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ELECTRICAL SYMBOLS		
SYMBOL	DESCRIPTION	
├	LED LIGHT FIXTURE, STRIP LIGHT SURFACE MOUNTED	
	LED LIGHT FIXTURE, CEILING RECESSED MOUNTED	
	LED LIGHT FIXTURE, SURFACE MOUNTED	
0	LED CIRCULAR DOWNLIGHT, RECESS MOUNTED	
ЮШ	WALL PACK LIGHT FIXTURE	
1⊖>	AREA FLOOD LIGHT FIXTURE	
← →	LINE OF STRIP LIGHTS, MOUNTED IN SOFFIT	
<u></u>	ROADWAY LIGHT FIXTURE, MOUNTED ON CONCRETE COLUMN,	
14 / 4	WALL / TOP MOUNTED	
\sim	ROADWAY LIGHT FIXTURE, POLE MOUNTED	
	TRAFFIC LIGHT	
H ⊘	EXIT SIGN LIGHT FIXTURE	
	RECEPTACLE, DUPLEX, 125V, NEMA 5-20R, GROUNDING TYPE,	
	WALL MOUNTED	
	RECEPTACLE, DUPLEX, GND FAULT INTERRUPTER, 125V,	
-	NEMA 5-20R, WALL MOUNTED	
HK	ELECTRIFIED KEY LOCK	
	CARD READER DOOR ACCESS DEVICE	
CR		
+© / ©	SECURITY CAMERA, WALL OR POLE MOUNTED	
S	PUBLIC ADDRESS SYSTEM SPEAKER, CEILING RECESS MOUNTED	
⊢F⋈	FIRE ALARM COMBINATION AUDIO / VISUAL DEVICE, WALL MOUNTED	
. (=)	FIRE ALARM PULL STATION, WALL MOUNTED, RED,	
HE HE	ADDRESSABLE	
4	DISCONNECT SWITCH, NON-FUSIBLE UON, HEAVY-DUTY,	
\$	LIGHT SWITCH, WALL MOUNTED 46" AFF	
HJ / J	J-BOX, LARGE-SIZED PER NEC 314.28, WALL / CEILING MOUNTED	
lack	INFORMATION TECHNOLOGY SYSTEM ANTENNA, CEILING MOUNTED	
	FLEXIBLE METAL CONDUIT WITH WIRES, LIQUIDTIGHT IN	
~~~~~	DAMP / WET LOCATIONS, 1"C MINIMUM	
	CONDUIT WITH WIRES, CONCEALED ABOVE FINISH FLOOR OR	
	GRADE, ALL OTHERS SIMILAR, 1"C MINIMUM	
	CONDUIT WITH WIRES, EXPOSED ON CEILING OR WALLS,	
	ALL OTHERS SIMILAR, 1"C MINIMUM	
	CONDUIT WITH WIRES, CONCEALED BELOW FINISH FLOOR, OR	
	GRADE ALL OTHERS SIMILAR, 1"C MINIMUM	
	POWER / LIGHTING CIRCUIT HOMERUN TO PANEL "2A", CIRCUIT	
2A-1,3,5	NOS. 1, 3, 5 INDICATED, OTHERS INDICATED SIMILARLY	
UP°/DN	CONDUIT RISER, TURNED UP/DOWN	
	NOTE INDICATOR, NOTE NUMBER 1 REFERENCED, ALL OTHERS	
1	SIMILAR, SEE NOTES ON RESPECTIVE SHEETS	

## SYMBOL NOTES:

- 1. ALL ITEMS SHALL BE NEW UNLESS OTHERWISE NOTED.
- 2. NO HASH MARKS ON CONDUIT SYMBOL INDICATES 2-WIRES; III— INDICATES EQUIPMENT GROUND CONDUCTOR; PROVIDE SEPARATE INSULATED EQUIPMENT GROUND CONDUCTOR IN ALL CONDUITS, SIZED PER NEC ARTICLE 250 122
- 3. EXISTING ITEMS INDICATED AS DASHED, EXISTING CIRCUITING INDICATED WITH AN "e".
- 4. "X" THRU SYMBOL DENOTES EXISTING ITEM TO BE DEMOLISHED/REMOVED OR AS NOTED.

ABBREVIATIONS		
SYMBOL	DESCRIPTION	
ADO	AIRPORTS DISTRICT OFFICE	
AOA	AIRPORT OPERATIONS AREA	
CKT	CIRCUIT	
DEB	DIRECT EARTH BURIAL	
DWG	DRAWING	
EC	ELECTRICAL HANDHOLE COVER	
EMH	ELECTRICAL MANHOLE	
FAA	FEDERAL AVIATION ADMINISTRATION	
HH	HANDHOLE	
ID	IDENTIFICATION	
MAX	MAXIMUM	
MH	MANHOLE	
MIN	MINIMUM	
MTD	MOUNTED	
NEC	NATIONAL ELECTRICAL CODE	
NL	NIGHT LIGHT CIRUIT	
PNL	ELECTRICAL PANELBOARD	
PSI	POUNDS PER SQUARE INCH	
TYP	TYPICAL	

## **GENERAL ELECTRICAL NOTES:**

- 1. ALL WORK SHALL COMPLY WITH THE LOCAL ORDINANCES; NATIONAL ELECTRICAL CODE; NATIONAL ELECTRICAL SAFETY CODE; APPLICABLE REGULATIONS OR THE NATIONAL BOARD OF FIRE UNDERWRITERS; STANDARD OF UL, ANSI, NEMA AND EEI; AND REGULATIONS OF DKII AIRPORT.
- 2. ALL WORK SHALL CONFORM TO CONSTRUCTION PRACTICES AS RECOMMENDED BY AMERICAN ELECTRICIANS HANDBOOK BY CROFT (LATEST EDITION) AND APPLICABLE INSTRUCTIONS OF MANUFACTURERS OR MATERIAL SUPPLIED FOR THIS PROJECT.
- 3. PLANS DO NOT INDICATE THE COMPLETE EXISTING ELECTRICAL CONDITIONS. VISIT JOBSITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND EXTENT OF DEMOLITION AND NEW WORK PRIOR TO THE START OF WORK. REPORT ANY DISCREPANCIES AND/OR DIFFERENCES IN DRAWINGS, WITH RESPECT TO EXISTING CONDITIONS, TO THE STATE PROJECT MANAGER.
- 4. RESOLVE ALL DISCREPANCIES AND QUESTIONS PRIOR TO THE START OF WORK. NO EXTRA PAYMENT SHALL BE ALLOWED ON ACCOUNT OF WORK MADE NECESSARY BY CONTRACTOR'S FAILURE TO VISIT THE SITE AND/OR FAILURE TO RESOLVE DISCREPANCIES AND QUESTIONS.
- 5. ALL MATERIALS, EQUIPMENT AND WIRING LOCATED OUTDOORS SHALL BE SUITABLE FOR WEATHERPROOF LOCATIONS.
- UPON COMPLETION OF PROJECT, CONTRACTOR SHALL PROVIDE STATE PROJECT MANAGER WITH "AS-BUILT" DRAWINGS.
- 7. THE DATA INDICATED ON DRAWINGS ARE EXACT AS COULD BE SECURED FROM EXISTING DRAWINGS AND FIELD CHECKS BUT THEIR ABSOLUTE ACCURACY CANNOT BE GUARANTEED. EXACT LOCATIONS, DISTANCES, LEVELS, AND OTHER CONDITIONS WILL BE GOVERNED BY JOB DECISION OF STATE PROJECT MANAGEER. IN EVENT OF DISCREPANCIES BETWEEN DRAWINGS AND CONDITIONS AT SITE, IMMEDIATELY NOTIFY STATE PROJECT MANAGER. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES HAVE BEEN RESOLVED.
- REMOVE ALL EXISTING EXPOSED CONDUIT AND WIRES NOT TO REMAIN IN SERVICE; CONCEALED RACEWAYS NO LONGER REQUIRED SHALL BE CAPPED AND ABANDONED IN PLACE WITH ALL WIRES REMOVED.
- PROVIDE METAL SEAL(S) FOR ALL ABANDONED RACEWAY OPENING(S) IN BOX(ES), CABINET(S), AND EQUIPMENT ENCLOSURE(S). SEALS SHALL RETAIN NEMA RATING OF REMAINING BOX(ES), CABINET(S) AND EQUIPMENT ENCLOSURE(S).
- 10. FOR EXISTING CIRCUIT(S) WHERE SOME ELECTRICAL ITEMS ARE REMOVED, CONTRACTOR SHALL PROVIDE ALL NECESSARY RACEWAYS, WIRES, BOXES, AND ETC. PER NEC REQUIREMENTS TO ENSURE ELECTRICAL CONTINUITY AND PROPER OPERATION OF REMAINING CIRCUIT COMPONENTS.
- 11. ALL EXTERIOR MOUNTING HARDWARE SHALL BE 316 SS.
- 12. COORDINATE ALL CONDUIT ROUTING WITH OTHER DISCIPLINES TO AVOID CONFLICTS.
- ALL ELECTRICAL ITEMS AND WORK SHALL BE NEW UNLESS OTHERWISE INDICATED ON PLANS.
- 14. REPAIR, PATCH, AND PAINT ALL AREAS AFFECTED BY DEMOLITION AND REMOVAL WORK.
- 15. ALL ITEMS SPECIFIED AS NEMA 4X SHALL BE STAINLESS STEEL (316L) UNLESS OTHERWISE INDICATED. ALL C-CHANNELS AND FASTENING HARDWARE: SCREWS, NUTS, BOLTS, WASHERS, ETC., SHALL BE STAINLESS STEEL (316L). ALL EXPOSED FACTORY PROVIDED HARDWARE NOT STAINLESS STEEL 316L SHALL BE REPLACED WITH STAINLESS STEEL 316L HARDWARE.
- 16. COORDINATE INSTALLATION OF ALL ELECTRICAL ITEMS WITH OTHER TRADES AND ADJUST LOCATIONS AS NECESSARY.
- 17. PROVIDE TEMPORARY LIGHTING TO ALLOW FOR NORMAL AIRPORT OPERATIONS, WHICH INCLUDES BUT IS NOT LIMITED TO THE SAFE OPERATION OF THE WIKIWIKI SHUTTLE. CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING SUCH THAT THE FOOTCANDLE (FC) READING AT ANY POINT ON THE ROADWAY SURFACE (EDGE TO EDGE) IS A MINIMUM OF 15 FC.



Airports Division DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

RONALD N. S. HO & ASSOC., INC Electrical Engineers LICENSED PROFESSIONAL ENGINEER No. 14286-E

EXPIRATION DATE OF THE LICENSE:

DSGN. DRWN. | CHKD. | APPD. CAD

**KEY PLAN / NOTES:** 

NO. DATE **REVISIONS** CONSTRUCTION

SEPTEMBER, 2022

**DOCUMENTS** 

PROJECT TITLE:

**EWA AND DH CONCOURSE ROADWAY IMPROVEMENTS** PHASE 1

AT DANIEL K. INOUYE INTERNATIONAL AIRPORT HONOLULU, OAHU, HAWAII

PROJECT NO.:

AO1043-32

SHEET TITLE:

**ELECTRICAL SYMBOLS** 

DATE

199 OF 247 SHEETS

DWG. NO. SEPTEMBER, 2022 E-001 SHEET: