STATE OF HAWAII

DEPARTMENT OF DEFENSE

ENGINEERING OFFICE

3949 DIAMOND HEAD ROAD

HONOLULU, HAWAII 96816-4495

MARCH 25, 2024

ADDENDUM NO. 1

TO CONSTRUCT **BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS**
PROJECT NO.: CA-202313-C
TAX MAP KEY: 3-1-042:600
Honolulu, Oahu, HAWAI'I

FOR THE **DEPARTMENT OF DEFENSE**
ENGINEERING OFFICE
STATE OF HAWAI'I

ISSUED BY **STATE OF HAWAII DEPARTMENT OF DEFENSE 3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495**
TELEPHONE: 808-369-3567

This addendum modifies the original Solicitation Documents for the Project dated March 1, 2024. The items in this addendum shall govern the work, taking precedence over previously issued specifications and drawings governing the items mentioned. Acknowledge receipt of this Addendum in the space provided on the Solicitation, Offer and Contract Form.

A. **CHANGES TO SPECIFICATIONS:** The following pages of the Solicitation Documents are revised:

1. Revised Text:

1. Replace the following sections in their entirety:
   i. SECTION 08410 – ALUMINUM FRAMED STOREFRONT
   ii. SECTION 08810 – GLAZING
   iii. OFFER FORM (OF 1-11)
   iv. SECTION 00010 – TABLE OF CONTENTS
   v. SECTION 01100 – PROJECT REQUIREMENTS
   vi. SECTION 15606 – POL SYSTEMS
   vii. SECTION 15607 – NONMETALLIC UNDERGROUND PIPING FOR PETROLEUM

b. Make the following updates:
   i. SECTION SN, Page SN-10, Replace “After the contract” with “Sometime after the contract”.
   ii. SECTION 01100, Page 01100-10, Paragraph 1.12.A, Replace “Allowance i: Include” with “Bid Allowance will include”

B. **CHANGES TO PLANS:** The following items are revised:

1. The following previously issued drawing set dated March 1, 2024, are replaced in their entirety. Significant changes to the drawings are listed below.

Sheet Group	Sheet No.	Sheet Name, Description
SHEET TITLE	001	Updated TMK to 3-1-042:006 Updated zip code to 96816
SHEET TITLE	ALL SHEETS	TITLE BLOCK Inserted new TMK and zip code

ARCHITECTURAL	AA101	OVERALL FLOOR AND CEILING DEMO Revised demolition keynote to include “salvage and store existing window screen and associated frame for reinstallation.”
ARCHITECTURAL	AA701	SCHEDULE TYPES AND DETAILS • Added “ASTM E 1996/1886 large missile impact (windborne debris)” to window schedule remarks. • Revised window detail graphics to represent new window • Revised existing frame graphics to more accurately represent existing condition • Revised window screen keynote to “Reinstall existing window screen, clips, and frame to match existing adjacent” • Revised window height in schedule.
ARCHITECTURAL	AB102	OVERALL FLOOR PLAN AND CEILING Added note to temporarily remove door frame for AHU-2 installation.
ARCHITECTURAL	AB103	GENERATOR ROOM ROOF PLAN • Relocated mechanical equipment off the roof, revised note to include support posts • Removed built out concrete pad and associated notes and dimensions
CIVIL	C001	Added Geotechnical report reference
CIVIL	C101	Added soils Borehole locations Shifted new fuel tank to the north Added removal of existing 18” storm drain pipe
CIVIL	CS101	Revised limits of re-paving Added spot elevations for pavement Revised grading at ADA parking area Added sediment removal from existing drain inlet Added pavement removal and re-pave detail

CIVIL	CS501	Add pavement structure detail Added wheel stop detail Added sign post detail Added stair detail
CIVIL	CS502	Revised gate detail to pedestrian gate
CIVIL	CG101	Revised tank location and retaining walls Elevate platform and added concrete steps
CIVIL	CG301	Revised platform elevation and retaining walls
CIVIL	CG302	Revised wall elevation
CIVIL	CP502	Revised paving limits
CIVIL	CU100	Shift fuel tank location north Revised 3” waterline alignment
CIVIL	CU100	Revised 3” waterline alignment Added backflow preventer on Waterline 1 Added backflow preventor on CWR line Added Detail A at water supply connection
CIVIL	CU202	Added drain line profile
CIVIL	CU203	Revised profiles
STRUCTURAL	S-101	Revised roof shoring note
STRUCTURAL	S-501	Revised repair notes
MECHANICAL	MB102	MECHANICAL ROOF PLANS Revised location of ACCU-2.
MECHANICAL	MB202	ENLARGED FLOOR PLAN AREA 2_5 – DEMO Revised note to temporarily remove the door frame for the closet serving AHU-2 during construction.
MECHANICAL	MB214	ENLARGED FLOOR PLAN AREA 4 – NEW Added notes for contractor to provide signage inside of the mech room.
MECHANICAL	MB502	MECHANICAL DETAILS Added detail for ACCU support post.

PLUMBING	P-001	PLUMBING LEGEND The following abbreviations and descriptions have been added: • DWP – DOMESTIC WATER BOOSTER PUMP • ET – WATER HEATER EXPANSION TANK • FMP – FUEL MONITORING PANEL • FD – FLOOR DRAIN • MFP – MANUAL FUEL PORT • PRV – PRESSURE RELIEF VALVE • RPBP – REDUCED PRESSURE BACKFLOW PREVENTER • UWST – UNDERGROUND WATER STORAGE TANK • WFS – WATER FILTRATION SKID
PLUMBING	PA202	ENLARGED FLOOR PLAN – NEW Revised fuel supply and return piping size to 1-½".
PLUMBING	PA401	PIPING DIAGRAMS Revised fuel supply and return piping size to 1-½" for isometric and pol system piping diagram. Revised pol system piping sequence of operations.
PLUMBING	PA601	PLUMBING SCHEDULES Revised schedule notes to add “Provide fuel level gauge probe.”
PLUMBING	PB100	OVERALL FLOOR PLAN Added references to plumbing views in mechanical room.
PLUMBING	PB104	ENLARGED FLOOR PLAN – NEW • Revised u/g water tank size to be based on 15,000 gallons, previously 20,000 gallons. • Added RPBP locations

PLUMBING	PB105	ENLARGED FLOOR PLAN – DEMO • Revised phasing notes to include temporary fuel tank (AST-3) and fuel pump (FP-1) • Added location of temporary fuel tank (AST-3) and fuel pump (FP-1) to drawings. • Revised existing leak detection cable note • Revised drawings to show removal of the existing fuel monitoring panel • Added reference to civil for traffic control measure for the temporary fuel tank. • Added location of (E)fuel pump control panel for reference.
PLUMBING	PB106	ENLARGED FLOOR PLAN – NEW • Removed redundant fuel monitoring panel, revised drawings to show (1) new panel. • Added callout for transition sump • Added callout for reference to structural for AST-2 concrete pad • Revised location of AST-2
PLUMBING	PB401	WATER STORAGE SYSTEM SCHEMATIC • Revised WFS-1 sequence of operation • Revised UWST-1 schematic to include RPBPs • Revised POL piping schematic. • Added sequence of installation for temporary fuel tank and fuel pump. • Revised sequence of operation for AST-2 to match the existing sequence.

PLUMBING	PB501	PLUMBING DETAILS • Revised u/g water tank detail dimensions to be based on 15,000 gallons, previously 20,000 gallons. • Changed water tank access to bolt on cofferdam instead of manhole cover. • Added manufacturer's recommendations references to gravel/infill type for the u/g water tank
PLUMBING	PB601	PLUMBING SCHEDULES • Revised u/g water tank schedule to be based on 15,000 gallons, previously 20,000 gallons. • Revised numbering of AST, MFP, and FMS.
PLUMBING	PB107	PLUMBING ROOF PLAN – NEW Added location of (E)fuel pump control panel for reference
PLUMBING	PB903	FUEL ISOMETRIC DIAGRAM Revised location of AST-2 and pipe route
ELECTRICAL	E-001	Added room controller symbol to electrical symbol list.
ELECTRICAL	EA105	Added 120V power for smart water meter Added 1"C comm with pullstring for smart water meter Changed wire count for ACCU feeder
ELECTRICAL	EA106	Added keynote #2 to call out "INTERCEPT EXISTING CIRCUIT VIA A JUNCTION BOX AND EXTEND TO NEW LIGHTS" Revised keynote callouts Removed occupancy sensor from switch in State Warning Point room due to lights being on 100%.
ELECTRICAL	EA503	Revised wire count in duct schedule
ELECTRICAL	EA602	Revised wire count for ACCU feeder in one-line
ELECTRICAL	EA702	Add circuit to Panel PP schedule for smart water meter.

ELECTRICAL	EB102	Revised location of ACCU-2 and orientation of ACCU-1 due to structural concerns.
ELECTRICAL	EB201	Revised circuiting for the light fixtures, lighting controls and receptacle Added New Work Note #1: “Intercept existing circuit via a junction box and extend to room controller and new lights.”
ELECTRICAL	EB202	Added keynote #2 to “EXISTING PUMP CONTROL PANEL” callout. Hatched out the existing pump control panel.
ELECTRICAL	EB203	Added 120V power for smart water meter Added Duct Section #2 (1”C comm with pull string) for smart water meter that leads to a junction box located in the storage room. Added (2) handholes.
ELECTRICAL	EB204	Added 120V power for the fuel supply pump that will be mounted on and used for the temporary tank. Added (1) handhole. Added new “MECH 2” panel to the sheet Added phasing note P1: “NEW PANELS "MECH 1" AND "MECH 2" TO BE INSTALLED PRIOR TO THE INSTALLATION OF TEMPORARY TANK MOUNTED FUEL SUPPLY PUMP AND OTHER PLUMBING EQUIPMENT. PROVIDE 120V POWER AND SUPPORTING CONDUCTORS VIA NEW "MECH 2" PANEL, TO (1) TANK MOUNTED FUEL SUPPLY PUMP. REMOVE TEMPORARY BRANCH CIRCUITING, DISCONNECT SWITCHES, AND EQUIPMENT CONNECTIONS WHEN THE TEMPORARY TANK IS REMOVED.”
ELECTRICAL	EB501	Added duct section 2 to the duct schedule: -Description: 1”C PVC SCHEDULE 40, DATA -Conductors/Cables: Pull String
ELECTRICAL	EB701	Revised Type G general description in the luminaire schedule.

ELECTRICAL	EB702	Added 120V power for the Temporary fuel supply pump. (Panel “MECH-2” Ckt. 17)

C. **PRE-BID CONTRACTOR QUESTIONS AND RESPONSES:**

1. A Pre-bid site visit was conducted on March 19th, 2024. Below are the questions and responses.

QUESTIONS	RESPONSES
1. Is there a tank permit for the existing 6K tank at Birkhimer? If yes, can it be provided?	Yes. See Attachment #1 for a copy of the existing u/g tank permit.
2. Can A/E provide as-builts for existing 6K-gal. underground storage tank for Berkhimer?	See Attachment #2a for as-builts of the 6k gallon fuel tank replacement. Also see Attachment #2b for as-builts of the fuel return line addition.
3. Is there any kind of anchoring pad or deadman strapping down tank?	Fuel tank anchoring to be in conformance with the manufacturer's requirements
4. Is this a Buy American Project?	No
5. Section 13200 Storage Tanks	
3.02 A-B. For bidding purposes if excavation material is positive. Will there be an allowance number or estimated quantity in cubic yards or tons to dispose of material?	For Bidding purposes, Assume that excavation material is negative. No, there will be no allowance regarding this
3.06 and 3.07 Can government provide estimated quantities for furnishing imported fill material incase need to haul contaminated material?	No
3.08 E Will government require rush turn around sample time or will standard 2-weeks be sufficient ?	Standard lab analysis will be sufficient.
3.07 C can contaminated material be placed and 10-mil polyethylene plastic and covered with the same type of plastic?	Contaminated or potentially contaminated material, such as soil and waste, shall be placed on an impermeable liner or device, such as 20-mil plastic sheeting, surrounded with impermeable lined berms and covered with impermeable sheeting. Please refer to the Attachment #5; Cotnaminated soil and waste management
6. Drawing PB105 Phase Notes 1.	
How much down time do we have to switch existing tank to new tank at the POC?	Downtime between switch over from existing tank to the temporary and/or new fuel tank shall be based on the capacity of the Daytanks located inside of the Birkhimer building (appx. 10 hours).
7. Drawing PB105 Key Notes Continued 5. Section 13200 Part 3.02.	

Can you confirm what we are doing with fuel from existing tank?	Fuel from existing storage tank shall be recovered and reused in the new AST.
Can you provide estimated gallons to keep and reuse if fuel is not contaminated?	Approximately 4000 gallons
8. Section 13200 Part 3.08 Backfill.	
If excavated material is negative, can we reuse material to backfill tank hole?	Yes, If all of COPCs are below the Tier 1 EALs, soil can be reused onsite.
9. Section 15606 Part 2.01 and 3.01 A7 Building 303 and Birkhimer	
Building 303: can you confirm what piping we will go with for aboveground piping? It calls for DoubleTrac and for steel piping 2" and smaller threaded pipe. Preference is steel piping.	Steel piping is acceptable
Can pipe be reduced, 2" and that close of run might be overkill?	Yes, fuel piping for B303 will be revised to 1-1/2"
Birkhimer: site visit piping appears to steel pipe (cannot confirm underground) in a double wall FRP containment pipe. Specs call for different types of pipe. What section do we follow as there is multiple descriptions? Preference will be to follow existing fuel piping system.	Match existing fuel piping type at Birkhimer. Spec section will be revised to include FRP section.
Do we need to test existing double wall fuel lines before connecting back with POC before hooking it to new fuel lines? Not sure if existing secondary lines will hold.	Yes, connection to any existing secondary lines shall require testing. Refer to spec section 15606 3.02.A for testing.
10. Section 15606 Part 2.02 AST	
From supplier. Distributors that we have worked with sold their license and we are currently looking for other manufactures to produce Convault Tanks. If supplier cannot find another distributor, would we be able to substitute tank with Super Vault or Fireguard tanks?	Alternate fuel tanks are acceptable as long as the UL 142 and 2085 ratings as specified are met.
If so, can we get an extension on bid due date?	No extension is considered at this time
If we have to go with Convault, the spec calls for a finish color to be Prairie Dusk. If Convault does not offer this color, can we go with Convault standard finish?	Standard finish is acceptable for the fuel tank at B303. For the fuel tank at Birkhimer, finish shall be as close as possible to the Prairie Dusk color. Alternate colors shall be sent to the engineer for approval.
2.02A-1 specs call for a 5 gallon overfill containment box. Can we remove this as we will have remote fill that will need to be piped to tank?	Overfill containment box will be removed from Section 2.02.A.1
2.01N-1 can remote fill box be post mounted instead of wall mounted, as we are not allowed to drill any holes on the tank's exterior?	Post mounted remote fill box is acceptable

2.01G Dielectric Unions – is this section a typo as it talks about dielectric unions and then to check valves calling out for a OPW #821 solenoid valve?	Check valve spec should be listed separately from Dielectric unions. Spec section will be revised.
11. Section 15606 2.01M Fuel Monitoring	
Veeder Root 350 is obsolete, can we replace Veeder Root 350 with Veeder Root 450?	Replace fuel monitoring system with current models
This section calls for stainless steel enclosure. Does the console need to be stainless steel or can the console be put into a 3rd party stainless steel enclosure?	3rd party stainless steel enclosure is acceptable.
12. Drawing PB401 Existing Fuel Monitoring Panel and New Fuel Monitoring Panel.	
What is the purpose of (2) fuel monitoring systems. Can you identify leak detection cable?	Existing console will be replaced with new. 2nd fuel monitoring console will not be required. Refer to Addendum 1 drawings.
Is this leak cable a communication wire for a sump sensor that will detect leaks in the sump? From site visit we did not see any monitoring "J" wells for low point of fuel lines so we suspect that the sump has a leak sensor.	2012 as-built drawings indicate a provision of a leak detection sensor at the low point of the underground pipe for the fuel return piping next to the fuel tank. See Attachment #2b.
13. Drawings PB401 Underground Fuel Lines Birkhimer New AST.	
Is a transition sump required to go from aboveground to underground piping? We can add a leak sensor so we can monitor underground fuel piping.	Provide a transition sump at the low point of the underground piping for fuel leak detection
14. Drawings PA202 and PB106 Fuel Storage Tank Naming	
Fuel equipment to be installed at both Building 303 and Birkhimer have identical ID tags (AST-1, FMS-1, etc.) which will cause some confusion when identifying a specific piece of equipment at a particular area. Could the equipment be assigned individual ID tags to avoid any mix ups?	Fuel tank equipment at Birkhimer will be renamed to avoid confusion with equipment at B303.
15. Section 15606 Part 2.02.A.1 and A11	
Both drawings and specification sections 15606, paragraphs 2.02.A1 and A11 call for an overfill spill containment to be supplied on top of the AST however the design calls for a manual fuel port to be installed at grade level. The fill piping from the manual fill port will need to be routed to a fitting directly on top of the tank and cannot be connected to the fitting inside of a spill containment on top of the AST. Can this section of the specs be deleted?	Overfill containment box will be removed from Section 2.02.A.1

16. Drawings PB106 Fuel monitoring console	
Plans call for the existing fuel monitoring console at the Birkhimer Building to remain for reuse in addition to the new console that is to be furnished and installed. Please clarify what the existing console and new console will be monitoring.	Existing console will be replaced with new. 2nd fuel monitoring console will not be required. Refer to Addendum 1 drawings.
17. Section 15606 Part 2.01.M.5 Fuel Monitoring	
Specification section 15606, paragraph 2.01.M.5 calls for the new fuel monitoring system to be a Veeder Root TLS-350 plus. This model has been discontinued. Current models available include TLS-4B or TLS-450 Plus. Please advise which current model is to be used for this project.	Smaller monitoring system with 6 probe and sensor points is adequate
18. Section OF-2	
Project duration is 400 calendar days from NTP. Project has many long lead items that will take 6 months or longer to receive. Request longer project duration.	Upon award, the Bidder is allowed to procure long lead times. See Section 1100 for further information.
19. Section 13200 Storage Tanks	
If contaminated soil is discovered after existing underground fuel tank at Birkhimer building is removed, please confirm that removal and disposal of contaminated soil will be a mod.	For Bidding purposes, assume that excavation material is negative. No, there will be no allowance regarding this
20. Sheets CG101, CG301, and CG302	
Sheets CG101, CG301 and CG302 of the project drawings show a retaining wall for the fuel tank slab. We could not find a structural detail showing footing, wall type or reinforcing steel, if any. Would appreciate those details or pointing out where we may find them.	Refer to Addendum 1 drawings for added details

D. **SUBSTITUTION REQUEST**

1. Below are the contractor substitution request and responses:

Section/Item	Specified Brand	Substitute or Alternate Brand	Response
15606 2.02	Calls for concrete encased tank	Modern Welding Fireguard	Refer to Addendum 1
15606 1.03 Warranty	All work under this section shall be under warranty for a period of two years.	Warranties offered will be each Manufacturers warranties only. Most Manufacturers have a one year limited warranty, replacing defective parts or replacing at it's discretion.	Provide two years warranty
15606 2.01 C. Weather Proof Vent Cap	Weather Proof Vent Cap	Please clarify what is meant by "increaser fitting"?	Deleted "increaser"
15606 2.01 F. Anti-Siphon Valve	"Tank supplier shall provide UL listed bronze bodied angle check valve"	Please clarify, anti-siphon valve or check valve?	This section is for Anti-siphon valve
15606 2.01 G. Dielectric Unions	1. Says "Check valve, swing check, 150# Class…OPW 821 or approved equivalent".	OPW 821 is a solenoid valve, not a check valve. Either has nothing to do with Dielectric Unions	Refer to Addendum 1
15606 2.01 J. 4. Foot Valve		Can bronze body be substituted with brass? Petroleum manufacturers do not make bronze foot valves.	No exceptions taken
15606 2.01 M. 5.	Veeder Root TLS-350 Plus	TLS-350 Plus is obsolete. Substitute with TLS-450 Plus. 15606 2.03 calls for spare I/O options, Modbus and Ethernet network compatible 4-20mA output. Relay dry contacts output. These are available only with the TLS-450 Plus as options. If the above are not needed, TLS4 or TLS4B could be substituted.	Refer to Addendum 1

16510 2.02 Luminaires	Columbia, Finelite, Startek, Evolve, Hubbell, Pinnacle	HE Williams, Day-O-Lite, Precision Architectural, AFX, Olympia, Ligman Solar, ABL, Alight, HILA, Pinnacle	Refer to sheets EA701, EB701, and EC701. Make and model are provided. Accepted equivalents are allowed and will be reviewed when equipment submittals are provided.
16510 2.05 Lighting Controls	Wattstopper	AVI-ON, Acuity	Refer to sheets EA505 and EB503. Make and model are provided. Accepted equivalents are allowed and will be reviewed when equipment submittals are provided.
16530 2.01 LED Luminaires	Selux	Ligman Solar, SOL	Refer to sheets EA701. Make and model are provided. Accepted equivalents are allowed and will be reviewed when equipment submittals are provided.

E. **PRE-BID MEETING MINUTES**

1. Please see Attachment C

ATTACHMENT A

DIVISION 8 - DOORS AND WINDOWS

SECTION 08410 - ALUMINUM-FRAMED STOREFRONT

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:
   1. Aluminum-Framed Storefront

1.02 REFERENCES

A. American Architectural Manufacturers Association (AAMA)

B. American Society for Testing and Materials (ASTM)

C. Aluminum Association (AA)

1.03 SYSTEM DESCRIPTION

A. General: In addition to requirements shown or specified, comply with:
   1. Applicable provisions of AAMA Aluminum Storefront and Entrance Manual for design, materials, fabrication and installation of component parts.

B. Design Requirements: Arcadia IP2551 Series is a framing system suitable for outside or inside glazing.

C. Performance Requirements:
   1. Conformance to ASTM 1886/1996 (Small Missile & Large Missile) & AAMA/NWWDA 101/I I.S. 2-97 (Non Impact).

   2. Limit air leakage through assembly to 0.06 CFM/min/sq. ft. (.00003 m3/sm2) of wall area at 6.24 PSF (300 Pa) as measured in accordance with ASTM E283.

   3. Water Resistance: No water leakage when measured in accordance with ASTM E331 with a static test pressure of 15 PSF(384 Pa).

   4. Limit mullion windload deflection of L/175 with full recovery of glazing materials, when measured in accordance with ASTM E 330.

   5. System shall not deflect more than 1/8” at the center point, or 1/16” at the center point of a horizontal member, once deadload points have been established.

   6. System shall accommodate expansion and contraction movement due to surface temperature differential of 180 degrees F.

   7. Seismic testing shall conform to AAMA recommended static test method for evaluating performance of curtain walls and storefront wall systems due to horizontal displacements associated with seismic movements and building sway.

1.04 QUALITY ASSURANCE

A. Single Source Responsibility:
   1. Obtain entrances, storefronts, ribbon walls, window walls, curtain walls, window systems, and finish through one source from a single manufacturer.

B. Provide test reports from AAMA accredited laboratories certifying the performances as specified in 1.03.

1.05 WARRANTY

A. System shall be warranted against failure and/or deterioration of metals due to manufacturing process for a period of two (2) years.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Arcadia, Inc., 2301 East Vernon, Vernon, CA. Telephone 323/269-7300, Fax 323/269-7390.

B. Acceptable Products:
   1. Arcadia Inc., IP2551 Series, 2 1/2” x 5” center glazed system for 1 5/16” glass (screw spline system).

2.02 FRAMING MATERIALS AND ACCESSORIES

A. Framing members, transition members, mullions, adaptors, and mounting: Extruded 6063-T6 aluminum alloy (ASTM B221 - Alloy G.S. 10a T6).

B. Screws, fastening devices, and internal components: Aluminum, stainless steel, or zinc-plated steel in accordance with ASTM.A-164. Perimeter anchors shall be aluminum or steel, providing the steel is properly isolated from aluminum.

C. Glazing Gasket
   1. Compression-type design, replaceable, molded or extruded santoprene, polyvinyl chloride (PVC), or ethylene propylene diene monomer (EPDM).

   2. Shall be of type that locks securely into the glazing reglet to prevent glazing gaskets from disengaging.

2.03 FINISH

A. Finish all exposed areas of aluminum and components as indicated.
   1. An Architectural Class II or I color anodic coating conforming with AA-M12C22A34/AA-M12C22A44.
      a. Anodized finish color shall be Colornodic _____. (AB1 Light Champagne, AB2 Champagne, AB3 Light Bronze, AB4 Medium Bronze, AB5 Standard Medium Bronze, AB6 Dark Bronze, AB7 Standard Dark Bronze, AB8 Black.)

   2. An Architectural Class II or I anodic coating conforming with AA-M12C22A31/AA-M12C22A41.

a. Anodize finish color shall be Colornodic _____ (#11 Clear)

3. Fluorocarbon Coating: AAMA 2605.2.
   a. Resin: 70% PVDF Kynar 500/Hylar 5000.

   b. Substrate: cleaned and pretreated with chromium phosphate.

   c. Primer: Manufacturer's standard resin base compatible coating. Dry film thickness.
      1) Extrusion: Minimum 0.20 mil.

   d. Color Coat: 70% PVDF, dry film thickness.
      1) Extrusion: 1.0 mil.

   e. Color: As selected by Architect.

   f. Acceptable Coatings Manufacturers:
      1) PPG Industries, Inc.

      2) Valspar Corporation

      3) BASF

2.04 SYSTEM FABRICATION

A. Continuous sub-sill shall be provided under sill members to collect water infiltration and divert from the interior of the system.

B. Framing members shall be internally reinforced and secured at head and sill as necessary for structural performance requirements, for hardware attachment, and as indicated.

C. Fasteners shall be so located as to ensure concealment from view in the final assembly.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine conditions and verify substrate conditions are acceptable for product installation.

3.02 INSTALLATION

A. Install in accordance with approved shop drawings and manufacturers installation instructions.

3.03 FIELD QUALITY CONTROL

A. Test the storefront for water leaks in accordance with AAMA 501.2. Conduct test in the presence of the Architect. Correct deficiencies observed as a result of this test.

END OF SECTION

SECTION 08810 - GLAZING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Glazing units, glass for interior storefront.

B. Glazing compounds.

1.02 RELATED REQUIREMENTS

A. SECTION 08410 - ALUMINUM-FRAMED STOREFRONTS.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test 2015 (Reaffirmed 2020).

C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers 2005 (Reapproved 2019).

D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.

E. ASTM C1036 - Standard Specification for Flat Glass 2021.

F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass 2018.

G. ASTM C1193 - Standard Guide for Use of Joint Sealants 2016 (Reapproved 2023).

H. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass.

I. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.

J. ASTM E1300 - Standard Practice for Determining the Minimum Thickness and Type of Glass Required to Resist a Specified Load.

K. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.

L. Insulating Glass Manufacturers Alliance (IGMA) - Glazing Guidelines.

M. GANA (SM) - GANA Sealant Manual.

N. GANA Laminated Glass Design Guide; Glass Association of North America.

1.04 SUBMITTALS

A. See SECTION 01300 - SUBMITTALS.

B. Product Data on Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

1.05 WARRANTY

A. See SECTION 01300 - SUBMITTALS for additional warranty requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Float Glass Manufacturers:
   1. Guardian Glass, LLC: www.guardianglass.com/#sle.

   2. Pilkington North America Inc: www.pilkington.com/na/#sle.

   3. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com/#sle, or approved equal.

2.02 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
   1. Kind FT - Fully Tempered Type: Complies with ASTM C1048.

B. Heat treated float glass: ASTM C 1048, Type I (transparent flat glass), Quality-Q3; of class indicated, of kind and condition indicated. All heat strengthening and tempering shall be by the horizontal process, with IG units fabricated in such a manner as to have all roller distortion in a horizontal direction as installed in the building.
   1. The minimum surface and edge compression shall comply with requirements of ASTM C 1048. Fully Tempered glass shall conform to ANSI Z97.1

C. Windborne-Debris Impact Resistant Laminated Glass
   1. Laminated Glass: ASTM C1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
      a. Manufacturers: subject to compliance with requirements, provide products by one of the following:
         1) Eastman Chemical Company

         2) Kuraray America, Inc, or approved equal.

      b. Construction: Laminate glass with polyvinyl butyral interlayer or ionoplast interlayer as recommended by the manufacturer that meets performance requirements.

c. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.

d. Interlayer Color: Clear unless otherwise indicated.

2.03 GLAZING UNITS

A. Double-Glazed Sputter-Coated Insulating Glass Units:

1. Outboard Lite: Sputter-coated Clear Float glass.
   a. Clear Float Glass: ASTM C1036, Type 1, Class 1, Quality q3.

   b. Coating on Surface No. 2: Guardian SunGuard SunGuard® SNX 51/23, or approved equal.

   c. Glass Thickness: 1/4" (6mm).

   d. Heat Treatment: Kind FT; CPSC 16CFR-1201; ANSI Z 97.1 as necessary to meet applicable codes and performance requirements.

2. Air Space: 12.7mm wide, hermetically sealed, dehydrated 90% Argon space.

3. Inboard Laminated Glass Unit:
   a. Conformance: ASTM C 1172, CPSC 16CFR-1201

   b. Inner Lite:
      1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.

      2) Coating on No. 3 surface: [None].

      3) Glass Thickness: 6 mm (1/4 inch).

      4) Heat Treatment: Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201.

   c. Interlayer: Polyvinyl butyral (PVB) plastic interlayer, clear, 0.060 inch thick.

   d. Inboard Lite
      1) Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.

      2) Vacuum Deposition Sputtered Coating: ASTM C 1376.

      3) Coating on No. 6 surface: SunGuard IS 20, or approved equal.

      4) Glass Thickness: 6 mm (1/4 inch).

      5) Heat-Treatment: Tempered; ASTM C 1048, Kind FT; CPSC 16CFR-1201.

4. Glass Unit Performance Characteristics:
   a. Visible Light Transmittance: 48 %

   b. Visible Light Reflectance Outdoors: 14 %

c. Winter U-Value Nighttime: 0.238 Btu/hr·ft²·F

d. Summer U-Value Daytime: 0.209 Btu/hr·ft²·F

e. Solar Heat Gain Coefficient: 0.23

B. Edge Seals: ASTM E 2188, with aluminum spacers, dual-sealed with a primary seal of polyisobutylene and a secondary seal of silicone sealant for glass-to-spacer seals.

2.04 GLAZING COMPOUNDS

A. Polyurethane Sealant: Single component, chemical curing, nonstaining, nonbleeding; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 20 to 35; color as selected.

B. Silicone Sealant: Single component; neutral neutral curing; capable of water immersion without loss of properties; nonbleeding, nonstaining; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; ; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25 15 to 25; color as selected color as selected.

2.05 ACCESSORIES

A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) by width of glazing rabbet space minus 1/16 inch (1.5 mm) by height to suit glazing method and pane weight and area.

B. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.

1. Width: As required for application.

2. Thickness: As required for application.

3. Spacer Rod Diameter: As required for application.

C. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent, designed for compression of 25 percent to effect an air barrier and vapor retarder seal.

PART 3 - EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 INSTALLATION, GENERAL

A. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

3.03 INSTALLATION - WET/DRY GLAZING METHOD (TAPE AND SEALANT)

A. Application - Interior Glazed: Set glazing infills from the interior of the building.

B. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

D. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.

E. Install removable stops, spacer shims inserted between glazing and applied stops at 24 inch (610 mm) intervals, 1/4 inch (6 mm) below sight line.

F. Fill gaps between pane and applied stop with sealant to depth equal to bite on glazing, to uniform and level line.

G. Carefully trim protruding tape with knife.

3.04 FIELD QUALITY CONTROL

A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

B. Monitor and report installation procedures and unacceptable conditions.

3.05 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.06 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

Birkhimer Emergency Operation Center (EOC) UPGRADES AND IMPROVEMENTS
State of Hawai'i, Department of Defense,
Job No. CA-202313-C

Adjutant General
State Department of Defense
3949 Diamond Head Road
Honolulu, Hawai'i 96816-4495

Dear Sir:

The undersigned has carefully read and understands the terms and conditions specified in the Specifications, and all documents attached hereto, and hereby submits the following offer to perform the work specified herein, all in accordance with the true intent and meaning thereof. The undersigned further understands and agrees that by submitting this offer, 1) he/she is declaring his/her offer is not in violation of Chapter 84, Hawai'i Revised Statutes, concerning prohibited State contracts, and 2) he/she is certifying that the price(s) submitted was (were) independently arrived at without collusion.

The undersigned represents: **(Check √ one only)**

☐ A **Hawai'i business** incorporated or organized under the laws of the State of Hawai'i, **OR**

☐ A **Compliant Non-Hawai'i business** not incorporated or organized under the laws of the State of Hawai'i. Business shall be registered prior to award at the State of Hawai'i Department of Commerce and Consumer Affairs Business Registration Division to do business in the State of Hawai'i. State of incorporation: _____

Offeror is:

☐ Sole Proprietor ☐ Partnership ☐ Corporation ☐ Joint Venture

☐ Other _____

Federal I.D. No.: _____

Hawai'i General Excise Tax License I.D. No.: _____

Payment address (other than street address below): _____

City, State, Zip Code: _____

Business address (street address): _____

City, State, Zip Code: _____

Respectfully submitted:

(x) _____
Authorized (Original) Signature (*1)

Date: _____

_____
Name and Title (Please Type or Print)

Telephone No.:

_____

*_____
Exact Legal Name of Company (Offeror) (*2)

Fax No.: _____

(*2) If Offeror is a "dba" or a "division" of a corporation, furnish the exact legal name of the corporation under which the awarded contract will be executed:

E-mail Address:

_____ _____

(*1)
Original signature in ink. If unsigned or the affixed signature is a facsimile or a photocopy, the offer shall be automatically rejected unless accompanied by other material, containing an original signature, indicating the Offeror's intent to be bound.

The undersigned has carefully examined the attached plans and specifications and hereby proposes to furnish at his own expense all labor, materials, tools and equipment necessary to construct all work as shown and called for, in strict accordance with the specifications, schedules and drawings pertaining thereto, all for the LUMP SUM of:

_____ DOLLARS ($_____).

(Including the cost of delivery, unloading, freight charges, all applicable taxes, and other cost involved) and will fully complete all the work under this contract within 400 consecutive calendar days from the date of commencement specified by the written order of the Adjutant General including the date of said order.

The undersigned hereby provides a breakdown of the LUMP SUM amount of the base bid items and bid alternates.

Base Bid Item	Base Bid Item	Cost/Month	Cost
1	Lump Sum Base Bid (excluding base bid items 2 & 3)	N/A	
2	Warranty for Div 15 & 16 for **24** months.		
3	Allowance for one work stoppage up to 14 consecutive calendar days for an emergency event that might require the full, uninterrupted use of the Birkhimer Tunnel, PSB, and B303 facilities, including use of the access roads and parking lot, by HI-EMA.	N/A	55,300

Bid Alternates (see section 01230 – ALTERNATES for description)		
Bid Alternate No	Description	Cost
A	All work associated with light fixture replacement in the Admin section of building B303	
B	All work associated with the installation of the new smart electric meter	
C	All work associated with the installation of the new smart water meter	
D	All work associated with the installation of the new smart electric meter	
E	All work associated with the installation of the new smart water meter	
F	All work associated with Bathroom plumbing upgrades	
G	All work associated with the installation of the new smart electric meter	

NOTE:

1. State wage rates apply to this contract.

2. Evaluating Bids: The lowest responsive, responsible bid is determined by the following procedures:
   A. Chapter 103D, HRS, which provides for the preferences, shall apply.
   B. The total lump sum bid price is adjusted to reflect the applicable preferences. For projects with alternates, the total lump sum base bid price and alternates will be adjusted to reflect the applicable preferences.
   C. Project control budget is established prior to the submission of bids.
   D. If there is more than one alternate for a project, the State will determine the precedence of the alternates for each project prior to the submission of bids.
   E. The project will be evaluated based on the adjusted bid price.
   F. The State reserves the right to determine the extent of the contract by selecting and/or omitting bid items (not necessarily in sequence) to the extent required to come within the funds available for the project. The award of the contract shall be made to the responsible bidder whose total bid is the lowest.

3. The Surety shall not be held liable beyond two (2) years of the project acceptance date.

4. Should the State delete work from the contract scope to bring the project within the available funding in order to make an award, and should additional funding become available at any time after the award, the scope deleted from the contract scope at the prices negotiated, which had been previously deleted from the contract scope, may be restored back into the contract scope by the state, at its discretion, as the additional funding may accommodate. The Contractor shall not be entitled to any price increases from the original prices negotiated.

5 Contractor shall submit long lead items upon contract Award. See Section 01100 for further information.

HAWAIʻI PRODUCTS PREFERENCE

In accordance with ACT 175, SLH 2009 the Hawaiʻi Products preference is applicable to this solicitation. Hawaiʻi products may be available for those items noted on the offer form.
The Hawaiʻi Products List is available on the State Procurement Office (SPO) website at http://spo.hawaii.gov/ search for "Hawaiʻi Product Preferences".

Offeror offering a Hawaiʻi Product (HP) shall identify the HP on the solicitation offer pages. Any person desiring a Hawaiʻi product preference shall have the product(s) certified and qualified if not currently on the Hawaiʻi Products list, prior to the deadline for receipt of offer(s) specified in the procurement notice and solicitation. The responsibility for certification and qualification shall rest upon the person requesting the preference.

Persons desiring to qualify their product(s) not currently on the Hawaiʻi Product list shall complete form SPO-38, *Certification for Hawaiʻi Product Preference,* and submit to the Department of Defense, Contracting Officer, and provide all additional information required by the Contracting Officer no later than 4:30pm, fifteen (15) calendar days prior to the bid opening date. For each product, one form shall be completed and submitted (i.e. 3 products should have 3 separate forms completed). The form is available on the SPO webpage at http://spo.hawaii.gov/ search for "Forms" and select form SPO-38.

Late submittals for this project will not be reviewed by the Department.

Change in Availability of Hawaiʻi Product
In the event of any change that materially alters the offeror's ability to supply Hawaiʻi Products, the offeror shall immediately notify the Contracting Officer in writing and the parties shall enter into discussions for the purposes of revising the contract or terminating the contract for convenience.

Offerors shall indicate in the Hawaiʻi Product Schedule below whether the pre-approved Hawaiʻi Products are offered. Offerors offering a Hawaiʻi Product shall fill-in the quantity, unit measure, unit price and total price for the Hawaiʻi Product they desire to be considered for preference. Products not pre-approved shall not be considered. Hawaiʻi Products not meeting the requirements of the specification shall not be considered.

Offerors selecting the Hawaiʻi Product preference may be required to submit additional information on the cost basis of their selected Hawaiʻi Product preference items when requested after the bid opening to verify cost of the Hawaiʻi Products, including the computations for the estimated quantities, manufacturer's or supplier's quotations, and delivered material cost Free on Board (FOB) at the jobsite. The Hawaiʻi Product Cost shall not include installation costs.

Hawai‘i Products available for this project are as follows:

Product Description	Class I, II or III	Manufacturer	Cost
			$
			$
			$
			$
			$
			$
			$

APPRENTICESHIP AGREEMENT PREFERENCE

The estimated value of the public works contract is $250,000 or more and the apprenticeship agreement preference pursuant to Hawai‘i Revised Statutes §103-55.6 (Act 17, SLH 2009) **shall apply**.

1. If applicable to this project, any bidder seeking the preference must be a party to an apprenticeship agreement registered with the State Department of Labor and Industrial Relations (DLIR) at the time the bid is submitted for each apprenticeable trade the bidder will employ to construct the project. “Employ” means the employment of a person in an employer-employee relationship.

   a. The apprenticeship agreement shall be registered with the DLIR and conform to the requirements of Hawai‘i Revised Statutes Chapter 372.

   b. Subcontractors do not have to be a party to an apprenticeship agreement for the bidder to obtain the preference.

   c. The bidder is not required to have apprentices in its employ at the time the bid is submitted to qualify for the preference.

2. A bidder seeking the preference must state the apprenticeable trade the bidder will employ for each trade to be employed to perform the work by submitting a completed **signed original** *Certification of Bidder’s Participation – Form 1* verifying participation in an apprenticeship program registered with the DLIR. “Apprenticeable

trade" shall have the same meaning as "apprenticeable occupation" pursuant to Hawai'i Administrative Rules (HAR) §12-30-5.

a. The *Certification of Bidder's Participation – Form 1 s*hall be authorized by an apprenticeship sponsor listed on the DLIR list of registered apprenticeship programs. "Sponsor" means an operator of an apprenticeship program and in whose name the program is approved and registered with the DLIR pursuant to HAR §12-30-1.

b. The authorization shall be an original signature by an authorized official of the apprenticeship sponsor.

c. The completed *Certification of Bidder's Participation – Form 1* for each trade must be submitted with the bid. A facsimile or copy is acceptable to be submitted with the bid, however the signed original must be submitted within five (5) working days of the bid open date. If the signed original is not received within this timeframe, the preference may be denied. Previous certifications shall not apply.

d. When filling out the *Certification of Bidder's Participation – Form 1*, the name of Apprenticeable Trade and Apprenticeship Sponsor must be the same as recorded in the List of Construction Trades in Registered Apprenticeship Programs that is posted on the State Department of Labor and Industrial Relations website. "Registered apprenticeship program" means a construction trade program approved by and registered with the DLIR pursuant to HAR § 12-30-1 and §12-30-4.

e. The *Certification of Bidder's Participation – Form 1* and the List of Construction Trades in Registered Apprenticeship Programs is available on the DLIR website at: http://hawaii.gov/labor/wdd

3. Upon receiving the *Certification of Bidder's participation – Form 1,* the Procurement Officer will verify that the apprenticeship program is on the List of Construction Trades in Registered Apprenticeship Programs and that the form is signed by an authorized official of the Apprenticeship Program Sponsor. If the programs and signature are not confirmed by the DLIR, the bidder will not qualify for the preference.

4. If the bidder is certified to participate in an apprenticeship program for each trade which will be employed by the bidder for the project, a preference will be applied to decrease the bidder's bid amount by five (5) percent for evaluation purposes.

5. Should the bidder qualify for other preferences (for example, Hawai'i Products), all applicable preference shall be applied to the bid price.

6. If the winning bidder has submitted Form 1 with his bid packet, the Form 2 will be required the first week of each month for the prior month beginning with the month of the start of work.

CHARACTER OF WORKERS OR EQUIPMENT

The Contractor shall perform with his own organization, work amounting to not less than twenty percent (20%) of the total contract cost. The Engineer may require the Contractor to verify the percentage of work he will be providing with his own organization by furnishing pertinent information such as all of the actual subcontractor(s)' quotations he received for the bid. If requested, the Contractor shall provide such verification within 5 working days of the request.

CERTIFICATION FOR SAFETY AND HEALTH PROGRAM FOR BIDS IN EXCESS OF $100,000

In accordance with HRS 396-18, by submitting this proposal, the undersigned certifies that his company will have a written safety and health plan for this project that will be available and implemented by the Notice to Proceed date of this project. Details of the requirements of this plan may be obtained from the Department of Labor and Industrial Relations, Occupational Safety and Health Division (HIOSH).

TAX CLEARANCES FROM THE STATE DIRECTOR OF TAXATION AND INTERNAL REVENUE SERVICE

Contractors are required to provide a state and federal tax clearance as a prerequisite to entering into a public contract of $2,500 or more. To meet this requirement, all bidders shall submit valid tax clearances with their bid proposals when the bid is $2,500 or more.

Failure to submit the required tax clearance may be sufficient grounds for the State to refuse to receive or consider the prospective bidder's proposal.

In accordance with Act 190 Amendment to HRS 103D-310©, required as a prerequisite to entering into a contract, the contractor shall register on the Hawai'i Compliance Express web site for all tax clearances by going to http://vendors.ehawaii.gov and registering there.

A Certificate of Vendor Compliance generated from this website should be included with their bid proposal. A Compliant status is required prior to awarding the contract.

LICENSE

Due to the nature of the work contemplated, bidder must possess a valid State of Hawai'i Contractor's license in the appropriate classification.

1. The Adjutant General or his designated representative reserves the right to reject any and/or all bids and waive any defects when, in his opinion, such rejection or waiver will be in the best interest of the State.

2. The award of the contract shall be conditioned upon funds being made available for these projects and further upon the right of the Adjutant General or his designated representative to hold all bids received for a period of one hundred eighty (180) days from the date of the opening thereof, unless otherwise required by law, during which time no bid may be withdrawn.

3. The liquidated damages per working day for failure to complete the work on time shall be **$2,600 per working day** or as stipulated in the General Conditions, whichever is higher.

4. By submitting this proposal, the undersigned is declaring his firm has not been assisted or represented on this matter by an individual who has, in a State capacity, been involved in the subject matter of this contract in the past two years.

5. Upon the acceptance of the proposal by the Adjutant General or his designated representative, the undersigned must enter into and execute a contract for the same and furnish a bond, as required by law. This bond shall conform to the provisions of Section 103D-324 of the Hawai‘i Revised Statutes and any law applicable thereto.

6. If the lowest bid received by the State exceeds the funds available for this project, the State reserves the right to negotiate with the lowest responsible bidder as permitted under Section 103D-302, Hawai‘i Revised Statutes, as amended, to reduce the scope of work and award a contract therefore.

Receipt of the following addenda issued by the Department is acknowledged by the day(s) of the receipt indicated below:

Addendum No. 1 _____ Addendum No. 2 _____
Date
Addendum No. 3 _____ Addendum No. 4 _____

It is understood that failure to receive any such addendum shall not relieve the Contractor from any obligation under this Proposal as submitted. (See Special Notice to Bidders for information regarding addenda.)

ALL JOINT CONTRACTORS & SUBCONTRACTORS TO ENGAGE ON THIS PROJECT

The bidder certifies that the following is a complete listing of all joint contractors or subcontractors covered under Chapter 444, Hawai'i Revised Statutes, who will be engaged by the bidder on this project to perform the nature and scope of work indicated pursuant to Section 103D-302, Hawai'i Revised Statutes, and understands that failure to comply with this requirement shall be just cause for rejection of the bid.

The bidder further certifies that only those joint contractors or subcontractors listed shall be allowed to perform work on this project and that all other work necessary shall be performed by the bidder with his own employees. If no joint contractor or subcontractor is listed, it shall be construed that all of the work shall be performed by the bidder with his own employees.

All bidders must be sure that they possess and that the subcontractors listed in the proposal possess all the necessary specialty licenses needed to perform the work for this project. The bidder shall be solely responsible for assuring that all of the specialty licenses required to perform the work is covered in his bid.

The bidder shall include the license number of the joint contractors or subcontractors listed below. Failure to provide the correct names and license numbers as registered with the Contractor's Licensing Board may cause rejection of the bid submitted.

Complete Firm Name of Joint Contractor or Subcontractor for Lump Sum Bid	License Number	Nature and Scope of Work to be performed

Enclosed herewith as required by law:

Surety Bond
Certificate of Deposit
Certified Check
Cashier's Check
Share Certificate
Legal Tender
(Cross Out Those Not Applicable)

_____ DOLLARS ($ _____).

_____
*Signature

Title _____

_____
Name of Company

_____
Address

_____

_____

Telephone _____

Date _____

HAWAIʻI GENERAL EXCISE TAX

I.D. NO. _____

LICENSE CLASSIFICATION AND/OR SUBCLASSIFICATION NO.

_____

(CORPORATE SEAL)

*Please attach to this page evidence of the authority of this officer to submit bids on behalf of the Company, and also the names and residence addresses of all officers of the Company.

NOTE: Fill in all blank spaces with the information asked for or bid may be invalidated. PROPOSAL PAGES MUST BE INTACT; MISSING PAGES MAY INVALIDATE YOUR BID.

SECTION 00010 - TABLE OF CONTENTS

SECTION 15606 - POL SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes all fuel oil piping and related auxiliary equipment for diesel generator. General requirements include those specified in SECTION 15000 - GENERAL MECHANICAL REQUIREMENTS.

1.02 SUBMITTALS

A. Submittals shall be provided in accordance with SECTION 01300 - SUBMITTALS.

B. Manufacturer's Data:
   1. Fuel Pipe and Fittings.
   2. Valves.
   3. Piping Accessories.
   4. Concrete Encased Aboveground Fuel Storage Tank
   5. Fuel Monitoring Accessories
   6. Manual Fuel Port Accessories

C. Shop Drawings: Piping system and pipe supports.

1.03 WARRANTY

A. All work in this Section shall be under warranty for a period of 2 years from the date of acceptance of the work as a whole by The State. Should any equipment or material fall within this period, the Contractor shall replace or repair that item at no cost for material and/or services, if such is due to faulty workmanship or quality of material furnished.

B. The Contractor shall be responsible for all damage to any part of the premises caused by failure in the equipment furnished under this section for a period of 2 years after the final acceptance of the work as a whole.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Fuel Oil Piping and Accessories:
   1. All pipe and fittings shall be UL 971A listed flexible double wall piping system. Product shall be DoubleTrac by OmegaFlex. Inner layer shall be zero-permeation, corrugated stainless steel pipe with hand extruded polyethylene jacket used for diesel #2. At every bend, provide 45-deg or 90-deg bend fittings. A long radius turn installation without an elbow fitting is not allowed.

2. Steel Piping: Steel piping 2-inches and smaller shall be threaded. Piping joints shall conform to ANSI B31.4.

3. Fuel Oil Piping and Accessories: Aboveground pipe shall conform to ASTM A-53, Schedule 40 black steel seamless pipe. Fittings shall be butt-welded type, ASME B16.3, Class 150. Backing rings shall conform to ASME B31.3 and be compatible with materials being welded. Flanges and flange fittings shall be ASME B16.5, steel flanges or convoluted steel flanges which meet the criteria of ASME BPVC VIII D1. Flange faces shall have integral grooves of rectangular cross section which afford containment for self-energizing gasket material.

B. Valves: Ball valve, 150# class, socket weld, API 607 fire safe, Apollo 83-400 series, Jomar Model S-CS-2001N-SS-4B or approved equivalent.

C. Weatherproof Vent Cap: Cast- or malleable-iron with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

D. Fuel Oil Vent Piping and Accessories: ASTM A 53 standard weight, zinc coated steel with zinc-coated malleable iron fittings ASME B16.3.

E. Air Vent and Low Point Drain Valves: 1/2" ball valve, Class 150, MSS SP-72 for flanged or butt-welded ends. Stockham or equal.

F. Anti-Siphon Valves: Tank manufacturer shall provide UL listed bronze-bodied angle check valve with pressure relief, sized per tank manufacturer's recommendations. Provide with strainer upstream of anti-siphon valve.

G. Dielectric Unions: Provide dielectric unions between ferrous and non-ferrous piping, Class 150.

H. Check Valve: Swing check, 150# Class, threaded ends.

I. Gaskets and Seals: All gaskets and seals in contact with fuel shall be non-asbestos material.

J. Watertight Link Seal: Provide belt of linking rubber sections to form a mechanical seal between pipes and conduit penetrating retaining walls, floors, or tanks. Belt is to provide a watertight seal to withstand up to 20 PSIG. Proper size model and number of sections are to be chosen for application, and rubber to be made from EPDM or Nitrile. Metal hardware in galvanized carbon steel or 316 stainless steel.

K. Piping Accessories:
1. Flexible Fuel Hose: Flexible metal hose, corrugated type with braided wire sheath covering, close-pitch annular corrugations, rated for a working pressure of at least 125 psig, 8-inch minimum live length, flanged end connections, UL Listed for flammable liquid service. Metal for hose and braided wire sheath shall be stainless steel, any type of ASTM 300 Series.

2. Unions: ANSI B16.39, 150 lb and 250 lb.

3. Hangers and Supports: MSS SP-58, types as required by MSS SP-69. Hanger rods shall be galvanized.

4. Foot Valve: self-activating, double-poppet, shutoff type that prevents fuel flow from reversing. Valve shall conform to NFPA 30. Valve body shall be constructed of either cast steel or aluminum. Valve shall be provided with a minimum 20 mesh stainless steel screen on the intake. Valve seats shall be the replaceable type. Valve shall be capable of passing through a 75 mm 3 inches pipe or tank flange.

5. Strainer - bottom clean-out Y-type line strainers with 304 SS gasket and 20 mesh screen.

L. Overfill Prevention Valve:
1. Install at the fill port of AST-1

2. Top fill set up.

3. Coordinate with AST-1 supplier for fitting size.

4. Morrison Bro. Company Model 9095A-AV

M. Solenoid Valve:
1. Aluminum body with Viton diaphragm, Seals, and Disc, Stainless Steel springs, comparable with Diesel #2.

2. POW 821 Solenoid Valve.

N. Fuel Monitoring System:
1. Automatic Tank Gauge System for complete fuel management. Minimum of 6 tank probes and 6 sensor inputs. Delivery detection and reporting.

2. Provide NEMA 4R Stainless steel enclosure.

3. Provide Ethernet IP module.

4. See drawings for sensors and fuel level management and alarm.

O. Manual Fuel Port System with Tank Alarm Panel:
1. Provide Fuel Port with flush wall-mounting flange.

2. Provide with weatherproof, lockable box with spill containment.

3. Provide with quick disconnect hose coupling with dust plug.

4. Provide with hand pump for spill containment, with shutoff and check valve.

5. Provide with Tank Alarm Panel in NEMA-4R, lockable enclosure with hinged door.

2.02 ABOVEGROUND PRIMARY CONTAINED STEEL TANK WITH INSULATED SECONDARY CONTAINMENT

A. Primary Contained Steel Tank with Insulated Secondary Containment:

1. Provide a factory-assembled unit that includes a primary storage tank. Tank assembly shall be in accordance with NFPA 30 and NFPA 30A and be designed and manufactured for a rectangular installation. The concrete encased secondary fuel containment aboveground storage tank shall conform to UL 2085. The primary storage tank shall be factory-welded, steel that conforms to UL 142. Tank assembly shall be mounted on the tank manufacturer's standard UL listed support skid that elevates the tank assembly above the underlying concrete slab a minimum (4 inches). Clearance allows for lifting straps for tank relocation.

2. The primary steel tank shall be pressure tested at 5 psig for 24 to 48 hours.

3. The primary steel tank shall have "emergency vent" system as per NFPA 30 Code requirements.

4. The protected and insulated AST systems shall have a thru-tank leak detector tube to allow for physical checkup and monitoring capability between the primary and the secondary containment.

5. The primary steel tank shall be pressurized at 5 psig during concrete encasement.

6. The outer surface of the primary steel tank shall be covered by a minimum of 1/4" thick (6.4 mm) Styrofoam insulation panels.

7. The primary steel tank shall be encased in six inches of monolithic reinforced concrete, with minimum design strength of 4,000 and 5,000 psi at 28 days depending on the tank size. The concrete design shall include the following for long-term durability: air entrainment, water reducing admixture, and steel reinforcement. Concrete encasements with seams will not be approved.

8. The protected and insulated AST systems shall be of concrete exterior and a continuous and visually verifiable monolithic (seamless) pour on top, bottom, ends, and sides and contain no cold joints or heat sinks (heat transfer points). The AST must be shop fabricated and tested in accordance with the UL listings. Designs that use two layers of steel with insulation material between them will not be approved.

9. No steel or insulating material shall come in contact with the concrete or other corrosive material.

10. All openings shall be from the top only. All exposed metal with the exception of stainless steel must be powder coated to inhibit corrosion.

11. The protected and insulated AST systems shall include a 7 or 15-gallon powder coated or stainless steel, UL listed spill containment, and shall include normally closed valve to release spilled product into the primary steel tank. Spill containment which route the spilled product into interstitial area will not be approved

12. The protected and insulated AST systems shall have a coated concrete exterior to resist weather and reflect sunlight. Models with steel exteriors will not be approved.

13. The protected and insulated AST systems shall have a warranty of 30 years for systems 2,000 gallon capacity and larger and 20 years for systems 1,000 gallon capacity and smaller with optional 30-year warranty.

14. The protected and insulated AST systems design shall have been in use for a minimum of 20 years. The manufacturer must stipulate no reportable AST containment system failure in 30,000 units produced.

15. The protected and insulated AST systems shall have 2 bolts for connecting grounding conductors for lightning protection in accordance with NFPA 780.

16. All fittings shall be of stainless steel.

17. Provide an additional layer of tank coating.

18. Provide with NFPA compliant Hazmat signage.

19. Provide prefabricated tank access ladder or steps.

20. Provide with a manufacturer provided exterior color finish of Prairie Dusk 9242-M with smooth texture (For AST on Birkhimer Building only).

21. Provide with a manufacturer provided exterior color finish of Alpine White 9100-P with smooth texture (For AST on Building 303 only).

2.03 FUEL TANK CONTROL AND MONITORING

A. Control and Monitoring Digital Display Panel:
   1. UL508 listed. Type 3R Enclosure for outdoor usage.

   2. PLC based, 6-inch touch-panel operator interface.

   3. Network capable, IP address capable.

   4. Spare I/O for options, MODBUS and Ethernet network compatible 4-20 mA loop output.

   5. Relay dry contact outputs.

   6. Provide with digital fuel tank level gauge for AST-1.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General Installation Requirements for Piping:

1. Piping: Install piping in out-of-the way locations. Piping shall be free from traps and shall drain toward tank and equipment. Installation of oil piping and equipment in buildings shall conform to NFPA 31, except as indicated or specified herein. Feed line to equipment shall have a gate valve located near tank. Piping shall follow the general arrangement shown. Cut piping accurately to measurements established for the work. Work piping into place without springing or forcing, except where cold-springing is specified. Piping and equipment within buildings shall be entirely out of the way of lighting fixtures and doors, windows and other openings. Locate overhead piping in buildings in the most inconspicuous positions. Do not bury or conceal piping until it has been inspected, tested and approved. Where pipe passes through building structure, pipe joints shall not be concealed, but shall be located where they may be readily inspected and building structure shall not be weakened. Avoid interference with other piping, conduit or equipment. Except where specifically shown otherwise, vertical piping shall run plumb and straight and parallel to walls. Piping connected to equipment shall be installed to provide flexibility for vibration. Adequately support and anchor piping so that strain from weight of piping is not imposed on the equipment.

2. Fittings: Use long radius ells where appropriate to reduce pressure drops. Mitering of pipe to form elbows, notching straight runs to form full sized tees or any similar construction shall not be used.

3. Cleaning: Before jointing and erection of piping thoroughly clean interiors of pipe sections and components. In steel pipe, loosen scale and other foreign matter by rapping sharply and expel by wire brush and swab. Blow out both steel pipe and components with compressed air at 100 psig or more. Maintain cleanliness by closure of pipe openings with caps or plugs. Before making final terminal connections, blow out complete system with compressed air at 100 psig or more.

4. Changes in Pipe Size: Use reducing fittings for changes in pipe size. The use of bushings will not be permitted.

5. Pipe Sleeves: Provide pipe sleeves where pipes and tubing pass through masonry or concrete walls. Sleeves in outside walls above grade shall be steel pipe. Space between pipe, tubing, or insulation and the sleeve shall be not less than 5-inch. Hold sleeves securely in proper position and location before and during construction. Provide sleeves of sufficient length to pass through entire thickness of walls. Extend sleeves in floor slabs 1/2-inch above finished floor. Firmly pack space between the pipe or tubing and sleeve with oakum, and calk on both ends of sleeve with elastic cement.

6. Wall Plates: Secure plates to pipes at sleeves in buildings. All plates shall be painted cast-iron, malleable iron, or steel.

7. Steel Piping: Steel piping 2-inches and smaller shall be threaded. Piping joints shall conform to ANSI B31.4.

8. Screwed Joints in Piping: Use cylinder oil and graphite or graphite pipe-joint compound applied to male threads only for making up screwed joints. Red or white lead and zinc compound may be used. Lubricate threaded pipe joints, as well as bolts and studs used on high temperature pipe joints up to 1050°F, with anti-seize compound. Piping shall be free from fins and burrs. Ream or file out pipe ends to size of bore and remove chips.

9. Unions: Place unions where necessary to permit easy disconnection of piping and apparatus. Each connection having a screw end valve shall have a union. Unions shall be as specified.

10. Valves: Install valves in positions accessible for operation and repair.

11. Install Double Trac double wall pipe in accordance with manufacturer's instructions.

3.02 FIELD TESTS

A. Tests: Prior to application of test pressure, install a currently calibrated test gage in the system and remove or valve off piping components which may be damaged by test. Maintain test pressure for at least one-hour. In the event of leakage, locate and repair leak and repeat test. Submit 3 copies of test reports to the Contracting Officer for all tests.
   1. Piping Test: Perform hydrostatic test of fuel oil piping with diesel fuel-oil at 1-1/2 times system pressure or 100 psig whichever is greater.

3.03 SHOP DRAWING

A. Provide shop drawing for engineer's review and approval prior to commencing anyway work.
   1. Clearly indicate route of piping, fuel tank, and other equipment

   2. Include phasing, and sequence of work.

END OF SECTION

SECTION 15607 - NONMETALLIC UNDERGROUND PIPING FOR PETROLEUM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. The General Provisions of the contract, including General and Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.
   1. SECTION 15606 - POL SYSTEMS.

B. References:
   1. AMERICAN PETROLEUM INSTITUTE (API)
      a. API Spec 6D: (2002; Errata 2005) Specification for Pipeline Valves

      b. API 1615 (R2001)

   2. ASTM INTERNATIONAL (ASTM)
      a. ASTM A 53/A 53M: (2007) Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

      b. ASTM C 920: (2005) Standard Specification for Elastomeric Joint Sealants

      c. ASTM C 94/C 94M: (2007) Standard Specification for Ready-Mixed Concrete

   3. MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)
      a. MSS SP-72: (1999) Standard for Ball Valves with Flanged or Butt-Welding Ends for General Service

1.02 DESCRIPTION OF WORK

A. This specification covers the requirements for design, installation, and testing of buried coaxial nonmetallic fiberglass piping for petroleum products in underground locations.

1.03 QUALITY ASSURANCE

A. Submit a manufacturer’s certification that the fiberglass piping systems products are qualified to accommodate and operate on diesel oil #2, jet fuel, conforming to ASTM D1655, and biodiesel, conforming to ASTM D6751-07b.

B. Submit a manufacturer's certified list of contractor personnel qualified to install and join the fiberglass piping. Personnel not on the list will not be permitted to install and join fiberglass piping.

C. Upon completion of the project and before final acceptance, deliver a statement signed by the principal officer of the contracting firm stating that the installation is

satisfactory and in complete accordance with the contract plans and specifications and the fiberglass pipe manufacturer's prescribed procedures and techniques.

D. The pipe and fittings shall be free from defects including delaminations, indentations, pinholes, foreign inclusions, bubbles and resin-starved areas which, due to their nature, degree or extent, detrimentally affect the strength and serviceability of pipe or fittings. The pipe and fittings shall be as uniform as commercially practicable in color, opacity, density and other physical properties.

1.04 SUBMITTALS

A. Submit in accordance with SECTION 01300 - SUBMITTALS.

B. Provide product data for the following in accordance with manufacturer’s standards:
   1. Fiberglass pipe and fittings.
   2. Adhesive.
   3. Valves.

C. Provide shop drawing for the piping system.

D. Provide the following test reports:
   1. Initial pneumatic tests.
   2. Second pneumatic tests.
   3. Hydrostatic test.
   4. Hydrostatic cycle test.
   5. Operational test.

E. Provide the list of qualified installers for the fiberglass piping system.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Fiberglass piping system shall conform to the respective specifications and standards and to the requirements specified herein. Pipe, fittings, and joint adhesives shall be supplied by the same manufacturer.

B. Fiberglass Pipe: All filament-wound pipe shall contain a resin-rich inner liner with a minimum thickness of 0.015 inches. The liner resin system shall be a chemically resistant epoxy resin that has been demonstrated to be satisfactory for the intended service.
   1. Structural Wall: The resins, reinforcements, colorants and other materials when combined as a composite laminate structure shall meet the

performance requirements of this specification. Glass fiber reinforcement shall be Type E glass with an epoxy-compatible finish. Glass fiber content shall not be less than 60% by weight of the reinforced structural wall.

2. Exterior Coating: The pipe exterior shall have a 0.005-inch (0.13 mm) thick resin-rich coating with an organic fibrous reinforcement.

3. Pipe Dimensions: Pipe shall be manufactured to steel pipe outside diameters for all sizes. Pipe outside diameter tolerances shall not exceed ±1%.

4. Wall Thickness: The total wall thickness of pipe furnished under this specification shall not at any point be greater than 120% nor less than 87.5% of the nominal thickness.

5. Joining Methods:
   a. Tapered Bell X Spigot Adhesive-Bonded Joints: Pipe and fittings shall be joined by means of a matching taper adhesive joint. Adhesives used for joining components shall be compatible with all intended fluids. The adhesive systems shall be used in accordance with the manufacturer's recommendations.

   b. Adapters and Crossovers: The following adapters and crossovers shall be provided as required:

      Bell 2" NPP threaded female
      Bell 2" NPT threaded male
      Spigot 2" NPT threaded female
      Spigot 2" NPT threaded male

6. Flanges: Flanges shall be two-piece type with raised grooves on the sealing face. Fiberglass-reinforced stub ends are to be adhesive bonded to the pipe of fitting.

7. O-rings, seals, gaskets, hoses and other elastomers shall be Viton, and if not, then must be diesel, biodiesel, and Jet-A fuel compatible material.

C Fittings: Fittings material shall be compression-molded and filament-wound fiberglass reinforced epoxy.

D. Vent and Drain Valves: Stainless steel or aluminum construction.

E. Valve Boxes: For each buried valve provided cast-iron, ductile-iron, or plastic box of a suitable size. Provide cast-iron, ductile-iron, or plastic cover for the box with "FUEL OIL" cast on the cover. Plastic boxes shall be constructed of ABS plastic or inorganic fiber-reinforced black polyolefin plastic. Coat cast-iron and ductile-iron boxes with bituminous paint.

PART 3 - EXECUTION

3.01 FIBERGLASS PIPING FIELD ASSEMBLY

A. Fiberglass piping field assembly shall be in accordance with the manufacturer's written instructions and installation procedures as approved by the government. Submit design and installation drawings that indicate and detail recommended installation procedures including provisions for expansion, anchors, thrust blocks, supports, vent, and drain connections.

1. Inspection: Prior to preparation and assembly, the Contractor shall inspect pipe for physical damage and make repairs in accordance with the manufacturer's written instructions, except over wrapping the damaged of faulty area with any type patch or other material will not be permitted.

2. Adhesive Mixing and Application: Adhesive materials, mixing, and application shall be in accordance with manufacturer's instructions including limitations on adhesive shelf life and pot life.

3. Assembly and Alignment: Assemble fiberglass pipe and fittings according to manufacturer's instructions. Proper alignment must be maintained during assembly so that twisting or straightening is not required after joining. Misalignment shall not exceed 1/16 inch or one degree prior to application of adhesive.

4. Curing: Cure fiberglass pipe joints and fitting joints according to the manufacturer's instructions. Heating devices shall be as recommended by the fiberglass pipe manufacturer. Do not move, vibrate, or otherwise disturb joints during curing of adhesive.

5. Connections to Metal Pipe: Use flanged connections between fiberglass pipe and metal pipe with the metal pipe anchored within 5 feet of the connection. Do not transmit expansion and load forces of metal piping to the fiberglass pipe. Do not bury metal-to-fiberglass connections. Install washers under bolt heads and nuts on flanges, and torque bolts in accordance with manufacturer's requirements.

6. Air Vents and Low Point Drains: Install hand operated air vent valves at all high points in the piping. Install hand operated low point drain valves at low points in the piping.

7. Pitch: Pitch horizontal buried fuel piping, unless otherwise indicated, with a downward grade of not less than one inch in 50 feet in the direction of low point drains.

B. Fiberglass Pipe Installation:

1. Pipe Assembly: Visually inspect the inside of each length of pipe to ensure that it is clear and clean prior to installation. Not more than 40 foot lengths of fiberglass pipe can be assembled over or beside the trench. Assemble greater lengths in the trench. Assemble outside the trench on timbers with the pipe blocked to hold alignment. Lower pipe into the trench in accordance with the manufacturer's recommendations. Lowering operation shall not

move or disturb fiberglass pipe where joints are being assembled and cured. Block and support fiberglass pipe assembled in the trench with bedding to hold alignment.

2. Bending of Fiberglass Pipe: Limit bending of pipe to follow ditch contours to long trench curvatures and do not permit abrupt changes in pipeline direction. Bending radii shall not be less than shown in the manufacturer's installation instructions. Do not make bends until all joints in the section of pipe to be bent are cured.

3. Open Ends of the Pipe System: Close the open ends of the pipe system at the end of each day's work or when work is not in progress and keep closed until work is resumed.

C. Manholes and Wall Penetrations: Where an fiberglass pipe penetrates manhole, concrete, masonry, or metal walls, provide a Schedule 40 steel pipe sleeve 2 inches larger than the pipe in accordance with ASTM A 53/A 53M. Each steel pipe sleeve shall be given a coat of bituminous paint. Calk opening between sleeve and pipe with sealing compounds conforming to ASTM C 920, Type S or M, Grade NS, Class 25, use M or FS TT-S-001543, Type Non-Sag, Class A. Install in-line thrust or anchor blocks at least 5 feet outside of manhole or wall penetration.

D. Line Valves: Install line valves with stems vertically up. Provide individual supports and anchors for line valves. Sealed valve box or pit shall prevent soil and moisture contact with valve.

E. Flushing: Prior to hydrostatic testing, flush the fiberglass pipe system with water until piping is free of dirt and foreign matter.

F. Field Inspection and Tests: Furnish everything required for performing inspections and tests. Correct defects and repeat the respective inspections and tests.
   1. Test Gages: Use pressure test gages certified as being accurate to within one percent of their full scale. Use gages with maximum scale between 1 1/2 and 2 times the test pressure.

   2. Field Inspections: Prior to initial operation, inspect piping system for conformance to drawings, specifications, and manufacturer's submittals.

   3. Field Tests:
      a. initial Pneumatic Tests: Pneumatically test all fiberglass pipe and fittings and all fiberglass pipe to metal fittings at a pressure of 15 psig for at least 4 hours during which time brush each joint with a soap solution and examine for leaks. Maintain 15 psig pressure throughout test period. The piping may be tested in sections, but test the entire installation at 15 psig prior to the hydrostatic test. Contractor shall furnish all necessary air compressors, gages, and other equipment necessary for carrying out the tests. No taps in the line are permitted. Isolate equipment such as pumps and filter-separators from the fiberglass piping system during the

test. Prior to starting any pneumatic testing of buried fiberglass pipe, portions of the pipe between all joints must be backfilled in place 24 inches over the top of the pipe as a safety measure.

b. Second Pneumatic Tests: Increase pneumatic pressure on all fiberglass pipe and fittings to 50 psig. Hold pressure for at least 4 hours without a drop in pressure. An allowance of 5 psi may be made for gage error and thermal expansion and contraction. To reduce effects of solar load, begin testing near sundown or provide shade for exposed piping. During 4 hour pressure holding period, valve off system and disconnect method of system pressurization. Rely only on gage pressure for leak detection and provide signs warning personnel to stay clear of trenches during testing.

c. Hydrostatic Test: Hydrostatically pressure test all fiberglass pipe and fittings and all fiberglass pipe to metal fittings using potable water to 1-1/2 times the maximum operating pressure or 225 psig whichever is greater for a period of 4 hours prior to placement of sand bedding and backfill, except as required by paragraph entitled "Initial Pneumatic Test." The operating pressure shall be the sum of the static head pressure, pressure required to overcome friction losses, and any required back pressure. Provide controls and protective equipment so that the level of pressure rise above operating pressure due to surges and other variations from normal operation shall not exceed the test pressure at any point in the piping system. Limit pressure rise to 100 psi per minute at beginning of test and pressure drop to 00 psi per minute at conclusion of test. Air or vapor at all high points in the system must be replaced by the test fluid before testing. Pressure must hold for a minimum of 4 hours with a 4 psi maximum drop. After 4 hours at test pressure and with pressure still applied, visually inspect all pipe, fittings, and joints for indications of weeping or leaking. Repair any weeping or leaking condition discovered in accordance with paragraph entitled "Field Repairs of Pipe and Joints." During 4 hour pressure holding period, valve off system and disconnect method of pressurization.

d. Hydrostatic Cycle Test: Pressure cycle test system at 275 psig or 1-1/2 times the maximum operating pressure, whichever is greater, for 10 cycles. Each cycle shall consist of a one-minute period at 275 psig or 1-1/2 times the maximum operating pressure and a 4 minute period when the pressure is dropped at least 40 percent. Examine system for leaks and porosity, repair in accordance with paragraph entitled "Field Repairs of Pipe and Joints," and repeat test until system is proven tight. After successful completion of hydrostatic test series, cast concrete thrust blocks around fiberglass pipe in accordance with paragraph entitled "Thrust Blocks." After casting thrust blocks, backfill and compact bedding around center portions of fiberglass pipe with thrust blocks and joints clear for observation. Fiberglass pipe must be held in place during operational tests after thrust blocks are installed. The expansion of fiberglass pipe must be absorbed by the fiberglass pipe itself. No expansion will be absorbed by changes in direction of the pipe or by expansion joints in buried systems.

e. Operational Test: Thoroughly dry system of all water and fill with fuel. Verify operation of surge absorbers and system relief valves. Operate complete system as in service with fuel at design flow rates for 48 hours with fuel flowing through the system for 8 hours and flow stopped for 8 hours. Examine system for leaks and porosity. Repair leaks, replace porous pipe, and repeat test until system is proven tight. After successful completion of the test series, backfill trench.

f. Additional Flushing: Flush or re-circulate aviation fuel dispensing system with design specification fuel until station fuel lab tests indicate fuel quality at dispensing point meets cleanliness use limits of:

Particulate matter 8.0 mg/gal
Free water 20 ppm

g. Disposal of Hydrostatic Test Water:
   1) Apply for Temporary Industrial Waste Water Permit (IWDP) prior to any hydrostatic test, and within (20) twenty calendar days of the completion of the discharge event.

   2) Notify State twenty-one (21) calendar days prior to the test and disposition of the water.

   3) Perform the required tests.

   4) Sample the water, and conduct necessary tests to ensure that the effluent complies with the Revised Ordinances of Honolulu (ROH) 14-1.9, as amended, applicable City, State and Federal regulations.

   5) Dispose the water, and complete a self-monitoring report certifying the Row rate of discharge, the exact time and date(s) of discharge, the duration of discharge and total volume of discharge.

   6) Provide one copy of the temporary industrial waste water permit, self-monitoring report, and water sample test results to State, if testing is necessary.

   7) See SECTION 15606 - POL SYSTEMS for other hydrostatic test and procedures to dispose of water.

4. Field Repairs of Pipe and Joints: The Contractor shall be responsible for the repair of all leaks or other deficiencies caused by faulty workmanship or materials. Make repairs to leaking pipe or joints, whatever the cause, by removing and replacing the faulty section or a short length containing the fault. Over wrapping the fault with any type of patch or other material will not be permitted. If a joint is damaged during the laying operation, it can be cut off and a coupling bonded to the cutoff end and laid in the line as a normal pipe. If damage occurs to a pipe after it has been laid, the damaged section

shall be cut out and replaced with a new pipe section in accordance with the manufacturer's instruction.

END OF SECTION

ATTACHMENT B

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

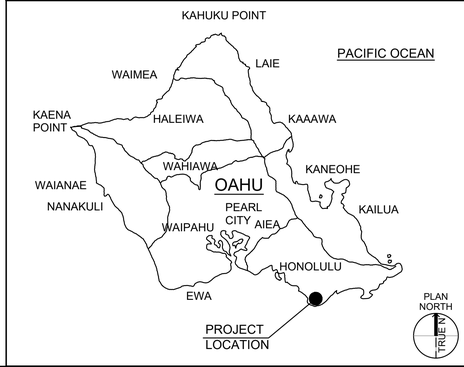
PROJECT NO.: CA-202313-C

TAX MAP KEY: 3-1-042:006 (1)

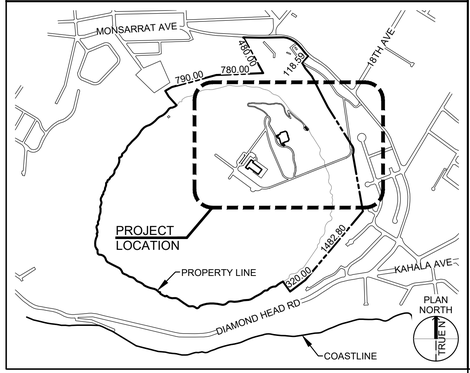
ADDRESS: 4204 DIAMOND HEAD RD

HONOLULU, HI 96816 (1)

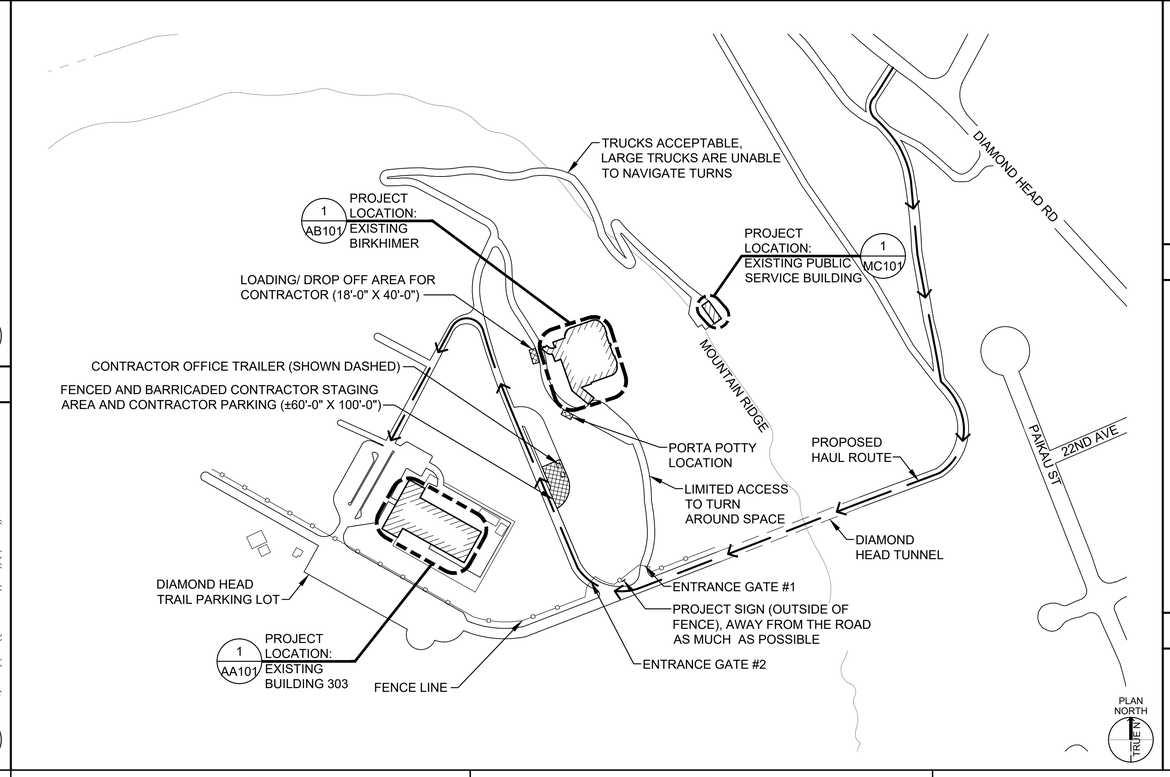
LOCATION MAP (NTS)



VICINITY MAP (NTS)



SITE PLAN (NTS)



DESIGN TEAM

A-E PRIME, ELECTRICAL & MECHANICAL:
INSYNERGY ENGINEERING, INC.
828 FORT STREET MALL, SUITE 500
HONOLULU, HI 96813

ARCHAEOLOGIST:
CULTURAL SURVEYS HAWAII
P.O. BOX 1114
KAILUA, HI 96734

ARCHITECT:
INK ARCH, LLC
650 IWILEI ROAD, SUITE 288
HONOLULU, HI 96817

CIVIL & STRUCTUTAL:
SSFM INTERNATIONAL, INC.
501 SUMNER STREET, SUITE 620
HONOLULU, HI 96817

ENVIRONMENTAL:
MYOUNGHEE NOH & ASSOCIATES
98-025 HEKAHA ST, SUITE 215A
AIEA, HI 96701

GEOTECHNICAL:
HIRATA & ASSOCIATES, INC.
99-1433 KOAHA PL
AIEA, HI 96701

TOPOGRAPHICAL SURVEY:
CONTROLPOINT SURVEYING, INC.
615 PIIKOI ST, SUIITE 700,
HONOLULU, HI 96814

HISTORIC PRESERVATION ARCHITECT:
FUNG AND ASSOCIATES
1600 KAPIOLANI BLVD,
HONOLULU, HI 96814

PROJECT DESCRIPTION

THIS PROJECT INCLUDES BUT IS NOT LIMITED TO:

BUILDING 303
- REPAVE THE EXISTING PARKING LOT
- UPGRADE AIR CONDITIONING SYSTEMS
- UPGRADE EMERGENCY POWER GENERATING SYSTEM INCLUDING A NEW EMERGENCY GENERATOR AND ABOVEGROUND FUEL TANK
- PROVIDE VARIOUS ELECTRICAL UPGRADES INCLUDING NEW LIGHT FIXTURES, AND CIRCUIT BREAKERS
- REPLACE (2) WINDOWS AT STATE WARNING POINT ROOM

BIRKHIMER
- REPLACE EXISTING CIVIL SANITARY MAIN PIPING
- UPGRADE AIR CONDITIONING SYSTEMS
- PROVIDE A NEW EMERGENCY POTABLE WATER SYSTEM
- REPLACE EXISTING U/G FUEL TANK WITH AN ABOVE-GROUND TANK

PUBLIC SERVICE BUILDING
- PROVIDE NEW AIR CONDITIONING SYSTEMS AND ASSOCIATED ELECTRICAL WORK

PROJECT PHASE

CONSTRUCTION DOCUMENTS

3/01/2024

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM 1			
SYM	DESCRIPTION	DATE	APPR.
1		3/21/24	SH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/1/2024
INK | INK | SH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006 (1)

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

TITLE SHEET

SCALE: AS NOTED
STATE JOB NO.: CA-202313-C
FEDERAL PROJECT NO.: -
SHEET 1 OF 123
001

GENERAL NOTES

THE FOLLOWING UNDERLINED TERMS AS USED HEREIN SHALL BE DEFINED AS:

- THE OWNER: DEPARTMENT OF DEFENSE
- THE OWNER'S REPRESENTATIVE: RM TOWILL CORP
- THE DESIGNER ON RECORD (DOR): INSYNERGY

1. LAWS AND ORDINANCES: AS USED HEREIN SHALL MEAN ALL COUNTY, STATE, AND NATIONAL CODES, ORDINANCES, STANDARDS, RULES, AND REGULATIONS OF ANY NATURE WHICH ARE PERTINENT TO, OR REGULATORY OVER, THE WORK COVERED BY THE CONTRACT DOCUMENTS OF THIS PROJECT. ALL CONTRACTORS SHALL COMPLY FULLY WITH ALL APPLICABLE LAWS AND ORDINANCES. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT BUILDING CODE AND THE LATEST STATE OF HAWAII AMENDMENTS OR THE RESPECTIVE CITY AND/OR COUNTY AMENDMENTS BY EACH AGENCY HAVING JURISDICTION OF THE PROJECT.

2. CONFLICT: IN THE CASE OF ANY CONFLICT WHEREIN THE METHODS, OR STANDARDS OF INSTALLATION, OR THE SPECIFIED MATERIALS ARE NOT IN COMPLIANCE WITH THE REQUIREMENTS OF THE LAWS OR ORDINANCES, THE LAWS OR ORDINANCES SHALL GOVERN. IN THE CASE OF A DISCREPANCY IN THE DRAWINGS OR SPECIFICATIONS, BUT NOT DIRECTLY RELATED TO THE PROVISIONS, CODES, OR ORDINANCES, THE CONTRACTOR SHALL 1) PROVIDE THE BETTER QUALITY, OR GREATER QUANTITY OF WORK, OR 2) COMPLY WITH THE MORE STRINGENT REQUIREMENT IN ACCORDANCE WITH THE DESIGNER ON RECORD'S INTERPRETATION, OR 3) REQUEST IN WRITING ADDITIONAL CLARIFICATION OR INFORMATION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ALL CONFLICTS IN WRITING.

3. CONDITIONS OF THE WORK: THE INFORMATION INDICATED ON THE DRAWINGS IS BASED ON LIMITED FIELD INVESTIGATION AND ON THE AVAILABLE RESOURCES AT THE TIME OF DOCUMENT PREPARATION. AS A RESULT, THE ACCURACY AND COMPLETENESS OF THE INFORMATION IS NOT GUARANTEED ON DATE OF COMMENCEMENT OF CONSTRUCTION. THEREFORE, THE CONTRACTOR SHALL VERIFY THE DIMENSIONS SHOWN ON THE DRAWINGS WITH ACTUAL FIELD MEASUREMENTS, EXAMINE THE JOB SITE, VERIFY ALL FIELD CONDITIONS AND PERTINENT DIMENSIONS PRIOR TO PREPARING LAYOUTS, SUBMITTALS, SHOP DRAWINGS, AND/OR ORDERING ANY MATERIAL, AND PROVIDE THE LABOR AND MATERIALS REQUIRED TO COMPLETE THE REQUIRED WORK.

4. WORKMANSHIP: ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER. WORKMANSHIP SHALL BE REPRESENTATIVE OF THE BEST HAWAII INDUSTRY STANDARD OF THE RESPECTIVE TRADES. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING PRIOR TO THE COMMENCEMENT OF WORK, IF THERE ARE ANY DIMENSIONAL DISCREPANCIES, OR IF THERE ARE ANY CONDITIONS THAT EXIST WHICH MAY PREVENT THE CONTRACTOR'S WORKMANSHIP AND PERFORMANCE OF WORK PER CONTRACT DOCUMENTS, AND/OR OF ANY AND ALL ADDITIONAL WORK THAT MAY BE REQUIRED AS A RESULT OF THE OBSERVED CONDITIONS.

5. OMISSIONS: OMISSIONS OF DRAWINGS, OR SPECIFICATIONS, OR THE OMISSIONS OF DETAILS OF WORK WHICH ARE MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, AND/OR WHICH ARE PER HAWAII INDUSTRY STANDARD CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED, OR INCORRECTLY DESCRIBED DETAILS OF THE WORK, BUT SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR UPON DISCOVERY OF OMISSION SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE VERBALLY OF SUCH OMISSIONS AND PROVIDE A WRITTEN STATEMENT OF THE OMISSIONS WITHIN (2) WORKING DAYS OF VERBAL NOTIFICATION.

6. INTENT OF THE DRAWINGS: THE DRAWINGS ARE INTENDED TO DEFINE AND ESTABLISH THE PHYSICAL REQUIREMENTS OF THE PROJECT, I.E., THE DESIGN, LOCATIONS AND DIMENSIONS OF THE WORK, BASED ON RECOGNIZED STANDARDS EVEN IF NOT ACTUALLY SHOWN, BUT REASONABLY INFERRED. THE CONTRACTOR SHALL REVIEW AND VERIFY THE INFORMATION ON ALL DRAWINGS WITHIN A REASONABLE TIME BEFORE PERFORMING ANY WORK AND UPON DISCOVERY OF ANY OMISSION AND/OR CONFLICT IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY OMISSIONS, CONFLICTS AND DISCREPANCIES. THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL SUBCONTRACTORS/TRADES TO ACHIEVE THE DESIGN INTENT AND SPECIFIED REQUIREMENTS AND IS RESPONSIBLE TO COMPLETE ANY AND ALL WORK ASSOCIATED WITH SUCH COORDINATION.

7. TEMPORARY PROTECTION: THE CONTRACTOR SHALL ERECT AND MAINTAIN A TEMPORARY SAFETY BARRICADE A MINIMUM OF 5'-0" OUTSIDE THE PROJECT AREA AS APPLICABLE TO COMPLETELY ENCOMPASS THE PROJECT AREA TO PROTECT THE OCCUPANTS AND THE PUBLIC. THE BARRICADE SHALL REMAIN DURING THE DURATION OF THE PROJECT OR UNTIL APPROVAL IS GIVEN BY THE OWNER'S REPRESENTATIVE FOR ITS REMOVAL. THE TEMPORARY SAFETY BARRICADE MAY BE A DUST BARRIER. A DESIGNATED STAGING AREA WILL BE ALLOWED AT THE PROJECT SITE AS INDICATED ON THE DRAWINGS. STAGING AREA SHALL BE USED FOR MATERIALS, DUMPSTER, HEAVY EQUIPMENT, LIFT, ETC. THE CONTRACTOR SHALL ERECT CONSTRUCTION FENCING AROUND THEIR DESIGNATED STAGING AREA TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING. THE CONSTRUCTION FENCING MAY BE CHAIN LINK OR WOOD. ANY EXTERIOR BARRICADES AND FENCING SHALL BE LOCATED AS REQUIRED AND IN SUCH A MANNER AS TO MAINTAIN AT ALL TIMES ALL REQUIRED FIRE LANES AND FIRE EXITS FROM THE PROJECT BUILDING/SITE AS WELL AS ADJACENT OCCUPIED BUILDINGS DURING THE CONSTRUCTION CONTRACT PERIOD.

8. COMPLETION OF THE WORK: THE CONTRACTOR SHALL IN THE EXECUTION OF WORK BY ALL TRADES, PERFORM ANY AND ALL CUTTING, PATCHING, REPAIRING, RESTORING AND THE LIKE NECESSARY TO COMPLETE THE WORK. THE CONTRACTOR SHALL RESTORE ANY DAMAGED OR AFFECTED SURFACES RESULTING FROM THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AND FINISH TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO SAFETY PRECAUTIONS, FASTENERS, ANCHORAGES, ETC. UNLESS NOTED OTHERWISE.

9. PERMITS: THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS REQUIRED.

10. RECORD DRAWINGS: THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A SET OF "AS-BUILT" DRAWINGS OF HIS WORK.

11. DIMENSIONS: UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DOCUMENTS, ALL DIMENSIONS ARE TAKEN TO THE [FACE OF EXISTING STRUCTURE, OR] FACE OF FINISH CONSTRUCTION. WRITTEN DIMENSIONS PREVAIL. DO NOT SCALE DRAWINGS UNLESS GRAPHIC SCALE IS PROVIDED ON THE SPECIFIC DRAWING. SHOULD DIMENSIONAL DISCREPANCIES BE FOUND, CONTACT THE OWNER'S REPRESENTATIVE WITHIN 10 WORKING DAYS OF ACCEPTANCE OF PROJECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK.

12. CLEAN UP: THE CONTRACTOR SHALL CLEAN AND REMOVE ALL TRASH, DIRT, DEBRIS, AND SPILLAGE ARISING FROM THE WORK AREA DAILY TO THE SATISFACTION OF THE OWNER AND THE DESIGNER ON RECORD, INCLUDING BUT NOT LIMITED TO: CLEANING OF DIRT, PUTTY, PAINT, OVERSPRAY, DUST, ETC. FROM FLOORS, WORK AREAS, COUNTER TOPS, DOOR AND WINDOW FACES AND FRAMES.

13. SAFE OPERATIONS: THE CONTRACTOR SHALL ENSURE THAT ANY AND ALL CONSTRUCTION ACTIVITIES DO NOT IMPACT OR INTERFERE WITH NORMAL OR SAFE OPERATIONS AT THE PROJECT SITE. THE CONTRACTOR SHALL TAKE ALL SAFETY PRECAUTIONS NECESSARY TO PROTECT THE BUILDING OCCUPANTS AND THE PUBLIC THROUGHOUT THE DURATION OF THIS PROJECT.

14. PREVENT DAMAGE: THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO EXISTING AND COMPLETED STRUCTURES/LANDSCAPING/SITE IMPROVEMENTS OF THIS PROJECTS AS WELL AS ON ADJACENT PROPERTY(IES) TO THAT OF THIS CONTRACTED WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LABOR/MATERIAL COSTS OF ANY DAMAGES TO ANY CONSTRUCTED WORK AND/OR EXISTING STRUCTURES/LANDSCAPING/SITE IMPROVEMENTS CAUSED BY HIS OPERATIONS. ANY DAMAGES SHALL BE REPAIRED WITHIN 10 WORKING DAYS OF NOTIFICATION. NO EXCEPTIONS.

15. DO NOT BLOCK EXITS: THE CONTRACTOR SHALL NOT BLOCK OR OBSTRUCT ANY FIRE LANES AND FIRE EXIT WAYS DURING THE EXECUTION OF WORK THROUGHOUT THIS PROJECT DURING THE CONSTRUCTION CONTRACT PERIOD.

16. SOUND AND NOISE CONTROL: THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE OWNER'S REPRESENTATIVE ALL WORK THAT WILL GENERATE EXCESSIVE NOISE WHICH MAY DISRUPT NORMAL OPERATING ACTIVITIES.

17. MATERIAL DISPOSAL: UNLESS NOTED IN THE DRAWINGS OR SPECIFICATIONS, MATERIALS RESULTING FROM THE DEMOLITION WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS OR AS SPECIFIED.

18. DEFINITIONS:
   a) "FURNISH" MEANS "FURNISH ONLY". MATERIALS OR ITEMS TO BE FURNISHED SHALL BE NEW AND CONSIGNED TO THE CONTRACTOR AND DELIVERED TO THE SITE.
   b) "INSTALL" MEANS "INSTALL ONLY" FURNISHED MATERIALS OR ITEMS. SUCH MATERIALS OR ITEMS SHALL BE RECEIVED AT THE SITE, UNLOADED, STORED, PROTECTED, AND INSTALLED IN PLACE, INCLUDING FINAL CONNECTION, UNLESS SUCH WORK IS SPECIFICALLY EXCLUDED.
   c) "PROVIDE" MEANS "FURNISH AND INSTALL" COMPLETE, IN PLACE AND READY FOR USE, INCLUDING FINAL CONNECTIONS. ALL WORK SHOWN IN THE DRAWINGS SHALL BE UNDERSTOOD AS "PROVIDE" WHETHER NOTES INDICATING "PROVIDE" ARE INDICATED OR NOT.
   d) WORDS "CONTRACTOR SHALL" ARE IMPLIED AND SHALL BE SO UNDERSTOOD WHEREVER A DIRECTION IS STATED IN IMPERATIVE MOOD AND DIRECTION "PROVIDE" IS USED.
   e) UNLESS SPECIFICALLY STATED AS "EXISTING", ALL MATERIALS SHALL BE NEW IN ALL CASES WHEN MATERIAL NOTES ARE ADDED TO DRAWINGS. USES OF "FURNISH" AND "PROVIDE" AUTOMATICALLY MEAN "NEW" UNLESS SPECIFICALLY STATED AS "EXISTING".

19. PRE-CONSTRUCTION ASSESSMENT: BEFORE STARTING ANY WORK ON ANY EXISTING CONSTRUCTION THE CONTRACTOR SHALL MAKE A THOROUGH AND COMPLETE INVESTIGATION OF ANY RECIPIENT SURFACES AND DETERMINE THEIR SUITABILITY TO RECEIVE REQUIRED ADDITIONAL CONSTRUCTION AND FINISHES. THE CONTRACTOR SHALL MAKE WHATEVER REPAIRS AND CONDITIONING REQUIRED TO PROPERLY PREPARE SUCH SURFACES.

20. EXISTING UTILITIES: PRIOR TO COMMENCING ANY CONSTRUCTION THE CONTRACTOR SHALL COORDINATE AND VERIFY THE LOCATIONS OF ALL UNDERGROUND OR OVERHEAD UTILITY LINES WITH THE OWNER'S REPRESENTATIVE TO AVOID CONFLICTS AND/OR SHUT DOWN DURING ALL STAGES OF CONSTRUCTION.

21. SUBCONTRACTORS: THE USE OF UNLICENSED CONTRACTORS IS STRICTLY PROHIBITED. THE CONTRACTOR IS RESPONSIBLE TO THE OWNER FOR ACTIONS OF THE CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY PORTIONS OF WORK UNDER CONTRACT WITH THE CONTRACTOR.

22. HAZARDOUS MATERIALS: HAZARDOUS MATERIAL ABATEMENT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AS INDICATED IN THE DRAWINGS AND/OR SPECIFICATIONS. BURNING OF ANY DEBRIS IS NOT PERMITTED. EXPLOSIVES ARE NOT ALLOWED.

23. WOOD: ALL NEW WOOD SHALL BE TERMITE TREATED. ALL PAINT ON WOOD SURFACES SHALL CONTAIN A MILDEWCIDE ADDITIVE. PROVIDE WRITTEN CERTIFICATION OF TERMITE TREATMENT.

24. DISSIMILAR METAL PROTECTION: THE CONTRACTOR SHALL PROVIDE DISSIMILAR METAL PROTECTION.

25. MECHANICAL AND ELECTRICAL ITEMS: ALL NEW EXPOSED MECHANICAL AND ELECTRICAL PIPING, CONDUITS, DUCTWORK, SUPPORTS AND RELATED FITTINGS, AND FASTENERS ARE TO BE PAINTED THE SAME COLOR/SHEEN AS THE COLOR/SHEEN OF THE SURFACE IT IS ATTACHED TO UNLESS OTHERWISE NOTED.

26. PAINTING: PAINT ALL NEW WORK THAT IS COMPLETED AND LEFT EXPOSED TO VIEW, UNLESS OTHERWISE NOTED. PAINT PRODUCT(S) SHALL BE COMPATIBLE TO THE SUBSTRATE OR SURFACE IT IS APPLIED TO AND SHALL RECEIVE THE PROPER SURFACE PREPARATION AND COATINGS AS RECOMMENDED BY THE PAINT MANUFACTURER. THE CONTRACTOR SHALL CONFIRM WITH THE DESIGNER ON RECORD ALL FINISH PAINT COLOR AND SHEEN SELECTION(S).

27. SHORING WORK: THE CONTRACTOR SHALL PROPERLY SHORE ANY AND ALL BUILDING WALLS, CEILINGS AND ANY OTHER COMPONENTS AFFECTED BY THE WORK AS REQUIRED TO MAINTAIN A SAFE, STABLE AND STRUCTURALLY SOUND STRUCTURE.

28. PROTECTION OF PROPERTY DURING WORK: THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A WATERPROOF AND SECURE COVERING FOR ANY AND ALL BUILDING COMPONENTS EXPOSED TO WEATHER, THEFT, OR VANDALISM AFTER THE REMOVAL OF ANY EXTERIOR BUILDING COMPONENT INCLUDING BUT NOT LIMITED TO ROOFING, EXTERIOR WALLS, FLOORS, SIDING, WINDOWS, DOORS ETC.

29. BUILDING USER'S STORED ITEMS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE 24-HOUR PROTECTION OF ALL BUILDING USERS' ITEMS LEFT INSIDE THE BUILDING BY THE USER FOR THE DURATION OF THE CONSTRUCTION CONTRACT PERIOD. THE FOLLOWING BUT NOT LIMITED TO LOSS AND OR DAMAGE RELATED TO THEFT, FIRE, WATER, CLIMATE, FINISH, FORM/FUNCTION ETC SHALL BE COVERED.

30. TILE WORK: ALL CERAMIC, PORCELAIN, STONE AND GLASS TILE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST TILE COUNCIL OF NORTH AMERICA (TCNA) HANDBOOK.

31. COMPATIBILITY OF MATERIALS: ENSURE COMPATIBILITY OF MATERIALS AND SYSTEMS UNLESS A SINGLE SOURCE MANUFACTURER OF MULTI COMPONENT SYSTEMS (I.E BUT NOT LIMITED TO WATERPROOFING, ROOFING, ETC.) IS USED.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING IN WRITING FROM THE RESPECTIVE MANUFACTURER'S TECHNICAL DIRECTOR ON MANUFACTURER'S LETTERHEAD THAT THEIR RESPECTIVE PRODUCTS ARE COMPATIBLE TO EACH OTHER AND THEIR RESPECTIVE WARRANTIES WILL BE HONORED WHENEVER AND WHEREVER THE CONTRACTOR USES PRODUCTS THAT ARE APPLIED TO ANOTHER MANUFACTURER'S PRODUCT AND/OR BUILT UP ON A SUBSTRATE.

32. "EXISTING" VERSUS "NEW" WORK : ALL BUILDING, AND DETAIL COMPONENTS, SHOWN ON THESE DRAWINGS SHALL BE UNDERSTOOD AS "NEW" UNLESS PREFIXED BY THE WORD "EXISTING". IN THE EVENT THE CONTRACTOR DISCOVERS CONFLICTING INFORMATION, THE CONTRACTOR SHALL IMMEDIATELY SUBMIT IN WRITING, A FORMAL REQUEST FOR INFORMATION ("RFI") TO THE DESIGNER ON RECORD FOR A RESOLUTION TO THE RFI.

33. ALL UTILITIES AND APPURTENANCES SHALL BE PROTECTED AT ALL TIMES DURING CONSTRUCTION. IF DAMAGED, CONTRACTOR TO REPAIR AT NO COST TO THE GOVERNMENT.

34. NO WORK SHALL BE COVERED UP OR ENCLOSED UNTIL INSPECTED, TESTED, AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.

BID ALTERNATES

ADDITIVE BID ALTERNATES	LOCATION	DESCRIPTION
#1	B303	ALL WORK ASSOCIATED WITH LIGHT FIXTURE REPLACEMENT IN THE ADMIN SECTION OF BUILDING B303
#2	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER
#3	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER
#4	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER
#5	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER
#6	BIRKHIMER	ALL WORK ASSOCIATED WITH BATHROOM PLUMBING UPGRADES
#7	PSB	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER
#8	PSB	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

1	ADDENDUM 1	3/21/24	SH	SYM / DESCRIPTION / DATE / APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024
INK INK SH

DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
STATE OF HAWAII
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ARCHITECTURAL GENERAL NOTES AND BID ALTERNATES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 2 OF 123
G-001

CODE INFORMATION

GENERAL	
PROJECT NAME:	BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
PROJECT ADDRESS:	4204 DIAMOND HEAD RD, HONOLULU, HI, 96815
OWNER'S NAME:	STATE OF HAWAII DEPARTMENT OF DEFENSE
CODES AND REFERENCES	**DESCRIPTION**
ZONING CODE:	REVISED ORDINANCES OF HONOLULU 1990, CHAPTER 1, LAND USE ORDINANCE
BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS
ACCESSIBILITY:	2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
PARCEL INFORMATION	
PROJECT TMK:	3-1-042:006
PARCEL AREA:	13,206,956 SF (303.19 ACRES)
OHANA ZONING DESIGNATION:	N/A
FEMA FLOOD DESIGNATION:	ZONE X
TSUNAMI EVACUATION ZONE:	SAFE
DEVELOPMENT STANDARDS	
ZONING DISTRICT:	P-1
USE:	RESTRICTED PRESERVATION DISTRICT
MINIMUM LOT AREA:	N/A
MINIMUM LOT WIDTH AND DEPTH:	N/A
YARD - FRONT:	N/A
YARD - SIDE/REAR:	N/A
MAXIMUM HEIGHT:	N/A
BUILDING CODE - BUILDING 303	
NATURE OF WORK:	REPAIRS
GENERAL DESCRIPTION OF WORK:	REPAVE THE EXISTING PARKING LOT UPGRADE AIR CONDITIONING SYSTEMS UPGRADE EMERGENCY POWER GENERATING SYSTEM INCLUDING A NEW EMERGENCY GENERATOR AND ABOVEGROUND FUEL TANK PROVIDE VARIOUS ELECTRICAL UPGRADES INCLUDING NEW LIGHT FIXTURES, AND CIRCUIT BREAKERS REPLACE (2) WINDOWS AT STATE WARNING POINT ROOM
OCCUPANCY CLASSIFICATION:	NO CHANGE
OCCUPANT LOAD:	NO CHANGE
BUILDING HEIGHT (STORIES):	NO CHANGE
ALLOWABLE BLDG HEIGHT:	NO CHANGE
PROVIDED AREA PER STORY:	NO CHANGE
ALLOWABLE BLDG AREA:	NO CHANGE
TYPE OF CONSTRUCTION:	NO CHANGE
AUTOMATIC FIRE SPRINKLERS:	NO CHANGE
NUMBER OF EXITS :	NO CHANGE
BUILDING CODE - BIRKHIMER	
NATURE OF WORK:	REPAIRS
GENERAL DESCRIPTION OF WORK:	REPLACE EXISTING CIVIL SANITARY MAIN PIPING UPGRADE AIR CONDITIONING SYSTEMS PROVIDE A NEW EMERGENCY POTABLE WATER SYSTEM
OCCUPANCY CLASSIFICATION:	NO CHANGE
OCCUPANT LOAD:	NO CHANGE
BUILDING HEIGHT (STORIES):	NO CHANGE
ALLOWABLE BLDG HEIGHT:	NO CHANGE
PROVIDED AREA PER STORY:	NO CHANGE
ALLOWABLE BLDG AREA:	NO CHANGE
TYPE OF CONSTRUCTION:	NO CHANGE
AUTOMATIC FIRE SPRINKLERS:	NO CHANGE
NUMBER OF EXITS :	NO CHANGE
BUILDING CODE - PUBLIC SERVICE BUILDING	
NATURE OF WORK:	REPAIRS
GENERAL DESCRIPTION OF WORK:	PROVIDE NEW AIR CONDITIONING SYSTEMS AND ASSOCIATED ELECTRICAL WORK
OCCUPANCY CLASSIFICATION:	NO CHANGE
OCCUPANT LOAD:	NO CHANGE
BUILDING HEIGHT (STORIES):	NO CHANGE
ALLOWABLE BLDG HEIGHT:	NO CHANGE
PROVIDED AREA PER STORY:	NO CHANGE
ALLOWABLE BLDG AREA:	NO CHANGE
TYPE OF CONSTRUCTION:	NO CHANGE
AUTOMATIC FIRE SPRINKLERS:	NO CHANGE
NUMBER OF EXITS :	NO CHANGE

INDEX TO DRAWINGS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

1	ADDENDUM 1	3/21/24	SH	APPR.
SYM	DESCRIPTION	DATE		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024

INK INK SH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006 1
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
CODE INFOMATION AND INDEX TO DRAWINGS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 3 OF 123
G-002

CONSTRUCTION NOTES:

1. ALL CONSTRUCTION WORK SHALL BE DONE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986, AND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED, OF THE DEPARTMENTS OF PUBLIC WORKS, CITY & COUNTY OF HONOLULU, AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII AND THE STANDARD PLANS OF THE STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, INCLUSIVE DATED JULY 1, 1986, AS AMENDED AND PARK STANDARD DETAILS FOR PARKS AND RECREATION CONSTRUCTION, MAY 1990, AS AMENDED, OF THE DEPARTMENT OF PARKS AND RECREATION, CITY & COUNTY OF HONOLULU.

2. THE CONTRACTOR SHALL PROVIDE ACCESS TO AND FROM PUBLIC STREETS AT ALL TIMES.

3. WHEN TRENCH EXCAVATION IS ADJACENT TO OR UNDER EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDER- PINNING TO FULLY PROTECT THEM FROM DAMAGE.

4. BACKFILL UNDER EXISTING STRUCTURES OR FACILITIES SHALL BE SANDY OR GRANULAR MATERIAL COMPLETELY PLACED AS SOON AS THE PIPE IS LAID AND TESTED. THE BACKFILL MATERIAL SHALL BE RAMMED WITH PROPER TOOLS UNTIL COMPACTED TO A MINIMUM OF 90 PERCENT OF ITS MAXIMUM DENSITY.

5. ALL EXCAVATION WORK CALLED FOR ON THE PLANS AND NOT ITEMIZED IN THE PROPOSAL AND ALL EXCAVATION WORK NOT CALLED FOR BUT REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED TRENCH EXCAVATION.

6. ALL ABANDONED PIPE OPENINGS SHALL BE PLUGGED WITH CLASS DWS 2000 CONCRETE TO A DEPTH OF 1-1/2 TIMES THE DIAMETER OF THE PIPE.

7. VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR DIRECTION.

8. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION ACTIVITY SO AS TO CAUSE FALLING ROCK, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATER COURSES. SHOULD SUCH VIOLATIONS OCCUR, THE COSTS INCURRED FOR ANY REMEDIAL ACTION SHALL BE PAYABLE BY THE CONTRACTOR.

9. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. ALL DAMAGED PORTIONS SHALL BE REPLACED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE AFFECTED UTILITY COMPANY AND SHALL BE THE CONTRACTORS RESPONSIBILITY. PERSONAL INJURY RESULTING FROM CONTACT WITH EXISTING UTILITIES SHALL BE THE CONTRACTORS RESPONSIBILITY. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR NEW LINES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH.

11. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATIONS OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO EXCAVATING. THE CONTRACTOR SHALL COORDINATE ALL WORK.

12. THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION OR BETTER, ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PROPOSAL. DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE INCIDENTAL AND INCLUDED WITHIN THE AMOUNT PAID FOR UNCLASSIFIED TRENCH EXCAVATION.

13. CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PRESERVE STREET MONUMENTS.

14. WHENEVER THE CENTER OF A STREET SURVEY MONUMENT IS LESS THAN THREE (3) FEET AWAY FROM THE EDGE OF TRENCH, THE CONTRACTOR SHALL RETAIN A LICENSED LAND SURVEYOR TO REFERENCE THE LOCATION OF SAID STREET MONUMENT. ALL REFERENCING WORK SHALL BE SUBMITTED TO THE DEPARTMENT OF DESIGN AND CONSTRUCTION, SURVEY BRANCH (527-5329), FOR REVIEW AND APPROVAL BEFORE COMMENCEMENT OF CONSTRUCTION ADJACENT TO STREET MONUMENT.

15. STREET MONUMENTS THAT ARE DISTURBED SHALL BE RESTORED UNDER THE LICENSED LAND SURVEYOR'S DIRECTION. ANY NEW DATA SUCH AS ELEVATIONS SHALL BE CERTIFIED BY THE SURVEYOR, AND SUBMITTED TO THE DEPARTMENT OF PLANNING AND PERMITTING.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING/RECONSTRUCTING ALL CONCRETE CURBS AND GUTTERS, CONCRETE SWALES, DRIVEWAYS AND SIDEWALKS DAMAGED DURING CONSTRUCTION.

17. DURING NON-WORKING HOURS, THE TRENCHES SHALL BE COVERED WITH NON-SKID STEEL PLATES AND ALL LANES MAINTAINED OPEN FOR TRAFFIC.

18. THE CONTRACTOR SHALL PROVIDE ACCESS TO AND FROM DRIVEWAYS AND PUBLIC STREETS AT ALL TIMES EXCEPT AS NOTED ON THE PLAN.

19. EXISTING TOPOGRAPHIC DATA WAS TAKEN FROM TOPOGRAPHIC MAP PREPARED BY CONTROL POINT SURVEYING, INC, DATED JANUARY 16, 2024.

CONSTRUCTION NOTES CONTINUED:

20. ALL WORK CALLED FOR ON THE PLANS AND NOT ITEMIZED IN THE PROPOSAL AND ALL WORK NOT CALLED FOR BUT REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT, SHALL BE CONSIDERED INCIDENTAL.

21. UTILITIES SHALL BE INSTALLED PURSUANT TO THE PROVISIONS OF ORDINANCE NO. 2875 AS AMENDED BY ORDINANCE NO. 3357 (UNDERGROUND UTILITIES).

22. NO BLASTING SHALL BE ALLOWED ON THIS PROJECT.

23. THE CONTRACTOR SHALL NOTIFY THE ONE CALL CENTER AT (866) 423-7287 AT LEAST 5 DAYS PRIOR TO THE START OF EXCAVATION OR TRENCHING.

24. PURSUANT TO CHAPTER 14, ARTICLE 15, OF THE REVISED ORDINANCES OF HONOLULU 1990 AS AMENDED, THE PERMITTEE/CONTRACTOR SHALL RETAIN THE SERVICES OF:

- A LICENSED PROFESSIONAL ENGINEER TO BE RESPONSIBLE DURING CONSTRUCTION AND PREPARE THE CERTIFICATION AND REPORT AFTER GRADING.
- A LICENSED LAND SURVEYOR TO PERFORM A SURVEY OF THE FINISHED GRADING FOR THE PREPARATION OF AN AS BUILT GRADING PLAN IF REQUIRED BY DPP.

EROSION CONTROL NOTES AND BEST MANAGEMENT PRACTICES (BMPS):

1. CONTRACTOR SHALL REFER TO THE CITY AND COUNTY OF HONOLULU STORMWATER BEST MANAGEMENT PRACTICE, MANUAL, CONSTRUCTION DATED NOVEMBER 2011 FOR BEST MANAGEMENT PRACTICES DETAILS AND SPECIFICATIONS.

2. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY CLEARING AND GRUBBING WORK IS INITIATED. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

3. CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF CLEARED SURFACE AREA.

4. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY.

5. PROVIDE CONSTRUCTION ENTRANCE FOR EACH INGRESS AND EGRESS.

6. PRE-CONSTRUCTION VEGETATIVE GRADE COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN TWENTY (20) CALENDAR DAYS PRIOR TO SITE DISTURBANCE.

7. TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS.

8. STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES AS PRACTICAL.

9. ALL BMPs SHALL BE CONSTRUCTED AND OPERATIONAL PRIOR TO GRADING PHASE.

10. ADDITIONAL DUST FENCE MAY BE REQUIRED AND THAT SPECIFIC LOCATIONS SHALL BE DETERMINED AT THE TIME THE PRE-CONSTRUCTION MEETING IS HELD.

11. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION FOR EXISTING CATCH BASINS, DURING CONSTRUCTION AND UNTIL CONSTRUCTION AREA IS STABILIZED AND FINAL GRADES ARE ACHIEVED.

12. STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS OR OTHER AREAS OF CONCENTRATED FLOWS. DURING PERIODS OF WET WEATHER, SUCH AS THE RAINY SEASON, STOCKPILES SHALL BE STABILIZED. COVER STOCKPILES IN PLASTIC WHEN NOT IN USE.

13. DUST CONTROL SHOULD BE APPLIED TO REDUCE DUST EMISSIONS. CONTRACTOR TO SPRAY WATER AS NECESSARY.

14. SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS, BASINS OR BARRIERS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS AND AROUND THE BASE OF ALL MATERIAL STOCKPILES. COVER STOCKPILES WITH PLASTIC.

15. SURFACE FLOW FROM ABOVE AN EXPOSED SLOPE SHALL NOT BE ALLOWED TO FLOW OVER THE SLOPE WITHOUT PROTECTION. SLOPE PROTECTION SHALL BE USED ON AREAS WITH SLOPES GREATER THAN 50% AND ON AREAS OF MODERATE SLOPES THAT ARE PRONE TO EROSION. SLOPE PROTECTION SHALL ALSO BE USED ON GROUND SURFACES AND STOCKPILES EXPOSED DURING WET WEATHER. ANCHOR PLASTIC OVER RETAINING WALL EXCAVATION.

16. ALL STORM DRAIN INLETS ON SITE, AND THOSE OFFSITE WHICH MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE.

17. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. ALL TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY PERMANENTLY STABILIZED.

18. AREAS TO BE PERMANENTLY SEEDED/MULCHED WITHIN 14 DAYS OR FINAL GRADE EXCEPT HOUSE AREA WHICH WILL BE FORMED AND SLABBED WITHIN 14 DAYS.

19. CONTRACTOR TO PROVIDE TEMPORARY INLET PROTECTION UPON INSTALLATION OF DRAINAGE IMPROVEMENTS.

EROSION CONTROL NOTES AND BEST MANAGEMENT PRACTICES (BMPS) CONTINUED:

20. DISTURBED AREAS OF CONSTRUCTION SITES THAT WILL NOT BE REDISTURBED FOR TWENTY-ONE DAYS OR MORE WILL BE STABILIZED (GRASSED OR GRAVELED) BY NO LATER THAN THE FOURTEENTH DAY AFTER LAST DISTURBANCE.

21. CONTRACTOR SHALL COMPLETE THE CITY AND COUNTY OF HONOLULU "CONSTRUCTION SITE BMPs WEEKLY CHECKLIST" FORM EACH WEEK AND SUBMIT THE FORM TO THE DEPARTMENT OF PLANNING AND PERMITTING CIVIL ENGINEER BRANCH (CEB) INSPECTOR AT THE END OF EACH WEEK FOR ALL GRADING, GRUBBING AND STOCKPILING PERMITS THAT RESULT IN THE DISTURBANCE OF ONE ACRE OR MORE OF TOTAL LAND AREA. REQUESTS FOR ADJUSTMENTS TO SUBMISSION SCHEDULE SHALL BE COORDINATED WITH THE CEB INSPECTOR. THE FORM SUBMITTAL CONCLUDES WHEN THE CEB INSPECTOR DETERMINES THAT THE WORK UNDER THE PERMIT IS COMPLETE.

PUBLIC HEALTH SAFETY AND CONVENIENCE NOTES:

1. CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.

2. THE CONTRACTOR AT HIS/HER EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.

3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SILT OR DEBRIS IN ANY FORM TO FALL SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS AS NECESSARY.

4. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC.

5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO CHAPTER 46, PUBLIC HEALTH REGULATIONS, DEPARTMENT OF HEALTH, STATE OF HAWAII, "COMMUNITY NOISE CONTROL," IN WHICH MAXIMUM PERMISSIBLE NOISE LEVELS HAVE BEEN SET. IF THE CONSTRUCTION WORK REQUIRES A PERMIT FROM THE DIRECTOR OF HEALTH, THE CONTRACTOR SHALL OBTAIN A COPY OF CHAPTER 46 AND BECOME FAMILIAR WITH THE NOISE LEVEL RESTRICTIONS AND THE PROCEDURES FOR OBTAINING A PERMIT FOR THE CONSTRUCTION ACTIVITIES. APPLICATION AND INFORMATION ON VARIANCES ARE AVAILABLE FROM THE ENVIRONMENTAL PROTECTION AND HEALTH SERVICES DIVISION, 1250 PUNCHBOWL ST., HONOLULU, HI 96813 OR BY TELEPHONE (548-6455).

GRADING NOTES:

1

1. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH CHAPTER 14, ARTICLES 13, 14, 15 AND 16, AS RELATED TO GRADING, SOIL EROSION AND SEDIMENT CONTROL OF THE REVISED ORDINANCES OF HONOLULU, 1990, AS AMENDED, AND SOILS REPORT BY HIRATA & ASSOCIATES DATED 3/21/24.

2. NO CONTRACTOR SHALL PERFORM ANY GRADING OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.

3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60.1, "AIR POLLUTION CONTROL".

4. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

5. ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION OR THE SLOPED SURFACES OF A FILL. FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.

6. ALL SLOPES AND EXPOSED AREAS SHALL BE SODDED OR PLANTED AS SOON AS FINAL GRADES HAVE BEEN ESTABLISHED. PLANTING SHALL NOT BE DELAYED UNTIL ALL GRADING WORK HAS BEEN COMPLETED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA WITHIN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED SHALL BE PLANTED.

7. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.

8. THE CITY SHALL BE INFORMED OF THE LOCATION OF THE BORROW/DISPOSAL SITE FOR THE PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE BORROW/DISPOSAL SITE MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.

9. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANY TIME WITHOUT PRIOR NOTICE TO THE DIRECTOR, D.P.P., PROVIDED SUCH GRADING WORK IS ALSO IN CONFORMANCE WITH THE COMMUNITY NOISE CONTROL STANDARDS CONTAINED IN THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 46, "COMMUNITY NOISE CONTROL".

GRADING NOTES CONTINUED:

10. THE LIMITS OF THE AREA TO BE GRADED SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

11. THE CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL BE RESPONSIBLE FOR ALL GRADING OPERATIONS TO BE PERFORMED IN CONFORMANCE WITH APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 54, "WATER QUALITY STANDARDS," AND TITLE 11, CHAPTER 55, "WATER POLLUTION CONTROL", AS WELL AS CHAPTER 14 OF THE REVISED ORDINANCES OF HONOLULU, AS AMENDED. BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED AT ALL TIMES DURING CONSTRUCTION.

    IF REQUIRED, THE CONTRACTOR SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

    1.1. DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

1. IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATIONS ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11-54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT HTTP://HEALTH.HAWAII.GOV/CWB. THE OWNER/DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

2. WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY EARTH MOVING PHASE OF THE GRADING IS INITIATED.

3. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.

4. TEMPORARY EROSION CONTROL PROCEDURES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO APPLICATION FOR GRADING PERMIT.

5. IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

6. BUILDING PERMIT FOR RETAINING WALLS SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF GRADING WORK ON SITE.

7. FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEERING BRANCH, D.P.P. AT 768-8084 TO ARRANGE FOR INSPECTIONAL SERVICES AND SUBMIT TWO (2) SETS OF APPROVED CONSTRUCTION PLANS SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. FOR CITY PROJECTS, THE CONTRACTOR SHALL COORDINATE INSPECTIONAL SERVICES WITH THE RESPONSIBLE CITY AGENCY.

8. PURSUANT TO CHAPTER 6E, HRS, IN THE EVENT ANY ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE HONOLULU POLICE DEPARTMENT, THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION (692-8015). IN ADDITION, FOR NON-CITY PROJECTS, THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEERING BRANCH, D.P.P. (768-8084); AND FOR CITY PROJECTS, NOTIFY THE RESPONSIBLE CITY AGENCY.

9. FOR ALL PROJECTS, WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND, THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL A NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII, AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM. ALSO, FOR NON-CITY AND OTHER NON-GOVERNMENTAL AGENCY PROJECTS, THE CONTRACTOR SHALL PROVIDE A WRITTEN COPY OF THE NGPC TO THE PERMITTING AND INSPECTION SECTION, CIVIL ENGINEERING BRANCH, D.P.P., AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE START OF THE CONSTRUCTION. FOR CITY OR OTHER GOVERNMENTAL PROJECTS, THE CONTRACTOR SHOULD PROVIDE A WRITTEN COPY OF THE NGPC TO THE APPROPRIATE CITY DEPARTMENT OR GOVERNMENTAL AGENCY PER THEIR REQUIREMENTS.

10. ALL GRADING AND CONSTRUCTION WORK SHALL IMPLEMENT MEASURES TO ENSURE THAT THE DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE WILL BE REDUCED TO THE MAXIMUM EXTENT PRACTICABLE AND WILL NOT CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF WATER QUALITY STANDARDS.

11. NON-COMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIAL WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBJECTED TO ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Lance K Tokuda 4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM NO.	DESCRIPTION	DATE	APPR.
1	3/14	3/31/24	

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

CIVIL NOTES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 4 OF 123
C001

SEWER NOTES:

1. ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY'S "STANDARD SPECIFICATIONS," SEPT. 1986, THE DEPARTMENT OF ENVIRONMENTAL SERVICES "WASTEWATER SYSTEM DESIGN STANDARDS," JULY 2017, AND "WASTEWATER SYSTEM STANDARD DETAILS," JULY 2017, CURRENT CITY PRACTICES AND REVISED ORDINANCES OF HONOLULU, 1990 AS AMENDED.
2. IN THE EVENT THAT ANY CHANGE IN ALIGNMENT OR GRADE FOR THE PROPOSED SEWERS ARE REQUIRED DUE TO UNFORESEEN CONFLICT WITH OTHER UTILITIES, THE ENGINEER IN CHARGE OR THE MAKER OF THE PLANS SHALL BE RESPONSIBLE FOR THE REQUIRED CHANGES WHICH ARE TO BE PRESENTED TO THE DEPARTMENT OF PLANNING AND PERMITTING (DPP) FOR APPROVAL.
3. CRUSHED ROCK CRADLE IS PERMITTED WHERE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL, THE MAKER OF THE PLANS AND THE CONSTRUCTION ENGINEER WILL DETERMINE THE PIPE SUPPORT REQUIRED.
4. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES, INCLUDING AND AFFECTING SEWER LINES, IN THE PRESENCE OF THE WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
5. SEWER LATERALS SHALL BE CLEAR OF AND NOT CONFLICTING WITH ANY OTHER UTILITY. MINIMUM HORIZONTAL AND VERTICAL CLEARANCE SHALL BE STRICTLY OBSERVED AND FOLLOWED.
6. SLOPE FOR SEWER LATERALS SHALL BE A MINIMUM OF 2.00% UNLESS OTHERWISE NOTED.
7. BUILDING PLUMBING FACILITIES SHALL BE CONTROLLED BY SEWER LATERAL INVERTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION. MAXIMUM SHUTDOWN DURATION IS 6 HOURS WITH APPROVAL BY GOVERNMENT CONSTRUCTION MANAGER. PROVIDE ONE-WEEK ADVANCE NOTICE TO TENANT OPERATIONS MANAGER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWAGE SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATIONS AND PRESS RELEASES.
10. THE CONTRACTOR SHALL INSTALL "RAINSTOPPER" MANHOLE INSERTS IN ALL SEWER MANHOLES WITH TYPE "SA" FRAME AND COVER.
11. CONFINED SPACE

    FOR ENTRY BY INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(B), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

    1.1. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

    A. FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
    B. LIFELINE AND ASSOCIATED CLIPS.
    C. INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
    D. TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
    E. EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
    F. CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
    G. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON.
    H. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.

    1.2. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.

    1.3. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

12. WHEN CONNECTING TO A LIVE SEWER LINE, THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS THAT THE STATE DEPARTMENT OF HEALTH SETS FORTH TO MITIGATE ANY WASTEWATER SPILL THAT MAY OCCUR. THE CONTRACTOR SHALL INFORM THE CITY INSPECTOR FIVE (5) WORKING DAYS PRIOR TO THE ACTUAL CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES AND PENALTIES DUE TO ANY SPILLS RESULTING FROM THE CONNECTION.
13. FOR SEWER MANHOLE ADJUSTMENTS UPWARD LESS THAN 3", SEE STD. DETAIL S-28. FOR SMH ADJUSTMENTS UPWARD GREATER THAN 3" OR FOR ANY ADJUSTMENTS DOWNWARD, RECONSTRUCT SMH TOP FROM BELOW THE CONE SECTION.
14. THE CONTRACTOR SHALL MAINTAIN VISIBILITY AND MAINTENANCE ACCESS TO LIVE SEWER MANHOLE LOCATIONS AT ALL TIMES, INCLUDING DURING NON-WORK HOURS AND PAVING OPERATIONS.
15. THE CONTRACTOR SHALL USE A MANHOLE DEBRIS CATCHING DEVICE WHEN PERFORMING MANHOLE HEIGHT ADJUSTMENT WORK AND REMOVE ANY CONSTRUCTION DEBRIS THAT HAS FALLEN INTO THE MANHOLE. DISPOSAL OF CONSTRUCTION DEBRIS IN THE SEWER SYSTEM IS STRICTLY PROHIBITED.
16. FOR PRECAST SEWER MANHOLES, THE CONSULTING ENGINEER SHALL SUBMIT FOUR (4) SETS OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

WATER NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU, BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", VOLUME 1 DATED 1985, AND THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", VOLUME 2, DATED 1985, AND THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
3. PAYMENT FOR ITEMS OF WORK CALLED FOR IN THE PLANS, SPECIAL PROVISIONS AND SPECIFICATIONS FOR WHICH PAYMENT IS NOT SPECIFIED SHALL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL AND NO ADDITIONAL COMPENSATION SHALL BE MADE.
4. THE CONTRACTOR IS ALERTED TO THE ENCOUNTERING OF OBSTACLES WHETHER SHOWN ON THE PLANS OR NOT, OR WHICH MAY DIFFER IN LOCATION FROM THAT SHOWN ON THE PLANS WHICH MAY INTERFERE WITH HIS/HER NORMAL METHOD OF OPERATIONS. THE CONTRACTOR SHALL TAKE INTO ACCOUNT ANY ADDITIONAL COSTS ANTICIPATED DUE TO THESE CONDITIONS AND SHALL HAVE THESE COSTS INCLUDED IN THE BID ITEMS WHICH HE/SHE FEELS MOST APPROPRIATE. NO SEPARATE ADDITIONAL COMPENSATION SHALL BE MADE.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ASSUMPTIONS, DEDUCTIONS, OR CONCLUSIONS HE/SHE MAY MAKE OR DERIVE FROM THE SUBSURFACE INFORMATION OR DATA FURNISHED ON THE PLANS. THE CONTRACTOR MUST SATISFY HIMSELF/HERSELF THROUGH HIS/HER OWN INVESTIGATIONS AS TO WHAT SUBSURFACE CONDITIONS ARE TO BE ENCOUNTERED.
6. PRIOR TO THE START OF EXCAVATION, THE CONTRACTOR SHALL NOTIFY ALL AGENCIES AND UTILITIES AND HAVE THEM LOCATE THEIR RESPECTIVE LINES AFFECTED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL OF HIS/HER CONSTRUCTION AND SHALL PAY FOR ALL DAMAGES TO AND FOR THE PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
7. THE CONTRACTOR SHALL EXPOSE, VERIFY AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT CROSSINGS PRIOR TO EXCAVATION OF PIPELINE TRENCH. THE WATER MAIN ALIGNMENT AND GRADE MAY BE CHANGED IF THERE ARE ANY CONFLICTS WITH ANY EXISTING UNDERGROUND UTILITIES AND STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT. PAYMENT FOR WORK INCLUDED IN THIS PARAGRAPH SHALL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE BID ITEMS OF THE PROPOSAL, AND NO ADDITIONAL COMPENSATION SHALL BE MADE.
8. EXISTING UTILITIES CROSSING THE WATER MAIN ARE TO REMAIN IN SERVICE AND IN PLACE. IF RELOCATED FOR THE CONTRACTOR'S CONVENIENCE, INTERRUPTION OF SERVICE SHALL BE FOR A MINIMUM PERIOD OF TIME AND SHALL BE DONE AT THE CONTRACTOR'S EXPENSE AND ONLY WITH THE APPROVAL OF THE ENGINEER.
9. IF THE CONTRACTOR ELECTS NOT TO EXPOSE AND VERIFY ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT CROSSINGS PRIOR TO PIPELINE EXCAVATION, HE/SHE FORFEITS HIS/HER RIGHTS FOR ANY CLAIMS FOR COMPENSATION CAUSED BY ANY CONFLICTS WITH EXISTING UTILITIES AND STRUCTURES.
10. ALL A.C. AND CONCRETE PAVEMENT TO BE TRENCHED (FOR PIPELINE OR ANY WATER SYSTEM INSTALLATION) SHALL BE "SAW-CUT" TO THE REQUIRED WIDTH PRIOR TO REPAVING.
11. RESTORATION OF PAVEMENT SHALL BE DONE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND DONE WITH EQUIVALENT TO OR BETTER QUALITY MATERIALS.
12. UNLESS OTHERWISE SPECIFIED, CONNECTIONS TO EXISTING WATER MAINS AND CHLORINATION OF NEW WATER MAINS SHALL BE DONE BY THE CONTRACTOR.
13. WHENEVER CONNECTIONS TO EXISTING WATER MAINS ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING WATER MAINS PRIOR TO EXCAVATION OF MAIN TRENCH. THE REMAINING EXCAVATION FOR THE CONNECTION SHALL BE EXCAVATED WHEN THE CONTRACTOR IS READY TO MAKE THE CONNECTION.
14. THE BRIDGE DECKS FOR TEMPORARY BRIDGE INSTALLATIONS SHALL BE FLUSH WITH ADJOINING PAVEMENT OR SIDEWALK. NO BUMPS OR ELEVATED BRIDGE DECKS WILL BE ALLOWED.
15. ALL WATER MAIN TRENCHES SHALL BE BACKFILLED AS CALLED FOR UNDER PART III, SECTION 1.2.2, TRENCH BACKFILL, OF THE "WATER SYSTEM STANDARDS", DATED 1985. COMPACTION OF TRENCH BACKFILL SHALL MEET APPLICABLE REQUIREMENTS OF "THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", SEPTEMBER 1986, OF THE COUNTIES OF THE STATE OF HAWAII.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL EFFLUENT ASSOCIATED WITH THE CONSTRUCTION ACTIVITY AND THE DISINFECTION AND HYDROTESTING OPERATIONS TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATIONS, CHARGES, FEES, AND TAXES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
17. SHOULD MAJOR TREE ROOTS 2" AND GREATER BE ENCOUNTERED DURING CONSTRUCTION THESE ROOTS SHALL BE CUT AND SEALED WITH ASPHALTIC PAINT.
18. DURING NON-WORKING HOURS, THE TRENCHES SHALL BE COVERED WITH NON-SKID STEEL PLATES AND ALL LANES MAINTAINED OPEN FOR TRAFFIC.

WATER NOTES CONTINUED:

19. UNLESS OTHERWISE SPECIFIED, ALL ABANDONED LINES SHALL BE CUT AND PLUGGED WITH CLASS DWS 2000 CONCRETE. PAYMENT FOR CUTTING AND PLUGGING WILL NOT BE MADE DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL. THE CONTRACTOR SHALL VERIFY THE SIZE AND TYPE OF LINE TO BE PLUGGED.
20. ALL WATER MAINS AND APPURTENANCES INCLUDING SERVICE LATERALS AND SERVICE CONNECTIONS SHALL BE SUBJECTED TO A HYDROSTATIC TEST PRESSURE OF 150 PSI BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
21. ALL LATERALS (1 INCH TO 2-1/2 INCHES) SHALL BE REPLACED OR RECONNECTED WITH COPPER OR PLASTIC TUBING.
22. THE CONTRACTOR SHALL FURNISH AND INSTALL DIELECTRIC COUPLINGS FOR ALL SERVICE LATERAL CONNECTIONS. PAYMENT FOR DIELECTRIC COUPLINGS SHALL NOT BE MADE DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE PROPOSAL.
23. PAYMENT FOR SERVICE LATERALS AND SERVICE CONNECTIONS SHALL BE MADE AT THE UNIT PRICE BID IN THE PROPOSAL. PAYMENT SHALL INCLUDE TAPS INTO MAINS, RECONNECTIONS TO EXISTING SERVICES, TRANSFERAL OF METERS, AND INSTALLING PIPE LATERALS, FITTINGS, BALL CORPS, BALL STOPS, GLOBE VALVES, METER SPLICES, BRASS PIPES, CAPS AND ALL APPURTENANCES, AS REQUIRED, IN PLACE COMPLETE. PAYMENT FOR METER BOXES, INCLUSIVE OF C.I. FRAMES AND COVERS AND TYPE "A" VALVE BOXES SHALL BE MADE AT THE RESPECTIVE UNIT PRICE BID IN THE BID.
24. DEMOLISH AND BACKFILL ALL ABANDONED MANHOLES, VALVE BOXES AND METER BOXES. SALVAGE ALL CAST IRON FRAMES AND COVERS.
25. AFTER INSTALLATION OF TAPPING SLEEVE AND TAPPING VALVE AND PRIOR TO TAPPING THE EXISTING WATER MAIN, THE ASSEMBLY SHALL BE PRESSURE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE AND IN ACCORDANCE WITH THE WATER SYSTEM STANDARDS DATED 1985.
26. MECHANICAL JOINT GLANDS SHALL BE "STRAIGHT-SIDED" AND POLYGON IN SHAPE AS DESCRIBED IN AWWA C111 AND SHALL BE APPLICABLE TO BOTH CAST IRON AND DUCTILE IRON GLANDS OR AN APPROVED EQUAL ON A JOB TO JOB BASIS.
27. ALL AIR RELIEF VALVES SHALL HAVE A MINIMUM WORKING PRESSURE RANGE OF 0 TO 150 PSI.
28. PIPE CUSHION SHALL BE OF HIGH RESISTIVITY MATERIAL. THE CONTRACTOR SHALL SUBMIT A SOIL CERTIFICATION THAT HIGH RESISTANT CUSHION MATERIAL HAS A RESISTIVITY GREATER THAN 5,000 OHM-CM. REMAINDER OF BACKFILL MATERIAL SHALL BE AS SPECIFIED IN CITY AND COUNTY OF HONOLULU, BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", VOLUME 1, DATED 1985. PIPE CUSHION AND BACKFILL MATERIAL SHALL CONTAIN NO HAZARDOUS SUBSTANCES ABOVE REGULATORY ACTION LEVELS INCLUDING BUT NOT LIMITED TO LEAD, ASBESTOS, MERCURY, CHROMIUM, CADMIUM, ZINC, STRONTIUM, AND POLYCHLORINATED BIPHENYLS (PCB).
29. BALL CORPS AND BALL STOPS SHALL BE INSTALLED IN LIEU OF THE CORPORATION STOPS AND STOPCOCKS, RESPECTIVELY.
30. TRAFFIC CONTROL PLAN: AFTER THE AWARD OF THE CONSTRUCTION CONTRACT, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE ENGINEER FOR REVIEW AND OBTAIN APPROVAL BEFORE COMMENCING CONSTRUCTION PAYMENT FOR THE PREPARATION AND IMPLEMENTATION OF THE APPROVED TRAFFIC CONTROL PLAN SHALL NOT BE MADE DIRECTLY BUT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF THE BID.
31. THE CONTRACTOR SHALL COORDINATE THE SECURING OF THE EXISTING WATER SYSTEM WITH THE ENGINEER PRIOR TO EXCAVATING BEHIND OR REMOVING ANY EXISTING THRUST BLOCKS, STRUCTURAL STRUTS OR REACTION BEAMS, OR ANY FITTINGS SUCH AS TEES, PLUGS, CAPS, BENDS, OFFSETS, AND VALVES, OR ANY OTHER PIPELINE APPURTENANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED DAMAGES RESULTING FROM FAILURE TO ADEQUATELY SECURE THE EXISTING SYSTEM.

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Lance K Tokuda 4/30/2026
SIGNATURE EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
CIVIL NOTES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 5 OF 123
C002

TRUE NORTH
SCALE: 1 In = 20 Ft

NOTES:

FOR BOREHOLE RESULTS REFER TO "GEOTECHNICAL INVESTIGATION, HAWAII STATE EMERGENCY OPERATIONS CENTER (SEOC) IMPROVEMENTS, BATTERY BIRKHIMER, DIAMOND HEAD STATE MONUMENT, HONOLULU, HAWAII, TMK: (1) 3-1-042:006, "DATED MARCH 21, 2024. PREPARED BY HIRATA & ASSOCIATES, MARCH 21, 2024

LEGEND:

- EXIST UNDERGROUND TANKS AND TRENCH GRATE TO BE DEMOLISHED
- EXISTING TREES TO BE REMOVED
- EXIST. UTILITY LINE(S) TO BE DEMOLISHED
- EXIST. A.C. CURB AND CMU WALL TO BE DEMOLISHED
- APPROXIMATE BORING LOCATIONS

B10
B8
B9
B11

REMOVE EXISTING UNDERGROUND WATER TANK INCLUDING METAL COVER & CONCRETE PAD
REMOVE EXISTING 18" DRAIN LINE
REMOVE EXISTING FUEL TANK AND LINES
REMOVE EXISTING 3" WATERLINE
DEMOLISH EXISTING CMU WALL - 36 LF
REMOVE EXISTING CO
REMOVE EXISTING SMH
REMOVE EXISTING TRENCH DRAIN
REMOVE EXISTING SMH
EXISTING SMH TO REMAIN
REMOVE EXISTING SMH
REMOVE EXISTING TREES
REMOVE EXISTING SANITARY SEWER
EXISTING SMH TO REMAIN
REMOVE EXISTING A.C CURB
EXISTING SMH TO REMAIN

ELECTRIC POWER LINE EASEMENT (25-FT WIDE) (E.O. 1832)
SEWER EASEMENT (10-FT WIDE) (E.O. 1832)

TOPOGRAPHIC SURVEY MAP
HAWAII STATE CIVIL DEFENSE
BIRKHIMER EMERGENCY OPERATIONS CENTER
UPGRADES AND IMPROVEMENTS
AT DIAMOND HEAD CRATER, HONOLULU, OAHU, HAWAII

TMK: (1) 3-1-042: POR. 006
SCALE: 1 in. = 20 ft. JANUARY 16, 2024
JOB NO. 23004-14 FIELD BOOK: 3355: 66
DRN: DN-W FLD: SS

CONTROLPOINT SURVEYING, INC.
615 PIIKOI STREET, SUITE 700
HONOLULU, HAWAII 96814

STA. 46
MAG NAIL
ELEV.=273.70
N 4631.7684
E 5358.8408

STA. 37
MAG NAIL
ELEV.=264.62
N 4444.7057
E 5447.9173

STA. 36
MAG NAIL
ELEV.=265.76
N 4320.4831
E 5483.0701

STA. 72
MAG NAIL
ELEV.=228.88
N 4152.7974
E 5488.2610

DIAMOND HEAD RESERVATION
C.S.F. 22,444
(E.O. 1997)

EX CONDITIONS/DEMOLITION PLAN
SCALE: 1" = 20'

GRAPHIC SCALE:
20' 10' 0 20' 40'
SCALE: 1" = 20'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	3/31/24	DATE	APPR.
1	SYM			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

EX CONDITIONS/DEMOLITION PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 6 OF 123
C101

TRUE NORTH
SCALE: 1 In = 20 Ft

LEGEND:

FILTER SOCK

ELECTRIC POWER LINE EASEMENT (25-FT WIDE) (E.S.F. 17457)

FILTER SOCK

FILTER SOCK, TYP. SEE DETAIL 1 CS501

SEWER EASEMENT (10-FT WIDE) (E.O. 1832)

DIAMOND HEAD RESERVATION C.S.F. 22,444 (E.O. 1997)

STA. 46 MAG NAIL ELEV.=273.70 N 4631.7684 E 5358.8408

STA. 37 MAG NAIL ELEV.=264.62 N 4444.7057 E 5447.9173

STA. 36 MAG NAIL ELEV.=265.79 N 4320.4831 E 5483.0701

STA. 72 MAG NAIL ELEV.=226.88 N 4152.7974 E 5488.2610

EROSION CONTROL PLAN
SCALE: 1" = 20'

GRAPHIC SCALE:
20' 10' 0 20' 40'
SCALE: 1" = 20'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE (lance k tokuda) 4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	3/21/24	DATE	APPR.
1	STM			

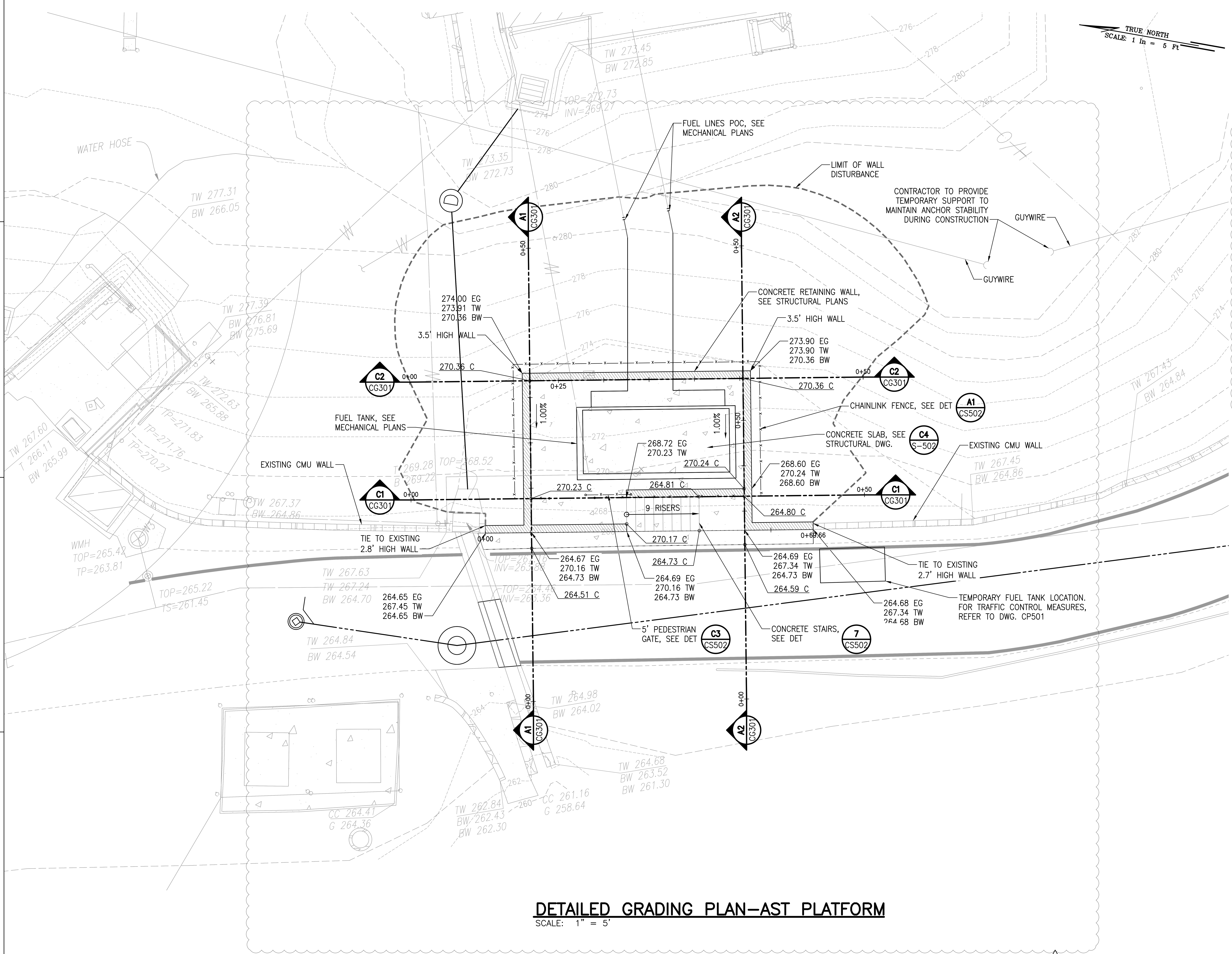
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

EROSION CONTROL PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 7 OF 123
C102



DETAILED GRADING PLAN–AST PLATFORM

SCALE: 1" = 5'

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- LIMIT OF WALL EXCAVATION
- 174.54 E — SPOT ELEVATION AT EXISTING GRADE
- 174.54 C — SPOT ELEVATION AT CONCRETE
- 174.54 TW — SPOT ELEVATION AT TOP OF WALL
- 174.54 BW — SPOT ELEVATION AT BOTTOM OF WALL

NOTES:

1. FOR TYPICAL TRAFFIC CONTROL MEASURES, SEE SHEET CP501

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

SYM	DATE	DESCRIPTION	APPR.
1	3/21/24	ADDENDUM NO. 1	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 3/01/2024

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

DETAILED GRADING PLAN-AST PLATFORM

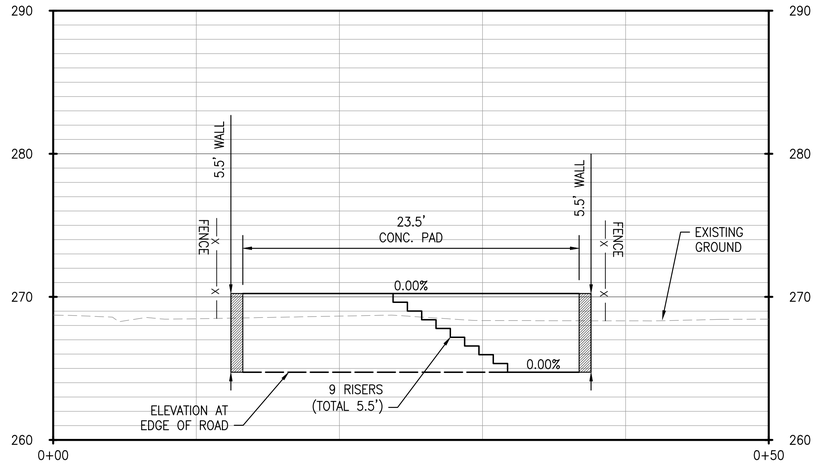
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

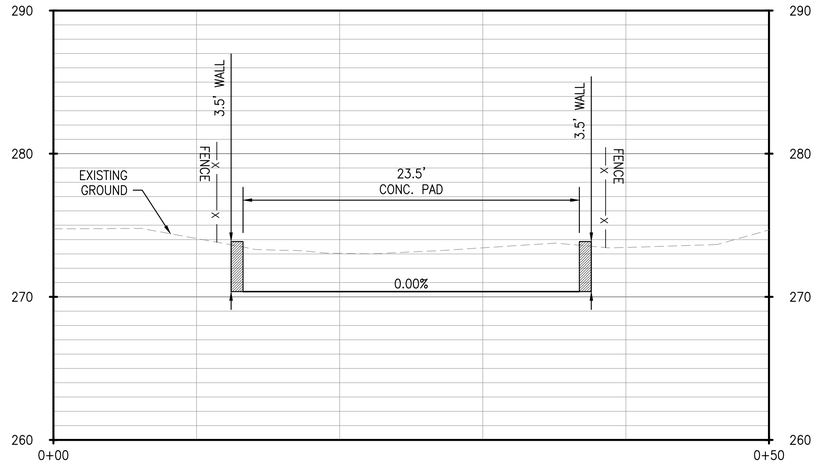
SHEET 11 OF 123

CG101



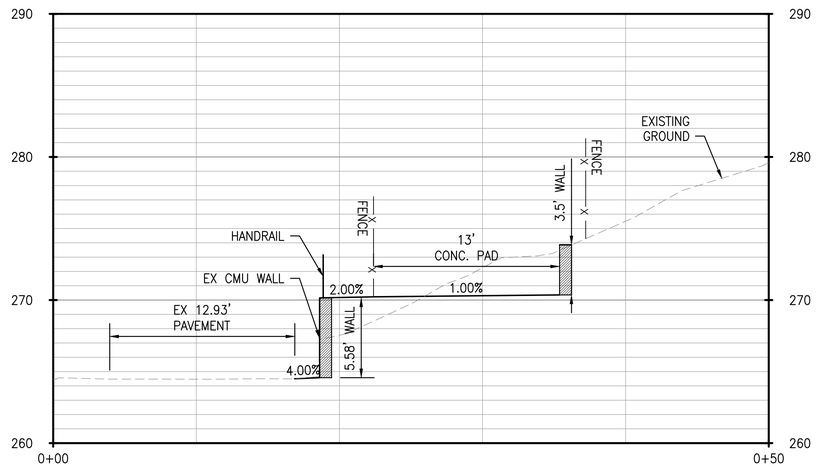
C1 GRADING SECTION

SCALE: HORIZ. 1" = 5' / VERT. 1" = 5'



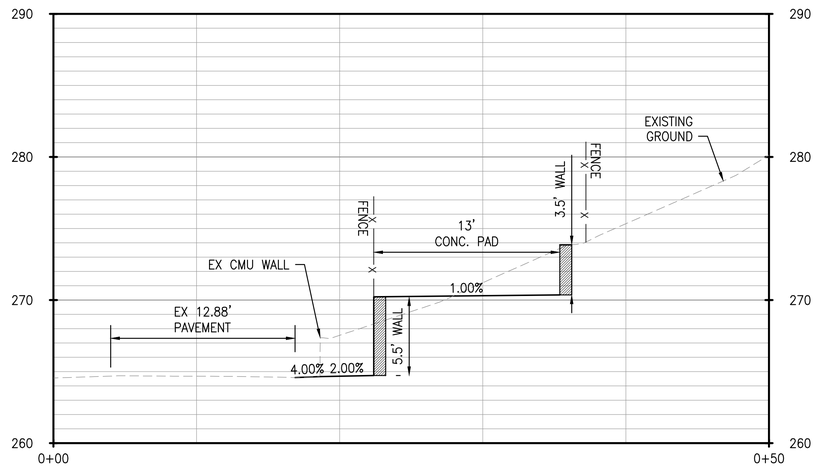
C2 GRADING SECTION

SCALE: HORIZ. 1" = 5' / VERT. 1" = 5'



A1 GRADING SECTION

SCALE: HORIZ. 1" = 5' / VERT. 1" = 5'



A2 GRADING SECTION

SCALE: HORIZ. 1" = 5' / VERT. 1" = 5'

NOTES:

1. SEE SHEET CG101 FOR SECTION LOCATIONS.

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM NO.	DESCRIPTION	DATE	APPR.
1	STR	3/21/24	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 3/01/2024

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

GRADING SECTIONS - AST PLATFORM

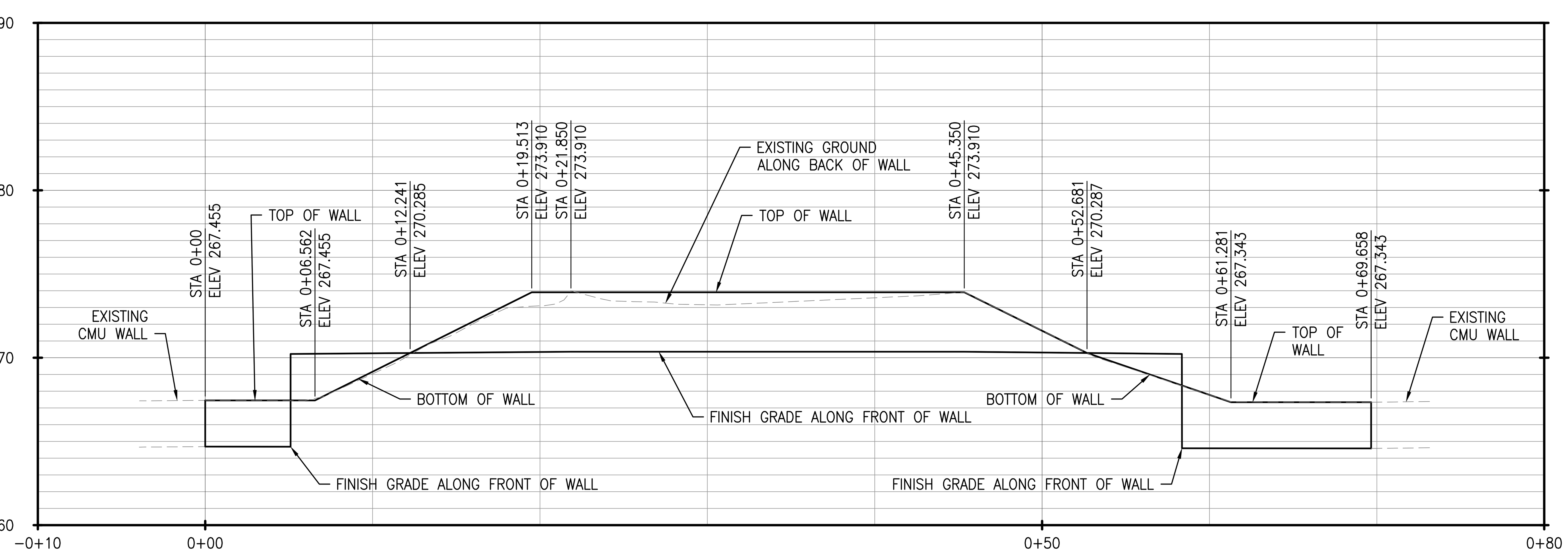
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 12 OF 123

CG301



1

RETAINING WALL PROFILE

SCALE: HORIZ 1" = 5'
VERT 1" = 5'

GRAPHIC SCALE:

5' 0 5' 10'

SCALE: 1" = 5'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

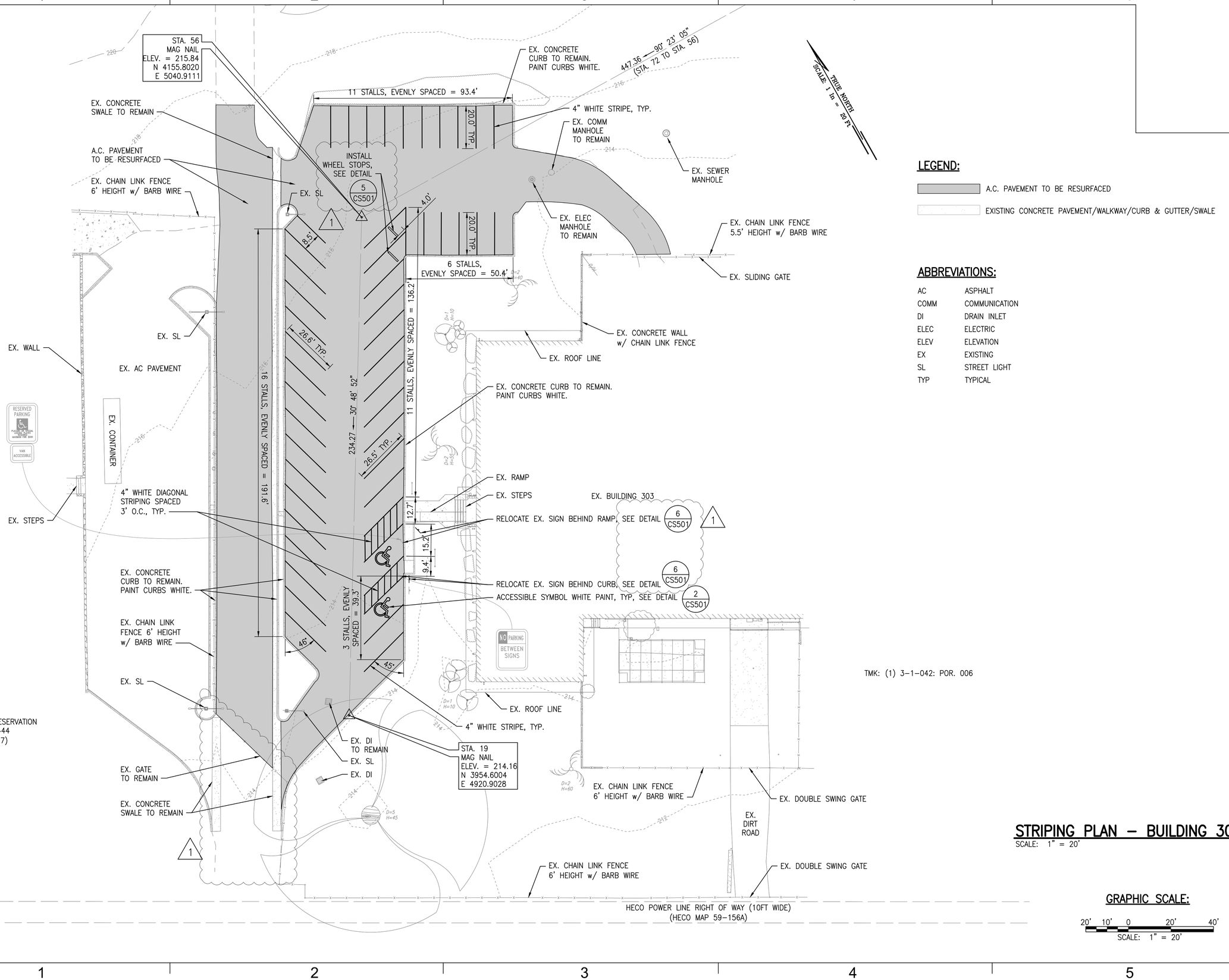
SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/21/24	

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

STATE OF HAWAI'I DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816 TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

RETAINING WALL PROFILE

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 13 OF 123
CG302



LEGEND:

A.C. PAVEMENT TO BE RESURFACED

EXISTING CONCRETE PAVEMENT/WALKWAY/CURB & GUTTER/SWALE

ABBREVIATIONS:

AC	ASPHALT
COMM	COMMUNICATION
DI	DRAIN INLET
ELEC	ELECTRIC
ELEV	ELEVATION
EX	EXISTING
SL	STREET LIGHT
TYP	TYPICAL

STRIPING PLAN – BUILDING 303

SCALE: 1" = 20'

GRAPHIC SCALE:

20' 10' 0 20' 40'

SCALE: 1" = 20'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE: 4/30/2026

ADDENDUM NO. 1	DESCRIPTION	DATE	APPR.
3/14		3/21/24	

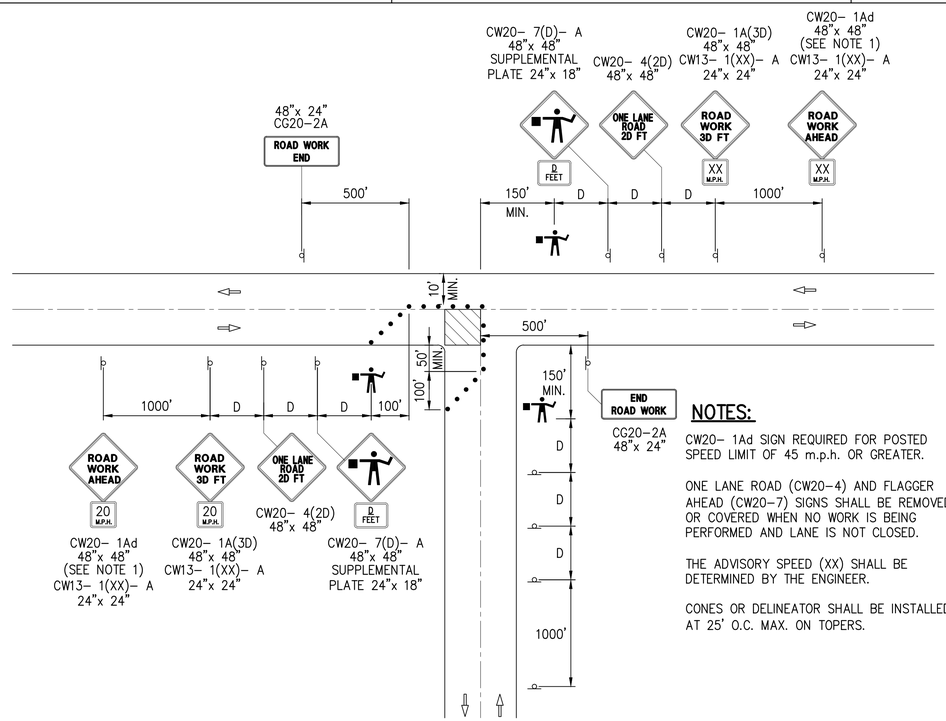
SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

STRIPING PLAN - BUILDING 303

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 14 OF 123
CP102



T–SECTION – ONE LANE CLOSURE

NOT TO SCALE

NOTES:

CW20– 1Ad SIGN REQUIRED FOR POSTED SPEED LIMIT OF 45 m.p.h. OR GREATER.

ONE LANE ROAD (CW20–4) AND FLAGGER AHEAD (CW20–7) SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED AND LANE IS NOT CLOSED.

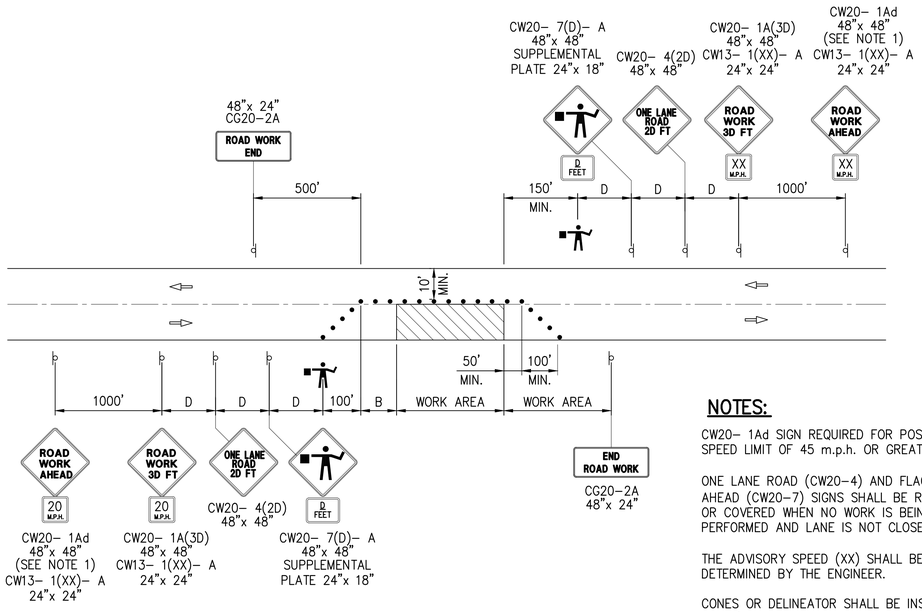
THE ADVISORY SPEED (XX) SHALL BE DETERMINED BY THE ENGINEER.

CONES OR DELINEATOR SHALL BE INSTALLED AT 25' O.C. MAX. ON TOPERS.

TABLE 1 FOR TRAFFIC CONTROL PLAN							
POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) FEET	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR DELINEATORS (FEET)		
		W=12' OR LESS (1)	W=GREATER THAN 12' (1)		TAPER	TANGENT	WORK AREA
20	250	200	W X 17	35	20	20	10
25	250	200	W X 17	55	25	25	10
30	250	250	W X 20	85	30	30	10
35	250	250	W X 20	120	35	35	10
40	500	350	W X 30	170	40	40	10
45	500	550	W X 45	220	45	45	10
50	1000	600	W X 50	280	50	50	10
55	1000	700	W X 55	335	55	55	10

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. TRAFFIC CONES AND DELINEATORS SHALL BE A MINIMUM OF 18 INCHES IN HEIGHT WITH A BROADENED BASE AND MAY BE MADE OF VARIOUS MATERIALS TO WITHSTAND IMPACT WITHOUT DAMAGE TO THEMSELVES OR TO VEHICLES. TWENTY–EIGHT INCHES SHOULD BE THE MINIMUM HEIGHT OF CONES DURING HOURS OF DARKNESS.
2. TRAFFIC CONES AND DELINEATORS SHALL BE REFLECTORIZED OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBILITY DURING NIGHT TIME USE.
3. REFLECTORIZATION OF TUBULAR MARKERS SHALL BE A MINIMUM OF TWO, THREE–INCH WIDE WHITE BANDS PLACED MAXIMUM OF 2 INCHES FROM THE TOP WITH A MAXIMUM OF 6 INCHES BETWEEN THE BANDS. REFLECTORIZATION OF CONES SHALL BE PROVIDED BY A MINIMUM 6–INCH–WIDE BAND PLACED A MINIMUM OF 3 INCHES BUT NO MORE THAN 4 INCHES FROM THE TOP. WHEN THE 28–INCH OR LARGER SIZE CONES ARE USED THE STANDARD 6–INCH BAND SHALL BE SUPPLEMENTED WITH AN ADDITIONAL 4–INCH WHITE BAND SPACED A MINIMUM OF 2 INCHES BELOW THE 6–INCH BAND.
4. THE PERMITTEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTION, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
5. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
6. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
7. REGULATORY AND WARNINGS SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
8. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
9. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITTEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
10. SIGN SPACINGS, (D) TAPER LENGTHS (T) AND SPACING OR CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
11. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
12. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
13. THE BACKS OF ALL SIGNS FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH SIDES).
14. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN REVERSE ORDER OF INSTALLATION.
15. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
16. CONTRACTOR SHALL EXCAVATE WHAT HE CAN INSTALL IN ANY GIVEN DAY.
17. OPEN TRENCH WILL NOT BE ALLOWED UNLESS ROAD PLATE IS INSTALLED.
18. TEMPORARY PATCH ACCEPTABLE, HOWEVER, PERMANENT REPAIR SHALL BE DONE IN 7 DAYS.
19. TRENCH SHALL BE MAINTAINED REGULARLY.
20. STEEL TRACK EQUIPMENT NOT PERMITTED ON PAVEMENT. DAMAGED PAVEMENTS DUE DUE TO EQUIPMENT(S) SHALL BE REPAIRED TO THE SATIFACTION OF THE ENGINEER, INCLUDING RESURFACING, RECONSTRUCTION, ETC.
21. CONTRACTOR SHALL SUBMIT VIDEOTAPE OP PROPOSED ROUTE SHOWING CONDITION OF EXISTING PAVEMENT.



NOTES:

CW20– 1Ad SIGN REQUIRED FOR POSTED SPEED LIMIT OF 45 m.p.h. OR GREATER.

ONE LANE ROAD (CW20–4) AND FLAGGER AHEAD (CW20–7) SIGNS SHALL BE REMOVED OR COVERED WHEN NO WORK IS BEING PERFORMED AND LANE IS NOT CLOSED.

THE ADVISORY SPEED (XX) SHALL BE DETERMINED BY THE ENGINEER.

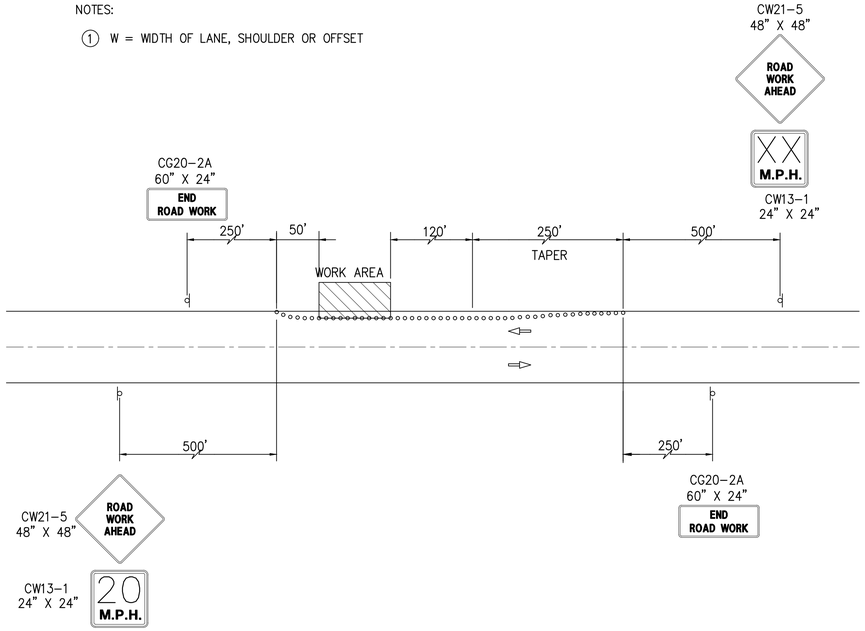
CONES OR DELINEATOR SHALL BE INSTALLED AT 25' O.C. MAX. ON TOPERS.

TWO LANE HIGHWAY – ONE LANE CLOSURE

NOT TO SCALE

NOTES:

(1) W = WIDTH OF LANE, SHOULDER OR OFFSET



TWO LANE HIGHWAY – NO LANE CLOSURE

NOT TO SCALE

LEGEND

- CONES
- DIRECTION OF TRAFFIC
- SIGN
- WORK AREA
- POLICE OFFICER/FLAGGER

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

TRAFFIC CONTROL PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 15 OF 123
CP501

TEMPORARY STAFF PARKING AREA DURING CONSTRUCTION. MAINTAIN VEHICLE AND PEDESTRIAN ACCESS FOR THE DURATION OF CONSTRUCTION

STA. 56
MAG NAIL
ELEV. = 215.84
N 4155.8020
E 5040.9111

EX. AC PAVEMENT

SAWCUT EX. PAVEMENT MATCH EX.

217.98 P

217.86 P

EX. CONCRETE CURB TO REMAIN

447.36' — 90° 23' 05" (STA. 72 TO STA. 56)

217.07 P
217.08 P
216.96 P

165°40'06"
157°03'22"
72.91'
86.49'

215.56 P
214.98 P

EX. COMM MANHOLE TO REMAIN

EX. SEWER MANHOLE

214.13 P

213.59 P

EX. SL

217.22 P

EX. CHAIN LINK FENCE 6' HEIGHT w/ BARB WIRE

216.86 P

213.40 P

EX. SLIDING GATE

EX. CHAIN LINK FENCE 5.5' HEIGHT w/ BARB WIRE

214.14 P

EX. ELEC MANHOLE TO REMAIN

EX. CONCRETE SWALE TO REMAIN

215.67 P
215.70 P

214.85 P

213.21 P

SAWCUT EX. PAVEMENT MATCH EX.

EX. SL

216.36 P

30' 48' 52"

234.27

EX. CONCRETE WALL w/ CHAIN LINK FENCE

EX. WALL

EX. ROOF LINE

EX. CONCRETE CURB TO REMAIN

A.C. PAVEMENT. 3/CS501

EX. CONTAINER

32'41'14"
129.80'

EX. CONCRETE CURB TO REMAIN

EX. STEPS

EX. BUILDING 303

EX. STEPS

EX. RAMP

RELOCATE EX. SIGN BEHIND RAMP, SEE DETAIL 5/CS501

RELOCATE EX. SIGN BEHIND CURB, SEE DETAIL

SEE DETAIL "A"

DIAMOND HEAD RESERVATION C.S.F. 22,444 (E.O. 1997)

EX. AC PAVEMENT

REMOVE SEDIMENT FROM EXISTING DRAIN INLET

214.52 P

EX. CHAIN LINK FENCE 6' HEIGHT w/ BARB WIRE

EX. SL

EX. SL

204°56'26"
33.68'

NO PARKING BETWEEN SIGNS

214.36 P
120°08'32"
62.58'

214.28 P

EX. ROOF LINE

TMK: (1) 3-1-042: POR. 006

EX. GATE TO REMAIN

EX. CONCRETE SWALE TO REMAIN

SAWCUT EX. PAVEMENT MATCH EX.

214.01 P

66°30'06"
53.45'

REMOVE SEDIMENT FROM EXISTING DRAIN INLET

213.76 P

STA. 19
MAG NAIL
ELEV. = 214.16
N 3954.6004
E 4920.9028

EX. CHAIN LINK FENCE 6' HEIGHT w/ BARB WIRE

EX. DOUBLE SWING GATE

EX. DIRT ROAD

EX. CHAIN LINK FENCE 6' HEIGHT w/ BARB WIRE

EX. DOUBLE SWING GATE

HECO POWER LINE RIGHT OF WAY (10FT WIDE)
(HECO MAP 59-156A)

PAVEMENT PLAN – BUILDING 303

SCALE: 1" = 20'

SCALE: 1 in = 20 ft TRUE NORTH

LEGEND:

A.C. PAVEMENT TO BE RESURFACED

EXISTING CONCRETE PAVEMENT/WALKWAY/ CURB & GUTTER/SWALE

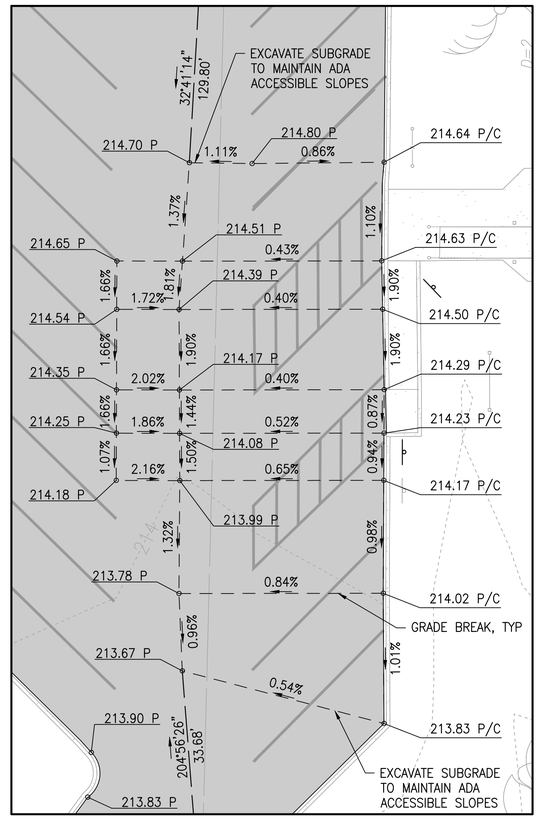
ABBREVIATIONS:

AC	ASPHALT	ELEV	ELEVATION
COMM	COMMUNICATION	EX	EXISTING
DI	DRAIN INLET	SL	STREET LIGHT
ELEC	ELECTRIC		

NOTES:

1. ADA PARKING STALLS SHALL NOT EXCEED 2% GRADE IN ANY DIRECTION.
2. REMOVE EXISTING ASPHALT UP TO CONCRETE BASE AT FENCE POSTS (TYP.).
3. FOR TYPICAL TRAFFIC CONTROL MEASURES, SEE SHEET CP501.

1



DETAIL "A"

SCALE: 1" = 10'

1

GRAPHIC SCALE:

20' 10' 0 20' 40'
SCALE: 1" = 20'

10' 5' 0 10' 20'
SCALE: 1" = 10'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — 4/30/2026 EXPIRATION DATE

ADDENDUM NO. 1	3/31/24	STM
	DATE	DESCRIPTION

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

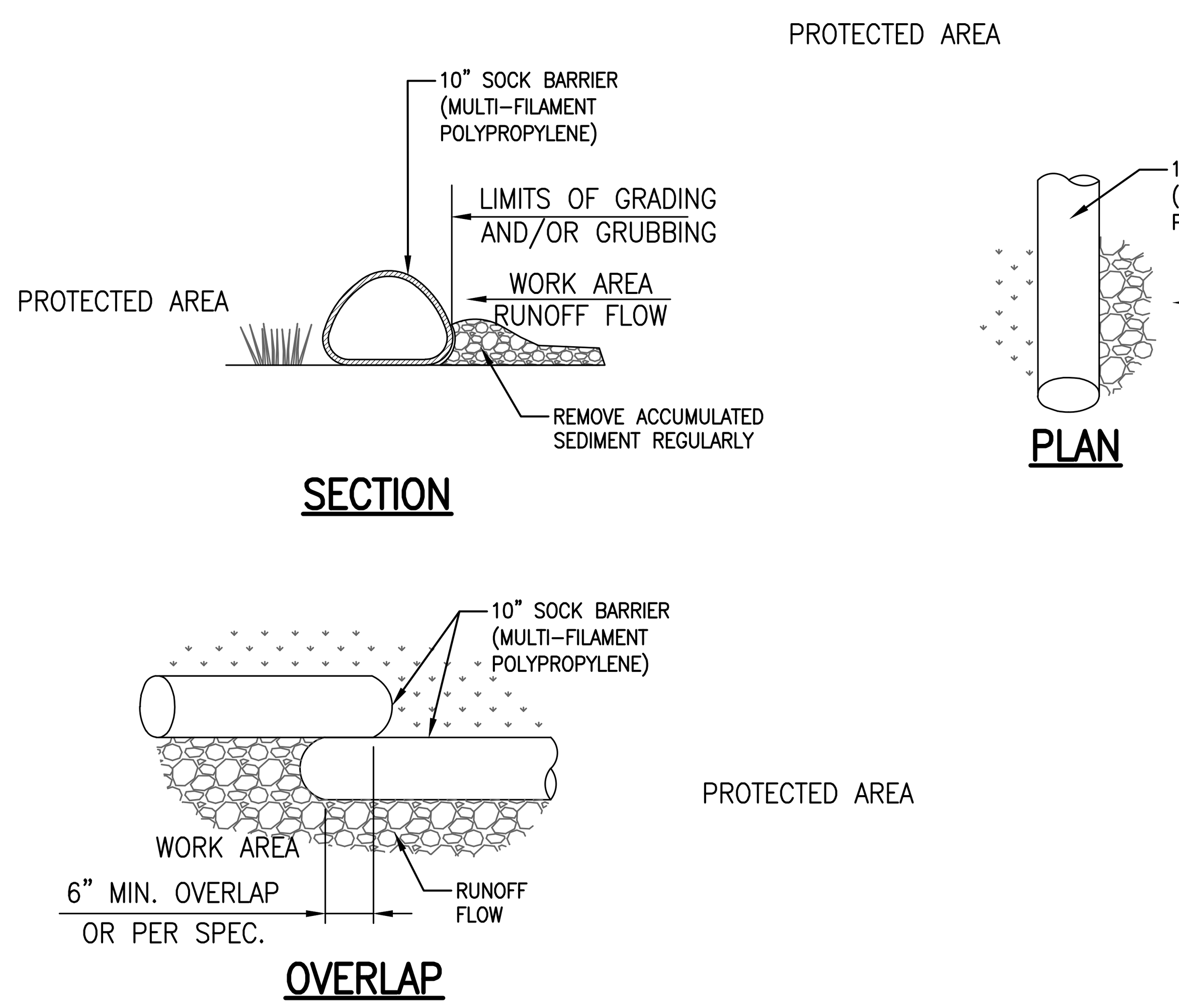
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

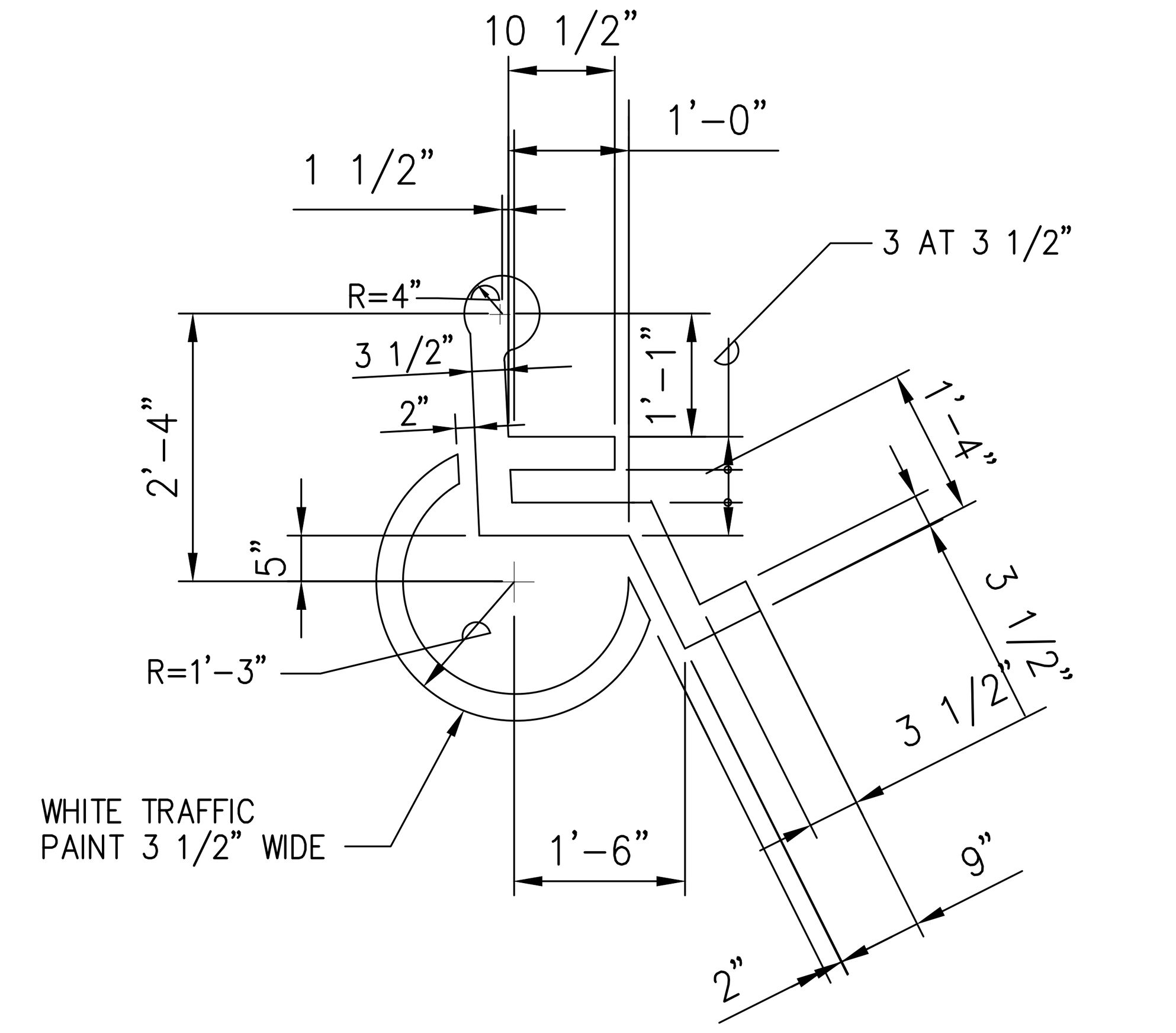
PAVEMENT PLAN - BUILDING 303

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 8 OF 123

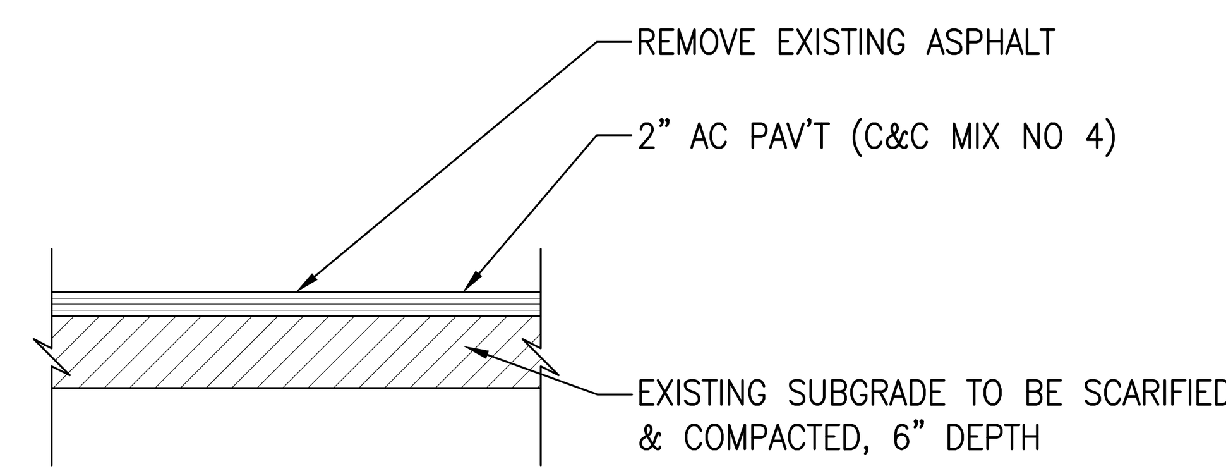
CS101



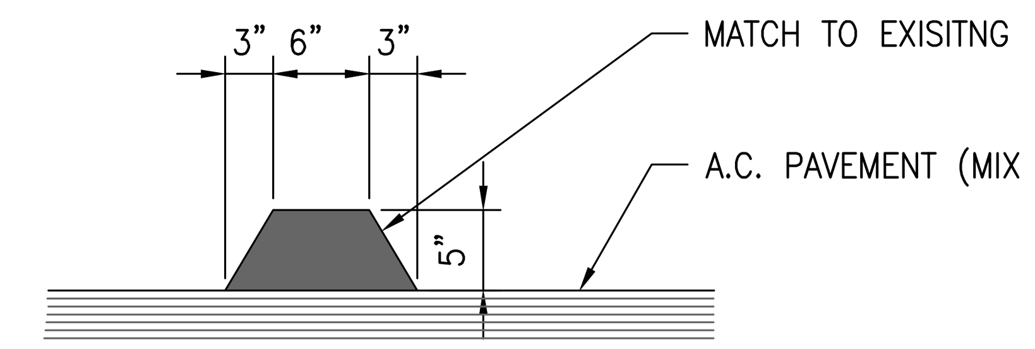
1 CS501 SILT SOCK BARRIER DETAIL
NOT TO SCALE



2 CS501 ACCESSIBLE PAVEMENT MARKING
NOT TO SCALE



3 CS501 PAVEMENT STRUCTURE DETAIL
NOT TO SCALE



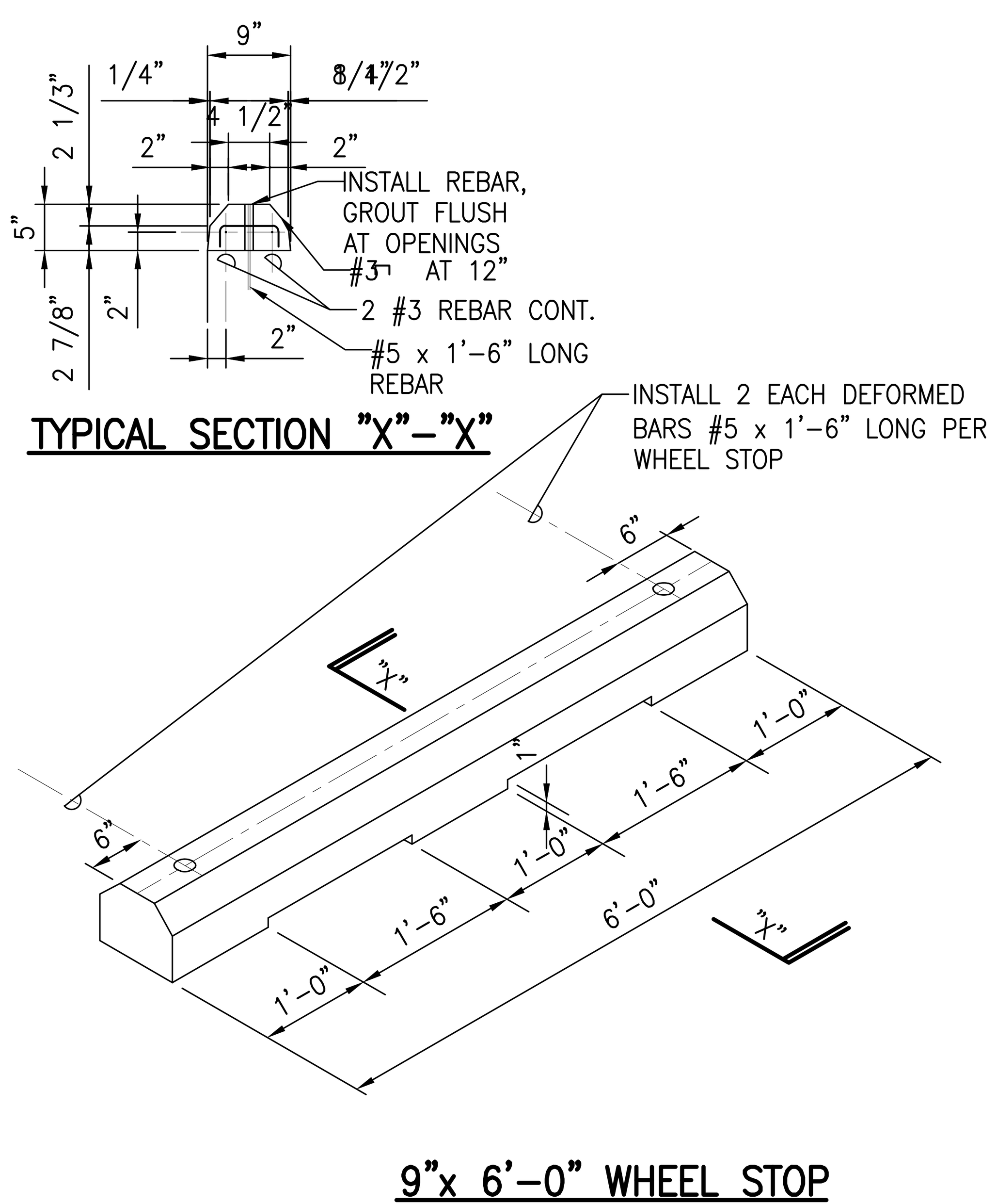
4 CS501 AC CURB RESTORATION DETAIL
NOT TO SCALE

SIGN POST DETAIL NOTES:

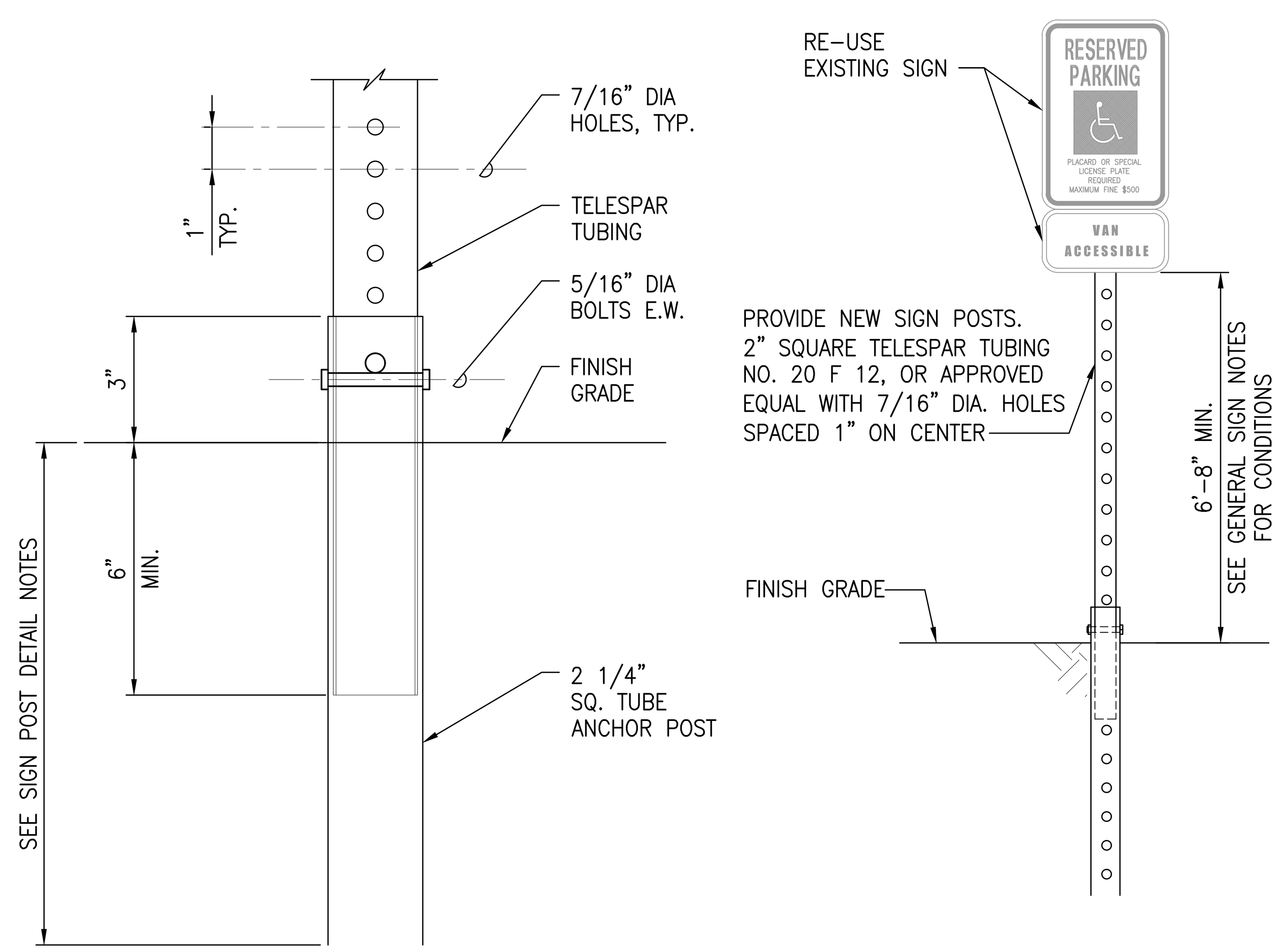
1. THE INSIDE OF THE 2-1/4" ANCHOR POST MUST BE KEPT FREE OF IMPEDIMENTS TO ASSURE EASY INSERTION OF THE 2" SIGN POST.
2. SQUARE TUBE POST SHALL BE TELESCOPING PERFORATED.
3. THE 2-1/4" ANCHOR POST SHALL BE 4'-0" LONG FOR NORMAL OR POOR CONDITIONS AND 2'-6" FOR ROCKY CONDITIONS.
4. SIGN POST MUST BE FIRM AND NOT SHAKY, OTHERWISE CONCRETE MUST BE USED TO STABILIZE THE ANCHOR POST.

SIGN NOTES:

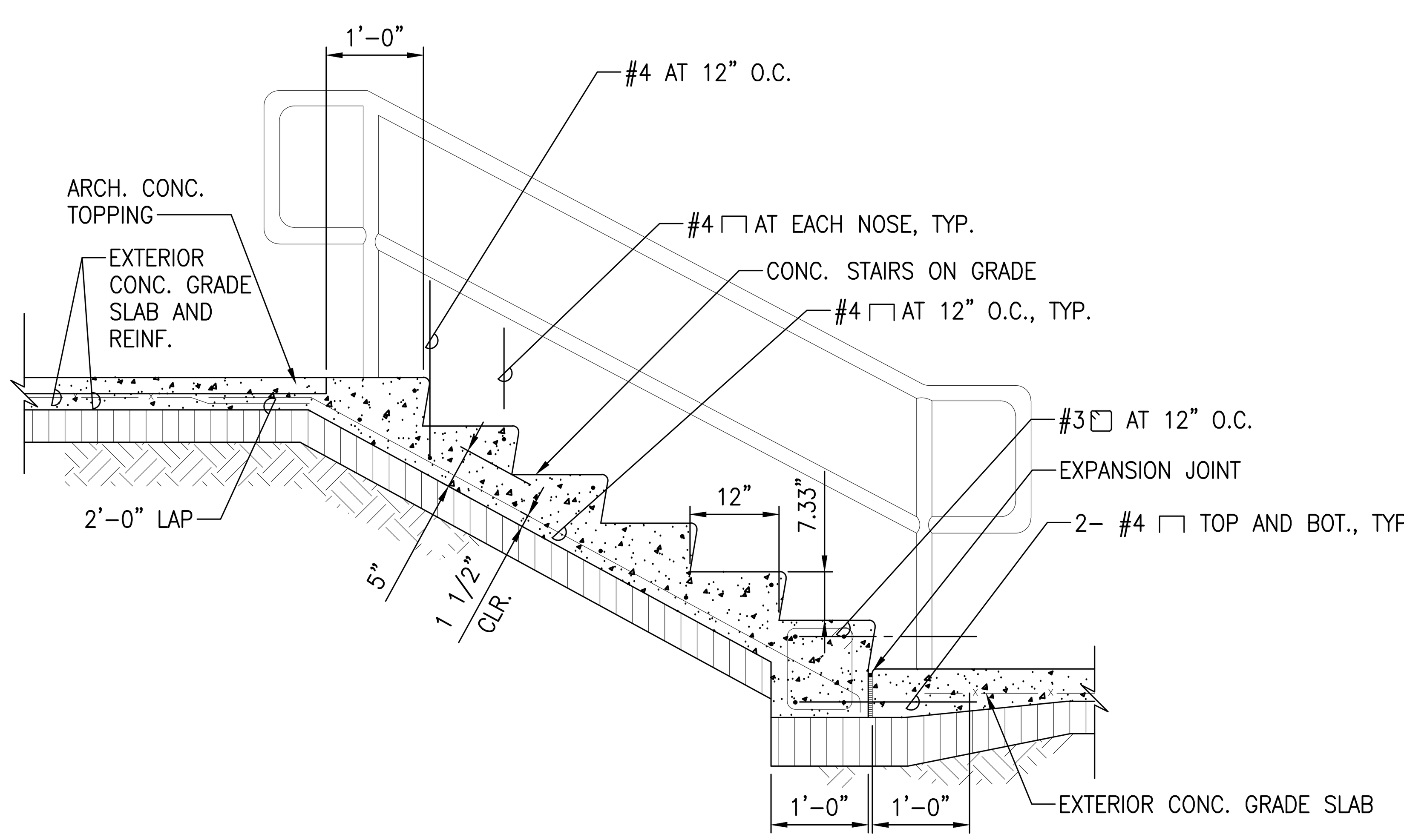
1. SIGNS SHALL CONFORM TO THE LATEST EDITION OF FHWA PUBLICATIONS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", STANDARD ALPHABETS FOR HIGHWAYS SIGNS", AND THE AMERICANS WITH DISABILITIES ACCESSIBILITY GUIDELINES (ADAAG) SECTION 4.30, AND AS AMENDED.
2. SIGNS SHALL BE MINIMUM T6061 SHEET COVERED WITH ENGINEERING GRADE REFLECTIVE SHEETHING.
3. ALL SIGNS SHALL HAVE 3/8" DIA BOLT HOLES PRE-DRILLED AT APPROPRIATE LOCATIONS.
4. SIGN LETTERING SHALL BE UPPERCASE LETTERS OF THE TYPE APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.



5 CS501 CONCRETE WHEEL STOP DETAIL
NOT TO SCALE



6 CS501 SIGN POST DETAIL
NOT TO SCALE



7 CS501 STAIR DETAIL
NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA LICENSED PROFESSIONAL ENGINEER NO. 8631 HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/21/24	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 3/01/2024

STATE OF HAWAII DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816 TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

SITE DETAILS

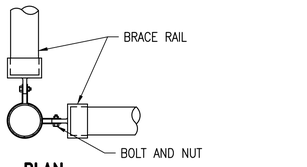
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

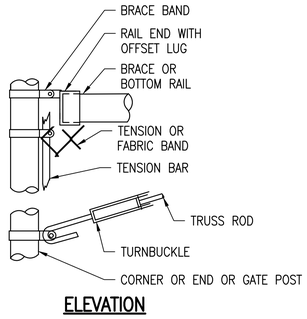
FEDERAL PROJECT NO. -

SHEET 9 OF 123

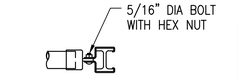
CS501



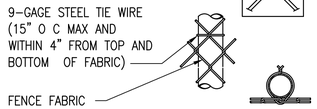
PLAN



ELEVATION

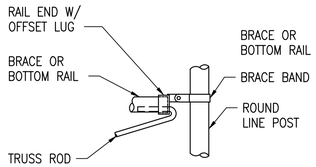


PLAN – "H" POST

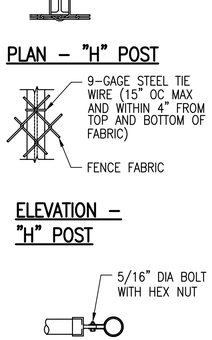


ELEVATION – ROUND POST

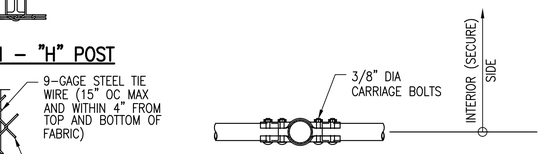
PLAN – ROUND POST



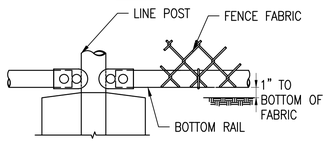
ELEVATION – ROUND POST



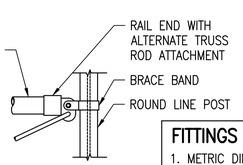
PLAN – ROUND POST



PLAN



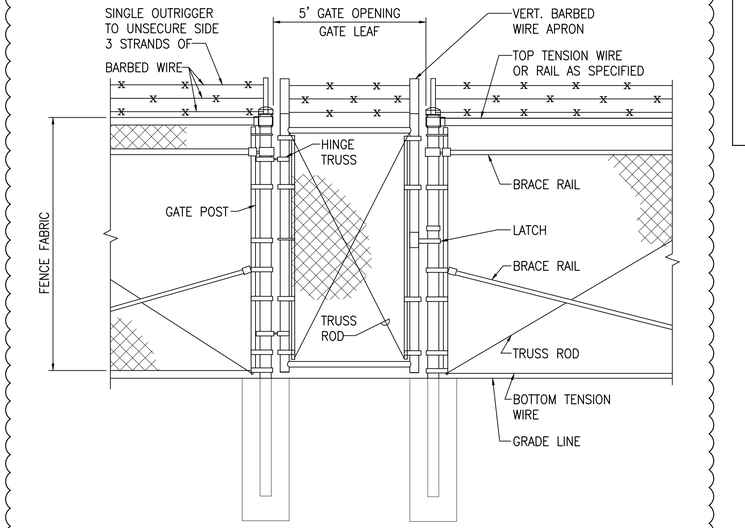
ELEVATION BOTTOM RAIL OPTION



ELEVATION – "H" POST

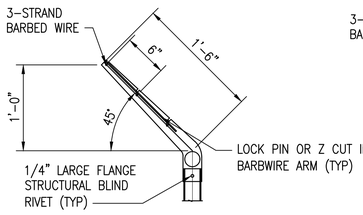
FITTINGS NOTES

1. METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS.
2. ALL FITTINGS MATERIAL MUST BE AS SPECIFIED.



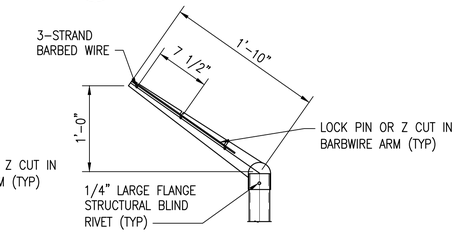
C3 PEDESTRIAN GATE
NOT TO SCALE

C1 CORNER OR END POST DETAILS
NOT TO SCALE



LINE POST

C2 LINE POST DETAILS
NOT TO SCALE

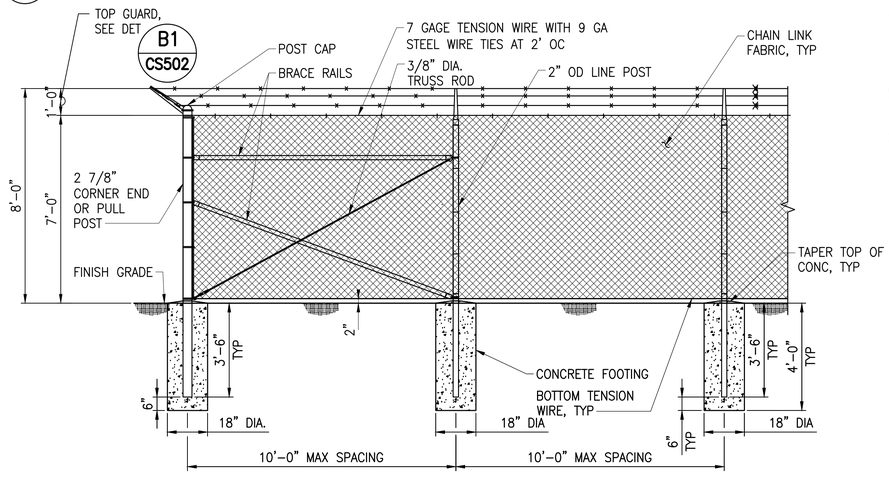


CORNER POST

CHAIN LINK FENCING NOTES

1. FABRIC: THE STANDARD FENCE FABRIC MUST BE STEEL WIRE CHAIN LINK WITH MESH OPENINGS NOT LARGER THAN TWO INCHES PER SIDE AND A TWISTED AND BARBED SELVAGE AT TOP AND BOTTOM IN ACCORDANCE WITH THE SPECIFICATIONS. UTILIZE 6-GAUGE FOR BASE PERIMETER OR HEIGHTENED SECURITY ZONES AND 9-GAUGE FOR BASE INTERIOR OR WHEN JOINING AN EXISTING FENCE WHICH IS ALREADY 9-GAUGE.
2. FABRIC TIES: ONLY 12-GAUGE STEEL TIES MUST BE USED. COATING OR PLATING WILL BE ELECTROLYTICALLY COMPATIBLE WITH THE FENCE FABRIC TO INHIBIT CORROSION.
3. REINFORCEMENT: TENSION WIRES MUST BE INSTALLED AND INTERWOVEN (OR AFFIXED WITH FABRIC TIES) ALONG THE TOP AND BOTTOM OF THE FENCE FOR STABILIZATION OF THE FENCE FABRIC.
4. FENCE HEIGHT: CHAIN LINK FABRIC MUST BE 7' HIGH WITH AN ADDITIONAL 1' IN HEIGHT COMPOSED OF 3 STRANDS OR BARBED WIRE AS REQUIRED. THE TOTAL FENCE HEIGHT MUST BE 8'.
5. GROUND CLEARANCE: BOTTOM OF THE FENCE FABRIC MUST BE WITHIN TWO INCHES OF FIRM SOIL.
6. TOP GUARD: A TOP GUARD IS AN OVERHANG OF BARBED WIRE ALONG THE TOP OF A FENCE, FACING OUTWARD (AWAY FROM PROTECTED SITE) AND UPWARD AT APPROX. 45 ANGLE. TOP GUARD SUPPORTING ARMS WILL BE PERMANENTLY AFFIXED TO THE TOP OF FENCE POSTS TO INCREASE THE OVERALL HEIGHT OF THE FENCE AT LEAST 1 FOOT. THREE STRANDS OF 12-GAUGE BARBED WIRE, EQUALLY SPACED, MUST BE INSTALLED ON THE SUPPORTING ARMS.
7. FENCE POSTS: MUST BE ASTM F1043 OR F1083 ROUND PIPE OR SQUARE TUBE AND MUST BE ORGANIZED IN ACCORDANCE WITH THE SPECIFICATIONS. FENCE POST SPACING AND SIZE (DIAMETER) MUST BE DETERMINED IN ACCORDANCE WITH CHAIN LINK FENCE MANUFACTURER'S INSTITUTE (WLG 2445). SPACING MUST NOT EXCEED 10'-0" O.C. SIZE (DIAMETER) MUST NOT BE LESS THAN THAT SPECIFIED.

B1 BARBED WIRE TOP GUARD DETAIL
NOT TO SCALE



A1 8FT HIGH SECURITY CHAINLINK FENCE DETAIL
NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE
4/30/2026
EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/1/24	

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
FENCE DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 10 OF 123
CS502

SEWER CONSTRUCTION NOTES:

1. SEWER SERVICE SHALL BE MAINTAINED AT ALL TIMES. MAXIMUM ALLOWED SHUTDOWN DURATION IS 6 HOURS WITH APPROVAL BY GOVERNMENT CONSTRUCTION MANAGER. PROVIDE ONE-WEEK ADVANCE NOTICE TO TENANT OPERATIONS MANAGER.
2. ADD BURIED REINFORCED CONCRETE PIPE SUPPORT BLOCKS WITHIN SLOPED AREA.
3. FOR TYPICAL TRAFFIC CONTROL MEASURES, SEE SHEET CP501.

1

DIAMOND HEAD RESERVATION
C.S.F. 22,444
(E.O. 1997)

TRUE NORTH
SCALE: 1 In = 20 Ft

WATERLINE PROFILE, SEE SHEET CU202
2" CW FILTRATION RECIRC
WATER TANK PLAN, SEE SHEET CU101
ELECTRIC POWER LINE EASEMENT (25-FT WIDE) (G.S.F. 17457)
EXISTING 2 1/2" COPPER LINE
3" CW, SEE SHEET CU203 FOR PROFILE
PROPOSED SMH #1 SEE DETAIL 6/CU501
EX. DI
18" DRAINLINE SEE PROFILE ON SHEET CU202
EXISTING TRENCH DRAIN
PROPOSED FUEL LINE
REINFORCED CONCRETE PAD
PROPOSED FUEL TANK
PROPOSED RETAINING WALL
FOR DETAILED GRADING PLAN, SEE SHEET CG101
EX. SMH #1-A
SEWERLINE-2 SEE PROFILE ON SHEET CU202
EX. SMH #2-A
SMH-3
PROPOSED 2" WATER METER, SEE CU101 FOR DETAILS
CONNECT TO EXIST 1" COPPER
PROVIDE AND MAINTAIN 4 PORTABLE TOILETS AT THIS LOCATION UNTIL SANITARY SEWER IS FULLY OPERATIONAL
EXISTING DUCTLINE
EXISTING 12" DI WATERLINE
CO
EX. CO 1
SMH-5
EX. SMH #4-A
REMOVE AND REPLACE TRENCH DRAIN, SEE DETAIL 1/CS503
SMH-4
EX. SMH #5-A
CONNECT TO EX. LATERAL. CONTRACTOR TO VERIFY IN FIELD
SEWERLINE-1 SEE PROFILE ON SHEET CU201
SEWERLINE-1 SEE PROFILE ON SHEET CU201
EX. SMH #3-A
ALUMINUM LIGHT POST
A.C. CURB, SEE DETAIL 4/CS501
EX. SMH #3
SEWER EASEMENT (10-FT WIDE) (E.O. 1832)
DIAMOND HEAD RESERVATION
C.S.F. 22,444
(E.O. 1997)

GRAPHIC SCALE:
20' 10' 0 20' 40'
SCALE: 1" = 20'

OVERALL UTILITY PLAN
SCALE: 1" = 20'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE (Lance K. Tokuda) 4/30/2026
EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	STR	DATE	APPR.
1			3/21/24	

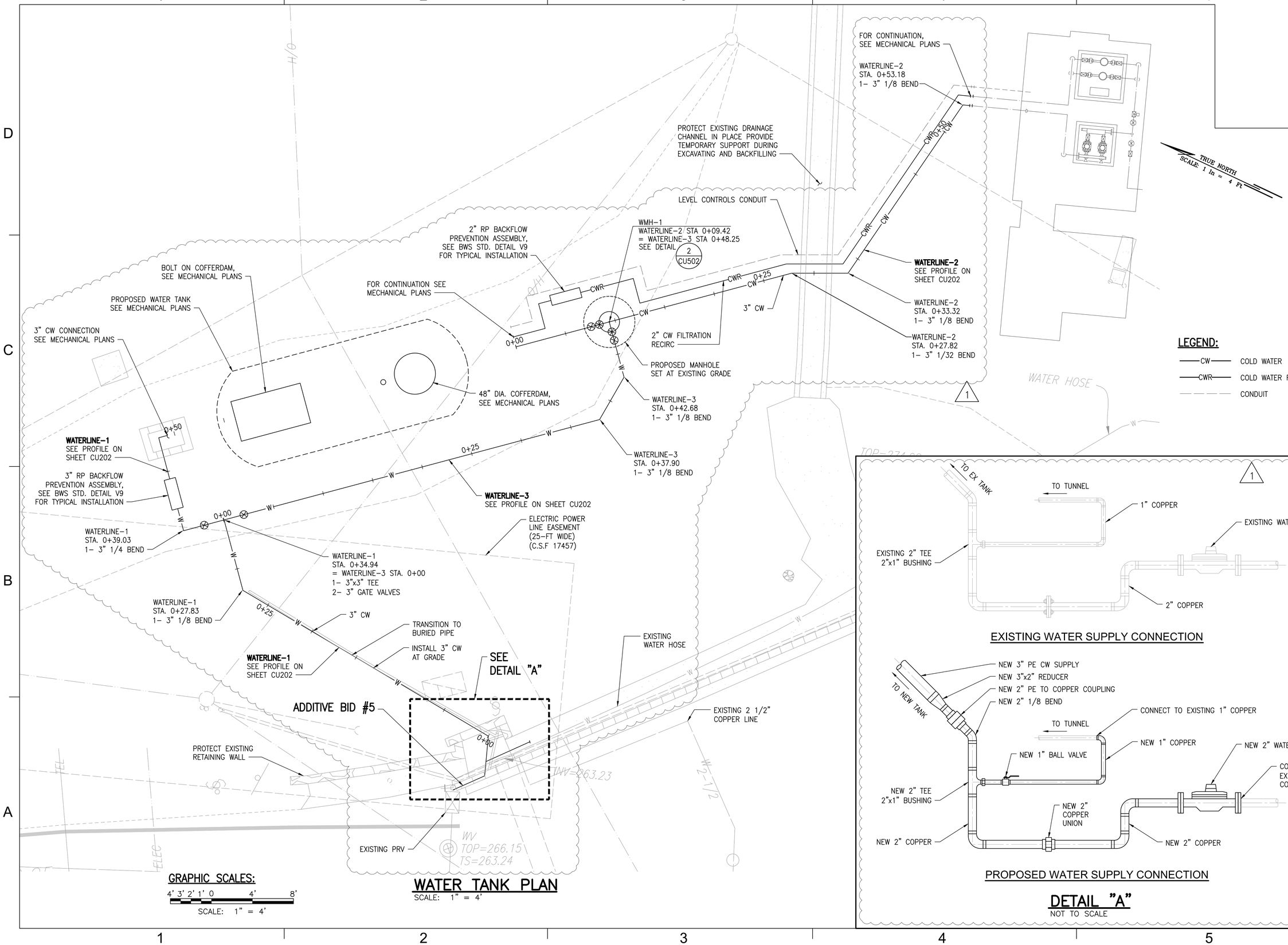
SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

OVERALL UTILITY PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 16 OF 123
CU100



GRAPHIC SCALES:

4' 3' 2' 1' 0 4' 8'

SCALE: 1" = 4'

WATER TANK PLAN

SCALE: 1" = 4'

EXISTING WATER SUPPLY CONNECTION

PROPOSED WATER SUPPLY CONNECTION

DETAIL "A"

NOT TO SCALE

LEGEND:

- CW — COLD WATER
- CWR — COLD WATER RETURN
- CONDUIT

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

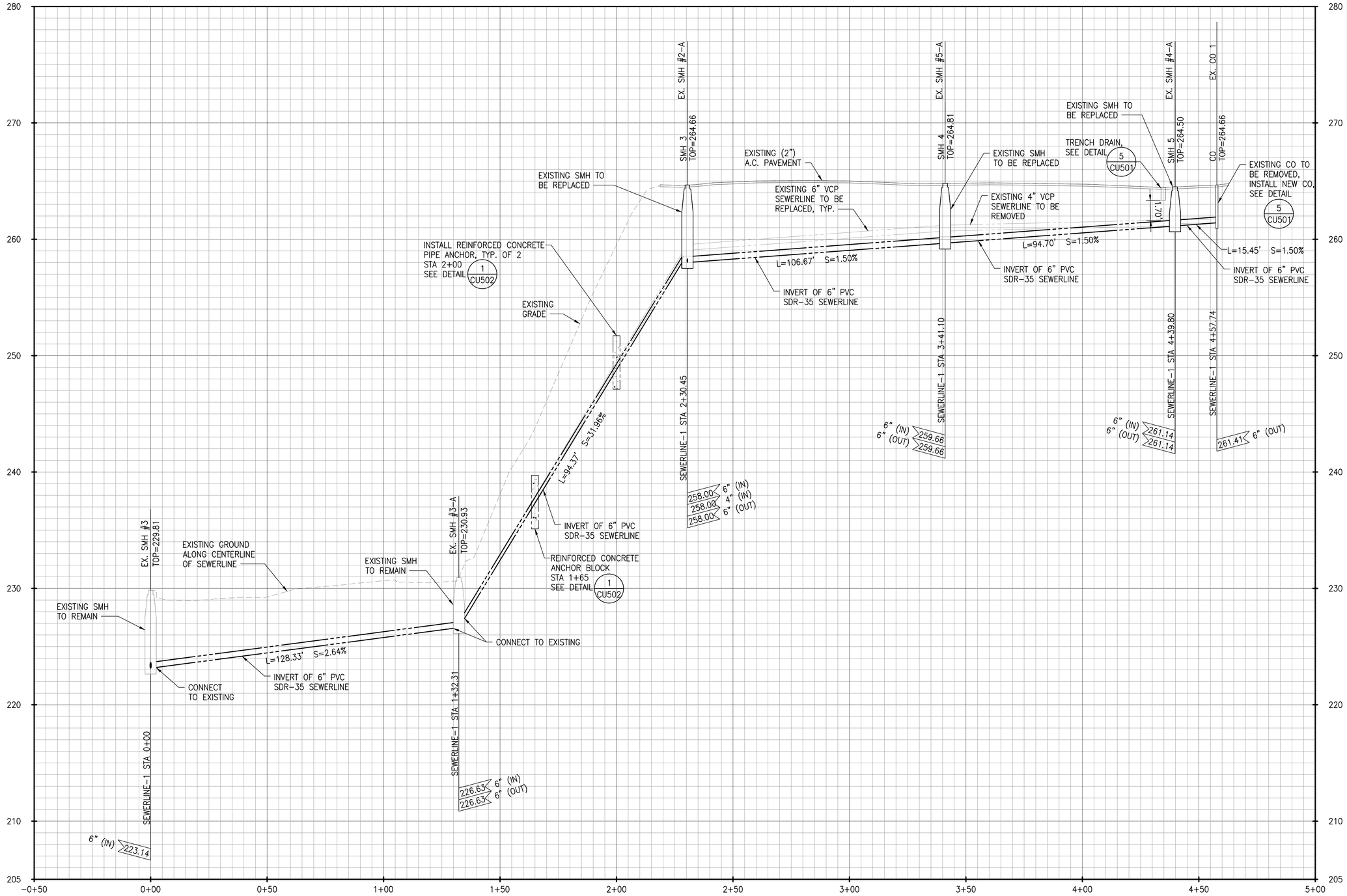
ADDENDUM NO.	DESCRIPTION	BY/M	DATE	APPR.
1			3/21/24	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
WATER TANK PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 17 OF 123
CU101



GRAPHIC SCALE:

20' 10' 0 20' 40'
SCALE: 1" = 20'

4' 3' 2' 1' 0 4' 8'
SCALE: 1" = 4'

SEWERLINE-1 PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

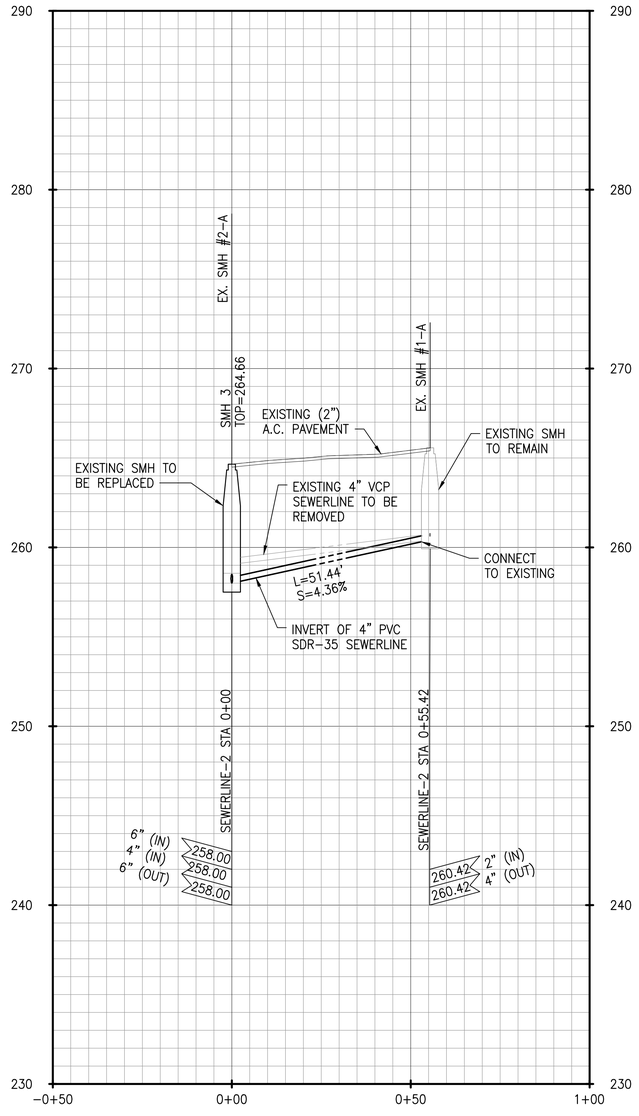
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

SEWERLINE-1 PROFILE

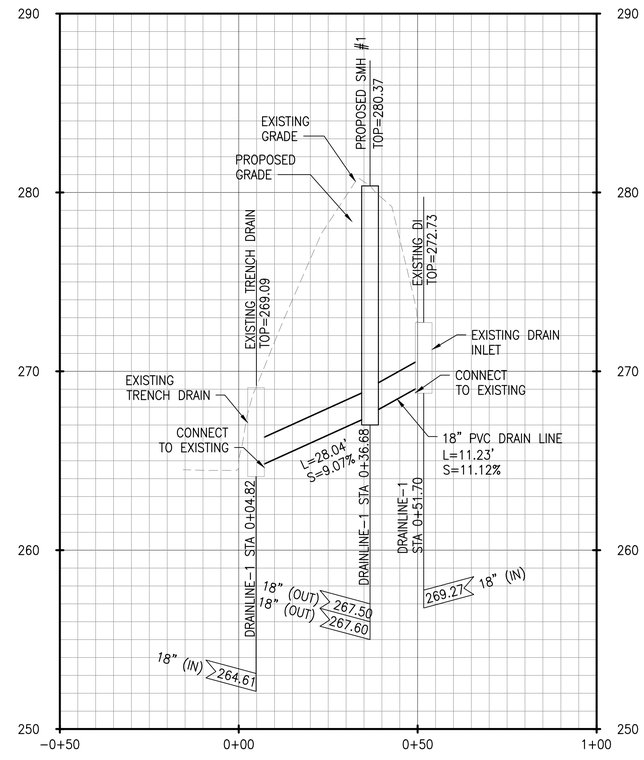
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 18 OF 123
CU201



SEWERLINE−2 PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'

1



DRAINLINE PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'

GRAPHIC SCALE:

20' 10' 0 20' 40'
SCALE: 1" = 20'

4' 3' 2' 1' 0 4' 8'
SCALE: 1" = 4'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE (Lance K. Tokuda) 4/30/2026
EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	BY/M	DATE	APPR.
1			3/21/24	

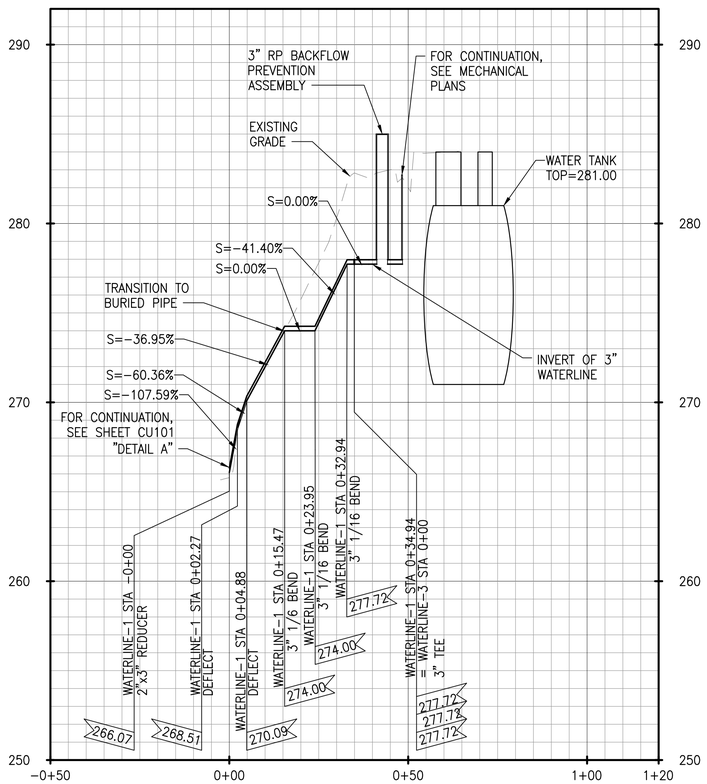
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

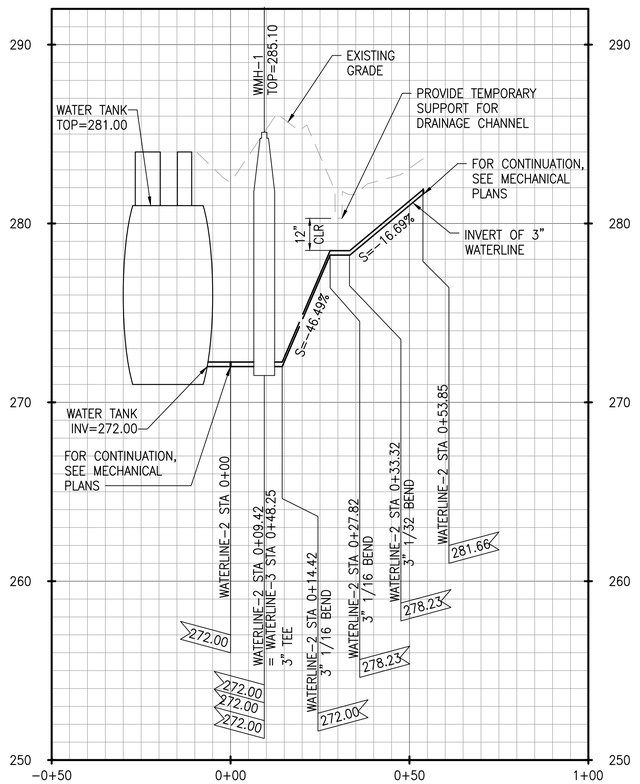
SEWER AND DRAIN PROFILES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 19 OF 123
CU202



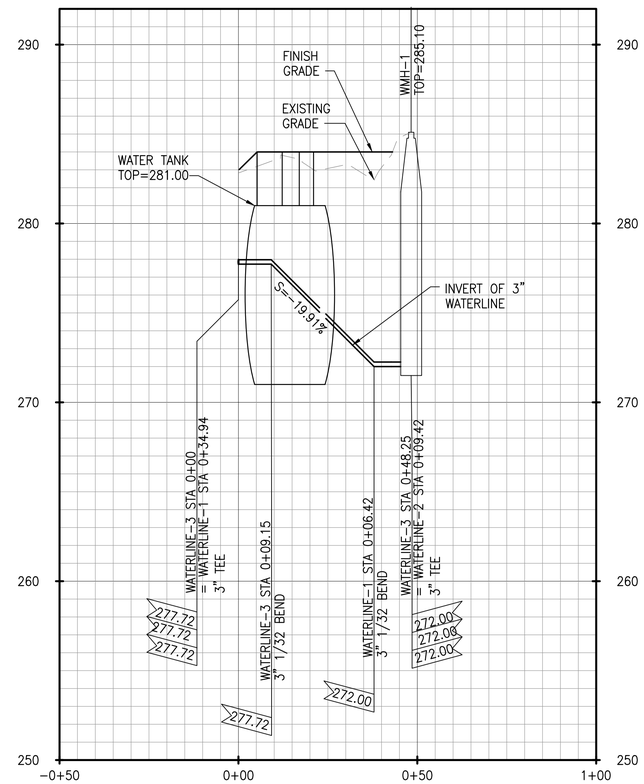
WATERLINE-1 PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'



WATERLINE-2 PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'



WATERLINE-3 PROFILE

SCALE: HORIZ 1" = 20'
VERT 1" = 4'

NOTES:

1. PIPELINE BENDS LABELED FOR CLARITY AND ALIGNMENT CONTROL ONLY.
2. PIPE BEND RADII SHALL NOT EXCEED THE MANUFACTURER'S MAXIMUM RECOMMENDATIONS.

1

GRAPHIC SCALE:

20' 10' 0 20' 40'
SCALE: 1" = 20'

4' 3' 2' 1' 0 4' 8'
SCALE: 1" = 4'

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/7/24	

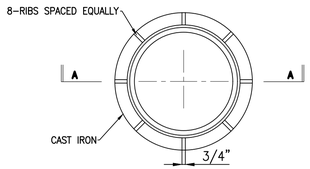
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

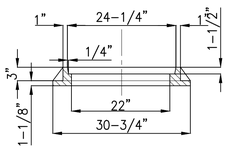
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

WATERLINE PROFILE

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 20 OF 123
CU203



PLAN OF MANHOLE FRAME



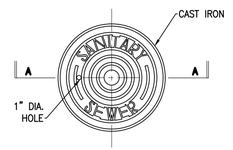
SECTION A – A

NOTES:

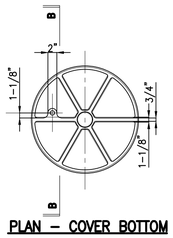
1. TYPE "SA" COVER IS USED WITH THIS FRAME.
2. APPROXIMATE WEIGHT = 156 POUNDS.

1 CU501 MANHOLE FRAME – TYPE SA

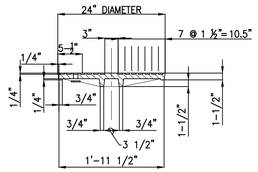
NOT TO SCALE



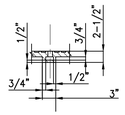
PLAN OF MANHOLE COVER



PLAN – COVER BOTTOM



SECTION A–A



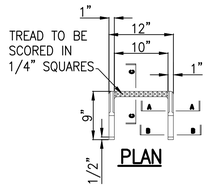
SECTION B–B

NOTES:

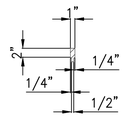
1. THIS COVER IS USED WITH THE TYPE SA FRAME.
2. APPROXIMATE WEIGHT = 158 POUNDS.
3. COVER SHALL CONFORM TO ASTM A48, CLASS NO. 30.

2 CU501 MANHOLE COVER – TYPE SA

NOT TO SCALE

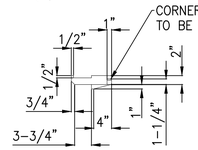


PLAN

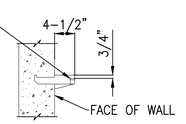


SECTION A–A

SECTION B–B



SECTION C–C

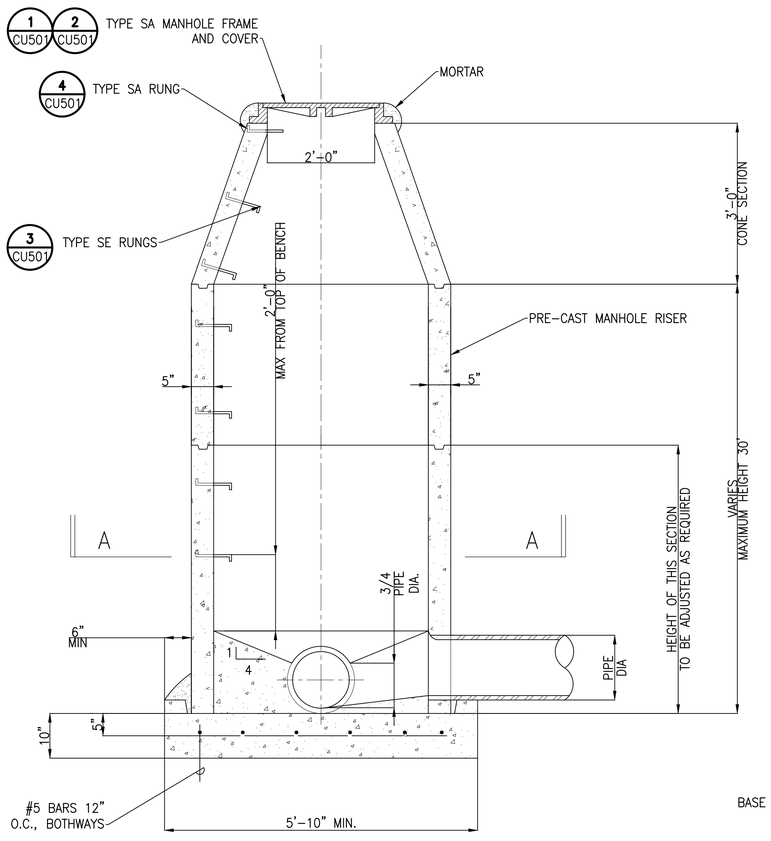


METHOD OF INSTALLATION

TYPE SE MANHOLE RUNGS CAST IRON OR DUCTILE IRON

3 CU501 MANHOLE RUNG DETAILS – TYPE SE

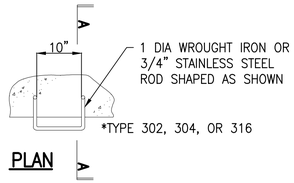
NOT TO SCALE



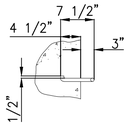
PLAIN MANHOLE PRE-CAST CONCRETE

6 CU501 PRE-CAST CONCRETE PLAIN MANHOLE

NOT TO SCALE



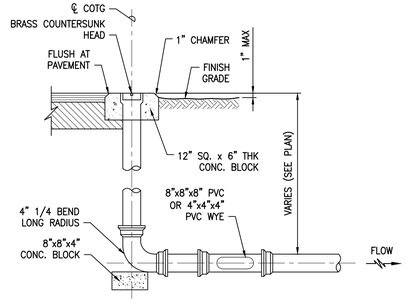
PLAN



SECTION A–A

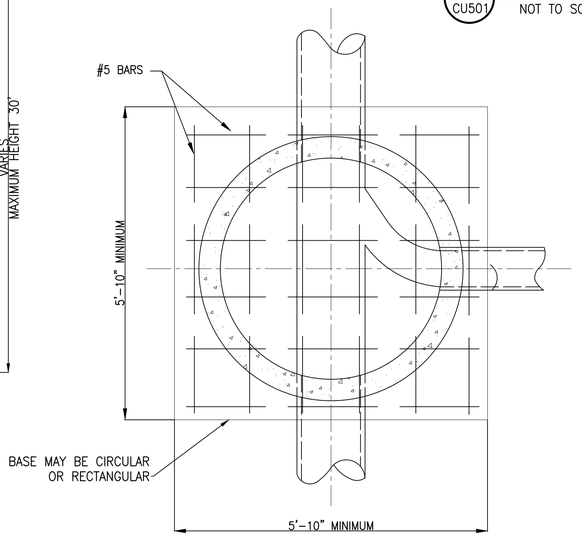
4 CU501 MANHOLE RUNG DETAILS – TYPE SA

NOT TO SCALE

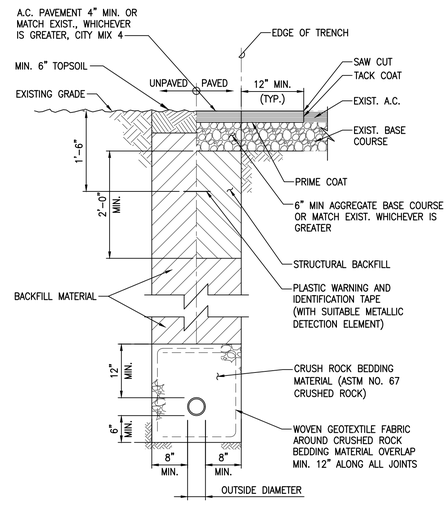


5 CU501 CLEANOUT TO GRADE DETAIL

NOT TO SCALE



SECTION A–A



7 CU501 TRENCH RESTORATION PAVED/UNPAVED

NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE: Lance K. Tokuda | EXPIRATION DATE: 4/30/2026

STR	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

SEWER DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 21 OF 123
CU501

SPACING FOR ANCHOR BLOCK FOR ALL SIZES

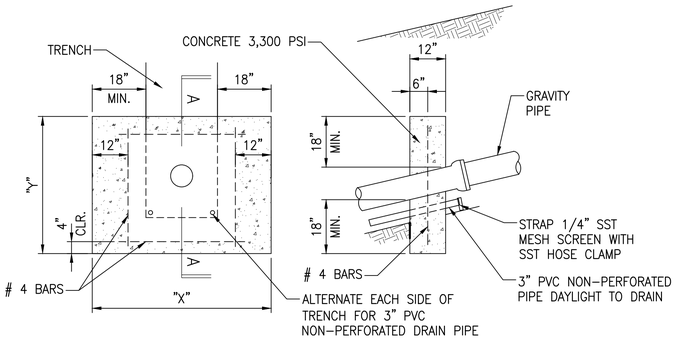
SLOPE %	MINIMUM SPACING (FT)
0–15	NO ANCHOR REQUESTED
15–35	35'
35–50	25'
> 50	BY DESIGN ENGINEER

ANCHOR BLOCK DIMENSION TABLE

PIPE DIA	"X" MIN. (FT)	"Y", MIN (FT)
6"–10"	5'	4'
12"–15"	6'	5'
> 15"	BY DESIGN ENGINEER	

NOTES:

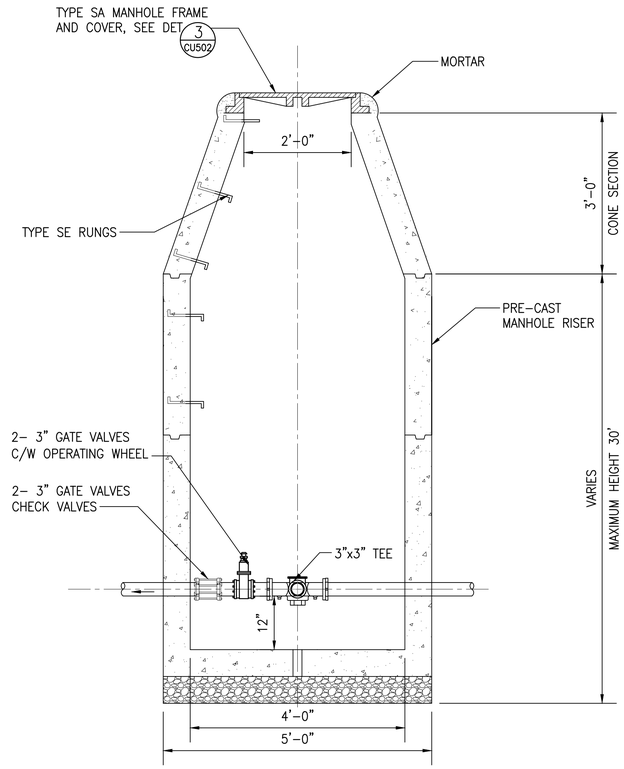
1. CONCRETE GRAVITY PIPE ANCHOR BLOCK SHALL BE CONSTRUCTED USING FORMS WHEN SANITARY SEWERS, STORM DRAINS, AND OTHER PIPELINES ARE CONSTRUCTED WITH SLOPES OVER 18%. REMOVE FORMS PRIOR TO BACKFILLING TRENCH.
2. FOR PIPES LARGER THAN 18", ANCHOR BLOCK SHALL BE DESIGNED BY THE DESIGN ENGINEER.
3. ANCHOR BLOCK SHALL ALWAYS BE LOCATED ALONG THE BARREL OF THE PIPE AND NOT AT THE JOINT.
4. INSTALL ONE 3" PVC NON–PERFORATED DRAIN PIPE AT BOTTOM OF TRENCH SECTION DOWN THE SLOPE. ALTERNATE 3" DRAIN ON EACH SIDE OF TRENCH SECTION AND DAYLIGHT TO DRAIN. INSTALL 1/4" STAINLESS STEEL MESH SCREEN USING STAINLESS STEEL HOSE CLAMPS OVER UPSTREAM END.



ELEVATION SECTION A–A

1 CU502 TYPICAL GRAVITY PIPE ANCHOR BLOCK DETAIL

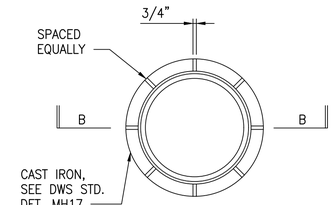
NOT TO SCALE



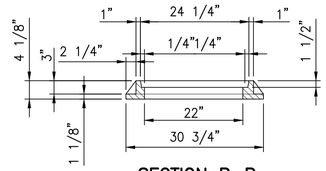
SECTION A–A

2 CU502 WATER MANHOLE DETAIL

NOT TO SCALE



PLAN



SECTION B–B

MANHOLE FRAME AND COVER NOTES:

1. ALL CASTINGS SHALL BE MADE ACCURATELY TO THE DIMENSIONS SHOWN. SEAT AND COVER SHALL BE MACHINED, NOT GROUND TO SECURE FLAT AND TRUE SURFACES. THE COVER SHALL NOT RATTLE IN ANY POSITION.
2. MANHOLE COVER SHALL BE H–20 RATED.

3 CU502 MANHOLE FRAME AND COVER

NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII, USA

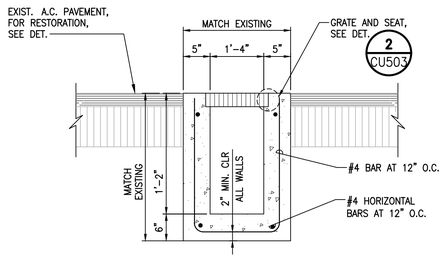
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE (Lance K Tokuda) 4/30/2026
EXPIRATION DATE

APPR.	DATE	DESCRIPTION	SYM

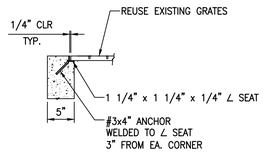
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
WATER DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 22 OF 123
CU502



1 CU503 **TYPICAL DRAIN DETAIL**
NOT TO SCALE



NOTES:

1. SALVAGE AND REUSE EXISTING GRATES.
2. ADJUST SEAT TO EXISTING GRATE IF NECESSARY.

2 CU503 **GRATE SEAT DETAIL**
NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

LANCE K. TOKUDA
LICENSED PROFESSIONAL ENGINEER
NO. 8631
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE: Lance K Tokuda 4/30/2026
EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
DRAINAGE DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 23 OF 123
CU503

SPALL DESIGNATIONS NOTES:

1. WALL CORNER SPALL (CS): L x W x H
2. WALL VERTICAL SPALL (VS): L x W
3. DIMENSIONS SHOWN IN INCHES

GRAPHIC SCALE:

5' 0 5' 10' 15'

SCALE: 1/8" = 1'-0"

BUILDING 303 EXISTING FLOOR PLAN

SCALE: 1/8 = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

JOHN UNO
LICENSED PROFESSIONAL ENGINEER
No. 13255-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM NO. 1			
SYM	DESCRIPTION	DATE	APPR.
1		3/21/24	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 3/01/2024

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

BUILDING 303 EXISTING FLOOR PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET OF 123

S-101

REPAIR NOTES:

A. SPALLS AND DELAMINATIONS ARE CALLED OUT AS SPALLS ON PLANS, AND NO SEPARATE DISTINCTION IS MADE SINCE REPAIRS ARE THE SAME.

B. REMOVE DELAMINATED OR DETERIORATED CONCRETE OR CMU UNTIL SOUND CONCRETE OR CMU IS ENCOUNTERED. CHIPPED OUT AREA MUST EXTEND AN ADDITIONAL 2 INCHES ALL AROUND. SOUND CONCRETE OR CMU MUST BE SPALL FREE WITHOUT CRACKS, DELAMINATIONS, VOIDS AND MUST BE FIRMLY BONDED TO SURROUNDING CONCRETE OR CMU. WHEN STRUCK WITH A HAMMER, SOUND CONCRETE OR CMU WILL NOT PRODUCE A HOLLOW SOUND.

C. CHECK SURFACES TO ENSURE THAT IT IS FREE FROM LOOSE AGGREGATE OR ADDITIONAL DELAMINATIONS. (1)

D. CHIPPED OUT AREA MUST NOT BE LESS THAN 1 INCH CLEAR BELOW, ABOVE, OR BEHIND EXPOSED REINFORCING BARS.

E. EDGES OF CHIPPED OUT AREA MUST BE SAW CUT PERPENDICULAR TO CONCRETE OR CMU SURFACE FOR A MINIMUM DEPTH OF AT LEAST 3/4 INCH. DO NOT SAW CUT THROUGH EXISTING REINFORCING BARS.

F. EXPOSED REINFORCING STEEL BARS MUST BE CLEANED OF SCALE, RUST, DIRT, OIL OR ANY OTHER DELETERIOUS MATERIAL. ABRASIVE AND HYDROBLASTING IS PROHIBITED.

G. AFTER REINFORCING STEEL BAR HAS BEEN CLEANED BY HAND TOOLS OR WIRE BRUSH, MEASURE DIAMETER OF EXPOSED REINFORCING STEEL BARS AT EDGE OF CHIPPED OUT AREA TO DETERMINE ORIGINAL BAR SIZE. COMPARE BAR DIAMETERS WITHIN CHIPPED OUT AREA WITH ALLOWABLE BAR DIAMETER CHART AND SPLICE BARS AS REQUIRED.

H. FORMWORK REQUIRED FOR SPALL AREAS TWO SQUARE FEET OR GREATER.

I. REMOVE EXCESS CEMENT AND PARTICULATE SLURRY BEFORE CURING. (1)

J. DO NOT FEATHER EDGES OF REPAIR.

K. AFTER REPAIRS HAVE BEEN CURED A MINIMUM OF 14 DAYS, REPAIRED AREAS MUST BE CLEANED AND COATED WITH A CONCRETE SEALER. COATED AREA MUST EXTEND A MINIMUM OF 6 INCHES AROUND THE REPAIR AREA.

L. VERIFY WITH CONTRACTING OFFICER REPAIR TYPES THAT DIFFER FROM CONTRACT DRAWINGS. DO NOT PROCEED WITH WORK UNTIL APPROVED BY CONTRACTING OFFICER.

REPAIR MATERIAL:

A. REPAIR MORTAR MUST BE POLYMER–MODIFIED, CEMENTITIOUS REPAIR MORTAR FOR VERTICAL SURFACES HAVING A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI AT 28 DAYS.

REINFORCING STEEL:

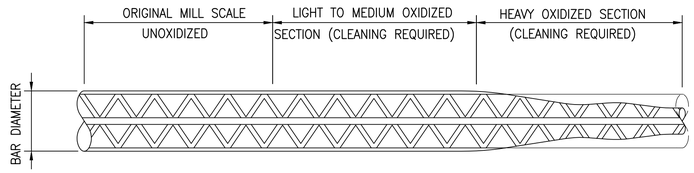
A. REINFORCING STEEL BARS MUST CONFORM TO ASTM A706/A706M GRADE 60.

B. MINIMUM CONCRETE COVER FOR REINFORCING STEEL BARS AS INDICATED.

1. CAST AGAINST AND PERMANANTLY IN CONTACT WITH GROUND.....3"
2. EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.....2"

C. WELDING OF REINFORCING BARS MUST BE IN ACCORDANCE WITH AWS D1.4/1.4M STRUCTURAL WELDING CODE–REINFORCING STEEL.

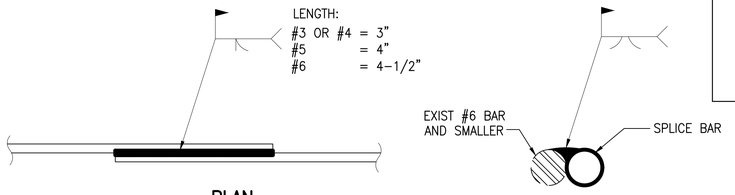
D. WHEN WELDING TO EXISTING REINFORCING STEEL BARS, REPRESENTATIVE SAMPLES OF THE BARS MUST BE ANALYZED TO DETERMINE WELDING REQUIREMENTS.



ALLOWABLE BAR DIAMETER NOTES:

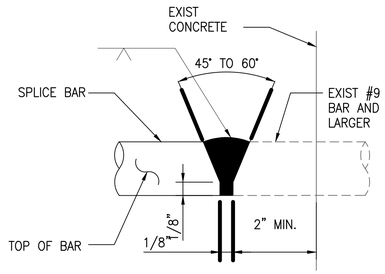
1. REMOVE HEAVY CORROSION AND SCALE FROM REINFORCING STEEL BARS.
2. IF REINFORCING STEEL BAR SIZE, AFTER CLEANING IS LESS THAN MINIMUM DIAMETER SHOWN IN ALLOWABLE BAR SIZE CHART, REPAIR PER A2 / S–501

ALLOWABLE BAR SIZE CHART		
ORIGINAL DIAMETER	BAR SIZE	MINIMUM DIAMETER
3/8"	#3	5/16"
1/2"	#4	7/16"
5/8"	#5	1/2"
3/4"	#6	5/8"
7/8"	#7	3/4"
1"	#8	7/8"
1–1/8"	#9	1"
1–1/4"	#10	1"

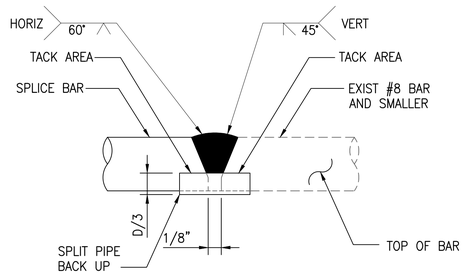


C4 / S–501 ALTERNATE LAP WELD SPLICE DETAIL

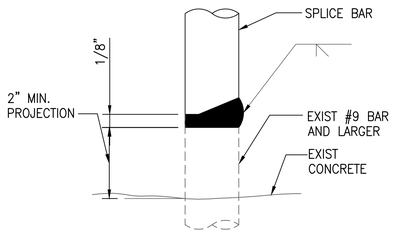
NOT TO SCALE



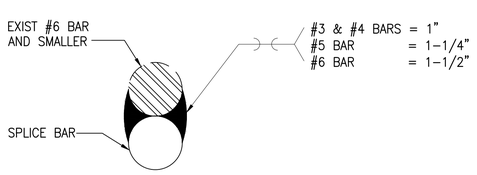
A HORIZONTAL



B HORIZONTAL AND VERTICAL



C VERTICAL



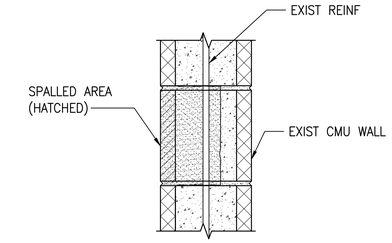
D LAP AND SPLICE WELD

REINFORCING WELDING NOTES:

1. CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING.
2. USE E70 ELECTRODES FOR STIRRUPS, E90 ELECTRODES FOR ALL OTHERS.
3. SEE AWS D1.4 FOR WELDING PROCESS PREHEATING, COOLING CONTROLS, AND OTHER DETAILS, FOR WELDING EXISTING REINFORCING STEEL BARS NOT IN CONFORMANCE WITH ASTM A706/A706M.

A2 / S–501 TYPICAL WELDED BAR SPLICE DETAIL

NOT TO SCALE



SECTION

SPALL REPAIR DETAIL NOTES:

1. LOCATE AND MARK DAMAGED AREA.
2. SAWCUT JOINTS AROUND PERIMETER OF SPALLED MASONRY CELLS. ENSURE NO REINFORCING STEEL BARS ARE DAMAGED. REMOVE SPALLED CELL.
3. UNDERCUT EXPOSED, CORRODED BARS A MINIMUM OF 1 INCH. MINIMUM BAR CAVITY DEPTH MUST BE 1 INCH.
4. CHIP SUBSTRATE TO OBTAIN A SURFACE PROFILE OF +/– 1/8 INCH MINIMUM AMPLITUDE WITH A FRACTURED AGGREGATE SURFACE. TRACES OF RUST AND SCALE MUST BE REMOVED FROM REINFORCING STEEL BARS BY MECHANICAL CLEANING.
5. WHEN CROSS–SECTIONAL AREA OF REINFORCING STEEL BAR LOST DUE TO CORROSION IS LESS THAN MINIMUM BAR DIAMETER, WELD SPLICE CORRODED BAR WITH ONE BAR TO MATCH EXISTING BAR SIZE. EXTEND BAR GREATER OF 2'–0" OR 48 BAR DIAMETERS BEYOND AREA OF BAR WITH MORE THAN 25 PERCENT CROSS SECTIONAL AREA LOSS DUE TO CORROSION. (1)
6. SUBSTRATE MUST BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER. REMOVE ALL DETERIORATED CMU, DUST, OIL, GREASE, DIRT, CONTAMINANTS, AND OTHER BOND–INHIBITING MATERIALS FROM AREA REPAIRED.
7. APPLY BONDING AGENT TO REINFORCING STEEL AND CMU COMPATIBLE WITH REPAIR MORTAR.
8. FILL CHIPPED AREAS WITH REPAR MORTAR TO EXISTING SURFACE. IF CHIPPED AREAS ARE GREATER THAN 1–INCH DEPTH, ADD 3/8–INCH COARSE AGGREGATE TO REPAIR MORTAR.
9. SPALL AREA REPAIR FINISH MUST MATCH EXISTING SURFACE AREA FINISH INCLUDING BLOCK JOINTS.

A4 / S–501 TYPICAL CMU SPALL REPAIR DETAIL

NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

JOHN UNO
LICENSED PROFESSIONAL ENGINEER
No. 13255-S
HAWAII, U.S.A.

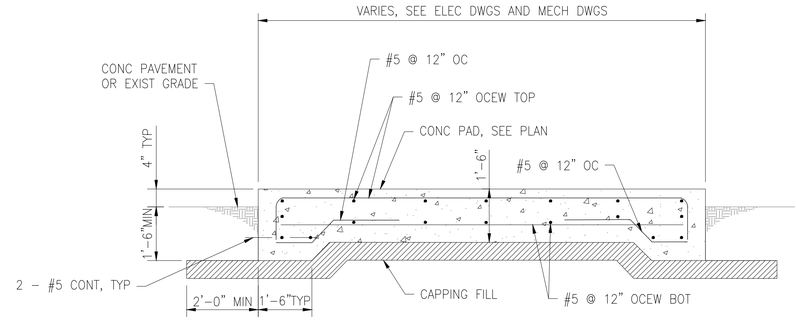
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.	DATE	DESCRIPTION	STR
	3/21/24	ADDENDUM NO. 1	3

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
STRUCTURAL NOTES AND REPAIR DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET OF 123
S-501



NOTES:

1. CAPPING FILL MUST INCLUDE 6 INCHES OF SELECT GRANULAR FILL MATERIAL OR AGGREGATE SUBBASE COURSE. CAPPING FILL MUST BE MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH ASTM D1557.

2. PRIOR TO PLACING THE CAPPING FILL, EXISTING GRADE MUST BE SCARIFIED TO A DEPTH OF AT LEAST 8 INCHES, MOISTURE-CONDITIONED TO ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION IN ACCORDANCE WITH ASTM D1557.

C4 / S-502 CONCRETE PAD DETAIL

NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

JOHN UNO
LICENSED PROFESSIONAL ENGINEER
NO. 13255-S
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

4/30/2024

SIGNATURE EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 3/01/2024

DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

STATE OF HAWAII

TMK: 3-1-042:600

4204 DIAMOND HEAD RD HONOLULU, HI 96815

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

STRUCTURAL DETAILS

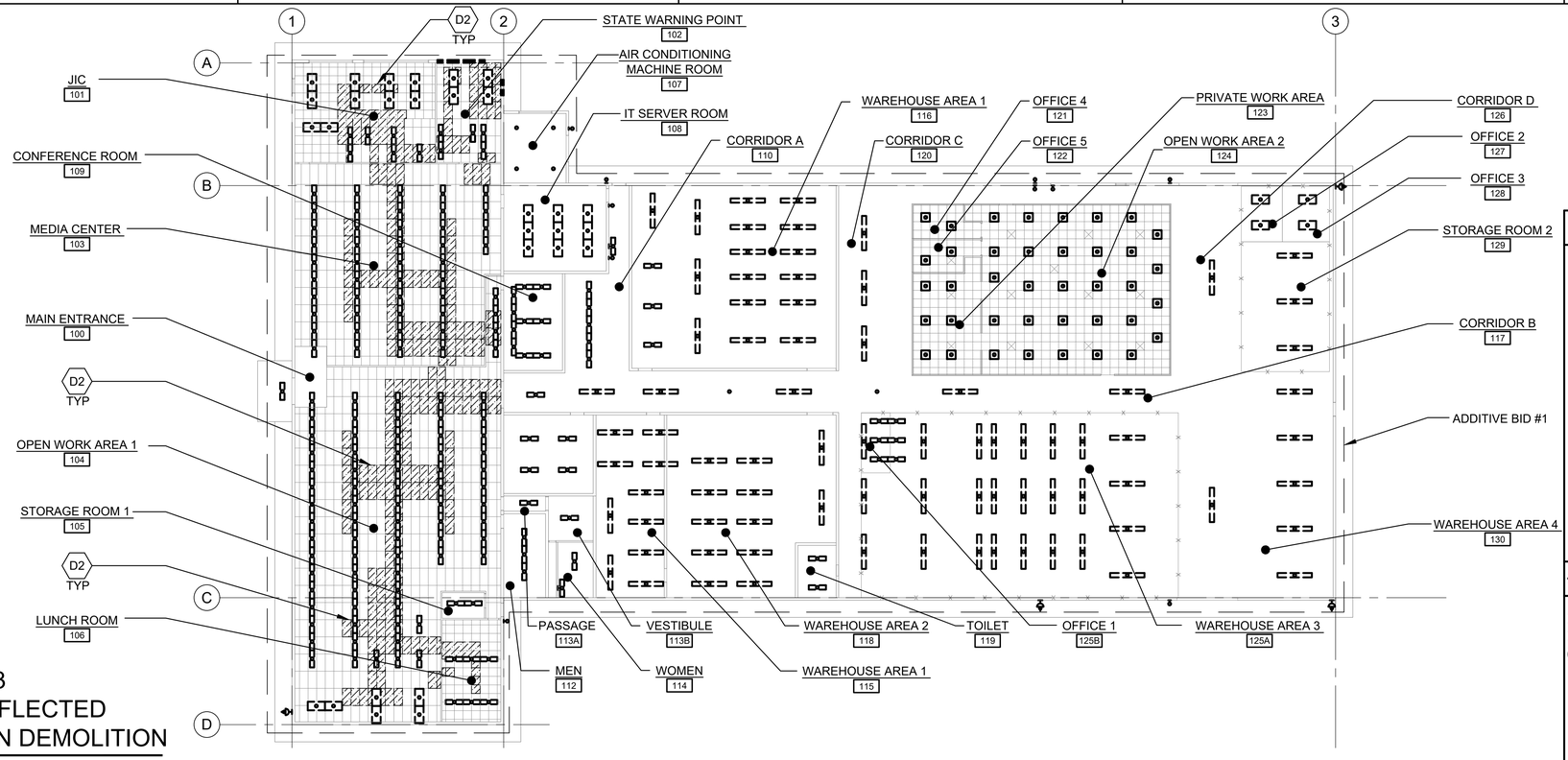
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

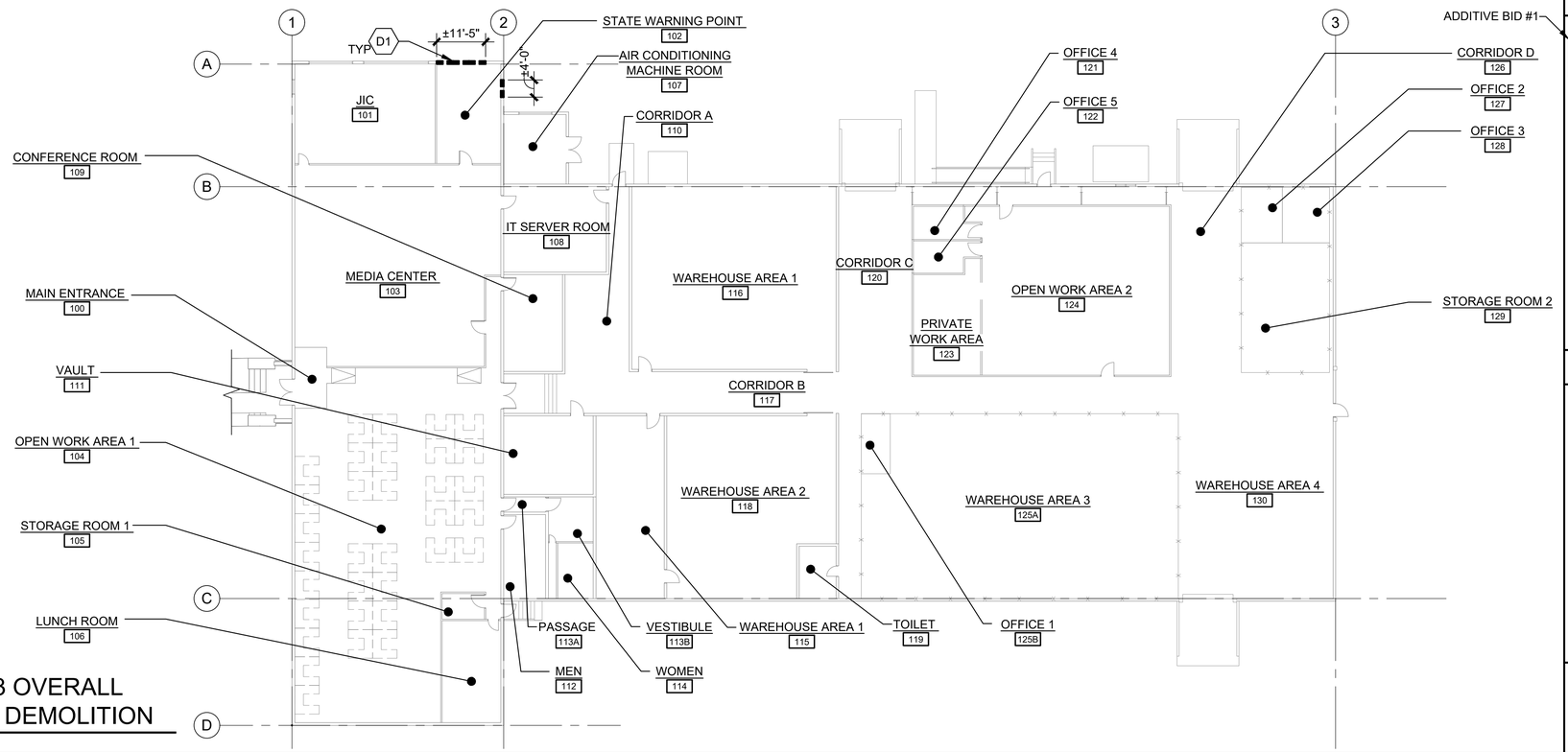
SHEET 26 OF 123

S-502



BUILDING 303 OVERALL REFLECTED CEILING PLAN DEMOLITION

2 / AA101 SCALE: 1/16" = 1'-0"



BUILDING 303 OVERALL FLOOR PLAN DEMOLITION

1 / AA101 SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. CONTRACTOR MUST REPAIR AND PATCH EXISTING WALL AND FLOOR FOR A SMOOTH SURFACE WHERE DOOR ASSEMBLY, PARTIAL WALL AND GUARD RAIL DEMOLITION / REMOVALS OCCUR. FINISH TO MATCH EXISTING ADJACENT SURFACES.

B. CONTRACTOR TO FIELD VERIFY EXISTING CEILING CONDITIONS AND MATERIALS. PATCH TO MATCH EXISTING ADJACENT SURFACES AND COLOR AFTER WORK IS COMPLETED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

C. CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING WORK STATIONS AFFECTED BY THE IMPROVEMENTS WITH OWNER

DEMOLITION KEYNOTES (FOR THIS SHT ONLY)

D1. DEMOLISH AND REMOVE EXISTING WINDOW, COMPLETE. SALVAGE AND STORE EXISTING WINDOW SCREEN AND ASSOCIATED FRAME FOR REINSTALLATION AFTER NEW WINDOWS ARE INSTALLED

D2. REMOVE AND SALVAGE EXISTING ACOUSTICAL CEILING TILE AND GRID FOR REINSTALLATION, AS NEEDED, TO FACILITATE THE DEMOLITION OF EXISTING MECHANICAL EQUIPMENT. COORDINATE WITH USERS FOR STORAGE LOCATION

LEGEND

- DEMO AND REMOVE LIGHT FIXTURES, SEE ELEC DWGS
- EXISTING CHAIN LINK FENCE
- EXISTING DOOR
- EXISTING WINDOW TO REMAIN
- DEMO AND REMOVE WINDOW
- EXISTING WORK STATION, SEE GENERAL NOTE C
- EXISTING ACOUSTICAL CEILING TILE TO REMAIN
- REMOVE AND SALVAGE ACOUSTICAL CEILING TILE AND GRID SYSTEM FOR REINSTALLATION

IECC STAMP

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:

X BUILDING COMPONENT SYSTEMS
____ ELECTRICAL COMPONENT SYSTEMS
____ MECHANICAL COMPONENT SYSTEMS

SIGNATURE: DATE: MAR 2024
NAME: SCOTT RJ HARADA, AIA
TITLE: PRINCIPAL
LICENSE NO.: AR-14637

PLAN NORTH

0 8' 16' 24' 32' 40' 48'

SCALE: 1/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA LICENSED PROFESSIONAL ARCHITECT No. 14637 HAWAII, U.S.A.

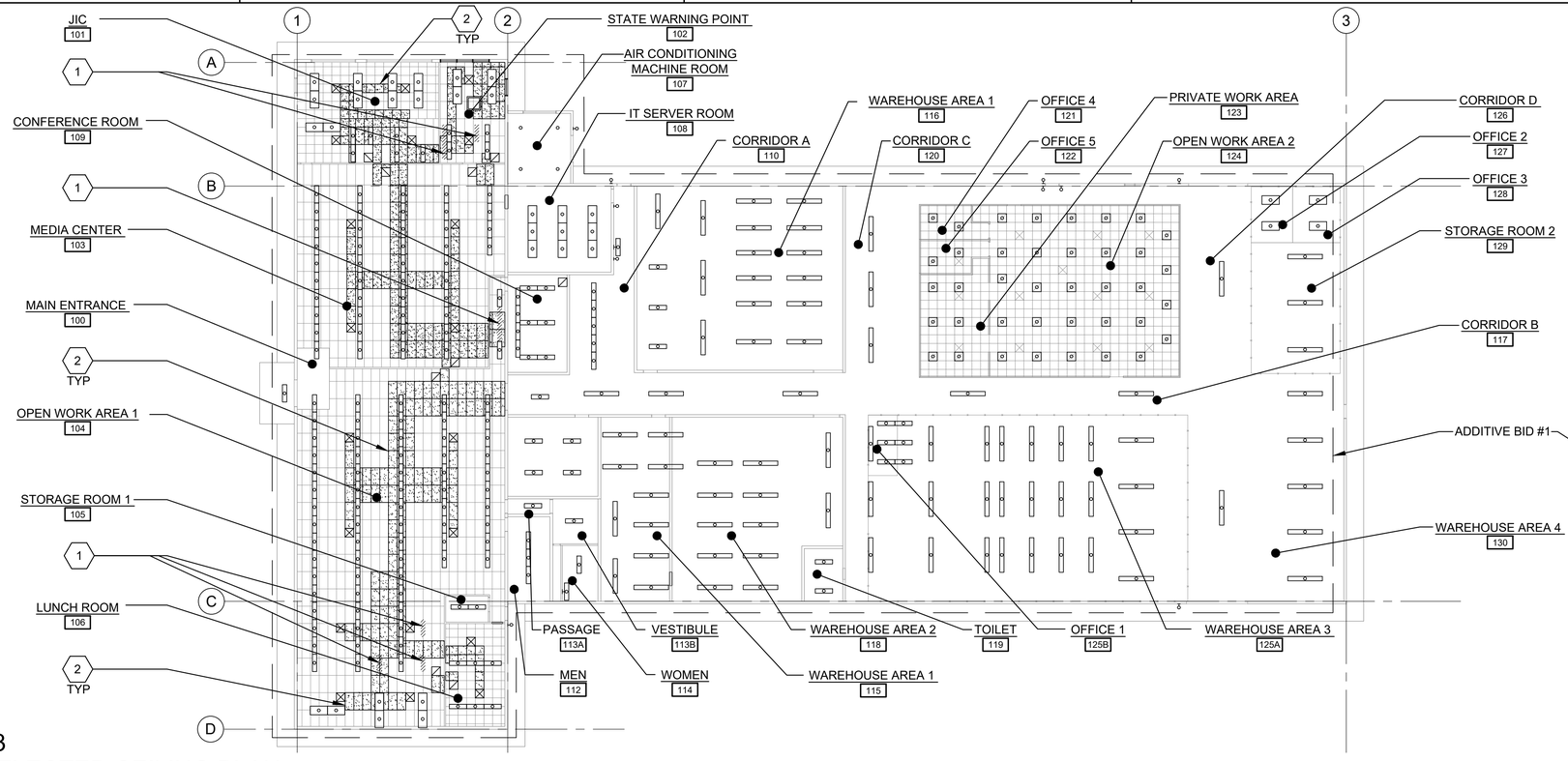
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM 1					
1	3/21/24	SH			
NO.	DATE	APPR.	NO.	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/1/2024
INK INK SH

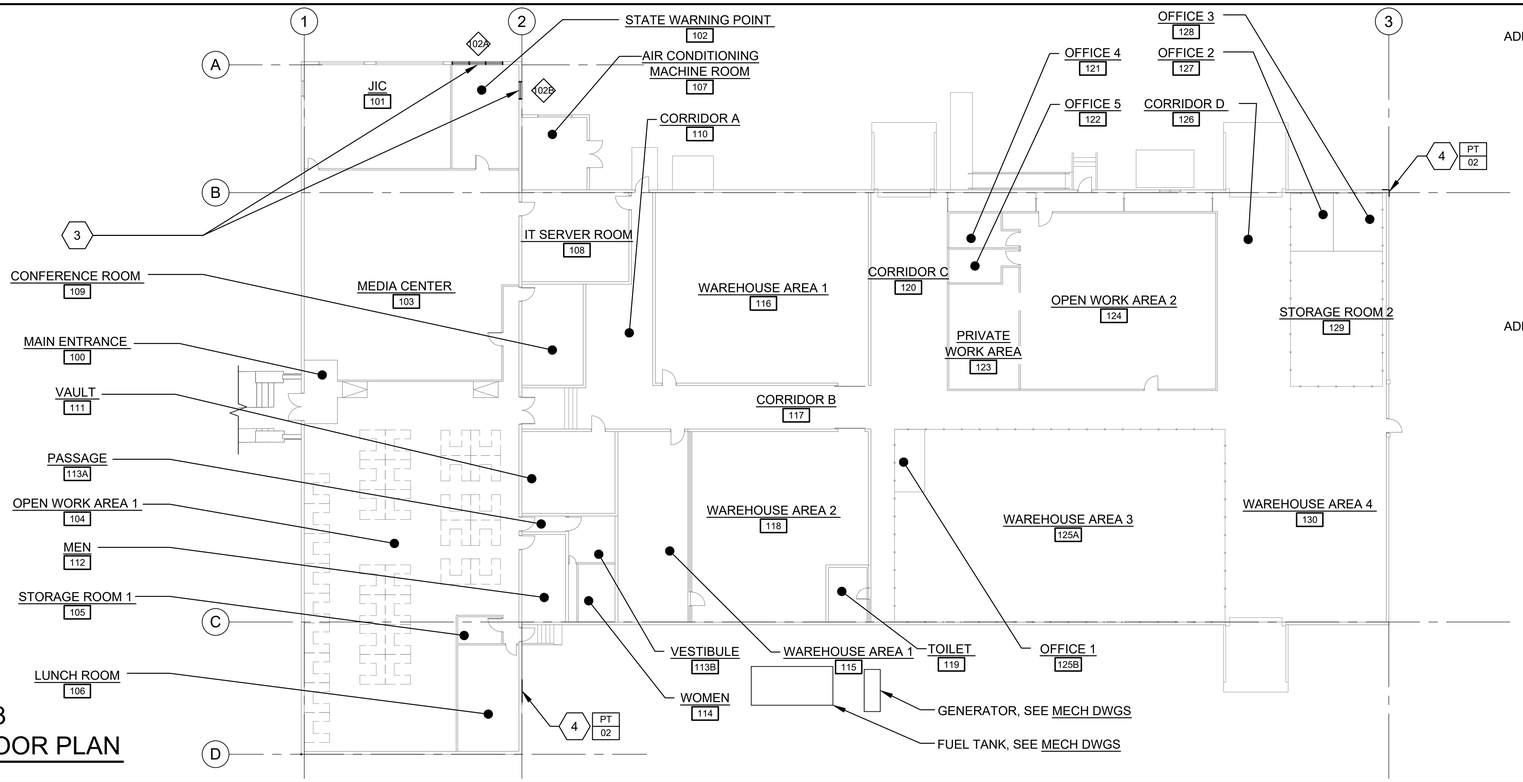
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
OVERALL FLOOR AND CEILING DEMOLITION

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 27 OF 123
AA101



BUILDING 303
OVERALL REFLECTED CEILING PLAN

2 / AA102 SCALE: 1/16" = 1'-0"



BUILDING 303
OVERALL FLOOR PLAN

1 / AA102 SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. CONTRACTOR TO REINSTALL EXISTING WORK STATIONS TO ORIGINAL ORIENTATION LAYOUTS AND LOCATIONS

SHEET KEYNOTES (FOR THIS SHT ONLY)

1. APPROXIMATE AREA OF EXISTING CEILING TO BE PATCHED. CONTRACTOR TO FIELD VERIFY EXISTING CEILING CONDITION AND MATERIALS. PATCH TO MATCH EXISTING ADJACENT SURFACES AND COLOR AFTER WORK IS COMPLETED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION
2. REINSTALL EXISTING ACOUSTICAL CEILING TILE AND GRID (REPLACE AS REQUIRED IF EXISTING CONDITION IS NOT REUSABLE. MATCH EXISTING MATERIAL, PROFILE, AND COLOR)
3. ALL NEW EXPOSED INTERIOR AND EXTERIOR SURFACES DUE TO WINDOW INSTALLATION SHALL RECEIVE THE SPECIFIED SURFACE PREPARATION AND BE PAINTED UNLESS OTHERWISE INDICATED. IF NOT SPECIFIED, PROVIDE AS REQUIRED ACCORDING TO INDUSTRY STANDARDS
4. APPROXIMATE AREA OF SPALL REPAIR, PAINT TO MATCH EXISTING ADJACENT SURFACE, SEE STR DWGS FOR ADDITIONAL INFORMATION

LEGEND

- LIGHT FIXTURES, SEE ELEC DWGS
- EXISTING CHAIN LINK FENCE
- EXISTING DOOR
- EXISTING WINDOW
- WINDOW AS SCHEDULED
- EXISTING WORK STATION, SEE GENERAL NOTE C
- EXISTING ACOUSTICAL CEILING TILE
- EXISTING ACOUSTICAL CEILING TILE AND GRID TO BE REINSTALLED
- PATCH EXISTING CEILING TO MATCH EXISTING ADJACENT SURFACE MATERIAL AND COLOR

0 8' 16' 24' 32' 40' 48'
SCALE: 1/16" = 1'-0"

PLAN NORTH

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA LICENSED PROFESSIONAL ARCHITECT No. 14637 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM 1	DESCRIPTION	STM	DATE	APPR.
1		SH	3/21/24	

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/1/2024
INK INK SH

DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
STATE OF HAWAII
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
FLOOR PLAN - CEILING

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 28 OF 123
AA102

ROOM FINISH SCHEDULE

BUILDING NAME	ROOM NUMBER	ROOM NAME	FLOOR	BASE	WAINSCOT	WALLS				TRIM & MISC	CEILING	CEILING FINISH	REMARKS
						A	B	C	D				
B303	101	JIC	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	ACT-01/ ACT-02	-	-
B303	102	STATE WARNING POINT	NO CHANGE	NO CHANGE	NO CHANGE	PT-01	PT-01	PT-01	PT-01	NO CHANGE	ACT-01	-	-
B303	103	MEDIA CENTER	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	ACT-01	-	-
B303	104	OPEN WORK AREA 1	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	ACT-01	-	-
B303	106	LUNCH ROOM	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	ACT-02	-	-

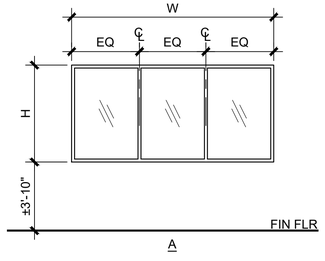
MATERIAL SCHEDULE

CODE	MATERIAL	MANUFACTURER	MODEL/SIZE	COLOR	OPTIONS	LOCATIONS	REMARKS
ACT-01	ACOUSTICAL CEILING TILE	ARMSTRONG	2X4	MATCH EXISTING	MATCH EXISTING	JIC, STATE WARNING POINT, MEDIA CENTER, OPEN WORK AREA 1	-
ACT-02	ACOUSTICAL CEILING TILE	ARMSTRONG	2X2	MATCH EXISTING	MATCH EXISTING	JIC, LUNCH ROOM	-
PT-01	INTERIOR PAINT	SHERWIN WILLIAMS	-	MATCH EXISTING	SEMI GLOSS	STATE WARNING POINT WALLS	-
PT-02	EXTERIOR PAINT	SHERWIN WILLIAMS	-	MATCH EXISTING	SEMI GLOSS	EXTERIOR WALL, WINDOW REPLACEMENT	-

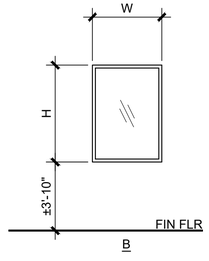
WINDOW SCHEDULE

ROOM NUMBER	WINDOW NUMBER	TYPE	SIZE (ROUGH OPENING)		MATERIAL		DETAIL NUMBER				WINDOW COVERINGS	REMARKS
			WIDTH	HEIGHT	FRAME	GLAZING	HEAD	JAMB	MULLION	SILL		
102	102A	A	11'-1"	5'-5"	ALUM	SEE SPECS	1/AA701	2/AA701	3/AA701	4/AA701	SHADE	ASTM E 1996/1886 LARGE MISSLE IMPACT (WINDBORNE DEBRIS)
102	102B	B	3'-6"	5'-5" 1	ALUM	SEE SPECS	1/AA701	2/AA701	-	4/AA701	SHADE	ASTM E 1996/1886 LARGE MISSLE IMPACT (WINDBORNE DEBRIS)

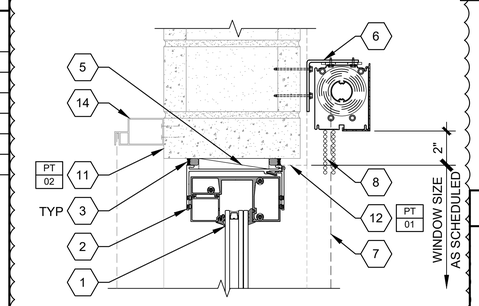
WINDOW TYPES



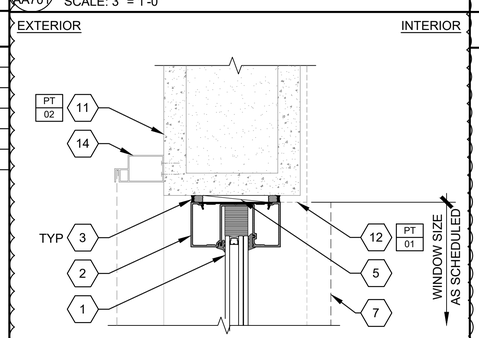
FIXED ANOD ALUM FRAME WINDOW
W/ 1/4" LOW E GLASS
COLOR: MATCH EXISTING



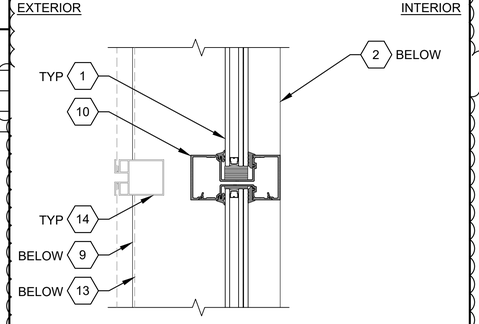
FIXED ANOD ALUM FRAME WINDOW
W/ 1/4" LOW E GLASS
COLOR: MATCH EXISTING



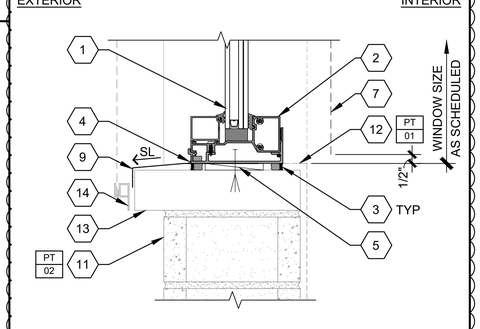
1 AA701 WINDOW DETAIL - HEAD
SCALE: 3" = 1'-0"



2 AA701 WINDOW DETAIL - JAMB
SCALE: 3" = 1'-0"



3 AA701 WINDOW DETAIL - MULLION
SCALE: 3" = 1'-0"



4 AA701 WINDOW DETAIL - SILL
SCALE: 3" = 1'-0"

GENERAL SHEET NOTES

A. PATCH PAINT ON INTERIOR AND EXTERIOR WALL AS NEEDED TO MATCH EXISTING ADJACENT SURFACE

SHEET KEYNOTES (FOR THIS SHT ONLY)

1. WINDOW AS SCHEDULED
2. METAL FRAME WITH ANCHORING AS RECOMMENDED PER MANUFACTURER
3. CONTINUOUS SEALANT AND BACKER ROD
4. CONTINUOUS SEALANT
5. SHIM AS REQUIRED
6. WINDOW SHADE SYSTEM AND MOUNTING HARDWARE W/ MANUFACTURER RECOMMENDED FASTENERS
7. SHADE CLOTH
8. DRIVE CHAIN
9. FLASHING SILL PER MANUFACTURER
10. VERTICAL MULLION PER MANUFACTURER
11. EXISTING CMU WALL, SEE GENERAL NOTE A
12. EXISTING WALL FINISH, SEE GENERAL NOTE A
13. EXISTING SILL
14. REINSTALL EXISTING WINDOW SCREEN, CLIPS AND FRAME TO MATCH EXISTING ADJACENT

0 3" 6" 9" 1'
SCALE: 3"=1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA
LICENSED PROFESSIONAL ARCHITECT
No. 14637
HAWAII, U.S.A.

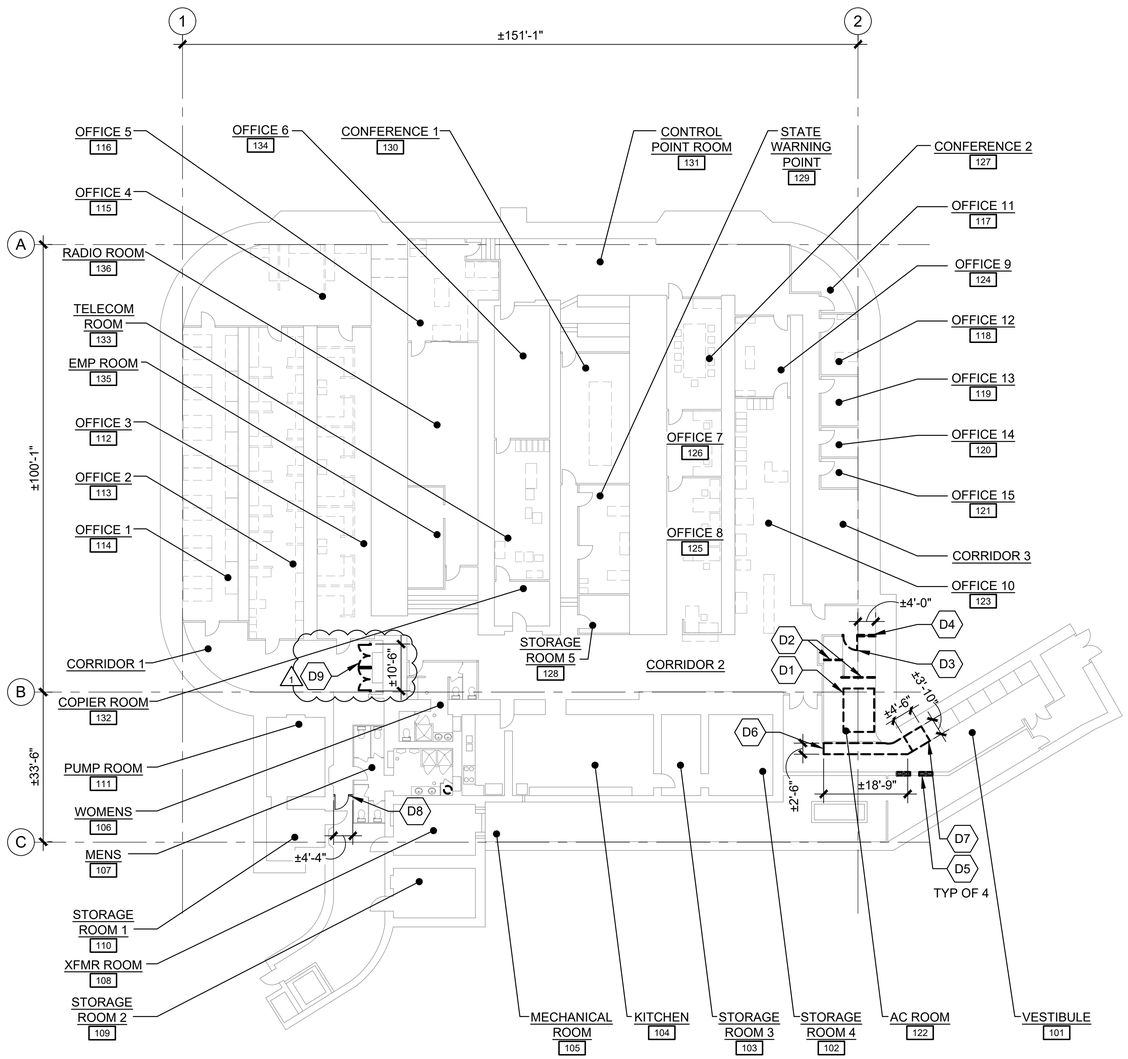
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

1	ADDENDUM 1	3/21/24	SH
SYM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024
INK INK SH

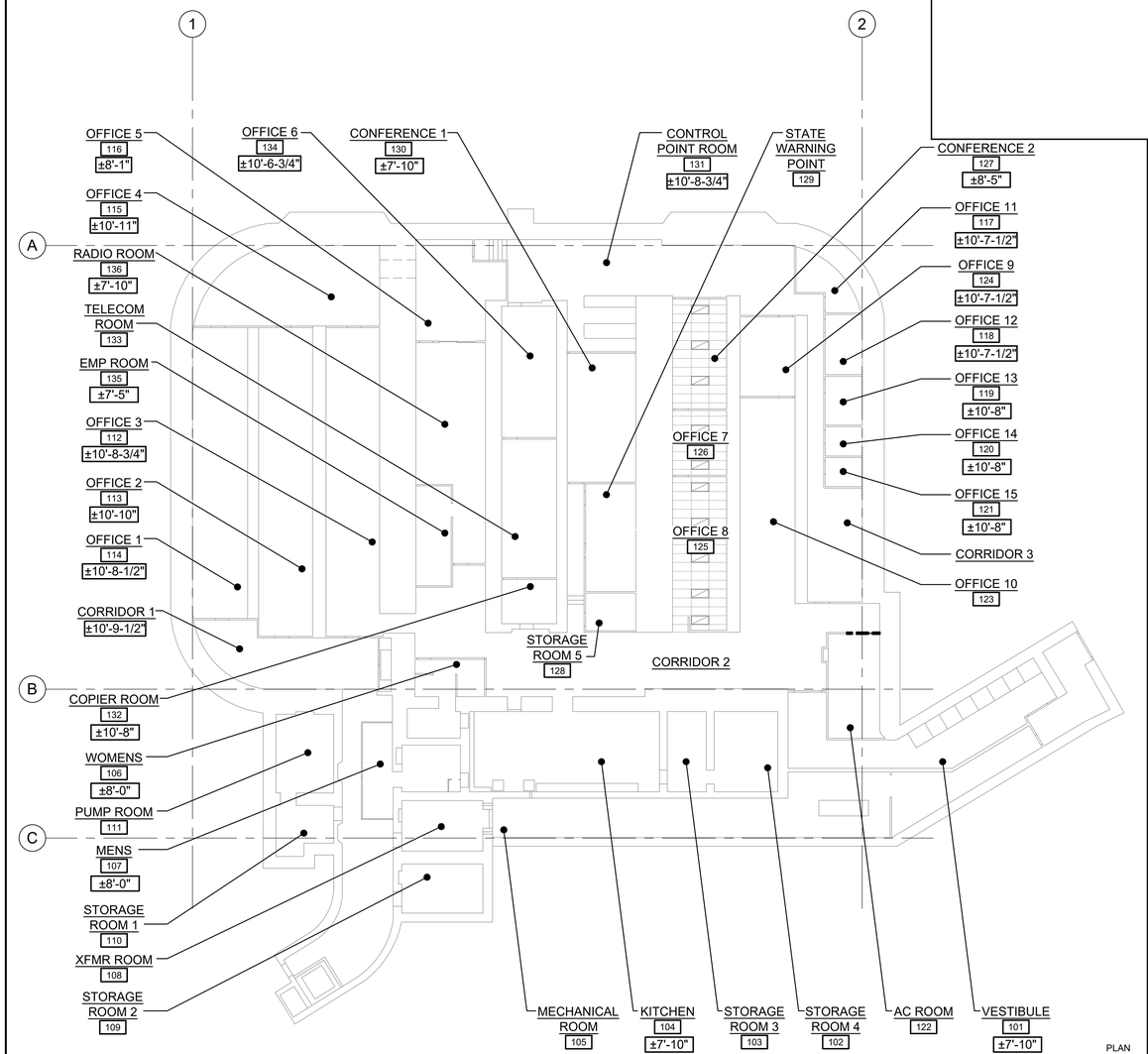
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
SCHEDULES TYPES AND DETAIL

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 29 OF 123
AA701



1 AB101 BIRKHIMER OVERALL FLOOR PLAN DEMOLITION

SCALE: 1/16" = 1'-0"



2 AB101 BIRKHIMER OVERALL REFLECTED CEILING PLAN DEMOLITION

SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. CONTRACTOR MUST REPAIR AND PATCH EXISTING WALL AND FLOOR FOR A SMOOTH SURFACE WHERE DOOR ASSEMBLY, PARTIAL WALL AND GUARD RAIL DEMOLITION/ REMOVALS OCCUR. FINISH TO MATCH EXISTING ADJACENT SURFACES

B. CONTRACTOR TO FIELD VERIFY EXISTING CEILING CONDITIONS AND MATERIALS. REMOVE AND SALVAGE EXISTING CEILING AS NEEDED TO FACILITATE MECHANICAL AND ELECTRICAL WORK. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

C. ALL EXISTING PLUMBING FIXTURES AND ACCESSORIES IN WOMENS 106 AND MENS 107 ARE TO REMAIN

D. SEE SITE PLAN ON SHEET 001 FOR PORTA POTTY LOCATIONS

DEMOLITION KEYNOTES (FOR THIS SHT ONLY)

D1. DEMOLISH AND REMOVE EXISTING AIR HANDLING UNIT, SEE MECH DWGS

D2. REMOVE AND SALVAGE EXISTING SURFACE MOUNTED GUARDRAILS FOR REINSTALLATION, AS NEEDED TO FACILITATE THE DEMOLITION AND REMOVAL OF AIR HANDLING UNIT. COORDINATE WITH USERS FOR STORAGE LOCATION

D3. REMOVE AND SALVAGE EXISTING DOOR AND FRAME FOR REINSTALLATION, AS NEEDED TO FACILITATE THE DEMOLITION AND REMOVAL OF AIR HANDLING UNIT. COORDINATE WITH USERS FOR STORAGE LOCATION

D4. DEMOLISH AND REMOVE PORTION OF EXISTING METAL STUD WALL, AS NEEDED TO FACILITATE THE DEMOLITION AND REMOVAL OF AIR HANDLING UNIT, EXISTING LOUVER ABOVE TO REMAIN. SEE GENERAL NOTE NO. 27 ON SHEET G-001 FOR SHORING INFORMATION

D5. DEMOLISH AND REMOVE (36" H X 16" W) PORTION OF EXISTING WALL, AS NEEDED TO FACILITATE INSTALLATION OF TEMPORARY MECHANICAL DUCTS, SEE MECH DWGS

D6. DEMOLISH AND REMOVE EXISTING PLYWOOD ENCLOSURE COMPLETE TO FACILITATE INSTALLATION OF TEMPORARY MECHANICAL DUCTS, SEE MECH DWGS

D7. REMOVE AND SALVAGE PORTION OF EXISTING WOOD CABINET TO FACILITATE INSTALLATION OF TEMPORARY MECHANICAL DUCTS, SEE MECH DWGS. SAVE FOR REINSTALLATION. COORDINATE WITH USERS FOR STORAGE LOCATION

D8. PROVIDE FULL HEIGHT TEMPORARY CONSTRUCTION BARRICADE WALL WITH DOOR DURING PHASE-2 OF CONSTRUCTION, SEE MECH DWGS. DEMOLISH THE TEMPORARY WALL ENTIRELY WHEN PHASE-2 OF THE PROJECT IS COMPLETED.

D9. REMOVE AND SALVAGE EXISTING WOOD CLOSET DOOR, FRAME AND RELATED ACCESSORIES TO FACILITATE REPLACEMENT OF MECHANICAL AIR HANDLING UNIT, SEE MECH DWGS. SAVE FOR REINSTALLATION. COORDINATE WITH USERS FOR STORAGE LOCATION

LEGEND

- EXISTING DOOR
- EXISTING WALL
- EXISTING LIGHT FIXTURE
- EXISTING ACT W/ GRID
- EXISTING DOOR TO BE REMOVED
- EXISTING WALL TO BE REMOVED
- ITEMS TO BE DEMOLISHED
- TEMPORARY CONSTRUCTION BARRICADE WALL AND DOOR

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA
LICENSED PROFESSIONAL ARCHITECT
No. 14637
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM 1	DESCRIPTION	DATE	APPR.
1	3YM	3/21/24	SH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024

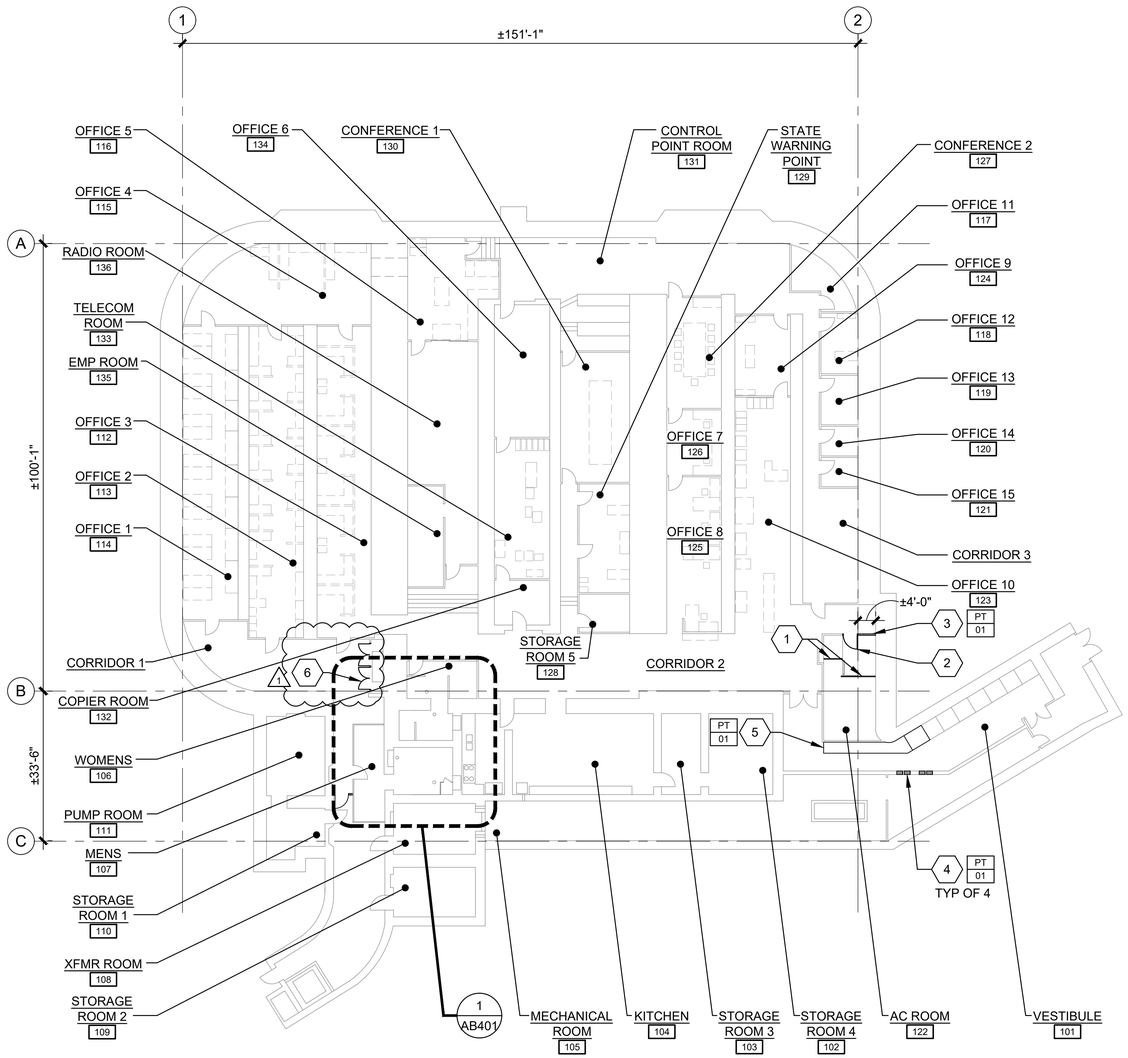
INK INK SH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

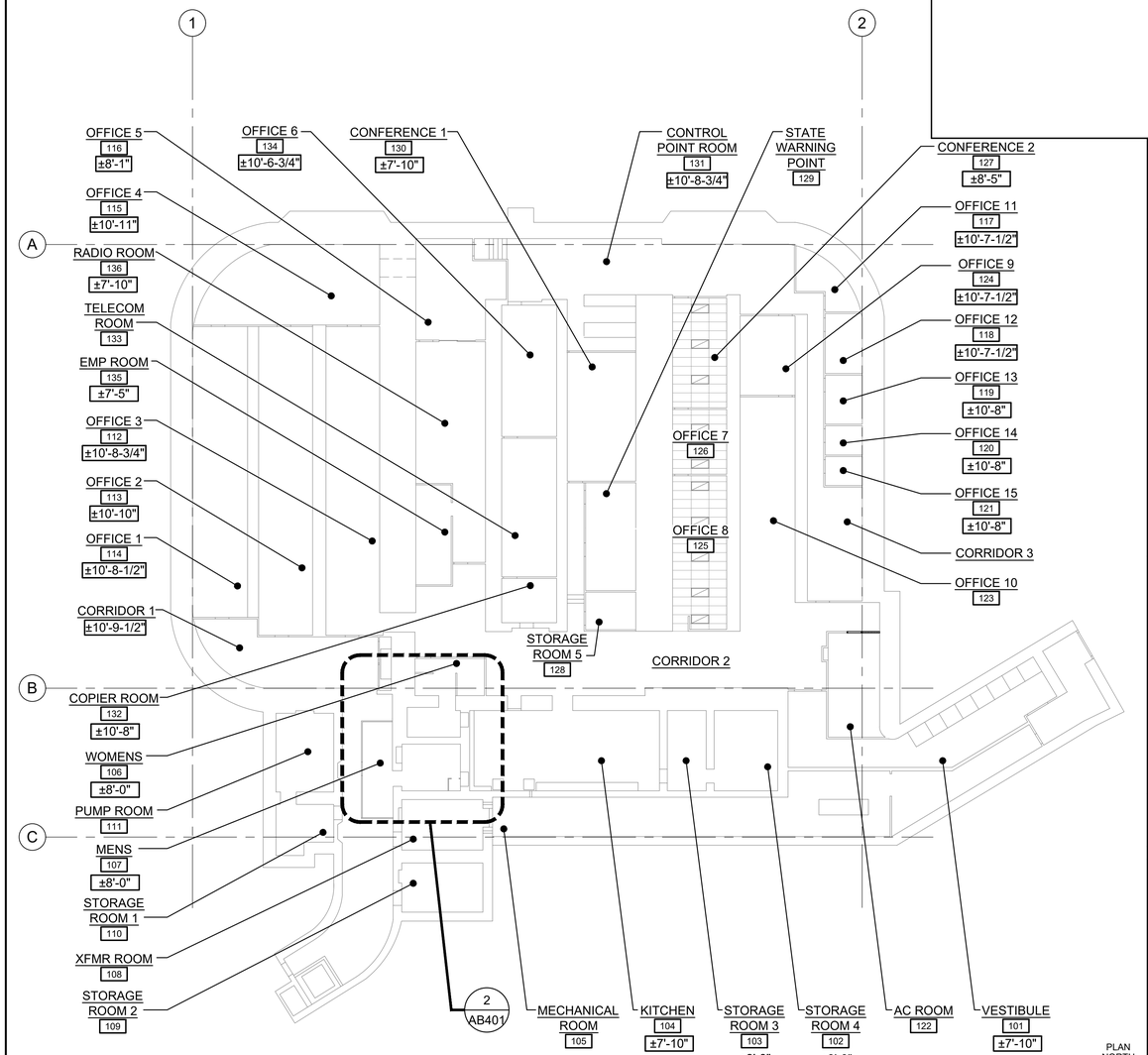
OVERALL FLOOR AND CEILING DEMOLITION

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 30 OF 123
AB101



1 AB102 BIRKHIMER OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"



2 AB102 BIRKHIMER OVERALL REFLECTED CEILING PLAN

SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. CONTRACTOR MUST REPAIR AND PATCH EXISTING WALL AND FLOOR FOR A SMOOTH SURFACE WHERE DOOR ASSEMBLY, PARTIAL WALL AND GUARD RAIL DEMOLITION/ REMOVALS OCCUR. FINISH TO MATCH EXISTING ADJACENT SURFACES

B. CONTRACTOR TO FIELD VERIFY EXISTING CEILING CONDITIONS AND MATERIALS. REINSTALL AND PATCH AS NEEDED TO MATCH EXISTING ADJACENT SURFACES AND COLOR AFTER WORK IS COMPLETED. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

C. ALL EXISTING PLUMBING FIXTURES AND ACCESSORIES IN WOMENS 106 AND MENS 107 ARE TO REMAIN

D. SEE SITE PLAN ON SHEET 001 FOR PORTA POTTY LOCATIONS

SHEET KEYNOTES (FOR THIS SHT ONLY)

1. REINSTALL EXISTING SURFACE MOUNTED GUARDRAILS REMOVED IN THE DEMOLITION OF EXISTING AIR HANDLING UNIT
2. REINSTALL DOOR AND FRAME REMOVED IN THE DEMOLITION OF EXISTING AIR HANDLING UNIT
3. PATCH PORTION OF EXISTING WALL REMOVED IN THE DEMOLITION OF EXISTING AIR HANDLING UNIT
4. INFILL (36" H X 16" W) PORTION OF EXISTING WALL REMOVED IN THE DEMOLITION OF TEMPORARY MECHANICAL DUCTS
5. REINSTALL EXISTING PLYWOOD ENCLOSURE AND PORTION OF CABINET. PAINT TO MATCH EXISTING ADJACENT SURFACES
6. REINSTALL EXISTING WOOD CLOSET DOOR, FRAME AND RELATED ACCESSORIES. PAINT AS NEEDED TO MATCH EXISTING ADJACENT SURFACES

LEGEND

- EXISTING DOOR
- EXISTING WALL
- EXISTING LIGHT FIXTURES
- EXISTING 2X4 ACT W/ GRID
- EXISTING DOOR TO BE REINSTALLED
- WALL PATCH

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA
LICENSED PROFESSIONAL ARCHITECT
No. 14637
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

1	ADDENDUM 1	3/21/24	SH
SYM	DESCRIPTION	DATE	APPR.

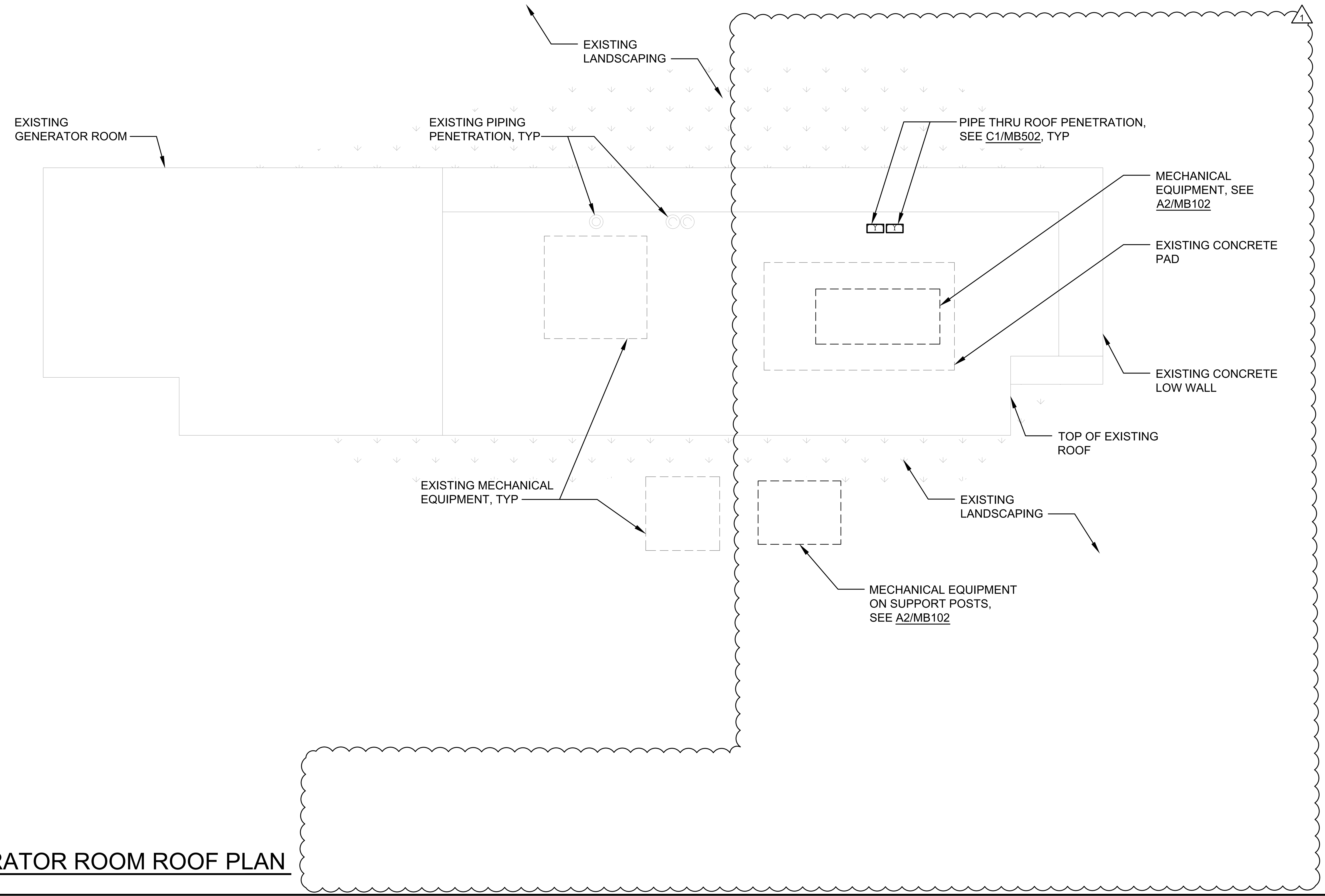
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024
INK INK SH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006 1

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

OVERALL FLOOR PLAN AND CEILING

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 31 OF 123
AB102



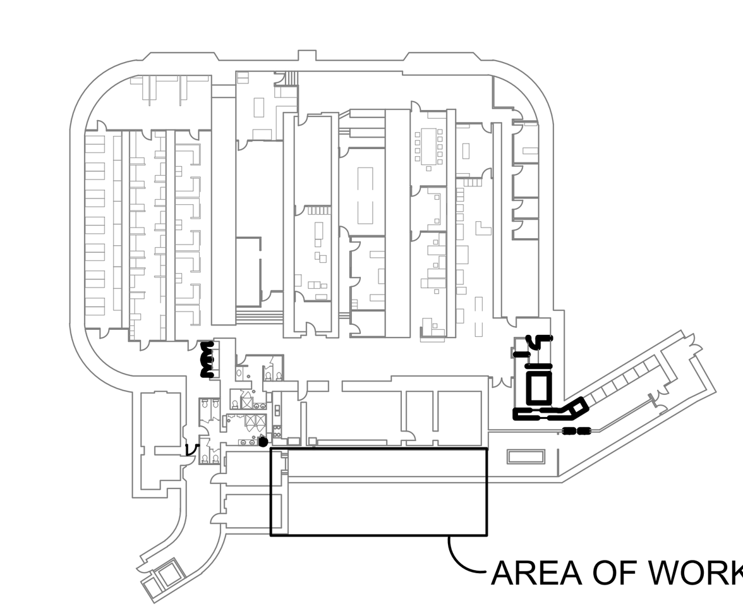
1 / AB103 BIRKHIMER GENERATOR ROOM ROOF PLAN

SCALE: 1/4" = 1'-0"

0 4' 8' 12'
SCALE: 1/4"=1'-0"

PLAN NORTH
TRUE N

KEY PLAN (NTS)



HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA
LICENSED PROFESSIONAL ARCHITECT
No. 14637
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE | EXPIRATION DATE 4/30/2026

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/21/24	SH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 3/1/2024

INK | INK | SH

STATE OF HAWAI'I
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816 TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
GENERATOR ROOM ROOF PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 32 OF 123

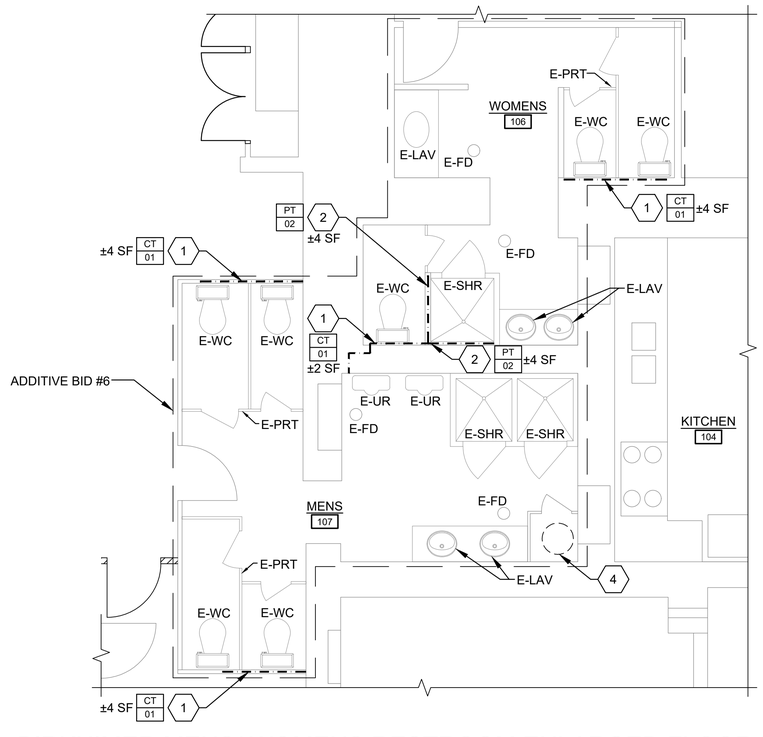
AB103

ROOM FINISH SCHEDULE

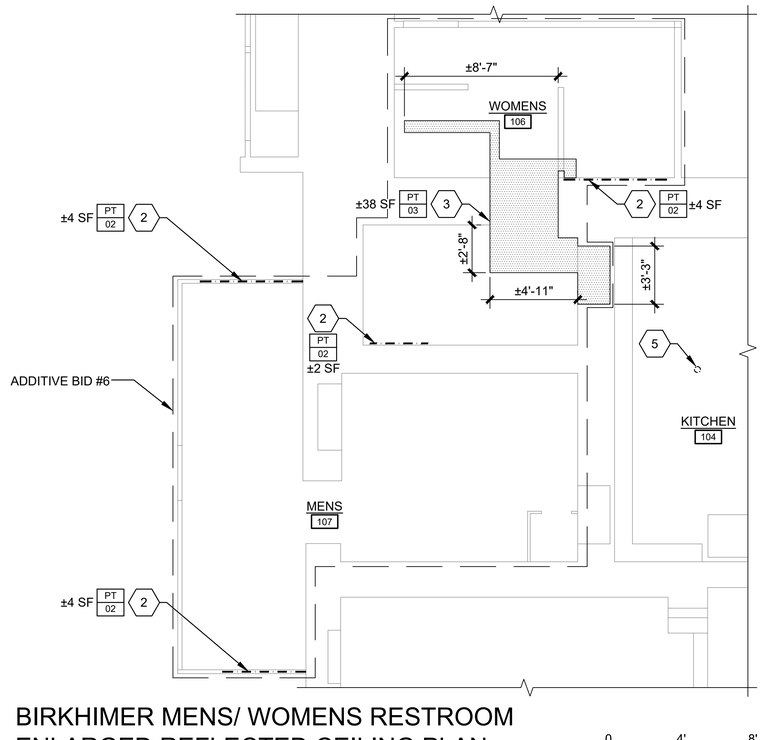
BUILDING NAME	ROOM NUMBER	ROOM NAME	FLOOR	BASE	WAINSCOT	WALLS				TRIM & MISC	CEILING	CEILING FINISH	REMARKS
						A	B	C	D				
BIRKHIMER	101	VESTIBULE	NO CHANGE	NO CHANGE	NO CHANGE	PT-01	NO CHANGE	PT-01	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	-
BIRKHIMER	106	WOMENS	NO CHANGE	NO CHANGE	CT-01	PT-02	PT-02	PT-02	PT-02	NO CHANGE	GYP BD	PT-03	-
BIRKHIMER	107	MENS	NO CHANGE	NO CHANGE	CT-01	PT-02	PT-02	PT-02	PT-02	NO CHANGE	NO CHANGE	NO CHANGE	-
BIRKHIMER	122	AC ROOM	NO CHANGE	NO CHANGE	NO CHANGE	PT-01	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	-
BIRKHIMER	-	CORRIDOR 2	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	PT-01	NO CHANGE	NO CHANGE	NO CHANGE	NO CHANGE	-

MATERIAL SCHEDULE

CODE	MATERIAL	MANUFACTURER	MODEL/SIZE	COLOR	OPTIONS	LOCATIONS	REMARKS
CT-01	CERAMIC TILE	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	-	MENS & WOMENS WALL PATCH	-
PT-01	PAINT	SHERWIN WILLIAMS	-	MATCH EXISTING	SEMI GLOSS	VESTIBULE	-
PT-02	PAINT	SHERWIN WILLIAMS	-	MATCH EXISTING	SEMI GLOSS	MENS & WOMENS WALLS	-
PT-03	PAINT	SHERWIN WILLIAMS	-	MATCH EXISTING	SEMI GLOSS	WOMENS CEILING	-



1 BIRKHIMER MENS/ WOMENS RESTROOM ENLARGED FLOOR PLAN
AB401 SCALE: 1/4" = 1'-0"



2 BIRKHIMER MENS/ WOMENS RESTROOM ENLARGED REFLECTED CEILING PLAN
AB401 SCALE: 1/4" = 1'-0"

PLAN NORTH (TRUE N)

0 4' 8' 12'
SCALE: 1/4"=1'-0"

GENERAL SHEET NOTES

A. SEE PLUMB DWGS FOR MORE INFORMATION

B. ALL PLUMBING FIXTURES ARE TO REMAIN AND ARE NOT IN CONTRACT.

C. THE AREA OF PATCH WORK INDICATED IS AN APPROXIMATION. CONTRACTOR TO VERIFY IN FIELD.

SHEET KEYNOTES (FOR THIS SHT ONLY)

1. PATCH AND REPAIR EXISTING CERAMIC TILE WAINSCOT AS REQUIRED TO PROVIDE SURFACE MATCHING THE EXISTING WHERE PLUMBING PIPING HAVE BEEN REMOVED. SEE SPECS FOR ADDITIONAL INFORMATION
2. PATCH PORTION OF EXISTING GYP BD WALL AS REQUIRED, SEE SPECS FOR ADDITIONAL INFORMATION
3. PATCH AND REPAIR PORTION OF EXISTING GYP BD CEILING WITH GYP BD PATCHING MATERIAL AS REQUIRED TO PROVIDE SURFACE MATCHING THE EXISTING WHERE PLUMBING PIPING HAVE BEEN REMOVED. PAINT TO MATCH EXISTING ADJACENT SURFACE, SEE SPECS FOR ADDITIONAL INFORMATION.
4. DEMOLISH AND REMOVE ELECTRIC WATER HEATER, SEE PLUMB DWGS
5. DEMOLISH AND REMOVE PORTION OF EXISTING GYP BD CEILING TO ALLOW TIE INTO EXISTING EXISTING ABANDONED PIPE, SEE PLUMB DWGS. PATCH PORTION OF EXISTING CEILING AS REQUIRED, SEE SPECS FOR ADDITIONAL INFORMATION.

ADDITIVE BID #6

ABBREVIATIONS

E-FD	EXISTING FLOOR DRAIN TO REMAIN
E-LAV	EXISTING LAVATORY TO REMAIN
E-PRT	EXISTING PARTITION TO REMAIN
E-SHR	EXISTING SHOWER TO REMAIN
E-UR	EXISTING URINAL TO REMAIN
E-WC	EXISTING WATER CLOSET TO REMAIN

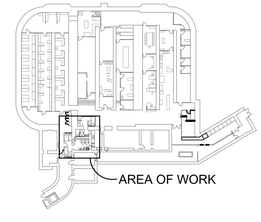
LEGEND

EXISTING DOOR — PATCH EXISTING WALL

EXISTING WALL

GYP BD CEILING

KEY PLAN (NTS)



HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT R.J. HARADA
LICENSED PROFESSIONAL ARCHITECT
No. 14637
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
4/30/2026
SIGNATURE EXPIRATION DATE

ADDENDUM 1					
1					
SYM					DESCRIPTION
SH					APPR.
3/21/24					DATE

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 3/1/2024
INK INK SH

DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
STATE OF HAWAII

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

1 SCHEDULES FLOOR PLAN AND CEILING

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 33 OF 123

AB401

MECHANICAL GENERAL NOTES:

1. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE BUILDING CODE OF THE CITY & COUNTY OF HONOLULU, STATE DEPARTMENT OF HEALTH REGULATIONS, 2018 UNIFORM PLUMBING CODE, NFPA 99, NFPA 13, AND ALL OTHER AGENCIES HAVING JURISDICTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER THE COMPLETE INSTALLATION OF SYSTEMS TO FUNCTION AS DESCRIBED AND SPECIFIED. THE OMISSION OF REFERENCE TO ANY NECESSARY ITEM OF LABOR OR MATERIAL SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH LABOR AND MATERIAL.
3. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL AND EQUIPMENT INCLUDING CUTTING, REPAIRING AND REFINISHING AS REQUIRED FOR COMPLETE AND OPERATING SYSTEMS UNLESS OTHERWISE INDICATED IN THE PLANS AND SPECIFICATIONS. "PROVIDE" SHALL MEAN TO PROCURE ALL NECESSARY MATERIALS AND INSTALL A COMPLETE WORKING INSTALLATION AS REFERENCED ON THE CONSTRUCTION DRAWINGS.
4. INSTALL ALL EQUIPMENT AND MATERIALS IN A FIRST CLASS OR "WORKMANLIKE" MANNER WHERE EQUIPMENT AND MATERIALS MUST BE INSTALLED WITH ACCEPTABLE CARE AND QUALITY CONFORMING TO RECOGNIZED COMMERCIAL STANDARDS.
5. ALL EQUIPMENT SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOCATED WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT IS TO BE INSTALLED PRIOR TO ORDERING OF EQUIPMENT AND NOTIFY THE ENGINEER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, AND OPERATION OF THE EQUIPMENT.
6. DRAWINGS DO NOT ATTEMPT TO SHOW EXACT DETAILS OF DUCTWORK. PROVIDE OFFSETS AS NECESSARY TO AVOID LOCAL OBSTRUCTIONS OR INTERFERENCE WITH OTHER TRADES. REVIEW ALL DUCT RUNS PRIOR TO FABRICATION AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY INTERFERENCE AND/OR LACK OF ADEQUATE CLEARANCES.
7. SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, MARK SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE ENGINEER FOR REVIEW. DO NOT PROCEED UNTIL REVIEWED.
8. REPAIR AND REFINISH ALL EXPOSED MATERIAL TO MATCH ADJACENT SURFACES OR AS INDICATED.

ADDITIVE BID ALTERNATES

ALTERNATE	LOCATION	DESCRIPTION
#1	B303	ALL WORK ASSOCIATED WITH LIGHT FIXTURE REPLACEMENT IN THE ADMIN SECTION OF BUILDING B303.
#2	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.
#3	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER.
#4	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.
#5	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER.
#6	BIRKHIMER	ALL WORK ASSOCIATED WITH BATHROOM PLUMBING UPGRADES.
#7	PSB	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.

CITY AND COUNTY OF HONOLULU
REVISED ORDINANCE CHAPTER 32,
HONOLULU COUNTY CODE 1990, AS
AMENDED
TO THE BEST OF MY KNOWLEDGE, THIS PROJECT'S DESIGN SUBSTANTIALLY CONFORMS TO THE BUILDING ENERGY CONSERVATION CODE FOR:

JASON Y. HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII, U.S.A.

__X__ MECHANICAL SYSTEMS

SIGNATURE: _____ DATE: 04-30-2024
NAME: JASON Y. HWANG
TITLE: PROJECT MANAGER
LICENSE NO.: 14297-M

MECHANICAL LEGEND

SYMBOL	ABBRV.	DESCRIPTION
	ACCU	AIR COOLED CONDENSING UNIT
	AHU	AIR HANDLING UNIT
	BDD	BACKDRAFT DAMPER
		CAPPED/STUBOUT PIPE
CD	CD	CONDENSATE PIPING
	CP	CONDENSATE PUMP
	CFM	CUBIC FEET PER MINUTE
	CONC	CONCRETE
	DEMO	DEMOLITION
		DENOTES DEMOLITION/REMOVAL
		ITEM TO BE REMOVED / DEMOLISHED
Ø	DIA	DIAMETER
	DWG	DRAWING
SD	SD	DUCT SMOKE DETECTOR
	(E)	EXISTING
	EA	EXHAUST AIR
	EAR	EXHAUST AIR REGISTER
	EF	EXHAUST FAN
	EXH	EXHAUST
	FCU	FAN COIL UNIT
	GALV.	GALVANIZED
	HZ	HERTZ
	IN.	INCHES
	MAX.	MAXIMUM
	MIN.	MINIMUM
	NO.	NUMBER
	NTS	NOT TO SCALE
	POR/POC	POINT OF REMOVAL/POINT OF CONNECTION
	RA	RETURN AIR
	RAR	RETURN AIR REGISTER
	RMS	ROOMS
	RL	REFRIGERANT LIQUID
	RS	REFRIGERANT SUCTION
	SA	SUPPLY AIR
	SAD	SUPPLY AIR DIFFUSER
	SHT	SHEET
	SYM.	SYMBOL
T	T-STAT	THERMOSTAT
	TA	TRANSFER AIR
	TAG	TRANSFER AIR GRILLE
	TYP.	TYPICAL
	VAV	VARIABLE AIR VOLUME
	VFD	VARIABLE FREQUENCY DRIVE
	V	VOLTS
	VD	VOLUME DAMPER

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STN	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

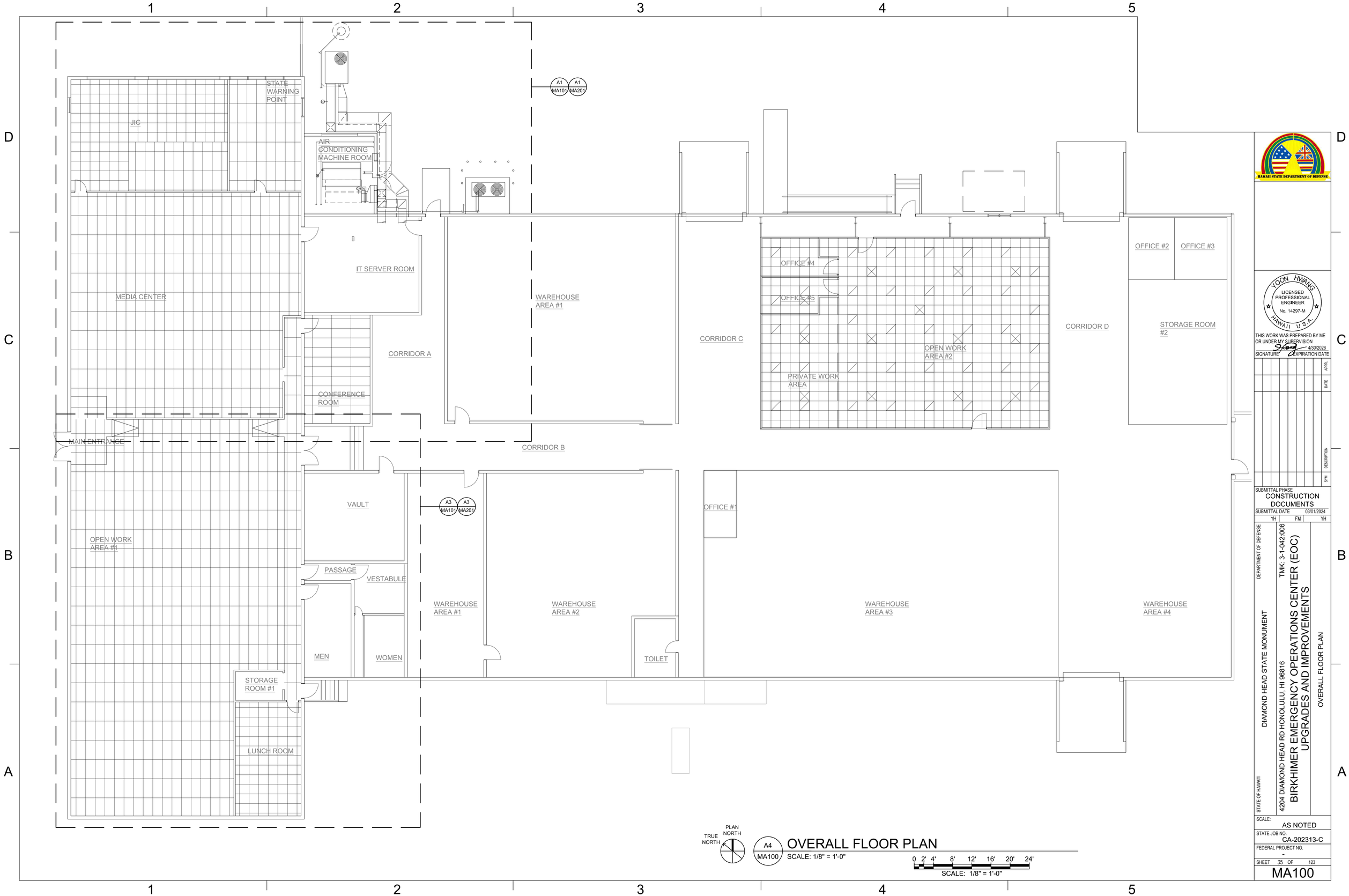
4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

GENERAL NOTES AND LEGENDS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 34 OF 123
M-001



PLAN NORTH
TRUE NORTH

A4
MA100

OVERALL FLOOR PLAN

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

STATE OF HAWAII

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

OVERALL FLOOR PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 35 OF 123

MA100

PHASING NOTES:

CONSTRUCTION OF DUCTWORK REPLACEMENT TO TAKE PLACE OVER MULTIPLE PHASES. REFER TO SPECIFICATIONS FOR AVAILABLE NON-BUSINESS HOUR TIMES. PROVIDE TEMPORARY A/C FOR ALL DISABLED AREAS. CONTRACTOR TO DUCT EXHAUST WITHOUT IMPACTING OPERATIONS AS WELL AS REMOVAL OF CONDENSATE. SEE SPEC FOR SPECIFIC CONSTRUCTION DURATION DAYS PER PHASE.

DEMO/NEW PHASE 1:

REMOVE AND REPLACE ALL SUPPLY AIR AND RETURN AIR DUCTWORK UP TO (E)AHU-1.

DEMO/NEW PHASE 2:

REMOVE AND REPLACE ALL SUPPLY AIR DUCTWORK FOR "MEDIA CENTER". INSTALL NEW TRANSFER AIR DUCTWORK.

DEMO/NEW PHASE 3:

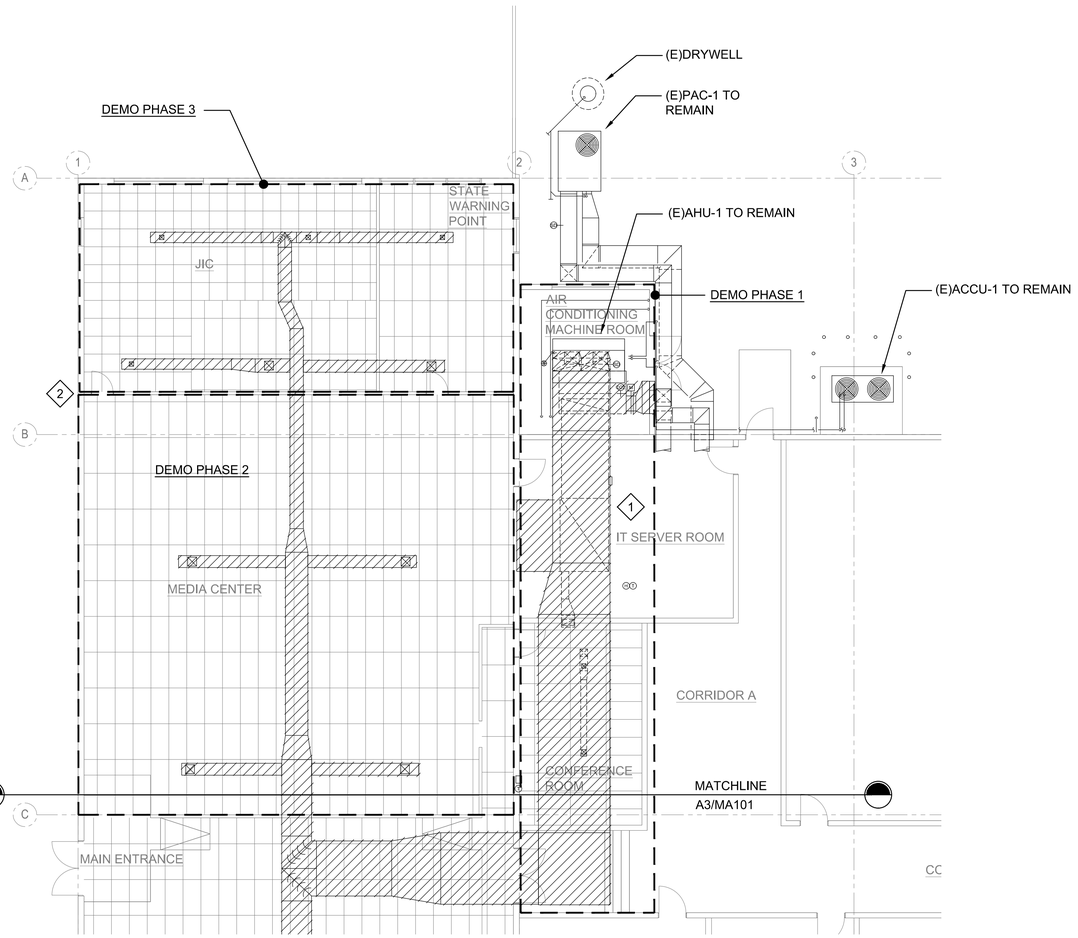
REMOVE AND REPLACE ALL SUPPLY AIR DUCTWORK FOR "JIC" ROOM AND "STATE WARNING POINT ROOM". INSTALL NEW TRANSFER AIR DUCTWORK. *OFFICE STAFF WILL CONTINUE TO WORK DURING THIS CONSTRUCTION.

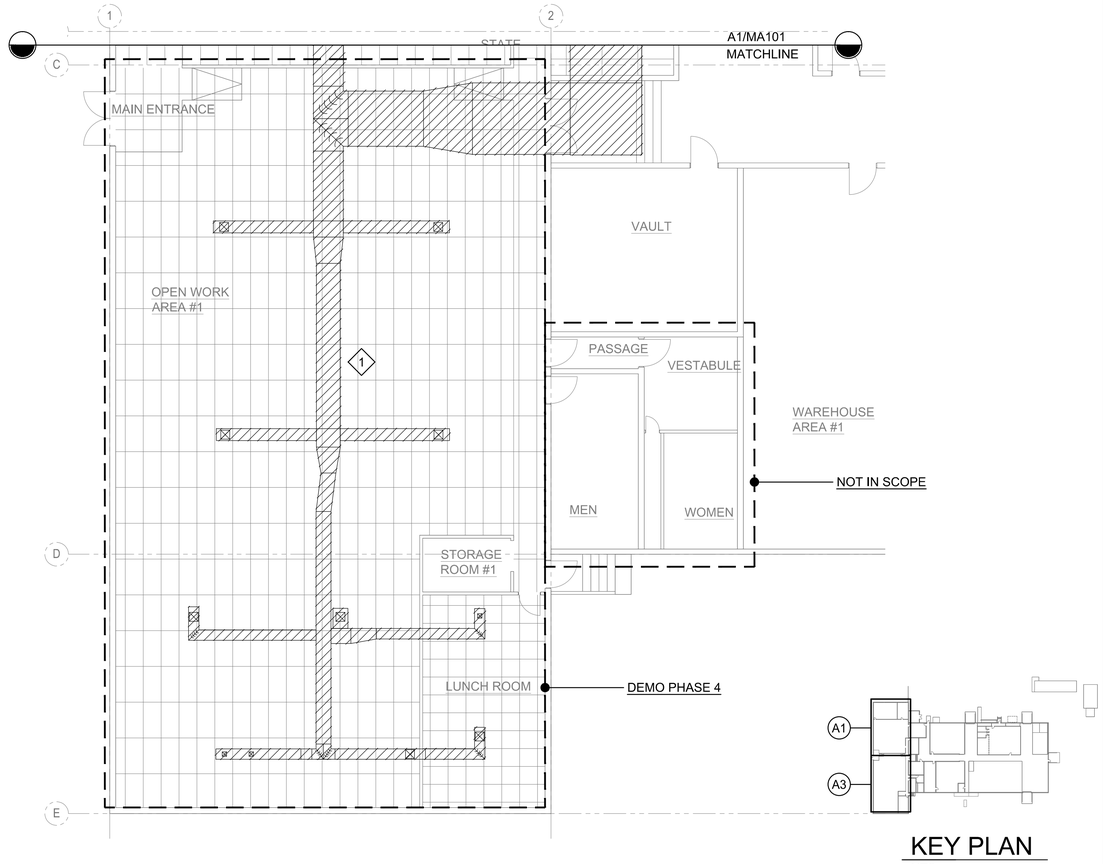
DEMO/NEW PHASE 4:

REMOVE AND REPLACE ALL SUPPLY AIR DUCTWORK FOR "OPEN OFFICE AREA" AND "LUNCHROOM". INSTALL NEW TRANSFER AIR DUCTWORK.

KEYNOTES:

1. DEMO ALL EXISTING SA/RA DUCTS.
2. DUCTWORK POR FOR FUTURE PHASE AT OVERLAP OF DASHED PHASE BOUNDARY, TYPICAL FOR ALL PHASE BOUNDARIES.





KEY PLAN
NTS

TRUE NORTH / PLAN NORTH

A1 / MA101 ENLARGED FLOOR PLAN - DEMO

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

TRUE NORTH / PLAN NORTH

A3 / MA101 ENLARGED FLOOR PLAN - DEMO

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

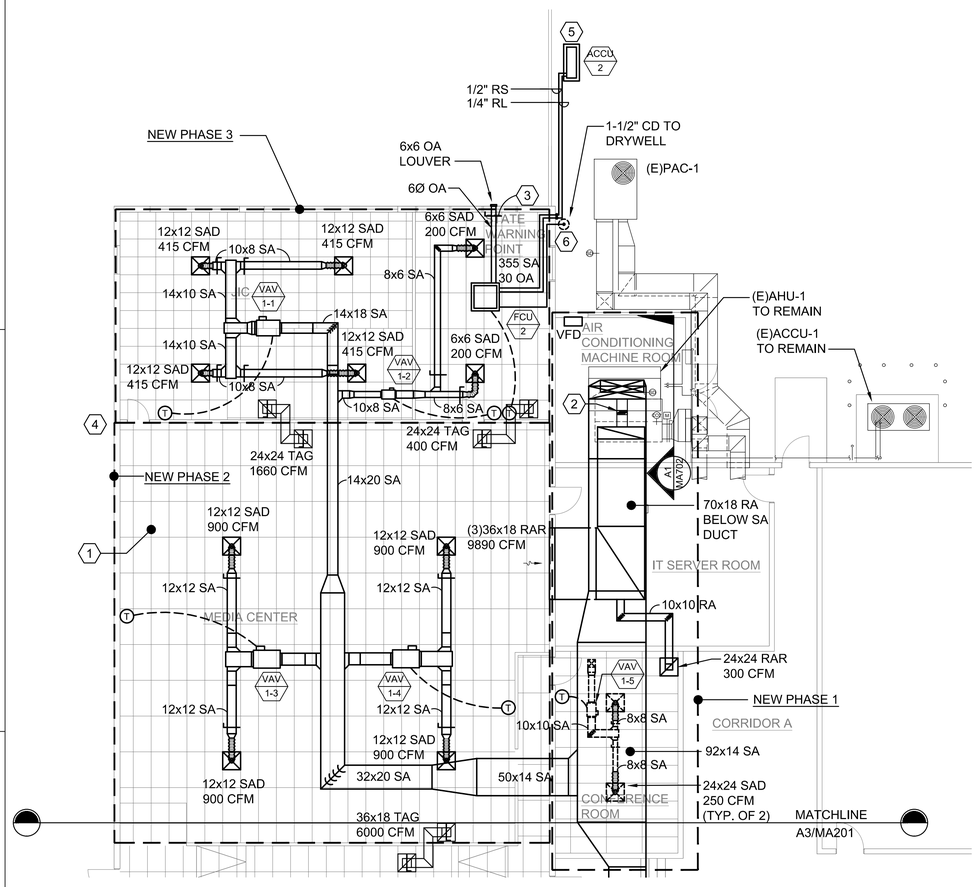
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH FM YH

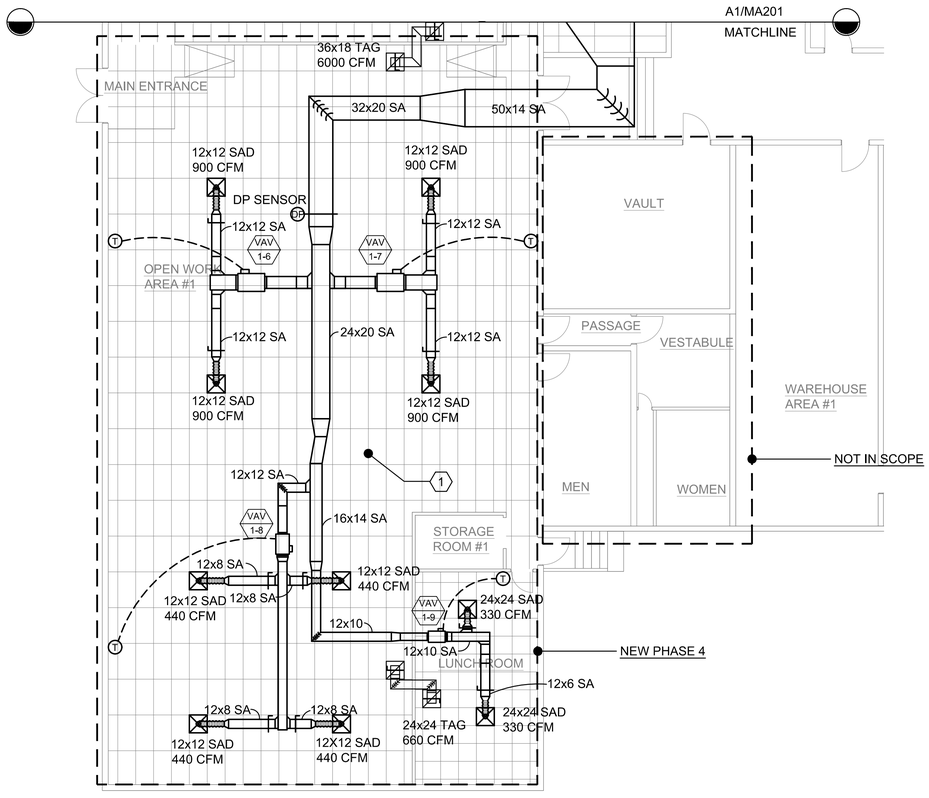
STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ENLARGED FLOOR PLANS - DEMO

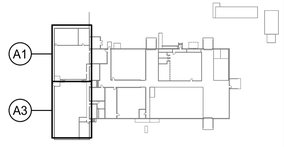
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 36 OF 123
MA101

KEYNOTES:

1. CONTRACTOR SHALL REMOVE AND REINSTALL CEILING WHEN DOD STAFF IS NOT PRESENT.
2. INSTALL NEW 20X36 BYPASS DUCT AND DAMPER.
3. INSTALL MODULATING DAMPER.
4. DUCTWORK POC FOR FUTURE PHASE AT OVERLAP OF DASHED PHASE BOUNDARY, TYPICAL FOR ALL PHASE BOUNDARIES.
5. NEW CONCRETE PAD PROVIDED SHALL BE 4" WIDER THAN NEW ACCU UNIT.
6. PAINT NEW REFRIGERANT AND CONDENSATE PIPING WHITE TO MATCH EXISTING OUTSIDE DUCTWORK.







KEY PLAN
NTS

TRUE NORTH / PLAN NORTH

A1 / MA201 ENLARGED FLOOR PLAN - NEW
SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'
SCALE: 1/8" = 1'-0"

TRUE NORTH / PLAN NORTH

A3 / MA201 ENLARGED FLOOR PLAN - NEW
SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'
SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

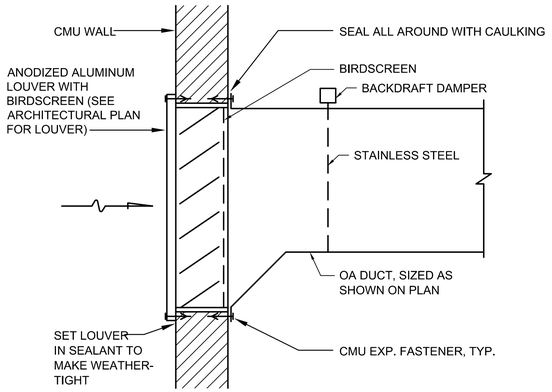
NO.	DESCRIPTION	DATE	APPR.
3			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ENLARGED FLOOR PLANS - NEW

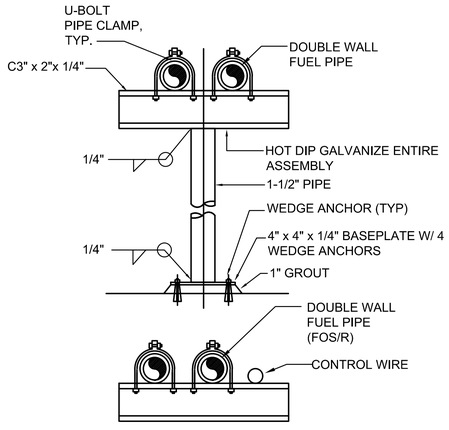
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 37 OF 123
MA201



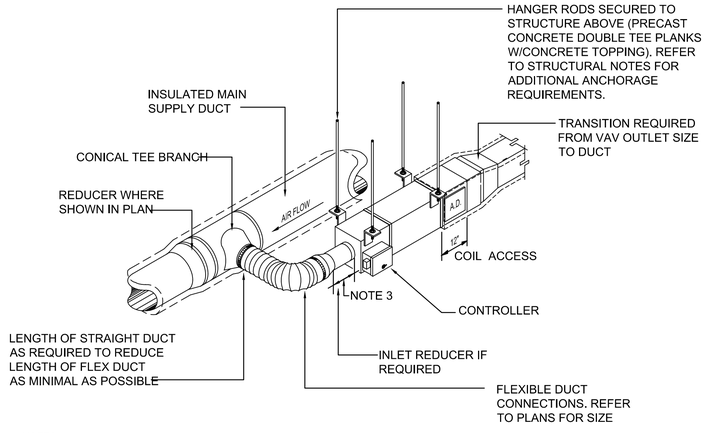
C1 / MA501 **TYPICAL LOUVER DETAIL**
SCALE: NOT TO SCALE

MINIMUM EMBEDMENT DEPTH BY DIAMETER OF WEDGE ANCHOR

WEDGE ANCHOR DIAMETER	MINIMUM EMBEDMENT DEPTH
1/4"	1-1/8"
5/16"	1-1/4"
3/8"	1-1/2"
1/2"	2-1/4"
5/8"	2-3/4"
3/4"	3-1/4"
7/8"	3-7/8"
1"	4-1/2"
1-1/4"	5-1/2"



A1 / MA501 **PIPE SUPPORT ON SLAB**
SCALE: NOT TO SCALE



NOTES:

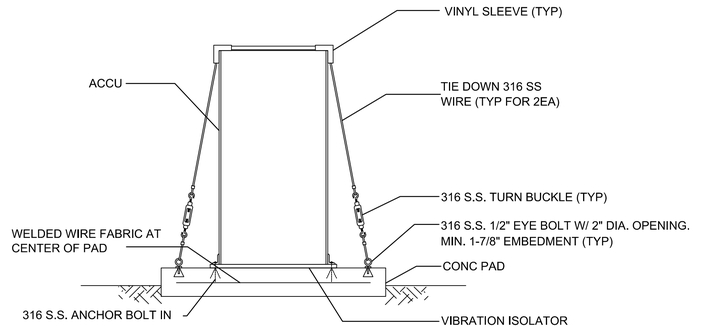
1. PROVIDE 8"x8" INTERNALLY INSULATED 1" STAND OFF ACCESS DOOR IN 12" INCH COIL ACCESS SECTION.
2. CONTROLLER ENCLOSURE, COIL ACCESS COIL, CONNECTIONS AND CONTROL VALVE ASSEMBLY SHALL BE ON THE SAME SIDE OF THE TERMINAL BOX.
3. 1-1/2" NOZZLE DIAMETERS STRAIGHT DUCT.

A2 / MA501 **VAV TERMINAL UNIT CONNECTION DETAIL**
SCALE: NOT TO SCALE

ANCHOR BOLT ULTIMATE LOAD VALUES IN 2000 PSI CONCRETE

SIZE	MIN. EMBEDMENT	DRILL BIT	PULL-OUT (LBS.)	SHEAR (LBS.)
1/4"	1-1/8"	1/4"	877	1082
5/16"	1-1/8"	5/16"	892	1156
3/8"	1-1/2"	3/8"	1223	3238
1/2"	2-1/4"	1/2"	2999	5564
5/8"	2-3/4"	5/8"	3749	6198
3/4"	3-1/4"	3/4"	4978	9378
7/8"	3-7/8"	7/8"	6294	13687
1"	4-1/2"	1"	7329	17712
1-1/4"	5-1/2"	1-1/4"	13162	24206

VALUES SHOWN ARE AVERAGE ULTIMATE VALUES AND ARE OFFERED ONLY AS A GUIDE AND ARE NOT GUARANTEED. A SAFETY FACTOR OF 4:1 OR 25% IS GENERALLY ACCEPTED AS A SAFE WORKING LOAD. REFERENCE SHOULD BE MADE TO APPLICABLE CODES FOR THE SPECIFIC WORK RATIO.



A4 / MA501 **ACCU TYP INSTALLATION DETAIL**
SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STA	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 38 OF 123
MA501

(E)AIR HANDLING UNIT SCHEDULE

UNIT ID	LOCATION	AREA SERVED	TOTAL CFM	OUTSIDE AIR CFM (MIN.)	ESP (IN.W.G)	ENTERING AIR		TOTAL HEAT BTUH	SENSIBLE HEAT BTUH	ELECTRICAL			DRIVE	UNIT WEIGHT (LBS)
						DB	WB			V/HZ/PH	MCA	MOCP		
(E)AHU-1	MECH RM	GENERAL OFFICE AREA	12,500	800 (200)	1.0	75.0	62.6	298,600	288,900	208/60/3	40.0	70	BELT	1,050

NOTES:
1. UNIT IS EXISTING AND SHOWN FOR REFERENCE ONLY.
2. PROVIDE NEW INVERTER DUTY RATED MOTOR.
3. PROVIDE VFD.

(E)AIR COOLED CONDENSING UNIT SCHEDULE

UNIT ID	UNIT SERVE	NOMINAL CAPACITY TONS	AMBIENT	REFRIGERANT	MIN. UNIT CAPACITY W/ DIGITAL COMPRESSOR	CAPACITY STEPS W/ DIGITAL OPTION	ELECTRICAL				UNIT WEIGHT (LBS)
							V/HZ/PH	EER	MCA	MOCP	
(E)ACCU-1	(E)AHU-1	25	95F	R410A	17%	22	208/60/3	11.0	120.2	150	1,115

NOTES:
1. UNIT IS EXISTING AND SHOWN FOR REFERNECE ONLY

FAN COIL UNIT (FCU) SCHEDULE

FCU NO.	AREA SERVED	TYPE	COOLING CAPACITY						AIRFLOW		ELECTRICAL	MAKE AND MODEL	REMARKS
			TOTAL (BTUH)	SENSIBLE (BTUH)	EAT DB°F	EAT WB°F	LAT DB°F	LAT WB°F	SA (CFM)	OA (CFM)	V/PH/HZ		
FCU-2	STATE WARNING POINT ROOM	CASETTE	9,500	8,300	76.0	61.9	55.0	52.7	355	30	208/1/60	TRANE TPLA0A0121EA80A	1,2

NOTES:
1. MANUFACTURER STATNDARD FILTER.
2. INDOOR FCU POWERED BY OUTDOOR ACCU.

AIR COOLED CONDENSING UNIT (ACCU) SCHEDULE

ACCU NO.	LOCATION	UNIT(S) SERVED	REFRIG. TYPE	CONDENSER FAN			ELECTRICAL DATA			EER	SIZE HxWxD (IN)	SOUND LEVEL (DBA)	WEIGHT (LBS)	MAKE & MODEL NO.	REMARKS
				AMBIENT AIR TEMP - EXTREME HIGH (F)	TYPE	FAN MOTOR OUTPUT (W)	MCA	MOCP	V/PH/HZ						
ACCU-2	EXTERIOR	FCU-2	R-410A	95	PROP	46	11	28	208/60/1	16.2	25x32x12	44	92	TRANE TRUYA0121KA70NA	1,2

NOTES:
1. REFRIGERANT PIPE QUANTITIES AND SIZE TO BE PER MANUFACTURER'S PIPING SCHEMATIC.
2. COAT UNIT CASING AND COILS WITH COATING RATED FOR COASTAL ENVIRONMENT

VAV SCHEDULE - AHU-1

VAV ID	ROOM NAME	ROOM AIRFLOW (CFM)	VAV MAX FLOW (CFM)	VAV MIN FLOW (CFM)	TYPE	UNIT SIZE	INLET SIZE (IN)	MAX. INLET PD (IN W.G)	ELECTRICAL	REMARKS
1-1	JIC	1650	1650	545	DDC, SINGLE INLET	14	14	0.25	120/1/60	---
1-2	STATE WARNING POINT	400	400	132	DDC, SINGLE INLET	8	8	0.25	120/1/60	---
1-3	MEDIA CENTER	1800	1800	594	DDC, SINGLE INLET	16	16	0.25	120/1/60	---
1-4	MEDIA CENTER	1800	1800	594	DDC, SINGLE INLET	16	16	0.25	120/1/60	---
1-5	CONFERENCE ROOM	500	500	165	DDC, SINGLE INLET	8	8	0.25	120/1/60	---
1-6	GENERAL OFFICE AREA	1800	1800	594	DDC, SINGLE INLET	16	16	0.25	120/1/60	---
1-7	GENERAL OFFICE AREA	1800	1800	594	DDC, SINGLE INLET	16	16	0.25	120/1/60	---
1-8	GENERAL OFFICE AREA	1760	1760	581	DDC, SINGLE INLET	16	16	0.25	120/1/60	---
1-9	LUNCH ROOM	660	660	218	DDC, SINGLE INLET	10	10	0.25	120/1/60	---

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

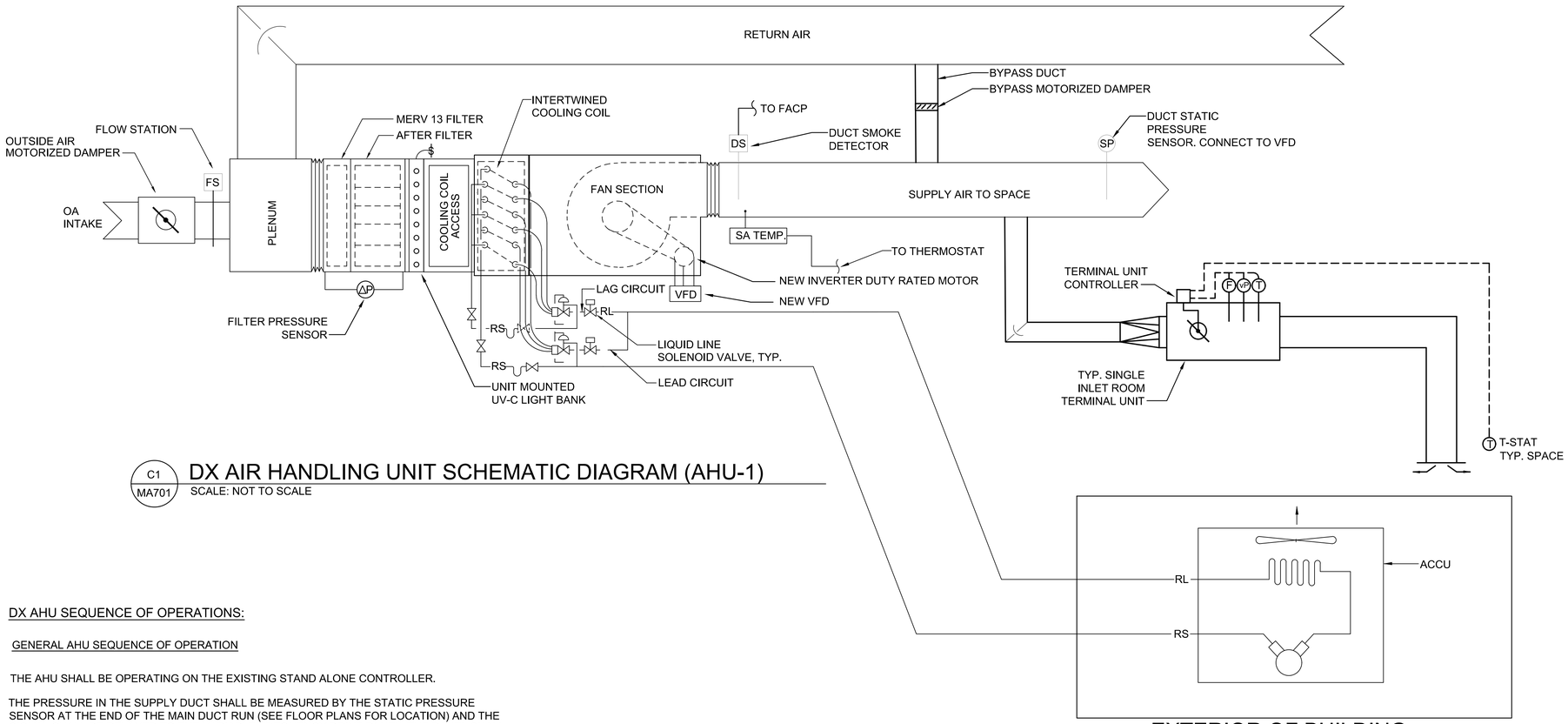
APPR.	DATE	DESCRIPTION	STM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 39 OF 123
MA601



C1
MA701

DX AIR HANDLING UNIT SCHEMATIC DIAGRAM (AHU-1)

SCALE: NOT TO SCALE

DX AHU SEQUENCE OF OPERATIONS:

GENERAL AHU SEQUENCE OF OPERATION

1. THE AHU SHALL BE OPERATING ON THE EXISTING STAND ALONE CONTROLLER.
2. THE PRESSURE IN THE SUPPLY DUCT SHALL BE MEASURED BY THE STATIC PRESSURE SENSOR AT THE END OF THE MAIN DUCT RUN (SEE FLOOR PLANS FOR LOCATION) AND THE SIGNAL SHALL BE RELAYED TO THE VARIABLE FREQUENCY DRIVE PANEL. THE PANEL SHALL ADJUST THE FREQUENCY OF THE POWER SUPPLIED TO THE MOTOR TO INCREASE OR DECREASE ITS SPEED TO MAINTAIN THE DUCT STATIC PRESSURE AT 1" WG. OR (ADJUSTBLE). THE REQUIRED SETPOINT SHALL BE ADJUSTED AFTER RECEIVING INPUT FROM THE BALANCING CONTRACTOR.
3. A HIGH LIMIT STATIC PRESSURE SENSOR SHALL BE INSTALLED ON THE DISCHARGE DUCTWORK. THE HIGH LIMIT STATIC PRESSURE SENSOR SHALL SHUT DOWN THE UNIT & SOUND AN ALARM IF THE SENSOR MEASURES A STATIC PRESSURE OF 500 PA OF WATER OR MORE.
4. UPON ACTIVATION OF THE DUCT SMOKE DETECTOR, A SIGNAL SHALL BE RELAYED TO THE FIRE ALARM SYSTEM AND THE FIRE ALARM SYSTEM SHALL SHUTDOWN THE AHU. COORDINATE WITH FIRE ALARM CONTRACTOR.
5. UPON ACTIVATION, THE EXTERIOR LOCATED AIR COOLED CONDENSING UNIT SHALL PROVIDE LIQUID REFRIGERANT TO THE CONNECTED AHU INSIDE THE MECHANICAL ROOM. AHU SHALL PROVIDE A CONSTANT 55F SUPPLY AIR TEMP VIA ITS INTERNAL CONTROL PORGRAM.
6. MODULATE AIR FLOW, VIA FAN VFD, TO SATISFY THE MINIMUM REQUIRED DUCT PRESSURE OF 1" WG (ADJUSTABLE, AND TO BE CONFIRMED DURING TAB), MEASURED BY DUCT PRESSURE SENSOR.
7. THE NEW OUTDIDE AIR DAMPER SHALL BE SYNCHED WITH VFD SPEED TO PROVIDE OUTSIDE AIR PROPORTIONAL TO THE VFD FAN SPEED.
8. SEE VARIABLE VOLUME TERMINAL UNIT SEQUENCE OF OPERATION.
9. NEW BYPASS DUCT SHALL BE PROVIDED TO BYPASS PORTION OF SUPPLY AIR TO RETURN SIDE TO PREVENT COOLING COIL FROM FREEZING.

SUPPLY AIR VAV BOX (VAV):

EACH SUPPLY AIR TERMINAL UNIT SHALL BE INDIVIDUALLY CONTROLLED BY IT'S OWN DDC VAV CONTROLLER.

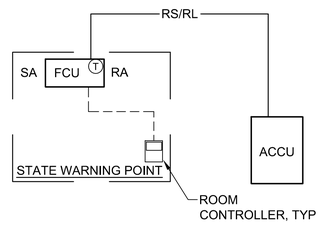
1. ON A RISE IN ZONE TEMPERATURE MEASURED BY A ROOM TEMPERATURE SENSOR, THE UNIT WILL MODULATE TO OPEN THE DAMPER TO MAINTAIN THE ROOM TEMPERATURE SET POINT. AS SPACE TEMPERATURE DECREASES, THE DAMPER SHALL MODULATE DOWN TO IT'S MINIMUM POSITION. THE FLOW SENSOR SHALL MODULATE THE DAMPER TO MAINTAIN THE PROPER AIR FLOW TO THE BOX WHICH CORRESPONDS TO THE ROOM TEMPERATURE REQUIREMENT REGARDLESS OF FLUCTUATIONS IN UPSTREAM SUPPLY DUCT PRESSURE.

DX FAN COIL/CRAC SEQUENCE OF OPERATIONS:

STATE WARNING POINT ROOM DX UNIT SEQUENCE OF OPERATION:

THE STATE WARNING POINT ROOM WILL BE SERVED BY DEDICATED 24/7 DX DUCTLESS SPLIT AIR CONDITIONING SYSTEM. THE SEQUENCE OF OPERATIONS WILL BE AS FOLLOWS:

1. THE DX SPLIT SYSTEM SHALL BE PROVIDED WITH ITS OWN H-O-A SWITCH FOR CONTROL. IN THE "AUTO" MODE OF OPERATION, THE SYSTEM SHALL OPERATE VIA THE DDC SYSTEM. THE "HAND" MODE WILL BY-PASS THE DDC CONTROLS AND ALLOW FOR MANUAL OPERATION.
2. THE DX FAN COIL UNIT (FCU) SHALL OPERATE 24/7. THE FCU SHALL BE CONTROLLED VIA A ROOM CONTROLLER MOUNTED ON THE WALL WHERE INDICATED ON THE DRAWINGS.
3. THE RETURN AIR T-STAT UNIT SHALL MAINTAIN A SPACE TEMPERATURE OF 24°C (75°F) DEGREES.
4. IF SPACE TEMPERATURES EXCEEDS 27°C (81°F) DEGREES, THEN A HIGH ROOM TEMPERATURE ALARM WILL INITIATE.
5. UPON ACTIVATION OF THE AT/FP EMERGENCY SHUT DOWN SWITCH, THE DX SPLIT SYSTEM SHALL REMAIN OPERATIONAL.
6. THE UNIT SHALL RESUME OPERATION AUTOMATICALLY ONCE POWER IS RESTORED FOLLOWING A POWER OUTAGE.



HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
STATE OF HAWAII

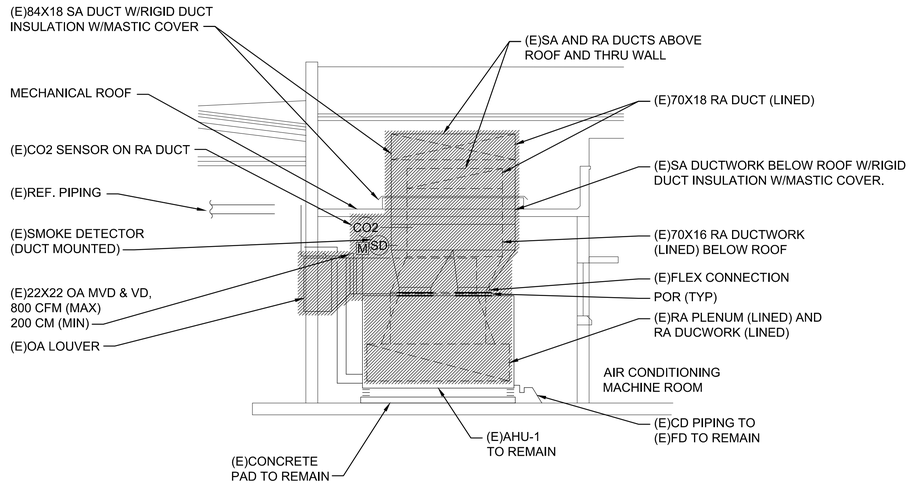
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

SCHEMATIC AND SEQUENCE OF OPERATION

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 40 OF 123

MA701

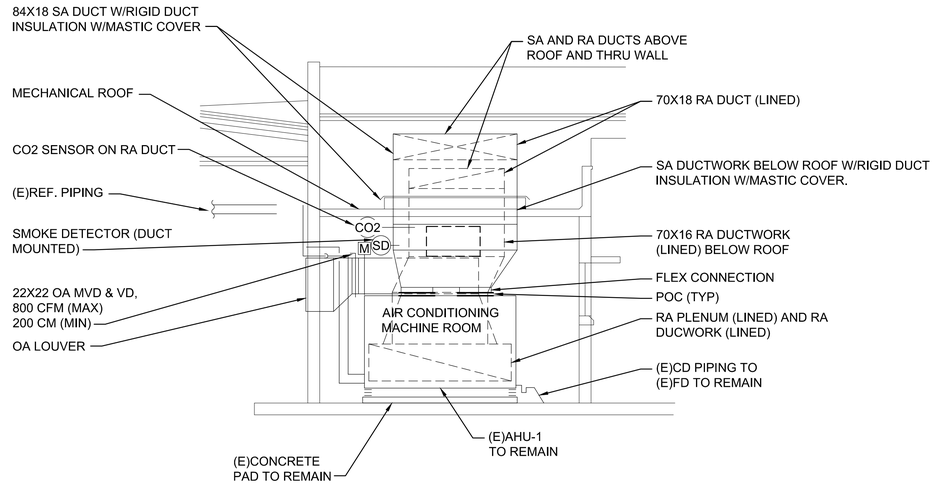


C1 MA702 **MECHANICAL SECTION - DEMO**

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

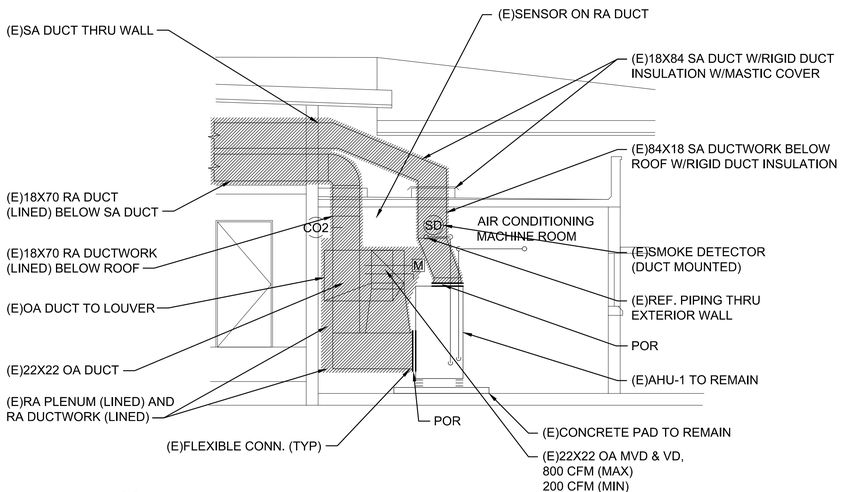


C3 MA702 **MECHANICAL SECTION - NEW**

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

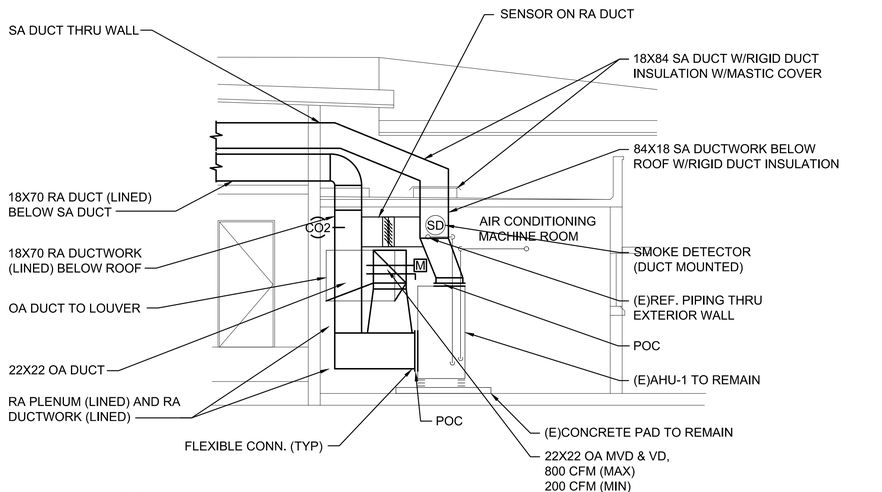


A1 MA702 **MECHANICAL SECTION - DEMO**

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



A3 MA702 **MECHANICAL SECTION - NEW**

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

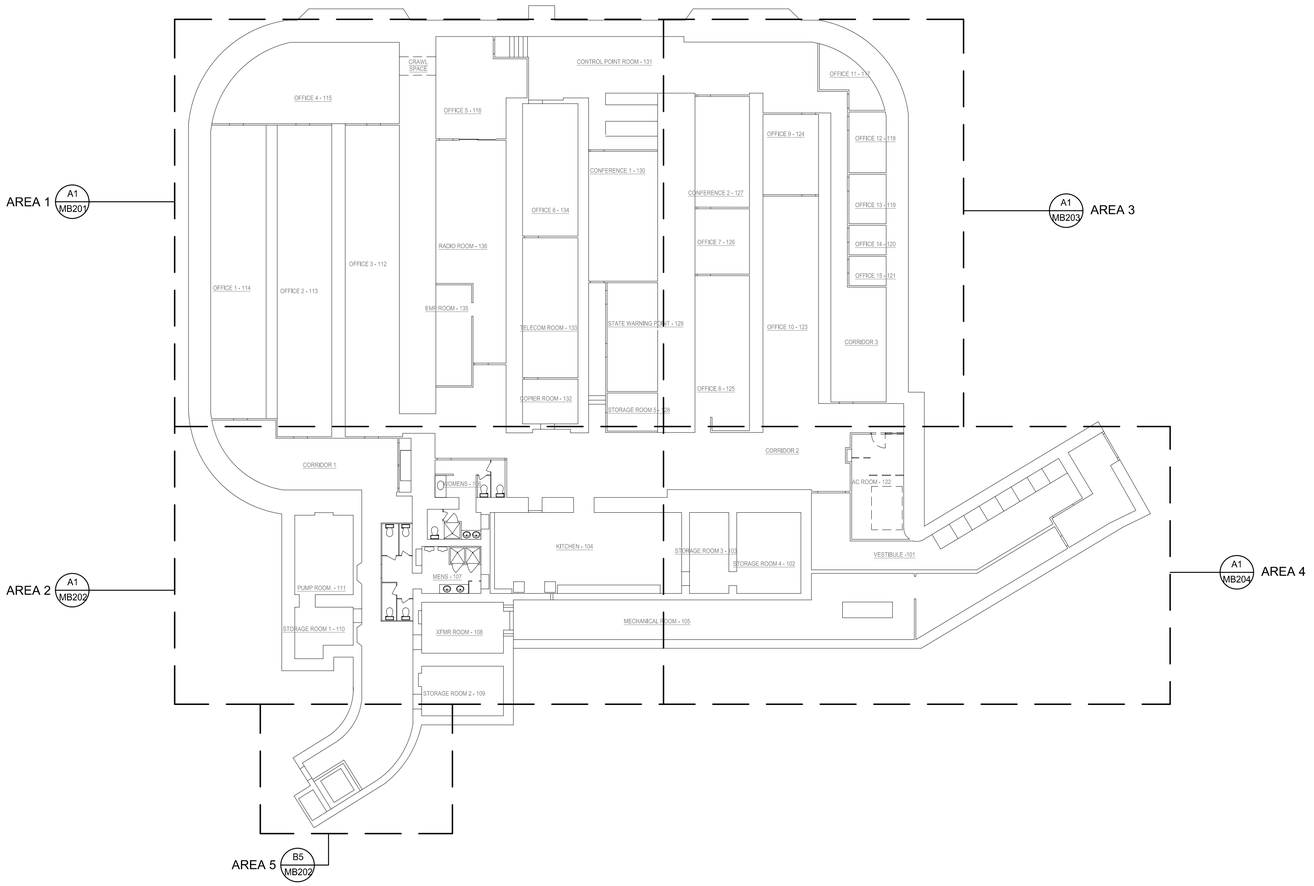
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL SECTIONS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 41 OF 123

MA702



TRUE NORTH / PLAN NORTH

A2
MB101

DEMO OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32' 48'

SCALE: 1/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

DEMO OVERALL FLOOR PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 42 OF 123

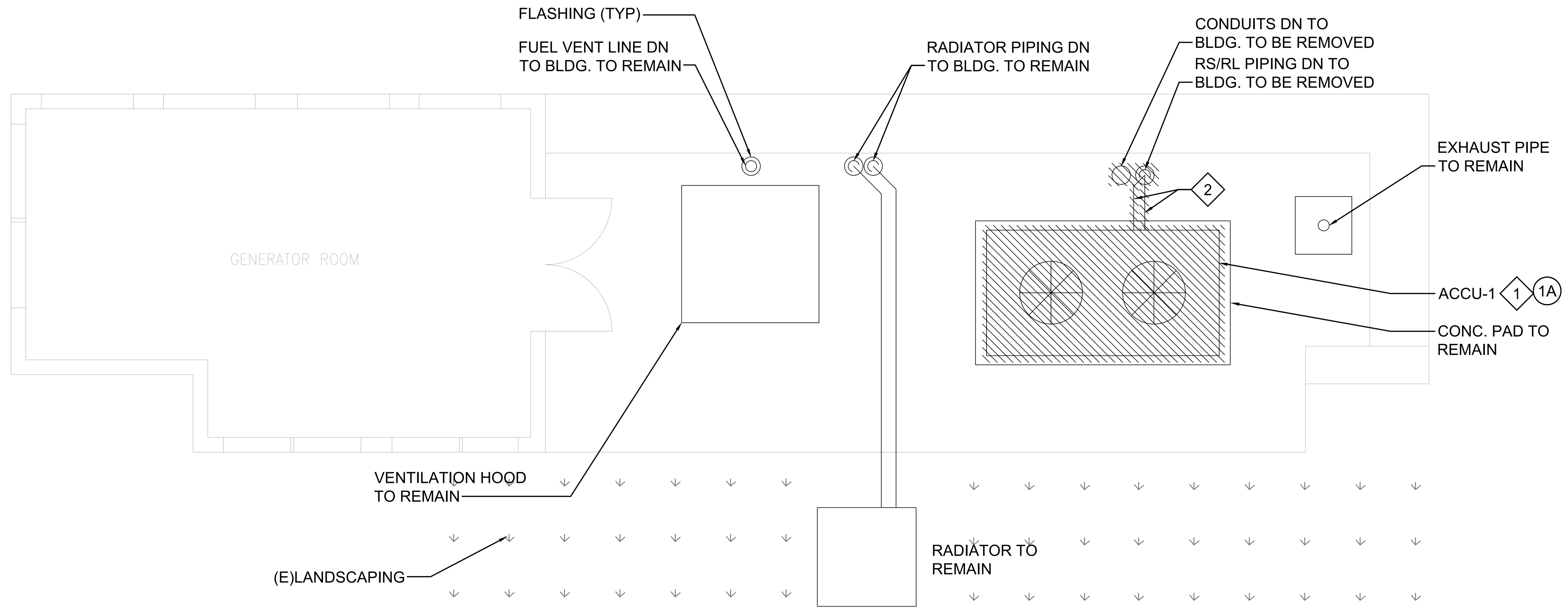
MB101

DEMO KEYED NOTES:

1. REMOVE MECHANICAL EQUIPMENT AND ANY ASSOCIATED SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE REFRIGERANT PIPING AND ASSOCIATED SUPPORTS.

PHASING NOTES (PHASE 1 - HVAC); 12 WORKING SHIFTS:

1A. REPLACE AHU-1/ACCU-1 PRIOR TO THE REPLACEMENT/INSTALLATION OF ALL OTHER AHU/FCU/ACCU WITHIN BIRKHIMER.



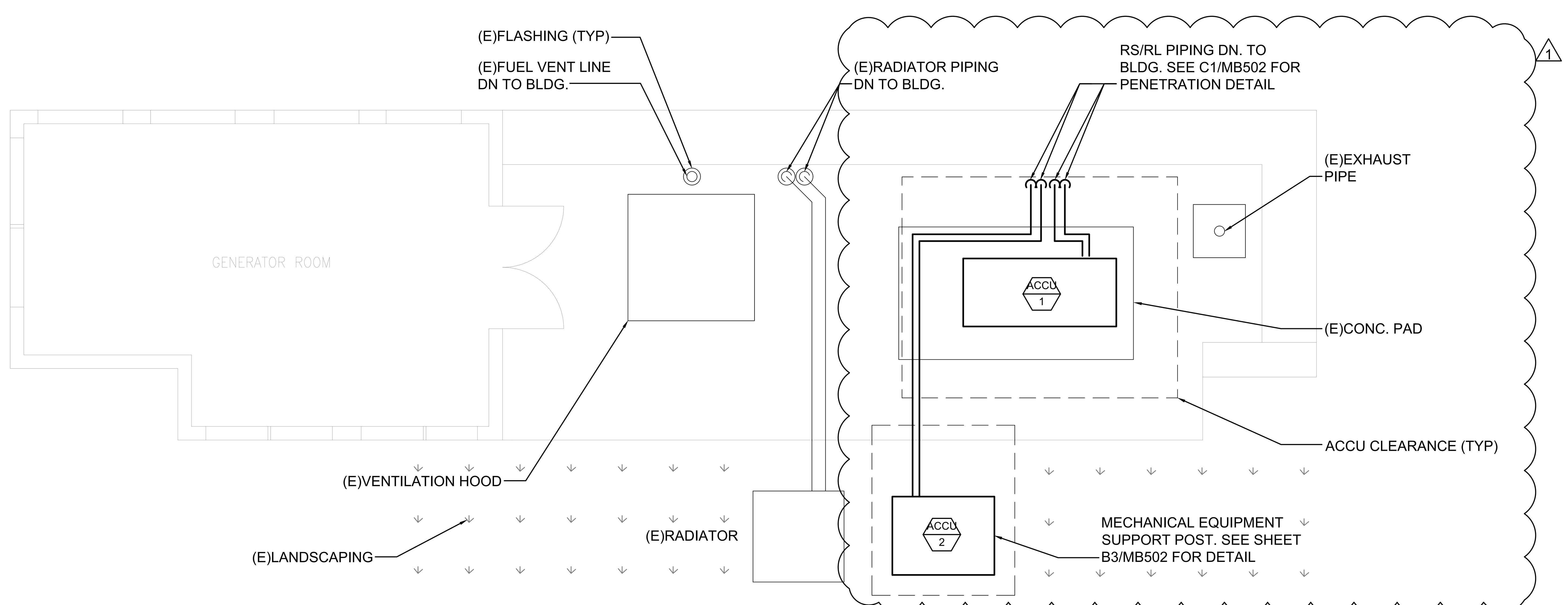
TRUE NORTH PLAN NORTH

C2 MB102 MECHANICAL ROOF PLAN - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



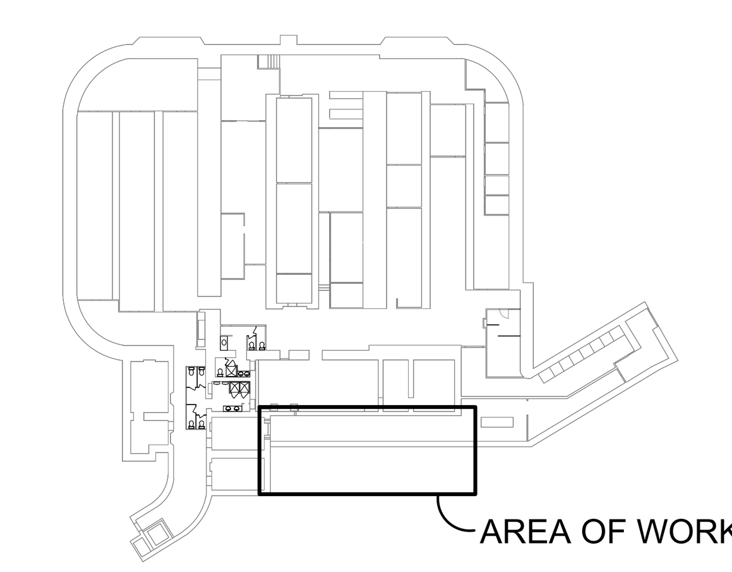
TRUE NORTH PLAN NORTH

A2 MB102 MECHANICAL ROOF PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG LICENSED PROFESSIONAL ENGINEER No. 14297-M HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/25/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH FM YH

STATE OF HAWAII DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816 TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

MECHANICAL ROOF PLANS

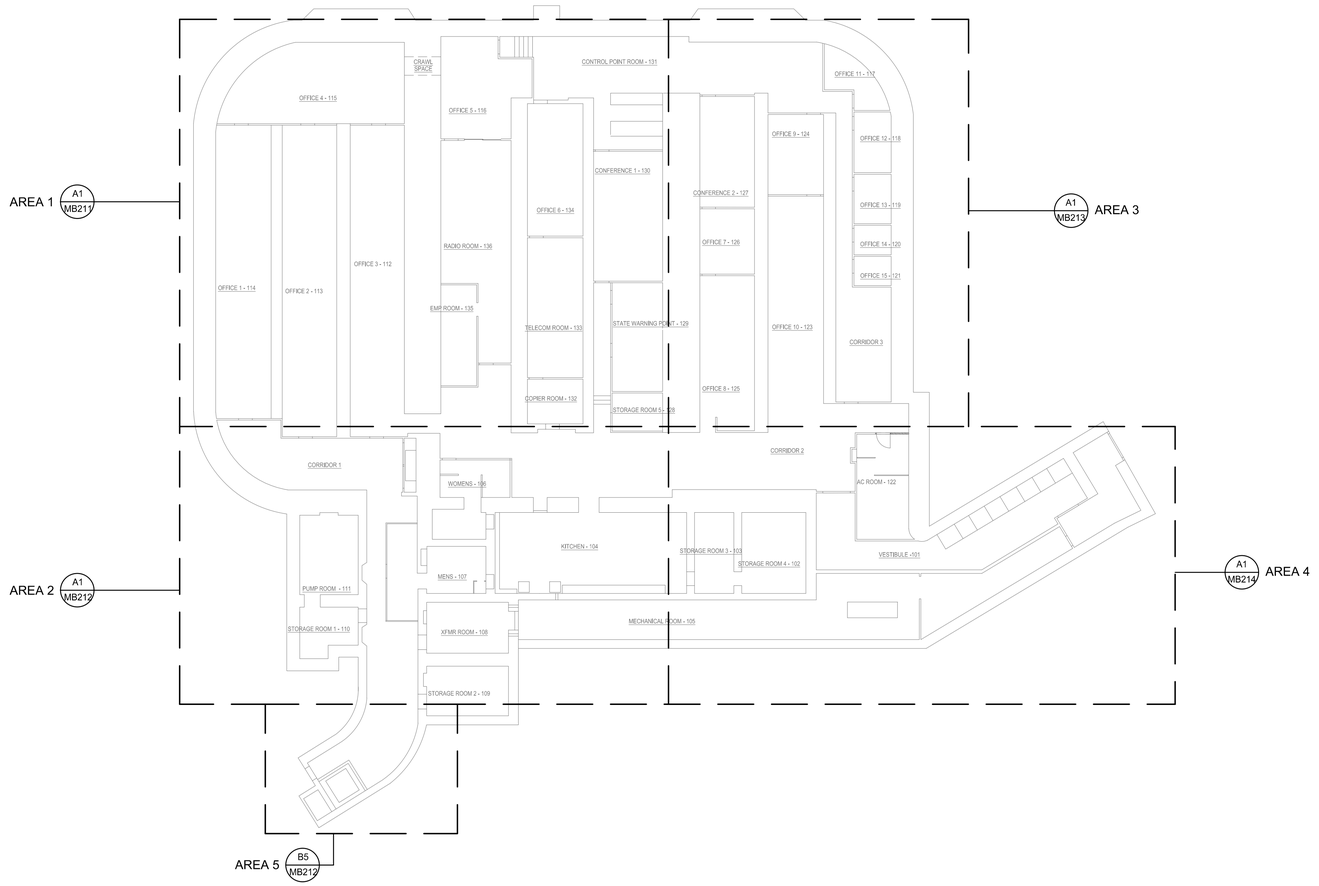
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 43 OF 123

MB102



PLAN NORTH

TRUE NORTH

A2
MB111

NEW OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32' 48'

SCALE: 1/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.	DATE	DESCRIPTION	STM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

NEW OVERALL FLOOR PLAN

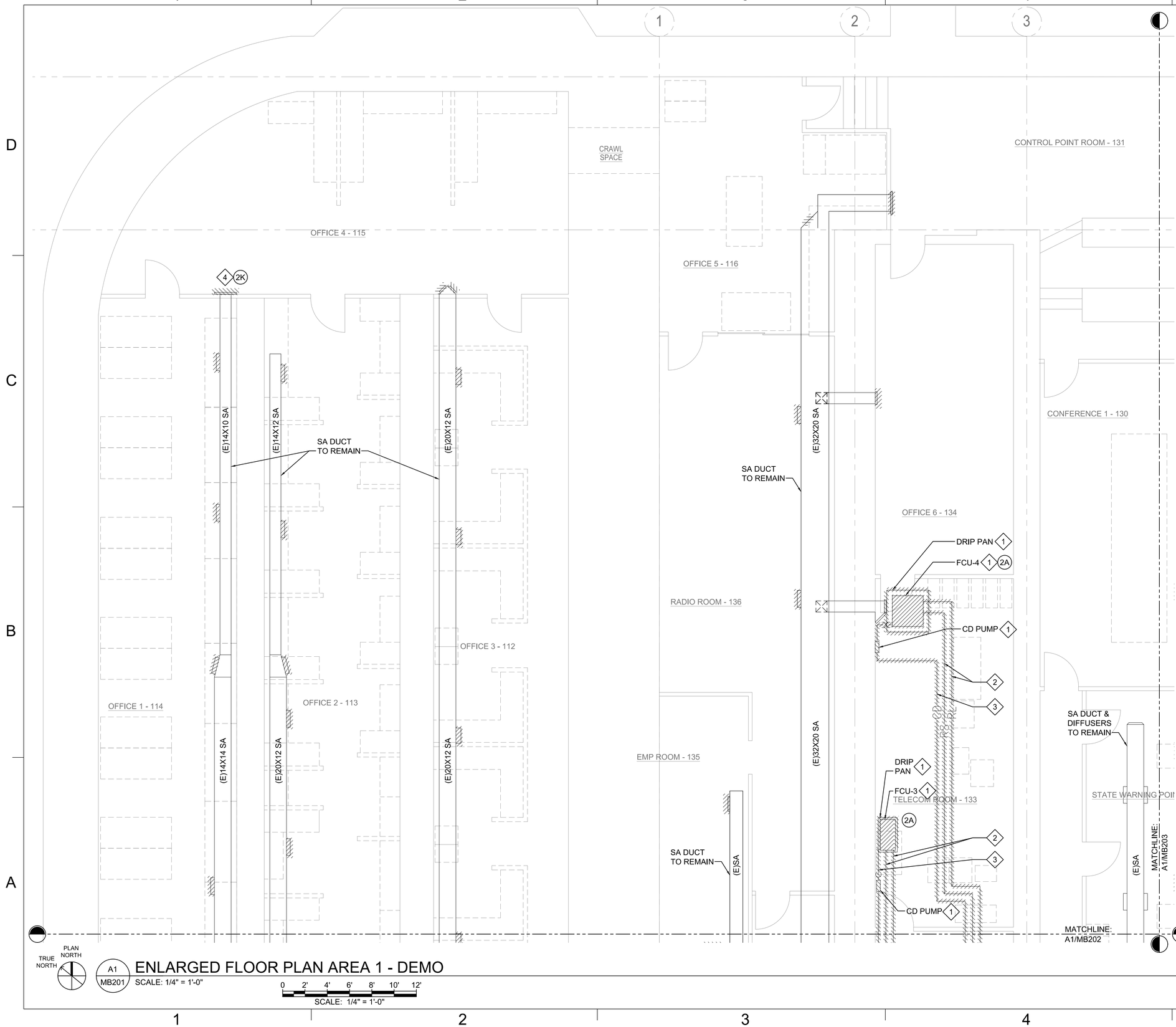
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 44 OF 123

MB111



KEYNOTES:

1. REMOVE MECHANICAL EQUIPMENT AND ANY ASSOCIATED SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE REFRIGERANT PIPING AND ASSOCIATED SUPPORTS.
3. REMOVE CD PIPING AND ASSOCIATED SUPPORTS.
4. REMOVE AIR DEVICE (TYP).

PHASING NOTES (PHASE 2 - HVAC); 12 WORKING SHIFTS:

2A. REPLACE AHU-2/ACCU-2, FCU-3/ACCU-3, AND FCU-4/ACCU-4 AFTER THE REPLACEMENT OF AHU-1/ACCU-1.

2K. REPLACE ONE DIFFUSER AT A TIME TO REDUCE DISTURBANCE AS OFFICE AREAS WILL BE OCCUPIED DURING CONSTRUCTION (TYP).

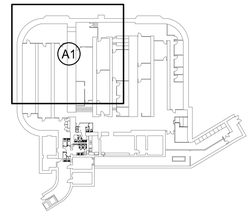
TRUE NORTH / PLAN NORTH

A1 / MB201 ENLARGED FLOOR PLAN AREA 1 - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 1 - DEMO

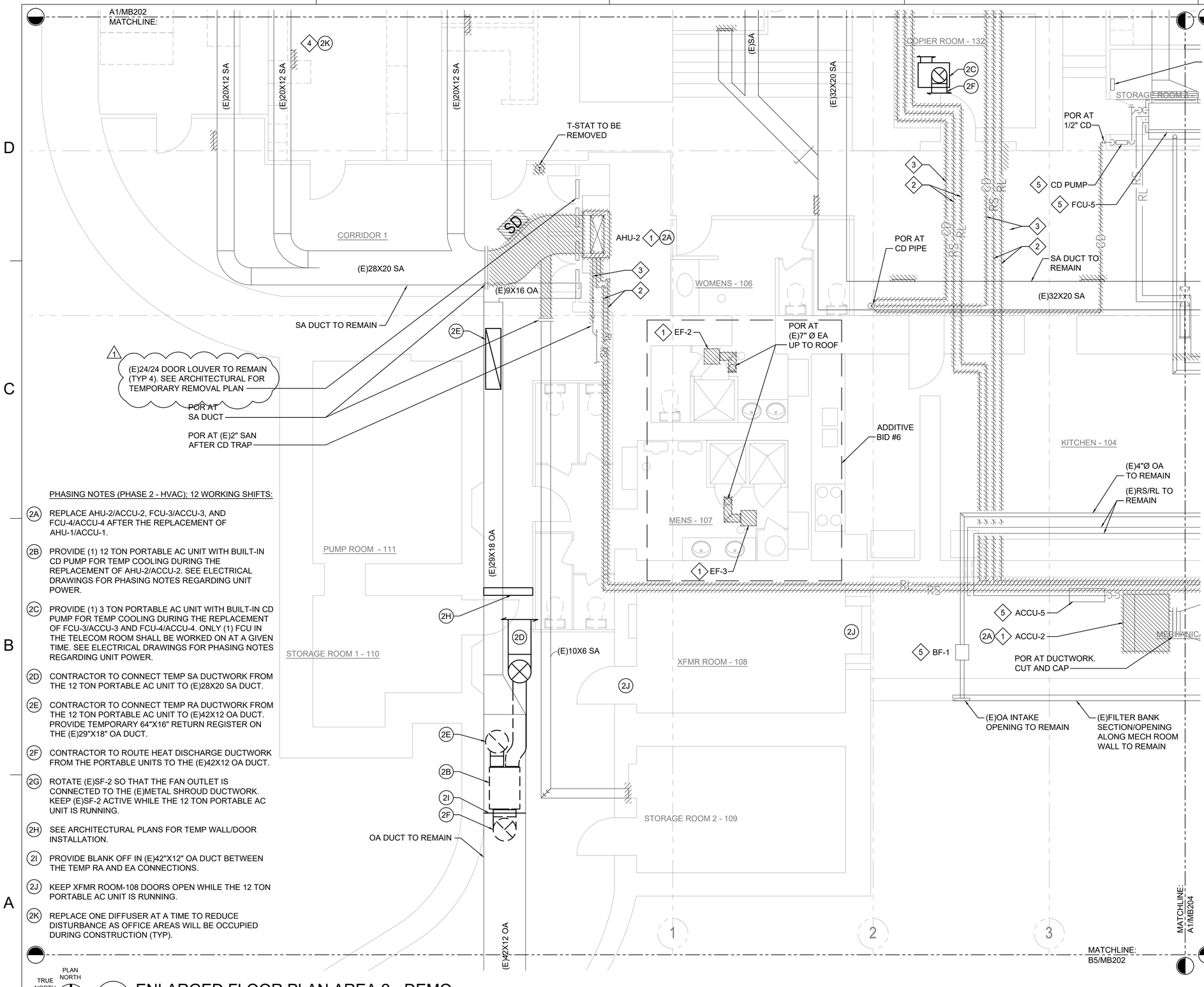
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 45 OF 123

MB201



PHASING NOTES (PHASE 2 - HVAC); 12 WORKING SHIFTS:

(2A) REPLACE AHU-2/ACCU-2, FCU-3/ACCU-3, AND FCU-4/ACCU-4 AFTER THE REPLACEMENT OF AHU-1/ACCU-1.

(2B) PROVIDE (1) 12 TON PORTABLE AC UNIT WITH BUILT-IN CD PUMP FOR TEMP COOLING DURING THE REPLACEMENT OF AHU-2/ACCU-2. SEE ELECTRICAL DRAWINGS FOR PHASING NOTES REGARDING UNIT POWER.

(2C) PROVIDE (1) 3 TON PORTABLE AC UNIT WITH BUILT-IN CD PUMP FOR TEMP COOLING DURING THE REPLACEMENT OF FCU-3/ACCU-3 AND FCU-4/ACCU-4. ONLY (1) FCU IN THE TELECOM ROOM SHALL BE WORKED ON AT A GIVEN TIME. SEE ELECTRICAL DRAWINGS FOR PHASING NOTES REGARDING UNIT POWER.

(2D) CONTRACTOR TO CONNECT TEMP SA DUCTWORK FROM THE 12 TON PORTABLE AC UNIT TO (E)28X20 SA DUCT.

(2E) CONTRACTOR TO CONNECT TEMP RA DUCTWORK FROM THE 12 TON PORTABLE AC UNIT TO (E)42X12 OA DUCT. PROVIDE TEMPORARY 64"X16" RETURN REGISTER ON THE (E)29"X18" OA DUCT.

(2F) CONTRACTOR TO ROUTE HEAT DISCHARGE DUCTWORK FROM THE PORTABLE UNITS TO THE (E)42X12 OA DUCT.

(2G) ROTATE (E)SF-2 SO THAT THE FAN OUTLET IS CONNECTED TO THE (E)METAL SHROUD DUCTWORK. KEEP (E)SF-2 ACTIVE WHILE THE 12 TON PORTABLE AC UNIT IS RUNNING.

(2H) SEE ARCHITECTURAL PLANS FOR TEMP WALL/DOOR INSTALLATION.

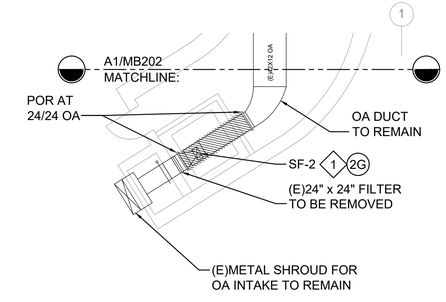
(2I) PROVIDE BLANK OFF IN (E)42"X12" OA DUCT BETWEEN THE TEMP RA AND EA CONNECTIONS.

(2J) KEEP XFMR ROOM-108 DOORS OPEN WHILE THE 12 TON PORTABLE AC UNIT IS RUNNING.

(2K) REPLACE ONE DIFFUSER AT A TIME TO REDUCE DISTURBANCE AS OFFICE AREAS WILL BE OCCUPIED DURING CONSTRUCTION (TYP).

KEYNOTES:

1. REMOVE MECHANICAL EQUIPMENT AND ANY ASSOCIATED SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE REFRIGERANT PIPING AND ASSOCIATED SUPPORTS.
3. REMOVE CD PIPING AND ASSOCIATED SUPPORTS.
4. REMOVE AIR DEVICE (TYP).
5. MECHANICAL EQUIPMENT TO REMAIN.

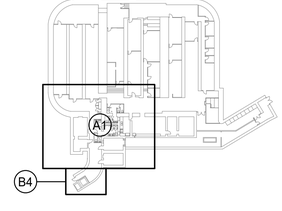


ENLARGED FLOOR PLAN AREA 5 - DEMO

B5 / MB202 — SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"



KEY PLAN

NTS

ENLARGED FLOOR PLAN AREA 2 - DEMO

A1 / MB202 — SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

TRUE NORTH / PLAN NORTH

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

	DESCRIPTION	DATE	APPR.
3			
2			
1	ADDENDUM 1	JO'/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 2_5 - DEMO

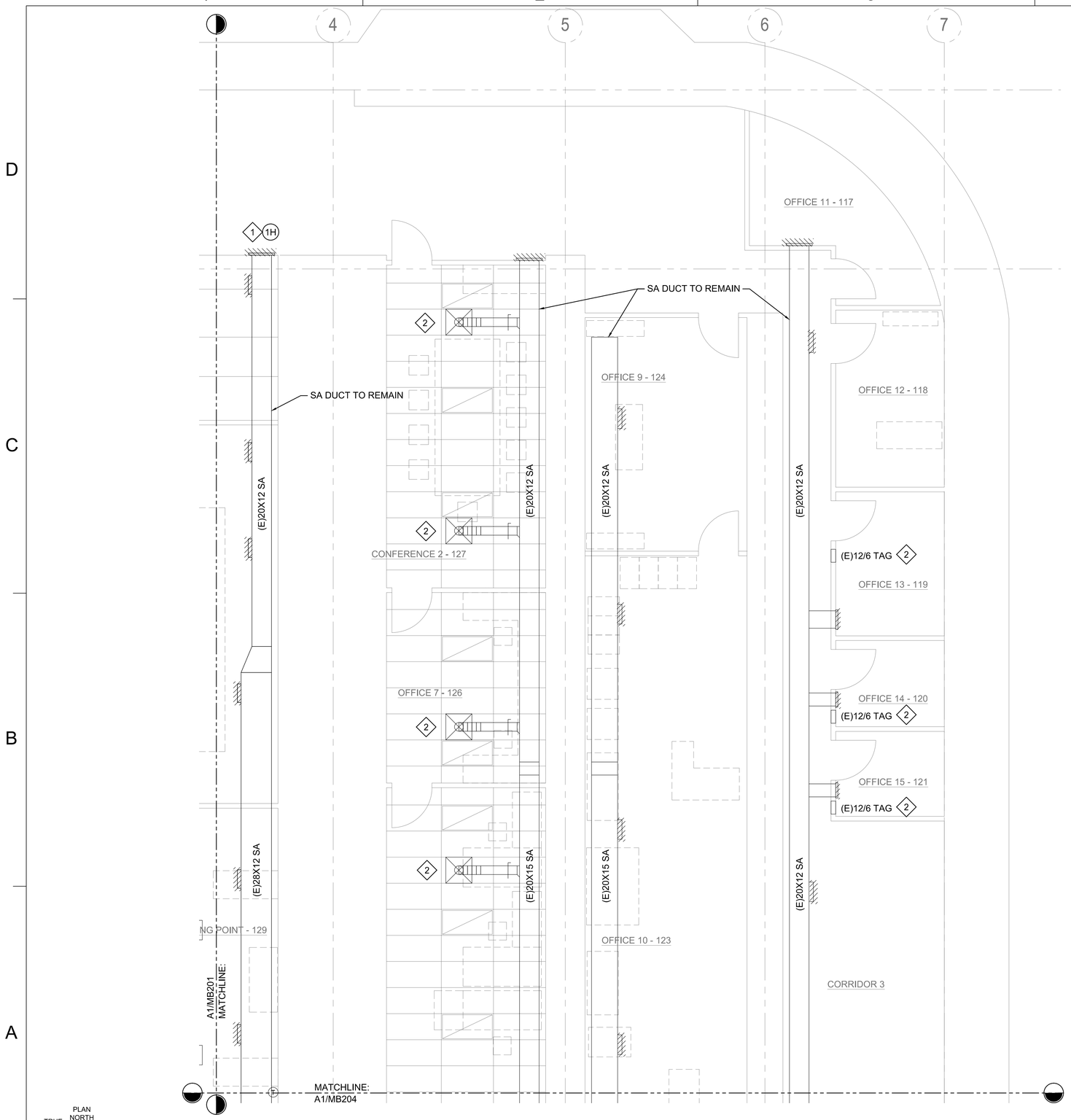
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 46 OF 123

MB202

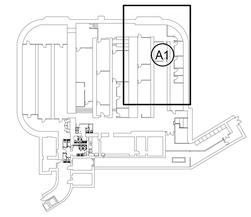


KEYNOTES:

1. REMOVE AIR DEVICE (TYP).
2. AIR DEVICE TO REMAIN.

PHASING NOTES (PHASE 1 - HVAC); 12 WORKING SHIFTS:

1H. REPLACE ONE DIFFUSER AT A TIME TO REDUCE DISTURBANCE AS OFFICE AREAS WILL BE OCCUPIED DURING CONSTRUCTION (TYP).



KEY PLAN
NTS

TRUE NORTH / PLAN NORTH

A1 / MB203 ENLARGED FLOOR PLAN AREA 3 - DEMO
SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
SYM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

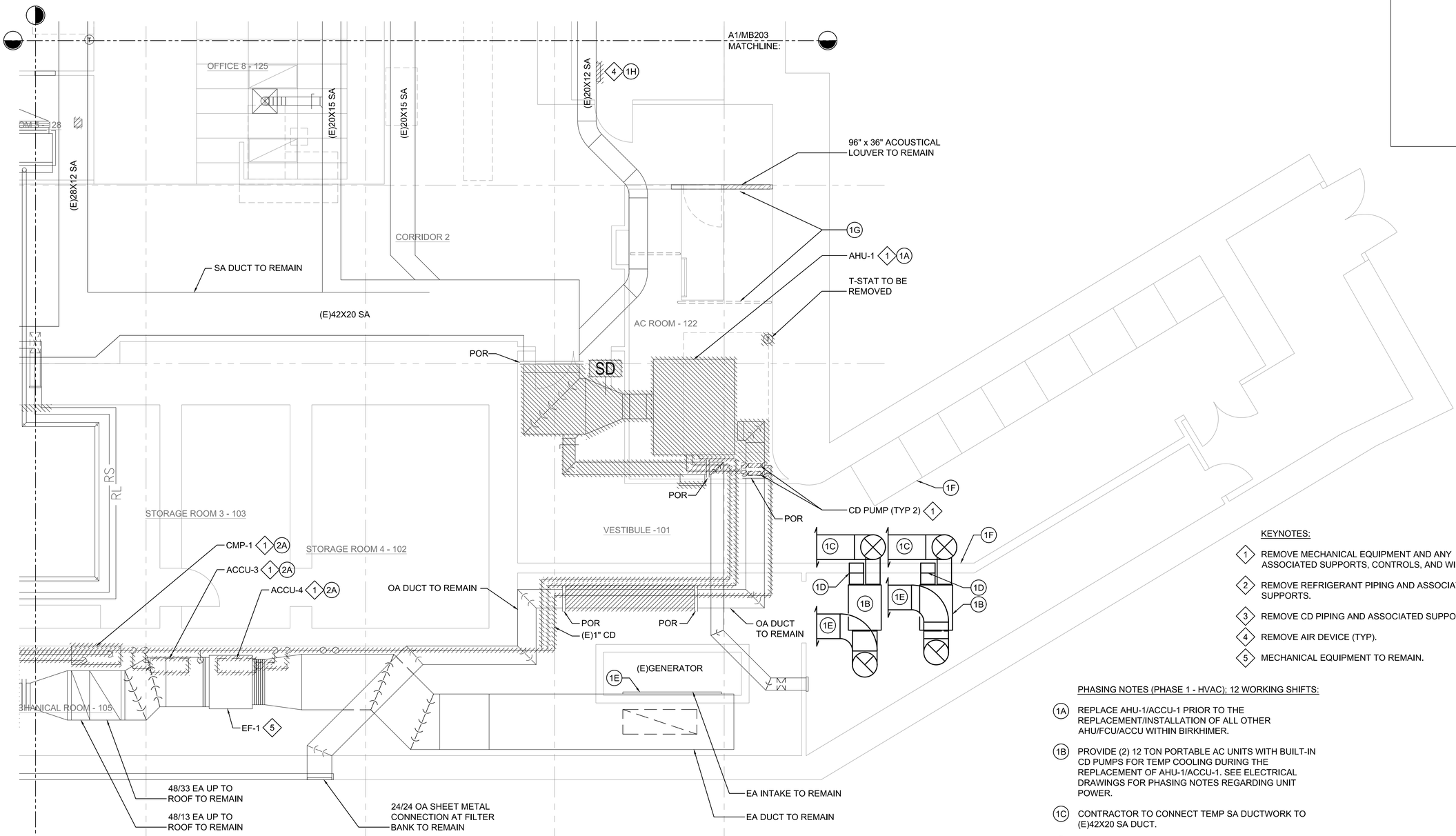
DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 3 - DEMO

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 47 OF 123
MB203



ENLARGED FLOOR PLAN AREA 4 - DEMO

SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"

PHASING NOTES (PHASE 2 - HVAC); 12 WORKING SHIFTS:

(2A) REPLACE AHU-2/ACCU-2, FCU-3/ACCU-3, AND FCU-4/ACCU-4 AFTER THE REPLACEMENT OF AHU-1/ACCU-1.

KEYNOTES:

1. REMOVE MECHANICAL EQUIPMENT AND ANY ASSOCIATED SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE REFRIGERANT PIPING AND ASSOCIATED SUPPORTS.
3. REMOVE CD PIPING AND ASSOCIATED SUPPORTS.
4. REMOVE AIR DEVICE (TYP).
5. MECHANICAL EQUIPMENT TO REMAIN.

PHASING NOTES (PHASE 1 - HVAC); 12 WORKING SHIFTS:

(1A) REPLACE AHU-1/ACCU-1 PRIOR TO THE REPLACEMENT/INSTALLATION OF ALL OTHER AHU/FCU/ACCU WITHIN BIRKHIMER.

(1B) PROVIDE (2) 12 TON PORTABLE AC UNITS WITH BUILT-IN CD PUMPS FOR TEMP COOLING DURING THE REPLACEMENT OF AHU-1/ACCU-1. SEE ELECTRICAL DRAWINGS FOR PHASING NOTES REGARDING UNIT POWER.

(1C) CONTRACTOR TO CONNECT TEMP SA DUCTWORK TO (E)42X20 SA DUCT.

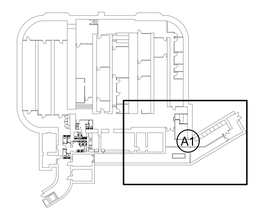
(1D) CONTRACTOR TO USE VESTIBULE-101 AS AN RA PLENUM AND CONNECT TEMP RA DUCTWORK BACK TO PORTABLE UNIT. DOOR BETWEEN VESTIBULE-101 AND CORRIDOR-2 SHALL REMAIN OPEN.

(1E) CONTRACTOR TO ROUTE HEAT DISCHARGE DUCTWORK FROM THE PORTABLE UNITS TO THE EA INTAKE ABOVE THE (E)GENERATOR. RUN EF-1 WHILE THE PORTABLE UNITS ARE IN USE.

(1F) SEE ARCHITECTURAL PLANS FOR TEMP REMOVAL OF CABINETS AND DRYWALL PATCHING WITHIN VESTIBULE-101.

(1G) SEE ARCHITECTURAL PLANS FOR TEMP REMOVAL OF RAILING AND WALL FOR AHU-1 REPLACEMENT.

(1H) REPLACE ONE DIFFUSER AT A TIME TO REDUCE DISTURBANCE AS OFFICE AREAS WILL BE OCCUPIED DURING CONSTRUCTION (TYP).



KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 4 - DEMO

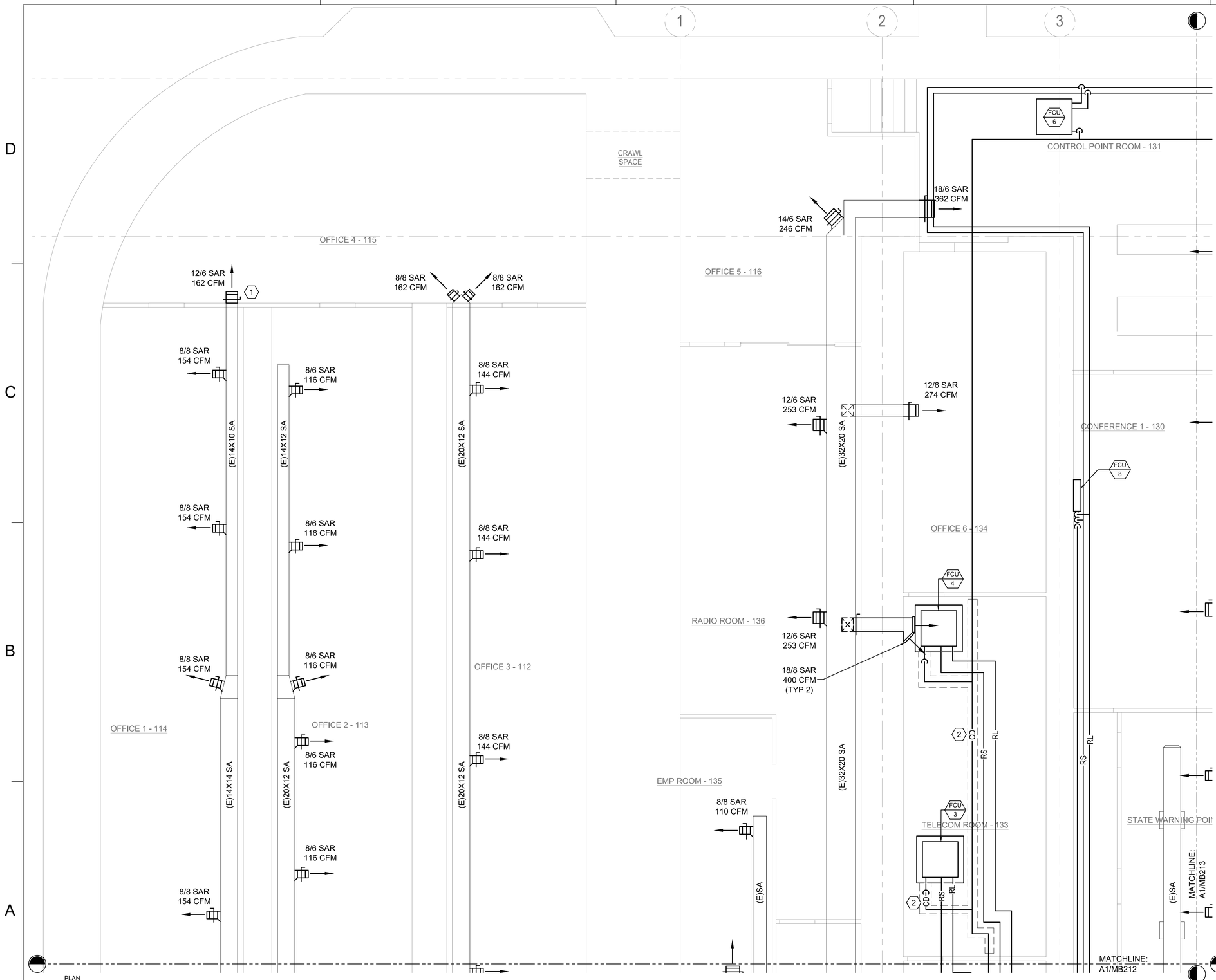
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 48 OF 123

MB204



KEYNOTES:

1. PROVIDE NEW SUPPLY AIR REGISTER AND VOLUME DAMPER (TYP).
2. PROVIDE ALL CD PIPING LOCATED IN THE TELECOM ROOM WITH DRIP PAN AND LEAK DETECTION SENSOR.

TRUE NORTH / PLAN NORTH

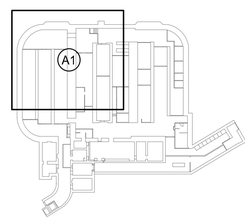
A1 / MB211

ENLARGED FLOOR PLAN AREA 1 - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH	FM	YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 1 - NEW

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 49 OF 123

MB211

A1/MB211
MATCHLINE:

8/8 SAR
144 CFM

12/4 SAR
110 CFM

(E)SA

(E)20X12 SA

(E)20X12 SA

(E)20X12 SA

(E)32X20 SA

COPIER ROOM - 132

(E)MOISTURE
DETECTION
PANEL

STORAGE ROOMS

POC TO
1/2" CD

(E)CD PUMP
(E)FCU-5

10/8 SAR
242 CFM

1

UNIT
CONTROL
PANEL

AHU
2A

AHU
2B

10/8 SAR
242 CFM

CORRIDOR 1

(E)28X20 SA

SD

(E)9X16 OA

10X6 SA

8/6 SAR
114 CFM

CD

RS

RL

RL

RS

RL

8/6 SAR
114 CFM

8/6 SAR
114 CFM

(E)32X20 SA

WOMENS - 106

EF
2

7" Ø EA
UP TO
ROOF

POC TO
(E)1" CD PIPE

ADDITIVE
BID #6

KITCHEN - 104

EF
3

MENS - 107

RS

RL

(E)24/24 DOOR
LOUVER (TYP 4)

POC AT (E)28/20
SA DUCT

CD TRAP

POC TO (E)2" S

PUMP ROOM - 111

(E)29X18 OA

ROUTE RS/RL PIPING THOUGH
(E)PENETRATIONS FROM THE
PREVIOUS REFRIGERANT ROUTE.

(E)ACCU-5

MECHANICA

STORAGE ROOM 1 - 110

(E)10X6 SA

XFMR ROOM - 108

(E)BF-1

CAP (E)EA
DUCT

(E)OA INTAKE
OPENING

(E)FILTER BANK
SECTION/OPENING ALONG
MECH ROOM WALL

10/4 SAR
95 CFM

12/6 SAR
200 CFM

STORAGE ROOM 2 - 109

(E)42X12 OA

MATCHLINE:
1/MB214

MATCHLINE:
B5/MB212

1 2 3

KEYNOTES:

1 PROVIDE NEW SUPPLY AIR REGISTER AND VOLUME DAMPER (TYP).

1

A1/MB212
MATCHLINE:

(E)42X12 OA

POC TO
24/24 OA

SF
2

HEPA FILTER BOX

(E)METAL SHROUD
FOR OA INTAKE

B5
MB212

ENLARGED FLOOR PLAN AREA 5 - NEW

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

A1
MB212

ENLARGED FLOOR PLAN AREA 2 - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

TRUE NORTH

PLAN NORTH

A1

B4

KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
STM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN AREA 2_5 - NEW

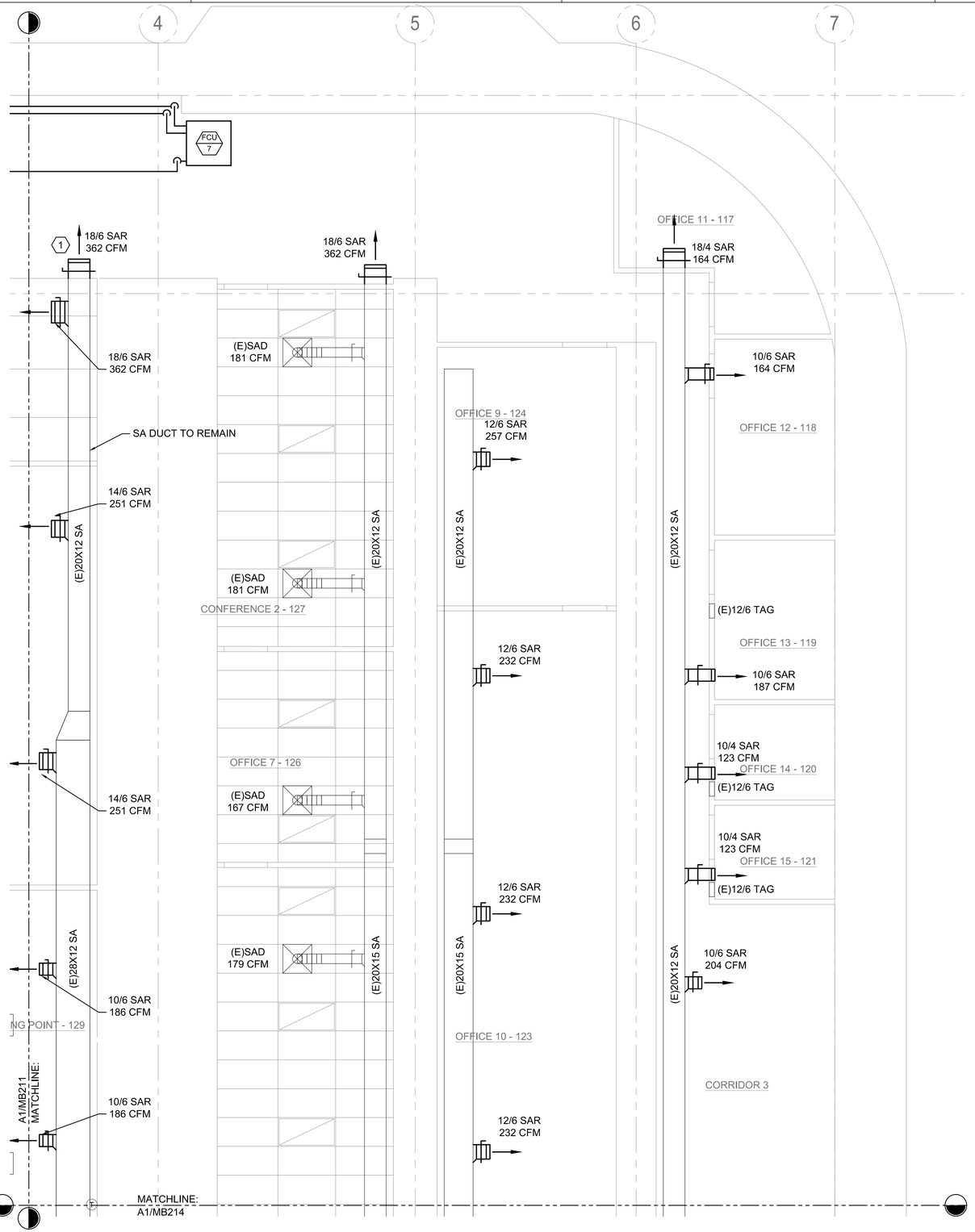
SCALE: AS NOTED

STATE JOB NO.
CA-202313-C

FEDERAL PROJECT NO.
-

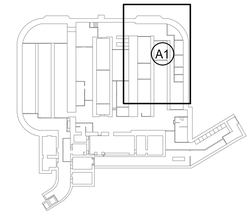
SHEET 50 OF 123

MB212



KEYNOTES:

1 PROVIDE NEW SUPPLY AIR REGISTER AND VOLUME DAMPER (TYP).



KEY PLAN
NTS

PLAN NORTH
TRUE NORTH

A1 / MB213

ENLARGED FLOOR PLAN AREA 3 - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STA	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

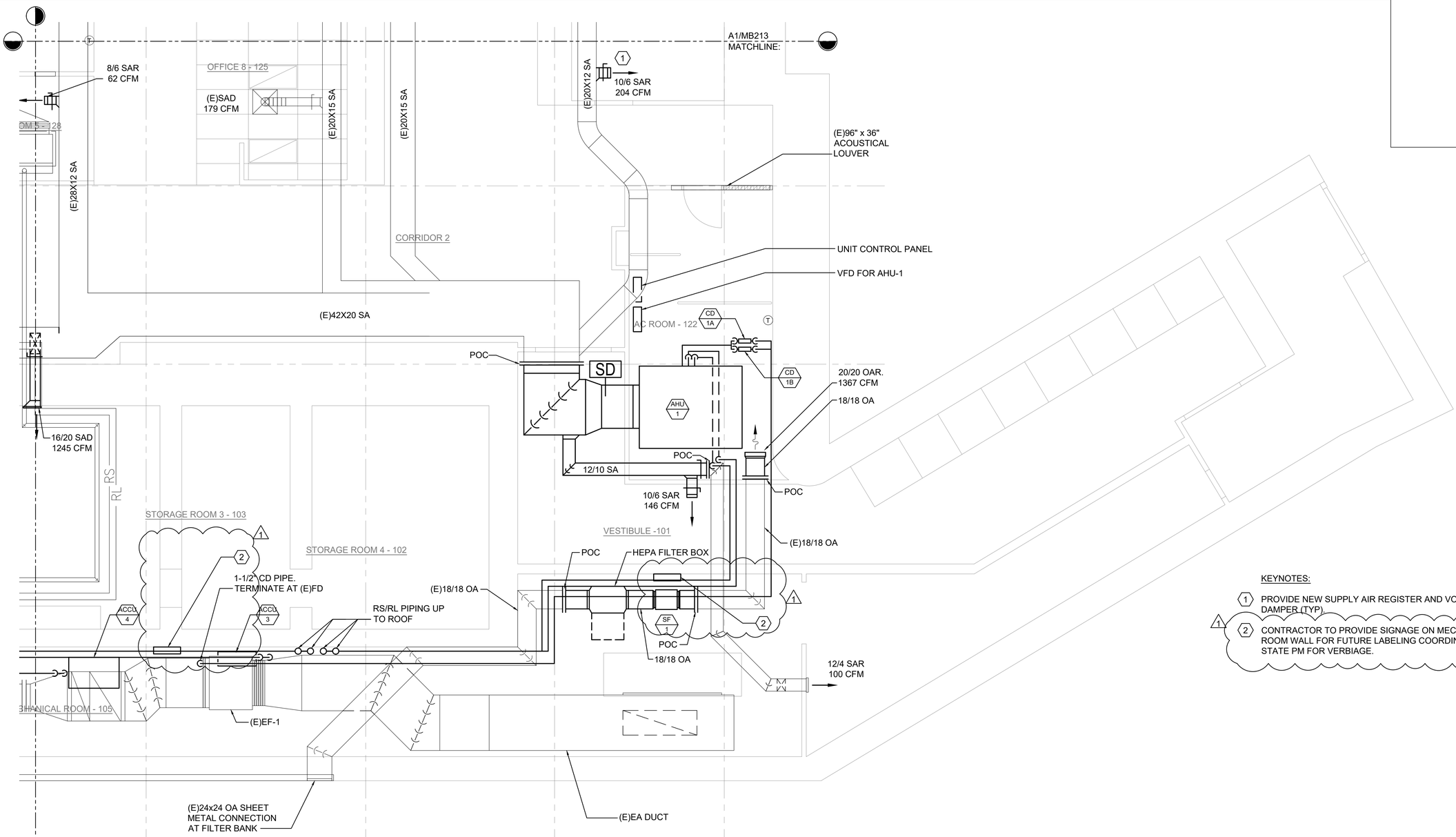
DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

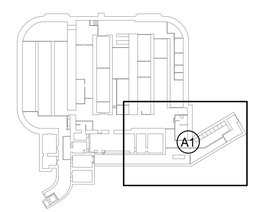
ENLARGED FLOOR PLAN AREA 3 - NEW

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 51 OF 123
MB213



KEYNOTES:

1. PROVIDE NEW SUPPLY AIR REGISTER AND VOLUME DAMPER (TYP).
2. CONTRACTOR TO PROVIDE SIGNAGE ON MECHANICAL ROOM WALL FOR FUTURE LABELING COORDINATE WITH STATE PM FOR VERBIAGE.



KEY PLAN
NTS

PLAN NORTH
TRUE NORTH

A1
MB214

ENLARGED FLOOR PLAN AREA 4 - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM 1	SYM	DESCRIPTION	DATE	APPR.
1			JO/24	YH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

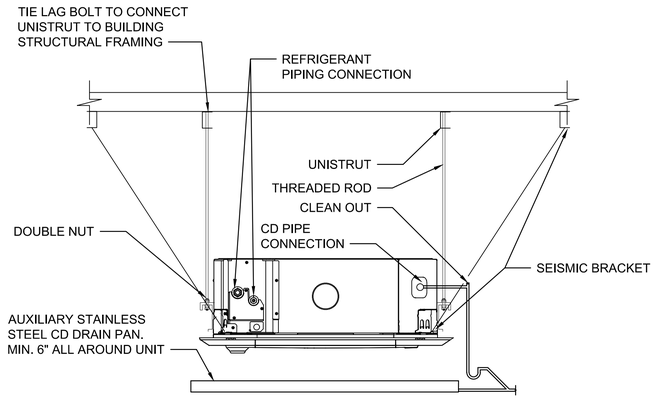
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

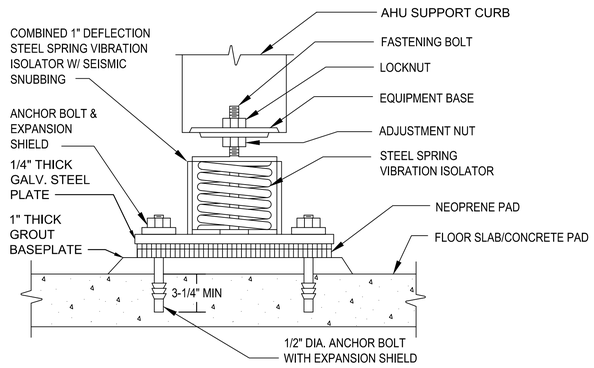
ENLARGED FLOOR PLAN AREA 4 - NEW

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 52 OF 123

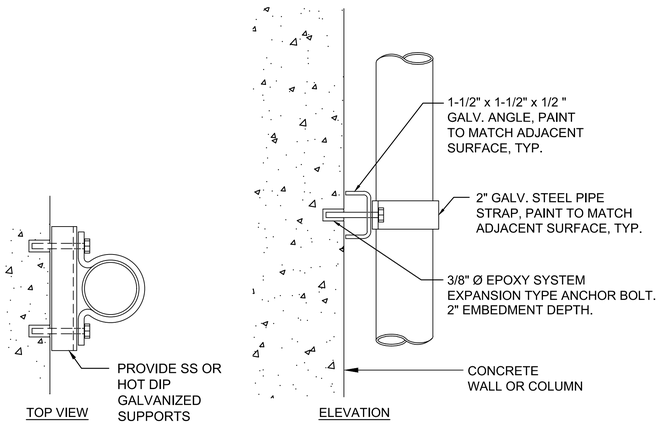
MB214



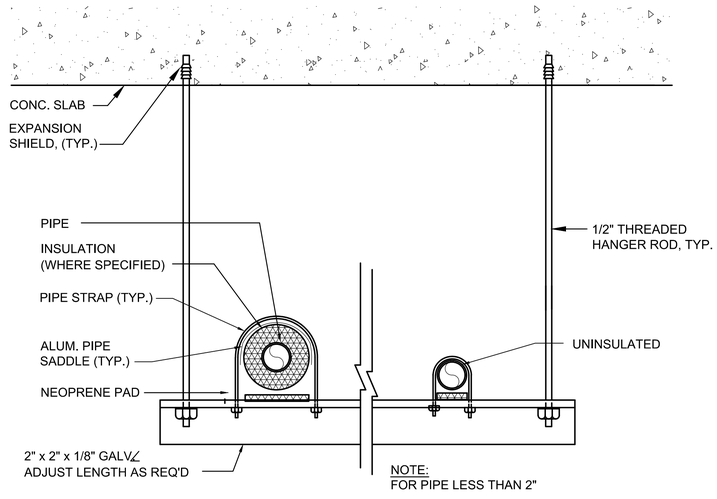
C1 MB501 **CASSETTE TYPE FCU DETAIL**
SCALE: NOT TO SCALE



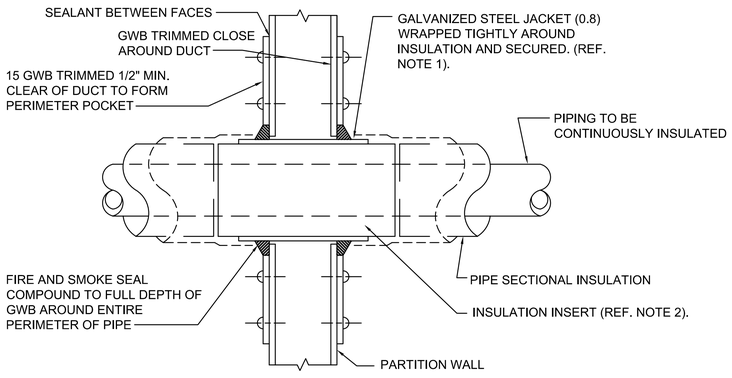
C2 MB501 **AHU AND ACCU SUPPORT DETAIL (FOR NON-INTERALLY ISOLATED EQUIPMENT)**
SCALE: NOT TO SCALE



B1 MB501 **VERTICAL PIPE SUPPORT**
SCALE: NOT TO SCALE



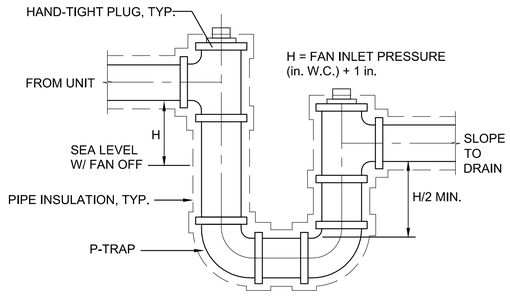
B2 MB501 **TYPICAL PIPE SUPPORT DETAIL**
SCALE: NOT TO SCALE



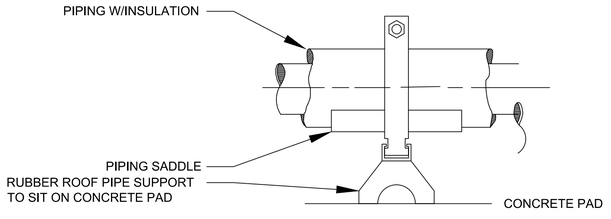
NOTES:

1. GALVANIZED METAL SLEEVE (0.8) WRAPPED TIGHTLY AROUND HEAVY DENSITY INSULATION (SEE NOTE 2) AND SECURE BY WORM DRIVE CLIP (COLD PIPES) OR SCREWS OR RIVETS (HOT PIPES).
2. INSULATION THRU SLEEVE FLUID TEMPERATURE ABOVE DEWPOINT-MINERAL WOOL. FLUID TEMPERATURE BELOW DEWPOINT-FOAM GLASS OR PERLITE W/VAPOR BARRIER JACKET.
3. THIS DETAIL, WITHOUT PIPE INSULATION AND PROTECTIVE JACKET SHALL ALSO APPLY TO NON-INSULATED PIPING.
4. PROVIDE UL 1479 LISTED ASSEMBLY WITH L-RATING OF LESS THAN 1 CFM/SQ FT. AT AMBIENT TEMPERATURE.

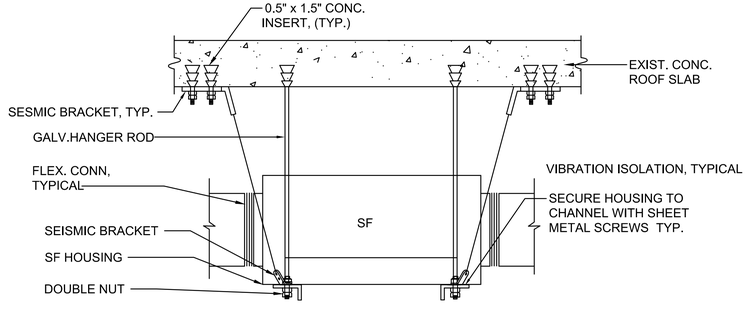
B4 MB501 **RATED WALL PENETRATION - PIPING**
SCALE: NOT TO SCALE



A1 MB501 **TYPICAL FCU/AHU CONDENSATE TRAP DETAIL**
SCALE: NOT TO SCALE



A2 MB501 **ROOF MOUNTED PIPE SUPPORT DETAIL**
SCALE: NOT TO SCALE



A4 MB501 **SUPPLY FAN MOUNTING DETAIL**
SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

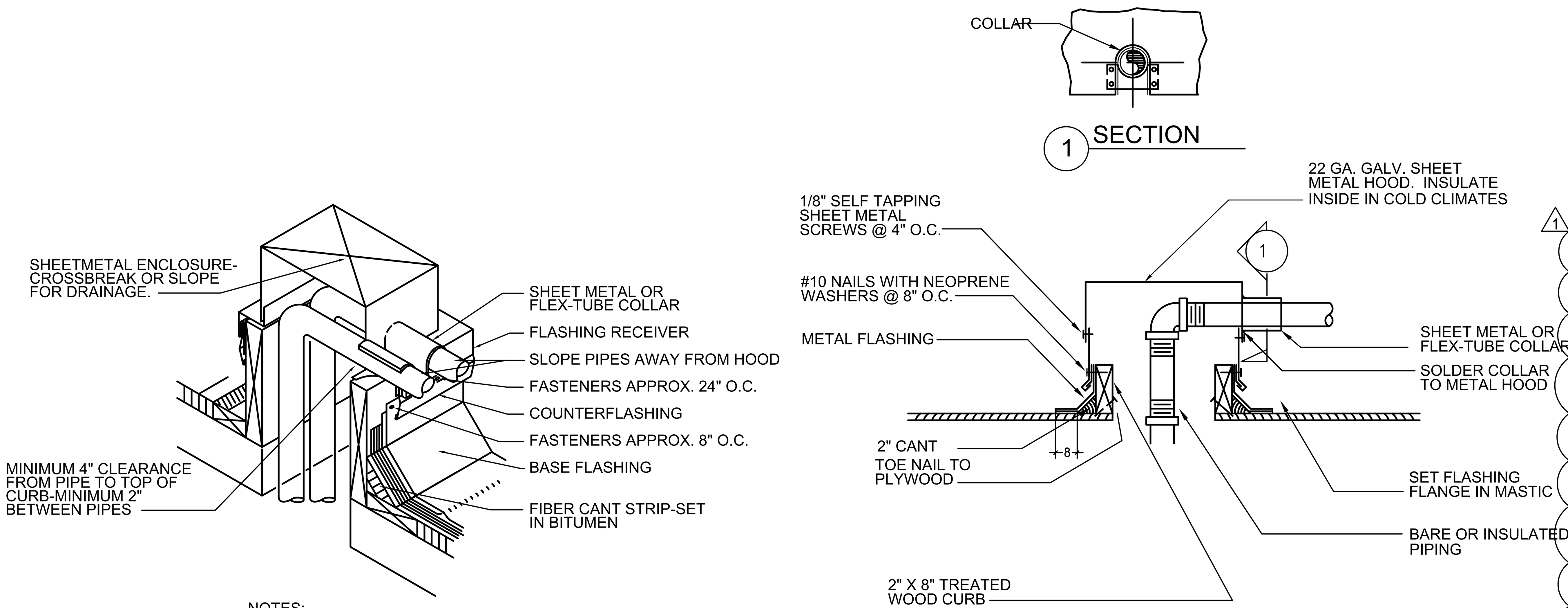
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.
1	ITB		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

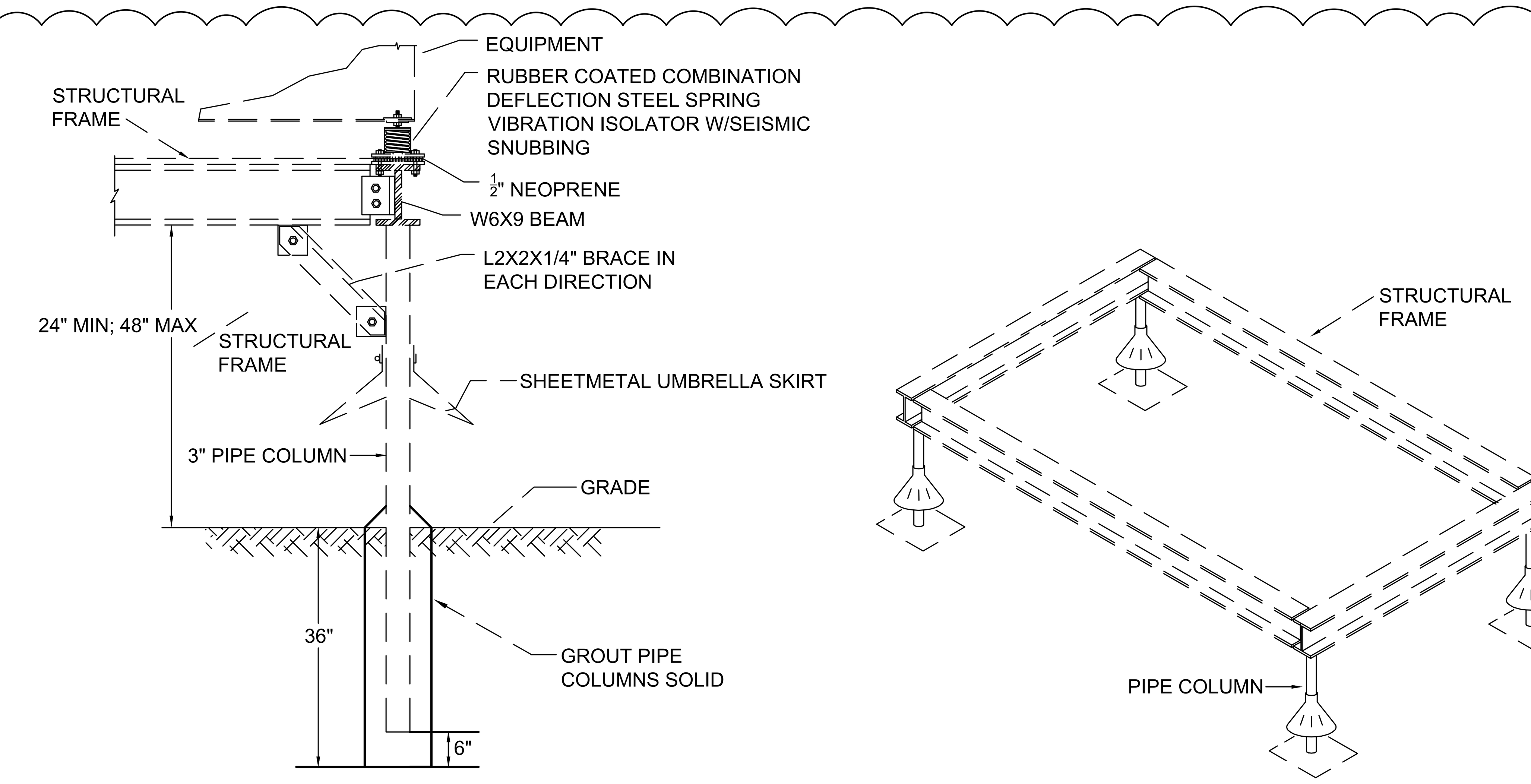
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 53 OF 123
MB501



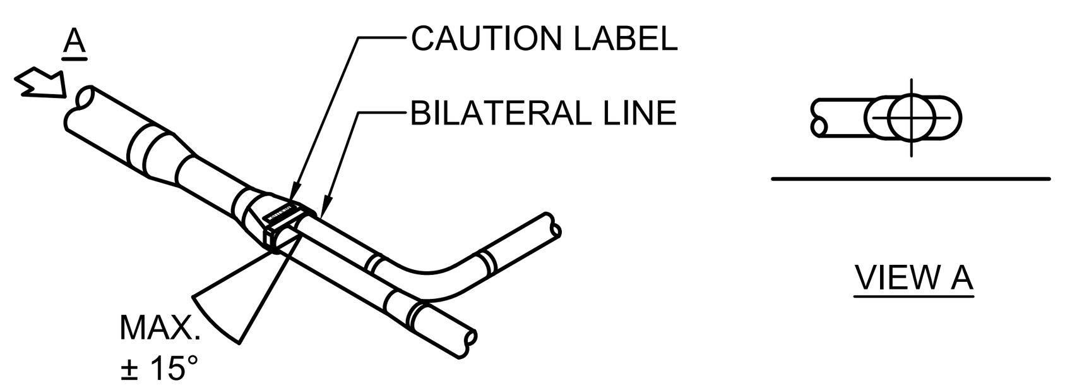
NOTES:
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NRCA DETAIL BUR "R" OR SMACNA PLATE 66, FIGURE A.

C1 / MB502 PIPE THRU ROOF PENETRATION DETAIL
SCALE: NOT TO SCALE



NOTES:
1. SUPPORT MEMBERS SHALL BE OF WELDED CONSTRUCTION. AFTER FABRICATION, ALL WELDED AREAS SHALL BE COATED WITH ZINC FOR RUST PROTECTION.
3. ENTIRE SUPPORT STRUCTURE, INCLUDING THE LEGS, SHALL BE PAINTED TO MATCH EXISTING LANDSCAPE

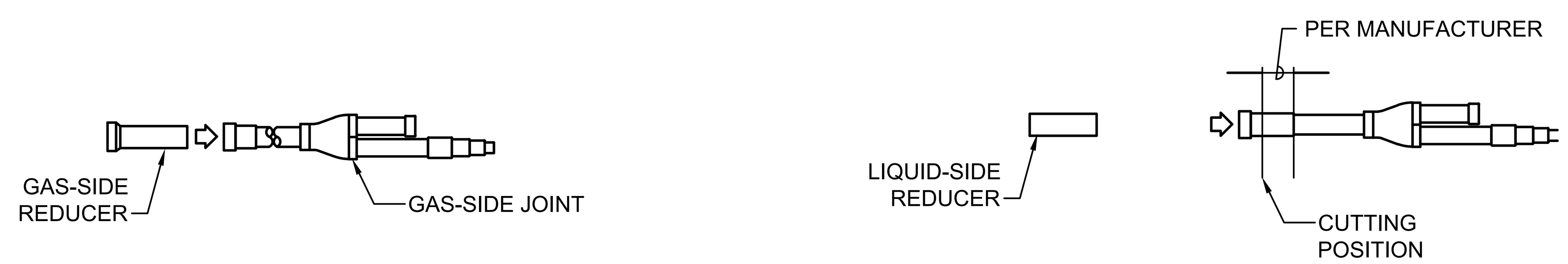
B3 / MB502 ACCU SUPPORT DETAIL
SCALE: NOT TO SCALE



WHEN REDUCERS ARE USED:

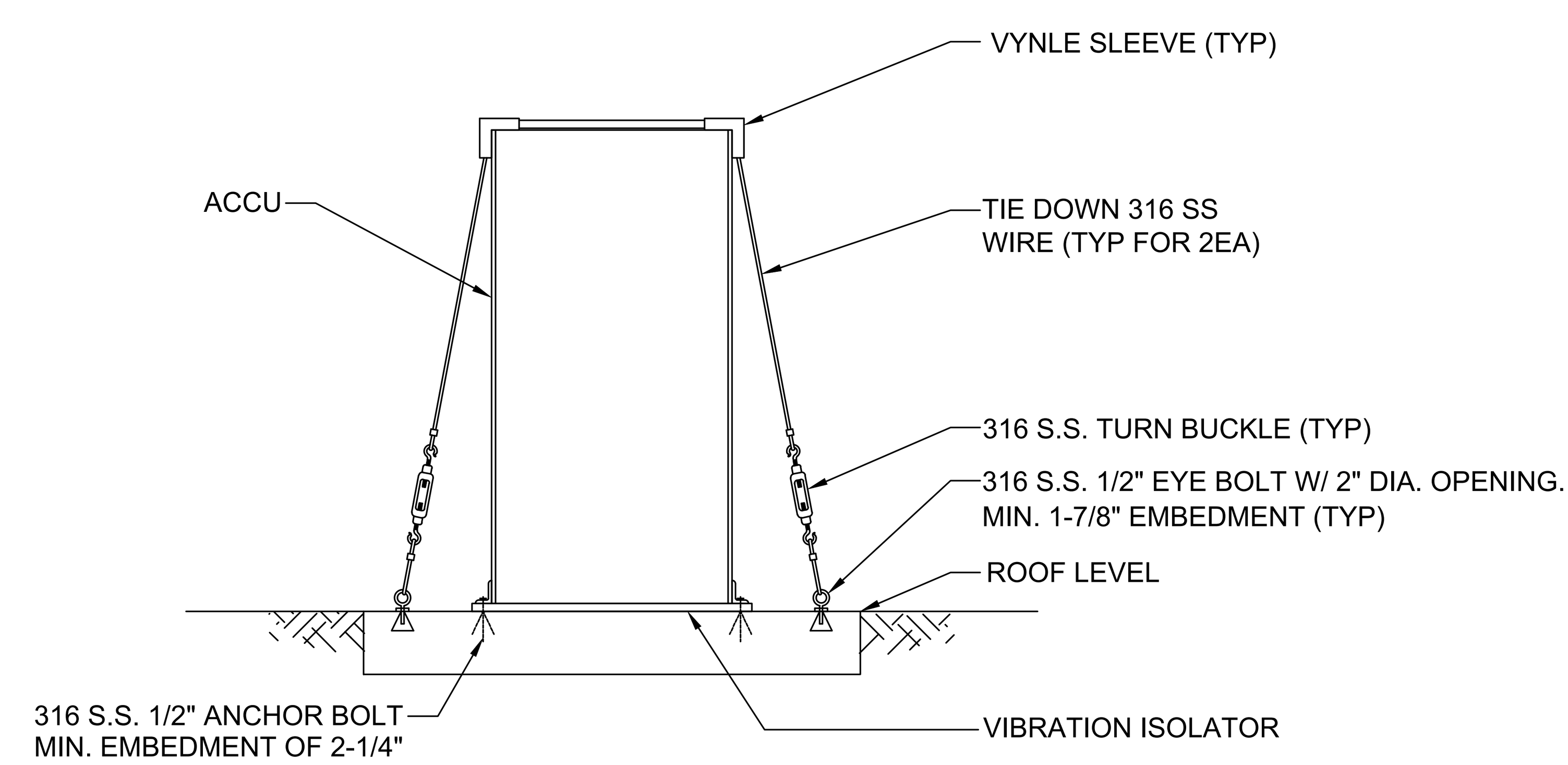
GAS SIDE REDUCER:
GAS-SIDE REDUCER MAY BE USED ON THE GAS-SIDE JOINT. SEE BELOW FOR CONNECTION.

LIQUID SIDE REDUCER:
LIQUID-SIDE REDUCER MAY BE USED ON THE LIQUID-SIDE JOINT. SEE BELOW FOR CONNECTION.



NOTE:
ALL REDUCERS, ELBOWS, AND FITTINGS FOR REFRIGERANT PIPING SHALL BE PROVIDED PER VRF MANUFACTURER'S RECOMMENDATIONS

A1 / MB502 REF. PIPE MULTI CONNECTION PIPING KIT DETAIL
SCALE: NOT TO SCALE



A3 / MB502 ACCU TYP INSTALLATION DETAIL - ROOF MOUNT
SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG LICENSED PROFESSIONAL ENGINEER No. 14297-M HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/25/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
YH FM YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
MECHANICAL DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 54 OF 123
MB502

AIR COOLED CONDENSING UNIT (ACCU) SCHEDULE FOR AHUS

ACCU NO.	LOCATION	UNIT(S) SERVED	CAPACITY TOTAL (BTUH)	REFRIG. TYPE	CONDENSER FAN		ELECTRICAL DATA				EER	E-POWER (Y/N)	REMARKS
					AMBIENT AIR TEMP (F)	TYPE	MCA	MOCP	V/PH/HZ	COMPRESSOR INPUT (KW)			
ACCU-1	ROOF	AHU-1	360,000	R-410A	95	PROP	138	175	208/3/60	31.8	10.8	YES	1,2
ACCU-2	ROOF	AHU-2	96,100	R-410A	95	PROP	40	60	208/3/60	8.7	13.3	YES	1,2

NOTES:
1. REFRIGERANT PIPE QUANTITIES AND SIZE TO BE PER MANUFACTURER'S PIPING SCHEMATIC.
2. COAT UNIT CASING AND COILS WITH BLYGOLD & PSX-700 COATING RATED FOR COASTAL ENVIRONMENT

AIR COOLED CONDENSING UNIT (ACCU) SCHEDULE FOR FCUS

ACCU NO.	LOCATION	UNIT(S) SERVED	CAPACITY TOTAL (BTUH)	REFRIG. TYPE	CONDENSER FAN		ELECTRICAL DATA					EER	E-POWER (Y/N)	REMARKS
					AMBIENT AIR TEMP (F)	TYPE	MCA	SCCR (kA)	MOCP	V/PH/HZ	COMPRESSOR INPUT (KW)			
ACCU-3	MECHANICAL ROOM	FCU-3	42,000	R-410A	95	PROP	35	5	50	208/1/60	3.4	13.1	YES	1,2
ACCU-4	MECHANICAL ROOM	FCU-4, FCU-6, FCU-7, FCU-8	115,600	R-410A	95	PROP	56	5	90	208/3/60	11.2	11.7	YES	1,2
ACCU-5 (EXISTING)	MECHANICAL ROOM	FCU-5 (EXISTING)	36,000	R-410A	95	PROP	27	-	30	208/1/60	-	-	YES	3

NOTES:
1. REFRIGERANT PIPE QUANTITIES AND SIZE TO BE PER MANUFACTURER'S PIPING SCHEMATIC.
2. COAT UNIT CASING AND COILS WITH BLYGOLD & PSX-700 COATING RATED FOR COASTAL ENVIRONMENT
3. UNIT IS EXISTING AND SHOWN FOR REFERENCE ONLY

DX AIR HANDLING UNIT (AHU) SCHEDULE

AHU NO.	AREA SERVED	CONFIGURATION	TYPE	COOLING COIL DATA						FAN DATA			ELECTRICAL DATA							DUCT SMOKE DETECTOR	E-POWER (Y/N)	FILTER	WEIGHT (LBS)	SIZE LxWxH (IN.)	REMARKS
				COOLING CAPACITY		ENTERING AIR		LEAVING AIR		MAX FACE VELOCITY (FT/MIN)	MIN. NO. OF ROWS	SA (CFM)	DESIGN OA (CFM)	TOTAL ESP (IN. WG)	MOTOR (HP)	POWER INPUT (KW)	MOTOR RPM	FLA	MCA	MOCP	V/PH/HZ						
				TOTAL (BTUH)	SENSIBLE (BTUH)	EAT DB°F	EAT WB°F	LAT DB°F	LAT WB°F																	
AHU-1	OFFICE AND WARNING POINT ROOM	CEILING MOUNTED	VAV	354,200	269,400	78.3	64.5	55.0	53.0	500	6	10,481	1,367	1.75	15	-	1800	39.8	49.8	80	208/3/60	YES	YES	MERV-8	1541	86" x 84" x 60"	1,2,3,4
AHU-2A	OFFICE	FLOOR MOUNTED	VAV	48,050	37,100	77.0	63.8	55.0	53.0	500	6	1,520	230	0.80	-	0.48	-	-	5.63	15	208/1/60	YES	YES	MERV-8	172	22" x 25" x 60"	1,2,4,5
AHU-2B	OFFICE	FLOOR MOUNTED	VAV	48,050	37,100	77.0	63.8	55.0	53.0	500	6	1,520	230	0.80	-	0.48	-	-	5.63	15	208/1/60		YES	MERV-8	172	22" x 25" x 60"	1,2,4,5

NOTES:
1. REFER TO MANUFACTUER'S WIRING DIAGRAM FOR POWERING GUIDELINES.
2. PIPING LENGTH MODIFICATIONS MADE IN FIELD SHALL BE COORDINATED WITH MANUFACTUER FOR PIPING RECOMONDATIONS AND REVISED LINE SIZES.
3. VFD WITH SOFT START AND DISCONNECT, INSTALLED BY ELECTRICAL.
4. PROVIDE UVC LIGHT (120V).
5. PROVIDE WITH CONTRACTOR INSTALLED ALUMINUM FOIL BACKING ON UNIT LINER INSULATION.

DX FAN COIL UNIT (FCU) SCHEDULE

FCU NO.	AREA SERVED	TYPE	COOLING CAPACITY						AIRFLOW		ELECTRICAL				E-POWER (Y/N)	REMARKS
			TOTAL (BTUH)	SENSIBLE (BTUH)	EAT DB°F	EAT WB°F	LAT DB°F	LAT WB°F	SA (CFM)	DESIGN OA (CFM)	KW INPUT	MCA	MOCP	V/PH/HZ		
FCU-3	ROOM 33 - TELECOM	CASSETTE	42,000	42,000	78.0	65.0	55.0	53.0	990	-	0.11	1.3	15	208/1/60	YES	1,2,3,4,5,6
FCU-4	ROOM 33 - TELECOM	CASSETTE	42,000	42,000	78.0	65.0	55.0	53.0	990	-	0.11	1.3	15	208/1/60	YES	1,2,3,4,5,6
FCU-5 (EXISTING)	ROOM 27 & 28 - OFFICE	CEILING DUCTED	36,000	29,000	-	-	-	-	950	100	0.38	2.9	15	208/1/60	YES	7
FCU-6	CORRIDOR 3 - EOC SUPPORT	CASSETTE	25,400	18,300	78.0	65.1	55.0	53.0	723	-	0.63	7.7	15	208/1/60	YES	1,2,3,4,5,6
FCU-7	CORRIDOR 3 - EOC SUPPORT	CASSETTE	25,400	18,300	78.0	65.1	55.0	53.0	723	-	0.63	7.7	15	208/1/60	YES	1,2,3,4,5,6
FCU-8	ROOM 29 - CONFERENCE	WALL MOUNTED	22,800	13,500	79.8	68.3	55.0	53.0	500	-	0.07	0.5	15	208/1/60	YES	1,2,5,6

NOTES:
1. REFER TO MANUFACTUER'S WIRING DIAGRAM FOR POWERING GUIDELINES.
2. PIPING LENGTH MODIFICATIONS MADE IN FIELD SHALL BE COORDINATED WITH MANUFACTUER FOR PIPING RECOMONDATIONS AND REVISED LINE SIZES.
3. HANG FROM STRUCTURE USING MANUFACTURER PROVIDED RUBBER IN SHEAR ISOLATORS AND HANGER RODS.
4. PROVIDE ONE LEAK SENSOR WITHIN EACH UNIT AND ONE LEAK SENSOR PER DRIP PAN. WIRE ASSOCIATED CONTROLS BACK TO MASTER CONTROLLER FOR LEAK DETECTION.
5. MANUFACTURER STANDARD FILTER.
6. PROVIDE BUILT-IN CONDENSATE PUMP.
7. UNIT IS EXISTING AND SHOWN FOR REFERENCE ONLY.

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.
DATE
DESCRIPTION
3YM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 55 OF 123
MB601

EXHAUST FAN (EF) SCHEDULE

UNIT	LOCATION/ AREA SERVED	FAN DATA					ELECTRICAL DATA				E-POWER (Y/N)	WEIGHT (LBS)
		TYPE	DRIVE TYPE	CFM	ESP (IN WG)	RPM	INPUT POWER (W)	V	PH	HZ		
EF 2	WOMEN'S RESTROOM	CEILING CABINET	DIRECT	340	0.6	1050	301	120	1	60	YES	56
EF-3	MEN'S RESTROOM	CEILING CABINET	DIRECT	340	0.6	1050	301	120	1	60	YES	56

ADDITIVE BID #6

SUPPLY FAN (SF) SCHEDULE

UNITS	UNIT SERVED	TYPE	AIRFLOW (CFM)	EXT SP ("WG)	MOTOR RPM	DRIVE TYPE	ELECTRICAL DATA						WEIGHT (LBS)	E-POWER (Y/N)	REMARKS
							V	PH	HZ	MOTOR HP	MCA	MOCP			
SF-1	AHU-1	INLINE DUCTED	1440	2	1725	BELT	208	3	60	1	5.8	15	122	YES	1,3
SF-2	AHU-2	INLINE DUCTED	500	2	1725	BELT	208	3	60	0.75	4.4	15	107	YES	2,3

NOTES:
1. INTERLOCK WITH AHU-1
2. INTERLOCK WITH AHU-2
3. PROVIDE WITH EXTERNAL HEPA FILTER BOX

CONDENSATE PUMP (CP) SCHEDULE

UNIT	LOCATION	TYPE	SERVES	FLOW (GPH)	TOTAL FT. HEAD	FLUID	ELECTRICAL DATA			E-POWER (Y/N)	REMARKS
							HP	AMPS	V/PH/HZ		
CP-1A	AC ROOM - 122	VERTICAL CENTRIFUGAL	AHU-1	48	10	CONDENSATE	0.033	1.5	120/1/60	YES	1,2
CP-1B	AC ROOM - 122	VERTICAL CENTRIFUGAL	AHU-1	48	10	CONDENSATE	0.033	1.5	120/1/60	YES	1,2,3

NOTES:
1. PROVIDE WITH OVERFLOW DETECTION SWITCH
2. INTERLOCK WITH AHU-1
3. REDUNDANT UNIT

(EXISITNG) BOOSTER FAN SCHEDULE

UNITS	FCU SERVED	TYPE	AIRFLOW (CFM)	EXT SP ("WG)	DRIVE TYPE	ELECTRICAL DATA			
						V	PH	HZ	MOTOR HP
BF-1 (EXISTING)	FCU-5	INLINE	100	0.4	DIRECT	120	1	60	0.17

NOTES:
1. UNIT IS EXISTING AND SHOWN FOR REFERENCE ONLY

(EXISTING) EXHAUST FAN SCHEDULE

UNIT	LOCATION/ AREA SERVED	FAN DATA				ELECTRICAL DATA			
		TYPE	CFM	ESP (IN WG)	RPM	HP	V	PH	HZ
EF-1 (EXISTING)	MECHANICAL ROOM - GENERATOR	INLINE CENTRIFUGAL	15300	1.4	727	10	208	3	60

NOTES:
1. UNIT IS EXISTING AND SHOWN FOR REFERENCE ONLY

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

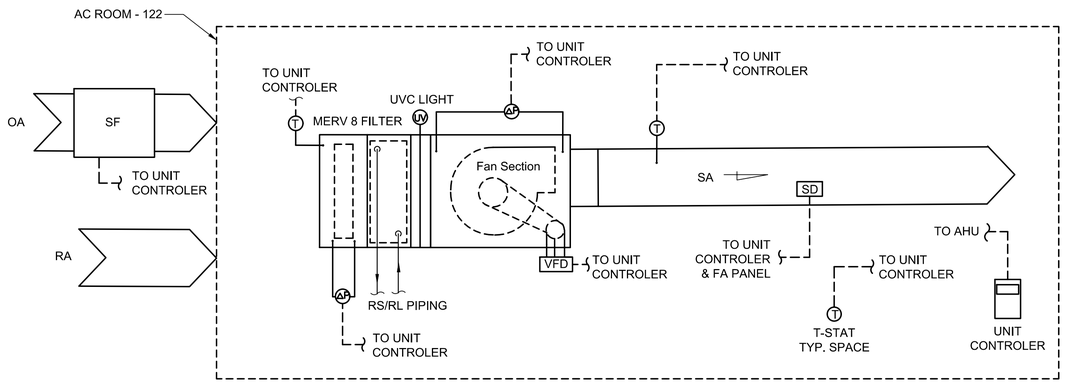
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR. DATE DESCRIPTION SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH FM YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816 TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
MECHANICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 56 OF 123
MB602



C1
MB701

DX VAV AHU WITH VFD MOTOR - SCHEMATIC DIAGRAM AND SEQUENCE OF OPERATION

SCALE: NOT TO SCALE

SEQUENCE OF OPERATIONS (AHU-1):

THE OFFICE AREA WILL BE SERVED BY A DX AHU AIR CONDITIONING SYSTEM. THE AHU SHALL BE CONTROLLED VIA MANUFACTURER'S PROGRAMMABLE CONTROLLER. THE SEQUENCE OF OPERATION WILL BE AS FOLLOWS:

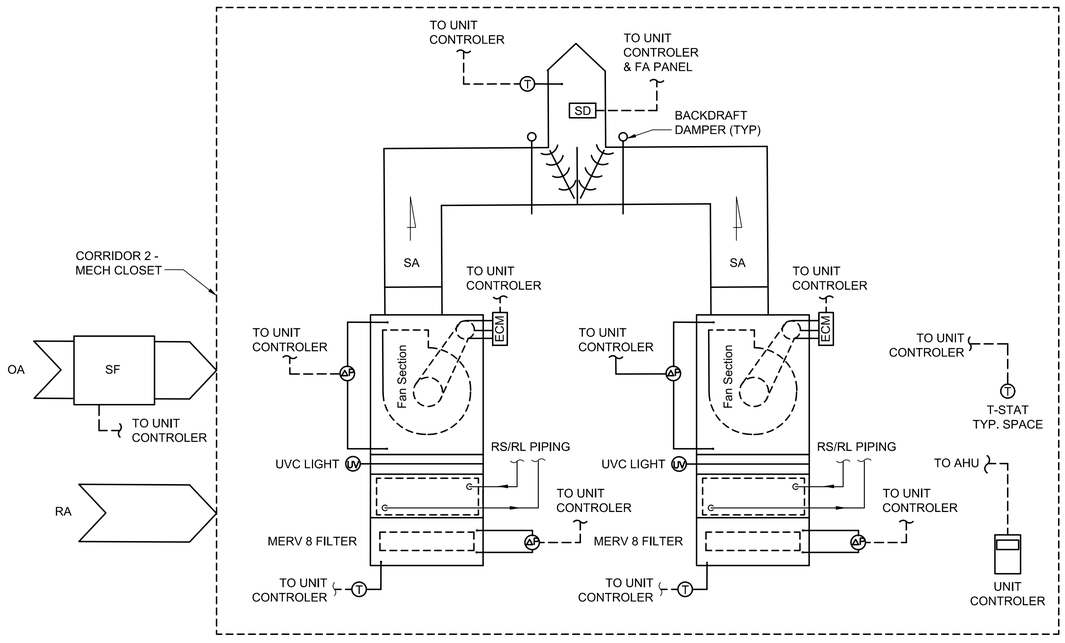
AHU-1 RUN CONDITIONS:

1. OCCUPIED MODE: THE SUPPLY FAN SHALL BE ENABLED AND COMMANDED TO RUN.
2. UNOCCUPIED MODE: THE SUPPLY FAN SHALL BE DISABLED.
3. THE UNIT CONTROLLER SHALL BE PROVIDED WITH AN OPTION TO MANUALLY OVERRIDE THE UNOCCUPIED MODE.
4. THE AHU RUN TIMES SHALL FOLLOW THE BUILDING'S SCHEDULE BELOW:

   BUILDING SCHEDULE: MONDAY-FRIDAY: 6:30AM - 5:30PM
   SATURDAY-SUNDAY: OFF

FAN START/STOP CONTROL:

1. FAN VFD SHALL MODULATE TO MAINTAIN THE ROOM TEMPERATURE SET POINT.
   1.1. IF THE RETURN AIR TEMPERATURE, MONITORED BY THE TEMPERATURE SENSOR ON THE RETURN AIR INLET AT THE UNIT, IS HIGHER THAN THE T-STAT SET POINT OF 75F THE VFD SHALL MODULATE TO PROVIDE MORE AIRFLOW.
   1.2. IF THE RETURN AIR TEMPERATURE AT THE UNIT IS LOWER THAN THE T-STAT SET POINT OF 73F FOR MORE THAN 20 MINUTES, THE VFD SHALL MODULATE TO PROVIDE LESS AIRFLOW.
2. THE UNIT CONTROLLER SHALL ISSUE A FAN FAILURE ALARM AND DISABLE THE UNIT IF THE FAN HAS BEEN COMMANDED ON FOR 1 MINUTE AND THE FAN STATUS SIGNAL INDICATE THE FAN IS NOT OPERATING.
3. THE UNIT CONTROLLER SHALL ISSUE A FAN OVERRIDDEN ALARM IF THE FAN STATUS SIGNAL INDICATED THE FAN IS ON, BUT THE FAN HAS BEEN COMMANDED OFF FOR 1 MINUTE.
4. THE DX CONDENSING UNIT SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE AT THE SETPOINT OF 55F.
5. SF-1 SHALL BE INTERLOCKED WITH AHU-1 TO PROVIDE OA WHEN THE AHU IS RUNNING.
6. THE UNIT CONTROLLER SHALL SEND AN ALARM WHEN THE PRESSURE DROP ACROSS THE FILTER REACHES THE FILTER CHANGE OUT SETPOINT AS DETERMINED BY THE MANUFACTURER.
7. WHEN SMOKE IS DETECTED IN THE DUCT, THE SMOKE DETECTOR SHALL SEND A SIGNAL TO THE FIRE ALARM MODULE, INITIAL A SMOKE ALARM TO THE UNIT CONTROLLER, AND STOP STOP THE SUPPLY FAN OPERATION. THE SMOKE DETECTOR MUST BE MANUALLY RESET BEFORE THE AHU SHALL START AGAIN.



A1
MB701

VRF VAV AHU WITH ECM MOTOR - SCHEMATIC DIAGRAM AND SEQUENCE OF OPERATION

SCALE: NOT TO SCALE

SEQUENCE OF OPERATIONS (AHU-2A & AHU-2B):

THE OFFICE AREA WILL BE SERVED BY A VRF AHU AIR CONDITIONING SYSTEM. THE AHUS SHALL OPERATE SIMULTANEOUSLY AND BE CONTROLLED VIA MANUFACTURER'S PROGRAMMABLE CONTROLLER. THE SEQUENCE OF OPERATION WILL BE AS FOLLOWS:

AHU-2A & AHU-2B RUN CONDITIONS:

1. OCCUPIED MODE: THE SUPPLY FAN SHALL BE ENABLED AND COMMANDED TO RUN.
2. UNOCCUPIED MODE: THE SUPPLY FAN SHALL BE DISABLED.
3. THE UNIT CONTROLLER SHALL BE PROVIDED WITH AN OPTION TO MANUALLY OVERRIDE THE UNOCCUPIED MODE.
4. THE AHU RUN TIMES SHALL FOLLOW THE BUILDING'S SCHEDULE BELOW:

   BUILDING SCHEDULE: MONDAY-FRIDAY: 6:30AM - 5:30PM
   SATURDAY-SUNDAY: OFF

FAN START/STOP CONTROL:

1. FAN ECM SHALL MODULATE TO MAINTAIN THE ROOM TEMPERATURE SET POINT.
   1.1. IF THE RETURN AIR TEMPERATURE, MONITORED BY THE TEMPERATURE SENSOR ON THE RETURN AIR INLET AT EITHER OF THE UNITS, IS HIGHER THAN THE T-STAT SET POINT OF 75F THE ECMS SHALL MODULATE TO PROVIDE MORE AIRFLOW.
   1.2. IF THE RETURN AIR TEMPERATURE AT EITHER OF THE UNITS IS LOWER THAN THE T-STAT SET POINT OF 73F FOR MORE THAN 20 MINUTES, THE ECMS SHALL MODULATE TO PROVIDE LESS AIRFLOW.
2. THE UNIT CONTROLLER SHALL ISSUE A FAN FAILURE ALARM AND DISABLE THE INDIVIDUAL UNIT IF THE FAN HAS BEEN COMMANDED ON FOR 1 MINUTE AND THE FAN STATUS SIGNAL INDICATE THE FAN IS NOT OPERATING. THE 2ND AHU SHALL CONTINUE TO OPERATE.
3. THE UNIT CONTROLLER SHALL ISSUE A FAN OVERRIDDEN ALARM IF ONE OF THE FAN STATUS SIGNAL INDICATED THE FAN IS ON, BUT THE FAN HAS BEEN COMMANDED OFF FOR 1 MINUTE.
4. THE VRF CONDENSING UNIT SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE AT THE SETPOINT OF 55F.
5. SF-2 SHALL BE INTERLOCKED WITH AHU-2A & AHU-2B TO PROVIDE OA WHEN EITHER OF THE AHUS ARE RUNNING.
6. THE UNIT CONTROLLER SHALL SEND AN ALARM WHEN THE PRESSURE DROP ACROSS EITHER OF THE FILTERS REACHES THE FILTER CHANGE OUT SETPOINT AS DETERMINED BY THE MANUFACTURER.
7. WHEN SMOKE IS DETECTED IN THE DUCT, THE SMOKE DETECTOR SHALL SEND A SIGNAL TO THE FIRE ALARM MODULE, INITIAL A SMOKE ALARM TO THE UNIT CONTROLLER, AND STOP STOP THE SUPPLY FAN OPERATION. THE SMOKE DETECTOR MUST BE MANUALLY RESET BEFORE THE AHUS SHALL START AGAIN.

ADDITIVE BID #6

EXHAUST FAN SEQUENCE OF OPERATION:

BATHROOM EXHAUST FAN (EF-1 & EF-2):

1. THE EXHAUST FANS SHALL OPERATE CONTINUOUSLY WHILE THE BUILDING IS IN OPERATION.

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

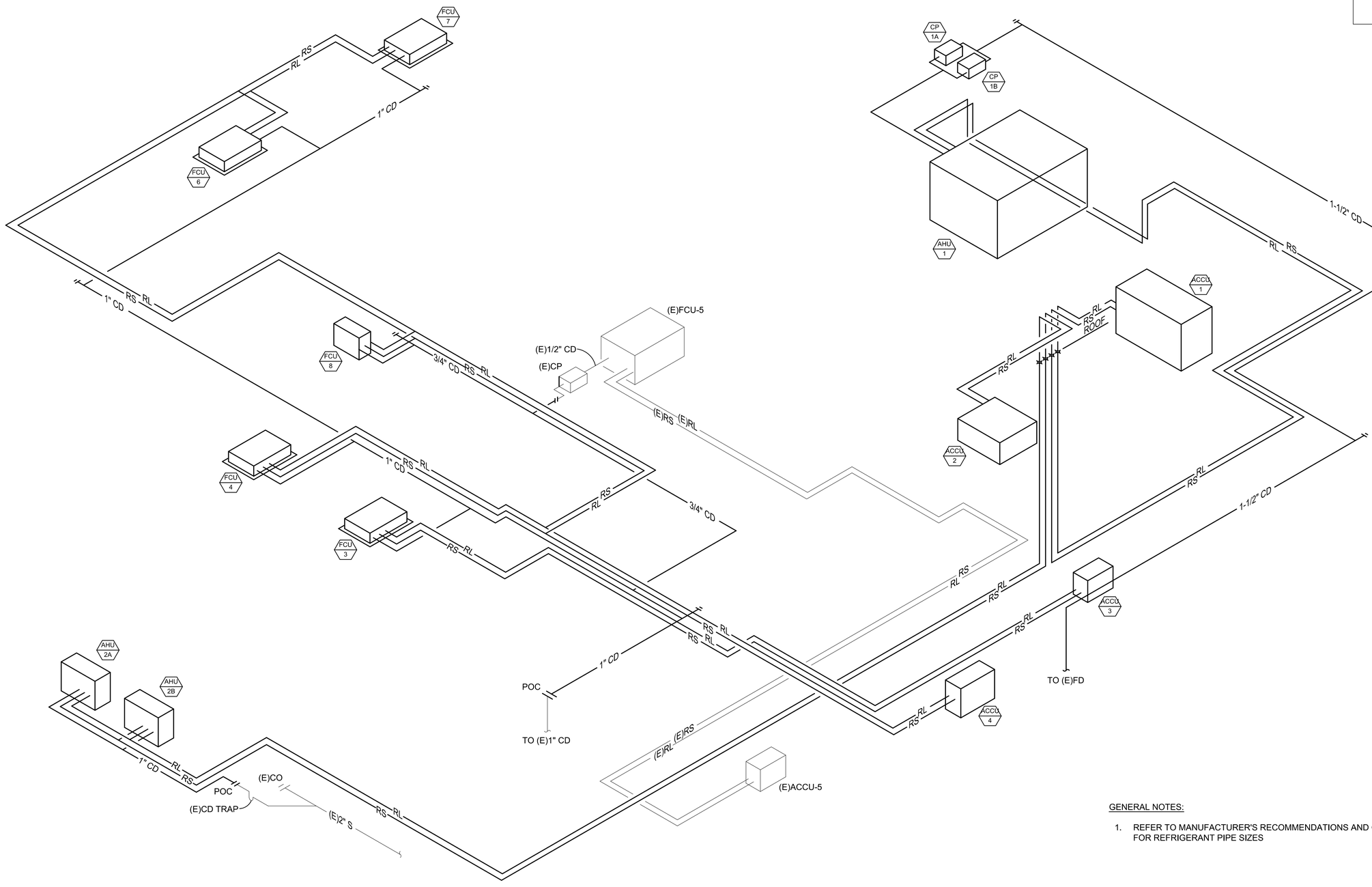
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
SYM		

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
YH | FM | YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
SCHEMATIC AND SEQUENCE OF OPERATION

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 57 OF 123
MB701



GENERAL NOTES:

1. REFER TO MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES FOR REFRIGERANT PIPE SIZES

A1
MB901

MECHANICAL ISOMETRIC

SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
3YM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

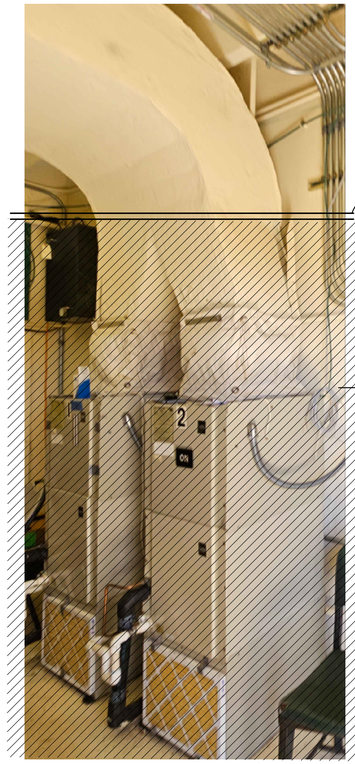
MECHANICAL ISOMETRIC

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 58 OF 123

MB901

PHASING NOTES:

1. PRIOR TO DEMOLISHING EXISTING FCU'S, THE CONTRACTOR SHALL INSTALL NEW FCU C3/C4/C5.
2. ONCE THE NEW FCU'S ARE IN OPERATION, REMOVE THE EXISTING FCU'S.
3. PROGRAM THE NEW UNITS VIA THE NEW MATER CONTROLLER TO MATCH THE NEW SEQUENCE OF OPERATION.



KEYNOTES:

1. REMOVE (E)ACCU (2 UNITS), CONCRETE PAD, REF/CD PIPING.
2. REMOVE (E)FCU (2 UNITS), DUCT CONNECTION, ASSOCIATED CONTROLS, T-STATS, AND WIRING.
3. REFER TO ELEC TO COORDINATE REMOVAL/RELOCATION OF LIGHT FIXTURES
4. REMOVE (E)30X30 EXH. FAN, ASSOCIATED CONTROLS, AND WIRING.

(E)44x40 LOUVER TO REMAIN

(E)16x16 EXH. FAN TO REMAIN

(E)EQUIPMENT RACK

(E)22x22 SAD TO BE REMOVED

(E)16x12 SA TO REMAIN

(E)34x12 SA TO REMAIN

(E)22x12 SAD TO BE REMOVED

(E)34x14 SA TO REMAIN

POR

(E)GENERATOR

(E) FUEL FILL BOX TO REMAIN

(E) 30X40 INTAKE LOUVER TO REMAIN

EQUIPMENT ROOM

ENGINE GENERATOR ROOM

PLAN NORTH / TRUE NORTH

A1 / MC101 FLOOR PLAN - DEMO

SCALE: 1/2" = 1'-0"

0 6" 1' 2' 4' 6'

SCALE: 1/2" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
SYM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

FLOOR PLAN - DEMO

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 59 OF 123

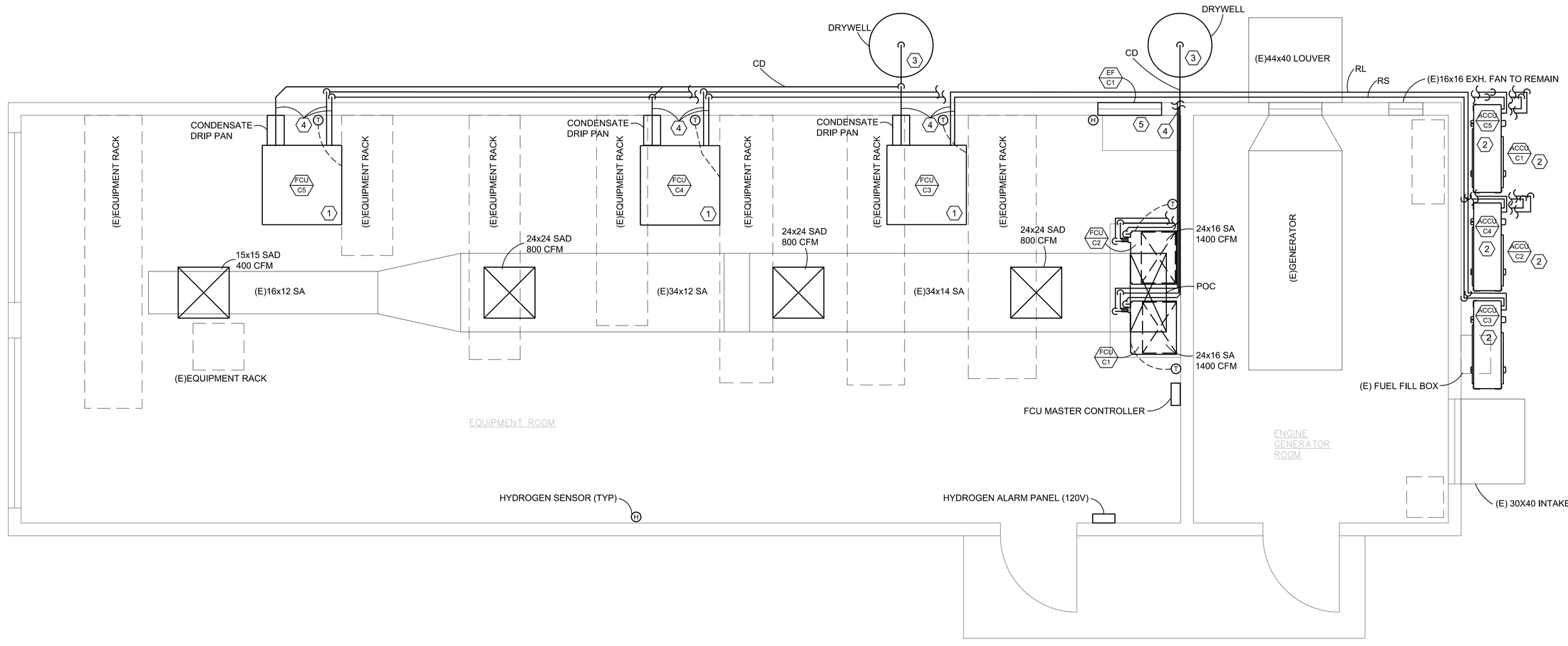
MC101

PHASING NOTES:

1. PRIOR TO DEMOLISHING EXISTING FCU'S, THE CONTRACTOR SHALL INSTALL NEW FCU C3/C4/C5.
2. ONCE THE NEW FCU'S ARE IN OPERATION, REMOVE THE EXISTING FCU'S.
3. PROGRAM THE NEW UNITS VIA THE NEW MATER CONTROLLER TO MATCH THE NEW SEQUENCE OF OPERATION.

KEYNOTES:

1. MOUNT FCU-C3, C4, C5 TO THE ROOF SLAB, SEE A1/MC901.
2. MOUNT ACCU-C1-5 TO THE WALL, SEE B1/MC901.
3. DRYWELL, SEE C2/MC901.
4. PENETRATE THROUGH EXTERIOR WALL. PATCH AROUND PENETRATIONS UPON INSTALLATION OF REF. AND CD PIPING.
5. MOUNT EF-C1 IN THE WALL USING EXISTING PENETRATION. PATCH AROUND PENETRATION UPON INSTALLATION. SEE B3/MC901.



PLAN NORTH / TRUE NORTH

A1 / MC201 FLOOR PLAN - NEW

SCALE: 1/2" = 1'-0"

0 6" 1' 2' 4' 6'

SCALE: 1/2" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

FLOOR PLAN - NEW

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 60 OF 123

MC201

FAN COIL UNIT (FCU) SCHEDULE

FCU NO.	AREA SERVED	TYPE	COOLING CAPACITY						AIRFLOW		ELECTRICAL				E-POWER	REMARKS
			TOTAL (BTUH)	SENSIBLE (BTUH)	EAT DB°F	EAT WB°F	LAT DB°F	LAT WB°F	SA (CFM)	TOTAL ESP (IN. WG)	KW INPUT	MCA	MOCP	V/PH/HZ		
FCU-C1	PSB EQUIPMENT ROOM	FREE STANDING	46,507	39,718	85.0	71.0	58.0	51.0	1400	1.00	0.42	5.63	15	230/1/60	YES	
FCU-C2	PSB EQUIPMENT ROOM	FREE STANDING	46,507	39,718	85.0	71.0	58.0	51.0	1400	1.00	0.42	5.63	15	230/1/60	YES	
FCU-C3	PSB EQUIPMENT ROOM	CASSETTE	45,550	33,135	78.0	65.0	52.8	51.0	1236	0.00	0.11	1.27	15	230/1/60	YES	
FCU-C4	PSB EQUIPMENT ROOM	CASSETTE	45,550	33,135	78.0	65.0	52.8	51.0	1236	0.00	0.11	1.27	15	230/1/60	YES	
FCU-C5	PSB EQUIPMENT ROOM	CASSETTE	45,550	33,135	78.0	65.0	52.8	51.0	1236	0.00	0.11	1.27	15	240/1/60	YES	
NOTES:																

AIR COOLED CONDENSING UNIT (ACCU) SCHEDULE

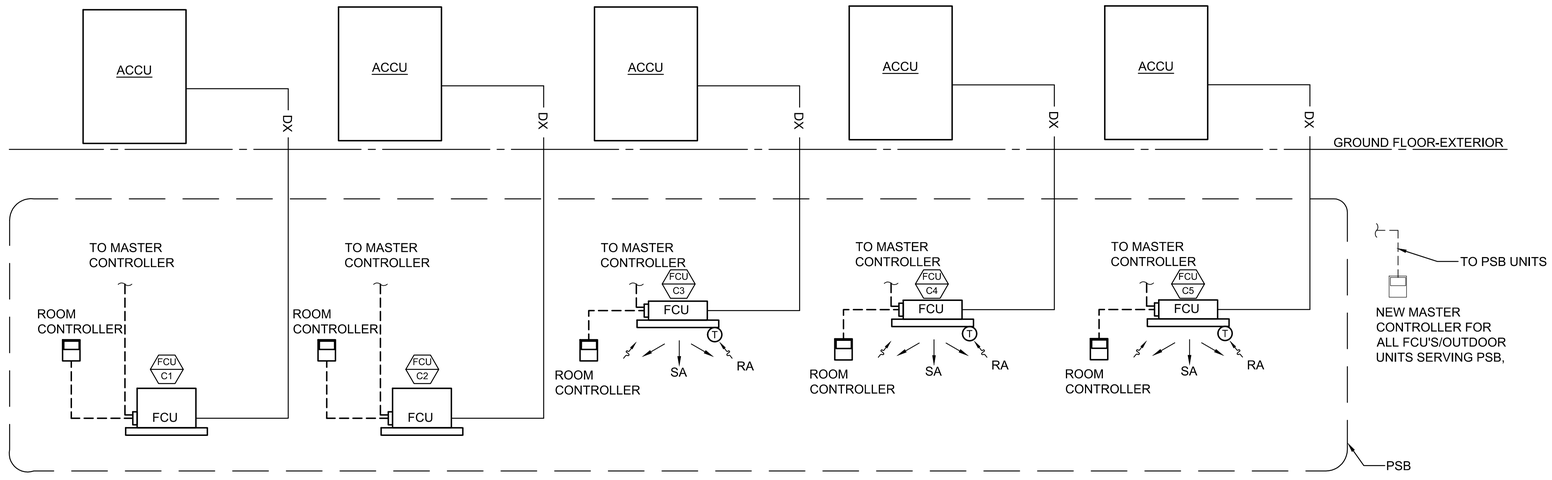
ACCU NO.	LOCATION	UNIT(S) SERVED	CAPACITY	REFRIG. TYPE	CONDENSER FAN				ELECTRICAL DATA					EER	E-POWER	REMARKS
			TOTAL BTUH		AMBIENT AIR TEMP - EXTREME HIGH (F)	AMBIENT AIR TEMP EXTREME LOW (F)	TYPE	FAN INPUT (KW)	MCA	SCCR (kA)	MOCP	V/PH/HZ	COMPRESSOR INPUT (KW)			
ACCU-C1	OUTSIDE	FCU-C1	46,507	R-410A	95	55	PROP	0.46 x 4	29	5	40	230/1/60	3.4	11.3	YES	COMPRESSOR LOCKED ROTOR AMPS VALUE OF 22.0 A
ACCU-C2	OUTSIDE	FCU-C2	46,507	R-410A	95	55	PROP	0.46 x 4	29	5	40	230/1/60	3.4	11.3	YES	COMPRESSOR LOCKED ROTOR AMPS VALUE OF 22.0 A
ACCU-C3	OUTSIDE	FCU-C3	46,507	R-410A	95	55	PROP	0.46 x 4	29	5	40	230/1/60	3.4	13.1	YES	COMPRESSOR LOCKED ROTOR AMPS VALUE OF 22.0 A
ACCU-C4	OUTSIDE	FCU-C4	46,507	R-410A	95	55	PROP	0.46 x 4	29	5	40	230/1/60	3.4	13.1	YES	COMPRESSOR LOCKED ROTOR AMPS VALUE OF 22.0 A
ACCU-C5	OUTSIDE	FCU-C5	46,507	R-410A	95	55	PROP	0.46 x 4	29	5	40	230/1/60	3.4	13.1	YES	COMPRESSOR LOCKED ROTOR AMPS VALUE OF 22.0 A

NOTES:
1) REFRIGERANT PIPE QUANTITIES AND SIZE TO BE PER MANUFACTURER'S PIPING SCHEMATIC.
2) COAT UNIT CASING AND COILS WITH BLYGOLD & PSX-700 COATING RATED FOR COASTAL ENVIROMENT.

EXHAUST FAN SCHEDULE

UNIT	AREA SERVED	LOCATION	FAN DATA								ELECTRICAL				MAX. DBA	MIN OUTLET VELOCITY (CFM)	WT PG	WEIGHT (LBS)	E-POWER	REMARKS
			TYPE	DRIVE TYPE	CFM	EXT SP (Wg)	RPM	HP	MAX. HEIGHT (in)	MAX. WIDTH (in)	WATTS	V	P	HZ						
EF-C1	SERVER ROOM	PSB	WALL AXIAL	DIRECT	1000	0.39	1032	0.15	30	30	-	230	1	60	63	442	-	65	YES	INCLUDE CAGE, WALL COLLAR, FAN, DAMPER AND GUARDS, WEATHERHOOD

B1 / MC601 MECHANICAL SCHEDULE
SCALE: NTS



A1 / MC601 ELECTRICAL ROOM A/C SYSTEM SCHEMATIC AND SEQUENCE OF OPERATION
SCALE: NTS

PSB AIR CONDITIONING SEQUENCE OF OPERATION:

THE AIR CONDITIONING SYSTEM (FCU-C1, FCU-C2, FCU-C3, FCU-C4 AND FCU-C5) SERVING PSB SHALL CONSIST OF FIVE VARIABLE REFRIGERANT FLOW (VRF) RE-CIRCULATING FAN COIL UNITS. ALL PSB UNITS SHALL BE EQUIPPED WITH LOCAL CONTROLLERS TO ALLOW AUTONOMOUS OPERATIONS.

RE-CIRCULATING FCU SEQUENCE OF OPERATION:

1. AT ANY GIVEN TIME, ONLY THREE FAN COIL UNITS SHALL OPERATE. SET FCU-C1, FCU-C2 AND FCU-C3 AS PRIMARY AND FCU-C4 AND FCU-C5 AS BACKUP.
2. IN CASE TWO OR THREE OF THE FIVE ELECTRICAL SYSTEMS IS UNAVAILABLE, AND ALL THE LOAD IS FED FROM ONE ELECTRICAL ROOM, ALL UNITS (FCU-C1, FCU-C2, FCU-C3, FCU-C4 AND FCU-C5) WILL OPERATE TO MEET INCREASED COOLING REQUIREMENT.
3. ROTATE THE UNITS WEEKLY VIA PROGRAMMABLE CONTROLLER TO EVEN OUT THE OPERATING HOURS
4. THE RETURN AIR T-STAT UNIT SHALL MODULATE THE REFRIGERANT FLOW TO THE INDOOR UNIT TO MAINTAIN A SPACE TEMPERATURE SET BY THE ROOM CONTROLLER. (ADJUSTABLE)
5. PROVIDE A MASTER CONTROLLER

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

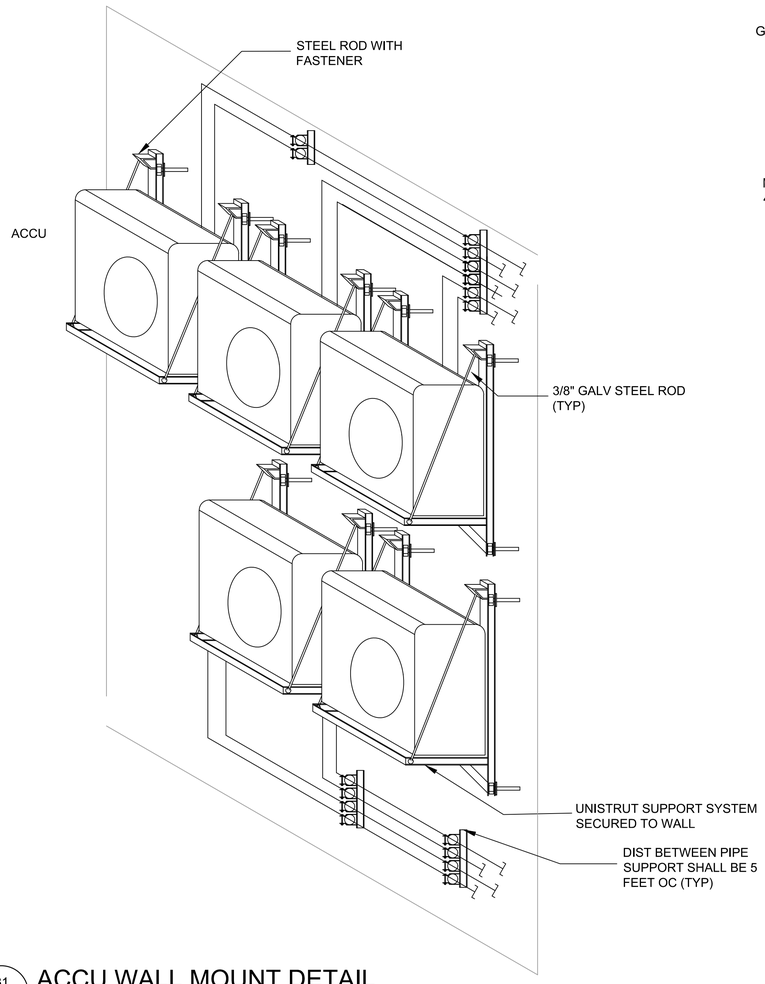
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR. | DATE | DESCRIPTION | SYM

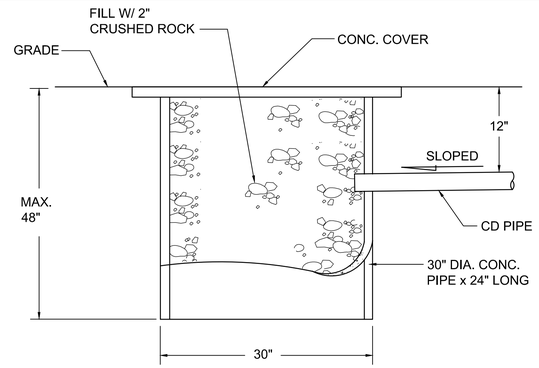
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96815
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL SCHEMATIC - SEQUENCE - SCHEDULES

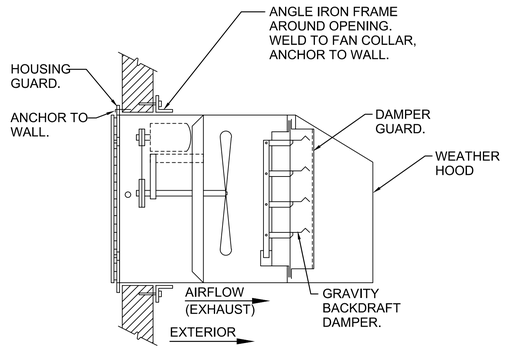
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 61 OF 123
MC601



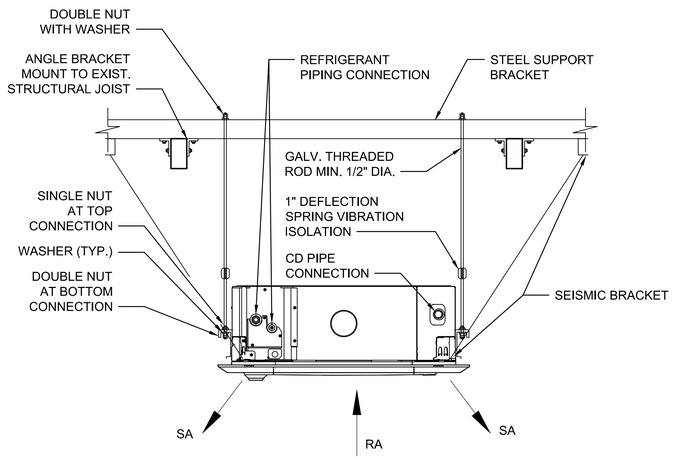
B1 MC901 ACCU WALL MOUNT DETAIL
SCALE: NTS



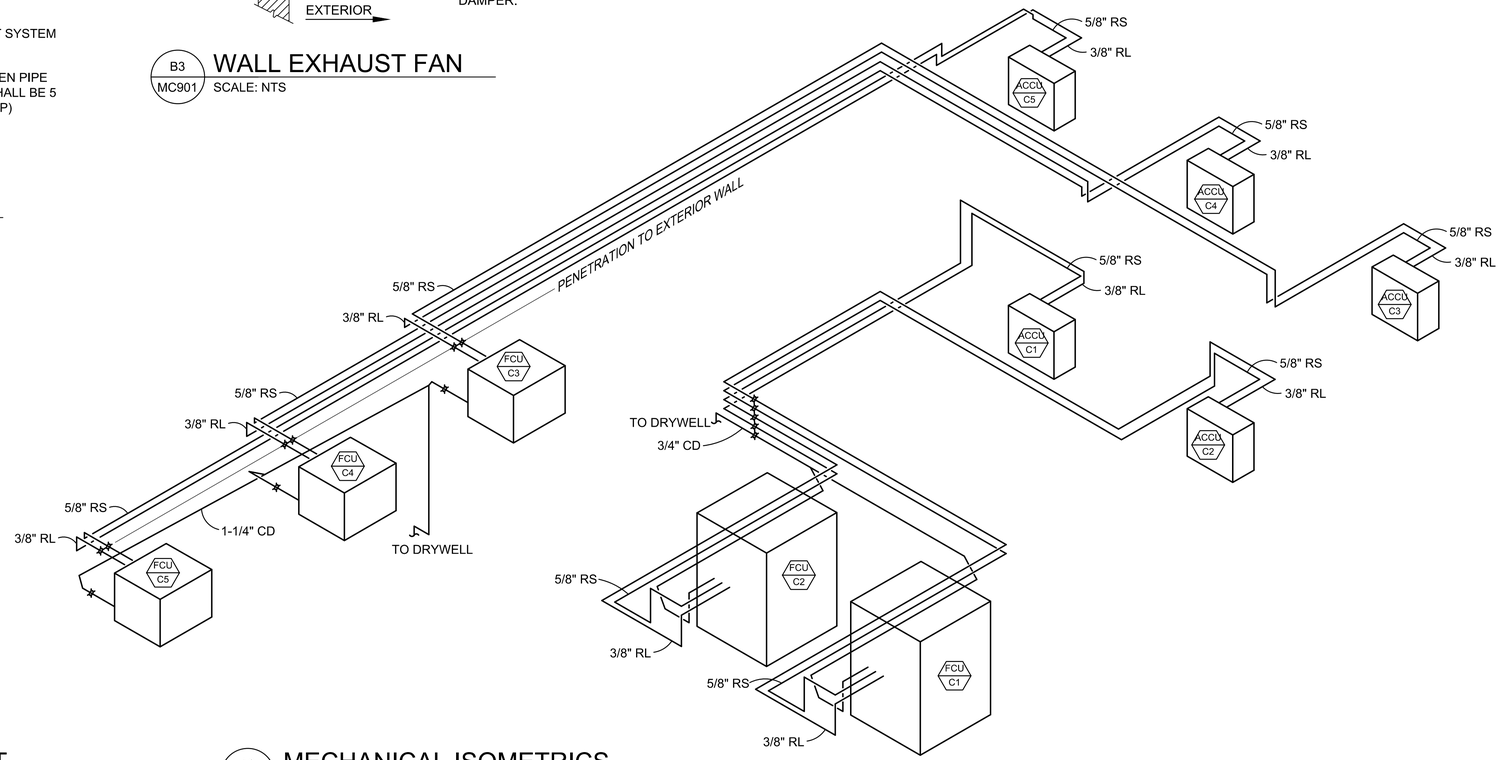
C2 MC901 DRYWELL DETAIL
SCALE: NTS



B3 MC901 WALL EXHAUST FAN
SCALE: NTS



A1 MC901 CASSETTE TYPE FCU DETAIL WITH SEISMIC RESTRAINT
SCALE: NTS



A3 MC901 MECHANICAL ISOMETRICS
SCALE: NTS

PSB HYDROGEN DETECTION SYSTEM SEQUENCE OF OPERATION:

PROVIDE HYDROGEN CONCENTRATION DETECTION SYSTEM, CONSISTING OF SENSOR, LOCAL SOUND ALARM, WARNING LIGHT

1. WHEN THE GAS CONCENTRATION EXCEEDS THE SET POINT, THE GAS MONITORING CONTROL PANEL SHALL ACTIVATE A LOCAL AUDIBLE AND VISUAL ALARM.
2. WHEN THE GAS CONCENTRATION EXCEEDS THE SET POINT, THE GAS MONITORING CONTROL PANEL SHALL PROVIDE A DRY CONTACT SIGNAL TO VRF MASTER CONTROLLER TO DEACTIVATE ALL AC UNITS AND ACTIVATE EF-C1.

HYDROGEN CONCENTRATION HIGH LEVEL SET POINT: 1%

D4 MC901 HYDROGEN DETECTION SYSTEM SEQUENCE OF OPERATION
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
3YM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
MECHANICAL DETAILS AND ISOMETRICS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 62 OF 123
MC901

PLUMBING GENERAL NOTES:

1. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS LISTED IN CONTRACT RFP DOCUMENTS. THE ENTIRE INSTALLATION SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE (IBC) AND THE LATEST CITY AND COUNTY OF HONOLULU/STATE OF HAWAII AMENDMENTS AND ORDINANCES, 2018 UNIFORM PLUMBING CODE, UNIFORM FIRE CODE, NATIONAL ELECTRIC CODE, STATE ENERGY CONSERVATION CODE, AND ALL AGENCIES HAVING JURISDICTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER THE COMPLETE INSTALLATION OF SYSTEMS TO FUNCTION AS DESCRIBED AND SPECIFIED. THE OMISSION OF REFERENCE TO ANY NECESSARY ITEM OF LABOR OR MATERIAL SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH LABOR AND MATERIAL.
3. ALL EQUIPMENT SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOCATED WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT IS TO BE INSTALLED PRIOR TO ORDERING OF EQUIPMENT AND NOTIFY THE ENGINEER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, AND OPERATION OF THE EQUIPMENT.
4. COORDINATE WITH OTHER TRADES PRIOR TO COMMENCING AND DURING CONSTRUCTION. OVERLAY PLANS AND CHECK FOR ANY DISCREPANCIES OR CONFLICTS WITH OTHER TRADES.
5. VERIFY AND COORDINATE ALL WALL AND FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO THE START OF CONSTRUCTION.
6. OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS, WALLS, AND SLABS.
7. VERIFY THE EXACT LOCATION, SIZE AND INVERT OF ALL EXISTING SEWER LINES AT THE NEW POINT OF CONNECTION PRIOR TO THE START OF CONSTRUCTION.
8. DRAWINGS DO NOT ATTEMPT TO SHOW EXACT DETAILS OF PIPING. PROVIDE OFFSETS AS NECESSARY TO AVOID LOCAL OBSTRUCTIONS OR INTERFERENCE WITH OTHER TRADES. REVIEW ALL PIPING RUNS PRIOR TO INSTALLATION AND IMMEDIATELY NOTIFY THE GENERAL CONTRACTOR OF ANY INTERFERENCE AND/OR LACK OF ADEQUATE CLEARANCES.
9. SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, MARK SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE GENERAL CONTRACTOR FOR REVIEW. DO NOT PROCEED UNTIL REVIEWED.
10. PATCH AND PAINT ALL EXPOSED PIPING TO MATCH ADJACENT SURFACES OR AS INDICATED.
11. REPAIR ANY DAMAGE TO EXISTING CONSTRUCTION RESULTING FROM THE INSTALLATION OF PLUMBING ITEMS. THE AREAS REPAIRED SHALL MATCH THE ADJACENT SURFACES IN TEXTURE AND COLOR.
12. PROPERLY FIRESTOP ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, OR PARTITIONS WITH A UL APPROVED SYSTEM APPROPRIATE FOR THE PENETRATION TYPE AND FIRE RATING.
13. PROVIDE ISOLATION VALVES ON PIPING BRANCH LINES WHETHER SHOWN ON THE DRAWINGS OR NOT. SHOW ALL ISOLATION VALVES ON AS-BUILT DRAWINGS.
14. SEISMICALLY BRACE ALL EQUIPMENT, PIPING, AND IN ACCORDANCE WITH CONTRACT SPECIFICATIONS AND RFP REQUIREMENTS.
15. PLUMBING CONTRACTOR SHALL COORDINATE ALL FLOOR CUTTING AND PATCHING WORK REQUIRED TO INSTALL ANY NEW PIPING.
16. PLUMBING CONTRACTOR SHALL PROVIDE ALL ACCESS PANELS TO VALVES, WATER HAMMER ARRESTERS, ETC. WHERE ANY OF THEIR WORK NEEDS ACCESS TO SERVICE OR RESET. SIZES WILL BE DETERMINED BY SUBCONTRACTORS AS WHAT IS NEEDED TO SERVICE OR ACCESS EQUIPMENT. THESE SHOULD BE LOCATED IN THE CLOSETS, STORAGE AREAS, OR INCONSPICUOUS SPACES TO BE REVIEWED BY GENERAL CONTRACTOR ON FINAL LOCATION AND SIZES. THE ACCESS PANELS SHALL MATCH THE FIRE RATING FOR THE WALLS OR CEILINGS THAT THEY ARE PENETRATING. FOR AREAS WITH LAY IN CEILING, MAKE SURE CLEARANCES ARE ADEQUATE.
17. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR AND PROVIDE ALL CAULKING AND SEALANT REQUIRED TO COMPLETE THE INSTALLATION OF ALL PLUMBING FIXTURES AND FITTINGS. SEE CAULKING AND SEALANT SPECIFICATIONS IN CONTRACT SPECS FOR APPROPRIATE CAULKING AND SEALANT SPECIFICATIONS.

ADDITIVE BID ALTERNATES

ALTERNATE	LOCATION	DESCRIPTION
#1	B303	ALL WORK ASSOCIATED WITH LIGHT FIXTURE REPLACEMENT IN THE ADMIN SECTION OF BUILDING B303.
#2	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.
#3	B303	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER.
#4	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.
#5	BIRKHIMER	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART WATER METER.
#6	BIRKHIMER	ALL WORK ASSOCIATED WITH BATHROOM PLUMBING UPGRADES.
#7	PSB	ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE NEW SMART ELECTRIC METER.

PLUMBING LEGEND

SYMBOL	ABBRV.	DESCRIPTION
	AST	ABOVE GROUND STORAGE TANK
	BV	BALL VALVE
		BALL VALVE ON RISER
	CKV	CHECK VALVE
	CW	COLD WATER
	CV	CONTROL VALVE
	DWP	DOMESTIC WATER BOOSTER PUMP
	(E)	EXISTING
	EWH	ELECTRIC WATER HEATER
	ET	WATER HEATER EXPANSION TANK
	FCO	FLOOR CLEAN OUT
	FD	FLOOR DRAIN
	FMS	FUEL MONITORING SYSTEM
F		FLOW METER
	FD	FLOOR DRAIN
	FP	FUEL PUMP
	GV	GATE VALVE
	HWR	HOT WATER RETURN
	HWRP	HOT WATER RETURN PUMP
	HWS	HOT WATER SUPPLY
	KSK	KITCHEN SINK
	LAV	LAVATORY
	MFP	MANUAL FUEL PORT
	POC	POINT OF CONNECTION
	POR	POINT OF REFERENCE
	PRV	PRESSURE RELIEF VALVE
P		PRESSURE TRANSDUCER
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	S	SANITARY
	SH	SHOWER
	TMV	THERMOSTATIC MIXING VALVE
	U/G	UNDERGROUND
	UR	URINAL
	UWST	UNDERGROUND WATER STORAGE TANK
	V	VENT
	WC	WATER CLOSET
	WFS	WATER FILTRATION SKID

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

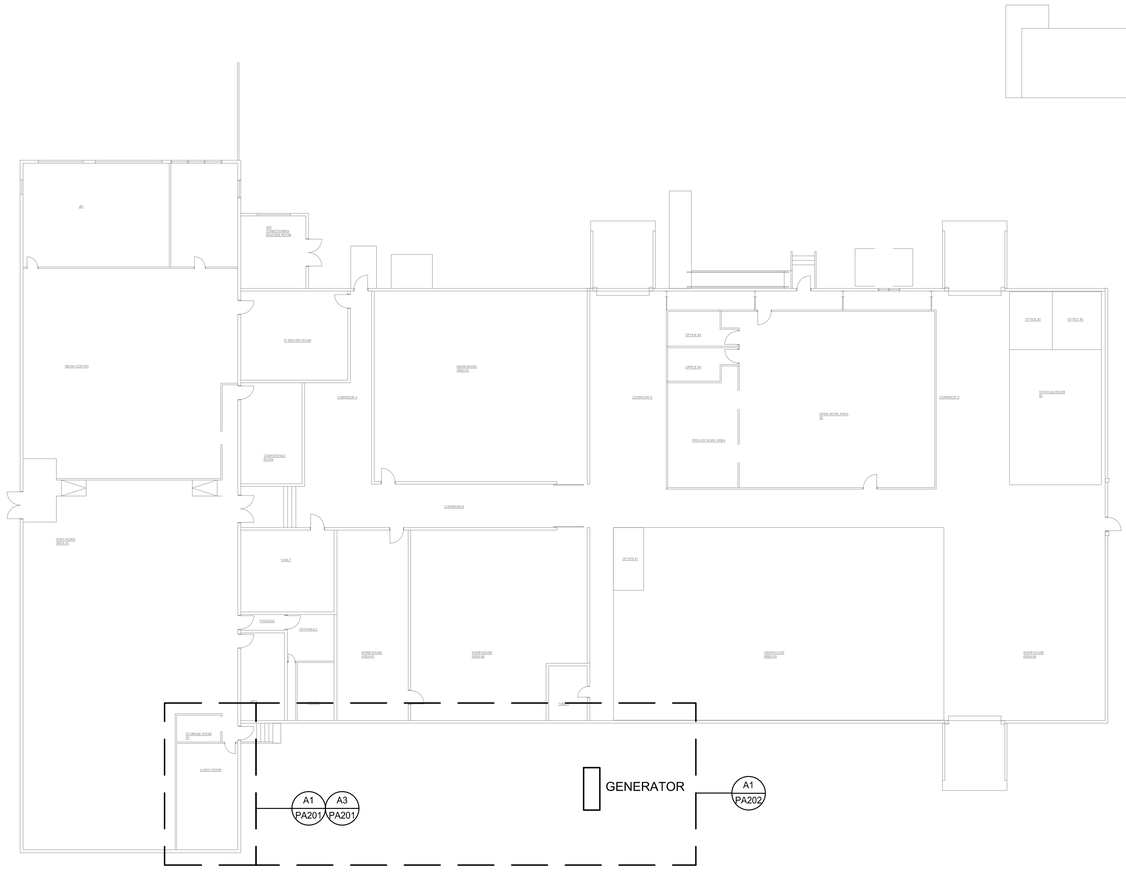
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	DATE	APPR.
1	SYM	3/21/24	YH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
GENERAL NOTES AND LEGENDS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 63 OF 123
P-001



PLAN NORTH
TRUE NORTH

A1
PA100

OVERALL FLOOR PLAN - B303

SCALE: 1/16" = 1'-0"

0 8' 16' 32' 48'

SCALE: 1/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

OVERALL FLOOR PLAN

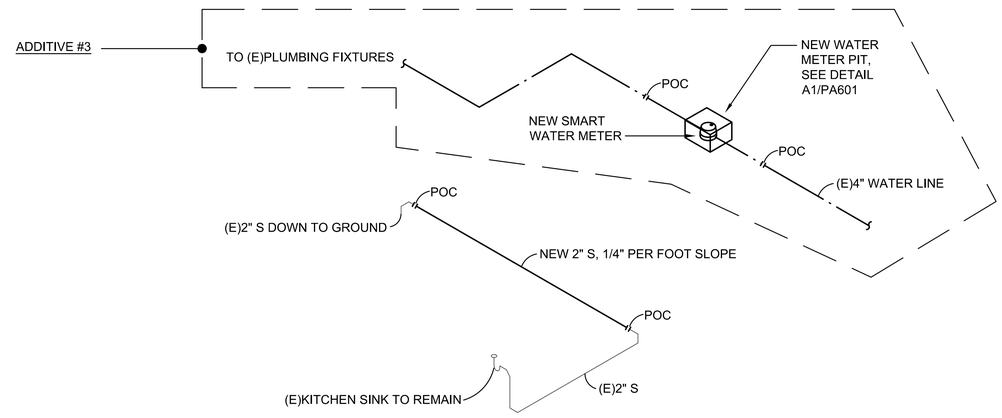
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

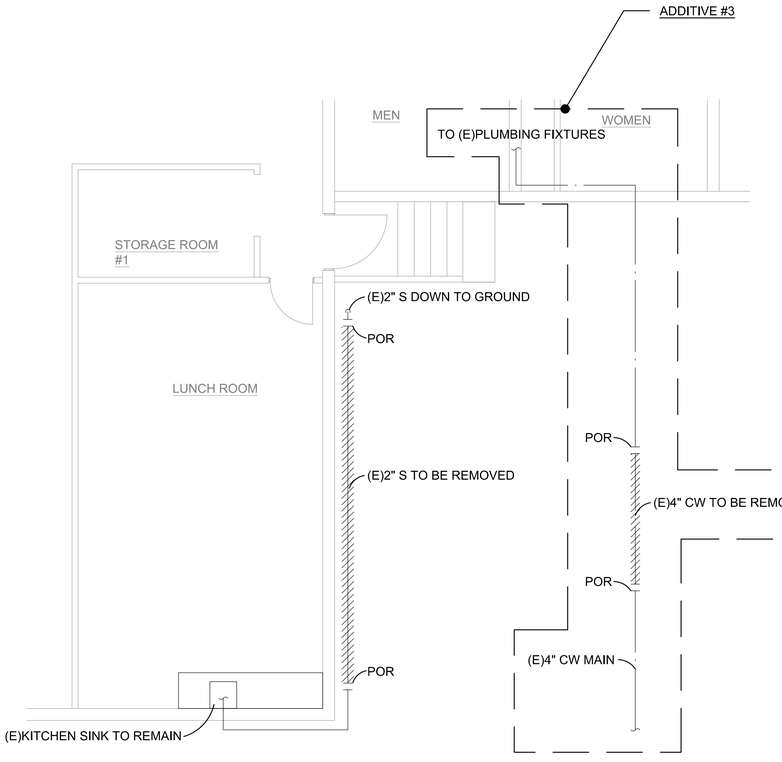
SHEET 64 OF 123

PA100



C3 / PA201 ISOMETRIC PLAN - NEW

SCALE: NTS



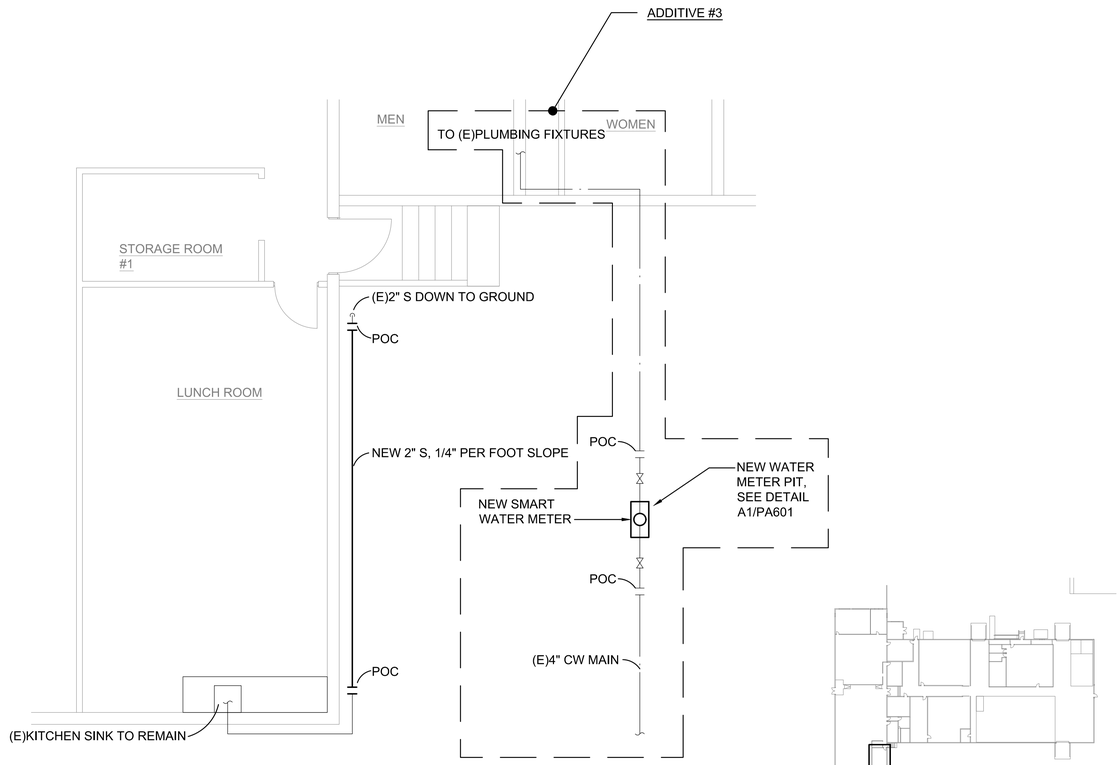
PLAN NORTH / TRUE NORTH

A1 / PA201 FLOOR PLAN - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



PLAN NORTH / TRUE NORTH

A3 / PA201 FLOOR PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.
1			

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLANS AND ISOMETRIC

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 65 OF 123

PA201

KEYNOTES:

1 FUEL TRUCK AREA FOR FUEL TRANSFER.

MEN

WOMEN

TOILET

(N)VEEDOR ROOT IN NEMA 4 ENCLOSURE

FMS 1

CONTROL WIRE CONDUIT

SEE TANK DETAIL, A1/PA501 FOR DIMENSIONS, FITTINGS, AND PIPING DETAIL

1-1/2" FOS/FOR

1

FUEL PIPE SUPPORT, SEE DETAIL, A1/MA501

NEW GENERATOR, SEE ELECTRICAL PLAN FOR DETAIL

AST 1

(E)CONCRETE PAD TO REMAIN

MFP 1

EQUIPMENT PAD, SEE STRUCTURAL SHEET S-502 FOR CONCRETE PAD DETAIL.

1

(E)FENCE LINE

FUEL TRUCK ACCESS

(E)DOUBLE SWING GATE

PLAN NORTH

TRUE NORTH

A1 / PA202 ENLARGED FLOOR PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

CS101 SITE

A1

KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/21/24	YH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH FM YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN - NEW

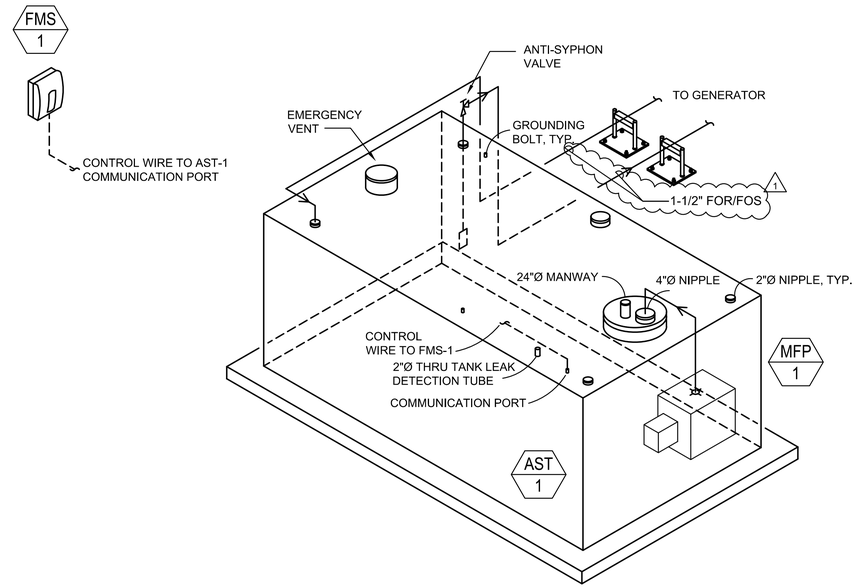
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 66 OF 123

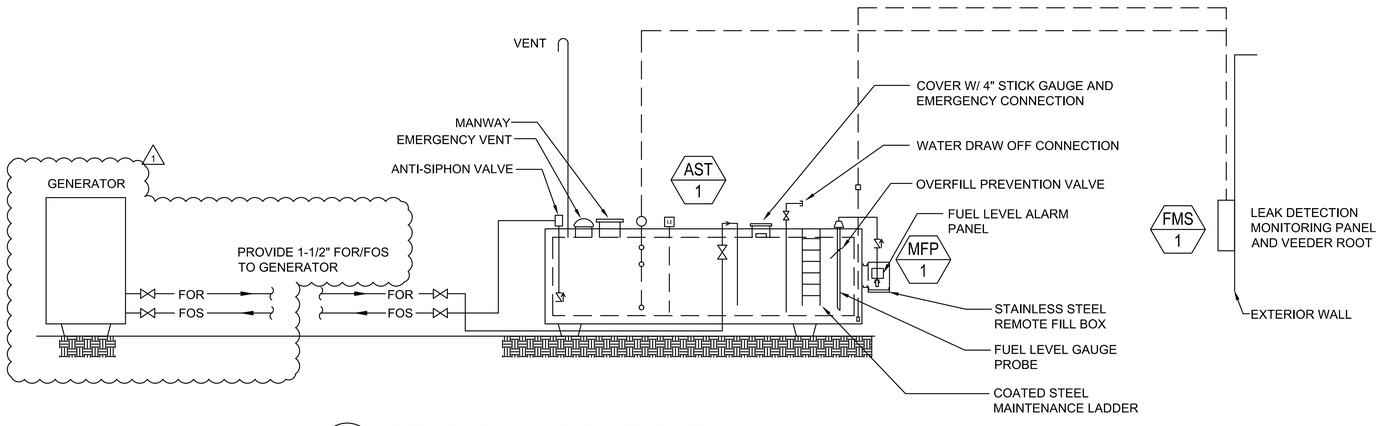
PA202



C1
PA401

ISOMETRIC

SCALE: NOT TO SCALE



A1
PA401

POL SYSTEM PIPING DIAGRAM

SCALE: NOT TO SCALE

1

THE FOLLOWING SEQUENCE OF OPERATION SHALL BE PROVIDED AND PRE-PROGRAMMED INTO FMS-1. PANELS SHOULD PROVIDE DRY CONTACT CONNECTIONS TO GENERATOR'S CONTROL PANEL FOR MONITORING AND CONTROL.

PROVIDE FOLLOWING FUEL LEVEL ALARM CONTROLS AT THE TANK:

1. HIGH FUEL LEVEL WARNING : 95% (TO FUEL LEVEL ALARM PANEL)
2. LOW FUEL WARNING : 50% (TO FUEL LEVEL ALARM PANEL)

MFP-1 SEQUENCE OF OPERATION

1. MFP-1 SHALL BE PROVIDED WITH ELECTRONIC FUEL LEVEL GAUGE PROBE AND FUEL LEVEL INDICATOR.
2. MFP-1 SHALL CONTROL FUEL FILL TO AST-1.
3. MFP-1 SHALL BE PROVIDED WITH INTERSTITIAL SPACE LEAK ALARM.
4. MFP-1 SHALL BE PROVIDED WITH FUEL INVENTORY CAPABILITY REPORTED IN GALLONS.

GENERATOR FUEL CONTROL SEQUENCE

1. GENERATOR CONTROL PANEL SHALL CONTROL BUILT-IN FUEL SUPPLY PUMP TO CIRCULATE FUEL IN/OUT OF TANK.
2. COORDINATE WITH GENERATOR SUPPLIER TO CONNECT FOS/FOR TO GENERATOR.

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM NO. 1	DESCRIPTION	DATE	APPR.
1	SYM	3/21/24	YH

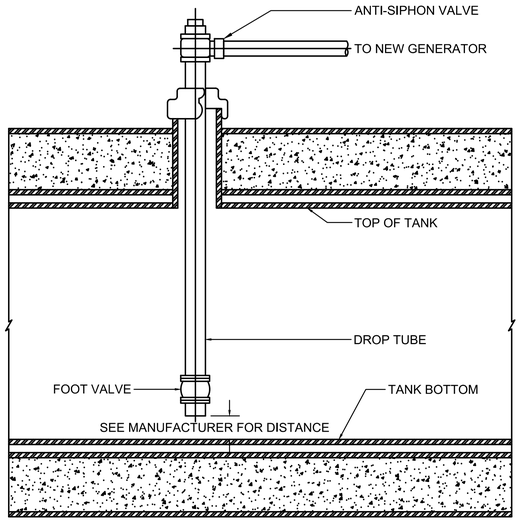
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH | FM | YH

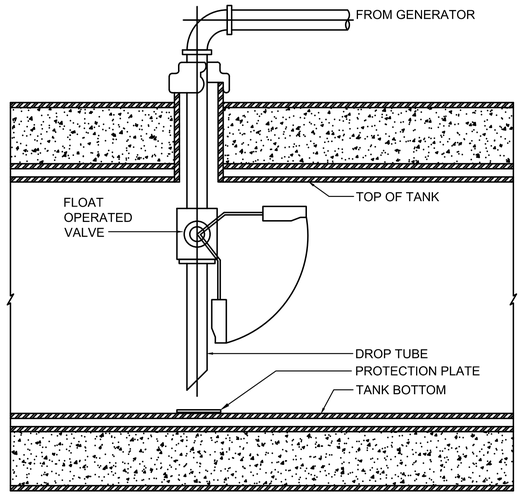
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PIPING DIAGRAMS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 67 OF 123

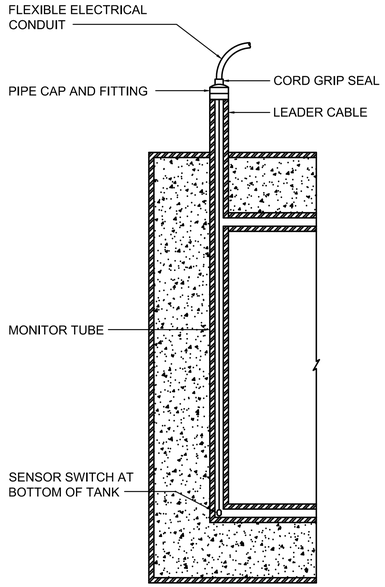
PA401



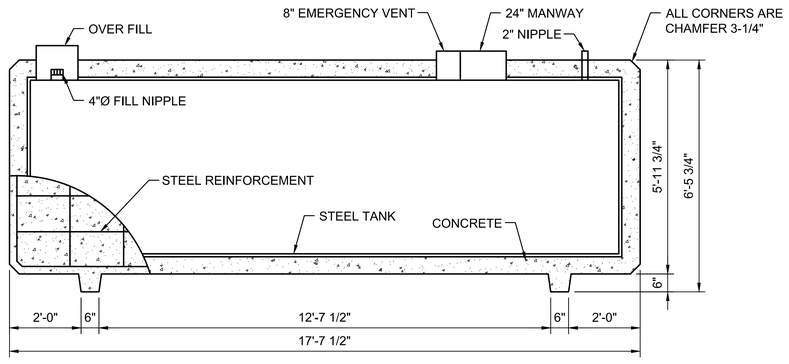
C1 PA501 **AST FUEL SUCTION LINE**
SCALE: NOT TO SCALE



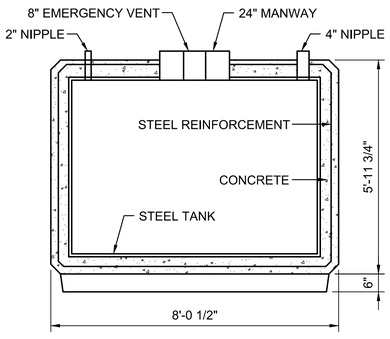
C2 PA501 **AST FUEL FILL LINE**
SCALE: NOT TO SCALE



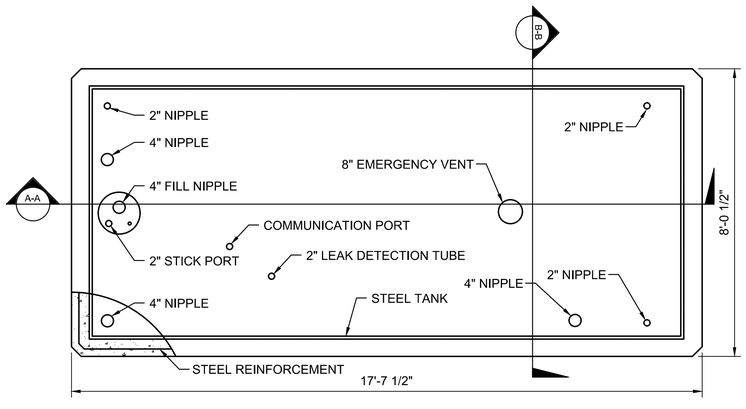
C4 PA501 **FUEL STORAGE TANK INTERSTITIAL LEAK DETECTOR TUBE DETAIL**
SCALE: NOT TO SCALE



SECTION A-A



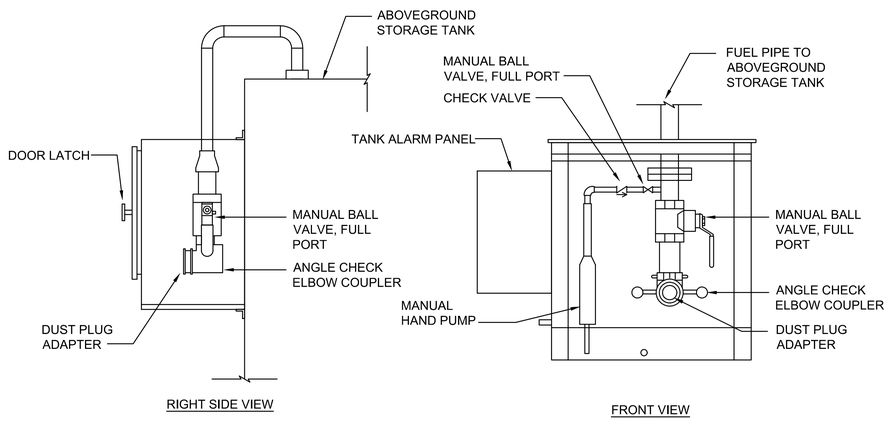
SECTION B-B



PLAN VIEW

A1 PA501 **ABOVEGROUND STORAGE TANK DETAIL**
SCALE: 1/2" = 1'-0"

0 6" 1' 2' 4' 6'
SCALE: 1/2" = 1'-0"



A4 PA501 **MANUAL FUEL PORT W/ TANK ALARM PANEL**
SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	BY/M	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PLUMBING DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 68 OF 123
PA501

ABOVE GROUND FUEL STORAGE TANK SCHEDULE

UNIT ID	SERVING	TANK CAPACITY [GALLONS]	FUEL TYPE	AST DIMENSION			WT	OPER. WT	REMARKS
				LENGTH [IN]	WIDTH [IN]	HT [IN]	[LBS]	[LBS]	
AST-1	GENERATOR 1	4,000	FUEL NO. 2 DIESEL	17'-7 1/2"	8'-0 1/2"	6'-5 3/4"	45,000	95,040	1,2,3,4,5,6,7

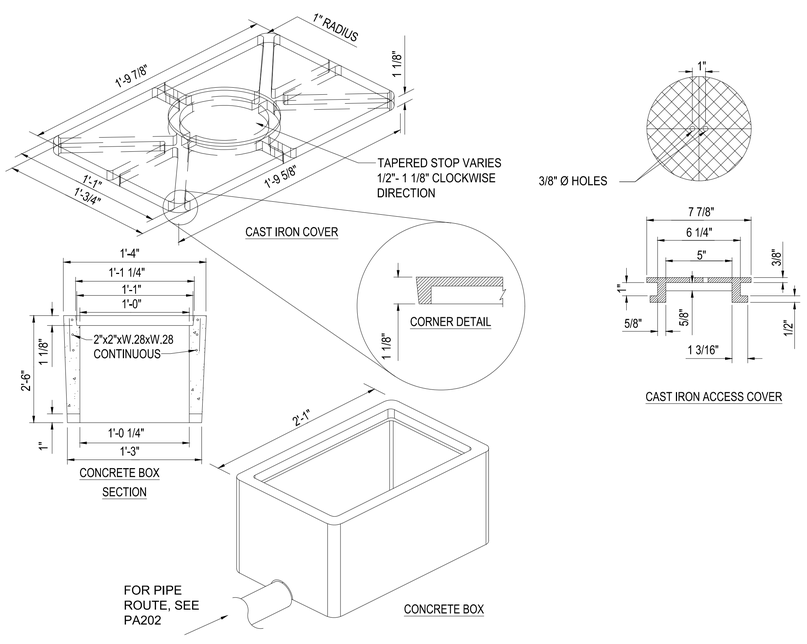
1. PROVIDE TANK WITH STEEL INNER WALL AND CONCRETE OUTER WALL.
2. PROVIDE GROUNDING PER NFPA AND NEC CODE.
3. FILL TANK TO 90% OF ITS RATED CAPACITY.
4. TANK SHALL BE TESTED PER MANUFACTURER'S RECOMMENDATION PRIOR TO OPERATION.
5. PROVIDE STAINLESS STEEL FITTINGS.
6. TANK SHALL BE PAINTED A "PRAIRIE DUSK" COLOR.
7. SEE SPECS FOR ADDITIONAL INFORMATION.

MANUAL FUEL PORT SCHEDULE

UNIT ID	SERVING	ELECTRICAL FOR TANK ALARM PANEL			TRANSMITTER		REMARKS
		[V]	[PH]	[HZ]	FITTING PER TANK	MAKE AND MODEL	
MFP-1	AST-1	120	1	60	3"	SIMPLEX	1,2,3

NOTES:
1. PROVIDE WITH MANUAL ALARM PANEL.
2. PROVIDE WITH FUEL TANK MONITORING PANEL.
3. PROVIDE FUEL LEVEL GAUGE PROBE.

UNIT ID	AREA SERVED	DESCRIPTION	FUEL TYPE
FMS-1	AST-1	TCP/IP COMM. MODUEL, 1INTERSTITIAL SENSOR FOR STEEL TANK, 3XLOW POINT PIPE LEAK DETECTION SENSORS, 1X FUEL LEVEL PROBE, AND 1X HYDROCARBON SENSOR	DIESEL FUEL NO. 2



A1 / PA601 WATER METER PIT DETAIL
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO. 1	3/21/24	YH

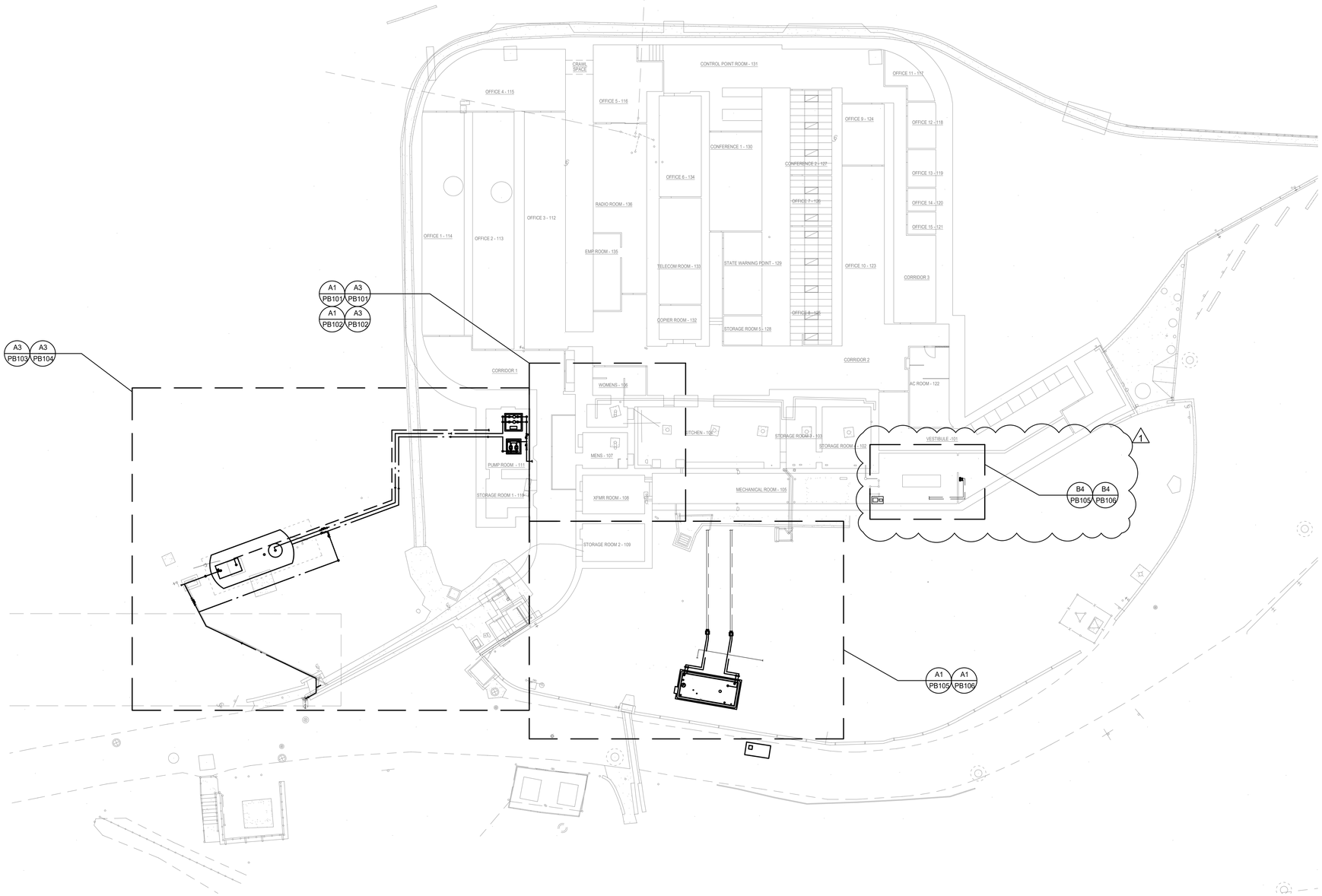
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

YH | FM | YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PLUMBING SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 69 OF 123

PA601



PLAN NORTH
TRUE NORTH

A2 / PB100 OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"

0 8' 16' 32' 48'

SCALE: 1/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U S A

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

YH				APPR.
JJO/JH				DATE
1	ADDENDUM 1			DESCRIPTION
△				SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

OVERALL FLOOR PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 70 OF 123

PB100

DEMO KEYNOTES:

1. DEMOLISH ABANDONED PIPE
2. HATCHED PLUMBING ITEMS TO BE REMOVED UP TO POR
3. DEMOLISH EXISTING FIXTURES

NEW KEYNOTES:

1. TIE (N)V PIPE INTO ABANDONED VENT IN KITCHEN AREA. SEE PB107.

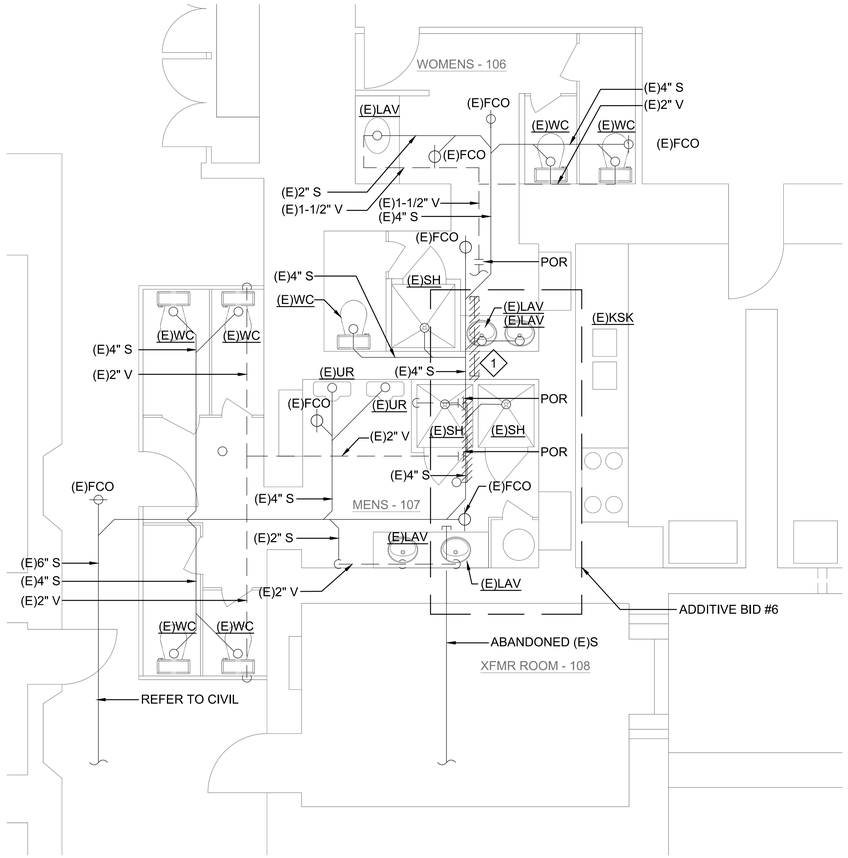
PHASING NOTES (PHASE 1 - INT. PLUMB):

DEMOLITION:

THREE WORKING SHIFTS.

NEW:

FIVE WORKING SHIFTS.



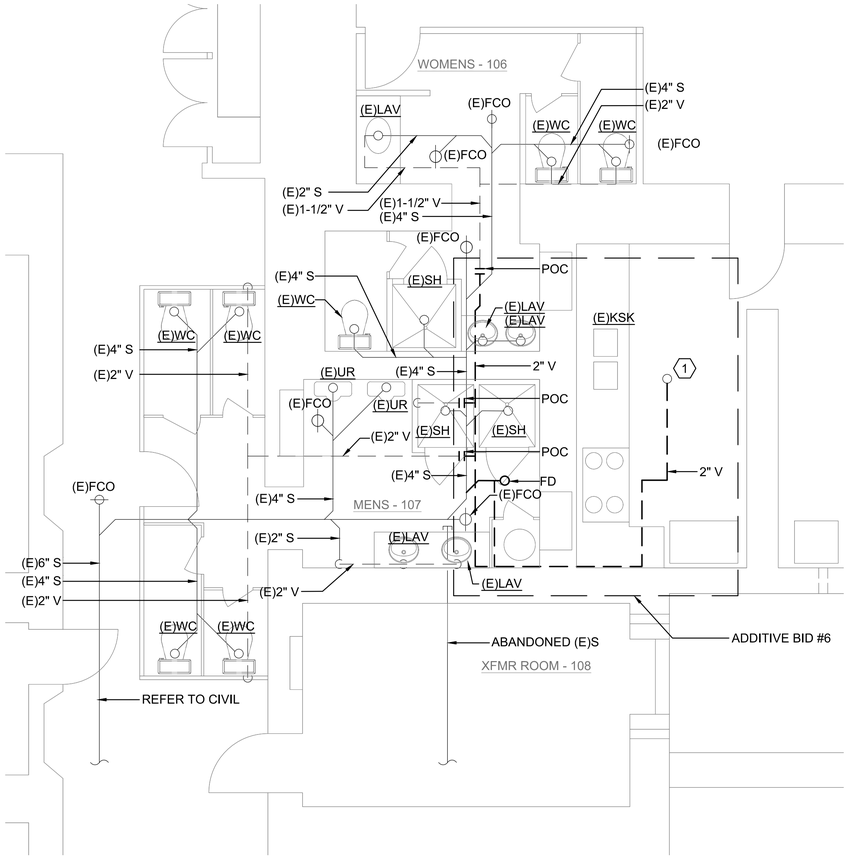
TRUE NORTH / PLAN NORTH

A1 / PB101 ENLARGED WASTE AND VENT FLOOR PLAN - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



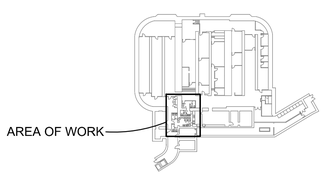
TRUE NORTH / PLAN NORTH

A3 / PB101 ENLARGED WASTE AND VENT FLOOR PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED WASTE AND VENT FLOOR PLANS

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 71 OF 123

PB101

DEMO KEYNOTES:

1. HATCHED PLUMBING ITEMS TO BE REMOVED UP TO POR.
2. REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL PATCHWORK NOTES.
3. DEMOLISH (E)EWH
4. DEMOLISH ALL (E)WC (TYP.7)

NEW KEYNOTES:

1. SEE PLUMBING DETAIL P7.
2. MANUAL CIRCUIT SETTER. BALANCE TO 0.33 GPM. INCLUDE FINAL SETTING AS PART OF TAB REPORT.

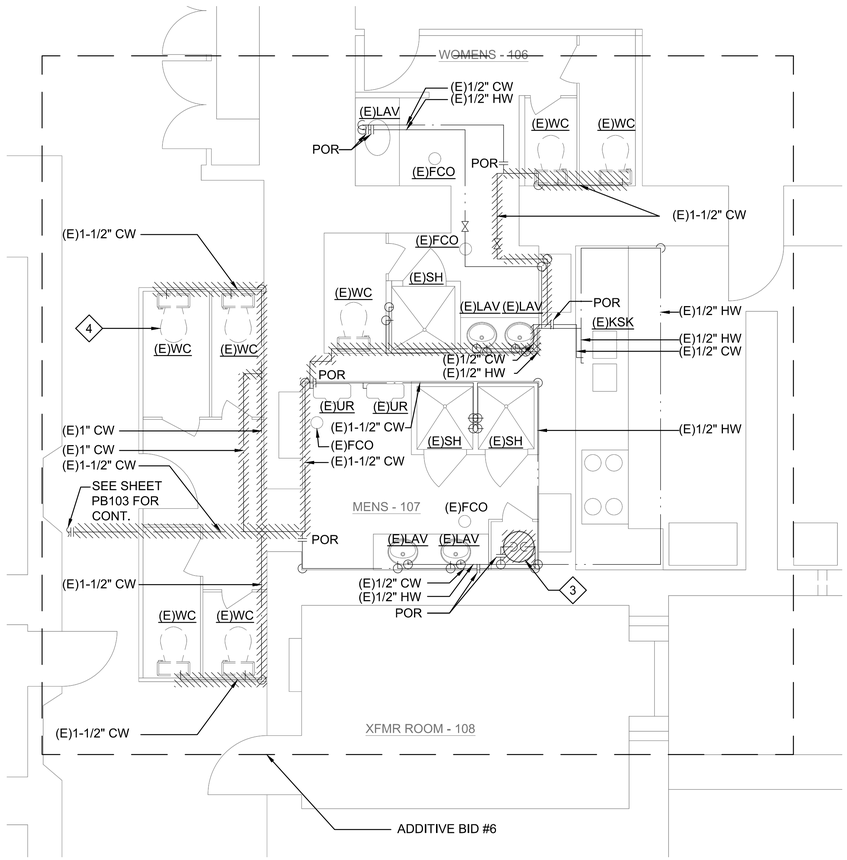
PHASING NOTES (PHASE 1 - INT. PLUMB):

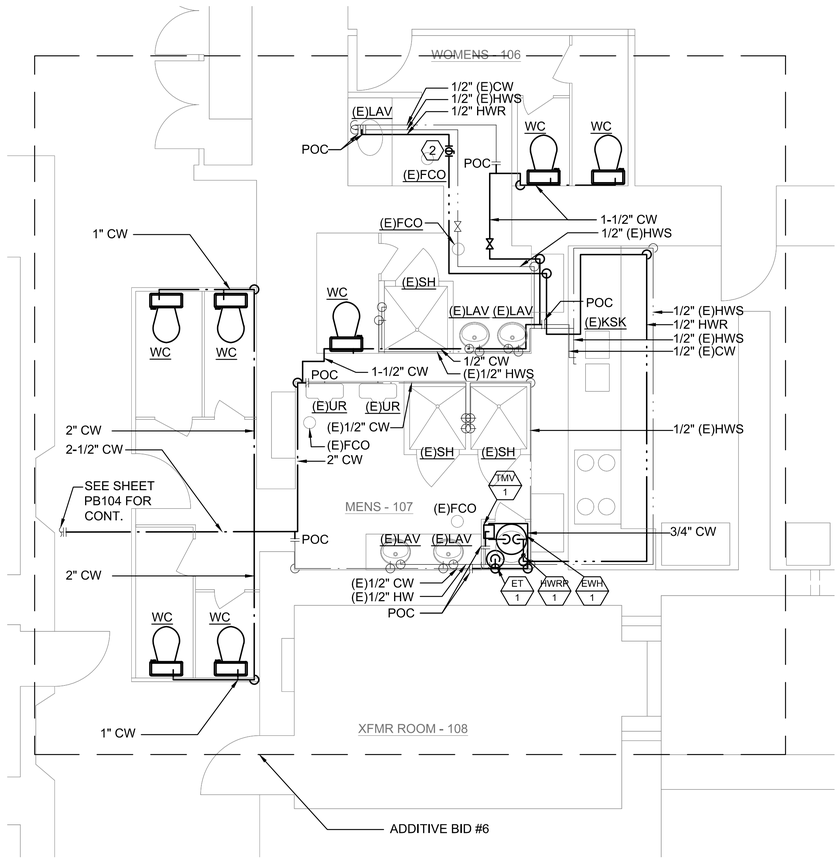
DEMOLITION:

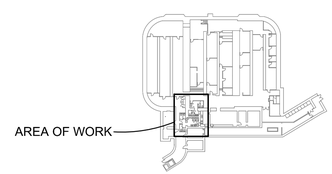
THREE WORKING SHIFTS.

NEW:

FIVE WORKING SHIFTS.







KEY PLAN

SCALE: NTS

TRUE NORTH / PLAN NORTH

A1 / PB102

ENLARGED DOMESTIC WATER FLOOR PLAN - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

TRUE NORTH / PLAN NORTH

A3 / PB102

ENLARGED DOMESTIC WATER FLOOR PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
5YR		

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH	FM	YH

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED DOMESTIC WATER FLOOR PLANS

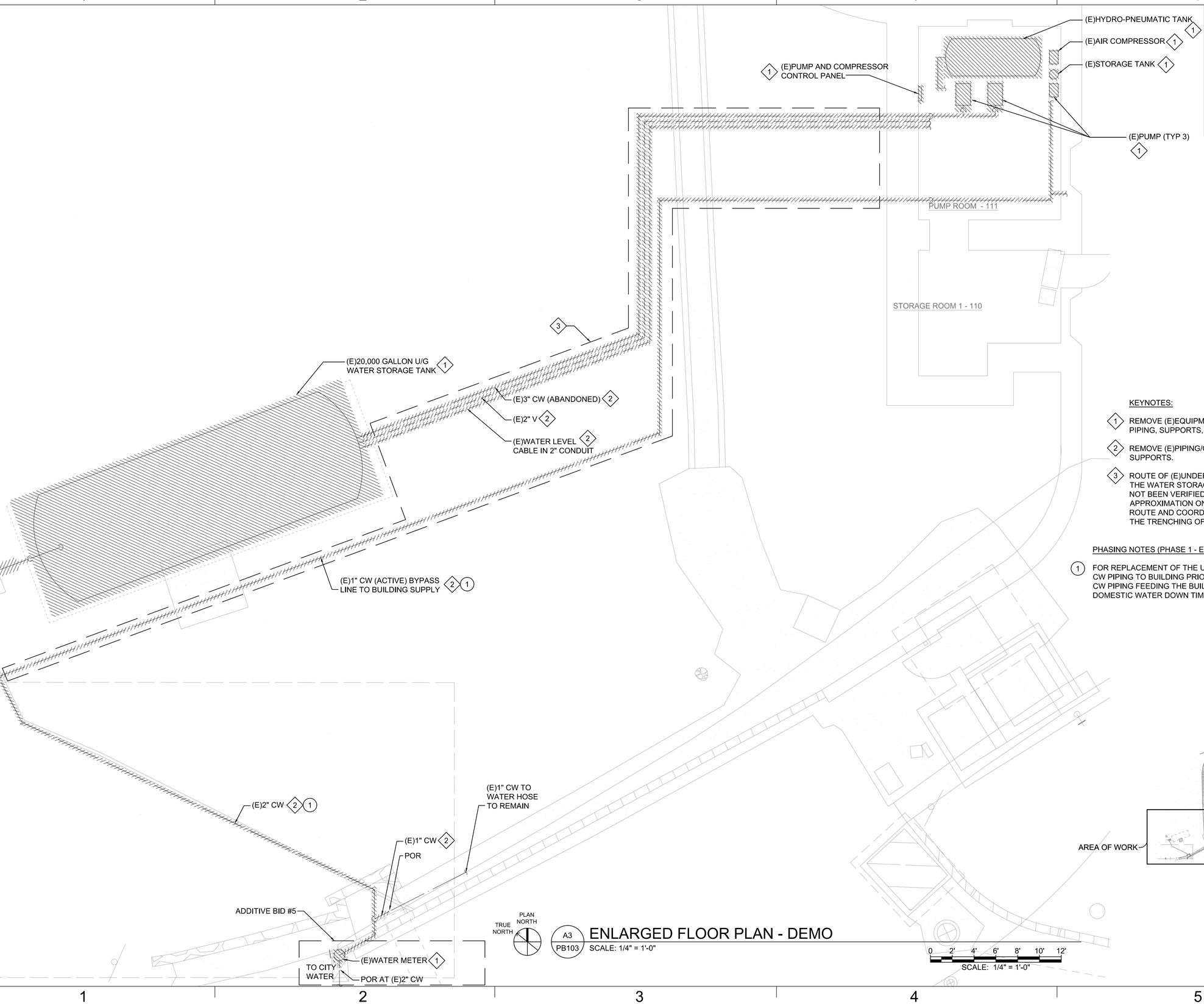
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 72 OF 123

PB102

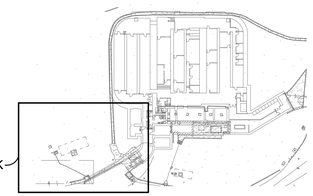


KEYNOTES:

1. REMOVE (E)EQUIPMENT AND ANY ASSOCIATED PIPING, SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE (E)PIPING/CONDUIT AND ANY ASSOCIATED SUPPORTS.
3. ROUTE OF (E)UNDERGROUND PIPING BETWEEN THE WATER STORAGE TANK AND BUILDING HAS NOT BEEN VERIFIED AND IS SHOWN FOR APPROXIMATION ONLY. CONTRACTOR TO CONFIRM ROUTE AND COORDINATE NEW PIPE ROUTE WITH THE TRENCHING OF THE EXISTING PIPE ROUTE.

PHASING NOTES (PHASE 1 - EXT. PLUMB); 15 WORKING SHIFTS:

1. FOR REPLACEMENT OF THE U/G WATER TANK, INSTALL NEW CW PIPING TO BUILDING PRIOR TO REMOVAL OF THE EXISTING CW PIPING FEEDING THE BUILDING IN ORDER TO MINIMIZE DOMESTIC WATER DOWN TIME.



KEY PLAN
SCALE: NTS

TRUE NORTH / PLAN NORTH

A3 / PB103 ENLARGED FLOOR PLAN - DEMO
SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.	DATE	DESCRIPTION	SYM

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

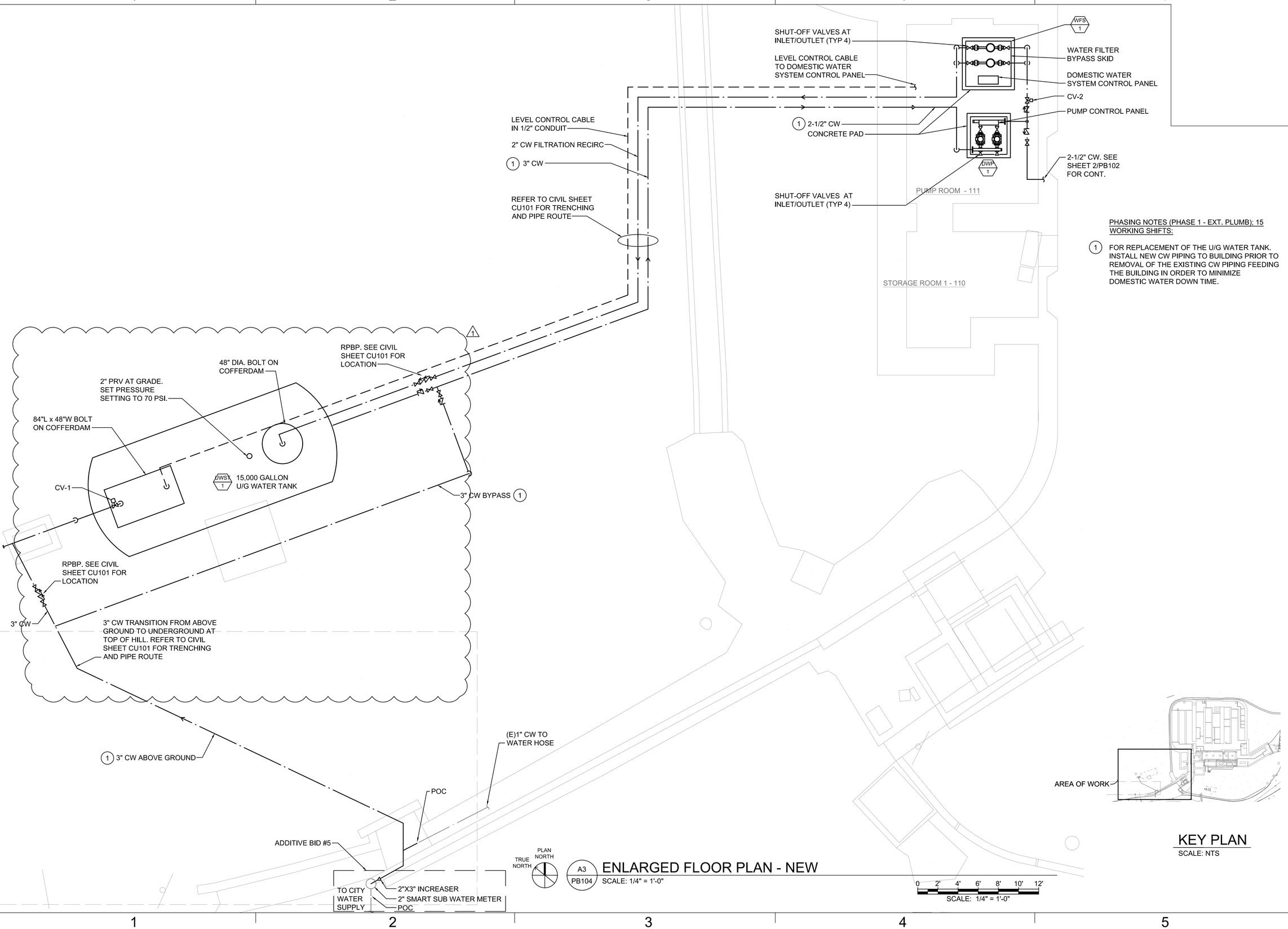
YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN - DEMO

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 73 OF 123
PB103



PHASING NOTES (PHASE 1 - EXT. PLUMB): 15 WORKING SHIFTS:

1 FOR REPLACEMENT OF THE U/G WATER TANK. INSTALL NEW CW PIPING TO BUILDING PRIOR TO REMOVAL OF THE EXISTING CW PIPING FEEDING THE BUILDING IN ORDER TO MINIMIZE DOMESTIC WATER DOWN TIME.

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

1	ADDENDUM 1	1/31/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
ENLARGED FLOOR PLAN - NEW

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 74 OF 123
PB104

PHASING NOTES (PHASE 1 - FUEL PLUMB); 15 WORKING SHIFTS: (1)

1. INSTALL TEMPORARY FUEL TANK (AST-3): 500 GALLONS, UL142, 86" L x 45" W x 51" H. SEE SHEET A2/PB401 FOR SEQUENCE OF INSTALLATION.
2. INSTALL TEMPORARY FUEL PUMP (FP-1): 15 GPM, 15 FT HEAD, 120V POWER. SEE SHEET A2/PB401 FOR SEQUENCE OF INSTALLATION.

GENERAL NOTES:

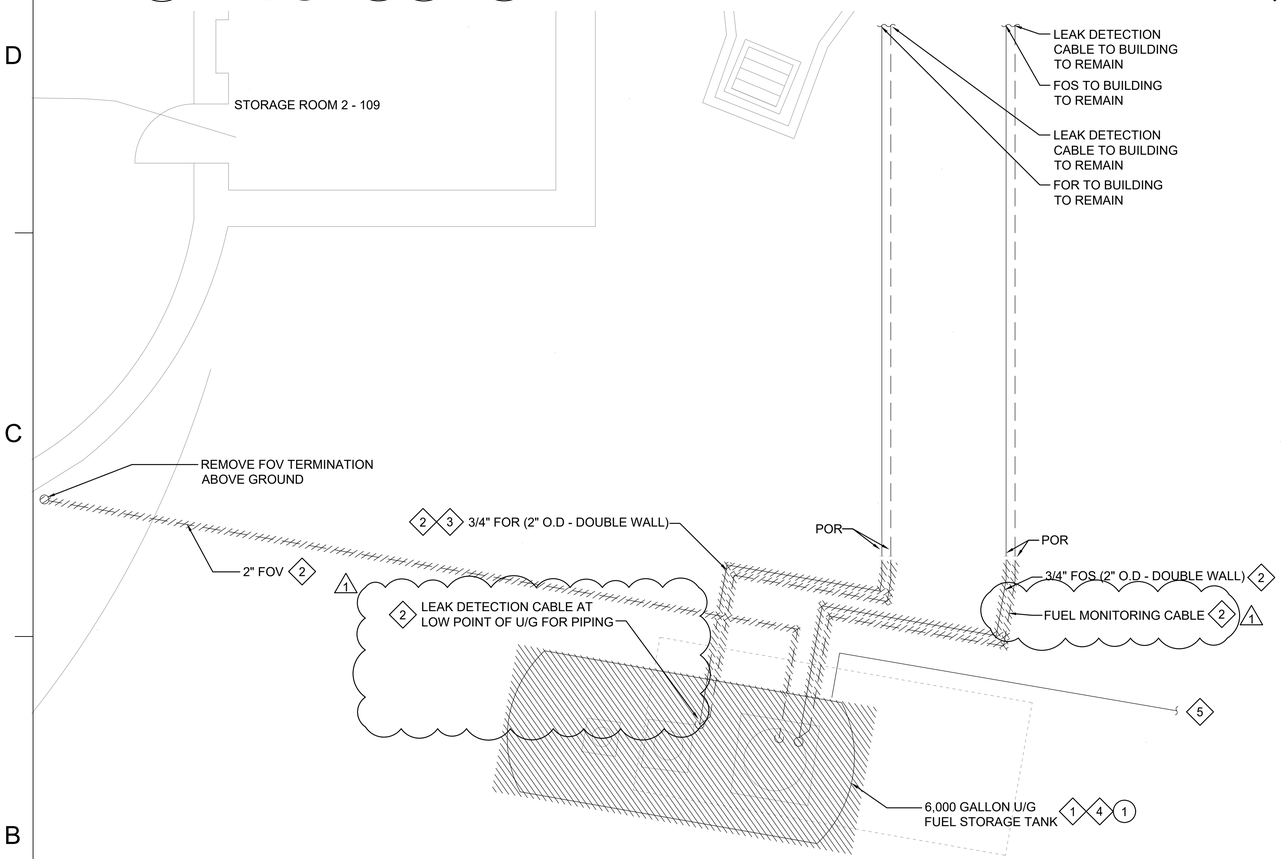
1. IF REMOVING, MULTI-INCREMENT SOIL SAMPLELINE SHALL BE PERFORMED. FOR PIPE RUNS OF 90 FEET OR LESS, ONE SOIL SAMPLE IS RECOMMENDED. PIPING EXTERIOR SHALL BE CLEANED AND INSPECTED FOR SIGNS OF CORROSION AND LEAKAGE.
2. ENSURE NO SPILLAGE OF THE PIPING CONTENTS OCCUR, NOTIFY FUEL RELEASE TO HDOH IMMEDIATELY AND CLEANUP.

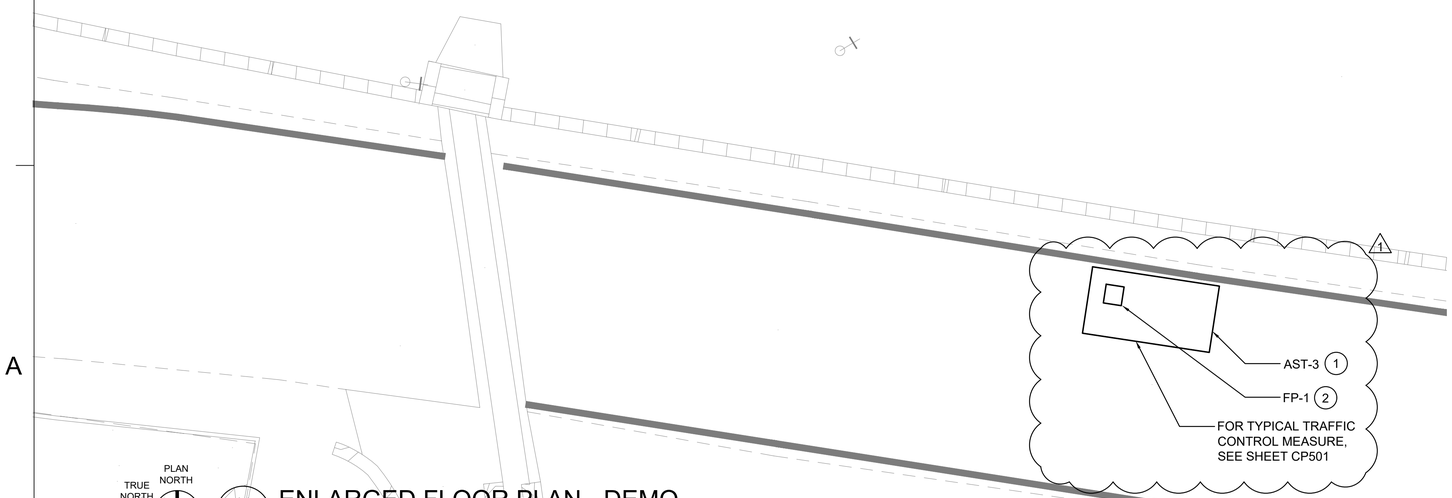
KEYED NOTES:

1. REMOVE EQUIPMENT AND ANY ASSOCIATED PIPING, SUPPORTS, CONTROLS, AND WIRING.
2. REMOVE PIPING/CONDUIT AND ANY ASSOCIATED SUPPORTS.
3. CONTRACTOR TO VERIFY PIPE SIZE.

KEYED NOTES CONT.:

4. RECOVER FUEL IN THE (E)U/G STORAGE TANK PRIOR TO REMOVAL. USE THE RECOVERED FUEL TO FILL THE NEW ABOVEGROUND FUEL STORAGE TANK.
5. (E)U/G PIPING FROM (E)FUEL TANK. CONTRACTOR TO VERIFY PIPE SIZE AND IF IT IS SERVING ANY ACTIVE EQUIPMENT. DEMO IF THE PIPING IS CONFIRMED TO BE ABANDONED.





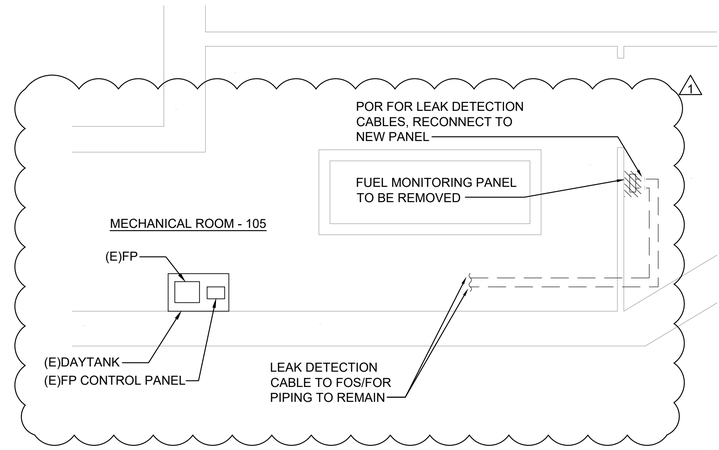
PLAN NORTH / TRUE NORTH

A1 / PB105 ENLARGED FLOOR PLAN - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



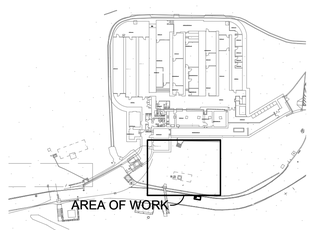
PLAN NORTH / TRUE NORTH

B4 / PB105 ENLARGED FLOOR PLAN - MECH ROOM - DEMO

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U S A

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

	DESCRIPTION	DATE	APPR.
3	ADDENDUM 1	JUY/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN - DEMO

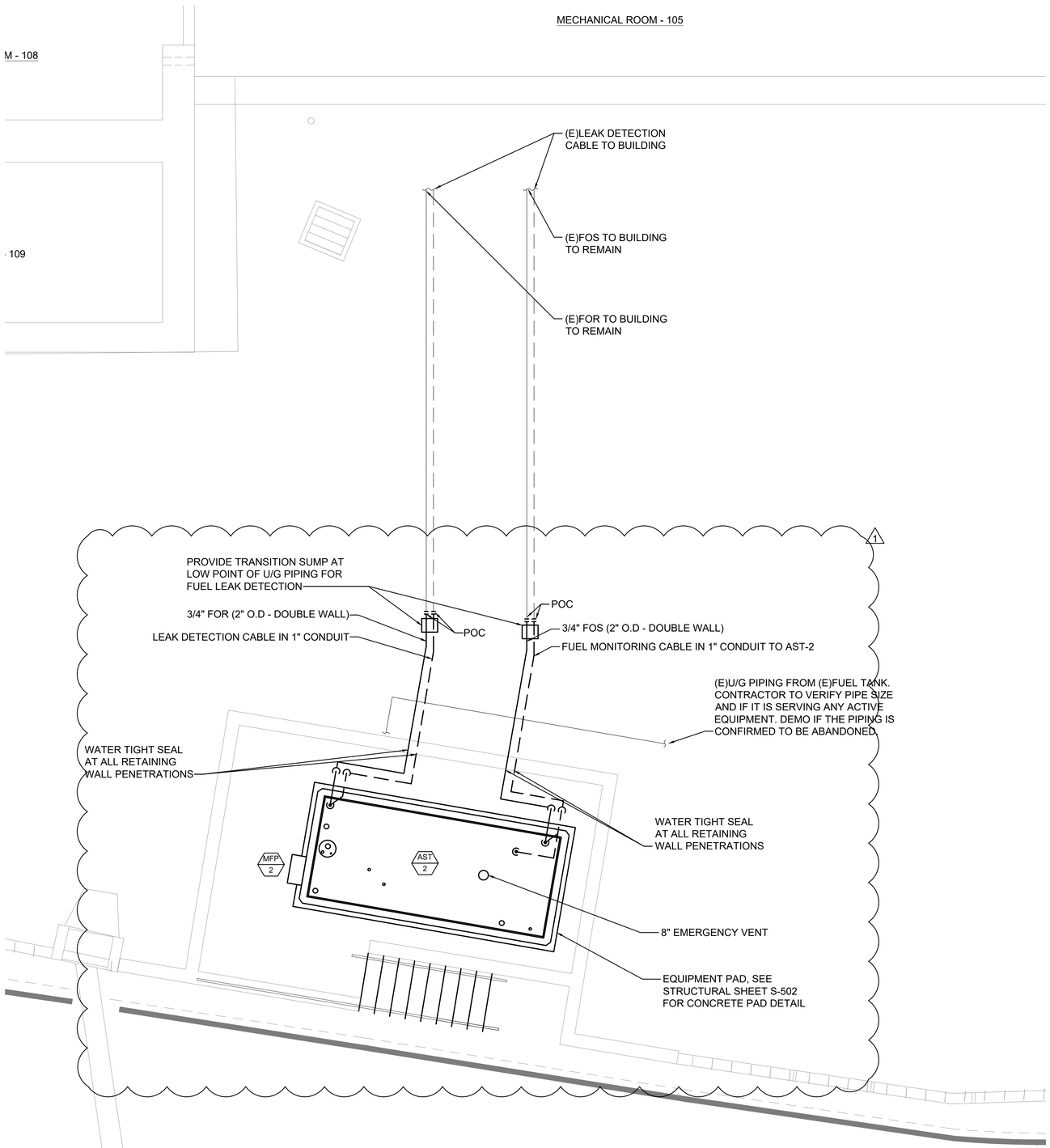
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 75 OF 123

PB105



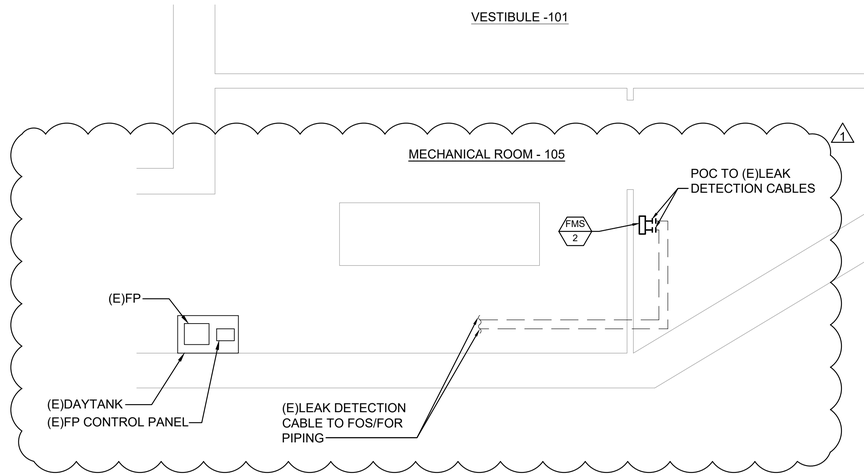
PLAN NORTH / TRUE NORTH

A1 / PB106 ENLARGED FLOOR PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



PLAN NORTH / TRUE NORTH

B4 / PB106 ENLARGED FLOOR PLAN - MECH ROOM - NEW

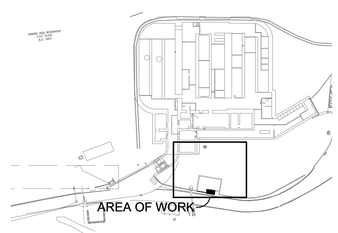
SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

PHASING NOTES (PHASE 1 - FUEL PLUMB); 15 WORKING SHIFTS:

(1) INSTALL NEW ABOVEGROUND FUEL TANK PRIOR TO THE REMOVAL OF THE EXISTING U/G FUEL TANK. NEW FUEL PIPING SHALL ALSO BE INSTALLED AS CLOSE AS POSSIBLE TO THE POC PRIOR TO THE REMOVAL OF EXISTING FUEL PIPING.



KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG LICENSED PROFESSIONAL ENGINEER No. 14297-M HAWAII U S A

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM 1	SYM	DESCRIPTION	DATE	APPR.
			1/21/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

YH | FM | YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED FLOOR PLAN - NEW

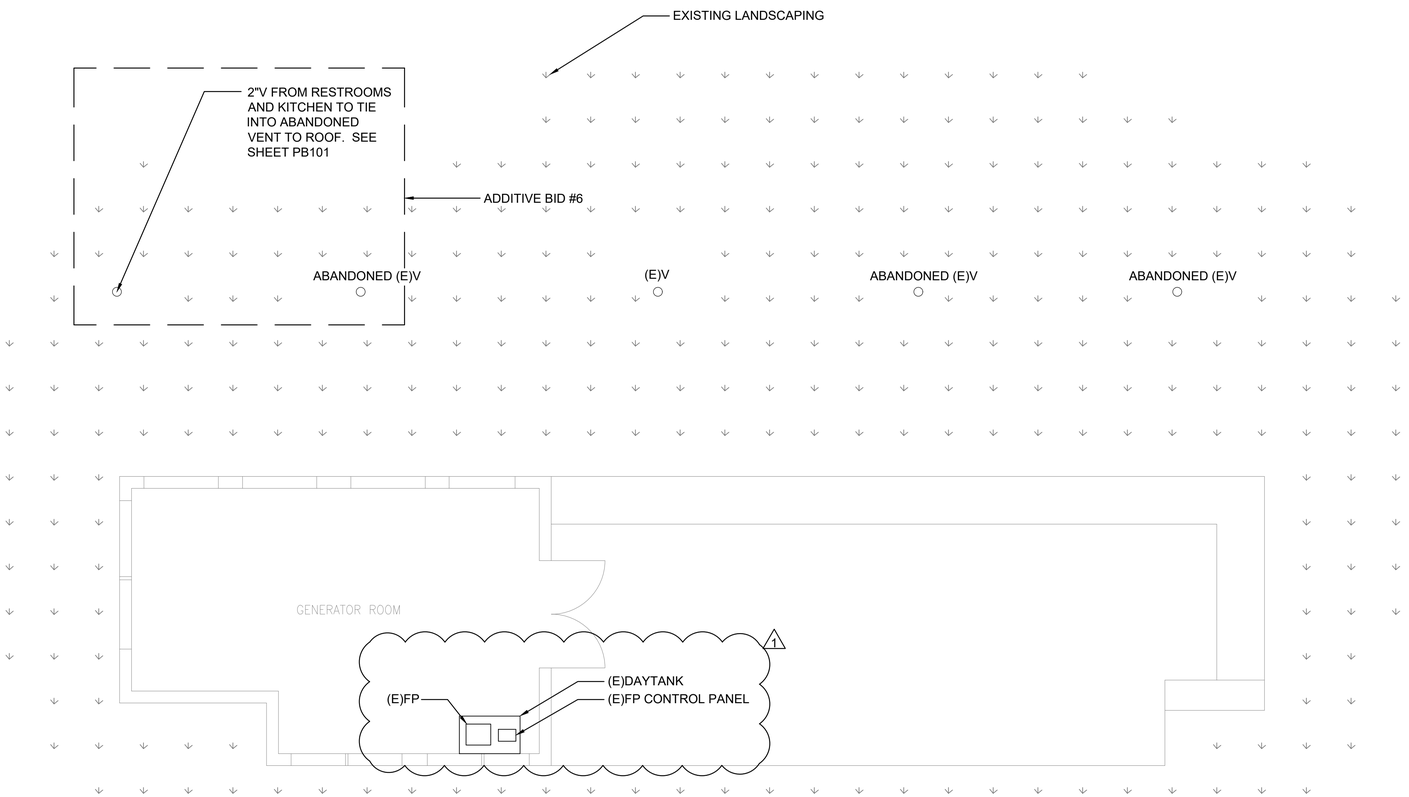
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 76 OF 123

PB106



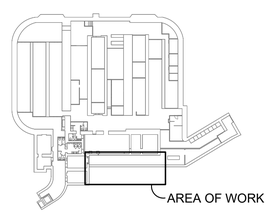
PLAN NORTH / TRUE NORTH

A1 / PB107 PLUMBING ROOF PLAN - NEW

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U S A

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

YH			APPR.
JJY/24			DATE
ADDENDUM 1			DESCRIPTION
1			SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

PLUMBING ROOF PLAN - NEW

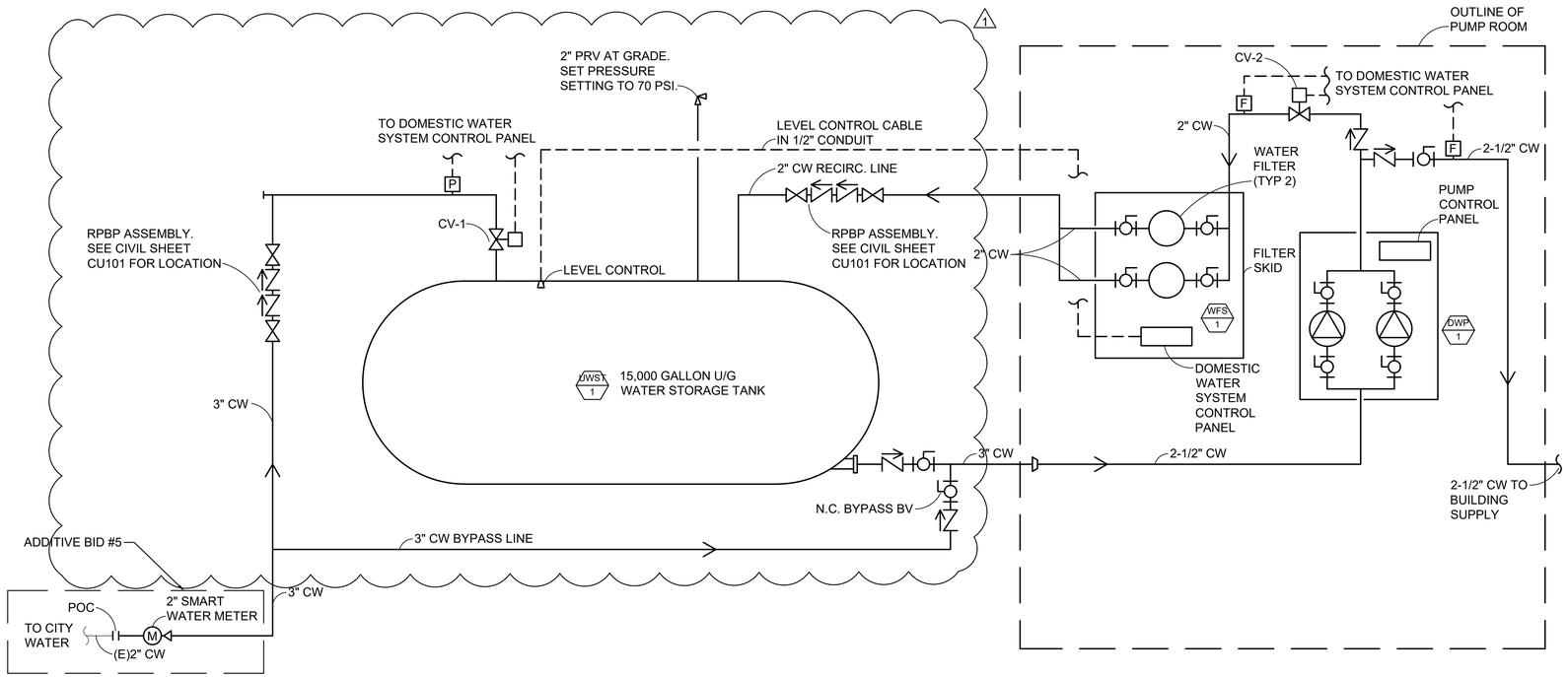
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 77 OF 123

PB107



C2 / PB401

DOMESTIC WATER STORAGE SYSTEM SCHEMATIC

SCALE: NOT TO SCALE

SEQUENCE OF OPERATIONS (UWST-1):

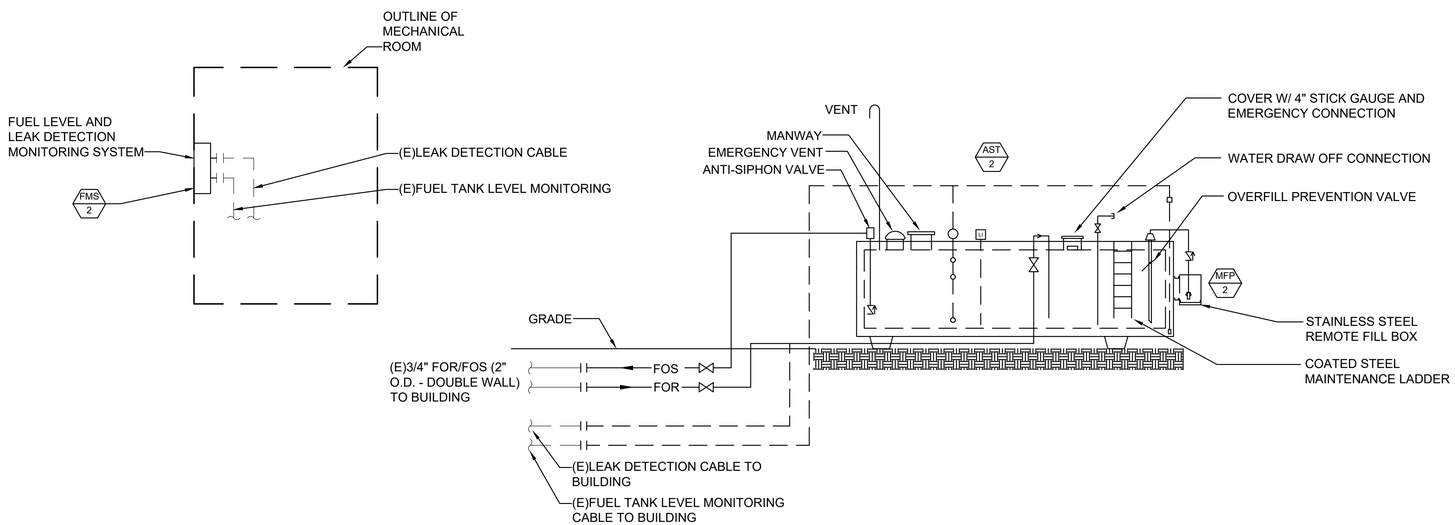
1. DOMESTIC COLD WATER FROM CITY SHALL FILL THE WATER STORAGE TANK (UWST-1) ON NORMAL OPERATION.
2. THE CONTROL VALVE (CV-1) SHALL INTERLOCK WITH THE DOMESTIC WATER CONTROL PANEL AND OPEN WHEN UWST-1 WATER LEVELS FALL BELOW 90% AND CLOSE WHEN WATER LEVELS ARE ABOVE 95%.
3. THE NORMALLY CLOSED VALVE ON THE BYPASS WATER LINE SHALL BE OPENED IN THE EVENT UWST-1, WFS-1, OR DWP-1 IS DOWN FOR MAINTENANCE.

SEQUENCE OF OPERATIONS (WFS-1):

1. THE WATER FILTRATION SKID (WFS-1) SHALL RE-CIRCULATE WATER BACK TO UWST-1 SO THAT THE TOTAL AMOUNT OF FRESH AND RE-CIRCULATED WATER INTO UWST-1 IS EQUAL TO 15,000 GALLONS OVER A 5 DAY PERIOD.
2. INTERLOCK CV-2 WITH THE DOMESTIC WATER CONTROL PANEL. CV-2 SHALL OPEN EVERY 5 DAYS, DURING NON-BUSINESS HOURS TO RE-CIRCULATE WATER BACK INTO UWST-1. CV-2 SHALL CLOSE WHEN THE RE-CIRCULATION IS COMPLETE.
3. THE AMOUNT OF WATER RE-CIRCULATED BACK INTO UWST-1 SHALL BE THE DIFFERENCE OF UWST-1 TOTAL CAPACITY (15,000 GALLONS) MINUS THE TOTAL AMOUNT OF WATER USED BY THE BUILDING OVER THE 5 DAY SPAN.

SEQUENCE OF OPERATIONS (DWP-1):

1. DOMESTIC WATER BOOSTER PUMP CONTROL PANEL SHALL BE EQUIPPED WITH A PACKAGED MICROPROCESSOR BASED STAND-ALONE PUMP CONTROL PANEL WHICH SHALL OPERATE THE PUMPS BASED ON THE PRESSURE SET POINT (ADJUSTABLE VIA CONTROL PANEL).
2. PUMP SKID SHALL BE PROVIDED WITH ONE (1) LEAD PUMP AND ONE (1) BACKUP PUMP. THE LAG PUMP SHALL BE 100% REDUNDANT.
3. THE LEAD AND LAG PUMP SHALL ALTERNATE EVERY DAY.
4. PRESSURE SET POINT OF 45 PSI.



A2 / PB401

POL SYSTEM PIPING SCHEMATIC

SCALE: NOT TO SCALE

SEQUENCE OF OPERATION (AST-2):

1. AST-2 SHALL FOLLOW THE EXISTING PRE-PROGRAMMED SEQUENCE OF OPERATION FROM THE (E)FP CONTROL PANELS AT BOTH THE 200KW AND 300KW GENERATORS WITHIN THE BIRKHIMER BUILDING.

SEQUENCE OF INSTALLATION (AST-3/FP-1):

1. THE TEMPORARY FUEL TANK (AST-3) SHALL BE PROVIDED WITH A TEMPORARY FUEL PUMP (FP-1).
2. THE TEMPORARY FUEL PUMP (FP-1) SHALL BE PROVIDED WITH DRY CONTACT CONNECTIONS FROM THE (E)FP CONTROL PANELS AT BOTH THE 200KW AND 300KW GENERATORS PRIOR TO THE INSTALLATION OF AST-3. SEE SHEETS PB105 AND PB107 FOR LOCATION OF (E)FP CONTROL PANELS.
3. FP-1 SHALL RUN WHEN EITHER OF THE (E)FPs AT THE 200KW OR 300KW GENERATOR IS RUNNING.
4. FP-1 SHALL REMAIN OFF WHEN BOTH OF THE (E)FPs AT THE 200KW AND 300KW GENERATORS ARE OFF.
5. PRIOR TO THE INSTALLATION OF THE PERMANENT AST-2, REMOVE ALL DRY CONTACT CONNECTIONS BETWEEN THE TEMPORARY FP-1 AND THE (E)FP CONTROL PANELS AT THE 200KW AND 300KW GENERATORS.

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

ADDENDUM 1	SYM	DESCRIPTION	DATE	APPR.
			JUY/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
YH | FM | YH

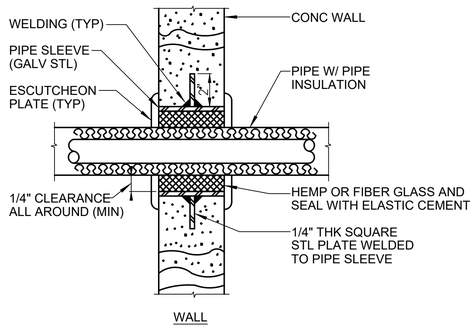
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

WATER STORAGE SYSTEM SCHEMATIC

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 78 OF 123

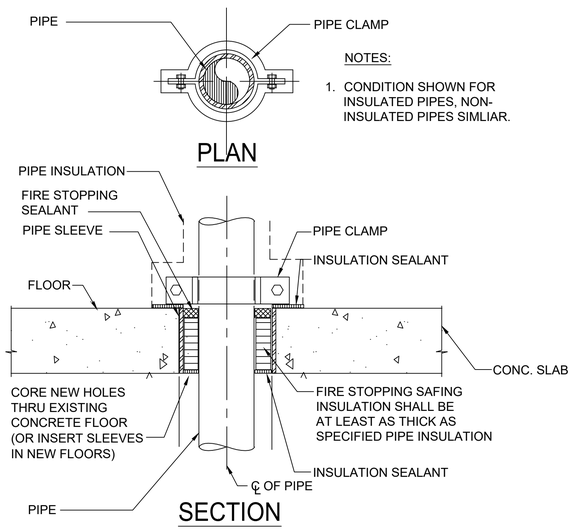
PB401



C1 / PB501

PIPE PENETRATION DETAIL (NON-FIRE RATED)

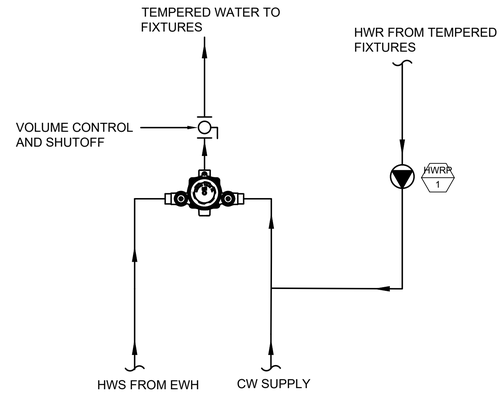
SCALE: NOT TO SCALE



B1 / PB501

PIPE PENETRATION THRU FLOOR

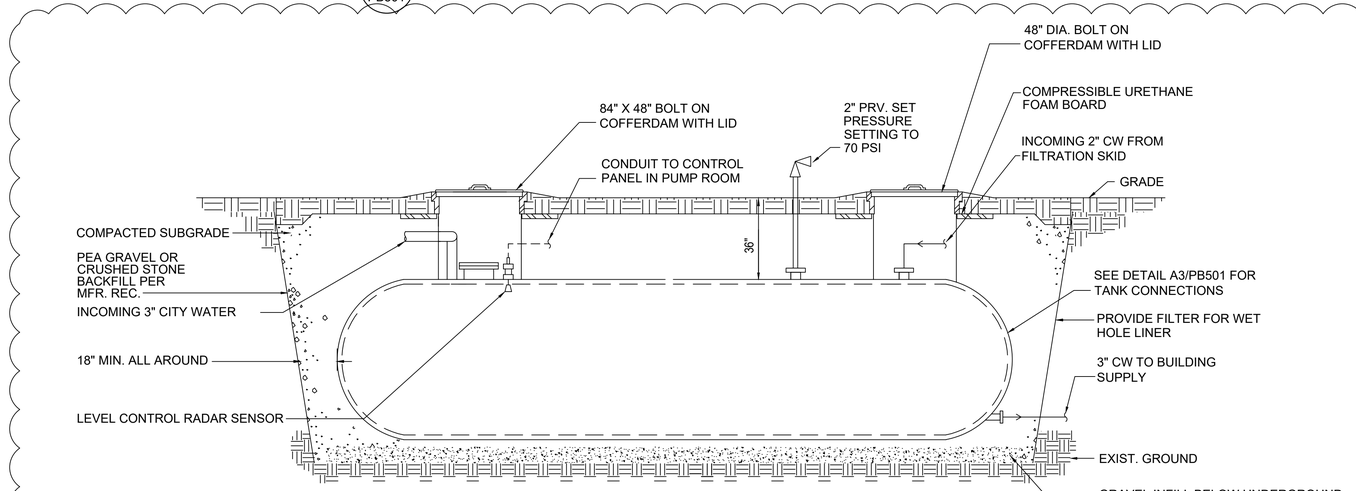
SCALE: NOT TO SCALE



C3 / PB501

THERMOSTATIC MIXING VALVE

SCALE: NOT TO SCALE

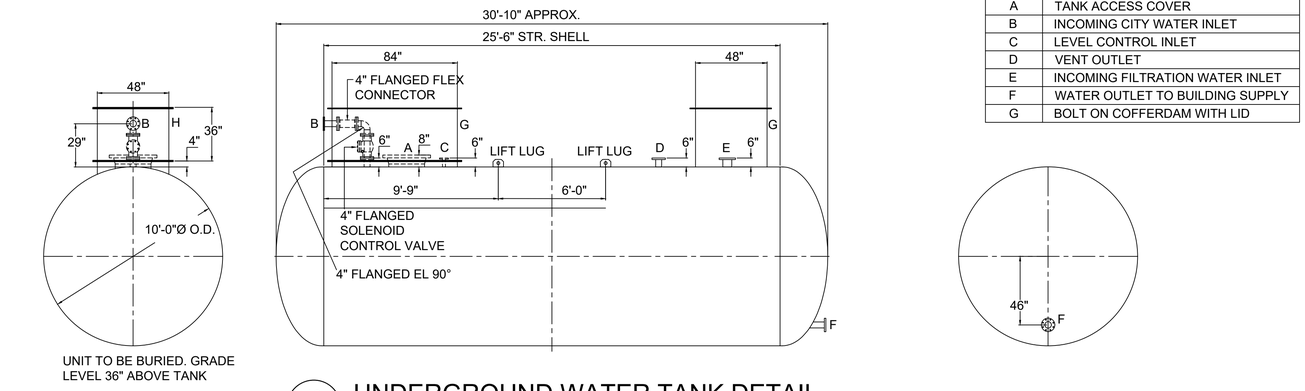


B3 / PB501

UNDERGROUND WATER TANK INSTALLATION DETAIL

SCALE: NOT TO SCALE

WATER TANK LEGEND	
MARK	DESCRIPTION
A	TANK ACCESS COVER
B	INCOMING CITY WATER INLET
C	LEVEL CONTROL INLET
D	VENT OUTLET
E	INCOMING FILTRATION WATER INLET
F	WATER OUTLET TO BUILDING SUPPLY
G	BOLT ON COFFERDAM WITH LID



UNIT TO BE BURIED. GRADE LEVEL 36" ABOVE TANK

A3 / PB501

UNDERGROUND WATER TANK DETAIL

SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2024 EXPIRATION DATE

ADDENDUM 1						
SYM	DESCRIPTION	DATE	APPR.
1		JUN/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

YH	FM	YH

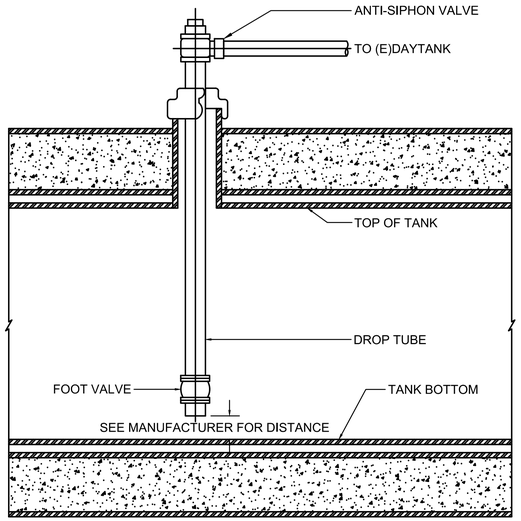
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96815
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

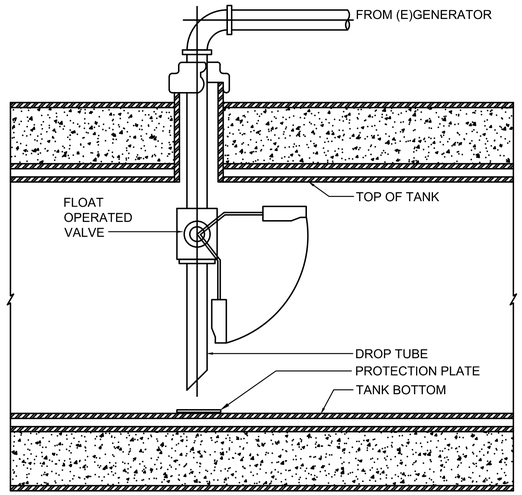
PLUMBING DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 79 OF 123

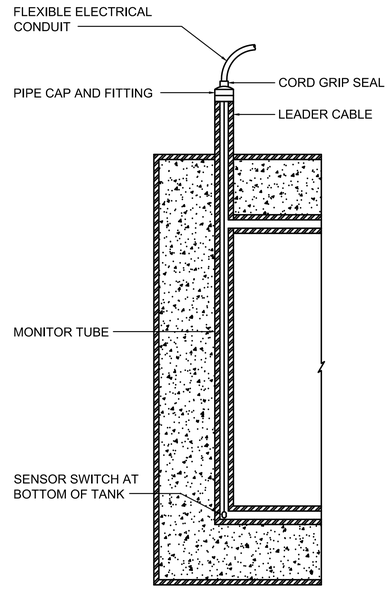
PB501



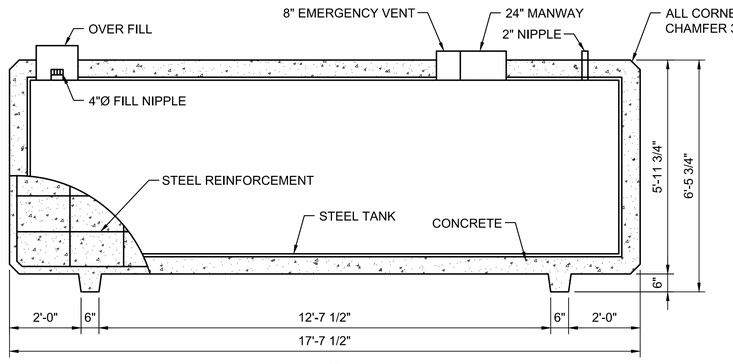
C1 PB502 **AST FUEL SUCTION LINE**
SCALE: NOT TO SCALE



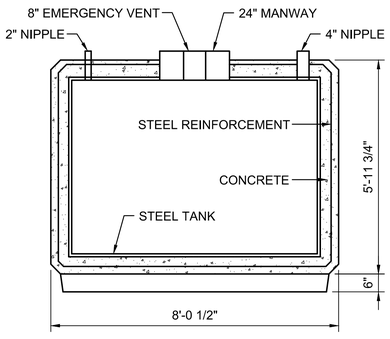
C2 PB502 **AST FUEL FILL LINE**
SCALE: NOT TO SCALE



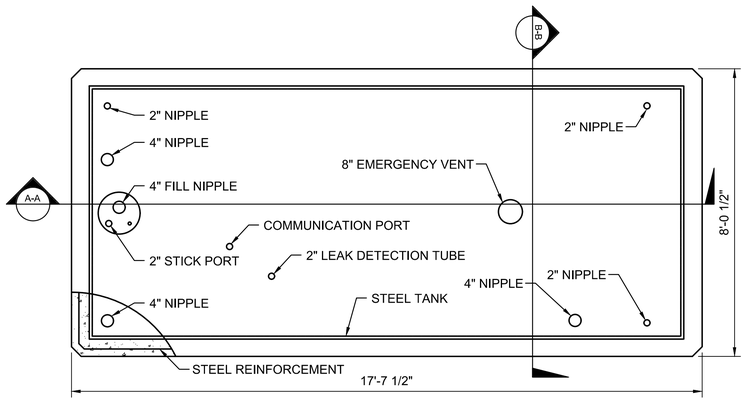
C3 PB502 **FUEL STORAGE TANK INTERSTITIAL LEAK DETECTOR TUBE DETAIL**
SCALE: NOT TO SCALE



SECTION A-A



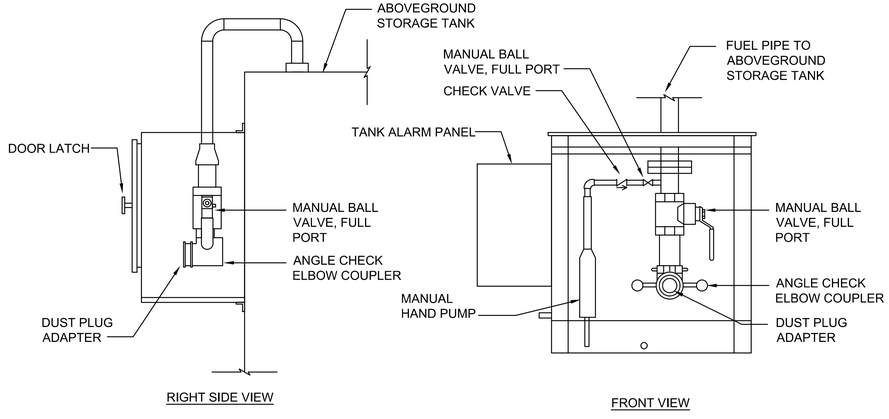
SECTION B-B



PLAN VIEW

A1 PB502 **ABOVEGROUND STORAGE TANK DETAIL**
SCALE: 1/2" = 1'-0"

0 6" 1' 2' 4' 6'
SCALE: 1/2" = 1'-0"



A4 PB502 **MANUAL FUEL PORT W/ TANK ALARM PANEL**
SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
3YM		

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

PLUMBING DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 80 OF 123

PB502

ELECTRIC WATER HEATER SCHEDULE

MARK	LOCATION	AREA SERVED	RECOVERY RATE	TANK STORAGE (GAL)	E-POWER (Y/N)	ELECTRICAL				MAXIMUM DIAMETER (IN)	QTY	REMARKS
						INPUT (KW)	VOLTS	PH	HZ			
EWH-1	WATER HEATER CLOSET	KITCHEN, MENS AND WOMENS RESTROOMS	21GPH @ 90F RISE	50	NO	4.5	240	1	60	20.25	1	PROVIDE DRAIN PAN WITH DRAINPIPE ROUTED TO NEAREST FLOOR DRAIN

HOT WATER RECIRCULATION PUMP SCHEDULE

MARK	LOCATION	SERVED	FLOW RATE (GPM)	HEAD (FT)	E-POWER (Y/N)	ELECTRICAL					QTY	REMARKS
						V	PH	HZ	WATTS	AMPS		
HWRP-1	MEN'S AND WOMEN'S RESTROOM AND KITCHEN	EWH-1	1.25	2.3	NO	115	1	60	25	0.22	1	PROVIDE WITH AQUASTAT AND TIMER.

WATER HEATER EXPANSION TANK SCHEDULE

UNIT	LOCATION	SYSTEM SERVE	TYPE	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	MAX WORKING PRESSURE (PSI)	DIAMETER (IN)	HEIGHT (IN)	OPER. WEIGHT (IN)	NOTES
ET-1	WATER HEATER CLOSET	DOMESTIC HOT WATER SYSTEM	BLADDER TYPE	4.5	2.5	100	11	15.5	10	IN-LINE TANK

THERMOSTATIC MIXING VALVE SCHEDULE

UNIT	BUILDING	LOCATION	MAX OPERATING PRESSURE (PSI)	MAX OUTLET TEMP (°S)	HOT WATER INLET TEMP (°F)	OUTLET TEMP SETPOINT (°F)	INLET, OUTLET SIZE (IN)
TMV	BIRKHIMER	WATER HEATER CLOSET	125	140	140	110	3/4", 1"

WATER FILTRATION SKID SCHEDULE

UNIT	SYSTEM SERVE	FLOW (GPM)	DESCRIPTION	E-POWER (Y/N)	ELECTRICAL		
					V	P	HZ
WFS-1	DOMESTIC WATER; UWST-1	68	FILTRATION UNITS IN PARALLEL OPERATION. PROVIDE WITH DOMESTIC WATER SYSTEM CONTROL PANEL ON THE SKID FOR MONITORING OF UWST-1.	YES	120	1	60

UNDERGROUND WATER STORAGE TANK SCHEDULE

UNIT	SYSTEM SERVE	TYPE	TANK VOLUME (GAL)	DIAMETER	LENGTH	MAX OPERATING PRESSURE (PSI)	REMARKS
UWST-1	DOMESTIC WATER SYSTEM	UNDERGROUND, HORIZONTAL	15,000	10'-0"	30'-10"	60	PROVIDE WITH (2) BOLT ON COFFERDAM; 84"L x 48"W AND 48" DIA.

DOMESTIC WATER BOOSTER PUMP SCHEDULE

MARK	LOCATION	AREA SERVED	TYPE	FLOW (GPM)	HEAD (FT)	# OF PUMPS	ELECTRICAL						REMARKS
							V	PH	HZ	HP (PER PUMP)	FLA (PANEL)	MCA (PANEL)	
DWP-1	ROOM 10 - PUMP ROOM	BUILDING DOMESTIC WATER	VERTICAL MULTISTAGE CENTRIFUGAL	68	112	2	208	3	60	3	23.2	25.9	DUPLEX PUMP SET WITH VFD

ABOVEGROUND FUEL STORAGE TANK SCHEDULE

UNIT	SYSTEM SERVE	TYPE	FUEL TYPE	TANK VOLUME (GAL)	DIMENSIONS			OPER. WEIGHT (LBS)
					LENGTH	WIDTH	HEIGHT	
AST-2	GENERATOR FUEL	ABOVEGROUND, HORIZONTAL	DIESEL	6,000	17'-7"	8'-0"	8'-9"	101,600

PLUMBING FIXTURE SCHEDULE

FIXTURE	SYMBOL	QUANTITY	WASTE	VENT	COLD WATER	HOT WATER	ELECTRICAL POWER	REMARKS
WATER CLOSET	WC	7	4"	2"	1"	---	---	WHITE, LOW FLOW TYPE (1.28 GAL/FLUSH), FLOOR MOUNTED FLOOR OUTLET, SIPHON JET, MANUAL FLUSH VALVE, TOP INLET SPUD, ELONGATED BOWL.

CONTROL VALVE SCHEDULE

VALVE NO.	EQUIPMENT	MAX FLOW (GPM)	MAX PRESSURE DROP (FT HEAD)	PIPE SIZE (IN)	VALVE SIZE (IN)	VALVE Cv AT FULL FLOW	VALVE TYPE	CONFIG.	ACTION	NORMAL POSITION	E-POWER (Y/N)	ELECTRICAL
												V/P/HZ
CV-1	UWST-1	140	9.8	2-1/2"	2-1/2"	68	GLOBE	2-WAY	SOLENOID	CLOSE	YES	120/1/60
CV-2	WFS-1	100	4.8	2"	2"	47	GLOBE	2-WAY	SOLENOID	CLOSE	YES	120/1/60

FUEL MONITORING SYSTEM SCHEDULE

UNIT	SYSTEM SERVE	FUEL TYPE	DESCRIPTION	E-POWER (Y/N)	ELECTRICAL			
					V	P	HZ	AMPS
FMS-2	MFP-2; AST-2	DIESEL	PROVIDE WITH CONNECTIONS FOR FUEL PIPING LEAK DETECTION CABLES AND FUEL TANK LEVEL MONITORING CABLE.	YES	120	1	60	10

MANUAL FUEL PORT SCHEDULE

UNIT	SYSTEM SERVE	FUEL TYPE	DESCRIPTION	E-POWER (Y/N)	ELECTRICAL			
					V	P	HZ	AMPS
MFP-2	AST-2	DIESEL	MANUAL FILL SYSTEM FOR ABOVEGROUND STORAGE TANK WITH EXTERIOR CONNECTION FOR FUEL TRUCK. PROVIDE WITH TANK LEVEL MONITOR AND INTERNAL OVERFLOW ALARM. CONTROLS IN NEMA 4X ENCLOSURE.	YES	120	1	60	10

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

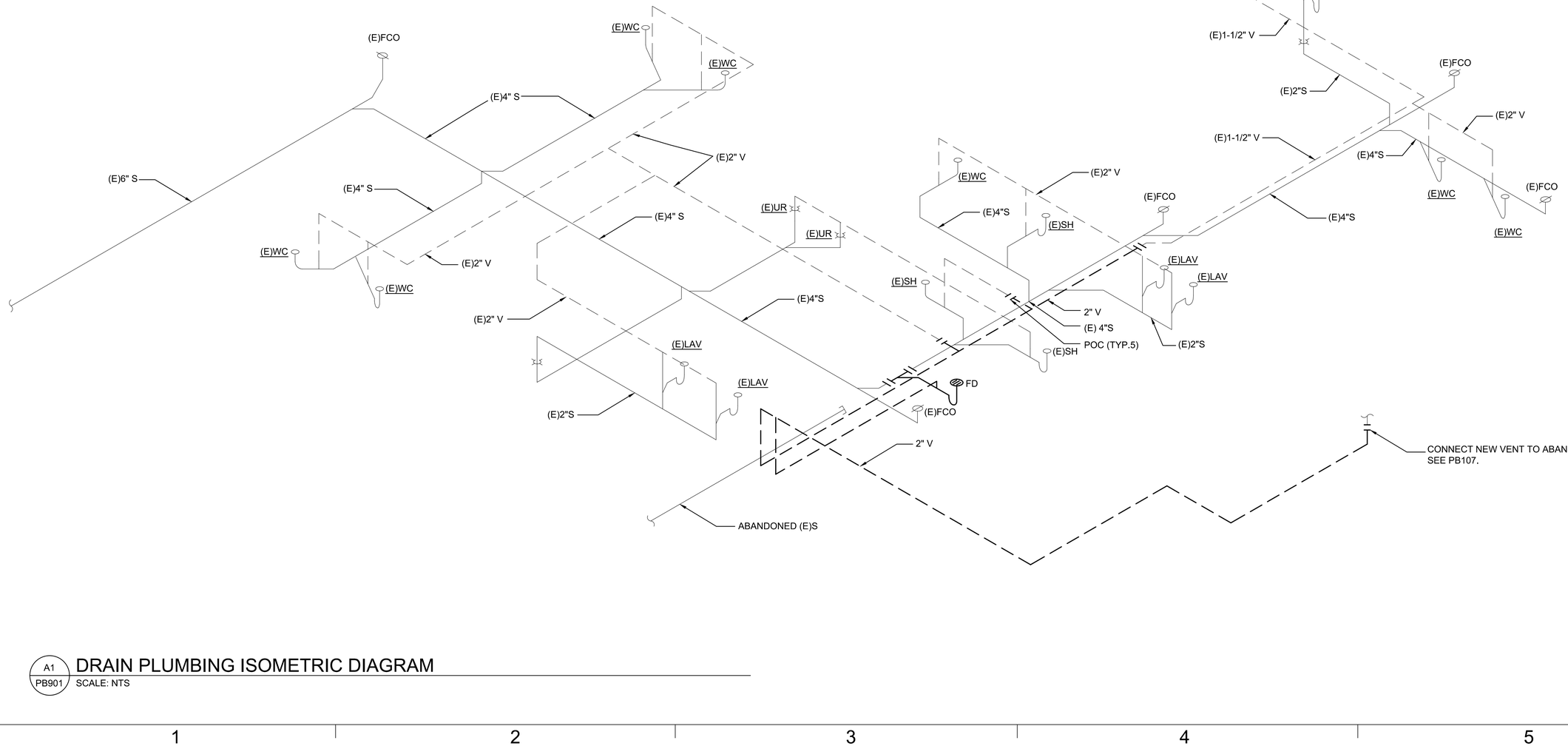
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
ADDENDUM 1	1/21/24	YH

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PLUMBING SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 81 OF 123
PB601



A1
PB901

DRAIN PLUMBING ISOMETRIC DIAGRAM

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.
1			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

DRAIN PLUMBING ISOMETRIC DIAGRAM

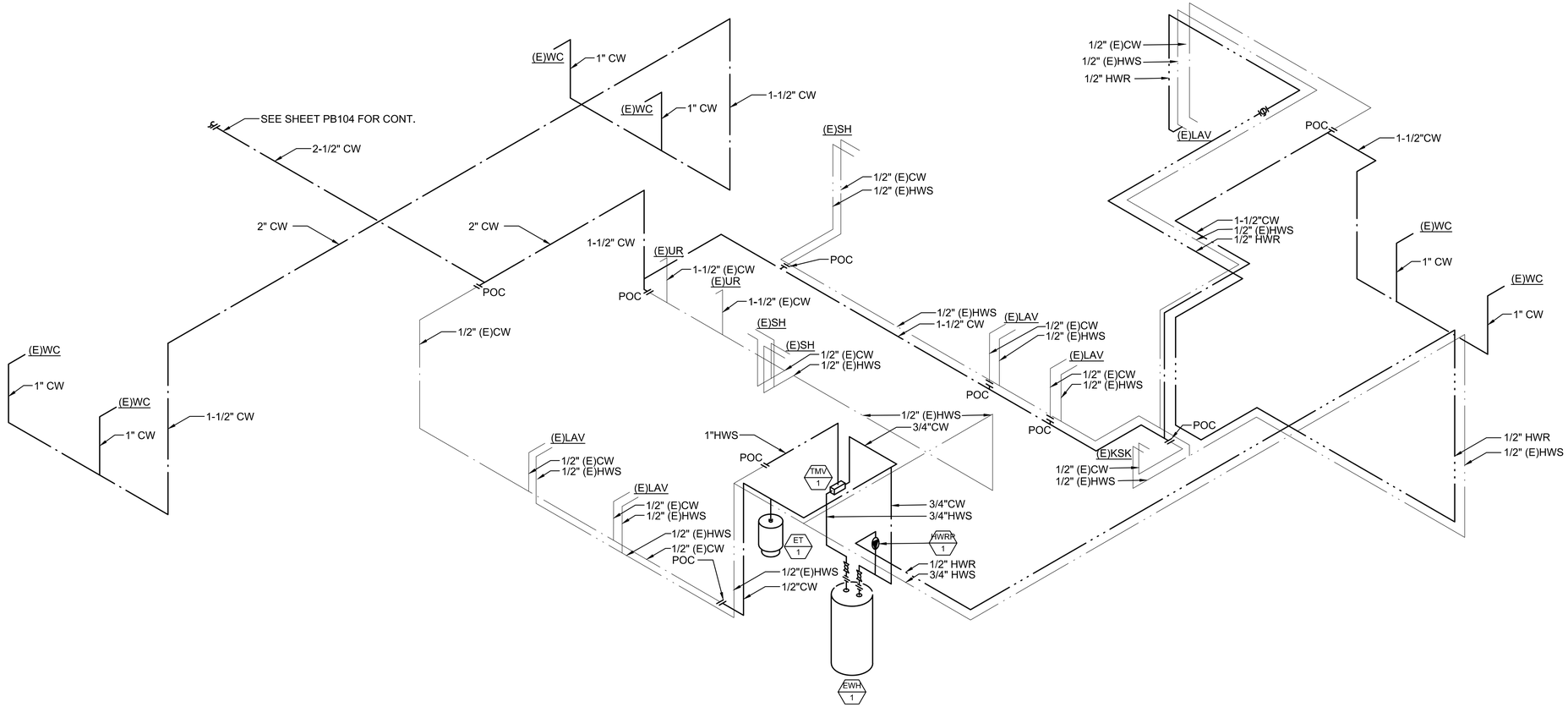
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 82 OF 123

PB901



A1
PB902

DOMESTIC ISOMETRIC DIAGRAM

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.	DATE	DESCRIPTION	SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

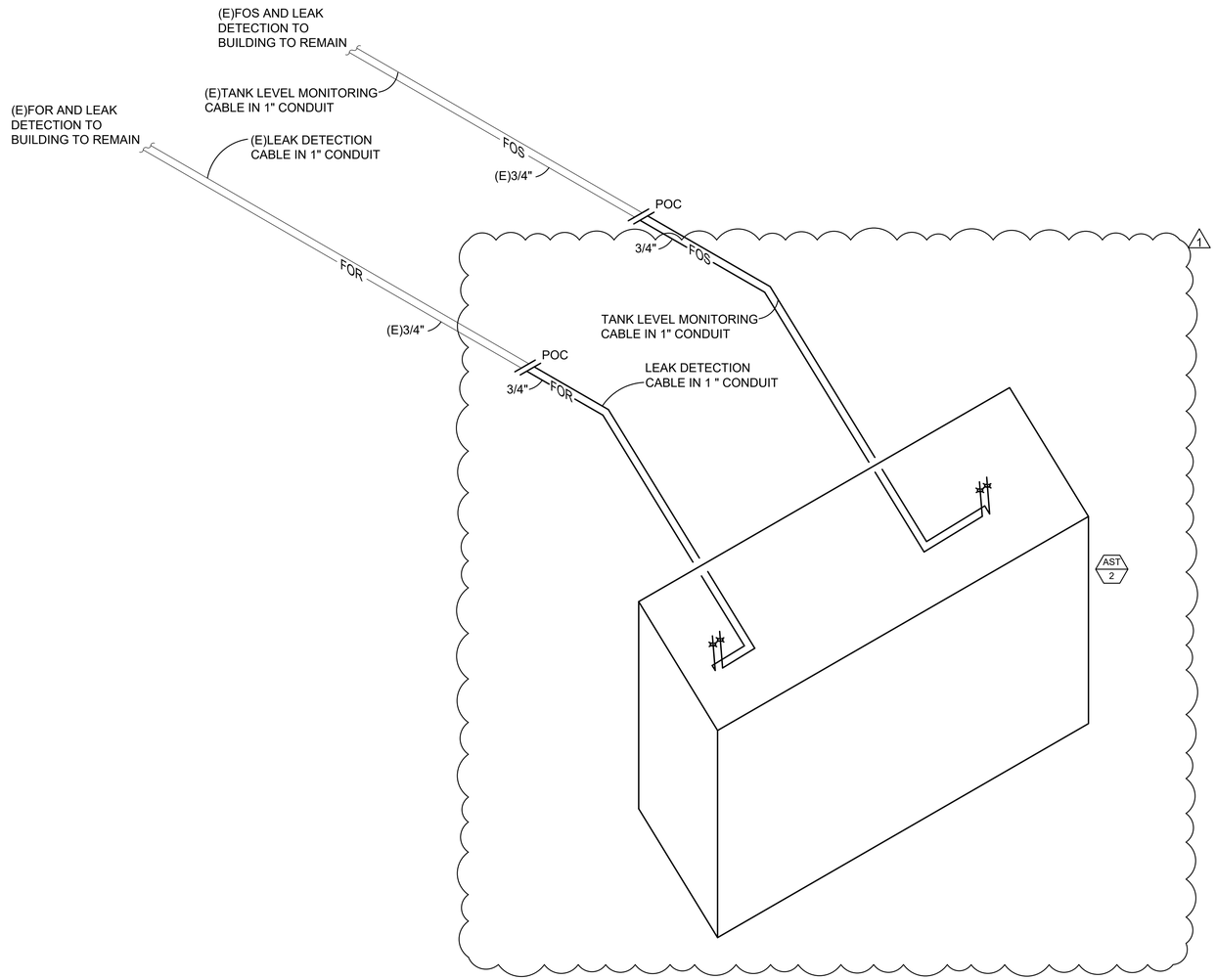
STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96815
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

DOMESTIC ISOMETRIC DIAGRAM

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 83 OF 123

PB902



A2
PB903

FUEL ISOMETRIC DIAGRAM

SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U S A

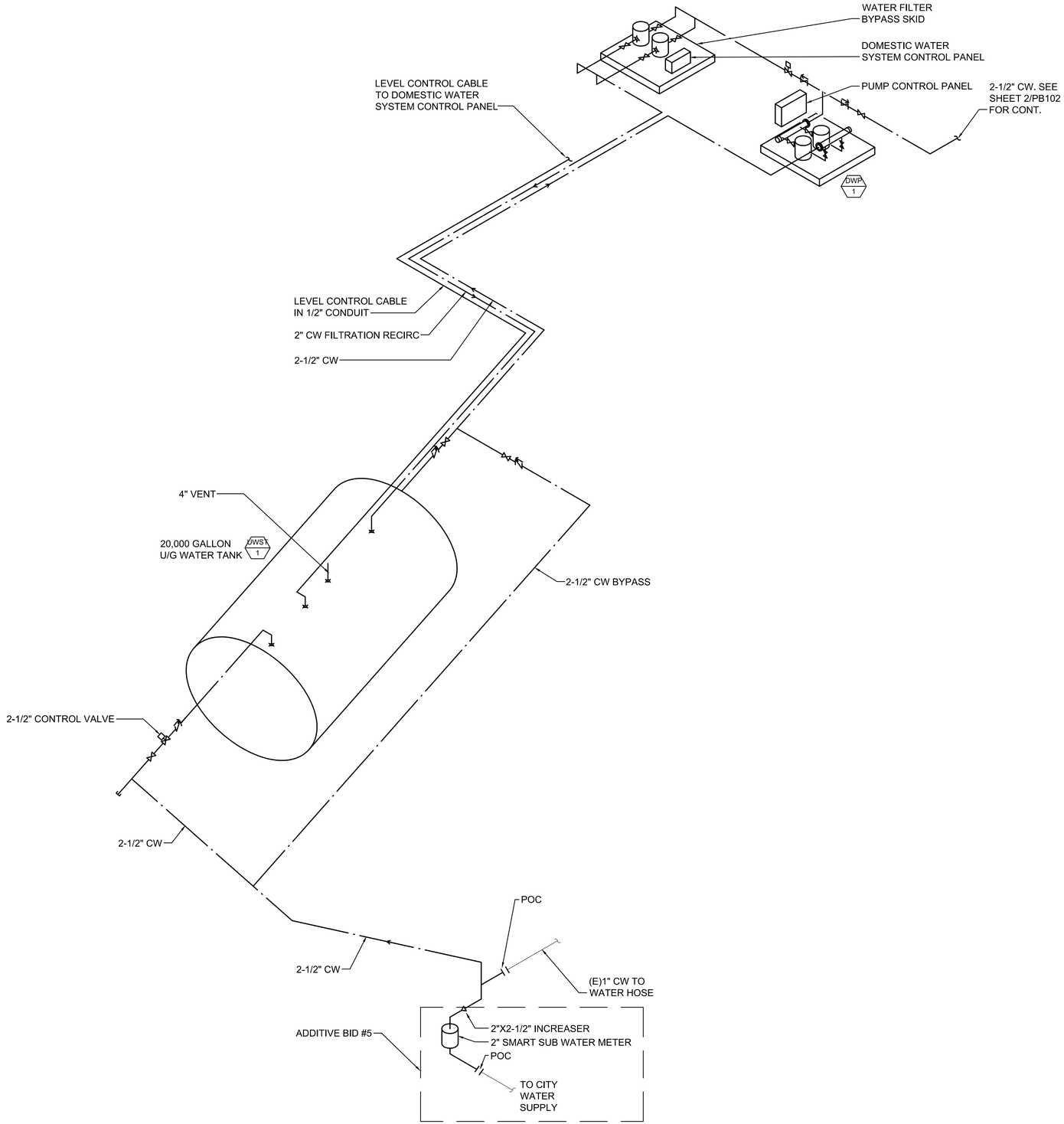
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	1JY/24	YH

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
YH | FM | YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
FUEL ISOMETRIC DIAGRAM

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 84 OF 123
PB903



A2
PB904

DOMESTIC WATER ISOMETRIC DIAGRAM

SCALE: NOT TO SCALE

HAWAII STATE DEPARTMENT OF DEFENSE

YOON HWANG
LICENSED PROFESSIONAL ENGINEER
No. 14297-M
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

YH	FM	YH

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96815
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

DOMESTIC WATER TANK ISOMETRIC

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 85 OF 123

PB904

ELECTRICAL SYMBOL LIST / MOUNTING HEIGHT SCHEDULE

MOUNTING HEIGHT FROM FLOOR TO TOP	℄	SYMBOL (SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN) EXISTING	NEW	DESCRIPTION
				LUMINAIRE, 1'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
				LUMINAIRE, LINEAR, WALL MOUNTED
				LUMINAIRE, 2'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
				LUMINAIRE, 2'X2' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
				LUMINAIRE, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
				LUMINAIRE, WALL MOUNTED
				ILLUMINATED EXIT SIGN, WALL MOUNTED, DIRECTIONAL ARROWS AS INDICATED
				ILLUMINATED EXIT SIGN, CEILING MOUNTED, DIRECTIONAL ARROWS AS INDICATED
	46"	$	$	LIGHT SWITCH, WALL MOUNTED, 1P20A, 120/277V, 1HP MAXIMUM
		OS	OS	OCCUPANCY SENSOR, CEILING MOUNTED
	7'-0"	OS	OS	OCCUPANCY SENSOR, WALL MOUNTED
	46"	$OS	$OS	WALL BOX SWITCH/OCCUPANCY SENSOR, SELF-CONTAINED DUAL TECHNOLOGY TYPE, 800W MINIMUM, 120/277V, WALL MOUNTED
	46"	2	2	LIGHTING CONTROL KEYPAD, WALL MOUNTED ("2" INDICATES NUMBER OF KEYPAD BUTTONS, OTHER NUMBERS SIMILAR)
	46"	$LV	$LV	LOW VOLTAGE CONTROL SWITCH, WALL MOUNTED
		A-1,3	A-1,3	HOMERUN ARROW TO PANELBOARD. LETTER INDICATES PANELBOARD, NUMBERS INDICATES CIRCUITS.
				INTERIOR WORK: CONCEALED CONDUIT IN FINISHED FLOOR OR BELOW GRADE (NO HASHMARKS INDICATE 2 CURRENT CARRYING CONDUCTORS AND 1 GROUND CONDUCTOR WITHIN, ALL OTHERS SIMILAR). EXTERIOR WORK: CONCRETE ENCASED UNDERGROUND DUCT LINE, SEE DUCT SECTION INDICATOR AND SCHEDULE.
				CONCEALED CONDUIT IN CEILING OR WALLS, (HASHMARKS INDICATE 3-WIRES WITHIN, ALL OTHERS SIMILAR).
				EXPOSED RACEWAY, PROVIDE STRAP 8'-0" ON CENTER MAXIMUM
				LIQUID-TIGHT FLEXIBLE CONDUIT
				DENOTES DEMOLITION/REMOVAL
	18"			RECEPTACLE, WALL MOUNTED, DUPLEX, GROUNDING TYPE, 125V, NEMA TYPE 5-20R
	18"			RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, 125V, NEMA TYPE 5-20R
	18"	WP	WP	RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, WEATHER-RESISTANT DEVICE WITH WEATHERPROOF-WHILE-IN-USE COVER PLATE
		J	J	JUNCTION BOX, LARGE, WALL MOUNTED
		J	J	JUNCTION BOX, LARGE, HORIZONTALLY MOUNTED
		J	J	JUNCTION BOX, HORIZONTALLY MOUNTED
	18"	J	J	JUNCTION BOX, WALL MOUNTED
		E	E	EQUIPMENT TERMINATION WITH FLEXIBLE CONDUIT WHIP
60"				COMBINATION MOTOR STARTER/NON-FUSED DISCONNECT SWITCH, FURNISHED BY MECHANICAL CONTRACTOR & INSTALLED BY ELECTRICAL CONTRACTOR
		M	M	MOTOR CONNECTION
60"				MAGNETIC MOTOR STARTER, FURNISHED BY MECHANICAL CONTRACTOR & INSTALLED BY ELECTRICAL CONTRACTOR
60"				NON-FUSED DISCONNECT SWITCH, 3P30A UNLESS OTHERWISE NOTED, VOLTAGE TO MATCH CIRCUITING
60"				ENCLOSED CIRCUIT BREAKER
72"				PANELBOARD
	46"	$M	$M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD, 1HP MAXIMUM
				PARKING LOT/ROADWAY LIGHT ASSEMBLY, SINGLE LUMINAIRE PER POLE

ELECTRICAL SYMBOL LIST / MOUNTING HEIGHT SCHEDULE, CONTINUED

MOUNTING HEIGHT FROM FLOOR TO TOP	℄	SYMBOL (SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN) EXISTING	NEW	DESCRIPTION
				POWER TRANSFORMER
				GROUND
				CIRCUIT BREAKER
				NON-FUSED DISCONNECT SWITCH
				TRANSFER SWITCH
				POTENTIAL TRANSFORMER
				CURRENT TRANSFORMER
		KWH	KWH	METER SOCKET AND KILOWATT HOUR METER WITH DEMAND REGISTER
		G	G	DIESEL ENGINE GENERATOR SET
				FLOOD LIGHT FIXTURE
			EF 1 EF-1	EQUIPMENT TAG; EXHAUST FAN "EF-1" INDICATED; ALL OTHERS SIMILAR
			A	LIGHT FIXTURE TYPE INDICATOR; FIXTURE TYPE "A" INDICATED; ALL OTHERS SIMILAR
			1	KEYNOTE INDICATOR - DEMOLITION WORK
			1	KEYNOTE INDICATOR - NEW WORK
			1 / E-2	DETAIL INDICATOR: TOP HALF DENOTES DETAIL NUMBER, BOTTOM HALF DENOTES SHEET NUMBER
			+42"	DENOTES 42" ABOVE FINISHED FLOOR OR GRADE
			ATS	AUTOMATIC TRANSFER SWITCH
			GFCI	GROUND FAULT CIRCUIT INTERRUPTER
			GND	GROUND
			HP	HORSEPOWER
			KVA	KILOVOLT-AMPERE
			KW	KILOWATT
			KWH	KILOWATT-HOUR
			MIN	MINIMUM
			WP	WEATHERPROOF
			RC	ROOM CONTROLLER

1

CITY AND COUNTY OF HONOLULU
REVISED ORDINANCES OF HONOLULU 2021
CHAPTER 16B

TO THE BEST OF MY KNOWLEDGE, THIS PROJECT'S DESIGN SUBSTANTIALLY CONFORMS TO THE BUILDING ENERGY CONSERVATION CODE FOR:

SCOTT TOMOKIYO LICENSED PROFESSIONAL ENGINEER No. 15968-E HAWAII, U.S.A.

X ELECTRICAL COMPONENT SYSTEMS

SIGNATURE: Scott Tomokiyo DATE: 02/12/2024
NAME: SCOTT TOMOKIYO
TITLE: ELECTRICAL ENGINEER
LICENSE No.: 15968-E

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO LICENSED PROFESSIONAL ENGINEER No. 15968-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE Scott Tomokiyo EXPIRATION DATE 4/30/2026

SYM	DESCRIPTION	DATE	APPR.
1	Addendum 1	3/21/24	ST

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
SF KR ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
ELECTRICAL LEGEND AND ABBREVIATION

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 86 OF 123
E-001

GENERAL ELECTRICAL NOTES:

1. ALL WORK SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS OTHERWISE NOTED. ALL MATERIALS SHALL BE NEW AND "LISTED" OR "LABELED" AS DEFINED BY THE NATIONAL ELECTRICAL CODE (NEC). WORK INCLUDES INSTALLATION OF ALL ELECTRICAL SYSTEMS COMPLETE AND OPERATIONAL AS LIMITED BY THE INTENT OF THE CONTRACT DOCUMENTS.
2. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, AND BUILDING ORDINANCES OF THE CITY AND COUNTY OF HONOLULU. CONSTRUCTION PRACTICES SHALL CONFORM TO THE LATEST EDITION OF AMERICAN ELECTRICIANS' HANDBOOK BY CROFT AND APPLICABLE INSTRUCTIONS OF MANUFACTURERS OF EQUIPMENT AND MATERIAL SUPPLIED FOR THIS PROJECT.
3. OBTAIN AND PAY FOR BUILDING / ELECTRICAL PERMIT, ARRANGE FOR PERIODIC INSPECTION BY LOCAL AUTHORITIES, AND DELIVER CERTIFICATE OF FINAL INSPECTION TO THE CONTRACTING OFFICER.
4. RETENTION OF PLANS: ONE SET OF APPROVED PLANS, SPECIFICATIONS, AND COMPUTATIONS SHALL BE RETAINED BY THE BUILDING OFFICIAL FOR A PERIOD OF NOT LESS THAN 90 DAYS FROM DATE OF COMPLETION OF THE WORK COVERED THEREIN, AND ONE SET OF APPROVED PLANS SHALL BE RETURNED TO THE APPLICANT, AND SAID SET SHALL BE KEPT ON THE SITE OF THE BUILDING OR WORK AT ALL TIMES DURING WHICH THE WORK AUTHORIZED THEREBY IS IN PROGRESS.
5. STRUCTURES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION OPERATIONS, INCLUDING THOSE IN UNDERGROUND LOCATIONS, SHALL COMPLY WITH NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, AND NFPA 1, AS LOCALLY AMENDED.
6. FIRE SAFETY DURING ALTERATION:
   a. NFPA 1, 16.4.4.1 WHERE THE BUILDING IS PROTECTED BY FIRE PROTECTION SYSTEMS, SUCH SYSTEMS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING ALTERATION.
   b. NFPA 1, 16.4.4.2 WHERE ALTERATION REQUIRES MODIFICATION OF A PORTION OF THE FIRE PROTECTION SYSTEM, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE AND THE FIRE DEPARTMENT SHALL BE NOTIFIED.
   c. NFPA 1, 16.4.4.3 WHEN IT IS NECESSARY TO SHUT DOWN THE SYSTEM, THE AHJ SHALL HAVE THE AUTHORITY TO REQUIRE ALTERNATE MEASURES OF PROTECTION UNTIL THE SYSTEM IS RETURNED TO SERVICE.
   d. NFPA 1, 10.7.1.1 AS NECESSARY DURING EMERGENCIES, MAINTENANCE, DRILLS, PRESCRIBED TESTING, ALTERATIONS, OR RENOVATIONS, PORTABLE OR FIXED FIRE-EXTINGUISHING SYSTEMS OR DEVICES OR ANY FIRE-WARNING SYSTEM SHALL BE PERMITTED TO BE MADE INOPERATIVE OR INACCESSIBLE. A FIRE WATCH SHALL BE REQUIRED AS SPECIFIED IN SECTIONS 13.3.3.6.5.2(4)(b), 13.7.1.5.3, 16.5.4, 34.6.3.3, 41.2.2.6, 41.2.2.7, 41.2.4, 41.3.5, 41.4.1, 34.5.4.3, AND 25.1.8 AT NO COST TO THE AHJ. NFPA 1, AS LOCALLY AMENDED.
7. THE DRAWINGS DO NOT REFLECT ALL THE EXISTING CONDITIONS THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. VISIT THE PROJECT SITE AND BECOME FAMILIAR WITH THE READILY OBSERVABLE EXISTING CONDITIONS, THE EXTENT OF ANY DEMOLITION, RELOCATION, RECONNECTION, AND THE NEW WORK PRIOR TO BIDDING. REPORT ANY READILY OBSERVABLE DISCREPANCIES AND/OR DIFFERENCES BETWEEN THE EXISTING CONDITIONS AND THE CONSTRUCTION DOCUMENTS TO THE CONTRACTING OFFICER. RESOLVE ALL READILY OBSERVABLE DISCREPANCIES AND QUESTIONS PRIOR TO THE START OF WORK. BID SUBMISSION SHALL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE AND RESOLVED ALL READILY OBSERVABLE DISCREPANCIES AND QUESTIONS AND NO EXTRA PAYMENT WILL BE AUTHORIZED FOR WORK REQUIRED BY THE CONTRACTOR'S FAILURE TO DO SO.
8. COORDINATE ALL ELECTRICAL WORK WITH THE WORK OF THE OTHER TRADES AND SCHEDULE WORK TO MINIMIZE THE NUMBER AND DURATION OF ELECTRICAL OUTAGES AND IMPACT TO THE OPERATIONS IN OR ADJACENT TO THE PROJECT AREA. COORDINATE ACCESS TO THE PROJECT AREA AND SCHEDULE ALL REQUIRED SYSTEM OUTAGES WITH THE CONTRACTING OFFICER.
9. VERIFY AND COORDINATE ALL PENETRATIONS PRIOR TO THE START OF CONSTRUCTION. OBTAIN APPROVAL BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS OR FIRE RATED WALLS AND CEILINGS.
10. SCAN (E.G. X-RAY, ELECTROMAGNETIC, ETC.) ALL CONCRETE WALLS OR FLOOR STRUCTURES PRIOR TO COMMENCING WITH CORING/DRILLING WORK FOR PENETRATIONS TO AVOID DAMAGING THE EXISTING REINFORCING STEEL.
11. COORDINATE AND PROVIDE ACCESS PANELS FOR ALL CONCEALED ELECTRICAL EQUIPMENT, DEVICES, BOXES, AND CONDUIT BODIES SO THAT THEY ARE ACCESSIBLE.
12. EXISTING DEVICE AND EQUIPMENT LOCATIONS, CIRCUIT ASSIGNMENTS, WIRING CONNECTIONS, AND CONDUIT RUNS INDICATED WERE DERIVED FROM AVAILABLE REFERENCE DOCUMENTS AND LIMITED FIELD INVESTIGATION. FIELD VERIFY ALL EXISTING CONDITIONS AND MAKE ANY NECESSARY ADJUSTMENTS TO SATISFY THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
13. RE-ROUTE ALL EXISTING CONDUIT, WIRING, AND CABLING TO REMAIN WITHIN THE PROJECT AREA AS NECESSARY TO FACILITATE THE REMOVAL OF EXISTING EQUIPMENT AS WELL AS THE INSTALLATION OF ALL NEW EQUIPMENT. REMOVE AND RE-INSTALL ELECTRICAL EQUIPMENT, INCLUDING LIGHTS, TO REMAIN AS REQUIRED.
14. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO IN THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT. AN EXAMPLE OF SUCH INCIDENTAL WORK ARE OUTLET BOXES, JUNCTION BOXES, AND PULL BOXES REQUIRED FOR THE INSTALLATION OF ELECTRICAL DEVICES, LIGHTING FIXTURES, AND EQUIPMENT. ALL INCIDENTAL WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE NEC.
15. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL CONDUIT AND WIRING FOR THE POWER CONNECTION TO ALL EQUIPMENT AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. ALL INCIDENTAL CONDUIT AND WIRING REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM MAY NOT BE SHOWN IN THE DRAWINGS OR SPECIFICATIONS. CONTRACTOR SHALL COORDINATE INCIDENTAL CONDUIT AND WIRING REQUIREMENTS BETWEEN ALL TRADES TO ENSURE THE INCIDENTAL CONDUIT AND WIRING IS PROVIDED AND THE AFFECTED SYSTEMS OPERATE AS INTENDED.
16. THE LOCATION OF ALL ELECTRICAL APPARATUS AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND BEFORE INSTALLING, STUDY THE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DETAILS, THEN MAKE INSTALLATION IN THE MOST LOGICAL MANNER. CIRCUIT ROUTING IS TYPICAL AND MAY BE VARIED IN ANY MANNER. ANY PIECE OF EQUIPMENT/DEVICE MAY BE RELOCATED WITHIN 10' BEFORE INSTALLATION AT THE DIRECTION OF THE CONTRACTING OFFICER WITHOUT ADDITIONAL CHARGE TO THE PROJECT.
17. SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF THE PROJECT'S WORK, THE CONTRACTOR SHALL MARK SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE AN ALTERNATE METHOD TO THOSE SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SUBMIT DRAWINGS TO REFLECT THE PROPOSED ALTERNATE METHODS TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL APPROVAL IS OBTAINED. REARRANGEMENT OF WORK FOR THE PURPOSE OF COORDINATION SHALL NOT BE CONSIDERED AN ITEM FOR EXTRA COST.
18. DISCONNECT AND REMOVE ALL ELECTRICAL APPARATUS, LIGHT FIXTURES, WIRING DEVICES, JUNCTION BOXES, AND ASSOCIATED FEEDER AND BRANCH CIRCUIT WIRING IN THE PROJECT AREA, UNLESS OTHERWISE NOTED. THE DEMOLITION DRAWINGS ARE INTENDED TO SHOW THE GENERAL LIMITS OF THE SCOPE OF WORK AND MAY NOT SHOW ALL THE EXISTING DEVICES, CONDUIT RUNS, ETC. FEEDER AND BRANCH CIRCUIT WIRING TO BE REMOVED SHALL BE DISCONNECTED FROM ITS SOURCE. REMOVE ALL CONDUCTORS, CONDUIT, AND CONDUIT SUPPORT STRUCTURES WHERE ACCESSIBLE. PATCH/REPAIR WALL, FLOOR, AND CEILING DAMAGES AS A RESULT OF THE REMOVAL WORK.
19. THE ACCESSIBLE PORTIONS OF ABANDONED COMMUNICATIONS AND FIRE ALARM CABLES SHALL BE REMOVED IN ACCORDANCE WITH THE NEC.
20. THE EXISTING ELECTRICAL, TELECOM, FIRE ALARM, AND OTHER ELECTRICALLY-RELATED SYSTEMS IN AREAS ADJACENT TO, OUTSIDE OF, AND/OR OTHERWISE PASSING THROUGH THE PROJECT LIMITS, MUST REMAIN OPERATIONAL DURING THE CONSTRUCTION PERIOD AND POST-CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE DUE CARE AND CAUTION WHEN WORKING NEAR ANY EXISTING EQUIPMENT, DEVICES, OR CABLING/CIRCUITING. PROVIDE NEW JUNCTION BOXES, CONDUITS, WIRING, AND THE LABOR REQUIRED TO FACILITATE THE REQUIRED OPERATIONAL CONTINUITY. BOXES, CONDUITS, AND WIRING SHALL BE IN ACCORDANCE WITH THE NEC. ANY DAMAGE TO THE EXISTING EQUIPMENT, DEVICES, OR CABLING/CIRCUITING RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR OTHERWISE RESTORED TO ITS ORIGINAL WORKING CONDITION AT NO ADDITIONAL COST TO THE PROJECT.
21. THE ELECTRICAL DRAWINGS ARE BASED ON PROPOSED EQUIPMENT. VERIFY ALL SYSTEM REQUIREMENTS (ELECTRICAL, MECHANICAL, FIRE ALARM, SPECIALTY SYSTEMS, ETC.) WITH THE SELECTED SYSTEM'S MANUFACTURER OR AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WITH ANY WORK. COORDINATE RATINGS OF OVERCURRENT PROTECTION DEVICES, DISCONNECT SWITCHES, CONDUIT, AND WIRING TO MATCH THE ACTUAL EQUIPMENT SUPPLIED FOR THE PROJECT. CORRECT ALL DISCREPANCIES SO AS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. RECORD CHANGES ON THE AS-BUILT DRAWINGS.
22. ALL EQUIPMENT AND APPARATUS SHALL BE CAPABLE OF FITTING IN THE SPACES SHOWN WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS AND APPLICABLE CODE REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT IS TO BE INSTALLED PRIOR TO ORDERING OF EQUIPMENT AND NOTIFY THE CONTRACTING OFFICER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, AND OPERATION OF THE EQUIPMENT.
23. CONFIRM THE TYPE OF CEILING BEING INSTALLED PRIOR TO ORDERING LUMINAIRES AND TRIMS FOR PROPER COORDINATION. LUMINAIRES INDICATED MAY NOT EXPRESSLY CONFORM TO THE TYPE OF CEILING OR OPENING PROVIDED BY OTHER TRADES.
24. CONCEAL ALL CONDUIT WHEREVER REASONABLY POSSIBLE; EXPOSED CONDUITS ARE PERMITTED ONLY WHERE SPECIFICALLY SHOWN ON THE DRAWINGS. ALL EXPOSED CONDUITS IN FINISHED AREAS SHALL BE INSTALLED IN THE LEAST VISIBLE LOCATIONS. CARE SHALL BE TAKEN TO INSTALL CONDUIT IN THE MOST AESTHETICALLY PLEASING MANNER.
25. WHERE DEVICES, EQUIPMENT, BOXES, AND OTHER ELECTRICAL MATERIALS ARE INDICATED TO BE OF WEATHERPROOF (WP) CONSTRUCTION, THE INTERCONNECTING RACEWAYS, INCLUDING COUPLINGS AND CONNECTORS, SHALL BE LISTED FOR AND INSTALLED TO PROVIDE A COMPLETE WEATHERPROOF / WET LOCATION INSTALLATION. ALL INCIDENTAL MATERIALS REQUIRED TO COMPLETE THE INSTALLATION SHALL ALSO BE OF WEATHERPROOF / WET LOCATION LISITING.
26. WIRING DEVICES AND CONDUITS SHALL BE FLUSH MOUNTED, WHEREVER REASONABLY POSSIBLE. WHERE NEW DEVICES ARE INDICATED TO BE INSTALLED IN EXISTING WALLS, FISH THE CONDUIT DOWN INTO THE EXISTING WALL CAVITY AND KEEP DISTURBANCES TO THE EXISTING WALLS TO A MINIMUM. WHERE OBSTRUCTIONS ARE ENCOUNTERED OR CUTTING OF THE WALL TO ACCOMPLISH THE WIRING DEVICE AND CONDUIT INSTALLATION IS UNAVOIDABLE, CONSULT WITH THE CONTRACTING OFFICER PRIOR TO COMMENCING ANY WORK.
27. PROVIDE TYPEWRITTEN CIRCUIT DIRECTORIES FOR ALL PANELS, NEW OR MODIFIED, REFLECTING THE CIRCUIT ARRANGEMENTS AS THEY WERE ACTUALLY INSTALLED.
28. AN ADHESIVE VINYL NAMEPLATE SHALL BE PROVIDED FOR ALL SWITCHES, RECEPTACLES, DISCONNECT SWITCHES, MOTOR STARTERS, AND MISCELLANEOUS DEVICES REQUIRING POWER. THE NAMEPLATE SHALL INDICATE THE PANELBOARD SERVING THE DEVICE AND THE CORRESPONDING CIRCUIT ASSIGNMENT. LETTERING SHALL BE A MINIMUM OF 1/4" HIGH. UTILIZE BROTHER "P-TOUCH" LABEL MAKER OR APPROVED SUBSTITUTE.
29. A GREEN, EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC ARTICLE 250 SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS WHETHER INDICATED ON CONTRACT DRAWINGS OR NOT. INSTALL THIS CONDUCTOR IN ALL RACEWAYS INCLUDING THOSE INSTALLED FOR SWITCH LEGS AND ATTACH TO THE DEVICE, LUMINAIRE, OR EQUIPMENT USING A SUITABLE GROUNDING LUG.
30. DO NOT USE A COMMON NEUTRAL FOR MULTIPLE BRANCH CIRCUITS INSTALLED IN A COMMON CONDUIT. PROVIDE A DEDICATED NEUTRAL FOR EACH INDIVIDUAL CIRCUIT. WHERE MULTIPLE DEDICATED NEUTRALS ARE INSTALLED IN A COMMON CONDUIT, PROVIDE COLOR CODING OF THE DIFFERENT NEUTRAL CONDUCTORS IN ACCORDANCE WITH THE NEC (WHITE, GRAY, THREE CONTINUOUS WHITE OR GRAY STRIPES, ETC.)
31. PROVIDE NYLON PULLSTRINGS IN ALL EMPTY CONDUITS UNLESS OTHERWISE INDICATED.
32. THE TELECOMMUNICATIONS RACEWAY SYSTEM INSTALLATION SHALL COMPLY WITH TIA/EIA AND BICSI STANDARDS UNLESS OTHERWISE NOTED.
33. CONDUIT BODIES (E.G. LB, LR, ETC.) SHALL NOT BE PERMITTED IN THE TELECOMMUNICATIONS RACEWAY SYSTEMS UNLESS SPECIFICALLY INDICATED TO BE UTILIZED AND LISTED FOR TELECOMMUNICATIONS SYSTEM USE.
34. PROVIDE INSULATED BUSHINGS AT ALL TELECOMMUNICATIONS CONDUIT TERMINATIONS AT ALL BOXES, BACKBOARDS, AND CONDUIT STUBS.
35. ALL SURFACE MOUNTED DEVICES SHALL BE INSTALLED UTILIZING FACTORY PAINTED SURFACE MOUNTING ACCESSORIES AND MATCHING DEVICE BOXES FOR THE MOST AESTHETICALLY PLEASING INSTALLATION.
36. PROVIDE KNOCK-OUT PLUGS FOR ALL UNUSED CONDUIT PENETRATIONS IN BOXES AND ENCLOSURES DUE TO CONDUIT REMOVAL.
37. PENETRATIONS THROUGH FIRE-RATED WALLS, CEILINGS, AND FLOORS SHALL BE SEALED TO MAINTAIN FIRE RATINGS. UTILIZE 3M CP25, PUTTY 303, OR OTHER SUITABLE UL-LISTED SEALING SYSTEM.
38. PATCH, REFINISH, AND PAINT ALL PENETRATIONS THROUGH WALLS AND SLABS TO MATCH FINISH OF ADJACENT SURFACES.
39. RESTORE/REPAIR ANY DAMAGE TO EXISTING SURFACES RESULTING FROM THE INSTALLATION OF NEW ELECTRICAL ITEMS. THE AREAS REPAIRED SHALL MATCH THE ADJACENT SURFACES IN TEXTURE, FINISH, AND COLOR.
43. PAINTING OF ELECTRICAL EQUIPMENT:
   a. INTERIOR LOCATIONS - PRIME AND PAINT ALL EXPOSED CONDUITS, BOXES, FITTINGS, SUPPORT CHANNELS, MOUNTING HARDWARE, AND ACCESSORIES WITH TWO FINISH COATS TO MATCH THE SURFACE ON WHICH THEY ARE MOUNTED OR TO MATCH THE FINISH OF THE ADJACENT SURFACES. EQUIPMENT SURFACES/COMPONENTS WITH A FACTORY-APPLIED PAINT FINISH NEED NOT BE PAINTED.
   b. EXTERIOR LOCATIONS - PRIME ALL EXPOSED CONDUITS, BOXES, FITTINGS, SUPPORT CHANNELS, MOUNTING HARDWARE, AND ACCESSORIES WITH A 2-PART EPOXY PRIMER AND FINISH WITH 2 COATS OF AN ALIPHATIC ACRYLIC URETHANE PAINT. PAINT FINISH TO MATCH THE SURFACE ON WHICH THEY ARE MOUNTED OR TO MATCH THE FINISH OF THE ADJACENT SURFACES. STAINLESS STEEL MATERIALS NEED NOT BE PAINTED.
44. ELECTRICAL EQUIPMENT SUPPORTING HVAC EQUIPMENT INSTALLED ABOVE SUSPENDED CEILINGS SHALL COMPLY WITH THE NEC FOR WORKSPACE CLEARANCE IN AREAS OF LIMITED ACCESS.
45. LIGHTING SYSTEM CONTROLS FUNCTIONAL TESTING: PROVIDE ALL MATERIALS AND LABOR REQUIRED TO TEST THE LIGHTING SYSTEM CONTROLS TO ENSURE THAT THE CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PERFORM AND DOCUMENT THE FUNCTIONAL TESTING WHICH SHALL BE IN ACCORDANCE WITH THE APPLICABLE PARAGRAPHS OF THE COUNTY'S ENERGY CODE. THE DESIGNER OF RECORD SHALL WITNESS THE FUNCTIONAL TESTING. THE TESTING DOCUMENTATION SHALL BE PROVIDED TO THE DESIGNER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO PROJECT CLOSE-OUT.
46. ALL ELECTRIFIED UTILIZATION EQUIPMENT, CONTROL DEVICES, CONTROL CIRCUITING, AND SEPARATELY MOUNTED MOTOR STARTERS/CONTROLLERS ARE SPECIFIED AND PROVIDED UNDER THE APPLICABLE SPECIFICATION SECTIONS. ALL LINE VOLTAGE POWER TO THE ELECTRIFIED UTILIZATION EQUIPMENT SHALL BE PROVIDED UNDER THE ELECTRICAL CONTRACT DOCUMENTS.
47. FOR ELECTRIFIED UTILIZATION EQUIPMENT, COORDINATE THE MOUNTING HEIGHT OF THE ASSOCIATED JUNCTION BOX, DISCONNECT SWITCH, OR STARTER/CONTROLLER WITH THE ACTUAL EQUIPMENT SUPPLIED.
48. PROVIDE EARTHQUAKE BRACING FOR ALL ELECTRICAL EQUIPMENT, APPARATUS, AND RACEWAYS. BRACING SHALL, AS A MINIMUM, COMPLY WITH THE COUNTY BUILDING CODE.
49. ALL CONDUITS ENTERING THE BUILDING FROM THE EXTERIOR SHALL BE SEALED TO PREVENT ENTRANCE OF MOISTURE, GASES, AND RODENTS.
50. WHERE A FIRE ALARM SYSTEM EVENT IS REQUIRED TO TURN "ON" EGRESS OR OTHER AUTOMATICALLY CONTROLLED LIGHTING FIXTURES, COORDINATE ALL INTERFACE REQUIREMENTS WITH THE FIRE ALARM SYSTEM SUPPLIER AND APPROPRIATE INSTALLING CONTRACTOR.
51. THE STATE WARNING POINT ROOM AND IT SERVER ROOM IN B303 SHALL REMAIN OPERATIONAL THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROVIDE A PORTABLE GENERATOR TO POWER PANELS MS-1, CDS-1, AND IT-1 DURING ANY OUTAGES. THE FLOOR OUTLETS IN THE WARNING POINT ROOM ARE POWERED BY PANEL MS-1. OUTAGE IS LIMITED TO AFTER HOURS AND THE WEEKENDS FOR THE REST OF B303. 24/7 POWER IS REQUIRED FOR BIRKHIMER AND PSB. PROVIDE TEMPORARY POWER TO SUPPORT OPERATIONS. COORDINATE ANY OUTAGES WITH THE CONTRACTING OFFICER 2 WEEKS IN ADVANCE.

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Scott Tomokiyo 4/30/2026
SIGNATURE EXPIRATION DATE

BY	DESCRIPTION	DATE	APPR.

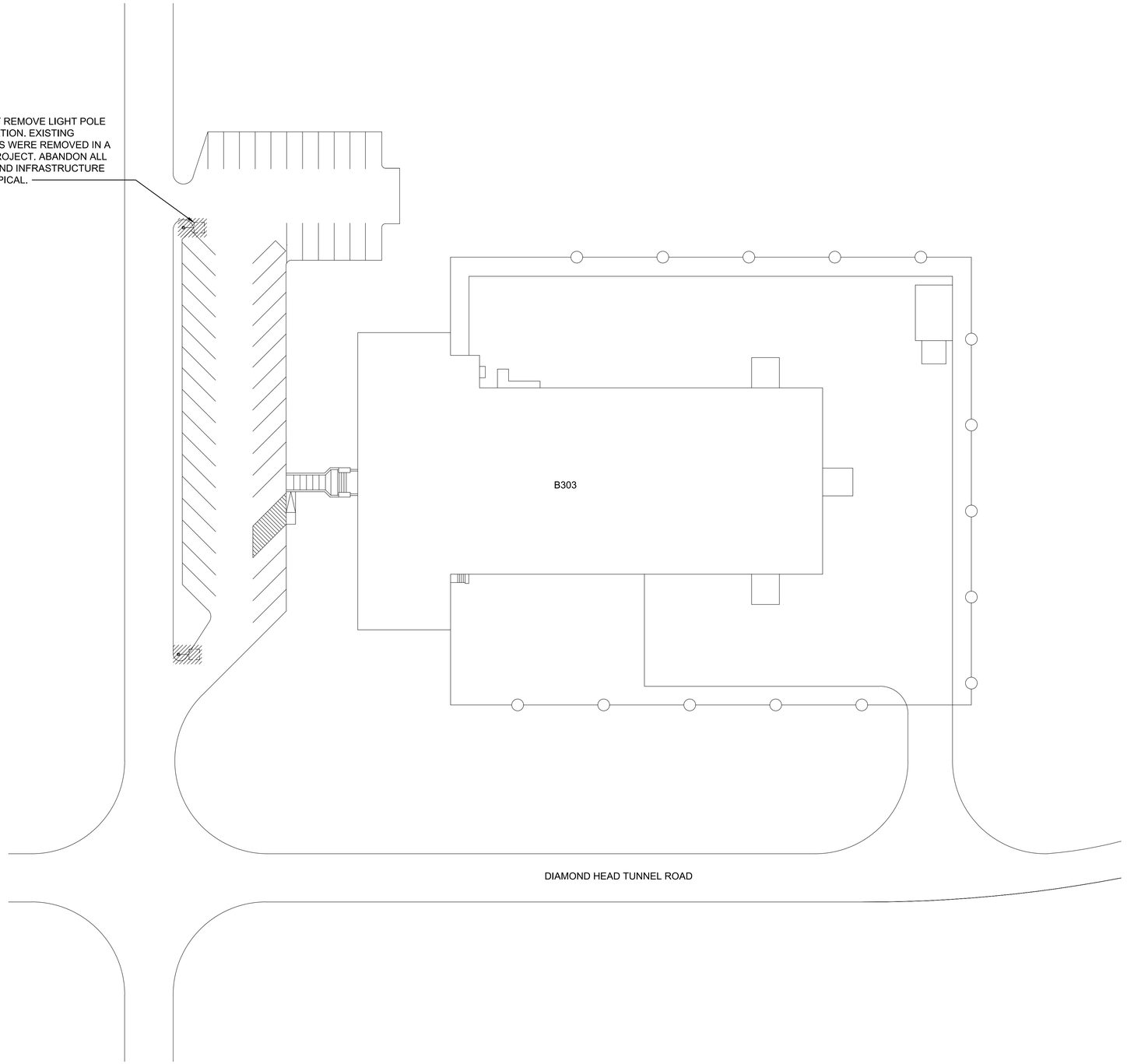
SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
GENERAL ELECTRICAL NOTES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 87 OF 123
E-002

COMPLETELY REMOVE LIGHT POLE AND FOUNDATION. EXISTING CONDUCTORS WERE REMOVED IN A PREVIOUS PROJECT. ABANDON ALL UNDERGROUND INFRASTRUCTURE IN PLACE. TYPICAL.



PLAN NORTH
TRUE NORTH

A1
EA101

SITE ELECTRICAL PLAN - DEMO

SCALE: 1" = 30'-0"

0 30' 60' 90'
SCALE: 1" = 30'

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE Scott Tomokiyo 4/30/2026
EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

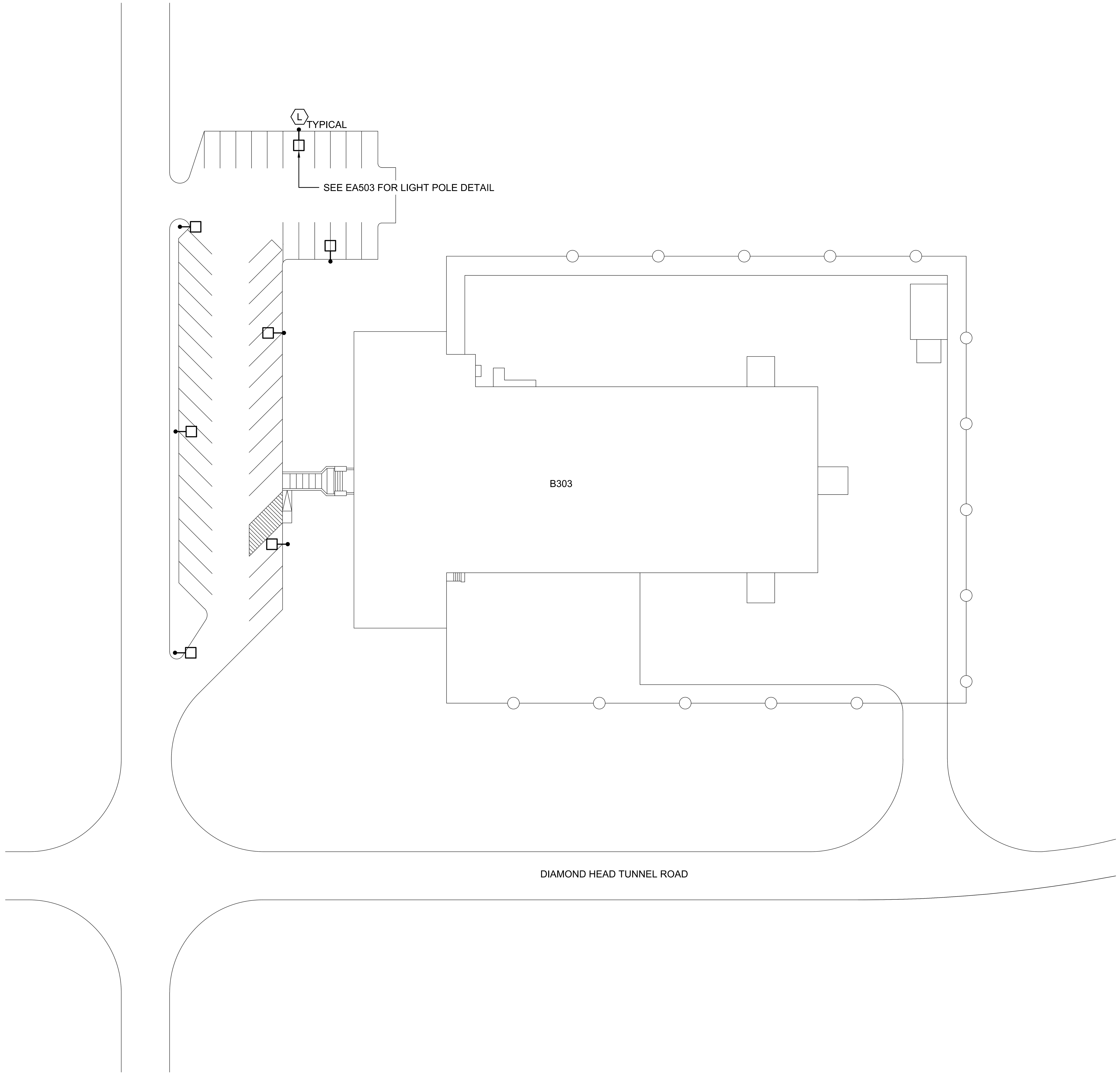
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

SITE ELECTRICAL PLAN - DEMO

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 88 OF 123
EA101

GENERAL NOTES

1. (L) REFER TO EA701 FOR LIGHT FIXTURE



TRUE NORTH
PLAN NORTH

1 / EA101 — SITE ELECTRICAL PLAN

SCALE: 1" = 30'-0"

0 30' 60' 90'
SCALE: 1" = 30'

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE: Scott Tomokiyo — EXPIRATION DATE: 4/30/2026

SYM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF | KR | ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

SITE ELECTRICAL PLAN

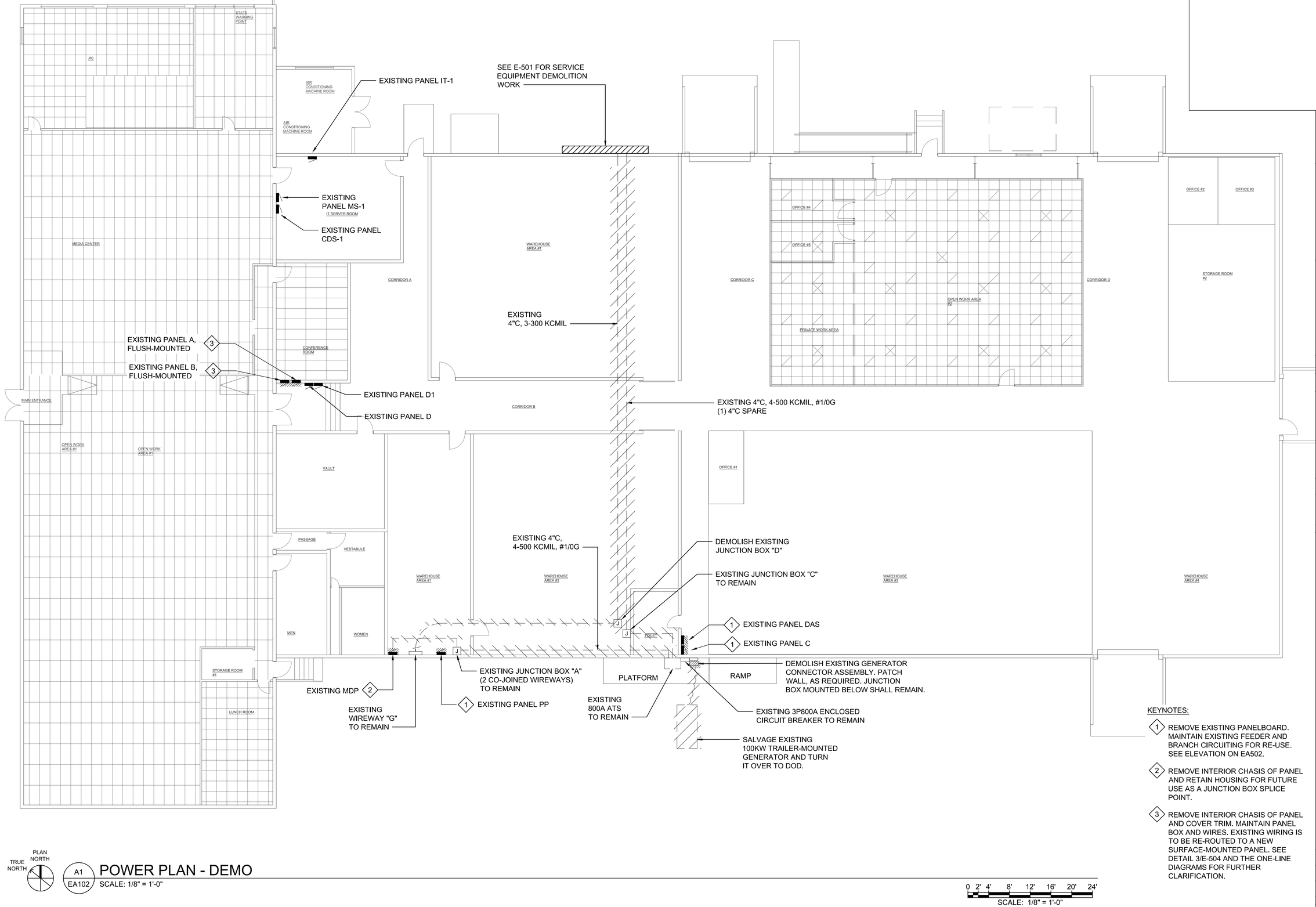
SCALE: AS NOTED

STATE JOB NO.: CA-202313-C

FEDERAL PROJECT NO.: -

SHEET 89 OF 123

EA102



KEYNOTES:

1. REMOVE EXISTING PANELBOARD. MAINTAIN EXISTING FEEDER AND BRANCH CIRCUITING FOR RE-USE. SEE ELEVATION ON EA502.
2. REMOVE INTERIOR CHASIS OF PANEL AND RETAIN HOUSING FOR FUTURE USE AS A JUNCTION BOX SPLICE POINT.
3. REMOVE INTERIOR CHASIS OF PANEL AND COVER TRIM. MAINTAIN PANEL BOX AND WIRES. EXISTING WIRING IS TO BE RE-ROUTED TO A NEW SURFACE-MOUNTED PANEL. SEE DETAIL 3/E-504 AND THE ONE-LINE DIAGRAMS FOR FURTHER CLARIFICATION.

TRUE NORTH / PLAN NORTH

A1 / EA102

POWER PLAN - DEMO

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NUM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

POWER PLAN - DEMO

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 90 OF 123

EA103

BID ADDITIVE #1

LIGHT FIXTURES IN OPEN WORK AREA #2, PRIVATE WORK AREA, OFFICE #4 AND #5 TO REMAIN

INTERCEPT AND REMOVE LIGHT FIXTURES LOCATED ABOVE OFFICE SPACE. TYPICAL.

EXISTING PANEL B

EXISTING PANEL A

EXISTING PANEL D1

EXISTING PANEL D

EXISTING PANEL C

EXISTING MDP

EXISTING PANEL PP

STATE WARNING POINT
AIR CONDITIONING MACHINE ROOM
AIR CONDITIONING MACHINE ROOM
IT SERVICE ROOM
MEDIA CENTER
CORRIDOR A
WAREHOUSE AREA #1
CONFERENCE ROOM
CORRIDOR C
OFFICE #4
OFFICE #5
PRIVATE WORK AREA
OPEN WORK AREA #2
CORRIDOR D
OFFICE #2
OFFICE #3
STORAGE ROOM #2
MAIN ENTRANCE
OPEN WORK AREA #1
OPEN WORK AREA #3
CORRIDOR B
VAULT
VESTABULE
WAREHOUSE AREA #1
WAREHOUSE AREA #2
WAREHOUSE AREA #3
WAREHOUSE AREA #4
MEN
WOMEN
TOILET
STORAGE ROOM #1
LUNCH ROOM
PLATFORM
RAMP

SHEET NOTES

1. TRACE AND VERIFY EXISTING CIRCUITING.
2. REMOVE EXISTING BRANCH CIRCUITING FOR ALL LIGHT FIXTURES. CONDUITS AND OUTLET BOXES TO REMAIN FOR REUSE.
3. REMOVE EXISTING BRANCH CIRCUITING AND CONDUITS FOR ALL EXISTING LIGHT SWITCHES.

TRUE NORTH / PLAN NORTH

A1 / EA103

LIGHTING PLAN - DEMO

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
3			

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

LIGHTING PLAN - DEMO

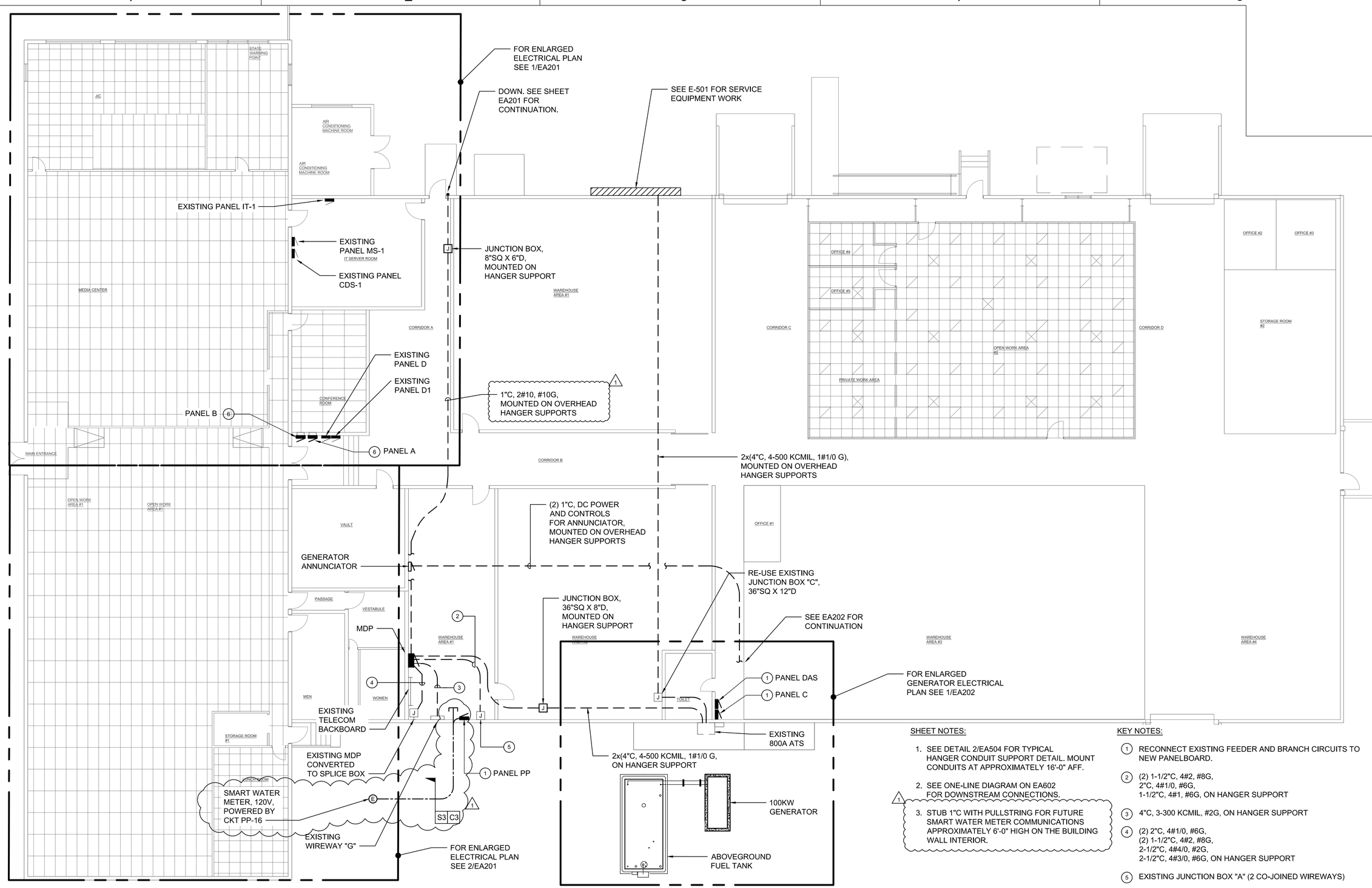
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 91 OF 123

EA104



SHEET NOTES:

1. SEE DETAIL 2/EA504 FOR TYPICAL HANGER CONDUIT SUPPORT DETAIL. MOUNT CONDUITS AT APPROXIMATELY 16'-0" AFF.
2. SEE ONE-LINE DIAGRAM ON EA602 FOR DOWNSTREAM CONNECTIONS.
3. STUB 1"C WITH PULLSTRING FOR FUTURE SMART WATER METER COMMUNICATIONS APPROXIMATELY 6'-0" HIGH ON THE BUILDING WALL INTERIOR.

KEY NOTES:

1. RECONNECT EXISTING FEEDER AND BRANCH CIRCUITS TO NEW PANELBOARD.
2. (2) 1-1/2"C, 4#2, #8G, 2"C, 4#1/0, #6G, 1-1/2"C, 4#1, #6G, ON HANGER SUPPORT
3. 4"C, 3-300 KCMIL, #2G, ON HANGER SUPPORT
4. (2) 2"C, 4#1/0, #6G, (2) 1-1/2"C, 4#2, #8G, 2-1/2"C, 4#4/0, #2G, 2-1/2"C, 4#3/0, #6G, ON HANGER SUPPORT
5. EXISTING JUNCTION BOX "A" (2 CO-JOINED WIREWAYS)
6. MOUNT THE NEW PANELBOARD DIRECTLY OVER THE GUTTED OUT EXISTING FLUSH-MOUNTED PANELBOARD. SEE DETAIL 3/E-504 FOR REQUIRED WORK TO BE PERFORMED.

TRUE NORTH / PLAN NORTH

A1 / EA105

POWER PLAN

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO	DESCRIPTION	DATE	APPR
1	ADDENDUM 1	3/24	SF

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

POWER PLAN

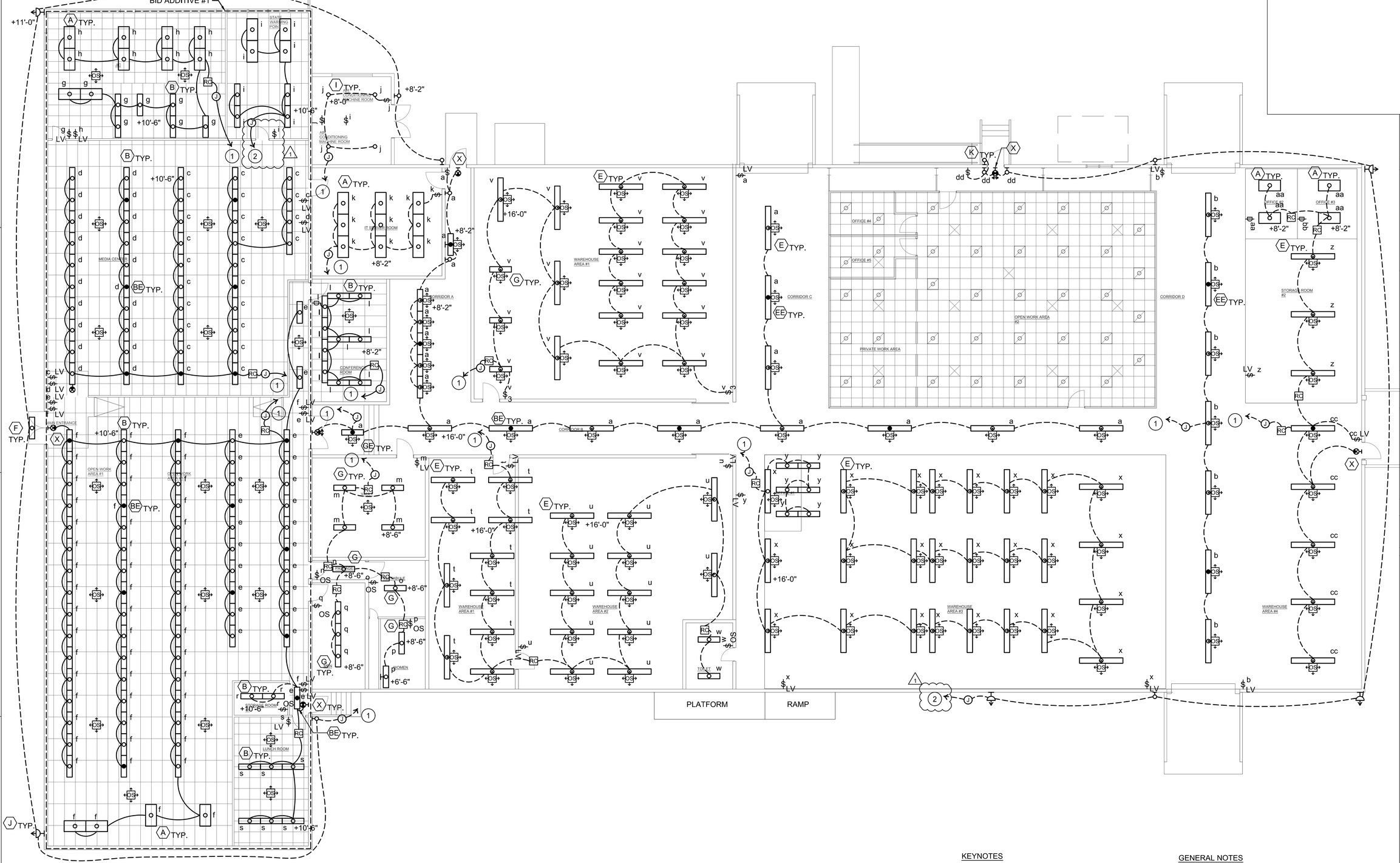
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 92 OF 123

EA105



PLAN NORTH

TRUE NORTH

A1
EA105

LIGHTING PLAN

SCALE: 1/8" = 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

KEYNOTES

1. INTERCEPT EXISTING CIRCUIT VIA A JUNCTION BOX AND EXTEND TO ROOM CONTROLLER AND NEW LIGHTS

1 2. INTERCEPT EXISTING CIRCUIT VIA A JUNCTION BOX AND EXTEND TO NEW LIGHTS

GENERAL NOTES

1. INSTALL NEW LIGHT FIXTURES AND DEVICES IN LOCATIONS AS NOTED UTILIZING EXISTING CIRCUITING. INTERCEPT AND EXTEND EXISTING CIRCUITING AS REQUIRED FOR NEW LIGHT FIXTURES.
2. A REFER TO EA701 FOR LIGHT FIXTURE

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

STM	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/24	LT

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

LIGHTING PLAN

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 93 OF 123

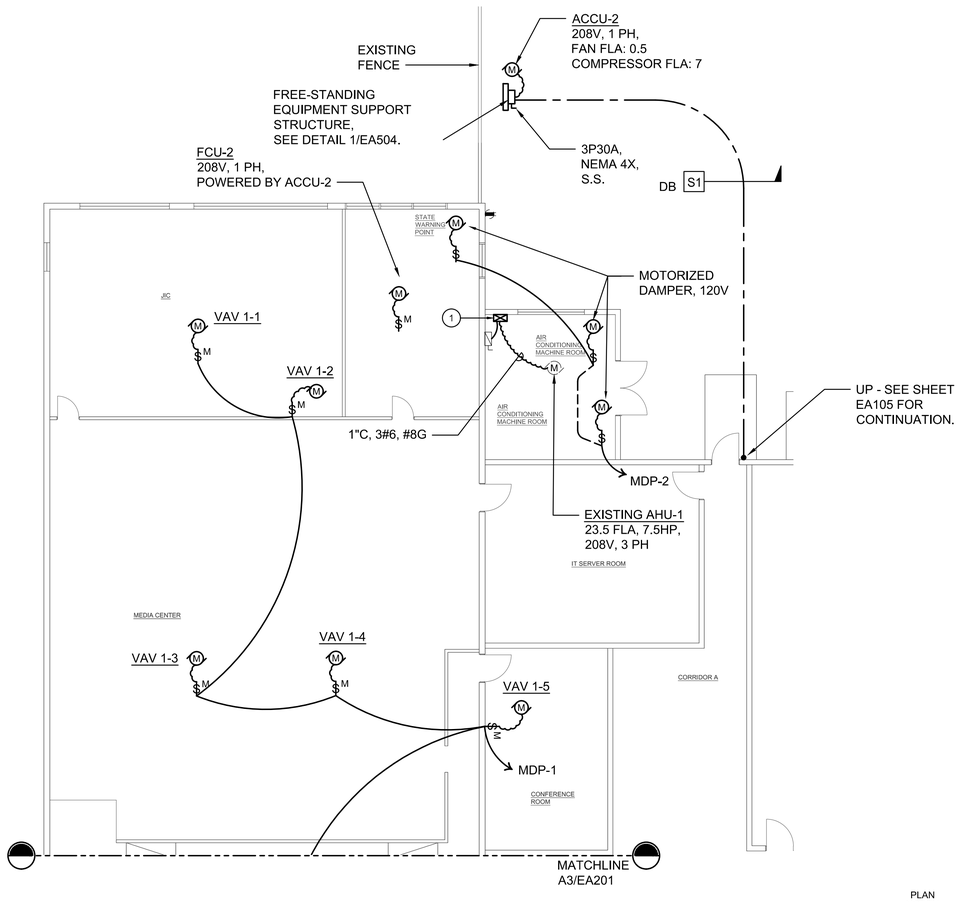
EA106

SHEET NOTES:

1. ALL VAV'S ARE 120V, 1-PHASE

KEYNOTES:

(1) INSTALL VFD FOR EXISTING AHU-1 IN THE SAME ROOM. PROVIDED BY MECHANICAL. REUSE EXISTING 3P50A ENCLOSED BREAKER FOR AHU-1. THERE IS NO EXISTING STARTER



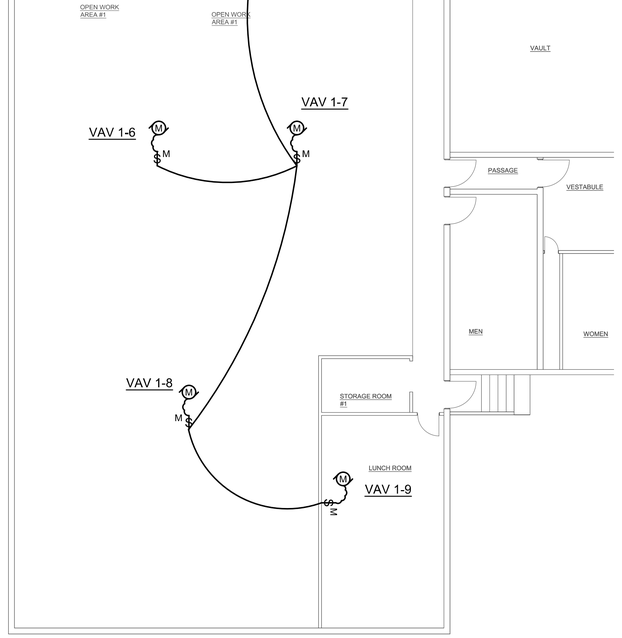
PLAN NORTH / TRUE NORTH

A1 / EA201 PARTIAL ENLARGED MECHANICAL POWER PLANS

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



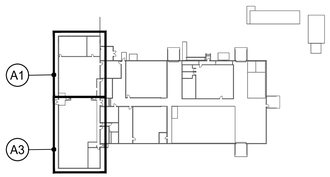
PLAN NORTH / TRUE NORTH

A3 / EA201 PARTIAL ENLARGED MECHANICAL POWER PLANS

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

PARTIAL ENLARGED MECH POWER PLANS

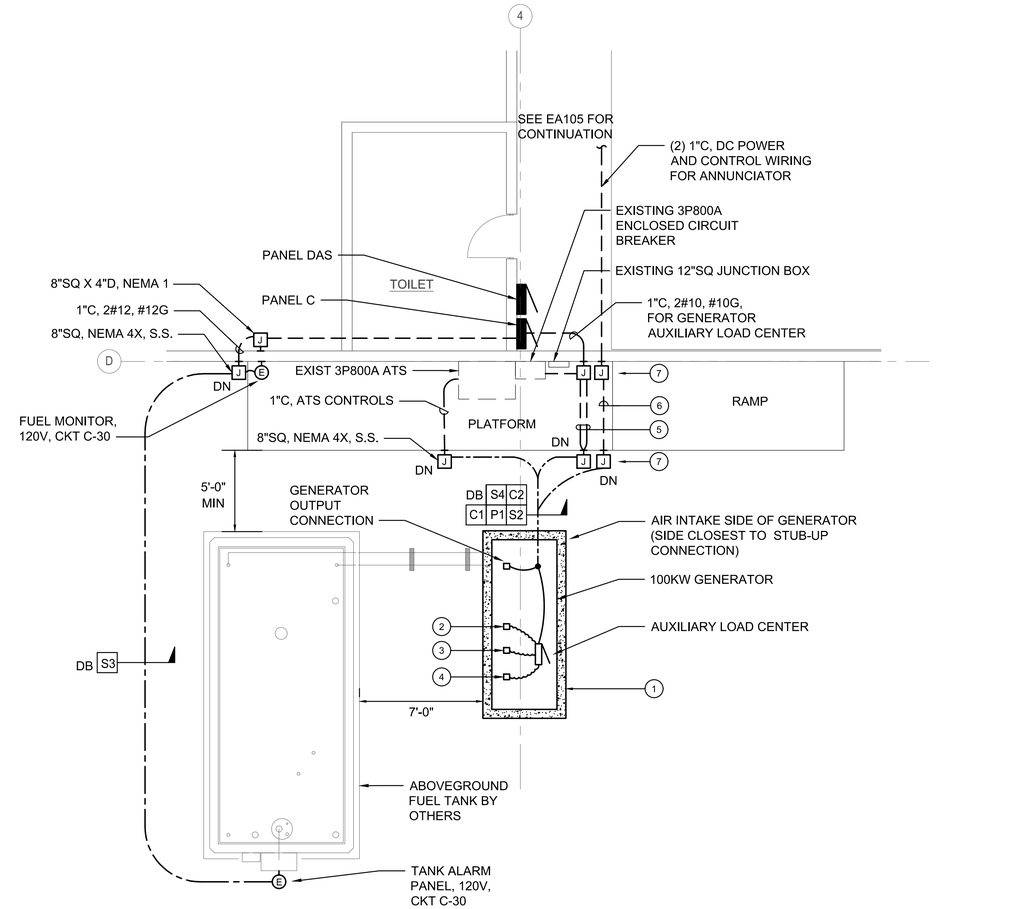
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 94 OF 123

EA201



PLAN NORTH / TRUE NORTH

A3 / EA202 ENLARGED GENERATOR POWER PLAN

SCALE: 1/4" = 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. CONDUITS ON THE PLATFORM FLOOR SHALL BE MOUNTED ON PYRAMID SUPPORT BLOCKS.

KEYNOTES:

1. CONCRETE PAD, APPROXIMATELY 120"L X 50"W. COORDINATE WITH ACTUAL SIZE OF GENERATOR ENCLOSURE. CONCRETE PAD SHALL EXTEND 6" ON ALL SIDES OF THE GENERATOR ENCLOSURE. SEE STRUCTURAL DRAWINGS FOR CONCRETE PAD DETAIL.
2. JACKET WATER HEATER, 120V, 3/4"C, 2#10, 1#10G
3. BATTERY CHARGER, 120V, 3/4"C, 2#10, 1#10G
4. SPACE HEATER, 120V, 3/4"C, 2#10,1#10G
5. 4"C, 4-500KCMIL, #2G, FOR GENERATOR OUTPUT
   1"C, 2#10, #10G, FOR GENERATOR AUXILIARY LOAD CENTER
6. 1"C, CONTROLS FOR ANNUNCIATOR
   1"C, DC POWER FOR ANNUNCIATOR
7. (1) 32"SQ X 8"D, NEMA 4X, S.S. JUNCTION BOX FOR POWER CONDUCTORS AND (1) 8"SQ, NEMA 4X, S.S., JUNCTION BOX FOR THE ANNUNCIATOR DC POWER AND CONTROLS.

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

SF	KR	ST

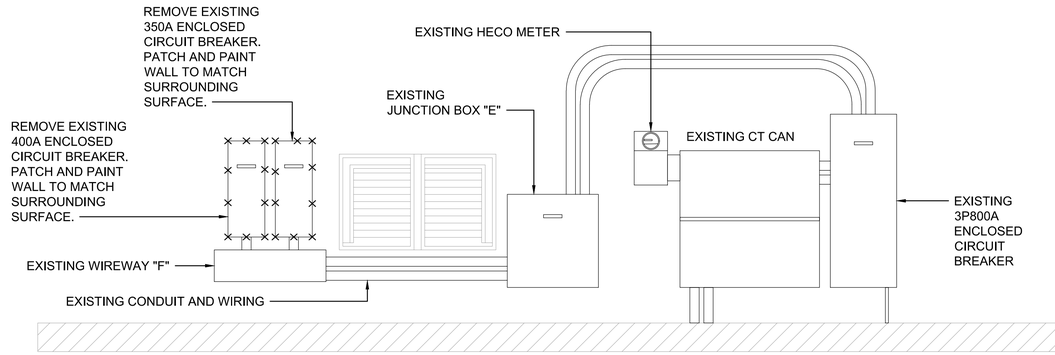
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED GENERATOR POWER PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 95 OF 123

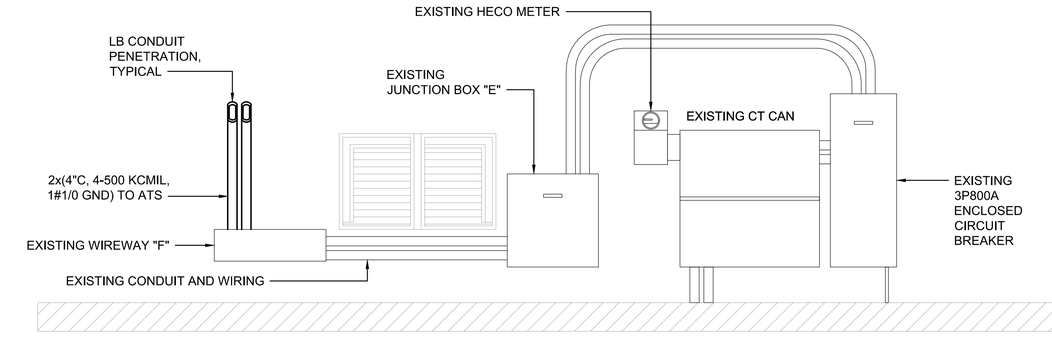
EA202



C3
EA501

ELECTRICAL SERVICE ELEVATION - DEMO

SCALE: NTS



A3
EA501

ELECTRICAL SERVICE ELEVATION

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
3			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

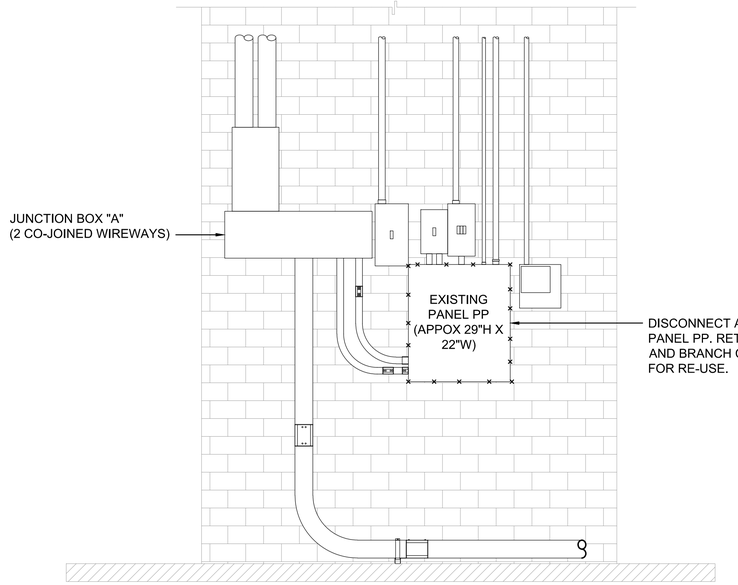
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ELECTRICAL ELEVATION DETAILS

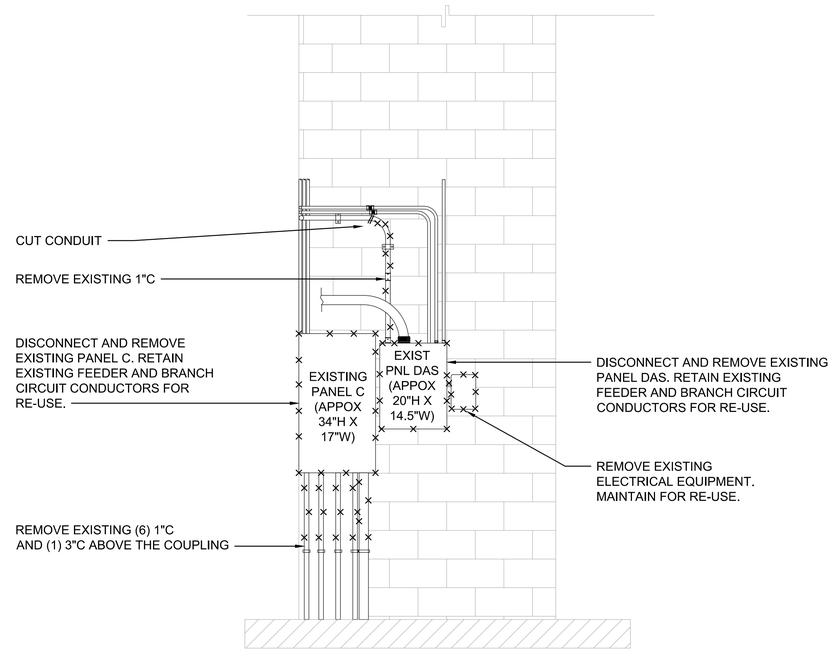
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 96 OF 123

EA501



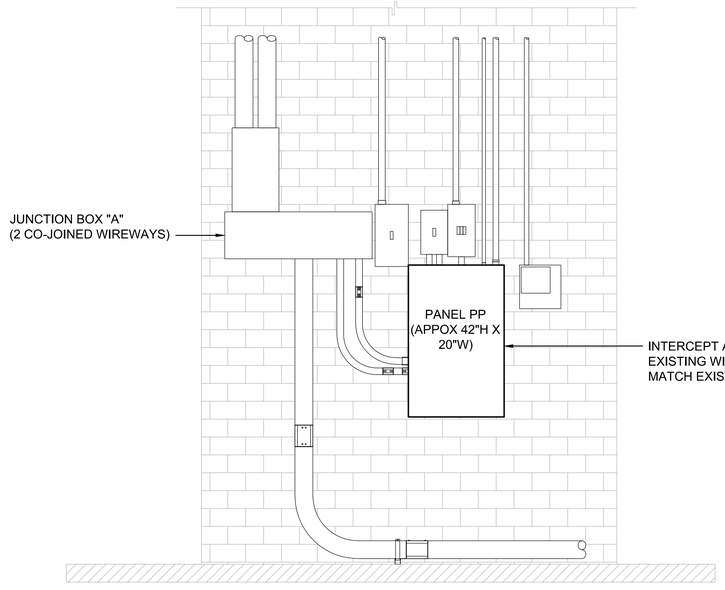
C1 EA502 PANEL PP ELEVATION - DEMO

SCALE: NTS



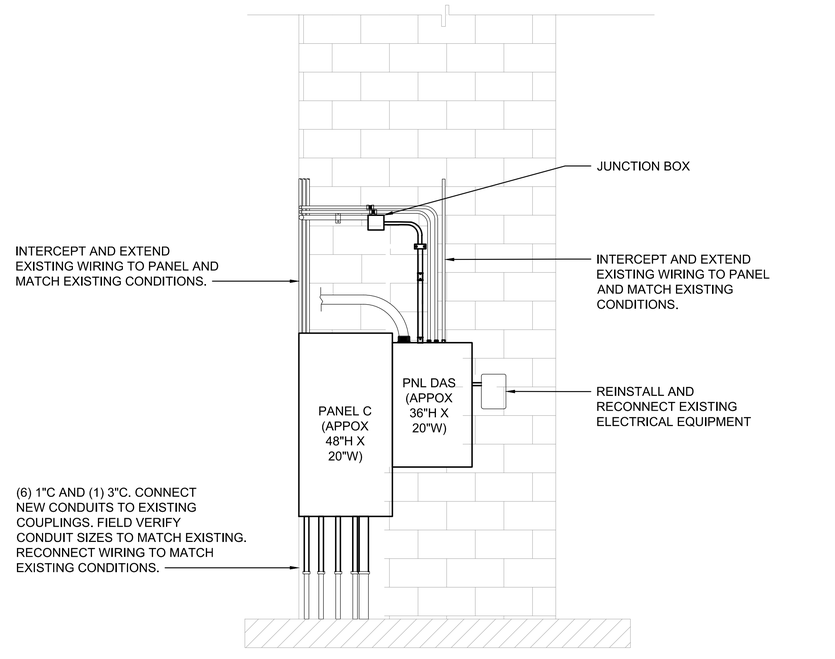
C4 EA502 PANEL C AND DAS ELEVATION - DEMO

SCALE: NTS



A1 EA502 PANEL PP ELEVATION

SCALE: NTS



A4 EA502 PANEL C AND DAS ELEVATION

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
3YR			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ELECTRICAL ELEVATION DETAILS

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

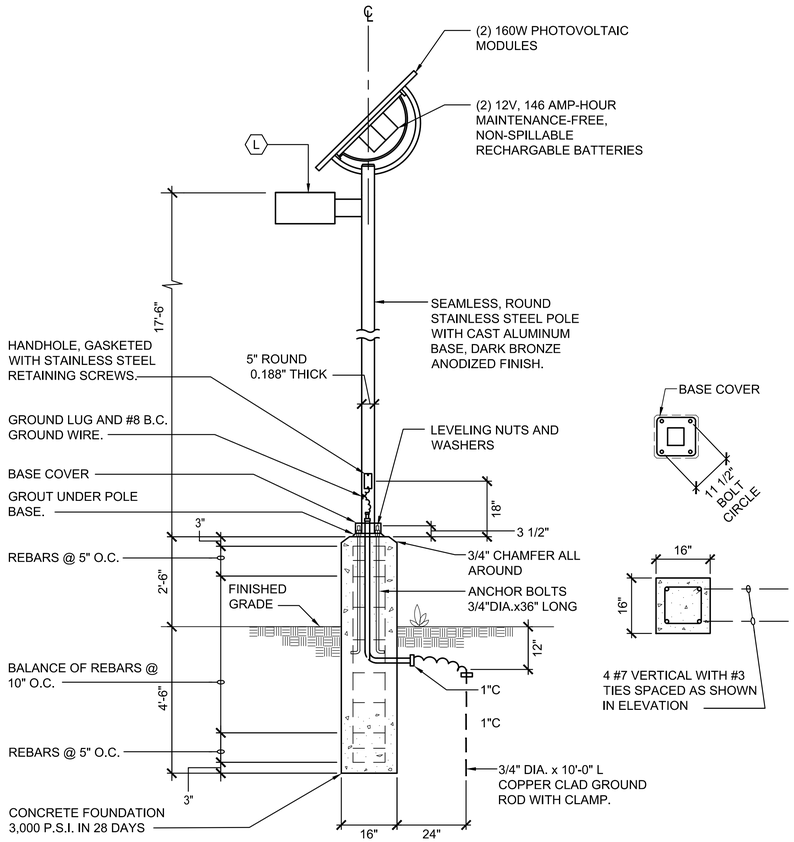
FEDERAL PROJECT NO. -

SHEET 97 OF 123

EA502

NOTES:

1. AREA LIGHT ASSEMBLY, INCLUDING POLE, LUMINAIRE, AND FOUNDATION SHALL WITHSTAND WINDS UP TO 130 MPH GUSTING WITHOUT PERMANENT DEFORMATION.
2. PROVIDE VIBRATION DAMPERS FOR POLE LIGHTS.

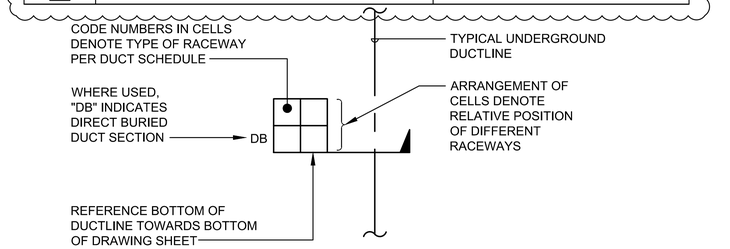


A2 / EA503 LIGHT POLE DETAIL

SCALE: NTS

DUCT SCHEDULE

NO.	DESCRIPTION	CONDUCTORS / CABLES
P1	4"C PVC, ELECTRIC GENERATOR STANDBY CIRCUIT	4-500KCMIL, #2 GND
S1	1"C PVC, ELECTRIC SECONDARY CIRCUIT	2#10, #10 GND 1
S2	1"C PVC, ELECTRIC SECONDARY CIRCUIT	2#10, #10 GND
S3	1"C PVC, ELECTRIC SECONDARY CIRCUIT	2#12, #12 GND
S4	1"C PVC, GENERATOR TO ANNUNCIATOR, DC POWER	COORDINATE WITH GENERATOR MANUFACTURER.
C1	1"C PVC, GENERATOR TO ATS CONTROLS	COORDINATE WITH GENERATOR MANUFACTURER.
C2	1"C PVC, GENERATOR TO AUNNUNCIATOR CONTROLS	COORDINATE WITH GENERATOR MANUFACTURER. 1
C3	1"C PVC, FUTURE SMART WATER METER COMM	PULLSTRING

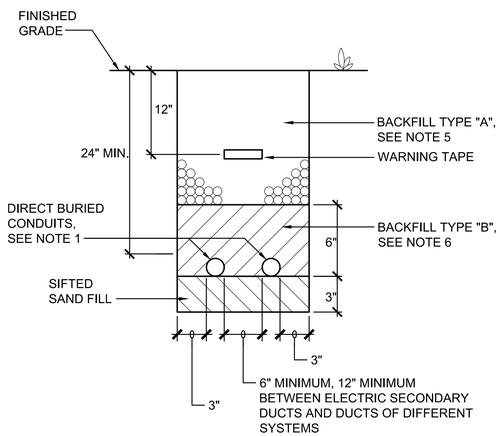


C4 / EA503 DUCT SECTION FLAG CODE

SCALE: NTS

DUCT SECTION NOTES:

1. CONDUITS SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
2. CUT EXISTING CONCRETE AND ASPHALT SURFACES TO TRENCH NEW DUCTLINES. RESTORE DISTURBED SURFACES TO MATCH THE EXISTING SURROUNDING SURFACES INCLUDING ALL CONCRETE AND ASPHALT SURFACES.
3. WARNING TAPE SHALL BE 5 MIL THICK X 3" WIDE AND SHALL BE LAID THE ENTIRE LENGTH OF THE DUCTLINE. TAPE SHALL HAVE A CONTINUOUS METALLIC BACKING AND CORROSION RESISTANT FOIL CORE. WARNING AND IDENTIFICATION TO BE IMPRINTED ON THE TAPE SHALL READ "CAUTION BURIED ELECTRICAL (OR TELECOMMUNICATIONS) CABLE BELOW." MESSAGE SHALL BE REPEATED APPROXIMATELY EVERY 10 FEET, MINIMUM. TAPE COLOR SHALL BE AS FOLLOWS:
   ELECTRICAL - RED COLOR
4. BACKFILL TYPE "A": NON-CONTAMINATED NATIVE SOIL MATERIAL WHICH DOES NOT CONTAIN MORE THAN 50% GRAVEL AND ALSO DOES NOT CONTAIN HARD LUMPS OF EARTH 3 INCHES IN GREATEST DIMENSION, ROCKS LARGER THAN 1 INCH IN LARGEST DIMENSION, HIGHLY PLASTIC CLAY, POORLY GRADED SAND AND GRAVEL, ORGANICS, DEBRIS, OR OTHER UNSUITABLE OR DELETERIOUS MATERIALS. 95% COMPACTION.
5. BACKFILL TYPE "B": NON-CONTAMINATED NATIVE SOIL MATERIAL WHICH DOES NOT CONTAIN MORE THAN 20% BY VOLUME OF ROCK PARTICLES. MIXTURE MUST PASS THROUGH A 1/2" MESH SCREEN. 95% COMPACTION.
6. WHERE ELECTRICAL OR TELECOMMUNICATIONS DUCTLINES CROSS OTHER UTILITIES, MAINTAIN A MINIMUM OF 12" VERTICAL SEPARATION BETWEEN THE ELECTRICAL/TELECOMMUNICATIONS DUCTS AND THE OTHER UTILITY LINES (GAS, WATER, SEWER, DRAIN, ETC.).



C4 / EA503 TYPICAL DIRECT BURIED DUCT SECTION

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

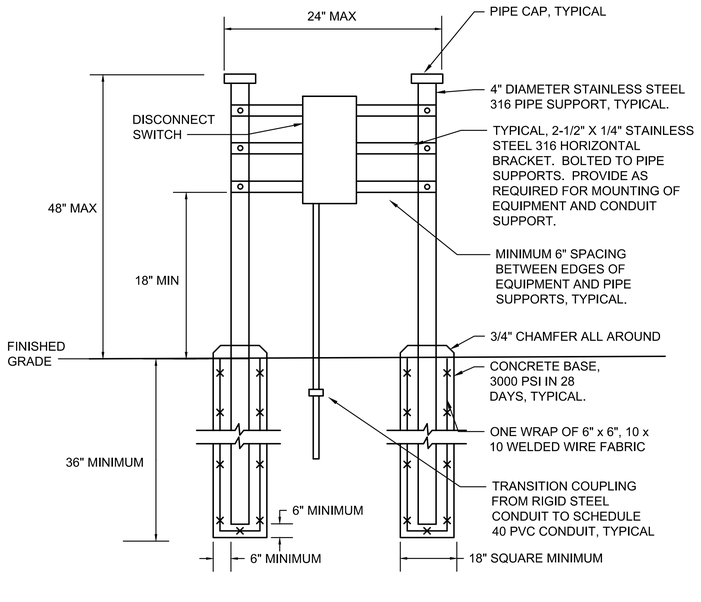
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/24	SF

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
KR | ST

DEPARTMENT OF DEFENSE — STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ELECTRICAL ELEVATIONS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 98 OF 123
EA503

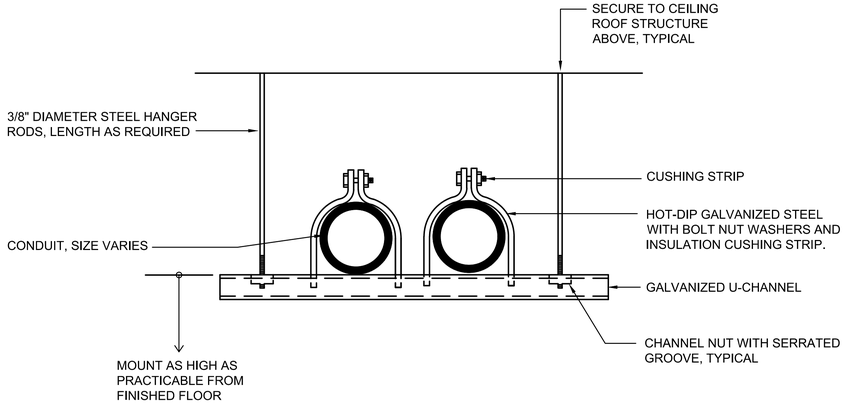


NOTES:

1. CONTRACTOR TO VERIFY EQUIPMENT DIMENSIONS BEFORE FABRICATING EQUIPMENT RACK.
2. PAINT EXPOSED CONDUITS, PIPES, AND BRACKETS WHITE.

C4 / EA504 FREE-STANDING EQUIPMENT SUPPORT STRUCTURE DETAIL

SCALE: NTS

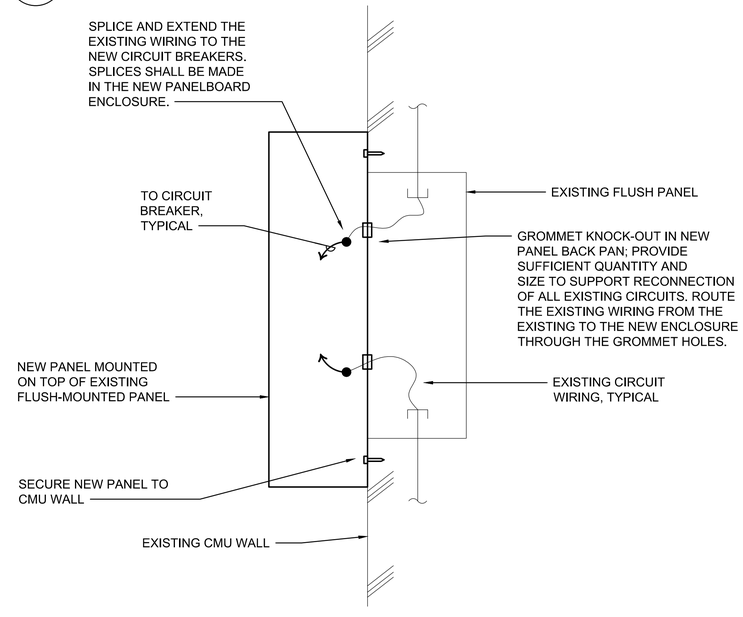


NOTES:

1. PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING.

A2 / EA504 TYPICAL HANGER SUPPORT DETAIL

SCALE: NTS



A4 / EA504 NEW PANEL MOUNTED ON EXISTING FLUSH PANEL DETAIL

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
3/14		

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
SF | KR | ST

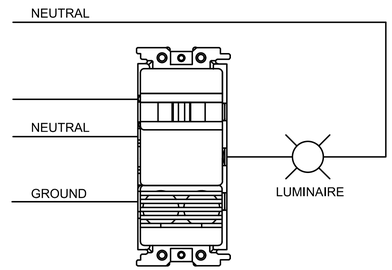
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

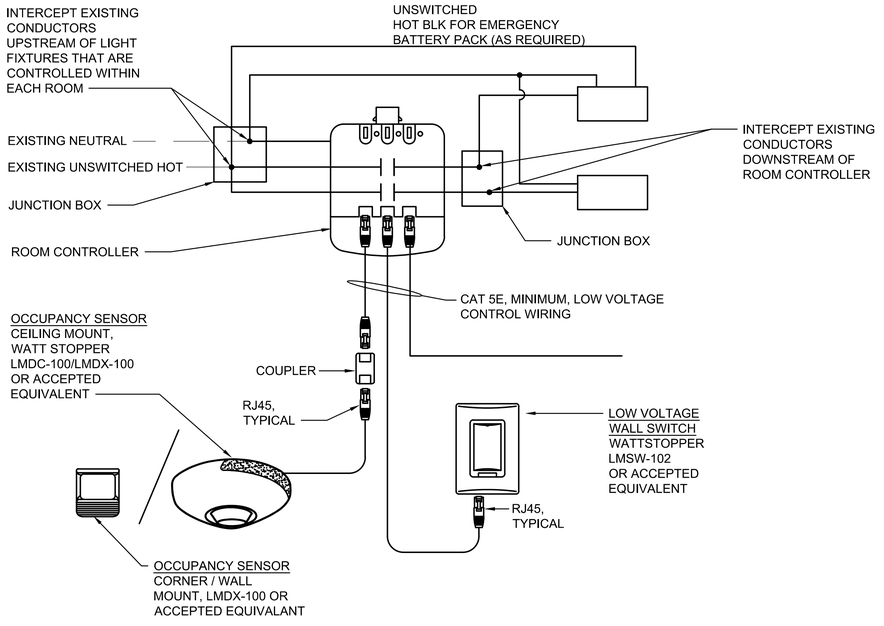
ELECTRICAL DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 99 OF 123

EA504



OCCUPANCY SENSOR WITH
SINGLE SWITCH
WALL MOUNTED
WATTSTOPPER DW-100
SERIES OR APPROVED EQUAL

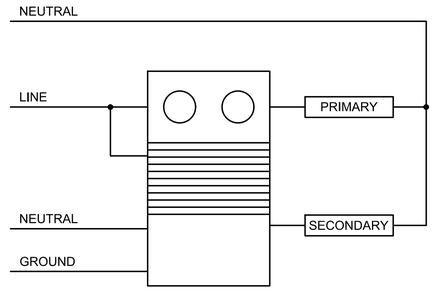


NOTES:

1. PROVIDE NUMBER OF ROOM CONTROLLERS, OCCUPANCY SENSORS, AND LOW VOLTAGE SWITCHES AS REQUIRED FOR EACH SPACE FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. ALL CABLING SHALL BE INSTALLED IN CONDUIT. MINIMUM CONDUIT SIZE SHALL BE 3/4".

A3 / EA505 — OCCUPANCY SENSOR WALL MOUNTED WITH ROOM CONTROLLER WIRING DIAGRAM
SCALE: NTS

C5 / EA505 — OCCUPANCY SENSOR WALL MOUNTED WIRING DIAGRAM
SCALE: NTS



OCCUPANCY SENSOR WITH
DUAL RELAY SWITCH
WALL MOUNTED,
WATTSTOPPER DW-200 SERIES
OR APPROVED EQUAL

A5 / EA505 — OCCUPANCY SENSOR WALL MOUNTED DUAL RELAY WIRING DIAGRAM
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

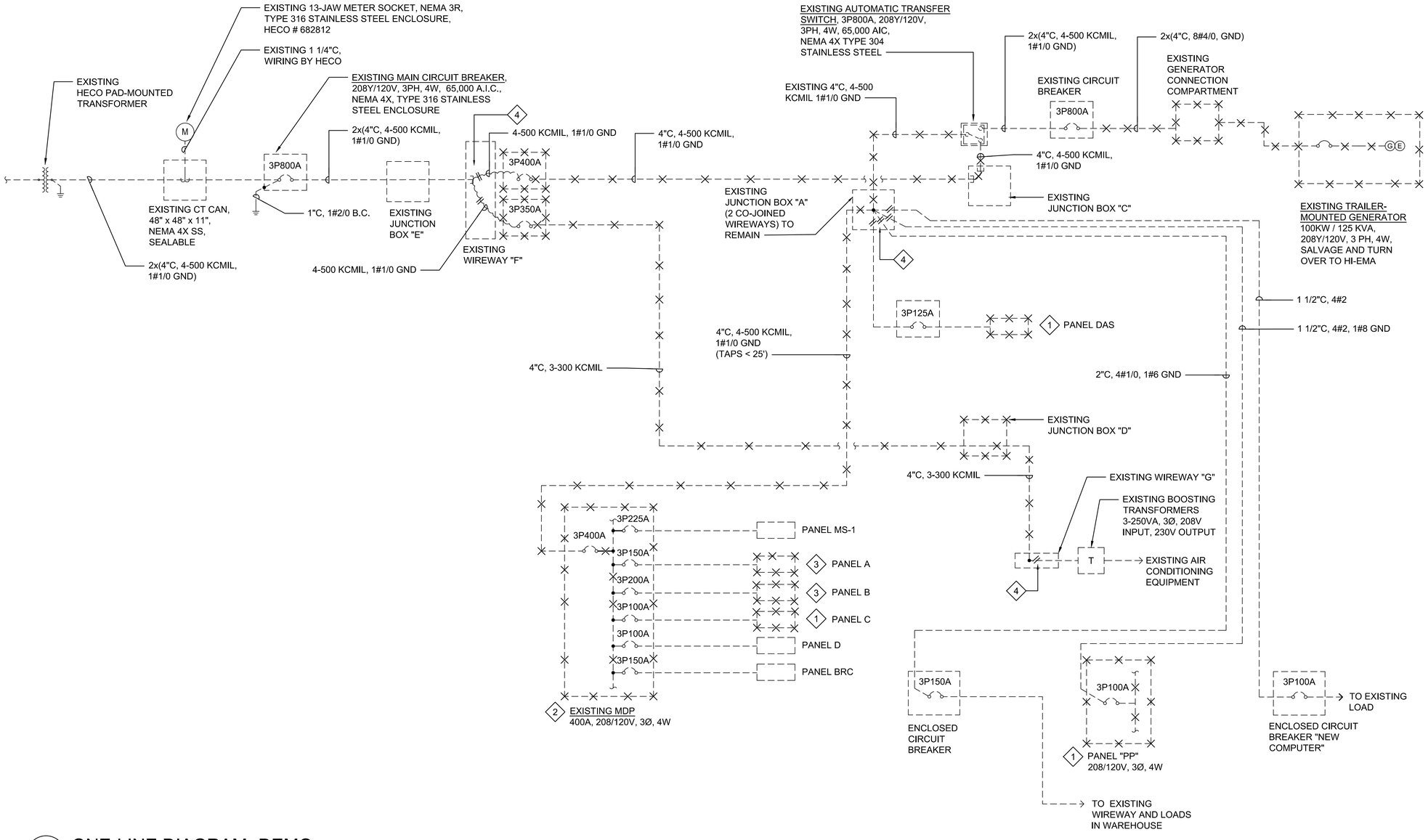
NO.	DESCRIPTION	DATE	APPR.
3			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ELECTRICAL DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 100 OF 123
EA505



KEY NOTES:

1. REMOVE EXISTING PANELBOARD. MAINTAIN EXISTING FEEDER AND BRANCH CIRCUITING FOR RE-USE.
2. REMOVE INTERIOR CHASIS OF PANEL AND RETAIN HOUSING FOR FUTURE USE AS A JUNCTION BOX SPLICE POINT.
3. REMOVE INTERIOR CHASIS OF PANEL AND COVER TRIM. MAINTAIN PANEL BOX AND WIRES. EXISTING WIRING IS TO BE RE-ROUTED TO A NEW SURFACE-MOUNTED PANEL THAT WILL BE MOUNTED DIRECTLY ON TOP.
4. CUT EXISTING CONDUCTORS AND MAINTAIN DOWNSTREAM CONDUCTORS FOR FUTURE SPLICE. SEE NEW ONE-LINE DIAGRAM ON

LEGEND:

- — — — DASHED LINE INDICATES EXISTING ITEM
- × × × "X" MARK INDICATES DEMOLITION

A1 / EA601 ONE-LINE DIAGRAM -DEMO
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

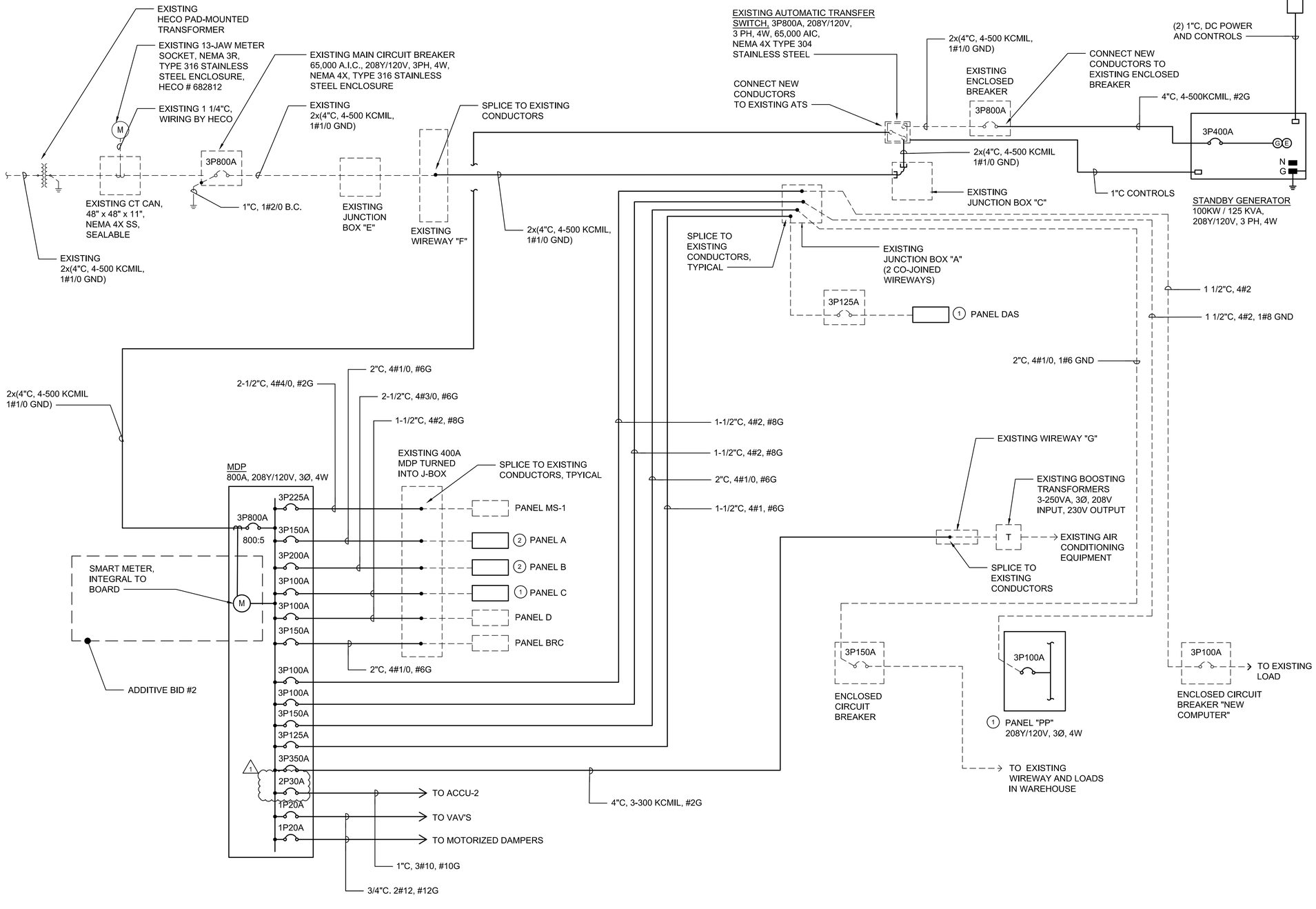
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

DESCRIPTION	DATE	APPR.
SYM		

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ONE-LINE DIAGRAM -DEMO

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 101 OF 123
EA601



A1
EA602
ONE-LINE DIAGRAM
SCALE: NTS

KEYNOTES:

1. RECONNECT EXISTING FEEDER AND BRANCH CIRCUITS TO NEW PANELBOARD.
2. MOUNT THE NEW PANELBOARD DIRECTLY OVER THE GUTTED OUT EXISTING FLUSH-MOUNTED PANELBOARD. SEE DETAIL 3/E-504 FOR REQUIRED WORK TO BE PERFORMED.

SHEET NOTES:

1. THE STATE WARNING POINT ROOM AND IT SERVER ROOM SHALL REMAIN OPERATIONAL THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROVIDE A PORTABLE GENERATOR TO POWER PANELS MS-1, CDS-1, AND IT-1 DURING ANY OUTAGES. THE FLOOR OUTLETS IN THE STATE WARNING POINT ROOM ARE POWERED BY PANEL MS-1. FOR THE REST OF B303, OUTAGES ARE LIMITED TO AFTER WORKING HOURS AND THE WEEKEND.

LEGEND:

- DASHED LINE INDICATES EXISTING ITEM
- BOLD LINE INDICATES NEW WORK

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

#	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/24	SF

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024
SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
ONE-LINE DIAGRAM

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 102 OF 123
EA602

LIGHT FIXTURE SCHEDULE

TYPE	GENERAL DESCRIPTION	MOUNTING STYLE	CHASSIS / FINISH	DRIVER / BALLAST	SHIELDING / REFLECTOR	NOMINAL DIMENSIONS	LAMP TYPE	INPUT WATTS	LUMEN OUTPUT	COLOR TEMP	CRI	VOLTAGE	SPECIAL CERTIFICATIONS OR LISTINGS	MANUFACTURER + MODEL NUMBER	REMARKS
A	SHALLOW LED ARCHITECTURAL TROFFER	CEILING RECESSED	DIE FORMED CODE-GAUGE COLD-ROLLED STEEL, HIGH-REFLECTIVITY MATTE WHITE PAINT	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE ACRYLIC LENS	2' X 4'	LED	29.6W	4207 LU	3500K	82 CRI	120-277V		COLUMBIA LCAT24-S-35L042G OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
B	SHALLOW LED ARCHITECTURAL TROFFER	CEILING RECESSED	DIE FORMED COLD ROLLED STEEL HOUSING WITH 96 LOW GLOSS WHITE FINISH	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE ACRYLIC LENS	1' X 4'	LED	28.4 W	2998 LU	3500K	80 CRI	120-277V		FINELITE HPR-LED-ANR-1X4-S-835-DCO-96LG-VOLT-SC-FC-DALI-1%-SM-96LG OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
BE	SHALLOW LED ARCHITECTURAL TROFFER	CEILING RECESSED	DIE FORMED COLD ROLLED STEEL HOUSING WITH 96 LOW GLOSS WHITE FINISH WITH EMERGENCY BATTERY PACK	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE ACRYLIC LENS	1' X 4'	LED	28.4 W	2998 LU	3500K	80 CRI	120-277V		FINELITE HPR-LED-ANR-1X4-S-835-DCO-96LG-VOLT-SC-FC-DALI-1%-SM-96LG-LGD10W OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
D	ENCLOSED AND GASKETED	CEILING SURFACE MOUNTED	OUTDOOR POWDER COAT, BLACK	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE ACRYLIC LENS	1' X 4'	LED	24 W	3000 LU	3500K	80 CRI	120-277V	WET LOCATION LISTED	STARTEK HYDRO BEAM OR ACCEPTED EQUIVALENT	
E	ENCLOSED AND GASKETED PENDANT	CEILING PENDANT MOUNTED	UL 5VA FIBERGLASS, WHITE	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 8'	LED	45 W	6398 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM8-35-VW-RFA-ED-U OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING. 2. PROVIDE WATTSTOPPER PHOTO/MOTION SENSOR
EE	ENCLOSED AND GASKETED PENDANT	CEILING PENDANT MOUNTED	UL 5VA FIBERGLASS, WHITE WITH EMERGENCY BATTERY PACK	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 8'	LED	45 W	6398 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM8-35-VW-RFA-ED-U-ELL14 OR ACCEPTED EQUIVALENT	
F	ENCLOSED AND GASKETED PENDANT	VANITY WALL MOUNT	UL 5VA FIBERGLASS, WHITE	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 4'	LED	22.5 W	3199 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM4-35-VW-RFA-ED-U OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
G	ENCLOSED AND GASKETED PENDANT	CEILING SURFACE MOUNTED	UL 5VA FIBERGLASS, WHITE	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 4'	LED	22.5 W	3199 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM8-40VW-RFA-EDU OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
GE	ENCLOSED AND GASKETED PENDANT	CEILING SURFACE MOUNTED	UL 5VA FIBERGLASS, WHITE WITH EMERGENCY BATTERY PACK	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 4'	LED	22.5 W	3199 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM8-40-VW-RFA-ED-U-ELL14 OR ACCEPTED EQUIVALENT	
H	ENCLOSED AND GASKETED PENDANT	CEILING SURFACE MOUNTED	UL 5VA FIBERGLASS, WHITE	INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 4'	LED	22.5 W	3199 LU	3500K	82 CRI	120-277V		COLUMBIA LXEM8-40VW-RFA-EDU OR ACCEPTED EQUIVALENT	1. 10% DIMMING DRIVER FOR 0-10V DIMMING
I	CIRCULAR PENDANT	CEILING PENDANT MOUNTED		INTEGRAL ELECTRONIC DRIVER	DIFFUSE MATTE PLASTIC LENS	11.2" X 3.5"	LED			3500K	82 CRI	120-277V			
J	FLOODLIGHT	WALL SURFACE MOUNTED	ALUMINUM DIE CASE HOUSING, GRAY FINISH	INTEGRAL ELECTRONIC DRIVER	IMPACT RESISTANT TEMPERED GLASS	27" H X 20" W	LED	150W	18900 LU	3000K	82 CRI	120-277V	WET LOCATION LISTED	EVOLVE EFH-01-0-CC-65-7-35 OR ACCEPTED EQUIVALENT	1. BUTTON PHOTOCELL
K	WALL PACK	WALL SURFACE MOUNTED	FADE AND ABRASION RESISTANT, ELECTROSTATICALLY APPLIED, THERMALLY CURED TRIGLYCIDAL ISOCYANURATE POLYESTER POWDERCOAT	INTEGRAL ELECTRONIC DRIVER	INJECTION MOLDED PMMA ACRYLIC, CLEAR	8.9" X 13"	LED	30 W	3267 LU	3000K	80 CRI	120-277V	WET LOCATION LISTED	WDS-D-24L-30-3K8-4W-UNV-BLT-PC OR ACCEPTED EQUIVALENT	1. BUTTON PHOTOCELL
L	SOLAR POLE LIGHT	POLE MOUNTED	POLYESTER POWDER COATING	INTEGRAL ELECTRONIC DRIVER	TEMPERED AND SCREENED GLASS LENS	16 11/16" x 17 11/16"	LED	50W	6000 LU	3000K	82 CRI	12VDC	WET LOCATION LISTED	SELUX AV4LS-R3W-1-L50-30 LED SOLAR OR ACCEPTED EQUIVALENT	INTEGRAL SMART CONTROLLER, MOTION SENSOR, 12V BATTERIES, AND SOLAR PANELS REFER TO 1/EA503 FOR POLE DETAIL.
X	EXIT LIGHT	CEILING SURFACE MOUNTED	HIGH STRENGTH DIE-CAST ALUMINUM HOUSING, TEXTURE WHITE FINISH	INTEGRAL ELECTRONIC DRIVER	COLOR-MATCHED SILK-SCREEN COATING DIFFUSER. RED LETTERS.	1' X 9"	LED	2.6W	N/A	N/A	N/A	120-277V			

LIGHTING CONTROLS SCHEDULE

ROOM NO. / ID	ROOM NAME	LOW VOLTAGE	SWITCH TYPE	RECEPTACLE CONTROL	LIGHTING CONTROL REQUIREMENTS	CONTROL DIAGRAM REFERENCE	KEYPAD DETAIL REFERENCE
	JIC OFFICE	YES	2-BUTTON WALL SWITCH + ROOM CONTROLLER + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	STATE WARNING POINT	NO	MANUAL TOGGLE	NO	MANUAL ON MANUAL OFF		
	MEDIA CENTER	YES	2-BUTTON WALL SWITCH + ROOM CONTROLLER + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	AIR CONDITIONING MACHINE ROOM	NO	MANUAL TOGGLE	NO	MANUAL ON MANUAL OFF		
	IT SERVER ROOM	NO	MANUAL TOGGLE	NO	MANUAL ON MANUAL OFF		
	CONFERENCE ROOM	YES	3-BUTTON KEYPAD + OCCUPANCY SENSOR	NO	BUTTON #1 - MANUAL ON FOR 100% OF LIGHTS BUTTON #2 - AV MODE (ALL LIGHTS DIMMED TO 10%) BUTTON #3 - MANUAL ALL OFF AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	OPEN WORK AREA #1	YES	2-BUTTON WALL SWITCH + ROOM CONTROLLER + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	PASSAGE	YES	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	
	VESTABULE	YES	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	
	MEN RESTROOM	YES	1-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	
	WOMEN RESTROOM	YES	1-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	

LIGHTING CONTROLS SCHEDULE

ROOM NO. / ID	ROOM NAME	LOW VOLTAGE	SWITCH TYPE	RECEPTACLE CONTROL	LIGHTING CONTROL REQUIREMENTS	CONTROL DIAGRAM REFERENCE	KEYPAD DETAIL REFERENCE
	STORAGE ROOM #1	NO	WALLBOX OCCUPANCY SENSOR WITH DUAL SWITCHES/RELAYS	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A5/EA505	
	STORAGE ROOM #2	NO	WALLBOX OCCUPANCY SENSOR WITH DUAL SWITCHES/RELAYS	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A5/EA505	
	LUNCH ROOM	NO	2-BUTTON WALL SWITCH + ROOM CONTROLLER + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	WAREHOUSE AREA #1, #2, #3, #4	NO	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS DIM TO 20% AFTER 5 MINUTES OF INACTIVITY AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A1/EA505	
	OFFICE #1, #2, #3	YES	2-BUTTON WALL SWITCH + ROOM CONTROLLER + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 50% OF LIGHTS MANUAL ON FOR REMAINDER OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	
	CORRIDOR A, B, C, D	NO	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS DIM TO 20% AFTER 5 MINUTES OF INACTIVITY AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	A3/EA505	

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.
DATE
DESCRIPTION
SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
SF KR ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ELECTRICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 103 OF 123
EA701

PANELBOARD: NEW C

LOCATION: CORRIDOR
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1
VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 20"
A.I.C RATING: 10,000
MAINS TYPE: MCB
BUS RATING: 225
MCB RATING: 100

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
-	-	1	O - EXISTING LOAD		20	1	0.7	0.7					1	20		O - EXISTING LOAD	2	-	-
-	-	3	O - EXISTING LOAD		20	1			0.7	0.7			1	20		O - EXISTING LOAD	4	-	-
-	-	5	O - EXISTING LOAD		20	1					0.7	0.7	1	20		O - EXISTING LOAD	6	-	-
-	-	7	O - EXISTING LOAD		20	1	0.7	0.7					1	20		O - EXISTING LOAD	8	-	-
-	-	9	O - FIRE ALARM	L	20	1			0.7	0.7			1	20		O - EXISTING LOAD	10	-	-
-	-	11	O - EXISTING LOAD		20	1					0.7	0.7	1	20		O - EXISTING LOAD	12	-	-
-	-	13	O - EXISTING LOAD		20	1	0.7	0.7					1	20		O - EXISTING LOAD	14	-	-
-	-	15	O - EXISTING LOAD		20	1			0.7	0.7			1	20		O - EXISTING LOAD	16	-	-
-	-	17	O - EXISTING LOAD		20	1					0.7	0.7	1	20		O - EXISTING LOAD	18	-	-
-	-	19	O - EXISTING LOAD		20	1	0.7	0.7					1	20		O - EXISTING LOAD	20	-	-
-	-	21	O - EXISTING LOAD		20	1			0.7	0.7			1	20		O - EXISTING LOAD	22	-	-
-	-	23	O - EXISTING LOAD		20	1					0.7	0.7	1	20		O - EXISTING LOAD	24	-	-
-	-	25	O - EXISTING LOAD		20	1	0.7	0.7					1	20		O - EXISTING LOAD	26	-	-
-	-	27	O - EXISTING LOAD		20	1			0.7	0.7			1	20		O - EXISTING LOAD	28	-	-
-	-	29	O - EXISTING LOAD		20	1					0.7	0.4	**1**	**20**		**O - TANK ALARM PANEL**	30	**12**	**12**
-	-	31	O - EXISTING LOAD		20	1	0.7	0.0					1	20		SPARE	32	-	-
10	**10**	33	**O - GENERATOR AUX PANEL**		**30**	**1**			1.2	0.0			1	20		SPARE	34	-	-
-	-	35	SPARE		20	1					0.0	0.0	1	20		SPARE	36	-	-
-	-	37	SPARE		20	1	0.0	0.0					1	20		SPARE	38	-	-
-	-	39	SPARE		20	1			0.0	0.0			1	20		SPARE	40	-	-
-	-	41	SPARE		20	1					0.0	0.0	1	20		SPARE	42	-	-
					TOTAL LOAD:		7.7 KVA		8.2 KVA		6.7 KVA								
					TOTAL AMPS:		21.4 A		22.8 A		18.6 A								

ID LEGEND:
*L DENOTES LOCKABLE BREAKER ACCESSORY

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	0.0 KVA	#DIV/0!	0.0 KVA	**TOTAL CONNECTED LOAD:**	22.6 KVA
HVAC	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND LOAD:**	22.6 KVA
MOTOR LOAD	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED CURRENT:**	62.7 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	62.7 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	22.6 KVA	100.0%	22.6 KVA		

NOTES:
1. REPLACES EXISTING PANEL C. FIELD VERIFY EXISTING BREAKER SIZES. NEW BREAKER SHALL MATCH EXISTING.
2. BOLD INDICATES NEW CIRCUITING ADDED TO THE PANEL.

PANELBOARD: NEW DAS

LOCATION: CORRIDOR
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1
VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 20"
A.I.C RATING: 10,000
MAINS TYPE: MLO
BUS RATING: 125
MCB RATING: N/A

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
-	-	1	L - OFFICE LIGHTS		20	1	1.0	1.0					1	20		R - RECEPT	2	-	-
-	-	3	R - REFRIGERATOR		20	1			1.0	1.0			1	20		H - AC MAUKA	4	-	-
-	-	5	L - WAREHOUSE LTS		20	1					1.0	1.0	1	20		R - RECEPT	6	-	-
-	-	7	L - WAREHOUSE LTS		20	1	1.0	1.0					1	20		H- AC - MAKAI	8	-	-
-	-	9	L - NIGHT LIGHTS		20	1			1.0	1.0			1	20		R - PLUGS	10	-	-
-	-	11	R - PLUGS		20	1					1.0	1.0	1	20		H - AC UNIT NEW OFFICE	12	-	-
-	-	13	SPARE		20	1	0.0	0.0					1	20		SPARE	14	-	-
-	-	15	SPARE		20	1			0.0	0.0			1	20		SPARE	16	-	-
-	-	17	SPARE		20	1					0.0	0.0	1	20		SPARE	18	-	-
					TOTAL LOAD:		4.0 KVA		4.0 KVA		4.0 KVA								
					TOTAL AMPS:		11.1 A		11.1 A		11.1 A								

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	4.0 KVA	100.0%	4.0 KVA		
RECEPTACLES	5.0 KVA	100.0%	5.0 KVA	**TOTAL CONNECTED LOAD:**	12.0 KVA
HVAC	3.0 KVA	100.0%	3.0 KVA	**TOTAL DEMAND LOAD:**	12.0 KVA
MOTOR LOAD	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED CURRENT:**	33.3 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	33.3 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	0.0 KVA	100.0%	0.0 KVA		

NOTES:
1. REPLACES EXISTING PANEL DAS. FIELD VERIFY EXISTING BREAKER SIZES. NEW BREAKER SIZES SHALL MATCH EXISTING.

PANELBOARD: NEW PP

LOCATION: WAREHOUSE AREA #1
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1
VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 20"
A.I.C RATING: 10,000
MAINS TYPE: MCB
BUS RATING: 100
MCB RATING: 100

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
-	-	1	PFB		-	-	0.0	0.0					-	-		PFB	2	-	-
-	-	3	O - WATER COOLER		20	1			1.0	1.0			1	20		M - FUJITSU AC SUPPLY ROOM	4	-	-
-	-	5	R - PLUG COM LINE		20	1					1.0	1.0	1	20		O - FAN	6	-	-
-	-	7	O - EXISTING LOAD		20	1	1.0	0.0					-	-		PFB	8	-	-
-	-	9	PFB		-	-			0.0	0.0			-	-		PFB	10	-	-
-	-	11	PFB		-	-					0.0	1.0	2	-		O - EXISTING LOAD	12	-	-
-	-	13	O - WATER HEATER		-	2	1.0	1.0					2	-		~~O - EXISTING LOAD~~	~~14~~	~~-~~	~~-~~
-	-	15	O - WATER HEATER		-	2			1.0	0.2			1	20		O - WATER METER	16	12	12
-	-	17	M - EXHAUST FAN		-	2					1.0	0.0	1	20		~~SPARE~~	~~18~~	~~-~~	~~-~~
-	-	19	M - EXHAUST FAN		-	2	1.0	0.0					1	20		SPARE	20	-	-
-	-	21	SPARE		20	1			0.0	0.0			1	20		SPARE	22	-	-
-	-	23	SPARE		20	1					0.0	0.0	1	20		SPARE	24	-	-
-	-	25	SPARE		20	1	0.0	0.0					1	20		SPARE	26	-	-
-	-	27	SPARE		20	1			0.0	0.0			1	20		SPARE	28	-	-
-	-	29	SPARE		20	1					0.0	0.0	1	20		SPARE	30	-	-
					TOTAL LOAD:		4.0 KVA		3.2 KVA		4.0 KVA								
					TOTAL AMPS:		11.1 A		8.9 A		11.1 A								

1

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	1.0 KVA	100.0%	1.0 KVA	**TOTAL CONNECTED LOAD:**	11.2 KVA
HVAC	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND LOAD:**	11.2 KVA
MOTOR LOAD	3.0 KVA	100.0%	3.0 KVA	**TOTAL CONNECTED CURRENT:**	31.1 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	31.1 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	7.2 KVA	100.0%	7.2 KVA		

NOTES:
1. FIELD VERIFY EXISTING BREAKER SIZES. NEW BREAKERS SHALL MATCH EXISTING.
2. REPLACES EXISTING PANEL PP.

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Scott Tomokiyo 4/30/2026
SIGNATURE EXPIRATION DATE

NO	DESCRIPTION	DATE	APPR.
1	ADDENDUM 1	3/24	SF

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
SF KR ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PANEL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 104 OF 123
EA702

PANELBOARD: NEW A

LOCATION: WAREHOUSE CORRIDOR
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 20"

A.I.C RATING: 10,000
MAINS TYPE: MLO
BUS RATING: 225
MCB RATING: N/A

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
-	-	1	L - 1ST ROW LEFT		20	1	1.0	1.0					1	20		L - 3RD ROW RIGHT	2	-	-
-	-	3	L - 2ND ROW LEFT		20	1			1.0	1.0			1	20		L - 2ND ROW RIGHT	4	-	-
-	-	5	L - 3RD ROW LEFT		20	1					1.0	1.0	1	20		L - 1ST ROW RIGHT	6	-	-
-	-	7	L - 4TH ROW LEFT		20	1	1.0	1.0					1	20		L - 4TH ROW RIGHT	8	-	-
-	-	9	L - 5TH ROW LEFT		20	1			1.0	1.0			1	20		L - CENTER ENTRY AISLE	10	-	-
-	-	11	O - EXISTING LOAD		20	1					1.0	1.0	1	20		L - 5TH ROW RIGHT	12	-	-
-	-	13	O - EXISTING LOAD		20	1	1.0	1.0					1	20		O - TELEPHONE EQUIPMENT	14	-	-
-	-	15	O - EXISTING LOAD		20	1			1.0	1.0			1	20		L - LUNCH ROOM	16	-	-
-	-	17	O - EXISTING LOAD		20	1					1.0	1.0	1	20		L - ENGR OFFICE	18	-	-
-	-	19	L - IBM AND AC MACHINE ROOM		20	1	1.0	1.0					1	20		L - COMPTROLLER / WHSE CENTER	20	-	-
-	-	21	L - IBM KEYPUNCH ROOM		20	1			1.0	1.0			1	20		L - USPFO / RH, CENTER, CLOTH STR	22	-	-
-	-	23	L - OFC LOG OFF		20	1					1.0	1.0	1	30		L - A/A WHSE CLOTH STORE, LH	24	-	-
-	-	25	L - SALES STORE OFC		20	1	1.0	1.0					1	20		L - SALES STORE / WHSE OFC	26	-	-
-	-	27	L - SALES STORE 1ST ROW		20	1			1.0	1.0			1	20		L - WHSE OFC / 3RD ROW SALES STR	28	-	-
-	-	29	L - SALES STORE 2ND ROW		20	1					1.0	1.0	1	20		L - SALES STORE, CLOTH, 4TH ROW	30	-	-
-	-	31	L - LATRINE (MEN / WOMEN)		20	1	1.0	1.0					1	20		O - EXISTING LOAD	32	-	-
-	-	33	L - VAULT AND PANEL		20	1			1.0	1.0			2	30		O - EXISTING LOAD	34	-	-
-	-	35	M - EXHAUST FAN LATRINE		20	1					1.0	1.0	2	30		O - EXISTING LOAD	36	-	-
-	-	37	O - EXISTING LOAD		20	1	1.0	1.0					1	20		O - EXISTING LOAD	38	-	-
-	-	39	O - EXISTING LOAD		20	1			1.0	1.0			1	20		O - EXISTING LOAD	40	-	-
-	-	41	PFB		-	-					0.0	1.0	1	20		O - EXISTING LOAD	42	-	-
-	-	43	SPARE		20	1	0.0	0.0					1	20		SPARE	44	-	-
-	-	45	SPARE		20	1			0.0	0.0			1	20		SPARE	46	-	-
-	-	47	SPARE		20	1					0.0	0.0	1	20		SPARE	48	-	-
-	-	49	SPARE		20	1	0.0	0.0					1	20		SPARE	50	-	-
-	-	51	SPARE		20	1			0.0	0.0			1	20		SPARE	52	-	-
-	-	53	SPARE		20	1					0.0	0.0	1	20		SPARE	54	-	-
					TOTAL LOAD:		14.0 KVA		14.0 KVA		13.0 KVA								
					TOTAL AMPS:		38.9 A		38.9 A		36.1 A								

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	27.0 KVA	100.0%	27.0 KVA		
RECEPTACLES	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED LOAD:**	41.0 KVA
HVAC	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND LOAD:**	41.0 KVA
MOTOR LOAD	1.0 KVA	100.0%	1.0 KVA	**TOTAL CONNECTED CURRENT:**	113.8 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	113.8 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	13.0 KVA	100.0%	13.0 KVA		

NOTES:
1. REPLACES EXISTING PANEL A.
2. FIELD VERIFY EXISTING BREAKER SIZES. NEW BREAKERS SHALL MATCH EXISTING.

PANELBOARD: NEW B

LOCATION: WAREHOUSE CORRIDOR
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 20"

A.I.C RATING: 10,000
MAINS TYPE: MLO
BUS RATING: 225
MCB RATING: N/A

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
-	-	1	L - STAGE LIGHTS		20	1	1.0	1.0					1	20		R - LEFT REAR OFFICE	2	-	-
-	-	3	R - LEFT FRONT OFFICE		20	1			1.0	1.0			1	20		R - LEFT REAR OFFICE	4	-	-
-	-	5	R - LEFT FRONT OFFICE		20	1					1.0	1.0	1	20		R - LEFT REAR OFFICE	6	-	-
-	-	7	R - RIGHT OFFICE		20	1	1.0	1.0					1	20		R - LUNCH ROOM	8	-	-
-	-	9	R - RIGHT OFFICE		20	1			1.0	1.0			1	20		R - LUNCH ROOM	10	-	-
-	-	11	PFB		-	-					0.0	1.0	1	20		R - REFRIG / COMPUTER / KITCHEN	12	-	-
-	-	13	PFB		-	-	0.0	1.0					1	20		R - STORE	14	-	-
-	-	15	O - CARLSON OFF		20	1			1.0	1.0			1	20		R - DISPOSAL	16	-	-
-	-	17	PFB		-	-					0.0	1.0	1	20		R - REFRIGERATOR	18	-	-
-	-	19	R - STORE		20	1	1.0	1.0					1	20		R - PAYROLL	20	-	-
-	-	21	L - CAGE AREA		20	1			1.0	1.0			1	20		O - TELEPHONE SYSTEM	22	-	-
-	-	23	O - OZALID		20	1					1.0	1.0	1	20		O - OZALID	24	-	-
-	-	25	R - CLOCK		20	1	1.0	1.0					1	20		O - DEHUMIDIFER CABINET	26	-	-
-	-	27	R - 31-ADP KP		20	1			1.0	1.0			1	20		R - CAGE AREA	28	-	-
-	-	29	R - RECORDS STORAGE / CAGE		20	1					1.0	1.0	1	20		O - EXISTING LOAD	30	-	-
-	-	31	O - EXISTING LOAD		20	1	1.0	1.0					1	20		O - FRONT DOOR ACCESS CONTROL	32	-	-
-	-	33	R - XEROX MACHINE		20	1			1.0	1.0			1	20		R - CAGE AREA AND TIME SWITCH	34	-	-
-	-	35	PFB		-	-					0.0	1.0	1	20		O - EXISTING LOAD	36	-	-
-	-	37	F - SMOKE DETECTOR		20	1	1.0	0.0					-	-		PFB	38	-	-
-	-	39	R - NEW OUTLET		20	1			1.0	0.0			-	-		PFB	40	-	-
-	-	41	O - DUCT DETECTOR		20	1					1.0	0.0	-	-		PFB	42	-	-
-	-	43	SPARE		20	1	0.0	0.0					1	20		SPARE	44	-	-
-	-	45	SPARE		20	1			0.0	0.0			1	20		SPARE	46	-	-
-	-	47	SPARE		20	1					0.0	0.0	1	20		SPARE	48	-	-
-	-	49	SPARE		20	1	0.0	0.0					1	20		SPARE	50	-	-
-	-	51	SPARE		20	1			0.0	0.0			1	20		SPARE	52	-	-
-	-	53	SPARE		20	1					0.0	0.0	1	20		SPARE	54	-	-
					TOTAL LOAD:		12.0 KVA		13.0 KVA		10.0 KVA								
					TOTAL AMPS:		33.3 A		36.1 A		27.8 A								

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	2.0 KVA	100.0%	2.0 KVA		
RECEPTACLES	22.0 KVA	72.7%	16.0 KVA	**TOTAL CONNECTED LOAD:**	35.0 KVA
HVAC	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND LOAD:**	29.0 KVA
MOTOR LOAD	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED CURRENT:**	97.2 A
FIRE ALARM	1.0 KVA	100.0%	1.0 KVA	**TOTAL DEMAND CURRENT:**	80.5 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	10.0 KVA	100.0%	10.0 KVA		

NOTES:
1. REPLACE EXISTING PANEL B.
2. FIELD VERIFY EXISTING BREAKER SIZES. NEW BREAKERS SHALL MATCH EXISTING.

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE Scott Tomokiyo 4/30/2026
EXPIRATION DATE

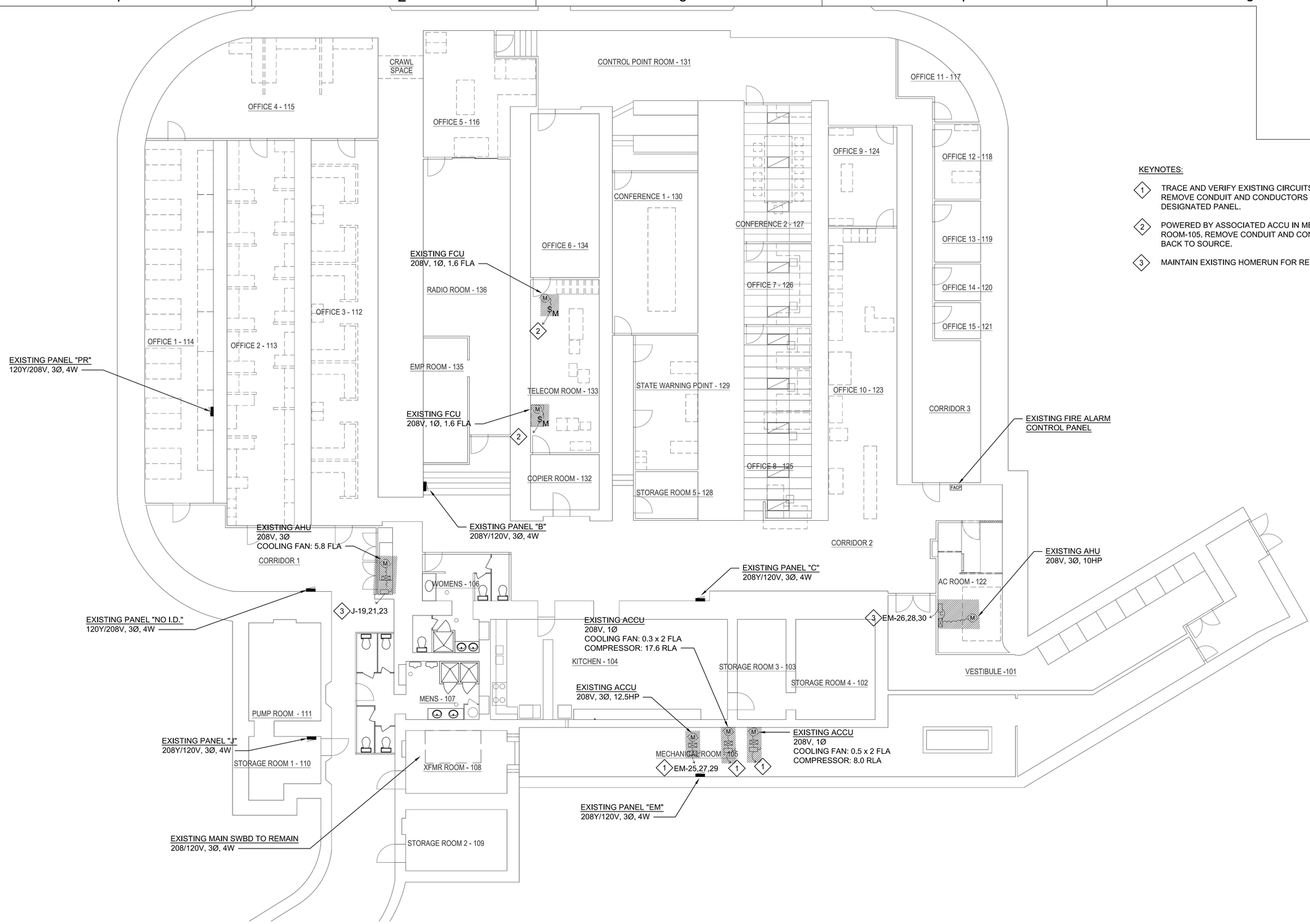
APPR. | DATE | DESCRIPTION | STM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PANEL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 105 OF 123
EA703



KEYNOTES:

1. TRACE AND VERIFY EXISTING CIRCUITS. REMOVE CONDUIT AND CONDUCTORS BACK TO DESIGNATED PANEL.
2. POWERED BY ASSOCIATED ACCU IN MECHANICAL ROOM-105. REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE.
3. MAINTAIN EXISTING HOMERUN FOR REUSE.

PLAN NORTH / TRUE NORTH

1 / EB101 FIRST FLOOR MECH POWER PLAN - DEMO

SCALE: 1/8" - 1'-0"

0 2' 4' 8' 12' 16' 20' 24'

SCALE: 1/8" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

APPR.	DATE	DESCRIPTION	SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

FIRST FLOOR MECH POWER PLAN - DEMO

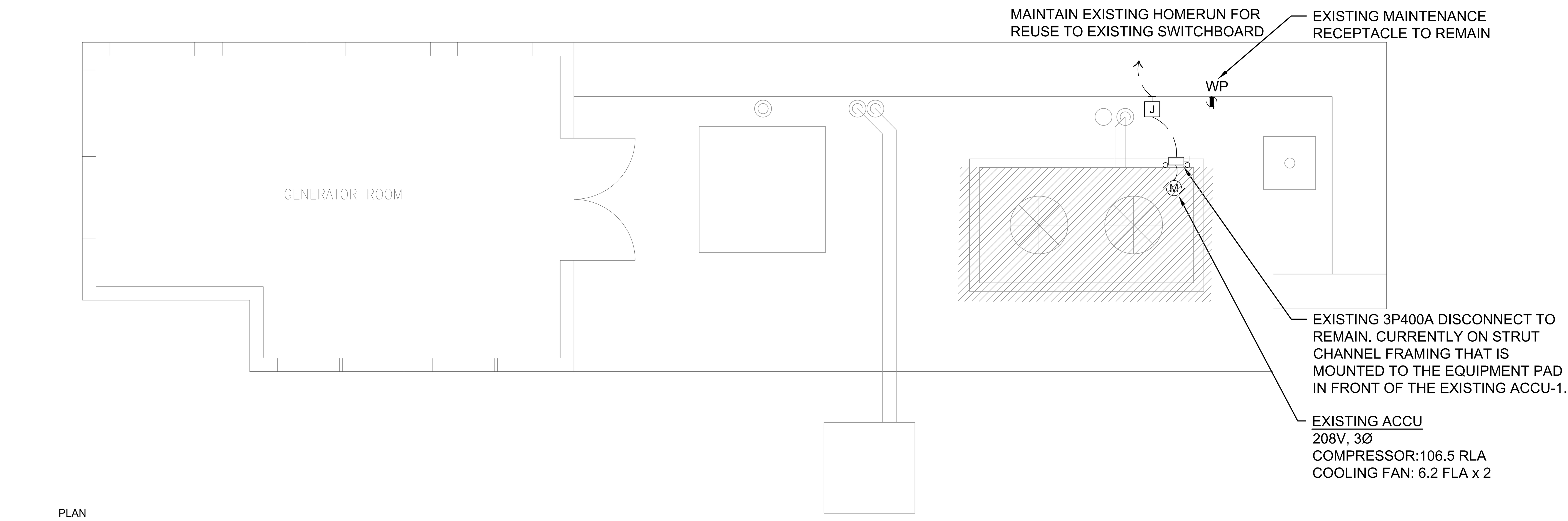
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 106 OF 123

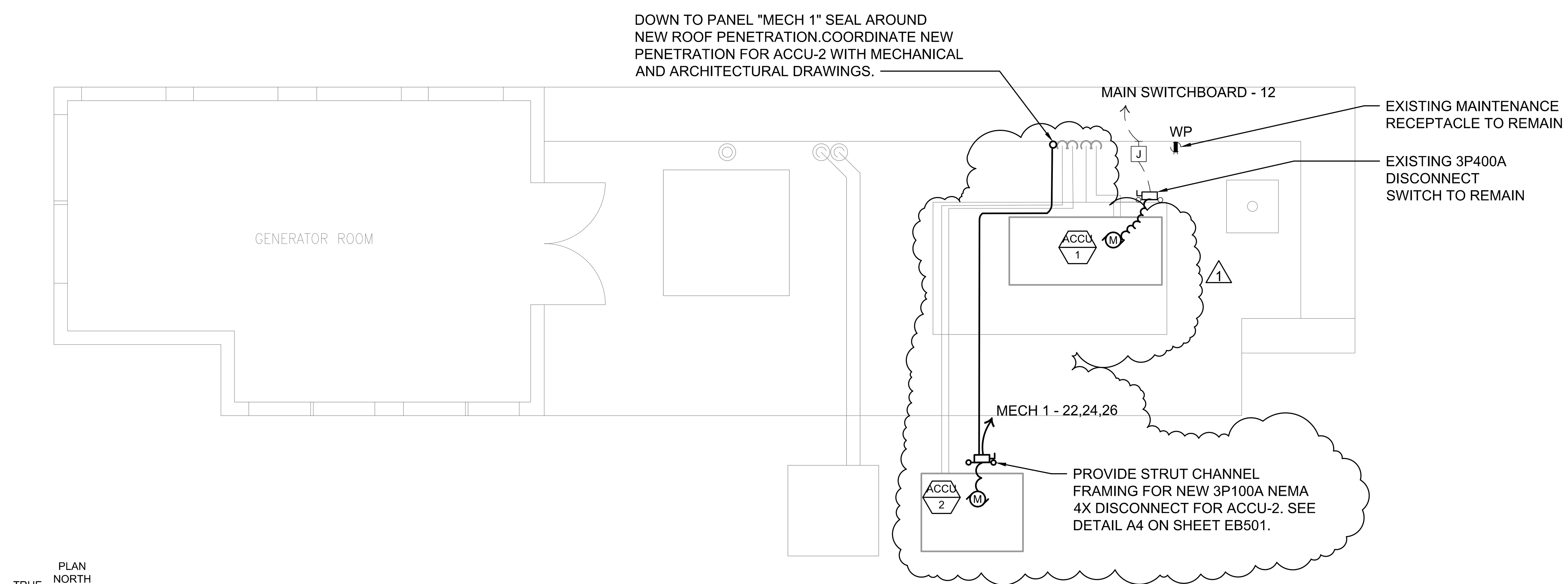
EB101



C1 / EB102 ROOF MECH POWER PLAN - DEMO

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"



A1 / EB102 ROOF MECH POWER PLAN

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO LICENSED PROFESSIONAL ENGINEER No. 15968-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	ADDENDUM NO.1	3/21/24	ST

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF | KR | ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ROOF MECH POWER PLANS

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 107 OF 123

EB102

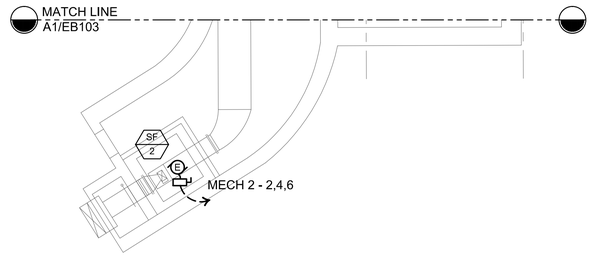
PHASING NOTES:

(P1) PHASE 1: NEW PANELS "MECH 1" AND "MECH 2" TO BE INSTALLED PRIOR TO THE INSTALLATION OF TEMPORARY AC UNITS AND OTHER AHUS/FCUS. PROVIDE 208V POWER AND SUPPORTING CONDUCTORS VIA NEW "MECH 2" PANEL, TO (2) 12-TON PORTABLE AC UNITS PRIOR TO THE INSTALLATION OF AHU-1. REMOVE TEMPORARY BRANCH CIRCUITING, DISCONNECT SWITCHES, AND EQUIPMENT CONNECTIONS WHEN THE TEMPORARY AC UNIT IS REMOVED.

(P2) PHASE 2: PROVIDE 208V POWER AND SUPPORTING CONDUCTORS VIA NEW "MECH 2" PANEL, TO TEMPORARY AC UNIT FOR AHU-2 INSTALLATION. NEW AHU-2 UNIT TO BE INSTALLED FOLLOWING THE INSTALLATION OF AHU-1 AND PRIOR TO THE INSTALLATION OF ALL OTHER FCUS.REMOVE TEMPORARY BRANCH CIRCUITING, DISCONNECT SWITCHES, AND EQUIPMENT CONNECTIONS WHEN THE TEMPORARY AC UNIT IS REMOVED.

(P3) PHASE 3: PROVIDE 208V POWER AND SUPPORTING CONDUCTORS VIA NEW "MECH 2" PANEL, TO TEMPORARY AC UNIT FOR FCU-3 AND FCU-4 INSTALLATION. TEMPORARY AC UNIT TO BE INSTALLED FOLLOWING THE INSTALLATION OF AHU-1 AND AHU-2. WHILE TEMPORARY AC UNIT IS INSTALLED, ONLY ONE FCU IN THE TELECOM ROOM SHALL BE WORKED ON AT A GIVEN TIME. REMOVE TEMPORARY BRANCH CIRCUITING, DISCONNECT SWITCHES, AND EQUIPMENT CONNECTIONS WHEN THE TEMPORARY AC UNIT IS REMOVED.

SHEET NOTES:
1. CONTRACTOR TO FOLLOW MECHANICAL CONDUIT ROUTING AND COORDINATE NEW PENETRATIONS WITH ARCHITECTURAL DRAWINGS, FOR ALL NEW CIRCUIT HOMERUNS.
2. SEE SHEET EB701 FOR ELECTRICAL SCHEDULES.
3. SEE SHEET EB702 FOR NEW PANEL SCHEDULES.



PARTIAL FIRST FLOOR MECHANICAL POWER PLAN AREA 5 - NEW WORK

C4 / EB103 SCALE: 1/8" - 1'-0"

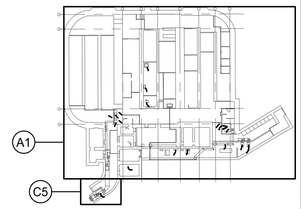
MATCH LINE
C4/EB103

FIRST FLOOR MECH POWER PLAN

TRUE NORTH / PLAN NORTH

A1 / EB103 SCALE: 1/8" - 1'-0"

0 2' 4' 8' 12' 16' 20' 24'
SCALE: 1/8" = 1'-0"



KEY PLAN
NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.	DATE	DESCRIPTION	SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

AR	KR	ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

FIRST FLOOR MECH POWER PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 108 OF 123

EB103

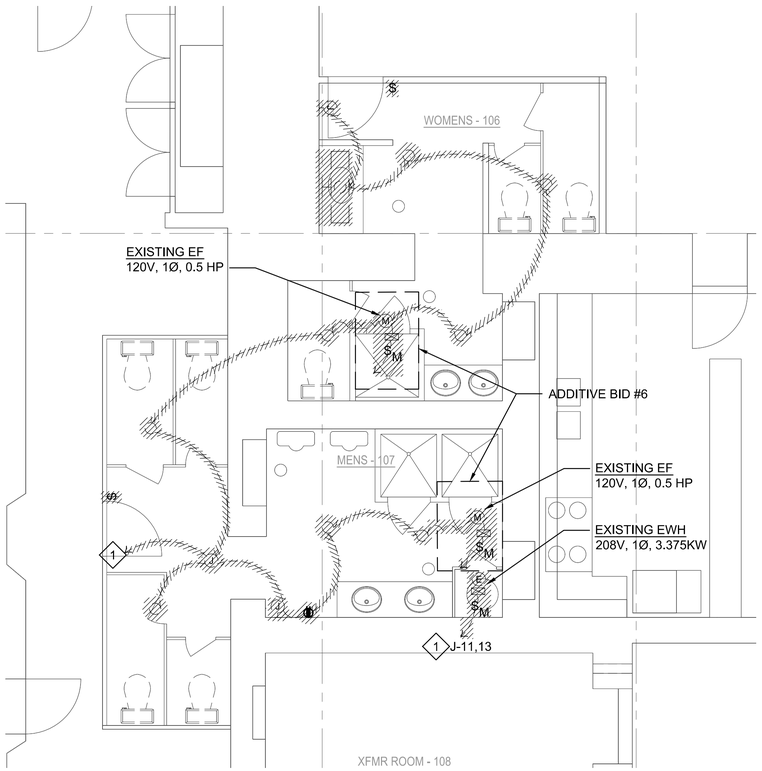
SHEET NOTES:

1. CONTRACTOR TO FOLLOW MECHANICAL CONDUIT ROUTING AND COORDINATE NEW PENETRATIONS WITH ARCHITECTURAL DRAWINGS.
2. SEE SHEET EB503 FOR LIGHTING CONTROL DIAGRAMS.
3. SEE SHEET EB701 FOR LIGHT FIXTURE AND LIGHTING CONTROL SCHEDULES.

KEYNOTES:

1 TRACE AND VERIFY CIRCUIT AND MAINTAIN EXISTING HOMERUN FOR REUSE.

1 INTERCEPT EXISTING CIRCUIT VIA A JUNCTION BOX AND EXTEND TO ROOM CONTROLLER AND NEW LIGHTS.



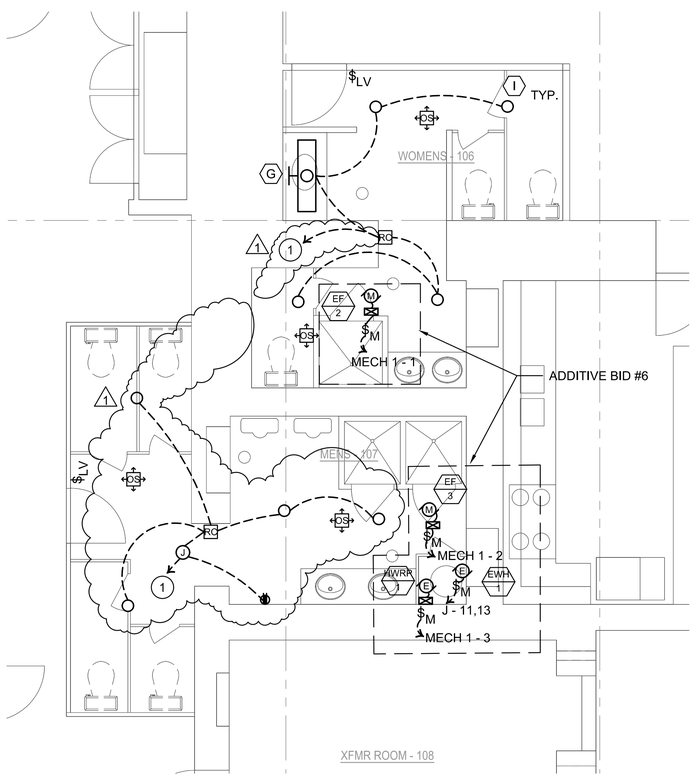
TRUE NORTH / PLAN NORTH

A1 / EB201 ENLARGED BATHROOM ELECTRICAL DEMOLITION WORK PLAN

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



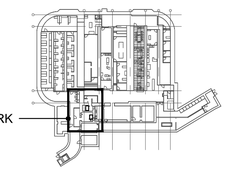
TRUE NORTH / PLAN NORTH

A3 / EB201 ENLARGED BATHROOM ELECTRICAL NEW WORK PLAN

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"



KEY PLAN

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 4/30/2026 EXPIRATION DATE

	DESCRIPTION	DATE	APPR.
3			
2			
1	Addendum 1	3/21/24	ST

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF KR ST

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED BATHROOM ELECTRICAL PLANS

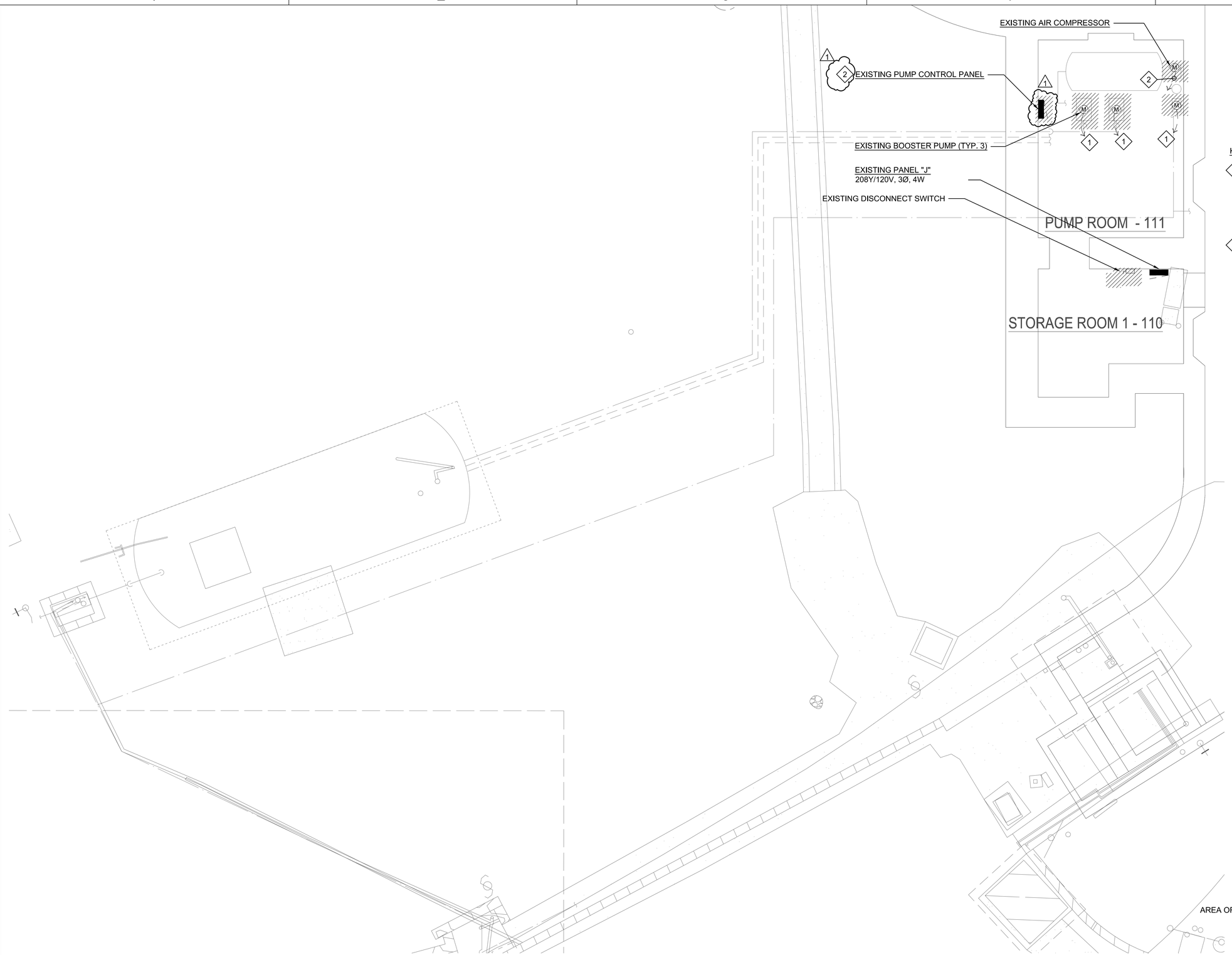
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

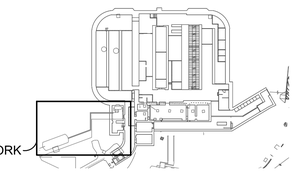
SHEET 109 OF 123

EB201



KEYNOTES:

1. REMOVE ALL ASSOCIATED CONDUIT AND POWER CONDUCTORS BACK TO PUMP CONTROL PANEL, DISCONNECT SWITCH, AND PANEL "J". CONTROL WIRES TO BE REMOVED BY OTHERS. COORDINATE ALL REMOVAL WORK WITH OTHER CONTRACTORS PRIOR TO REMOVAL.
2. REMOVE ALL ASSOCIATED CONDUIT AND WIRES BACK TO PANEL "J".



KEY PLAN

PLAN NORTH / TRUE NORTH

A1 / EB202 ENLARGED PUMP ROOM POWER PLAN - DEMO
SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

1	Addendum 1	3/21/24	ST
△		DATE	APPR.
STR	DESCRIPTION		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ENLARGED PUMP ROOM POWER PLAN - DEMO

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 110 OF 123
EB202

CORRIDOR 1

WOMENS -

MENS - 107

PUMP ROOM - 111

STORAGE ROOM 1 - 110

XFMR ROOM -

STORAGE ROOM 2

FUEL

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

MECH 2-15

MECH 1- 8

DOMESTIC WATER SYSTEM CONTROL PANEL

MECH 2 - 17

CONTROL VALVE

MECH 1 - 36

MECH 2 - 14,16,18

WFS 1

DWP 1

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

MECH 2-13

JUNCTION BOX FOR FUTURE DATA CONNECTION.

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

CONTROL VALVE

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

13" X 24" POLYMER HANDHOLE. SEE SHEET EB502.

ADDITIVE BID #5

SMART WATER METER

SHEET NOTES:

1. CONTRACTOR TO FOLLOW MECHANICAL CONDUIT ROUTING AND COORDINATE NEW PENETRATIONS WITH ARCHITECTURAL DRAWINGS FOR ALL NEW CIRCUIT HOMERUNS.
2. SEE SHEET EB501 FOR DUCT SECTION DETAILS.
3. SEE SHEET EB502 FOR HANDHOLE DETAILS.

AREA OF WORK

KEY PLAN

TRUE NORTH

PLAN NORTH

A1 / EB203

ENLARGED PUMP ROOM POWER PLAN

SCALE: 3/16" - 1'-0"

0 4' 8' 12' 16'

SCALE: 3/16" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

1	Addendum 1	3/21/24	ST	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF | KR | ST

DEPARTMENT OF DEFENSE

STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ENLARGED PUMP ROOM POWER PLAN

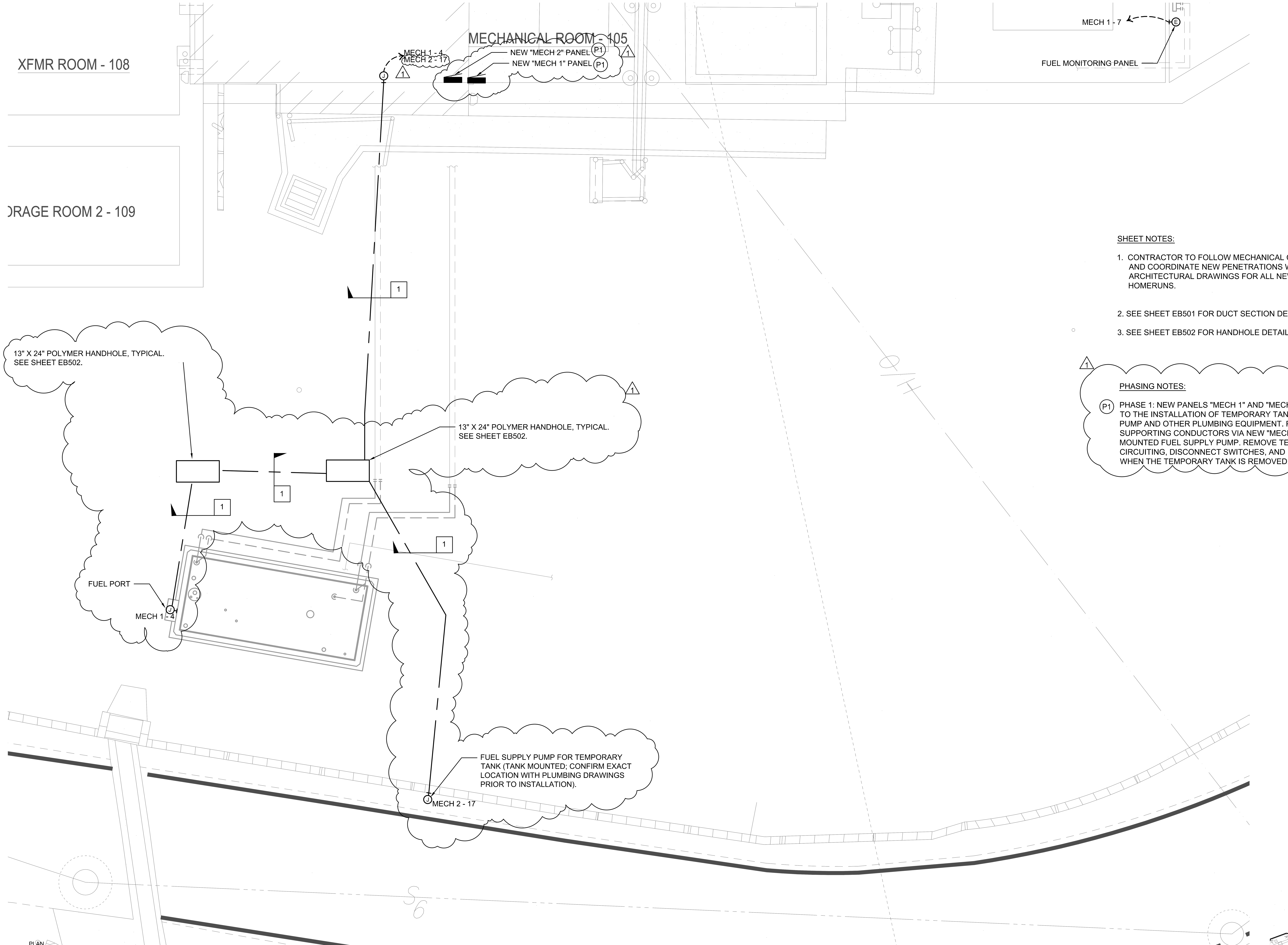
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 111 OF 123

EB203



A1 / EB204

FUEL STORAGE TANK POWER PLAN

SCALE:1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'
SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. CONTRACTOR TO FOLLOW MECHANICAL CONDUIT ROUTING AND COORDINATE NEW PENETRATIONS WITH ARCHITECTURAL DRAWINGS FOR ALL NEW CIRCUIT HOMERUNS.

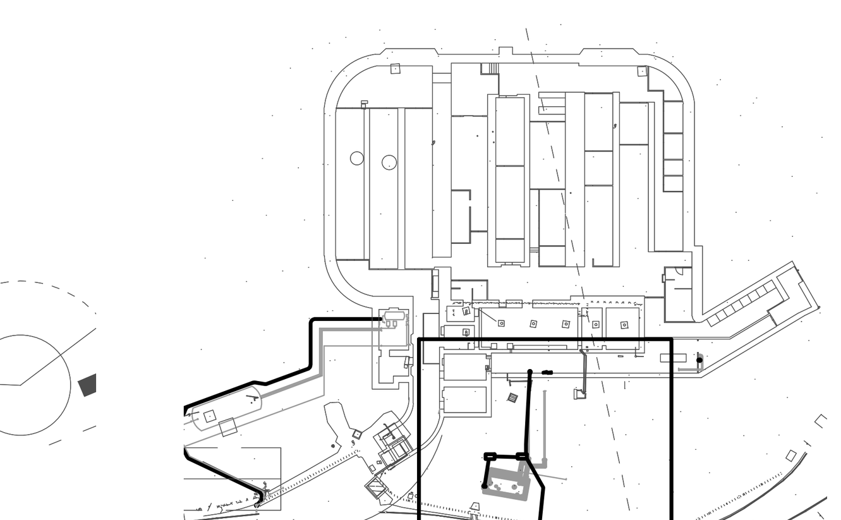
2. SEE SHEET EB501 FOR DUCT SECTION DETAILS.

3. SEE SHEET EB502 FOR HANDHOLE DETAILS.

1

PHASING NOTES:

(P1) PHASE 1: NEW PANELS "MECH 1" AND "MECH 2" TO BE INSTALLED PRIOR TO THE INSTALLATION OF TEMPORARY TANK MOUNTED FUEL SUPPLY PUMP AND OTHER PLUMBING EQUIPMENT. PROVIDE 120V POWER AND SUPPORTING CONDUCTORS VIA NEW "MECH 2" PANEL, TO (1) TANK MOUNTED FUEL SUPPLY PUMP. REMOVE TEMPORARY BRANCH CIRCUITING, DISCONNECT SWITCHES, AND EQUIPMENT CONNECTIONS WHEN THE TEMPORARY TANK IS REMOVED.



KEY PLAN

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Scott Tomokiyo 4/30/2026
SIGNATURE EXPIRATION DATE

SYM	DESCRIPTION	DATE	APPR.
1	Addendum 1	3/21/24	ST

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

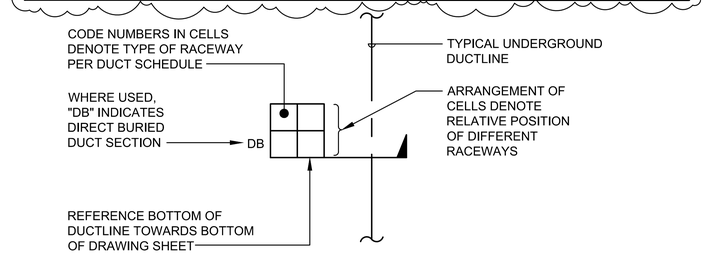
SF	KR	ST

STATE OF HAWAI'I
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS
FUEL STORAGE TANK POWER PLAN

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 112 OF 123
EB204

DUCT SCHEDULE

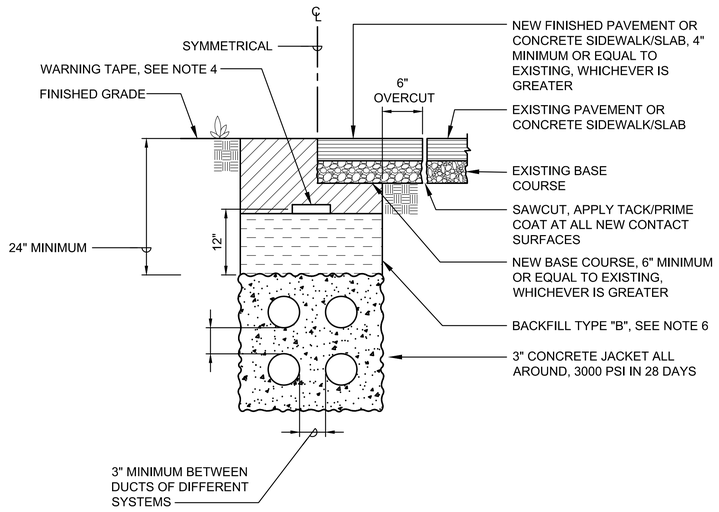
NO.	DESCRIPTION	CONDUCTORS / CABLES
1	1"C PVC SCHEDULE 40, BRANCH CIRCUIT	2 #12, 1#12 GND
2	1"C PVC SCHEDULE 40, DATA	PULL STRING



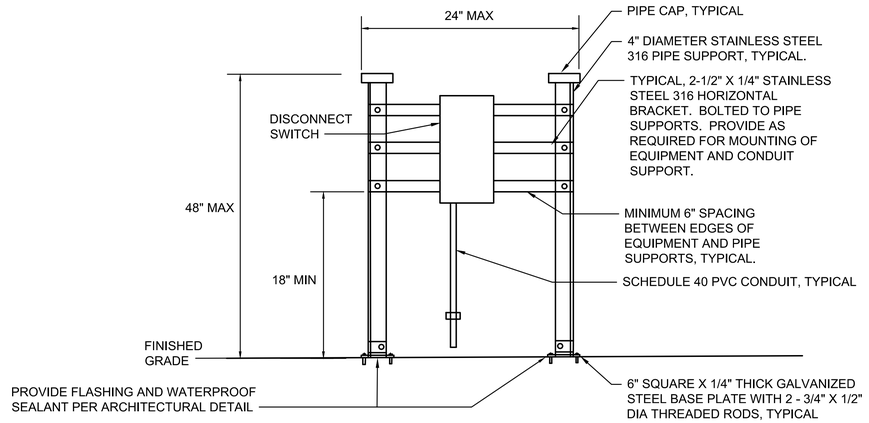
C4 / EB501 — DUCT SECTION FLAG CODE
SCALE: NTS

DUCT SECTION NOTES:

1. CONDUITS SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
2. AT LANDSCAPED AREAS, RESTORE DISTURBED SURFACES TO MATCH THE EXISTING SURROUNDING SURFACES.
3. WARNING TAPE SHALL BE 5 MIL THICK X 3" WIDE AND SHALL BE LAID THE ENTIRE LENGTH OF THE DUCTLINE. TAPE SHALL HAVE A CONTINUOUS METALLIC BACKING AND CORROSION RESISTANT FOIL CORE. WARNING AND IDENTIFICATION TO BE IMPRINTED ON THE TAPE SHALL READ "CAUTION BURIED ELECTRICAL CABLE BELOW." MESSAGE SHALL BE REPEATED APPROXIMATELY EVERY 10 FEET, MINIMUM. TAPE COLOR SHALL BE AS FOLLOWS:
   ELECTRICAL - RED COLOR
4. BACKFILL TYPE "A": NON-CONTAMINATED NATIVE SOIL MATERIAL WHICH DOES NOT CONTAIN MORE THAN 50% GRAVEL AND ALSO DOES NOT CONTAIN HARD LUMPS OF EARTH 3 INCHES IN GREATEST DIMENSION, ROCKS LARGER THAN 1 INCH IN LARGEST DIMENSION, HIGHLY PLASTIC CLAY, POORLY GRADED SAND AND GRAVEL, ORGANICS, DEBRIS, OR OTHER UNSUITABLE OR DELETERIOUS MATERIALS. 95% COMPACTION.
5. BACKFILL TYPE "B": NON-CONTAMINATED NATIVE SOIL MATERIAL WHICH DOES NOT CONTAIN MORE THAN 20% BY VOLUME OF ROCK PARTICLES. MIXTURE MUST PASS THROUGH A 1/2" MESH SCREEN. 95% COMPACTION.
6. WHERE ELECTRICAL DUCTLINES CROSS OTHER UTILITIES, MAINTAIN A MINIMUM OF 12" VERTICAL SEPARATION BETWEEN THE ELECTRICAL DUCTS AND THE OTHER UTILITY LINES (GAS, WATER, SEWER, DRAIN, ETC.).



A2 / EB501 — TYPICAL CONCRETE ENCASED DUCT SECTION
SCALE: NTS



NOTES:

1. CONTRACTOR TO VERIFY EQUIPMENT DIMENSIONS BEFORE FABRICATING EQUIPMENT RACK.

A4 / EB501 — FREE-STANDING EQUIPMENT SUPPORT STRUCTURE DETAIL
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

Addendum 1	ST	2/21/24
DESCRIPTION	APPR.	DATE

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

SF	KR	ST

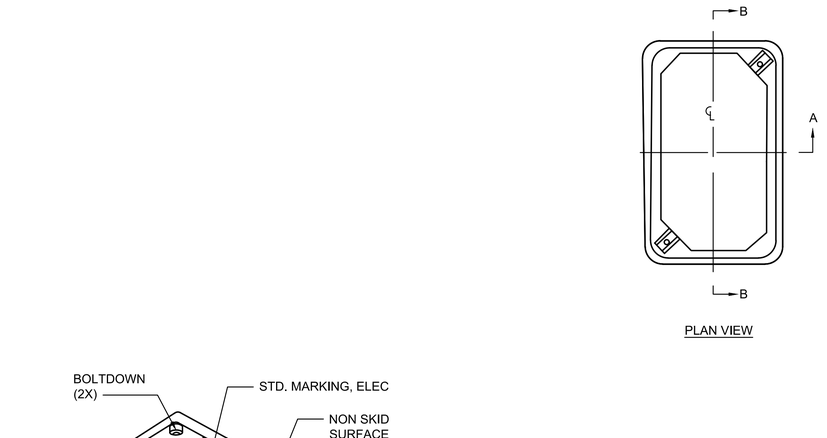
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

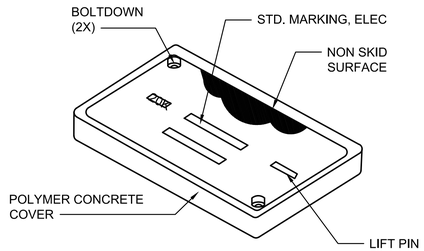
UNISTRUT AND DUCT SECTION DETAILS

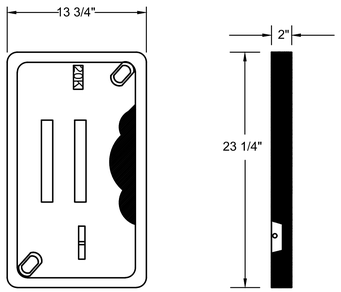
SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 113 OF 123

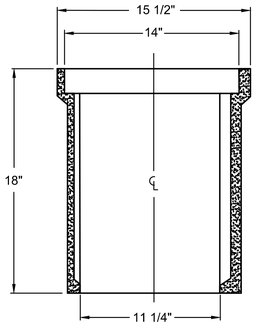
EB501



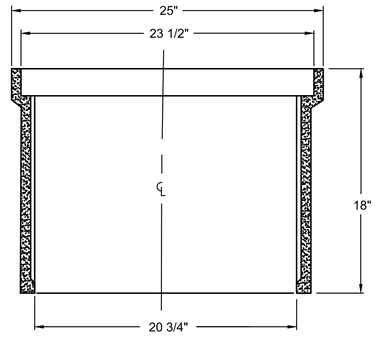
PLAN VIEW







SECTION A-A



SECTION B-B

A3 / EB501 — 13" X 24" HANDHOLE COVER DETAIL
SCALE: NTS

A4 / EB501 — 13" X 24" HANDHOLE COVER DETAIL
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

DESCRIPTION	DATE	APPR.
SYM		

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

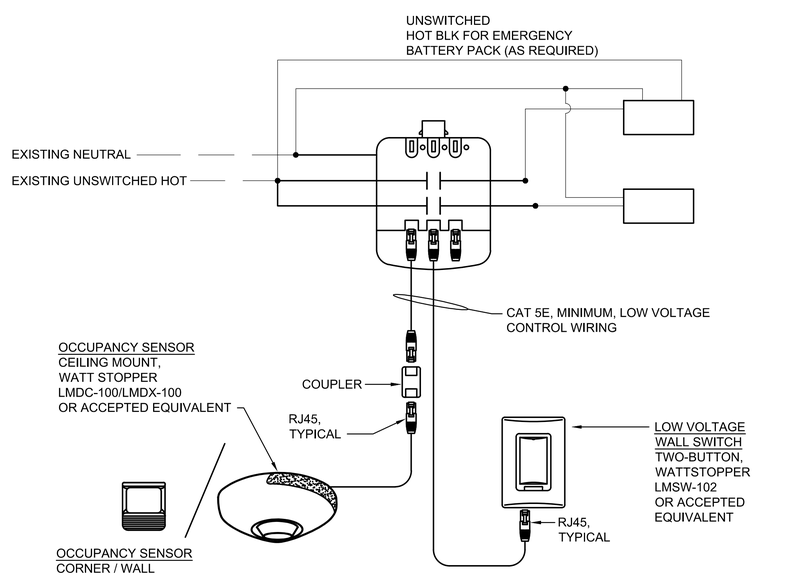
DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

HANDHOLE DETAILS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 114 OF 123

EB502



NOTES:

1. PROVIDE NUMBER OF ROOM CONTROLLERS, OCCUPANCY SENSORS, AND LOW VOLTAGE SWITCHES AS REQUIRED FOR EACH SPACE FOR A COMPLETE AND OPERATIONAL SYSTEM.
2. ALL CABLING SHALL BE INSTALLED IN CONDUIT. MINIMUM CONDUIT SIZE SHALL BE 3/4".

C4
EB503

ROOM CONTROLLER WIRING DIAGRAM

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

STM	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE

DIAMOND HEAD STATE MONUMENT

4204 DIAMOND HEAD RD HONOLULU, HI 96816

TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ROOM CONTROLLER WIRING DIAGRAM

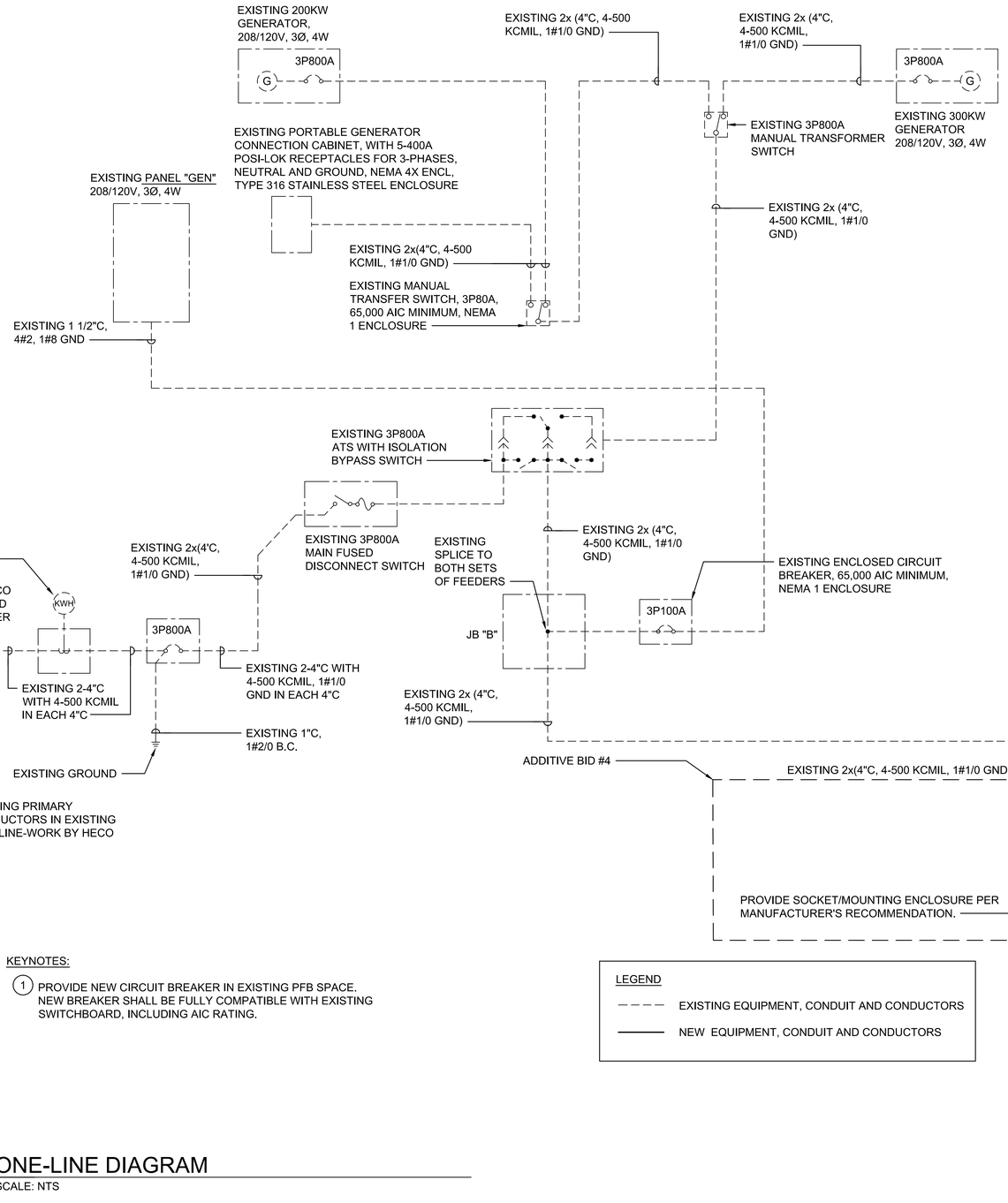
SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 115 OF 123

EB503



KEYNOTES:

1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING PFB SPACE. NEW BREAKER SHALL BE FULLY COMPATIBLE WITH EXISTING SWITCHBOARD, INCLUDING AIC RATING.

LEGEND

- EXISTING EQUIPMENT, CONDUIT AND CONDUCTORS
- NEW EQUIPMENT, CONDUIT AND CONDUCTORS

A1 / EB601 ONE-LINE DIAGRAM

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
3			

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ONE-LINE DIAGRAM

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 116 OF 123

EB601

MECHANICAL EQUIPMENT SCHEDULE

EQUIPMENT ID	EQUIPMENT DESCRIPTION	SPECIFIED RATING (HP / KW)	VOLTAGE / PHASE	FLA / RLA	MOCP	MCA	TERMINATION TYPE	DISCONNECT SWITCH		BRANCH CIRCUIT REQUIREMENT	REMARKS
								POLES / AMPS	ENCLOSURE		
ACCU-1	AIR COOLED CONDENSING UNIT		208V/3PH		3P175A	138	HARDWIRED			2"C, 3#2/0, #6 GND	REUSE EXISTING 400A DISCONNECT
ACCU-2	AIR COOLED CONDENSING UNIT		208V/3PH		3P50A	40	HARDWIRED	3P100A	NEMA 4X	1"C, 4#6, #8 GND	
ACCU-3	AIR COOLED CONDENSING UNIT		208V/1PH		3P50A	35	HARDWIRED	3P100A	NEMA 1	1"C, 4#6, #8 GND	
ACCU-4	AIR COOLED CONDENSING UNIT		208V/3PH		3P90A	56	HARDWIRED	3P200A	NEMA 1	1-1/2"C, 4#2, #8 GND	
AHU-1	AIR HANDLING UNIT	15.0 HP	208V/3PH	39.8A	3P80A	49.8	HARDWIRED	3P100A	NEMA 1	1-1/2"C, 4#2, #8 GND	
AHU-2A	AIR HANDLING UNIT	0.48KW	208V/1PH		2P15A	5.63	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
AHU-2B	AIR HANDLING UNIT	0.48KW	208V/1PH		2P15A	5.63	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
CD-1	CONDENSATE PUMP		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
CD-2	CONDENSATE PUMP		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
CV-1	CONTROL VALVE		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
CV-2	CONTROL VALVE		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
DWP-1	VERTICAL MULTISTAGE CENTRIFUGAL	2 x 2.0 HP	208V / 3PH	2 x 11.5A	3P20A	14.4	HARDWIRED	3P30A	NEMA 1	3/4"C, 3 #12, 1 #12 GND	PUMP #1 = 2HP, 11.5A PUMP #2 = 2HP, 11.5A DUPLEX PUMP WITH VFD
EF-2	EXHAUST FAN	0.30 KW	120V/1PH		1P15A	1.125	HARDWIRED	1P30A	NEMA 1	3/4"C, 2#12, #12 GND	
EF-3	EXHAUST FAN	0.30 KW	120V/1PH		1P15A	2.9	HARDWIRED	1P30A	NEMA 1	3/4"C, 2#12, #12 GND	
EWH-1	ELECTRIC WATER HEATER	4.50 KW	208V/1PH		1P30A		HARDWIRED	1P30A	NEMA 1	3/4"C, 2#10, #10 GND	
FCU-3	FAN COIL UNIT	0.11KW	208V/1PH		2P15A	1.3	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
FCU-4	FAN COIL UNIT	0.11KW	208V/1PH		2P15A	1.3	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
FCU-6	FAN COIL UNIT	0.63KW	208V/1PH		2P15A	7.7	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
FCU-7	FAN COIL UNIT	0.63KW	208V/1PH		2P15A	7.7	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
FCU-8	FAN COIL UNIT	0.07 KW	208V/1PH		2P15A	0.5	HARDWIRED	2P30A	NEMA 1	3/4"C, 2#12, #12 GND	
FMP-1	FUEL MONITORING PANEL		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
FP-1	FUEL PORT		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
HWRP-1	HOT WATER RECIRCULATION PUMP	0.025 KW	115V/1PH		1P20A	0.22	HARDWIRED	1P30A	NEMA 1	3/4"C, 2#12, #12 GND	
SD-1	SMOKE DUCT DETECTOR		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
SD-2	SMOKE DUCT DETECTOR		120V/1PH		1P15A		HARDWIRED			3/4"C, 2#12, #12 GND	
SF-1	SUPPLY FAN	1.0 HP	208V/3PH	4.6A	3P20A	5.8	HARDWIRED	3P30A	NEMA 1	3/4"C, 4#12, #12 GND	
SF-2	SUPPLY FAN	0.75 HP	208V/3PH	3.5A	3P20A	4.4	HARDWIRED	3P20A	NEMA 1	3/4"C, 4#12, #12 GND	
TAC-1	TEMPORARY AC UNIT		208V/3PH		3P100A		HARDWIRED			3/4"C, 2#12, #12 GND	
TAC-2	TEMPORARY AC UNIT		208V/3PH		3P100A		HARDWIRED			3/4"C, 2#12, #12 GND	
TAC-3	TEMPORARY AC UNIT		208V/3PH		3P100A		HARDWIRED			3/4"C, 2#12, #12 GND	
TAC-4	TEMPORARY AC UNIT		208V/1PH		1P30A		NEMA 6-30P				
UV-1	UVC LIGHT		120V/1PH		1P15A		HARDWIRED			3/4"C, 4#12, #12 GND	
UV-2	UVC LIGHT		120V/1PH		1P15A		HARDWIRED			3/4"C, 4#12, #12 GND	
UV-3	UVC LIGHT		120V/1PH		1P15A		HARDWIRED			3/4"C, 4#12, #12 GND	
WFS-1	WATER FILTRATION SKID		120V/1PH		1P15A		HARDWIRED			3/4"C, 4#12, #12 GND	

LIGHT FIXTURE SCHEDULE

TYPE	GENERAL DESCRIPTION	MOUNTING STYLE	CHASSIS / FINISH	DRIVER / BALLAST	SHIELDING / REFLECTOR	NOMINAL DIMENSIONS	LAMP TYPE	INPUT WATTS	LUMEN OUTPUT	COLOR TEMP	CRI	VOLTAGE	SPECIAL CERTIFICATIONS OR LISTINGS	MANUFACTURER + MODEL NUMBER	REMARKS
G	1 1 X 4' LINEAR FIXTURE	WALL MOUNTED	UL 5VA FIBERGLASS, WHITE	INTERGRAL ELECTRONIC DRIVER	DIFFUSE MATTE POLYCARBONATE LENS	1' X 4'	LED	22.5W	3199LU	4000K	82	120V	WET LOCATION LISTED	COLUMBIA LXEM8-40VW-RFA-EU OR ACCEPTED EQUIVALENT.	
I	DIRECT SUSPENDED ARCHITECTURAL ROUND	PENDANT MOUNTED	WHITE	INTERGRAL ELECTRONIC DRIVER	DROP SATINE LENS	14" DIAMETER	LED	14.8W	1226LU	3500K	90+	120V	WET LOCATION LISTED	PINNACLE F14D-AL-35-A3JB-U OR ACCEPTED EQUIVALENT.	

LIGHTING CONTROLS SCHEDULE

ROOM NO. / ID	ROOM NAME	LOW VOLTAGE	SWITCH TYPE	RECEPTACLE CONTROL	LIGHTING CONTROL REQUIREMENTS	CONTROL DIAGRAM REFERENCE	KEYPAD DETAIL REFERENCE
	MEN RESTROOM	YES	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY		
	WOMEN RESTROOM	YES	2-BUTTON WALL SWITCH + OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS (SAFETY) AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY		

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

1	Addendum 1	3/21/24	ST
	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

ELECTRICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 117 OF 123
EB701

PANELBOARD: NEW MECH 1 PANEL

LOCATION: MECH ROOM
SUPPLY FROM: MAIN SWITCHBOARD
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 17"

A.I.C RATING: 10,000
MAINS TYPE: MCB
BUS RATING: 200A
MCB RATING: 200A

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
#12	2#12	1	H - EF- 2		15A	1	0.36	1.31					1	15A		H - EF-3	2	2#12	#12
#12	2#12	3	O - HWRP -1		20A	1			0.03	0.50			1	20A		O - FP - 1	4	2#12	#12
#12	2#12	5	H - CD -1		20A	1					0.50	0.50	1	20A		H - CD - 2	6	2#12	#12
#12	2#12	7	O - FMP - 1		20A	1	0.50	0.50					1	20A		O - WFS -1	8	2#12	#12
#12	#12	9	H - AHU -2A		15A	2			0.46	0.105			2	15A		H - FCU - 3	10	#12	#12
-	#12	11	H - AHU -2A		-	-					0.46	0.105	-	-		H - FCU - 3	12	#12	-
#12	#12	13	H - FCU - 4		15A	2	0.105	0.07					2	15A		H - FCU - 6	14	#12	#12
-	#12	15	H - FCU - 4		-	-			0.105	0.07			-	-		H - FCU - 6	16	#12	-
#12	#12	17	H - FCU - 7		15A	2					0.07	0.04	2	15A		H - FCU - 8	18	#12	#12
-	#12	19	H - FCU - 7		-	-	0.07	0.04					-	-		H - FCU - 8	20	#12	-
#12	#12	21	M - SF-1		20A	3			0.55	3.84			3	20A		H - ACCU -2	22	#6	#8
-	#12	23	M - SF-1		-	-					0.55	3.84	-	-		H - ACCU -2	24	#6	-
-	#12	25	M - SF-1		-	-	0.55	3.84					-	-		H - ACCU -2	26	#6	-
#8	#6	27	H - ACCU - 3		50A	3			1.60	4.51			3	90A		H - ACCU - 4	28	#2	#8
-	#6	29	H - ACCU - 3		-	-					1.60	4.51	-	-		H - ACCU - 4	30	#2	-
-	#6	31	H - ACCU - 3		-	-	1.60	4.51					-	-		H - ACCU - 4	32	#2	-
#12	2#12	33	F -SD-1		20A	1			0.50	0.50			1	20A		F - SD -2	34	2#12	#12
#12	2#12	35	H - TEMP AC UNIT -4		30A	1					5.76	0.5	1	15A		O - CONTROL VALVE - 2	36	2#12	#12
					TOTAL LOAD:		13.5 KVA		12.8 KVA		18.4 KVA								
					TOTAL AMPS:		37.3 A		35.4 A		51.2 A								

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	0.0 KVA	#DIV/0!	0.0 KVA	**TOTAL CONNECTED LOAD:**	44.7 KVA
HVAC	40.0 KVA	100.0%	40.0 KVA	**TOTAL DEMAND LOAD:**	44.7 KVA
MOTOR LOAD	1.7 KVA	100.0%	1.7 KVA	**TOTAL CONNECTED CURRENT:**	124.0 A
FIRE ALARM	1.0 KVA	100.0%	1.0 KVA	**TOTAL DEMAND CURRENT:**	124.1 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	2.0 KVA	100.0%	2.0 KVA		

NOTES:

PANELBOARD: NEW MECH 2 PANEL

LOCATION: MECH ROOM
SUPPLY FROM: MAIN SWITCHBOARD
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
CABINET WIDTH: 17"

A.I.C RATING: 10,000
MAINS TYPE: MCB
BUS RATING: 300A
MCB RATING: 300A

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
#12	#12	1	H - TEMP AC UNIT -1		80A	3	6.84	0.42					3	20A		M - SF-2	2	#12	#12
-	#12	3	H - TEMP AC UNIT -1		-	-			6.84	0.42			-	-		M - SF-2	4	#12	-
-	#12	5	H - TEMP AC UNIT -1		-	-					6.84	0.42	-	-		M - SF-2	6	#12	-
#12	#12	7	O - DWP -1		20A	3	2.48	0.50					1	15A		H - UV LIGHT - AHU1	8	2#12	#12
-	#12	9	O - DWP -1		-	-			2.48	0.50			1	15A		H - UV LIGHT - AHU2A	10	2#12	#12
-	#12	11	O - DWP -1		-	-					2.48	0.50	1	15A		H - UV LIGHT - AHU2B	12	2#12	#12
#12	2#12	13	O - SMART WATER METER		20A	1	0.50	6.84					3	80A		H - TEMP AC UNIT - 2	14	#12	#12
#12	2#12	15	O - CONTROL VALVE -1		20A	1			0.500	6.84			-	-		H - TEMP AC UNIT - 2	16	#12	-
#12	2#12	17	O - TEMP FUEL SUPPLY PUMP		20A	1					0.50	6.84	-	-		H - TEMP AC UNIT - 2	18	#12	-
		19	SPARE		20A	1	0.00	6.84					3	80A		H - TEMP AC UNIT - 3	20	#12	#12
-	-	21	SPARE		20A	1			0.000	6.84			-	-		H - TEMP AC UNIT - 3	22	#12	-
-	-	23	SPARE		20A	1					0.00	6.84	-	-		H - TEMP AC UNIT - 3	24	#12	-
-	-	25	PFB		-	-	0.0	0.00					-	-		PFB	26	-	-
-	-	27	PFB		-	-			0.00	0.00			-	-		PFB	28	-	-
-	-	29	PFB		-	-					0.00	0.00	-	-		PFB	30	-	-
-	-	31	PFB		-	-	0.00	0.00					-	-		PFB	32	-	-
-	-	33	PFB		-	-			0.00	0.00			-	-		PFB	34	-	-
-	-	35	PFB		-	-					0.0	0.0	-	-		PFB	36	-	-
					TOTAL LOAD:		24.4 KVA		24.4 KVA		24.4 KVA								
					TOTAL AMPS:		67.8 A		67.8 A		67.8 A								

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	0.0 KVA	#DIV/0!	0.0 KVA	**TOTAL CONNECTED LOAD:**	73.3 KVA
HVAC	63.1 KVA	100.0%	63.1 KVA	**TOTAL DEMAND LOAD:**	73.3 KVA
MOTOR LOAD	1.3 KVA	100.0%	1.3 KVA	**TOTAL CONNECTED CURRENT:**	203.4 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	203.5 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	8.9 KVA	100.0%	8.9 KVA		

NOTES:

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE Scott Tomokiyo 4/30/2026
EXPIRATION DATE

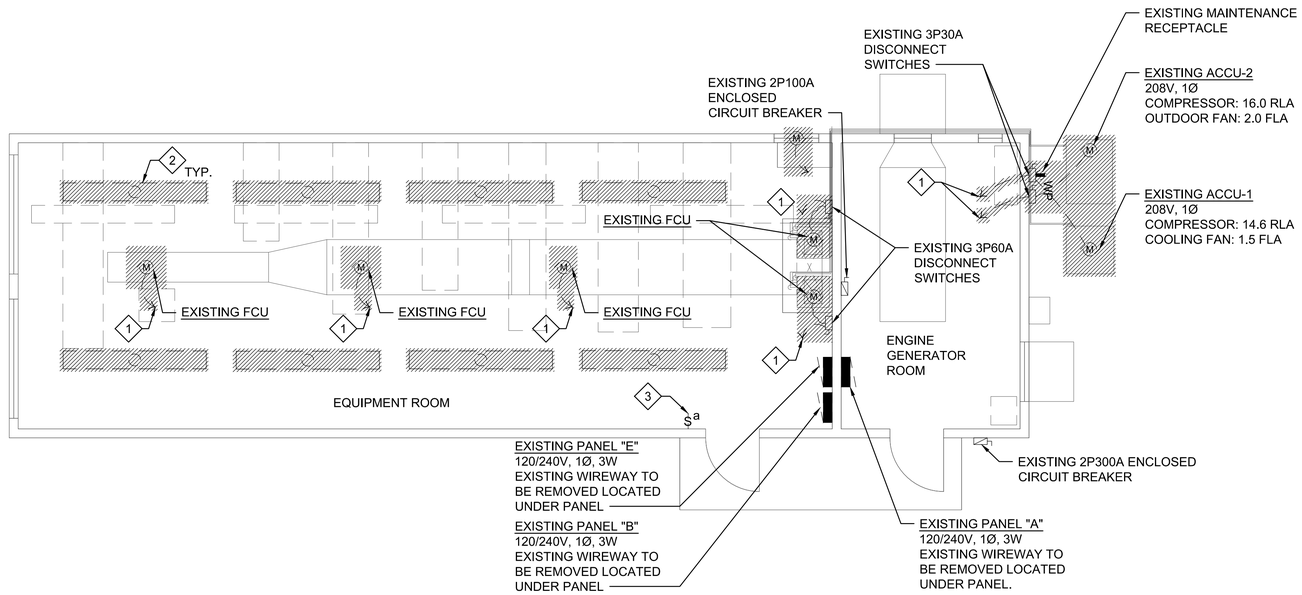
	ST		
1	Addendum 1	3/21/24	STR
		APPR.	DESC.
		DATE	

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
PANEL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 118 OF 123
EB702



PLAN NORTH / TRUE NORTH

C1 / EC101

ELECTRICAL PLAN - DEMO

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'

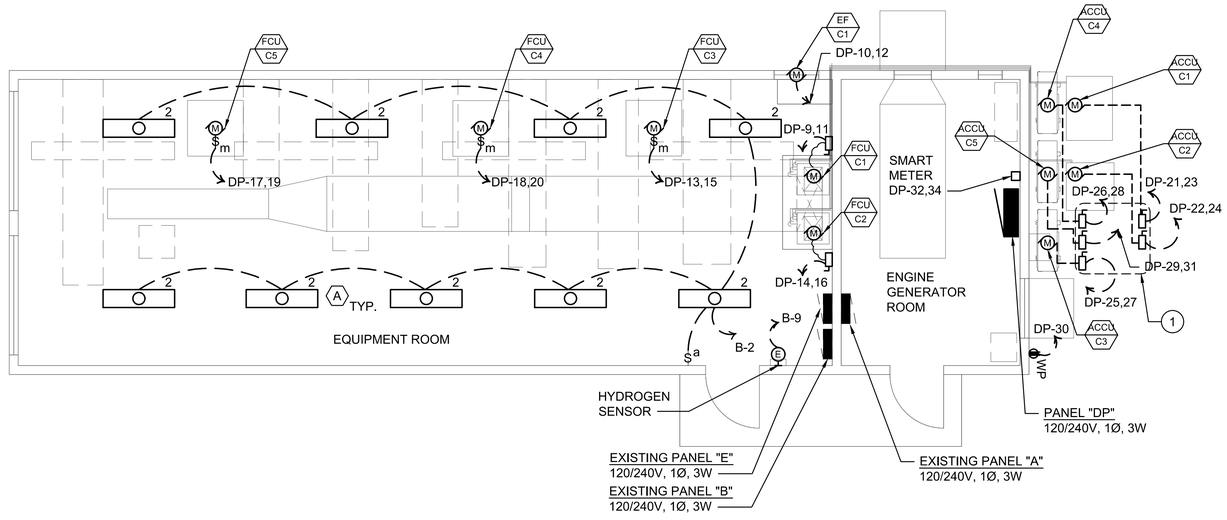
SCALE: 1/4" = 1'-0"

DEMOLITION PLAN KEYNOTES:

1. REMOVE CONDUIT AND CONDUCTORS BACK TO WIREWAY.
2. REMOVE EXISTING LIGHTING CONDUIT AND CONDUCTORS.
3. MAINTAIN EXISTING LIGHT SWITCH FOR RE-USE FOR NEW LIGHTING FIXTURES

POWER PLAN KEYNOTES:

1. 3P60A DISCONNECT SWITCHES LOCATED UNDER ACCU-C3. REFER TO B1/MC901 FOR LAYOUT.



PLAN NORTH / TRUE NORTH

A1 / EC101

ELECTRICAL PLAN

SCALE: 1/4" - 1'-0"

0 2' 4' 6' 8' 10' 12'

SCALE: 1/4" = 1'-0"

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024

SF	KR	ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

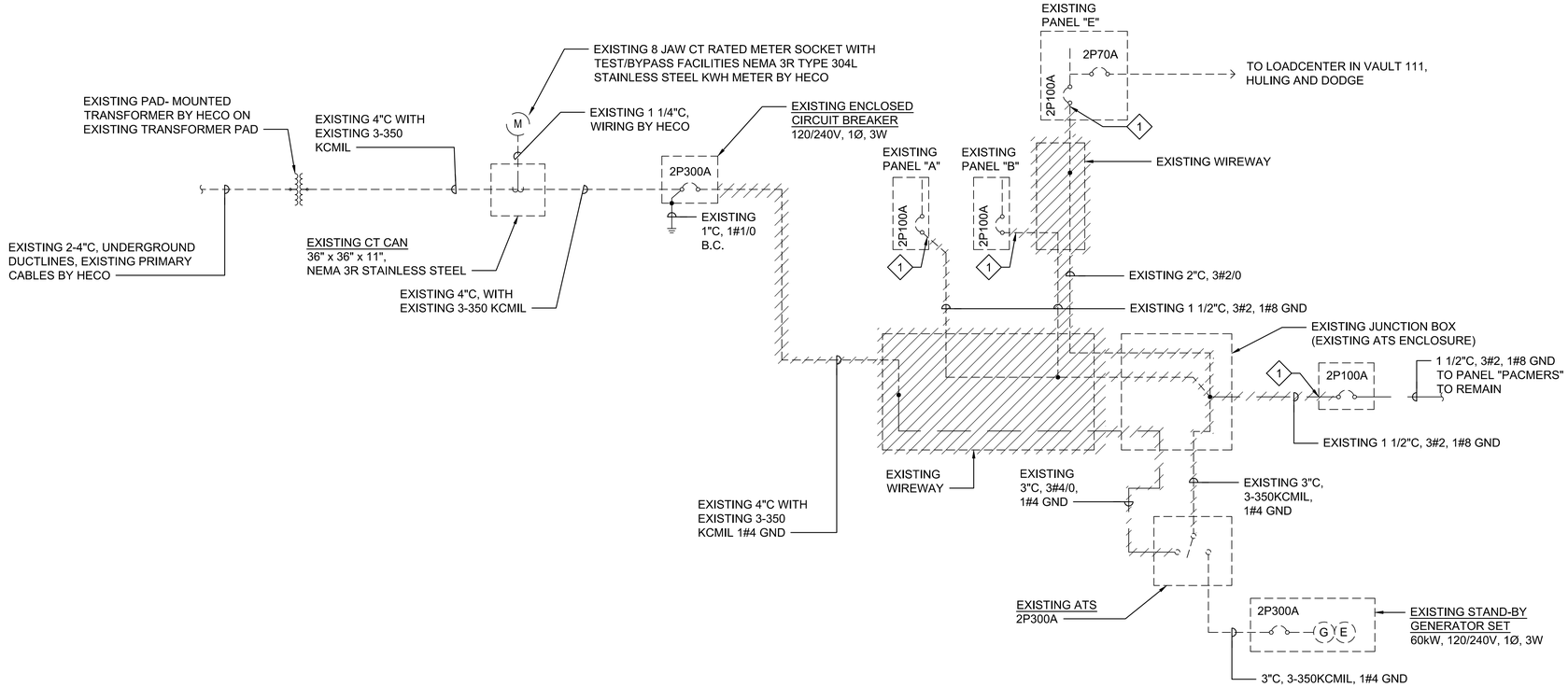
ELECTRICAL PLANS

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 119 OF 123

EC101

KEYNOTES:

1 REMOVE CONDUCTORS UP TO CIRCUIT BREAKER. MAINTAIN CIRCUIT BREAKER FOR REUSE.



A1 / EC601

ONE-LINE DIAGRAM - DEMO

SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.
1			

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS

SUBMITTAL DATE: 03/01/2024

SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII

DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ONE-LINE DIAGRAM - DEMO

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

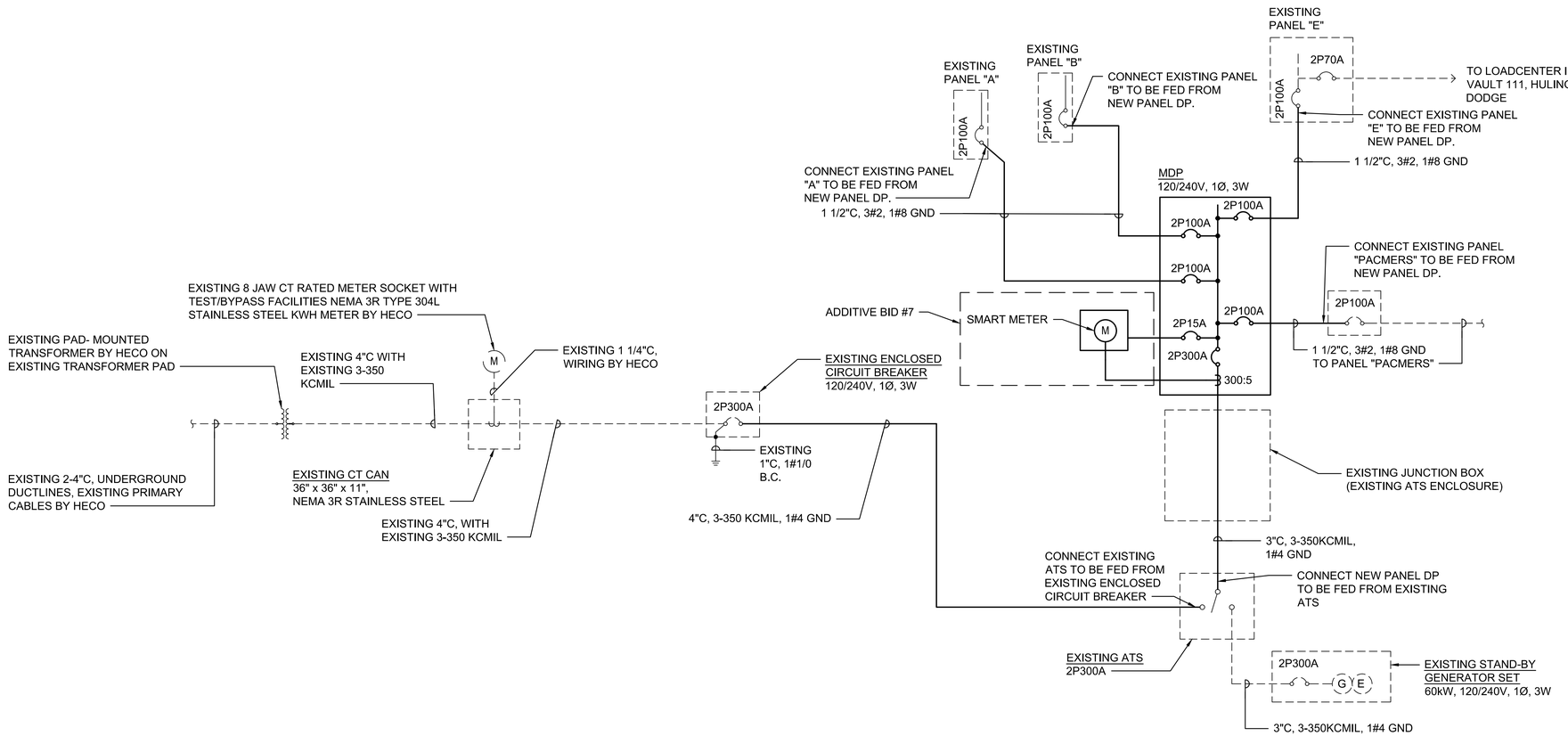
SHEET 120 OF 123

EC601

LEGEND:

DASHED LINE INDICATES EXISTING ITEM

BOLD LINE INDICATES NEW WORK



A1
EC601
ONE-LINE DIAGRAM
SCALE: NTS

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE — EXPIRATION DATE 4/30/2026

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS

SUBMITTAL DATE 03/01/2024

SF	KR	ST

STATE OF HAWAII
DEPARTMENT OF DEFENSE
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS

ONE-LINE DIAGRAM

SCALE: AS NOTED

STATE JOB NO. CA-202313-C

FEDERAL PROJECT NO. -

SHEET 121 OF 123

EC602

EQUIPMENT SCHEDULE

EQUIPMENT ID	EQUIPMENT DESCRIPTION	SPECIFIED RATING (HP / KW)	VOLTAGE / PHASE	FLA / RLA	MOCP	MCA	TERMINATION TYPE	DISCONNECT SWITCH		BRANCH CIRCUIT REQUIREMENT	REMARKS
								POLES / AMPS	ENCLOSURE		
ACCU-C1	AIR COOLED CONDNESING UNIT		240V / 1PH		2P40A	29A	HARDWIRED	3P60A	NEMA 4X SS	1"C, 3 #8, 1 #10 GND	
ACCU-C2	AIR COOLED CONDNESING UNIT		240V / 1PH		2P40A	29A	HARDWIRED	3P60A	NEMA 4X SS	1"C, 3 #8, 1 #10 GND	
ACCU-C3	AIR COOLED CONDENSING UNIT		240V / 1PH		2P40A	29A	HARDWIRED	3P60A	NEMA 4X SS	1"C, 3 #8, 1 #10 GND	
ACCU-C4	AIR COOLED CONDNESING UNIT		240V / 1PH		2P40A	29A	HARDWIRED	3P60A	NEMA 4X SS	1"C, 3 #8, 1 #10 GND	
ACCU-C5	AIR COOLED CONDNESING UNIT		240V / 1PH		2P40A	29A	HARDWIRED	3P60A	NEMA 4X SS	1"C, 3 #8, 1 #10 GND	
EF-C1	EXHAUST FAN	1/2 HP	240V / 1PH	4A	2P15A	5A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	
FCU-C1	FAN COIL UNIT		240V / 1PH		2P15A	5.63A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	
FCU-C2	FAN COIL UNIT		240V / 1PH		2P15A	5.63A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	
FCU-C3	FAN COIL UNIT		240V / 1PH	1.01A	2P15A	1.27A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	
FCU-C4	FAN COIL UNIT		240V / 1PH	1.01A	2P15A	1.27A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	
FCU-C5	FAN COIL UNIT		240V / 1PH	1.01A	2P15A	1.27A	HARDWIRED	2P30A	NEMA 1	3/4" C, 3 #12, 1 #12 GND	

LIGHT FIXTURE SCHEDULE

TYPE	GENERAL DESCRIPTION	MOUNTING STYLE	CHASSIS / FINISH	DRIVER / BALLAST	SHIELDING / REFLECTOR	NOMINAL DIMENSIONS	LAMP TYPE	INPUT WATTS	LUMEN OUTPUT	COLOR TEMP	CRI	VOLTAGE	SPECIAL CERTIFICATIONS OR LISTINGS	MANUFACTURER + MODEL NUMBER	REMARKS
A	FULLY ENCLOSED AND GASKETED	CEILING SURFACE MOUNTED	5VA (F1) FIBERGLASS HOUSING WITH WHITE PHOSHATE FINISH	INTEGRAL ELECTRONIC DRIVER	FROSTED RIBBED ACRYLIC DIFFUSER	7.17"W x 4.40"H x 51-2/3"L	LED	25W	2942 LU	3500K	80 CRI	120-277V		COLUMBIA LIGHTING LXEM4-40VW-RFP-EDU OR ACCEPTED EQUIVALENT	

PANELBOARD: NEW DP

LOCATION: ENGINE GENERATOR ROOM
SUPPLY FROM: EXISTING ATS
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 240/120V
PHASES: 1
WIRES: 3
CABINET WIDTH: 30"

A.I.C RATING: 10,000
MAINS TYPE: MAIN BREAKER
BUS RATING: 400
MCB RATING: 300

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
8	2	1	O-PANEL A		100	2	2.4	2.4			2	100		O-PANEL B	2	2	8
--	2	3	O-PART OF 1		100	--			2.4	2.4	--	100		O-PART OF 2	4	2	--
8	2	5	O-PANEL E		100	2	2.4	2.4			2	100		O-PANEL PACMERS	6	2	8
--	2	7	O-PART OF 5		100	--			2.4	2.4	--	100		O-PART OF 6	8	2	--
12	12	9	H-FCU-C1		15	2	0.54	0.48			2	15		H-EF-C1	10	12	12
--	12	11	H-PART OF 9		15	--			0.54	0.48	--	15		H-PART OF 10	12	12	--
12	12	13	H-FCU-C3		15	2	0.12	0.54			2	15		H-FCU-C2	14	12	12
--	12	15	H-PART OF 13		15	--			0.12	0.54	--	15		H-PART OF 14	16	12	--
12	12	17	H-FCU-C5		15	2	0.12	0.12			2	15		H-FCU-C4	18	12	12
--	12	19	H-PART OF 17		15	--			0.12	0.12	--	15		H-PART OF 18	20	12	--
10	8	21	H-ACCU-C1		40	2	2.78	2.78			2	40		H-ACCU-C2	22	8	10
--	8	23	H-PART OF 21		40	--			2.78	2.78	--	40		H-PART OF 22	24	8	--
10	8	25	H-ACCU-C3		40	2	2.78	2.78			2	40		H-ACCU-C4	26	8	10
--	8	27	H-PART OF 25		40	--			2.78	2.78	--	40		H-PART OF 26	28	8	--
10	8	29	H-ACCU-C5		40	2	2.78	0.12			1	15		R-MAINTENANCE	30	12	12
--	8	31	H-PART OF 29		40	--			2.78		1	20		SPARE	32	--	--
--	--	33	SPARE		20	1					1	20		SPARE	34	--	--
--	--	35	SPARE		20	1					1	20		SPARE	36	--	--
--	--	37	SPARE		20	1					1	20		SPARE	38	--	--
--	--	39	SPARE		20	1					1	20		SPARE	40	--	--
					TOTAL LOAD:		25.54 KVA		25.42 KVA								
					TOTAL AMPS:		106.4 A		105.9 A								

ID LEGEND:

LOAD CLASSIFCIATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	0.1 KVA	100.0%	0.1 KVA	**TOTAL CONNECTED LOAD:**	51.0 KVA
HVAC	31.6 KVA	100.0%	31.6 KVA	**TOTAL DEMAND LOAD:**	50.9 KVA
MOTOR LOAD	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED CURRENT:**	212.3 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	212.1 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	19.2 KVA	100.0%	19.2 KVA		

NOTES:

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

APPR.
DATE
DESCRIPTION
SYM

SUBMITTAL PHASE
CONSTRUCTION DOCUMENTS
SUBMITTAL DATE 03/01/2024
SF KR ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
TMK: 3-1-042:006
4204 DIAMOND HEAD RD HONOLULU, HI 96816
BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC)
UPGRADES AND IMPROVEMENTS
ELECTRICAL SCHEDULES

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 122 OF 123
EC701

PANELBOARD: NEW DP

LOCATION: ENGINE GENERATOR ROOM
SUPPLY FROM: EXISTING ATS
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 120/240V
PHASES: 1
WIRES: 3
CABINET WIDTH: 20"

A.I.C RATING: 10,000
MAINS TYPE: MCB
BUS RATING: 400
MCB RATING: 300

GND	WIRE	CKT	CIRCUIT DESCRIPTION	ID	TRIP	POLES	A		B		C		POLES	TRIP	ID	CIRCUIT DESCRIPTION	CKT	WIRE	GND
8	2	1	O-PANEL A		100	2	0.0	0.0					2	100		O-PANEL B	2	2	8
-	2	3	O-PART OF 1		100	-			0.0	0.0			-	100		O-PART OF 2	4	2	-
8	2	5	O-PANEL E		100	2					0.0	0.0	2	100		O-PANEL PACMERS	6	2	8
-	2	7	O-PART OF 5		100	-	0.0	0.0					-	100		O-PART OF 6	8	2	-
12	12	9	O-SMART METER		20	2			0.1	0.3			2	20		H-EF-C1	10	12	12
-	12	11	O-PART OF 9		20	2					0.1	0.3	-	20		H-PART OF 10	12	12	-
12	12	13	H-FCU-C1		20	1	0.0	0.0					2	20		H-FCU-C2	14	12	12
-	12	15	H-PART OF 13		20	1			0.0	0.0			-	20		H-PART OF 14	16	12	-
12	12	17	H-FCU-C3		20	1					0.0	0.0	2	20		H-FCU-C5	18	12	12
-	12	19	H-PART OF 17		20	-	0.0	0.0					-	20		H-PART OF 18	20	12	-
-	-	21	SPARE		20	1			0.0	0.0			1	20		SPARE	22	-	-
-	-	23	SPARE		20	1					0.0	0.0	1	20		SPARE	24	-	-
-	-	25	SPARE		20	1	0.0	0.0					1	20		SPARE	26	-	-
-	-	27	PFB		20	-			0.0	0.0			-	20		PFB	28	-	-
-	-	29	PFB		20	-					0.0	0.0	-	20		PFB	30	-	-
					TOTAL LOAD:		0.0 KVA		0.4 KVA		0.4 KVA								
					TOTAL AMPS:		0.0 A		1.9 A		1.9 A					-			

ID LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	PANEL TOTALS	
LIGHTING	0.0 KVA	100.0%	0.0 KVA		
RECEPTACLES	0.0 KVA	#DIV/0!	0.0 KVA	**TOTAL CONNECTED LOAD:**	0.8 KVA
HVAC	0.6 KVA	100.0%	0.6 KVA	**TOTAL DEMAND LOAD:**	0.8 KVA
MOTOR LOAD	0.0 KVA	100.0%	0.0 KVA	**TOTAL CONNECTED CURRENT:**	3.8 A
FIRE ALARM	0.0 KVA	100.0%	0.0 KVA	**TOTAL DEMAND CURRENT:**	3.8 A
KITCHEN EQUIPMENT	0.0 KVA	65.0%	0.0 KVA		
OTHER LOADS	0.2 KVA	100.0%	0.2 KVA		

NOTES:

HAWAII STATE DEPARTMENT OF DEFENSE

SCOTT TOMOKIYO
LICENSED PROFESSIONAL ENGINEER
No. 15968-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE 4/30/2026 EXPIRATION DATE

NO.	DESCRIPTION	DATE	APPR.

SUBMITTAL PHASE: CONSTRUCTION DOCUMENTS
SUBMITTAL DATE: 03/01/2024

SF | KR | ST

DEPARTMENT OF DEFENSE
STATE OF HAWAII
DIAMOND HEAD STATE MONUMENT
4204 DIAMOND HEAD RD HONOLULU, HI 96816
TMK: 3-1-042:006

BIRKHIMER EMERGENCY OPERATIONS CENTER (EOC) UPGRADES AND IMPROVEMENTS

PANEL SCHEDULE

SCALE: AS NOTED
STATE JOB NO. CA-202313-C
FEDERAL PROJECT NO. -
SHEET 123 OF 123

EC702

ATTACHMENT C

STATE OF HAWAII
DEPARTMENT OF DEFENSE

PRE-BID MEETING MINUTES

DATE: March 19, 2024 **TIME:** 9:00 a.m.

LOCATION: Building 303
4204A Diamond Head Road

PROJECT: Birkhimer EOC Upgrades and Improvements
Diamond Head Crater
State Project No. CA-202313-C

PRESENT: See attached list

SUBJECT: Pre-Bid Meeting

MEETING MINUTES:

I. Tad Nakayama began the meeting by going through the meeting agenda. Upon conclusion of the meeting, site visit to the three project sites (Building 303, Birkhimer, and PSB) was conducted.

II. Questions from the attendees are addressed below.

1. Does the Birkhimer water tank work require any phasing? No, it does not. The existing water tank is abandoned in place, and currently not in use. Contractor shall replace the existing tank in place.
2. Is it required for the bidders to hold the bid price for 180 days? Yes, see OF-9 of the project specifications for further information.
3. Is a cost breakdown required during the bid or can it be provided after? DOD will consider this request and modify the Offer section, if determined to be acceptable.
4. Do Birkhimer generators need to be replaced? No
5. Is a cost breakdown required during the bid or can it be provided after? DOD will consider this request and modify the offer section, if determined to be acceptable.

Enc
1. Pre-bid meeting agenda
2. Attendance list

STATE OF HAWAII
DEPARTMENT OF DEFENSE

PRE-BID MEETING AGENDA

DATE: March 19, 2024 **TIME:** 9:00 a.m.

LOCATION: Building 303
4204A Diamond Head Road

PROJECT: Birkhimer EOC Upgrades and Improvements
Diamond Head Crater
State Project No. CA-202313-C

PRESENT: See attached list

SUBJECT: Pre-Bid Meeting

MEETING SUMMARY:

I. GENERAL DISCUSSION

1. Attendees reminded fill out attendance sheet completely (name, address, phone number, etc.).

2. Participants involved with the project were introduced (State, Design Consultant, CM Consultant).

3. All questions must be submitted in writing to the DOD contracting office by March 20, 2024 by 3:30 pm. Questions can be emailed to: jesper.h.andersen@hawaii.gov .

   This meeting is to clarify general questions only. If there is a conflict between what was stated in this meeting and the bid documents, the bid documents shall govern. Any significant changes will be issued through an addendum. A copy of the meeting minutes will be issued as an addendum.

4. Design Consultant, InSynergy to provide a brief description of the scope of work.

   The work generally includes but is not limited to the following for the three buildings of the State of Hawaii Department of Defense (Birkhimer EOC).

   Building #303:

a. Provide the following HVAC work:
    i. Provide a new dedicated Direct Expansion (DX) heat pump a/c system to State Warning Point Room.

    ii. Replace existing duct board ductwork with new Sheetmetal duct.

    iii. Provide stand-alone Variable Air Volume (VAV) Terminal units to all areas serve by AHU-1

    iv. Convert existing AHU-1 to a VAV unit.

b. Install a new emergency generator and aboveground fuel tank

c. Replace light fixtures with new throughout the building as indicated in the contract drawing.

d. Provide new battery powered parking lot light fixtures.

e. Provide all indicated electrical removal and new work as indicated.

f. Repave the existing parking lot as indicated.

g. All incidental related work shall be included in this project.

h. Refer to phasing plan for the required phasing work for this project.

i. Provide minor architectural work such as providing new louvers, remove and reinstall ceiling tiles.

<u>Public Services Building:</u>

a. Provide heat pump DX air conditioning units and associated electrical, and refrigerant piping work.

b. Replace existing light fixtures with new to install a/c units.

<u>Birkhimer:</u>

a. Provide new a/c systems.

b. Install a new emergency potable water system including a new underground water tank, water piping from the underground tank to the Birkhimer building, water booster pumps, water re-circulation filtration system.

c. Provide new domestic cold and hot water piping in the men and women’s bathroom, and kitchen.

d. Replace an existing underground diesel fuel tank with a new aboveground tank as indicated.

e. Provide ceiling tile, and grid, restoration work as indicated in architectural work.

5. The Design Consultant will be responsible to take minutes of this meeting and also receive any questions you have during this meeting and the site visit. It is the attendee's responsibility to clearly state the questions for recordation. The design consultant will not be responsible for any errors in the question.

6. Important items brought to attendees attention:

   - Bid Opening is April 11, 2024.

   - Last day for Substitution Requests, clarification on bidding documents and/or specifications must be emailed to jesper.h.andersen@hawaii.gov by 3:00 pm, March 20, 2024.
   - This bid contains additive alternates. The cost on page OF-2 is the sum of the basic bid (items 1-17). Fill in costs for the bid alternatives, as well.

7. Project duration is 400 calendar days from NTP. Liquidated damages in the amount of $2,600 per working day will be assessed if work is not completed within the contract time. See OF-9 for further information.

8. Unless there is a problem with the award process, the State intends to issue the Notice to Proceed date 180 calendar days from Bid Opening date (hold bid prices). See OF-9 for further information.

9. Two of the three facilities are staffed on a normal basis. Be aware of construction work restrictions per Section 1100.

Birkhimer Emergency Operations Center
Upgrades and Improvements
Pre-Bid Site Visit

March 19, 2024

Name	Company	Phone No.	Email address
Stephen Wong	RHS Lee, Inc	808-451-9020	stevewong@rhslee.com
Eleanor Rego / Kaleo Nawahine	TCG Construction Inc	208-407-1123	Kaleo@thecoregroup.company
Chase Kutara / Kent Matsuzaki	Economy Plumbing + A/C	808-375-5102	kent@economyplumbingac.com
TRAVIS NIIMI	NEIL NAKAI, INC.	808-848-1496	TRAVIS.NII@HAWAIITEL.NET
Flor Carman	CEI / Commercial Electric Inc	808-841-4595	flor@cei-oahu.com
Yoon Hwang	Insynergy Engineering	808 521-3773	yhwang@insynergyeng.com
Greg Okita	Insynergy Engineering	808-521-3773	gokita@insynergyeng.com
Scott Tomokiyo	Insynergy Engineering	808-521-3773	Stomokiyo@insynergyeng.com
Lance Inouye	Ralph S Inouye Co Ltd	808-839-5007	Lance@rsinouye.com
Michael S. Inouye	R.M. Towill Corporation	808-375-2958	michaelie rmtowill.com
Michael Karlson	R. M. Towill Corporation	808-225-3523	michaelk@rmtowill.com
Michael Hong	R. M. Towill Corporation	808-284-1871	michaelh@rmtowill.com
Landon Nakai	M. Nakai Repair	808-841-7551	landon@mnakai.com
TAD NAKAYAMA	DOD - ENGR	808-369-3490	tad.t.nakayama@hawaii.gov

UNDERGROUND STORAGE TANK OPERATION PERMIT

HAWAII DEPARTMENT OF HEALTH
SOLID & HAZARDOUS WASTE BRANCH
2827 Waimano Home Road, #100
Pearl City, Hawaii 96782

PERMIT NO. P-2023-004

PERMITTEE:
OWNER NAME AND ADDRESS:
Hawaii Emergency Management Agency
4204 Diamond Head Road
Honolulu, Hawaii 96816

EFFECTIVE DATE: **Sept 15, 2023**
EXPIRATION DATE: **Sept 14, 2028**
Renewal Application must be received by: **Mar 14, 2028**

OPERATOR NAME AND ADDRESS:
Hawaii Emergency Management Agency
4204 Diamond Head Road
Honolulu, Hawaii 96816

This permit is issued under the provisions of Chapter 342L, Hawaii Revised Statutes (HRS), and Chapter 11-280.1, Hawaii Administrative Rules (HAR). The above-named permittee is hereby authorized to operate the underground storage tank (UST) shown below:

Facility Name: Hawaii Emergency Management Agency - Birkhimer
Facility Address: 4204 Diamond Head Road, Honolulu, Hawaii 96816
Facility ID Number: 9-101805

Description of permitted USTs:

Tank ID No.	Capacity	Content
2	6,000 gallons	Diesel

Subject to: Standard and Special Conditions

Acceptance of this permit constitutes an acknowledgment and agreement that the holder will comply with all rules, statutes, and orders of the Department of Health (DOH) and the conditions precedent to the granting of this permit.

(for) DIRECTOR OF HEALTH
State of Hawaii

This permit must be kept on-site and shall be made available for inspection upon request.

STANDARD CONDITIONS

1. Owners and operators are responsible for complying with all applicable requirements of Chapter 342L, HRS, and Chapter 11-280.1, HAR.
2. This permit does not limit the DOH's authority to inspect the tanks or facility or to bring an enforcement action for violations of Chapter 342L, HRS, or Chapter 11-280.1, HAR.
3. This permit may not be transferred without the express approval of the Director of Health.
4. The Director of Health may revoke or suspend this permit for any of the reasons listed in §11-280.1-330, HAR.
5. The owner and operator must apply for a permit modification to add USTs or tank systems to this permit.
6. If the renovation or modification of a UST would cause the UST to be out of compliance with this permit, the owner and operator must also submit an application to modify the permit.
7. This permit must be maintained at the location of the UST or tank system for which it was issued and be made available for inspection upon request of any duly authorized representative of the DOH.

Operation Requirements

Owners or operators must:

8. Ensure that releases due to spilling and overfilling do not occur.
9. Report, investigate, and clean up any spills and overfills in accordance with §11-280.1-53, HAR.
10. Ensure that releases due to corrosion are prevented.
11. Use a UST or tank system made of or lined with materials that are compatible with the substance stored.
12. Ensure that repairs will prevent releases due to structural failure and corrosion for as long as the UST or tank system is used to store regulated substances.
13. Ensure that spill and overfill prevention equipment and containment sumps that are part of interstitial monitoring for piping are operating properly and will prevent releases to the environment.
14. Provide a method, or combination of methods, of release detection that is installed, calibrated, operated, and maintained in accordance with §11-280.1-40, HAR.
15. Conduct periodic walkthrough inspections and maintenance in accordance with §§11-280.1-36 and 11-280.1-37, HAR.
16. Cooperate fully with inspections, monitoring, and testing conducted by the DOH, as well as requests by the DOH for document submission, monitoring, and testing by owners and operators.

Notification Requirements

Owners and operators must submit the following information to the DOH:

17. Notification for all USTs and tank systems as required by §342L-30, HRS, and §11-280.1-34, HAR.
18. Reports of all releases including suspected releases, spills and overfills, and confirmed releases.
19. Release response actions planned or taken.
20. Documentation of permanent closure or change-in-service within thirty (30) days after completion of work, in accordance with §11-280.1-71(e), HAR.

Miscellaneous Requirements

21. For each UST or tank system that is in use or temporarily out of use, owners and operators must designate a class A, class B, and class C operator trained in accordance with Chapter 11-280.1, HAR, Subchapter 10.
22. Owners or operators of petroleum USTs or tank systems must demonstrate financial responsibility for taking release response actions and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum USTs or tank systems in accordance with Chapter 11-280.1, HAR, Subchapter 8.

SPECIAL CONDITIONS

None

Contaminated Soil Management

Description

Practices and procedures to identify and prevent the discharge of pollutants from contaminated soil to the drainage system and adjacent waterbodies.

Applications

- Projects in urbanized or industrial areas where previous site usage, undetected spills or leaks, illicit discharges, or underground storage tank leaks may have contributed to soil contamination.

Installation and Implementation Requirements

- Abide by all federal, state, and local regulations when dealing with contaminated soil.
- A site assessment should be conducted prior to ground-disturbing activity to identify contaminated soil or other hazardous pollutants.
- Research records of previous site uses and activities.
- Identify soil discoloration, odors, soil property differences, abandoned underground tanks or pipes, or buried debris to determine possible soil contamination.
- If contaminated soil or other hazardous pollutants are found on-site, stop work in the area immediately and notify the State of Hawaii Department of Health, Hazard Evaluation & Emergency Response (HEER) office (808-586-4249), as well as the Project Engineer.

Contaminated Soil Management

Installation and Implementation Requirements *(continued)*

- Contaminated soil shall be placed on an impermeable liner or device, such as 20-mil plastic sheeting, surrounded with impermeable lined berms and covered with impermeable sheeting.
- Soil suspected of being contaminated should be isolated from other stockpiles until test results return. If the suspected contaminated soil has evidence of contamination (odor, sheen, color, etc.), then it should be handled and stored as contaminated until testing determines otherwise. Known contaminated soil must be segregated from uncontaminated soil.

Contaminated material stockpiles must have signage designating material as contaminated.

- Soil testing is the only option to know if soil is contaminated. Sampling of the soil shall follow DOH guidelines and requirements. Test soil at a certified laboratory if soil is suspected of contamination. Multi Increment testing should be conducted if soil is contaminated with lead because it is commonly unevenly distributed.
- The contractor shall propose the testing protocols for the Engineer's approval.
- Contaminated soil stockpiles must remain on-site and cannot be transported or stored off-site without prior authorization.
- Temporary stockpiles of contaminated material must have signage designating material as contaminated.
- Identify area to temporarily store contaminated soil away from drainage facilities, waterbodies and conveyance systems.
- Construction vehicles leaving the excavation area must be clean of contaminated soil. All contaminated soil and wash water from vehicle cleaning must be properly contained, collected, and disposed of.
- Contaminated soil disposal options:
  - Re-use on-site (not grossly contaminated)
  - Off-site reuse (Refer to DOH *Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material*)
  - Landfill disposal (check with landfill)

Considerations

- Dispose of contaminated soils at DOH-permitted facilities. Transfer contaminated soils via DOH-approved transporter.

Contaminated Soil Management

Considerations *(continued)*

- This manual does not explain environmental laws and regulations. Therefore, it is required to have a licensed contracting firm that is experienced in handling contaminated and hazardous materials when dealing with contaminated soil.
- Site-specific conditions may require the use of additional personal protective equipment (PPE). Gloves and safety glasses must be worn when dealing with contaminated soil.
- A removal action may be conducted either as a stand-alone response action, or as an interim response action to be followed by further removal or remedial action at a later date. In addition, a removal action may result in long-term management of contamination on site. Each of these different types of removal actions has implications for site closure.

What to Inspect

- Are stockpiles of contaminated soil stored on an impermeable liner or device, surrounded by an impermeable lined berm, and completely covered with impermeable material?
- Are the BMP measures installed properly and maintained?
- Has the contaminated soil been properly tested, per DOH guidelines and requirements?
- Is the contaminated soil in contact with non-contaminated bare soil?
- Has the contaminated soil come into contact with rainwater?
- Is the contaminated soil stockpile isolated from other stockpiles?

Maintenance

- Prevent leaks and spills by implementing spill prevention and control practices and procedures. *See* section SM-10 Spill Prevention and Control for more information.
- Repair tears and rips to the impermeable berm and cover to ensure erosion is prevented.
- Damaged perimeter control devices must be repaired/replaced when the device is not functioning as designed.
- Repair/replace barriers that no longer prevent contaminated soil from coming into contact with bare soils.

Hazardous Materials and Waste Management

Description

Practices and procedures to prevent hazardous material and waste from discharging into the storm drain system or adjacent waterbodies.

Applications

Handling and storing procedures on construction sites involving the following hazardous materials and waste:

TYPICAL HAZARDOUS MATERIALS AND WASTES FROM COMMERCIAL CONSTRUCTION AND DEMOLITION (C&D) JOBS

- Oil-based paint, stains, and varnishes
- Acids and bases (e.g., muriatic acid, etc.)
- Ignitable waste (gasoline and diesel)
- Used batteries
- Waste vehicle lubricants (e.g., used motor oil, etc.)
- Latex paint with mercury
- Thinners and painting solvents
- Spent sand blast material from paint removal operations
- Weatherproofing/insulation solvents
- Finishing and flooring adhesives and sealants
- Mechanical/electrical waste
- Absorbent materials used to clean up spills

Hazardous Materials and Waste Management

Applications *(continued)*

- All petroleum-based products
- Concrete curing/repair compounds and related concrete work products
- Contaminated rags
- Waste mercury or acrylic mercury paint
- Non-empty aerosol cans

TYPICAL HAZARDOUS MATERIALS AND WASTE FROM EXISTING STRUCTURES

- Sandblasted material such as grit or chips containing lead, cadmium, or chromium-based paints
- Asbestos
- Polychlorinated Biphenyls (PCBs)
  - Older transformers are a common source of PCBs.

Installation and Implementation Requirements

POTENTIALLY HAZARDOUS WASTE RECOGNITION

- Review product label and shipping papers.
- Identify key words such as flammable or ignitable (able to catch fire); carcinogenic (causes cancer); toxic or poisonous (injures or harms people or animals); and hazardous, danger, caustic or corrosive (burns through chemical action). Hawaii Administrative Rules (HAR) Title 11, Chapter 261 includes a list of hazardous waste and criteria. Review Safety Data Sheets (SDS) from the manufacturer and supplier of the product.

HAZARDOUS MATERIALS HANDLING AND STORAGE

- Hazardous material should remain in the original container. Do not transfer material into another storing device unless it is considered waste.
- Keep the original product label on the container because it includes important safety and disposal information. Keep all SDS at a designated location. Inform all personnel of the location of the SDS.
- Restrict amount of herbicide and fertilizer prepared to the quantity necessary for the current application. Comply with the recommended usage instructions. Do not apply herbicides and fertilizers during or just before a rain event.

Hazardous Materials and Waste Management

Installation and Implementation Requirements *(continued)*

- It is preferred to store hazardous material under a covered facility. If a covered facility is not applicable, materials must be placed in secondary containment and covered with impermeable material to prevent storm water from coming in contact with materials.
- Secondary containment must be able to retain 100% of the volume of the largest container or 10% of the aggregate total of all the containers being stored within the secondary containment, whichever is greater.
- Metal containers shall be covered by an impermeable material so they are not exposed to rainwater, which can cause rusting and potential leaks.

Hazardous materials stored under a covered facility and in secondary containment prevents storm water from coming into contact with materials.

- Secondary containment is required for storing hazardous materials and must be impervious to the materials stored.
- All spills, free products, or storm water captured in a secondary containment shall be immediately removed and properly disposed of.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Immediately clean up hazardous waste that spills or leaks on the ground. Do not hose down or bury spills.

DISPOSAL OF HAZARDOUS WASTE FROM CONSTRUCTION ACTIVITIES

- It is required to ensure the site has adequate space for hazardous waste storage volume.
- Waste storage areas must be located away from drain inlets, watercourses, and moving vehicles.
- Minimize hazardous waste stored on-site.
- Waste shall not be mixed and drums used for waste shall not be overfilled.
- Label all waste containers with the type of waste being stored and the date of accumulation.

Hazardous Materials and Waste Management

Installation and Implementation Requirements *(continued)*

- Store hazardous waste separate from non-hazardous waste to prevent mixing in case of a spill. Do not mix wastes.
- Remove as much paint from brushes on painted surface. Do not clean or rinse water-based paint brushes in soil, streets, gutters, storm drains, or streams. Rinse from water-based paints shall be discharged into the sanitary sewer system. Filter and reuse solvents and thinners.
- Dispose of oil-based paints and residue as a hazardous waste.
- Place hazardous waste in a sealable container suitable for the material.

Metal containers must be covered by an impermeable material or under a covered facility to prevent contact with rainwater, which can cause rusting and potential leaks.

- Rainwater that mixes with hazardous waste due to spills or leaks shall be treated as hazardous waste and must be placed in drums.
- Dispose of container only after all of the product has been used in accordance with federal, state, and local regulations.
- Hazardous waste that will not be recycled/reused must be disposed of off-site within 90 days of being generated, or as directed by the Resident/Construction Engineer.
- Maintain an ample supply of cleanup materials that are readily accessible for spills. All employees shall be informed of the location of the cleanup material and trained in their proper use.
- Hazardous waste must not accumulate on the ground.
- A licensed hazardous waste transporter shall dispose of hazardous waste at an authorized disposal facility. For more information regarding licensed transporters, refer to the State of Hawaii Department of Health (DOH) Hazardous Waste Section at website – http://health.hawaii.gov/shwb/hazwaste/.

WASTE RECYCLING AND DISPOSAL OF HAZARDOUS WASTE

- Designate areas for collection of hazardous wastes.
- Store hazardous materials and wastes in covered containers and label according to applicable Resource Conservation and Recovery Act (RCRA) requirements.
- Provide secondary containment for hazardous waste containers to prevent contact with storm water runoff.
- Keep wastes separate to prevent chemical reactions which make recycling and disposal difficult.
- Recycle useful materials such as oil- or water-based paint.

Hazardous Materials and Waste Management

Installation and Implementation Requirements *(continued)*

- Do not dispose of toxic liquid wastes (solvents, used oils, and paints) or chemicals (additives, acids, and curing compounds) in dumpsters allocated for construction debris.
- Schedule periodic waste collection to prevent overflow of containers.
- Ensure collection, removal, and disposal of hazardous waste complies with regulations.
- Clean up spills immediately. Do not clean spills or surfaces by hosing the area down. Use the appropriate tools in the spill prevention kit to mitigate spills from leaching into the receiving waters or entering a storm drainage system.
- Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

Considerations

- Hazardous waste that cannot be reused or recycled shall be disposed of by a licensed hazardous waste hauler.
- Nothing in this section relieves the contractor's responsibility of compliance with federal and state laws.

What to Inspect

- Is hazardous material in secondary containment and covered with an impermeable material?
- Are containers completely empty before being thrown into the waste bin?
- Is plastic cover ripped or torn?
- Are metal containers containing hazardous material rusting or leaking?
- Are original labels on all containers containing hazardous material?
- Are containers completely sealed?
- Is hazardous material in its original container?
- Is there evidence of leaks or spills on ground?
- Is hazardous waste being stored properly and regularly disposed of by a licensed transporter?

Hazardous materials not stored in a covered facility must be placed in secondary containment and under an impermeable cover.

Hazardous Materials and Waste Management

What to Inspect *(continued)*

- Is there an amply supply of cleanup material readily accessible?
- Is hazardous waste being mixed?

Maintenance

- Schedule regular hazardous waste collection.
- Replace/repair secondary containment if there are signs of leaking.
- Replace plastic cover that has rips and tears.
- Immediately clean up spills of hazardous material and dispose of waste properly.
- Maintain areas where hazardous material and waste must be kept clean and well organized.