



**GENERAL NOTES:**

- UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL DESIGN, MATERIALS, FABRICATION, TESTING, AND CONSTRUCTION MUST BE IN ACCORDANCE WITH THE FOLLOWING NOTES, REFERENCED CODES, SPECIFICATIONS, AND STANDARDS. SHOULD THESE NOTES, CODES, SPECIFICATIONS OR STANDARDS DISAGREE, THE MORE STRINGENT REQUIREMENT AS DETERMINED BY THE OWNER'S REPRESENTATIVE MUST GOVERN.
- THE LATEST EDITION OF REFERENCED CODES, SPECIFICATIONS, OR STANDARDS IS APPLICABLE, UNLESS OTHERWISE SPECIFIED.
- COPIES OF ALL CODES, SPECIFICATIONS AND STANDARDS REFERENCED IN THESE NOTES ARE AVAILABLE FROM THE FOLLOWING ORGANIZATIONS:

AMERICAN CONCRETE INSTITUTE (ACI)  
 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)  
 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)  
 AMERICAN WELDING SOCIETY (AWS)  
 INTERNATIONAL BUILDING CODE (IBC)  
 OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA)

**EARTHWORK:**

GEOTECH

- CONCRETE FOOTING MUST BE UNDERLAIN BY A MINIMUM OF 18 INCHES OF IMPORTED GRANULAR STRUCTURAL FILL. STRUCTURAL FILL MUST BE WELL-GRADED, NON-EXPANSIVE GRANULAR MATERIAL. MAXIMUM PARTICLE SIZE MUST BE 3 INCHES AND 8-20 PERCENT OF SOIL BY WEIGHT MUST PASS THROUGH #200 SIEVE. PLASTICITY INDEX OF SOIL PASSING #40 SIEVE MUST NOT BE GREATER THAN 10. FILL MUST BE RESTRICTED TO HORIZONTAL LIFTS OF 8 INCHES OF LOOSE THICKNESS AND COMPACTED TO AT LEAST 95 PERCENT AS DETERMINED BY ASTM D 1557.
- SUBGRADE BELOW GRANULAR STRUCTURAL FILL AND AGGREGATE BASE COURSE MUST BE SCARIFIED TO A DEPTH OF 6 INCHES AND COMPACTED TO A MINIMUM 90 PERCENT COMPACTION AS DETERMINED BY ASTM D 1557.

EXCAVATING

- ALL EXCAVATION MUST COMPLY WITH OSHA STANDARDS.
- DEMOLISH AND REMOVE ALL OBSTRUCTIONS AS REQUIRED. AREAS TO RECEIVE BACKFILL MUST BE STRIPPED TO REMOVE ALL ORGANIC MATERIAL AND CONTAMINATED OR SOFT SOIL. DISPOSAL OF ALL DEBRIS FROM DEMOLITION AND STRIPPING OPERATIONS MUST BE AS SPECIFIED BY OWNER.
- CARE MUST BE TAKEN NOT TO OVER EXCAVATE FOR CONCRETE FOUNDATIONS. ANY OVER EXCAVATION BELOW BOTTOM OF FOUNDATION ELEVATION MUST BE BACKFILLED WITH LEAN CONCRETE BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.
- ALL FOUNDATION EXCAVATIONS MUST BE INSPECTED BY PROOF-ROLLING OR PROBING TO DETERMINE THAT ALL LOOSE, SOFT, OR OTHERWISE UNDESIRABLE MATERIALS ARE REMOVED. IF AN AREA OF UNDESIRABLE MATERIAL IS DISCOVERED BELOW THE BOTTOM OF THE FOOTING, IT MUST BE REMOVED AND BACKFILLED WITH LEAN CONCRETE OR REPLACED WITH COMPACTED STRUCTURAL FILL.
- WHERE SOIL CONDITIONS PERMIT, FOUNDATIONS BELOW GRADE MAY BE EARTH FORMED UNLESS OTHERWISE NOTED.

BACKFILL

- UNLESS OTHERWISE SPECIFIED, BACKFILL MAY BE EXCAVATED, UNCONTAMINATED, ON-SITE MATERIAL WHICH HAS BEEN APPROVED BEFORE INSTALLATION.
- IN UNPAVED AREAS, COMPACT BACKFILL WITHIN 2% OF OPTIMUM MOISTURE CONTENT, TO AT LEAST 80% OF MODIFIED PROCTOR DRY DENSITY (ASTM D 1557).
- IN PAVED AREAS, COMPACT BACKFILL, WITHIN 2% OF OPTIMUM MOISTURE CONTENT, TO AT LEAST 90% OF MODIFIED PROCTOR DRY DENSITY (ASTM D 1557).
- FOR COMPACTION BY MANUALLY-GUIDED POWER COMPACTORS, BACKFILL MUST BE PLACED IN LIFTS OF 6" MAXIMUM LOOSE THICKNESS.

TESTING

- DENSITY TESTING FOR THE BACKFILL MUST BE PERFORMED BY AN INDEPENDENT LAB. FOR EACH CLASS OF FILL, NOT LESS THAN ONE TEST MUST BE MADE FOR EACH FOOT OF FILL THICKNESS, NOR LESS THAN 1000 CUBIC YARDS OF FILL. IF THE FILL FAILS TO MEET THE SPECIFIED PERCENT OF MODIFIED PROCTOR OR THE SPECIFIED RELATIVE DENSITY BY MORE THAN 2 PERCENT, THE ENTIRE ONE FOOT OF THICKNESS MUST BE REMOVED, REPLACED, RECOMPACTED, AND RETESTED. IF THE FILL FAILS TO MEET THE ABOVE REQUIREMENTS BY LESS THAN 2 PERCENT, THE INDEPENDENT LAB MUST BE CONSULTED FOR METHODS TO INCREASE THE SOIL DENSITY SUCH AS CHANGING METHODS FOR MORE UNIFORM MOISTURE CONTROL, ALTERING THE NUMBER OF PASSES, DECREASING THE LIFT THICKNESS OR CHANGING THE COMPACTION EQUIPMENT.

**CONCRETE:**

APPLICABLE CODES OR STANDARDS

ALL CONCRETE DESIGN, TESTING, AND CONSTRUCTION MUST BE IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS.

- ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- ACI 304, "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE".
- ASTM STANDARDS FOR THE MATERIALS LISTED.
- OSHA STANDARDS.

MATERIALS AND CONCRETE STRENGTH

- ALL CONCRETE MUST BE READY-MIXED CONFORMING TO ASTM C94 AND MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 470 LBS PER CUBIC YARD, A MAXIMUM WATER CEMENT RATIO OF 0.45, AND A MAXIMUM SIZE OF AGGREGATE OF 1-1/2" INCHES. EXCEPT AS NOTED BELOW:
  - CONCRETE FOR SEAL SLABS (LEAN CONCRETE) MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI AT 28 DAYS.
- ALL REINFORCING STEEL MUST MEET ASTM A615, GRADE 60 SPECIFICATIONS.

CONSTRUCTION

- ALL EXPOSED EDGES OF CONCRETE ABOVE GRADE MUST HAVE A 3/4" 45° CHAMFER UNLESS OTHERWISE NOTED.
- CONSTRUCTION JOINTS
  - WHEN NO KEY HAS BEEN PROVIDED, CONSTRUCTION JOINTS MUST BE ROUGHENED TO AN AMPLITUDE OF 1/4 INCH.
  - THE SURFACES OF JOINTS MUST BE CLEANED AND LAITANCE REMOVED.
  - IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS MUST BE WETTED AND STANDING WATER REMOVED.
- UNLESS OTHERWISE SPECIFIED, CONCRETE SLUMP RANGE MUST BE 2" MINIMUM TO 5" MAXIMUM AND CONCRETE MUST BE CONSOLIDATED WITH MECHANICAL VIBRATORS.
- CONCRETE AIR CONTENT MUST BE 5% ± 1% UNLESS OTHERWISE SPECIFIED.
- CONCRETE MUST BE MAINTAINED ABOVE 50° F AND MOIST CURED FOR AT LEAST 7 DAYS UNLESS OTHERWISE SPECIFIED.

CONCRETE COVER

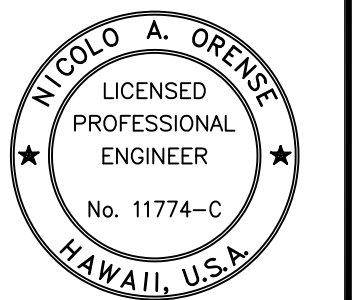
- PROVIDE THE FOLLOWING CONCRETE PROTECTIVE COVERINGS FOR REINFORCEMENT, UNLESS NOTED:
  - 3" FOR ALL CONCRETE DEPOSITED DIRECTLY AGAINST THE GROUND.
  - 2" FOR ALL FORMED CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND.
  - 2" FOR CONCRETE CURBS AND PADS AND 2" FOR FORMED CONCRETE NOT EXPOSED TO WEATHER NOR IN CONTACT WITH THE GROUND.

CONCRETE FINISHING

- PAVING MUST BE FINISHED PER THE FOLLOWING: IMMEDIATELY AFTER STRIKE-OFF OR SCREEDING, A BULL-FLOAT MUST BE USED TO ELIMINATE HIGH AND LOW SPOTS. WHEN THE BLEED WATER SHEEN HAS EVAPORATED, AND THE CONCRETE WILL SUSTAIN FOOT PRESSURE WITH ONLY A SLIGHT INDENTATION, THE CONCRETE MUST BE FLOATED WITH WOOD OR METAL HAND FLOATS OR WITH A FINISHING MACHINE USING FLOAT BLADES. AFTER THE CONCRETE HAS BEEN FLOATED TO A SMOOTH SURFACE, IT MUST BE BRUSHED WITH A SOFT-BRISTLE BROOM THAT IS SPECIALLY MADE FOR TEXTURING CONCRETE.
- ALL FORMED SURFACES MUST RECEIVE AN AS-CAST PLYWOOD FINISH, SURFACE FINIS MUST BE REMOVED. TIE HOLES MUST BE FILLED SOLID WITH PATCHING MORTAR. ALL HONEYCOMBED AND OTHER DEFECTIVE CONCRETE MUST BE REMOVED DOWN TO SOUND CONCRETE AND REPAIRED TO AN APPROVED CONDITION WITH BONDING GROUT AND SAND-CEMENT PATCHING MORTAR OF THE SAME MATERIAL AND APPROXIMATELY THE SAME PROPERTIES AS USED FOR THE CONCRETE, EXCEPT THAT THE COURSE AGGREGATE MUST BE OMITTED.
- ALL OTHER SURFACES MUST HAVE A "FLOATED FINISH" AS DEFINED BY ACI 301.



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*Nico A. Orense*  
 Signature      04/02/2024  
 Expiration Date

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SUBMITTAL PHASE

SUBMITTAL DATE: 3/15/24

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DEPARTMENT OF DEFENSE  
 DESIGN AND PROJECT MANAGEMENT BRANCH  
 HAWAII ARMY NATIONAL GUARD  
 WAHIAWA, OAHU  
 WAHIAWA BLDG. 00001  
**WAHIAWA CONSTRUCTION OF STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
 GENERAL NOTES

SCALE: AS NOTED

STATE JOB NO. WAHIAWA CA-202004-C3

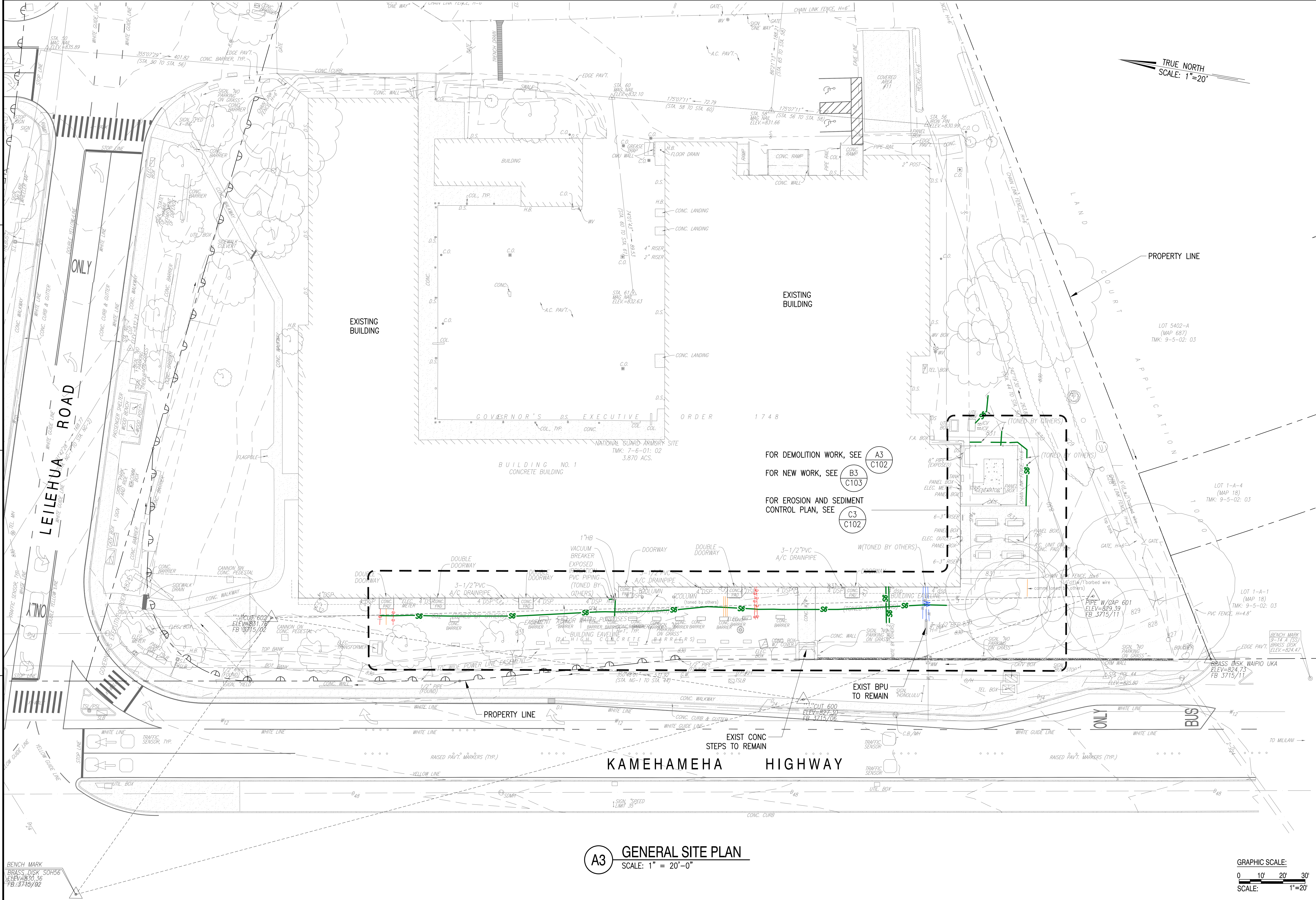
FEDERAL PROJECT NO. 15180045

SHEET 2 OF 18

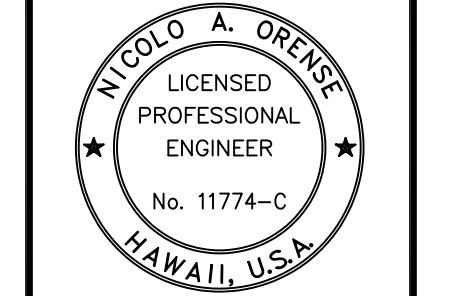
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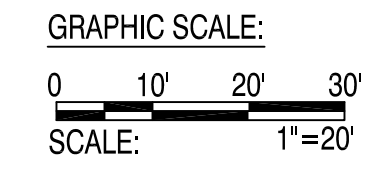
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**WAIHAWA CONSTRUCTION OF STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
 WAIHAWA BLDG. 00001  
 GENERAL SITE PLAN

STATE OF HAWAII  
 FACILITY MANAGEMENT OFFICE  
 SCALE: AS NOTED  
 STATE JOB NO. WAIHAWA CA-202004-C3  
 FEDERAL PROJECT NO. 15180045  
 SHEET 5 OF 18  
**C101**

**A3 GENERAL SITE PLAN**  
 SCALE: 1" = 20'-0"







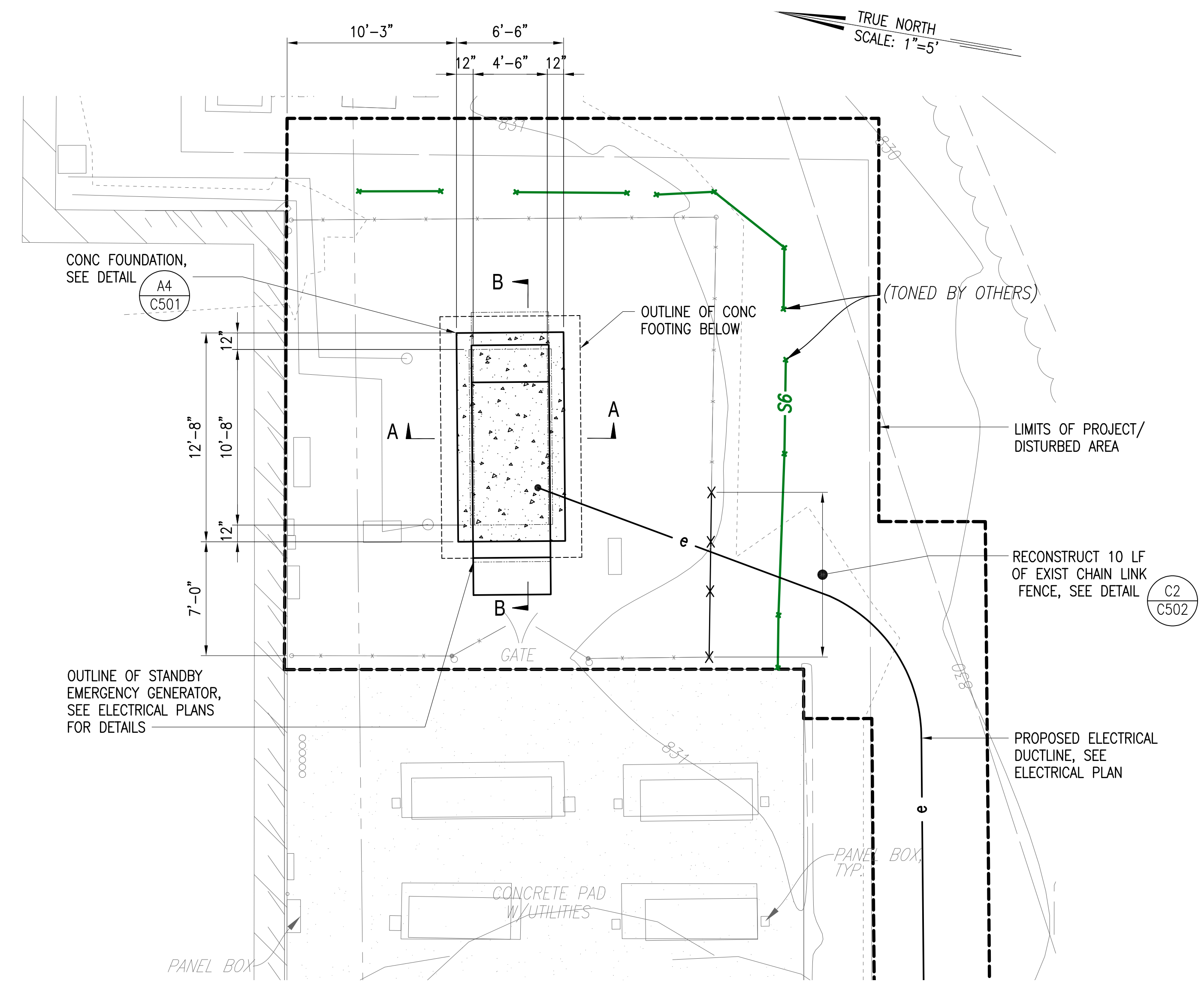
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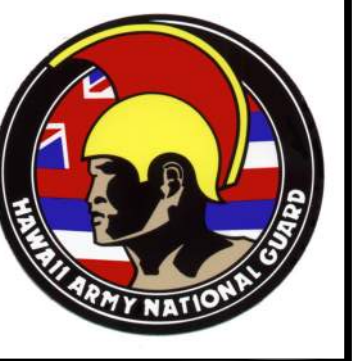
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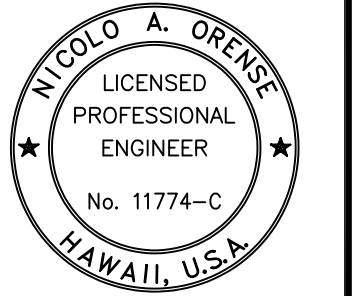


TRUE NORTH  
SCALE: 1"=5'

**B3** PARTIAL ENLARGED SITE PLAN - NEW WORK  
SCALE: 1" = 5'-0"



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64302026  
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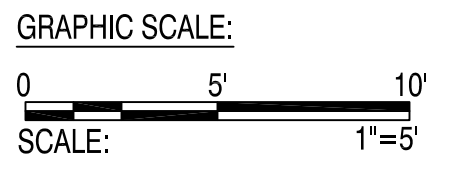
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**STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
PARTIAL ENLARGED SITE PLAN - NEW WORK

SCALE: AS NOTED

STATE JOB NO. WAHIAWA CA-202004-C3  
FEDERAL PROJECT NO. 15180045

SHEET 8 OF 18  
**C104**



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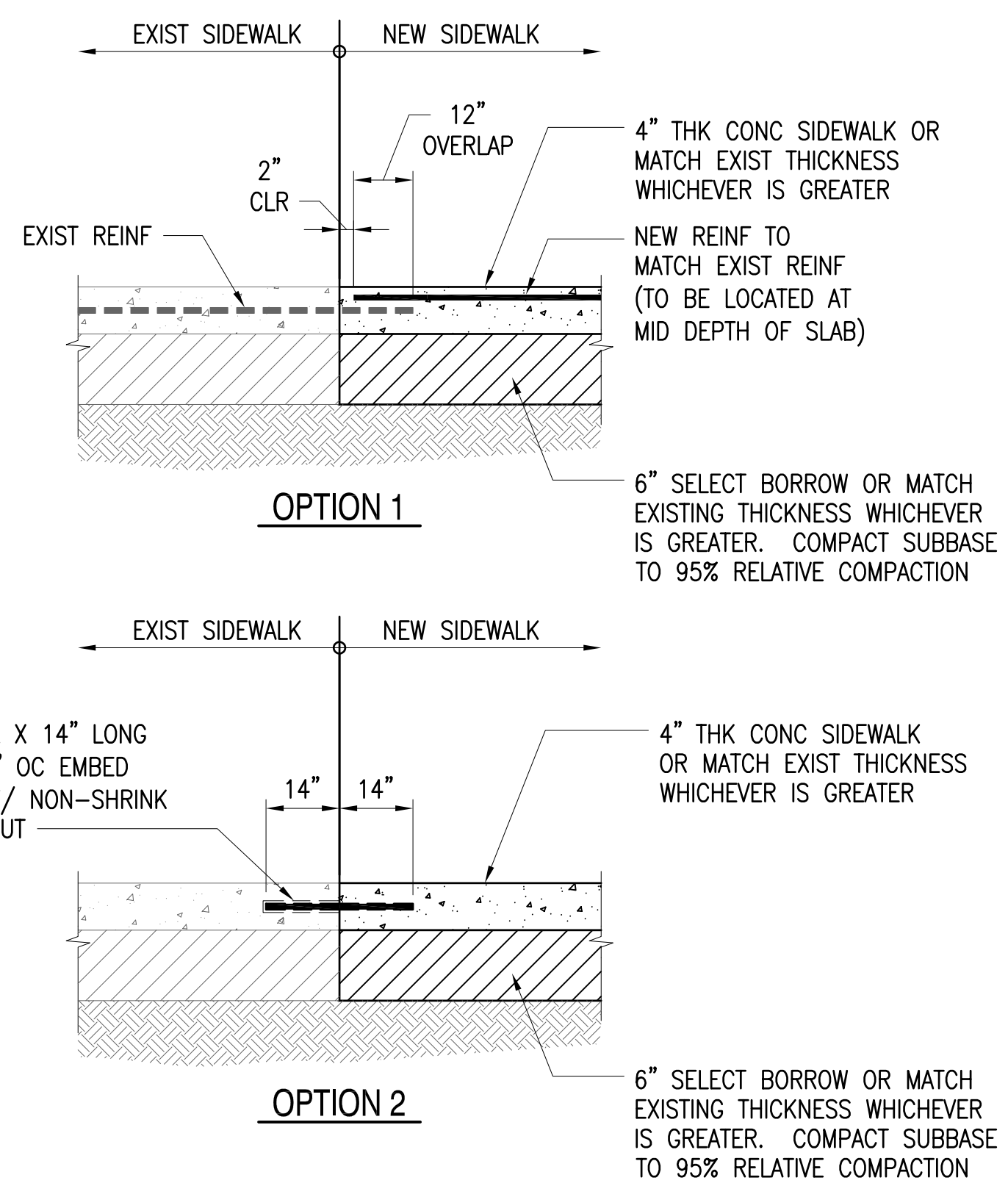
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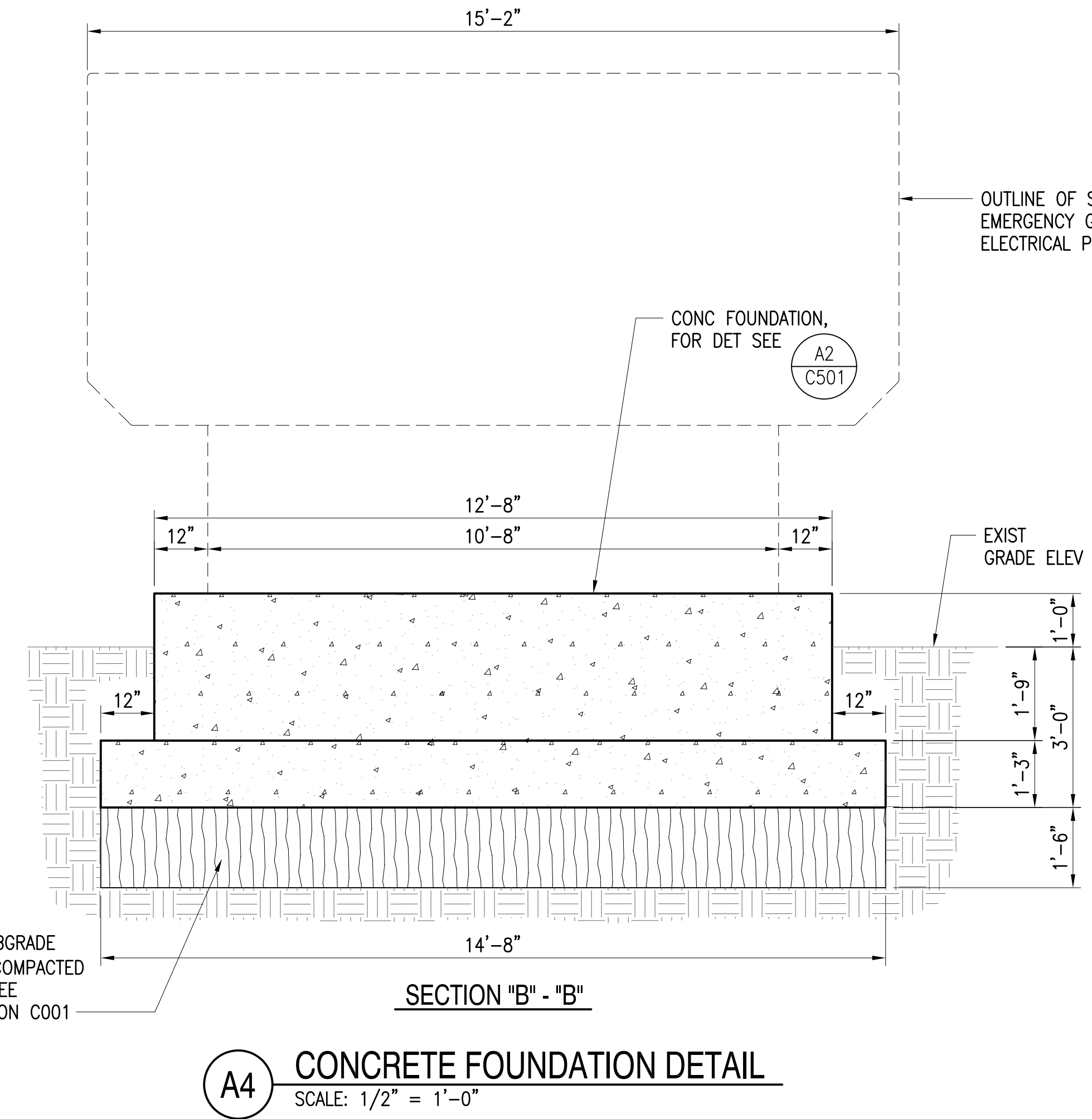
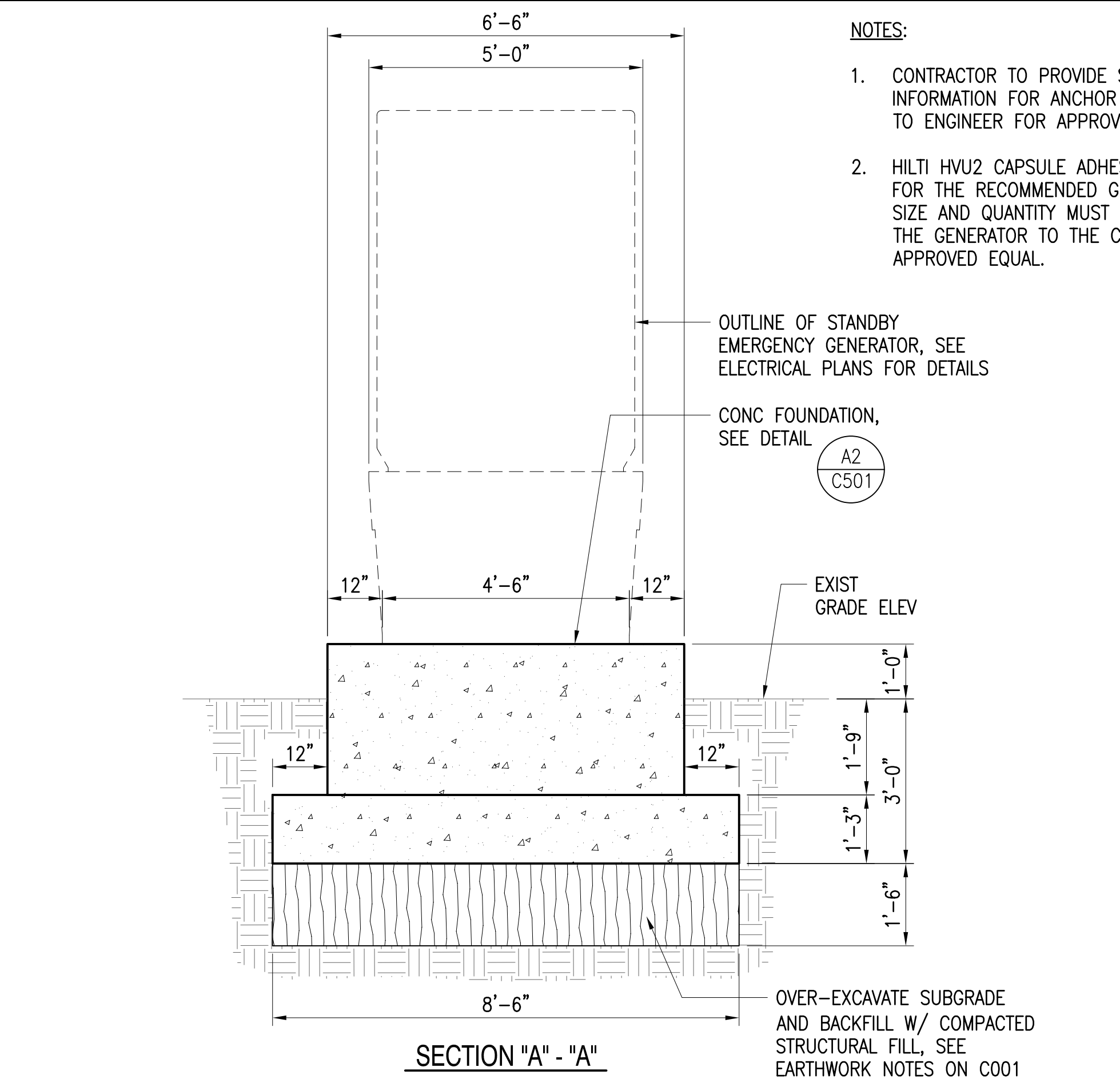
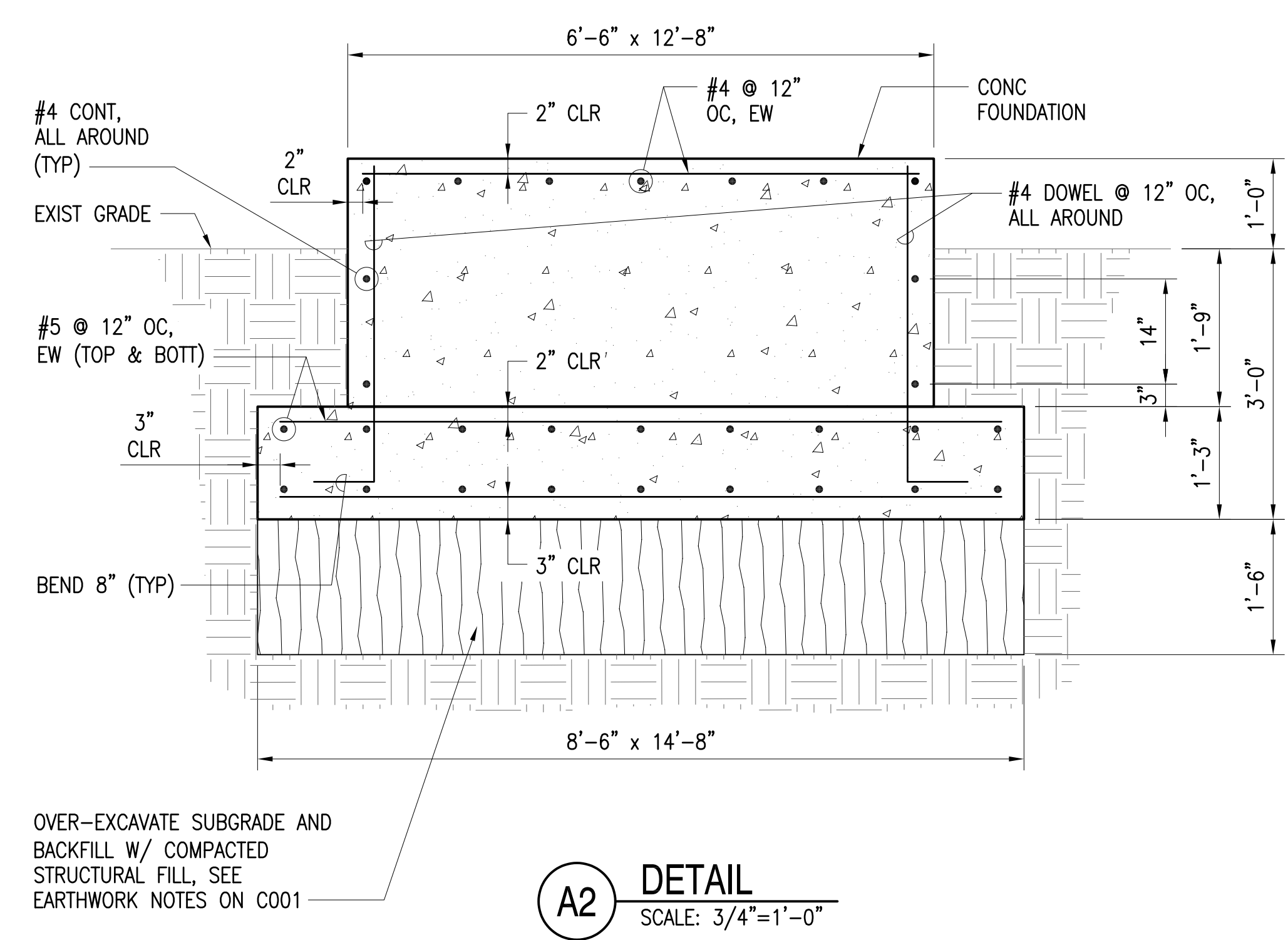
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**C2 CONCRETE SIDEWALK RECONSTRUCTION DETAILS**  
NTS

- NOTES:
- CONTRACTOR SHALL CONFIRM REINFORCEMENT TYPE, IF ANY, DURING DEMOLITION OF SIDEWALK.
  - CONTRACTOR SHALL CHOOSE, AS APPROPRIATE, OPTION 1 OR 2 FOR RECONSTRUCTION OF SIDEWALK.

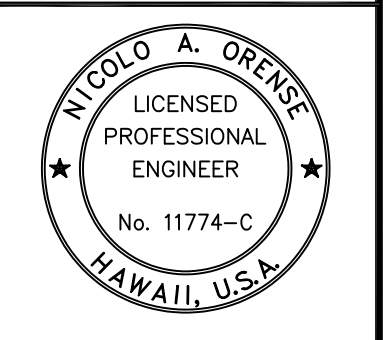


**A4 CONCRETE FOUNDATION DETAIL**  
SCALE: 1/2" = 1'-0"

- NOTES:
- CONTRACTOR TO PROVIDE SELECTED GENERATOR INFORMATION FOR ANCHOR BOLT SIZE AND PATTERN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
  - HILTI HVU2 CAPSULE ADHESIVE ANCHORING SYSTEM FOR THE RECOMMENDED GENERATOR ANCHOR BOLT SIZE AND QUANTITY MUST BE USED FOR ANCHORING THE GENERATOR TO THE CONCRETE PEDESTAL, OR APPROVED EQUAL.



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**WAHIAWA CONSTRUCTION OF STANDBY EMERGENCY GENERATOR INSTALLATIONS**

MISCELLANEOUS DETAILS - 1

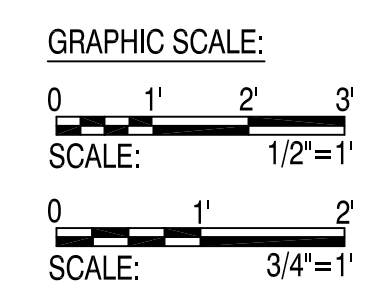
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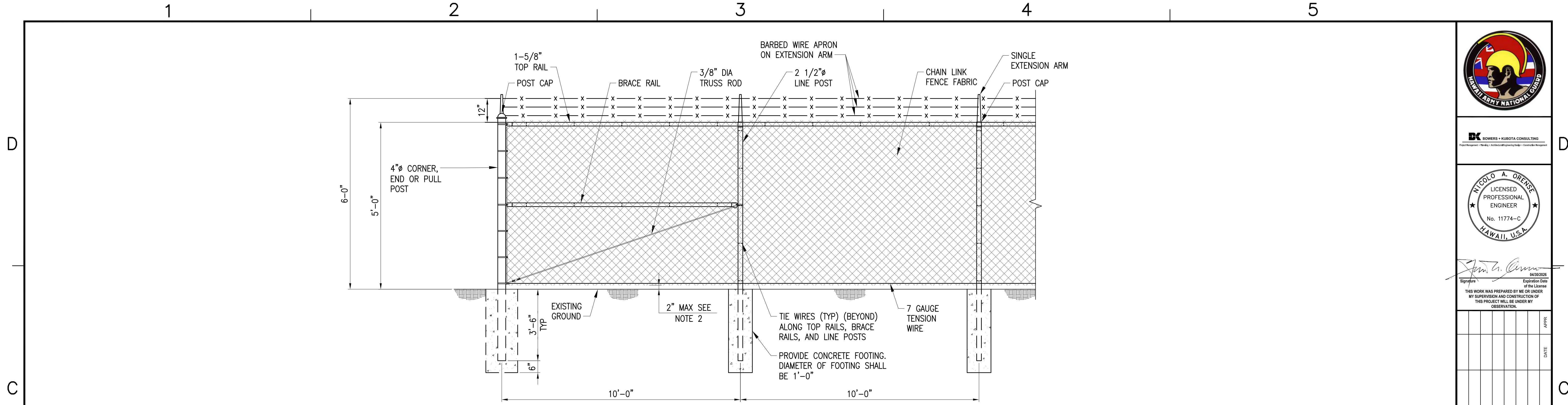
STATE JOB NO. WAHIAWA CA-202004-C3

FEDERAL PROJECT NO. 15180045

SHEET 9 OF 18

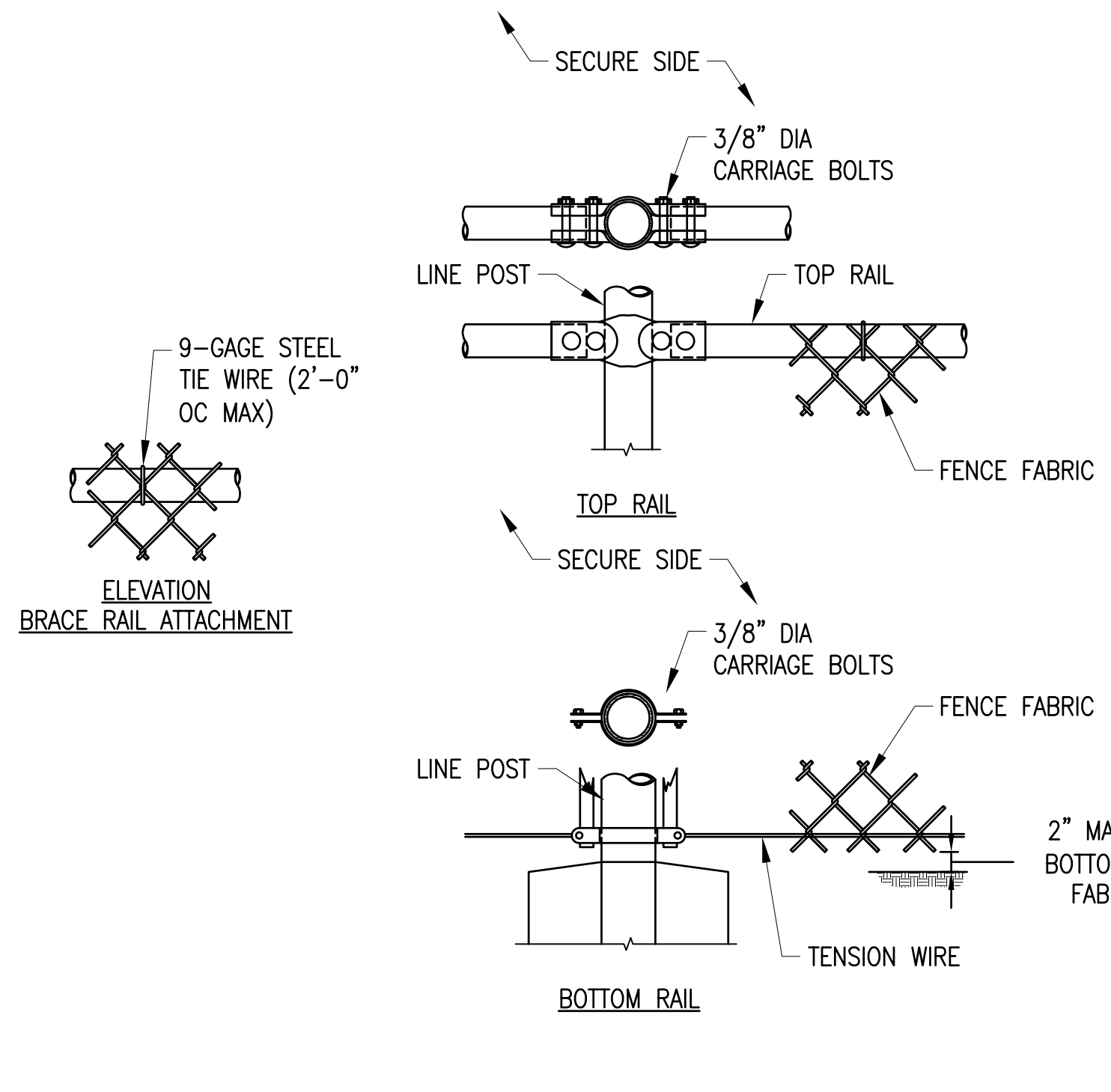
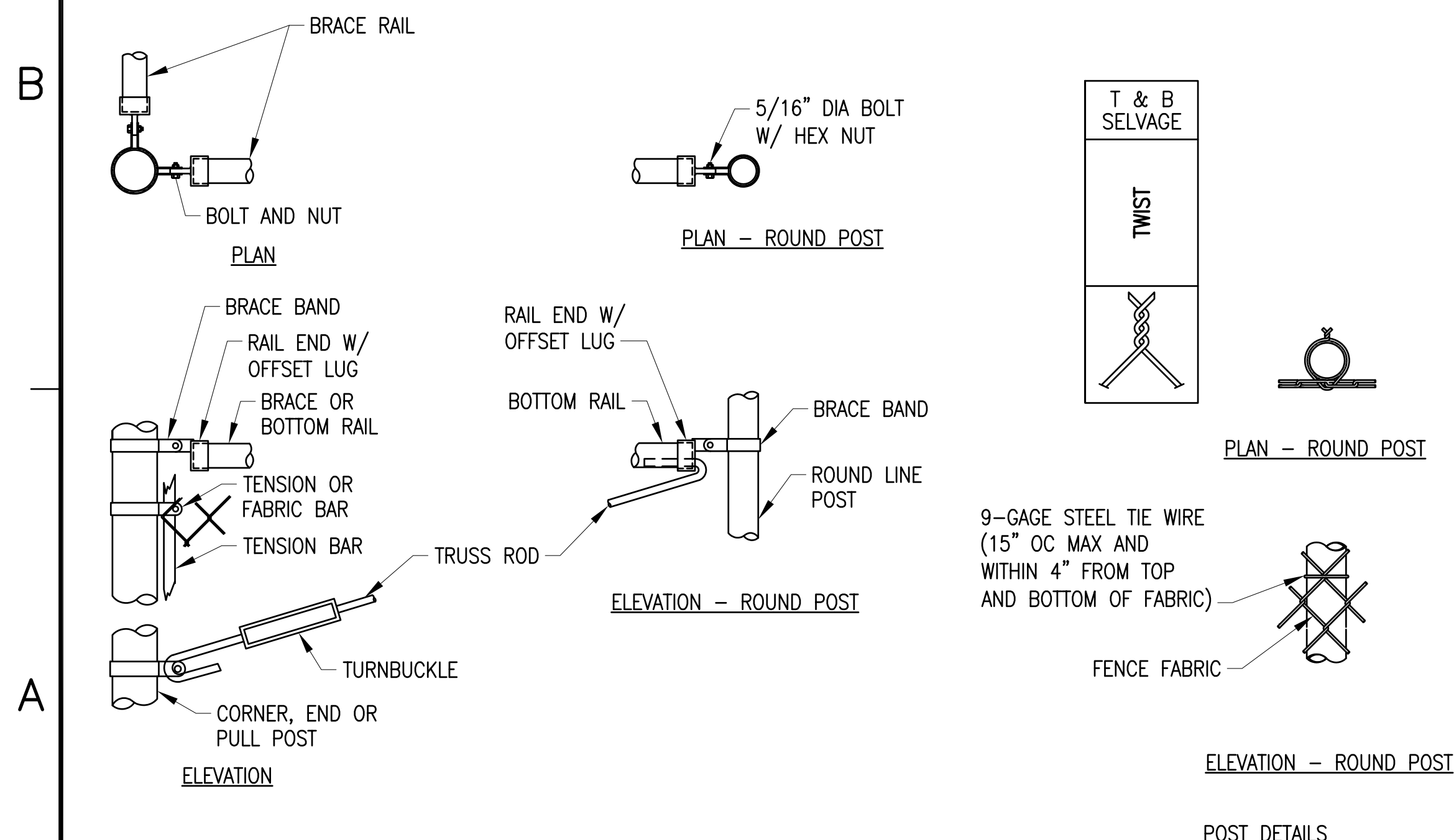
**C501**





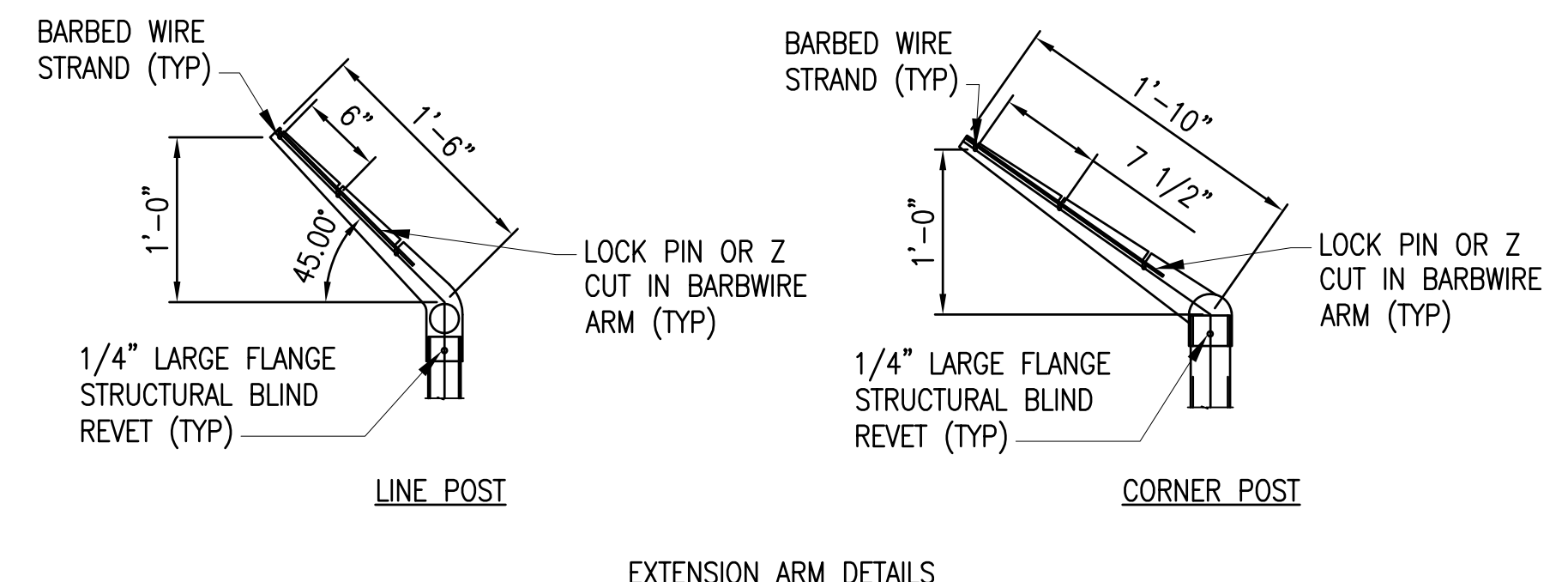
**C2 6'-0" HIGH CHAIN LINK FENCE DETAIL**  
NTS

- NOTES:**
- POST AND BRACES SHALL BE SCHEDULE 40 (STANDARD WEIGHT) PIPE. SIZES SPECIFIED ARE OUTSIDE DIAMETER.
  - ALL FENCING MATERIAL SHALL BE ZINC COATED STEEL.
  - TOP RAIL COUPLINGS SHALL BE LOCATED WITHIN 6" OF LINE POSTS.
  - TOP OF CONCRETE FOOTING SHALL BE CROWNED TO SHED WATER.
  - TOP AND BOTTOM SELVAGES SHALL BE TWISTED AND BARBED FINISH.

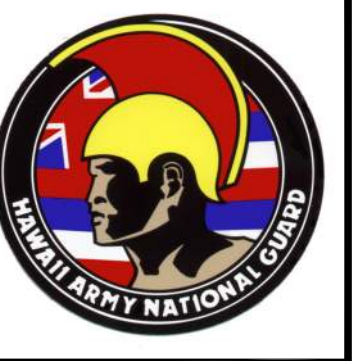


**TYPICAL ACCESSORY DETAILS**  
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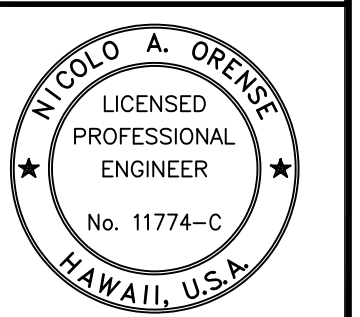
- NOTES:**
- STANDARD SIZES AND WEIGHTS OF MATERIALS IN ACCORDANCE WITH FEDERAL SPECIFICATIONS RR-F-191/GEN, RR-F-191/1, RR-F-191/2, RR-F-191/3, RR-F-191/4, AND AS INDICATED.
  - FABRIC: FS RR-F-191/1; TYPE I, ZINC-COATED STEEL, 9-GAUGE STEEL WIRE, WOVEN IN 2" MESH, TWISTED AND BARBED AT BOTH SELVAGES.
  - POSTS: LINE POSTS, END POSTS, CORNER POSTS, AND PULL POSTS: FS RR-F-191/3., ZINC-COATED STEEL PIPE, CLASS 1, GRADE A. BRACES TO BE CLASS 1, ZINC COATED STEEL PIPE, GRADE A. FOR 3'-0" HIGH AND 6'-0" HIGH FENCE: LINE POST - 2 1/2" OD; CORNER, END, AND PULL POSTS - 4" OD; RAILS AND BRACES - 1 5/8" OD.
  - CONCRETE: ASTM C 94, USING 3/4" MAX. SIZED AGGREGATE, 4,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
  - FENCE POSTS AND RAILS TO BE PLUMB AND LEVEL. SPACING OF POSTS: 10'-0" ON CENTER MAX. INSTALL POST CAPS AS RECOMMENDED BY THE MANUFACTURERS.



**EXTENSION ARM DETAILS**



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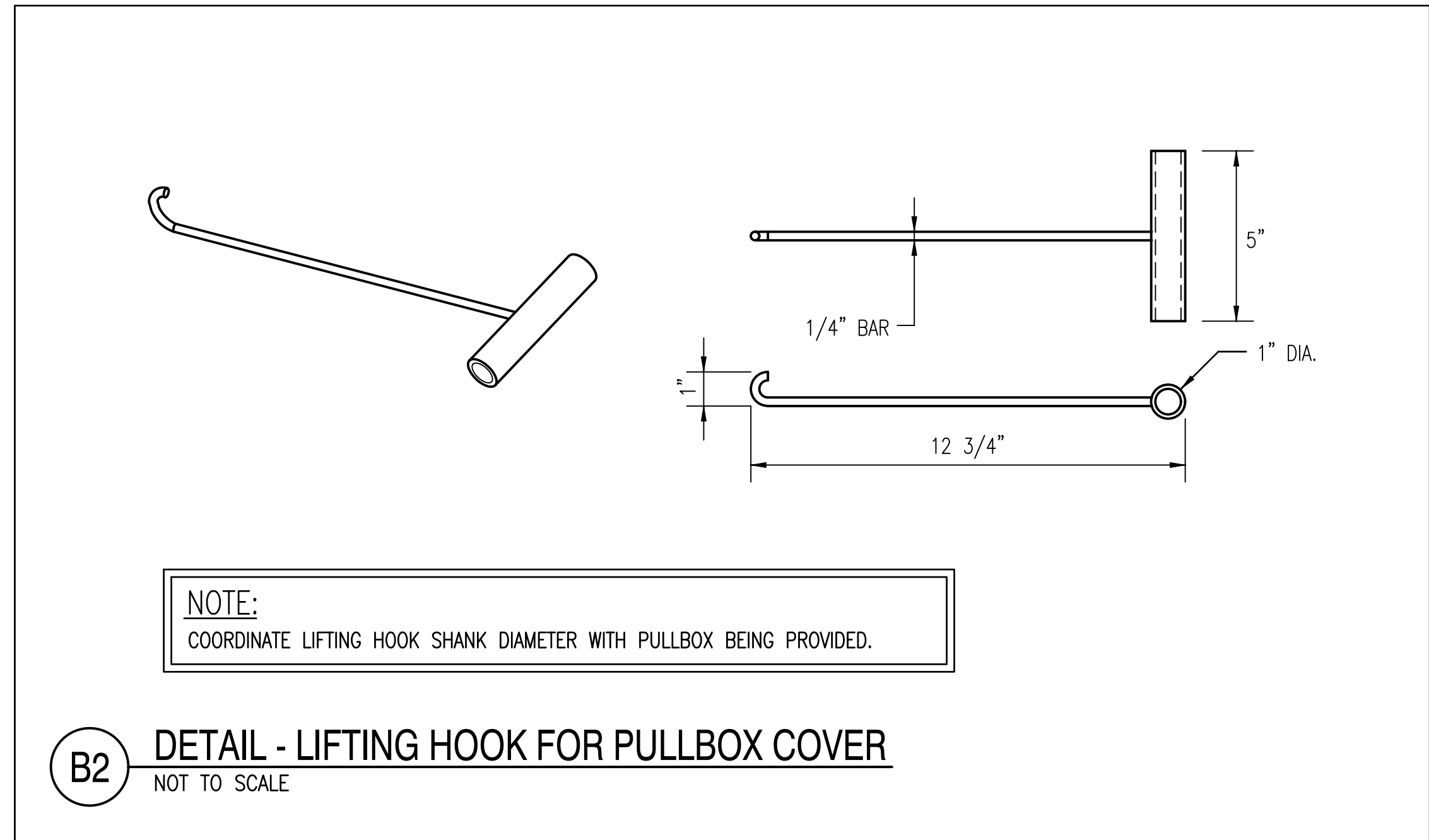
DEPARTMENT OF DEFENSE  
DESIGN AND PROJECT MANAGEMENT BRANCH  
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HAWAII ARMY NATIONAL GUARD  
WAHIAWA CONSTRUCTION OF  
STAND-BY EMERGENCY GENERATOR INSTALLATIONS  
WAHIAWA BLDG. 00001  
MISCELLANEOUS DETAILS - 2

SCALE: AS NOTED  
STATE JOB NO. WAHIAWA CA-202004-C3  
FEDERAL PROJECT NO. 15180045  
SHEET 10 OF 18  
**C502**

**GENERAL ELECTRICAL NOTES:**

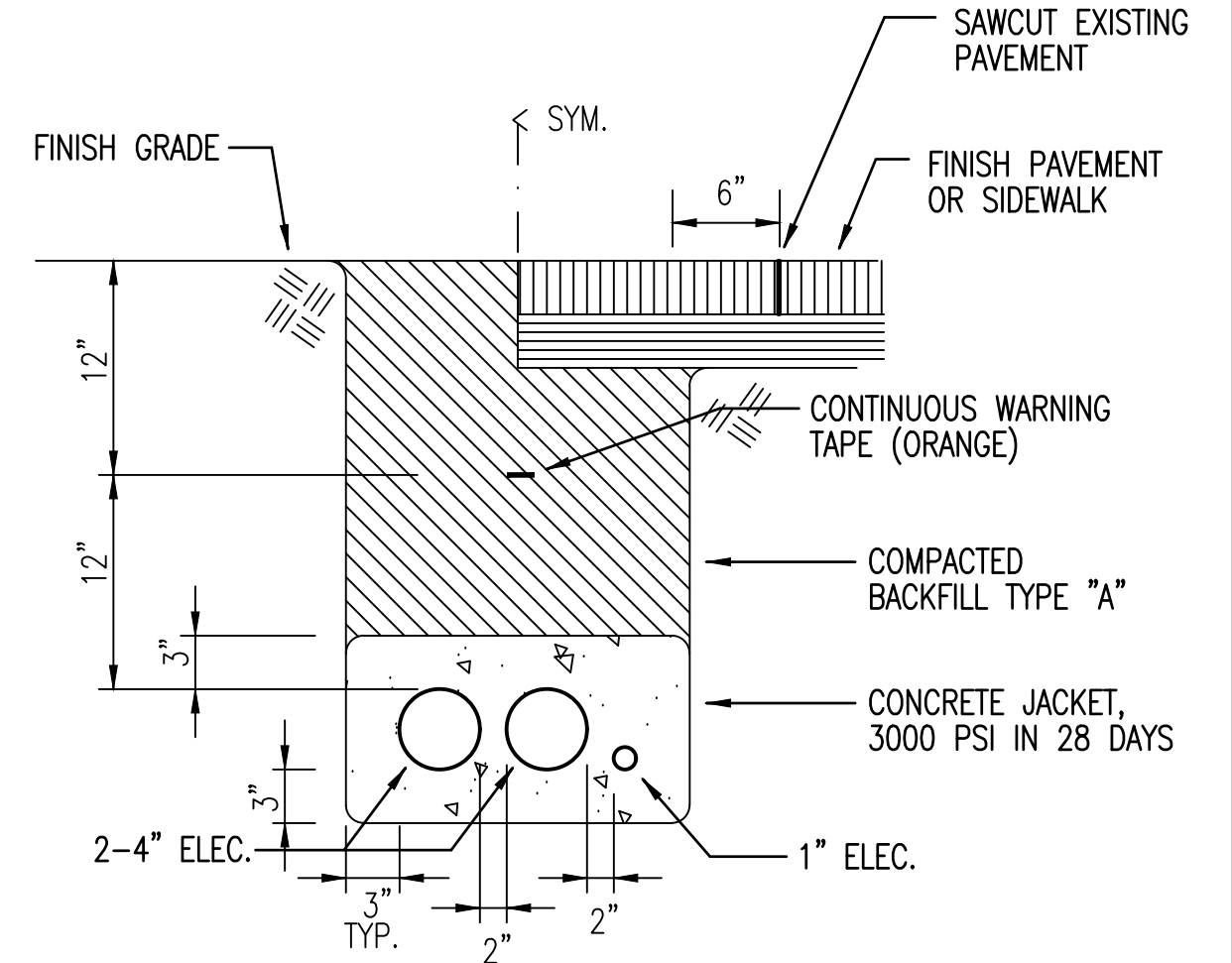
- ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING. BID SUBMISSION SHALL BE CONSIDERED AS CONFIRMATION THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS RESOLVED ALL DISCREPANCIES AND QUESTIONS REGARDING THE WORK. NO EXTRA PAYMENT WILL BE GIVEN FOR WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO VISIT THE SITE.
- ALL NEW RACEWAYS AND OUTLETS IN BUILDING SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
- 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 3/4" DIAMETER.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL PAINT ALL NEW EXPOSED RACEWAYS AND BOXES TO MATCH SURROUNDING FINISH.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
- ALL MATERIAL, EQUIPMENT, AND WIRING LOCATED OUTDOORS SHALL BE RATED FOR WET LOCATIONS.
- THE CONTRACTOR SHALL FILL-IN THE PANEL SCHEDULES OF ELECTRIC PANEL USING A TYPEWRITER. PROVIDE CIRCUIT DESCRIPTIONS BASED ON PANEL SCHEDULE DESCRIPTIONS FOR NEW CIRCUITS.
- ALL MULTIWIRED BRANCH CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.4. ALL CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY STANDBY ELECTRICAL POWER FOR ANY AND ALL SERVICE OUTAGES EXCEEDING TWO (2) HOURS.

| ELECTRICAL SYMBOL LIST |       |   |
|------------------------|-------|---|
| EXISTING               | NEW   | DESCRIPTION   |
|                        | ⓔ     | EQUIPMENT CONNECTION.   |
|                        | ⓐ     | GENERATOR CONNECTION.   |
|                        | ⓔ-ⓐ   | ENGINE GENERATOR CONNECTION.  |
|                        | Ⓜ     | JUNCTION BOX, WALL MOUNTED.   |
|                        | Ⓜ     | ELECTRICAL EQUIPMENT.   |
|                        | Ⓜ     | METER SOCKET.   |
|                        | —e—   | RACEWAY, CONCEALED BELOW FINISH FLOOR, NUMBER OF HASHMARKS INDICATE NUMBER OF WIRES WITHIN. |
|                        | ---   | EXPOSED RACEWAY.  |
|                        | ~~~~~ | FLEXIBLE RACEWAY.   |
|                        | →     | ARROW, HOMERUN TO PANEL OR CABINET.   |
|                        | →     | RACEWAY, STUBBED AND CAPPED.  |
|                        | •     | STUB-UP LOCATION  |
|                        | ②     | ELECTRICAL NOTE INDICATOR.  |
|                        | ⓐ     | DUCT SECTION INDICATOR.   |
|                        | ⓔ     | DETAIL INDICATOR UPPER HALF: DETAIL NUMBER. LOWER HALF: SHEET NUMBER, DETAIL LOCATION.      |
|                        | EHH   | INDICATES ELECTRIC HANDHOLE.  |



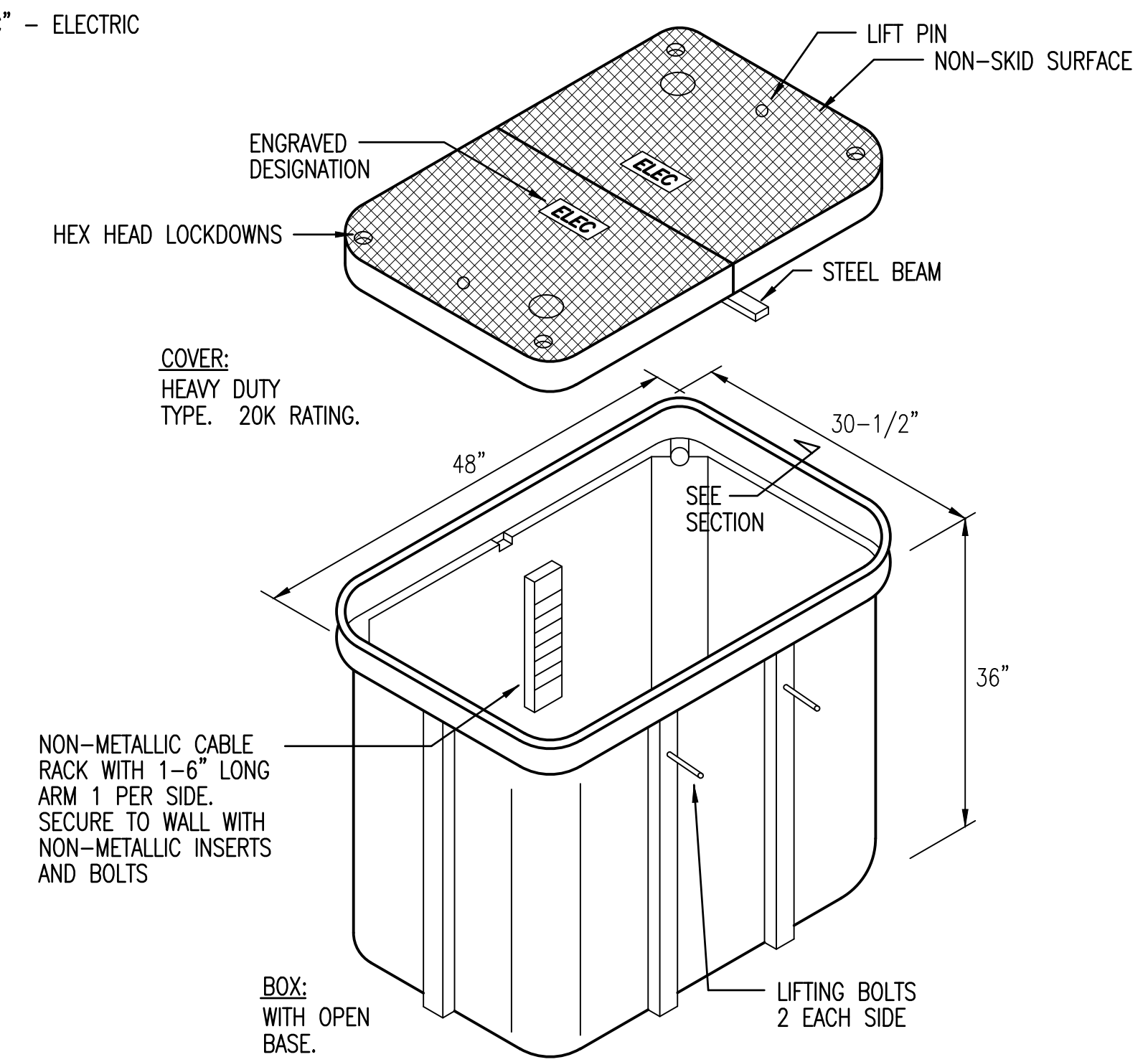
**B2** DETAIL - LIFTING HOOK FOR PULLBOX COVER  
NOT TO SCALE

- NOTES:**
- BACKFILL MATERIAL TYPE "A" BLACK OR BEACH SAND, EARTH AND GRAVEL MIXTURE. IF EARTH & GRAVEL MIXTURE, ROCK SIZE SHALL BE 1-INCH OR SMALLER AND SHALL NOT CONTAIN MORE THAN 50% ROCK PARTICLES BY VOLUME. THIS FILL SHALL BE USED OVER CONCRETE ENCASED DUCTS AND OVER DIRECT BURIED DUCTS AND CABLES AFTER BACKFILL TYPE "B" HAS BEEN PLACED IN ACCORDANCE WITH DRAWINGS.
  - ALL DUCTS SHALL BE PVC SCHEDULE 80.
  - PROVIDE DETECTABLE DUCT WARNING TAPE 12" BELOW FINISH GRADE OR PAVEMENT DIRECTLY ABOVE DUCTS.
  - TUNNEL UNDER EXISTING CONCRETE WALKWAYS TO INSTALL NEW DUCTLINE. DO NOT CUT SIDEWALKS.



DUCT SECTION **A**

**NOTE:**  
PROVIDE ENGRAVED DESIGNATION ON COVER:  
"ELEC" - ELECTRIC



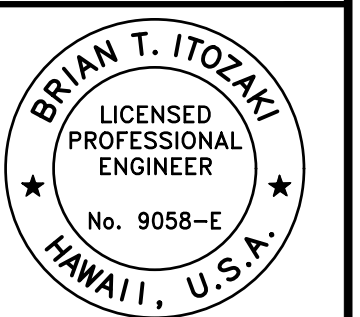
**NOTES:**

- HANDHOLE SHALL BE SET ON 6" COMPACTED ROCK OR SAND SUBBASE TO INSURE UNIFORM DISTRIBUTION OF PRESSURE ON FLOOR. SUBBASE SHALL EXTEND BEYOND FOOTPRINT OF HANDHOLE PER MANUFACTURER'S RECOMMENDATION TO MINIMIZE HANDHOLE FROM SINKING AND KEEPING SIDES OF HANDHOLE FROM BUCKLING.
- PROVIDE ONE COVER LIFTING HOOK AND DELIVER TO USER. SEE DETAIL: 1/E-001.
- PROVIDE DUCT SEAL - 1" OVERLAP AT DUCT ENTRY AND 1" DEEP INSIDE OF DUCT.
- HANDHOLE SHALL BE INSTALLED 1" ABOVE FINISH GRADE ALL AROUND, EXCEPT AT WALKWAYS WHERE THEY SHALL BE FLUSH WITH WALKWAY.
- PROVIDE END BELLS FOR ALL DUCT ENTRIES.
- HANDHOLE SHALL BE BY ARMORCAST, STRONGWELL, QUAZITE OR APPROVED EQUAL.
- PROVIDE TWO (2) HEX HEAD SOCKETS FOR REMOVAL OF COVER AND DELIVER TO USER.

**A4** DETAIL - 30" x 48" 20K RATED HANDHOLE  
NOT TO SCALE



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8/4/2024  
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| DATE | DESCRIPTION |
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SUBMITTAL PHASE  
SUBMITTAL DATE: 3/15/24  
DES: SM | DRW: KN | CHK: SM

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DESIGN AND PROJECT MANAGEMENT BRANCH  
WAHIAWA, OAHU  
HAWAII ARMY NATIONAL GUARD  
STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
WAHIAWA BLDG. 00001  
**WAHIAWA CONSTRUCTION OF  
STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
SYMBOL LIST, GENERAL NOTES

SCALE: AS NOTED  
STATE JOB NO.: WAHIAWA CA-202004-C3  
FEDERAL PROJECT NO.: 15180045  
SHEET 11 OF 18  
**E001**

1

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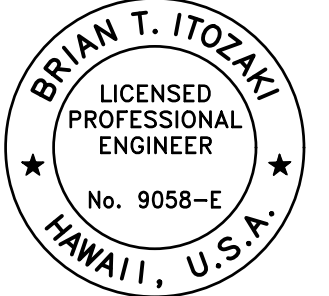
C

B

A



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Signature of Brian T. Itozaki and project description text.

Table with columns: SUBMITTAL PHASE, DATE, DESCRIPTION, SYM., APPR.

SUBMITTAL DATE: 3/15/24

DES: SM, DRW: KN, CHK: SM

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WAHIAWA CONSTRUCTION OF  
STAND-BY EMERGENCY GENERATOR INSTALLATIONS

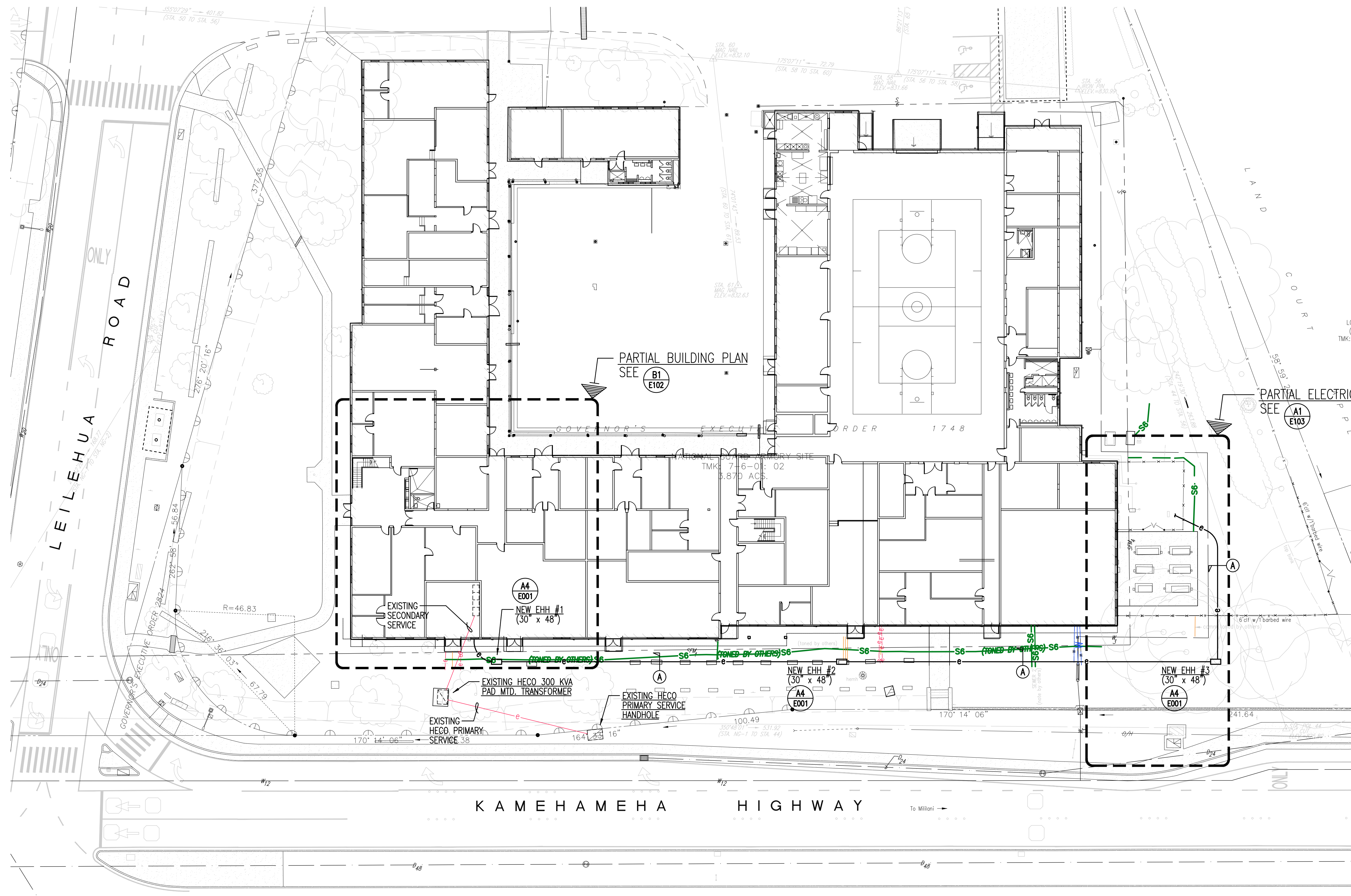
ELECTRICAL SITE PLAN

SCALE: AS NOTED

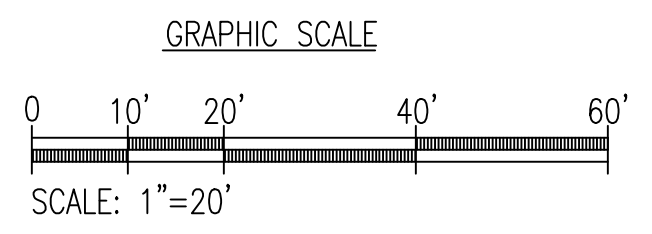
STATE JOB NO. WAHIAWA CA-202004-C3  
FEDERAL PROJECT NO. 15180045

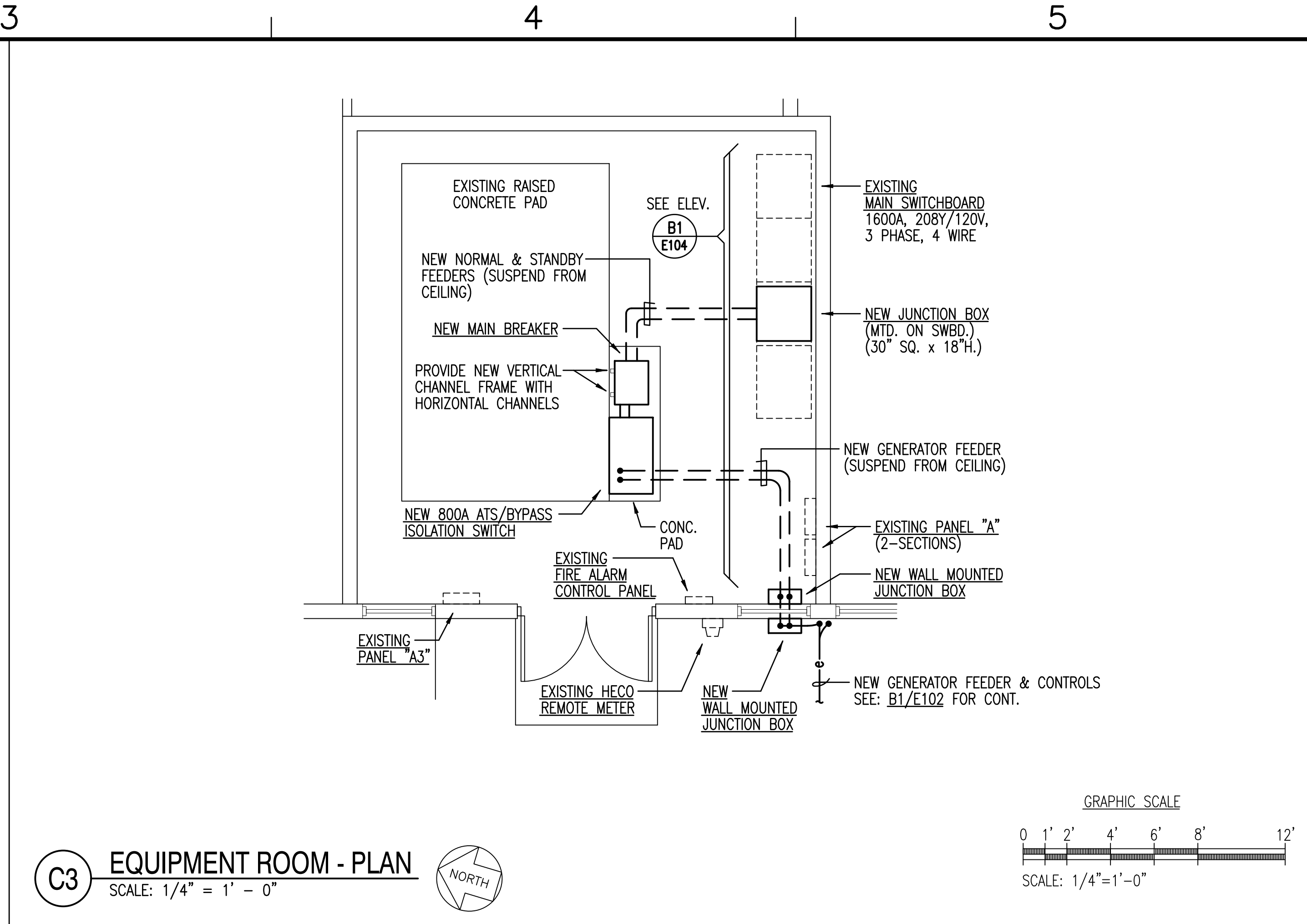
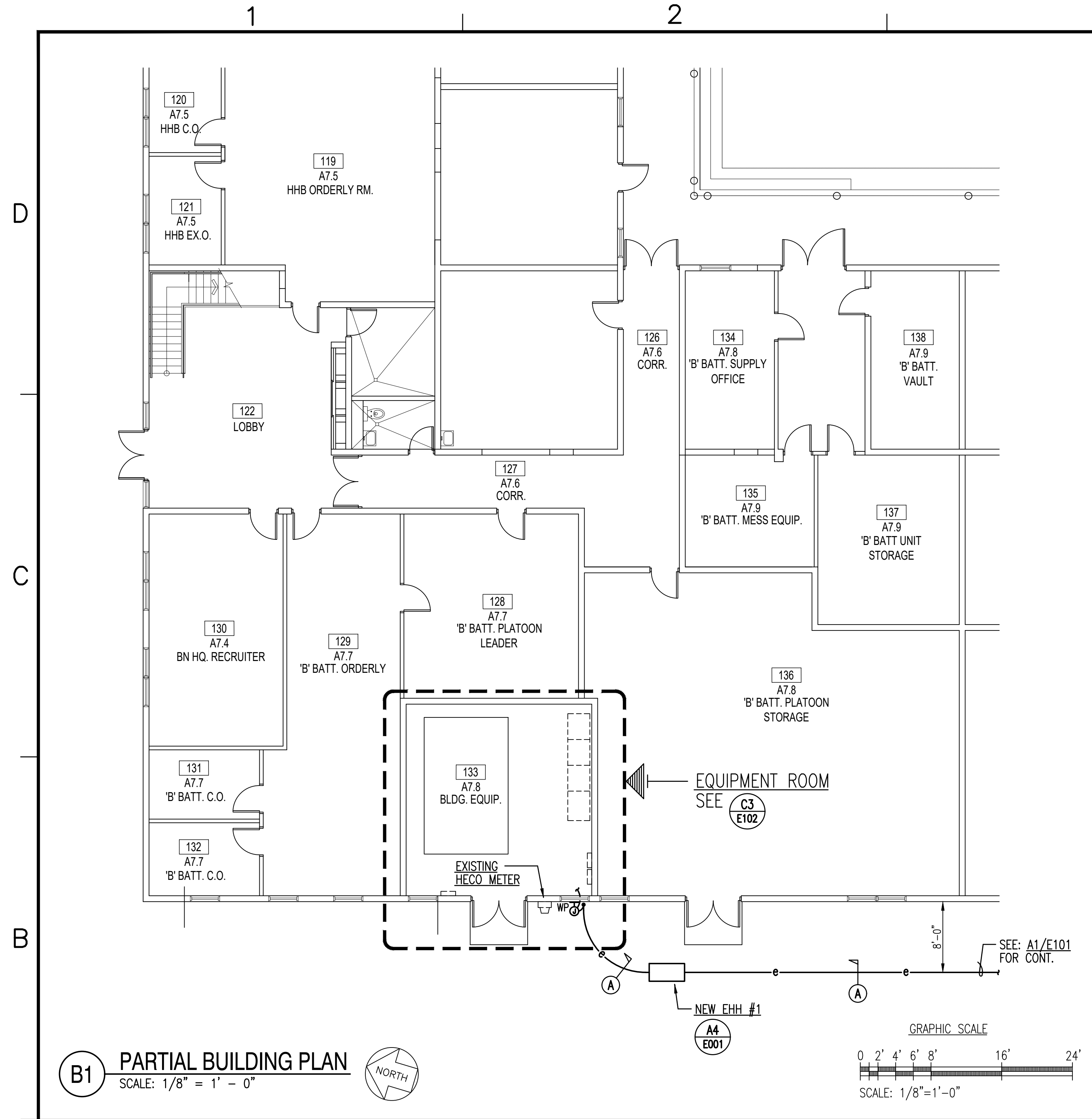
SHEET 12 OF 18


E101



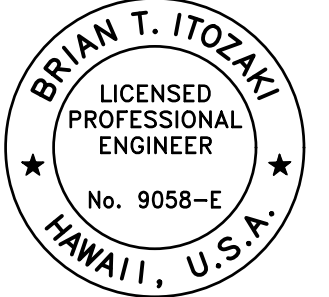
**A1 ELECTRICAL SITE PLAN**  
SCALE: 1" = 20'







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| SUBMITTAL PHASE | SUBMITTAL DATE |
| DES             | 3/15/24        |
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| DRW             |                |
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| CHK             |                |
| SM              |                |

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**WAHIAWA CONSTRUCTION OF  
 STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
 MAIN EQUIPMENT ROOM - ELEC. PLANS

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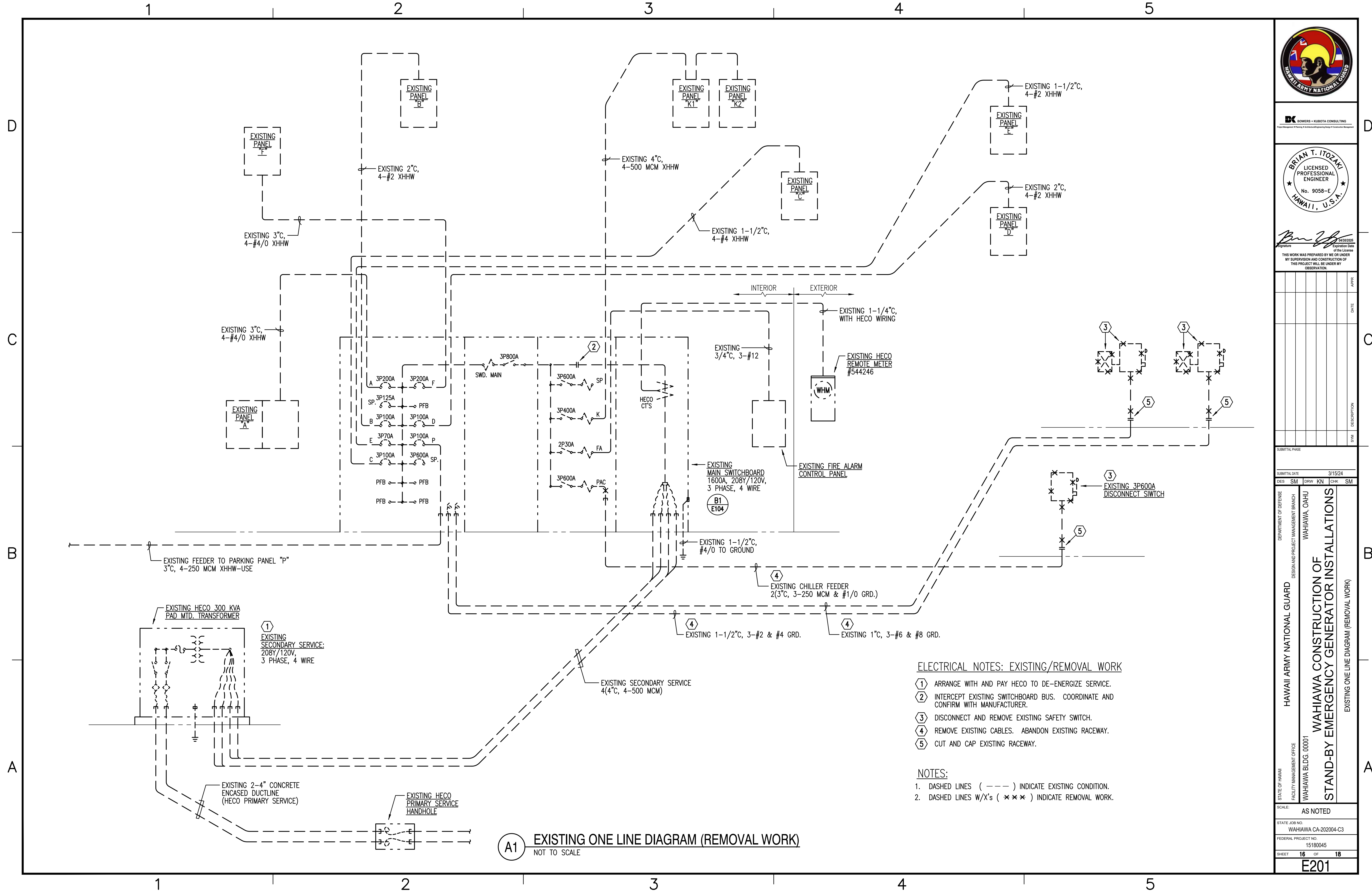
STATE OF HAWAII  
FACILITY MANAGEMENT OFFICE  
WAHIAWA BLDG. 00001

SCALE: AS NOTED

STATE JOB NO. WAHIAWA CA-202004-C3  
FEDERAL PROJECT NO. 15180045  
SHEET **13** OF **18**  
**E102**







**ELECTRICAL NOTES: EXISTING/REMOVAL WORK**

- ① ARRANGE WITH AND PAY HECO TO DE-ENERGIZE SERVICE.
- ② INTERCEPT EXISTING SWITCHBOARD BUS. COORDINATE AND CONFIRM WITH MANUFACTURER.
- ③ DISCONNECT AND REMOVE EXISTING SAFETY SWITCH.
- ④ REMOVE EXISTING CABLES. ABANDON EXISTING RACEWAY.
- ⑤ CUT AND CAP EXISTING RACEWAY.

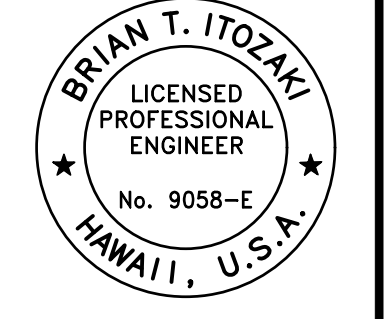
**NOTES:**

- 1. DASHED LINES (---) INDICATE EXISTING CONDITION.
- 2. DASHED LINES W/X'S (×××) INDICATE REMOVAL WORK.

**A1 EXISTING ONE LINE DIAGRAM (REMOVAL WORK)**  
NOT TO SCALE



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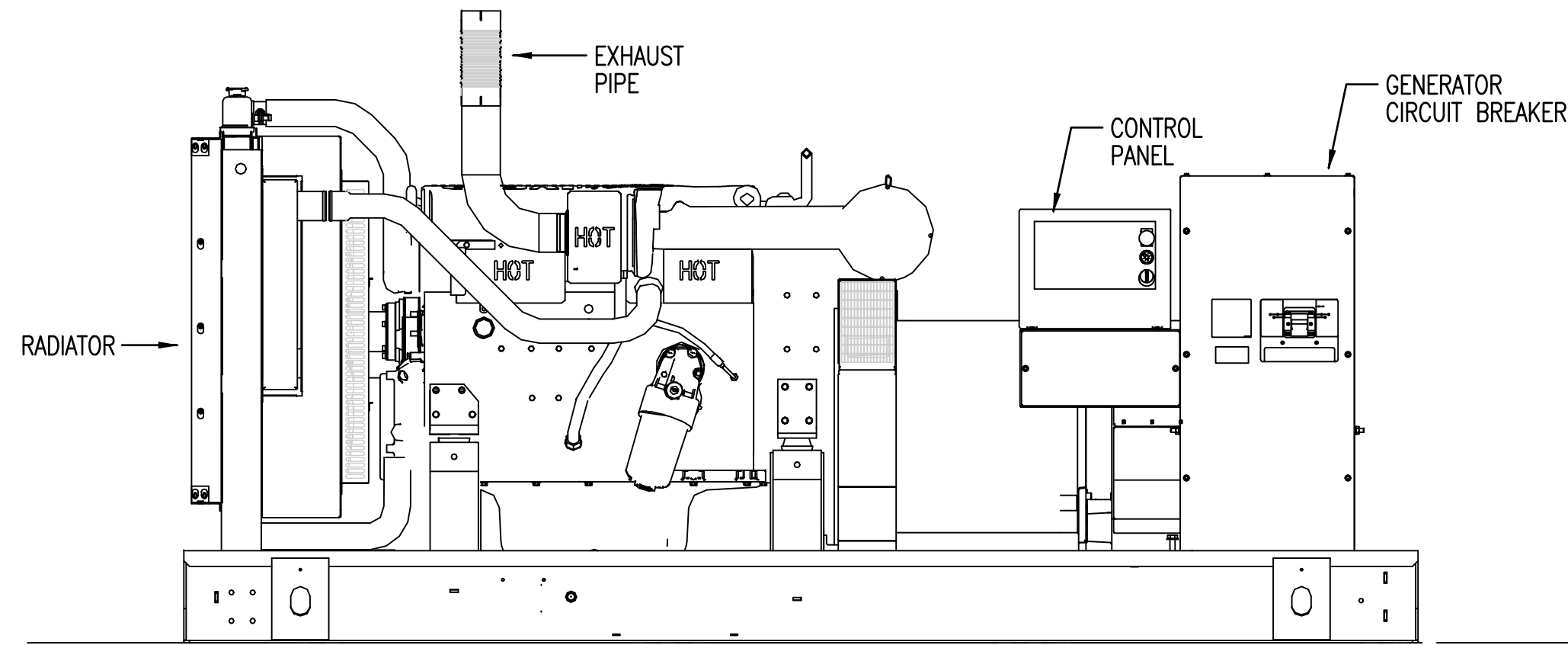
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| DES | SM | DRW | KN | CHK | SM |
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**WAHIAWA CONSTRUCTION OF STAND-BY EMERGENCY GENERATOR INSTALLATIONS**  
EXISTING ONE LINE DIAGRAM (REMOVAL WORK)

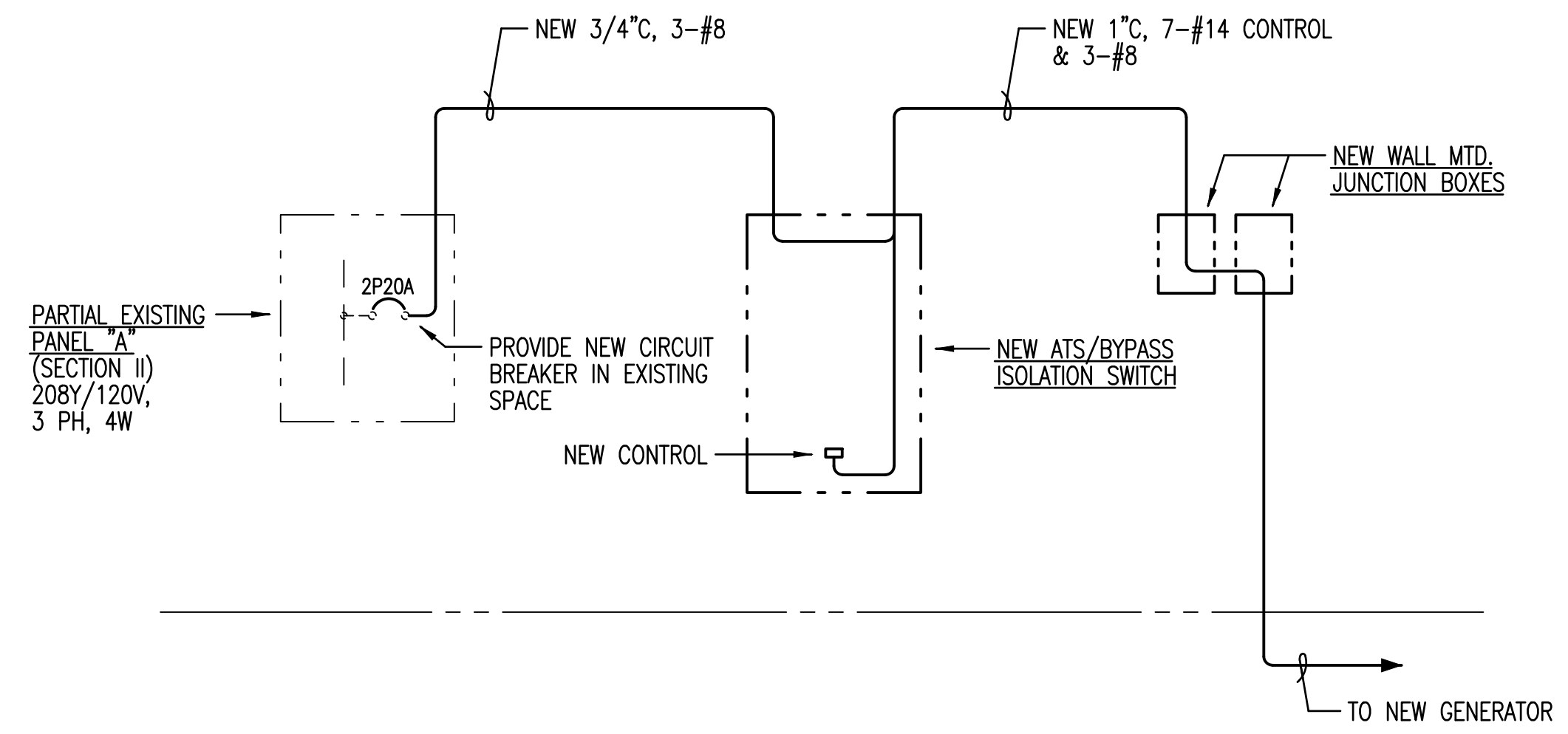
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| SCALE:              | AS NOTED             |
| STATE JOB NO.       | WAHIAWA CA-202004-C3 |
| FEDERAL PROJECT NO. | 15180045             |
| SHEET               | 16 OF 18             |
| <b>E201</b>         |                      |



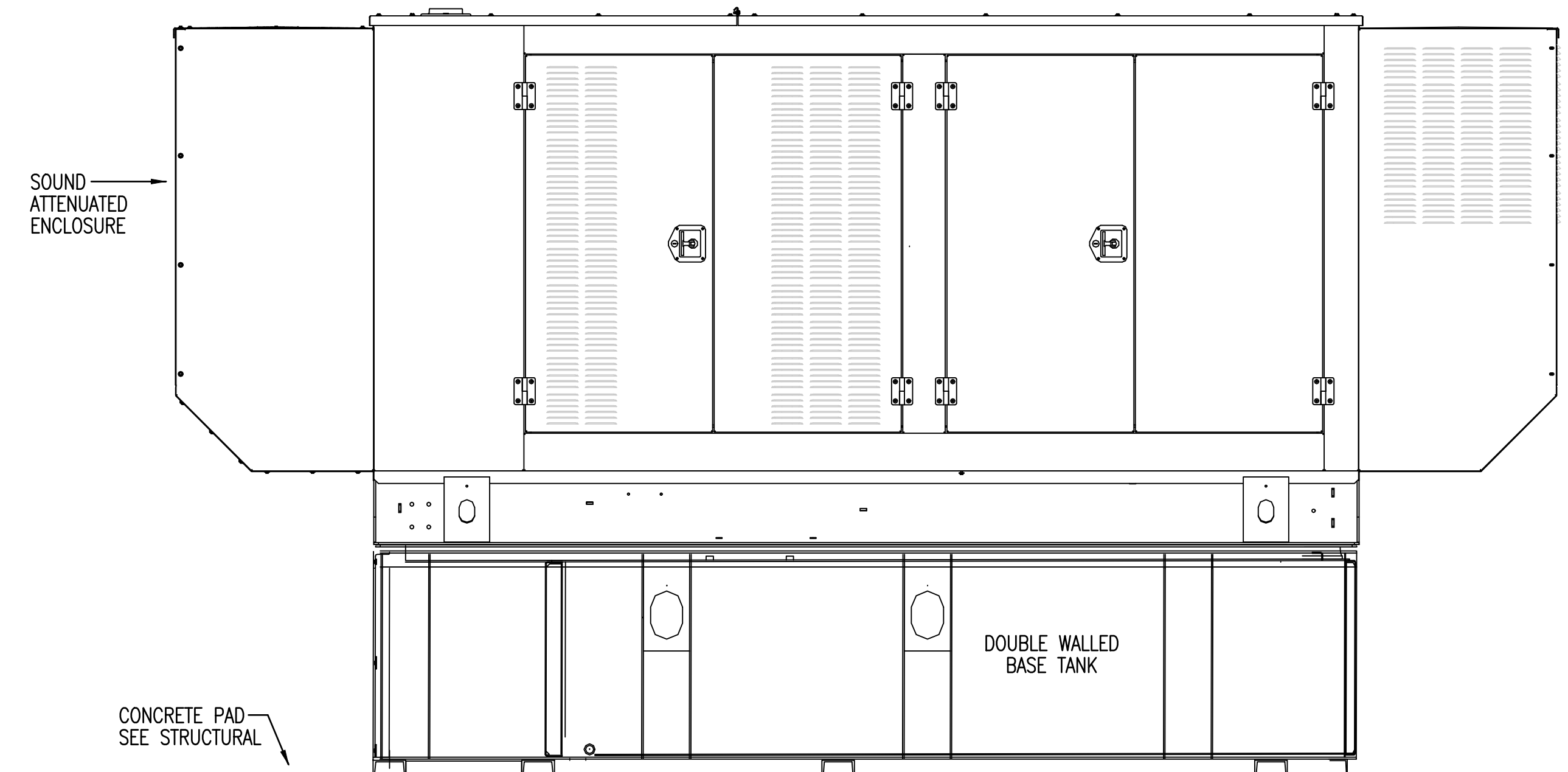




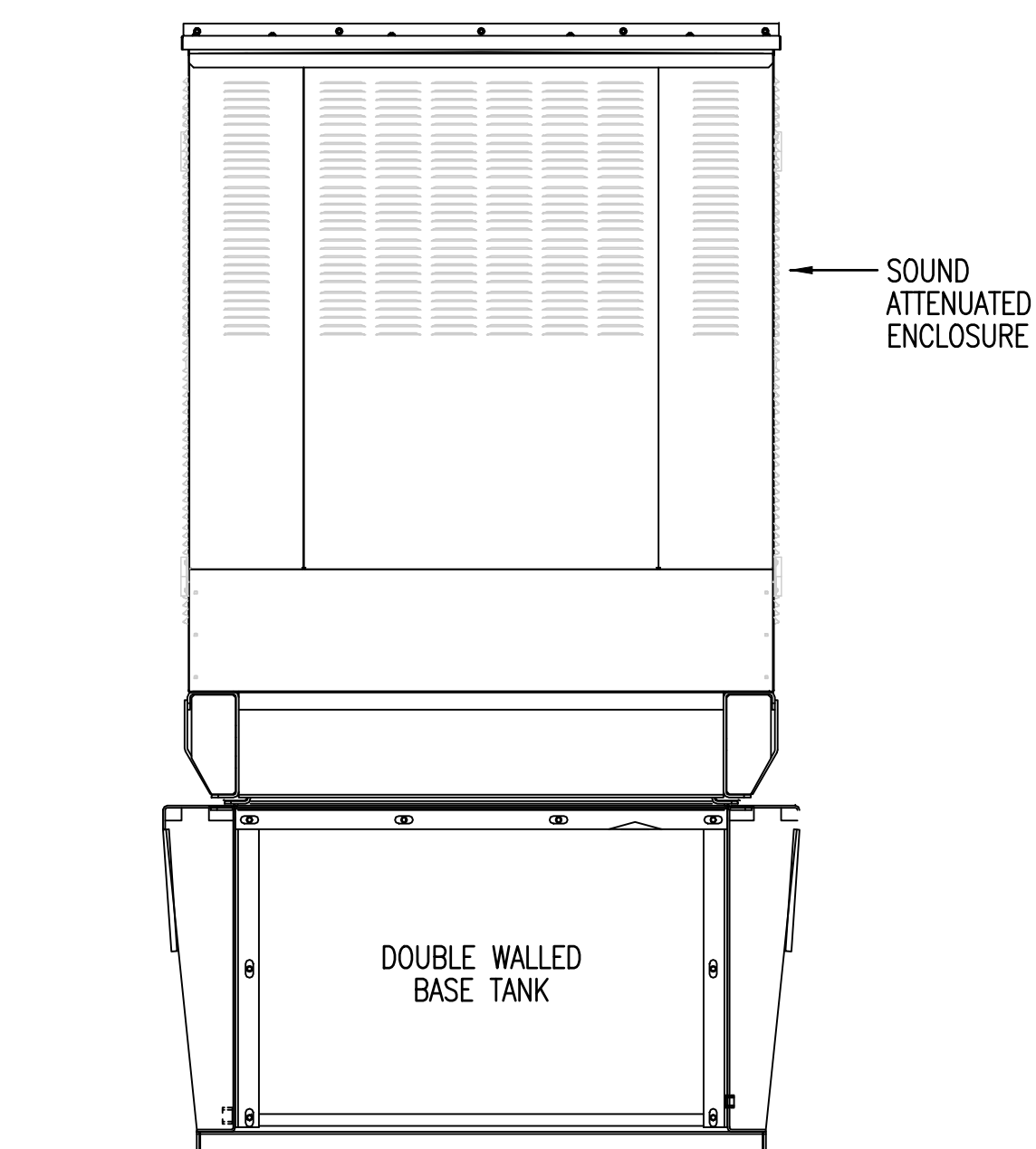
**C1** ELEVATION - GENERATOR ONLY (NO BASE TANK & ENCLOSURE SHOWN)  
NOT TO SCALE



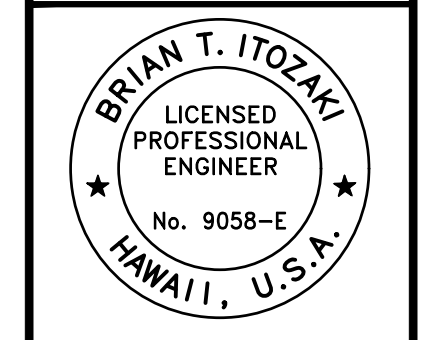
**C3** CONTROLS/BATTERY CHARGER - CONNECTION DIAGRAM  
NOT TO SCALE



**A1** ELEVATION - BASE TANK AND SOUND ATTENUATED ENCLOSURE  
NOT TO SCALE



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WAIHAWA CONSTRUCTION OF  
STAND-BY EMERGENCY GENERATOR INSTALLATIONS  
GENERATOR DETAILS

|                     |                      |
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| SCALE:              | AS NOTED             |
| STATE JOB NO.       | WAIHAWA CA-202004-C3 |
| FEDERAL PROJECT NO. | 15180045             |
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E301