## **GENERAL ELECTRICAL NOTES:**

- 1. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING. BID SUBMISSION SHALL BE CONSIDERED AS CONFIRMATION THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS RESOLVED ALL DISCREPANCIES AND QUESTIONS REGARDING THE WORK. NO EXTRA PAYMENT WILL BE GIVEN FOR WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO VISIT THE SITE.
- 2. ALL RACEWAYS AND OUTLETS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- 3. CONDUIT SIZES INDICATED ON THE DRAWINGS ARE NOT NECESSARILY BASED ON THE MINIMUM SIZE ALLOWED BY THE NATIONAL ELECTRICAL CODE AND MAY BE PURPOSELY OVERSIZED FOR FUTURE CONDUCTORS OR TO AVOID CONDUIT HEATING. CONDUIT SIZES NOT CALLED OUT ON THE DRAWINGS SHALL BE SIZED BY THE CONTRACTOR, BASED ON THE ACTUAL NUMBER OF CONDUCTORS TO BE INSTALLED, USING THE NATIONAL ELECTRICAL CODE AS A GUIDE. IN NO CASE SHALL CONDUIT SIZES BE SMALLER THAN ["DIAMETER.
- 4. ALL WIRING SHALL INCLUDE AN INSULATED GREEN GROUNDING CONDUCTOR SIZED PER TABLE 250.122 OF THE NATIONAL ELECTRICAL CODE. THIS CONDUCTOR SHALL BE CARRIED IN ALL RACEWAYS INCLUDING THOSE INSTALLED FOR SWITCH LEGS AND SHALL BE ATTACHED TO THE DEVICE, LIGHT FIXTURE, OR EQUIPMENT HOUSING USING A SUITABLE GROUNDING LUG.
- 5. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL JUNCTION AND PULL BOXES REQUIRED FOR THE INSTALLATION OF ELECTRICAL DEVICES AND EQUIPMENT, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS. SIZING OF THESE BOXES SHALL BE PER THE NATIONAL ELECTRICAL CODE
- 6. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND SLABS SHALL BE SEALED TO MAINTAIN THE INTEGRITY OF THE FIRE RATING USING A U.L. LISTED FIRE STOPPING SYSTEM.
- 7. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS OR FIRE RATED WALLS AND SLABS.
- 8. PROJECT CONDITIONS MAY REQUIRE REARRANGEMENT OF ELECTRICAL WORK, THE CONTRACTOR SHALL INDICATE SUCH CHANGES ON THE AS-BUILT DRAWINGS. WHERE CHANGES REQUIRE ALTERNATE METHODS TO THOSE SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING THE PROPOSED METHOD FOR APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL APPROVAL IS OBTAINED. REARRANGEMENT OF WORK FOR THE PURPOSE OF COORDINATION BETWEEN TRADES SHALL NOT BE CONSIDERED A REASON FOR EXTRA COST.
- 9. EXISTING CONDITION SHOWN ON DRAWINGS ARE TAKEN FROM PAST DESIGN DRAWINGS AND VISUAL FIELD INVESTIGATION. PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS SHOWN. DEVIATIONS SHALL BE SHOWN ON AS—BUILT DRAWINGS.
- 10. THE CONTRACTOR SHALL PAINT ALL NEW EXPOSED RACEWAYS (INCLUDING SURFACE METAL RACEWAYS) AND BOXES TO MATCH SURROUNDING
- 11. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
- 12. REFINISH AND PATCH TO MATCH ALL EXISTING WALL AND CEILING SURFACES DAMAGED OR SCRATCHED BY ELECTRICAL REMOVAL AND INSTALLATION WORK. NEW TOUCH-UP PAINT WORK SHALL BLEND INTO AND MATCH EXISTING FINISH.
- 13. ALL NEW WIRES SHALL BE # 12 AWG, UNLESS OTHERWISE NOTED.
- 14. ALL MATERIAL, EQUIPMENT, AND WIRING LOCATED OUTDOORS SHALL BE RATED FOR WET LOCATIONS.
- 15. AVOID CORING OR DRILLING THROUGH RE—BARS WHEN PENETRATING THROUGH EXISTING CONCRETE WALL, CEILING OR FLOOR. ALL EXTERIOR WALL PENETRATIONS SHALL BE WATERTIGHT.
- 16. EXPOSED RACEWAYS SHALL NOT CROSS OVER EACH OTHER AT LOW POINT ON WALL. CROSSOVERS, WHEN REQUIRED, SHALL BE DONE HIGH ON WALL NEAR JUNCTION BOXES.
- 17. SURFACE MOUNTED OUTLET BOXES WITH BLANK DEVICE PLATES SHALL BE 2-GANG TYPE WHEN USED FOR TELECOM CABLE WIRING.
- 18. PROVIDE NYLON PULLSTRINGS IN ALL TELECOM RACEWAYS.
- 19. THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE SHUT DOWN WHILE WORK IS IN PROGRESS, UNLESS OTHERWISE APPROVED BY THE CONTRACTING OFFICER AND/OR A DESIGNATED HONOLULU FIRE DEPARTMENT AUTHORITY.
- 20 THE CONTRACTOR SHALL SEAL ALL KNOCKOUTS OF EXISTING JUNCTION BOXES AND ENCLOSURES AFTER RACEWAYS ARE REMOVED. MATERIAL USED SHALL MATCH EXISTING JUNCTION BOX OR ENCLOSURE.
- 21. THE CONTRACTOR SHALL VERIFY WITH ENGINEER EXACT COUNTER HEIGHTS, EQUIPMENT LOCATIONS AND FURNITURE LAYOUTS PRIOR TO ROUGH IN OF ALL OUTLETS FOR POWER AND COMMUNICATIONS DEVICES.
- 22. THE CONTRACTOR SHALL REMOVE DE-ENERGIZED EXISTING BRANCH CIRCUIT WIRES FROM THE EXISTING ELECTRIC PANELS. ALL EXISTING WIRES SHALL BE TAGGED WITH CIRCUIT NUMBER FOR EASE OF RECONNECTING TO NEW ELECTRIC PANEL.
- 23. THE CONTRACTOR SHALL LABEL EACH RECEPTACLE WITH PANEL NAME AND CIRCUIT NUMBER. USE ADHESIVE LABELS BLACK LETTERING ON CLEAR BACKGROUND.
- 24. THE CONTRACTOR SHALL RECONNECT ALL EXISTING AND CONNECT ALL NEW BRANCH CIRCUITS TO THE APPROPRIATE NEW ELECTRICAL PANEL.
- 25. THE CONTRACTOR SHALL FILL—IN THE PANEL SCHEDULES OF ELECTRIC PANEL USING A TYPEWRITER. PROVIDE CIRCUIT DESCRIPTIONS BASED ON PANEL SCHEDULE DESCRIPTIONS FOR NEW AND EXISTING CIRCUITS.
- 26. REROUTE EXISTING RACEWAYS AND RELOCATE EXISTING JUNCTION BOXES AS REQUIRED TO AVOID CONFLICTS WITH NEW CEILING.
- 27. ALL NEW RACEWAYS IN CEILING SPACE SHALL BE SUPPORTED BY NEW STEEL CHANNEL SUPPORTS. NEW STEEL CHANNEL SUPPORTS SHALL BE KEPT AS HIGH AS POSSIBLE TO AVOID CONFLICT WITH AIR CONDITIONING DUCTWORK.
- 28. CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT RATINGS WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING ELECTRICAL EQUIPMENT. CONTRACTOR SHALL RESIZE CIRCUIT BREAKERS ACCORDING TO EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND RESIZE WIRES AT NO ADDITIONAL COST TO THE STATE. ALL CHANGES SHALL BE SHOWN ON "AS-BUILT" DRAWINGS.
- 29. ALL MULTIWIRE BRANCH CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.4. ALL CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS.
- 30. ALL NEW LIGHT FIXTURES SHALL BE SUPPORTED FROM CONCRETE SLAB WITH TWO 12 GAGE WIRES ATTACHED AT OPPOSING CORNERS OF THE LIGHT FIXTURE PER IBC SECTION 1621.
- 31. CONTRACTOR SHALL PROVIDE ACCESS TO ALL OUTLET BOXES MOUNTED ABOVE GYPBOARD CEILINGS. ACCESS SHALL EITHER BE BY REMOVAL OF LIGHT FIXTURE OR BY PROVIDING CEILING ACCESS PANEL(S). COORDINATE WITH MECHANICAL AND GENERAL CONTRACTORS.
- 31. WIRING FOR U.V. LIGHTS IN AIR HANDLING UNITS SHALL MEET N.E.C. 300.22.
- 32. THE TERM "WIRING" SHALL INCLUDE RACEWAY, CONDUCTORS, EQUIPMENT, AND WIRING.
- 33. THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL"
- 34. ALL EXTERIOR RACEWAYS SHALL BE GALVANIZED RIGID STEEL
- 35. ELECTRICAL CONTRACTOR SHALL PROVIDE <u>ALL</u> REQUIRED WIRING AND CONNECTIONS FOR <u>ALL</u> MECHANICAL EQUIPMENT, WHETHER OR NOT SHOWN ON THE ELECTRICAL DRAWINGS. WIRING SHALL INCLUDE DISCONNECT SWITCHES, MOTOR DISCONNECTS, OUTLET BOXES, CIRCUIT BREAKERS, RACEWAYS, WIRES, ETC. FOR A COMPLETE MECHANICAL SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF MECHANICAL CONTRACTOR FURNISHED MOTOR STARTERS, VARIABLE FREQUENCY DRIVES, DUCT SMOKE DETECTORS, AND OTHER MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.

## CITY AND COUNTY OF HONOLULU REVISED ORDINANCES OF HONOLULU 1990 CHAPTER 32 To the best of my knowledge, this project's design substantially conforms to the Building Energy Conservation Code for: Building Component Systems Electrical Component Systems Mechanical Component Systems Mechanical Component Systems Date: 5-20-22

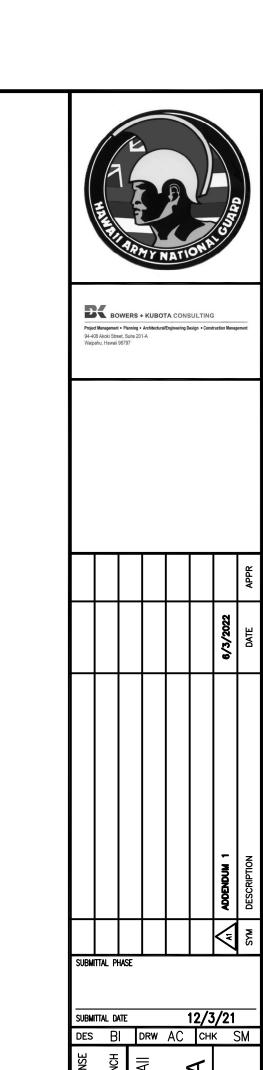
BRIAN ITOZÁKI

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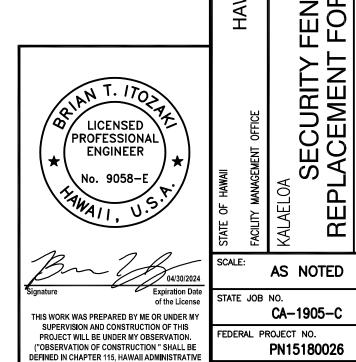
ELECTRICAL ENGINEER

EXISTING	NEW	DESCRIPTION
ac	— AC —	ACCESS CONTROL RACEWAY, CONCEALED }
— e —	— E —	ELECTRICAL RACEWAY, CONCEALED \( \) \( \) \( \) \( \) \( \)
		ROADWAY LIGHT, POLE MOUNTED WITH BRACKET ARM.
	2-	ELECTRICAL NOTE INDICATOR.
	A	DUCT SECTION INDICATOR.
	<b>A</b> 41	FIXTURE INDICATOR UPPER HALF: FIXTURE TYPE. LOWER HALF: NO. OF WATTS.
	2 204	DETAIL INDICATOR  UPPER HALF: DETAIL NUMBER. LOWER HALF: SHEET NUMBER, DETAIL LOCATION.
	WP	INDICATES WEATHERPROOF.
	NL	INDICATES NIGHT LIGHT.
	CL	INDICATES CURFEW LIGHT.
	НН	INDICATES HANDHOLE.



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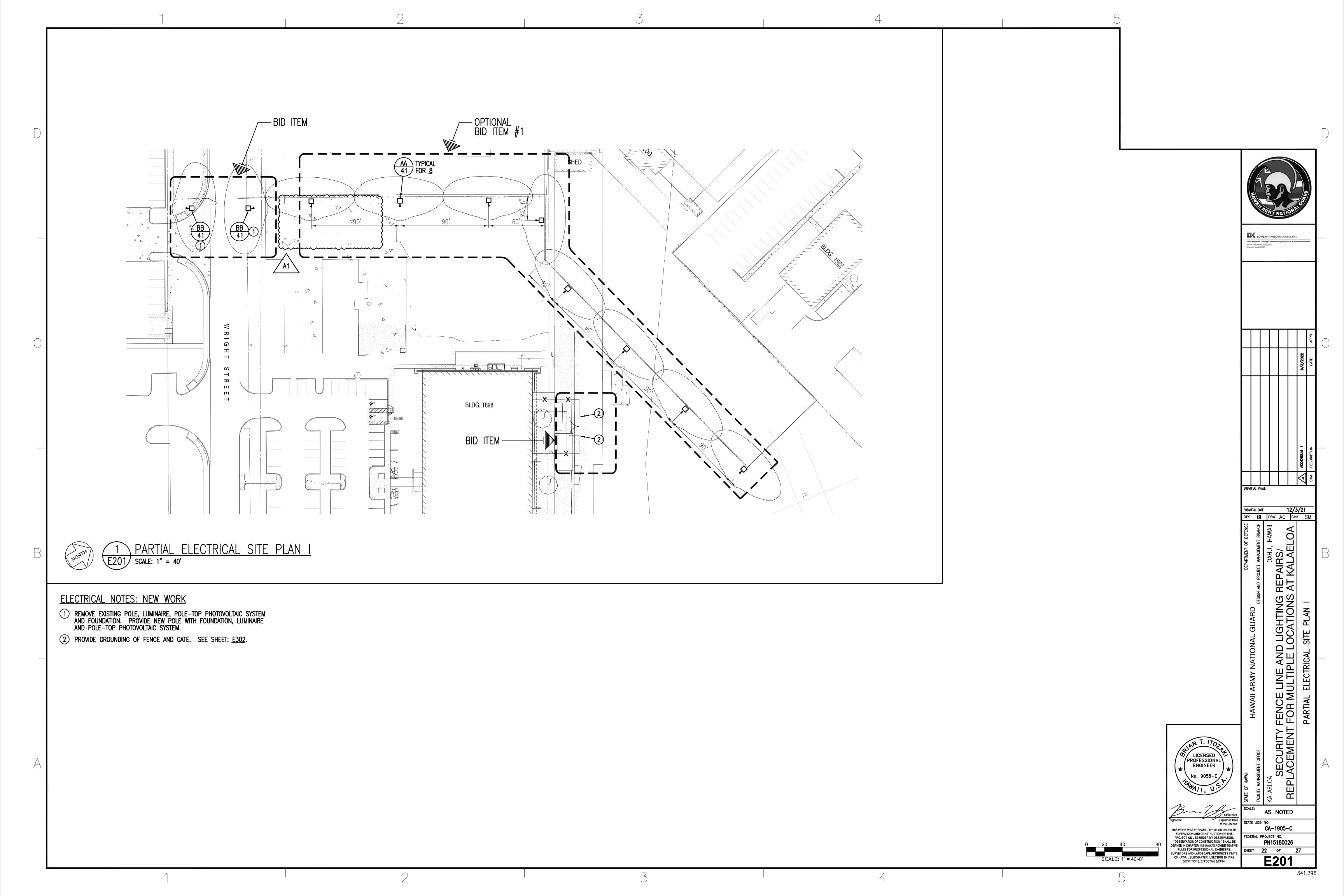


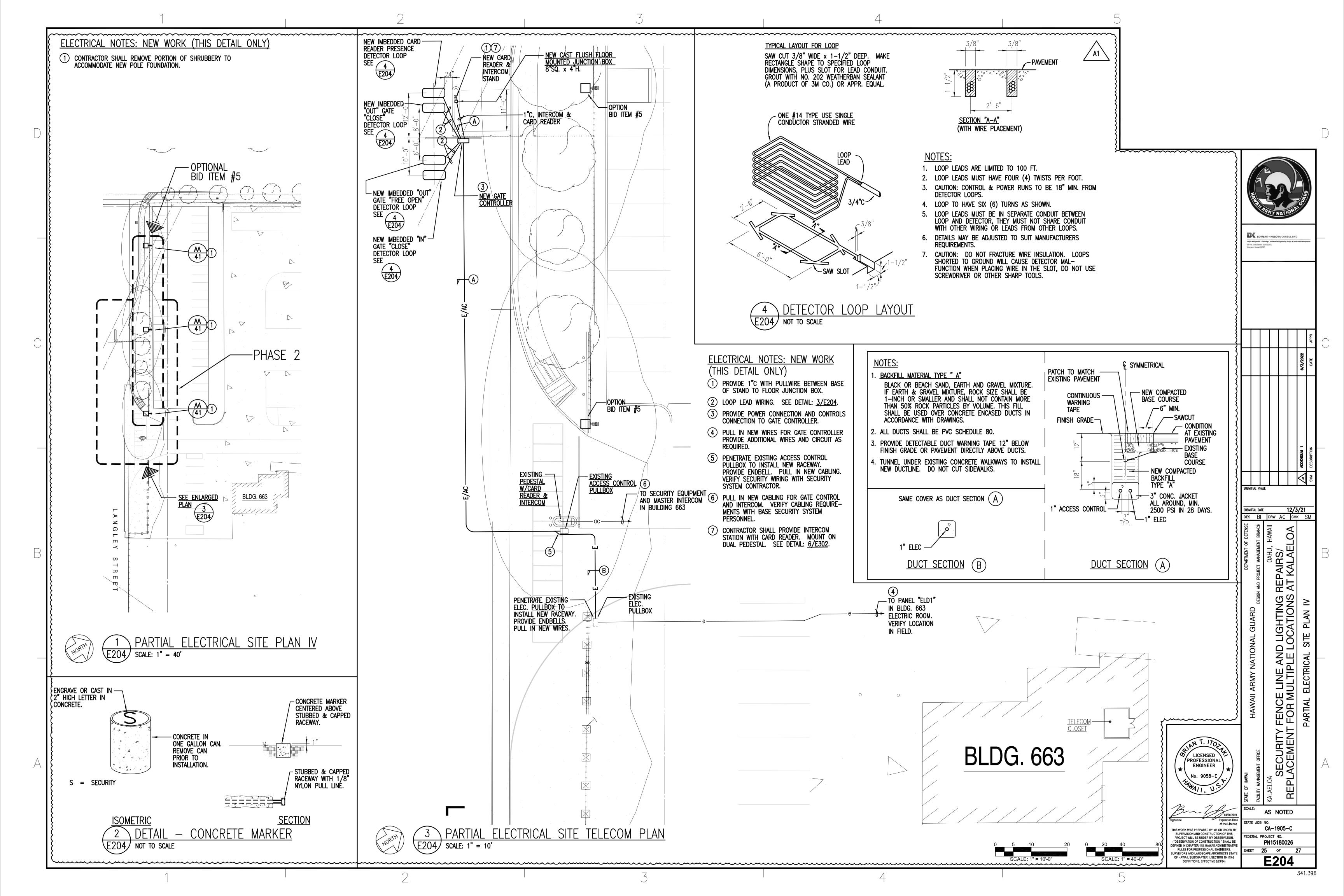
SURVEYORS AND LANDSCAPE ARCHITECTS STATI OF HAWAII, SUBCHAPTER 1, SECTION 16-115-2 DEFINITIONS, EFFECTIVE 8/29/94)

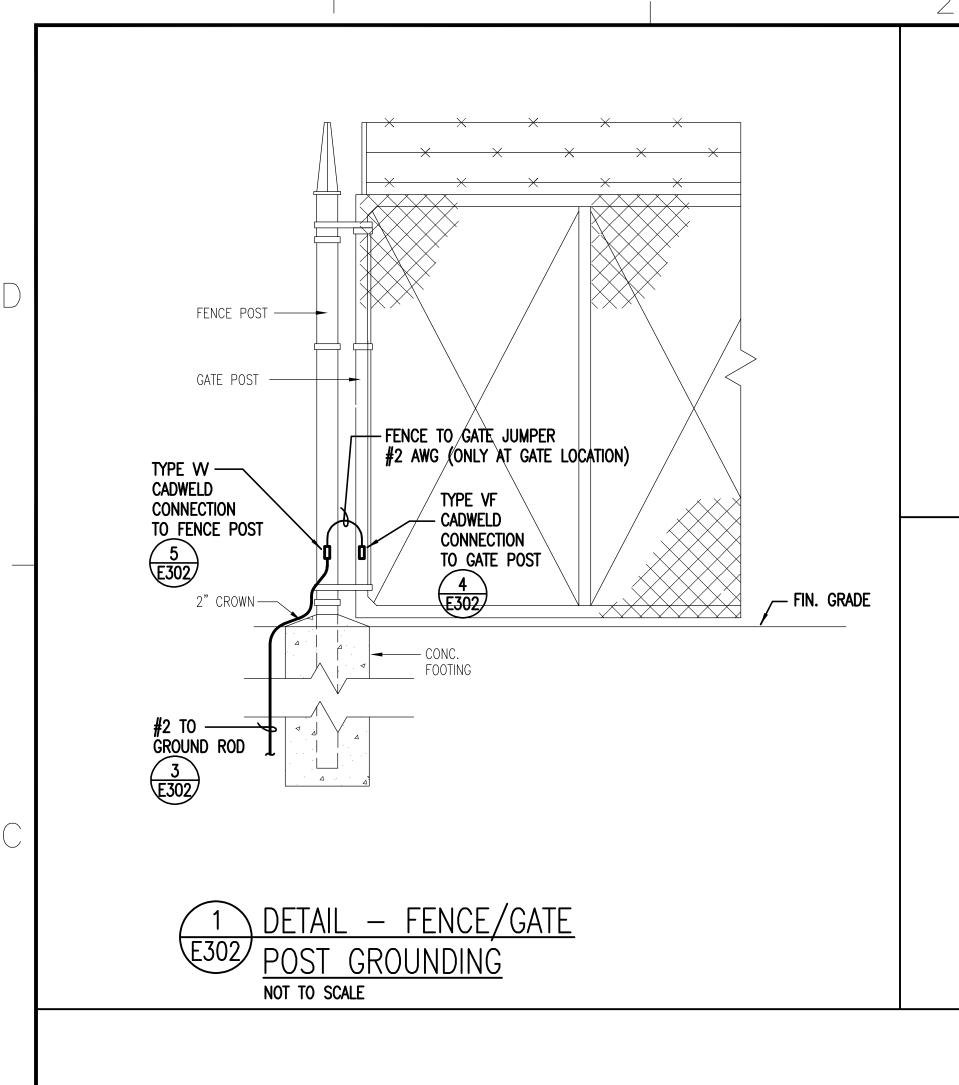
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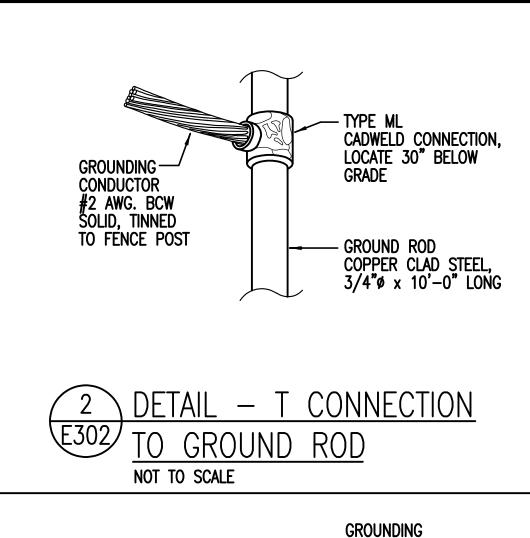
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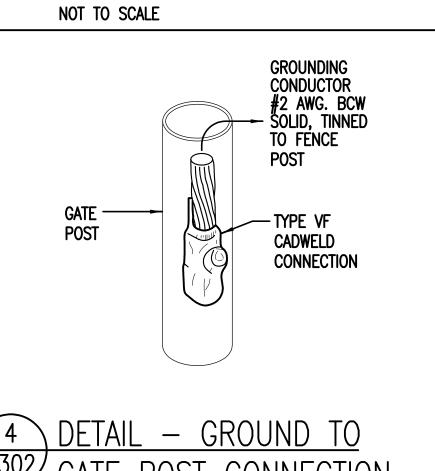
SHEET **20** OF **27** 



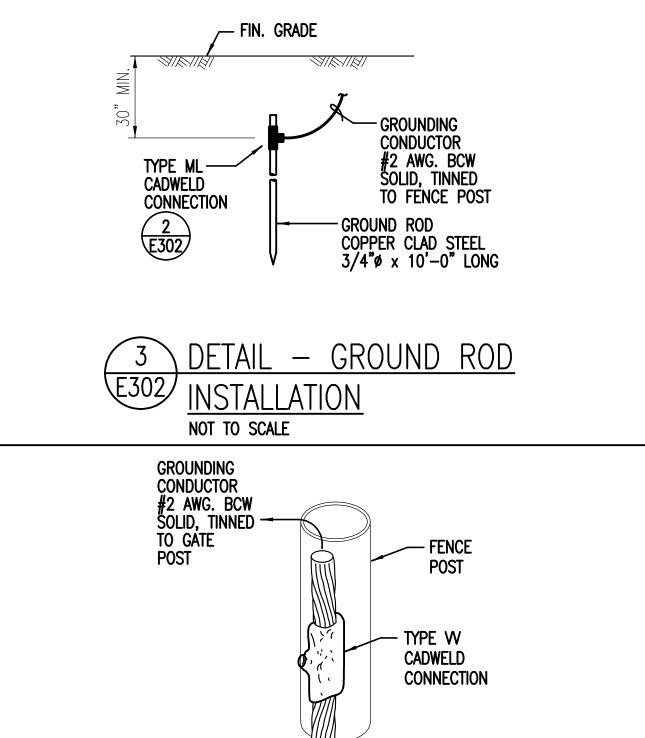








NOT TO SCALE



DETAIL - GROUND TO

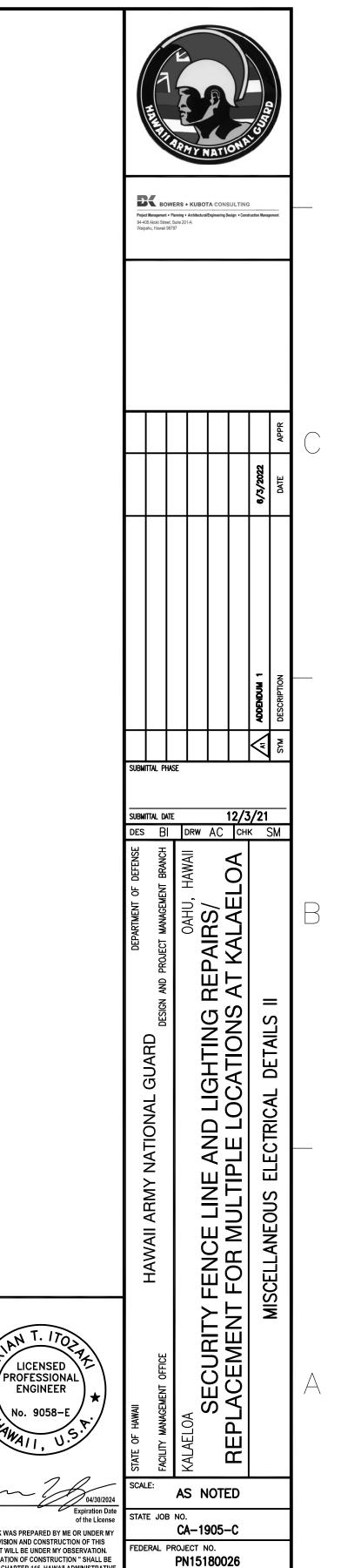
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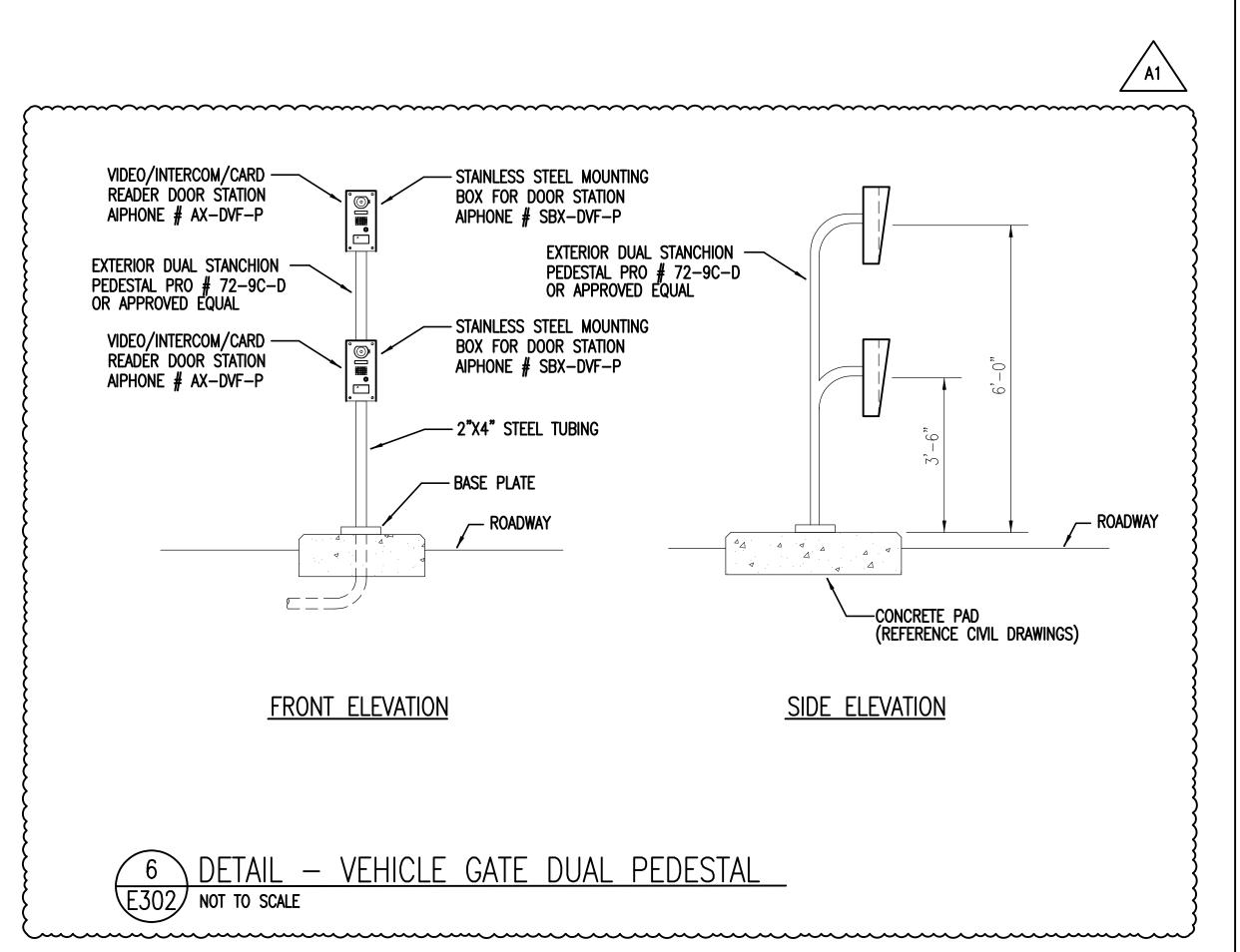
ENCE POST CONNECTION

- #2 AWG. BCW SOLID, TINNED TO GROUND ROD



- 1. COMPRESSION GROUND CONNECTIONS MAY BE SUBSTITUTED WITH EXOTHERMIC (CADWELD) CONNECTIONS WITH APPROVAL OF THE ENGINEER. ALL GROUND CONNECTIONS UNDERGROUND SHALL BE EXOTHERMIC (CADWELD).
- 2. ALL ABOVE GRADE GROUNDING CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL. ALL GROUND CONDUCTORS SHALL BE #2 AWG. SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- 3. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING. USING ALL OF POTENTIAL METHOD.





THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. ("OBSERVATION OF CONSTRUCTION " SHALL BE DEFINED IN CHAPTER 115, HAWAII ADMINISTRATIV RULES FOR PROFESSIONAL ENGINEERS, SURVEYORS AND LANDSCAPE ARCHITECTS STATE HEET **27** OF **27** OF HAWAII, SUBCHAPTER 1, SECTION 16-115-2 DEFINITIONS, EFFECTIVE 8/29/94)

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