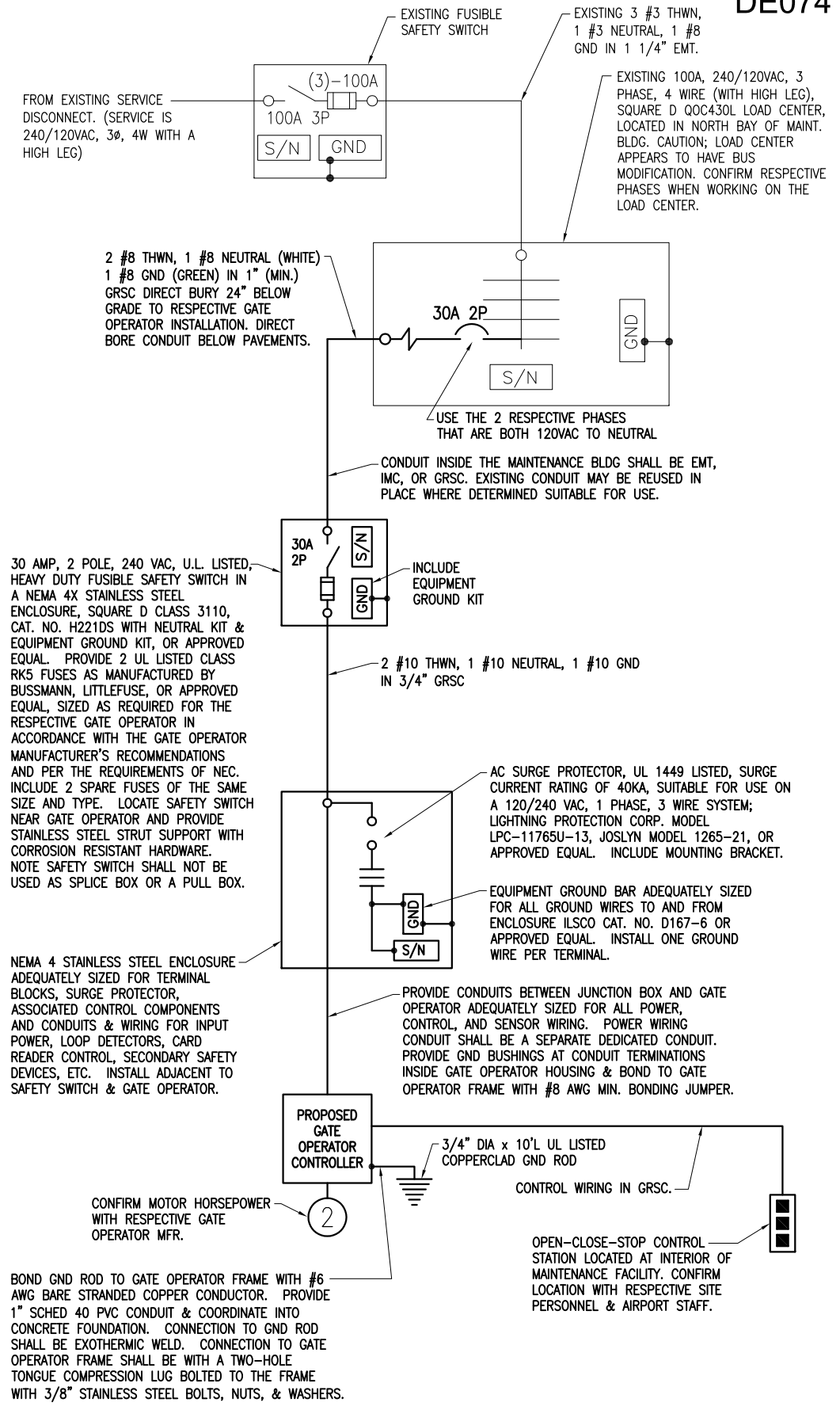


**EXISTING ELECTRICAL ONE-LINE
DIAGRAM FOR GATE #1 OPERATOR
(AT MAINTENANCE FACILITY)**

NOTES

1. CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE EXISTING CONDITIONS.
2. SEE "ELECTRICAL LEGEND AND ABBREVIATIONS" SHEET FOR GENERAL NOTES AND REQUIREMENTS.
3. 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.
4. ALL EQUIPMENT SHOWN NOT LABELED AS EXISTING IS NEW.
5. ALL CONTROL POWER TRANSFORMERS, POWER SUPPLIES, SIMPLEX RECEPTACLES, LOOP DETECTOR AMPLIFIERS, SECONDARY SAFETY DEVICE EQUIPMENT, AND ANY OTHER ASSOCIATED CONTROLS SHALL BE INSTALLED EITHER INSIDE THE GATE OPERATOR CONTROL PANEL OR INSIDE A SEPARATE NEMA 4 STAINLESS STEEL CONTROL PANEL ENCLOSURE. WHERE THE CONTROL EQUIPMENT IS TO BE INSTALLED INSIDE THE GATE OPERATOR CONTROL PANEL THE CONTRACTOR SHALL COORDINATE THIS WITH THE GATE OPERATOR MANUFACTURER AND THE RESPECTIVE GATE OPERATOR EQUIPMENT SUPPLIER. LOCATING THESE CONTROLS OUTSIDE OF GATE OPERATOR CONTROL PANEL BUT WITHIN THE GATE OPERATOR HOUSING WILL NOT MEET THIS REQUIREMENT.
6. REMOVAL OF EACH EXISTING ELECTRIC SLIDE GATE WILL BE PAID FOR UNDER ITEM AR162908 - REMOVE ELECTRIC GATE.
7. PROPOSED 24 FT. ELECTRIC SLIDE GATE AND ASSOCIATED WORK SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM AR162724 ELECTRIC GATE - 24'.
8. PER NEC 511 THE GARAGE AREA OF THE MAINTENANCE GARAGE IS CLASSIFIED AS A CLASS I, DIVISION 2, GROUP D HAZARDOUS LOCATION FOR A LEVEL OF 18 INCHES ABOVE THE FLOOR. ALL ELECTRICAL INSTALLATIONS SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEC 500, 501 AND 511 IN ADDITION TO THE OTHER APPLICABLE SECTIONS OF NEC. WHERE ELECTRICAL EQUIPMENT IS INSTALLED IN A CLASSIFIED HAZARDOUS LOCATION IT SHALL BE SUITABLE FOR USE IN THE RESPECTIVE CLASSIFIED HAZARDOUS LOCATION. WHERE POSSIBLE, AVOID INSTALLATION OF ELECTRICAL EQUIPMENT, RACEWAYS AND WIRING IN THE CLASSIFIED HAZARDOUS AREAS OF THE FACILITY.
9. GATE OPERATORS SHALL BE RATED FOR THE RESPECTIVE VOLTAGE AVAILABLE AT THE SITE AND SHALL PROPERLY OPERATE ON THE RESPECTIVE NOMINAL VOLTAGE SYSTEM PLUS OR MINUS 10 PERCENT. CONTRACTOR SHALL CONFIRM WITH THE GATE OPERATOR MANUFACTURER THAT THE RESPECTIVE GATE OPERATOR HE SELECTS IS RATED SUITABLE FOR THE RESPECTIVE APPLICATION, IS SUITABLE AND COMPATIBLE WITH THE RESPECTIVE GATE, AND WILL OPERATE PROPERLY ON THE RESPECTIVE POWER SUPPLY. NOTE THE GATE OPERATOR MUST ALSO OPERATE PROPERLY ON STANDBY ENGINE GENERATOR POWER AND SHALL NOT REQUIRE MANUAL RESET DUE TO TRANSFER FROM UTILITY POWER TO STANDBY GENERATOR POWER OR BACK TO UTILITY POWER. THE GATE OPERATOR MUST NOT REQUIRE MANUAL RESET FOR MOMENTARY POWER OUTAGES. WHERE A POWER OUTAGE OCCURS THE GATE OPERATOR SHALL AUTOMATICALLY RESUME NORMAL OPERATION UPON RESTORATION OF POWER.



**PROPOSED ELECTRICAL ONE-LINE
DIAGRAM FOR GATE #1 OPERATOR
(AT MAINTENANCE FACILITY)**

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DE074

EXISTING 3 #3 THWN, 1 #3 NEUTRAL, 1 #8 GND IN 1 1/4" EMT.

EXISTING 100A, 240/120VAC, 3 PHASE, 4 WIRE (WITH HIGH LEG), SQUARE D QOC430L LOAD CENTER, LOCATED IN NORTH BAY OF MAINT. BLDG. CAUTION; LOAD CENTER APPEARS TO HAVE BUS MODIFICATION. CONFIRM RESPECTIVE PHASES WHEN WORKING ON THE LOAD CENTER.

EXISTING FUSIBLE SAFETY SWITCH

FROM EXISTING SERVICE DISCONNECT. (SERVICE IS 240/120VAC, 3Ø, 4W WITH A HIGH LEG)

100A 3P

S/N GND

EXISTING 30A 2P

S/N

GND

USE THE 2 RESPECTIVE PHASES THAT ARE BOTH 120VAC TO NEUTRAL

CONDUIT INSIDE THE MAINTENANCE BLDG SHALL BE EMT, IMC, OR GRSC. EXISTING CONDUIT MAY BE REUSED IN PLACE WHERE DETERMINED SUITABLE FOR USE.

30 AMP, 2 POLE, 240 VAC, U.L. LISTED, HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE, SQUARE D CLASS 3110, CAT. NO. H221DS WITH NEUTRAL KIT & EQUIPMENT GROUND KIT, OR APPROVED EQUAL. PROVIDE 2 UL LISTED CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTLEFUSE, OR APPROVED EQUAL, SIZED AS REQUIRED FOR THE RESPECTIVE GATE OPERATOR IN ACCORDANCE WITH THE GATE OPERATOR MANUFACTURER'S RECOMMENDATIONS AND PER THE REQUIREMENTS OF NEC. INCLUDE 2 SPARE FUSES OF THE SAME SIZE AND TYPE. LOCATE SAFETY SWITCH NEAR GATE OPERATOR AND PROVIDE STAINLESS STEEL STRUT SUPPORT WITH CORROSION RESISTANT HARDWARE. NOTE SAFETY SWITCH SHALL NOT BE USED AS SPLICE BOX OR A PULL BOX.

2 #8 THWN, 1 #8 NEUTRAL (WHITE) 1 #8 GND (GREEN) IN 1" (MIN.) GRSC DIRECT BURY 24" BELOW GRADE TO RESPECTIVE GATE OPERATOR INSTALLATION. DIRECT BORE CONDUIT BELOW PAVEMENTS.

2 #10 THWN, 1 #10 NEUTRAL, 1 #10 GND IN 3/4" GRSC

AC SURGE PROTECTOR, UL 1449 LISTED, SURGE CURRENT RATING OF 40KA, SUITABLE FOR USE ON A 120/240 VAC, 1 PHASE, 3 WIRE SYSTEM; LIGHTNING PROTECTION CORP. MODEL LPC-11765U-13, JOSLYN MODEL 1265-21, OR APPROVED EQUAL. INCLUDE MOUNTING BRACKET.

EQUIPMENT GROUND BAR ADEQUATELY SIZED FOR ALL GROUND WIRES TO AND FROM ENCLOSURE ILSCO CAT. NO. D167-6 OR APPROVED EQUAL. INSTALL ONE GROUND WIRE PER TERMINAL.

PROVIDE CONDUITS BETWEEN JUNCTION BOX AND GATE OPERATOR ADEQUATELY SIZED FOR ALL POWER, CONTROL, AND SENSOR WIRING. POWER WIRING CONDUIT SHALL BE A SEPARATE DEDICATED CONDUIT. PROVIDE GND BUSHINGS AT CONDUIT TERMINATIONS INSIDE GATE OPERATOR HOUSING & BOND TO GATE OPERATOR FRAME WITH #8 AWG MIN. BONDING JUMPER.

3/4" DIA x 10'L UL LISTED COPPERCLAD GND ROD

CONTROL WIRING IN GRSC.

OPEN-CLOSE-STOP CONTROL STATION LOCATED AT INTERIOR OF MAINTENANCE FACILITY. CONFIRM LOCATION WITH RESPECTIVE SITE PERSONNEL & AIRPORT STAFF.

CONFIRM MOTOR HORSEPOWER WITH RESPECTIVE GATE OPERATOR MFR.

BOND GND ROD TO GATE OPERATOR FRAME WITH #6 AWG BARE STRANDED COPPER CONDUCTOR. PROVIDE 1" SCHED 40 PVC CONDUIT & COORDINATE INTO CONCRETE FOUNDATION. CONNECTION TO GND ROD SHALL BE EXOTHERMIC WELD. CONNECTION TO GATE OPERATOR FRAME SHALL BE WITH A TWO-HOLE TONGUE COMPRESSION LUG BOLTED TO THE FRAME WITH 3/8" STAINLESS STEEL BOLTS, NUTS, & WASHERS.

REVISION									
DATE									

DECATUR AIRPORT

DECATUR, ILLINOIS

A.I.P. PROJ.: 3-17-0033-B4

IL PROJ.: DEC-4167

Hanson Proj. No. 11A0083D	Filename E-601.dwg	Scale NOT TO SCALE	Date 05/08/2012	LAYOUT KNL 03/02/12	DRAWN BAK 03/02/12	REVIEWED KNL/RAW 04/19/12
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HANSON

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REPLACE PERIMETER FENCE

GATE 1 ELECTRICAL ONE-LINES

18

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