



Illinois Department of Transportation

Office of Intermodal Project Implementation / Division of Aeronautics
1 Langhorne Bond Drive / Springfield, Illinois 62707-8415

July 23, 2021

SUBJECT: Chicago Executive Airport
Village of Wheeling / City of Prospect Heights
Cook County
Illinois Project Number: PWK-4843
SBG Project Number: 3-17-SBGP-TBD
Contract No. PA063
Item No. 08A, July 30, Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

Reason for Addendum:

Construction plan revisions and special provisions issued as Addendum A.

To All Plan Holders:

Plan Changes:

1. Revised Sheet 27 – “Electrical Details – Sheet 4”
 - Added Electrical Handhole detail.
2. Revised Sheet 28 – “Airfield Electrical Vault Improvements and New ALCMS”
 - Revised nomenclature no. 44.
 - Deleted note 10.
3. Revised Sheet 31 – “ALCMS – Equipment Block Diagram”
 - Deleted note 8.
4. Revised Sheet 23– “Additive Alternate #1 Beacon - Location Plan”
 - Revised details for “existing mounting platform” to “new mounting platform”.
 - Added detail callout for existing FAA obstruction light to be relocated.

Special Provisions Changes:

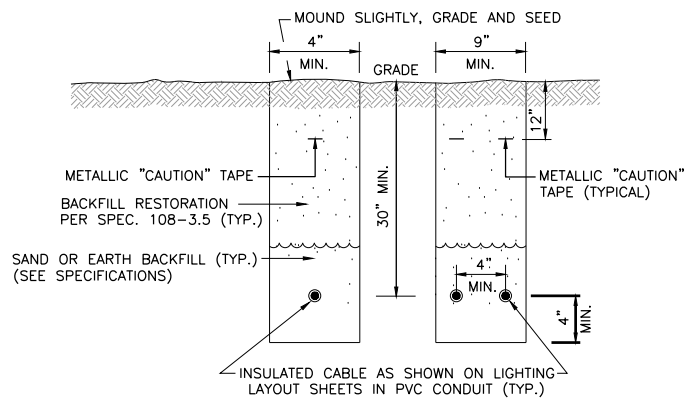
1. Page 35 – Section 109-1.1- Removed items for removal of existing LAHSO controller and installation of new L-884 LAHSO controller.
2. Page 37– Section 109-2.22 - Removed note b.
3. Page 42 – Deleted section “LAHSO Control”.
4. Page 45 – Section 109-5.1 – Deleted reference to “LAHSO controller”

Schedule of Prices Changes:
No Changes

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

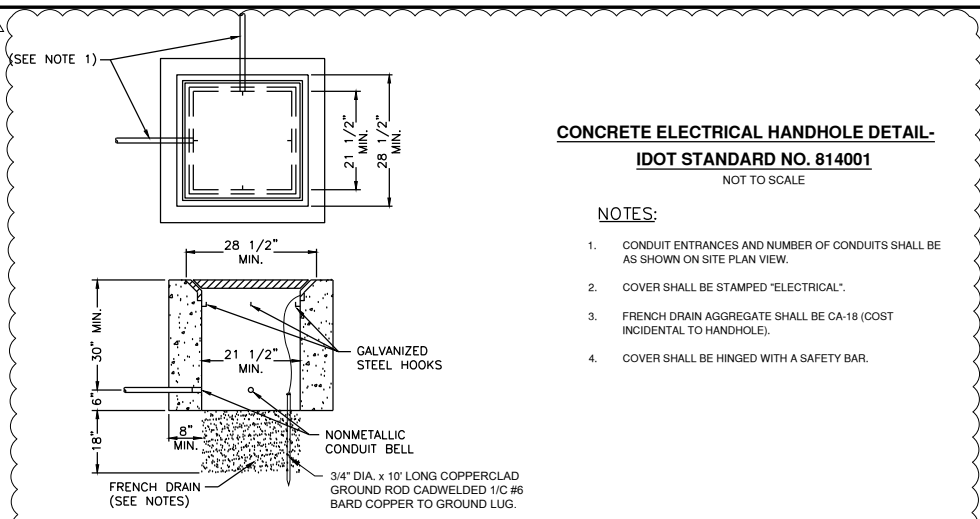
Questions on this addendum may be directed to Kris Salvatera of Crawford, Murphy & Tilly, Inc. at 630-820-1022.

REF: DWG: Chicago Executive Airport Wheeling/Prospect Heights, Illinois Wheeling/Prospect Heights - Phase 1 and Install ALOMS
 UPDATE BY: Kris Solvetera
 LAYOUT: ELECTRICAL DETAILS - SHEET 4
 DATE: Friday, July 23, 2021 10:23:37 AM
 FILE: K:\ChicagoExecAp\2009004_Renovation\Lighting\Draw\Sheets\27 Electrical Details - Sheet 5.dwg



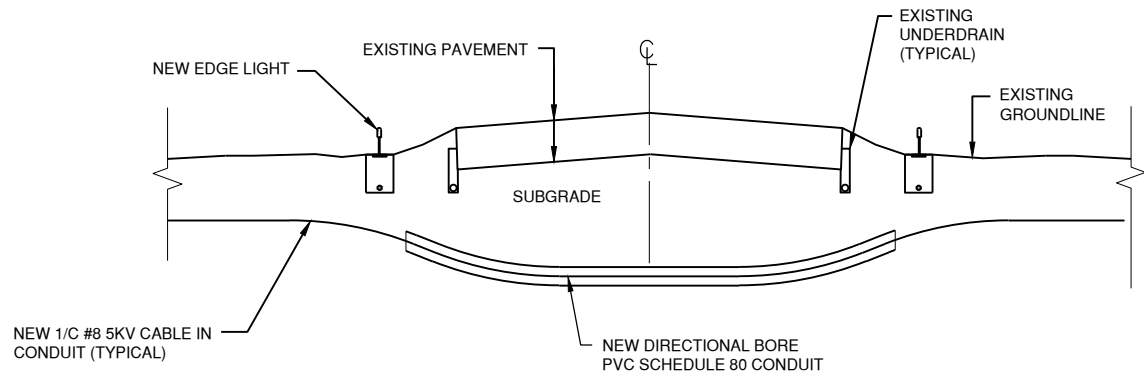
- TRENCH NOTES**
1. TRENCHES WITH MORE THAN 2 CABLES SHALL BE INCREASED 4" IN WIDTH FOR EACH ADDITIONAL CABLE. IF SPECIFIED ON PLANS, TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
 2. DEPTH OF TRENCHES SHALL BE AS SHOWN UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 3. SAND BACKFILL SHALL BE USED IF THE EXISTING SOIL DOES NOT MEET THE BACKFILL REQUIREMENTS.
 4. ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO THE CONDUIT AND CABLE INSTALLATION.

TRENCH DETAIL
NOT TO SCALE



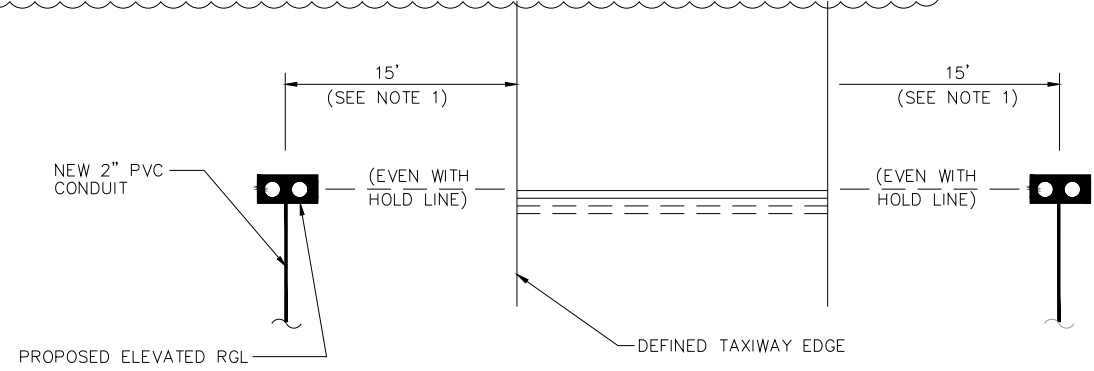
CONCRETE ELECTRICAL HANDHOLE DETAIL -
IDOT STANDARD NO. 814001
NOT TO SCALE

- NOTES:**
1. CONDUIT ENTRANCES AND NUMBER OF CONDUITS SHALL BE AS SHOWN ON SITE PLAN VIEW.
 2. COVER SHALL BE STAMPED "ELECTRICAL".
 3. FRENCH DRAIN AGGREGATE SHALL BE CA-18 (COST INCIDENTAL TO HANDHOLE).
 4. COVER SHALL BE HINGED WITH A SAFETY BAR.



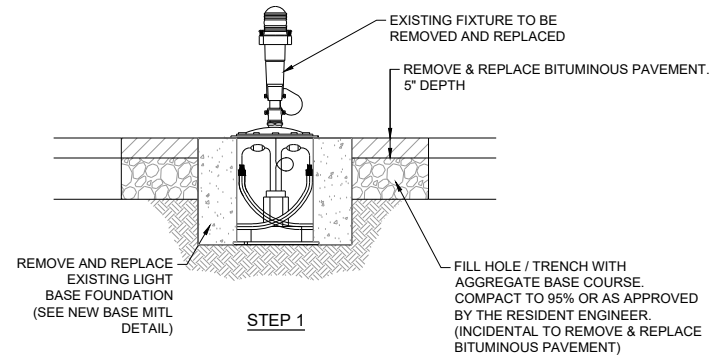
DIRECTIONAL BORE DETAIL
N.T.S.

- NOTES**
1. THE DEPTH OF THE DIRECTIONAL BORE SHALL BE NO LESS THAN 4.0' FROM THE PAVEMENT SURFACE AND SHALL NOT DISTURB EXISTING UNDERDRAINS/UTILITIES OR NEW LIGHTS/CABLING.
 2. REFER TO LIGHTING PLANS FOR ADDITIONAL CABLE AND CONDUIT INFORMATION.



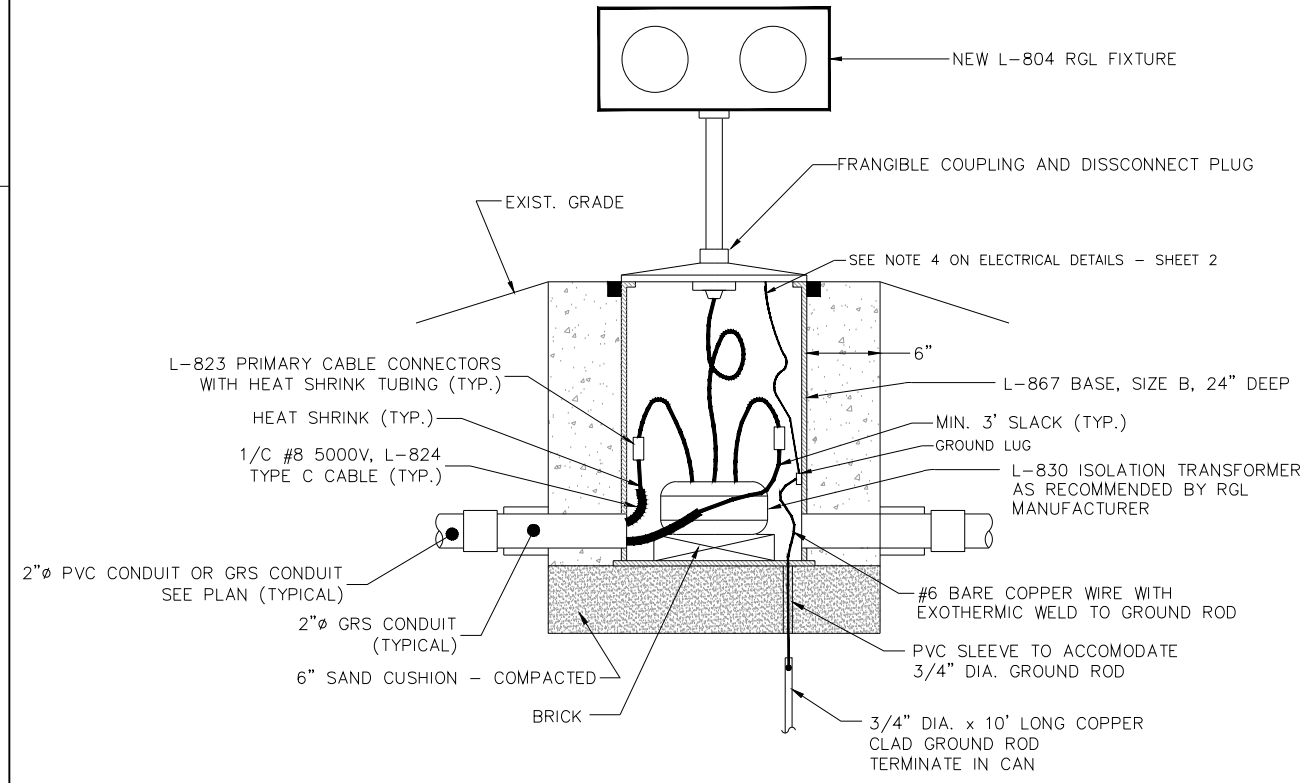
ELEVATED RGL LAYOUT DETAIL (TYPICAL)
NOT TO SCALE

- NOTES**
1. DISTANCE FROM TAXIWAY EDGE MAY BE INCREASED UP TO A MAXIMUM OF 17' AND A MINIMUM OF 12'. KEEP BOTH FIXTURES AT SAME DISTANCE FROM TAXIWAY PAVEMENT. CONTRACTOR SHALL VERIFY THE LOCATION LAYOUT WITH THE RESIDENT ENGINEER.



LIGHT BASE REMOVAL IN ASPHALT PAVEMENT (NEW/EXISTING)
NOT TO SCALE

- NOTES:**
1. SEE PLAN SHEETS FOR DIMENSIONS OF ASPHALT PAVEMENT TO BE REMOVED AND REPLACED.
 2. WHEN A NEW FIXTURE WILL BE INSTALLED AT THE SAME LOCATION AS THE REMOVAL, THE INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAILS AS SHOWN FOR A NEW BASE MOUNTED OR IN-PAVEMENT LIGHT. SEE PLAN FOR INSTALLATION TYPE AND LOCATIONS.

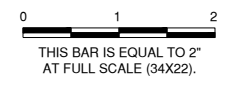


INSTALLATION OF ELEVATED RGL (TYPICAL)
NOT TO SCALE

IL CONTRACT: **PA063**
IL LETTING ITEM: **08A**
IL PROJECT: **PWK-4843**
S.B.G. PROJECT:

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CHICAGO EXECUTIVE AIRPORT
WHEELING/PROSPECT HEIGHTS, ILLINOIS
REHABILITATE AIRFIELD LIGHTING - PHASE 1 AND INSTALL ALOMS
ELECTRICAL DETAILS - SHEET 4

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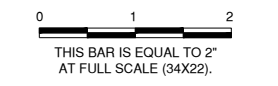
DESIGN BY:	KWS
DRAWN BY:	JRO
CHECKED BY:	KWS
APPROVED BY:	DKP
DATE:	06/25/2021
JOB No:	20029004.00

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IL CONTRACT: **PA063**
 IL LETTING ITEM: **08A**
 IL PROJECT: **PWK-4843**
 S.B.G. PROJECT:

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**CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 REHABILITATE AIRFIELD LIGHTING - PHASE 1 AND INSTALL ALCMS
 AIRFIELD ELECTRICAL VAULT IMPROVEMENTS
 AND NEW ALCMS**

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CHICAGO EXECUTIVE AIRPORT

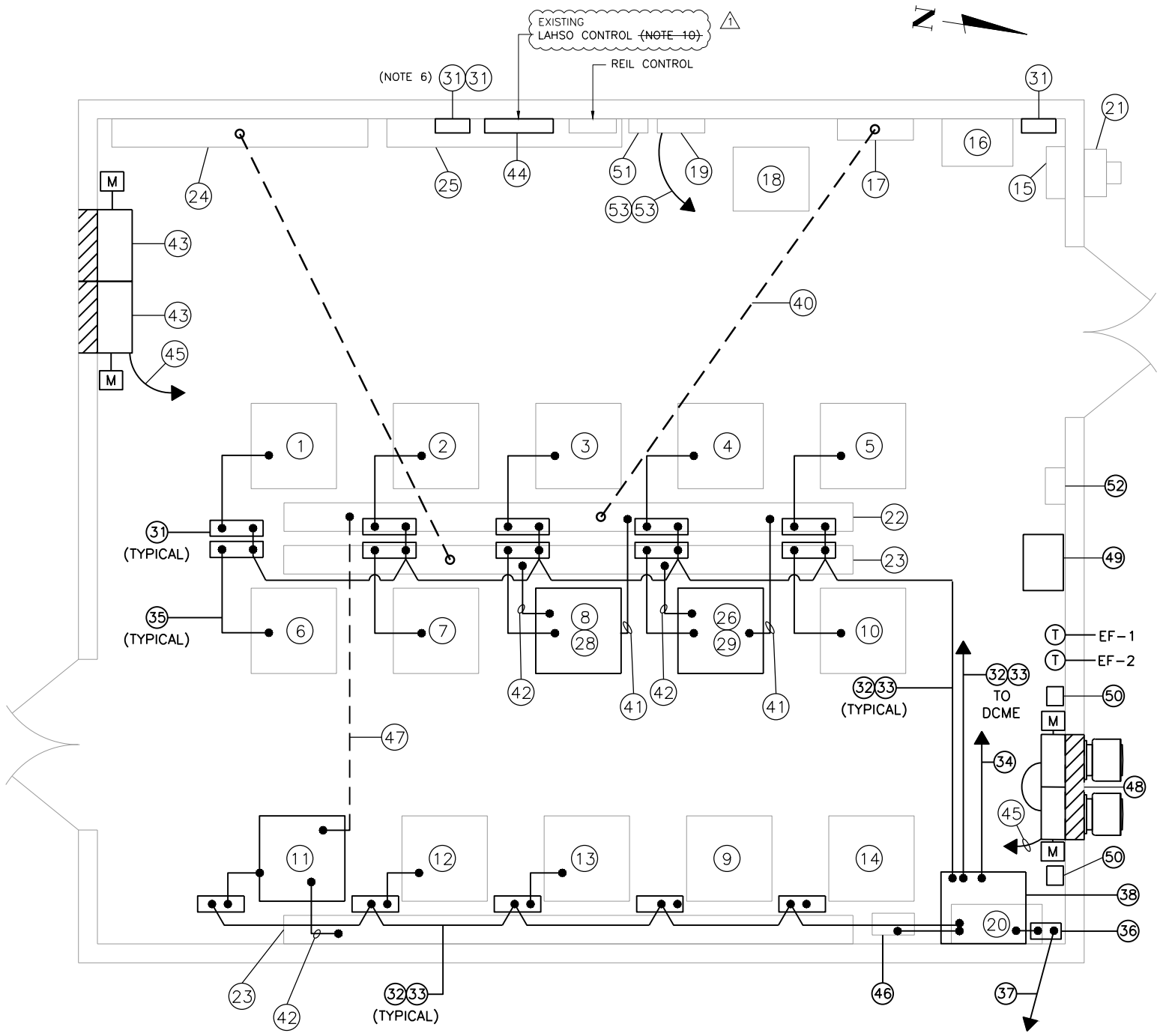
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CHECKED BY:	AB
APPROVED BY:	DKP
DATE:	06/25/2021
JOB No:	20029004.00

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SHEET 28 OF 35 SHEETS

VAULT NOMENCLATURE

- ① EXISTING 30KW (5-STEP) REGULATOR FOR RUNWAY 16/34.
- ② EXISTING 20KW (5-STEP) REGULATOR FOR RUNWAY 6/24.
- ③ EXISTING 10KW (3-STEP) REGULATOR FOR RUNWAY 12/30
- ④ EXISTING 10KW (3-STEP) REGULATOR FOR TAXIWAY G,D AND 34 HOLD APRON.
- ⑤ EXISTING 10KW (3-STEP) REGULATOR FOR RUNWAY 16/34 RDR.
- ⑥ EXISTING 15KW (3-STEP) REGULATOR FOR RUNWAY 16/34 RGL.
- ⑦ EXISTING 30 KW (5-STEP) REGULATOR (SPARE).
- ⑧ EXISTING 30 KW (3-STEP) REGULATOR FOR A, B, D, E, F, Y AND L4 TO BE REMOVED (SEE NOTE 7).
- ⑨ EXISTING 30KW (5-STEP) SPARE.
- ⑩ EXISTING 20KW (5-STEP) REGULATOR FOR RUNWAY 16 APPROACH.
- ⑪ EXISTING 30 KW (3-STEP) REGULATOR FOR LIMA TO BE REPLACED WITH NEW 30KW REGULATOR.
- ⑫ EXISTING 30KW (3-STEP) REGULATOR FOR TAXIWAY K.
- ⑬ EXISTING 10KW (3-STEP) REGULATOR FOR TAXIWAY C.
- ⑭ EXISTING 30kW (3-STEP) FUTURE AIRFIELD LIGHTING REGULATOR.
- ⑮ EXISTING MAIN UTILITY SERVICE CIRCUIT BREAKER DISCONNECT. 800A, 480V, 3-POLE.
- ⑯ EXISTING AUTOMATIC TRANSFER SWITCH. 800A, 480V, 3-POLE. PROVIDE ALCMS INTERFACE.
- ⑰ EXISTING HIGH VOLTAGE POWER DISTRIBUTION PANEL. 480V, 3-PHASE WITH 800AMP MAIN CIRCUIT BREAKER (SEE NOTE 3).
- ⑱ EXISTING 150KVA, 480V-280Y/120V, 3ø, 4-WIRE TRANSFORMER.
- ⑲ EXISTING LOW VOLTAGE LIGHTING PANEL. 208Y/120V, 3-PHASE WITH 400AMP MAIN CIRCUIT BREAKER (SEE NOTE 3).
- ⑳ EXISTING PLC CONTROL CABINET TO BE REMOVED.
- ㉑ EXISTING 800AMP CT CABINET.
- ㉒ EXISTING 12"x12"x12' LONG LOW VOLTAGE WIREWAY.
- ㉓ EXISTING 12"x12"x12' LONG HIGH VOLTAGE WIREWAY.
- ㉔ EXISTING 12"x12"x9' LONG HIGH VOLTAGE WIREWAY (SEE NOTE 8).
- ㉕ EXISTING 12"x12"x9' LONG LOW VOLTAGE WIREWAY.
- ㉖ EXISTING 10KW (3-STEP) REGULATOR FOR HFC APRON TO BE REMOVED (SEE NOTE 7).
- ㉗ INSTALL NEW 2-1/C #8 5KV, L-824 CABLES IN EXISTING CONDUIT FROM NEW 15KW ABEF REGULATOR TO HIGH VOLTAGE WIREWAY, INSTALL L-823 CONNECTORS.
- ㉘ NEW 15KW, 480V (3-STEP) L-829 FERRORESONANT REGULATOR FOR TAXIWAY A, B, E, F CIRCUIT.
- ㉙ NEW 15KW, 480V (3-STEP) L-829 FERRORESONANT REGULATOR FOR TAXIWAY D, Y, Z CIRCUIT.
- ㉚ CONNECT NEW REGULATOR TO POWER DISTRIBUTION PANEL.
- ㉛ NEW DISTRIBUTED CONTROL AND MONITORING EQUIPMENT (DCME) MOUNTED ON EXISTING EQUIPMENT PLATE OR WALL. TYPICAL FOR EACH CCR (TOTAL OF 15), A.T.S., LAHSO AND REIL CONTROLLER (TOTAL OF 3)(SEE NOTE 9).
- ㉜ NEW (2) #24 AWG, SHIELDED, TWO TWISTED PAIR, BELDEN 9842 OR AS REQUIRED BY ALCMS MANUFACTURER IN 1" GRS CONDUIT (TYPICAL FOR ALL DCME UNITS).
- ㉝ NEW 2 #10 THWN, 1 #10 GND. FOR DCME UNIT UPS POWER OR AS REQUIRED BY ALCMS MANUFACTURER IN 1" GRS CONDUIT (TYPICAL FOR ALL DCME).
- ㉞ NEW 2 #12 THWN, 1 #12 GND. IN 1" GRS CONDUIT TO LOW VOLTAGE LIGHTING PANEL (SEE NOTE 3).
- ㉟ NEW 14 #18 AWG OR AS REQUIRED BY ALCMS IN 3/4" FLEXIBLE CONDUIT (TYPICAL FOR ALL CCR'S).
- ㊱ NEW FIBER OPTIC PATCH PANEL AND FIBER OPTIC JUMPER CABLES AS REQUIRED BY ALCMS MANUFACTURER.
- ㊲ NEW 1-12 STRAND MULTI-MODE FIBER OPTIC CABLE IN EXISTING CONDUIT TO ATCT.
- ㊳ NEW ALCMS RACK (SEE NOTE 2).
- ㊴ NEW 2 #2, 4 #4 THWN, 3 #6 GND. IN EXISTING CONDUIT.
- ㊵ NEW 2 #4 THWN, 1 #6 IN FLEXIBLE CONDUIT.
- ㊶ NEW 2 #1/C #8, 5KV L-824 AIRFIELD LIGHTING CABLE IN FLEXIBLE CONDUIT. (SEE NOTE 9).
- ㊷ REMOVE EXISTING LOUVERS, MOTORIZED DAMPERS AND FILTERS AND REPLACE WITH NEW STATIONARY LOUVERS SL-1 AND SL-2 WITH NEW MOTORIZED DAMPERS AND FILTERS. FURNISH AND INSTALL NEW ALUMINUM SLEEVE TO MOUNT MOTORIZED DAMPERS AND FILTERS IN BEHIND LOUVER. SEE STATIONARY LOUVER SCHEDULE SHEET 29.
- ㊸ REMOVE EXISTING LAHSO CONTROLLER AND REPLACE WITH NEW LAHSO CONTROLLER.
- ㊹ NEW 2 #10 THWN, 1 #10 GND. IN 1" CONDUIT TO LIGHTING PANEL.
- ㊺ EXISTING L-854 RADIO CONTROLLER, PROVIDE ALCMS INTERFACE.
- ㊻ NEW 2 #2 THWN, 1 #6 GND. IN EXISTING CONDUIT.
- ㊼ REMOVE EXISTING LOUVER, PLENUM AND EXHAUST FAN, INSTALL NEW ANGLE IRON FRAME AND NEW EXHAUST FANS EF-1 AND EF-2. SEE EXHAUST FAN SCHEDULE SHEET 29. SEE EXHAUST FAN MOUNTING DETAIL SHEET 29.
- ㊽ REUSE EXISTING INTERLOCK CONTROL BOX AND CONDUIT TO WIRE NEW LINE VOLTAGE THERMOSTAT CONTROL FROM EF-1 TO SL-1 AND SEPARATE THERMOSTAT CONTROL FROM EF-2 TO SL-2.
- ㊾ MOUNT DISCONNECT AND SPEED CONTROL ADJACENT TO NEW EXHAUST FAN
- ㊿ EXISTING TOWER ROAD STREET LIGHTS SWITCH TO REMAIN.
- ⓫ EXISTING TYCO FIRE ALARM AND VIDEO SURVEILLANCE EQUIPMENT TO REMAIN.
- ⓬ NEW 2 #12 THWN, 1 #12 GND. IN 1" CONDUIT TO EXHAUST FAN.



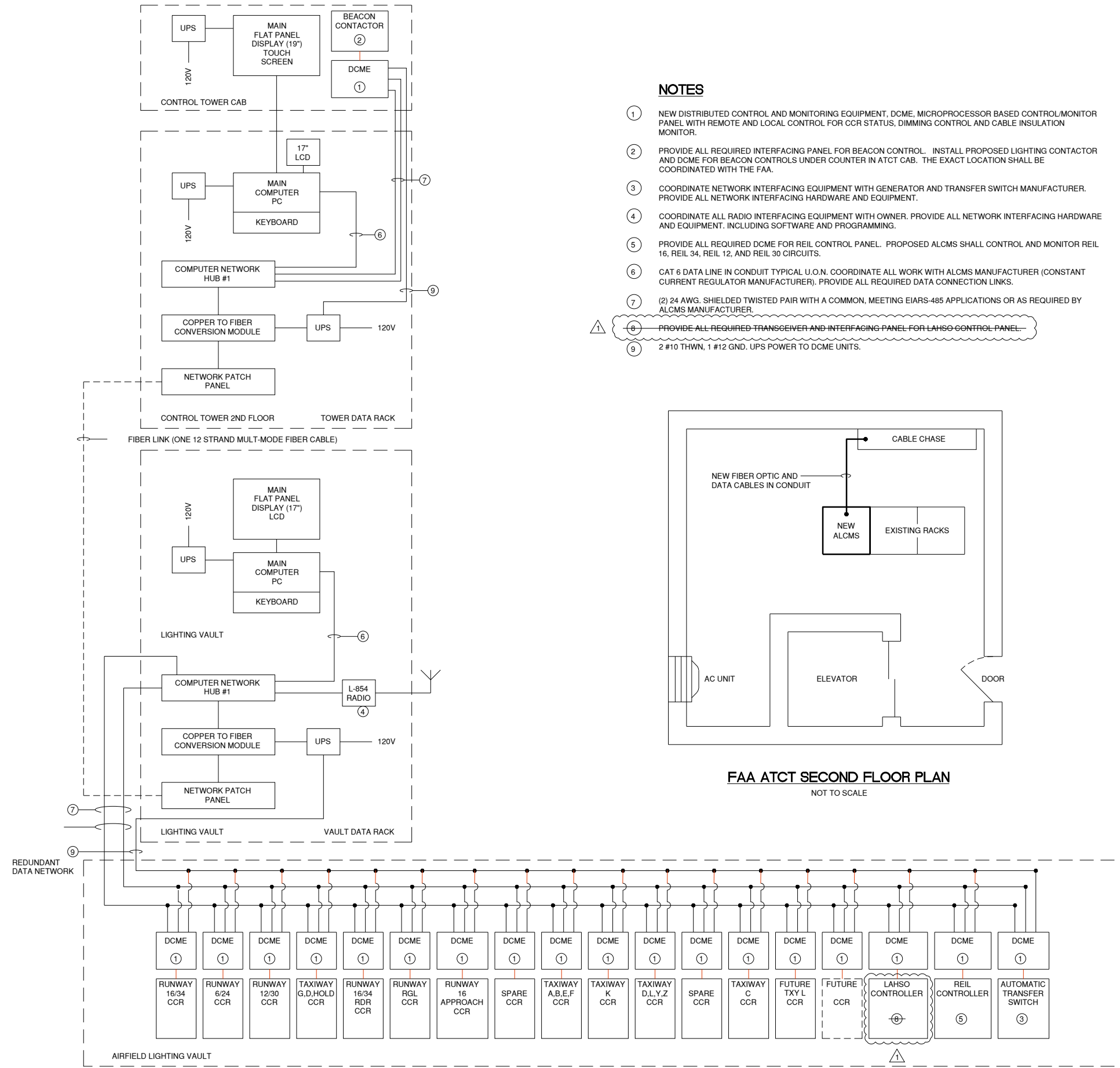
**AIRFIELD ELECT. VAULT PLAN VIEW
 NOT TO SCALE**

NOTES:

1. ALL PROPOSED WORK OR ITEMS BEING MODIFIED ARE SHOWN IN BOLD. ALL OTHER ITEMS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY.
2. PROPOSED ALCMS RACK SHALL BE SUPPLIED WITH WHEELS. NEW CONTROL SYSTEM SHALL BE OPERATIONAL AND TESTED PRIOR TO THE REMOVAL OF EXISTING PLC CABINET. PROVIDE J-BOX, FLEX CONDUIT AND SUFFICIENT CABLE SLACK REQUIRED FOR ALCMS RACK TO BE OPERATIONAL.
3. SEE PANEL SCHEDULE FOR REGULATOR, ALCMS AND HVAC CIRCUITS.
4. INSTALL POWER AND CONTROL WIRES BETWEEN INTERFACE CONTROL PANEL AND A.T.S., BEACON CONTROL, LAHSO CONTROL, L-854 RADIO CONTROLLER AND REIL CONTROLLER PER ALCMS MANUFACTURER.
5. INSTALL AND WIRE PROPOSED DCME FOR FUTURE REGULATORS.
6. RELOCATE EXISTING WALL MOUNTED TRANSFORMER BELOW LAHSO CONTROLLER. MOUNT (2) ACE-II UNITS ON TOP OF EACH OTHER BETWEEN LAHSO AND REIL CONTROLLERS.
7. REMOVE EXISTING REGULATOR AND INSTALL PROPOSED REGULATOR. INSTALL PROPOSED POWER AND CONTROL WIRES IN FLEXIBLE CONDUIT. MATCH EXISTING CONDITIONS.
8. INSTALL L-823 CONNECTORS IN HIGH VOLTAGE WIREWAY.
9. RELOCATE EXISTING INDICATOR UNIT ON EXISTING PANEL TO PROVIDE SPACE FOR NEW DCME UNIT.
10. CONNECT EXISTING INPUT POWER AND OUTPUT AIRFIELD CIRCUIT TO NEW LAHSO CONTROLLER.

DATE: Friday, July 23, 2021 10:06:50 AM
 FILE: K:\Chicago\Engineering\20029004_RehabilitateLighting\Draw\Sheets\20029004_PWK-4843_Vault.dwg
 UPDATE BY: jro
 LAYOUT: VAULT MODIFICATIONS - AIRFIELD LIGHTING
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DATE: Friday, July 23, 2021 10:07:34 AM
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 UPDATE BY: Jim Chise
 LAYOUT: AIRCMS - EQUIPMENT BLOCK DIAGRAM
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 Ed:\2\jchise\spco\p\vec\0304\Draw\Sheets\2 AIRCMS - EQUIPMENT BLOCK DIAGRAM.dwg



- NOTES**
- NEW DISTRIBUTED CONTROL AND MONITORING EQUIPMENT, DCME, MICROPROCESSOR BASED CONTROL/MONITOR PANEL WITH REMOTE AND LOCAL CONTROL FOR CCR STATUS, DIMMING CONTROL AND CABLE INSULATION MONITOR.
 - PROVIDE ALL REQUIRED INTERFACING PANEL FOR BEACON CONTROL. INSTALL PROPOSED LIGHTING CONTACTOR AND DCME FOR BEACON CONTROLS UNDER COUNTER IN ATCT CAB. THE EXACT LOCATION SHALL BE COORDINATED WITH THE FAA.
 - COORDINATE NETWORK INTERFACING EQUIPMENT WITH GENERATOR AND TRANSFER SWITCH MANUFACTURER. PROVIDE ALL NETWORK INTERFACING HARDWARE AND EQUIPMENT.
 - COORDINATE ALL RADIO INTERFACING EQUIPMENT WITH OWNER. PROVIDE ALL NETWORK INTERFACING HARDWARE AND EQUIPMENT, INCLUDING SOFTWARE AND PROGRAMMING.
 - PROVIDE ALL REQUIRED DCME FOR REIL CONTROL PANEL. PROPOSED ALCMS SHALL CONTROL AND MONITOR REIL 16, REIL 34, REIL 12, AND REIL 30 CIRCUITS.
 - CAT 6 DATA LINE IN CONDUIT TYPICAL U.O.N. COORDINATE ALL WORK WITH ALCMS MANUFACTURER (CONSTANT CURRENT REGULATOR MANUFACTURER). PROVIDE ALL REQUIRED DATA CONNECTION LINKS.
 - (2) 24 AWG. SHIELDED TWISTED PAIR WITH A COMMON, MEETING EIARS-485 APPLICATIONS OR AS REQUIRED BY ALCMS MANUFACTURER.
 - PROVIDE ALL REQUIRED TRANSCEIVER AND INTERFACING PANEL FOR LAHSO CONTROL PANEL.
 - 2 #10 THWN, 1 #12 GND. UPS POWER TO DCME UNITS.

FAA ATCT SECOND FLOOR PLAN
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AIRFIELD LIGHTING AND EQUIPMENT CONTROL DIAGRAM
NOT TO SCALE

IL CONTRACT: **PA063**
 IL LETTING ITEM: **08A**
 IL PROJECT: **PWK-4843**
 S.B.G. PROJECT:

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THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 REHABILITATE AIRFIELD LIGHTING - PHASE 1 AND INSTALL ALCMS

ALCMS - EQUIPMENT BLOCK DIAGRAM

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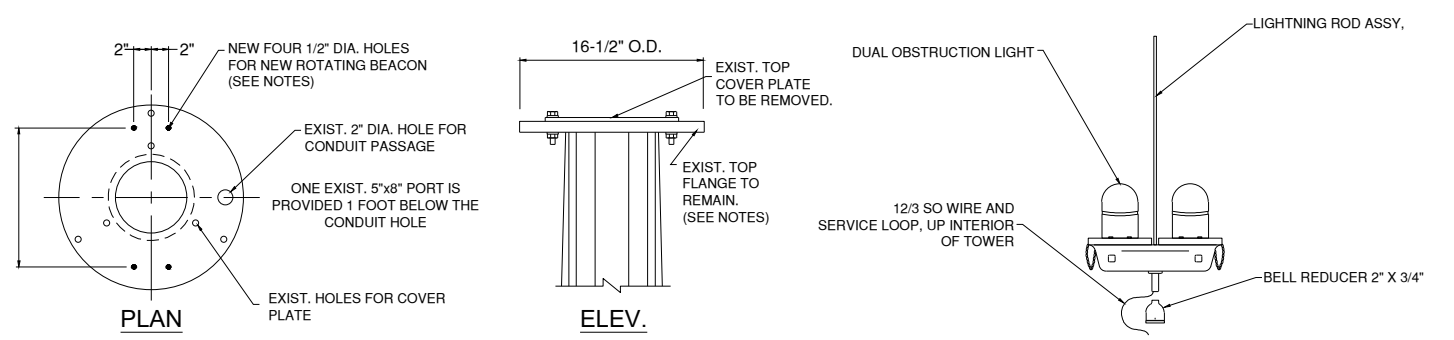
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DESIGN BY: AB
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SHEET 31 OF 35 SHEETS

DATE: Friday, July 23, 2021 10:08:25 AM
 FILE: K:\ChicagoExecutives\20200401_RehabilitateAirfieldLighting\Draw\Sheet\33 BEACON - LOCATION PLAN.dwg
 UPDATE BY: Jim O'hea
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 REF: DWG: 33 BEACON - LOCATION PLAN.dwg



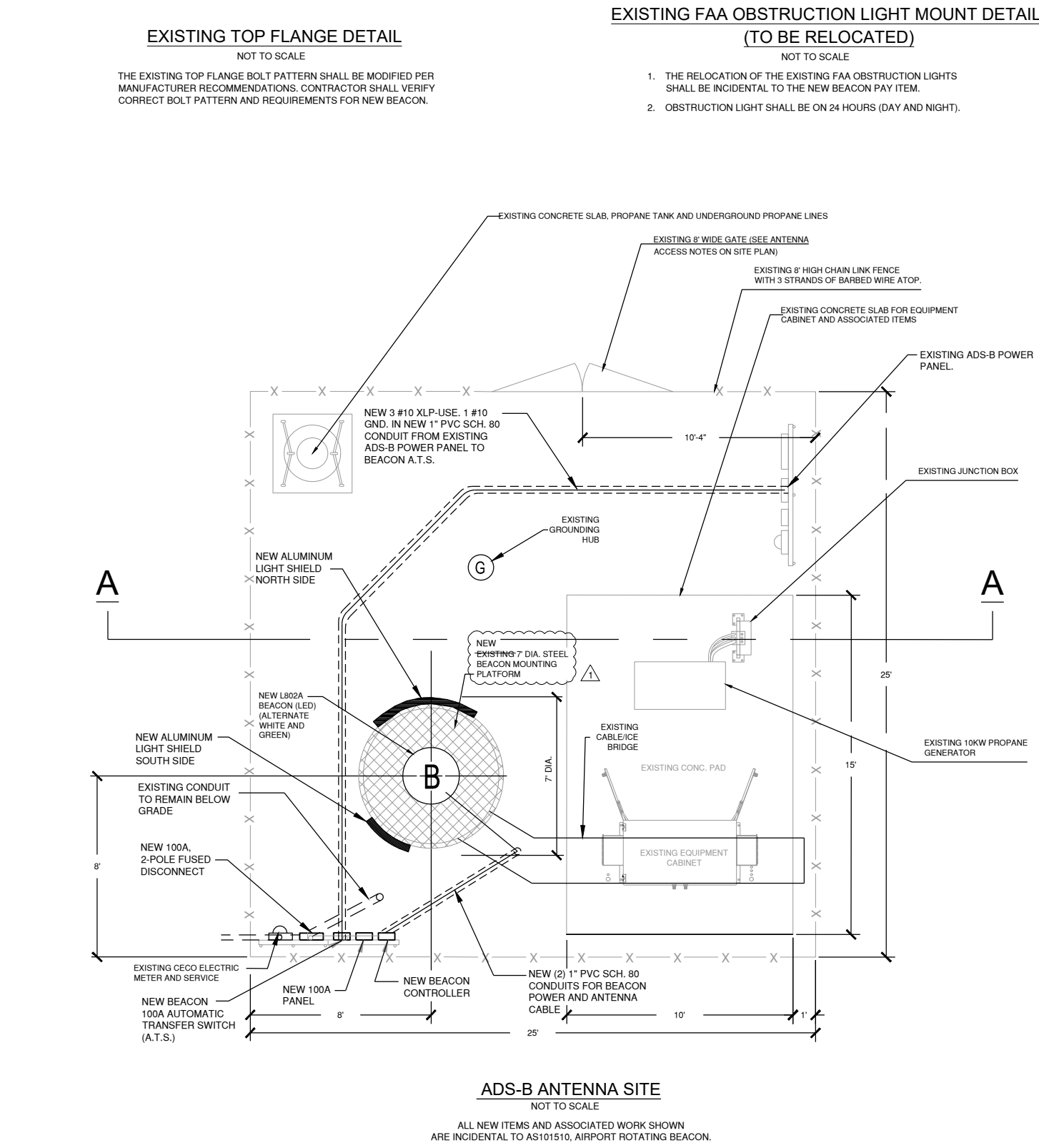
- NOTES:**
- ANY EXISTING UTILITY, CABLE, GROUNDING, AND CONDUIT LOCATIONS SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO NEW INSTALLATION. LOCATIONS NOT SHOWN FOR CLARITY.
 - ALL EXISTING UTILITY VERIFICATION AND NEW UNDERGROUND INSTALLATION SHALL BE COMPLETED BY HAND DIGGING TRENCHES.
 - NEW L802A BEACON (LED) SHALL BE HALI-BRITE L802AL216 CIVILIAN VERSION. 120 VAC, 60 HZ, CLASS II, OR APPROVED EQUAL.
 - THE MOUNTING PLATFORM SHALL BE HALI-BRITE 440C98-1 7 FOOT DIA. ROUND BEACON BASKET OR APPROVED EQUAL. ALL PLATFORM SUPPORTS AND INSTALLATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
 - THE NEW LIGHT SHIELDS SHALL PROTECT GLARE FROM THE NEW BEACON TO THE FAA AIR TRAFFIC CONTROL TOWER AND THE RESIDENCE TO THE NORTH OF HINTZ ROAD AS SHOWN ON SHEET 3. SEQUENCE OF CONSTRUCTION. THE LIGHT SHIELDS SHALL BE VARIOUS SIZED ALUMINUM PANELS OR APPROVED EQUAL AND SHALL BE INSTALLED TO THE PLATFORM TO THE SATISFACTION OF THE AIRPORT AND ENGINEER. AFTER INSTALLATION, THE CONTRACTOR MAY NEED TO ADJUST THE SHIELDS UP TO TWO TIMES TO THE SATISFACTION OF THE FAA TOWER CHIEF, THE AIRPORT AND THE ENGINEER.
 - THE BEACON LIGHT BEAM ANGLE SHALL BE SET TO 3.5 DEGREES ABOVE HORIZONTAL OR AS DETERMINED BY THE AIRPORT.
 - COORDINATE ALL WORK AT ADSB TOWER WITH L3 HARRIS TECHNOLOGIES, INC.

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 IL PROJECT: **PWK-4843**
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 THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).



CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 REHABILITATE AIRFIELD LIGHTING - PHASE 1 AND INSTALL ALOMS
 ADDITIVE ALTERNATE #1
 BEACON - LOCATION PLAN

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 APPROVED BY: DKP
 DATE: 06/25/2021
 JOB No: 20029004.00

FINAL

SHEET 33 OF 35 SHEETS

ITEM 109 – AIRPORT TRANSFORMER VAULT AND VAULT EQUIPMENT

DESCRIPTION

109-1.1

ADD:

This item shall consist of removal of existing airfield lighting vault equipment, removal of regulators, ~~removal of existing LAHSO controller~~, installation of a new Electrical Vault equipment, regulators, ~~LAHSO controller~~, HVAC and ALCMS in accordance with these specifications and in accordance with the design and dimensions shown in the plans. The following major items of work will be included under this Item:

- a. Removal of existing airfield lighting regulators and associated cable/conduits
- b. Removal of existing PLC airfield lighting control system and all associated cable/conduits.
- ~~c. Removal of existing LAHSO controller and all associated cable/conduits.~~
- d. Installation of (3) new L-829 Regulators and associate power and control cable/conduits and circuit breakers.
- e. Installation of new Airfield Lighting Control and Monitoring System (ALCMS) with touchscreens in Vault and Air Traffic Control Tower (ATCT).
- ~~f. Installation of new L-884 LAHSO controller and all associated power and control cable/conduits.~~
- g. Installation of new wall HVAC units and exhaust fans and all associated power and control cable/conduits and circuit breakers.
- h. Re-connection of all existing circuits to remain to new power panels.

Except as noted above, exterior field installed cable from airfield edge lights and visual nav aids and fiber optic cable between vault and ATCT will be paid for separately under applicable unit prices of Item 108, "Installation of Underground Cable for Airports" up to the connection to vault equipment.

Except as noted above, items of underground duct work shall be paid for under applicable unit prices of Item 110, "Airport Underground Electrical Duct Banks and Conduits."

EQUIPMENT AND MATERIALS

109.2.1 GENERAL

REVISE: Paragraph (a) of the Specifications as follows:

Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall have the prior approval of the FAA and shall be listed in Advisory Circular (AC) 150/5345-53, Current Edition, Airport Lighting Equipment Certification Program, including the current Addendum. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the

109-2.22 FAA-APPROVED EQUIPMENT

The following FAA approved equipment is to be used on this project:

- a. L-829, Constant Current Regulator, 20KW and 15 KW, 480V, single phase primary, 6.6 AMP maximum, 3-Step or 5-step Brightness secondary. Regulator shall be Ferroresonant design. All-Solid-State design regulators are not acceptable. Regulator shall be a self-contained unit of the static type with no moving parts requiring attention or service. Internal input fusing shall be provided. Positive open circuit and over-current protection in the event of a fault shall be provided. All control circuitry shall be behind a hinged door for accessibility. Input and output lightning arrestors shall be included. Power factor capacitor shall be provided and provide a power factor of 96% or better, at full load and maximum brightness. All controls, including brightness relays, shall be in the air-filled control cabinet. Regulator shall have provision for both external 120V control and internal 120V control. Regulator shall be equipped with internally mounted remote control operated primary contractor with 120VAC operating coil.

New regulators shall be equipped with Digital Control Interface units as required to interface with ALCMS and auto-megarring option.

- ~~b. L-884 LAHSO controller with power and controls for a complete and operational system.~~
- c. Airfield edge lights (LED) and isolation transformers used as indicator lights as part of Regulator Indicating Light Assemblies at each regulator shall comply with requirements of Item 125 of these specifications.

109-2.23 OTHER ELECTRICAL EQUIPMENT

- a. Circuit breakers shall match with existing circuit breakers.
- b. HVAC units with exhaust fans, louvers and thermostats shall be mounted on the wall as shown on the plans. This item shall also include any architectural modifications required to existing walls and wall openings as shown on the plans and for a complete and operational ventilation system.

109-2.24 SHOP DRAWINGS

In addition to the requirements of Section 60 Paragraph 60-09 of the General Provisions of Part 1 of these specifications, shop drawings shall also be submitted for review for all items specified in Paragraphs 2.2 through 2.23.

109-2.25 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)

ALCMS shall be FAA approved L-890-B-Y (Basic Monitoring and Preset Failsafe) system as detailed on the plans and specified herein:

The ALCMS manufacturer shall be listed in the FAA Approved Equipment List, AC 150/5345-53 (current edition), be a FAA approved supplier of L-890 Airfield Lighting Control and Monitoring Systems in accordance with AC 150/5345-56 (current edition), and be a FAA approved supplier of Constant Current Regulator Monitors in accordance with AC 150/5345-10 (current edition).

ALCMS Approved Manufacturers:

1. ADB/Safegate
2. Eaton
3. Approved equal

- D. This sequence shall repeat indefinitely until the alarm is acknowledged.
- E. The ALCMS shall continuously monitor the status of all of the circuits per the monitoring requirements as specified previously.
- F. If there are any monitoring discrepancies (i.e. incorrect CCR output current, loss of primary power) an alarm shall be generated at the Touchscreen display for the associated circuit.

TOUCHSCREEN COMMAND SEQUENCES

- A. The Touchscreen control station shall allow the airfield lighting circuits to be controlled individually (i.e. RWY Edge) or as a group based on preset tables (See following section).
- B. Each control command shall require two distinct operator actions in order for the command to initiate any state changes in the airfield lighting. The command sequence shall be as follows:
 - 1. Select circuit: Operator selects the desired circuit to be changed.
 - 2. Select intensity: Operator selects the desired brightness step that the circuit is to be changed to.
 - 3. Graphics flash: The graphics associated with the selected circuit shall begin to flash visually indicating to the operator the airfield lighting section that is going to be affected by the command.
 - 4. Confirm/Reject: Operator selects the 'CONFIRM' button to accept the selection and initiate the lighting change. Operator selects the 'REJECT' button to cancel the selections and make another selection.

GRAPHICAL AIRPORT PICTORIAL

- A. The ALCMS display screens shall display a graphical pictorial representation of the airport runways, taxiways and other requested airport features.
- B. When there is a change in lighting system status, the appropriate graphical detail shall indicate the status by changing color.
- C. The circuit intensity display colors shall be represented as seen in the legend as follows.

BEACON CONTROL

- A. The ALCMS shall provide control of the existing or relocated Beacon from the ALCMS node.
- B. The ALCMS shall provide one (1) optically isolated, dry-contact output point at the Beacon contactor and controller inside ATCT Cab. The contact shall be rated 1A at 120Vac.
- C. The ALCMS shall close the output to command the Beacon ON and open the output to turn the Beacon OFF, based on the photocell input. The contractor shall provide an interface relay/contactor to connect power to the Beacon.

~~LAHSO CONTROL~~

- ~~A. The ALCMS shall provide control of the new LAHSO controller from the ALCMS node.~~
- ~~B. The ALCMS shall provide one (1) optically isolated, dry-contact output point or as required by LAHSO controller manufacturer inside Vault. The contact shall be rated 1A at 120Vac.~~

RADIO CONTROL ENABLED CONTROL METHODOLOGY

- A. The ALCMS shall provide an interface to the new L-854 radio controller located inside the vault.

109-4.9 ALCMS INSTALLATION

The Contractor shall install new ALCMS at new airfield lighting vault and ATCT as shown on the plans and specified herein. The installation of new fiber optic communication link between new airfield lighting vault and ATCT shall be as described in specification 108.

The Contractor shall install ALCMS cabinet in the ATCT mounted to the floor and anchored to the wall as shown on the plans and as directed by FAA.

METHOD OF MEASUREMENT

109-5.1

DELETE: This section.

ADD:

VAULT MODIFICATIONS.

The quantity of vault modifications to be paid for shall be lump sum. This item shall consist of the installation of a vault cooling system and removals of all vault equipment including regulators, furnishing and installation of all vault electrical power distribution equipment, including but not limited to ~~L-890 controller~~, removal of equipment, wireways, conduits/conductors, connections of all existing circuits, lighting contactors, and all labor and materials necessary for a complete and accepted installation.

109-5.2

DELETE: This section.

ADD:

REGULATORS.

The quantity of regulators to be paid for shall consist of furnishing and installation of regulators of each size, and all labor and materials necessary for a complete and accepted installation.

109-5.3

DELETE: This Section.

ADD:

L-890 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)

The quantity of new ALCMS to be paid for under this item shall be lump sum. This item shall include all the work associated with new ALCMS, including but not limited to installation of ALCMS equipment in vault and ATCT. This item shall also include installation UPS, printer, photocell, installation of circuit breaker and power in ATCT, coordination with regulator manufacturer, installation of cable/conduits in vault and ATCT, ATCT cab counter modifications, testing, commissioning and training for a complete and operational ALCMS as specified.