

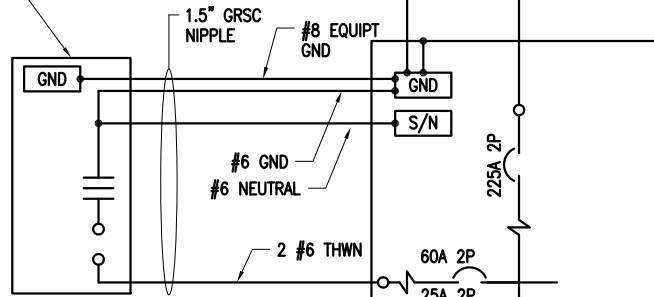
#2 AWG CU. IN 1" SCHED 40 PVC

GROUND RING

#2 AWG CU.

3/4" DIA x 10' L UL LISTED COPPER CLAD GND ROD (TYP. FOR 4, ONE AT EACH CORNER). GND RING SHALL BE BURIED 40" MIN. BELOW FINISHED GRADE. CONNECTIONS TO GND RODS AND GND RING SHALL BE EXOTHERMIC WELD, CADWELD, ULTRAWELD, THERMOWELD, OR APPROVED EQUAL.

AC SURGE PROTECTOR, SUITABLE FOR 120/240 VAC, 1 PH, 3W PLUS GROUND SYSTEM WITH SURGE CURRENT RATING OF 240 KA, 8 x 20 MICROSECOND WAVE PER MODE & STATUS INDICATION LIGHTS IN A NEMA 12 ENCLOSURE, LIGHTNING PROTECTION CORP. MODEL LPC 2020-8U-5G, OR APPROVED EQUAL. AC SURGE PROTECTOR DEVICE SHALL BE INSTALLED ON THE LEFT HAND SIDE OF THE PANELBOARD. MAINTAIN LEADS AS SHORT & AS STRAIGHT AS POSSIBLE FROM THE PANELBOARD TO THE AC SURGE PROTECTOR DEVICE. PROVIDE DUCT SEAL AT CONDUIT TERMINATIONS.



#2 AWG CU.

2 #4/0 XHHW
1 #4/0 NEUTRAL
1 #2 GND IN 3" GRSC

1.5" GRSC NIPPLE

#8 EQUIPT GND

#6 GND

#6 NEUTRAL

2 #6 THWN

225A 2P

60A 2P

25A 2P

25A 2P

20A 2P

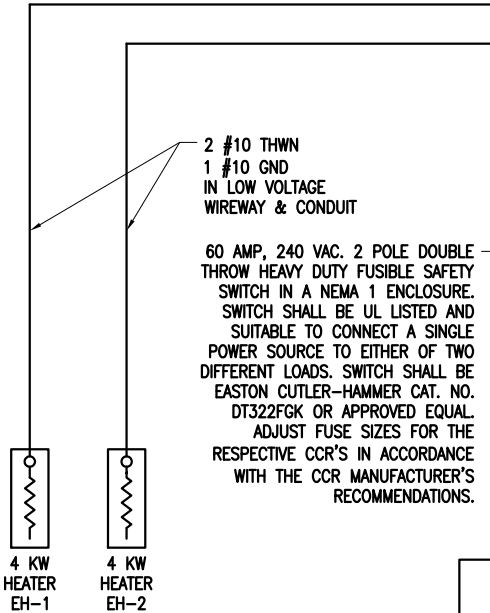
60A 2P

20A 2P

80A 2P

30A 2P

Vault SERVICE AND DISTRIBUTION PANELBOARD. SEE SCHEDULE.



4 KW HEATER EH-1

4 KW HEATER EH-2

60 AMP, 240 VAC. 2 POLE DOUBLE THROW HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 1 ENCLOSURE. SWITCH SHALL BE UL LISTED AND SUITABLE TO CONNECT A SINGLE POWER SOURCE TO EITHER OF TWO DIFFERENT LOADS. SWITCH SHALL BE EASTON CUTLER-HAMMER CAT. NO. DT322FGK OR APPROVED EQUAL. ADJUST FUSE SIZES FOR THE RESPECTIVE CCR'S IN ACCORDANCE WITH THE CCR MANUFACTURER'S RECOMMENDATIONS.

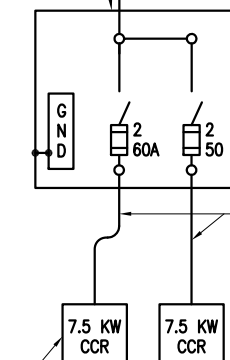


2 #10 THWN
1 #10 GND
IN LOW VOLTAGE WIREWAY & CONDUIT

2 #6 THWN
1 #8 GND
IN LOW VOLTAGE WIREWAY & GRSC

2 #4 THWN
1 #8 GND
IN LOW VOLTAGE WIREWAY & GRSC

100 AMP, 240 VAC. 2 POLE DOUBLE THROW HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 1 ENCLOSURE. SWITCH SHALL BE UL LISTED AND SUITABLE TO CONNECT A SINGLE POWER SOURCE TO EITHER OF TWO DIFFERENT LOADS. SWITCH SHALL BE EASTON CUTLER-HAMMER CAT. NO. DT323FGK OR APPROVED EQUAL. ADJUST FUSE SIZES FOR THE RESPECTIVE CCR'S IN ACCORDANCE WITH THE CCR MANUFACTURER'S RECOMMENDATIONS.



2 #6 THWN
1 #8 GND
IN L.V. WIREWAY WITH 1" LTFMC AT FINAL CONNECTION TO CCR

2 #4 THWN
1 #8 GND
IN L.V. WIREWAY WITH 1" LTFMC AT FINAL CONNECTION TO CCR

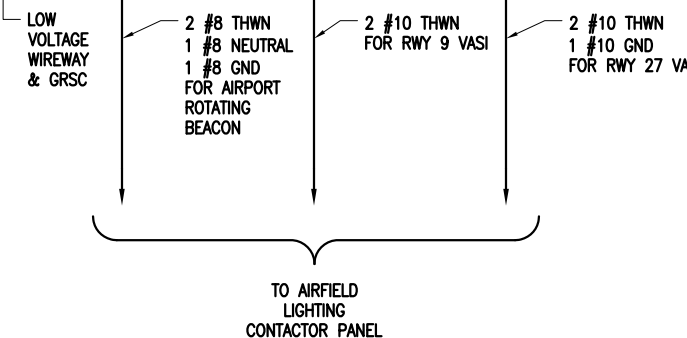
7.5 KW CCR TAXIWAY CCR

7.5 KW CCR BACKUP TAXIWAY CCR (EXISTING MANARCO CCR FOR RWY 9-27 RELOCATED FROM VAULT)

10 KW CCR RWY 9-27 CCR

10 KW CCR BACKUP RWY 9-27 CCR (EXISTING HEVI-DUTY RWY 9-27 CCR RELOCATED FROM VAULT)

COORDINATE WITH PROJECT ENGINEER, TO CONFIRM BACKUP CCR'S.



LOW VOLTAGE WIREWAY & GRSC

2 #8 THWN
1 #8 NEUTRAL
1 #8 GND FOR AIRPORT ROTATING BEACON

2 #10 THWN FOR RWY 9 VASI

2 #10 THWN
1 #10 GND FOR RWY 27 VASI

TO AIRFIELD LIGHTING CONTACTOR PANEL

NOTES

- ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE. THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- ALL CONDUCTORS/WIRING SHALL BE COPPER.
- CONTRACTOR SHALL CONFIRM POWER REQUIREMENTS WITH THE ACTUAL NAMEPLATE ON EACH CONSTANT CURRENT REGULATOR (OR OTHER RESPECTIVE EQUIPMENT) AND ADJUST CIRCUIT BREAKER, FUSES, WIRE SIZES & CONDUIT SIZES TO CONFORM WITH NEC & MANUFACTURER'S RECOMMENDATIONS WHERE APPLICABLE. WIRE SIZES SHOWN ON THE PLANS ARE MINIMUM.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, HANDHOLE, MANHOLES, JUNCTION BOX, OR RACEWAY.
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED. CONFIRM LTFMC BEARS THE UL LABEL PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE NEW ELECTRICAL SERVICE WITH THE SERVING ELECTRIC UTILITY AND THE AIRPORT MANAGER. CONTRACTOR SHALL CONFIRM REQUIREMENTS WITH SERVING ELECTRIC UTILITY COMPANY. THE SERVING ELECTRIC UTILITY IS AMEREN.
- ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEM AR109200 INSTALL ELECTRICAL EQUIPMENT PER LUMP SUM.

PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR VAULT AND AIRFIELD

NOTE IF ADDITIVE ALTERNATE NO. 1 IS ACCEPTED FOR LED AIRFIELD LIGHTING THE TAXIWAY CCR MINIMUM SIZE WILL BE REDUCED TO 4 KW DUE TO THE REDUCTION IN AIRFIELD LIGHTING LOADS.

NOTE IF ADDITIVE ALTERNATE NO. 1 IS ACCEPTED FOR LED AIRFIELD LIGHTING THE 7.5 KW MANARCO CCR MIGHT BE USED TO BACKUP THE RWY 9-27 CKT. THE 7.5 KW CROUSE-HINDS CCR MIGHT BE USED TO BACKUP THE TAXIWAY CKT. COORDINATE WITH PROJECT ENGINEER, TO CONFIRM BACKUP CCR'S

NOTE IF ADDITIVE ALTERNATE NO. 1 IS ACCEPTED FOR LED AIRFIELD LIGHTING THE RUNWAY 9-27 CCR MINIMUM SIZE WILL BE REDUCED TO 7.5 KW DUE TO THE REDUCTION IN AIRFIELD LIGHTING LOADS.

REVISION	DATE	REMOVED PARTS/VASIS TO REMAIN
	06/12/13	

**MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS**

IL PROJ.: MGB-4206 BLOCK GRANT PROJ.: 3-17-0064-B21

Hanson Proj. No. 12A0053
Filename: E-606-LIN.dwg
Scale: NOT TO SCALE
Date: 06/17/13

LAYOUT	KNL	01/17/13
DRAWN	TRR	01/18/13
REVIEWED	KNL/CAH	02/04/13

HANSON
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1525 South Main Street
Springfield, Illinois 62703-2886

REPLACE VAULT, AIRFIELD LIGHTING AND GUIDANCE SIGNS

PROPOSED ELECTRICAL ONE-LINE DIAGRAM FOR VAULT & AIRFIELD SHEET 1

43
43 of 53 sheets

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