

l e e e e e e e e e e e e e e e e e e e	 DRAW	ING INDEX	PROJECT DATA		
			OWNER: DEPARTMENT OF DEFENSE,	E	
	SHT DESCRIPTION <u>GENERAL</u>	<u>ELECTRICAL</u>	STATE OF HAWAII		
	01 G-001 TITLE SHEET	48 E-001 NOTE, SYMBOLS	TAX MAP KEY: TMK: (1) 9-1-013:111	A STATE OF THE STA	
	02 G-002 DRAWING INDEX, PROJECT DATA	49 E-002 GENERAL NOTES	LOT AREA: 11 ACRES	MYNATION	
	CIVIL OZ O 004 ONAL NOTES 4	50 ED101 OVERALL PLAN — DEMO	D.W. D.W.O. 0005		
	03 C-001 CIVIL NOTES - 1	51 ES101 ELECTRICAL SITE PLAN — DEMO	BUILDING CODE		
	04 C-002 CIVIL NOTES - 2	52 ES102 ELECTRICAL SITE PLAN — NEW	TYPE OF CONSTRUCTION: TYPE III		
	05 C-100 TOPOGRAPHIC SURVEY - 1 06 C-101 TOPOGRAPHIC SURVEY - 2	53 E-101 OVERALL PLAN 54 E-201 POWER PLAN - NEW	NO OF STORIES: 2		
	07 C-102 ESCP & DEMOLITION PLAN - 1	55 E-202 ROOF PLAN - NEW	ZONING INFORMATION		
	08 C-103 ESCP & DEMOLITION PLAN - 2	56 E-203 LIGHTING PLAN - NEW	STATE LAND USE: URBAN	I CERTIFY THAT THIS DRAWING PREPARED BY ME OR UNDER DIRECT SUPERVISION.	
	09 C-104 CIVIL UTILITY & RESTORATION PLAN	57 E-204 TELECOMUNICATIONS PLAN - NEW			
	10 C-105 TRAFFIC CONTROL PLAN	58 E-401 ENLARGED PLANS	ZONING: F-1	LICENSED PROFESSIONAL	
	11 C-501 CIVIL DETAILS - 1	59 E-501 DUCT SECTION DETAILS	EXISTING FLOOR AREA: 15,600 SF	No. 4073	
	12 C-502 CIVIL DETAILS - 2	60 E-502 DETAILS	NEW FLOOR AREA: 0 SF	AWAII, U.S.	
	13 C-503 CIVIL DETAILS - 3	61 E-601 ONE-LINE DIAGRAM - DEMO	TOTAL FLOOR AREA: 15,600 SF	EXPIRES APRIL 30, 202	
	ADCHITECTUDAL	62 E-602 ONE-LINE DIAGRAM - NEW	FLOOD ZONE: D		
	ARCHITECTURAL  14 AD101 PARTIAL DEMOLITION FIRST FLOOR PLAN I — II	63 E-603 TELEPHONE SERVICE - DEMO AND NEW	SMA: NOT IN SMA		
	15 AD102 PARTIAL DEMOLITION FIRST FLOOR PLAN III - IV	64 E-604 DIAGRAMS			
	16 AD103 DEMOLITION UPPER FLOOR PLAN	65 E-701 LIGHT FIXTURE SCHEDULE			
	17 AD201 DEMOLITION EXTERIOR ELEVATIONS	66 E-702 PANEL SCHEDULES			
	18 A-101 PARTIAL FIRST FLOOR PLAN I	67 E-703 SCHEDULES			
	19 A-102 PARTIAL FIRST FLOOR PLAN II				
	20 A-103 PARTIAL FIRST FLOOR PLAN III				
	21 A-104 PARTIAL FIRST FLOOR PLAN IV				
	22 A-105 UPPER FLOOR PLAN				
	23 A-111 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN I		GENERAL NOTES	SUBMITTAL PHASE	
	24 A-112 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN II		GLINLINAL INOTES	100% FINAL DES	
	25 A-113 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN III		1. TYPICAL MATERIAL INDICATIONS ON INTERIOR ELEVATIONS	SUBMITTAL DATE 03/22, DES GM DRW EB CHI	
	26 A-114 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN IV		ARE CALLED OUT ON ELEVATION 'A'. TYPICAL MATERIAL INDICATIONS ON EXTERIOR ELEVATIONS ARE CALLED OUT ON	DEFENSE BRANCH  AWA	
	27 A-121 PARTIAL ROOF PLAN I - II		THE FRONT ELEVATION.	INT OF I	
	28 A-122 PARTIAL ROOF PLAN III - IV		2. ALL ITEMS & MATERIALS NOTED WITHIN THESE DRAWINGS ARE	EPARTME T MANAC LAELC	
	29 A-131 ENLARGED FLOOR PLAN		EXISTING UNLESS INDICATED OTHERWISE.	PROJEC DI	
	30 A-132 ENLARGED FLOOR PLAN		3. COMPLY WITH THE LATEST FEDERAL, STATE, AND LOCAL	Son AND	
	31 A-201 EXTERIOR ELEVATIONS		LAWS, AND BUILDING CODES IN THE CONSTRUCTION OF THIS PROJECT.	FIONAL GUARD DESIGN AN	
	32 A-401 INTERIOR ELEVATIONS			JARI	
	33 A-402 INTERIOR ELEVATIONS		4. REPAIR ALL DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT. CONTRACTOR WILL BEAR COST OF REPAIRS.	רו פו  -   TC	
	34 A-403 INTERIOR ELEVATIONS		5. USE DIMENSIONS NOTED ON DRAWINGS ONLY, DO NOT SCALE	ON&	
	35 A-501 ROOF DETAILS		DIMENSIONS FROM THE DRAWINGS.		
	36 A-511 DOOR & WINDOW DETAILS			RMY NA	
	37 A-521 DETAILS			₹   ∢	
	38 A-531 WALL SECTIONS			HAWAII	
	39 A-532 WALL SECTIONS				
	40 A-601 SCHEDULES			X	
	MECHANICAL 41 M-001 MECHANICAL GENERAL NOTES AND LEGEND			HEIOE .	
	42 M-101 OVERALL MECHANICAL AND PLUMBING FLOOR PLAN			EMENT O	
	43 MD401 ENLARGED DEMOLITION MECHANICAL AND PLUMBING FLOOR PLAN			E OF HAWAILITY MANAGE	
	44 M-401 ENLARGED MECHANICAL AND PLUMBING FLOOR PLA	N		SCALE: STATE	
	45 M-501 MECHANICAL DETAILS			STATE JOB NO.	
	46 M-601 EQUIPMENT AND PLUMBING FIXTURE SCHEDULE			CA-202209-C FEDERAL PROJECT NO.	
	47 M-901 PLUMBING ISOMETRIC DIAGRAMS			15H00074 SHEET 2 OF 67	
				G-002	

## **GENERAL NOTES:**

- VERIFY ALL DIMENSIONS AND ELEVATIONS, AND NOTIFY THE OWNER OF ANY DISCREPANCIES PRIOR TO INSTALLATION.
- 2. INSTALL ALL ITEMS ACCORDING TO THE PLANS AND SPECIFICATIONS. NO MODIFICATIONS SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
- CONTRACTOR TO ESTABLISH AND MAINTAIN EMERGENCY PLANS IN CASE OF DAMAGE TO UTILITIES IN THE AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIR TO UTILITIES.
- 4. 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.
- PREPARE SUBGRADE PER SECTION 29 OF THE CITY AND COUNTY OF HONOLULU STANDARDS SPECIFICATIONS PERFORM COMPACTION TESTS PER ASTM D1557 TO DETERMINE PERCENTAGE OF MAXIMUM DENSITY.

#### **SEWER NOTES:**

- 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 ORDINANCE OF HONOLULU. 1990 AS AMENDED.
- 2. CRUSHED ROCK CRADLE IS PERMITTED WHERE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL. 5. THE MAKER OF THE PLANS AND THE CONSTRUCTION ENGINEER WILL DETERMINE THE PIPE SUPPORT REQUIRED.
- 3. 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 WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
- 4. SEWER LATERAL SHALL BE CLEAR OF AND NOT CONFLICTING WITH ANY OTHER UTILITY. MINIMUM HORIZONTAL AND VERTICAL CLEARANCES SHALL BE STRICTLY OBSERVED AND FOLLOWED.
- 5. SLOPE FOR SEWER LATERALS SHALL BE A MINIMUM OF 2.00%. UNLESS OTHERWISE NOTED.
- BUILDING PLUMBING FACILITIES SHALL BE CONTROLLED BY SEWER LATERAL INVERTS.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SEWER SERVICE TO ALL AFFECTED AREAS DURING CONSTRUCTION.
- 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.
- 9. GEOTEXTILE FABRIC TO ENVELOP THE PIPE CRADLE AND SELECT BACKFILL MATERIAL SHALL BE PROVIDED WHERE WATER OR UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED.
- 10. CONFINED SPACE:

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

- 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:
  - FULL BODY HARNESS FOR UP TO TWO PERSONNEL.
  - LIFELINE AND ASSOCIATED CLIPS.
  - INGRESS/ENGRESS AND FALL PROTECTION EQUIPMENT.
  - TWO-WAY RADIOS (WALKIES-TALKIES) IF OUT OF LINE-OF-SIGHT.
  - EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
  - CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE. G. CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES (CAPABLE OF MONITORING AT A
  - DISTANCE AT LEAST 20-FEET AWAY). H. PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
- 2. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
- 3. ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).
- 18. 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.
- 19. IF CONTRACTOR ENCOUNTERS FLOW MONITORING DEVICES SUCH AS SPECIAL SEWER MANHOLE COVER EMBEDDED WITH SOLAR PANELS, CONTACT COLLECTION SYSTEMS MAINTENANCE (CSM), ENV AT 768-7272 TO COORDINATE TEMPORARY REMOVAL.

MANHOLE LOCATIONS AT ALL TIMES, INCLUDING DURING NON-WORK HOURS AND PAVING OPERATIONS.

## **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", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 2021 AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
- NO DEVIATION TO THE BOARD OF WATER SUPPLY 2002 WATER SYSTEM STANDARDS SHALL BE ALLOWED WITHOUT THE APPROVAL OF KALAELOA WATER COMPANY.
- 3. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA, BUT ARE NOT GUARANTEED AS TO THEIR ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATERLINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATERLINES, TEES, AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATERLINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT THE WATERLINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL VERIFY IN THE FIELD, THE LOCATION OF EXISTING WATERLINES AND APPURTENANCES.
- ANY ADJUSTMENTS TO THE EXISTING WATER SYSTEM REQUIRED DURING CONSTRUCTION, TO MEET THE REQUIREMENTS OF BWS STANDARDS, WETHER SHOWN ON THE PLANS OR NOT, SHALL BE DONE BY THE CONTRACTOR AT NO COST TO THE BOARD.
- 7. THE CONTRACTOR SHALL NOTIFY KALAELOA WATER COMPANY ONE WEEK PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.

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HEET 3 OF 67

FEDERAL PROJECT NO.

HIGHWAYS ADMINISTRATOR STATE DEPARTMENT OF TRANSPORTATION (APPROVAL GRANTED FOR WORK WITHIN STATE RIGHT-OF-WAY ONLY. ID NO. LETTER OF APPROVAL NO. HWY-CM DATED

- 1. THE CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK UPON STATE HIGHWAYS FROM THE OAHU DISTRICT ENGINEER, STATE HIGHWAYS, AT 727 KAKOI STREET, PRIOR TO COMMENCEMENT OF WORK WITHIN THE STATE'S HIGHWAY RIGHT-OF-WAY.
- 2. CONSTRUCTION AND RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN THE STATE'S RIGHT OF-WAY, INCLUDING THE LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, SHALL BE IN ACCORDANCE WITH THE CURRENT HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS, OF THE STATE HIGHWAYS DIVISION.
- WORK MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:30 A.M. AND 3:00 P.M., MONDAY THROUGH FRIDAY, EXCEPT STATE HOLIDAYS, UNLESS WHEN OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.

DURING WORK HOURS, ONLY ONE LANE OF TRAFFIC SHALL BE CLOSED, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER.

AT CERTAIN LOCATIONS, "NO LANE CLOSURE" WILL BE ALLOWED DURING THE "BACK TO SCHOOL JAM", THANKSGIVING WEEKEND. CHRISTMAS / NEW YEAR PERIOD AND AT OTHER TIMES AS DIRECTED BY THE HIGHWAYS DIVISION.

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 PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE "ADMINISTRATIVE RULES OF HAWAII GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS", ADOPTED BY THE DIRECTOR OF TRANSPORTATION, AND THE "U.S. FEDERAL HIGHWAY ADMINISTRATION MUTCD - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PART VI – TEMPORARY TRAFFIC CONTROL".

LANE CLOSURES SHALL CONFORM TO THE TRAFFIC CONTROL PLAN INCORPORATED INTO THESE CONSTRUCTION PLANS AND MUST BE APPROVED BY THE DIVISION PRIOR TO THE ISSUANCE OF THE PERMIT.

- 5. THE MINIMUM PAVEMENT STRUCTURE SHALL CONSIST OF:
- A. RESIDENTIAL DRIVEWAYS, ON MINOR HIGHWAYS:

(1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" AGGREGATE BASE COURSE AND 12" SUBBASE, OR 2-1/2" ASPHALT CONCRETE AND 6" ASPHALT CONCRETE BASE COURSE.

(2)6" OF CLASS "A" CONCRETE REINFORCED WITH 6"X6" – W2.9 X W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.

- B. COMMERCIAL DRIVEWAYS AND SIDEROADS ON MINOR HIGHWAYS
- (1) 2-1/2" ASPHALT CONCRETE (MIX IV), 6" ASPHALT CONCRETE BASE COURSE AND 12" SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 8" ASPHALT CONCRETE BASE COURSE.
- (2) 8" OF CLASS "A" CONCRETE REINFORCED WITH 6"X6" W2.9 X W2.9 WIRE MESH ON 12" AGGREGATE SUBBASE, IF DEEMED NECESSARY BY THE ENGINEER.
  - C. CHANNELIZED INTERSECTIONS ON MAJOR HIGHWAYS:

4" ASPHALT CONCRETE (MIX IV), 8" ASPHALT CONCRETE BASE COURSE AND 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE (MIX IV) AND 12" ASPHALT CONCRETE BASE COURSE.

- 6. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN THE HIGHWAY RIGHT-OF-WAY, EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE DISTRICT ENGINEER.
- 7. COMPACTION TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE SPECIFICATIONS FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS. AS FOLLOWS:
  - .. SUBBASE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAL FEET OF ROADWAY.
  - B. BASE COURSE: ONE (1) COMPACTION TEST PER LIFT PER 200 LINEAL FEET OF ROADWAY.
  - C. ONE (1) COMPACTION TEST PER LIFT PER 300 LINEAL FEET OF TRENCH.
  - D. A COPY OF THE TEST RESULTS SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.
- 8. THE CONTRACTOR SHALL TAKE A PROFILE ALONG THE CENTERLINE OF THE PROPOSED UTILITY TRENCH BOTH BEFORE COMMENCING TRENCH EXCAVATION WORK AND AFTER TRENCH HAS BEEN REPAVED. PROFILES SHALL BE SUBMITTED TO THE DISTRICT ENGINEER AND SHALL BE USED TO VERIFY THE ROADWAY SURFACE HAS BEEN RESTORED TO ITS ORIGINAL CONDITION OR SMOOTHER.
- 9. THE DISTANCE FROM THE PAVED SURFACE TO THE TESTING EDGE OF A TEN-FOOT LONG STRAIGHT EDGE BETWEEN TWO POINTS SHALL NOT EXCEED 3/16 INCH.
- 10. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE AND SAFE NON-SKID BRIDGING MATERIAL, INCLUDING SHORING, OVER TRENCHES IN PAVEMENT AREAS. THE BRIDGING SHALL BE ABLE TO SUPPORT ALL TYPES OF VEHICULAR TRAFFIC. BRIDGING MATERIALS SHALL NOT BE USED ON HIGH SPEED ROADWAYS, WHICH ARE ROADS WITH A DESIGN SPEED OF 50 MPH OR HIGHER. SMOOTH RIDING CONNECTION BETWEEN ROADWAY SURFACES AND BRIDGING MATERIAL SHALL BE PROVIDED. SHOULD COMPLAINTS BE RECEIVED DUE TO NOISE GENERATED FROM THIS WORK, THE CONTRACTOR SHALL IMMEDIATELY ADDRESS THOSE COMPLAINTS.
- 11. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE USE AND THE DURATION OF USE OF BRIDGING MATERIALS. THE STATE MAY REQUIRE THE BACKFILLING AND PATCHES OF TRENCHES DUE TO THE EXCESSIVE USAGE OF STEEL PLATES.
- 12. UNLESS OTHERWISE NOTED, NO TRENCH SHALL BE OPENED MORE THAN 300 FEET IN ADVANCE OF INSTALLED AND TESTED PIPELINE AND/OR DUCTLINE.
- 13. EXISTING DRAINAGE SYSTEMS SHALL BE FUNCTIONAL AT ALL TIMES.
- 14. THE CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE DAMAGES TO EXISTING HIGHWAY IMPROVEMENTS. ALL DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR, AT HIS EXPENSE, TO THE SATISFACTION OF THE DISTRICT ENGINEER.

## CONSTRUCTION WITHIN STATE RIGHT-OF-WAY NOTES (CONT.):

- 15. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF NOTIFICATION OF APPROVAL TO THE APPLICANT. IN THE EVENT CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR PERIOD, THE APPLICANT WILL BE REQUIRED TO RESUBMIT THE CONSTRUCTION PLANS FOR THE DIVISION'S REVIEW AND RE-APPROVAL.
- ALL REGULATORY, GUIDE, AND CONSTRUCTION SIGNS AND BARRICADES SHALL HAVE A HIGH-INTENSITY TYPE III OR IV RETROREFLECTIVE BACKGROUND.
- 17. THE CONTRACTOR SHALL INFORM THE STATE HIGHWAY'S PERMIT OFFICE (831-6712) AT LEAST TWO WEEKS PRIOR TO CLOSING ANY LANES.
- 18. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTIES USING THESE RIGHTS-OF WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
- 19. WHERE PEDESTRIAN WALKWAYS EXIST THEY SHALL BE MAINTAINED IN A SAFE AND PASSABLE CONDITION, OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGES BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED. ALL WALKWAYS SHALL CONFORM TO ADA REQUIREMENTS.
- 20. THE CONTRACTOR SHALL REFERENCE, TO THE SATISFACTION OF THE DISTRICT ENGINEER, ALL EXISTING TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR ALL TRAFFIC SIGNS, POSTS, AND PAVEMENT MARKINGS DISTURBED BY HIS ACTIVITIES, AT HIS EXPENSE, UNLESS DIRECTED BY THE DISTRICT ENGINEER OR HIS REPRESENTATIVE.
- 21. THE CONTRACTOR SHALL EXERCISE CARE WHEN PERFORMING WORK IN OR ADJACENT TO THE STATE HIGHWAY RIGHT-OF-WAY. DAMAGES TO THE EXISTING FACILITIES SHALL BE IMMEDIATELY REPORTED TO THE RESPECTIVE UTILITY COMPANIES. AND/OR CITY OR STATE AGENCIES. THE REPAIR WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
- 22. HIGHWAY LIGHTS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. SHOULD WORK BE NECESSARY, THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS' HIGHWAY LIGHTINGSUPERVISOR (837-8056), THREE (3 ) WORKING DAYS PRIOR TO COMMENCING WORK.
- 23. THE CONTRACTOR SHALL NOTIFY THE CITY DEPARTMENT OF TRANSPORTATION SERVICES, TRAFFIC SIGNAL ENGINEER (768-8388), THREE (3) DAYS PRIOR TO ANY SIGNALIZED INTERSECTION WORK.
- 24. TRAFFIC SIGNALS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. TEMPORARY OPERATIONAL MICROWAVE OR OTHER APPROVED DETECTION DEVICES SHALL BE INSTALLED THREE (3) WORKING DAYS PRIOR TO ANY SIGNALIZED INTERSECTION EXCAVATION WORK. ALL WORK SHALL BE DONE IN ACCORDANCE TO THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION SERVICES, CITY AND COUNTY OF HONOLULU, AND PAID FOR BY THE CONTRACTOR.
- 25. CONSTRUCTION OF THIS PROJECT SHALL NOT AFFECT TRANSIT OPERATIONS. BUS ROUTES AND BUS STOPS SHALL REMAIN OPEN AND ACCESSIBLE AT ALL TIMES. ANY WORK AFFECTING BUS OPERATIONS, ROUTES, OR STOPS MUST BE SUBMITTED TO DEPARTMENT OF TRANSPORTATION SERVICES, TRANSPORTATION MOBILITY DIVISION (DTS-TMD) FOR REVIEW NO LESS THAN 30 DAYS PRIOR TO START DATE.

POINT OF CONTACT INFORMATION (NOTIFICATION TO ALL PHONE NUMBERS AND EMAILS): DTS-TMD: (808)768-8371, THEBUSSTOP@HONOLULOU.GOV, HANDIVAN@HONOLULU.GOV OAHU TRANSIT SERVICES - BUS OPERATIONS: (808)768-9520, (808)768-9534, SEAN-BENNETT.PAIO@THEBUS.ORG, JOSHUA.VAOALII@THEBUS.ORG. WALTER.OBA@THEBUS.ORG OAHU TRANSIT SERVICES - PARATRANSIT OPERATIONS: (808)768-9802, (808)768-9851, (808)454-5021, TRACIE.COELHO@THEBUS.ORG, RICHARD.MOLE@THEBUS.ORG

- 26. THE PERMIT TO PERFORM WORK UPON STATE HIGHWAY MAY BE REVOKED BECAUSE OF DEFAULT IN ANY OF THE FOLLOWING, BUT NOT LIMITED TO, CONDITIONS:
  - A. WORK PERFORMED BEFORE OR AFTER PERMITTED HOURS.
- B. FAILURE TO MAINTAIN ROADWAY SURFACES IN A SMOOTH AND SAFE CONDITION.
- C. FAILURE TO CLEAN UP CONSTRUCTION DEBRIS GENERATED FROM PROJECT WORK.
- D. FAILURE TO PROVIDE PROPER TRAFFIC CONTROL.
- E. FAILURE TO REPLACE DAMAGED PAVEMENT MARKINGS AND SIGNS.
- F. FAILURE TO MAINTAIN HIGHWAY LIGHTS AND/OR TRAFFIC SIGNAL SYSTEMS.
- G. FAILURE TO ADDRESS PUBLIC COMPLAINTS TO THE SATISFACTION OF THE DISTRICT ENGINEER.
- 27. THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS PERMIT OFFICE AT DOT.HWYO.PERMITS@HAWAII.GOV OR 831-6700 (EXT. 107) AT LEAST TWO DAYS PRIOR TO PERFORMING ANY TRENCH RESTORATION WORK. THIS WORK SHALL INCLUDE ANY BACKFILLING AND COMPACTING OF TRENCH MATERIAL; ANY PLACING AND COMPACTING OF BASE COURSE MATERIAL; AND ANY PAVING OPERATIONS. ANY TRENCH RESTORATION WORK PERFORMED BY THE CONTRACTOR THAT IS NOT WITNESSED BY A STATE REPRESENTATIVE WILL BE REQUIRED TO BE REMOVED AND RESTORED WITH A STATE REPRESENTATIVE PRESENT. ALL RESTORATION WORK WILL BE AT THE CONTRACTOR'S EXPENSE.
- 28. TEMPORARY COLD MIX TRENCH PATCHES WILL BE PERMITTED IN ANY GIVEN AREA FOR A MAXIMUM DURATION OF TWO WEEKS, AND SHALL BE A MINIMUM OF 2 INCHES THICK. ALL TEMPORARY PATCHES SHALL BE PLACED OVER PROPERLY PLACED AND COMPACTED BACKFILL AND BASE COURSE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY PATCHES AND TO MAKE REPAIRS TO UNSATISFACTORY PATCHES WITHIN 24 HOURS.
- 29. PLASTIC MARKING TAPE. PROVIDE PLASTIC MARKING TAPE THAT IS ACID AND ALKALI RESISTANT POLYETHYLENE FILM 6 INCHES WIDE WITH MINIMUM THICKNESS OF 0.004 INCH. PROVIDE TAPE WITH MINIMUM STRENGTH OF 1750 PSI LENGTHWISE AND 1500 PSI CROSSWISE. MANUFACTURE TAPE WITH INTEGRAL WIRES, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN THE TAPE IS BURIED UP TO 3 FEET DEEP. MANUFACTURE TAPE SPECIFICALLY FOR MARKING AND LOCATING UNDERGROUND UTILITIES. PROVIDE THE METALLIC CORE OF THE TAPE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. CONFORM TO THE FOLLOWING TAPE COLOR AND BEAR A CONTINUOUS PRINTED INSCRIPTION DESCRIBING THE SPECIFIC UTILITY.

RED: ELECTRIC
YELLOW: GAS, OIL, DANGEROUS MATERIALS
ORANGE: TELEPHONE, TELEGRAPH, TELEVISION, POLICE, AND FIRE
COMMUNICATIONS
BLUE: WATER SYSTEMS
GREEN: SEWER SYSTEMS

- 30. THE CONTRACTOR SHALL PROVIDE THE DISTRICT ENGINEER WITH AS-BUILT PLANS UPON COMPLETION OF THE WORK DONE IN THE STATE RIGHT-OF-WAY. THIS SHALL BE DONE PRIOR TO THE DEPARTMENT'S RELEASE OF THE PERFORMANCE BOND.
- 31. PURSUANT TO THE HDOT DESIGN CRITERIA FOR HIGHWAY DRAINAGE DATED JUNE 15, 2019, MAINTAIN A MINIMUM VERTICAL CLEARANCE OF ONE FOOT AND HORIZONTAL CLEARANCE OF TWO FEET BETWEEN DRAINAGE FACILITIES AND OTHER UTILITIES OR OBSTRUCTIONS ONE FOOT AND TWO FEET RESPECTIVELY, OR IN ACCORDANCE WITH THE APPLICABLE UTILITY AGENCIES WHICHEVER IS GREATER.

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) WITHIN STATE HIGHWAY RIGHT-OF-WAY NOTES:

- 1. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR OAHU DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE OAHU DISTRICT OFFICE AT 727 KAKOI STREET. DUE TO POTENTIAL COST IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLETE AND SUBMIT A CONTRACTOR'S CERTIFICATION OF NPDES COMPLIANCE, INCLUDING COMPLETION OF THE BEST MANAGEMENT PRACTICE (BMP) CHECKLIST AND SUBMITTAL OF A WRITTEN BMP PLAN AND DRAWINGS, PRIOR TO ISSUANCE OF THE PERMIT TO PERFORM WORK UPON STATE HIGHWAYS. DUE TO POTENTIAL TIME IMPACTS ON REVIEWING BMPS, THE CONTRACTOR NEEDS TO ALLOW ENOUGH TIME FOR THE APPROVAL PROCESS.
- THE CONTRACTOR SHALL MEET APPLICABLE CONDITIONS DESCRIBED IN THE CURRENT HAWAII REVISED STATUTES (HAR) CHAPTER 11-55. THE CONTRACTOR SHALL ALSO FOLLOW THE GUIDELINES IN THE CURRENT HIGHWAYS DIVISION'S "CONSTRUCTION BEST MANAGEMENT PRACTICES FIELD MANUAL" IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPS) FOR THE PROJECT. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO DOCUMENTS, THEN THE CONDITIONS IN THE HAR 11-55 SHALL GOVERN.
- 4. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE CITY AND COUNTY OF HONOLULU'S "RULES FOR SOIL EROSION STANDARDS AND GUIDELINES" FOR THE PROJECT.
- 5. PLEASE BE ADVISED THAT NPDES REQUIREMENTS FOR PERMIT PROJECTS WITHIN STATE HIGHWAY RIGHT-OF-WAY ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

## EROSION CONTROL/BEST MANAGEMENT PRACTICES NOTES:

- 1. EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO START OF PROJECT AND BE MAINTAINED UNTIL COMPLETION OF PROJECT
- 2. CONTRACTOR TO PERIODICALLY INSPECT SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE, CATCH BASIN AND INLET FILTERS ESPECIALLY DURING HEAVY RAINFALL. CONTRACTOR SHALL ALSO ENSURE DRAINAGE THROUGH FILTER MATERIAL IS MAINTAINED.
- 3. THE FINAL LIFT OF EACH DAY'S WORK SHALL BE COMPACTED TO PREVENT EROSION OF FILL MATERIAL
- 4. GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT, AND DEBRIS
- 5. THE CONTRACTOR SHALL ENSURE THAT ALL TIRES OF CONSTRUCTION VEHICLES ARE SUFFICIENTLY CLEANED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRES WITH WATER WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM OR ONTO THE STATE'S ROW.
- THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREAS (ADJACENT RESIDENCES) FREE FROM DUST NUISANCE.
- 7. STOCKPILING OF MATERIALS WITHIN THE ROADWAY PAVEMENT IS PROHIBITED.



A/E INFO	
AMBEN S. HIROZ	



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100% FINAL DESIGN							
i submit	SUBMITTAL DATE 0.3/22/2024						

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DEPARTMENT OF DEFENSE	ESIGN AND PROJECT MANAGEMENT BRANCH	KALAELOA, HAWAII	NO		

AWAII ARMY NATIONAL GUARD DESIGN AND ELOA B90T RESTORATION
CIVIL NOTES - 2

EACILITY MANAGEMENT OFFICE
BUILDING 90T

SCALE:

STATE JOB NO.

CA-202209-C

FEDERAL PROJECT NO.

15H00074

SHEET 4 OF 67

C-002

APPROVED:

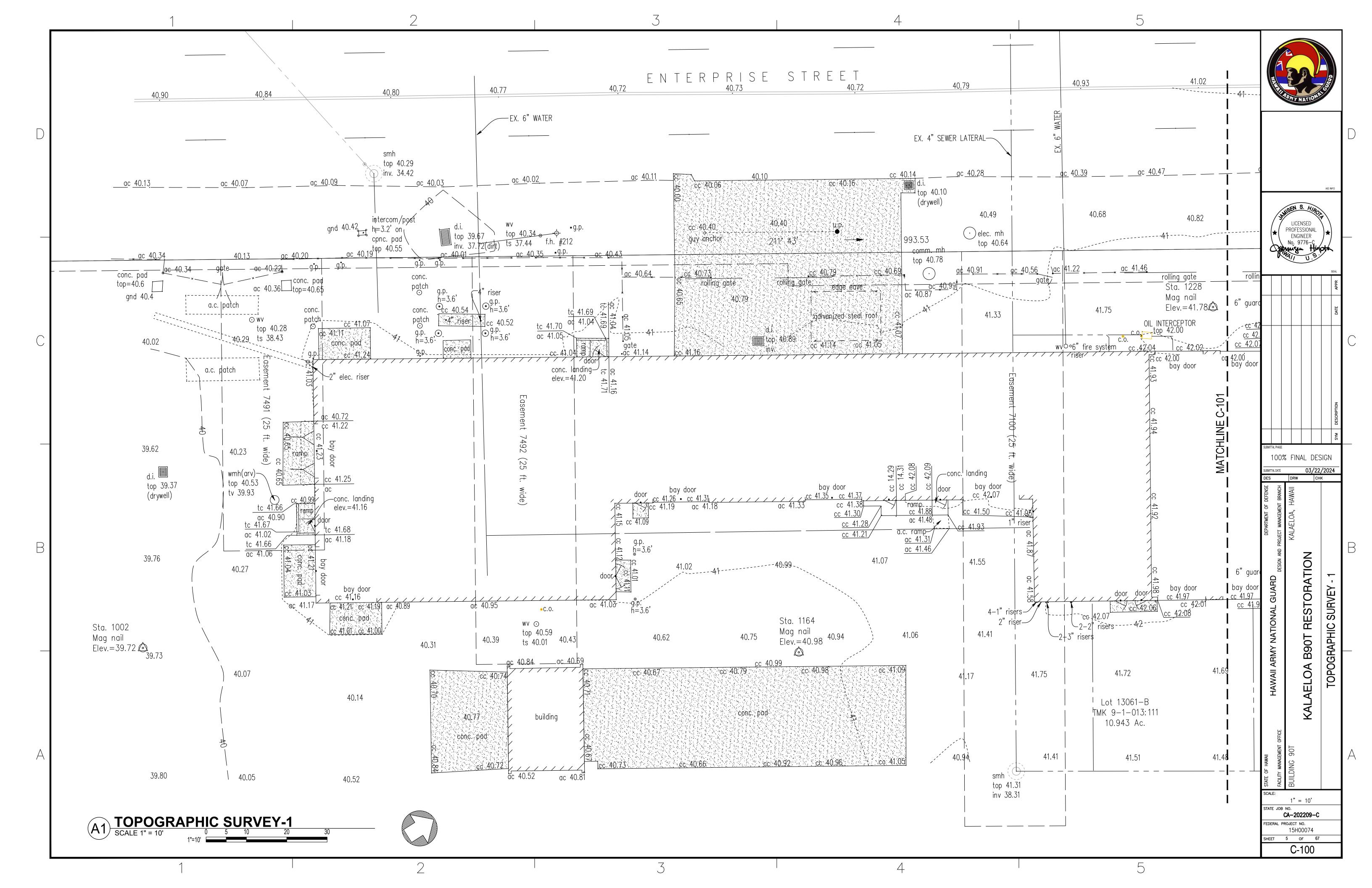
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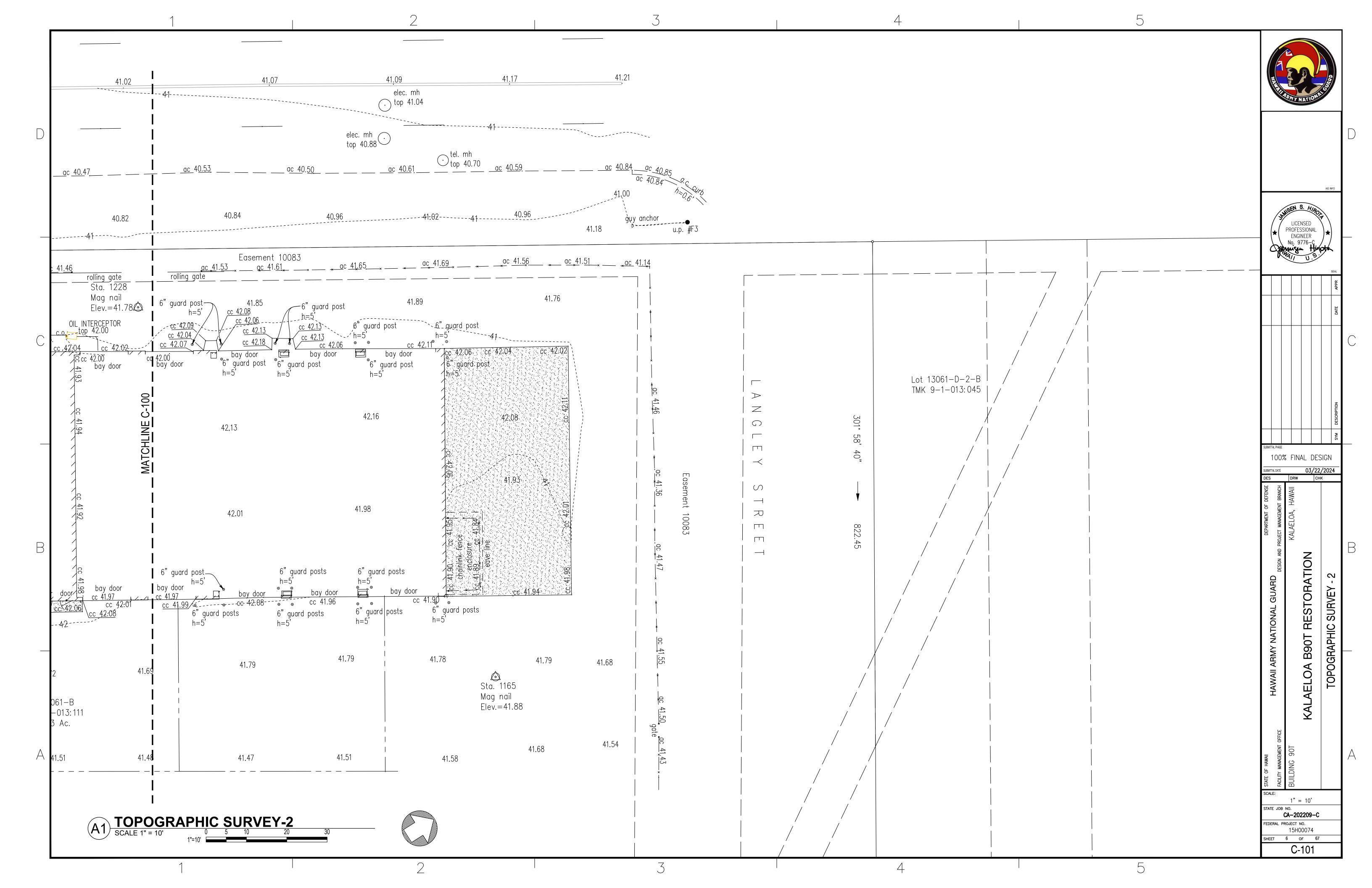
HIGHWAYS ADMINISTRATOR
STATE DEPARTMENT OF TRANSPORTATION (APPROVAL GRANTED FOR WORK WITHIN STATE RIGHT-OF-WAY ONLY. ID NO. \_\_\_\_\_LETTER OF APPROVAL NO. HWY-CM \_\_\_\_

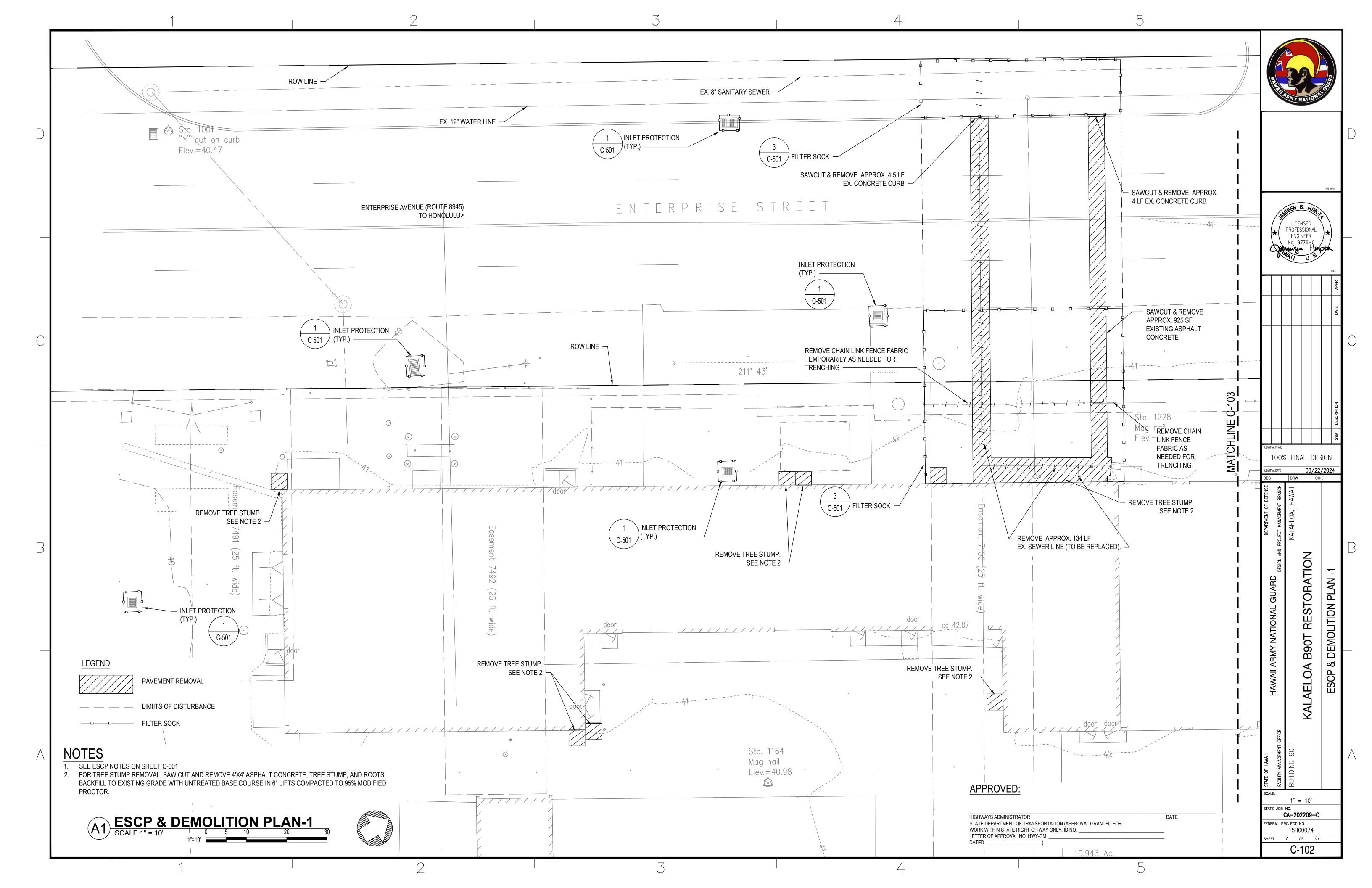
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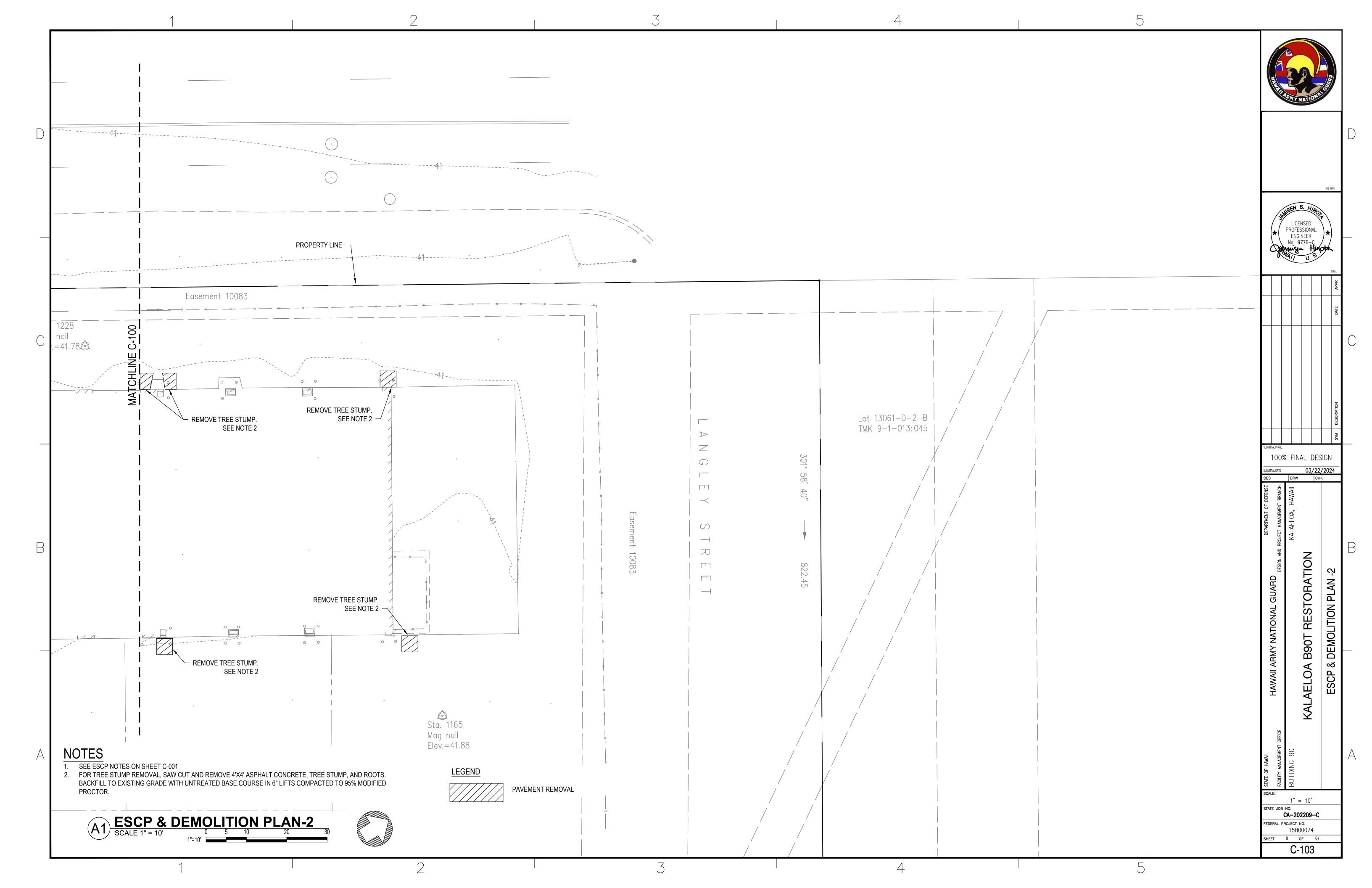
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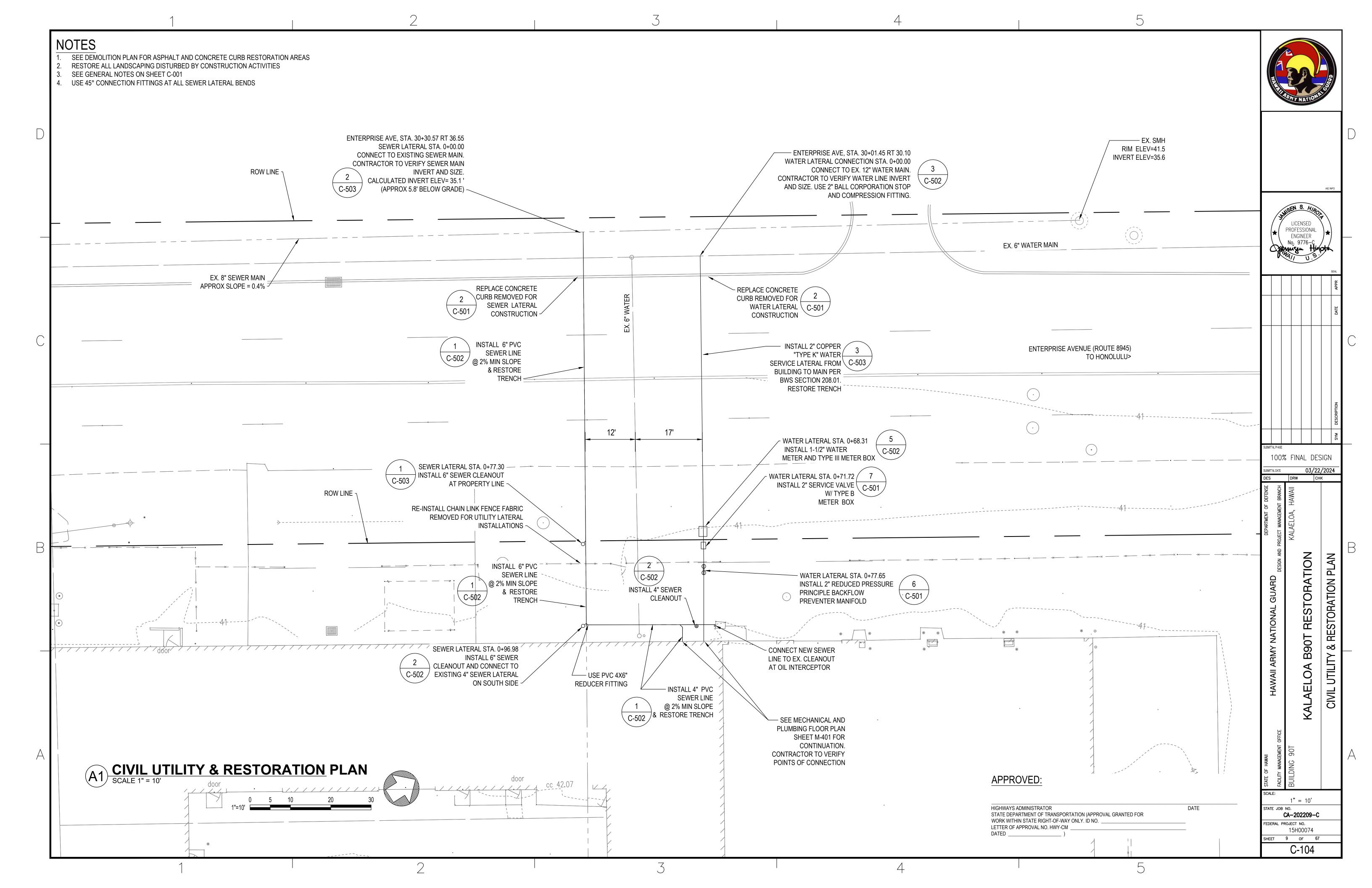
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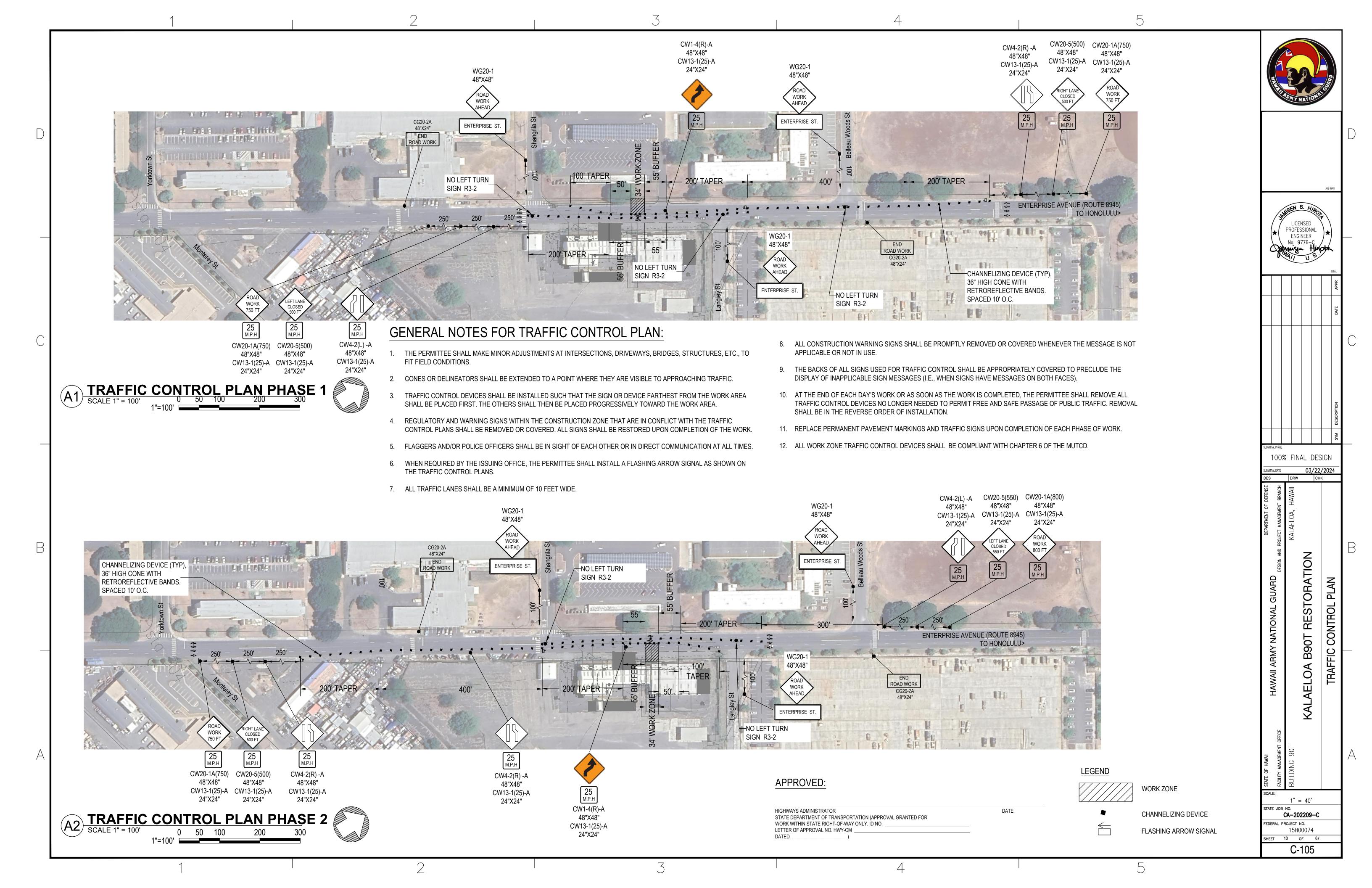


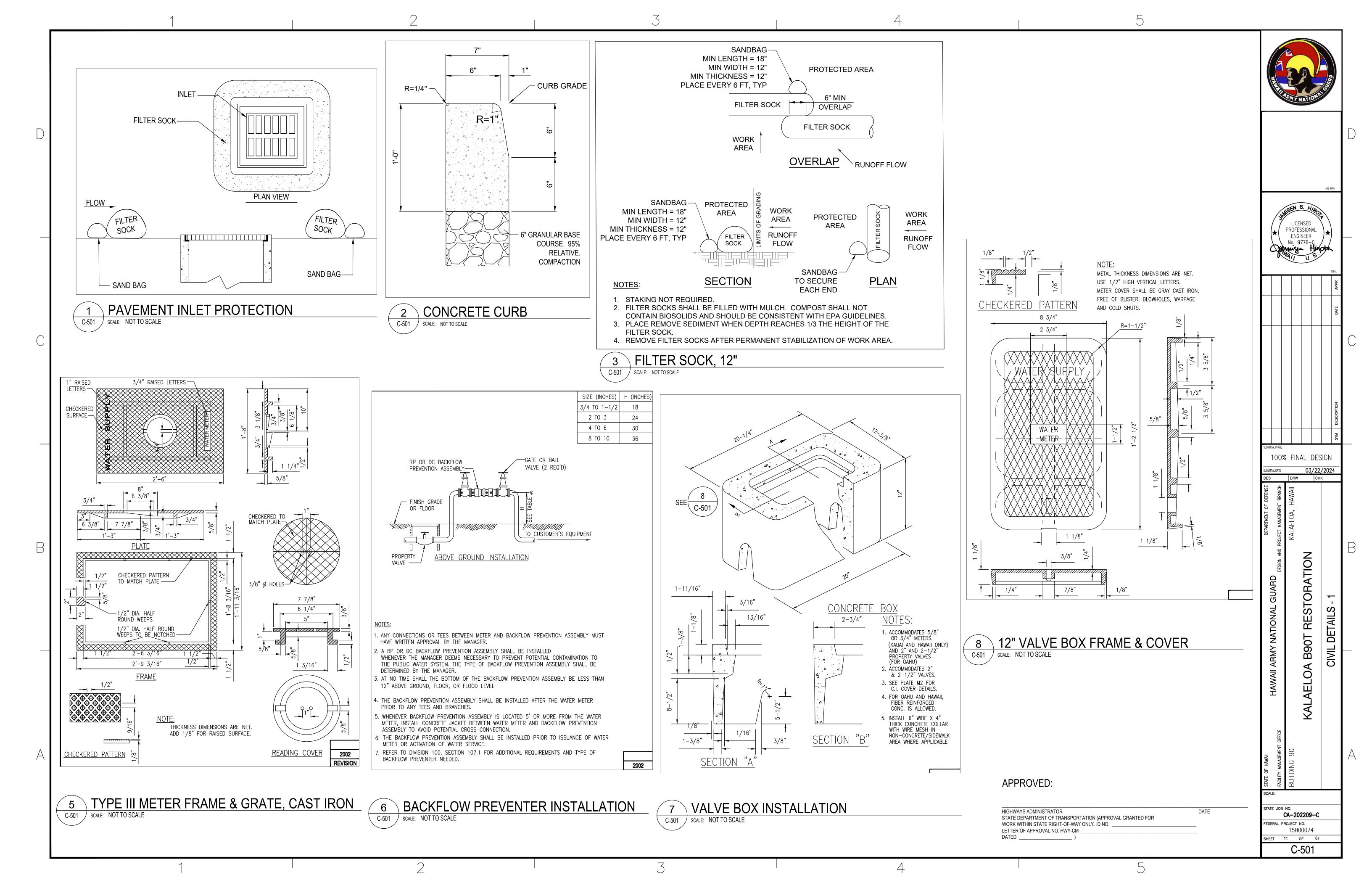


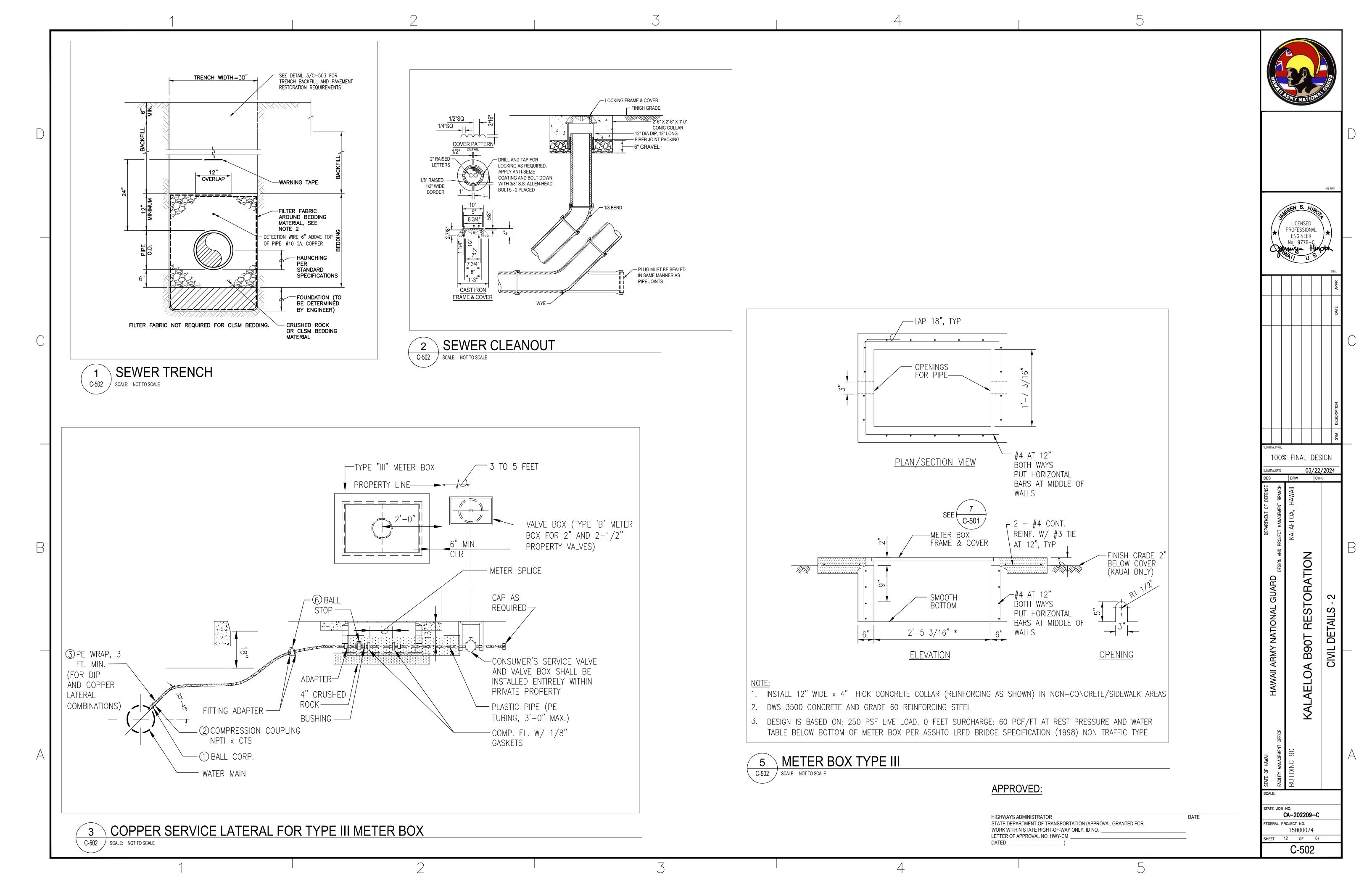


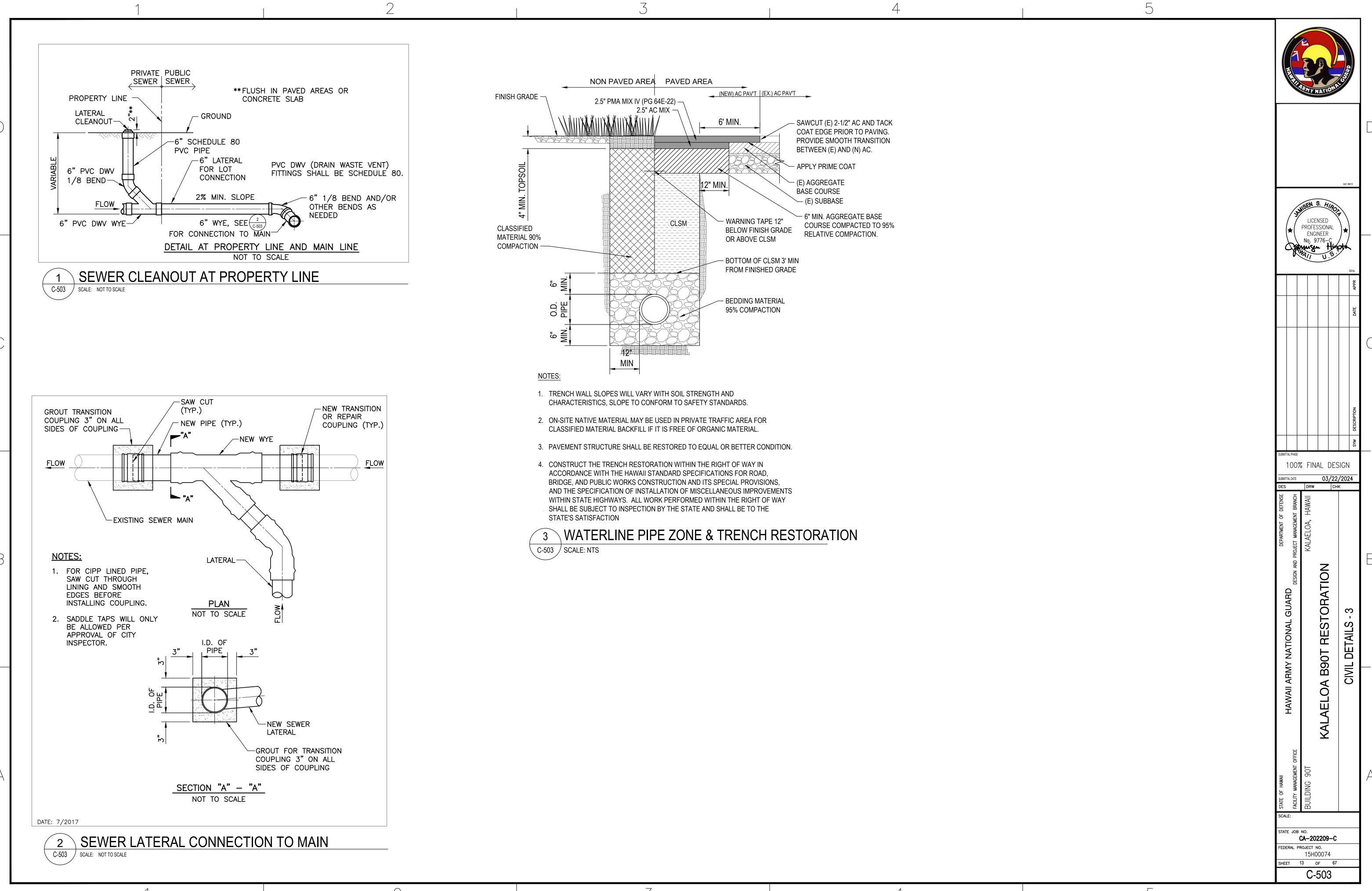




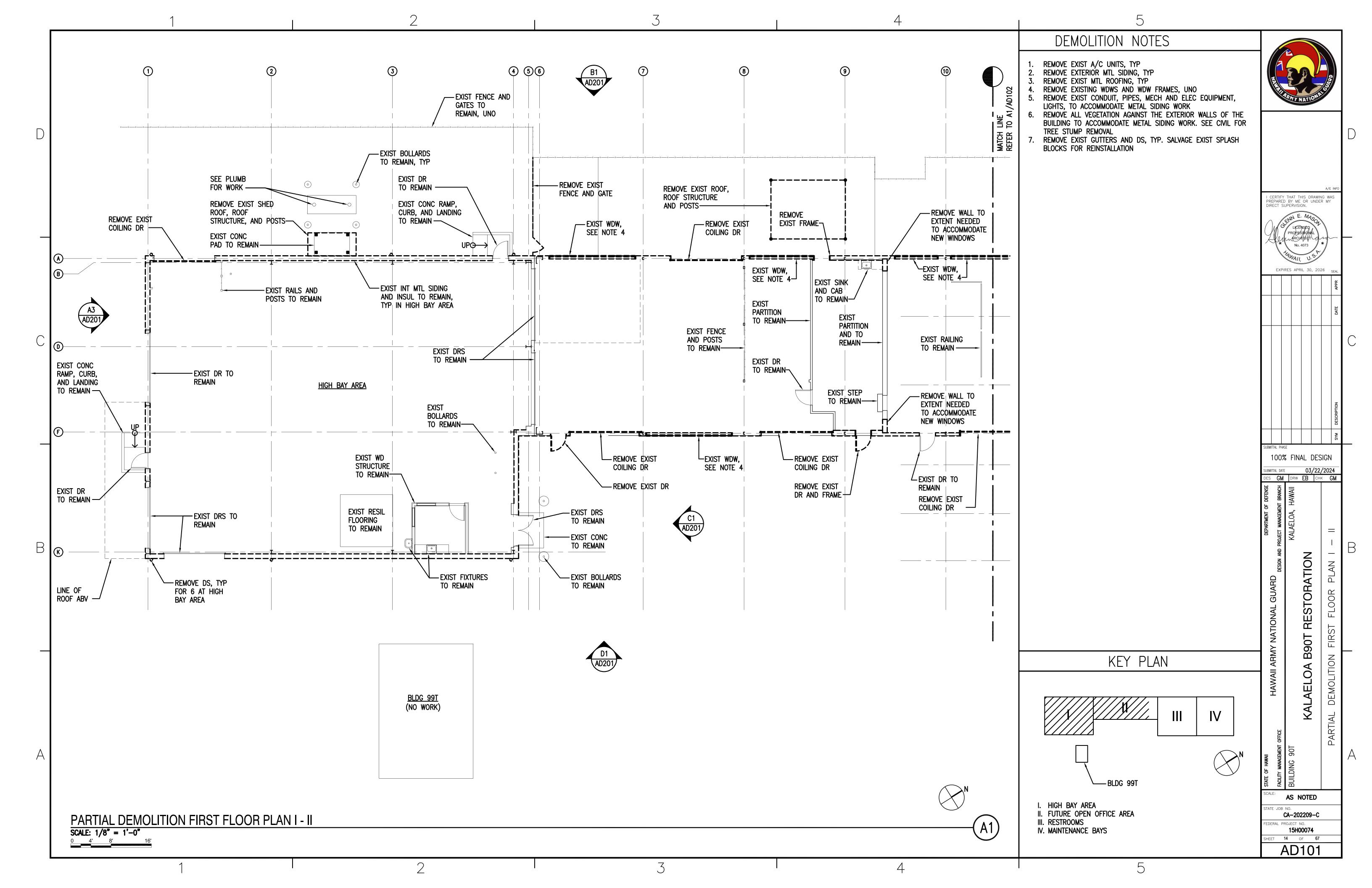


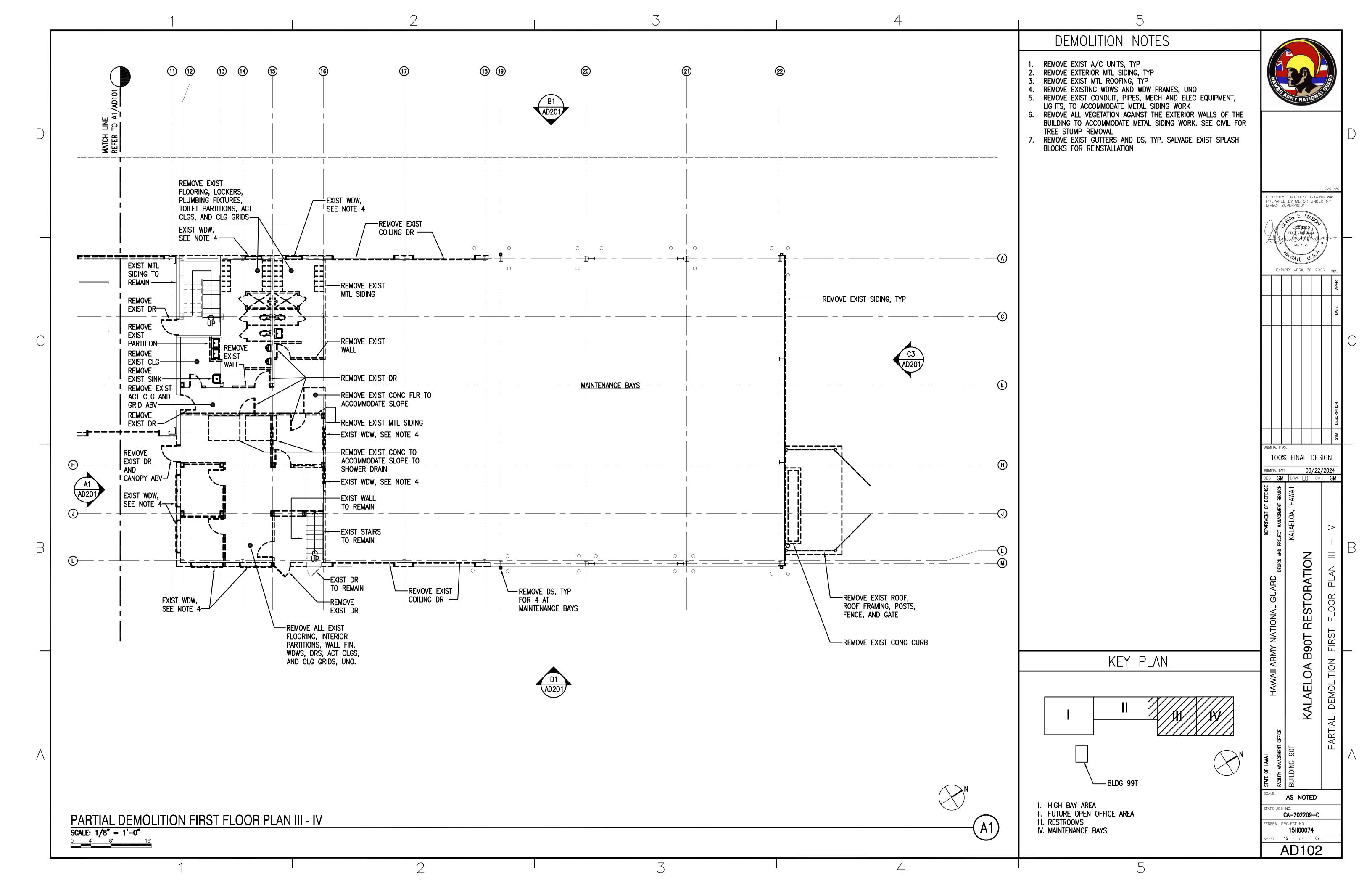


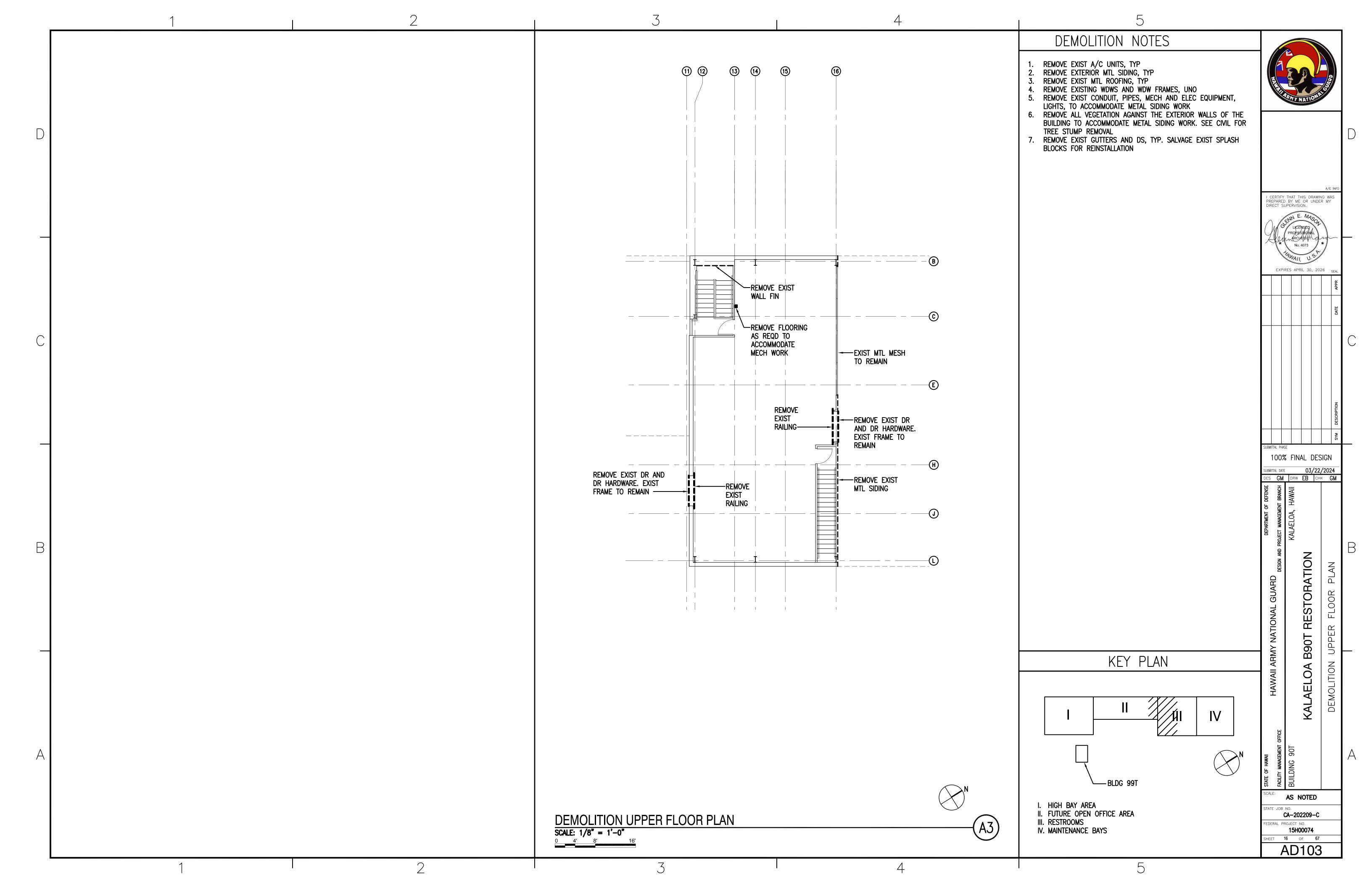


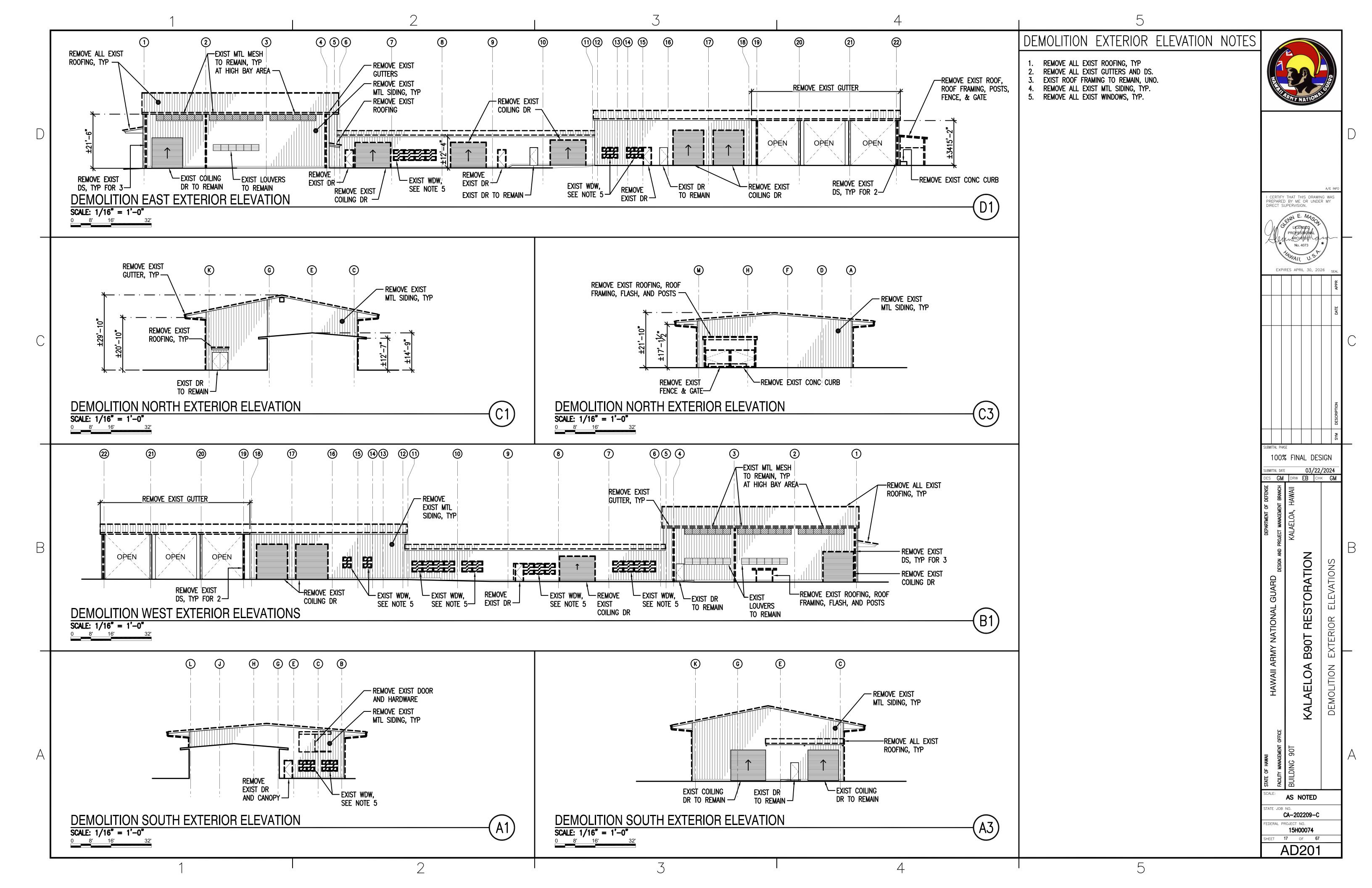


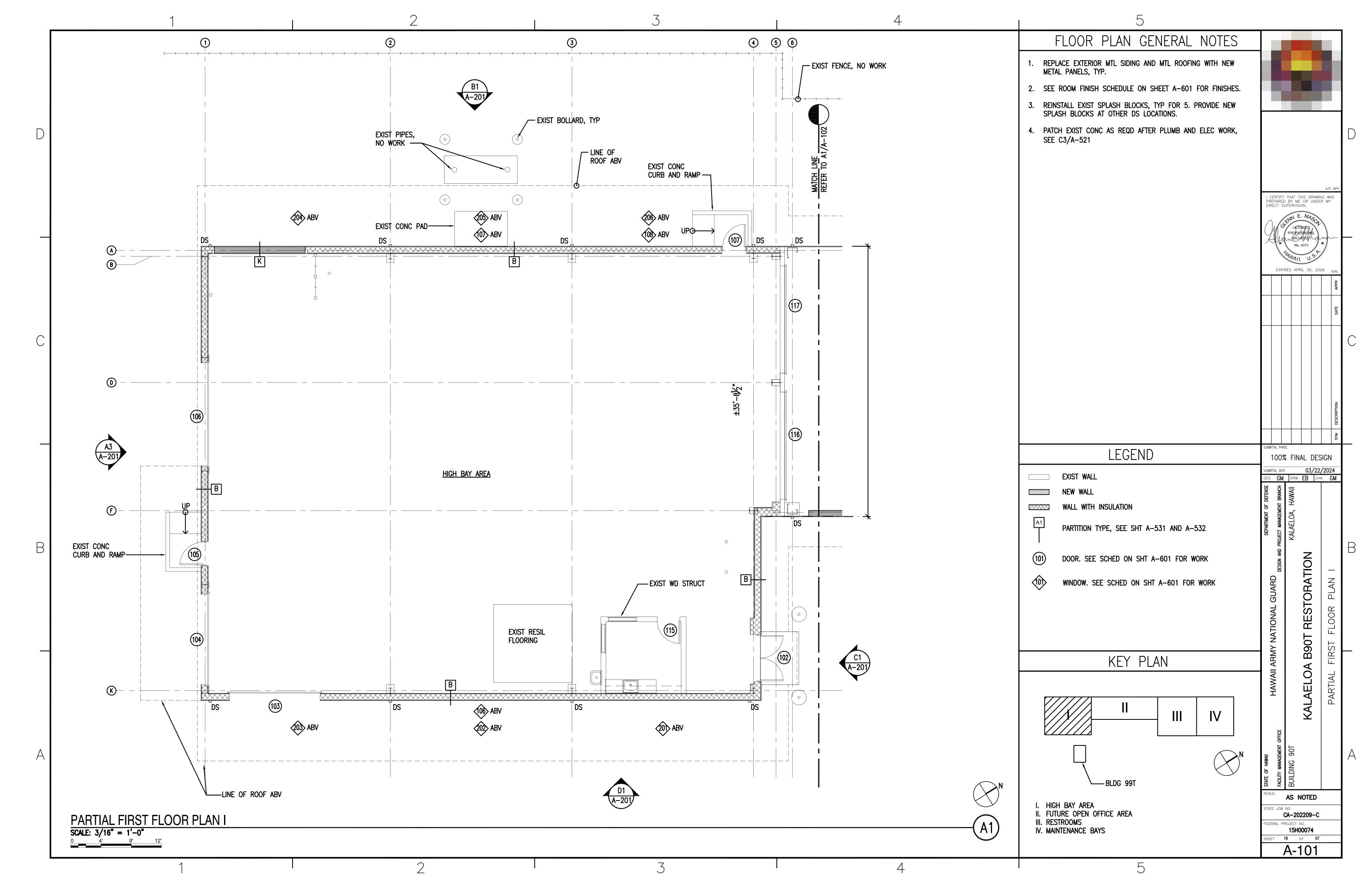
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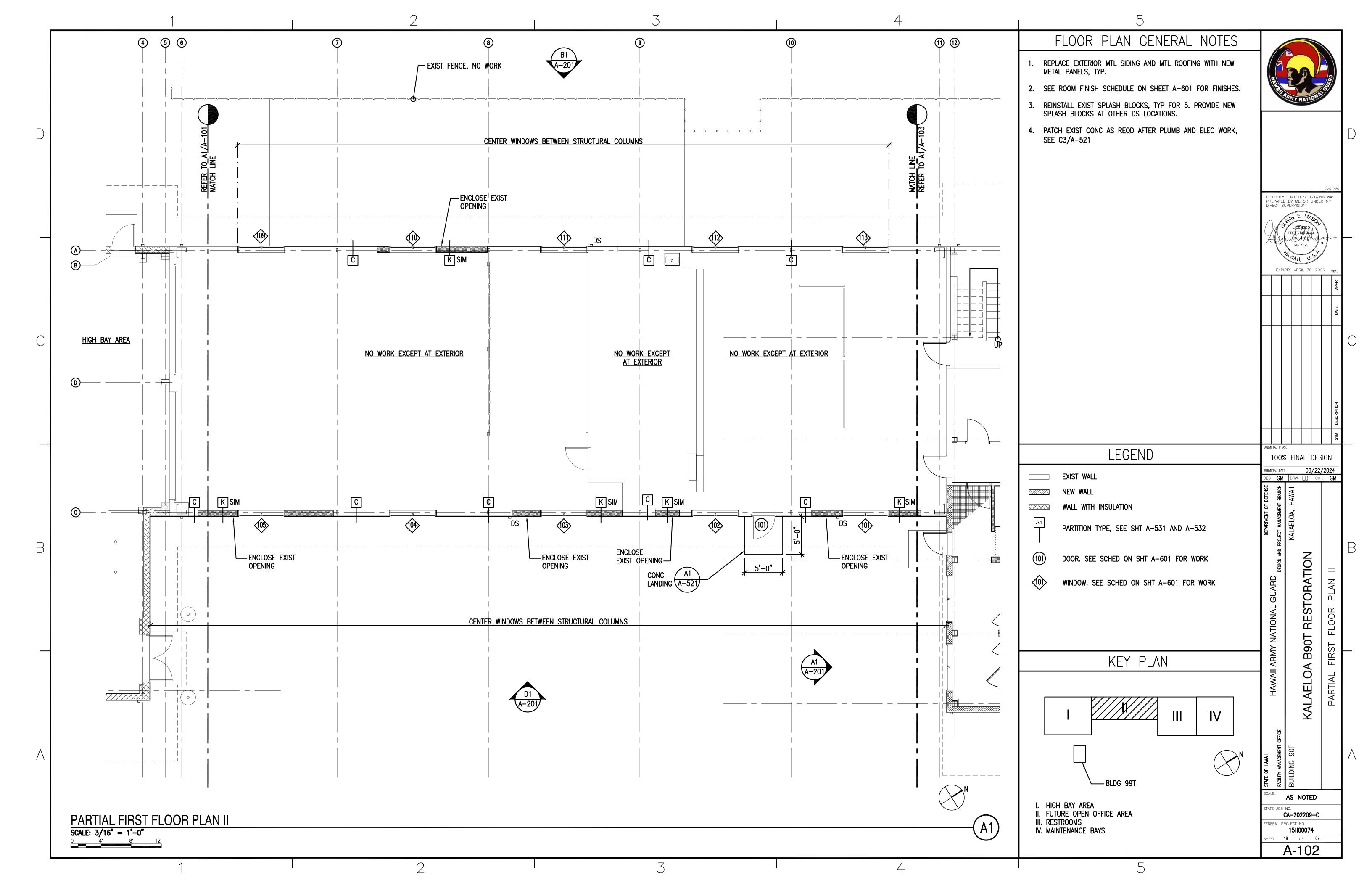


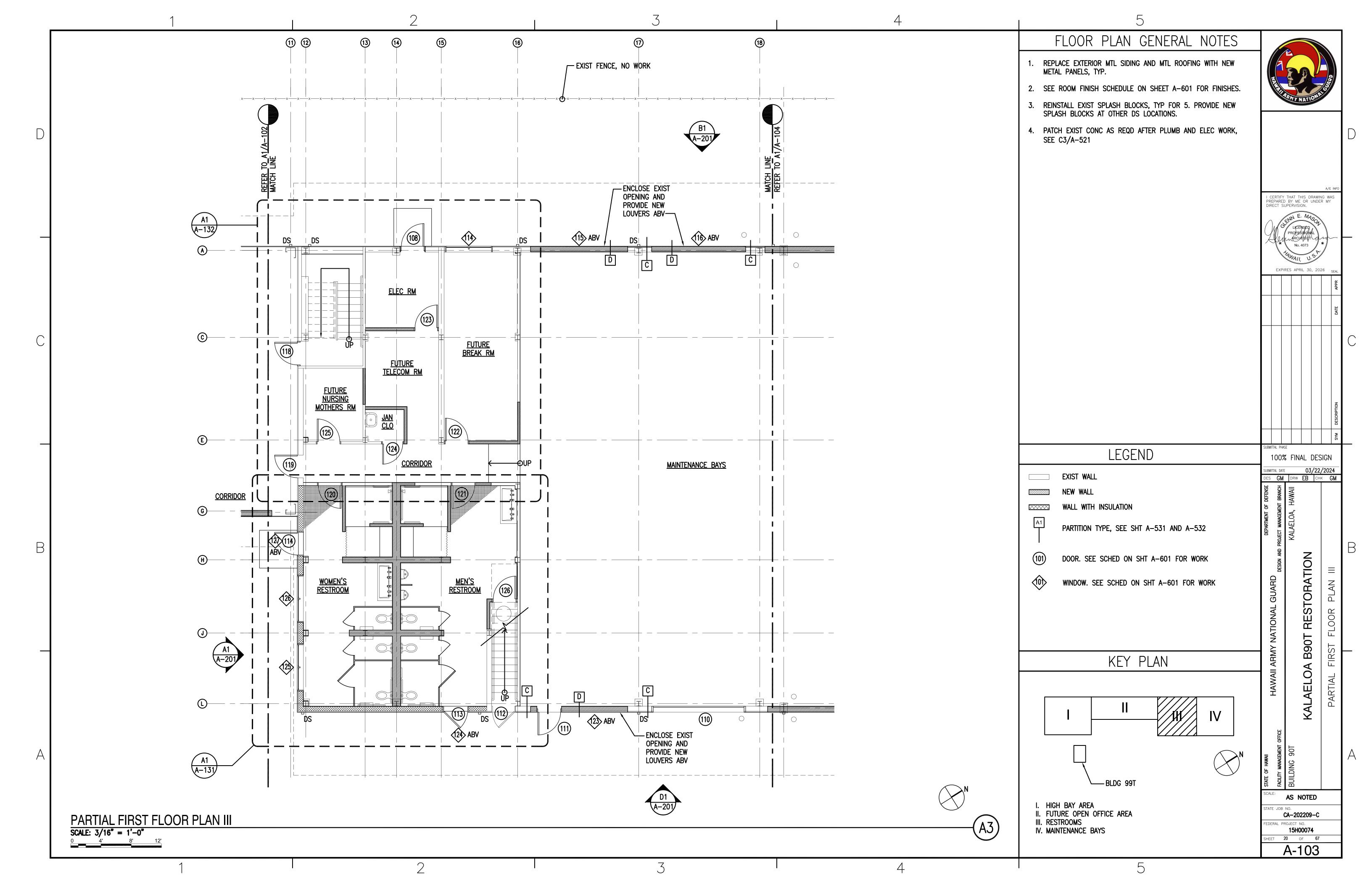


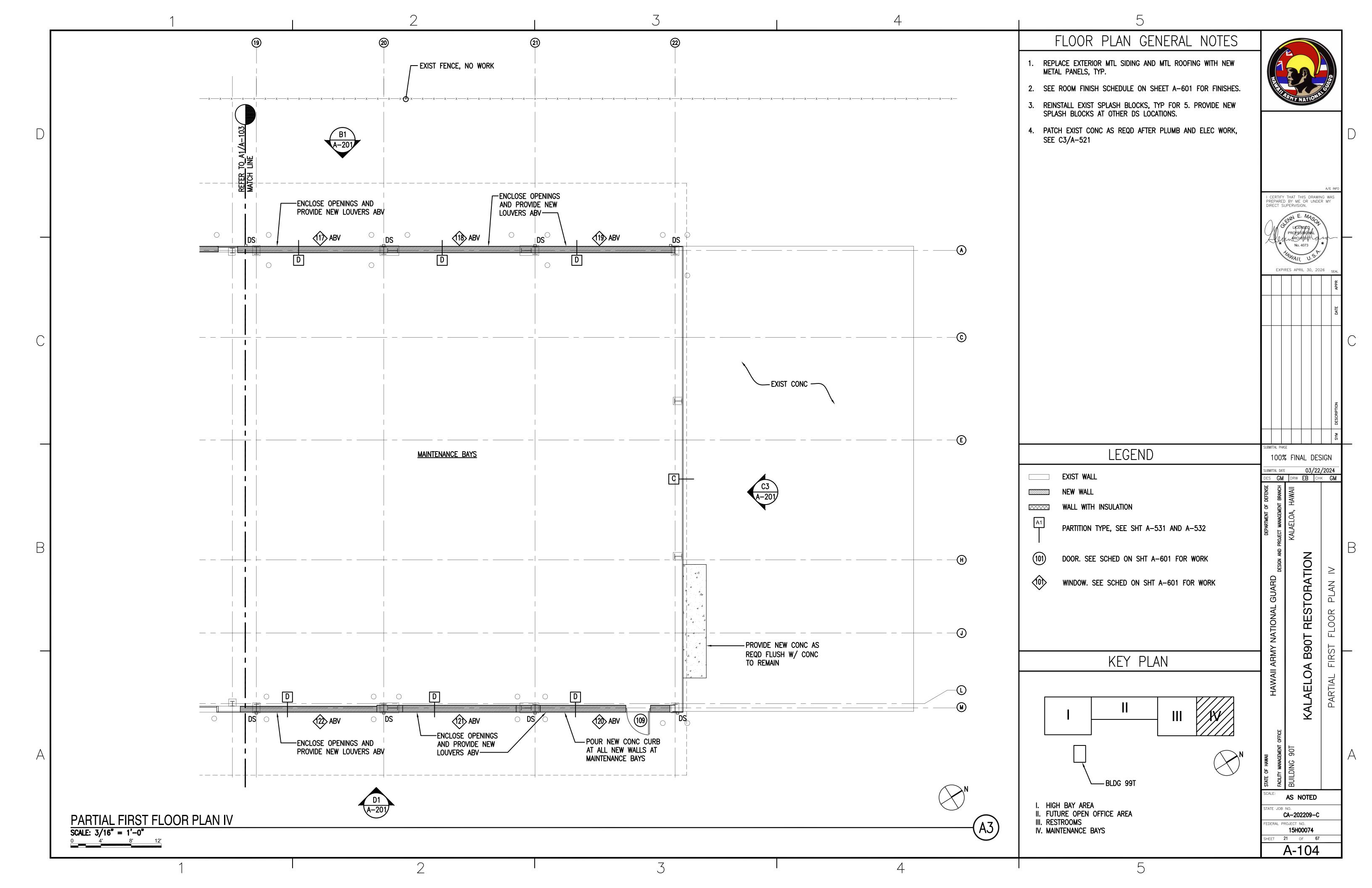


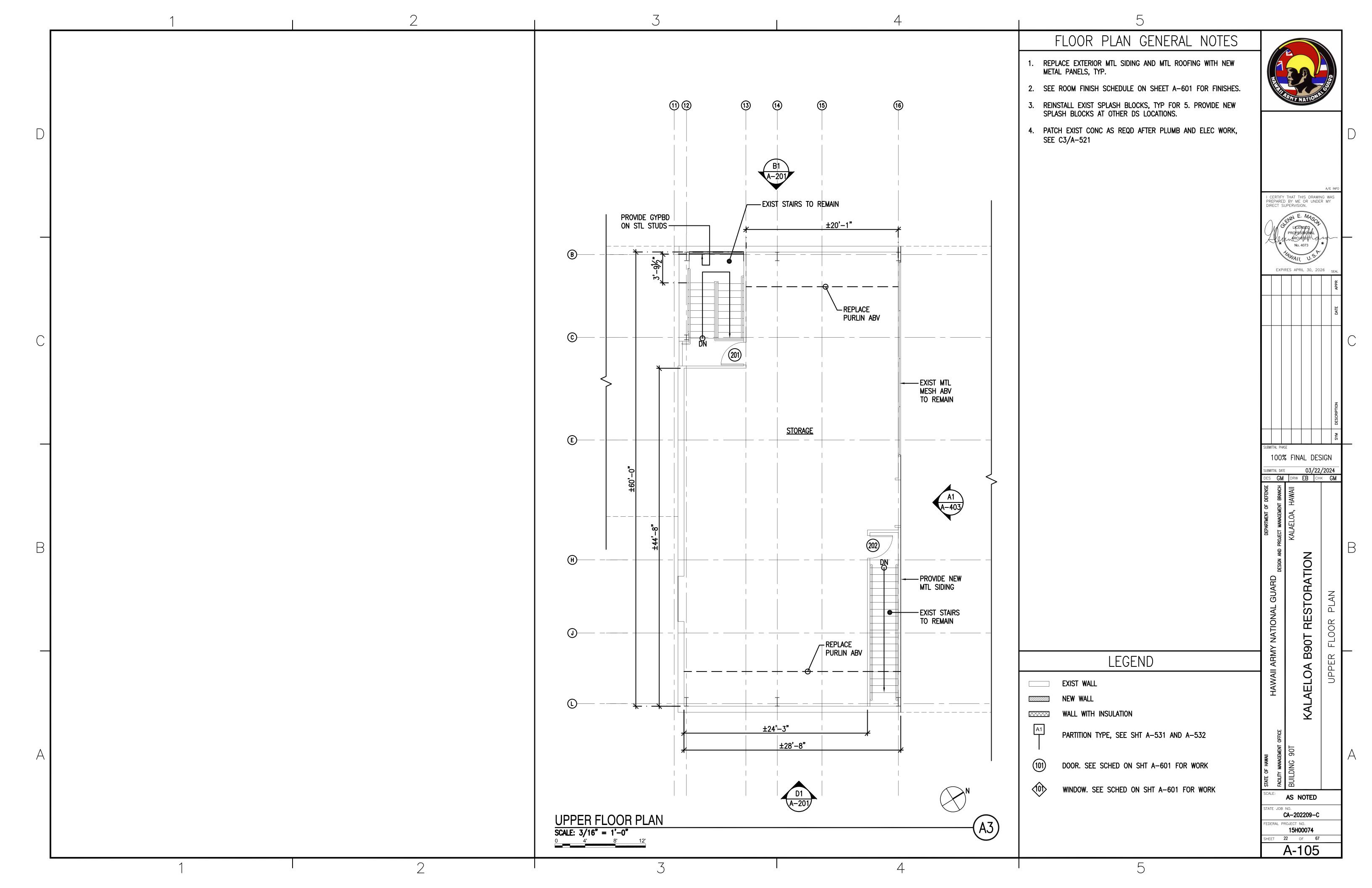


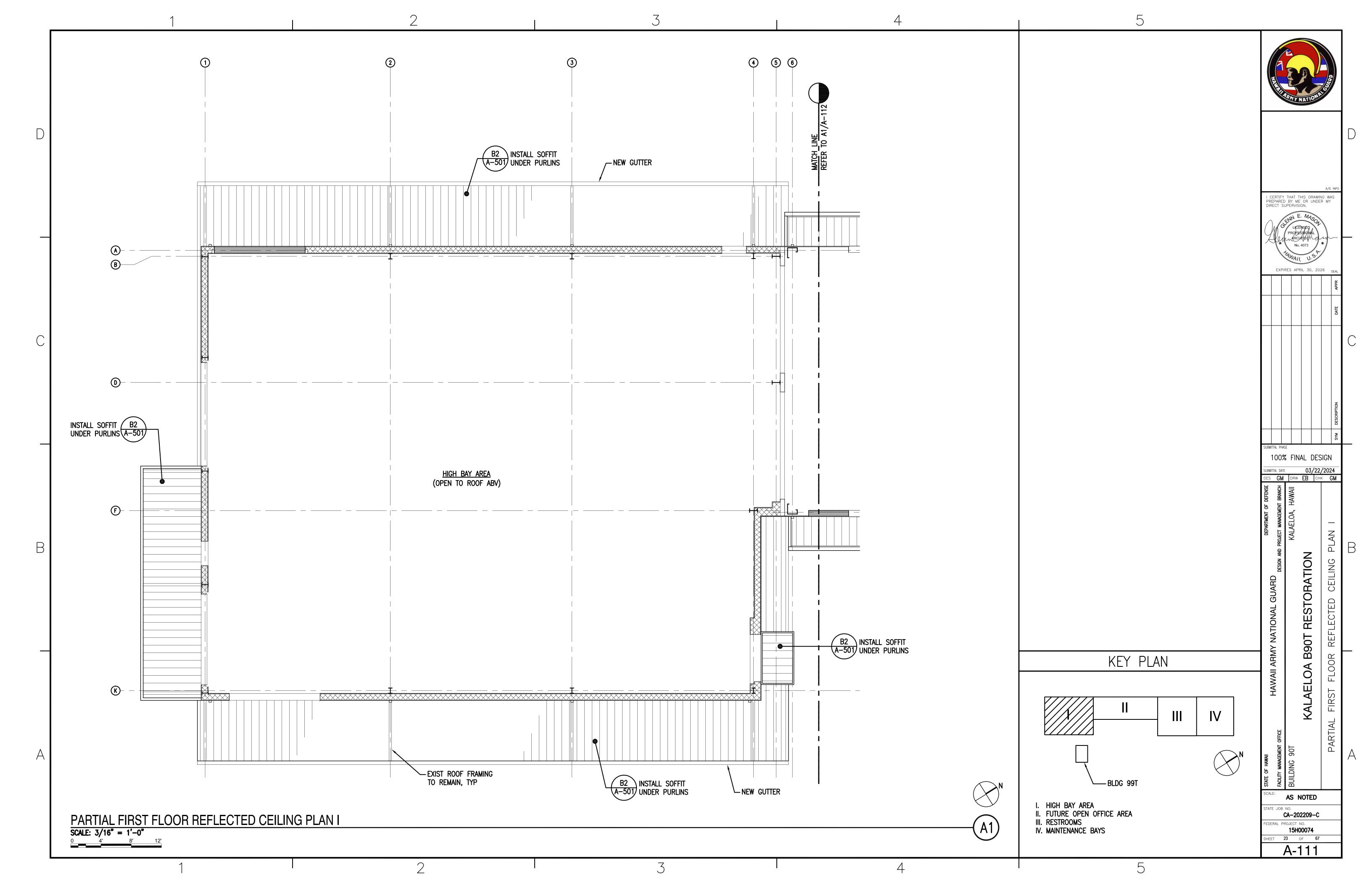


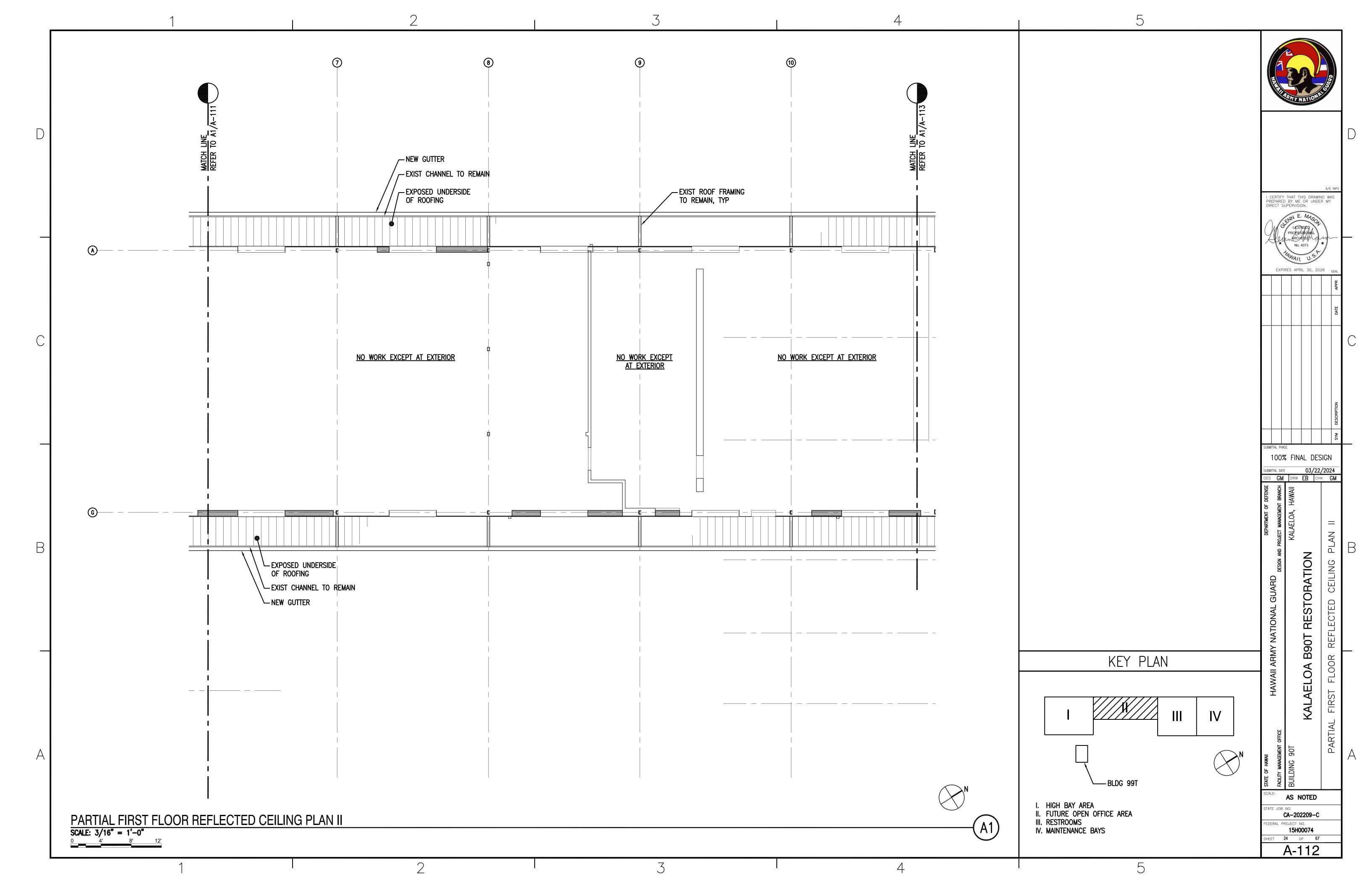


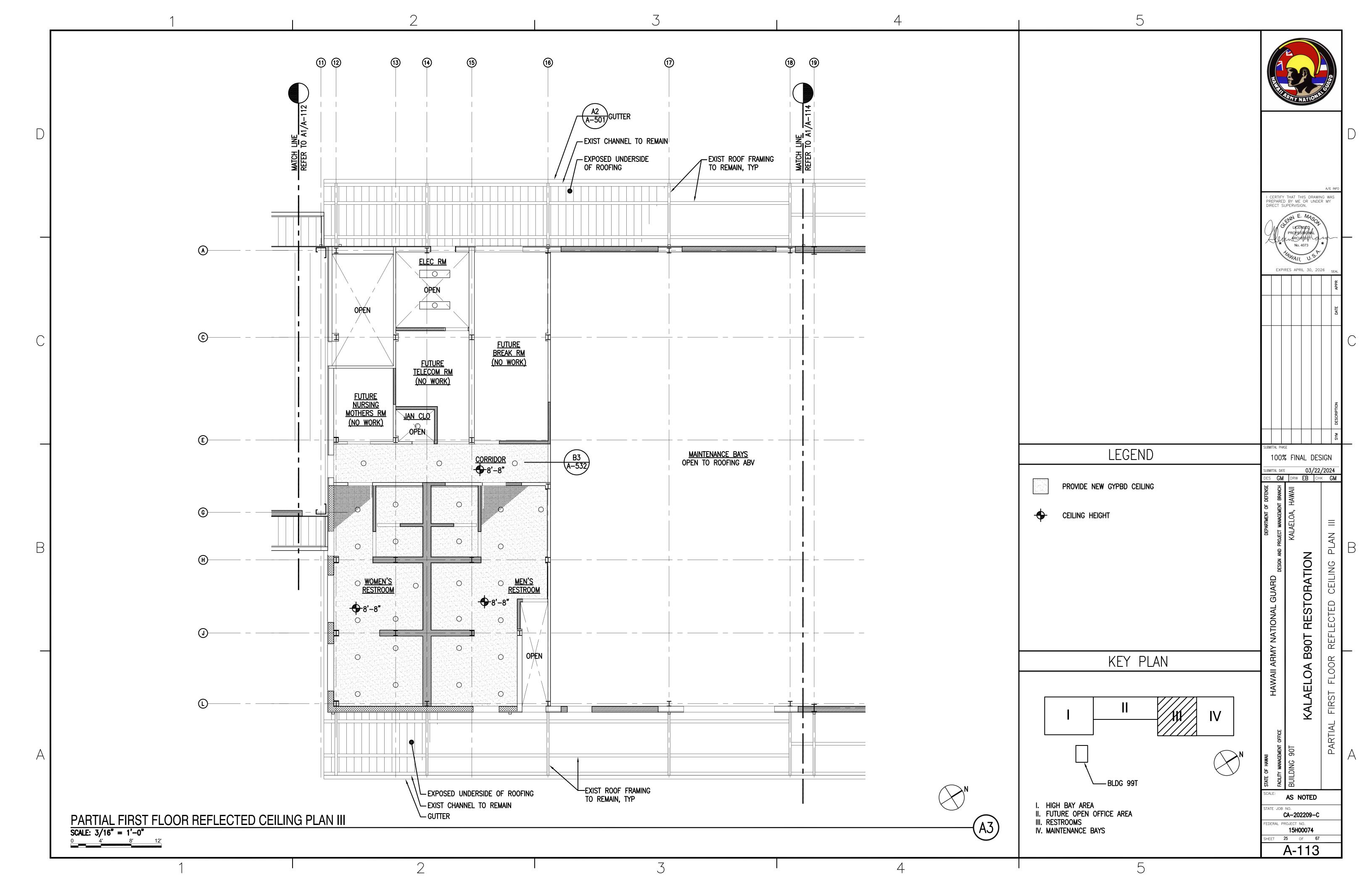


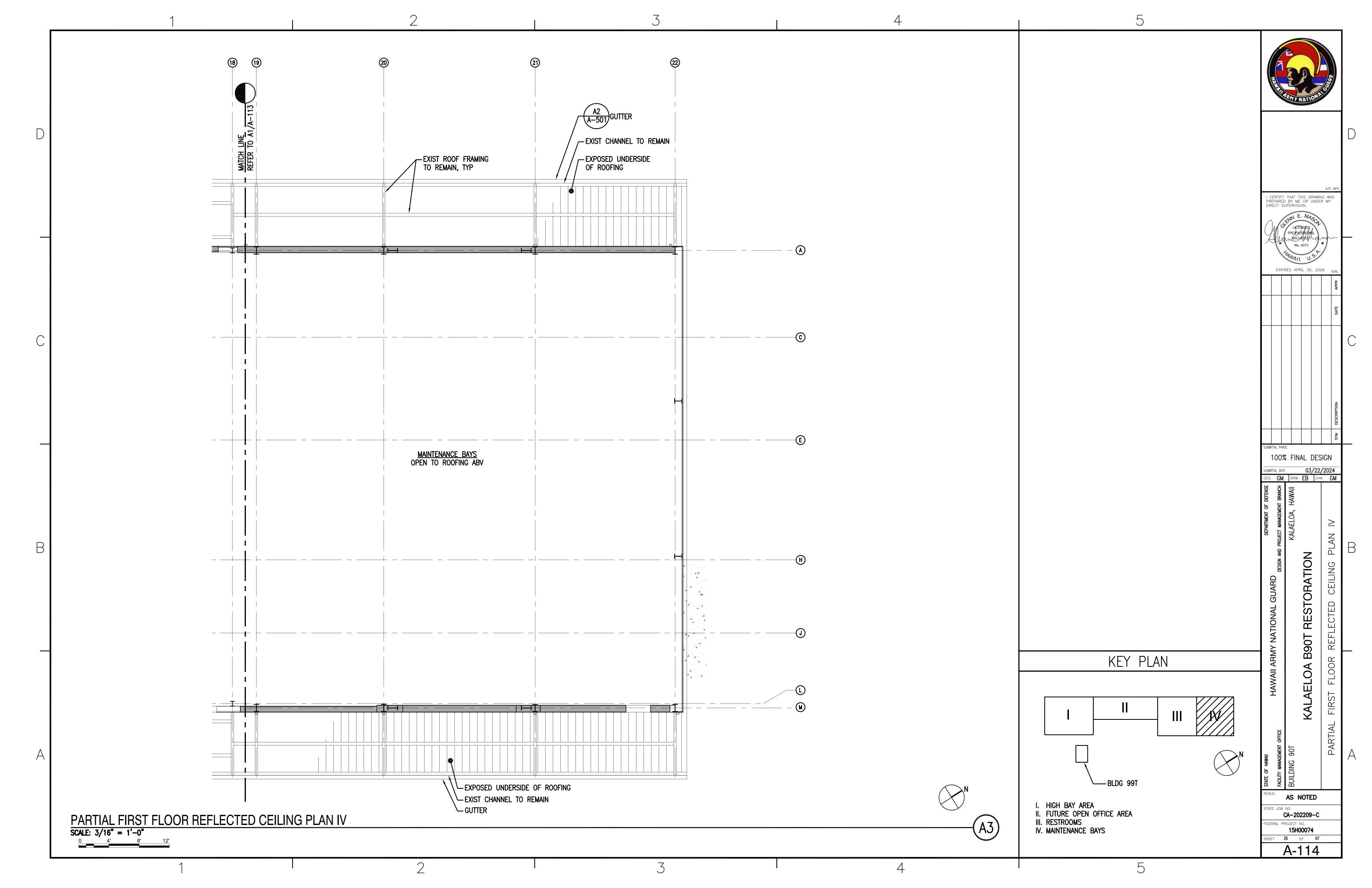


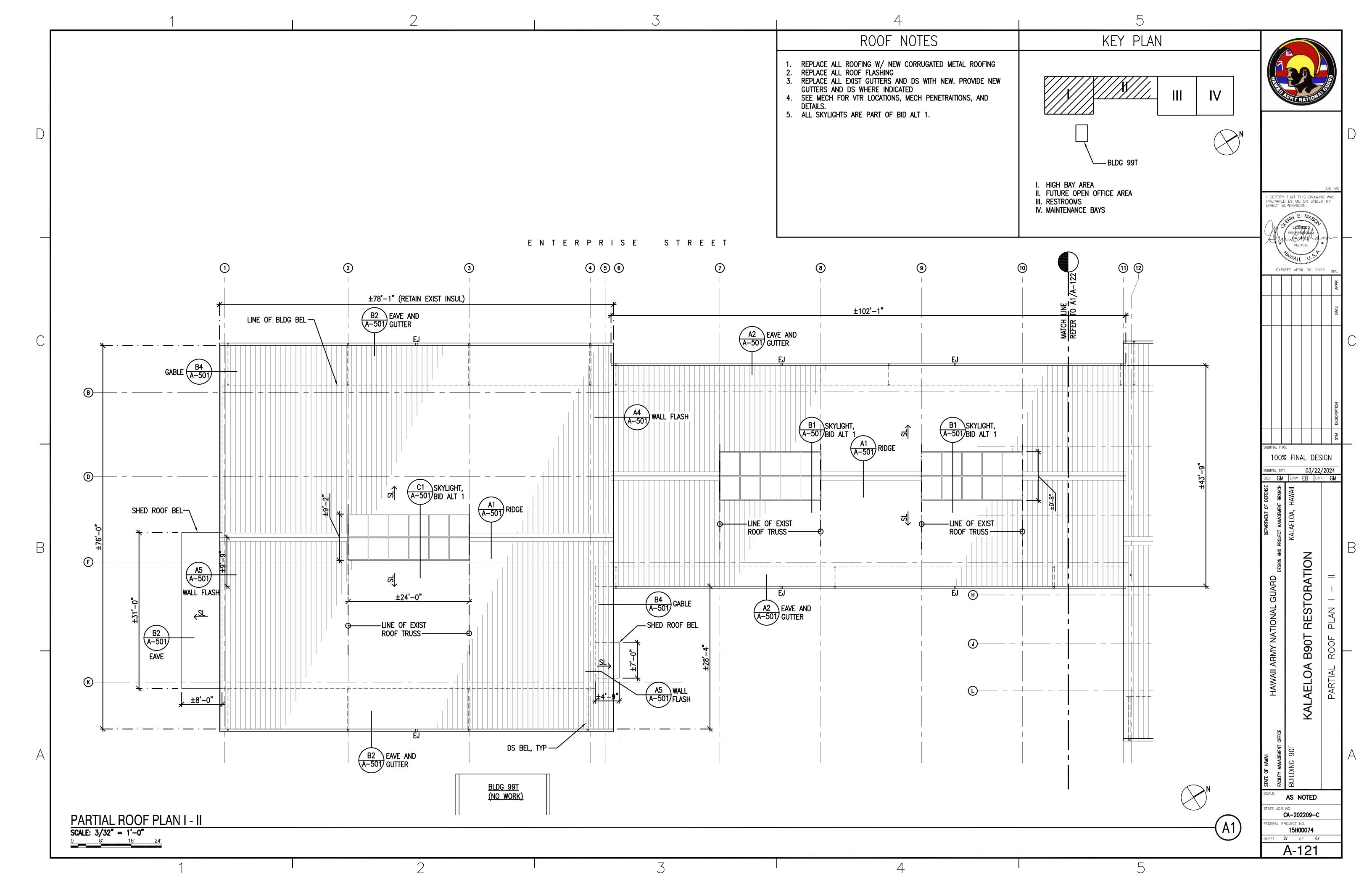


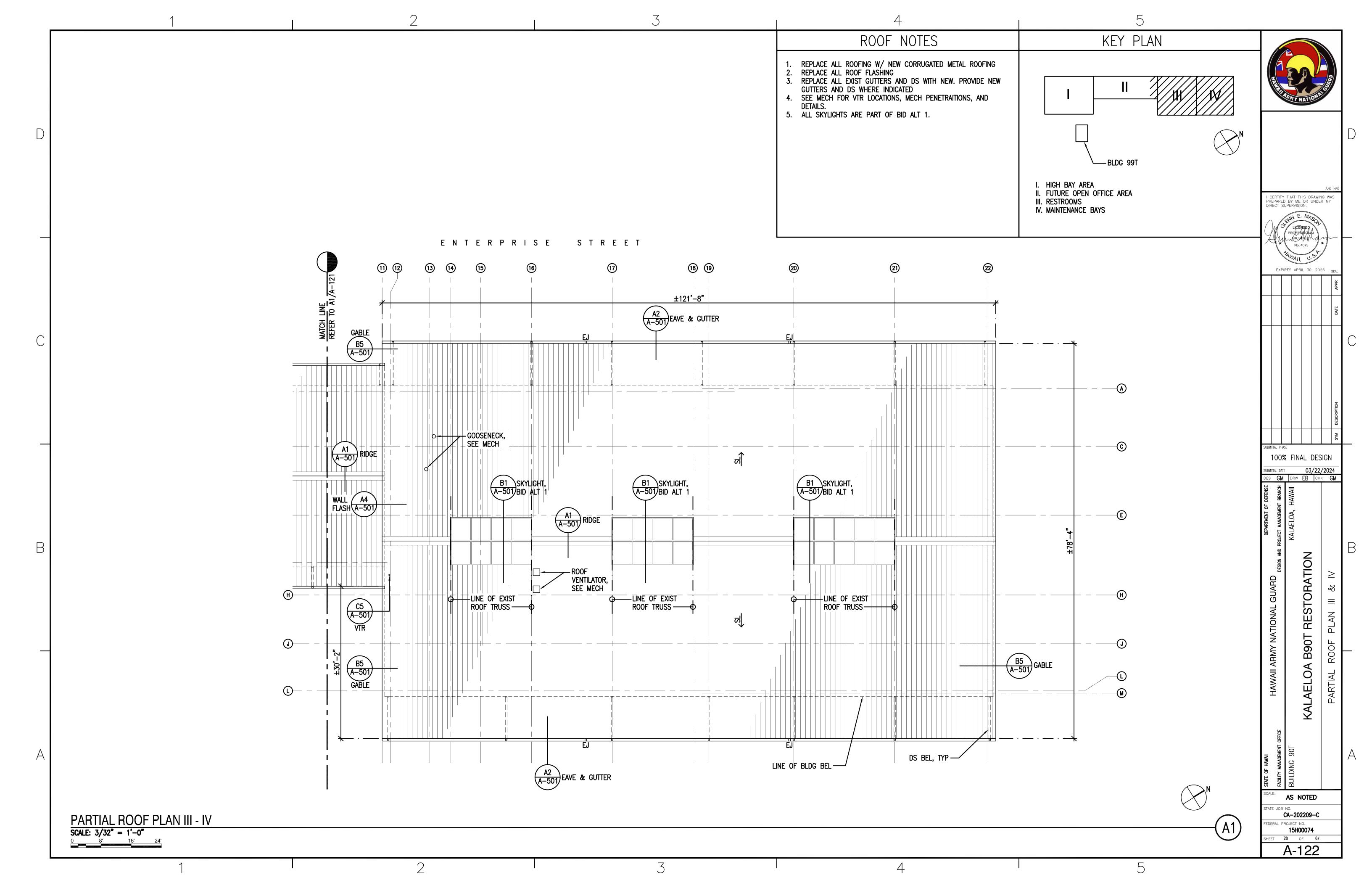


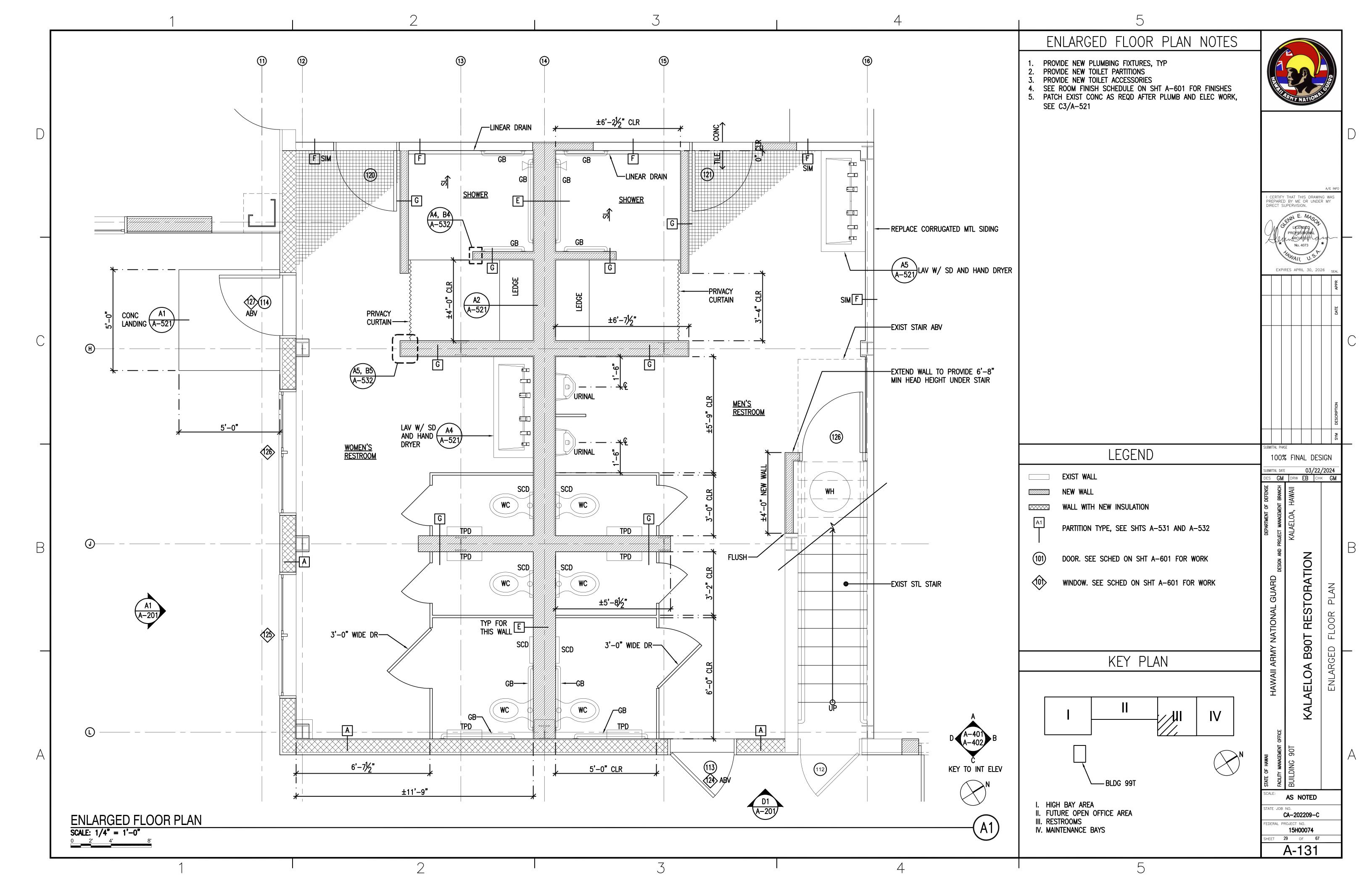


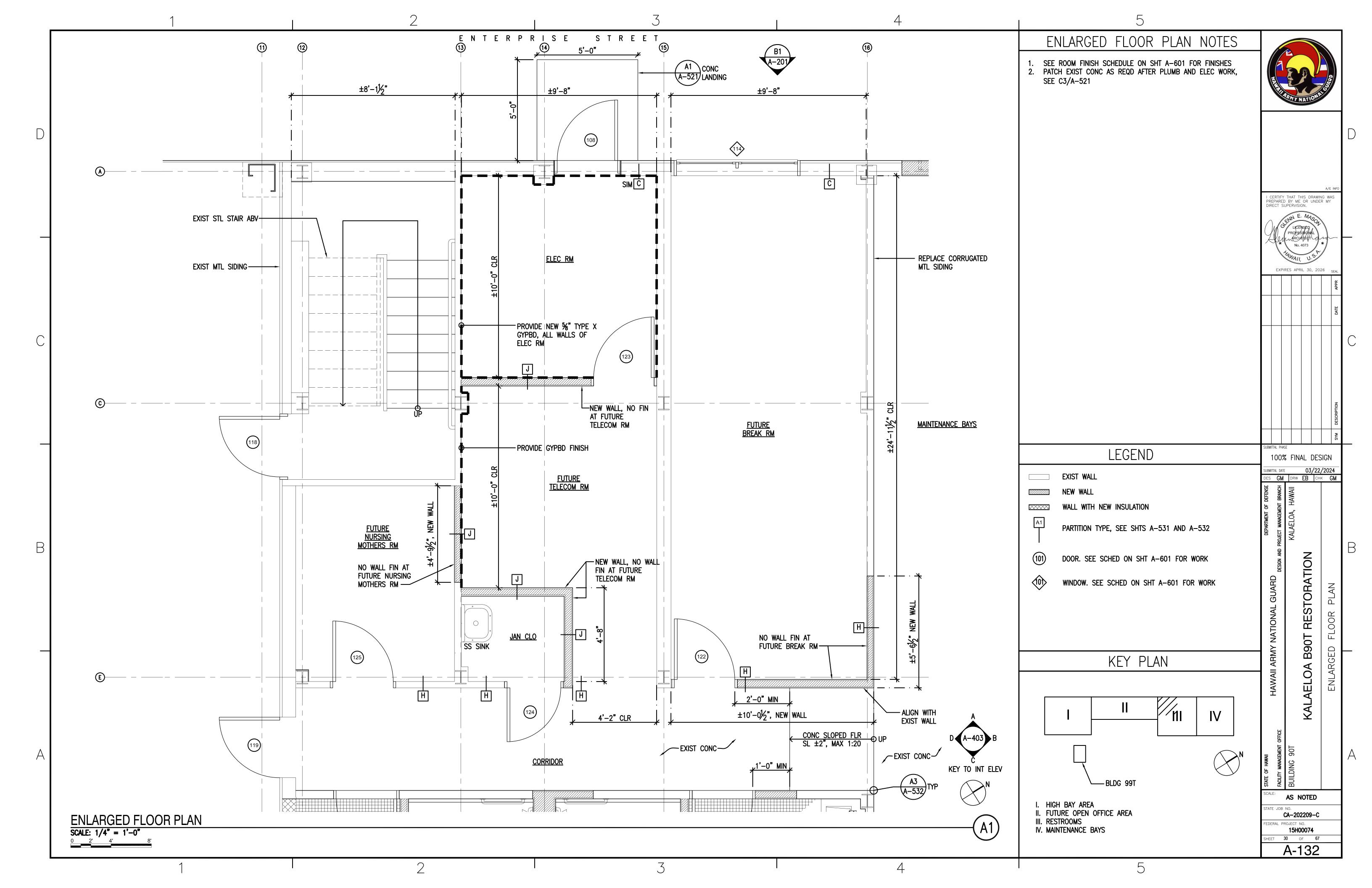


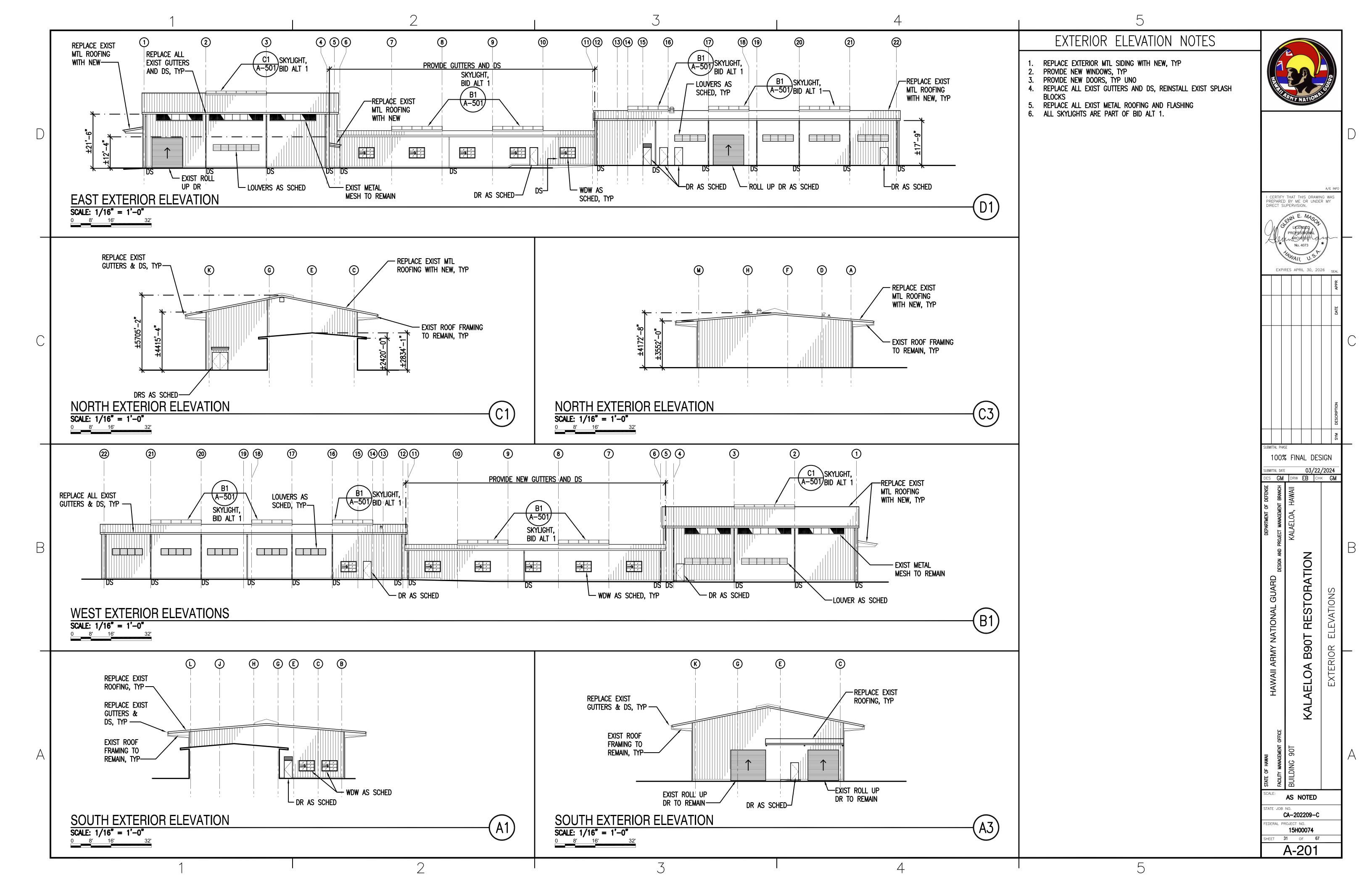


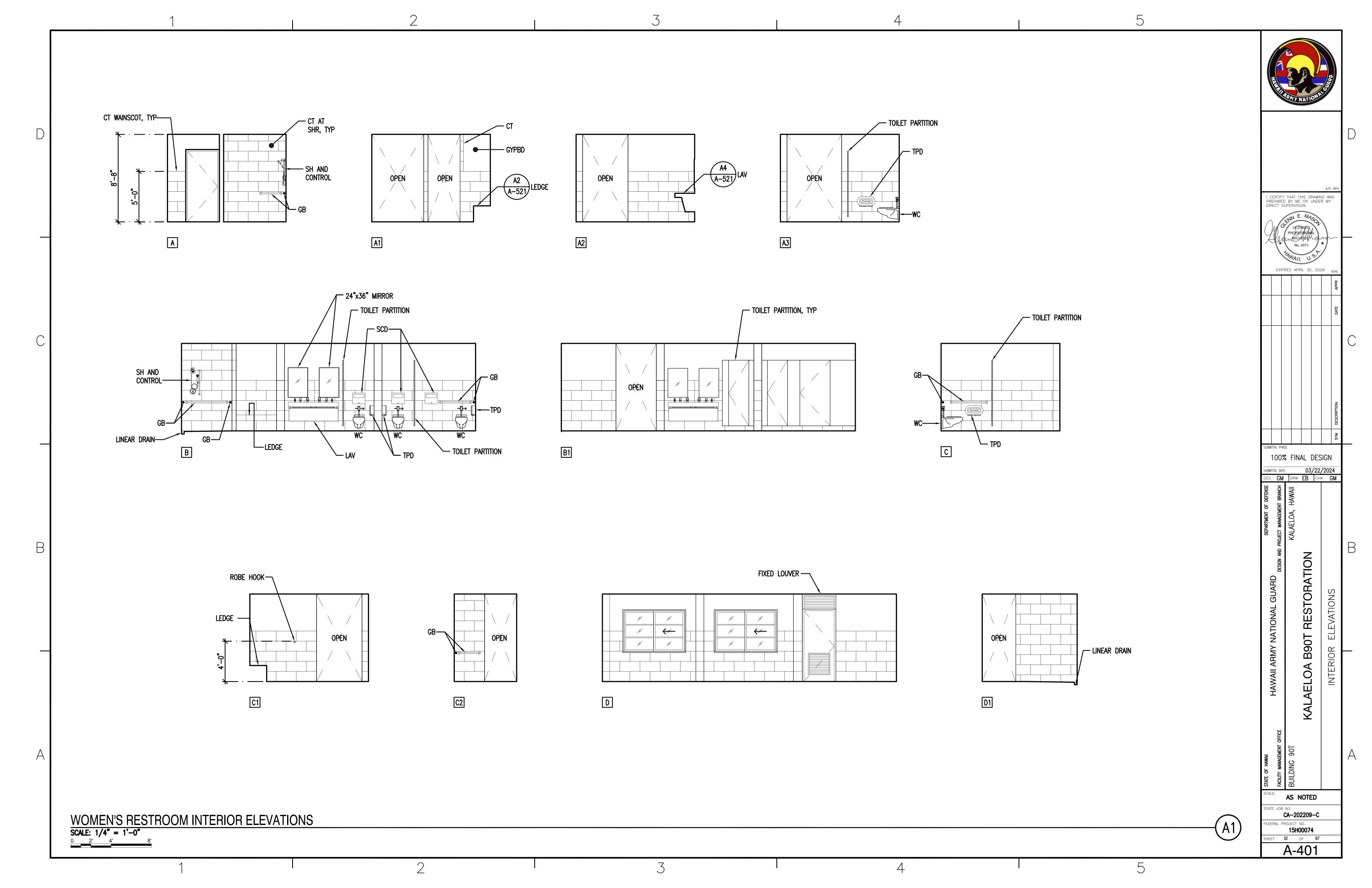


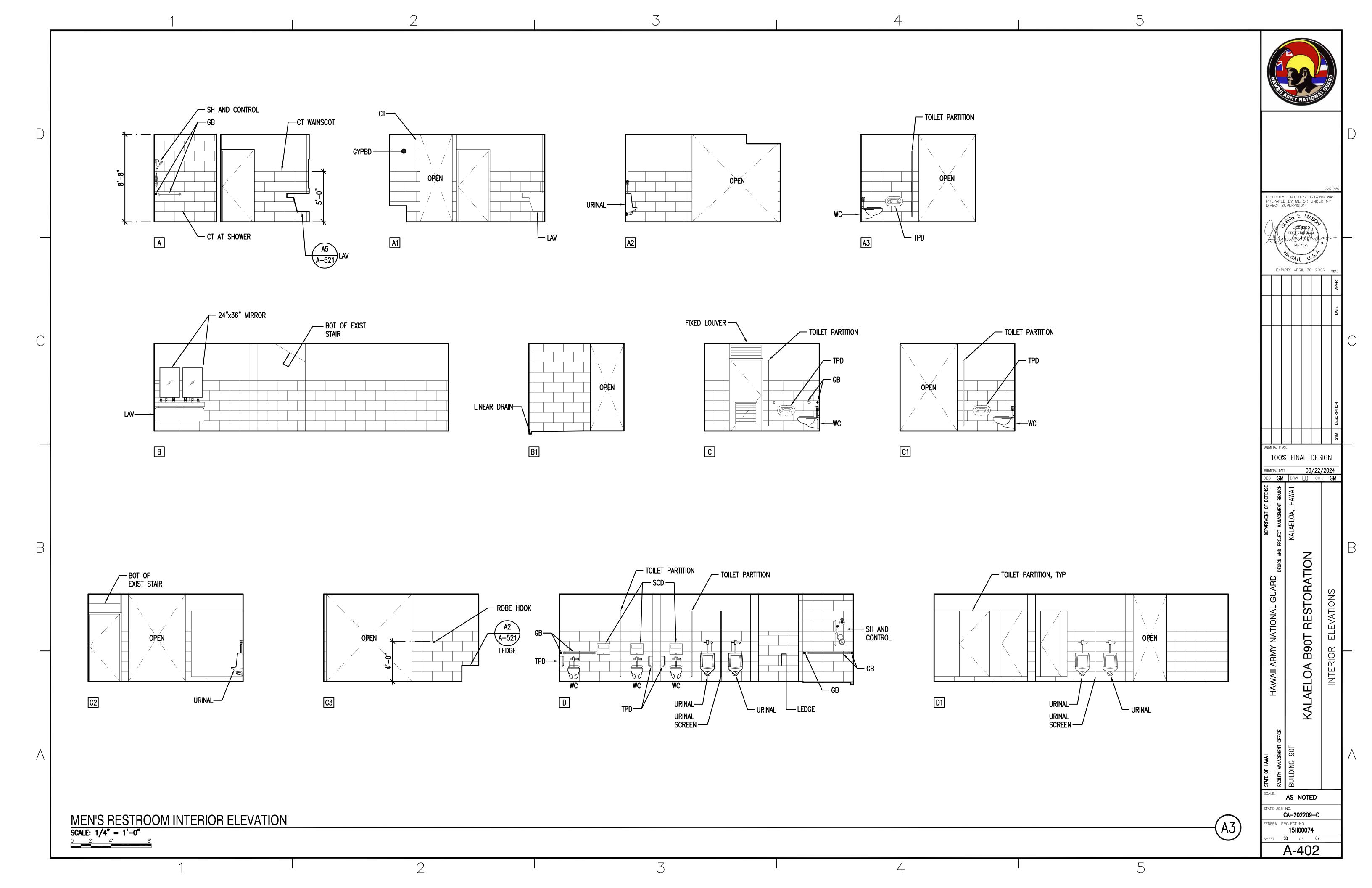


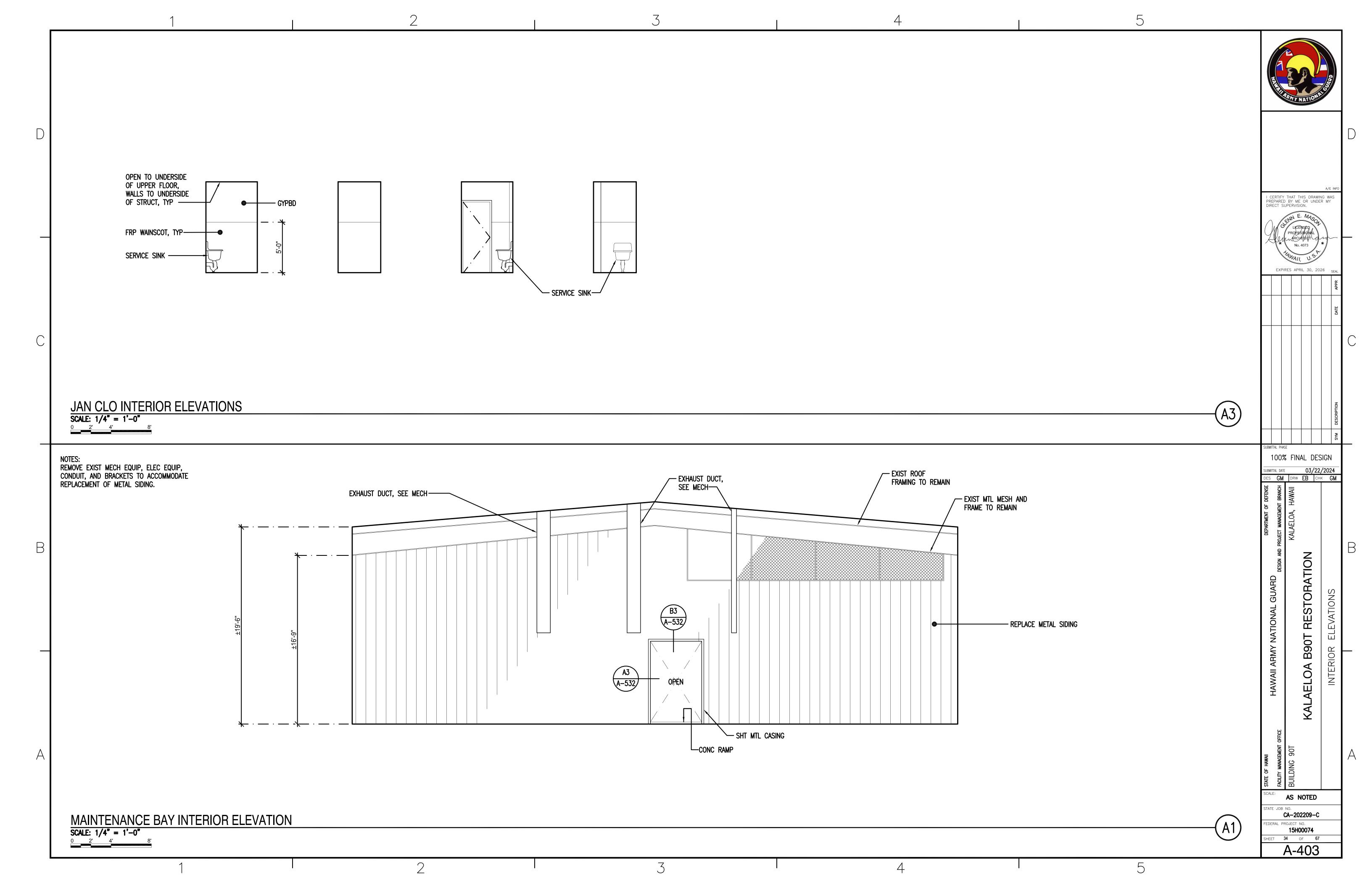


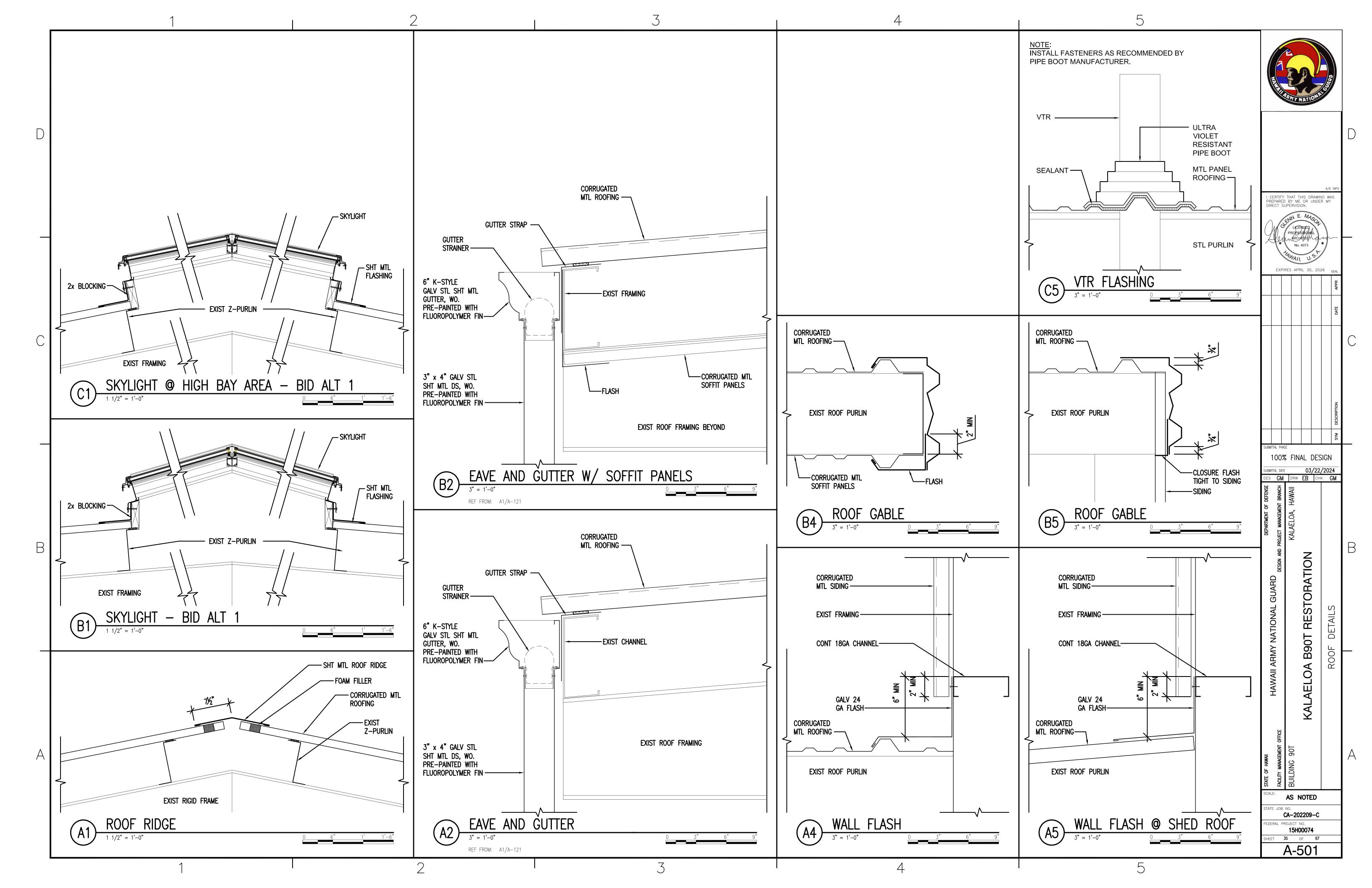


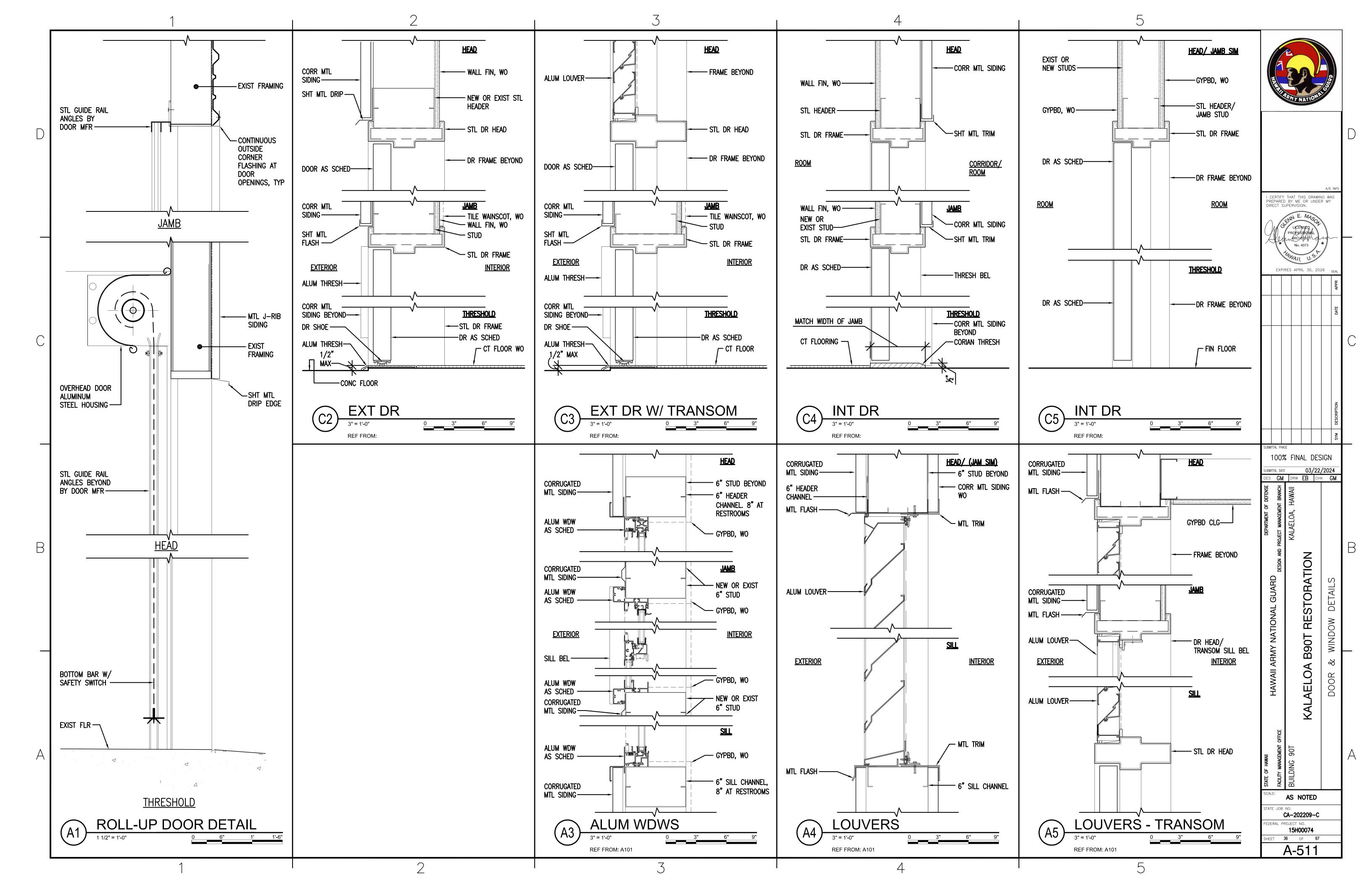


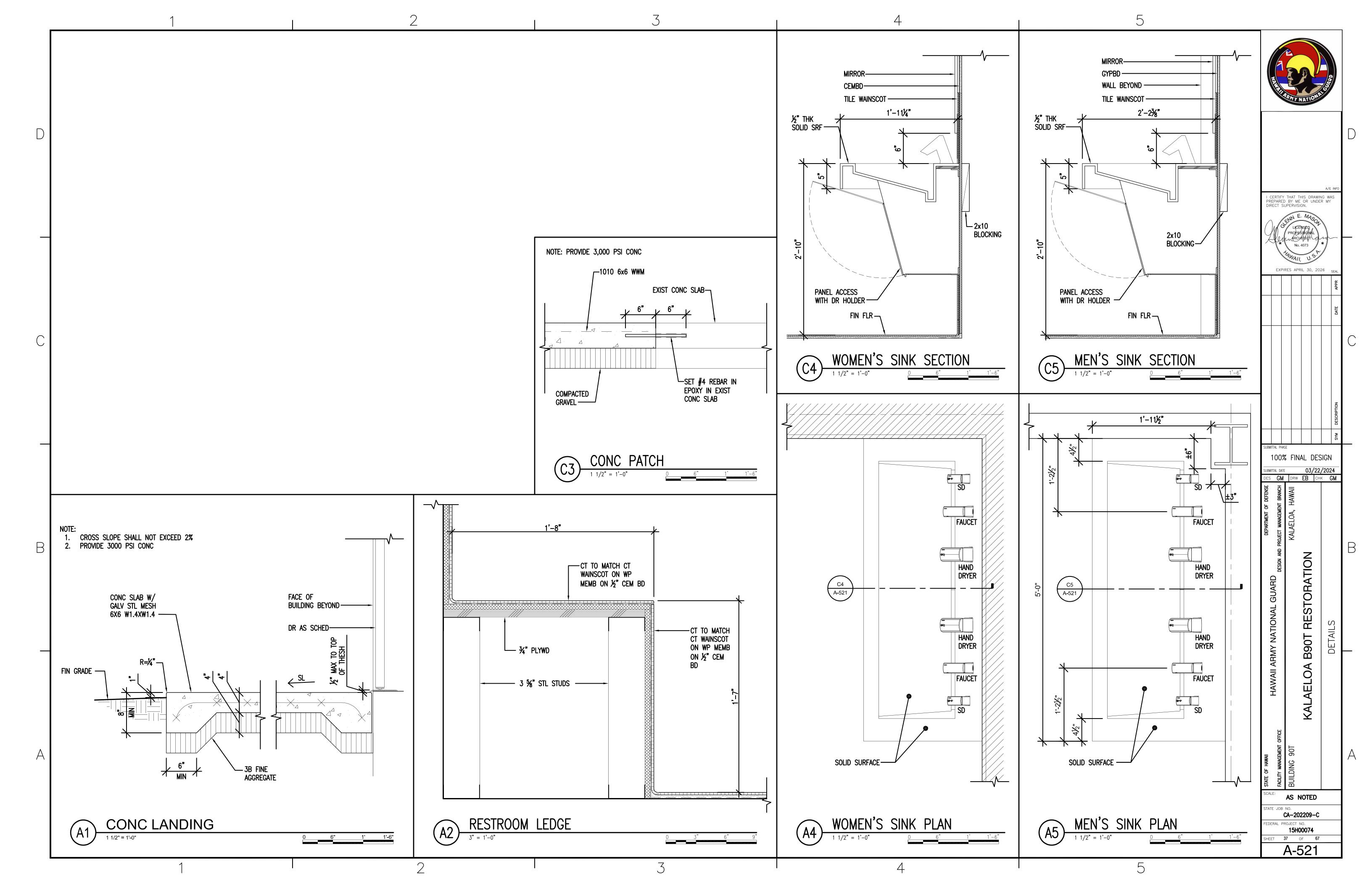


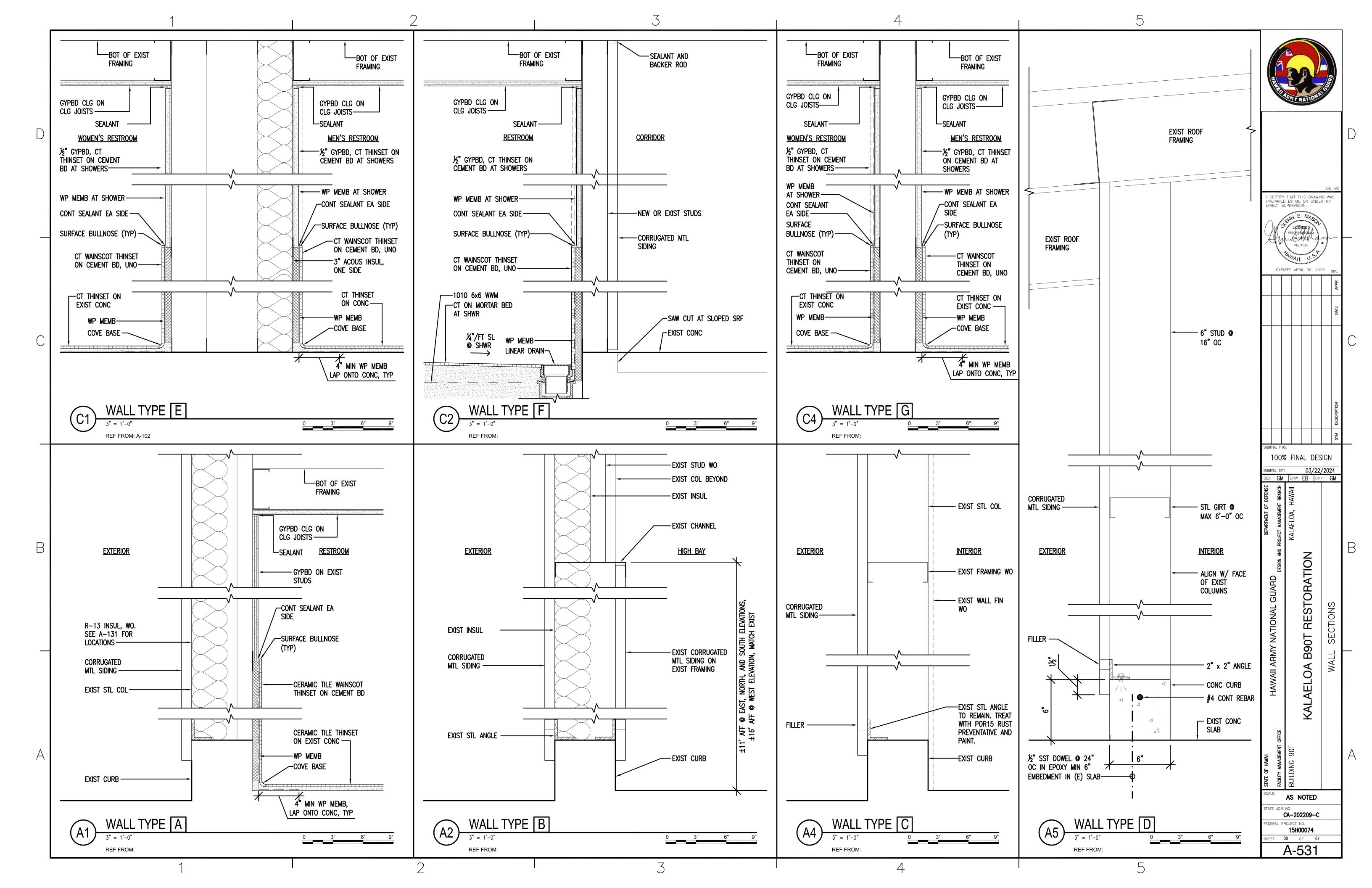


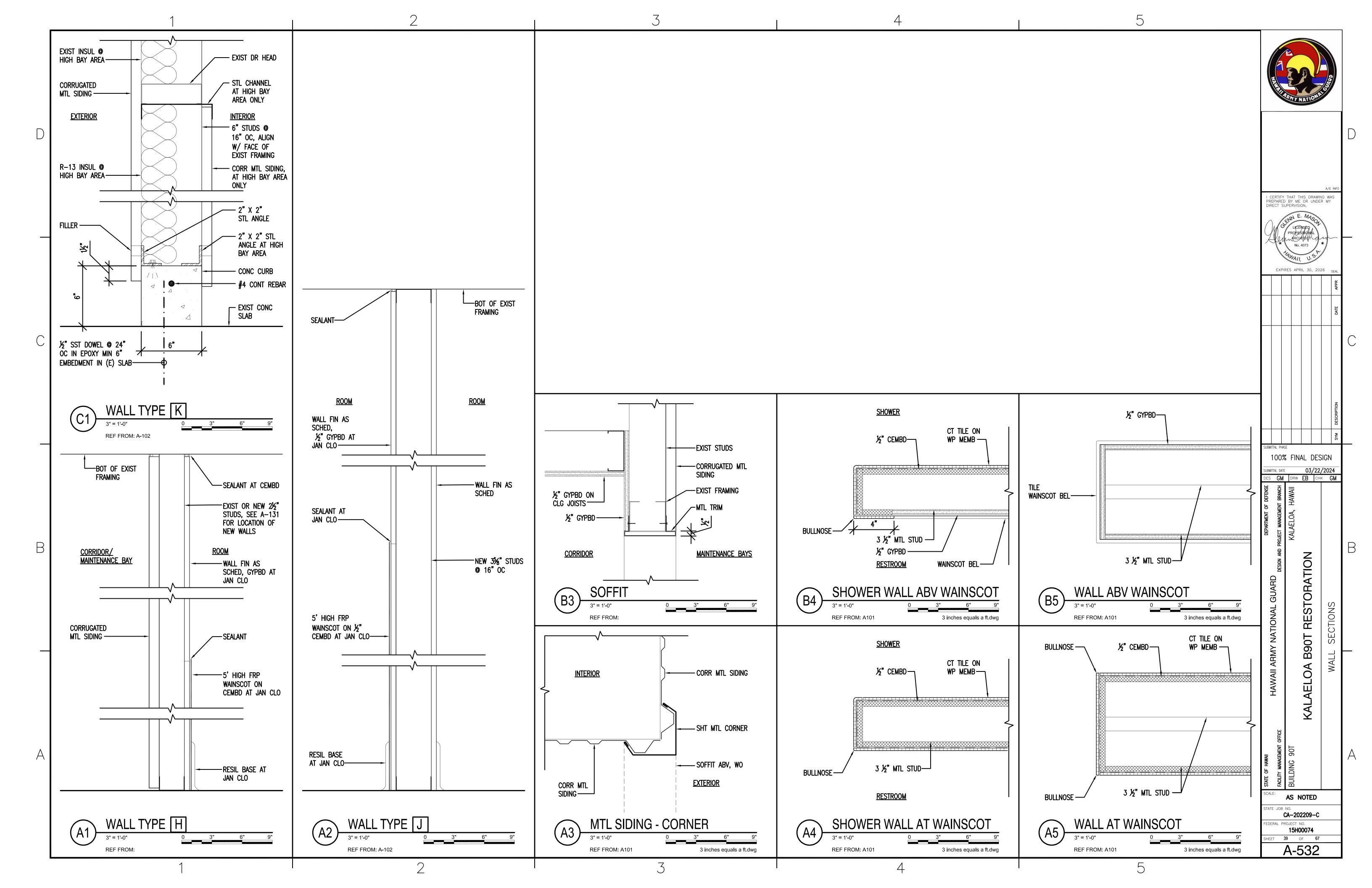


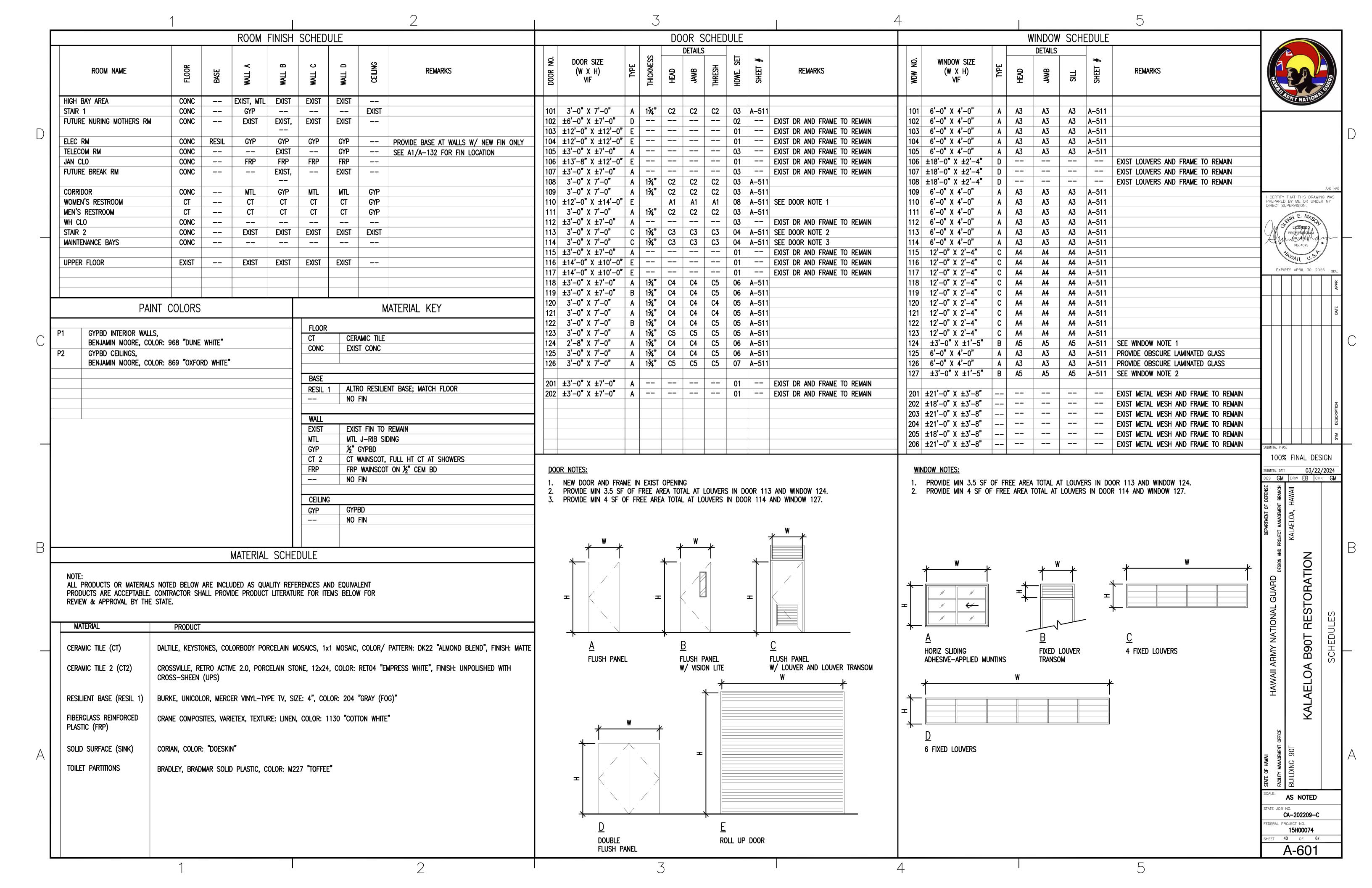












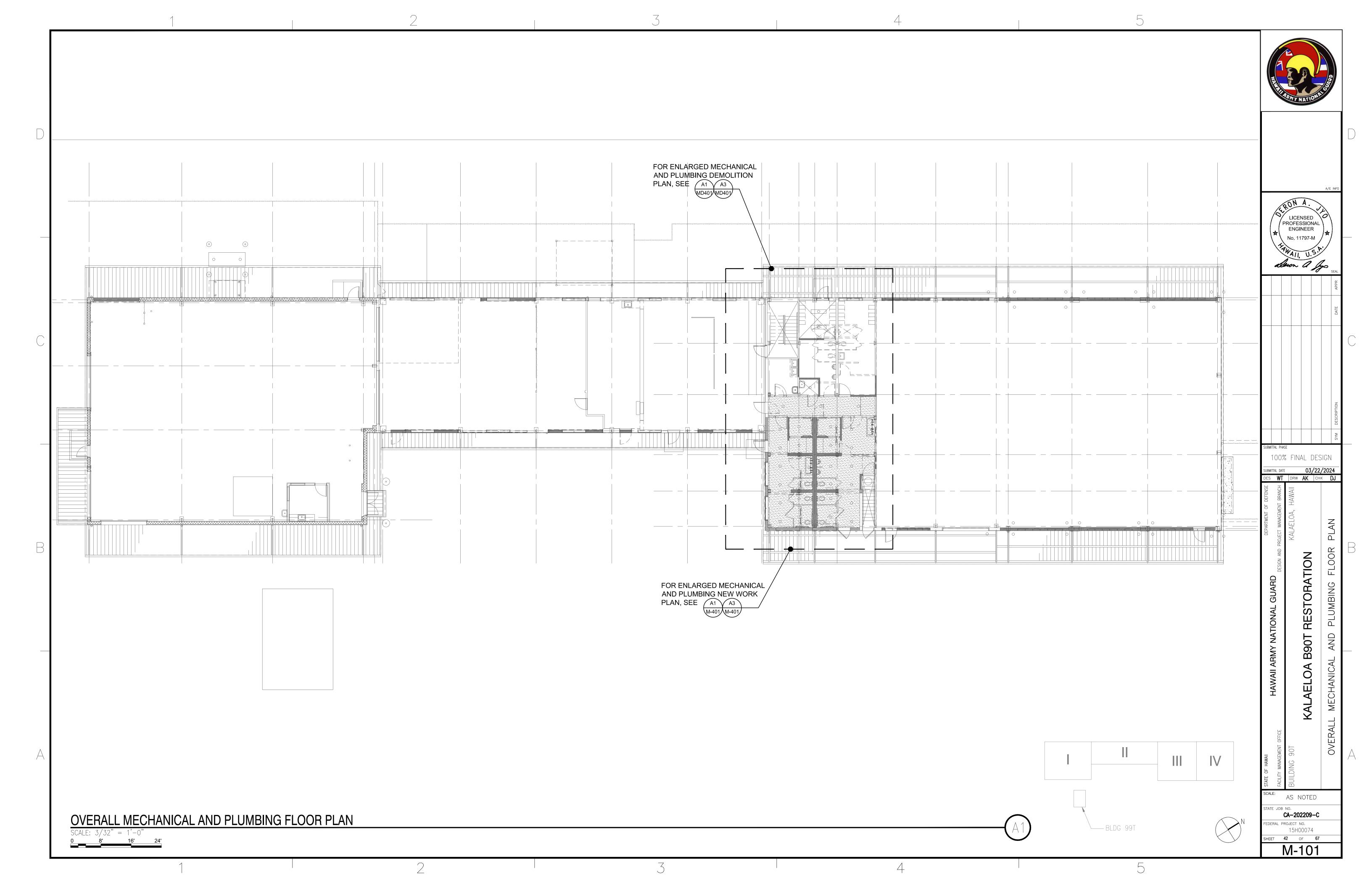
### **MECHANICAL GENERAL NOTES:**

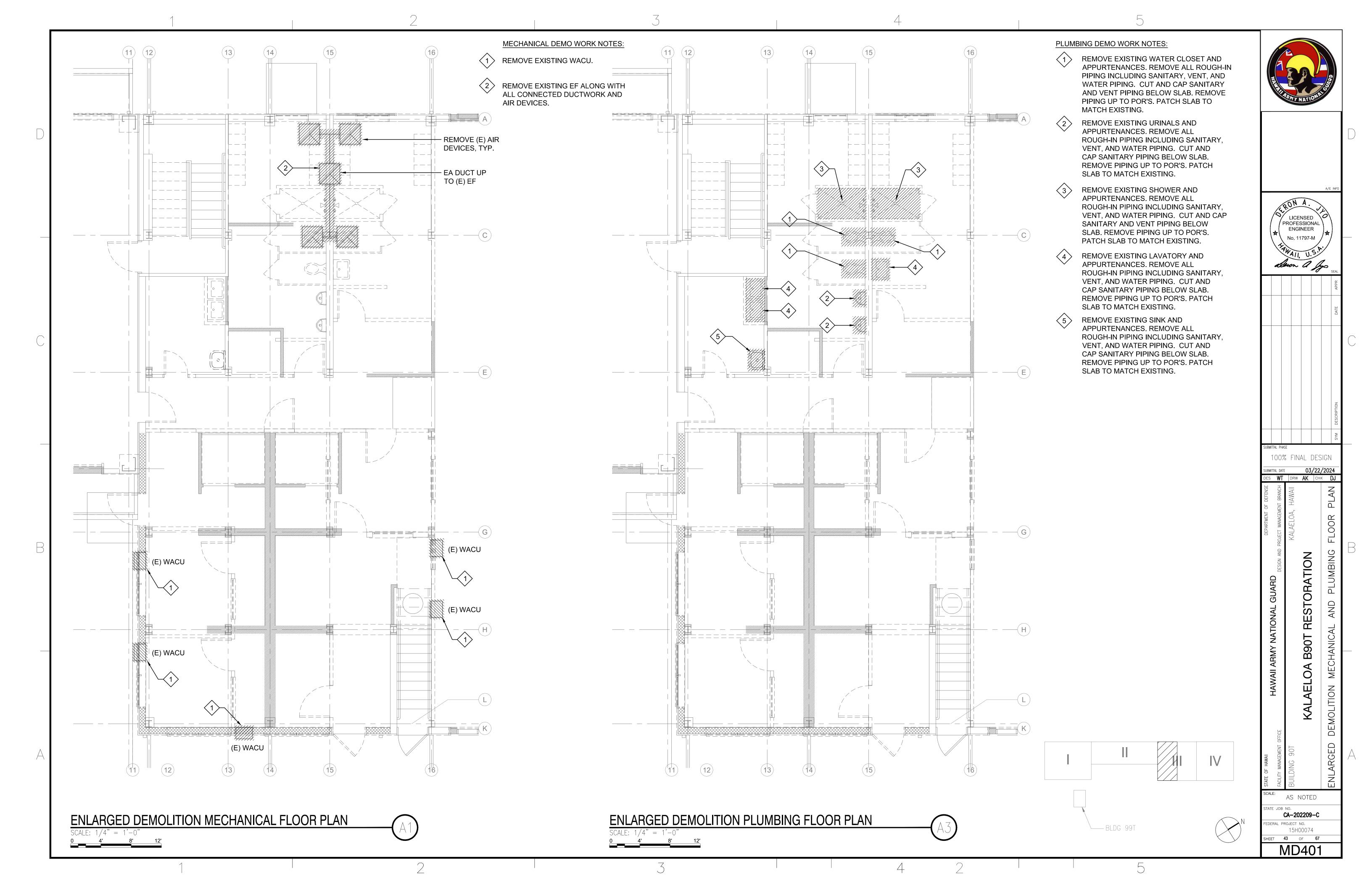
- 1. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE CONTRACTING OFFICER ANY MAJOR DEVIATIONS FROM THE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS.
- 2. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, UNIFIED FACILITIES CRITERIA, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL PLUMBING CODE, UNIFORM FIRE CODE, NFPA 13, NATIONAL ELECTRICAL CODE, ASME BOILER & PRESSURE VESSEL CODE, ASME PRESSURE PIPING CODE, AND ALL OTHER AGENCIES HAVING JURISDICTION.
- 3. THE CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT INCLUDING CUTTING AND PATCHING AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. "PROVIDE" SHALL MEAN TO PROCURE ALL NECESSARY AND SPECIFIED MATERIALS AND INSTALL A COMPLETE WORKING INSTALLATION AS REFERENCED ON CONSTRUCTION DRAWINGS.
- 4. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS.
- 5. INSTALL ALL EQUIPMENT AND MATERIALS IN A FIRST CLASS MANNER CONFORMING TO RECOGNIZED COMMERCIAL STANDARDS.
- 6. PAINT ALL EXPOSED MATERIALS TO MATCH ADJACENT SURFACES.
- 7. CONTRACTOR SHALL PATCH AND FINISH ALL EXPOSED MATERIALS AND NEW CONSTRUCTION TO MATCH EXISTING SURFACES OR AS INDICATED.
- 8. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR PARTITIONS SHALL BE PROPERLY FIRESTOPPED WITH A UL APPROVED SYSTEM FOR PENETRATION TYPE. FIRESTOP ALL PENETRATIONS BETWEEN FLOORS. REFER TO ARCHITECTURAL SPECIFICATIONS.
- 9. VENTILATION:
- A. DUCT SIZES SHOWN ARE NET.
- B. DUCTWORK: GALVANIZED SHEET STEEL OF NOT LESS THAN 24 GAUGE, IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS.
- C. FLEX DUCT: THERMAFLEX M-KE INSULATED CLASS 1 AIR DUCT.
- D. SUBMIT A WRITTEN TEST AND BALANCE REPORT ON THE COMPLETED SYSTEM.
- E. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE ADEQUATE CLEARANCES FOR MAINTENANCE.
- F. PROVIDE CONTROL DEVICES AND CONTROL WIRING AS INDICATED.
- 10. 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.
- 11. SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, THE CONTRACTOR SHALL MARK SUCH CHANGES ON RECORD DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL APPROVAL IS OBTAINED.
- 12. PRIOR TO INSTALLATION PROVIDE SHOP DRAWINGS FOR THE LAYOUT OF EQUIPMENT AND PIPING SHOWING COORDINATION OF ALL WORK WITH ALL OTHER TRADES, INCLUDING MECHANICAL, FIRE SPRINKLER, FIRE ALARM, CONTROLS, ELECTRICAL, AND COMMUNICATION SYSTEMS. SUBMIT COORDINATION DRAWINGS FOR REVIEW PRIOR TO INSTALLATION TO ENSURE ADEQUATE ACCESS TO THE SPACES AND TO ALL SERVICEABLE ITEMS. COORDINATION DRAWINGS SHALL OVERLAY HVAC, PLUMBING, FIRE SPRINKLER, ELECTRICAL, AND FIRE ALARM SYSTEMS AND ALL CONFLICTS BETWEEN TRADES SHALL BE NOTED AND RESOLVED.
- 13. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS, WALLS, AND SLABS.

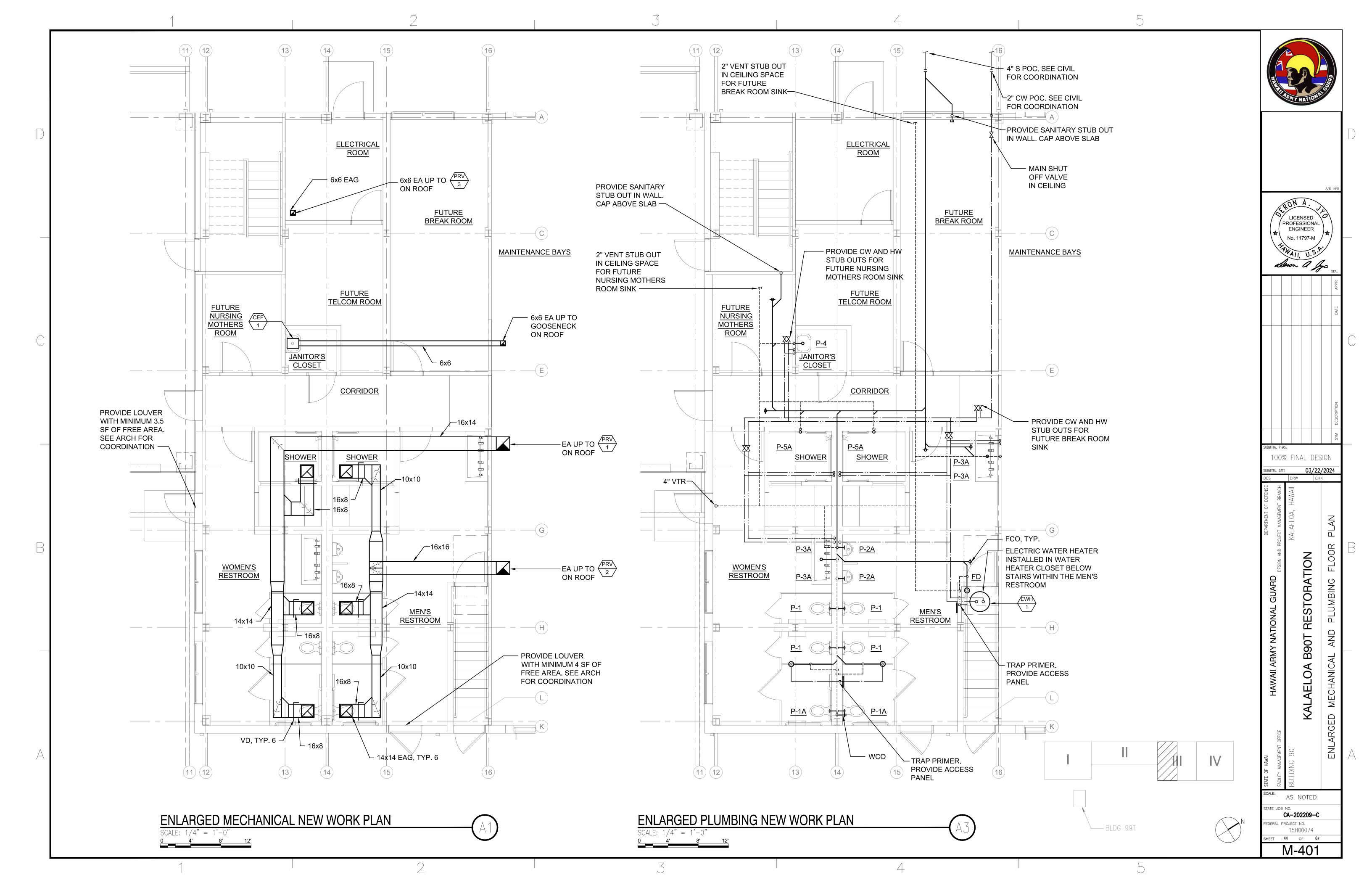
- 14. ALL EQUIPMENT SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOCATED. THE CONTRACTOR SHALL REVIEW ALL SPACES WHERE EQUIPMENT IS TO BE INSTALLED PRIOR TO ORDERING OF EQUIPMENT AND SHALL NOTIFY THE ENGINEER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION AND OPERATION OF THE EQUIPMENT.
- 15. ALL EQUIPMENT AND PIPING SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH THE CURRENT CITY AND COUNTY OF HONOLULU BUILDING CODE FOR SEISMIC ZONE 2A, FACTORY MUTUAL GUIDELINES, AND AS INDICATED IN THE SPECIFICATIONS.
- 16. PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS IN COLD WATER AND HOT WATER.
- 17. WARRANTY
- A. ALL WORK IN THIS SECTION SHALL BE UNDER WARRANTY FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK AS A WHOLE BY THE ENGINEER. SHOULD ANY EQUIPMENT OR MATERIAL FAIL WITHIN THIS PERIOD, THE CONTRACTOR SHALL REPLACE/REPAIR THAT ITEM AT NO COST TO THE OWEN 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 UNDER THIS SECTION FOR A PERIOD OF ONE YEAR AFTER THE FINAL ACCEPTANCE OF THE WORK AS A WHOLE.

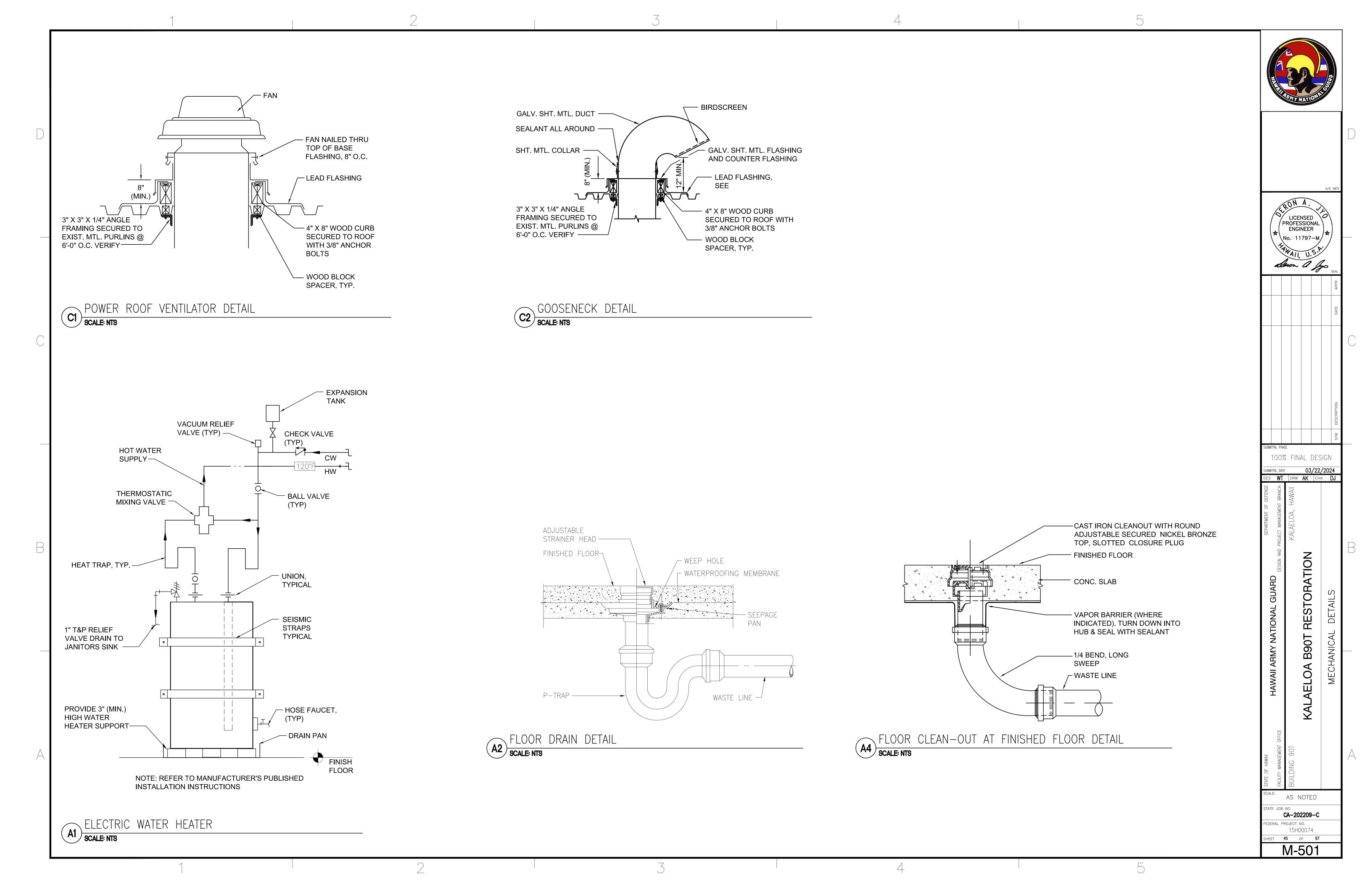
SYMBOL	ABBRV.	DESCRIPTION
	CEF	CEILING EXHAUST FAN
	CW	COLD WATER
5	CONT	CONTINUE
	CFM	CUBIC FEET PER MINUTE
	EWH	ELECTRIC WATER HEATER
	EA	EXHAUST AIR
	EAG	EXHAUST AIR GRILLE
	EF	EXHAUST FAN
	(E)	EXISTING
	F	FAHRENHEIT
ф	FCO	FLOOR CLEANOUT
	FD	FLOOR DRAIN
	GPF	GALLON PER FLUSH
	GPM	GALLON PER MINUTE
	HW	HOT WATER
	IN	INCHES
	POC	POINT OF CONNECTION
<del>////</del> 4 <b></b> -	POR	POINT OF REMOVAL
	PRV	POWER ROOF VENTILATOR
	S	SANITARY
	SF	SQUARE FEET
	TYP.	TYPICAL
	V	VENT
	VD	VOLUME DAMPER
<del></del>	WCO	WALL CLEANOUT
	WHA	WATER HAMMER ARRESTOR
	WACU	WINDOW AIR CONDITIONING UNIT











EXHA	UST FAN SCHED	ULE										
				FAN D	ATA				ELECTRICAL			
UNIT	AREA SERVED	LOCATION	TYPE	MOTOR SIZE	AIRFLOW (CFM)	ESP (IN WATER)	V / P / HZ	FLA	RLA	MCA	МОСР	MAX. DBA REMARKS
PRV-1	WOMEN'S RESTROOM	ROOF	POWER ROOF VENTILATOR	0.5 HP	1380	0.80	115 / 1 / 60	6.4	-	8	15	PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
PRV-2	MEN'S RESTROOM	ROOF	POWER ROOF VENTILATOR	0.75 HP	1620	1.15	115 / 1 / 60	8.8	-	11	15	65 PROVIDE WITH INTEGRAL DISCONNECT SWITCH.
PRV-3	ELECTRICAL ROOM	ROOF	POWER ROOF VENTILATOR	0.25 HP	120	0.50	115 / 1 / 60	2.85	-	4	15	PROVIDE WITH INTEGRAL DISCONNECT SWITCH.  EXHAUST FAN SHALL BE ON 24/7.
CEF-1	JANITOR'S CLOSET	JANITOR'S CLOSET CEILING	CEILING EXHAUST FAN	61 W	50	0.50	115 / 1 / 60	0.46	-	-	-	18 EXHAUST FAN SHALL BE ON 24/7.

ELECT	ELECTRIC WATER HEATER SCHEDULE													
		CAPACITY	HEIGHT	DIAMETER	WATER	WATER	INPUT	UPPER	LOWER		ELE	ECTRICAL		
UNIT	LOCATION	(GALLONS)	(IN)	(IN)	INLET (F)	OUTLET (F)	(WATTS)	ELEMENT	ELEMENT	V/P/HZ	FLA	RLA	MCA	MOCP REMARKS
		(O/ILLOIVO)	(114)	(114)	114221 (1)	001221(1)	(**/(110)	WATTAGE	WATTAGE	V / I / I IZ	1 2/1		IVIO	WOOT
EWH-1	MEN'S RESTROOM EWH CLOSET	80	60	24	70	140	12100	6050	6050	208/3/60	50	-	-	-

EXPA	ANSION TANK SCHEDULE				
UNIT	LOCATION	SYSTEM SERVED	ACCEPTANCE VOLUME (GAL)	PRECHARGE (PSI)	REMARKS
ET-1	MEN'S RESTROOM EWH CLOSET	EWH-1 DOMESTIC HW	5	60	

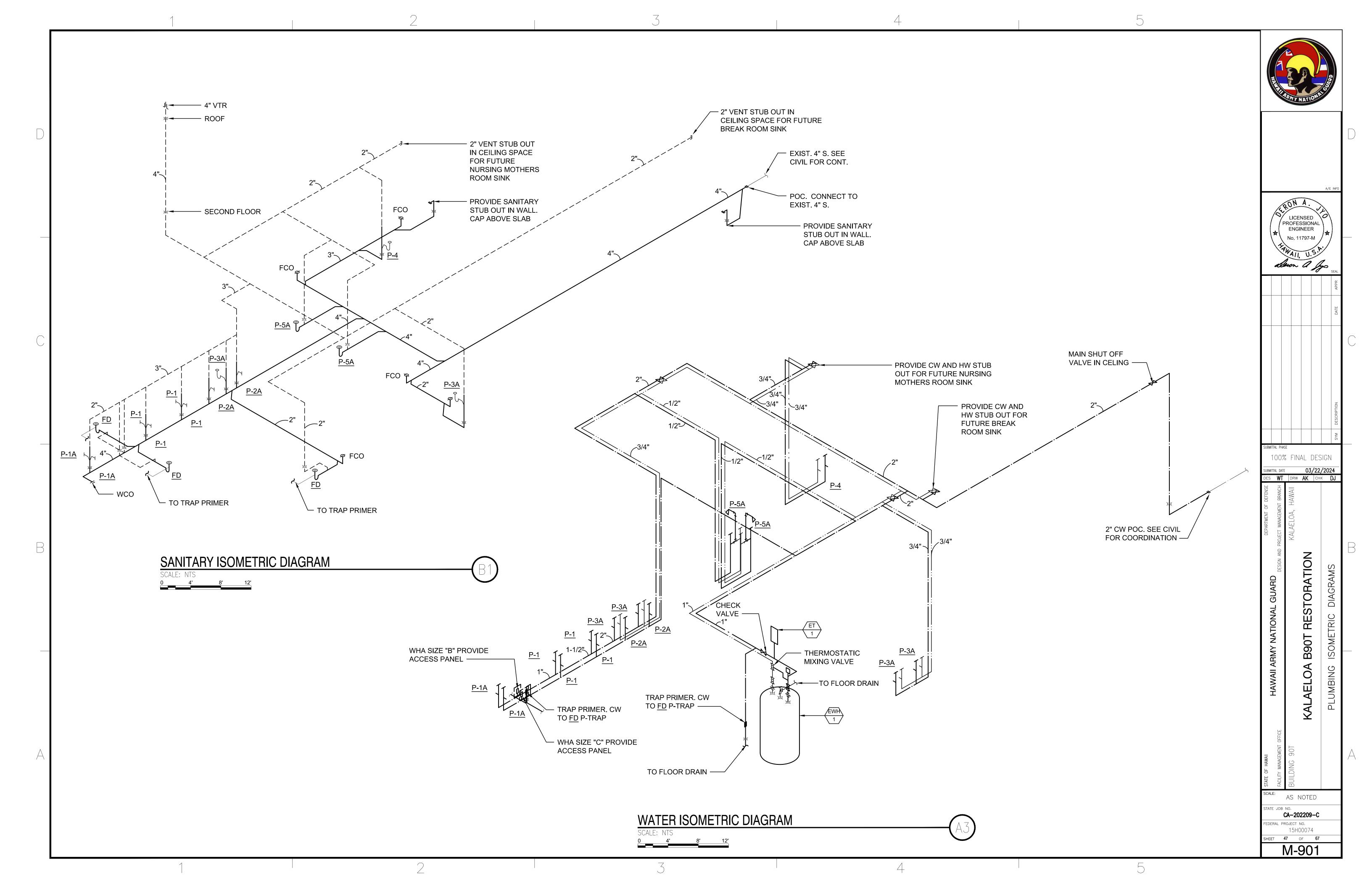
YMBOL	DESCRIPTION	TRAP SIZE	WASTE	VENT	HOT WATER	COLD WATER	NOTES
P-1	WATER CLOSET, WALL MOUNTED FLUSH VALVE	INTEGRAL	4"	2"	-	1"	1.28 GPF LOW FLOW FLUSH TYPE
P-1A	WATER CLOSET, WALL MOUNTED FLUSH VALVE, ACCESSIBLE	INTEGRAL	4"	2"	-	1"	1.28 GPF LOW FLUSH TYPE
P-2	URINAL, WALL MOUNTED, LOW FLOW FLUSH VALVE, ACCESSIBLE	INTEGRAL	2"	2"		3/4"	.125 GPF LOW FLOW FLUSH VALVE
P-2A	URINAL, WALL MOUNTED, LOW FLOW FLUSH VALVE, ACCESSIBLE	INTEGRAL	2"	2"		3/4"	.125 GPF LOW FLUSH VALVE
P-3A	LAVATORY, DUAL FAUCET WITH TROUGH BASIN, ACCESSIBLE	1-1/4"	2"	2"	1/2"	1/2"	0.5 GPM, LOW FLOW, INTEGRATED SINK SYSTEM WITH SOAP DISPENSER AND HAND DRYER, SENSOR OPERATED, PROVIDE MIXING VALVES PER ASSE 1070
P-4	SERVICE SINK	3"	2"	2"	3/4"	3/4"	2.2 GPM
P-5A	SHOWER, ACCESSIBLE	2"	2"	2"	1/2"	1/2"	1.5 GPM SHOWER HEAD, PROVIDE WITH THERMOSTATIC MIXING VALVE, HANDSPRAYER WITH ON/OFF, SLIDE BAR, 60" FLEXIBLE METAL HOSE, PROVIDE WITH LINEAR DRAIN
FD	FLOOR DRAIN	2"	2"	2"	-	-	PROVIDE TRAP PRIMER

HAMAIII	TOMY NATION	da d	
<b>A</b> F	LICENSED PROFESSIONA ENGINEER No. 11797-M	)*)	
	WAII, U.S	DATE APPR	
SUBMITTAL PHASE	se 6 FINAL DE	SYM DESCRIPTION	
DEPARTMENT OF DEFENSE REPARTMENT OF DEFENSE		EQUIPMENT AND PLUMBING FIXTURE SCHEDULE	B
STATE OF HAWAII  HAWAII ARMY FACILITY MANAGEMENT OFFICE	BUILDING 90T KALAELOA B9	EQUIPMENT AND PLUN	<u> </u>
STATE JOB	NO. <b>CA-202209-</b> (	C	

SHEET 46 OF 67

M-601

3



# ELECTRICAL SYMBOL LIST / MOUNTING HEIGHT SCHEDULE

	NTING I FROM	(SPECIAL MOU	INTING HEIGHTS	S INDICATED ON PLAN)
	PR TO	SYME EXISTING	BOL NEW	DESCRIPTION
TOP	Ψ		0	LUMINAIRE, 1'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
				LUMINAIRE, 1'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE, WITH INTEGRAL EMERGENCY BATTERY PACK
			0	LUMINAIRE, 2'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
			•	LUMINAIRE, 2'X4' NOMINAL, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE, WITH INTEGRAL EMERGENCY BATTERY PACK
		0	0	LUMINAIRE, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE
			•	LUMINAIRE, MOUNTING STYLE AS INDICATED IN LIGHT FIXTURE SCHEDULE, WITH INTEGRAL EMERGENCY BATTERY PACK
		K)	Ю	LUMINAIRE, WALL MOUNTED
		H	H	LUMINAIRE, WALL MOUNTED, WITH INTEGRAL EMERGENCY BATTERY PACK
		<b>⊬</b> ••••••••••••••••••••••••••••••••••••	<b>⊬</b> ⊗↑	ILLUMINATED EXIT SIGN, WALL MOUNTED, DIRECTIONAL ARROWS AS INDICATED
		<b>♦</b>	⊗↑	ILLUMINATED EXIT SIGN, CEILING MOUNTED, DIRECTIONAL ARROWS AS INDICATED
	46"	\$	\$	LIGHT SWITCH, WALL MOUNTED, 1P20A, 120/277V, 1HP MAXIMUM
	46"	\$ª	<b>\$</b> a	LIGHT SWITCH, WALL MOUNTED, 1P20A, 120/277V, 1HP MAXIMUM (LETTER INDICATES LUMINAIRES CONTROLLED)
	46"	\$3	<b>\$</b> <sub>3</sub>	LIGHT SWITCH, THREE WAY SWITCH, WALL MOUNTED, 20A, 120/277V
	46"	\$ <sub>LV</sub>	\$ <sub>LV</sub>	LIGHT SWITCH, WALL MOUNTED, LOW-VOLTAGE CONTROLS
	46"	\$ <sub>os</sub>	\$ <sub>os</sub>	WALL BOX SWITCH/OCCUPANCY SENSOR, SELF-CONTAINED DUAL TECHNOLOGY TYPE, 800W MINIMUM, 120/277V, WALL MOUNTED
		←ŌŠ→	€0\$	OCCUPANCY SENSOR, CEILING MOUNTED
		[PS]	PS	POWER SUPPLY, LOW-VOLTAGE LIGHTING CONTROLS ROOM CONTROLLER

# **NEC LABELING AND MARKING - NOTES:**

- 1. NEC SECTION 110.16(A) ARC-FLASH HAZARD WARNING, (GENERAL): PROVIDE ARC FLASH HAZARD WARNING LABELING FOR ALL EQUIPMENT AS INDICATED IN NEC 110.16(A) AS REQUIRED.
- 2. NEC SECTION 110.24 AVAILABLE FAULT CURRENT: PROVIDE MARKING OF SERVICE EQUIPMENT AS INDICATED IN NEC 110.24(A) AS REQUIRED. MARKING SHALL BE ENGRAVED NAMEPLATE. SERVICE EQUIPMENT AVAILABLE FAULT CURRENT INFORMATION STILL TO BE DETERMINED (PENDING INFORMATION FROM HECO).
- 3. NEC 408.4(B) FIELD IDENTIFICATION REQUIRED, (SOURCE OF SUPPLY): PROVIDE MARKING OF EQUIPMENT AS INDICATED IN NEC 408.4(B) AS REQUIRED. MARKING SHALL BE ENGRAVED NAMEPLATE.

## FLOOD ELEVATION - NOTES:

- 1. ARCHITECTURAL SHEET G-002 INDICATES FLOOD ZONE D.
- 2. FLOOD HAZARD ZONE D DEFINITION FOR THE STATE OF HAWAII IS DEFINED AS: "UNSTUDIED AREAS WHERE FLOOD HAZARDS ARE UNDETERMINED, BUT FLOODING IS POSSIBLE".

	TO	SYMBOL TING NEW  WP  WP	DESCRIPTION  RECEPTACLE, WALL MOUNTED, DUPLEX, GROUNDING TYPE, 125V, NEMA TYPE 5-20R  RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, 125V, NEMA TYPE 5-20R  RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, WEATHER-RESISTANT DEVICE WITH WEATHERPROOF-WHILE-IN-USE COVER PLATE
	18"		RECEPTACLE, WALL MOUNTED, DUPLEX, GROUNDING TYPE, 125V, NEMA TYPE 5-20R  RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, 125V, NEMA TYPE 5-20R  RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, WEATHER-RESISTANT DEVICE WITH
,	18"	<b>⊕</b> WP <b>⊕</b> W	RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, 125V, NEMA TYPE 5-20R  RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, WEATHER-RESISTANT DEVICE WITH
	18"	⊕ <sup>WP</sup> ⊕ <sup>W</sup>	RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, WEATHER-RESISTANT DEVICE WITH
	F		
		<i>→</i>   I <del>D</del>	RECEPTACLE, WALL MOUNTED, DUPLEX, 125V, NEMA 5-20R, 6" ABOVE COUNTER TOP
			RECEPTACLE, WALL MOUNTED, DUPLEX, GFCI TYPE, 125V, NEMA 5-20, 6" ABOVE COUNTER TOP
60"	45		NON-FUSED DISCONNECT SWITCH, 3P30A UNLESS OTHERWISE NOTED, VOLTAGE TO MATCH CIRCUITING
	\$	\$ <sub>M</sub> \$ <sub>M</sub>	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD (SINGLE POLE) 1HP MAXIMUM
			JUNCTION BOX, HORIZONTALLY MOUNTED
		M)	MOTOR CONNECTION
	A-1,3	A-1,3	HOMERUN ARROW TO PANELBOARD. LETTER INDICATES PANELBOARD, NUMBERS INDICATE CIRCUITS. HASH MARKS INDICATES NUMBER OF CURRENT CARRYING CONDUCTORS. GROUND CONDUCTOR NOT SHOWN. NEUTRAL CONDUCTORS SHALL NOT BE USED FOR MOTHAN ONE BRANCH CIRCUIT.
			CONCEALED CONDUIT IN CEILING OR WALLS, 2#12 & 1#12 GND., UNLESS OTHERWISE NOTED.

# WORK RELATED TO (HECO) HAWAIIAN ELECTRIC COMPANY - NOTES:

- 1. ALL WORK RELATED TO HECO SHALL BE PER HECO REQUIREMENTS AND
- SEE HECO DRAWIGS FOR ADDITIONAL INFORMATION.
- 3. ALL WORK SHALL COMPLY WITH HECO DRAWINGS.
- 4. COORDINATE WITH HECO AS REQUIRED.
- 5. CONCRETE PAD FOR HECO PADMOUNTED TRANSFORMER: SHALL BE PER HECO STANDARDS
- 6. CONCRETE HANDHOLES FOR HECO SERVICE: SHALL BE PER HECO SATNDARDS.
- 7. FOR PROPOSED NEW (HECO) POLE P1:
  - A. POLE SHALL BE (BY HECO).
  - B. POLE REQUIREMENTS SHALL BE (BY HECO).
  - C. EXACT LOCATION STILL TO BE DETERMINED.
- D. FOR EASEMENT (AS SHOWN ON THE DRAWINGS, BASED ON TOPOGRAPHICAL SURVEY PROVIDED): ALLOWABLE USE OF EASEMENT STILL TO BE DETERMINED.
- F. FOR OWNER OF PROPERTY WHERE PROPOSED POLE P1 IS SHOWN:
- 8. FOR PROPOSED NEW (HECO) POLE P2:
  - A. POLE SHALL BE (BY HECO).
  - B. POLE REQUIREMENTS SHALL BE (BY HECO).
  - C. EXACT LOCATION STILL TO BE DETERMINED.
- D. OWNER OF PROPERTY IS BELIEVED TO BE THE STATE OF HAWAII.
- 9. FOR (HECO) POLES P1 AND P2:
  - A. LOCATION OF POLES SHALL BE PER (HECO) REQUIREMENTS.
- B. LOCATION OF POLES SHALL BE AS APPROVED BY HECO.
- C. LOCATION OF POLES SHALL BE FREE OF ALL EXISTING UTILITIES
- 10. FUSES FOR HECO OVER-HEAD PRIMARY LINES: A. FUSES WILL BE REQUIRED AT EITHER POLE P1 OR POLE P2. B. HECO TO DETERMINE AT WHICH POLE FUSES WILL BE PLACED. C. FUSES SHALL BE (BY HECO).
- 11. FOR PROPOSED NEW (HECO) PAD MOUNTED TRANSFORMER:

BE COORDINATED AND CONFIRMED BY HECO.

- A. NEW PAD MOUNTED TRANSFORMER TO BE PROVIDED (BY HECO). B. PROVISION OF NEW HECO PAD MOUNTED TRANSFORMER (BY HECO) TO
- C. ELECTRICAL CONTRACTOR TO COORDINATE INSTALLATION OF NEW HECO PAD MOUNTED TRANSFORMER WITH HECO.
- D. SEE ONE-LINE DIAGRAM, SHEET E-602, FOR ADDITIONAL INFORMATION.



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EDERAL PROJECT NO.

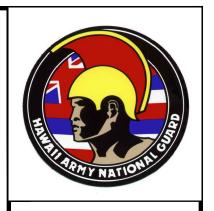
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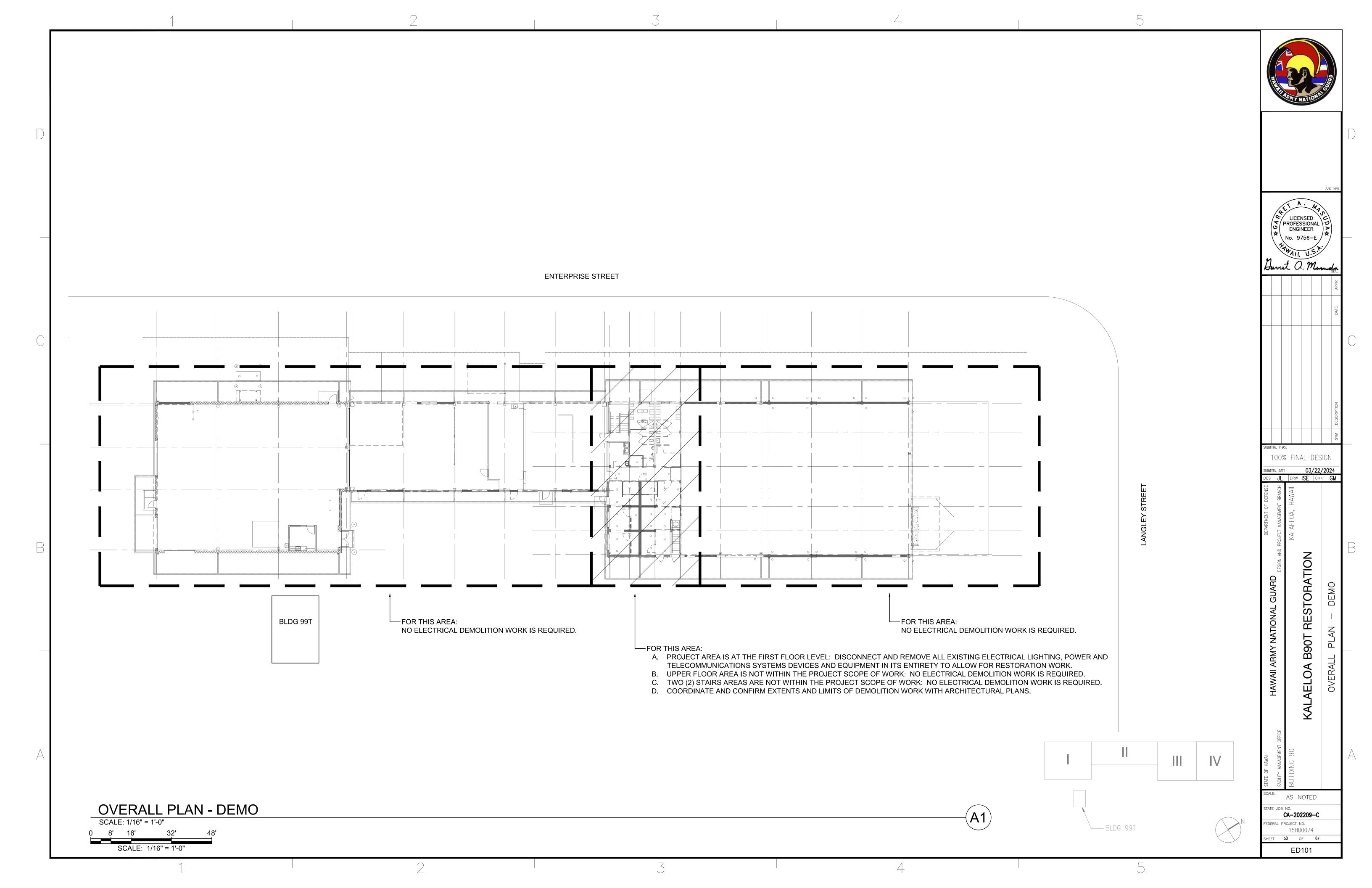
- 1. ALL WORK SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS OTHERWISE NOTED. ALL MATERIALS SHALL BE NEW AND "LISTED" OR "LABELED" AS DEFINED BY THE NATIONAL ELECTRICAL CODE (NEC). WORK INCLUDES INSTALLATION OF ALL ELECTRICAL SYSTEMS COMPLETE AND OPERATIONAL AS LIMITED BY THE INTENT OF THE CONTRACT DOCUMENTS.
- 2. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, AND THE UNIFIED FACILITIES CRITERIA STANDARDS. 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. 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.
- 4. 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.
- 5. 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.
- 6. SHOULD PHASING AND SEQUENCING OF THE ELECTRICAL WORK BE REQUIRED:
  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.
- 7. VERIFY AND COORDINATE ALL PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. OBTAIN APPROVAL BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS OR FIRE RATED WALLS AND CEILINGS.
- 8. 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.
- 9. COORDINATE AND PROVIDE ACCESS PANELS FOR ALL CONCEALED ELECTRICAL EQUIPMENT, DEVICES, BOXES, AND CONDUIT BODIES SO THAT THEY ARE ACCESSIBLE.
- 10. TONING: EXISTING UNDERGROUND UTILITY LINES INDICATED ON THE DRAWINGS ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON TOPOGRAPHIC SURVEY AND/OR BEST AVAILABLE "RECORD" DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR TONING THE PROPOSED ROUTES OF THE PROJECT DUCTLINES TO IDENTIFY ANY POTENTIAL CONFLICTS PRIOR TO EXCAVATION. DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR, AS A RESULT OF THE FAILURE TO TONE THE ROUTE PRIOR TO EXCAVATION WORK, WILL REQUIRE THE CONTRACTOR TO REPAIR THE DAMAGE AT NO ADDITIONAL COST TO THE PROJECT. THE DAMAGED UTILITIES SHALL BE REPAIRED/RESTORED TO ITS ORIGINAL WORKING CONDITION AND TO THE SATISFACTION OF THE CONTRACTING OFFICER.
- 11. PROVIDE ALL LABOR, EQUIPMENT, AND HAULING/DISPOSAL SERVICE FOR DEWATERING EFFORTS FOR NEW BELOW GRADE EXCAVATION/TRENCHING IF GROUND WATER IS ENCOUNTERED IN THE PROJECT AREA.
- 12. 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.
- 13. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL CONDUIT AND WIRING FOR THE POWER CONNECTION TO ALL EQUIPMENT AS INDICATED IN THE DRAWINGS AND

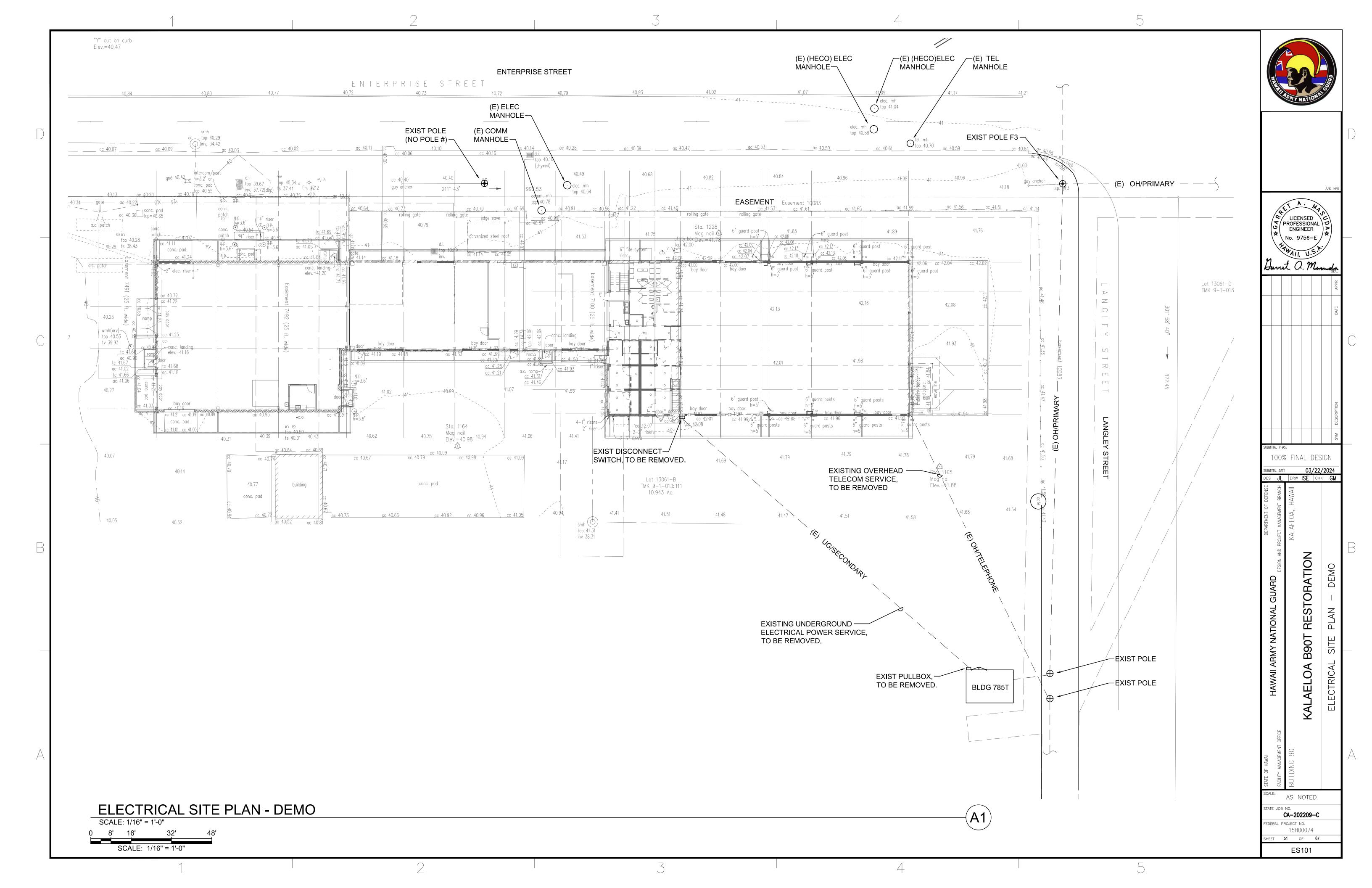
- SPECIFICATIONS. ALL INCIDENTAL CONDUIT AND WIRING REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM MAY NOT BE SHOWN IN THE DRAWINGS OR SPECIFICATIONS. CONTRACTOR SHALL COORDINATE INCIDENTAL CONDUIT AND WIRING REQUIREMENTS BETWEEN ALL TRADES TO ENSURE THE INCIDENTAL CONDUIT AND WIRING IS PROVIDED AND THE AFFECTED SYSTEMS OPERATE AS INTENDED.
- 14. 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.
- 15. 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.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. 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.
- 20. 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.
- 21. 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.
- 22. 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.
- 23. PROVIDE TYPEWRITTEN CIRCUIT DIRECTORIES FOR ALL PANELS, NEW OR MODIFIED, REFLECTING THE CIRCUIT ARRANGEMENTS AS THEY WERE ACTUALLY INSTALLED.
- 24. AN ADHESIVE VINYL NAMEPLATE SHALL BE PROVIDED FOR ALL SWITCHES, RECEPTACLES, MODULAR FURNITURE POWER CONNECTIONS, 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.
- 25. 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.

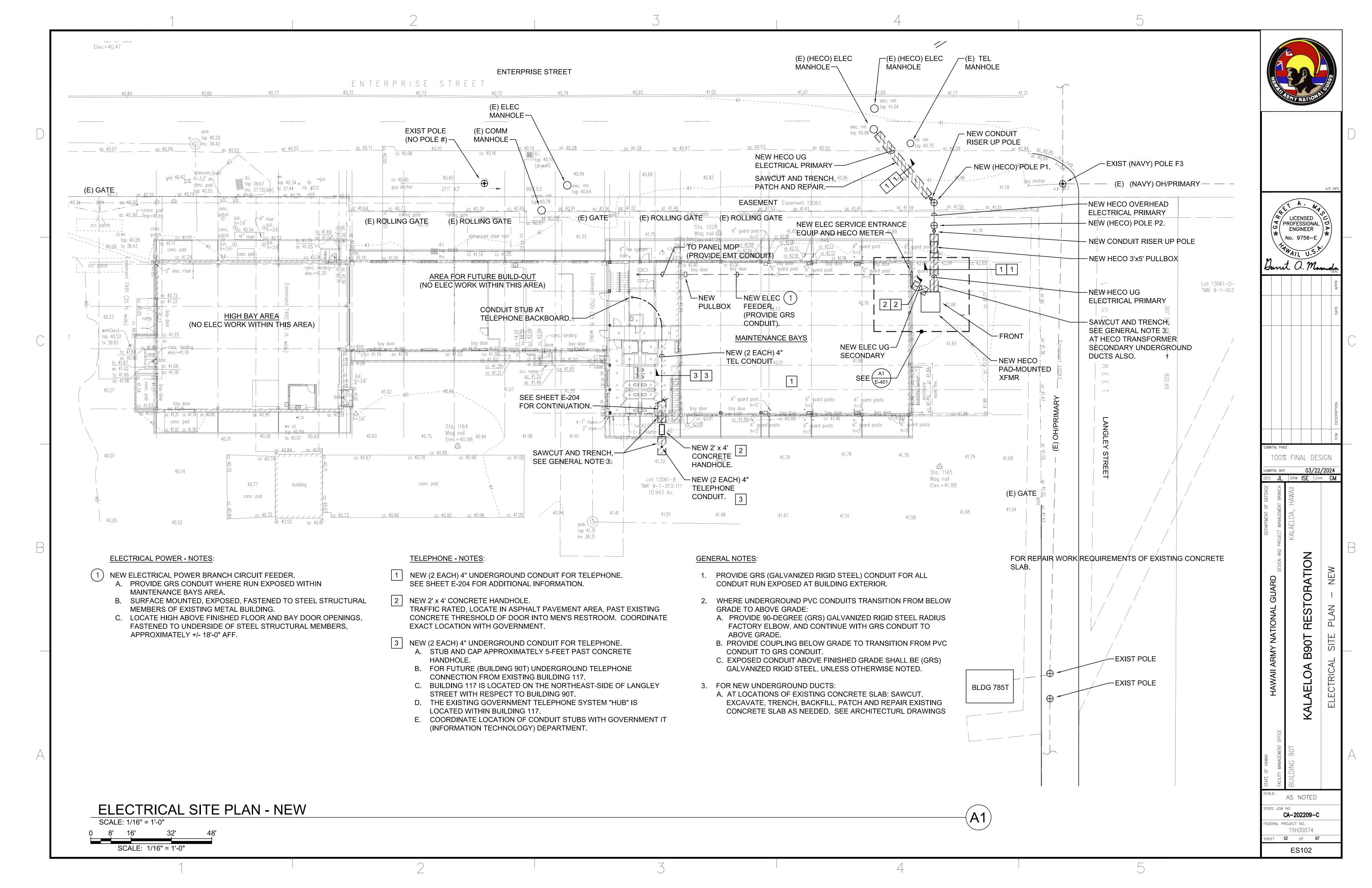
- 26. DO NOT USE A COMMON NEUTRAL FOR MULTIPLE BRANCH CIRCUITS INSTALLED IN A COMMON CONDUIT. PROVIDE A DEDICATED NEUTRAL FOR EACH INDIVIDUAL CIRCUIT. WHERE MULTIPLE DEDICATED NEUTRALS ARE INSTALLED IN A COMMON CONDUIT, PROVIDE COLOR CODING OF THE DIFFERENT NEUTRAL CONDUCTORS IN ACCORDANCE WITH THE NEC (WHITE, GRAY, THREE CONTINUOUS WHITE OR GRAY STRIPES, ETC.)
- 27. PROVIDE NYLON PULLSTRINGS IN ALL EMPTY CONDUITS UNLESS OTHERWISE INDICATED.
- 28. THE TELECOMMUNICATIONS RACEWAY SYSTEM INSTALLATION SHALL COMPLY WITH TIA/EIA AND BICSI STANDARDS UNLESS OTHERWISE NOTED.
- 29. 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.
- 30. PROVIDE INSULATED BUSHINGS AT ALL TELECOMMUNICATIONS CONDUIT TERMINATIONS AT ALL BOXES, BACKBOARDS, AND CONDUIT STUBS.
- 31. ALL SURFACE MOUNTED DEVICES SHALL BE INSTALLED UTILIZING FACTORY PAINTED SURFACE MOUNTING ACCESSORIES AND MATCHING DEVICE BOXES FOR THE MOST AESTHETICALLY PLEASING INSTALLATION.
- 32. PROVIDE KNOCK-OUT PLUGS FOR ALL UNUSED CONDUIT PENETRATIONS IN BOXES AND ENCLOSURES DUE TO CONDUIT REMOVAL.
- 33. 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.
- 34. PATCH, REFINISH, AND PAINT ALL PENETRATIONS THROUGH WALLS AND SLABS TO MATCH FINISH OF ADJACENT SURFACES.
- 35. 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.
- 36. 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.
- 41. FOR ALL SWITCHGEAR, SWITCHBOARDS, AND PANELBOARDS, PROVIDE A PERMANENTLY AFFIXED PLAQUE INDICATING THE SOURCE OF THE POWER SERVING THE APPARATUS IN QUESTION IN ACCORDANCE WITH THE NEC.
- 42. ELECTRICAL EQUIPMENT SUPPORTING HVAC EQUIPMENT INSTALLED ABOVE SUSPENDED CEILINGS SHALL COMPLY WITH THE NEC FOR WORKSPACE CLEARANCE IN AREAS OF LIMITED ACCESS.
- 43. 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.
- 44. 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.
- 45. FOR ELECTRIFIED UTILIZATION EQUIPMENT, COORDINATE THE MOUNTING HEIGHT OF THE ASSOCIATED JUNCTION BOX, DISCONNECT SWITCH, OR STARTER/CONTROLLER WITH THE ACTUAL EQUIPMENT SUPPLIED.
- 46. SEISMICALLY BRACE EQUIPMENT AND CONDUIT AS REQUIRED IN ACCORDANCE WITH THE CURRENT TECHNICAL MANUAL FOR SEISMIC DESIGN FOR BUILDINGS, TM 5-809-10 (ARMY), NAVFAC P-355 (NAVY), AFM 88-3, CHAP.13 (AIR FORCE). SEE STRUCTURAL DRAWINGS FOR SEISMIC ZONE LEVEL.
- 47. ALL CONDUITS ENTERING THE BUILDING FROM THE EXTERIOR SHALL BE SEALED TO PREVENT ENTRANCE OF MOISTURE, GASES, AND RODENTS.
- 48. 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.

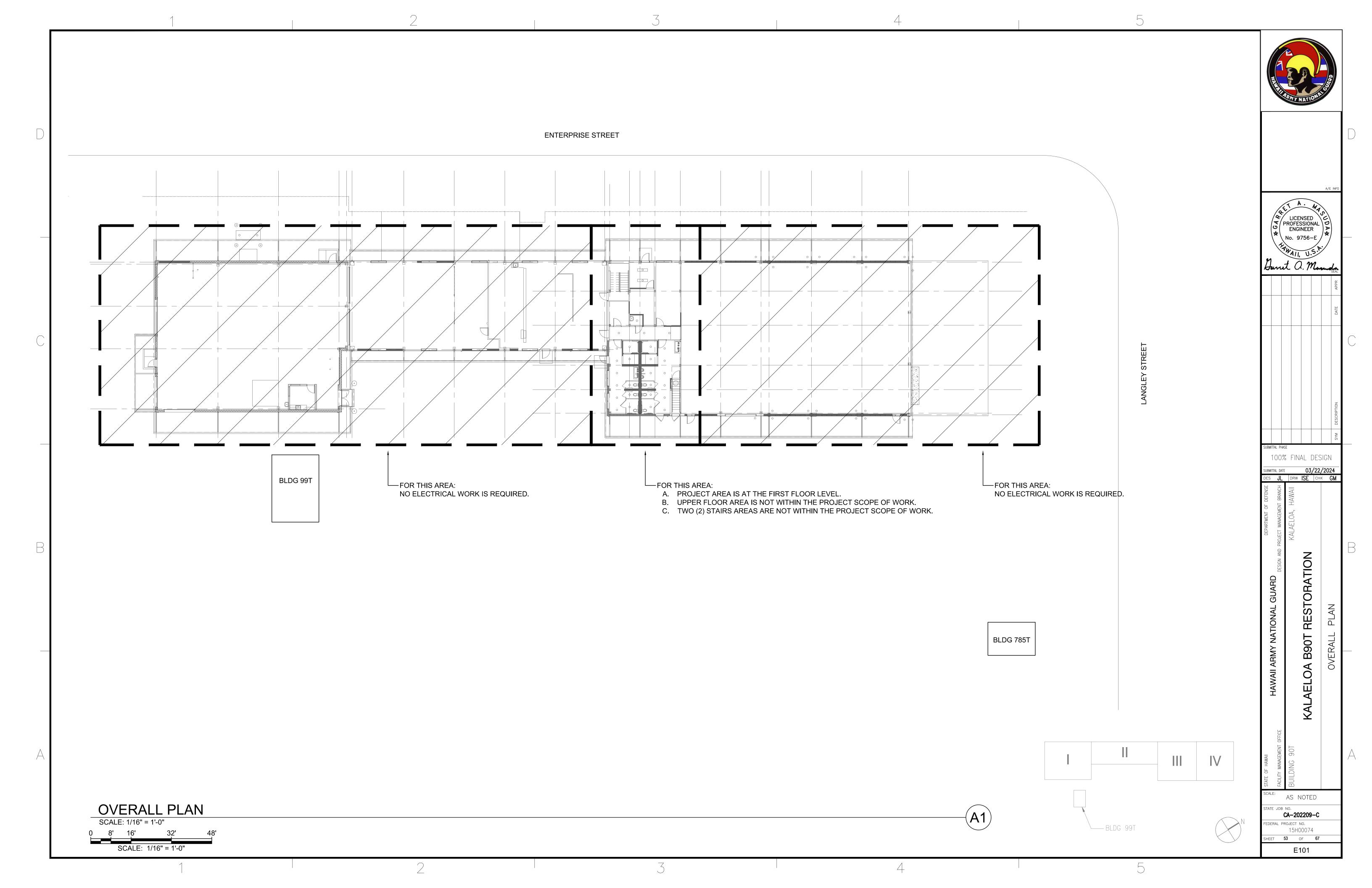


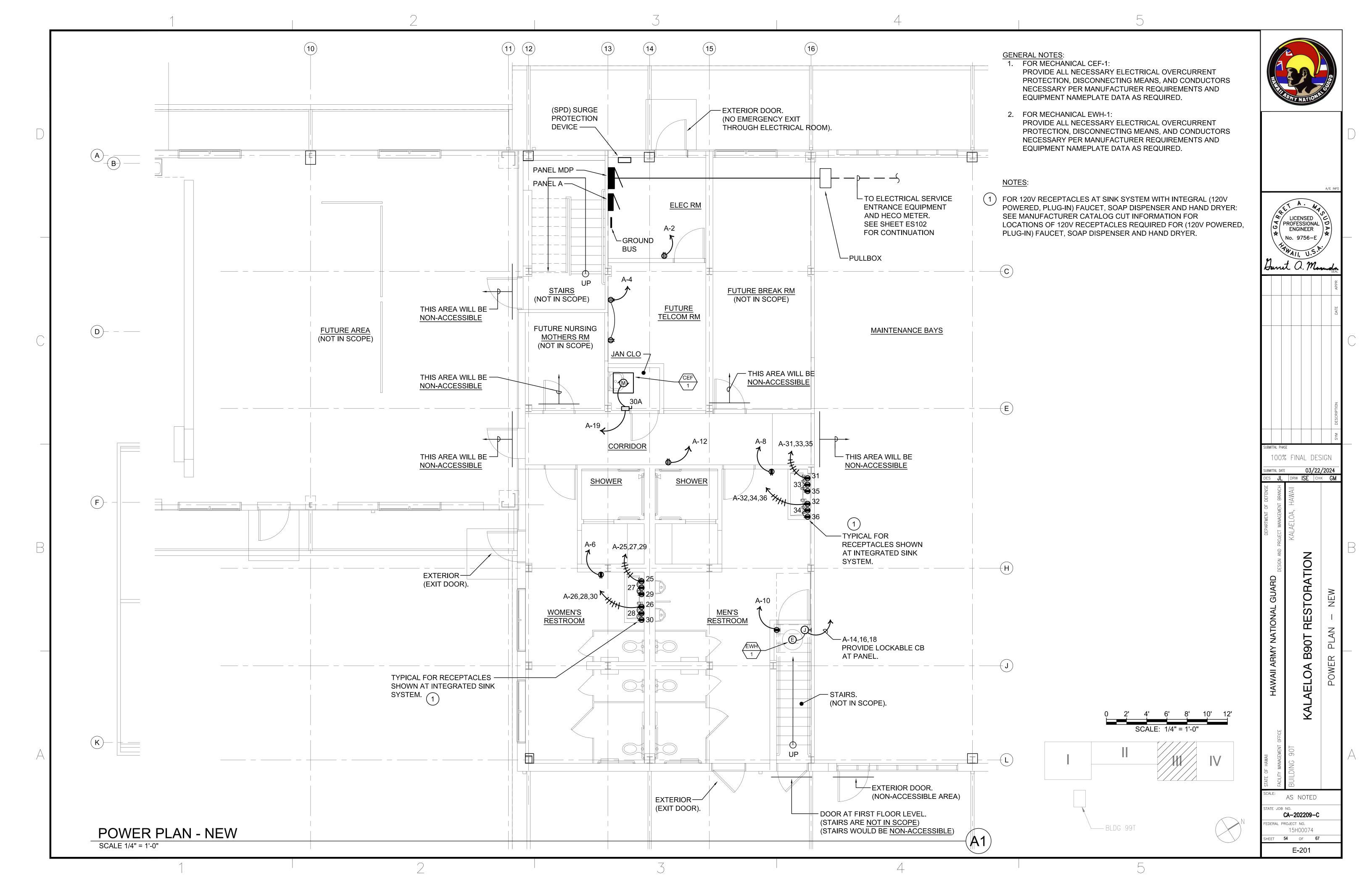
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SUBMI	100%	S FIN	03/22 ISE CH		-
DEPARTMENT OF DEFENSE	III AKIMIY NATIONAL GUAKD  DESIGN AND PROJECT MANAGEMENT BRANCH	KALAELOA, HAWAII	DA B90T RESTORATION	GENERAL NOTES	

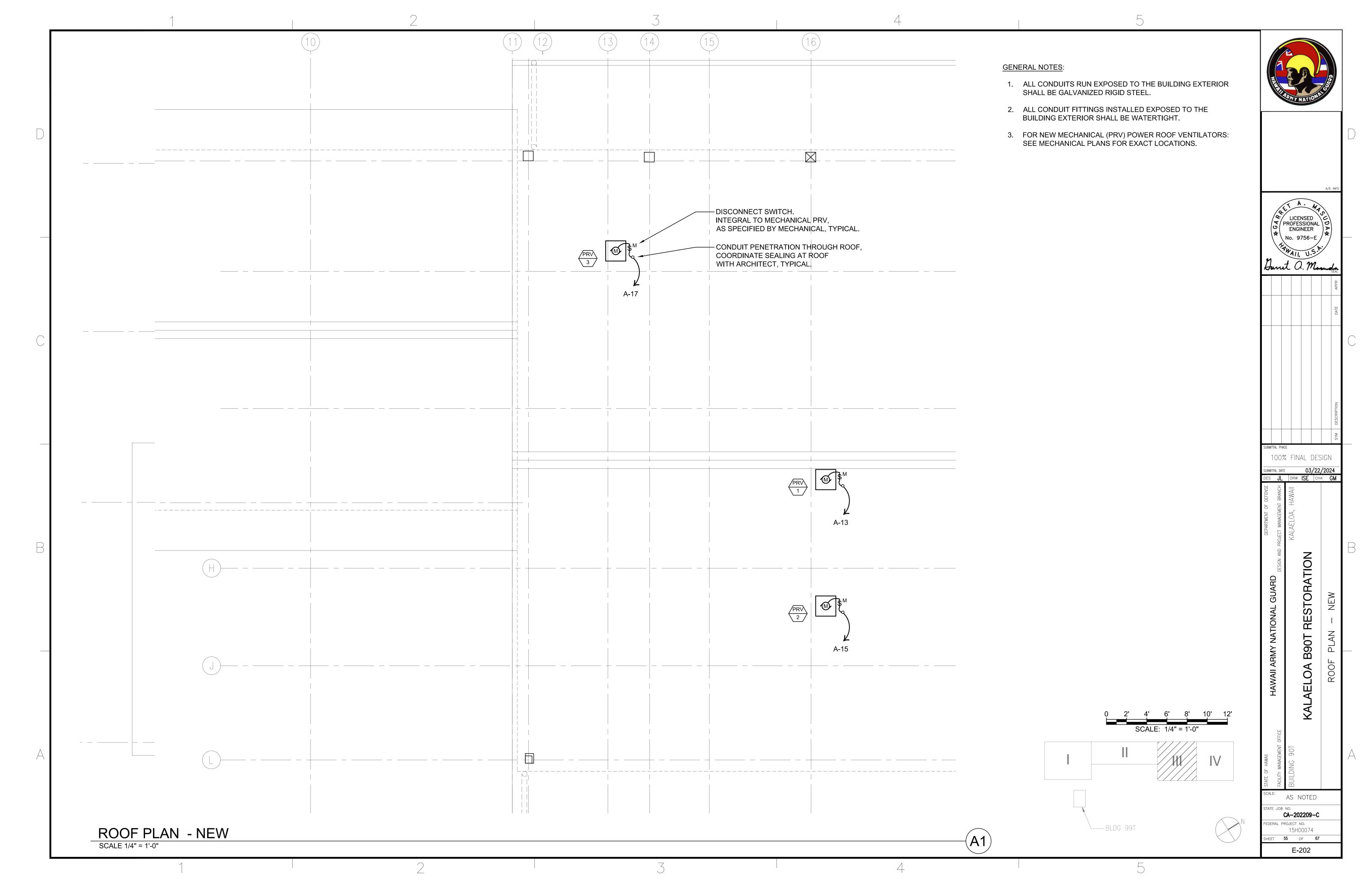


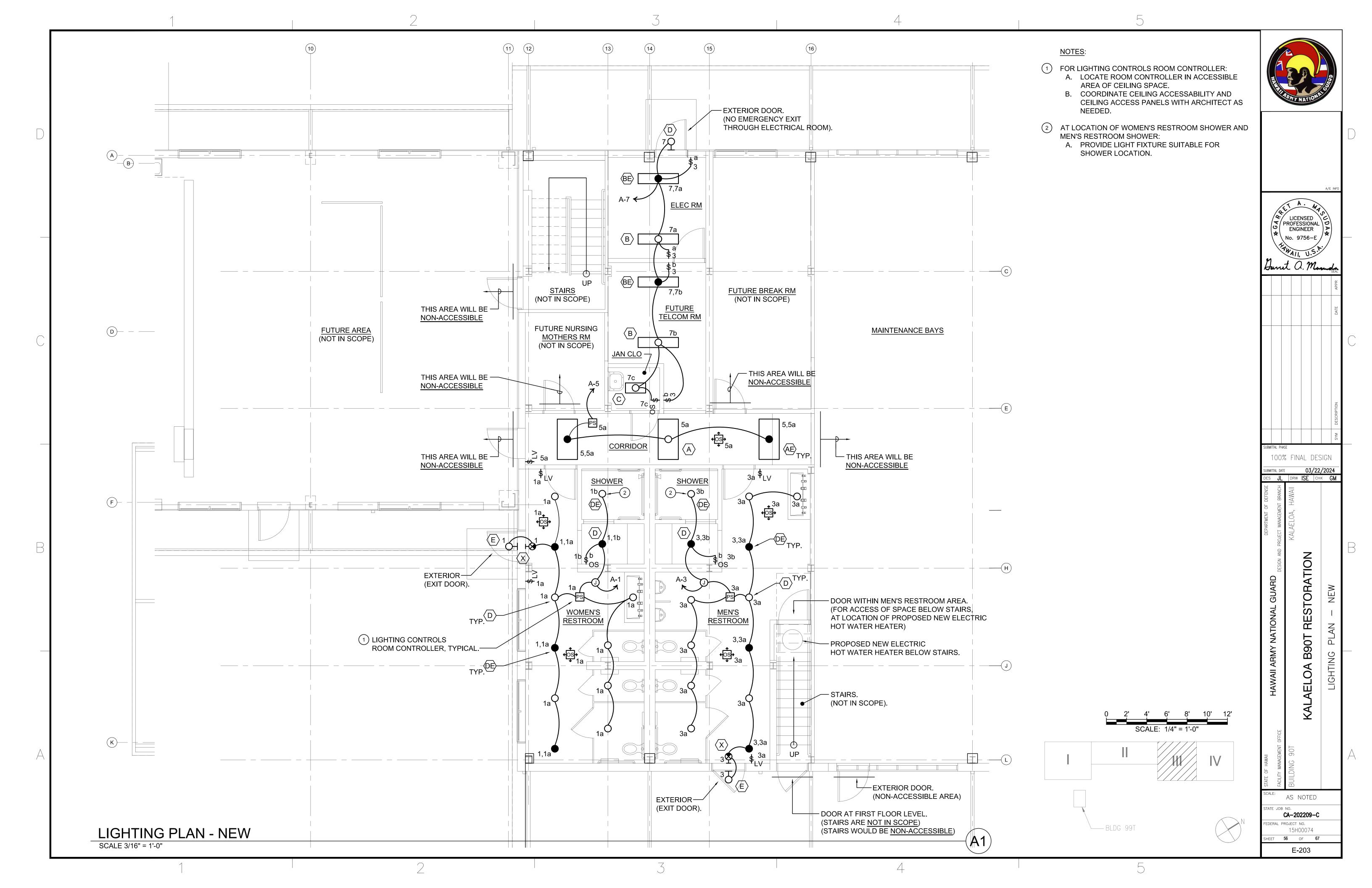


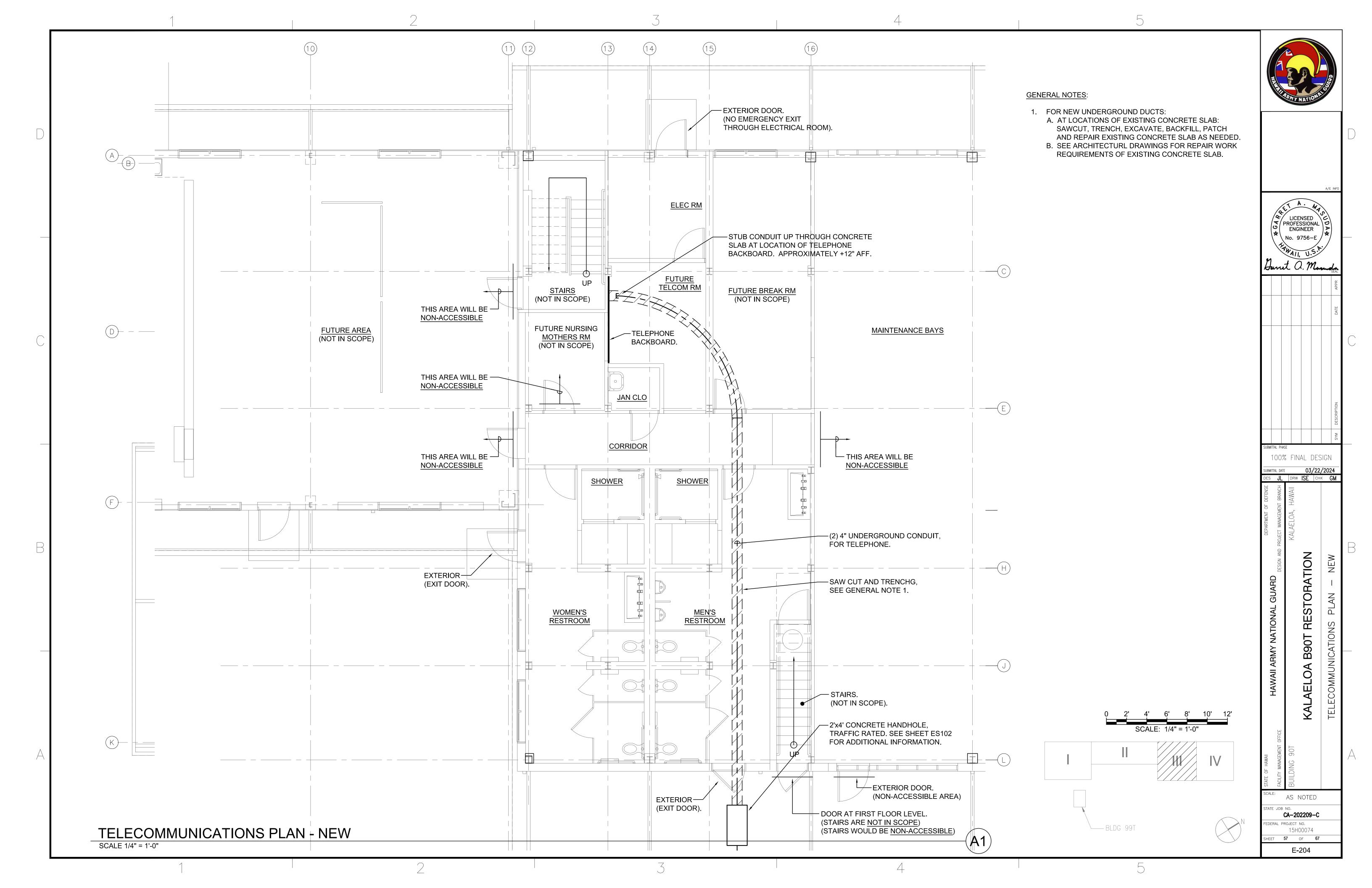


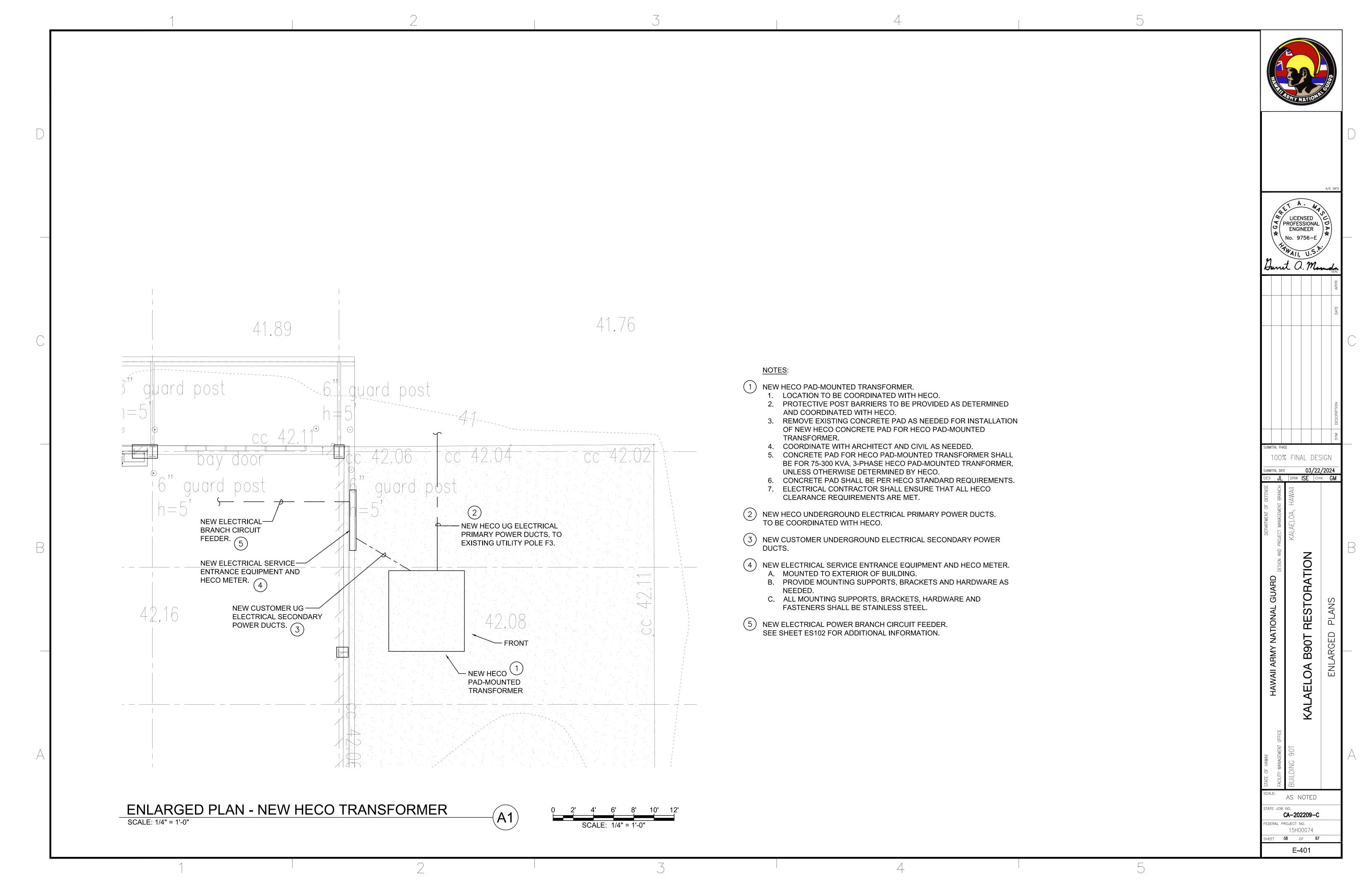




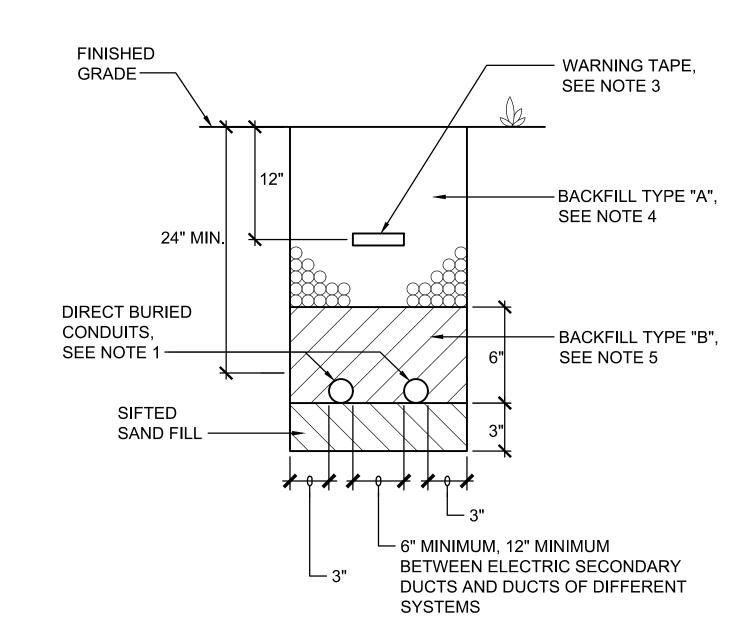








TYPICAL CONCRETE ENCASED DUCT SECTION



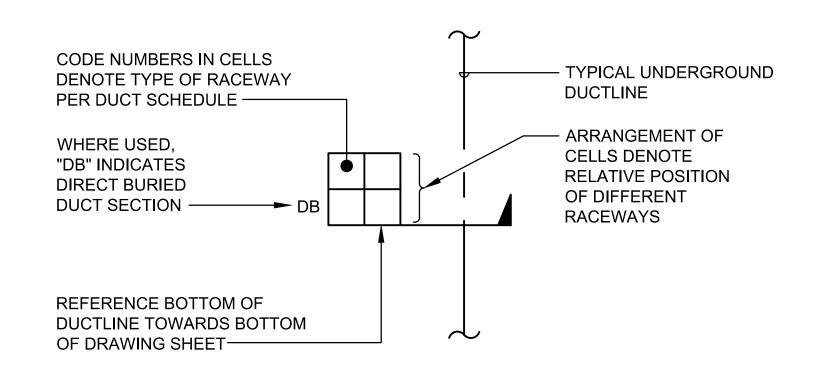
# 2 TYPICAL DIRECT BURIED DUCT SECTION E-703 NOT TO SCALE

#### **DUCT SECTION NOTES:**

- 1. CONDUITS SHALL BE PVC SCHEDULE 40 UNLESS OTHERWISE NOTED.
- 2. PROVIDE ALL EMPTY/SPARE CONDUITS WITH PULLSTRING. PROVIDE ALL EMPTY/SPARE TELECOMMUNICATIONS CONDUIT WITH MULETAPE.
- 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
TELECOMMUNICATIONS - ORANGE 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.).
- 7. DUCTS OF OTHER SYSTEMS ARE NOT ALLOWED ABOVE HECO DUCTS.



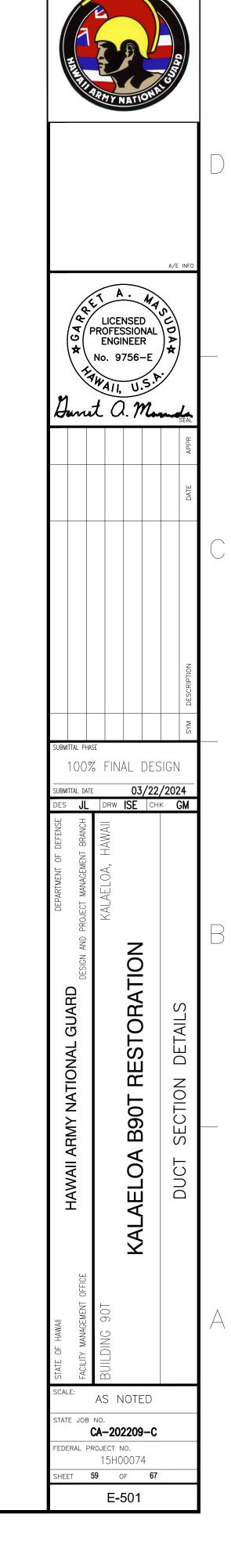
E-703 NOT TO SCALE

### NOTE:

1. DUCT SECTIONS SHALL BE CONCRETE ENCASED UNLESS OTHERWISE NOTED

	DUCT SCHEDULE									
NO.	DESCRIPTION	REMARKS								
1	4" PVC SCHED 40, HECO UNDERGROUND PRIMARY POWER.	SEE ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.								
2	3" PVC SCHED 40, ELECTRICAL UNDERGROUND SECONDARY POWER.	SEE ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.								
2	4" PVC SCHED 40, TELEPHONE, CONDUIT ONLY.	FOR FUTURE CONNECTION OF TELEPHONE SERVICE.								

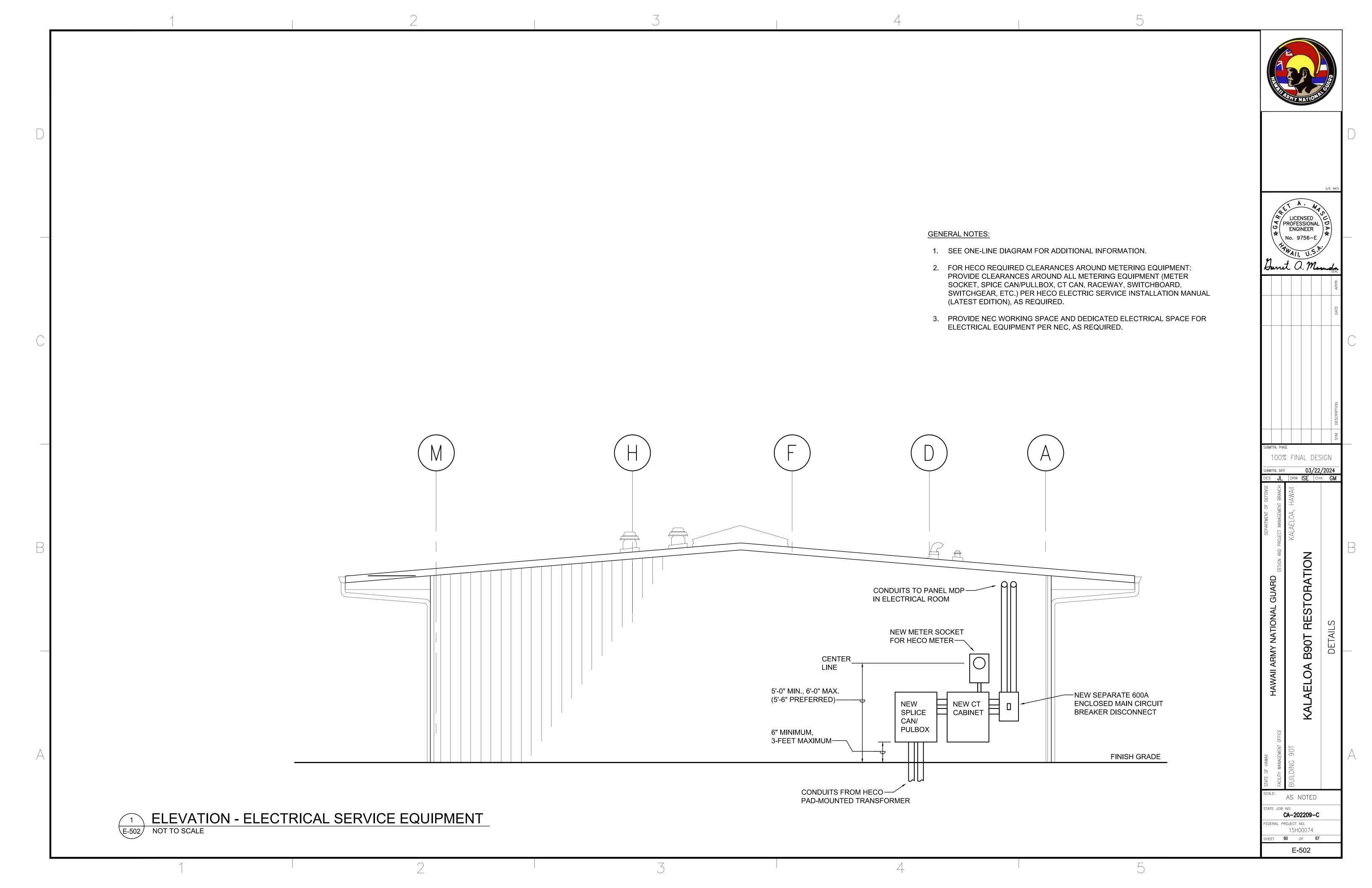


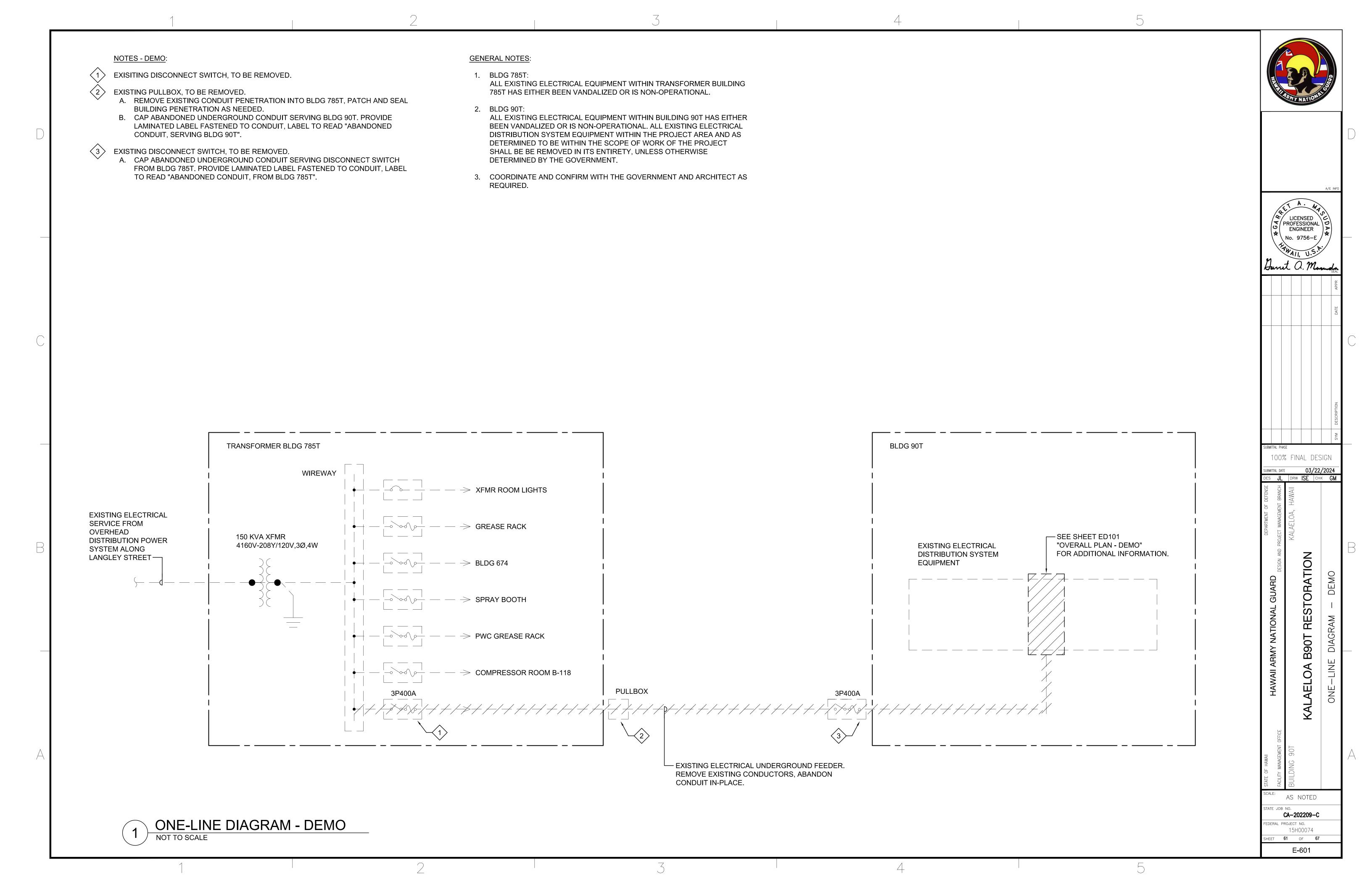


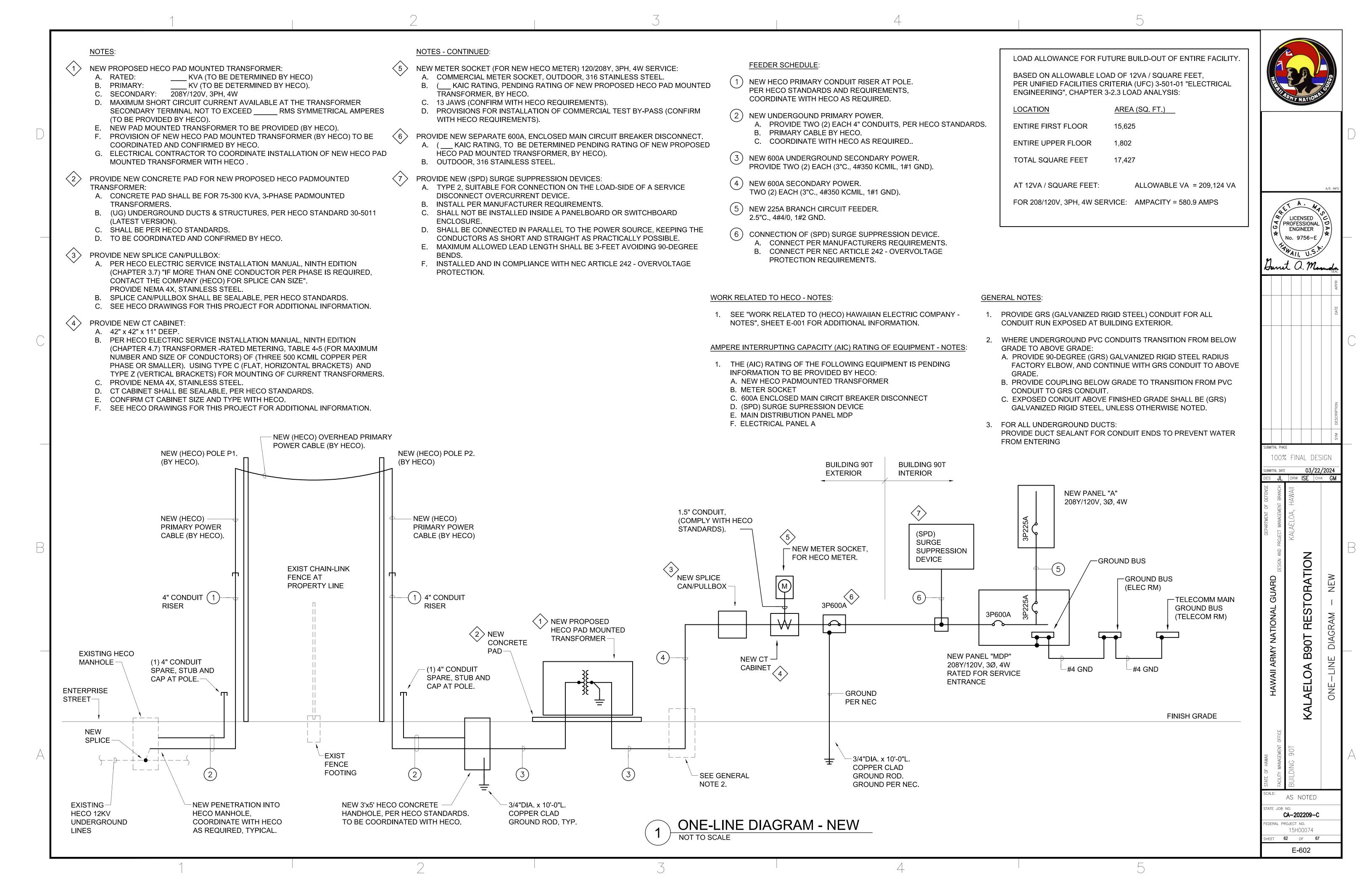
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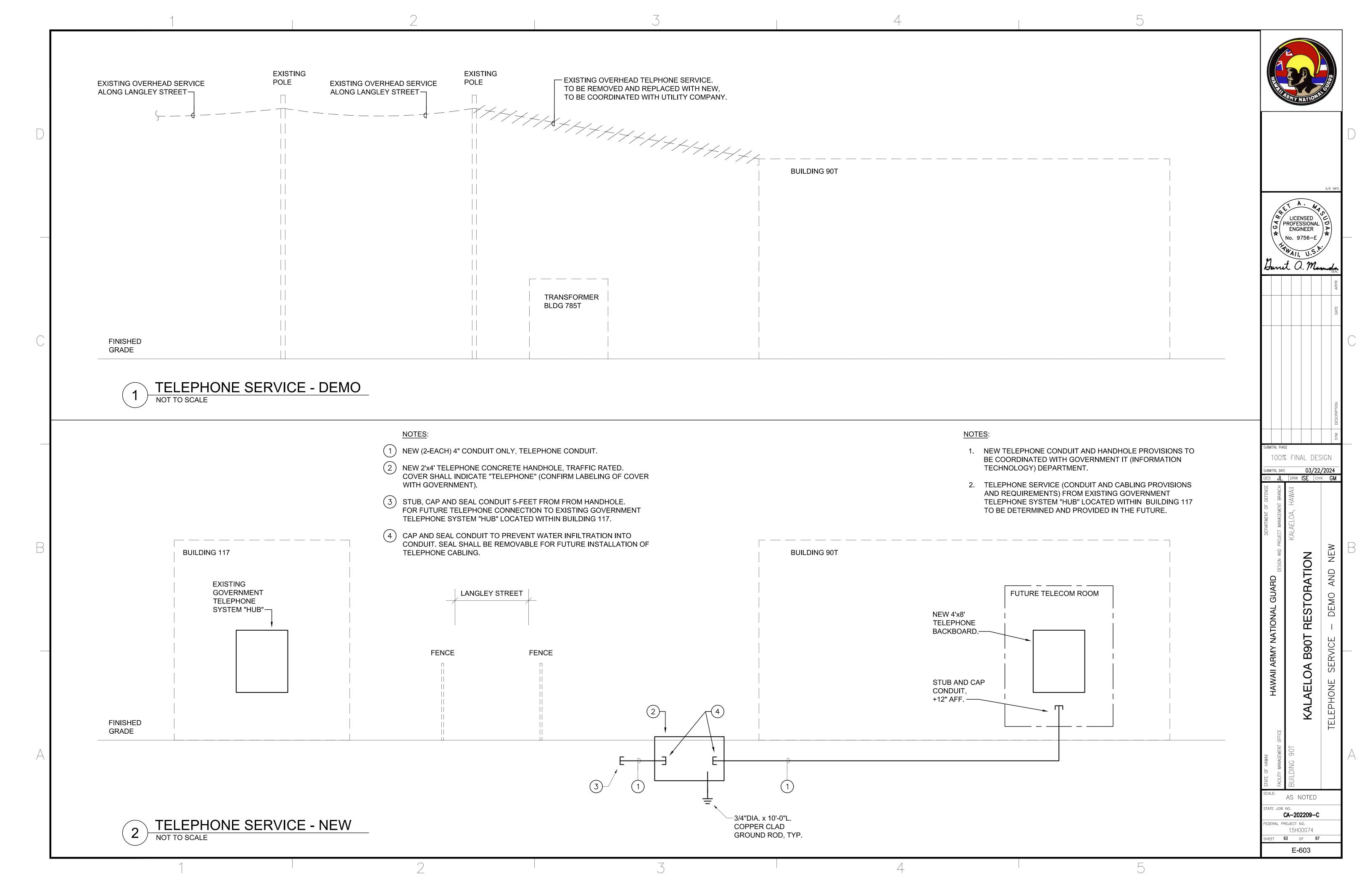
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5



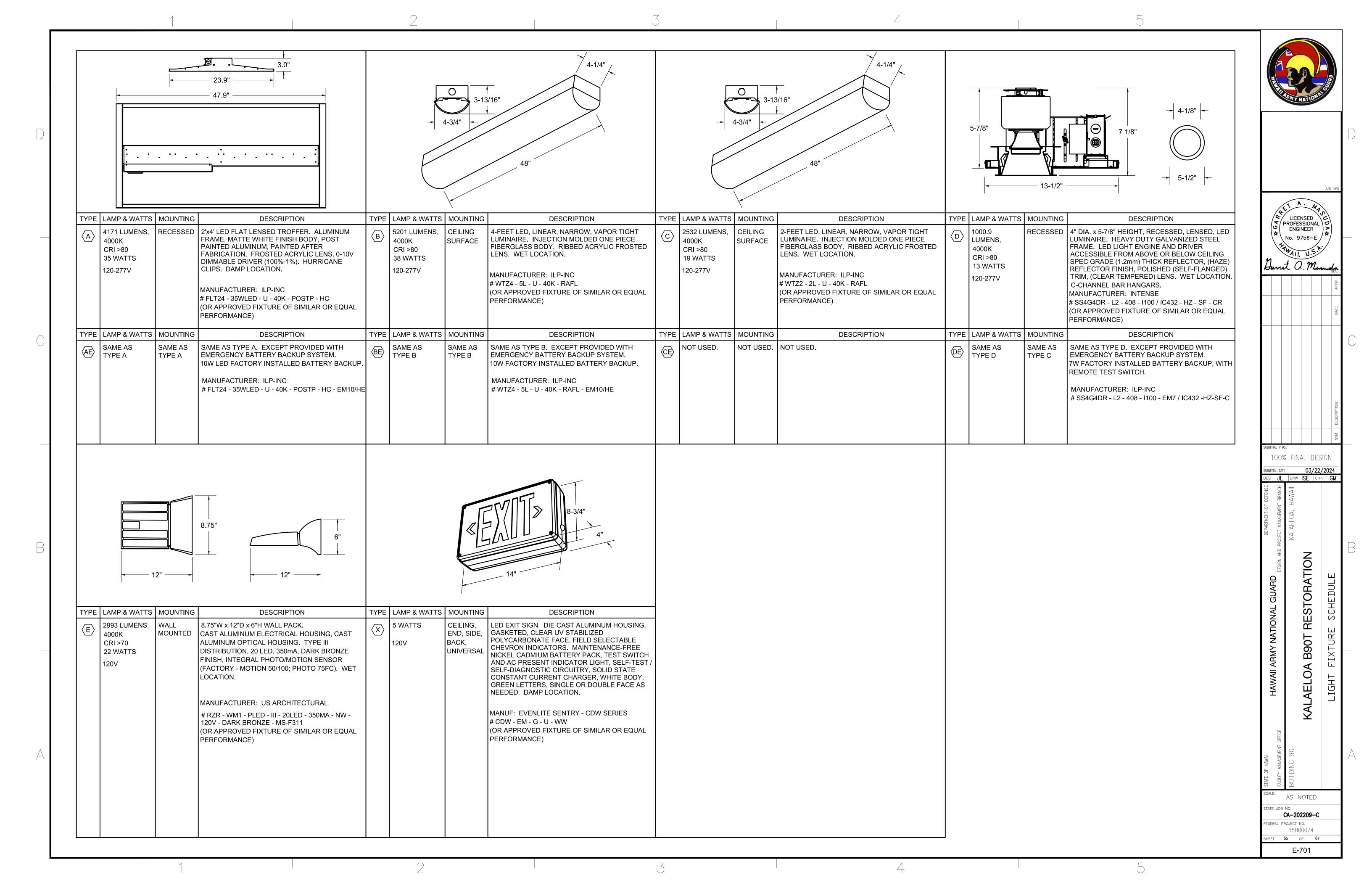






**GENERAL NOTES:** LIGHTING LOAD LIGHTING LOAD 1. LIGHTING CONTROLS DIAGRAM SHOWN IS BASED ON WATTSTOPPER DIGITAL LIGHTING MANAGEMENT (DLM) LIGHTING CONTROLS SYSTEM AND COMPONENTS. 2. CONTRACTOR SHALL PROVIDE APPROVED SYSTEM OF EQUAL OR BETTER PERFORMANCE. 3. PROVIDE ALL NECESSARY COMPONENTS, CABLING AND EQUIPMENT PER SYSTEM MANUFACTURER REQUIREMENTS FOR A COMPLETE AND FULLY OPERATIONAL LIGHTING CONTROLS SYSTEM. DEEP J-BOX DEEP J-BOX LICENSED PROFESSIONAL ENGINEER **NEUTRAL WHT NEUTRAL WHT** √ No. 9756–E UNSWITCHED HOT BLK UNSWITCHED HOT BLK RELAYS, COMBINED LIMITED RELAYS, COMBINED LIMITED 120/277V 120/277V TO 10A @ 120/277VAC TO 10A @ 120/277VAC Duret a. Mand ROOM CONTROLLER. ROOM CONTROLLER. WATTSTOPPER LMRC-111 WATTSTOPPER LMRC-111 CAT 5e CABLES WITH RJ45 CONNECTERS, CAT 5e CABLES WITH RJ45 CONNECTERS, PER SYSTEM MANUFACTURER PER SYSTEM MANUFACTURER REQUIREMENTS, TYPICAL.— REQUIREMENTS, TYPICAL. **CEILING MOUNT CEILING MOUNT CEILING MOUNT** OCCUPANCY OCCUPANCY OCCUPANCY SENSOR. SENSOR. SENSOR. WATTSTOPPER WATTSTOPPER WATTSTOPPER LMDC-100 LMDC-100 LMDC-100 WALL SWITCH. WALL SWITCH. WALL SWITCH. 100% FINAL DESIGN WATTSTOPPER WATTSTOPPER WATTSTOPPER LMSW-101 LMSW-101 LMSW-101 03/22/2024 SUBMITTAL DATE DES JL DRW ISE CHK GM LIGHTING CONTROLS - TYPICAL RESTROOM LIGHTING CONTROLS - CORRIDOR NOT TO SCALE CA-202209-C

E-604



PANELBOARD: MDP **LOCATION: ELECTRIC ROOM VOLTS**: 208Y/120 A.I.C RATING: PENDING HECO XFMR INFO PHASES: 3 SUPPLY FROM: HECO XFMR MAINS TYPE: MAIN BREAKER **BUS RATING**: 800 AMPS **MOUNTING:** SURFACE WIRES: 4 **ENCLOSURE**: NEMA 1 **CABINET WIDTH: 30"** MCB RATING: 600 AMPS POLES TRIP ID ID TRIP POLES CKT WIRE GND GND WIRE CKT CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION 225A 3 21.0 0.0 #2 | #4/0 | 1 | O - PANEL A **IPFB** PFB |#4/0| 3| -21.0 0.0 4 | - | -|#4/0| 5| 21.0 0.0 PFB - | - | 7 |PFB 0.0 0.0 8 | - | -PFB - | - | 9 | PFB 0.0 | 10 | - | -PFB - | - | 11 |PFB 0.0 | 0.0 - | - | 13 | PFB 0.0 0.0 PFB | 14 | - | -PFB - | - | 15 | PFB 0.0 0.0 16 | - | -- | - | 17 |PFB PFB 0.0 | 0.0 - | - | 19 | PFB 0.0 0.0 PFB - | - | 21 | PFB 0.0 0.0 PFB | 22 | - | - | - | 23 | PFB PFB 0.0 0.0 | 24 | - | - - 25 PFB 0.0 0.0 PFB - | - | 27 | PFB 0.0 0.0 PFB | 28 | - | -- | - | 29 | PFB 0.0 0.0 PFB 30 | - | -- | - | 31 |PFB 0.0 0.0 PFB 0.0 0.0 PFB - | - | 33 | PFB 34 | - | -- | - | 35 | PFB 0.0 | 0.0 PFB 36 - -- | - | 37 | PFB 0.0 0.0 PFB | 38 | - | - - 39 PFB PFB 0.0 0.0 40 - -PFB - | - | 41 |PFB 0.0 0.0 TOTAL LOAD: 21.0 KVA 21.0 KVA 21.0 KVA TOTAL AMPS: 58.3 A 58.3 A 58.3 A ID LEGEND: CONNECTED LOAD | DEMAND FACTOR PANEL TOTALS LOAD CLASSIFICATION **DEMAND LOAD** LIGHTING #N/A 0.0 KVA 100.0% RECEPTACLES #N/A #DIV/0! 0.0 KVA **TOTAL CONNECTED LOAD:** 63.0 KVA **HVAC** #N/A 100.0% 0.0 KVA **TOTAL DEMAND LOAD:** 0.0 KVA MOTOR LOAD 100.0% 0.0 KVA 174.9 A #N/A TOTAL CONNECTED CURRENT: FIRE ALARM #N/A 100.0% 0.0 KVA **TOTAL DEMAND CURRENT:** 0.0 A KITCHEN EQUIPMENT 65.0% 0.0 KVA #N/A OTHER LOADS #N/A 100.0% 0.0 KVA NOTES:

PANELBOARD: A LOCATION: ELECTRIC ROOM **VOLTS**: 208Y/120 A.I.C RATING: PENDING HECO XFMR INFO **SUPPLY FROM: PANEL MDP** PHASES: 3 **MAINS TYPE:** MAIN BREAKER **MOUNTING:** SURFACE WIRES: 4 **BUS RATING**: 225 AMPS **ENCLOSURE:** NEMA 1 **CABINET WIDTH: 20"** MCB RATING: 225 AMPS ID TRIP POLES GND WIRE CKT POLES TRIP ID CKT WIRE GND **CIRCUIT DESCRIPTION** CIRCUIT DESCRIPTION 1 20A R - ELEC ROOM 2 #12 #12 #12 | #12 | 1 | L - WOMEN'S, EXIT, EXTERIOR |20A| 1 | 1.8 | 1.0 1 20A R - TELECOM ROOM #12 | #12 | 3 | L - MEN'S, EXIT, EXTERIOR 20A 1 2.0 | 1.0 4 | #12 | #12 20A 1 0.9 | 1.0 | 1 | 20A | R - WOMEN'S RESTROOM #12 | #12 | 5 | L - CORRIDOR, JAN CLOSET 6 | #12 | #12 #12 | #12 | 7 | L - ELEC ROOM, EXTERIOR 20A 1 | 0.6 | 1.0 1 20A R-MEN'S RESTROOM 8 | #12 | #12 | - | 9 | SPARE 20A 1 0.0 | 1.0 1 | 20A | |R - STAIRS, AT HOT WATER HEATER | 10 | #12 | #12 - | - | 11 |SPARE 20A 1 0.0 | 0.0 | 1 | 20A | R - CORRIDOR 12 | #12 | #12 #12 | #12 | 13 |H - PRV-1 15A 1 1.0 4.0 14 | #4 | #8 3 | 70A | L | H - EWH-1 | #12 | #12 | 15 |H - PRV-2 15A 1 1.0 | 4.0 16 #4 | #12 | #12 | 17 |H - PRV-3 15A 1 1.0 | 4.0 | - | - |L|-18 | #4 | #12 | #12 | 19 |H - CEF-1 | 15A | 1 | 1.0 | 0.0 1 | 20A | | SPARE - 21 SPARE 20A 1 0.0 0.0 1 20A SPARE 22 | -0.0 | 0.0 | 1 | 20A 20A 1 - | - | 23 | SPARE SPARE 24 | -|20A| 1 | 1.0 | 1.0 1 | 20A | | R - WOMEN RESTRM, SINK SYSTEM | 26 | #12 | #12 | #12 | #12 | 25 |R - WOMEN RESTRM, SINK SYSTEM 20A 1 #12 | #12 | 27 | R - WOMEN RESTRM, SINK SYSTEM 1.0 | 1.0 R - WOMEN RESTRM, SINK SYSTEM | 28 | #12 | #12 20A 1 R - WOMEN RESTRM, SINK SYSTEM 30 #12 #12 #12 | #12 | 29 | R - WOMEN RESTRM, SINK SYSTEM 1.0 | 1.0 | 1 |20A | | #12 | #12 | 31 |R - MEN RESTRM, SINK SYSTEM | 20A | 1 | 1.0 | 1.0 1 | 20A | | R - MEN RESTRM, SINK SYSTEM 32 | #12 | #12 #12 | #12 | 33 | R - MEN RESTRM, SINK SYSTEM 20A 1 1.0 | 1.0 1 | 20A | |R - MEN RESTRM, SINK SYSTEM 34 | #12 | #12 #12 | #12 | 35 | R - MEN RESTRM, SINK SYSTEM 20A 1 1.0 | 1.0 | 1 | 20A | | R - MEN RESTRM, SINK SYSTEM 36 | #12 | #12 - 37 PFB 0.0 0.0 38 | -40 - -- | - | 39 |PFB 0.0 | 0.0 42 - -- | - | 41 | PFB PFB 0.0 0.0 **TOTAL LOAD:** 14.5 KVA | 13.0 KVA 10.9 KVA TOTAL AMPS: 40.2 A 36.0 A 30.3 A ID LEGEND: \*L DENOTES LOCKABLE BREAKER ACCESSORY

100.0%

#DIV/0!

100.0%

100.0%

100.0%

65.0%

100.0%

**DEMAND LOAD** 

0.0 KVA

CONNECTED LOAD | DEMAND FACTOR

#N/A

#N/A

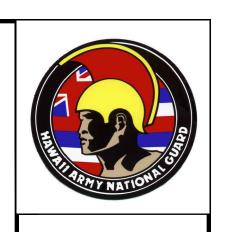
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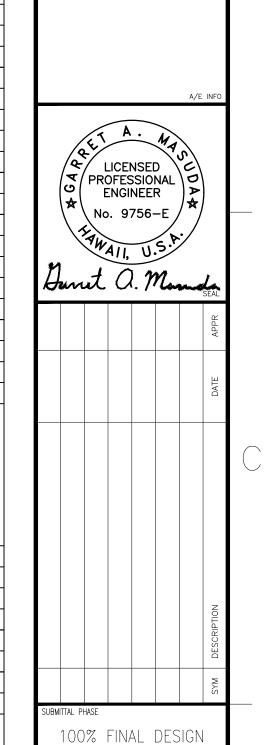
#N/A

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#N/A





SUBMITTA		03/	03/22/2024			
DES	JL DRI		СНК	GM		
HAWAII ARMY NATIONAL GUARD	MENT OFFICE CANADISCT MANAGEMENT BRANCH COARD  DESIGN AND PROJECT MANAGEMENT BRANCH  KALAELOA, HAWAII	KALAELOA B90T RESTORATION		PANEL SCHEDULES		

CA-202209-C 15H00074

LOAD CLASSIFICATION

KITCHEN EQUIPMENT

LIGHTING

HVAC

NOTES:

RECEPTACLES

MOTOR LOAD

OTHER LOADS

FIRE ALARM

EDERAL PROJECT NO. HEET **66** OF **67** E-702

PANEL TOTALS

TOTAL DEMAND LOAD:

38.3 KVA

0.0 KVA

106.4 A

0.0 A

TOTAL CONNECTED LOAD:

TOTAL DEMAND CURRENT

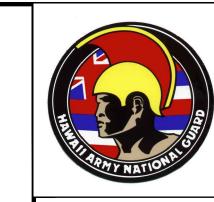
TOTAL CONNECTED CURRENT:

EQUIPMENT SCHEDULE											
EQUIPMENT ID	EQUIPMENT DESCRIPTION	SPECIFIED RATING (HP / KW)	VOLTAGE / PHASE	FLA/RLA	МОСР	MCA	TERMINATION TYPE	DISCONNECT SWITCH		BRANCH CIRCUIT	DEMARKS
								POLES / AMPS	ENCLOSURE	REQUIREMENT	REMARKS
PRV-1	ROOF VENTILATOR	0.5 HP	115V / 1PH	6.4A	15A	8A	HARDWIRED	-	-	SEE PANEL SCHEDULE	INTEGRAL DISC SWITCH (BYMECH)
PRV-2	ROOF VENTILATOR	0.75 HP	115V / 1PH	8.8A	15A	11A	HARDWIRED	-	-	SEE PANEL SCHEDULE	INTEGRAL DISC SWITCH (BYMECH)
PRV-3	ROOF VENTILATOR	0.25 HP	115V / 1PH	2.85A	15A	4A	HARDWIRED	-	-	SEE PANEL SCHEDULE	INTEGRAL DISC SWITCH (BYMECH)
CEF-1	CEILING EXHAUST FAN	61 WATTS	115V / 1PH	0.46A	-	-	HARDWIRED	30A	NEMA 1	SEE PANEL SCHEDULE	EXHAUST FAN TO RUN 24/7
EWH-1	ELEC WATER HEATER	12.1 KW	208V / 3PH	50A	-	-	HARDWIRED	-	-	SEE PANEL SCHEDULE	FLA FROM MECHANICAL. UPPER ELEMENT: 6050 WATTS LOWER ELEMENT: 6050 WATTS
								_			

				LIGHT	ING CONTROLS SCHEDULE		
ROOM NO. / ID	ROOM NAME	LOW VOLTAGE	SWITCH TYPE	RECEPTACLE CONTROL	LIGHTING CONTROL REQUIREMENTS	CONTROL DIAGRAM REFERENCE	REMARKS
NONE	ELECTRIC ROOM	NO	MANUAL TOGGLE	NO	MANUAL ON MANUAL OFF		
NONE	FUTURE TELECOM ROOM	NO	MANUAL TOGGLE, 3-WAY	NO	MANUAL ON MANUAL OFF		
NONE	JANITOR CLOSET	NO	WALL SWITCH + OCCUPANCY SENSOR	NO	MANUAL ON AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY		WATTSTOPPER DSW-301, OR APPROVED EQUAL.
NONE	CORRIDOR	YES	1-BUTTON WALL SWITCH, WITH CEILING MOUNTED OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	DETAIL 2, SHEET E-604	WATTSTOPPER LMSW-101, OR APPROVED EQUAL.
NONE	WOMEN'S RESTROOM	YES	1-BUTTON WALL SWITCH, WITH CEILING MOUNTED OCCUPANCY SENSOR	NO	AUTOMATIC ON FOR 100% OF LIGHTS AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	DETAIL 1, SHEET E-604	WATTSTOPPER LMSW-101, OR APPROVED EQUAL.
NONE	WOMEN'S RESTRM, SHOWER	NO	WALL SWITCH + OCCUPANCY SENSOR	NO	MANUAL ON AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY		WATTSTOPPER DSW-301, OR APPROVED EQUAL.
NONE	MEN'S RESTROOM	YES	1-BUTTON WALL SWITCH, WITH CEILING MOUNTED OCCUPANCY SENSOR	NO	MANUAL ON AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY	DETAIL 1, SHEET E-604	WATTSTOPPER LMSW-101, OR APPROVED EQUAL.
NONE	MEN'S RESTROOM, SHOWER	NO	WALL SWITCH + OCCUPANCY SENSOR	NO	MANUAL ON AUTOMATIC OFF AFTER 20 MINUTES OF INACTIVITY		WATTSTOPPER DSW-301, OR APPROVED EQUAL.

# **LIGHTING CONTROLS - NOTES**:

- 1. LOW-VOLTAGE LIGHTING CONTROLS IS BASED ON WATTSTOPPER (DLM) DIGITAL LIGHTING MANAGEMENT SYSTEM DEVICES AND COMPONENTS. LOW-VOLTAGE LIGHTING CONTROLS SYSTEM, COMPONENTS AND EQUIPMENT PROVIDED SHALL BE OF APPROVED EQUAL OR BETTER PERFORMANCE.
- 2. CEILING MOUNTED OCCUPANCY SENSOR:
  - A. ARE BASED ON WATTSTOPPER LMDC-100.
- B. CEILING MOUNTED OCCUPANCY SENSOR PROVIDED SHALL BE OF APPROVED EQUAL OR BETTER PERFORMANCE.
- 3. LOW-VOLTAGE LIGHTING CONTROLS ROOM CONTROLLERS:
  - A. ARE BASED ON WATTSTOPPER LMRC-111 (1 RELAY ROOM CONTROLLER, 0-10V DIMMING).
  - B. ROOM CONTROLLER PROVIDED SHALL BE OF APPROVED EQUAL OR BETTER PERFORMANCE.
- 4. PROVIDE ALL NECESSARY DEVICES, COMPONENTS, CABLING AND EQUIPMENT FOR A COMPLETE AND FULLY OPERATIONAL LIGHTING CONTROLS SYSTEM AS NEEDED.



							APPR	
							DATE	
							DESCRIPTION	
							SYM	
	TTAL PI		CINI.	۸ ۱	nrc	.101		
100% FINAL DESIGN								
SUBMI	TTAL DA	ATE	03/22/2024					

AS NOTED STATE JOB NO. CA-202209-C FEDERAL PROJECT NO. 15H00074 HEET **67** OF **67** 

E-703