HIGHWAY DIST. N O.	STATE	HIGHWAY PROJ. N O.	FISCAL YEAR	SHEET NO.	TOTAL
HAWAII	HAW.	HWY-OT-SMP-01	2022	E2	19

GENERAL REQUIREMENTS

- A. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR ALL PARTS OF THE WORK. IF ANY DISCREPANCIES EXIST BETWEEN THE PLANS FOR HIS WORK AND THE PLANS FOR WORK OF OTHERS, HE SHALL REPORT SUCH DISCREPANCIES TO THE ARCHITECT AND SHALL OBTAIN WRITTEN INSTRUCTIONS. ANY CHANGES IN THE WORK COVERED BY THIS SPECIFICATION MADE NECESSARY THROUGH NEGLECT OR FAILURE OF THE CONTRACTOR TO REPORT SUCH DISCREPANCIES SHALL BE MADE BY AND AT THE EXPENSE OF THE CONTRACTOR.
- B. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. EVERYTHING THAT IS SPECIFIED, SCHEDULED OR MENTIONED BY ONE SHALL BE BINDING AS IF CALLED BY BOTH.

C. DEFINITIONS

- "PROVIDE" MEANS "FURNISH AND INSTALL".
- "WIRING" MEANS "PROVIDE ALL DEVICES, RACEWAYS, CONDUCTORS, CABLES, PROTECTIVE EQUIPMENT, ETC., FOR COMPLETE ELECTRIC CIRCUIT OR

D. SCOPE OF WORK:

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO EXECUTE WORK AND SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND ASSOCIATED FEES.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH TO THE ARCHITECT, AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTION AUTHORITY.
- WORK SHALL INCLUDE BUT SHALL NOT BE LIMITED TO:
 - A) ELECTRICAL DISTRIBUTION SYSTEM
 - B) POWER WIRING
 - C) FINAL CONNECTIONS TO ALL EQUIPMENT

E. WORK BY OTHERS:

- PRIOR TO COMMENCING, COORDINATE TIME SCHEDULING, PATCHING, INSTALLATION, HOOK-UPS, AND MISCELLANEOUS PROCEDURES WITH ANY AND ALL OTHER CONTRACTORS THAT WILL BE INVOLVED TO EXPEDITE THE COMPLETION OF THE CONTRACT.
- 2) ELECTRICAL CONTRACTOR SHALL NOTIFY OTHER TRADES AND SUPPLIERS OF PROJECT VOLTAGES

. RECORD DRAWINGS:

THE CONTRACTOR SHALL MAINTAIN AN ACCURATE AND ADEQUATE RECORD OF EACH CHANGE IT OCCURS, REGARDLESS OF HOW ORDERED. AT NO ADDITIONAL CHARGE TO THE OWNER, AFTER FINAL INSPECTION, PREPARE A REPRODUCIBLE COPY OF "AS-BUILT" ELECTRICAL DRAWINGS FROM SITE COPY AND TURN OVER TO ARCHITECT/OWNER.

G. REGULATIONS AND CODES:

THE ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE N.E.C., IEEE, CSA AND THE RULES, REGULATIONS AND/OR ORDINANCES OF THE GOVERNING AUTHORITY SHALL BE MADE BY THE ELECTRICAL CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.

PHASING NOTES:

- POWER OUTAGES WILL BE SCHEDULED AND COORDINATED WITH THE DEPARTMENT OF TRANSPORTATION 14 DAYS MINIMUM IN ADVANCE. OUTAGE DURATIONS SHALL NOT EXCEED 4 HOURS.
- CONSTRUCT NEW 5KV FEEDER SYSTEM CABLES/EQUIPMENT AND MAKE READY FOR FINAL TERMINATION TO EXISTING SYSTEMS WHERE ELECTRICAL SITE CONDITIONS PERMIT. KEEP EXISTING SYSTEMS OPERATIONAL TO THE MAXIMUM EXTENT POSSIBLE UP TO THE TIME WHEN THE CHANGEOVER FROM EXISTING TO NEW WILL BE MADE.

2. PRODUCTS

- A. MATERIALS SHALL BE U.L. APPROVED UNLESS OTHERWISE REQUIRED AND SHALL CONFORM TO APPLICABLE N.E.M.A. AND N.E.C. STANDARDS.
- B. RACEWAYS SHALL BE RIGID METAL CONDUIT OR AS NOTED. MANUFACTURED AND INSTALLED ACCORDING TO N.E.C. ARTICLE 344, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL HAVE A PULL-WIRE.
- PROVIDE #6 AWG MINIMUM 600V INSULATED GROUND WIRE (GREEN) INSTALLED FOR THE ENTIRE LENGTH OF THE TRAY, UNLESS THE TRAY IS LISTED FOR EQUIPMENT GROUND USE.
- REQUIRED BENDS, FITTINGS, JUNCTION BOXES, ETC., WHETHER OR NOT THEY ARE SHOWN ON DRAWINGS SHALL BE INSTALLED TO SATISFY ALL CODES AND STANDARDS OF GOOD PRACTICE.
- HARDWARE, SUPPORT, BACKING ETC., SHALL BE PROVIDED WHERE NECESSARY TO INSTALL ELECTRICAL EQUIPMENT. WOOD MATERIALS SHALL BE TERMITE TREATED AND FIRE PROOFED, IRON OR STEEL MATERIALS SHALL BE GALVANIZED FOR CORROSION PROTECTION, NON-FERROUS MATERIALS SHALL BE BRASS OR BRONZE. ALL WOOD SCREWS SHALL BE BRASS OR GALVANIZED STEEL.

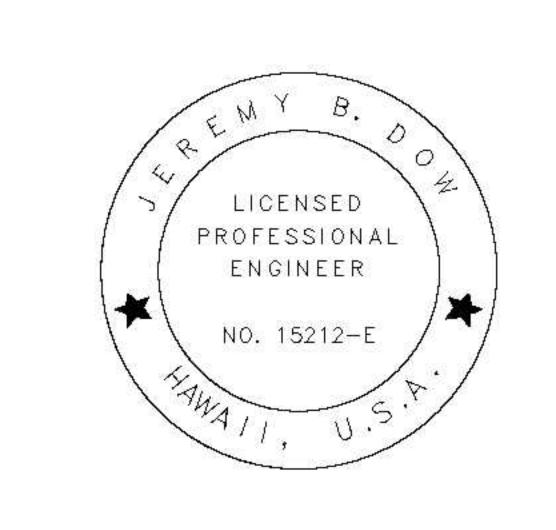
EQUIPMENT SCHEDULE				
EQUIPMENT	MANUFACTURER OR APPROVED EQUAL	MODEL (CAT. #)		
ARMORED CABLE, XLPE 1/C #6 AWG, 5kV (COPPER) 90 DEG C	SHAWCOR (SHAWFLEX PRODUCTS) LISTING: IEEE 383 & 1202, ICEA T-30-520	#8S210M060105700 MIN. BENDING RADIUS (15.8 INCHES)		
NON-SHIELDED CABLE, XLPE 1/C #6 AWG 5kV (COPPER) 90 DEG C	PRIORITY WIRE LISTING: ICEA -S-66-524, NEMA-WC7	#P02O1		
CABLE JUNCTION BOX MAX VOLTAGE: 6.6kV	THORNE & DERRICK INTERNATIONAL LISTING: IP66	MJB MOUNTING: WALL		
MEDIUM VOLTAGE SWITCHGEAR 5.5kV, 200 AMPERES 600kV BIL, 12.5kA SHORT-TIME RATING	SQUARE D LISTING: UL	MINI-BREAK LOAD INTERRUPTER MOUNTING: WALL		
5kV CABLE SPLICE KIT TYPE: ARMORED & NON-ARMORED CABLE RUBBER, IN-LINE	3M LISTING: IEEE 404	#5551-AC		

EXECUTION

- SAFETY PRECAUTIONS SHALL BE TAKEN AT ALL TIMES TO PROTECT PERSONS, PROPERTY AND EQUIPMENT.
- RELOCATION OF ANY DEVICE WITHIN 10 FEET OF ITS INDICATED LOCATION BEFORE INSTALLATION SHALL BE DONE WITHOUT ADDITIONAL COST TO THE OWNER.
- EQUIPMENT AND FIXTURES SHALL BE PROPERLY CONNECTED WITH ADEQUATE POWER AND CHECKED THOROUGHLY FOR PROPER OPERATION.
- EXPOSED EQUIPMENT SHALL BE INSTALLED AS PER DRAWINGS AND IS SUBJECT TO ARCHITECTURAL INSPECTION FOR AESTHETIC APPEARANCE.
- PROJECT GROUNDING SYSTEM SHALL BE INSTALLED AS REQUIRED BY N.E.C. ARTICLE 250.
- CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF HIS WORK WHICH MAY BE REQUIRED TO RECEIVE THE WORK OF OTHER CONTRACTORS.
- G. MEGGER TEST PRIOR TO ENERGIZING FOR THE FIRST TIME, ALL PIECES OF ELECTRICAL EQUIPMENT TO ASSURE THEM TO HAVE PROPER PHASE-TO-PHASE AND PHASE-TO-GROUND INSTALLATION AND TO BE FREE OF GROUNDS AND SHORTS.
- H. THE ENTIRE SITE SHALL BE CLEANED OF MATERIALS, DEBRIS, TOOLS, AND EQUIPMENT RELATED TO THIS WORK DAILY. ALL ITEMS OF ELECTRICAL EQUIPMENT ON JOB SITE SHALL BE KEPT PROTECTED AND COVERED AT ALL TIMES.
- WARRANTY:
 - INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL AND READY TO USE.
 - UNLESS OTHERWISE STATED, THE WARRANTY STARTS ON THE DATE WRITTEN NOTICE FROM THE CONTRACTOR IS GIVEN AND IS ACCEPTED BY THE OWNER STATING THE PROJECT IS COMPLETE AND ALL REQUIRED CORRECTIONS HAVE BEEN MADE. THE WARRANTY SHALL CERTIFY THAT ALL DEFECTS IN MATERIAL OR WORKMANSHIP SHALL BE PROMPTLY REPAIRED OR REPLACED BY THE CONTRACTOR, TO THE SATISFACTION OF THE OWNER, FOR A PERIOD OF ONE (1)

DEMOLITION NOTES:

- THE DEMOLITION DRAWINGS ARE INTENDED TO SHOW THE GENERAL SCOPE OF WORK AND DO NOT NECESSARILY SHOW EVERY DEVICE, BOX, CONDUIT, ETC. TO BE REMOVED. THE CONTRACTOR SHALL FIELD VERIFY OTHER ELECTRICAL SERVICES THAT MAY BE ENCOUNTERED DURING DEMOLITION AND SHALL REMOVE OR REROUTE THESE ITEMS AS DIRECTED.
- MAINTAIN CIRCUIT CONTINUITY AS REQUIRED FOR FIXTURES AND DEVICES INDICATED TO REMAIN, INCLUDING THOSE OUTSIDE OF PROJECT LIMITS. COORDINATE WITH NEW WORK AND RE-ROUTE CONDUIT AND WIRE AS REQUIRED TO AVOID CONFLICT WITH NEW WORK.
- ALL REMAINING JUNCTION AND PULL BOXES SHALL BE ACCESSIBLE AS PER NATIONAL ELECTRICAL CODE (N.E.C.). THE CONTRACTOR SHALL MOVE EXISTING BOXES, ETC. AS REQUIRED BY NEW CONSTRUCTION.
- ALL MATERIALS REMOVED REMAIN THE PROPERTY OF THE OWNER IF THE OWNER CHOOSES TO DISCARD THESE MATERIALS THEN THE CONTRACTOR SHALL DISPOSE OF THEM AS DIRECTED.



STATE OF HAWAI'I DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

ELECTRICAL NOTES AND SPECIFICATIONS LIKELIKE HIGHWAY WILSON TUNNEL ELECTRICAL **IMPROVEMENTS**

Scale: N.T.S

OF 19 SHEETS

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