYPE OUTLETS MUST NOT BE TREATED AS PULL/JUNCTION BE
- 10. DUAL LUGS MUST BE USED WHERE TWO WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TER
- 11. ALL WALL MOUNTED EQUIPMENT ENCLOSURES MUST BE MOUNTED ON WOODEN MOUNTING BOARDS, UNLESS ADD APPROVED BY ENGINEER.
- WOODEN EQUIPMENT MOUNTING BOARDS MUST BE PLYWOOD, EXTERIOR TYPE, 3/4 INCH MINIMUM THICKNESS, BOT PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF GRAY, OIL-BASED PAINT.
- RIGID STEEL CONDUIT MUST BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED. THE MINII SHALL BE 3/4 INCH.
- ALL RIGID CONDUIT MUST BE TERMINATED AT CONSTANT CURRENT REGULATORS WITH A SECTION (10" MINIMUM) ( CONDUIT.
- UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO, OR AT RIGHT ANGLES WITH, TH STRUCTURE.
- 16. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC., SHALL BE GALVANIZED.
- USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNGROUNDED WIRE IS I INSULATED BUSHINGS.
- 18. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION
- 19. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULA COVER WITH INSULATING VARNISH FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
- 20. UNLESS OTHERWISE NOTED, ALL INDOOR SINGLE CONDUCTOR CONTROL WIRING MUST BE No. 12 AWG
- 21. BOTH ENDS OF EACH CONTROL CONDUCTOR SHALL BE TERMINATED AT A TERMINAL BLOCK. THE TERMINAL BLOCK BE OF PROPER RATING AND SIZE FOR THE FUNCTION INTENDED AND BE LOCATED IN EQUIPMENT ENCLOSURES OR SPECIAL TERMINAL CABINETS.
- 22. ALL CONTROL CONDUCTOR TERMINATORS MUST BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED, CLOSED-EYED TERMINATORS, OR TERMINATORS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
- 23. IN TERMINAL BLOCK CABINETS THE MINIMUM SPACING BETWEEN PARALLEL TERMINAL BLOCKS SHALL BE 6 INCHES MINIMUM SPACING BETWEEN TERMINAL BLOCK SIDES/ENDS AND CABINET SIDES/BOTTOM/TOP SHALL BE 5 INCHES. MINIMUM SPACING WILL BE INCREASED AS REQUIRED BY THE NUMBER OF CONDUCTORS. ADDITIONAL SPACING ML PROVIDED AT CONDUCTOR ENTRANCES.
- 24. BOTH ENDS OF ALL CONTROL CONDUCTORS MUST BE IDENTIFIED AS TO THE CIRCUIT, TERMINAL, BLOCK, AND TER NUMBER. ONLY STICK-ON LABELS SHALL BE USED.
- 25. A SEPARATE AND CONTINUOUS NEUTRAL CONDUCTOR SHALL BE INSTALLED AND CONNECTED FOR EACH BREAKEF CIRCUIT IN THE POWER PANEL(S) FROM THE NEUTRAL BAR TO EACH POWER/CONTROL CIRCUIT.
- 26. THE FOLLOWING WILL APPLY TO RELAY/CONTACTOR PANEL/ENCLOSURES
- (A) ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURES WITH VERTICALLY HINGED COVERS.
- (B) THE ENCLOSURES MUST HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS, AND I INCOMING INTERNAL WIRING.
- (C) ALL INCOMING/OUTGOING WIRING SHALL BE TERMINATED AT TERMINAL BLOCKS.
- (D) EACH TERMINAL ON TERMINAL BLOCKS AND ON CIRCUIT COMPONENTS MUST BE CLEARLY IDENTIFIED.
- (E) ALL CONTROL CONDUCTOR TERMINATIONS MUST BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE CONNECTORS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.

DRAWN BY Tim H				REVISIONS			MORRIS MUNICIPAL AIRPORT (C09)		CURRENT AS OF 4-2024	4	T
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							AND CONSTRUCT VAULT				
DATE: 8-2022					Chamlin & Associates	ILLINOIS	MORRIS, ILLINOIS		FILE NO.: 1218.0 Y-	OF 1	.0

	ILLINOIS PROJECT NO. C09-4889 STATE BLOCK GRANT NO. 3-17-SBGP-156/162/171/197 CONTRACT No. = MR025
IENT CONTAINS IENT STENCILING ND PAINTED IN	(F) WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING, AND TERMINALS MUST BE EXPOSED AND ACCESSIBLE WITHOUT ANY REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
PE IS USED, THE	(G) ACCESS TO, OR REMOVAL OF, A CIRCUIT COMPONENT OR TERMINAL BLOCK SHALL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
ID BLACK, RED JST BE ITHER BY A	(H) EACH CIRCUIT COMPONENT MUST BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWING AND ITS FUNCTION.
AT ITS	(I) A COMPLETE WIRING DIAGRAM (NOT A SCHEMATIC DIAGRAM) MUST BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM MUST REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
OLOR. THE	(J) THE DIAGRAM MUST IDENTIFY EACH CIRCUIT COMPONENT AND NUMBERING AND COLOR OF EACH INTERNAL
H AS 10 %, 30 %,	(K) ALL WIRING MUST BE NEATLY TRAINED AND LACED.
CLUDES WIRE,	(L) MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
	GROUNDING
RS SHOWN, MUST	(1) GROUND ALL NON-CURRENT-CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT BY USING NO. 6 AWG BARE COPPER WIRE TO BE RUN INSIDE CABINETS AND IN CONDUITS TOGETHER WITH OTHER WIRES. WHERE THIS IS NOT FEASIBLE, RUN THE EXPOSED GROUNDING WIRE PARALLEL OR AT RIGHT ANGLES TO THE BUILDING LINE AND SECURE IT AT LEAST EVERY 24 INCHES AND WITHIN 6 INCHES FROM BEND OR JUNCTION. THE EXPOSED WIRE MAY BE NO. 6 AWG IF IT IS NOT SUBJECTED TO PHYSICAL ABUSE, OTHERWISE NO. 4 AWG SHALL BE USED.
THE LARGER AST 3 TIMES	(2) ALL GROUND CONNECTIONS TO GROUND RODS, BUSSES, PANELS, ETC., MUST BE MADE WITH PRESSURE TYPE SOLDERLESS LUGS AND GROUND CLAMPS. SOLDERED OR BOLT AND WASHER TYPE CONNECTIONS ARE NOT ACCEPTABLE. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS.
ALL OF THE BOX	(3) TOPS OF GROUND RODS SHALL BE A MIN. 12" INCHES BELOW GRADE.
INCREASED ON THE SAME T BE LESS THAN	(4) THE RESISTANCE TO GROUND OF THE VAULT GROUNDING SYSTEM WITH THE COMMERCIAL POWER LINE NEUTRAL DISCONNECTED MUST NOT EXCEED 10 OHMS.
BOXES, MUST BENDS LOCATED IOXES.	(5) THE RESISTANCE TO GROUND OF THE COUNTERPOISE SYSTEM, OR AT ISOLATION LOCATIONS, SUCH AS AIRPORT BEACON MUST NOT EXCEED 25 OHMS.
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DITIONAL MEANS	
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DRAWN BY Tim H				REVISIONS				
BIGANIN BI. IIIII II	LEVEL	BY	DATE	DESCRIPTION		PERU MORRIS		
CHECKED BY: Casey M.						OTTAWA MENDOTA	SEPARATE RUNWAY CIRCUITS	EXISTING VAULT EQUI
							AND CONSTRUCT VAULT	
DATE: 6-2022					Chamlin & Associates	ILLINOIS	MORRIS, ILLINOIS	



(R) - INDICATES CIRCUIT TO BE RELOCATED IN NEW (MDP)

#### GENERAL NOTES:

I. CONTRACTOR SHALL RE-CONFIGURE THE EXISTING ELECTRICAL PANEL LAYOUT AND EVENLY BALANCE BUS BARS ACCORDINGLY.

	CURRENT AS OF: 4-2024			
PMENT LAYOUT	SCALE: As Noted	SHEET	7	
	FILE NO.: 1218.00 Y-	OF	10	





