

**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS**

**ADDENDUM NO. 6  
FOR  
UST/AST REMOVALS AND REPLACEMENTS  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII  
PROJECT NO. AO1105-12**

**February 27, 2026**

This Addendum shall make the following amendment(s) to the Solicitation:

**A. NOTICE TO BIDDERS**

1. Prospective bidders are **hereby notified** that receiving of bids, scheduled for March 26, 2026, at 2:00 p.m., Hawaii Standard Time (HST) is **HEREBY POSTPONED** until **March 27, 2026 at 2:00 p.m., HST.**

The attached **NOTICE TO BIDDERS** dated r02/27/26, shall be incorporated and made a part of the **NOTICE TO BIDDERS.**

**B. TABLE OF CONTENTS**

1. Delete **TABLE OF CONTENTS** in its entirety and replace it with the attached **TABLE OF CONTENTS**, dated r02/27/26.

**C. SPECIFICATIONS**

1. Add and make a part of the specifications the attached **SECTION 02210 – EARTH MOVING AND STRUCTURAL BACKFILL**, dated r02/27/26.
2. Delete **SECTION 13120 – PRE-ENGINEERED STRUCTURE** in its entirety and replace it with attached **SECTION 13120 – PRE-ENGINEERED STRUCTURE**, dated r02/27/26.
3. Delete **SECTION 15193 – FUEL SYSTEMS** in its entirety and replace it with attached **SECTION 15193 – FUEL SYSTEMS**, dated r02/27/26.

#### **D. PROPOSAL**

1. Delete **PROPOSAL**, in its entirety and replace it with attached **PROPOSAL**, dated r02/27/26.

#### **E. PLANS**

1. Delete **PLANS SHEET DWG. NO. G-002 – INDEX TO DRAWINGS AND NOTES** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 G-002 – INDEX TO DRAWINGS AND NOTES** dated r02/27/26.
2. Delete **PLANS SHEET DWG. NO. G-003 – SITE PLANS AND FIRE SAFETY NOTES** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 G-003 – SITE PLANS AND FIRE SAFETY NOTES** dated r02/27/26.
3. Delete **PLANS SHEET DWG. NO. C-211 – MAINTENANCE BASEYARD – DEMOLITION/SEDIMENT CONTROL SITE PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-211 – MAINTENANCE BASEYARD – DEMOLITION/SEDIMENT CONTROL SITE PLAN** dated r02/27/26.
4. Delete **PLANS SHEET DWG. NO. C-221 – MAINTENANCE BASEYARD – NEW CIVIL SITE PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-221 – MAINTENANCE BASEYARD – NEW CIVIL SITE PLAN** dated r02/27/26.
5. Delete **PLANS SHEET DWG. NO. C-411 – HCC AIRPORT TRAINING CENTER – SEDIMENT CONTROL SITE PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-411 – HCC AIRPORT TRAINING CENTER – SEDIMENT CONTROL SITE PLAN** dated r02/27/26.
6. Delete **PLANS SHEET DWG. NO. C-501 – CONCRETE EQUIPMENT PAD DETAILS PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-501 – CONCRETE EQUIPMENT PAD DETAILS PLAN** dated r02/27/26.
7. Delete **PLANS SHEET DWG. NO. C-601 – CIVIL DETAILS** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-601 – CIVIL DETAILS** dated r02/27/26.

8. Delete **PLANS SHEET DWG. NO. C-602 – CIVIL DETAILS** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 C-602 – CIVIL DETAILS** dated r02/27/26.
9. Delete **PLANS SHEET DWG. NO. S-211 – MAINTENANCE BASEYARD – SITE DEMOLITION PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 S-211 – MAINTENANCE BASEYARD – SITE DEMOLITION PLAN** dated r02/27/26.
10. Delete **PLANS SHEET DWG. NO. S-221 – MAINTENANCE BASEYARD – SITE CANOPY PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 S-221 – MAINTENANCE BASEYARD – SITE CANOPY PLAN** dated r02/27/26.
11. Delete **PLANS SHEET DWG. NO. S-222 – MAINTENANCE BASEYARD – SITE CANOPY SECTION** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 S-222 – MAINTENANCE BASEYARD – SITE CANOPY SECTION** dated r02/27/26.
12. Delete **PLANS SHEET DWG. NO. M-001 – MECHANICAL LEGEND AND SCHEDULE** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-001 – MECHANICAL LEGEND AND SCHEDULE** dated r02/27/26.
13. Delete **PLANS SHEET DWG. NO. M-002 – MECHANICAL SCHEDULE** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-002 – MECHANICAL SCHEDULE** dated r02/27/26.
14. Delete **PLANS SHEET DWG. NO. M-212 – MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-212 – MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN** dated r02/27/26.
15. Delete **PLANS SHEET DWG. NO. M-222 – MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-222 – MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN** dated r02/27/26.
16. Delete **PLANS SHEET DWG. NO. M-231 – MAINTENANCE BASEYARD – FUEL PIPING DIAGRAM** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-231 – MAINTENANCE BASEYARD – FUEL PIPING DIAGRAM** dated r02/27/26.

17. Delete **PLANS SHEET DWG. NO. M-301 – LEI STAND – PHASE DIAGRAMS** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-301 – LEI STAND – PHASE DIAGRAMS** dated r02/27/26.
18. Delete **PLANS SHEET DWG. NO. M-332 – LEI STAND – DAY TANK FUEL PIPING DIAGRAM** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-332 – LEI STAND – DAY TANK FUEL PIPING DIAGRAM** dated r02/27/26.
19. Delete **PLANS SHEET DWG. NO. M-422 – HCC AIRPORT TRAINING CENTER – MECHANICAL PARTIAL PLAN** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-422 – HCC AIRPORT TRAINING CENTER – MECHANICAL PARTIAL PLAN** dated r02/27/26.
20. Delete **PLANS SHEET DWG. NO. M-501 – MECHANICAL CONTROLS** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-501 – MECHANICAL CONTROLS** dated r02/27/26.
21. Delete **PLANS SHEET DWG. NO. M-502 – MECHANICAL SCHEMATIC DIAGRAM** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 M-502 – MECHANICAL SCHEMATIC DIAGRAM** dated r02/27/26.
22. Delete **PLANS SHEET DWG. NO. E-001 – ELEC SYMBOL LIST, GENERAL ELECTRICAL NOTES, TRENCH DETAIL** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 E-001 – ELEC SYMBOL LIST, GENERAL ELECTRICAL NOTES, TRENCH DETAIL** dated r02/27/26.
23. Delete **PLANS SHEET DWG. NO. E-211 – MAINTENANCE BASEYARD – DEMOLITION PARTIAL ELECTRICAL PLAN 1** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 E-211 – MAINTENANCE BASEYARD – DEMOLITION PARTIAL ELECTRICAL PLAN 1** dated r02/27/26.
24. Delete **PLANS SHEET DWG. NO. E-212 – MAINTENANCE BASEYARD – DEMOLITION PARTIAL ELECTRICAL PLAN 2** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 E-212 – MAINTENANCE BASEYARD – DEMOLITION PARTIAL ELECTRICAL PLAN 2** dated r02/27/26.
25. Delete **PLANS SHEET DWG. NO. E-222 – MAINTENANCE BASEYARD – PARTIAL ELECTRICAL PLAN 2** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 E-222 – MAINTENANCE BASEYARD –PARTIAL ELECTRICAL PLAN 2** dated r02/27/26.

26. Delete **PLANS SHEET DWG. NO. E-223 – MAINTENANCE BASEYARD – PARTIAL ELECTRICAL PLAN 3** dated 11/19/25 and replace it with attached **PLANS SHEET DWG. NO. ADD. 6 E-223 – MAINTENANCE BASEYARD –PARTIAL ELECTRICAL PLAN 3** dated r02/27/26.

The following is provided for information.

**F. RESPONSES TO REQUESTS FOR INFORMATION (RFI'S/QUESTIONS)**

1. The attached **RESPONSES TO REQUESTS FOR INFORMATION** are provided for information.

Please acknowledge receipt of this **Addendum No. 6** by recording the date of its receipt in the space provided on **PAGE P-4** of the Proposal.



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CURT T. OTAGURO  
Deputy Director of Transportation for Airports

**NOTICE TO BIDDERS**  
Hawaii Revised Statutes (HRS),  
Chapter 103D

The receiving of bids for **UST/AST REMOVALS AND REPLACEMENTS, DANIEL K. INOUE INTERNATIONAL AIRPORT, HONOLULU, OAHU, HAWAII, PROJECT NO. AO1105-12**, will begin as of the HiePRO Release Date. Bidders shall register and submit complete bids through HiePRO only. Refer to the following HiePRO link for important information on Vendor Registration: <https://hiepro.ehawaii.gov/welcome.html>.

The solicitation plans, specifications, proposal, and additional documents designated or incorporated by reference shall be available in HiePRO.

HiePRO OFFER DUE DATE & TIME scheduled for March 26, 2026, at 2:00 p.m., Hawaii Standard Time (HST), is **HEREBY POSTPONED** until **March 27, 2026, at 2:00 p.m., HST**. **Bidders shall submit and upload the complete proposal to HiePRO prior to the offer due date and time. Proposals received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HiePRO. Bidders shall not include confidential and/or proprietary documents as part of their proposal. The record of each bidder and their respective proposal shall be open to public inspection. FAILURE TO UPLOAD THE PROPOSAL TO HiePRO SHALL BE GROUNDS FOR REJECTION.**

All Requests for Information (RFI) questions and Substitution Requests shall be submitted in HiePRO **no later than March 13, 2026, 2:00 p.m., HST**. RFI questions received after the stated deadline shall not be addressed. Substitution Requests received after the stated deadline shall not be considered. Verbal RFI(s) shall not receive a response. All responses to

RFI questions shall be provided for clarification and information only and issued by formal addendum. Any amendments to the solicitation shall be made by formal addendum and posted in HIePRO.

For additional information, contact Ms. Maritez Marquez, State Project Manager, by phone at (808) 838-8808, or by email at [maritez.a.marquez@hawaii.gov](mailto:maritez.a.marquez@hawaii.gov).

The State reserves the right to reject any or all proposals and to waive any defects in said proposals in the best interest of the public.



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CURT T. OTAGURO  
Deputy Director of Transportation for Airports

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Attachments

- A. Existing Conditions Letter Reports
- B. Contaminated Soil and Groundwater Reviews
- C. Archaeological Monitoring Plan
- D. Notice of General Permit Coverage (NGPC)

## SECTION 02210 - EARTH MOVING AND STRUCTURAL BACKFILL

### PART 1 – GENERAL

#### 1.01 SUMMARY

- A. This Section includes the following:
1. Excavation and backfilling following tank removal.
  2. Subbase course for concrete slab-on-grade.

#### 1.02 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.
  2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation or 3/4 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:

1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- wide, maximum, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,090 lbf and stick-crowd force of not less than 18,650 lbf measured according to SAE J-1179.
  2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 48,510-lbf breakout force with a general-purpose bare bucket; measured according to SAE J-732.
- I. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by an independent geotechnical testing agency, according to ASTM D 1586.
  - J. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
  - K. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
  - L. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
  - M. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

### 1.03 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by DOT-A and then only after arranging to provide temporary utility services according to requirements indicated.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies and DOT-A to shut off services if lines are active.

### 1.04 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct pre-excavation conference at Project site.
  1. Review methods and procedures related to earthmoving, including, but not limited to, the following:
    - a. Personnel and equipment needed to make progress and avoid delays.

- b. Coordination of Work with utility locator service.
- c. Coordination of Work and equipment movement with the locations of tree and plant protection zones.
- d. Field quality control.
- e. Shoring requirements.

#### 1.05 SUBMITTALS

- A. Qualification Data: For qualified testing agency
- B. Material Test Reports: For each soil material proposed for fill and backfill as follows:
  - 1. Classification according to ASTM D 2487.
  - 2. Laboratory compaction curve according to ASTM D 1557.

#### 1.06 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from DOT-A and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by DOT-A or authorities having jurisdiction.
- B. Utility Locator Service: Notify One Call for area where Project is located before beginning earth-moving operations.
- C. Do not commence earth-moving operations until temporary site fencing and erosion and sedimentation control measures specified in Section 02370 are in place.

### PART 2 – PRODUCTS

#### 2.01 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations at no additional cost to the DOT-A.
- B. Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 75 percent passing a No.4 sieve and not more than 15 percent passing a No. 200 sieve.

C. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.

## 2.02 CONTROLLED LOW-STRENGTH MATERIAL

A. Controlled Low-Strength Material: Low-density, self-compacting, flowable concrete material as follows:

1. Portland Cement: ASTM C 150, Type I/II or ASTM C 595, Type IL/III.
2. Normal-Weight Aggregate: ASTM C 33, 3/4-inch nominal maximum aggregate size.
3. Water: ASTM C 94/C 94M.

B. Produce conventional-weight, controlled low-strength material with 140-psi compressive strength when tested according to ASTM C 495.

## 2.03 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

## PART 3 – EXECUTION

### 3.01 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Erosion and Sedimentation Control," during earthwork operations.

### 3.02 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

### 3.03 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
  - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
    - a. 6 inches outside of minimum required dimensions of concrete cast against grade.
    - b. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
    - c. 6 inches beneath bottom of concrete slabs on grade.
    - d. 6 inches beneath pipe in trenches, and the greater of 6 inches wider than pipe or 42 inches wide.

### 3.04 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. Extend excavations from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

### 3.05 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

### 3.06 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.

### 3.07 SUBGRADE INSPECTION

- A. Notify Engineer and DOT-A when excavations have reached required subgrade.
- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
  - 2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- D. Reconstruct subgrades damaged by rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

### 3.08 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
  - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

### 3.09 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.10 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash and debris.
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
  - 8. Place backfill on subgrades free of mud.

### 3.11 UTILITY TRENCH BACKFILL

- A. See Section 02225 for Trenching, Backfilling, and Compacting for Utilities

### 3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy.
  - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557.

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.

### 3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off DOT-A property.

### 3.15 FIELD QUALITY CONTROL

- A. Special Inspections: Contractor will engage a qualified special inspector acting on behalf of DOT-A's best interest to perform the following special inspections:
  1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
  2. Determine that fill material classification and maximum lift thickness comply with requirements.
  3. Determine, during placement and compaction, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2937, and ASTM D 6938, as applicable. Tests will be performed at the following locations and frequencies:
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

### 3.16 PROTECTION

- A. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

## PART 4 – MEASUREMENT AND PAYMENT

### 4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

## SECTION 13120 – PRE-ENGINEERED STRUCTURE

### PART 1 – GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SUMMARY

A. Section includes pre-engineered metal canopies including steel framing, metal roof, roof drains and leaders, fascia components, and metal ceiling and accessories.

B. Related Sections:

1. Section 05120 – STRUCTURAL STEEL

#### 1.03 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide pre-engineered canopies capable of withstanding the effects of gravity, wind, seismic, thermal and other project specific load conditions as required by the current building code for the site-specific location where canopy is installed.

#### 1.04 SUBMITTALS

A. Product Data: Submit manufacturer's data sheets on each product to be used, including:

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Submit shop drawings. Include plans, elevations, sections, details, and attachments to other work. Canopy supplier shall furnish complete canopy drawings signed and sealed by a professional structural engineer licensed in the State of Hawaii.

C. Samples: Submit samples for initial color selection. Submit samples of each specified finish. Submit samples in form of manufacturer's color charts showing full range of colors and finishes available. Where finishes involve normal color variations, include samples showing the full, range of variations expected.

D. Certificates: Submit product certificates signed by the manufacturer certifying material compliance with specified performance characteristics and criteria, and physical requirements.

E. Warranty Data: Submit warranty documents specified herein.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in engineering and manufacturing pre-engineered canopies with a minimum documented experience of twenty years and with an in-house quality inspection program not by AISC or other certification program
- B. Welding: Qualify procedures and personnel according to the following:
  - 1. Welding shall be in accordance with AWS D1.1 (with E70XX electrodes).
  - 2. Steel shop connections shall be welded and field connections shall be bolted (unless otherwise noted on the Drawings). Shop welds may be changed to field welds with the approval of the project engineer.
  - 3. Slag shall be cleaned from welds and inspected. Steel shall be painted with red oxide rust-inhibitive primer (unless galvanizing specified).
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NEC, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Source Limitations: Obtain pre-engineered metal canopy through one source from a single manufacturer who shall manufacture and install the canopy.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- F. Product Options:
  - 1. Information on the Drawings and in the Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance. Do not modify intended aesthetic effects, as judged solely by DOT-A, except with DOT-A's approval. If modifications are proposed, submit comprehensive explanatory data to the DOT-A for review.
  - 2. The Drawings indicate size, profiles, and dimensional requirements of pre-engineered metal canopies and are based on the specific system indicated. Do not modify intended aesthetic effects, as judged solely by DOT-A, except with the DOT-A's approval. If modifications are proposed, submit comprehensive explanatory data to the DOT-A for review.

G. Coordination:

1. The contractor shall prepare for and pour the concrete footers for the pre-engineered metal canopies. Manufacturer shall furnish the loads the footings need to resist prior to purchase and installation. The pre-engineered building manufacturer is responsible for the design and must provide the anchor bolts to be embedded into the concrete footer. Such items shall be delivered to project site in time for installation.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect components and accessories from corrosion, deformation, damage, and deterioration when stored at job site. Keep materials free from dirt and foreign matter.

1.07 PROJECT CONDITIONS

- A. Field Measurements: The Contractor shall verify location and elevation of footings relative to finished grade, columns, and other construction contiguous with pre-engineered metal canopies by field measurements before fabrication and indicate measurements on shop drawings.
- B. Established Dimensions: The Contractor shall, where field measurements cannot be made without delaying the work, establish dimensions and proceed with fabricating metal canopies without field measurements. Contractor is responsible to coordinate footer locations and elevations with any interferences with or attachments to abutting structures.

1.08 WARRANTY

- A. Pre-Engineered Manufacturer shall warranty the products it manufactures to be free of defects in materials, leaks, and workmanship for 1 year from date of shipment.
  1. Pre-Engineered Manufacturer shall provide a 20-year limited warrantee against peeling, flaking, chipping of canopy deck when properly maintained, and pass on manufacturer's warrantees for accessory items, replacement of materials only no labor coverage per vendor warranty coverages.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Structural Steel:

1. Material and work shall conform to the latest AISC 360.
2. Structural steel shall be painted with a rust inhibitive (red oxide) primer

(std). The State will review color submittal prior to installation. Structural steel shall be hot-dip-galvanized.

B. Sheet Metal:

1. Decking: 3 inch (76 mm) by 16 inch (406 mm) by 20 gage smooth white or embossed available, ASTM A 653/A 653M GR40,  $F_y = 40$  ksi, galvanized steel with baked enamel finish.
  - a. Equivalent ASTM A 792 Galvalume having an AZ50 aluminum-zinc coated surface, minimum yield strength of 50 ksi may be used.
  - b. 20 gauge, 16" wide x 3" deep steel panels.
  - c. Panels are fastened to the wide-flange beams with an engineered screw type clamp and lock nut system.
  - d. No splicing of deck panels will be allowed.
  - e. Panels shall have a finish side coated with a full coat of polyester paint baked on over an epoxy primer. A white wash coat of polyester baked on over an epoxy primer shall protect the reverse side.
  - f. Panels to be manufactured in sufficient length to avoid unnecessary center gutters.
2. Center and Tapered Gutter: 20 gage hot-dip galvanized steel baked enamel finish.
3. Perimeter Gutter: 20 gage hot-dip galvanized steel baked enamel finish.
4. External Downspouts: 3 inch (76 mm) by 4 inch (102 mm) Aluminum in 10' sections

2.02 PRE-ENGINEERED METAL CANOPY

- A. General: Provide a complete, integrated set of manufacturer's standard design canopy components to form a pre-engineered canopy ready for installation on project site. Canopy steel framing consists of using stacked wide-flange roof beams which transfer loads to columns. Columns are designed as fixed base elements to transfer vertical & lateral loads and moments to concrete foundations. Columns are typically located in an area of site protected from drive lane traffic. Pre-engineered metal canopy shall be designed to meet all site-specific design loads.
- B. Columns:
  1. ASTM A 992, 50 ksi wide-flange steel beams or approved equal shall be used.

C. Base Plates:

1. ASTM A 572, Grade 50 plate to be a minimum  $\frac{3}{4}$ " thickness. Shop fabricated with pre-punched or pre-drilled bolt holes.

D. Top Plates:

1. ASTM A 572, Grade 50 plate to be a minimum  $\frac{3}{4}$ " thickness with welded gussets. Shop fabricated with pre-punched or pre-drilled bolt holes.

E. Structural Connections:

1. ASTM A36 structural steel for miscellaneous plates and angles.
2. All framing members shall be shop fabricated for bolted field assembly.
3. Domestic ASTM A 325 high strength bolts shall be used. All ASTM A 325 bolts shall be installed per the RSCS Specification for Structural Joints, contained in part 16, Specifications and Codes of the AISC Steel Construction Manual, latest edition.
4. Flange and purlin bracing where required.

F. Painting:

1. All framing members shall have a minimum one shop coat of drying red oxide primer. Submit paint sample to the State for review prior to application.

G. Sealant:

1. Tube sealant shall be 100% urethane caulk for water-proof areas, and silicone caulk for cosmetic.

H. Canopy Fascia:

1. Aluminum Composite Panel (ACM): Available with a fluorocarbon paint finish, masked on one side. Shall be warranted for 5 -10 years depending on color and finish selection.
2. Standing Seam Steel MPN120 panels in 24 ga standard colors 70% PVDF resin-based coatings provide high performance durability for exterior and interior applications. These coatings are designed to resist fading, chalking and abrasion. Meets the requirement of AAMA 2605-13 for aluminum substrates.
3. Fascia: Various custom fascia to meet design requirements such as architectural shingle, EIFS, standing seam panels.

- I. Canopy Finishes: Comply with NAAMM MFM for recommendations for applying and designating finishes.
  1. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.
  2. Fabrication: Fabricate pre-engineered canopies completely in factory.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which the work is to be installed, and notify the Contractor in writing, with a copy to DOT-A, of any existing conditions differing from construction drawings. Do not proceed with the work until unforeseen conditions have been addressed.
  1. Examine supporting foundations for compliance with manufacturer's requirements, including installation tolerances and other conditions affecting performance of supporting members.
  2. Verify the rough-in of required mechanical and electrical services prior to placement of the structure.

### 3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.03 INSTALLATION

- A. A work area shall be reviewed by the contractor to ensure proper installation. Contractor shall coordinate with DOT-A an area adjacent to the canopy and/or building for unloading and storing materials. Contractor is responsible for meeting OSHA guidelines to allow lift equipment and scaffolding, if necessary, to maneuver the work area.
- B. Set pre-engineered metal canopy plumb and aligned. Level base plates true to plane with full bearing on concrete bases.
- C. Fasten pre-engineered metal canopy columns to anchor bolts and/or foundation bolts.
- D. Provide anchor bolts as follows:

1. Anchor bolts or foundation bolts will be set by the Contractor in accordance with approved site-specific drawings. They must not vary from the size and dimensions shown on the erection drawings. Use of a plywood template is recommended. Remove template prior to column erection.
  2. Anchor bolts shall conform to ASTM F 1554 grade 55 and shall have a minimum of 7 inches (178 mm) of exposed thread and 23 inch (584 mm) minimum embedment with 1-1/4 inch (32 mm) nut and washer as embedment end. Canopy Structural Engineer licensed in the State of Hawaii shall verify embedment and exposed thread lengths.
- E. Provide bolted connections as follows:
1. Structural erection bolts shall conform to ASTM A 325/A 325M.
  2. Bolts shall be tightened to snug tight per latest RCSC specifications (unless otherwise specified).
- F. Provide screws as follows:
1. Fastening shall be performed per installation prints provided by the manufacturer.
  2. Self-drilling and self-tapping screws shall have a sufficient cut point and a 1/2 inch (13 mm) outside diameter dished metal-backed neoprene washer to be used in water sealing applications.
- G. Provide pedestrian protection and warnings during construction which comply with local, Federal, and OSHA codes.
- H. Prior to steel erection of any kind, the Contractor shall prepare the job site to allow for rolling scaffold and ensure safe working conditions including the removal or relocation of overhead power lines, if necessary.
- I. Any grade or elevation situations which deviate from the approved manufacturer's plans shall be conveyed to the manufacturer prior to fabrication.
- J. All anchor bolts and/or leveling plates shall be set within 1/4-inch (6 mm) tolerance on layout and grade level.
- K. Dumpster for trash and debris shall be provided by the Contractor.

### 3.04 ADJUSTING AND CLEANING

- A. After completing installation, inspect exposed finishes and repair damaged finishes.

1. Damage to Hot-Dip galvanization and paint shall be repaired at no additional cost to the State.

3.05 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair, or replace damaged products before Substantial Completion.

PART 4 – MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

Items shall be paid as an allowance. Measurement for payment will not apply.

4.02 BASIS OF PAYMENT

The contract prices paid shall be full compensation for all labor, tools, equipment, and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
13120.1	Pre-Engineered Structure	Allowance

END OF SECTION

## SECTION 15193 - FUEL SYSTEMS

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

- A. The General Provisions for Construction Projects (2016), Special Provisions and General Requirements of the Specifications apply to work specified in this Section.

#### 1.02 SUMMARY

- B. This Section covers the furnishing, installing and testing of a diesel fuel system and diesel and gasoline fuel dispensing systems.

#### 1.03 GENERAL REQUIREMENTS

- A. Prospective bidders shall visit the premises and familiarize themselves with all work details and conditions before submitting a bid. Reasonable modifications to indicated arrangements to suit actual conditions shall not constitute a basis for requesting additional funds from the State.
- B. Provide all necessary labor, delegated design, materials, operations, equipment, tools and techniques required to furnish and install complete fuel systems as and within the limits indicated.
- C. Prior to ordering materials and equipment, the Contractor shall field verify all existing conditions, materials, sizes and dimensions that affect their work, and shall coordinate their work with all trades involved.
- D. Submit written request for interruption of the existing fuel system not less than thirty (30) days prior to the time for which the interruption is requested.
- E. Obtain all permits and pay the costs thereof, including but not limited to, Honolulu Fire Department Flammable and Combustible Liquid Tank Installation Permit. Arrange for inspections in sufficient time to avoid delay to the project. Provide copies of inspection reports.
- F. Inform Engineer of testing date a minimum of seven (7) days prior to testing system and closing in walls and/or trenches.

#### 1.04 RELATED WORK SPECIFIED IN OTHER SECTIONS

- A. SECTION 15011 - GENERAL MECHANICAL PROVISIONS.
- B. DIVISION 16 - ELECTRICAL.

#### 1.05 LAWS, RULES, REGULATIONS AND REFERENCES

- A. The entire installation shall comply with the latest applicable rules and regulations of the City and County of Honolulu, the State of Hawaii and any other applicable laws, codes, rules and regulations whether or not specifically mentioned hereinafter.
  
- B. Codes:
  - 1. Building Code, State of Hawaii and City and County of Honolulu.
  - 2. Fire Code, State of Hawaii and City and County of Honolulu.
  
- C. References:
  - 1. American Petroleum Institute (API) Publications
    - a. API 598 Valve Inspection & Testing
    - b. API 607 Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats
  
  - 2. American Society of Mechanical Engineers (ASME) Publications
    - a. B16.21-16 Nonmetallic Flat Gaskets for Pipe Flanges
    - b. B16.39-19 Malleable Iron Threaded Pipe Unions: Classes 150, 250, and 300
  
  - 3. American Society for Testing and Materials (ASTM) Publications
    - a. A312-21 Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
  
  - 4. National Fire Protection Association (NFPA) Publications
    - a. 30-18 Flammable and Combustible Liquids Code
    - b. 70-17 National Electrical Code
  
  - 5. Underwriters Laboratories (UL) Publications
    - a. 142-19 Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids
    - b. 567-21 Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection Fittings for Petroleum Products and LP-Gas
    - c. 2085-97 Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids

1.06 SUBMITTALS

- A. General: The Contractor shall submit submittals in accordance with SECTION

01300 - SUBMITTALS and SECTION 15011 - GENERAL MECHANICAL PROVISIONS.

- B. Shop Drawings: The Contractor shall submit shop drawings showing the entire work with inverts, sleeves and dimensions. Contractor shall check project drawings to avoid interferences. No fuel system work shall commence until such plans have been approved and accepted by the Engineer. Any deviations from the shop drawings shall require approval by the Engineer.
- C. Certificates: Furnish certificates for evidence of proper installation and performance in compliance with code and certificate of warranty for the following:
  - 1. Performance warranty of tank inventory monitoring system in accordance with 40CFR280.
  - 2. Primary and secondary containment piping system warranty.
- D. Submit the following:
  - 1. Manufacturer's product data
  - 2. Shop drawings
  - 3. MSDS
  - 4. Test reports
  - 5. As-built drawings
  - 6. Certificates
  - 7. One-Year Guarantee
  - 8. Operation and Maintenance Manual
  - 9. Aboveground Fuel Storage Tank Manufacturer's Warranty (30-year). The Surety and the Contractor shall not be held liable beyond two (2) years from Project Acceptance Date.

1.07 NOTICES AND OTHER REQUIREMENTS

- A. The Contractor shall submit to the City and County of Honolulu, Honolulu Fire Department the following:
  - 1. Fuel tank permit application and required documents.

1.08 FUEL SYSTEMS EQUIPMENT MANUFACTURER'S REPRESENTATIVE AND SERVICE CAPABILITIES

- A. Furnish the services of a manufacturer's representative who is factory authorized and trained to perform the services specified. Manufacturer's representative shall have an office in the State of Hawaii unless Manufacturer has no representatives with an office in the State of Hawaii. The manufacturer's representative shall furnish recommendations and shall be on-site to provide assistance on the following matters:
  - 1. Technical direction of the erection including disassembly and reassembly if required, alignment and testing.
  - 2. Starting equipment and furnishing instruction as to its proper care, operation and maintenance.

#### 1.09 ELECTRICAL WORK

- A. Contractor shall provide all wiring, conduits, controls, and disconnects for equipment. Contractor is responsible for coordination of size, voltage, phase, auxiliary contacts, etc. Should any equipment require electrical service or wiring other than as shown on the electrical drawings, inform the Engineer and advise the Electrical Contractor of such changes. All control devices must be installed to operate within the manufacturer's rated current and voltage. All control circuits must be through the respective equipment's disconnect to insure the control circuit being off when equipment disconnect is off. All switches, starters, wiring devices and controls mounted where exposed to weather shall have Type 316 stainless steel NEMA 4X enclosures. Wiring materials and methods shall conform to DIVISION 16 – ELECTRICAL, applicable National Electrical Codes and NEMA standards.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS AND EQUIPMENT

- A. Fuel system equipment to be considered for bid purposes shall be from a manufacturer that has locally stocked spare parts, representation, and support of a factory authorized service organization within 500 miles of the site of installation who has serviced manufacturer's units of comparable type, size and capacity as those specified herein. The manufacturer must have other units of comparable type, size and capacity installed and operating satisfactorily in the State of Hawaii for a minimum of two (2) years prior to bid opening.

#### 2.02 PRODUCT CARRIER PIPE AND FITTINGS

- A. Stainless Steel Pipe (Aboveground): Type 316L stainless steel, ASTM A312, Schedule 40, welded joints.
- B. Flexible Pipe Fittings: Provide couplings supplied by pipe manufacturer.
- C. Joint Compound: Joint compound for piping system shall be resistant to water and be suitable for use with fuel containing 40 percent aromatics.

- D. Flange Gaskets: Provide non-asbestos compressed material in accordance with ASME B16.21, 1/16-inch thickness, full face or self-centering flat ring type. Gaskets shall contain aramid fibers bonded with styrene butadiene rubber (SBR) or nitrile butadiene rubber (NBR). NBR binder shall be used for hydrocarbon service.
- E. Flexible Connectors: Flexible metal hose, corrugated type with braided wire sheath covering, close-pitch annular corrugations, rated for working pressure of at least 125 psig, 12-inch minimum live length, threaded end connections and shall conform to requirements of UL 567. Metal for hose and braided wire sheath shall be ANSI 300 series stainless steel.

#### 2.03 DOUBLE-WALL SECONDARY CONTAINMENT PIPING

- A. Provide double-wall containment piping system. Exterior containment pipe shall be compatible with transported fluid and sized to contain 110 percent of the total volume of the primary inner pipe.
- B. Fiberglass Pipe: Products shall comply with UL 971 and be listed by Underwriters Laboratories for service intended. Limit fiberglass piping to buried service only and at pressures not exceeding that marked on pipe. Fiberglass pipe shall be Ameron Dualoy 3000L or approved equal.
- C. Fiberglass Pipe Fittings: Provide fiberglass pipe fittings supplied by pipe manufacturer with adhesives compatible with product. Threading of fiberglass pipe will not be permitted.
- D. Joint Compound: Joint compound for piping system shall be resistant to water and be suitable for use with fuel containing 40 percent aromatics.
- E. Flexible Connectors: Flexible metal hose, corrugated type with braided wire sheath covering, close-pitch annular corrugations, rated for working pressure of at least 125 psig, 12-inch minimum live length, threaded end connections and shall conform to requirements of UL 567. Metal for hose and braided wire sheath shall be ANSI 300 series stainless steel.
- F. Secondary Containment Flex Pipe Fittings: Secondary containment flex pipe fittings shall be flex bellow type.

#### 2.04 VALVES

- A. Ball Valve: Valve shall be the non-lubricated, double seated, ball type and shall be tested in accordance with API 598 and API 607. Valve shall operate from fully open to fully closed with 90-degree rotation of the ball. Valve shall be capable of 2-way shutoff. Valve shall be constructed of Type 316 stainless steel. Valves shall have one-piece bodies and shall have a minimum bore not less than 55 percent of the internal cross sectional area of a pipe of the same nominal diameter.

- B. Solenoid Valve (Anti-siphoning): 2-way, normally closed (i.e. powered open), solenoid operated valve with stainless steel body and FKM elastomeric seal. 120 volt AC, 60 Hz, Type 7, explosion proof Class 1, Division 1, Group A, B, C, D enclosure. Valve shall be ASCO, Magna-Trol or approved equal.

## 2.05 UNIONS

- A. Unions shall conform to ASME B16.39, Class 150. Union materials shall conform to ASTM A312, Grade 316. Dielectric unions shall conform to dimensional, strength, and pressure requirements of ASME B16.39, Class 150. Steel parts shall be plated. Union shall have a water-impervious insulation barrier capable of limiting galvanic current to one percent of the short-circuit current in a corresponding bimetallic joint. When dry, union shall be able to withstand a 600-volt breakdown test.

## 2.06 FUEL PIPING TRANSITION SUMP

- A. Piping transition sump shall be rectangular with fiberglass body and top and intended to house connections and sensors required when transitioning from aboveground steel pipe to nonmetallic underground piping. Top shall have a removable cover to provide access sump access. Sump shall be furnished with height extenders as necessary to accommodate fuel piping burial depth and allow buried secondary containment piping to slope into sump.

## 2.07 ABOVEGROUND FUEL STORAGE TANK

- A. Aboveground fuel storage tank shall be rectangular, double-wall, horizontal, protected type, listed and tested in accordance with UL 2085. Capacity of the tank shall be as listed on the drawings. Tank shall be constructed in accordance with UL 142. Annular space insulation material shall be a minimum of 3 inches thick and shall be UL 2085 listed. Tank shall be furnished with 12-inch minimum elevated tank supports and be lined with epoxy, coated with urethane, and furnished with stainless steel fittings. Tank shall be designed for operation at atmospheric pressure only and shall withstand an air pressure test of 1.5 to 2 psi. Both inner and outer tanks shall have openings of sufficient size to meet normal and emergency venting requirements per UL 142, UFC, and NFPA 30. Tank shall bear the UL 2085 label for "Insulated Secondary Containment Aboveground Tank for Flammable Liquids" and provided with a minimum 30-year warranty.

## 2.08 PORTABLE FUEL STORAGE TANK

- A. Portable fuel storage tank shall be rectangular, double-wall, horizontal, with capacity as listed on the drawings. Transportable tank shall be slip tank type able to be forklifted and pick-up truck mounted, secured to its chassis. Tank shall be constructed in accordance with UL 142 and shall be fitted with a lockable equipment cabinet that allows fueling while locked. Tank shall be designed for operation at atmospheric pressure only and shall withstand an air pressure test of 1.5 to 2 psi. Both inner and outer tanks shall have openings of sufficient size to

meet normal and emergency venting requirements per UL 142, UFC, and NFPA 30. Furnish with pump kit as indicated on the drawings.

## 2.09 FUEL POLISHER

- A. Fuel polisher shall be furnished in a type 304 stainless steel NEMA 4X enclosure with high-intensity stack light alarm, leak sensor, basket strainer, flow switch and secondary containment flanges. Fuel polisher shall be diesel fuel compatible.
- B. Recirculation Pump: Positive displacement, ductile pump housing, TEFC motor enclosure and continuous motor duty.
- C. High-Efficiency Fuel Filter: Fuel filter shall remove particulates 3-microns or less.
- D. High-Efficiency Coalescer: Coalescer shall remove particulates 5 microns or less and shall have a water removal efficiency rate of 95% or more.
- E. Controls: Type 316 stainless steel, NEMA 4X controller enclosure. PLC Based with operator interface touch panel. Automatic pump and anti-siphoning solenoid valve controls based on user defined start/stop times programmed on 7-day, 24-hour time clock.

## 2.10 AUTOMATIC TANK GAUGE

- A. Aboveground storage tank monitoring system shall be Veeder-Root Model TLS-450 PLUS or approved equal, NEMA 4 enclosure with automatic tank gauging, tank tightness testing, manway sump leak detection, tank interstitial space hydrostatic sensor, integral printer with 5 spare rolls of printer paper, inventory probe, leak sensors, digital and analog outputs. All components of the system shall be provided by a single manufacturer.
- B. The control panel shall be constructed of UL listed, electronic components. The control panel power source shall be 120 volts A.C. The tank gauge probe and sensor monitoring circuits shall be intrinsically safe circuits. Panel shall incorporate self-test system, which will permit operator verification of proper operation of fuel monitoring equipment.
- C. The control panel shall include a power on light, audio and visual alarm indicator, alarm test functions, alarm dry contact and color touchscreen display. The system shall produce alarm signals for high or low tank levels and leak detection.
- D. The factory assembled, internal tank gauge probe shall be fitted to the tank and shall conduct monthly automatic tank gauging and testing.
- E. Tank basin space leak sensor shall be factory fabricated, with a two-wire cable long enough to locate the sensor at the bottom of the tank basin space. The sensor shall detect any liquid in the basin and trigger an alarm.
- F. Fuel Storage Monitoring Panel Exterior Enclosure: Enclosure shall be NEMA 4X, Type 316 stainless steel with a window to see fuel storage monitoring panel

display.

## 2.11 FUEL STORAGE TANK ACCESSORIES

- A. **Fill Connection:** Provide fill line with an overfill protection device that automatically shuts off fuel supply into the tank when the tank is 95 percent full and shall enter at the top of the tank. Fill line shall extend to within 6-inches from the bottom of tank. From top of tank, fill line shall extend vertically and connect to a tight fit fill adapter with a locking-type cap. Tight fit fill adapter shall be bronze, fitted with a fluoroelastomer gasket suitable for fuel being provided.
- B. **Suction Connection:** Provide suction line located at the opposite end of tank from fill line. Suction line shall extend to within 6-inches from the bottom of the tank.
- C. **Atmospheric Vent:** Provide an atmospheric vent conforming to applicable requirement of NFPA 30. Vent pipe shall terminate at least 12 feet above grade or 2 feet above roofs of adjacent buildings and located so that discharged vapors will not enter building openings, under building eaves, or downspouts. Provide each tank storing products having a vapor pressure less than one psig with a flame arrestor and sized in accordance with NFPA 30.
- D. **Emergency Tank Vents:** Provide an emergency vent conforming to applicable requirement of NFPA 30 for the primary and secondary tanks.
- E. **Tank Gauges:** Provide each tank with a float-operated direct reading tank gauge. Gauge shall have tape and float to allow tank fill height reading.
- F. **Vapor Recovery Connections:** Provide each gasoline storage tank with vapor recovery connections to receive vapor recovery lines from fuel dispensing unit and provide vapor discharge to tank truck during filling operations. Vapor recovery connections are not required on tanks with products having a vapor pressure less than one psig.
- G. **Sounding Rod:** Provide wood sounding rod of required length, evenly graduated and marked to read level of fuel remaining in tank in inches. Rod shall be seasoned maple or other close-grained wood. Tank end of rod shall have a non-sparking cap. Provide a chart showing tank capacity in U.S. gallons in 1/8-inch increments.
- H. **Sounding Rod Connection:** Weld a 12x12x1/4-inch thick striker plate directly below rod opening inside steel tanks.
- I. **Dielectric Bushings:** Provide nylon dielectric bushings on metallic piping connections to steel tanks.

## 2.12 ABOVEGROUND FUEL STORAGE TANK AUTOMATIC REMOTE FILL PORT SYSTEM

- A. Automatic remote fill fuel port and controls: Post-mounted or floor-mounted with NEMA 4X lockable Type 316 stainless steel enclosure, 7-gallon spill containment sump, OPW Kamvalok dry disconnect coupler, quick disconnect hose coupling with dust plug, check valve, 1 gpm hand pump for spill containment, and ground stud. Controller shall include lockable control box, level transmitter, level indicator scaled in percent level or gallons of tank volume, 90 percent visual alarm, 95 percent visual alarm, audible alarm horn activated by alarms, auto shut-off valve operation and auto valve lockout, power available indicator, control power on-off switch, valve open/close push buttons and NEMA 4X stainless steel enclosure.
- B. During filling operations, the controller shall provide continuous level indication, 90 percent level audible and visual alarm, and 95 percent level audible and visual alarm and shutoff.

## 2.13 DAY TANK PUMP SYSTEM

- A. Day tank with UL 142 secondary containment dike, duplex supply pumps, manual supply pump, return pump, and controls. Capacity of the tank shall be as listed on the drawings. Floor mounted steel tank with internal level sensors, tank mounted pumps, pump controller, hand/off/auto switches, push to test button, status lights, automatic pump start/stop controls, pump overflow controls, manual pump alternating switch, and dry contact for alarm.
- B. The primary day tank pump shall automatically start and the anti-siphoning solenoid valve automatically open when the tank liquid drops below a preset low level. The pump shall stop and the valve close when it exceeds a preset high level. If the primary pump fails, the secondary pump shall start automatically and the anti-siphoning solenoid valve automatically open. High level, low level and any pump failure shall activate alarm light and alarm bell, and closure of dry contact.
- C. Fuel Filter / Water Separator: Fuel filter / water separator shall have a 10-micron screen.

## 2.14 DISPENSING SYSTEM

- A. General: Computer controlled dispensing system shall consist of product dispensing units, management control systems, printers, necessary computers, microprocessors, wiring, cabling, and accessory equipment.
- B. Product Dispensing Units: Provide computer controlled, LED-lighted, double sided, remote type, with two hose outlets each suitable for single product delivery flow rate of 22 gallons per minute from each lane-oriented nozzle (one nozzle per side). Steel frame shall be capable of resisting normal vertical and lateral loads and secured to dispensing island with at least two 1/2-inch anchor bolts. Exterior

panels shall be stainless steel. Provide manufacturer's standard microprocessor which has the following functions:

1. Displays: Solid state liquid crystal displays (LCD'S) with LED backlight and capacitor backup, six-digit volume display to 999.999 gallons.
2. Filters: Replaceable filter element on each product line with a nominal filtration efficiency of 25 microns with a flow rating equal to the rate of the dispensing unit.
3. Backup: Battery backup with automatic charging circuits to hold data for a minimum of three months without recharging.
4. Accessories: Equip each assembly with accessories such as built-in air eliminators, line check valves, and emergency shut-off valve. Install centering ring or stabilizer bar to ensure proper shearing action for emergency shut-off valve if the dispensing unit is knocked from its supports.
5. Interlocks: Units shall include nozzle supports interlocked to pump motor control switch to start and stop the pump by nozzle removal and replacement. Provide each unit with interlock switch and valve arrangement that prevents flow of product until meter is reset after dispensing nozzle is returned to holder.
6. Hose: Provide dispensing hose conforming to UL 330, gasoline and oil resistant, statically grounded, flexible in sub-zero temperatures. Provide a minimum of 12-feet of hose for each product line on the dispenser. Provide each hose with spring loaded cable to return device attached near mid-length of hose.
7. Nozzles: Dispensing nozzles shall be automatic shutoff type, without latch-open device, aluminum body, and full hand insulator to prevent splash-back.
8. Breakaway Device: Provide each product hose with UL listed and CARB certified emergency breakaway device designed to retain liquid on both sides of breakaway point. Breakaway device shall have pressure balancing chamber to override line pressure to prevent nuisance breaks caused by a restriction in delivery hose diameter.
9. Pumps: Provide submersible turbine pumps to be located in product storage tanks. Pump and motor combination shall operate efficiently totally submerged in product of storage tank. When pump only is submerged, pump shall be driven by explosion-proof motor for Class I, Division I, Group D hazardous locations as defined in NFPA 70. Each pump shall have delivery capacity of 22 gpm at a total discharge head of 15 feet. Maximum delivery rate at each dispensing unit shall be 12 gpm with one nozzle flowing. Minimum delivery rate at each dispensing unit

shall be 20 gpm with two nozzles flowing. Multiple outlet single pump fuel discharge pipeline shall hold pressure of 3 to 5 psi utilizing back pressure and check relief valves. Install an approved leak detection device on discharge side of each pump, which will provide indication when piping between tank-mounted pump and dispensers are not liquid-tight. Pump inlet shall be horizontal. Provide clearance of not less than 5-inches nor more than 7-inches between bottom of tank and end of pump.

10. Motors: Each motor shall be sized to start and drive equipment at specified capacity and duty cycle without exceeding nameplate rating of motor when operating at proper electrical system voltage. Installation of electrical equipment at dispensers, motors, and pump starter controllers shall be in compliance with Class I, Group D hazardous location.

C. Management Control System: Provide management control system that furnishes computerized control of station fuel dispensing system including operational, control, and management functions from a central control console with displays and separately mounted electronics and data cabinets. Provide functions to provide receipt and report printout types. System shall provide the following:

1. Operating Functions: Operate up to six (6) fueling positions with up to two (2) different products. Display dispenser number, volume, and sales amount in one sequence. Provide audible signals and flashing indicators to alert operator to customer needs and dispenser status.
2. Control and Management Functions: Accumulate, store, and deliver full range of management information including, but not limited to, vehicle-specific logging of repair history, fuel usage, trend data, and accounting information. Provide totals by product volume and declining balance inventory. Access to management information shall be web-based and accessible via web browser without additional software.
3. RFID Ready Controller Enclosure: Provide the following:
  - a. Lockable Cabinet to protect access to enclosure compartments, control boards, and terminal block.
  - b. Keyboard: Standard international 11-pad numerical.
  - c. Function Keys: CLEAR; ENTER; CANCEL; SPECIAL; PRODUCT.
  - d. Card Reader: dual-head magnetic strip card reader.
  - e. Operating Temperature Range: 32 to 104 degrees F.
  - f. Completely welded and sealed stainless steel inner box and matching stainless steel front panel.
  - g. 240x64 dot, backlit LCD graphic display.
4. Wireless Automated Fueling System: Provide the following components to enable wireless fuel authorization and vehicle logging:
  - a. 1 ea. – Wireless automated fueling unit (RFID antenna).
  - b. 1 ea. – RF Vehicle ID Box Programmer
  - c. 6 ea. – Wireless nozzle reader (on each fuel nozzle)

- d. 5 ea. – Light Duty Vehicle Kit (includes RFID box, hardwire option, fuel inlet antenna, wiring, and appurtenances)
  - e. 5 ea. – Heavy Duty Vehicle Kit (includes RFID box, hardwire option, fuel inlet antenna, wiring, and appurtenances)
5. Power: 120 volts, 60 Hz.
6. AssetWorks or approved equal.

2.15 TEMPORARY UTILITY REFUELING TRUCK

- A. Temporary utility refueling truck shall have two compartments for products described in the drawings and shall meet NFPA 30 and NFPA 30A requirements. Fuel storage tanks shall have secondary containment and have sufficient capacity and/or refill frequency to accommodate approximately 5,000 gallons of regular unleaded gasoline and 2,000 gallons of no. 2 diesel per month. Utility truck shall be equipped with 100 psi compressed air and water for vehicles.

2.16 AIR AND WATER HOSE REEL

- A. Air and water shall be supplied via dedicated hose reels rated for maximum pressure of 300 psi. Hose reels shall be stainless steel and overhead-mounted on a low-friction full-flow cartridge swivel equipped with a heavy-duty retraction spring. Hose shall be reinforced rubber suitable for product dispensed. Size and length shall be as indicated on the drawings.

2.17 PIPING IDENTIFICATION

- A. Aboveground Piping: For pipes 3/4-inch OD and larger, provide printed legends to identify contents of pipes and arrows to show direction of flow. Color code label backgrounds to signify levels of hazard. Make labels of plastic sheet with pressure-sensitive adhesive suitable for the intended application. For pipes smaller than 3/4-inch OD, provide brass identification tags 1-1/2 inches in diameter with legends in depressed, black-filled characters.
- B. Buried Piping: Polyethylene plastic and metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility line. Provide tape in rolls, 6-inches minimum width, color coded as stated below for the intended utility with warning and identification imprinted in bold black letters continuously and repeatedly over the entire tape length. Warning and identification to read, "CAUTION BURIED (intended service) LINE BELOW" or similar working. Color and printing are to be permanent, unaffected by moisture or soil.

Warning Tape Color Code [APWA Color Code]

- Red: Electric power lines, cables, conduit and lighting cables.  
 Yellow: Gas, oil, steam, petroleum or gaseous materials.

Orange: Communication, alarm or signal lines, conduit, telephone, fiber optic cable.

## 2.18 MISCELLANEOUS METALS

- A. Preformed slotted channel system components used in supports and brackets shall be Type 316 stainless steel, Unistrut Corporation or approved equal.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

A. General:

1. All piping, tank, and equipment shall be properly installed in accordance with the manufacturer's recommendations. Furnish delegated design services when recommended by manufacturer's instructions. Arrange for access to the site by written request submitted not less than seven (7) days prior to the time at which access is requested. Coordinate installation with other trades so as to eliminate or avoid conflicts and delays to the progress of the work.
2. Installation shall comply with the requirements set forth in NFPA 30.

- B. Protection of Materials and Equipment: Pipe and tank openings shall be closed with caps or plugs during installation. Equipment shall be tightly covered and protected against entry of dirt, water and chemical or mechanical injury.

C. Pipe Installation

1. General: Piping system shall be stainless steel or nonmetallic. Nonmetallic pipe shall be used for buried lines only. Buried lines which carry product shall have double-walled containment system. Each section of underground pipe shall rest solidly on pipe bed. Piping connections to equipment shall be as required by equipment manufacturer. Make tank connections with two elbow swing joints or flexible connectors to allow for differential settlement. Threaded or mechanical joints shall be allowed at termination points of product carrying lines only. Test plug connections of secondary containment piping may be threaded. Clean pipe interior of foreign matter before lowering into trench and keep clean during installation. Pipe shall not be laid in water or when trench or weather conditions are unsuitable. When work is not in progress, close open ends of pipe and fittings so that water, earth, or other substances cannot enter. Replace pipe, fittings, or appurtenances found defective after installation. Make threaded joints with tapered threads and make tight with joint compound; compatible with intended petroleum products, applied to male threads only. This requirement shall not apply for gauging hatch or similar connections directly over the tank where line terminates in a fitting within a manhole designed to allow for differential settling. Flanges shall not be

permitted on buried lines.

2. Handle pipe and accessories to ensure sound, undamaged condition. Take care not to damage coating when lowering pipe into trench and when backfilling. Install nonmetallic pipe in accordance with pipe manufacturer's instructions. Horizontal sections shall have a minimum coverage of 18-inches. Piping shall be free of traps and shall drain toward transition sump. Fit piping passing through concrete or masonry construction with sleeves. Each sleeve shall be of sufficient length to pass through entire thickness of associated structural member and large enough to provide a minimum clear distance of 1/2-inch between pipe and sleeve, except where otherwise indicated. Sleeves through concrete may be 20-gage metal, fiber, or other approved material. Sleeves shall be located on center with piping and fastened in place. Space between sleeves and pipe shall be calked and filled with bituminous plastic cement or mechanical calking units designed for such use.
  3. No pipe shall be hidden until it has been pressure tested, inspected and approved by the Engineer.
  4. All piping shall be uniformly sloped not less than 1/8" per foot back to the transition sump without high spots.
  5. Secondary containment pipe shall be installed in strict accordance with manufacturer's instruction. The secondary containment system shall undergo a 5 psi air pressure/soap test or hydrostatic test upon completion to determine its secondary containment integrity. This testing shall be in compliance with the manufacturer's published installation instructions.
  6. All threaded joints shall be made liquid tight with suitable sealant.
  7. All piping shall be inspected inside and out before installation and no obstructions shall be allowed. Pipe ends shall be taper reamed to full I.D. and all burrs removed.
- D. The Contractor shall fill the tank with #2 ultra-low sulfur diesel fuel or regular unleaded gasoline as indicated on the drawings. After all tests and inspections have been conducted, the Contractor shall refill the tank prior to final acceptance.
- E. Automatic Tank Gauge System
1. System shall be installed in strict accordance with manufacturer's recommendations. Location of the internal tank gauge probe and leak sensors shall be as follows:
    - a. Internal tank gauge probe shall be fitted to tank opening as indicated on the drawings.
    - b. Tank interstitial space liquid sensor at the bottom of tank basin space.

2. Provide Schedule 40 PVC conduit for all underground sensor probe cables.
  3. Wall mount control panel box as located on the plan.
- F. Day Tank: Install day tank per manufacturer's recommendations.
- G. Submersible Pumps: Install submersible pumps per manufacturer's recommendations.
- H. Installing Dispenser: Install on raised concrete foundation and protect against collision damage. Provide opening in island for product and electrical risers for each dispenser. Fill island riser holes with clean sand. Install dispensers in accordance with manufacturers' instructions and with emergency shut-off valve breaking point level with island surface.
- I. Provide non-conducting dielectric connections when joining dissimilar metals.

### 3.02 TANKS

- A. Tank installation shall be in accordance with NFPA 30 and performed by personnel certified by the tank manufacturer and State Regulations.
- B. Visually inspect the interior of fuel storage tanks to insure it is free of debris before fuel is placed inside. Prior to entry ensure a safe atmosphere exists.

### 3.03 ELECTRICAL WORK

- A. Provide switches and devices required for controlling electrical equipment. Pumps shall be wired and ready for connection to power circuit. Electrical installations shall conform to requirements of NFPA 70.

### 3.04 PIPE/EQUIPMENT SUPPORTS, HANGERS AND INSERTS

- A. Provide all necessary design, calculations, labor, materials, operations, equipment, tools and techniques required to furnish and install complete the pipe/equipment supports, hangers and inserts work.
- B. Install hangers and supports for all piping to provide for expansion and contraction, prevent vibration and maintain required grading by proper adjustment.
- C. Field verify type of construction from which piping and/or equipment is to be suspended/supported.
- D. Pipe hangers and supports shall conform to MSS SP-58.
- E. Support vertical pipes at base of the pipe on every floor and at 10-foot intervals

maximum.

- F. Provide additional hanger pipe supports at concentrated loads and valves. Maximum of 3 feet apart at concentrated loads and valves.
- G. Grind and smooth all sharp metal edges including struts and fabricated metal supports. Install end caps on the ends of all struts.
- H. Horizontal Piping Support Schedule
  - 1. Support horizontal steel piping per following schedule. Pipes shall be supported at all elbows, branches and risers. Pipes shall be insulated from contact with dissimilar metals outside of system.:

Pipe Size ----- (Inch)	Rod Diameter ----- (Inch)	Maximum Spacing ----- (Feet)
Up to 1-1/4	3/8	7-0
1-1/2 and 2	3/8	9-0

### 3.05 TESTING AND INSPECTION

- A. Contractor shall furnish all labor, equipment and instruments for tests and any required retests and pay for all cost of repairing any damage resulting from such tests. Contractor shall adjust systems until they are approved. Tests shall be performed in the presence of, and to the satisfaction of, the Engineer. Qualified manufacturer's representatives shall conduct all tests and inspections for the tank piping, inventory control system, and day tank.
- B. The Contractor shall notify the Engineer no less than seven (7) days in advance of any equipment testing so that arrangements can be made with the State to monitor the equipment tests.

### 3.06 PNEUMATIC TEST

- A. Piping: Test product carrier piping under pneumatic pressure of at least 1-1/4 times designed working pressure of the particular piping system, but not less than 50 psig. Take care not to exceed pressure rating of various fittings. Maintain pressure in product carrier piping for at least two (2) hours during which time there shall be no drop in pressure in each line greater than that allowed for thermal expansion and contraction. Furnish tapped test adapted fittings that can be attached to each end of the section of line being tested that will permit direct connection to the piping from air compressor. No taps in line will be permitted. Furnish necessary equipment for testing. Gauges shall be subject to testing and approval. In the event leaks are detected, repair and repeat tests. Upon satisfactory completion of tests, relieve pressure and seal line. Keep personnel clear of piping during pneumatic testing. Isolate equipment such as pumps, tanks, and meters from piping system during tests.

- B. Tank: Test the interstitial space of each tank to 3 psig. Maintain this pressure and apply soapsuds or equivalent material to the exterior of the tank. Visually inspect for leaks. Repair leaks in accordance with the manufacturer's instructions.

### 3.07 FLUSHING AND OPERATIONAL TEST

- A. Do not install dispensing units during flushing and cleaning of piping. Install temporary piping or hose equipped with a strainer having not less than 40-mesh screen between supply pipe and tank fill connection on tank from which fuel is being pumped. Furnish temporary pump for flushing. Flush each system with same type of fuel intended for use in system until outflowing fuel is "clean" and "bright": clean means absence of sediment or emulsion; bright refers to fluorescent appearance of fuel that has no cloud or haze. Test each system to demonstrate performance requirements for which it was designed. Test shall include unloading fuel trucks to demonstrate effectiveness of vapor recovery system. Operate fuel dispensing equipment to demonstrate capability of fuel pumps to deliver desired flow and draw storage tank contents to level of pump inlet and to test dispensing nozzle's capability to recirculate vapors from receiving unit back to storage tank. When a portion of each system or a piece of equipment fails to pass tests, make repairs or adjustments and repeat test until satisfactory performance is achieved. Tests shall be witnessed by the Engineer. Furnish calibrated instruments and equipment, as well as the fuel, required to clean and flush each system and to conduct tests. Replace filters upon completion of tests.

### 3.08 FUEL POLISHER

- A. Test the fuel polisher and control system per the manufacturer's recommendations.

### 3.09 ABOVEGROUND FUEL STORAGE TANK AUTOMATIC REMOTE FILL PORT SYSTEM

- A. Test the remote fill port and control system per the manufacturer's recommendations.

### 3.10 AUTOMATIC TANK GAUGE SYSTEM TEST

- A. Activate automatic tank gauge system and test in accordance with manufacturer's instructions.

### 3.11 HIGH LEVEL ALARM TEST

- A. Fill each tank with appropriate product and verify the high level alarm functions. Verify overfill protection device functions.

### 3.12 DAY TANK TEST

- A. Test the day tank and control system per the manufacturer's recommendations.

### 3.13 PROTECTION

- A. Provide planking, plastic sheeting, or other protective covering as required to prevent damage during construction to existing building elements and equipment. Damage to materials, equipment or building due to the Contractor's neglect shall be repaired or replaced to the satisfaction of the Engineer by, and at the expense of, the Contractor. Be prepared to immediately repair any damage that does occur during any operations, so as to avoid damage to building or contents or interruption of the State's operations.

### 3.14 INSPECTION

- A. Acceptance of the work will not take place until after discrepancies noted by the Engineer have been corrected to the satisfaction of the Engineer.

### 3.15 PAINTING

- A. General: The following painting shall be the responsibility of Contractor for equipment provided by him including the supports and hangers:
  1. All housings and factory assembled equipment shall have a prime and finish coat applied at the factory and all damaged spots touched up after installation.
  2. All piping, hangers and supports, and mechanical equipment installed under this Section shall be prime coated and also have one finish coat by Contractor providing the equipment. Equipment enclosed in drop ceilings and enclosed in pipe spaces are not considered as being exposed to view.
  3. All metal surfaces shall be primed with epoxy primer, coated with an epoxy undercoat and a polyurethane topcoat. Galvanized steel shall have primer treatment prior to first coat or epoxy primer.

### 3.16 TECHNICAL SUPPORT

- A. The fuel systems equipment supplier shall be staffed with factory trained representatives fully capable of providing instruction on routine and emergency maintenance service on all system components supplied for this project.
- B. The control system supplier shall be staffed with factory trained engineers fully capable of providing instruction on routine and emergency maintenance service on all system components supplied for this project.
- C. Suppliers shall provide on-site instruction, when requested by the Contractor or the Engineer, at no additional cost to the State.

### 3.17 USER TRAINING SESSION

- A. Contractor shall provide a minimum of forty (40) hours of training for user personnel. Training shall be given by the equipment manufacturer's representative and shall include general installation, operation, and maintenance inclusive of installation and operation of station and vehicle wireless automated fueling equipment furnished in this project. Schedule training a minimum of thirty (30) days in advance.

### 3.18 CLEAN UP

- A. All equipment and piping shall be thoroughly cleaned in an approved manner and maintained until the final inspection.
- B. Upon completion of this work, remove all debris and excess materials, tools, etc. resulting from this work from the job site and leave the location of this work broom-clean in an acceptable manner as approved by the Engineer. All fuel system equipment shall be thoroughly cleaned and ready for use.

## PART 4 - MEASUREMENT AND PAYMENT

### 4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately but shall be considered incidental to and included in the bid prices for the various items of work in this project.

END OF SECTION

PROPOSAL TO THE STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

PROJECT: UST/AST Removals and Replacements,  
Daniel K. Inouye International Airport  
Honolulu, Oahu, Hawaii

PROJECT NO.: AO1105-12

CONTRACT TIME: All work under this Contract shall be completed within  
three hundred and sixty (360) CALENDAR DAYS from  
the date indicated in the Notice to Proceed from the State.

LIQUIDATED DAMAGES: FOUR HUNDRED FIFTY DOLLARS (\$450.00) for every  
calendar day for failure to complete the project in the time  
stated above.

ELECTRONIC SUBMITTAL: **Bidders shall submit and upload the complete proposal  
to HiePRO prior to the bid opening date and time. Any  
additional support documents explicitly designated as  
confidential and/or proprietary shall be uploaded as a  
separate file to HiePRO. See SPECIAL PROVISIONS  
2.8 PREPARATION AND DELIVERY OF BID for  
complete details. FAILURE TO UPLOAD THE  
COMPLETE PROPOSAL TO HiePRO SHALL BE  
GROUNDS FOR REJECTION OF THE BID.**

PROJECT MANAGER: Maritez A. Marquez  
Department of Transportation, Airports  
400 Rodgers Blvd., Suite 700  
Honolulu, Hawaii 96819  
(808) 838-8808  
maritez.a.marquez@hawaii.gov

Director of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Sir:

The undersigned Bidder declares the following:

1. It has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal.
2. It has not been assisted or represented on this matter by any individual who has, in a State capacity, been involved in the subject matter of this contract within the past two years.
3. It has not and will not, either directly or indirectly offered or given a gratuity (i.e. an entertainment or gift) to any State or County employee to obtain a contract or favorable treatment under a contract.

The undersigned Bidder further agrees to the following:

1. If this proposal is accepted, it shall execute a contract with the Department to provide all necessary labor, machinery, tools, equipment, apparatus and any other means of construction, to do all the work and to furnish all the materials specified in the contract in the manner and within the time therein prescribed in the contract, and that it shall accept in full payment therefore the sum of the unit and/or lump sum prices as set forth in the attached proposal schedule for the actual quantities of work performed and materials furnished and furnish satisfactory security in accordance with Section 103D-324, Hawaii Revised Statutes, within 10 days after the award of the contract or within such time as the Director of Transportation may allow after the undersigned has received the contract documents for execution, and is fully aware that non-compliance with the aforementioned terms will result in the forfeiture of the full amount of the bid guarantee required under Section 103D-323, Hawaii Revised Statutes.
2. That the quantities given in the attached proposal schedule are approximate only and are intended principally to serve as a guide in determining and comparing the bids.
3. That the Department does not either expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable by the Director of Transportation, and that all increased or decreased quantities of work shall be performed at the unit prices set forth in the attached proposal schedule except as provided for in the specifications.

4. In case of a discrepancy between unit prices and the totals in said Proposal Schedule, the unit prices shall prevail.
5. Agrees to begin work within 10 working days after the date of notification to commence with the work, which date is in the notice to proceed, and shall finish the entire project within the time prescribed.
6. The Director of Transportation reserves the right to reject any or all bids and to waive any defects when in the Director's opinion such rejections or waiver will be for the best interest of the public.

The Bidder acknowledges receipt of and certifies that it has completely examined the following listed items: the Hawaii Department of Transportation, Air and Water Transportation Facilities Division General Provisions for Construction Projects dated 2016, the Notice to Bidders, the Special Provisions, if any, the Technical Provisions, the Proposal, the Contract and Bond Forms, and the Project Plans.

In accordance with Section 103D-323, Hawaii Revised Statutes, this proposal is accompanied with a bid security in the amount of 5% of the total amount bid, in the form checked below. (Check applicable bid security submitted with bid.)

Surety Bid Bond (Use standard form),

Cash,

Cashier's Check,

Certified Check, or

\_\_\_\_\_  
(Fill in other acceptable security.)

The undersigned Bidder acknowledges receipt of any addendum issued by the Department by recording in the space below the date of receipt.

Addendum No. 1 \_\_\_\_\_ Addendum No. 3 \_\_\_\_\_  
Addendum No. 2 \_\_\_\_\_ Addendum No. 4 \_\_\_\_\_  
Addendum No. 5 \_\_\_\_\_ Addendum No. 6 \_\_\_\_\_

In accordance with Section 103D-302, Hawaii Revised Statutes, the undersigned as Bidder, has listed the name of each person or firm, who will be engaged by the Bidder on the project as a Subcontractor or Joint Contractor and the nature of work to be done by each. The Bidder must adequately and unambiguously disclose the unique nature and scope of the work to be performed by each Subcontractor or Joint Contractor. For each listed firm, the Bidder declares the respective firm is a Subcontractor or Joint Contractor and is subject to evaluation as a Subcontractor or Joint Contractor. It is understood that failure to comply with the aforementioned requirements may be cause for rejection of the bid submitted.

<u>Name of Subcontractor</u>	<u>Nature and Scope of Work</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____

<u>Name of Joint Contractor</u>	<u>Nature and Scope of Work</u>
1. _____	_____
2. _____	_____
3. _____	_____

("None" or if left blank indicates no Subcontractor or Joint Contractor; if more space is needed, attach additional sheets.)

The undersigned hereby certifies that the bid prices contained in the attached proposal schedule have been carefully checked and are submitted as correct and final.

This declaration is made with the understanding that the undersigned is subject to the penalty of perjury under the laws of the United States and is in violation of the Hawaii Penal Code, Section 710-1063, unsworn falsification to authorities, of the Hawaii Revised Statutes, for knowingly rendering a false declaration.

\_\_\_\_\_  
Bidder (Company Name)

By \_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
Business Telephone

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contact Person (If different from above)

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

NOTE:

If Bidder is a CORPORATION, the legal name of the corporation shall be set forth above, the corporate seal affixed, together with the signature(s) of the officer(s) authorized to sign contracts for the corporation. Please attach to this page current (not more than six months old) evidence of the authority of the officer(s) to sign for the corporation.

If Bidder is a PARTNERSHIP, the true name of the partnership shall be set forth above, with the signature(s) of the general partner(s). Please attach to this page current (not more than six months old) evidence of the authority of the partner authorized to sign for the partnership.

If Bidder is an INDIVIDUAL, the bidder's signature shall be placed above.

If signature is by an agent, other than an officer of a corporation or a partner of a partnership, a POWER OF ATTORNEY must be on file with the Department before opening bids or submitted with the bid. Otherwise, the Department may reject the bid as irregular and unauthorized.

## PREFERENCES

Bidders agree that preferences shall be taken into consideration to determine the low bidder in accordance with said Sections and the rules promulgated, however, the award of contract will be in the amount of the bid offered exclusive of any preferences.

### A. HAWAII PRODUCTS PREFERENCE

In accordance with ACT 174, SLH 2022, effective June 27, 2022, Hawaii Products Preference shall not apply to solicitations for public works construction. Therefore, the Hawaii Products Preference shall not apply to this project.

### B. APPRENTICESHIP PROGRAMS PREFERENCE

In accordance with ACT 17, SLH 2009 —Apprenticeship Program, a 5% bid adjustment for bidders that are parties to apprenticeship agreements pursuant to Hawaii Revised Statutes (HRS) Section 103-55.6 may be applied to the bidder's price for evaluation purposes,

Any bidder seeking this preference must be a party to an apprenticeship agreement registered with the Department of Labor and Industrial Relations at the time the offer is made for each apprenticeable trade the bidder will employ to construct the public works projects for which the offer is being made.

The bidder is responsible for complying with all submission requirements for registration of its apprenticeship program before requesting the preference.

(  ) Yes, I wish to be considered for the Apprenticeship Programs Preference. I have included Certification Form(s) 1 with my bid.

### C. RECYCLED PRODUCT PREFERENCE

Recycled product preference shall not apply to this proposal.

**PROPOSAL SCHEDULE**

UST/AST REMOVALS AND REPLACEMENTS  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII  
STATE PROJECT NO. AO1105-12

Item No.	Description	Approx. Qty	Unit Price	Total
<b><u>I. GENERAL REQUIREMENTS</u></b>				
01010.1	The Entire Work, complete in accordance with the drawings and specifications, but not including the work indicated or specified under Bid Items 01561.1, 01700.1 and ALLOWANCES	LS	LS	\$ _____
01561.1	Construction Site Pollution Controls	LS	LS	\$ _____
01700.1	Mobilization (Not to exceed 6% of sum of all items, excluding this item, all allowances and force account items)	LS	LS	\$ _____
<b><u>II. ALLOWANCES</u></b>				
01010.2	Safety Risk Management Activities	ALLOW	ALLOW	\$ <u>5,000.00</u>
01010.3	Unforeseen Conditions	ALLOW	ALLOW	\$ <u>50,000.00</u>
01562.1	Management of Contaminated Media, and Soil Disposal and Soil Reuse	ALLOW	ALLOW	\$ <u>50,000.00</u>
01565.1	Security Measures	ALLOW	ALLOW	\$ <u>5,000.00</u>
13120.1	Pre-Engineered Structure	ALLOW	ALLOW	\$ <u>70,000.00</u>
TOTAL AMOUNT FOR COMPARISON OF BIDS				\$ _____

Notes:

The bid prices herein shall include all labor, materials, equipment, and incidentals necessary to construct all items in place, including installation and testing of equipment, complete and ready for operation, all in accordance with the plans and specifications.

- Note 1: Bid shall include all Federal, State, County and other applicable taxes and fees.
- Note 2: The TOTAL AMOUNT FOR COMPARISON OF BIDS shall be used to determine the lowest responsible bidder.
- Note 3: Bidders shall complete all unit prices and amounts. Failure to do so shall be grounds for rejection of bid.
- Note 4: State reserves the right to reject any or all Bids and to waive any defects in said Bids in the best interest of the State.
- Note 5: Submission of a Bid is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of the plans and specifications.
- Note 6: The bidder's attention is directed to Section 2.11 – BID SECURITY of the "General Provisions", as amended by the Special Provisions.
- Note 7: Bidders shall be paid for actual work performed as directed by the Engineer for allowance items. Bidders will not be paid overhead and profit for unused allowance funds.
- Note 8: If the TOTAL AMOUNT FOR COMPARISON OF BIDS exceeds the funds available for the project, then the State reserves the right to negotiate with the lowest, responsive, responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes (HRS), to further reduce the scope of work and award a contract thereafter.
- Note 9: **Bidders shall submit and upload the complete proposal to HIePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HIePRO. Bidders shall not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.** Original (wet ink, hard copy) proposal documents are not required to be submitted. **Contract award shall be based on evaluation of proposals submitted and uploaded to HIePRO.**

**FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HIePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

If there is a conflict between the specification document and the HIePRO solicitation, the specifications shall govern and control, unless otherwise specified.

INDEX TO DRAWINGS		
SHEET NO.	DRAWING NO.	DESCRIPTION
GENERAL		
1	G-001	COVER SHEET, VICINITY MAP, AND PROJECT TEAM
2	G-002	INDEX TO DRAWINGS AND NOTES
3	G-003	SITE PLANS AND FIRE SAFETY NOTES
CIVIL		
4	C-001	CIVIL NOTES
5	C-111	FORMER ENTERPRISE - DEMOLITION/SEDIMENT CONTROL SITE PLAN
6	C-121	FORMER ENTERPRISE - NEW CIVIL SITE PLAN
7	C-211	MAINTENANCE BASEYARD - DEMOLITION/SEDIMENT CONTROL SITE PLAN
8	C-221	MAINTENANCE BASEYARD - NEW CIVIL SITE PLAN
9	C-311	LEI STAND - DEMOLITION/SEDIMENT CONTROL SITE PLAN
10	C-312	LEI STAND - SEDIMENT CONTROL SITE PLAN
11	C-321	LEI STAND - NEW CIVIL SITE PLAN
12	C-411	HCC AIRPORT TRAINING CENTER - SEDIMENT CONTROL SITE PLAN
13	C-501	CONCRETE EQUIPMENT PAD DETAIL PLANS
14	C-601	CIVIL DETAILS
15	C-602	CIVIL DETAILS
16	C-603	CIVIL DETAILS
17	C-604	CIVIL DETAILS
18	C-605	CIVIL DETAILS
STRUCTURAL		
19	S-001	STRUCTURAL NOTES
20	S-002	TYPICAL DETAILS
21	S-111	FORMER ENTERPRISE - SITE DEMOLITION PLAN
22	S-112	FORMER ENTERPRISE - SITE DEMOLITION DETAILS
23	S-121	FORMER ENTERPRISE - SITE RESTORATION DETAILS
24	S-211	MAINTENANCE BASEYARD - SITE DEMOLITION PLAN
25	S-212	MAINTENANCE BASEYARD - SITE DEMOLITION DETAILS
26	S-221	MAINTENANCE BASEYARD - SITE CANOPY PLAN
27	S-222	MAINTENANCE BASEYARD - SITE CANOPY SECTION
28	S-223	MAINTENANCE BASEYARD - SITE RESTORATION DETAILS
29	S-311	LEI STAND - SITE DEMOLITION PLAN
30	S-312	LEI STAND - DEMOLITION DETAILS
31	S-321	LEI STAND - RESTORATION DETAILS
32	S-411	HCC AIRPORT TRAINING CENTER - SITE DEMOLITION PLAN
33	S-412	HCC AIRPORT TRAINING CENTER - SITE DEMOLITION DETAILS
34	S-421	HCC AIRPORT TRAINING CENTER - SITE RESTORATION DETAILS
MECHANICAL		
35	M-001	MECHANICAL LEGEND AND SCHEDULE
36	M-002	MECHANICAL SCHEDULE
37	M-111	FORMER ENTERPRISE - MECHANICAL DEMOLITION PARTIAL PLAN
38	M-112	FORMER ENTERPRISE - MECHANICAL DEMOLITION PARTIAL PLAN
39	M-121	FORMER ENTERPRISE - MECHANICAL PARTIAL PLAN
40	M-211	MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN
41	M-212	MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN
42	M-213	MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN
43	M-221	MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN
44	M-222	MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN
45	M-223	MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN
46	M-231	MAINTENANCE BASEYARD - FUEL PIPING DIAGRAM
47	M-301	LEI STAND - PHASE DIAGRAMS
48	M-311	LEI STAND - MECHANICAL DEMOLITION PLAN
49	M-321	LEI STAND - MECHANICAL PLAN
50	M-331	LEI STAND - ABOVEGROUND FUEL STORAGE TANK FUEL PIPING DIAGRAM
51	M-332	LEI STAND - DAY TANK FUEL PIPING DIAGRAM
52	M-411	HCC AIRPORT TRAINING CENTER - MECHANICAL DEMOLITION PARTIAL PLAN
53	M-412	HCC AIRPORT TRAINING CENTER - MECHANICAL DEMOLITION PARTIAL PLAN
54	M-421	HCC AIRPORT TRAINING CENTER - MECHANICAL PARTIAL PLAN
55	M-422	HCC AIRPORT TRAINING CENTER - MECHANICAL PARTIAL PLAN
56	M-431	HCC AIRPORT TRAINING CENTER - OIL WATER SEPARATOR PIPING DIAGRAM
57	M-501	MECHANICAL CONTROLS
58	M-502	MECHANICAL SCHEMATIC DIAGRAM
59	M-503	MECHANICAL SCHEMATIC DIAGRAMS
60	M-601	MECHANICAL DETAILS
61	M-602	MECHANICAL DETAILS

INDEX TO DRAWINGS (CONT.)		
SHEET NO.	DRAWING NO.	DESCRIPTION
ELECTRICAL		
62	E-001	ELEC SYMBOL LIST, GENERAL ELECTRICAL NOTES, TRENCH DETAIL
63	E-101	FORMER ENTERPRISE - ELECTRICAL SITE PLAN
64	E-111	FORMER ENTERPRISE - DEMOLITION PARTIAL ELECTRICAL PLAN 1 AND 2
65	E-112	FORMER ENTERPRISE - DEMOLITION PARTIAL ELECTRICAL PLAN 3
66	E-201	MAINTENANCE BASEYARD - ELECTRICAL SITE PLAN
67	E-211	MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 1
68	E-212	MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 2
69	E-221	MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 1
70	E-222	MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 2
71	E-223	MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 3
72	E-311	LEI STAND - DEMOLITION ELECTRICAL PLAN
73	E-321	LEI STAND - ELECTRICAL PLAN
74	E-401	HCC AIRPORT TRAINING CENTER - ELECTRICAL SITE PLAN
75	E-411	HCC AIRPORT TRAINING CENTER - DEMOLITION PARTIAL ELECTRICAL PLAN 1
76	E-412	HCC AIRPORT TRAINING CENTER - DEMOLITION PARTIAL ELECTRICAL PLAN 2
77	E-421	HCC AIRPORT TRAINING CENTER - PARTIAL ELECTRICAL PLAN 1
78	E-422	HCC AIRPORT TRAINING CENTER - PARTIAL ELECTRICAL PLAN 2
79	E-501	PANEL SCHEDULE

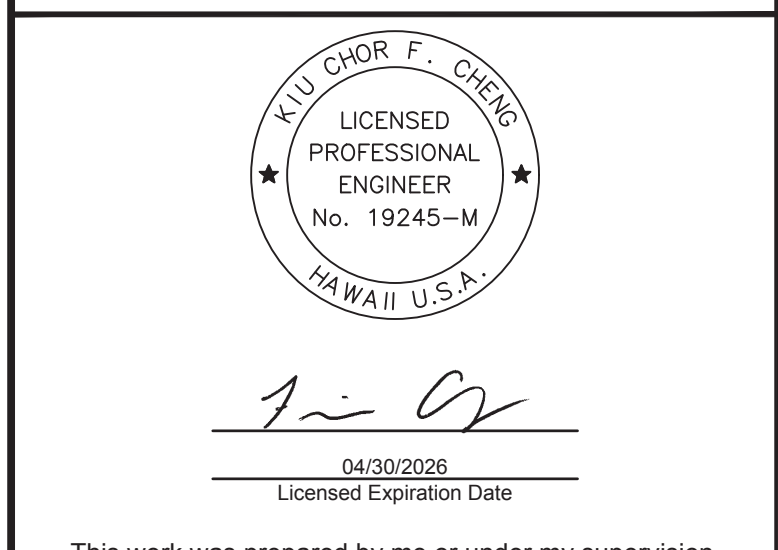
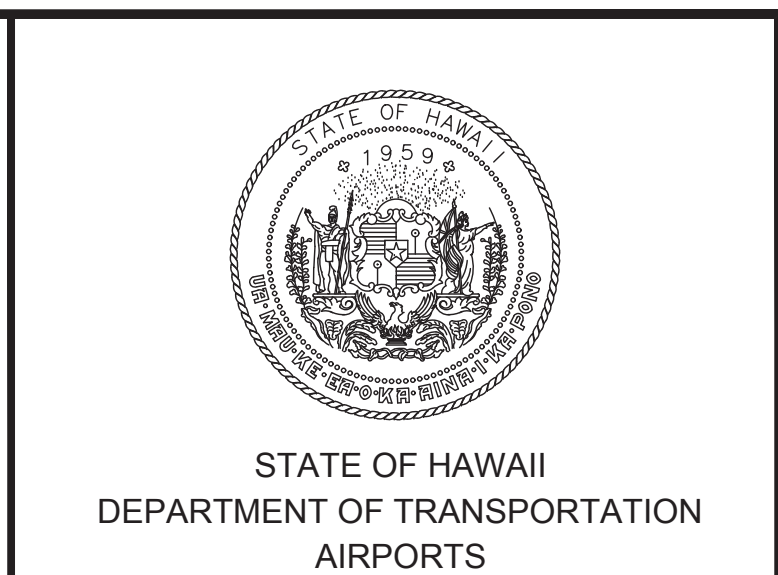
### GENERAL NOTES

- THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE STATE OF HAWAII'S CODES, THE COUNTY OF HONOLULU'S CODES, AND ALL AGENCIES HAVING JURISDICTION.
 

STATE OF HAWAII'S CODES  
BUILDING CODE (IBC 2021)  
PLUMBING CODE (UPC 2021)  
ENERGY CODE (IECC 2021)  
FIRE CODE (NFPA 1 2021)  
ELECTRICAL CODE (NFPA 70 2023)
- PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS, PARTITIONS, FLOORS, FLOOR/CEILING ASSEMBLIES, ROOF/CEILING ASSEMBLIES, OR SHAFT ENCLOSURES SHALL BE FIRE-STOPPED/SEALED TO MAINTAIN FIRE-RATING REQUIREMENTS IN ACCORDANCE WITH SECTION 714 - PENETRATIONS OF 2021 IBC.
- DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL FIELD CONDITIONS PERMIT. REASONABLE MODIFICATIONS TO SUIT JOB CONDITIONS SHALL NOT CONSTITUTE A BASIS FOR ADDITIONAL COMPENSATION.
- PROMPTLY NOTIFY AND COORDINATE WITH THE ENGINEER ANY DISCREPANCIES OR MAJOR DEVIATIONS FROM THE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS THAT PREVENT THE TERMS OF THE CONTRACT FROM BEING FULFILLED. COORDINATE THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE INSTALLATION OF WORK WITHIN THE AVAILABLE SPACE.
- OBTAIN AND PAY FOR ALL APPLICABLE PERMITS, FEES, CERTIFICATES AND INSPECTIONS.
- DIMENSIONS SHOWN ON DESIGN DRAWINGS ARE BASED ON A COMBINATION OF FIELD MEASUREMENTS AND ORIGINAL/REVISION PRINT REFERENCE DRAWINGS. FIELD VERIFY ALL CONDITIONS AND DIMENSIONS RELATING TO THE PROJECT BEFORE ORDERING MATERIALS OR COMMENCING WITH THE REQUIRED WORK.
  - PROJECT TITLE: RENTAL AND RETURN FACILITY FOR ENTERPRISE RENT-A-CAR COMPANY OF HAWAII, HONOLULU, OAHU, HAWAII, TMK: 1-1-003:017, DATED: NOVEMBER 2007.
  - PROJECT TITLE: EXPANSION AND ALTERATIONS TO BASEYARD FACILITIES PHASE II, HONOLULU, OAHU, HAWAII, TMK: 1-1-003:001, STATE PROJECT NO. AO1142-12, DATED: JUNE 1987.
  - PROJECT TITLE: EMERGENCY POWER SYSTEM, HONOLULU, OAHU, HAWAII, TMK: 1-1-003:001, STATE PROJECT NO. AO1098-11, DATED: SEPTEMBER 1995.
  - PROJECT TITLE: AIRPORT TRAINING CENTER, HONOLULU, OAHU, HAWAII, TMK: 1-1-076:001, STATE PROJECT NO. AO1130-15, DATED: JULY 1992.
- FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT INCLUDING CUTTING AND PATCHING AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND CONFORM TO CODE.
- PATCH ALL SURFACES EXPOSED FROM CUTTING AND/OR REMOVAL WORK. PATCHING SHALL MATCH THE FINISH AND QUALITY OF ADJACENT SURFACES TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- "REPLACE" MEANS REMOVE EXISTING WORK AND PROVIDE NEW WORK AS DETAILED OR NOTED ON THE DRAWINGS/SPECIFICATIONS.
- ALL WORK INDICATED SHALL BE NEW WORK UNLESS OTHERWISE INDICATED "EXISTING".
- ALL ITEMS AND MATERIALS TO BE REMOVED SHALL BE DONE IN SUCH A MANNER AS TO PREVENT DAMAGE TO ITEMS AND MATERIALS TO REMAIN. ALL SUCH DAMAGES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- ALL WASTE MATERIALS SHALL BE PROMPTLY REMOVED AND DISPOSED OUTSIDE THE LIMITS OF STATE'S PROPERTY DAILY.
- PROVIDE TEMPORARY ACCESSIBLE ROUTES AROUND CONSTRUCTION IN ACCORDANCE WITH ADAAG 402.
- ALL OVERHEAD WORK SHALL BE A MINIMUM OF 80 INCHES ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADAAG 307.4.
- PAINT ALL EXPOSED WORK TO MATCH EXISTING.

### GENERAL DEMOLITION/CONSTRUCTION PHASING NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS IN ORDER TO COMPLETE THE PROJECT. CONTRACTOR SHALL SUBMIT DEMOLITION/CONSTRUCTION PHASING PLAN FOR APPROVAL. PHASING PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO PLANNED UTILITY OUTAGES, DISRUPTION OF FUEL SERVICE, TEMPORARY DISRUPTION OF NORMAL FACILITY OPERATIONS, AND PROPOSED EQUIPMENT TRANSPORT PATHS THROUGH THE FACILITY. PHASING PLAN SHALL BE APPROVED A MINIMUM OF THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF ON-SITE WORK.
- GENERAL: THE FACILITIES WILL BE OPERATIONAL AND ACCESSIBLE TO USERS SEVEN (7) DAYS A WEEK FOR THE DURATION OF THE PROJECT. THIS CONTINUING OPERATION OF THE FACILITY MAY RESTRICT THE CONTRACTOR'S WORK. NO ADDITIONAL COMPENSATION OR TIME WILL BE MADE FOR FAILURE TO ACKNOWLEDGE AND ACCOUNT FOR THE PROJECT REQUIREMENTS IN THE BID. COORDINATE, SCHEDULE, AND PERFORM WORK IN SUCH A MANNER AS TO MINIMIZE INCONVENIENCES, HAZARDS, AND DISTURBANCE UPON THE FACILITIES' USERS TO ENSURE THEIR SAFETY AND TO ACCOMMODATE THE FACILITIES DAILY OPERATIONS AND ACTIVITIES.
- SEE DRAWINGS AND SPECIFICATIONS FOR COMPLETE SCOPE OF WORK.
- DO NOT DISRUPT NORMAL FACILITY FUNCTIONS. OBTAIN SCHEDULES AND AN EVENT CALENDAR PRIOR TO DEVELOPING A PHASING PLAN.
- COORDINATE SCHEDULE FOR ALL WORK (REMOVAL, INSTALLATION, AND TESTING) WITH THE STATE AND THE ENGINEER.
- VERIFY LOCATION OF EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY UTILITIES IN THE EVENT OF DAMAGES DUE TO HIS WORK.
- FURNISH AND INSTALL TEMPORARY STAND-IN FOR BACKUP POWER (E.G. TEMPORARY FUEL SYSTEM OR TEMPORARY GENERATOR) FOR THE ENTIRE DURATION OF EXISTING FUEL SYSTEM BEING REPLACED. TEMPORARY STAND-IN BACKUP POWER CAPACITY SHALL BE EQUIVALENT TO OR GREATER THAN EXISTING. BACKUP POWER DISRUPTION CAUSED BY SWITCHOVER BETWEEN PERMANENT AND TEMPORARY BACKUP POWER SHALL BE MINIMIZED. SWITCHOVER SHALL BE EXECUTED BASED ON AN APPROVED BACKUP POWER SWITCHOVER PLAN. SUBMIT BACKUP POWER SWITCHOVER PLAN WITHIN THIRTY (30) DAYS OF CONSTRUCTION NOTICE TO PROCEED. BACKUP POWER SWITCHOVER PLAN SHALL BE APPROVED PRIOR TO COMMENCING SWITCHOVER.
- TESTING SHALL BE PERFORMED ON THE EXISTING 1,100 KW GENERATOR AT THE LEI STAND TO CONFIRM PROPER WORKING CONDITION BEFORE AND AFTER CONSTRUCTION. PRE-TESTING SHALL INCLUDE CONDUCTING A LOAD TEST, RECORDING ALL OPERATIONAL PARAMETERS SUCH AS VOLTAGE, CURRENT, FREQUENCY, AND POWER, DOCUMENTING ANY ISSUES OR DEFICIENCIES AND TAKING CORRECTIVE ACTIONS IF NECESSARY. POST-TESTING SHALL INCLUDE PRE-TESTING RESPONSIBILITIES AND COMPARISON OF DATA BETWEEN PRE AND POST-TESTING TO VERIFY CONSISTENCY AND PROPER PERFORMANCE.
- DISRUPTIONS TO UTILITY SERVICE WILL NOT BE ALLOWED DURING NORMAL BUSINESS HOURS. NO EXCEPTIONS. CONTRACTOR SHALL SCHEDULE INTERRUPTION OF UTILITY SERVICE A MINIMUM OF THIRTY (30) DAYS IN ADVANCE OF INTERRUPTION.
- CONTACT THE ENGINEER IMMEDIATELY SHOULD AN UNPLANNED UTILITY OUTAGE OCCUR.
- NOT ALL EXISTING UTILITIES INCLUDING PLUMBING, IRRIGATION, ELECTRICAL CONDUITS, CABLES, ETC. ARE SHOWN. PROTECT EXISTING UTILITIES IN PLACE.
- EXISTING OVERHEAD PLUMBING, FIRE ALARM WIRING, CONTROL WIRING, ETC. IN CEILING AREAS ARE NOT SHOWN. PROTECT EXISTING PIPING, CONDUITS AND WIRING IN PLACE. RELOCATE OR INSTALL NEW HANGERS IF NECESSARY.
- MAKE ARRANGEMENTS WITH THE ENGINEER TO TEST THE FACILITY'S ENTIRE FIRE ALARM SYSTEM LOCATED WITHIN THE PROJECT LIMITS BEFORE AND AFTER CONSTRUCTION. TEST(S) SHALL BE SCHEDULED TO AVOID DISRUPTION OF NORMAL FACILITY OPERATIONS. NOTIFY THE ENGINEER OF ANY FAILURES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES TO THE FIRE ALARM SYSTEM CAUSED BY HIS WORK. CONTRACTOR SHALL PAY FOR ALL COSTS ASSOCIATED WITH THE TESTS. COST SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID. CONTRACTOR MAY SCHEDULE MULTIPLE TESTS TO COINCIDE WITH WORK PROGRESS. IF FIELD VERIFICATION CONFIRMS NO FIRE ALARM SYSTEM, PRE/POST TEST NOT REQUIRED; NOTIFY ENGINEER.
- TAKE PRECAUTION(S) TO AVOID NUISANCE FIRE ALARMS. ALL COSTS ASSOCIATED WITH FALSE FIRE ALARMS DUE TO CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- TEST EXISTING IRRIGATION SYSTEM LOCATED WITHIN THE PROJECT LIMITS, STAGING AREA, PARKING AREA AND/OR IN DELIVERY PATHS BEFORE AND AFTER CONSTRUCTION. NOTIFY THE ENGINEER OF ANY PREEXISTING DAMAGES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE IRRIGATION SYSTEM CAUSED BY THEIR WORK. CONTRACTOR SHALL PAY FOR ALL COSTS ASSOCIATED WITH THE TESTS. COST SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID. IF FIELD VERIFICATION CONFIRMS NO IRRIGATION, PRE/POST TEST NOT REQUIRED; NOTIFY ENGINEER.
- PROVIDE UTILITY TRUCK FOR TEMPORARY USAGE DURING CONSTRUCTION. UTILITY TRUCK SHALL PROVIDE GASOLINE FUEL, DIESEL FUEL, COMPRESSED AIR, AND WATER FOR AIRPORT MAINTENANCE VEHICLES AND EQUIPMENT. PROVIDE A SECONDARY CONTAINMENT SYSTEM FOR THE UTILITY TRUCK. CONTRACTOR RESPONSIBLE FOR MAINTAINING FUEL AND WATER LEVELS OF THE UTILITY TRUCK DURING CONSTRUCTION. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



DSGN.	DRWN.	CHKD.	APPD.
KEY	KEY	KFC	KFC

6	2/27/26	ADDENDUM #6
6	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

## FINAL CONSTRUCTION DOCUMENTS

DECEMBER 09, 2024  
DATE

### PROJECT TITLE :

### UST/AST REMOVALS AND REPLACEMENTS

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

### PROJECT NO.:

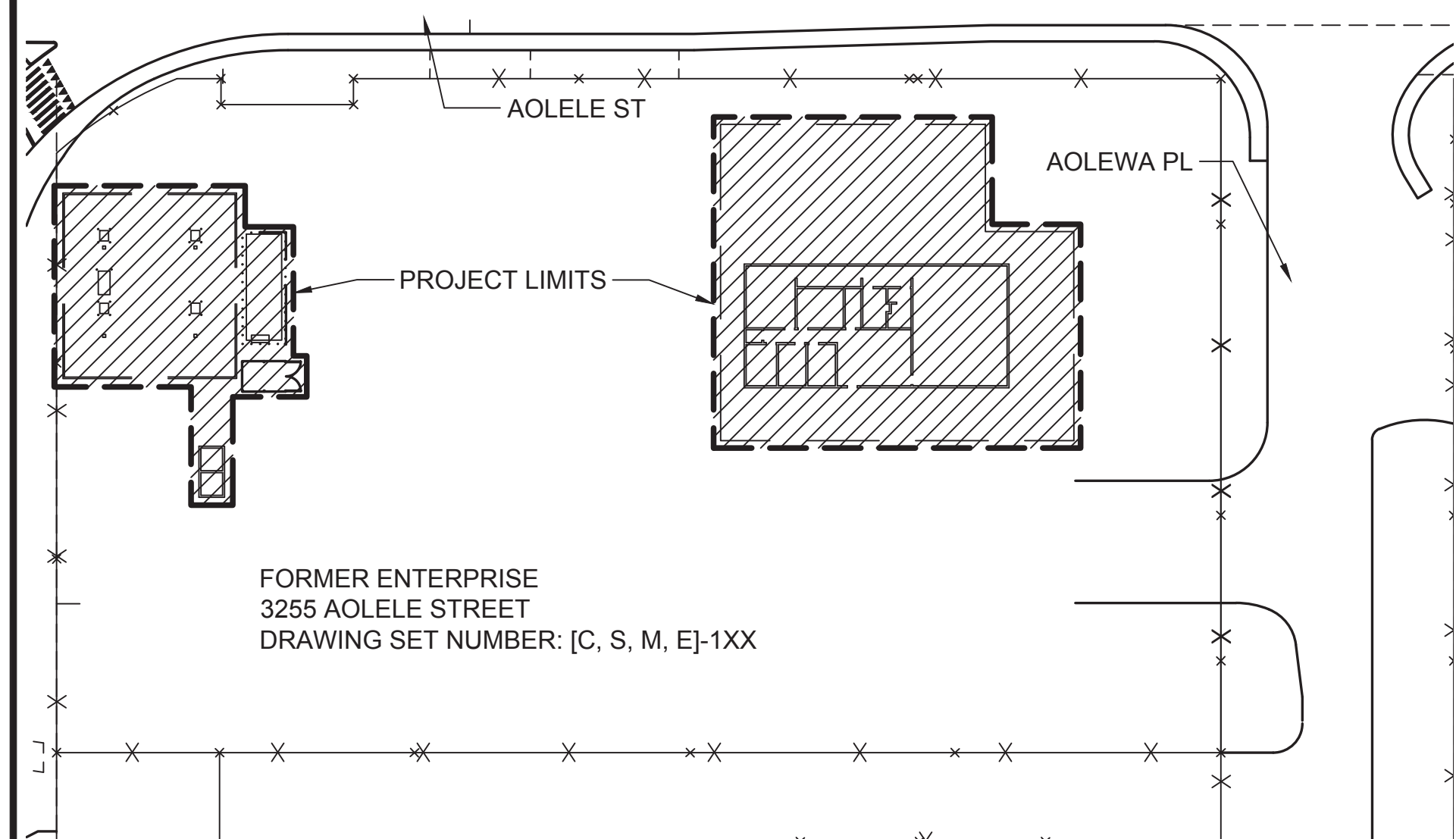
**AO1105-12**

### SHEET TITLE:

## INDEX TO DRAWINGS AND NOTES

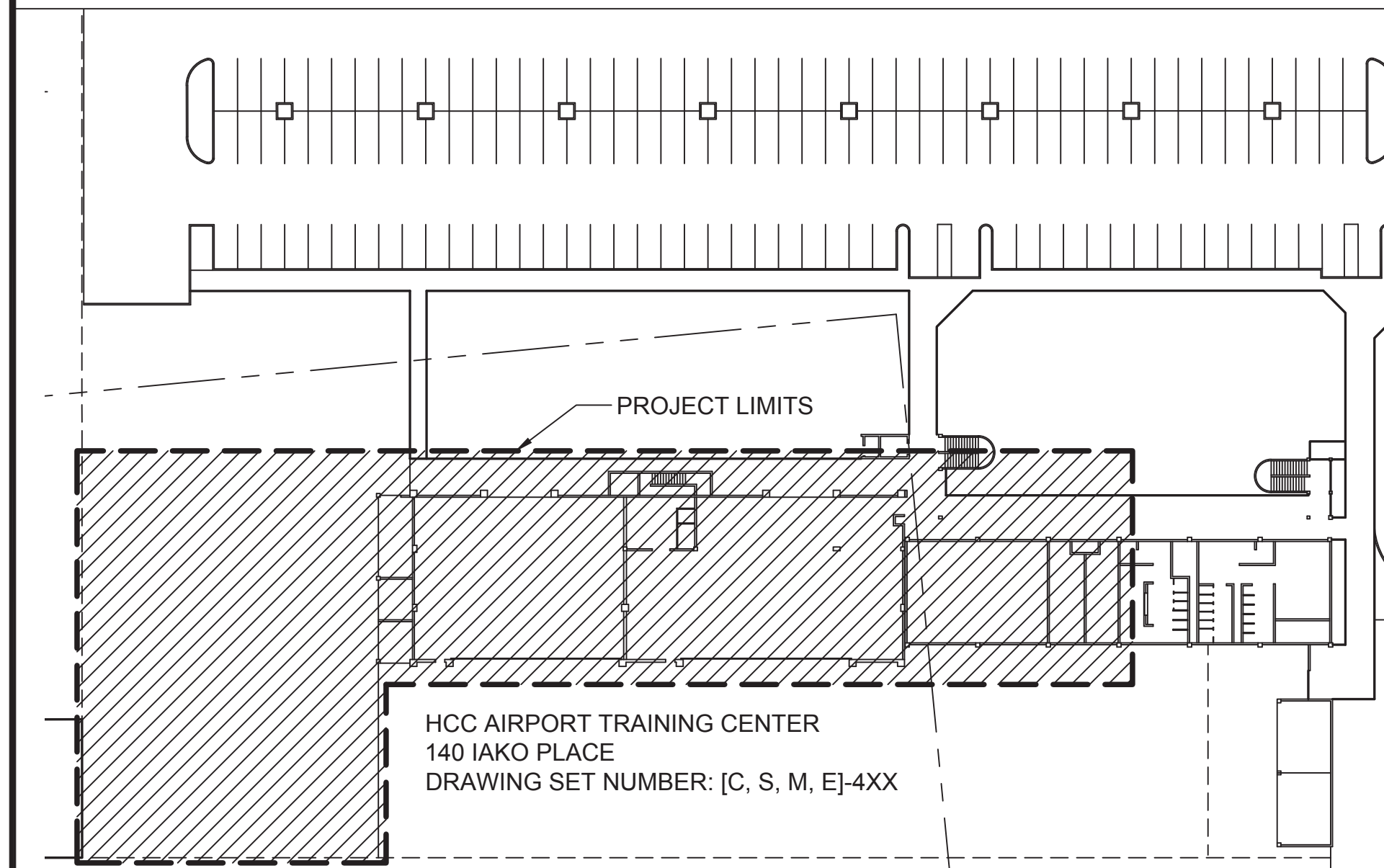
DATE :	DWG. NO.
12/09/2024	<b>G-002</b>
SHEET :	
2 OF 79 SHEETS	

M:\PROJ\223-000\223-071B HNL LST REMOVAL AND REPLACEMENT\DRAWINGS\HNL\_22304 TITLE SHEET.DWG



FORMER ENTERPRISE  
3255 AOELELE STREET  
DRAWING SET NUMBER: [C, S, M, E]-1XX

**1 FORMER ENTERPRISE - SITE PLAN**  
G-003 SCALE: 1" = 50'-0"



HCC AIRPORT TRAINING CENTER  
140 IAKO PLACE  
DRAWING SET NUMBER: [C, S, M, E]-4XX

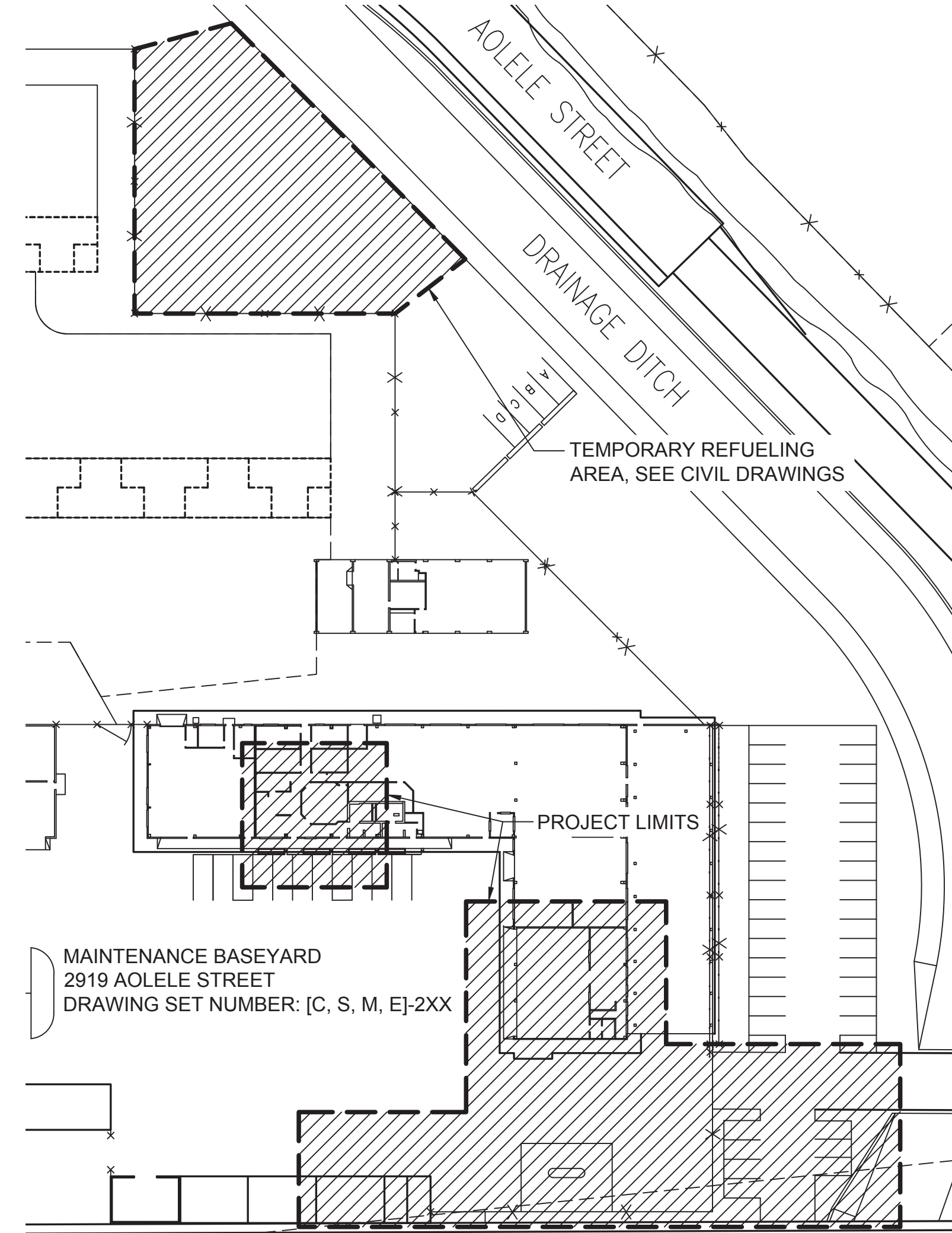
**4 HCC AIRPORT TRAINING CENTER - SITE PLAN**  
G-003 SCALE: 1" = 50'-0"

**HAZMAT NOTES**

- TESTING, HANDLING, REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS, INCLUDING, ACM, LCP AND LBP, SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

**RESTORATION NOTES**

- RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENT, EMBANKMENTS, CURBS, SIDEWALKS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID.
- SEED AND GRASS DISTURBED GRASS AREAS. DISTURBED GRASS AREA(S) SHALL BE REPAIRED BY A LICENSED LANDSCAPE CONTRACTOR. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE REPAIRED AREA(S) FOR A PERIOD OF ONE-HUNDRED TWENTY (120) DAYS FROM THE FINAL INSPECTION. IF AT THE END OF THE MAINTENANCE PERIOD, THERE ARE AREA(S) WHERE GRASS HAS FAILED TO GROW, THE MAINTENANCE PERIOD SHALL BE EXTENDED UNTIL HEALTHY GROWTH IS ESTABLISHED.

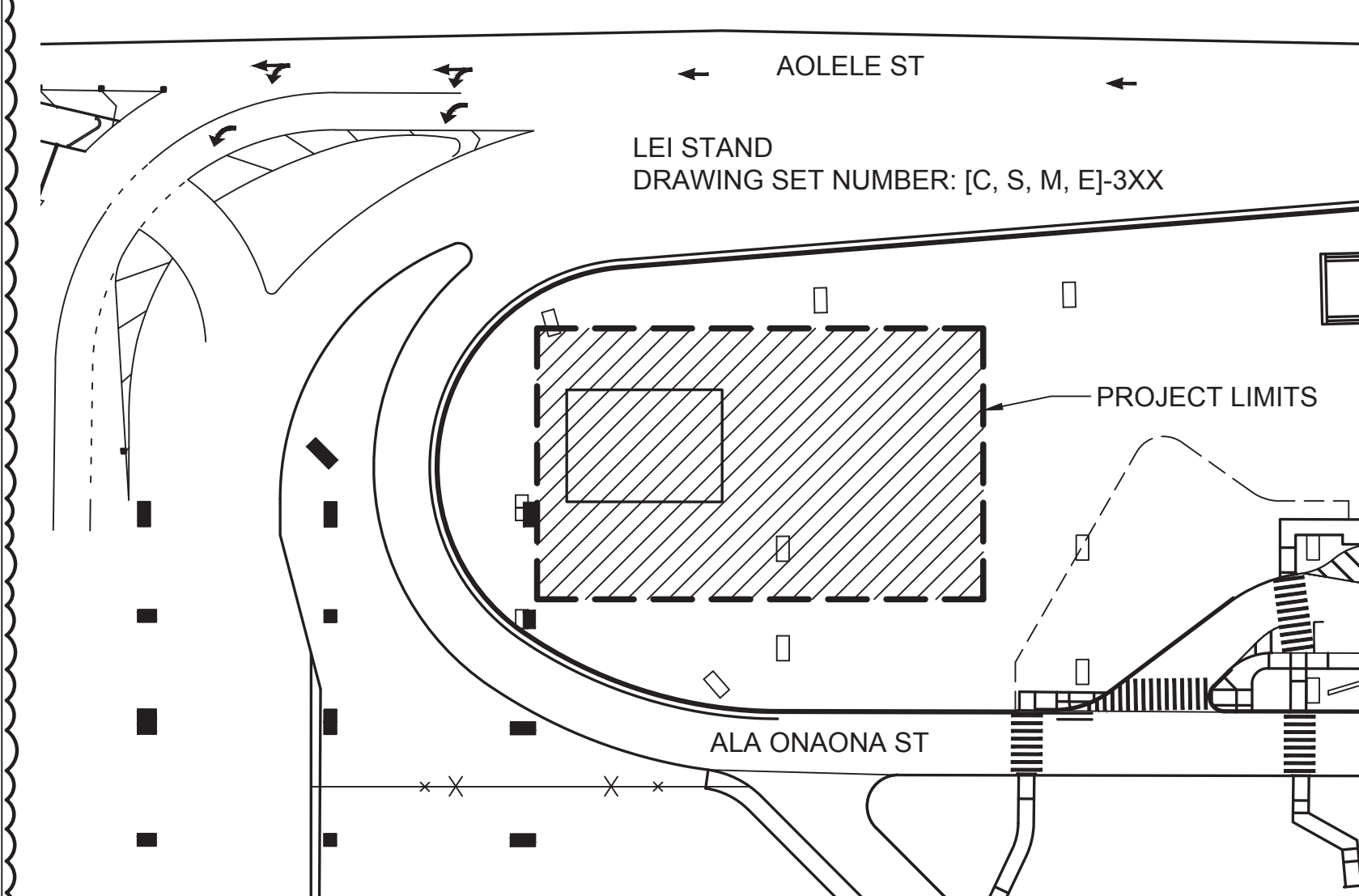


MAINTENANCE BASEYARD  
2919 AOELELE STREET  
DRAWING SET NUMBER: [C, S, M, E]-2XX

**2 MAINTENANCE BASEYARD - SITE PLAN**  
G-003 SCALE: 1" = 50'-0"

**STORAGE/DELIVERY/PROTECTION NOTES**

- COORDINATE ON-SITE PARKING WITH THE ENGINEER. ON-SITE STORAGE AND STAGING AREAS WILL BE LIMITED IF MADE AVAILABLE. ALL COSTS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID.
- THE FACILITY SHALL REMOVE COMPUTERS AND OCCUPANT PERSONAL PROPERTY FROM THE WORK AREA PRIOR TO CONSTRUCTION. ALL OTHER ITEMS, INCLUDING EQUIPMENT, BOOKS, FILES AND FURNITURE WILL REMAIN IN PLACE.
- PROTECT ALL EXISTING ITEMS DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER AND THE FACILITY AT NO ADDITIONAL COST TO THE STATE. CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING ALL ITEMS IN THE WORK AREAS AS NEEDED TO PERFORM HIS WORK. ALL MOVING COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT IS RECOMMENDED THAT THE CONTRACTOR PERFORM A PHOTOGRAPH INVENTORY OF EXISTING ITEMS PRIOR TO PROCEEDING WITH WORK IN THE BUILDING.
- USE OF A CRANE SHALL BE LIMITED TO WEEKENDS AND HOLIDAYS ONLY. OBTAIN ALL PERMITS AND APPROVALS INCLUDING BUT NOT LIMITED TO THE CITY AND COUNTY OF HONOLULU FOR STREET CLOSURE. POST NOTICES IN AND AROUND THE BUILDING, PUBLISH NOTICES IN THE PAPER, AND HIRE POLICE OFFICERS FOR STREET CLOSURE. PURCHASE ALL AVAILABLE STREET PARKING NECESSARY TO COMPLETE THE WORK AS REQUIRED BY THE CITY AND COUNTY OF HONOLULU. NOTICES SHALL BE POSTED TWENTY-ONE (21) DAYS IN ADVANCE OF EACH LIFT. ALL COSTS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID.



LEI STAND  
DRAWING SET NUMBER: [C, S, M, E]-3XX

**3 LEI STAND - SITE PLAN**  
G-003 SCALE: 1" = 50'-0"

**ACCESS NOTES**

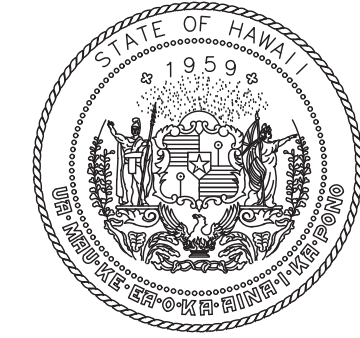
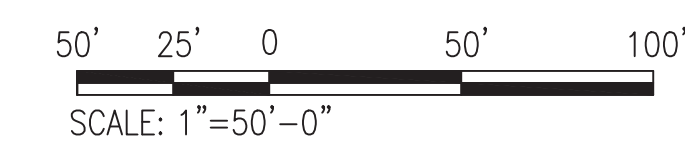
- MAINTAIN UNOBSTRUCTED ACCESS TO DRIVEWAYS, PARKING STRUCTURE, PARKING LOT, SIDEWALKS, ELEVATORS, STAIRWAYS AND TWO (2) MEANS OF EMERGENCY EGRESS DURING NORMAL FACILITY HOURS.

**FIRE SAFETY NOTES**

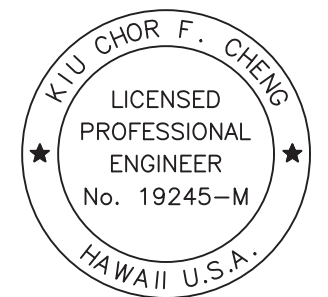
- STRUCTURES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION OPERATIONS, INCLUDING THOSE IN UNDERGROUND LOCATIONS, SHALL COMPLY WITH NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, AND THIS CHAPTER. NFPA 1 2021 AS AMMENDED.

**FIRE SAFETY DURING ALTERATION NOTES**

- 16.5.3.1.1 A WATER SUPPLY FOR FIRE PROTECTION, EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ACCUMULATES.
- 16.5.4.1 WHERE THE BUILDING IS PROTECTED BY FIRE PROTECTION SYSTEMS, SUCH SYSTEMS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING ALTERATION.
- 16.5.4.2 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.
- 16.5.4.3 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.
- 16.5.4.4 THE FIRE DEPARTMENT SHALL BE NOTIFIED WHEN THE SYSTEM IS SHUT DOWN AND WHEN THE SYSTEM IS RETURNED TO SERVICE.
- 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.
- 13.1.9 WHENEVER IMPAIRMENTS, CRITICAL DEFICIENCIES, OR NON-CRITICAL DEFICIENCIES ARE IDENTIFIED IN WATER-BASED FIRE PROTECTION SYSTEMS MAINTAINED IN ACCORDANCE WITH NFPA 25, THEY SHALL BE CORRECTED IN A TIME FRAME APPROVED BY THE AHJ.
- 13.1.10 THE AHJ SHALL BE NOTIFIED WHEN ANY FIRE PROTECTION SYSTEM IS OUT OF SERVICE AND ON RESTORATION OF SERVICE.



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KY	KY	KFC	KFC

6	2/27/26	ADDENDUM #6
6	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

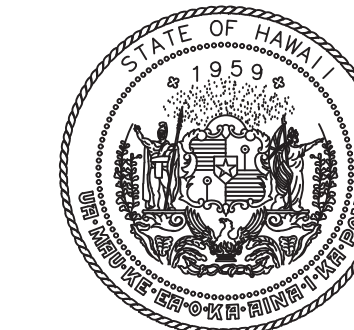
**AO1105-12**

SHEET TITLE:

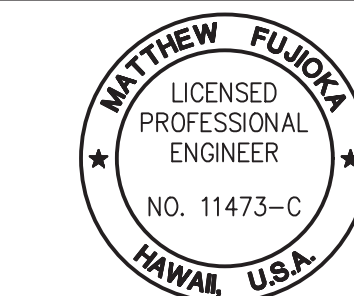
**SITE PLANS AND FIRE SAFETY NOTES**

DATE :	DWG. NO.
12/09/2024	<b>G-003</b>
SHEET :	
3 OF 79 SHEETS	

M:\PROJ\223-000\223-071B HNL LUST REMOVAL AND REPLACEMENT\DRAWINGS\HNL\_22304 TITLE SHEET.DWG



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RL	RL	MF	MF

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1	11/19/25	ADDENDUM #1
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PROJECT NO.:

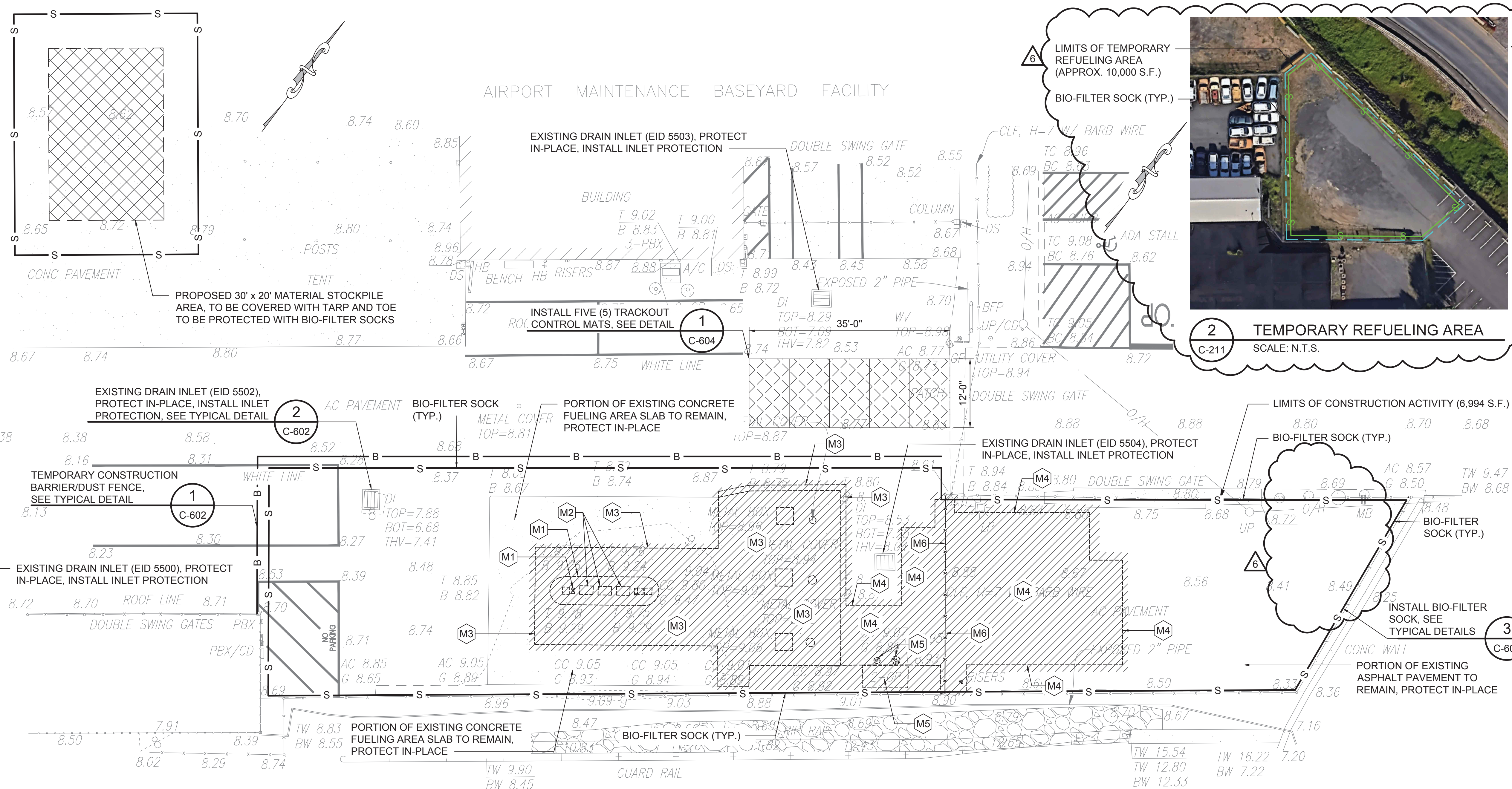
**AO1105-12**

SHEET TITLE:

**MAINTENANCE BASEYARD - DEMOLITION/SEDIMENT CONTROL SITE PLAN**

DATE :	DWG. NO.
12/09/2024	<b>C-211</b>
SHEET :	
7 OF 79 SHEETS	

AIRPORT MAINTENANCE BASEYARD FACILITY



**2 TEMPORARY REFUELING AREA**  
SCALE: N.T.S.

**1 MAINTENANCE BASEYARD - DEMOLITION/SEDIMENT CONTROL SITE PLAN**  
SCALE: 1" = 10'

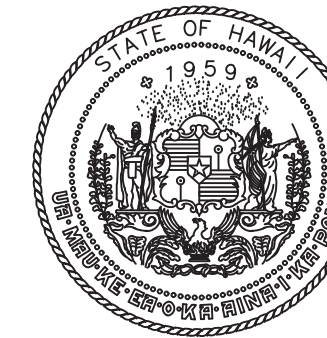
**MAINTENANCE BASEYARD - CIVIL SITE DEMOLITION CALLOUTS:**

- M1** DEMOLISH AND REMOVE EXISTING CONCRETE FUEL DISPENSER ISLAND AND STEEL CANOPY. SEE RESPECTIVE STRUCTURAL DEMOLITION DRAWINGS.
- M2** DEMOLISH AND REMOVE EXISTING FUEL DISPENSERS AND FUEL MANAGEMENT EQUIPMENT, SEE RESPECTIVE MECHANICAL DEMOLITION DRAWINGS.
- M3** DEMOLISH AND REMOVE PORTIONS OF EXISTING ASPHALT PAVEMENT AND CONCRETE SLABS TO ACCOMMODATE REMOVAL OF EXISTING UNDERGROUND FUEL STORAGE TANKS, FUEL PIPING AND APPURTENANT ACCESSORIES. SEE RESPECTIVE MECHANICAL DEMOLITION DRAWINGS.
- M4** DEMOLISH AND REMOVE PORTION OF EXISTING ASPHALT PAVEMENT TO ACCOMMODATE NEW CONCRETE PADS FOR NEW ABOVEGROUND FUEL STORAGE TANKS, FUELING SYSTEM EQUIPMENT, AND UNDERGROUND FUEL PIPING.
- M5** DEMOLISH AND REMOVE EXISTING CONCRETE PAD AND PIPE BOLLARDS.
- M6** DEMOLISH 35± L.F. OF EXISTING CHAIN LINK FENCE, INCLUDING LINE POSTS, CONCRETE FOUNDATIONS, BARBED WIRES, AND APPURTENANT FITTINGS AND ACCESSORIES. PROTECT IN-PLACE EXISTING CHAIN LINK FENCING TO REMAIN.

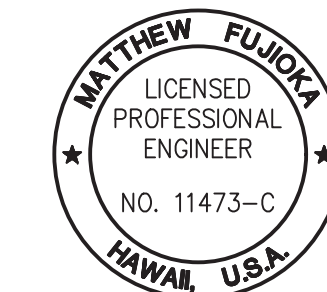


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C:\OPROJ\2023\23-07\_LDOTA\_UST\_REPLACEMENT\CAD\DD\SHEETS\B-HNL\007\_008\_C-211\_C-212\_MAINTENANCE BASEYARD - DEMO-SEDIMENT CONTROL SITE PLAN AND NEW CIVIL SITE PLAN.DWG



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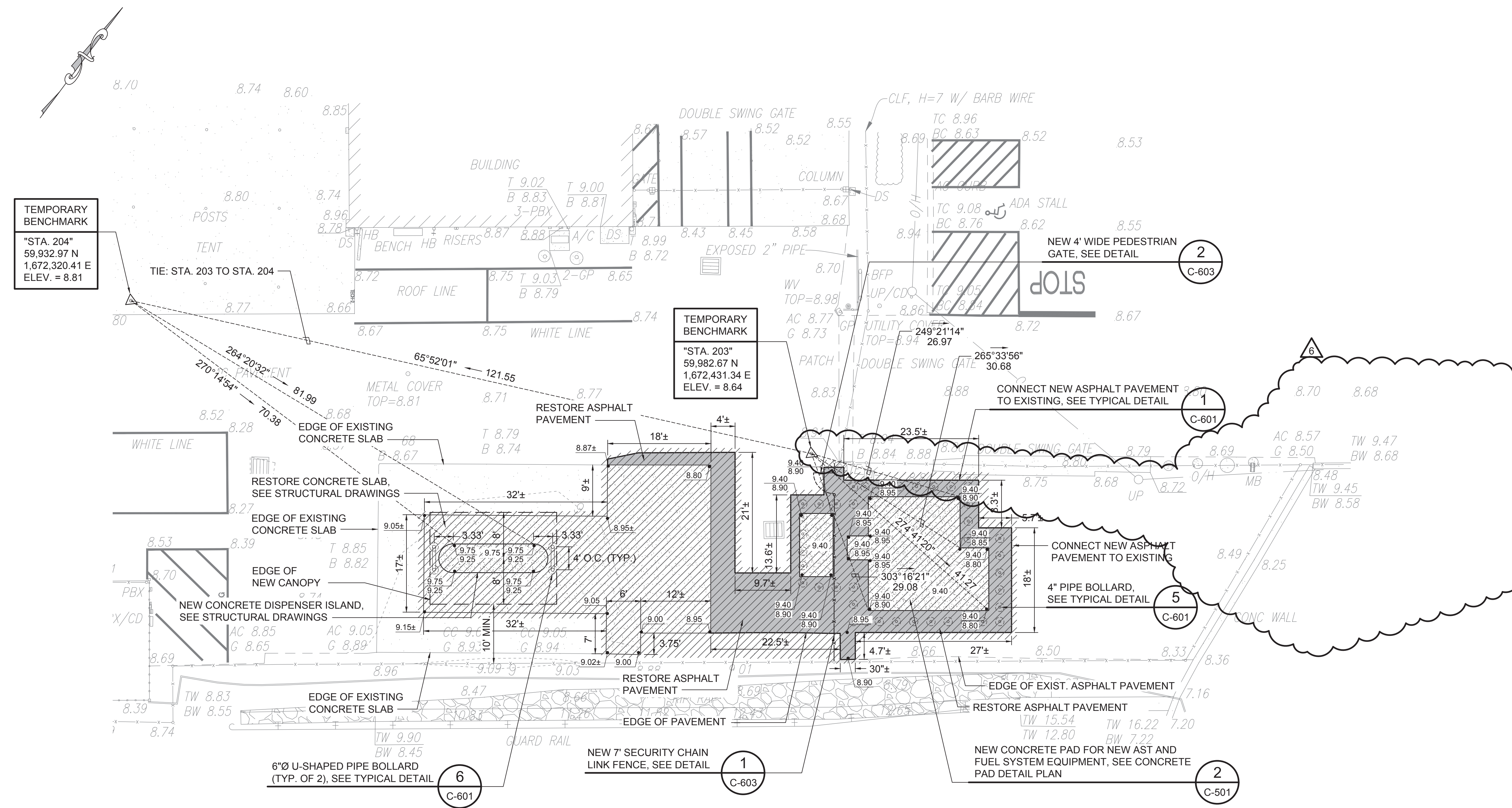


Matthew Fujioke  
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04/30/2026  
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RL	RL	MF	MF



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1	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
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**UST/AST REMOVALS AND REPLACEMENTS**  
AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO. :  
**AO1105-12**

SHEET TITLE :

**MAINTENANCE BASEYARD - NEW CIVIL SITE PLAN**

DATE :	DWG. NO.
12/09/2024	<b>C-221</b>
SHEET :	
8 OF 79 SHEETS	

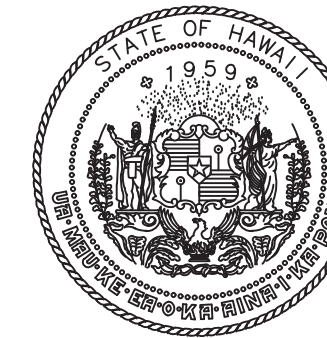
**SURVEY CONTROLS**  
HORIZONTAL:  
AZIMUTHS AND COORDINATES ARE REFERRED TO HAWAII STATE PLANE, NAD 83, ZONE 3, U.S. FEET.  
VERTICAL:  
NGS "HCTC 209" (NGS PID DR8027)  
BRASS DISK  
ELEV. = 7.29 FT., LMSL (ADJUSTED IN MAY 2022)

**1 MAINTENANCE BASEYARD - NEW CIVIL SITE PLAN**  
SCALE: 1" = 10'

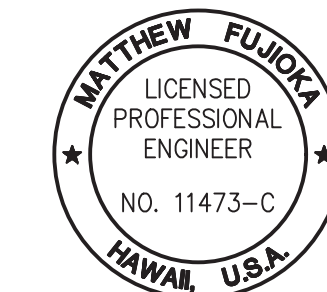


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C:\OPROJ\2023\23-07\_LDOTA\_UST\_REPLACEMENT\CD\SSHEETS\B-HNL\007\_008\_C-211\_C-212 - MAINTENANCE BASEYARD - DEMO-SEDIMENT CONTROL SITE PLAN AND NEW CIVIL SITE PLAN.DWG



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DEPARTMENT OF TRANSPORTATION  
AIRPORTS



MATTHEW FUJIOKE  
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5	11/19/25	ADDENDUM #1

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DECEMBER 09, 2024  
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PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

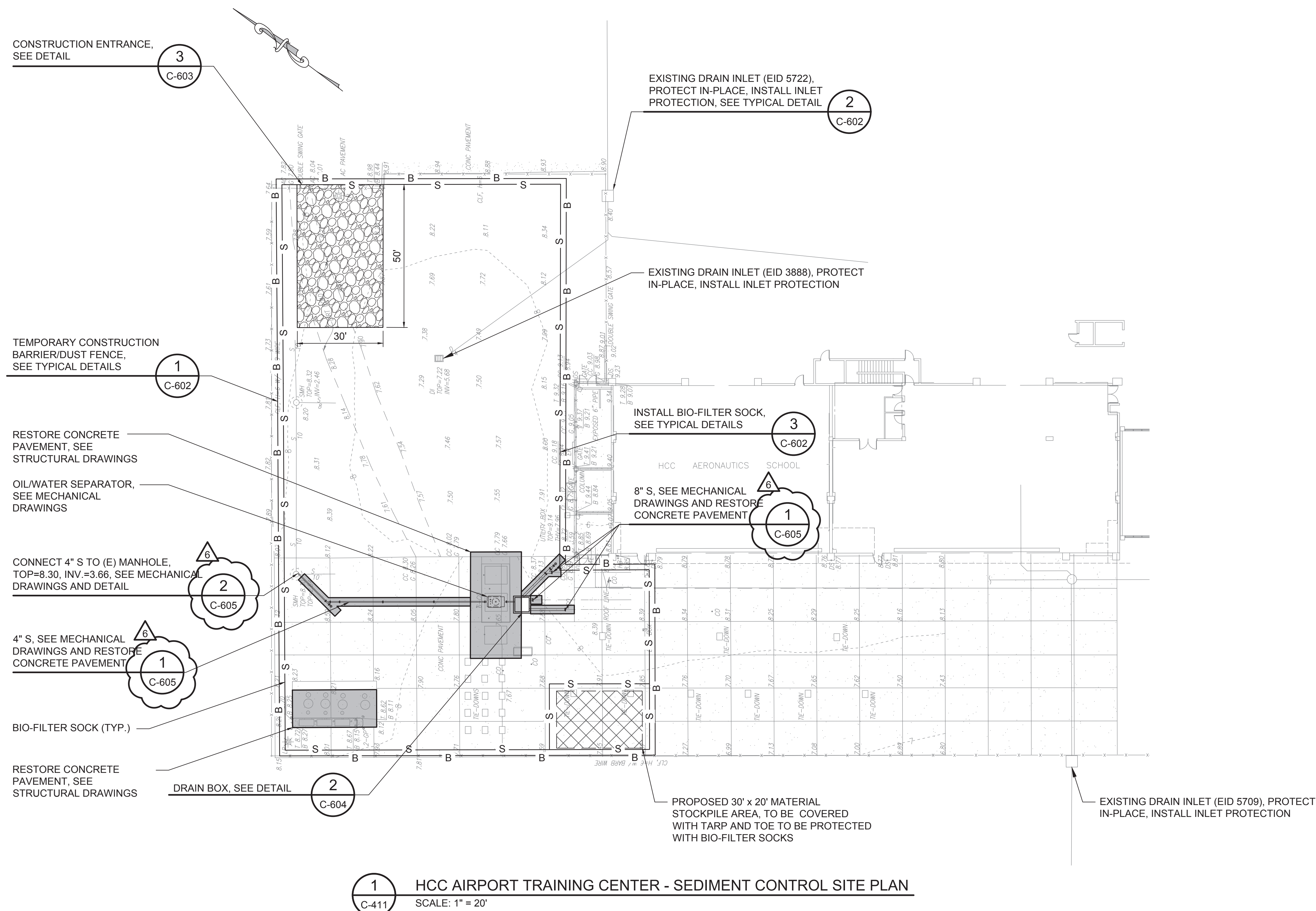
PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**HCC AIRPORT TRAINING CENTER - SEDIMENT CONTROL SITE PLAN**

DATE :	DWG. NO.
12/09/2024	<b>C-411</b>
SHEET :	
12 OF 79 SHEETS	

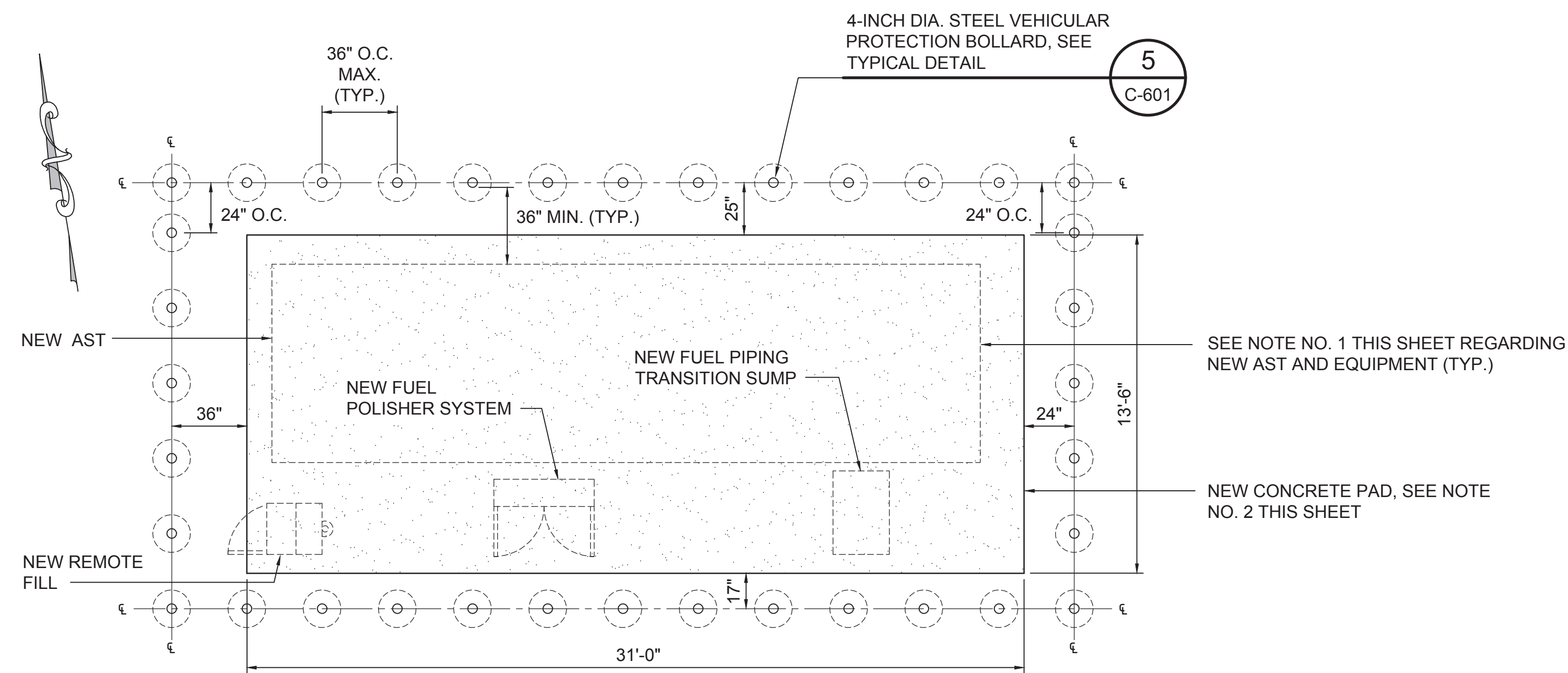


GRAPHIC SCALE:



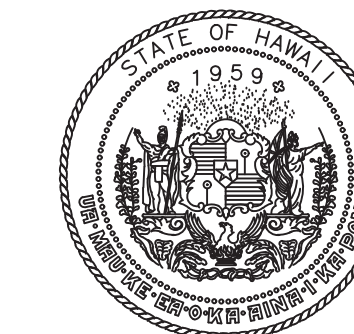
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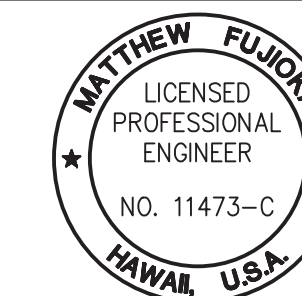


**1** LEI STAND - DETAIL CONCRETE EQUIPMENT PAD PLAN  
 C-501 SCALE: 1/4" = 1'-0"

- NOTES:**
- SEE RESPECTIVE MECHANICAL DRAWINGS FOR AST AND APPURTENANT EQUIPMENT LOCATIONS ON THE CONCRETE EQUIPMENT PADS.
  - SEE RESPECTIVE STRUCTURAL DRAWINGS FOR CONCRETE EQUIPMENT PAD REINFORCING AND ASSOCIATED STRUCTURAL DETAILS ON DRAWINGS S-121, S-222, S-223, AND S-321.
  - CLEAR DISTANCE BETWEEN BOLLARD AND TANK IS MEASURED FROM THE FACE OF THE BOLLARD FACING THE TANK.



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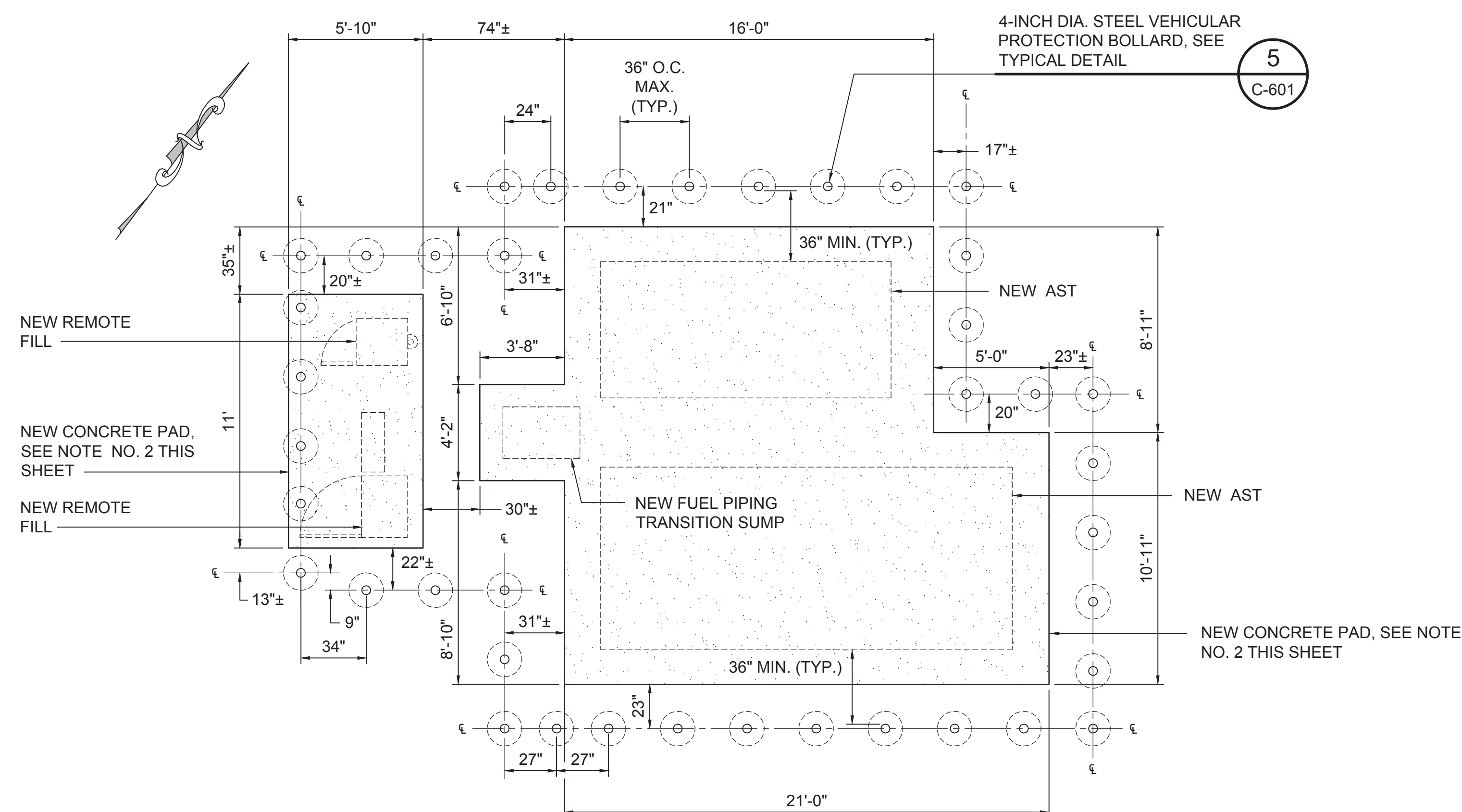


*Matthew Fujioke*

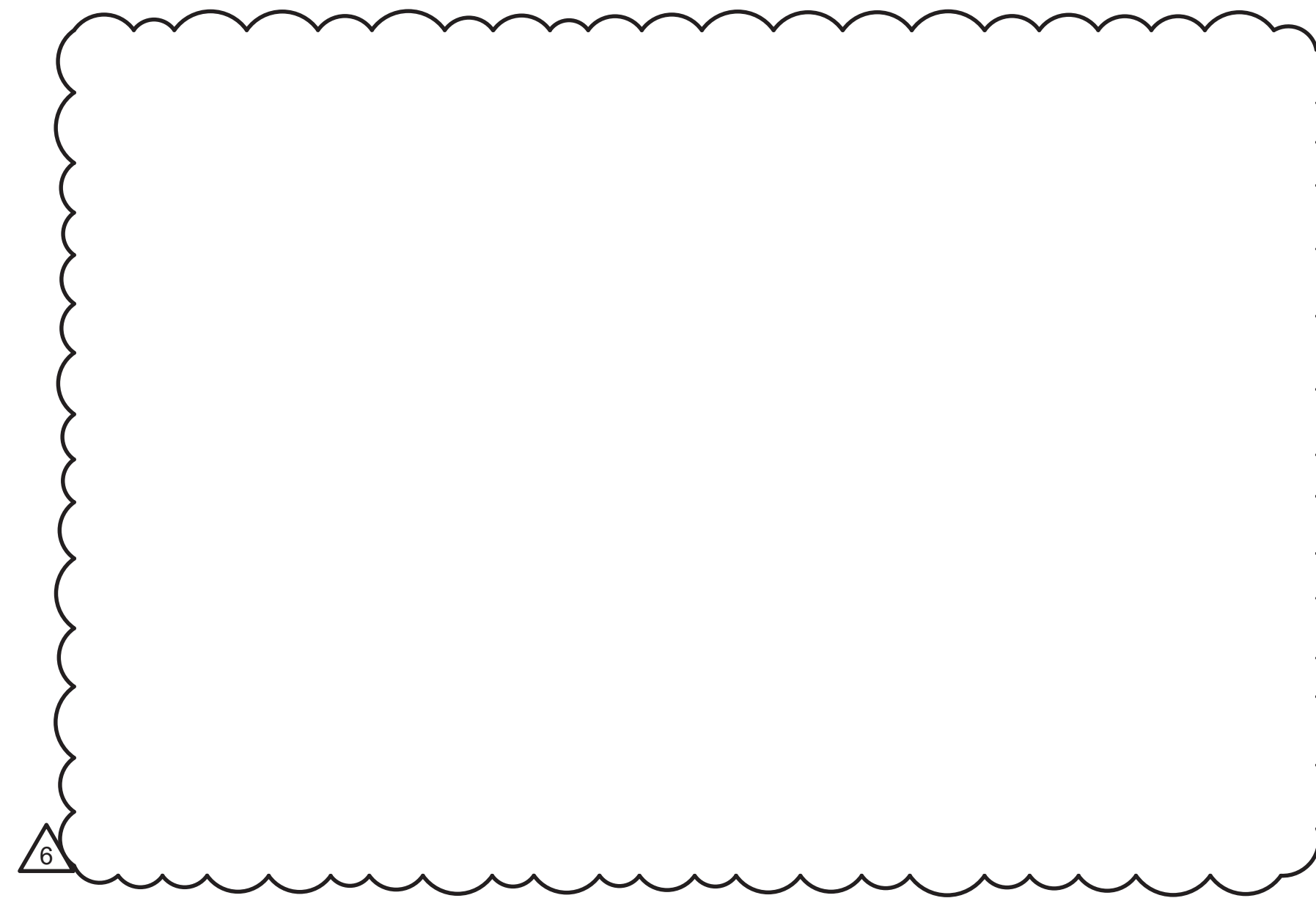
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RL	RL	MF	MF



**2** MAINTENANCE BASEYARD - DETAIL CONCRETE EQUIPMENT PAD PLAN  
 C-501 SCALE: 1/4" = 1'-0"



GRAPHIC SCALE:



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

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NO.	DATE	REVISIONS
6	2/27/26	ADDENDUM #6
5	11/19/25	ADDENDUM #1

**FINAL CONSTRUCTION DOCUMENTS**  
 DECEMBER 09, 2024  
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**PROJECT TITLE :**  
 UST/AST REMOVALS AND REPLACEMENTS  
 AT  
 DANIEL K. INOUE INTERNATIONAL AIRPORT  
 HONOLULU, OAHU, HAWAII

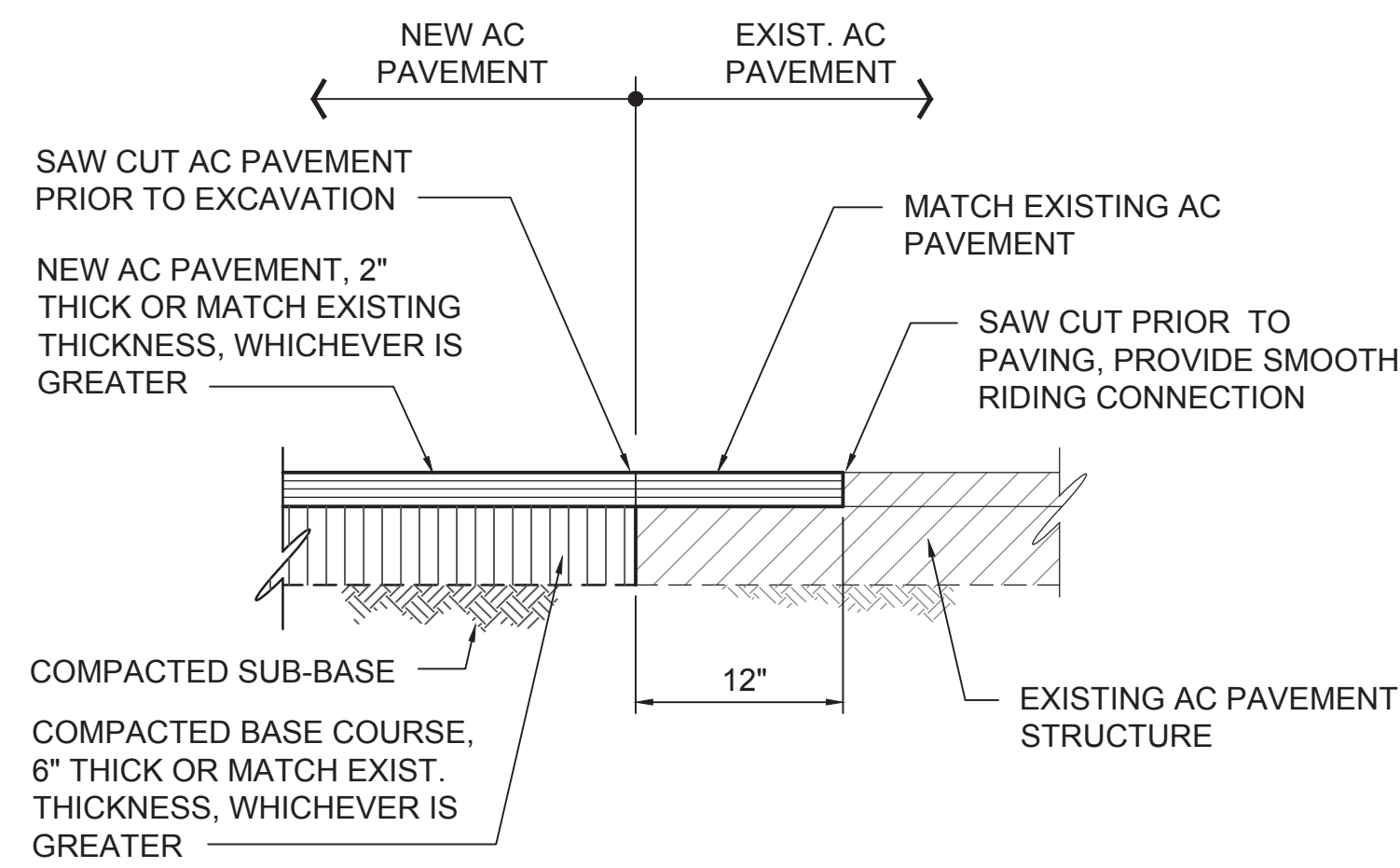
**PROJECT NO.:**  
 AO1105-12

**SHEET TITLE:**

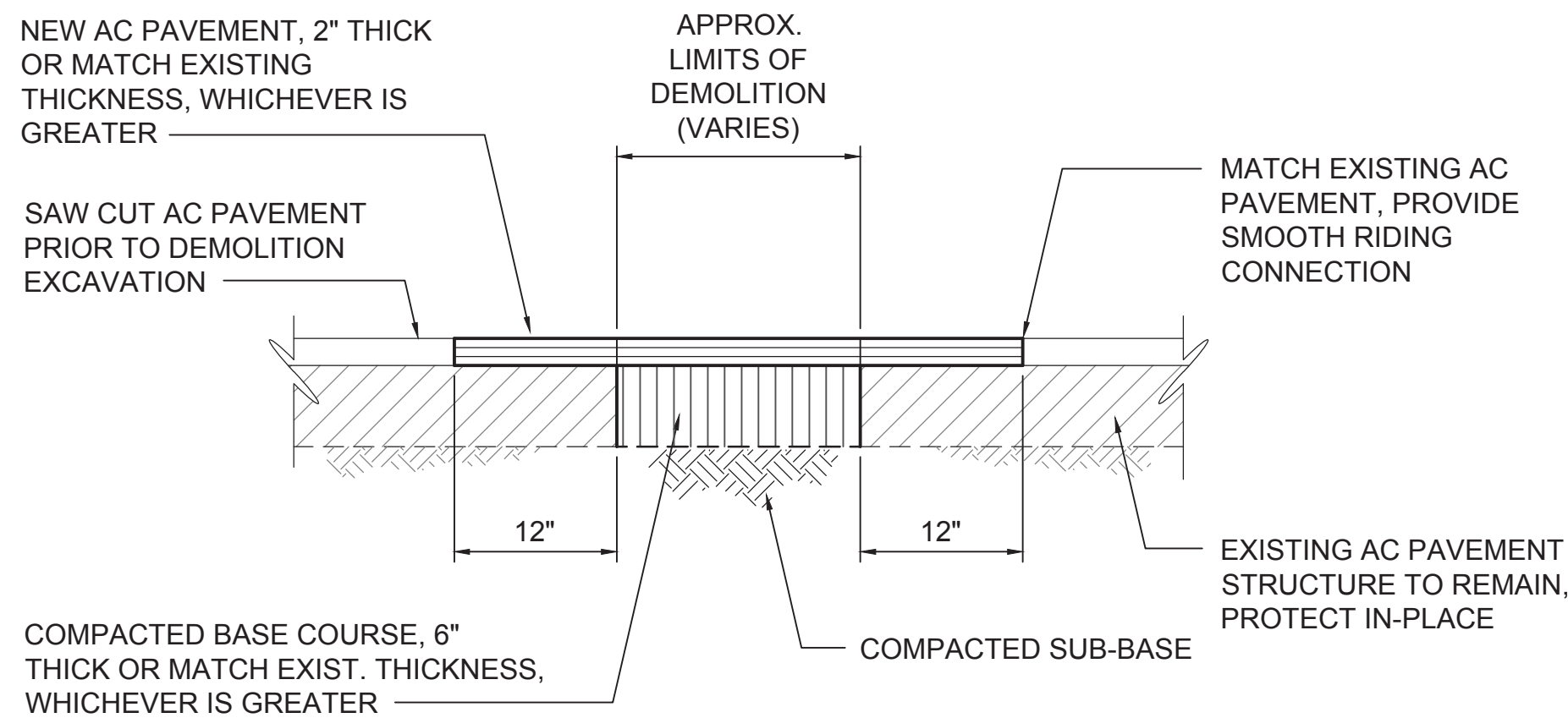
**CONCRETE EQUIPMENT PAD DETAILS PLAN**

DATE :	DWG. NO.
12/09/2024	C-501
SHEET :	
13 OF 79 SHEETS	

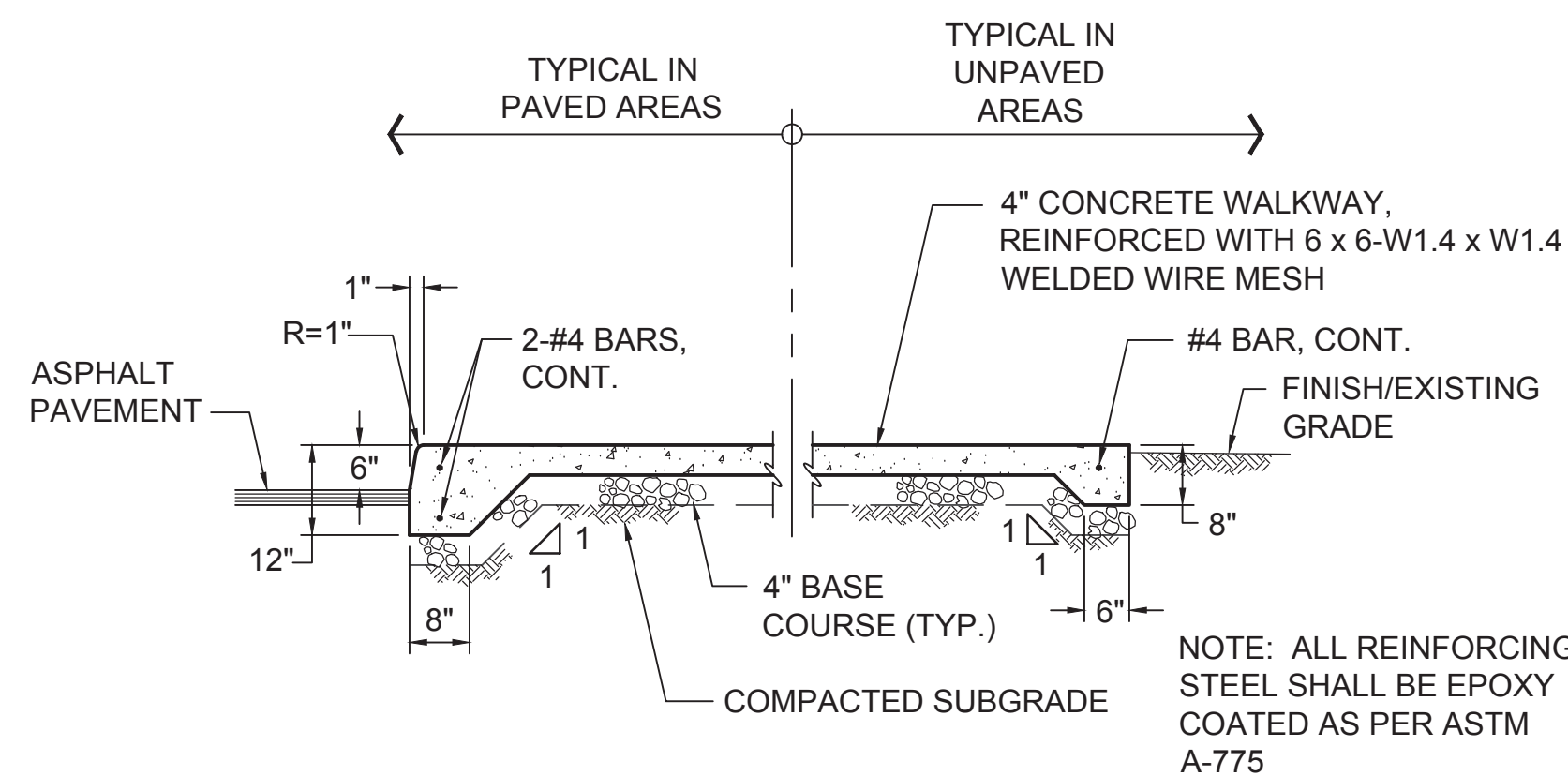
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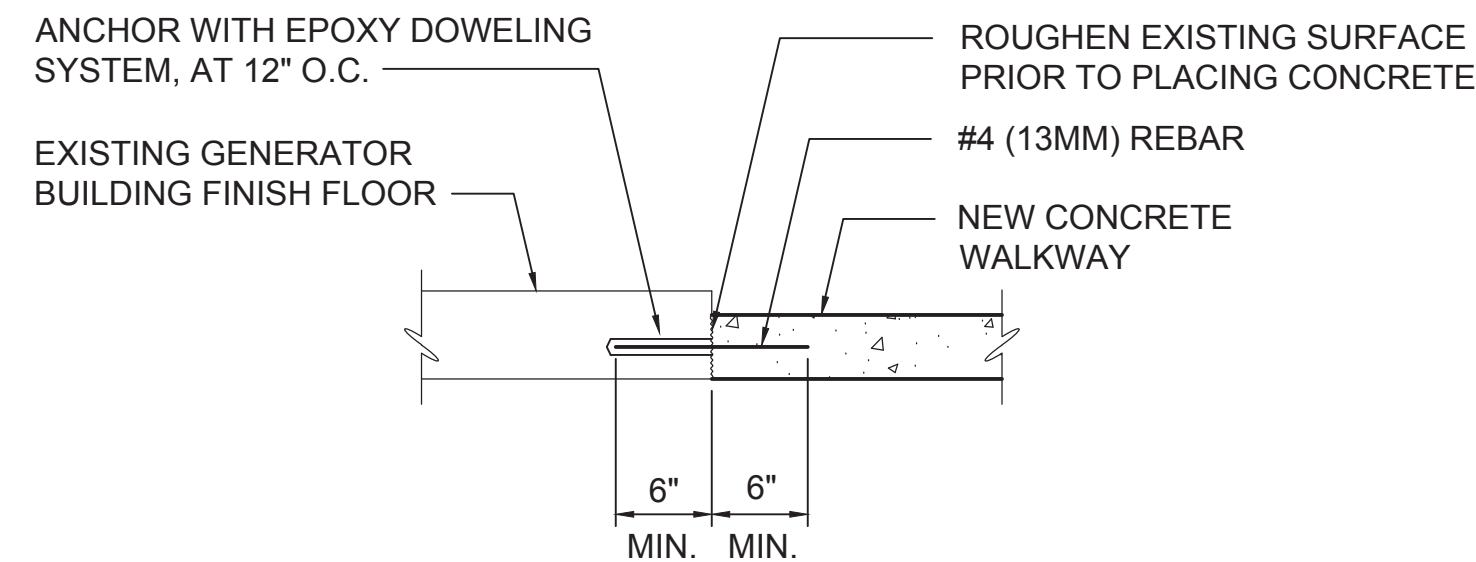
**1** ASPHALT PAVEMENT RESTORATION DETAIL  
C-601 NOT TO SCALE



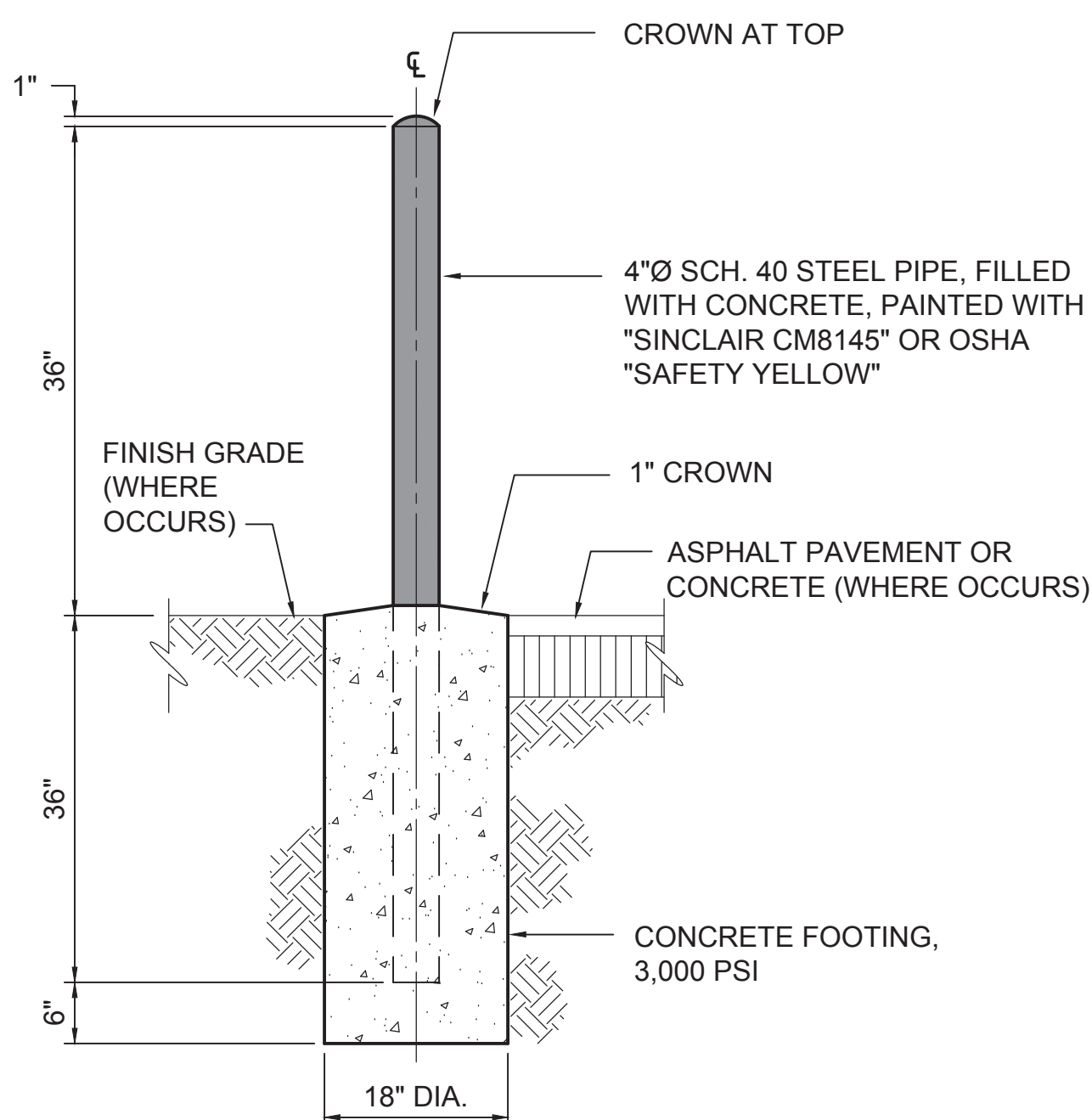
**2** ASPHALT PAVEMENT RESTORATION DETAIL - BOLLARD/POST REMOVAL  
C-601 NOT TO SCALE



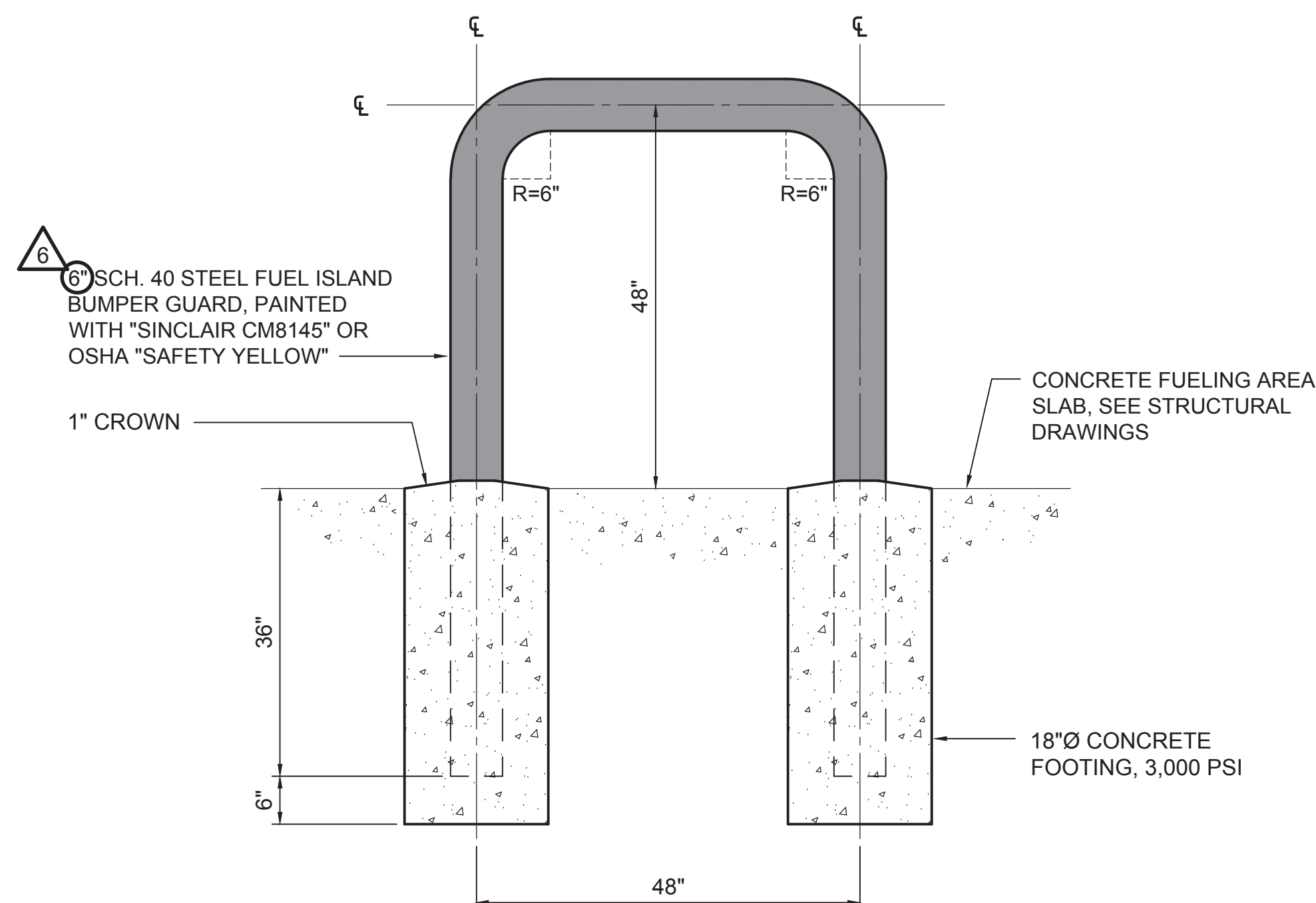
**3** CONCRETE WALKWAY TYPICAL SECTION  
C-601 NOT TO SCALE



**4** CONCRETE WALKWAY CONNECTION TO EXISTING DETAIL  
C-601 NOT TO SCALE

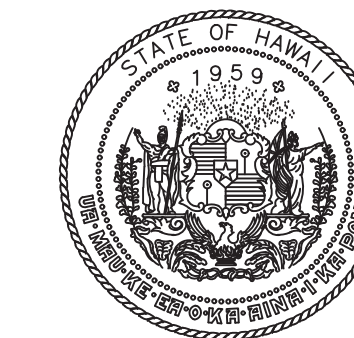


**5** TYPICAL 4-INCH VEHICULAR PROTECTION BOLLARD DETAIL  
C-601 NOT TO SCALE

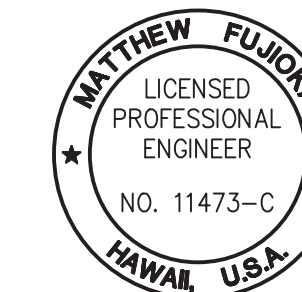


**6** 6-INCH U-SHAPED PIPE BOLLARD DETAIL  
C-601 NOT TO SCALE

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04/30/2026  
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RL	RL	MF	MF

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NO.	DATE	REVISIONS

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DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

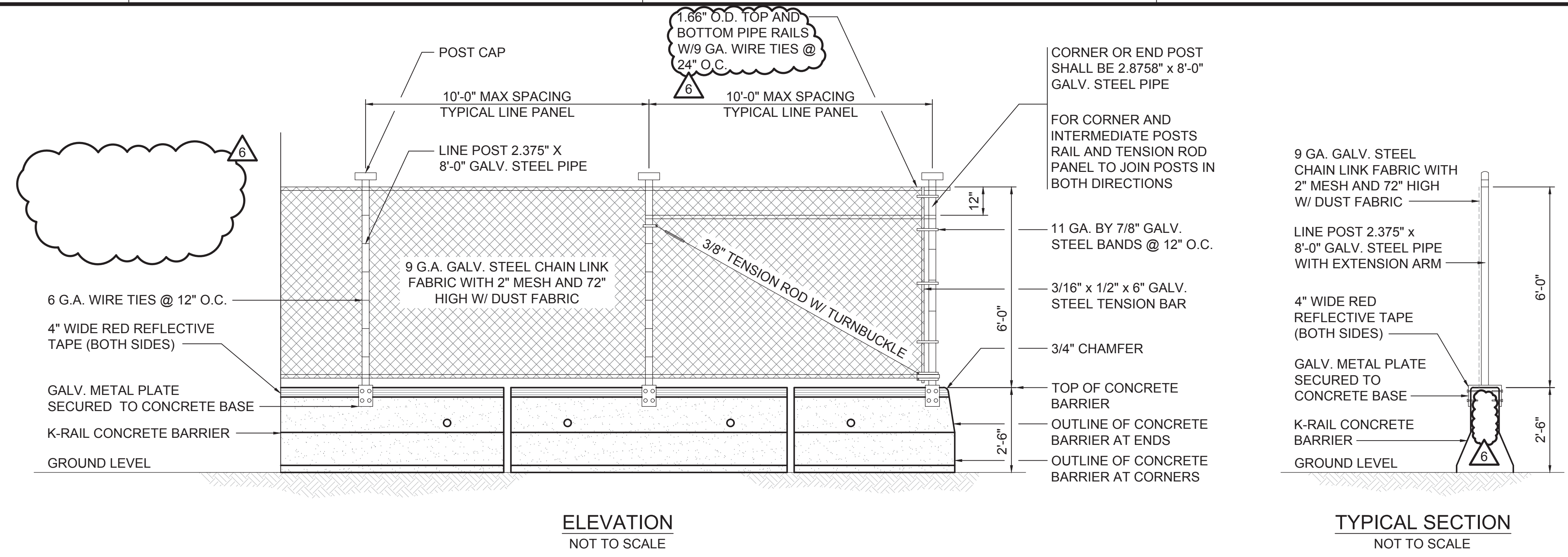
PROJECT NO.:

**AO1105-12**

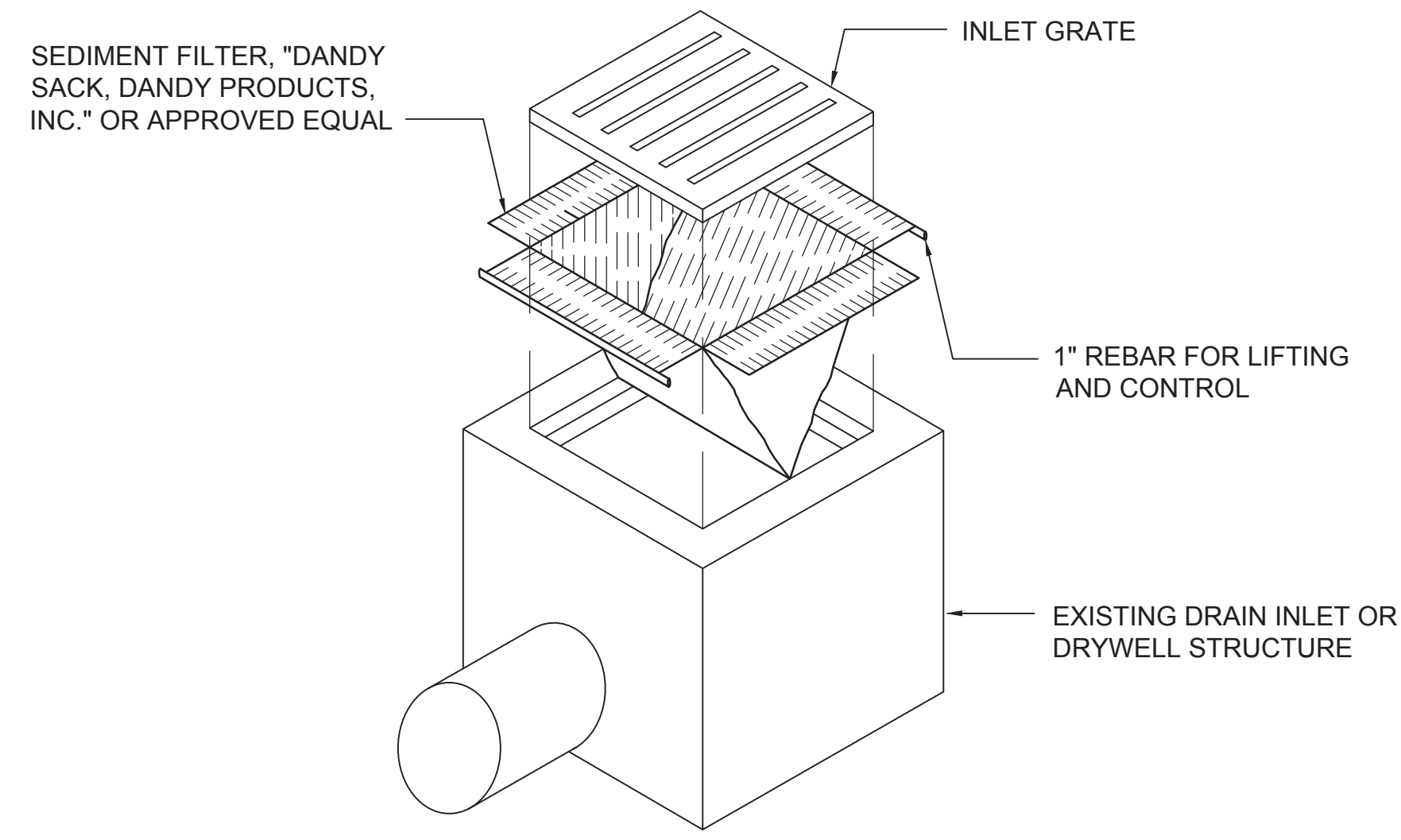
SHEET TITLE:

**CIVIL DETAILS**

DATE :	DWG. NO.
12/09/2024	<b>C-601</b>
SHEET :	
14 OF 79 SHEETS	

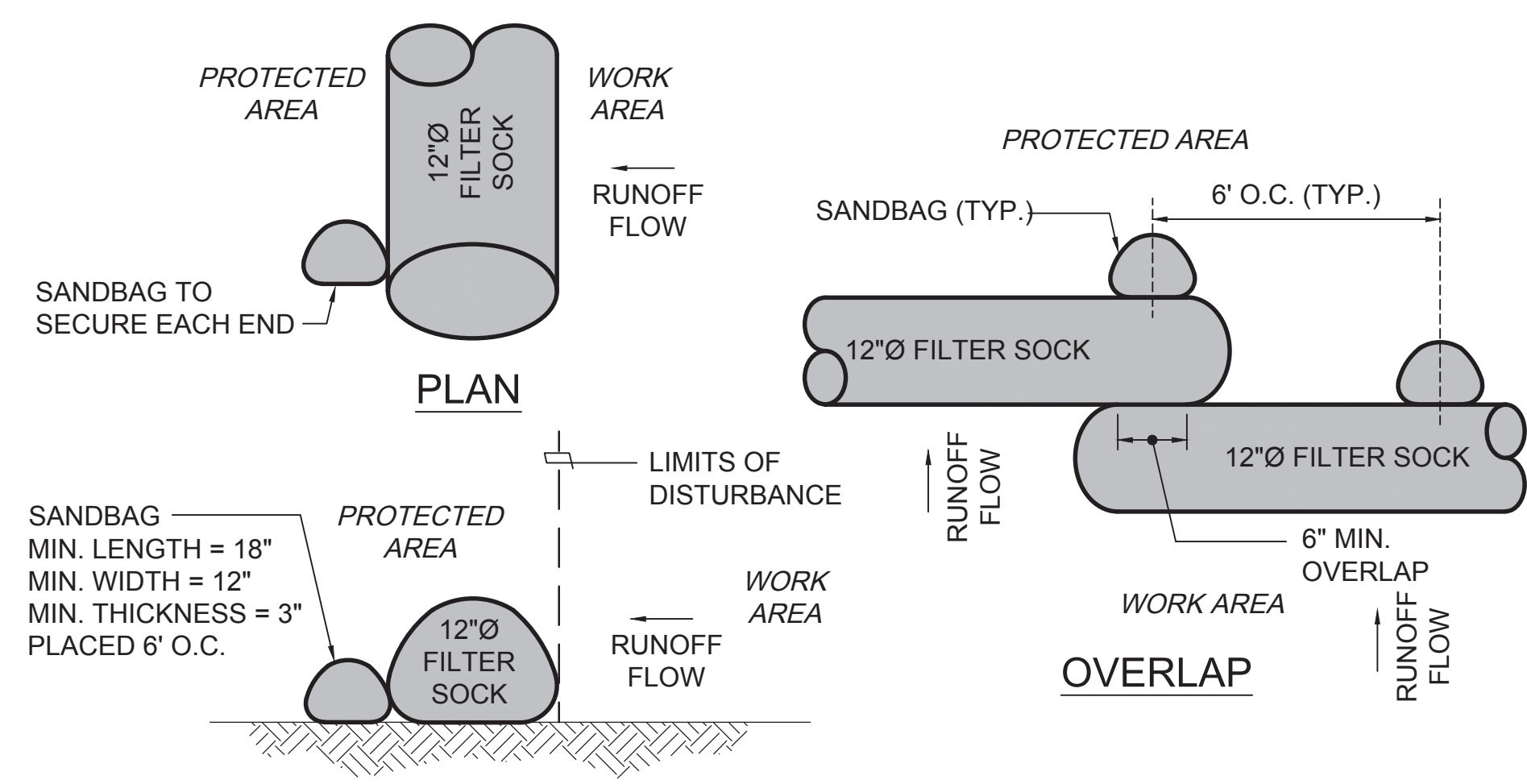


**1** TEMPORARY CONSTRUCTION BARRIER/DUST FENCE DETAILS  
C-602 NOT TO SCALE

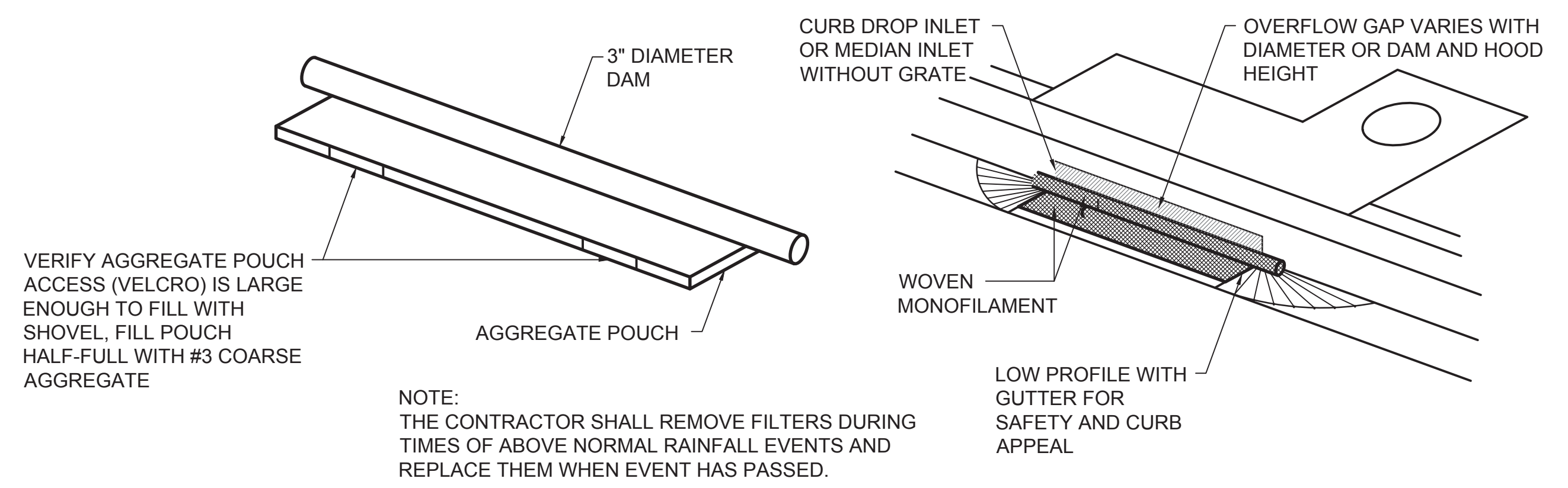


- NOTES:**
- CONTRACTOR SHALL INSTALL SEDIMENT FILTER DEVICES AT DRAIN INLETS INDICATED TO PREVENT SOIL OR DEBRIS IN ANY FORM FROM ENTERING THE DRAINAGE SYSTEM. COST FOR THE INSTALLATION OF FILTERS SHALL BE INCIDENTAL TO EXCAVATION WORK.
  - ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY.
  - DRAIN INLET PROTECTION DEVICE SHALL ONLY BE REMOVED WHEN DIRECTED BY THE AIRPORT MANAGER OR WHEN THERE IS AN IMMEDIATE DANGER TO PUBLIC AND TRAFFIC SAFETY. THE DEVICE SHALL BE IMMEDIATELY RESTORED AFTER THE RAIN EVENT HAS PASSED OR CEASED.
  - AT THE END OF THE PROJECT, EXISTING DRAIN INLETS, CATCH BASINS, AND INLET STRUCTURES ADJACENT TO THE PROJECT SITE SHALL BE INSPECTED. ANY ACCUMULATION OF SEDIMENT AND DEBRIS FOUND SHALL BE REMOVED. FLUSHING INTO CATCH BASINS IS PROHIBITED.
  - BOTTOM OF SEDIMENT FILTER SHALL NOT CONTACT THE BOTTOM OF THE DRAIN STRUCTURE.

**2** DRAIN INLET PROTECTION DETAIL  
C-602 NOT TO SCALE



**3** BIO-FILTER SOCK DETAILS  
C-602 NOT TO SCALE



**4** CATCH BASIN PROTECTION DETAILS  
C-602 NOT TO SCALE

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RL	RL	MF	MF

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6	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

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AT DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

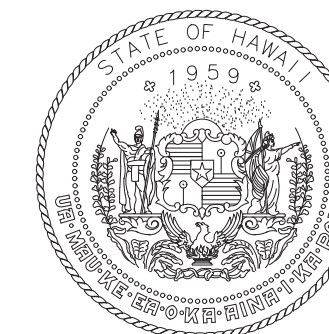
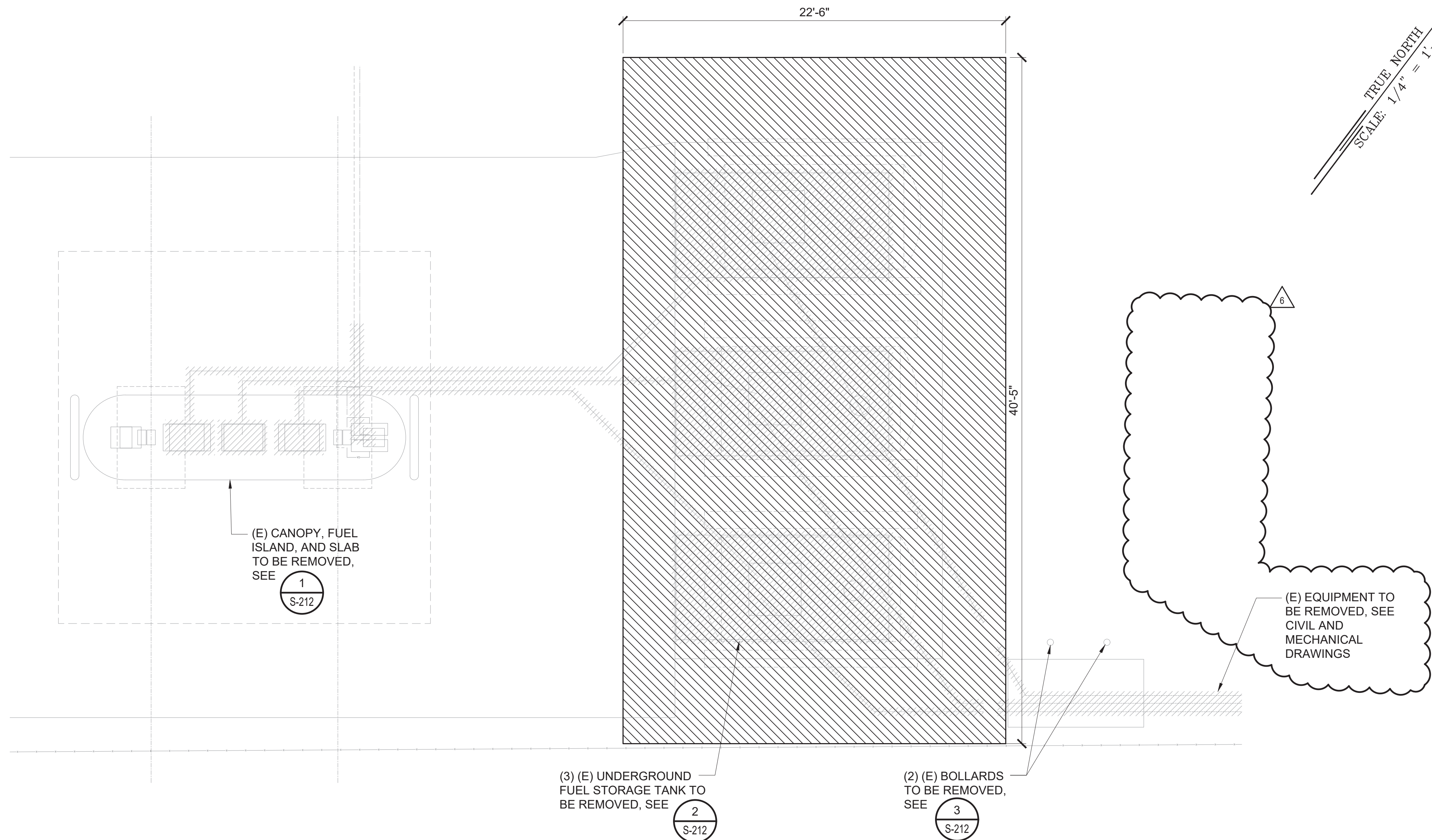
**AO1105-12**

SHEET TITLE:

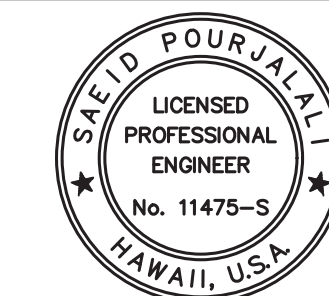
**CIVIL DETAILS**

DATE :	DWG. NO.
12/09/2024	<b>C-602</b>
SHEET :	
15 OF 79 SHEETS	

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DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Saad Pourjalali*

04/30/2026  
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DSGN.	DRWN.	CHKD.	APPD.
CS	CAD	SP	SP

△6	2/27/26	ADDENDUM #6
△1	11/19/25	ADDENDUM #1
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DANIEL K. INOUE INTERNATIONAL AIRPORT  
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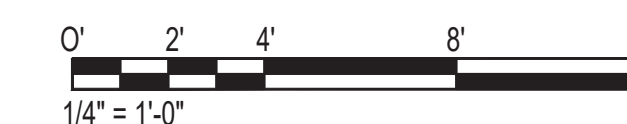
PROJECT NO.:

**AO1105-12**

SHEET TITLE:

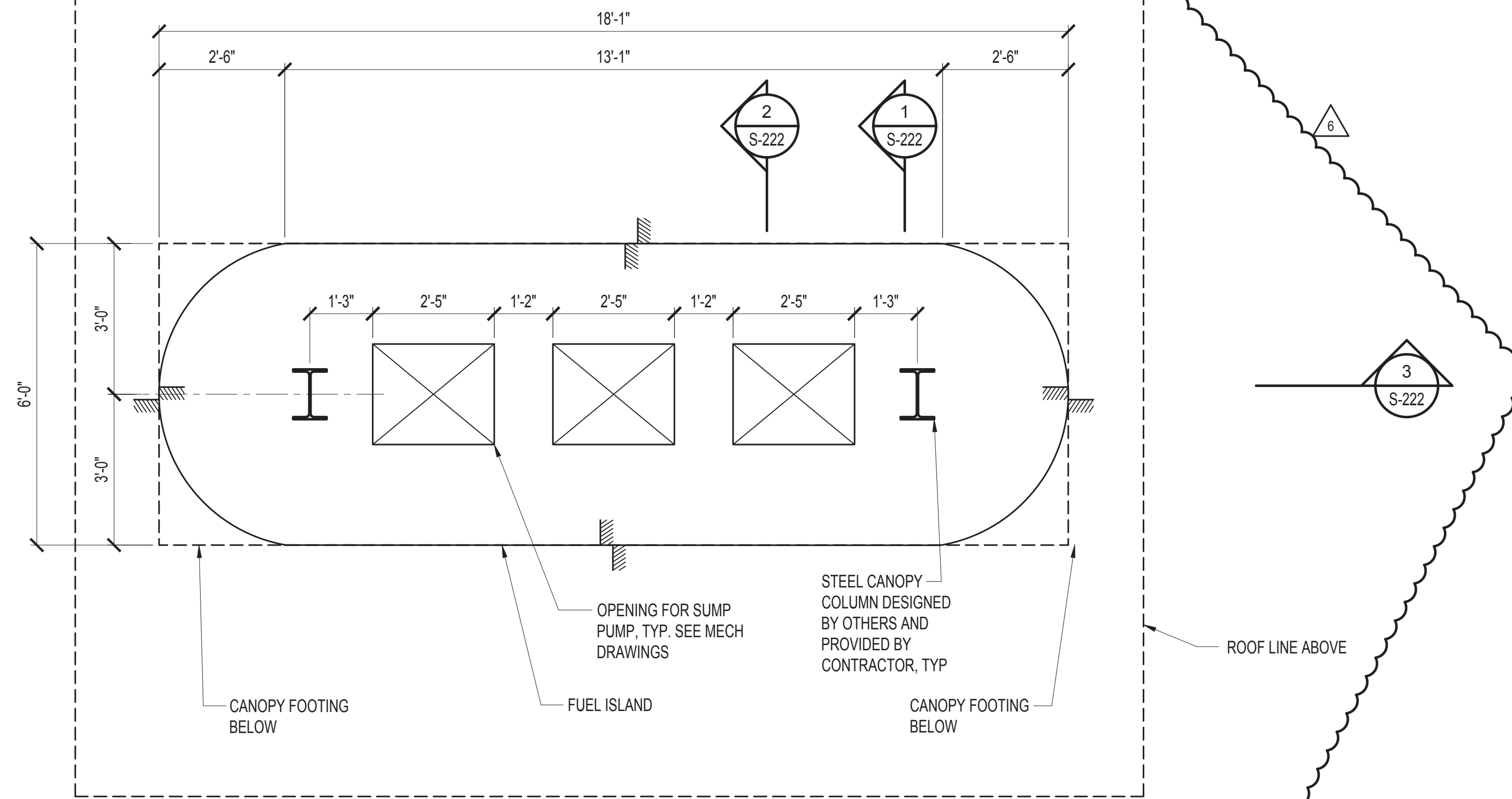
**MAINTENANCE BASEYARD - SITE DEMOLITION PLAN**

DATE :	DWG. NO.
12/09/2024	<b>S-211</b>
SHEET :	
24 OF 79 SHEETS	



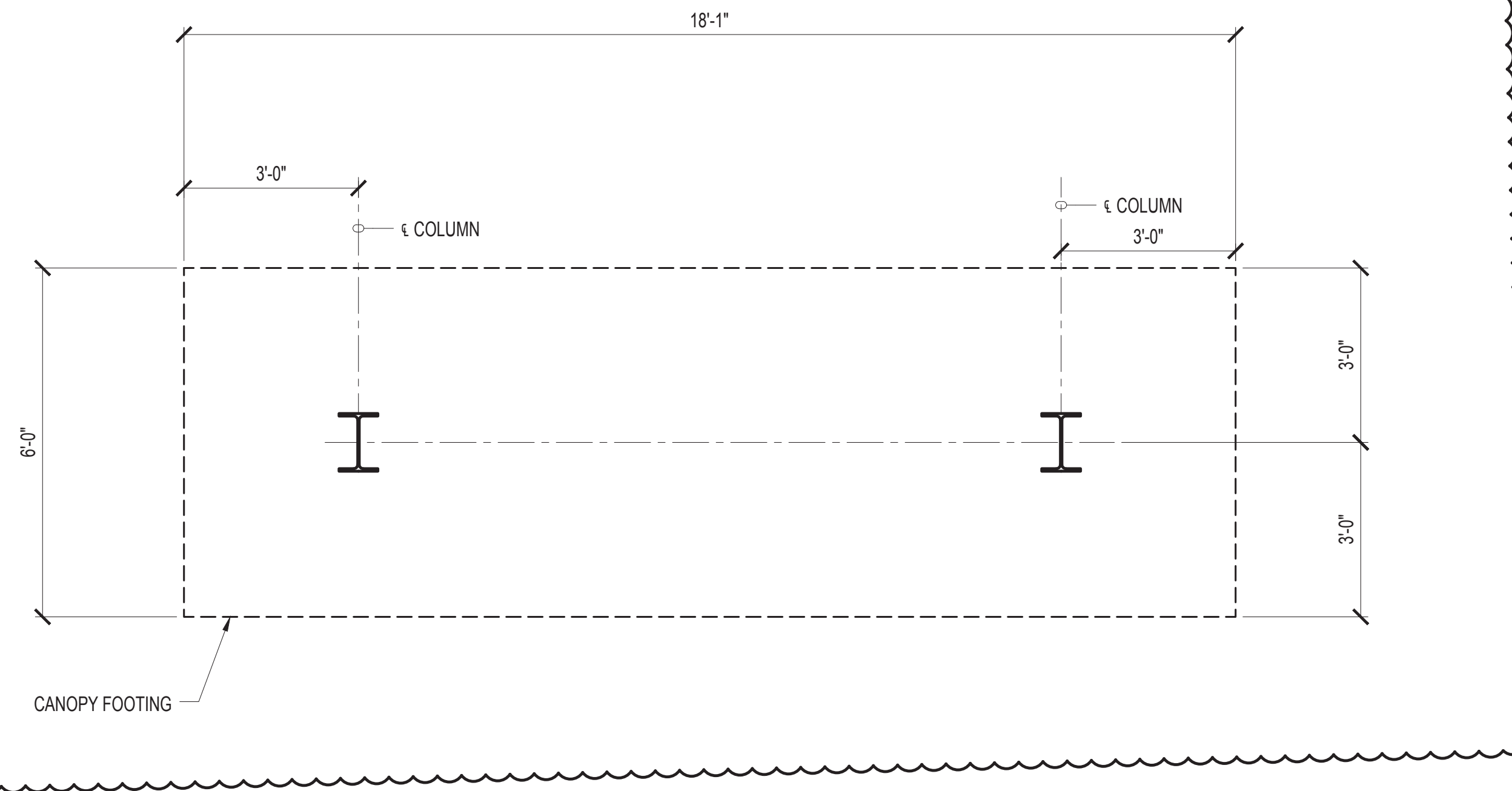
NOTE:

1. FOR LOCATION SEE CIVIL DRAWINGS.
2. FUEL SUPPORT SHALL BE SURFACE MOUNTED, SEE MECHANICAL.
3. FUEL SUPPORT TO BASE SHALL BE DESIGNED BY OTHERS AND PROVIDED BY CONTRACTOR.
4. ADD CORNER REINFORCING AT OPENINGS, BEND AS NEEDED. SEE



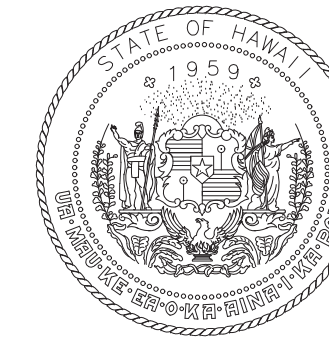
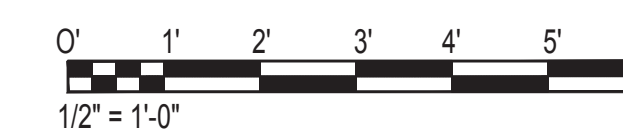
1 CANOPY ISLAND PLAN

S-221 SCALE: 1/2" = 1'-0"

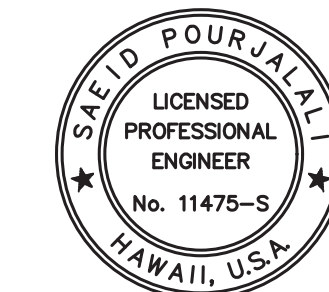


2 CANOPY FOUNDATION PLAN

S-221 SCALE: 1/2" = 1'-0"



STATE OF HAWAII  
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*Saad Pourjalali*

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DSGN.	DRWN.	CHKD.	APPD.
CS	CAD	SP	SP

6	2/27/26	ADDENDUM #6
1	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**MAINTENANCE BASEYARD - SITE CANOPY PLAN**

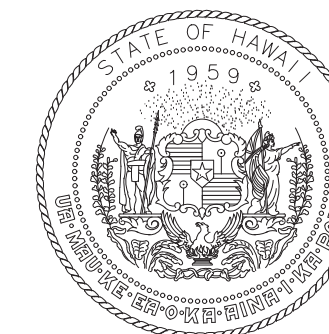
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12/09/2024

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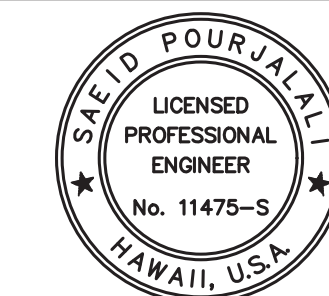
26 OF 79 SHEETS

DWG. NO.

**S-221**



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HONOLULU, OAHU, HAWAII

PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**MAINTENANCE BASEYARD - SITE CANOPY SECTION**

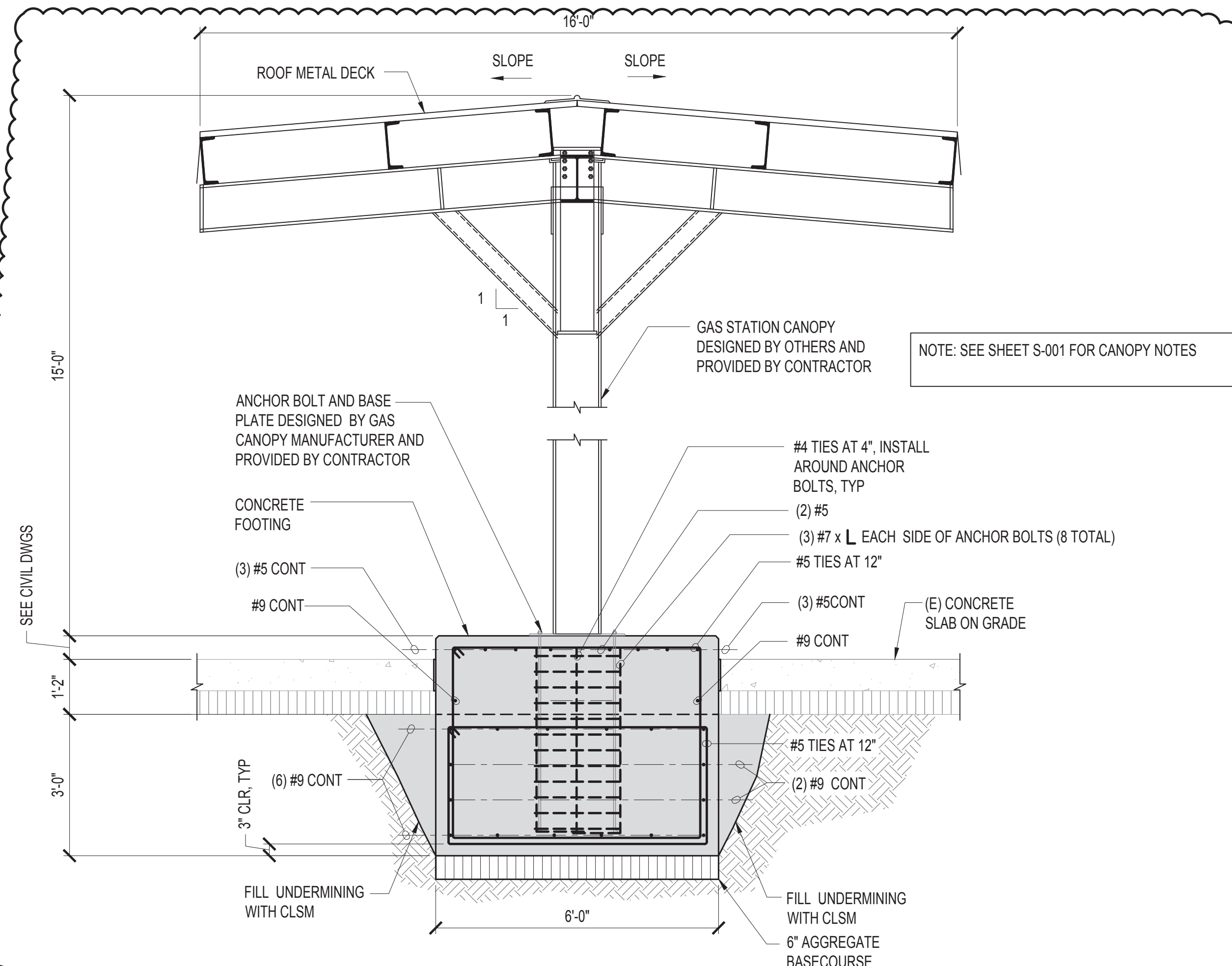
DATE :  
**12/09/2024**

DWG. NO.

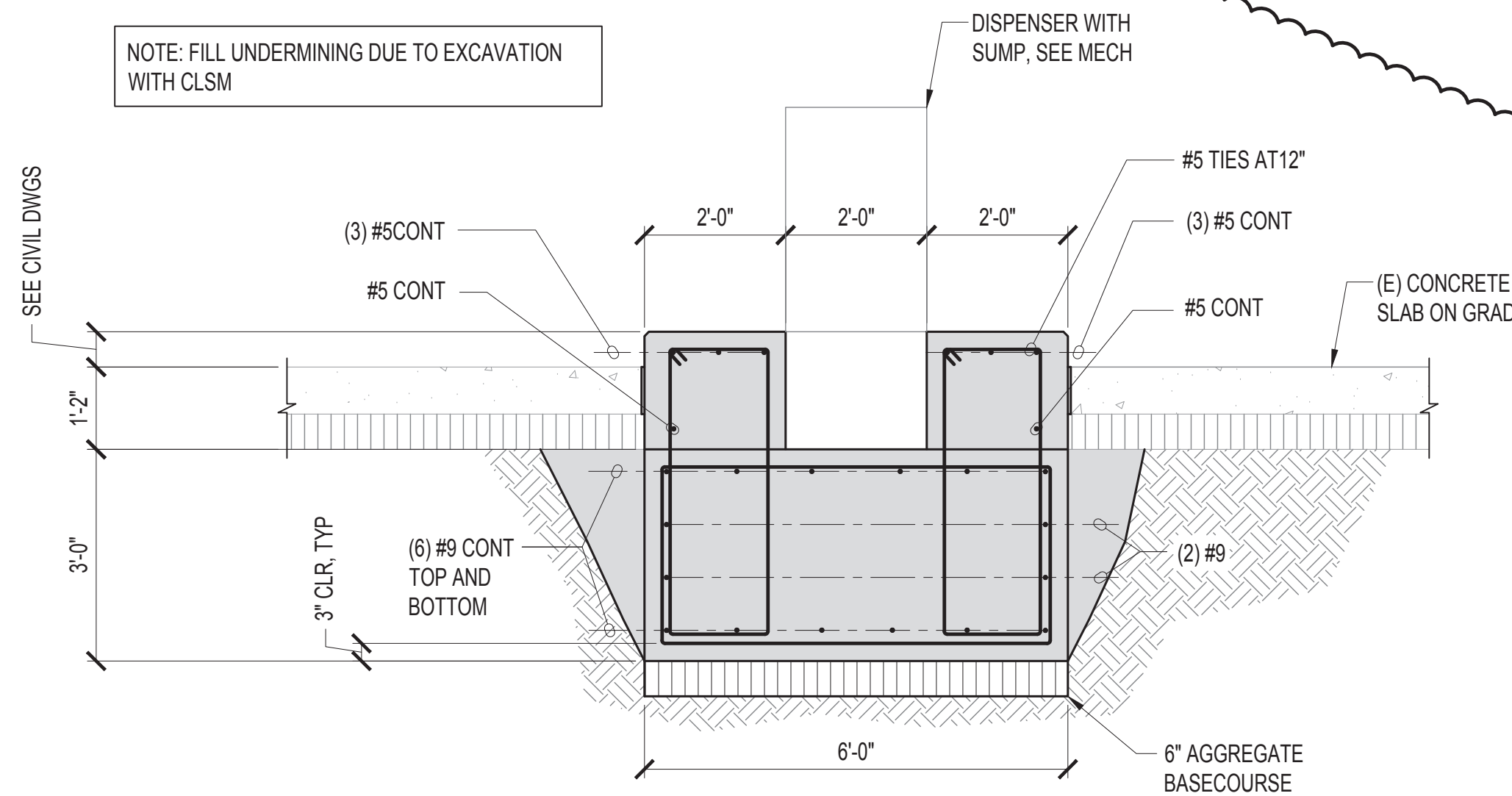
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**S-222**

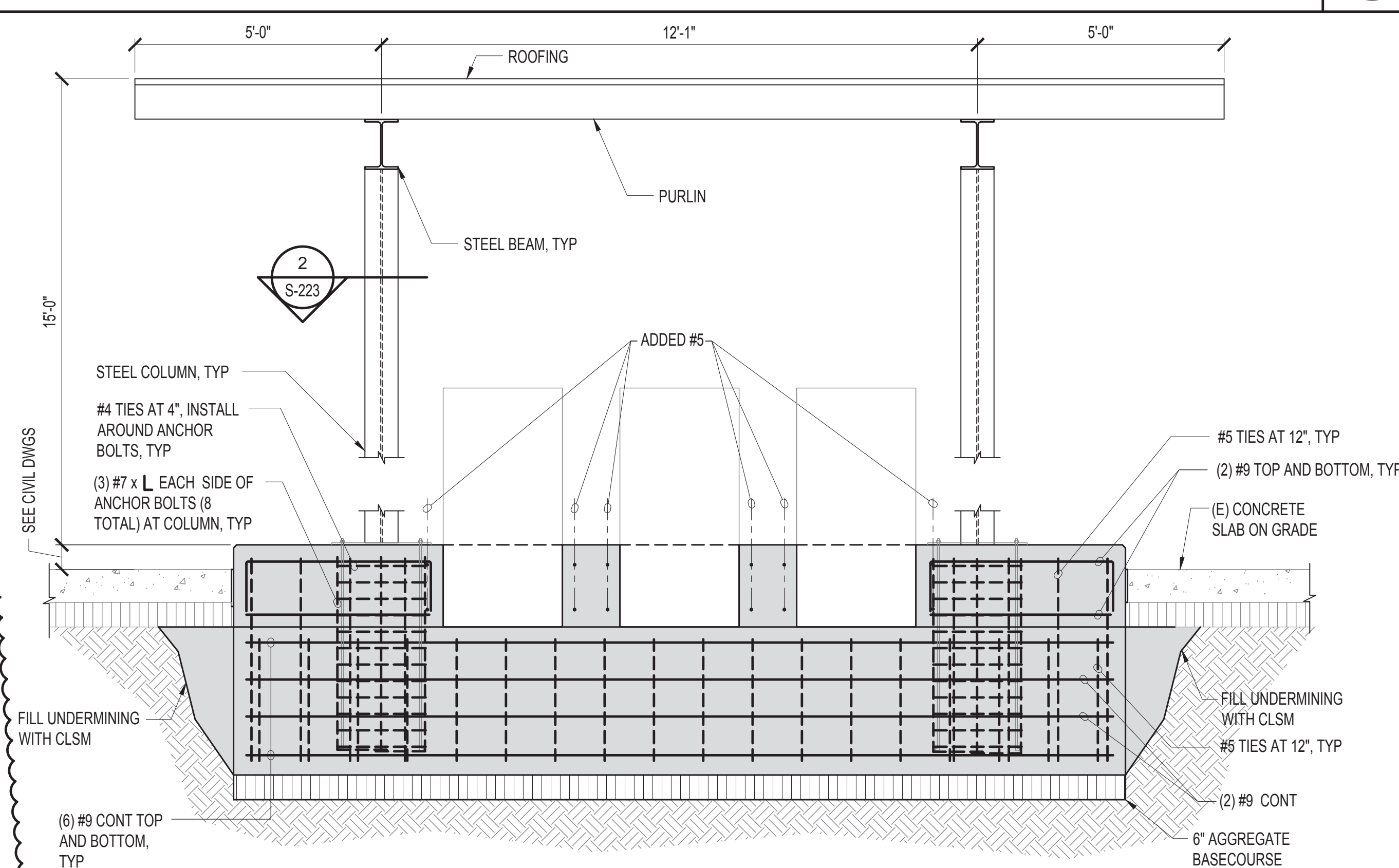
27 OF 79 SHEETS



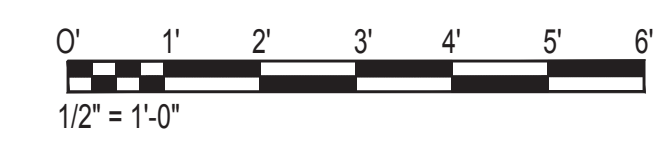
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SCALE: 1/2" = 1'-0"



**2 ISLAND CROSS SECTION AT SUMP PUMP**  
SCALE: 1/2" = 1'-0"



**3 CANOPY LONGITUDINAL SECTION**  
SCALE: 1/2" = 1'-0"



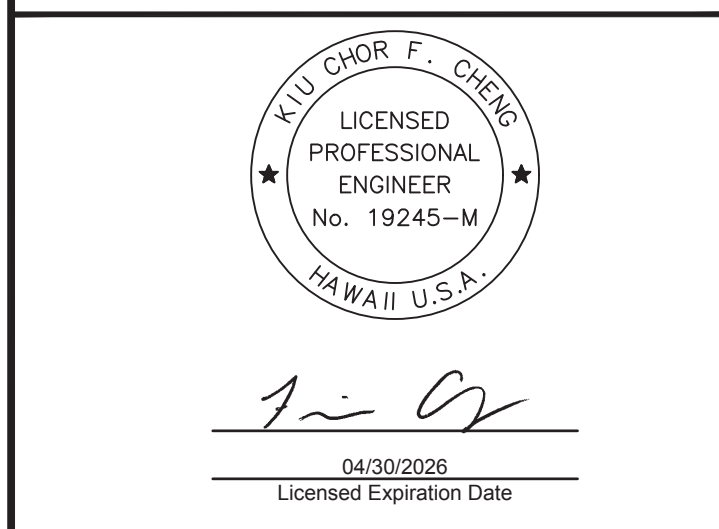
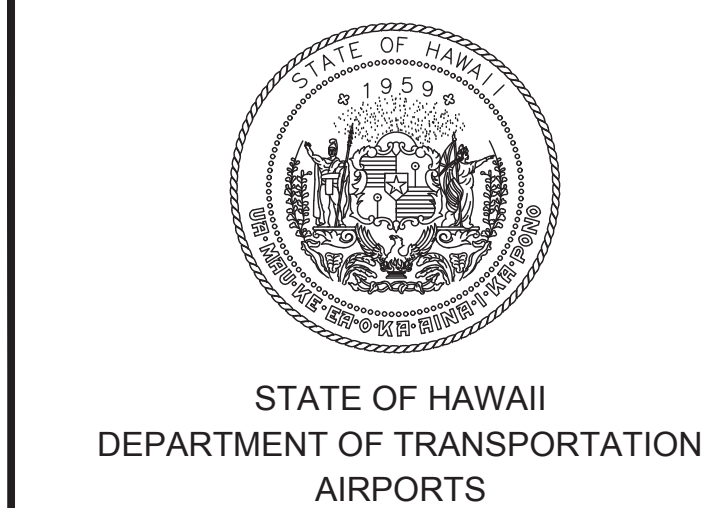
MECHANICAL LEGEND		
SYMBOLS	ABBR.	DESCRIPTION
		EXISTING TO REMAIN
		NEW MECHANICAL WORK
	(E)	EXISTING
	(N)	NEW
		EXISTING TO BE REMOVED
		POINT OF CONNECTION
	CW	COLD WATER
	CA	COMPRESSED AIR
	V	VENT
	S	SANITARY
	SD	STORM DRAIN
	FOS	FUEL OIL SUPPLY
	FE	FIRE EXTINGUISHER

MECHANICAL LEGEND (CONT.)		
SYMBOLS	ABBR.	DESCRIPTION
	FOR	FUEL OIL RETURN
	COTG	CLEANOUT TO GRADE
	BV	BALL VALVE
	MBV	MOTORIZED BALL VALVE
	GV	GATE VALVE
	SV	SOLENOID VALVE
	CV	CHECK VALVE
		STRAINER
		UNION
	HB	HOSE BIBB
	BFP	BACKFLOW PREVENTER
	F	FLOW SWITCH

MECHANICAL EQUIPMENT SCHEDULE (CONT.)		
SYMBOL	DESCRIPTION	REMARKS*
	<p><b>PROTECTED ABOVEGROUND FUEL STORAGE TANK (GASOLINE):</b> UL-2085 LISTED, DOUBLE COMPARTMENT, RECTANGULAR SECONDARY CONTAINMENT TANK SYSTEM.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>TANK CAPACITY: TWO 2,500 GALLON COMPARTMENTS APPROXIMATE TANK DIMENSIONS: 17'-10" L x 8'-0" W x 6'-0" H EMPTY TANK WEIGHT: 18,500 LBS</p> <p>FURNISH TANK WITH ALL TOP PROTRUSIONS TO BE 304 STAINLESS STEEL. FURNISH WITH SECONDARY EMERGENCY VENT AND 24-INCH DIAMETER MANWAY, MANWAY LADDER INSIDE OF TANK AND SURFACE MOUNTED EXTERIOR LADDER ON EACH COMPARTMENT. PROVIDE WITH EARTHQUAKE RESTRAINTS, AND ANCHOR BOLTS FOR EARTHQUAKE RESTRAINTS. PROVIDE MONITORING SYSTEM CONSOLE IN NEMA 4X STAINLESS STEEL LOCKABLE ENCLOSURE WITH REMOTE AUDIO AND VISUAL OVERFILL ALARM (ONE OVERFILL ALARM FOR AST-1 AND AST-2), ACKNOWLEDGEMENT/RESET SWITCH AND LINE LEAK DETECTION ALARM.</p>	DESIGN BASED ON MODERN WELDING COMPANY 5,000 GALLON MODERN FIREGUARD TANK
	<p><b>SUBMERSIBLE TURBINE PUMP (DIESEL AND GASOLINE):</b></p> <p>STAINLESS STEEL SUBMERSIBLE TURBINE FUEL PUMP.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM HORSEPOWER: 0.75 HP PRESSURE DROP: 15 FT TDH ELECTRICAL: 208V/1φ/60Hz</p> <p>FURNISH WITH TYPE 316 STAINLESS STEEL AND NEMA 4X STANDARD CONTROL BOX. CONTRACTOR SHALL COORDINATE FINAL PUMP ASSEMBLY LENGTH WITH TANK MANUFACTURER/TANK SELECTION.</p>	DESIGN BASED ON VEEDER-ROOT RED JACKET STP
	<p><b>SUBMERSIBLE TURBINE PUMP (DIESEL AND GASOLINE):</b></p> <p>STAINLESS STEEL SUBMERSIBLE TURBINE FUEL PUMP.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM HORSEPOWER: 0.75 HP PRESSURE DROP: 15 FT TDH ELECTRICAL: 208V/1φ/60Hz</p> <p>FURNISH WITH TYPE 316 STAINLESS STEEL AND NEMA 4X STANDARD CONTROL BOX. CONTRACTOR SHALL COORDINATE FINAL PUMP ASSEMBLY LENGTH WITH TANK MANUFACTURER/TANK SELECTION.</p>	DESIGN BASED ON VEEDER-ROOT RED JACKET STP
	<p><b>SUBMERSIBLE TURBINE PUMP (DIESEL AND GASOLINE):</b></p> <p>STAINLESS STEEL SUBMERSIBLE TURBINE FUEL PUMP.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM HORSEPOWER: 0.75 HP PRESSURE DROP: 15 FT TDH ELECTRICAL: 208V/1φ/60Hz</p> <p>FURNISH WITH TYPE 316 STAINLESS STEEL AND NEMA 4X STANDARD CONTROL BOX. CONTRACTOR SHALL COORDINATE FINAL PUMP ASSEMBLY LENGTH WITH TANK MANUFACTURER/TANK SELECTION.</p>	DESIGN BASED ON VEEDER-ROOT RED JACKET STP
	<p><b>FUEL FILTER:</b></p> <p>IN-LINE FUEL FILTER WITH COALESCER/SEPARATOR FILTER.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>MAXIMUM FLOW RATE: 30 GPM MAXIMUM PRESSURE: 150 PSI MAXIMUM TEMPERATURE: 160°F MICRON RATING: 10 PORT CONNECTION: 1-1/2"Ø WEIGHT: 17 LBS</p> <p>FURNISH FUEL FILTER WITH WALL MOUNTING BRACKET KIT, DIFFERENTIAL PRESSURE GAUGE, SIGHT GLASS AND DRAIN VALVE .</p>	DESIGN BASED ON RACOR FBO-14-DPL
	<p><b>REMOTE FILL PORT (GASOLINE):</b></p> <p>REMOTE FILL PORT WITH WEATHERPROOF, LOCKABLE BOX, SPILL CONTAINMENT, QUICK DISCONNECT HOSE COUPLING, MANUAL HAND SUMP PUMP WITH BALL VALVES, CHECK VALVE AND DRAIN, SHUTOFF VALVE, PRESSURE RELIEF VALVE AND FILL CONTROLLER USED FOR FILLING TWO OR MORE TANKS/COMPARTMENTS.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>INLET CONNECTION: 2"Ø SPILL CONTAINMENT: 20 GALLONS ELECTRICAL: 115V/1φ/60Hz WEIGHT: 363 LBS</p> <p>FURNISH FILL PORT WITH TOP OUTLET, VAPOR RECOVERY SYSTEM, SOLENOID VALVES, VACUUM VENT CAP AND 4"Ø LEVEL TRANSDUCER WITH LEVEL SENSORS.</p>	DESIGN BASED ON SIMPLEX AUTOMATIC FUELPORT MULTI-TANK
	<p><b>COMPACT REMOTE FILL PORT (DIESEL):</b></p> <p>COMPACT REMOTE FILL PORT WITH WEATHERPROOF, LOCKABLE BOX, SPILL CONTAINMENT, QUICK DISCONNECT HOSE COUPLING, MANUAL HAND SUMP PUMP WITH BALL VALVES, CHECK VALVE AND DRAIN, MOTORIZED SHUTOFF VALVE AND CONTROL PANEL.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>INLET CONNECTION: 2"Ø SPILL CONTAINMENT: 7 GALLONS ELECTRICAL: 115V/1φ/60Hz WEIGHT: 313 LBS</p> <p>FURNISH FILL PORT WITH TOP OUTLET, FUEL PORT POST ASSEMBLY AND 4"Ø LEVEL TRANSDUCER WITH LEVEL SENSORS.</p>	DESIGN BASED ON SIMPLEX COMPACT AUTOMATIC FUELPORT
	<p><b>FUEL POLISHER:</b></p> <p>DIESEL FUEL POLISHER WITH DUPLEX PUMP UNITS.</p> <p>LOCATION: LEI STAND</p> <p>PUMP: 6 GPM MAXIMUM OPERATING PRESSURE: 75 PSI ELECTRICAL: 120V/1φ/60Hz MOTOR: 1/3 HP, TEFC ENCLOSURE WEIGHT: 460 LBS</p> <p>FURNISH FUEL POLISHER WITH NEMA 4X CABINET.</p>	DESIGN BASED ON RCI TECHNOLOGIES FRS+ 6

MECHANICAL EQUIPMENT SCHEDULE		
SYMBOL	DESCRIPTION	REMARKS*
	<p><b>FUEL DISPENSER (DIESEL AND GASOLINE):</b></p> <p>TYPE 316 STAINLESS STEEL, ELECTRONIC REGISTER, DUAL HOSE AND FUEL NOZZLE DISPENSER.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM ELECTRICAL: 115V/1φ/60Hz INLET: 1-1/2"Ø HOSE: 1"Ø WEIGHT: 500 LBS</p> <p>FURNISH FUEL DISPENSER WITH RECONNECTABLE BREAKAWAY COUPLING, PRESSURE REGULATING VALVE, DISPENSER SUMP WITH SHEAR VALVE, SHEAR VALVE MOUNTING BRACKET AND PIPE ENTRY SEALKIT, AUTOMATIC SHUTOFF NOZZLE EQUIPPED WITH WIRELESS NOZZLE READER FOR FUEL MANAGEMENT, 12-FOOT FUEL HOSE ASSEMBLY, FUEL HOSE SWIVEL AND HIGH HOSE RETRIEVER.</p>	DESIGN BASED ON GASBOY ATLAS 9853KXTW1
	<p><b>FUEL DISPENSER (DIESEL AND GASOLINE):</b></p> <p>TYPE 316 STAINLESS STEEL, ELECTRONIC REGISTER, DUAL HOSE AND FUEL NOZZLE DISPENSER.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM ELECTRICAL: 115V/1φ/60Hz INLET: 1-1/2"Ø HOSE: 1"Ø WEIGHT: 500 LBS</p> <p>FURNISH FUEL DISPENSER WITH RECONNECTABLE BREAKAWAY COUPLING, PRESSURE REGULATING VALVE, DISPENSER SUMP WITH SHEAR VALVE, SHEAR VALVE MOUNTING BRACKET AND PIPE ENTRY SEALKIT, AUTOMATIC SHUTOFF NOZZLE EQUIPPED WITH WIRELESS NOZZLE READER FOR FUEL MANAGEMENT, 12-FOOT FUEL HOSE ASSEMBLY, FUEL HOSE SWIVEL AND HIGH HOSE RETRIEVER.</p>	DESIGN BASED ON GASBOY ATLAS 9853KXTW1
	<p><b>FUEL DISPENSER (DIESEL AND GASOLINE):</b></p> <p>TYPE 316 STAINLESS STEEL, ELECTRONIC REGISTER, DUAL HOSE AND FUEL NOZZLE DISPENSER.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>FLOW RATE: 22 GPM ELECTRICAL: 115V/1φ/60Hz INLET: 1-1/2"Ø HOSE: 1"Ø WEIGHT: 500 LBS</p> <p>FURNISH FUEL DISPENSER WITH RECONNECTABLE BREAKAWAY COUPLING, PRESSURE REGULATING VALVE, DISPENSER SUMP WITH SHEAR VALVE, SHEAR VALVE MOUNTING BRACKET AND PIPE ENTRY SEALKIT, AUTOMATIC SHUTOFF NOZZLE EQUIPPED WITH WIRELESS NOZZLE READER FOR FUEL MANAGEMENT, 12-FOOT FUEL HOSE ASSEMBLY, FUEL HOSE SWIVEL AND HIGH HOSE RETRIEVER.</p>	DESIGN BASED ON GASBOY ATLAS 9853KXTW1
	<p><b>PORTABLE FUEL STORAGE TANK (DIESEL):</b></p> <p>PICKUP TRUCK MOUNTED, FORKLIFTED DOUBLE WALLED TANK.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>TANK CAPACITY: 119 GALLONS APPROXIMATE TANK DIMENSIONS: 3'-10" L x 3'-10" W x 2'-8" H EMPTY WEIGHT: 622 LBS ELECTRICAL: 12VDC (COORDINATE WITH MAINTENANCE BASEYARD SUPERINTENDENT)</p> <p>FURNISH PORTABLE TANK WITH STANDARD PUMP KIT INCLUDING AUTOMATIC SHUTOFF NOZZLE AND 18'-0" FUEL HOSE ASSEMBLY, TANK GAUGE AND LEAK DETECTION. FUEL HOSE ASSEMBLY INCLUDES RETURN BLOCK, FUEL HOSE REEL, HOSE SWIVEL AND QUICK COUPLER KITS.</p>	DESIGN BASED ON WESTERN GLOBAL FUELCUBE TYPE-S  COORDINATE WITH ENGINEER TO TURN OVER TO DOT-AIRPORTS.  *NOT REFERENCED ON PLANS
	<p><b>AIR AND WATER HOSE REELS:</b></p> <p>WALL MOUNTED, SELF RETRACTING HOSE REELS FOR AIR AND WATER WITH HOSE, BALL STOP KIT AND ROLLER GUIDE.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>MAXIMUM WORKING PRESSURE: 300 PSI INLET: 1/2"Ø HOSE: 3/8"Ø, 35'-0" LENGTH WEIGHT: 52 LBS</p> <p>FURNISH AIR AND WATER HOSE REELS WITH ENCLOSURE KIT, HOSE INLET KIT AND I-BEAM MOUNTING BRACKET.</p>	DESIGN BASED ON GRACO SDX 10
	<p><b>PROTECTED ABOVEGROUND FUEL STORAGE TANK (DIESEL):</b></p> <p>UL-2085 LISTED, SINGLE COMPARTMENT, RECTANGULAR SECONDARY CONTAINMENT TANK SYSTEM.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>TANK CAPACITY: 2,500 GALLONS APPROXIMATE TANK DIMENSIONS: 12'-7" L x 5'-11" W x 6'-0" H EMPTY TANK WEIGHT: 11,500 LBS</p> <p>FURNISH TANK WITH ALL TOP PROTRUSIONS TO BE 304 STAINLESS STEEL. FURNISH WITH SECONDARY EMERGENCY VENT, 24-INCH DIAMETER MANWAY, MANWAY LADDER INSIDE OF TANK AND SURFACE MOUNTED EXTERIOR LADDER. PROVIDE WITH EARTHQUAKE RESTRAINTS AND CORRESPONDING ANCHOR BOLTS. PROVIDE AUTOMATIC TANK GAUGE IN NEMA 4X STAINLESS STEEL LOCKABLE ENCLOSURE WITH REMOTE AUDIO AND VISUAL OVERFILL ALARM (ONE OVERFILL ALARM FOR AST-1 AND AST-2), ACKNOWLEDGEMENT/RESET SWITCH AND LINE LEAK DETECTION ALARM.</p>	DESIGN BASED ON MODERN WELDING COMPANY 2,500 GALLON MODERN FIREGUARD TANK

\*LISTED DESIGN "BASED ON" EQUIPMENT MANUFACTURERS/MODELS ARE NOT INTENDED TO LIMIT CHOICES OF MANUFACTURERS/MODELS (I.E., SUBJECT TO APPROVAL VIA SUBMITTALS/SUBSTITUTION REQUESTS, OTHER MANUFACTURERS/MODELS THAT MEET BIDDING REQUIREMENTS ARE ACCEPTABLE).



DSGN.	DRWN.	CHKD.	APPD.
KY	KY	KFC	KFC

	2/27/26	ADDENDUM #6
	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

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AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:






**AO1105-12**


SHEET TITLE:

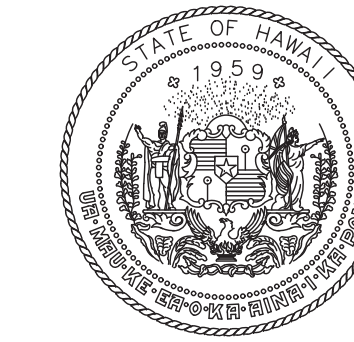
**MECHANICAL LEGEND AND SCHEDULE**

DATE :	DWG. NO.
12/09/2024	<b>M-001</b>
SHEET :	
35 OF 79 SHEETS	

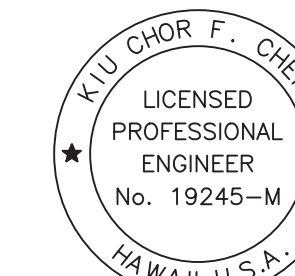
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MECHANICAL EQUIPMENT SCHEDULE (CONT.)		
SYMBOL	DESCRIPTION	REMARKS*
	<p><b>DAY TANK WITH DUPLEX SUPPLY PUMP AND RETURN PUMP:</b>            UL 142 RATED, DOUBLE WALL CONSTRUCTION, FLOOR MOUNTED DAY TANK WITH PUMP STATUS/CONTROLLER, FUEL LEVEL ALARMS, EMERGENCY VENT CAP, AND PUMP COVERS.</p> <p>LOCATION: LEI STAND</p> <p>TANK CAPACITY: 150 GALLON            ELECTRICAL: 115V/1φ/60Hz</p> <p><b>FUEL OIL DUPLEX SUPPLY PUMP:</b>            GPM: 4 GPM PER PUMP            HORSEPOWER: 1/3 HP            RPM: 1,800 RPM</p> <p><b>FUEL OIL RETURN PUMP:</b>            GPM: 10 GPM            HORSEPOWER: 3/4 HP            RPM: 1,800 RPM</p> <p>FURNISH WITH AUXILIARY HAND PUMP AND FLOAT SWITCH ASSEMBLIES.</p>	DESIGN BASED ON SIMPLEX STS150
	<p><b>FUEL FILTER:</b>            IN-LINE FUEL FILTER WITH COALESCER/SEPARATOR FILTER.</p> <p>LOCATION: LEI STAND</p> <p>MAXIMUM FLOW RATE: 25 GPM            MAXIMUM PRESSURE: 150 PSI            MAXIMUM TEMPERATURE: 160°F            MICRON RATING: 10            PORT CONNECTION: 1-1/2"Ø            WEIGHT: 15 LBS</p> <p>FURNISH FUEL FILTER WITH WALL MOUNTING BRACKET KIT, DIFFERENTIAL PRESSURE GAUGE, SIGHT GLASS AND DRAIN VALVE .</p>	DESIGN BASED ON RACOR FBO-10-DPL
	<p><b>PROTECTED ABOVEGROUND FUEL STORAGE TANK (DIESEL):</b>            UL-2085 LISTED, SINGLE COMPARTMENT, RECTANGULAR SECONDARY CONTAINMENT TANK SYSTEM.</p> <p>LOCATION: LEI STAND</p> <p>TANK CAPACITY: 8,000 GALLONS            APPROXIMATE TANK DIMENSIONS: 28'-3" L x 7'-11" W x 6'-0" H            EMPTY TANK WEIGHT: 27,500 LBS</p> <p>FURNISH TANK WITH ALL TOP PROTRUSIONS TO BE 304 STAINLESS STEEL. FURNISH WITH SECONDARY EMERGENCY VENT, 24-INCH DIAMETER MANWAY, MANWAY LADDER INSIDE OF TANK AND SURFACE MOUNTED EXTERIOR LADDER. PROVIDE WITH EARTHQUAKE RESTRAINTS, AND ANCHOR BOLTS FOR EARTHQUAKE RESTRAINTS. PROVIDE MONITORING SYSTEM CONSOLE IN NEMA 4X STAINLESS STEEL LOCKABLE ENCLOSURE WITH REMOTE AUDIO AND VISUAL OVERFILL ALARM AND ACKNOWLEDGEMENT/RESET SWITCH.</p>	DESIGN BASED ON MODERN WELDING COMPANY 8,000 GALLON MODERN FIREGUARD TANK
	<p><b>COMPACT REMOTE FILL PORT:</b>            COMPACT REMOTE FILL PORT WITH WEATHERPROOF, LOCKABLE BOX, SPILL CONTAINMENT, QUICK DISCONNECT HOSE COUPLING, MANUAL HAND SUMP PUMP WITH BALL VALVES, CHECK VALVE AND DRAIN, MOTORIZED SHUTOFF VALVE AND CONTROL PANEL.</p> <p>LOCATION: LEI STAND</p> <p>INLET CONNECTION: 3"Ø            SPILL CONTAINMENT: 7 GALLONS            ELECTRICAL: 115V/1φ/60Hz            WEIGHT: 313 LBS</p> <p>FURNISH FILL PORT WITH TOP OUTLET, FUEL PORT POST ASSEMBLY AND 4"Ø LEVEL TRANSDUCER WITH LEVEL SENSORS.</p>	DESIGN BASED ON SIMPLEX COMPACT AUTOMATIC FUELPORT
	<p><b>UNDERGROUND OIL/WATER SEPARATOR:</b>            UL-SU2215 LISTED UNDERGROUND CYLINDRICAL DOUBLE WALL STEEL OIL/WATER SEPARATOR WITH LEAK SENSOR, LEVEL SENSOR, OIL PUMP-OUT, MANWAY AND MANWAY COVER.</p> <p>LOCATION: HCC AIRPORT TRAINING CENTER</p> <p>TANK CAPACITY: 350 GALLONS            FLOW RATE: 35 GPM            RECOMMENDED OIL PUMP OUT: 70 GALLONS            HIGH OIL LEVEL: 70 GALLONS            HIGH-HIGH OIL LEVEL: 151 GALLONS            EMERGENCY SPILL CAPACITY: 280 GALLONS            INLET/OUTLET DIAMETER: 4-INCHES            APPROXIMATE TANK DIMENSIONS: 6'-0" L x 3'-6" Ø</p>	DESIGN BASED ON HIGHLAND TANK HTC-350HGDWHTC

MECHANICAL EQUIPMENT SCHEDULE (CONT.)		
SYMBOL	DESCRIPTION	REMARKS
	<p><b>UTILITY TRUCK (DIESEL AND GASOLINE):</b>            UTILITY TRUCK FOR TEMPORARY REFUELING WITH TWO COMPARTMENTS FOR DIESEL AND GASOLINE.</p> <p>LOCATION: MAINTENANCE BASEYARD</p> <p>TANK CAPACITY: CONTRACTOR SHALL COORDINATE COMPARTMENT SIZING WITH UTILITY TRUCK PROVIDER BASED ON FUEL CONSUMPTION RATES AND REFILL FREQUENCY BY GP ENERGY COMPANY LLC.</p> <p><b>FUEL CONSUMPTION RATE</b>            DIESEL: ~2,000 GALLONS PER MONTH            GASOLINE: ~5,000 GALLONS PER MONTH</p> <p>FURNISH TANK WITH SECONDARY CONTAINMENT SYSTEM AND COMPRESSED AIR AND WATER DISPENSERS.</p>	<p>SEE G-002, 2/G-003, AND 2/C-221 FOR ADDITIONAL INFORMATION.</p> <p>*NOT REFERENCED ON PLANS</p>





STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 AIRPORTS



*Ali Chor F. Cheng*  
 04/30/2026  
 Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
KY	KY	KFC	KFC

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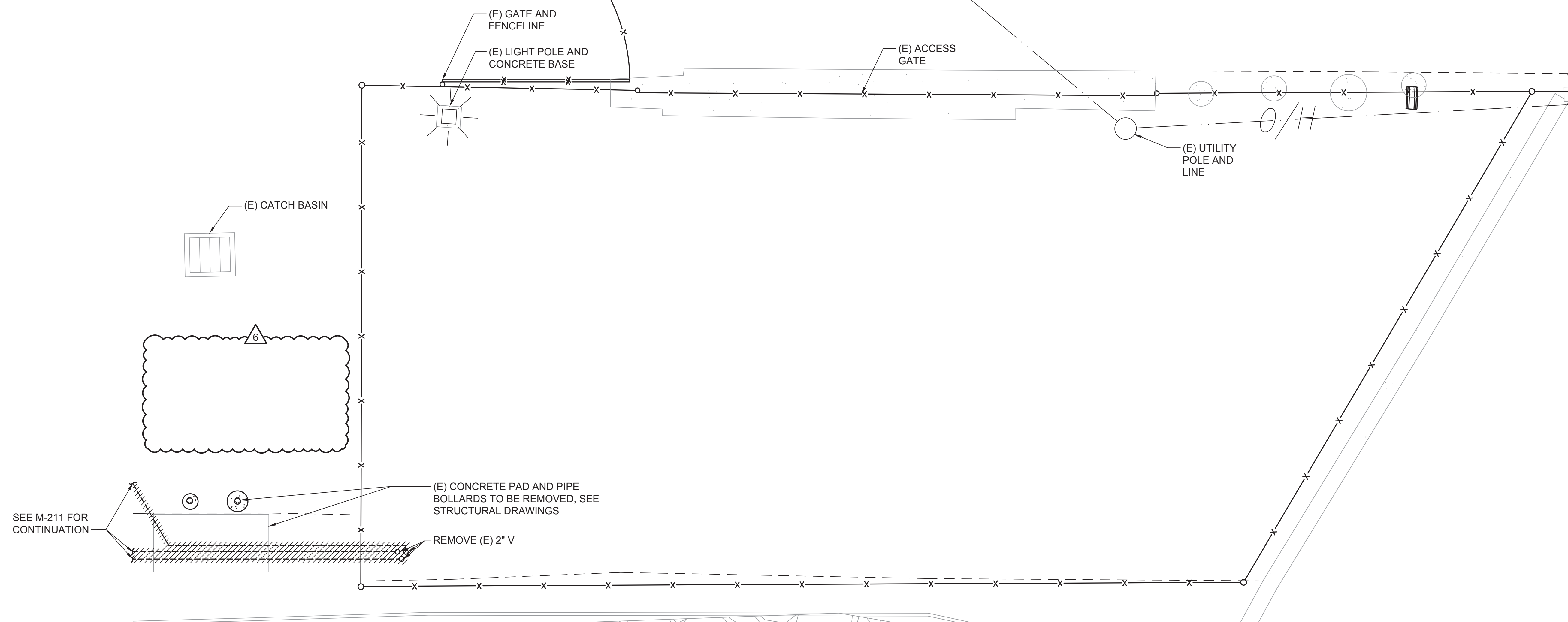
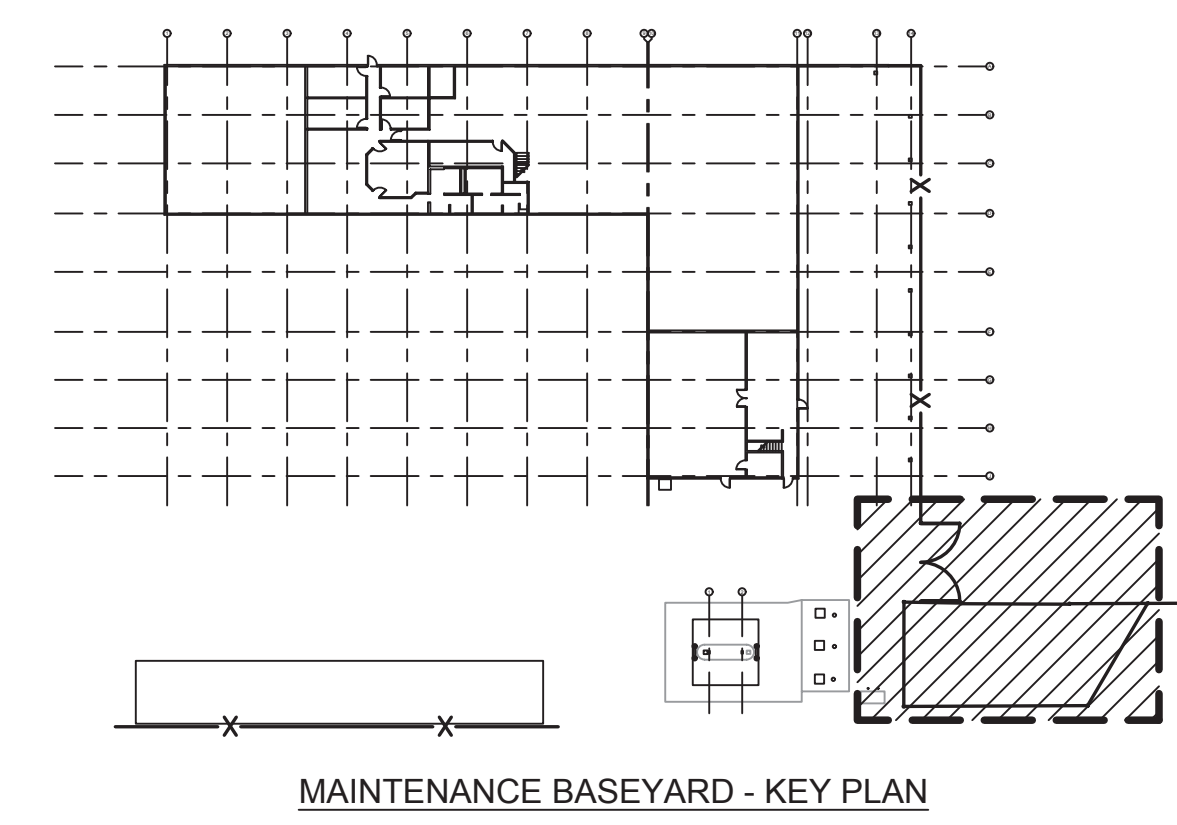
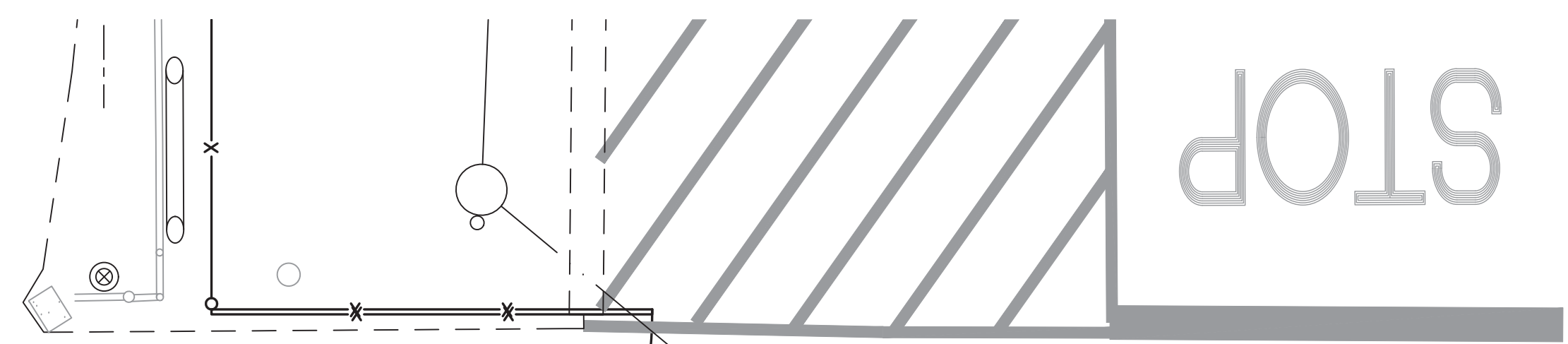
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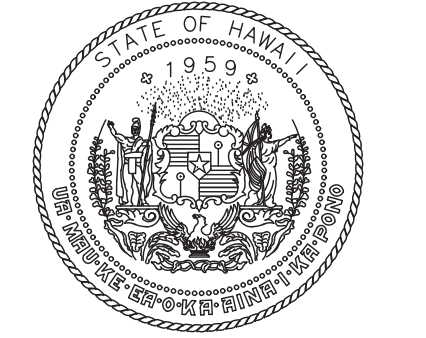
DATE :	DWG. NO.
12/09/2024	<b>M-002</b>
SHEET :	
36 OF 79 SHEETS	

\*LISTED DESIGN "BASED ON" EQUIPMENT MANUFACTURERS/MODELS ARE NOT INTENDED TO LIMIT CHOICES OF MANUFACTURERS/MODELS (I.E., SUBJECT TO APPROVAL VIA SUBMITTALS/SUBSTITUTION REQUESTS, OTHER MANUFACTURERS/MODELS THAT MEET BIDDING REQUIREMENTS ARE ACCEPTABLE).

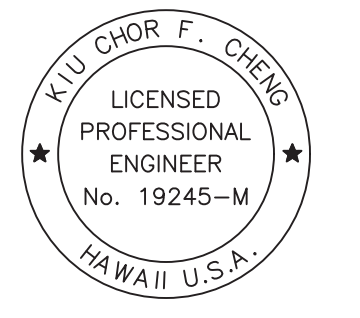
M:\PROJECTS\2023-000\223-000\223-071B HNL LST REMOVAL AND REPLACEMENT DRAWINGS\MECHANICAL LEGEND SCHEDULE AND NOTES.DWG



SEE M-211 FOR CONTINUATION



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NO.	DATE	REVISIONS
6	2/27/26	ADDENDUM #6
5	11/19/25	ADDENDUM #1

**FINAL CONSTRUCTION DOCUMENTS**  
 DECEMBER 09, 2024  
 DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**  
 AT  
 DANIEL K. INOUE INTERNATIONAL AIRPORT  
 HONOLULU, OAHU, HAWAII

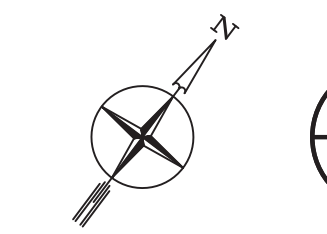
PROJECT NO.:

**AO1105-12**

SHEET TITLE:

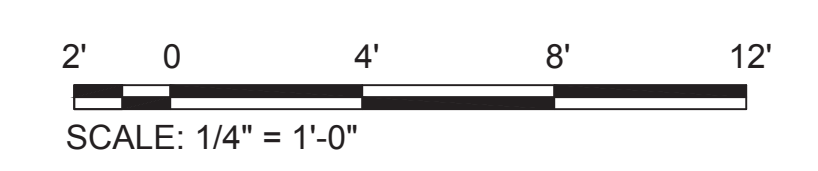
**MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN**

DATE :	DWG. NO.
12/09/2024	<b>M-212</b>
SHEET :	
41 OF 79 SHEETS	

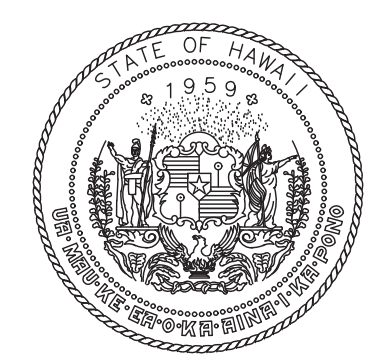
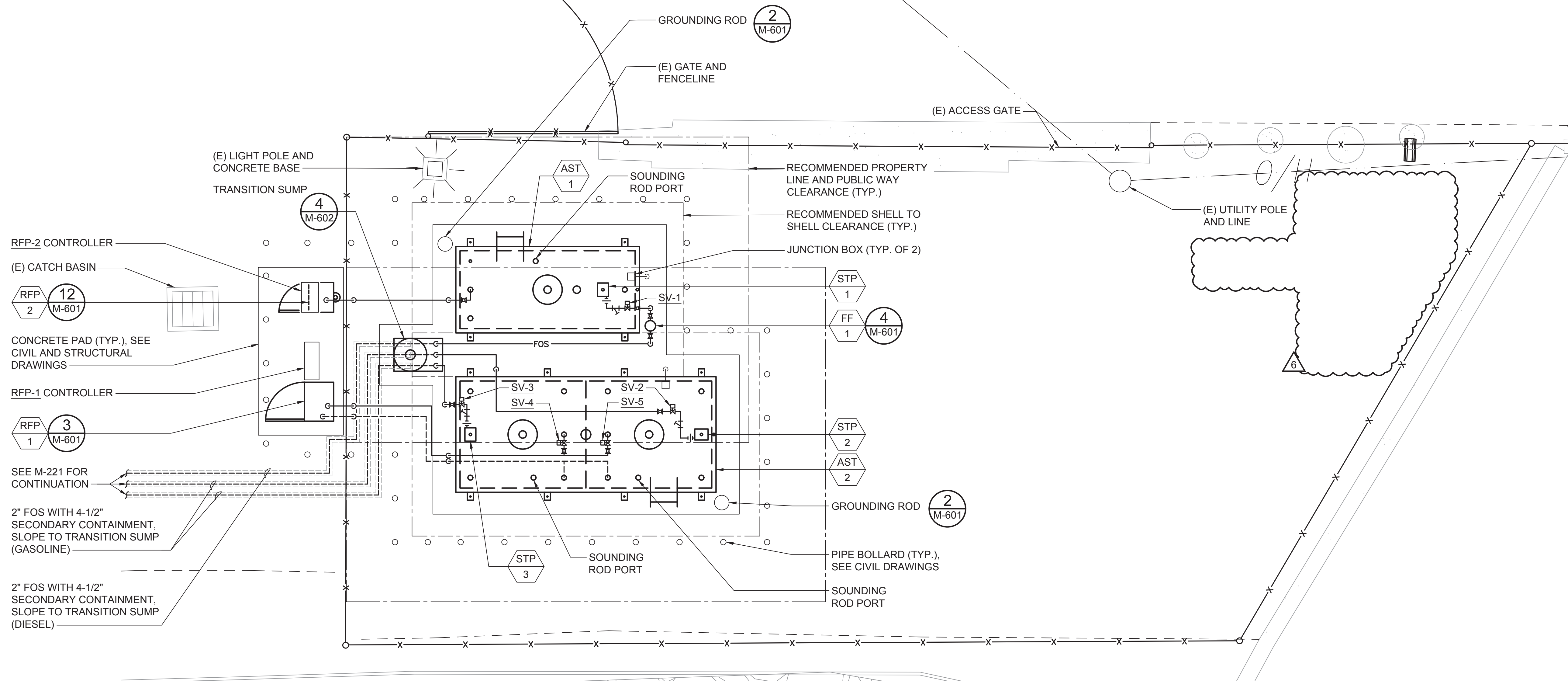
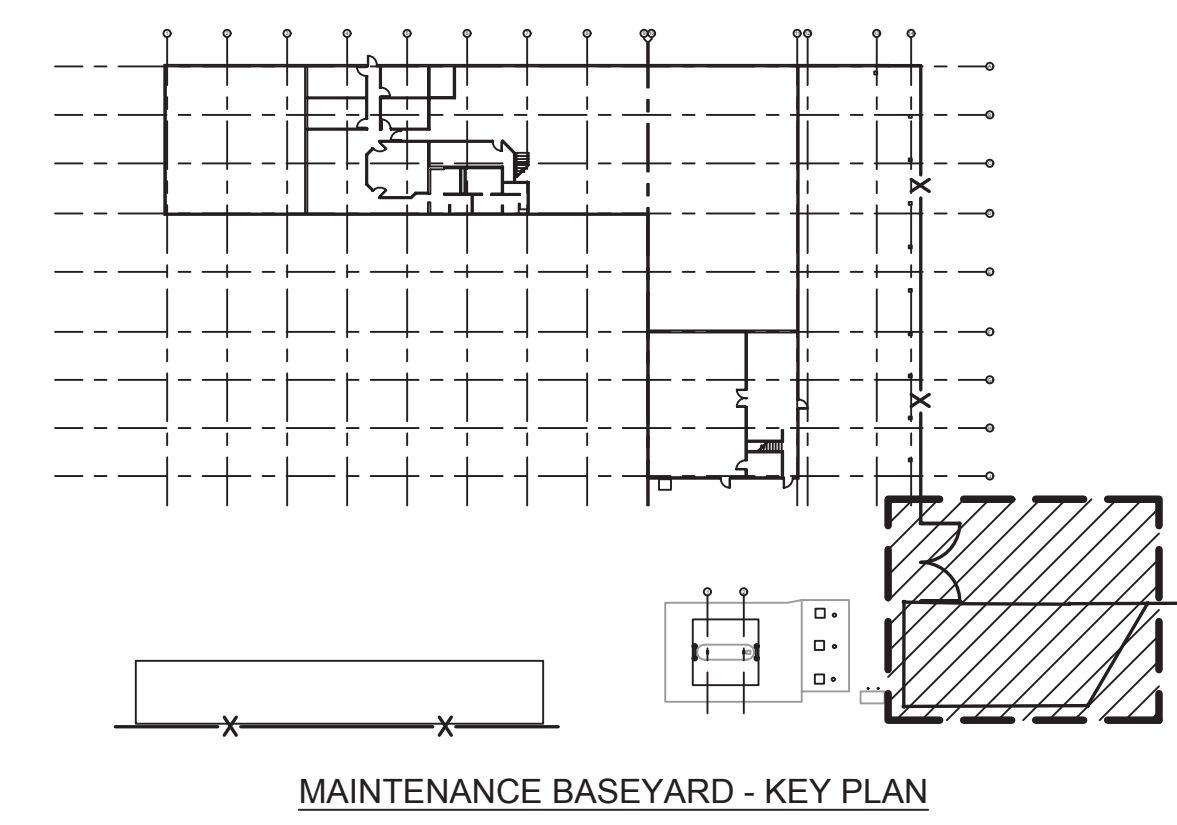
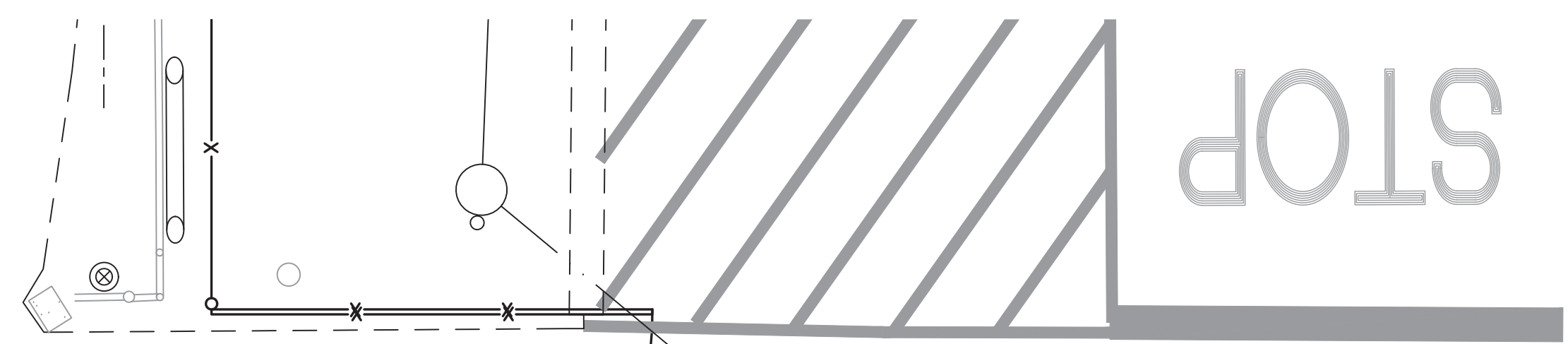


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 M-212

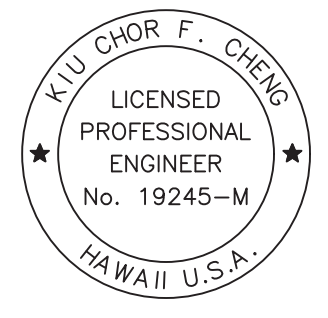
**MAINTENANCE BASEYARD - MECHANICAL DEMOLITION PARTIAL PLAN**  
 SCALE: 1/4" = 1'-0"



M:\PROJ\223-000\223-071B HNL LST REMOVAL AND REPLACEMENT\DRAWINGS-Baseyard\MAINTENANCE BASEYARD - MECHANICAL PLANS.DWG



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6	2/27/26	ADDENDUM #6
5	11/19/25	ADDENDUM #1

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

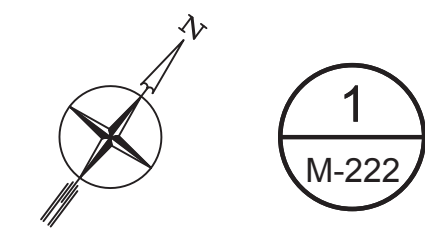
PROJECT NO.:

**AO1105-12**

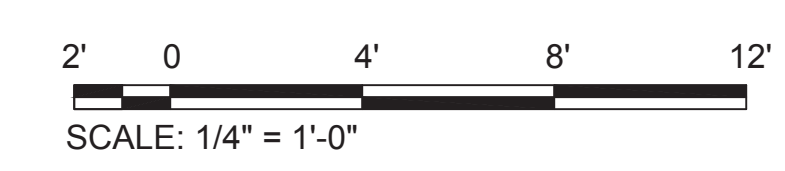
SHEET TITLE:

**MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN**

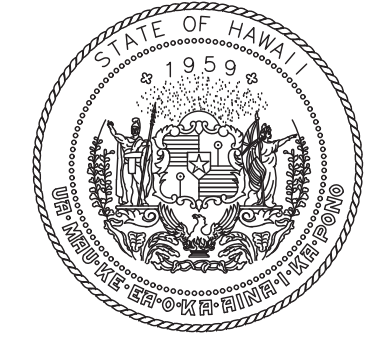
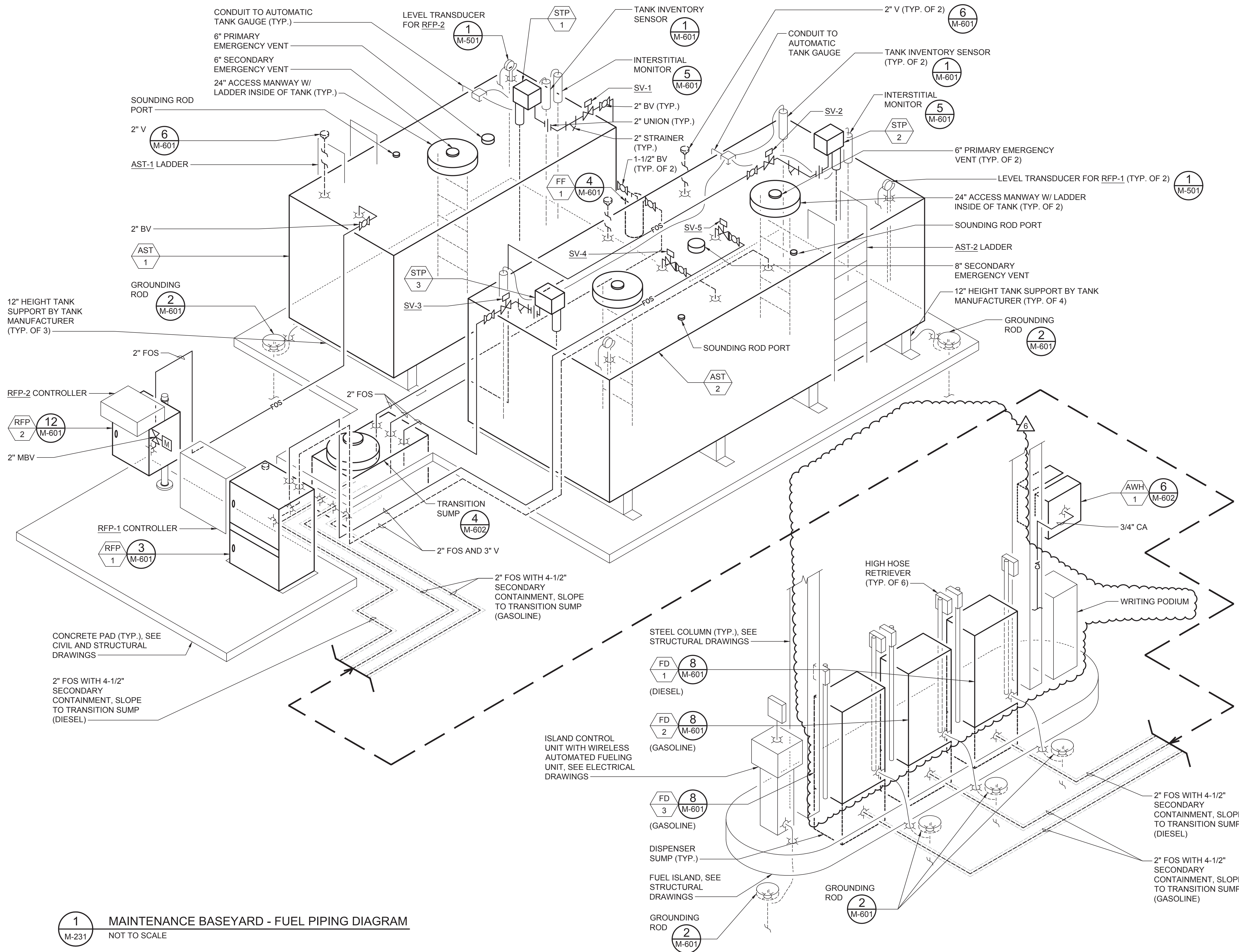
DATE :	DWG. NO.
12/09/2024	<b>M-222</b>
SHEET :	
44 OF 79 SHEETS	



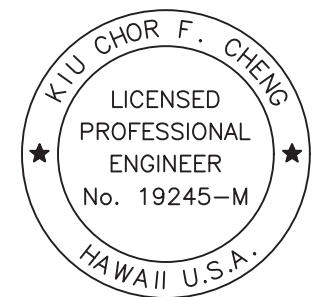
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M-222  
**MAINTENANCE BASEYARD - MECHANICAL PARTIAL PLAN**  
SCALE: 1/4" = 1'-0"



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1	11/19/25	ADDENDUM #1

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DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**MAINTENANCE BASEYARD - FUEL PIPING DIAGRAM**

DATE :	DWG. NO.
12/09/2024	M-231
SHEET :	
46 OF 79 SHEETS	

**1** MAINTENANCE BASEYARD - FUEL PIPING DIAGRAM  
M-231 NOT TO SCALE

**PHASING NOTES:**

**GENERAL**

1. THE FOLLOWING IS A PROPOSED PHASING PLAN. CONTRACTOR SHALL SUBMIT DEMOLITION/CONSTRUCTION PHASING PLAN FOR APPROVAL REGARDLESS OF WHETHER THE BELOW PROPOSED PHASING PLAN IS FOLLOWED. REFERENCE SHEET G-002, NOTE #1, UNDER "GENERAL DEMOLITION/CONSTRUCTION PHASING NOTES".

**PHASE 1 - INSTALL TEMPORARY STORAGE TANK**

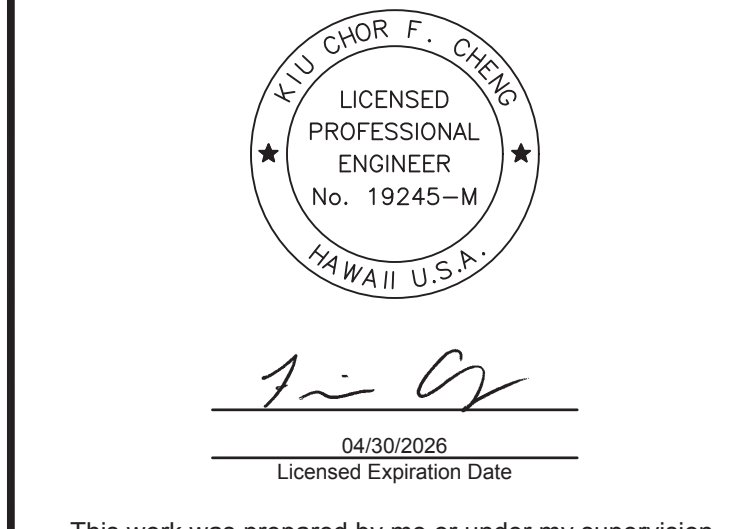
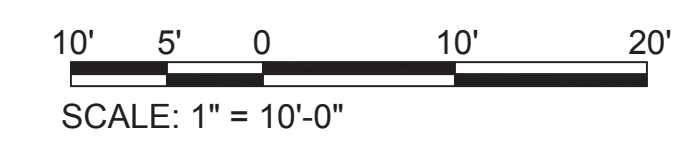
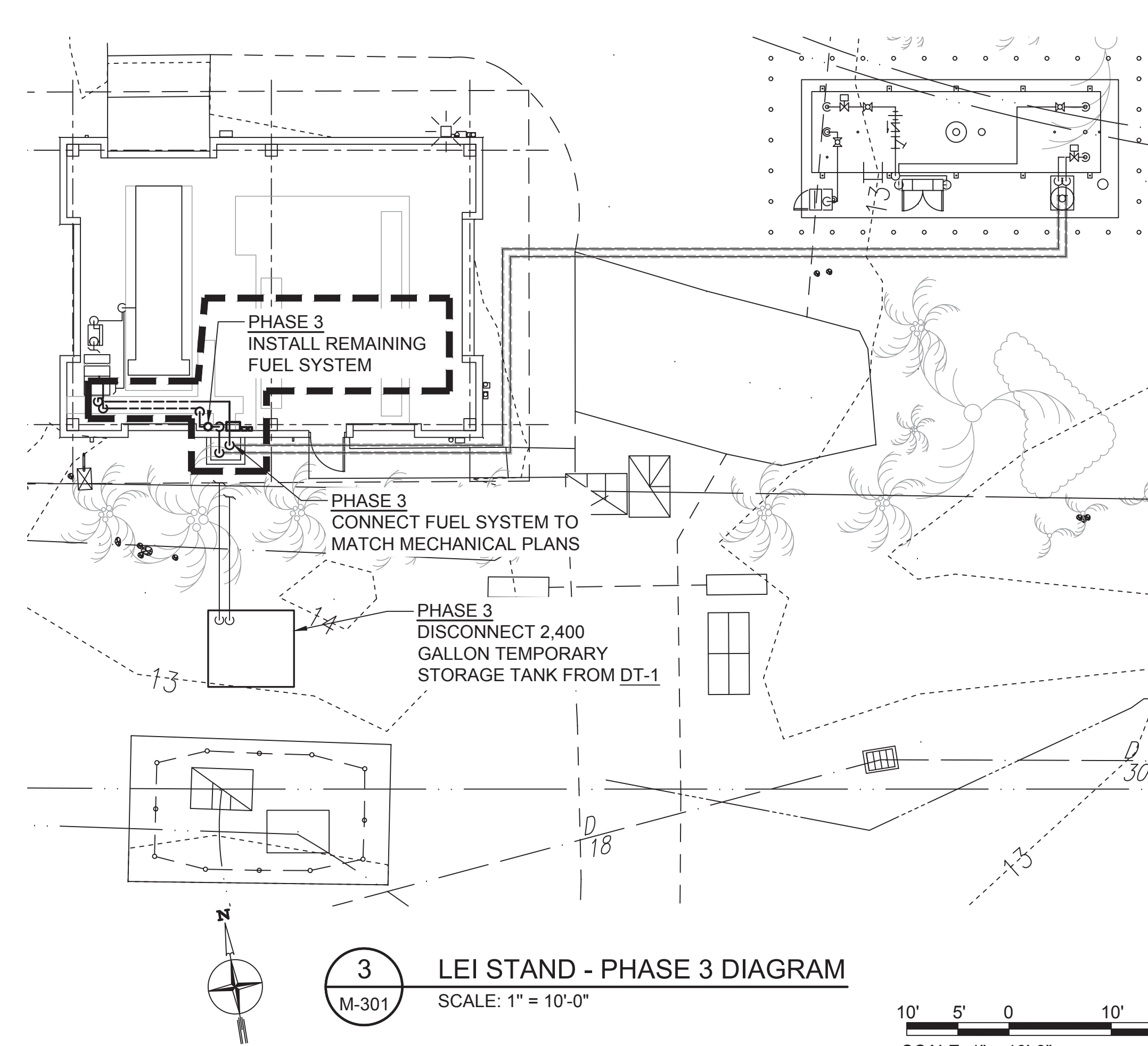
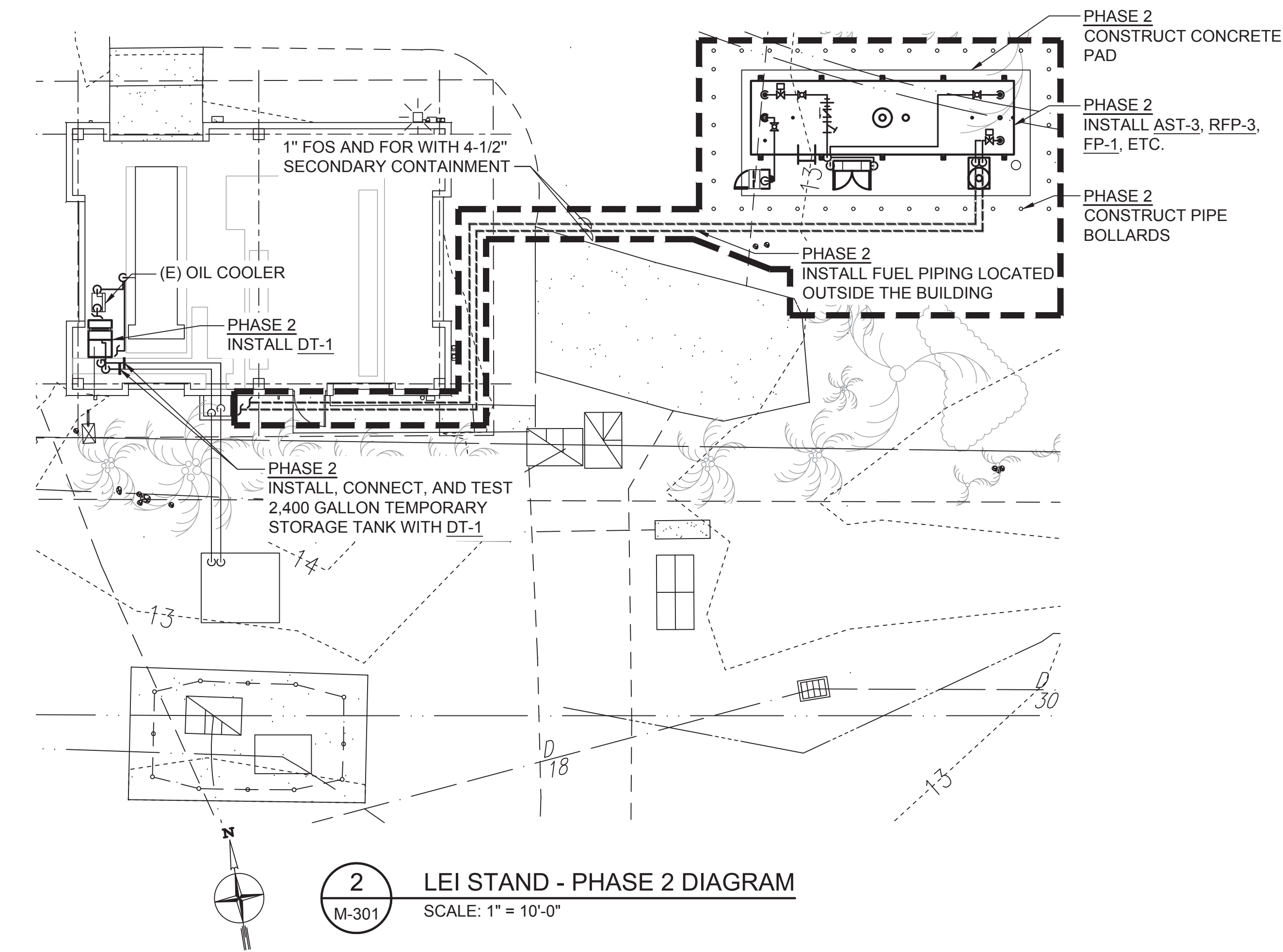
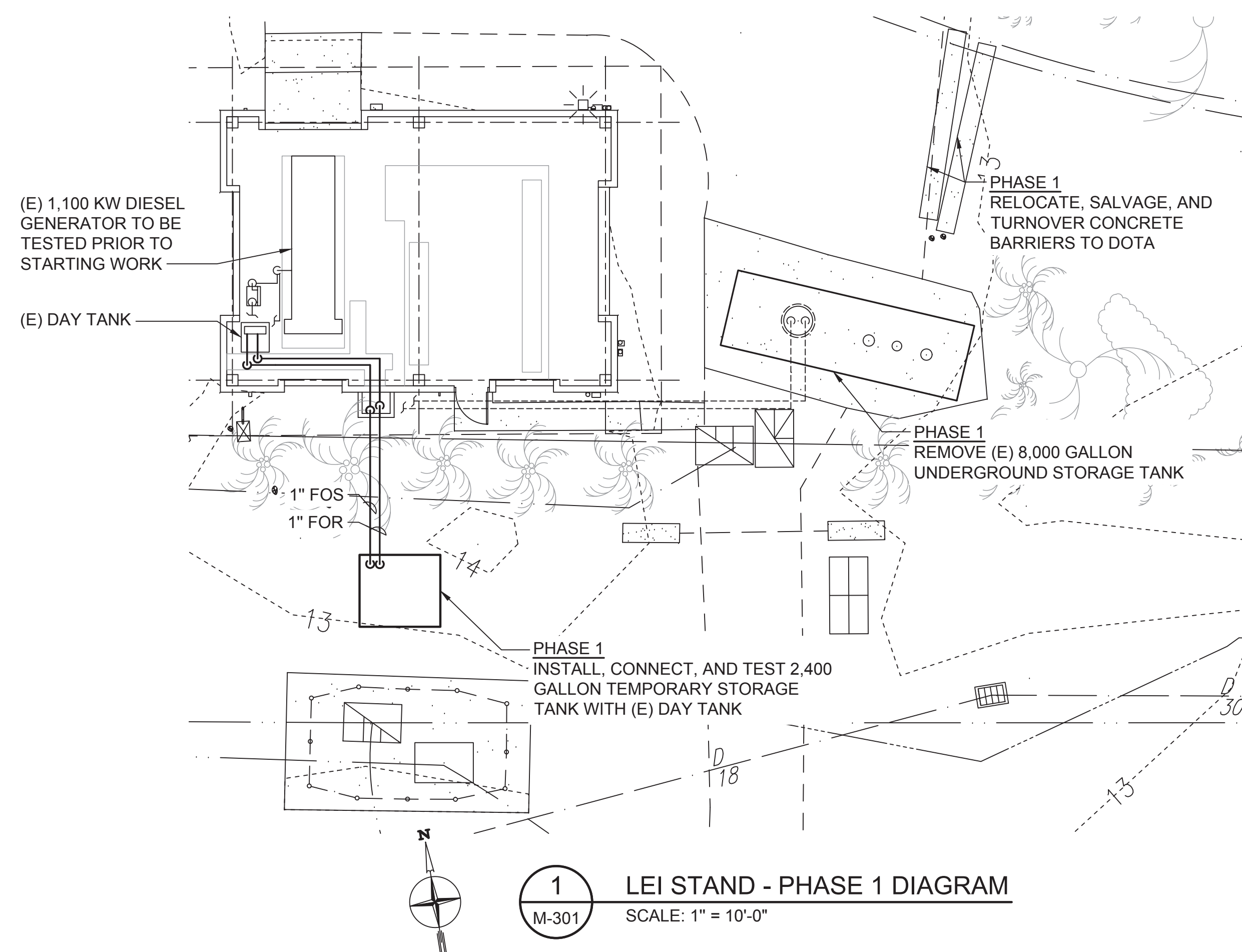
1. TEST (E) 1,100 KW DIESEL GENERATOR.
2. INSTALL, CONNECT, AND TEST 2,400 GALLON TEMPORARY STORAGE TANK WITH (E) DAY TANK.
3. RELOCATE, SALVAGE, AND TURNOVER CONCRETE BARRIERS TO DOTA.
4. REMOVE (E) 8,000 GALLON UNDERGROUND FUEL STORAGE TANK AND FILL EXCAVATED AREAS PER CIVIL AND STRUCTURAL DRAWINGS.

**PHASE 2 - INSTALL ABOVEGROUND FUEL STORAGE TANK (AST-3) AND DAY TANK (DT-1)**

1. CONSTRUCT CONCRETE PAD FOR ABOVEGROUND FUEL STORAGE TANK (AST-3).
2. INSTALL AST-3, REMOTE FILL PORT (RFP-3), FUEL POLISHER (FP-1), TRANSITION SUMP, SUPPORTS, FUEL PIPING, AND APPURTENANCES LOCATED OUTSIDE OF THE BUILDING (SEE 2-M301).
3. TEST AST-3, RFP-3, FP-1, TRANSITION SUMP, SUPPORTS, FUEL PIPING, AND APPURTENANCES. VERIFY SYSTEM IS OPERATIONAL AND NO LEAKS OCCUR.
4. CONSTRUCT PIPE BOLLARDS SURROUNDING AST-3.
5. REMOVE (E) OIL COOLER AND (E) DAY TANK AND DISCONNECT FROM TEMPORARY STORAGE TANK. PROTECT AND STORE (E) OIL COOLER FOR REINSTALLATION.
6. INSTALL DAY TANK (DT-1) AND CONNECT TO TEMPORARY STORAGE TANK.
7. REINSTALL (E) OIL COOLER.
8. TEST DT-1 AND TEMPORARY STORAGE TANK. VERIFY SYSTEM IS OPERATIONAL.

**PHASE 3 - REMOVE TEMPORARY STORAGE TANK**

1. INSTALL REMAINING FUEL SYSTEM INCLUSIVE OF FUEL FILTERS, FUEL PIPING, FUEL MONITORING PROBES AND WIRING, SUPPORTS, AND APPURTENANCES (SEE 3-M301).
2. DISCONNECT 2,400 GALLON TEMPORARY STORAGE TANK.
3. CONNECT INSTALLED FUEL SYSTEM TO MATCH MECHANICAL PLANS.
4. TEST FUEL SYSTEM AND VERIFY SYSTEM IS OPERATIONAL.
5. REMOVE 2,400 GALLON TEMPORARY STORAGE TANK.



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1	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
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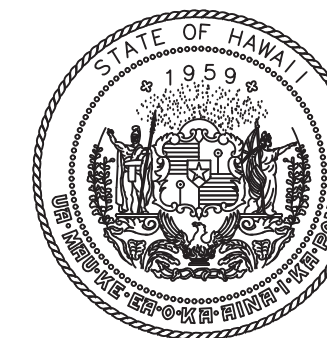
**PROJECT TITLE :**  
**UST/AST REMOVALS AND REPLACEMENTS**  
AT DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

**PROJECT NO.:**  
**AO1105-12**

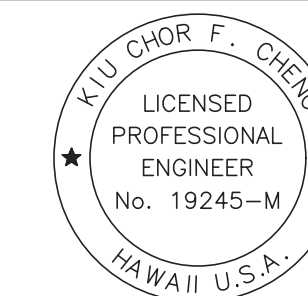
**SHEET TITLE:**  
**LEI STAND - PHASE DIAGRAMS**

DATE :	DWG. NO.
12/09/2024	M-301
SHEET :	47 OF 79 SHEETS

M:\PROJ\223-000\223-071B HNL LST REMOVAL AND REPLACEMENT\DRAWINGS-LEI STAND-LEI STAND - PHASE DIAGRAM.DWG



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**PROJECT NO.:**  
**AO1105-12**

**SHEET TITLE:**

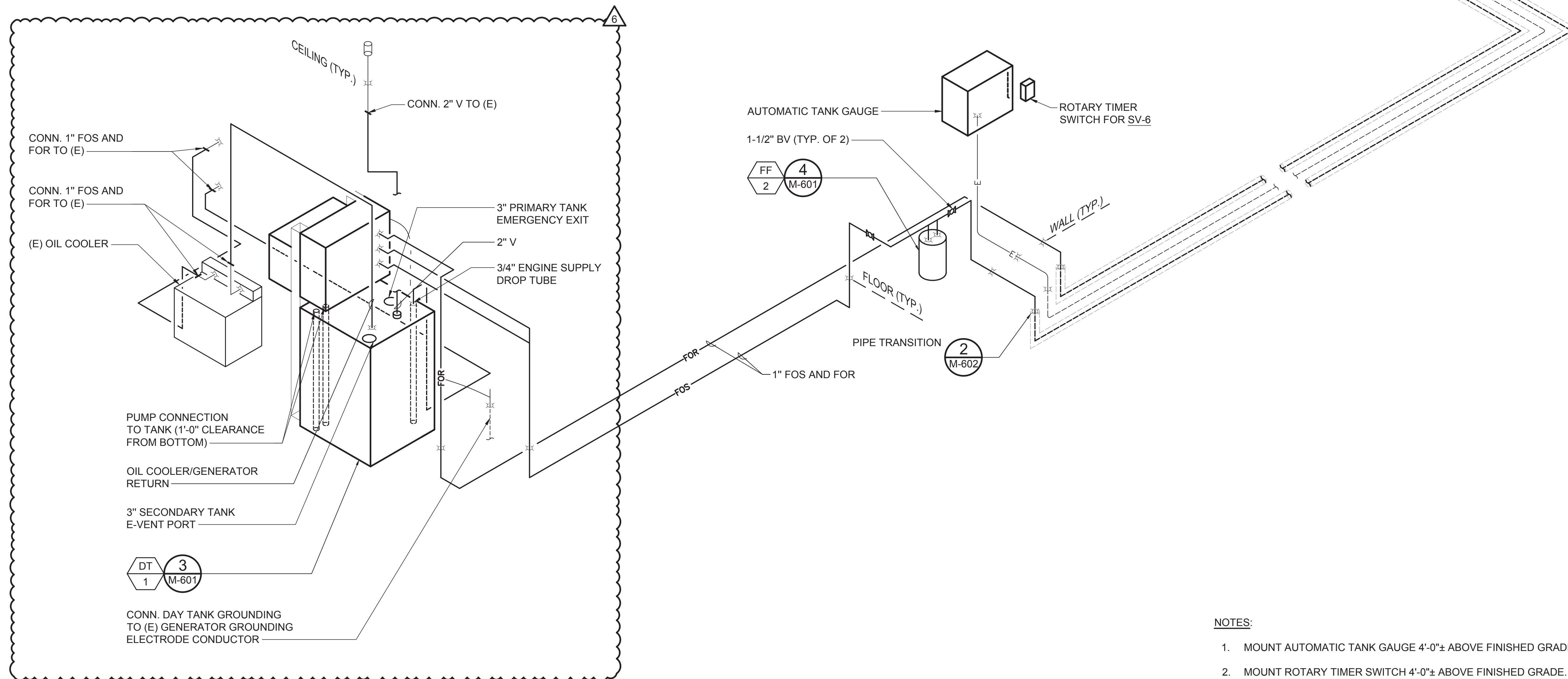
**LEI STAND - DAY TANK FUEL PIPING DIAGRAM**

DATE :	DWG. NO.
12/09/2024	<b>M-332</b>
SHEET :	
51 OF 79 SHEETS	

SEE M-331  
FOR CONT.

CONTROL WIRING IN CONDUIT

1" FOS AND FOR WITH 4-1/2" SECONDARY CONTAINMENT

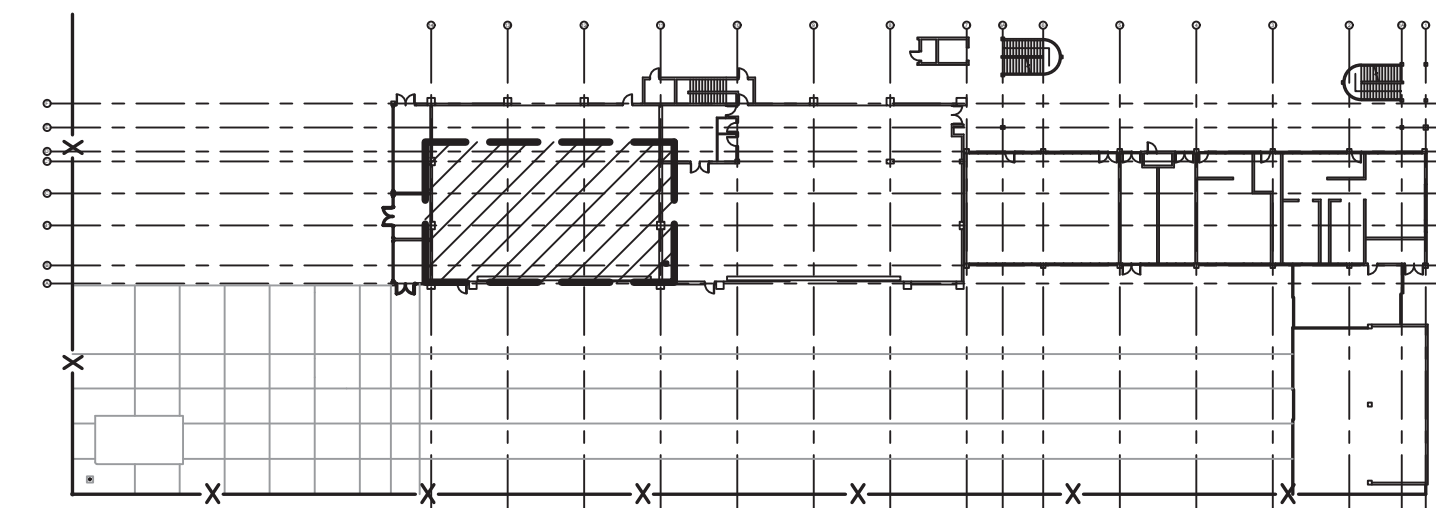


**NOTES:**

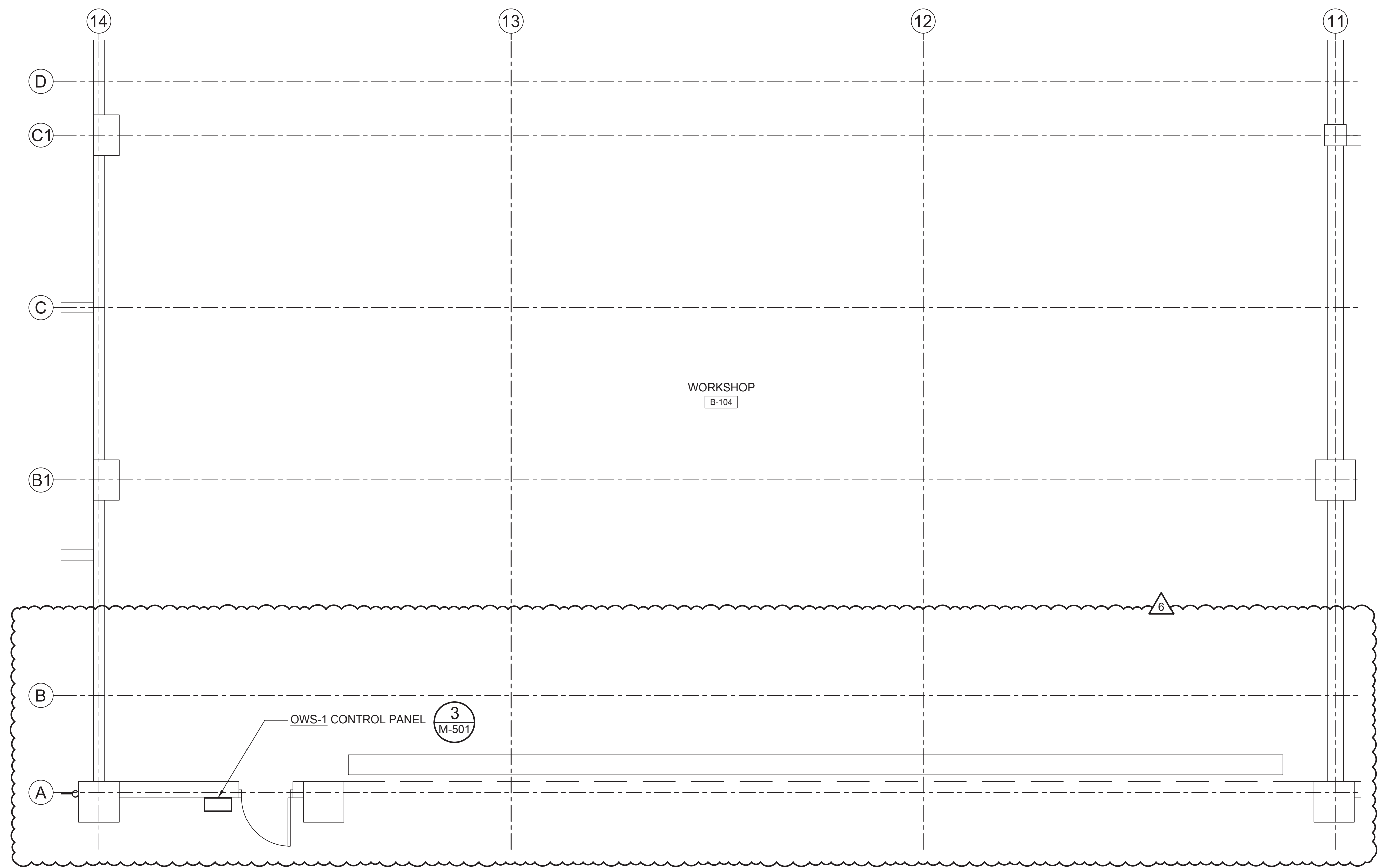
1. MOUNT AUTOMATIC TANK GAUGE 4'-0"± ABOVE FINISHED GRADE.
2. MOUNT ROTARY TIMER SWITCH 4'-0"± ABOVE FINISHED GRADE.

**1** LEI STAND - DAY TANK FUEL PIPING DIAGRAM  
M-332 NOT TO SCALE

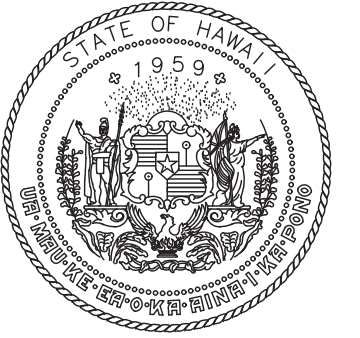
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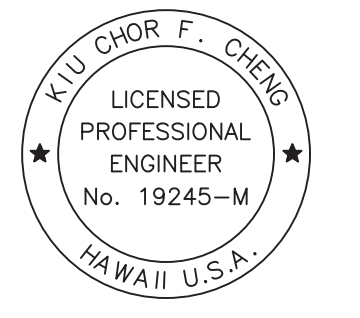
HCC AIRPORT TRAINING CENTER - KEY PLAN



- NOTES:
1. MOUNT OWS-1 CONTROL PANEL 4'-0"± ABOVE FINISHED GRADE.



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KY	KY	KFC	KFC

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5	11/19/25	ADDENDUM #1

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PROJECT TITLE :

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AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

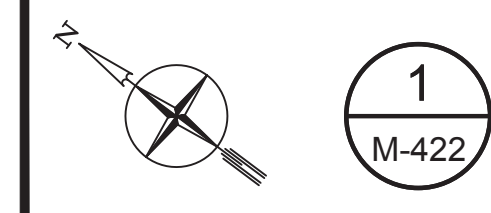
PROJECT NO.:

**AO1105-12**

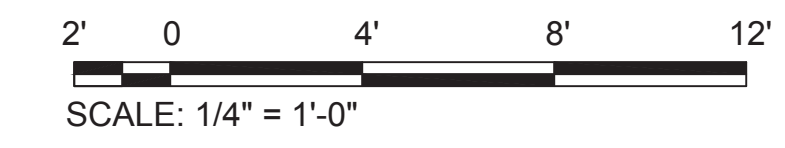
SHEET TITLE:

**HCC AIRPORT TRAINING CENTER - MECHANICAL PARTIAL PLAN**

DATE :	DWG. NO.
12/09/2024	<b>M-422</b>
SHEET :	
55 OF 79 SHEETS	



**1**  
M-422  
HCC AIRPORT TRAINING CENTER - MECHANICAL PARTIAL PLAN  
SCALE: 1/4" = 1'-0"



M:\PROJ\223-000\223-071B HNL LUST REMOVAL AND REPLACEMENT\DRAWINGS-HCC AIRPORT TRAINING CENTER\AIRPORT TRAINING CENTER - MECHANICAL PLAN.DWG

**SEQUENCE OF OPERATIONS:**

**FUEL DISPENSER (FD-1, FD-2, AND FD-3)  
AUTHORIZATION METHOD PRIOR TO FUELING:**

1. RADIO FREQUENCY IDENTIFICATION (FOR VEHICLES)
  - A. THE FUEL DISPENSER SHALL BE MADE OPERABLE THROUGH THE USE OF RADIO FREQUENCY IDENTIFICATION (RFID). A FUEL INLET ANTENNA (FIA) SHALL BE INSTALLED ON DOTA VEHICLES AND A WIRELESS NOZZLE READER (WNR) SHALL BE FURNISHED WITH FUEL DISPENSER NOZZLES.
  - B. THE OPERATOR SHALL INSERT THE NOZZLE INTO THE VEHICLE. THE WNR SHALL RECEIVE VEHICLE IDENTIFICATION FROM THE FIA AND SHALL SEND A SIGNAL TO THE WIRELESS AUTOMATED FUELING UNIT. THE ISLAND CONTROL UNIT WILL THEN AUTHORIZE THE FUEL DISPENSER FOR FUELING.

**2. KEY FOB (FOR ANCILLARY EQUIPMENT)**

- A. THE FUEL DISPENSER SHALL BE MADE OPERABLE THROUGH THE USE OF THE ISLAND CONTROL UNIT AND A KEY FOB.
- B. THE OPERATOR SHALL SCAN THEIR KEY FOB AT THE FUEL AUTHORIZATION KIOSK. UPON APPROVAL, THE FUEL DISPENSER SHALL ALLOW FUELING TO BEGIN.

**FUELING COMMENCE:**

1. WHEN FUELING INITIATES, THE FUEL DISPENSER SHALL SEND A SIGNAL TO THE ASSOCIATED SUBMERSIBLE TURBINE PUMP, STP-(1, 2, OR 3), TO START PUMPING FUEL.
2. SIMULTANEOUSLY, THE FUEL DISPENSER SHALL SEND A SIGNAL TO THE ASSOCIATED SOLENOID VALVE, SV-(1, 2, OR 3), TO FULLY OPEN.
3. THE AUTOMATIC SHUTOFF NOZZLE ON THE FUEL DISPENSER SHALL CEASE FLOW WHEN THE VEHICLE'S FUEL TANK IS FULL.
4. THE SUBMERSIBLE TURBINE PUMP SHALL TURN OFF AND THE SOLENOID VALVE SHALL FULLY CLOSE.

**REMOTE FILL PORT (RFP-1, RFP-2, AND RFP-3)  
SINGLE TANK (RFP-2 AND RFP-3)**

1. THE REMOTE FILL PORT SHALL BE CONTROLLED BY THE AUTOMATIC FILL CONTROLLER.
2. THE OPERATOR SHALL CONNECT THE GROUNDING CABLE TO THE TRUCK'S GROUNDING POINT AND THE FUEL DELIVERY HOSE TO THE QUICK COUPLER. THE VALVE ON THE FUEL TRUCK SHALL THEN BE OPENED AND ITS FILL PUMP INITIATED.
3. THE OPERATOR SHALL UTILIZE THE AUTOMATIC FILL CONTROLLER TO OPEN THE MOTORIZED VALVE AND BEGIN FUELING.
4. FUELING SHALL CEASE WHEN THE CONTROLLER'S FULL FUEL LEVEL AUDIBLE AND VISUAL ALARM ACTIVATES OR WHEN THE FUEL TRUCK'S FULL LOAD HAS BEEN DELIVERED.

**5. THE OPERATOR SHALL UTILIZE THE AUTOMATIC FILL CONTROLLER TO CLOSE THE MOTORIZED VALVE.**

**6. IF FUELING HAS NOT STOPPED AND FUEL REACHES THE HIGH FUEL LEVEL, THE HIGH LEVEL AUDIBLE AND VISUAL ALARM WILL ACTIVATE AND AUTOMATICALLY CLOSE THE MOTORIZED VALVE.**

**7. WHEN FUELING IS COMPLETE, THE OPERATOR SHALL TURN THE FILL PUMP OFF, DRAIN THE DELIVERY HOSE, DISCONNECT THE GROUNDING CABLE AND HOSE AND TURN THE CONTROLLER OFF.**

**MULTITANK (RFP-1)**

1. THE REMOTE FILL PORT SHALL BE CONTROLLED BY THE AUTOMATIC FILL CONTROLLER.
2. THE OPERATOR SHALL CONNECT THE GROUNDING CABLE TO THE TRUCK'S GROUNDING POINT, THE FUEL DELIVERY HOSE TO THE QUICK COUPLER AND THE VAPOR RECOVERY HOSE TO CAPTURE THE FUEL VAPORS. THE VALVE ON THE FUEL TRUCK SHALL THEN BE OPENED AND ITS FILL PUMP INITIATED.
3. THE OPERATOR SHALL UTILIZE THE AUTOMATIC FILL CONTROLLER TO SELECT THE DESIRED COMPARTMENT TO FILL AND OPEN ITS ASSOCIATED SOLENOID VALVE, SV-(4 OR 5), TO BEGIN FUELING.
4. FUELING SHALL CEASE WHEN THE CONTROLLER'S FULL FUEL LEVEL AUDIBLE AND VISUAL ALARM ACTIVATES OR WHEN THE FUEL TRUCK'S FULL LOAD HAS BEEN DELIVERED.
5. THE OPERATOR SHALL UTILIZE THE AUTOMATIC FILL CONTROLLER TO CLOSE THE SOLENOID VALVE.
6. IF FUELING HAS NOT STOPPED AND FUEL REACHES THE HIGH FUEL LEVEL, THE HIGH LEVEL AUDIBLE AND VISUAL ALARM WILL ACTIVATE AND CLOSE THE SOLENOID VALVE.

7. TO FUEL THE ADJACENT COMPARTMENT, THE OPERATOR SHALL UTILIZE THE AUTOMATIC FILL CONTROLLER TO SELECT THE OTHER COMPARTMENT AND OPEN ITS ASSOCIATED SOLENOID VALVE. REPEAT STEPS 4 AND 5.
8. WHEN FUELING IS COMPLETE, THE OPERATOR SHALL TURN THE FILL PUMP OFF, DRAIN THE DELIVERY HOSE, DISCONNECT THE GROUNDING CABLE AND DELIVERY AND VAPOR RECOVERY HOSE AND TURN THE CONTROLLER OFF.

**DAY TANK (DT-1)**

**DUPLEX SUPPLY PUMPS**

1. SUPPLY FUEL PUMPS SHALL OPERATE IN AN ALTERNATING LEAD-LAG ARRANGEMENT AND SHALL HAVE REDUNDANT POWER INPUT.
2. PUMP CONTROLS SHALL HAVE REDUNDANT POWER AND SHALL ALTERNATE DUPLEX SUPPLY PUMPS ONCE A WEEK.
3. LEAD SUPPLY PUMP SHALL START AND SOLENOID VALVE SV-6 SHALL OPEN WHEN FUEL DROPS TO 50% OF DAY TANK CAPACITY.
4. LAG PUMP SHALL TURN ON IF LEAD PUMP FAILS OR IF DAY TANK LEVEL DROPS BELOW 25%.
5. SUPPLY PUMP(S) SHALL TURN OFF AND SOLENOID VALVE SHALL CLOSE WHEN 90% OF DAY TANK CAPACITY IS MET.
6. SOLENOID VALVE SHALL BE SECONDARILY CONTROLLED TO OPEN WHEN A ROTARY TIMER SWITCH IS MANUALLY WOUND AND CLOSE WHEN TIMER SWITCH RUNS OUT OF TIME. MANUAL SECONDARY CONTROL IS INTENDED TO PROVIDE A MEANS TO OPEN SOLENOID VALVE WHEN MANUAL SUPPLY PUMP IS USED. ROTARY TIMER SWITCH WILL NOT WORK WITHOUT POWER.

**RETURN PUMP**

1. RETURN PUMP SHALL TURN ON WHEN FUEL RISES TO 95% OF DAY TANK CAPACITY AND SHALL TURN OFF WHEN FUEL LEVEL EQUATES TO 70% OF DAY TANK CAPACITY.

**FUEL POLISHER (FP-1)**

1. FUEL POLISHER SHALL RE-CIRCULATE IN ABOVEGROUND FUEL STORAGE TANK, AST-3.
2. FUEL POLISHER SHALL AUTOMATICALLY OPEN SOLENOID VALVE, SV-7, RE-CIRCULATE FOR 4-1/2 HOURS, AND CLOSE SOLENOID VALVE DAILY. SCHEDULE SHALL BE SET ON INTEGRAL 24-HOUR, MONDAY-FRIDAY TIMER.

**ALARMS:**

**REMOTE FILL PORT (RFP-1, RFP-2 AND RFP-3)**

1. FUEL LEVEL CAPACITY AT CRITICAL HIGH FUEL LEVEL OF 98%
2. FUEL LEVEL CAPACITY AT HIGH FUEL LEVEL OF 95%
3. FUEL LEVEL CAPACITY AT FUEL LEVEL OF 90%
4. FUEL LEVEL CAPACITY AT LOW FUEL LEVEL OF 25%
5. FUEL LEAK INTO SECONDARY CONTAINMENT

**DAY TANK (DT-1)**

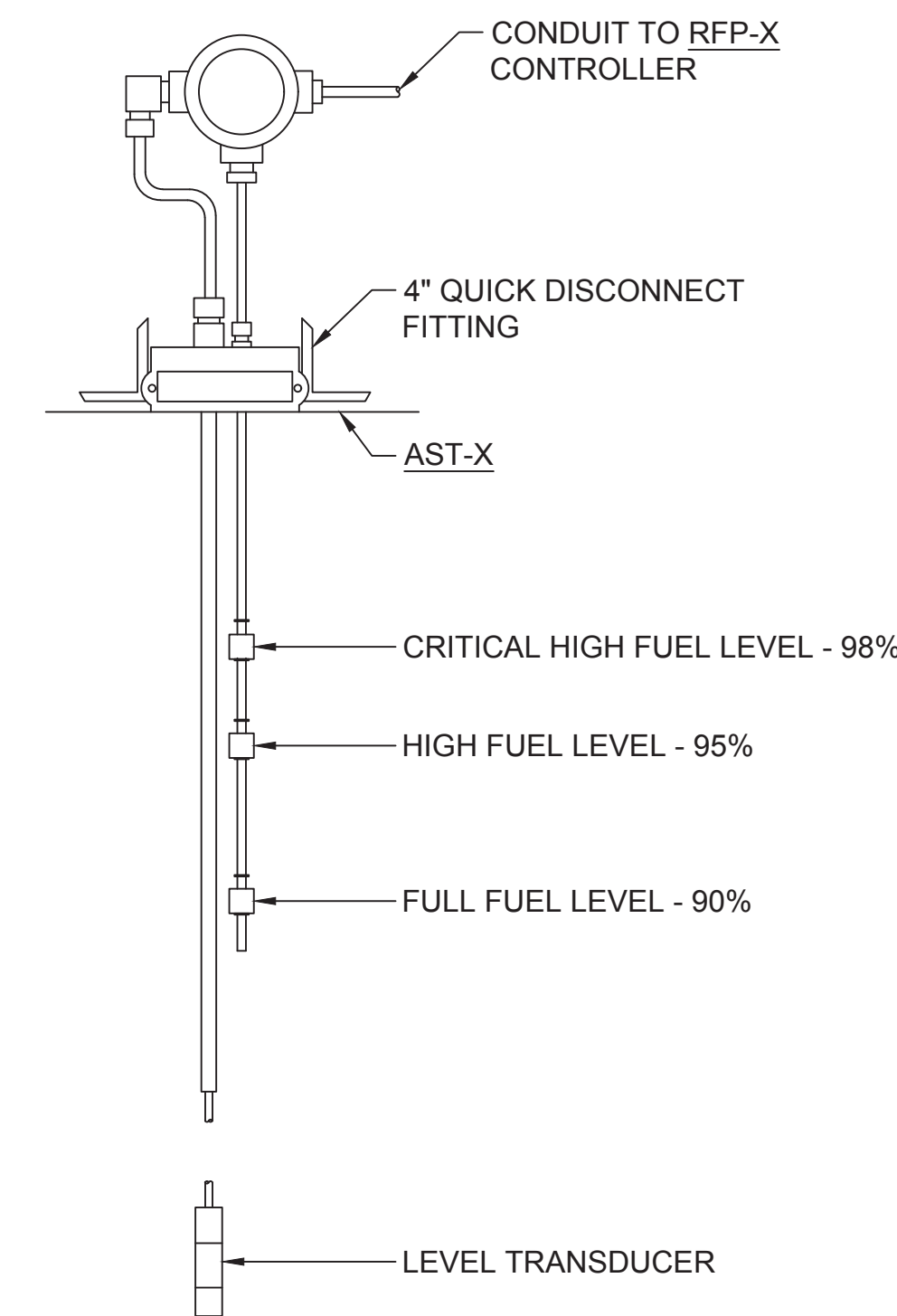
1. FUEL LEVEL CAPACITY AT CRITICAL HIGH FUEL LEVEL OF 98%
2. FUEL LEVEL CAPACITY AT HIGH FUEL LEVEL OF 95%
3. FUEL LEVEL CAPACITY AT LOW FUEL LEVEL OF 25%
4. FUEL LEVEL CAPACITY AT CRITICAL LOW FUEL LEVEL OF 10%
5. FUEL LEAK INTO SECONDARY CONTAINMENT

**ABOVEGROUND FUEL STORAGE TANK (AST-1, AST-2 AND AST-3)**

1. FUEL LEAK INTO SECONDARY CONTAINMENT
2. FUEL OVERFILL ALARM

**SECONDARY CONTAINMENT FUEL PIPING**

1. FUEL LEAK INTO TRANSITION SUMP

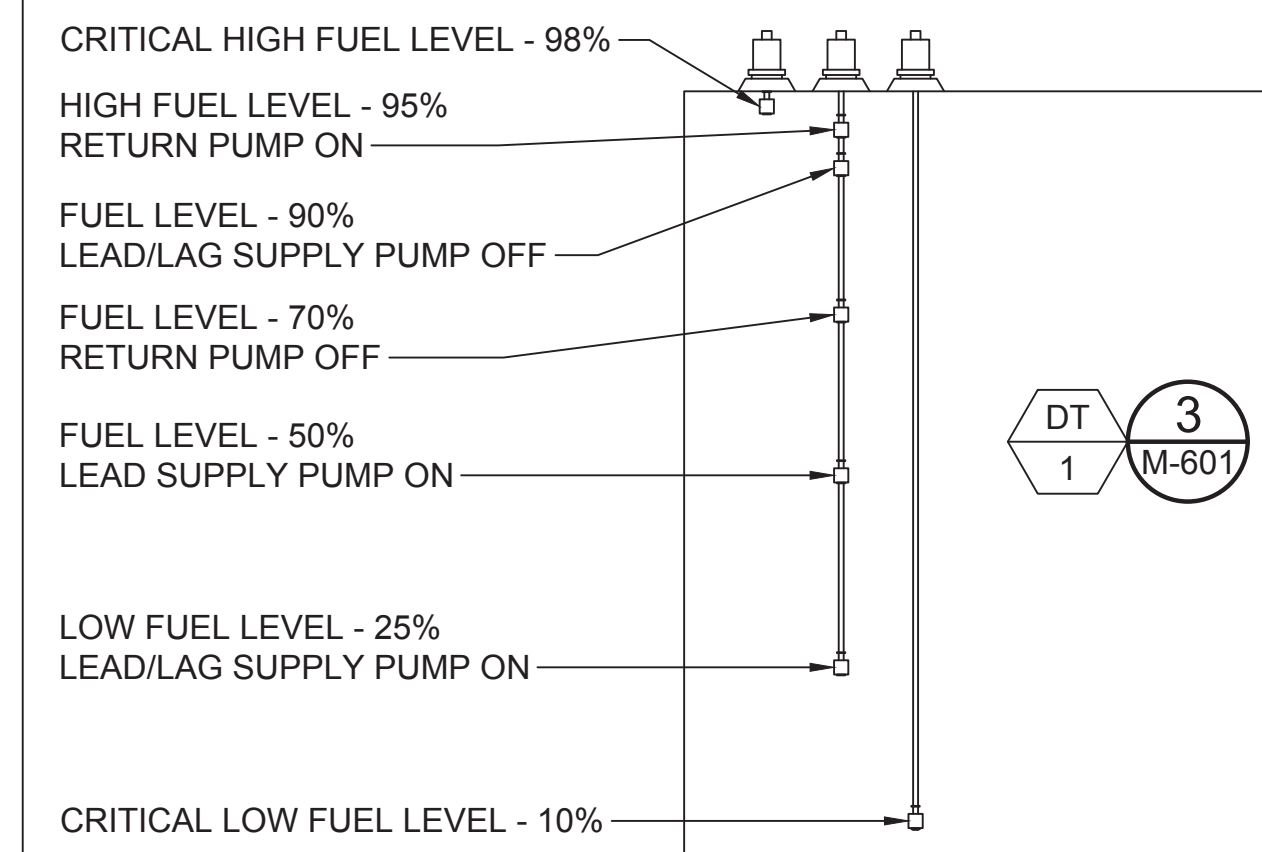


**NOTE:**

1. CONTRACTOR SHALL COORDINATE LEVEL TRANSDUCER LENGTHS WITH TANK MANUFACTURER/TANK SELECTION.

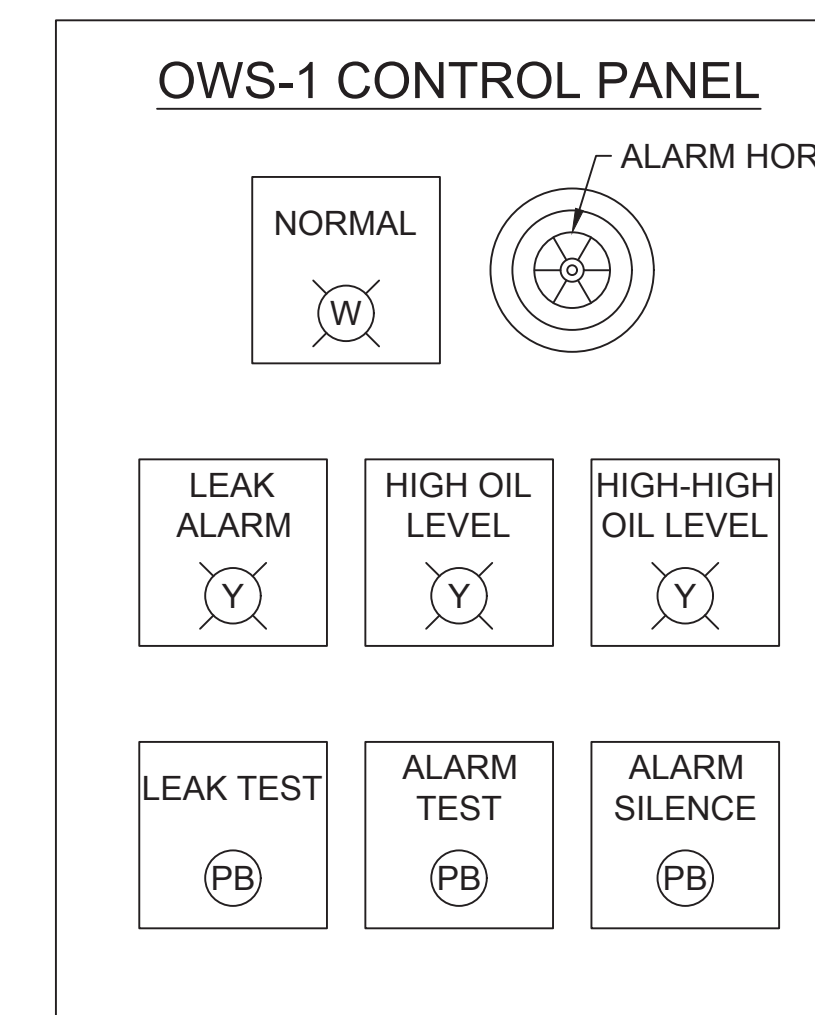
1  
M-501

**LEVEL TRANSDUCER AND FLOAT SWITCH ASSEMBLY**  
NOT TO SCALE



2  
M-501

**DAY TANK FLOAT SWITCH ASSEMBLY**  
NOT TO SCALE

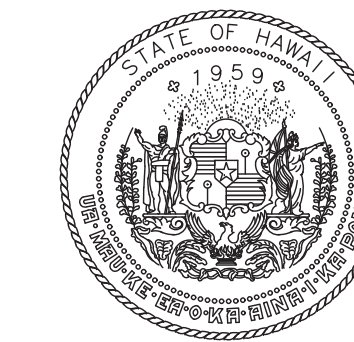


**LEGEND**

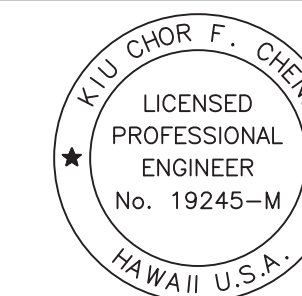
- (Y) YELLOW PILOT LIGHT
- (W) WHITE PILOT LIGHT
- (PB) PUSH BUTTON

3  
M-501

**OIL/WATER SEPARATOR CONTROL PANEL**  
NOT TO SCALE



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*Yu Chor F. Cheng*  
04/30/2026  
Licensed Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
KY	KY	KFC	KFC

6	2/27/26	ADDENDUM #6
1	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

**PROJECT TITLE :**

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

**PROJECT NO.:**

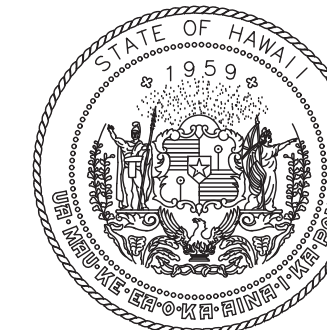
**AO1105-12**

**SHEET TITLE:**

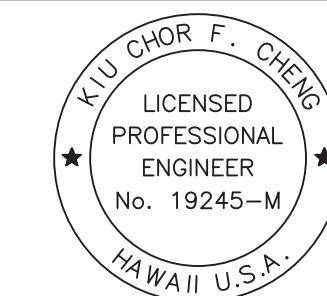
**MECHANICAL CONTROLS**

DATE :	DWG. NO.
12/09/2024	M-501
SHEET :	
57 OF 79 SHEETS	

M:\PROJ\223-000\223-071B HNL LST REMOVAL AND REPLACEMENT\DRAWINGS\MECHANICAL CONTROLS AND DETAILS.DWG



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DEPARTMENT OF TRANSPORTATION  
AIRPORTS



XU CHOR F. CHENG  
LICENSED PROFESSIONAL ENGINEER  
No. 19245-M  
HAWAII U.S.A.  
04/30/2026  
Licensed Expiration Date

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KY	KY	KFC	KFC

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AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

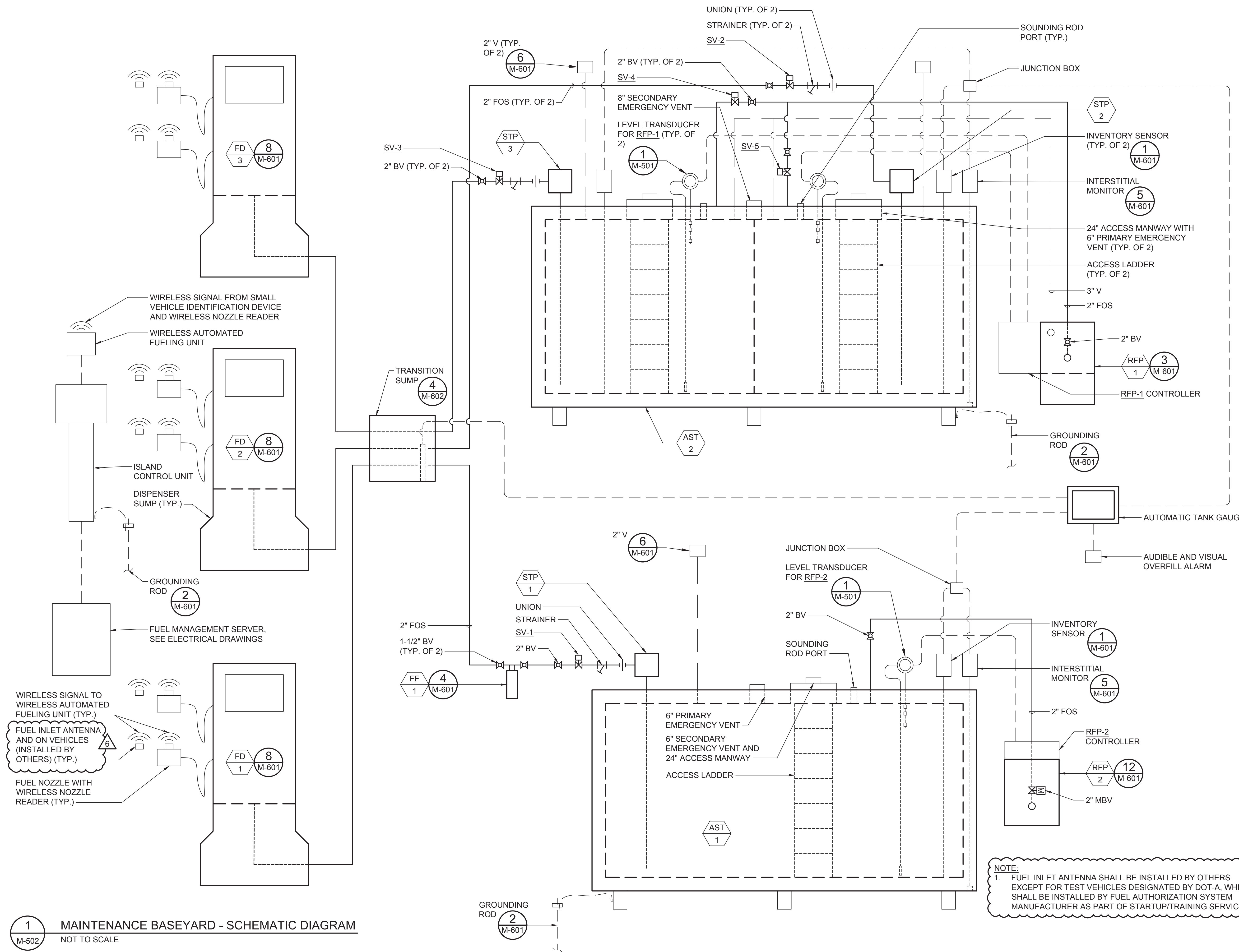
PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**MECHANICAL SCHEMATIC DIAGRAM**

DATE :	DWG. NO.
12/09/2024	M-502
SHEET :	
58 OF 79 SHEETS	



1 MAINTENANCE BASEYARD - SCHEMATIC DIAGRAM  
M-502 NOT TO SCALE

M:\PROJ\223-000\223-071B HNL L18 REMOVAL AND REPLACEMENT\DRAWINGS\MECHANICAL CONTROLS AND DETAILS.DWG

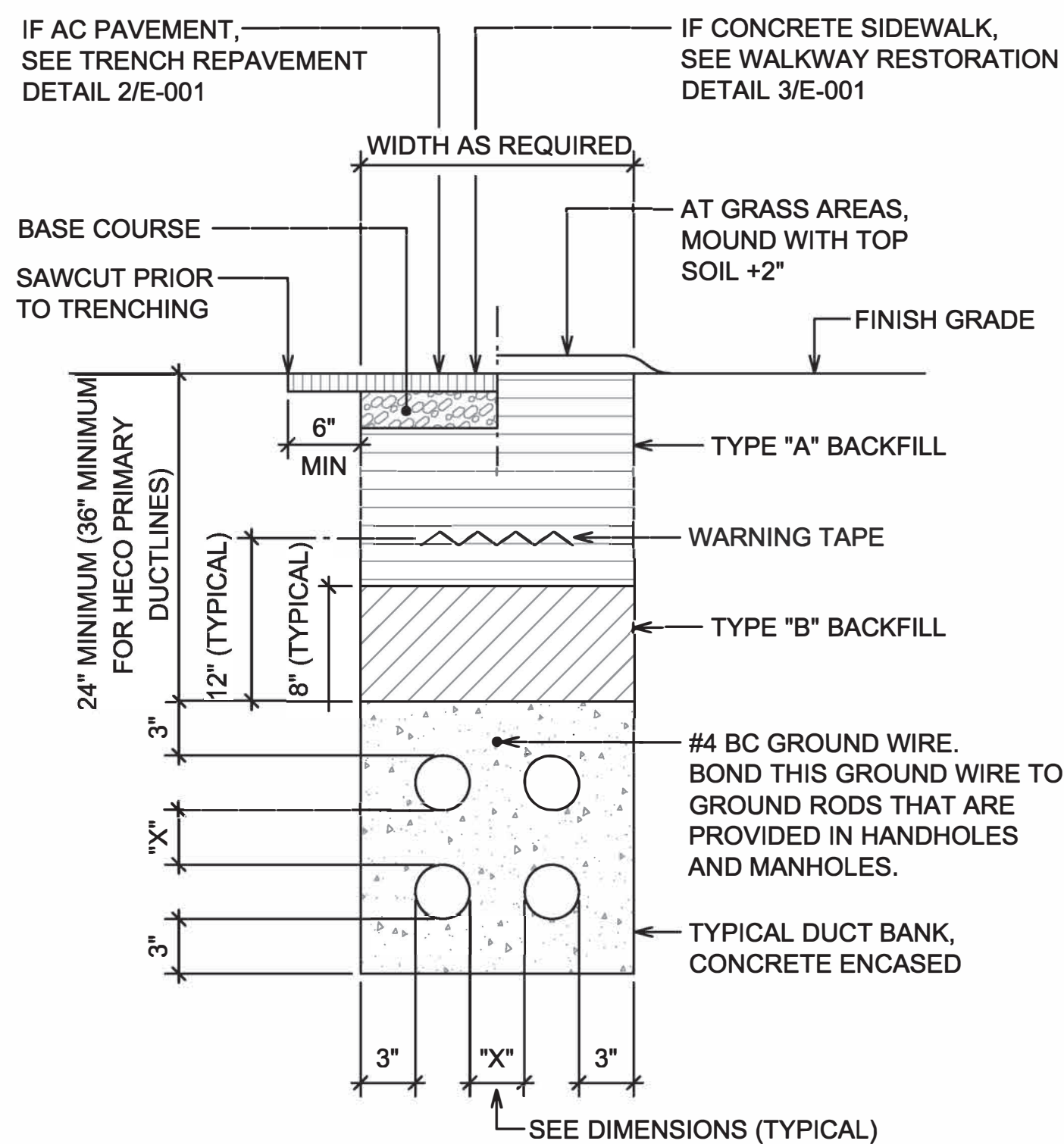
ELECTRICAL SYMBOLS			
SYMBOL			DESCRIPTION
DEMO	EXIST	NEW	
			ELECTRICAL EQUIPMENT CONNECTION
			CONTROL WIRING CONNECTION
			MOTOR CONNECTION
			EXPOSED CONDUIT OR CABLE
			UNDERGROUND CONDUIT
			HOMERUN TO RESPECTIVE PANELBOARD (CIRCUIT NUMBER 1; PANEL "A" INDICATED)
			JUNCTION BOX, 4"SQ X 2-1/8"D, WALL/CEILING MTD. RESPECTIVELY
			JUNCTION BOX, 8"SQ X 6"D, WALL/CEILING MTD. RESPECTIVELY
			ELECTRICAL PANELBOARD
			DENOTES INDICATOR, DENOTES SEE BOX NOTE 1
			DENOTES DUCT SECTION TYPE AND ASSOCIATED DUCTS. NOTE INDICATES DUCT SECTION "A" CONTAINS (1) 2" ELECTRICAL DUCT. SEE TYPICAL DUCT SECTIONS ON DETAIL 4/E-001
			LDPI INDUSTRIAL LIGHTING LED HAZARDOUS LIGHTING, CEILING MTD., SEE LIGHT FIXTURE SCHEDULE ON DETAIL 2/E-501
			LIGHT SWITCH, SINGLE POLE, SURFACE MTD. +48" A.F.F. MEASURED FROM TOP OF FIXTURE, WEATHERPROOF

**GENERAL ELECTRICAL NOTES - EXISTING CONDITIONS:**

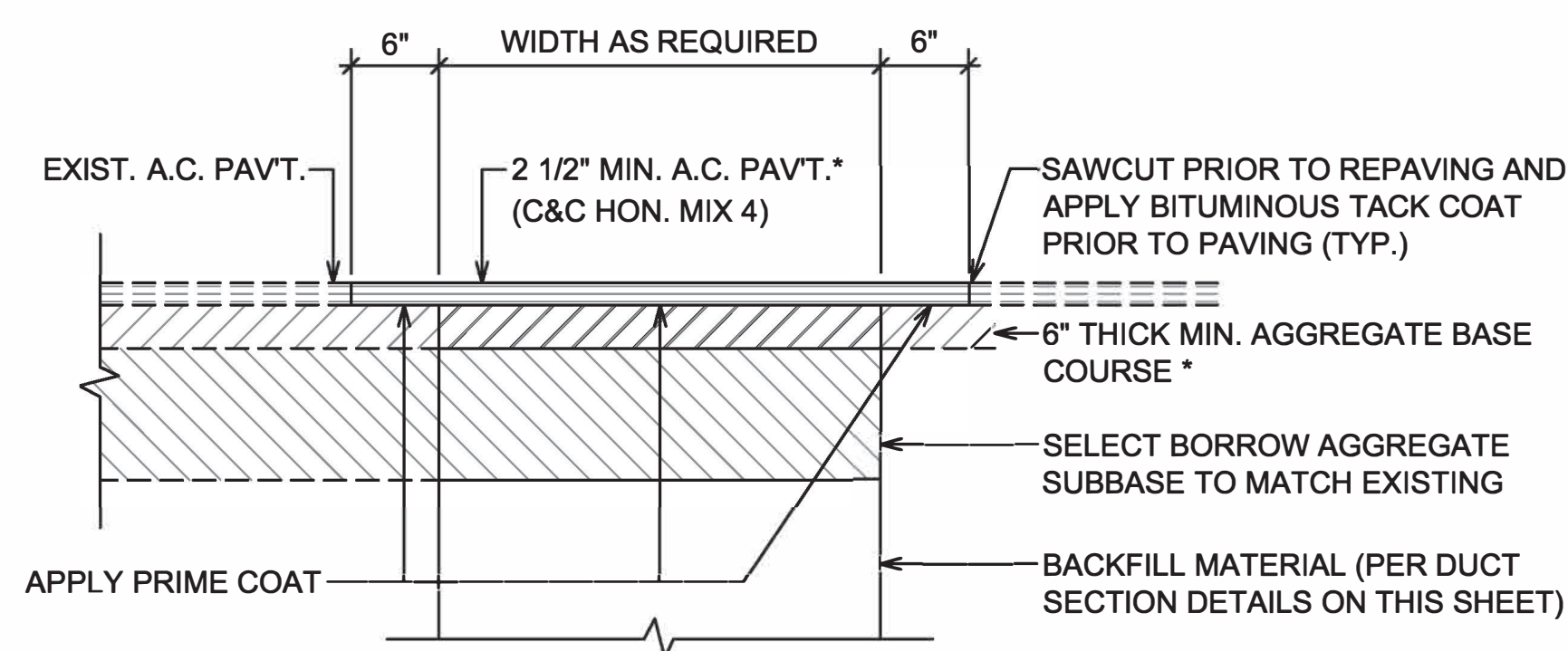
- EXISTING CONDITIONS INDICATED ON THESE DRAWINGS ARE INTENDED TO SHOW THE GENERAL SCOPE OF WORK, BASED ON LIMITED FIELD VERIFICATION AND INFORMATION PROVIDED BY OTHERS. VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING AND THE START OF WORK. A SIGNED CONTRACT ACKNOWLEDGES THAT ALL SITE CONDITIONS ARE ACCEPTED.
- ANY DRAWING DISCREPANCIES WITH RESPECT TO THE EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER, AND SHALL BE RESOLVED PRIOR TO STARTING WORK. NO ADDITIONAL EXPENSES WILL BE ALLOWED FOR WORK MADE NECESSARY BY FAILING TO VERIFY SITE CONDITIONS AND RESOLVE DISCREPANCIES.
- COORDINATE ALL ELECTRICAL, TELECOMMUNICATION, AND FIRE ALARM OUTAGES WITH THE ENGINEER. OUTAGES SHALL BE SCHEDULED AND MINIMIZED.
- DEMOLISH EXISTING EQUIPMENT, DEVICES, SUPPORTS, ETC. AS REQUIRED TO ACCOMPLISH THE NEW WORK INDICATED ON THE PLANS, WHETHER OR NOT THESE ITEMS ARE SPECIFICALLY SHOWN.
- MAINTAIN CONTINUITY OF EXISTING CIRCUITS TO PROVIDE POWER TO ALL EQUIPMENT AND DEVICES TO REMAIN. PROVIDE TEMPORARY CIRCUITS TO EQUIPMENT AND DEVICES THAT MUST REMAIN IN OPERATION DURING CONSTRUCTION.
- ALL DEMOLISHED ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF UNLESS DESIGNATED BY THE ENGINEER OR AS INDICATED ON THE DRAWINGS.
- REMOVED EQUIPMENT CONTAINING HAZARDOUS MATERIALS, SUCH AS MERCURY OR PCBs, SHALL BE DISPOSED OF PER THE ENVIRONMENTAL PROTECTION AGENCY (EPA) GUIDELINES.
- UNLESS SPECIFICALLY INDICATED, REMOVED CONDUCTORS SHALL BE REMOVED IN THEIR ENTIRETY TO THE SOURCE OVERCURRENT PROTECTION DEVICE. RACEWAYS SHALL BE REMOVED AS FOLLOWS:
  - ALL OVERHEAD AND EXPOSED RACEWAYS SHALL BE REMOVED ENTIRELY.
  - RACEWAYS BELOW GRADE SHALL BE REMOVED TO MINIMUM 18" BELOW GRADE OR AS INDICATED OTHERWISE, BACKFILLED TO MATCH THE FINAL FINISH GRADE.
  - RACEWAYS IN REMAINING WALLS AND SLABS SHALL BE ABANDONED, CUT AT LEAST 2" INTO THE SURFACE AND THE OPENING GROUTED SMOOTH.
- ALL EQUIPMENT AND CIRCUITING LINED WITH 'X' INDICATES WORK THAT SHALL BE COMPLETELY DEMOLISHED, INCLUDING ALL CONDUCTORS, RACEWAYS, AND SUPPORTS, UNLESS SPECIFICALLY STATED OTHERWISE.

**GENERAL ELECTRICAL NOTES :**

- PERFORM ALL WORK IN ACCORDANCE WITH NFPA 70 2017 (NATIONAL ELECTRICAL CODE), NFPA 70E (STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE), AND ALL LOCAL RULES AND REGULATIONS.
- WORK SHALL BE NEAT AND WORKSMANLIKE. PROVIDE LISTED, CORRECTLY-SPACED METHODS OF RACEWAY SUPPORT AND TRANSITIONS WITHOUT UNUSED OPENINGS; EQUIPMENT SHALL BE FIRMLY SECURED WITH VENTILATION OPENINGS UNOBSURED.
- COORDINATE CONNECTIONS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. ALL EQUIPMENT SHALL HAVE THE APPROPRIATE DISCONNECTING MEANS PROVIDED.
- NOT ALL PENETRATIONS ARE INDICATED. PENETRATE WALLS, SLABS, BEAMS, AND CEILING FOR INSTALLATION OF NEW ELECTRICAL RACEWAYS AS REQUIRED; FIRE STOP, PATCH AND PAINT TO MATCH EXISTING RATINGS AND ADJACENT FINISHES. EXTERIOR PENETRATIONS SHALL BE FIRE STOPPED AND MADE WEATHERPROOF ON THE SAME DAY OF THE PENETRATION.
- WHERE POSSIBLE, CONCEAL ALL RACEWAYS IN WALLS, ABOVE CEILINGS, OR IN CABINETS. EXPOSED BOXES AND RACEWAYS WITHOUT GRADE 316 STAINLESS STEEL SHALL BE PAINTED TO MATCH ADJACENT FINISH.
- ALL EQUIPMENT AND DEVICES SHALL BE RATED FOR THE ENVIRONMENT THEY ARE INSTALLED IN. ALL OUTDOOR EQUIPMENT SHALL BE MINIMUM NEMA 4X 316SS.
- PROVIDE ALL LOW VOLTAGE WIRING AND DATA CABLING PER THE MANUFACTURER'S RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO ALL GENERATOR STARTUP CONTROL WIRING.

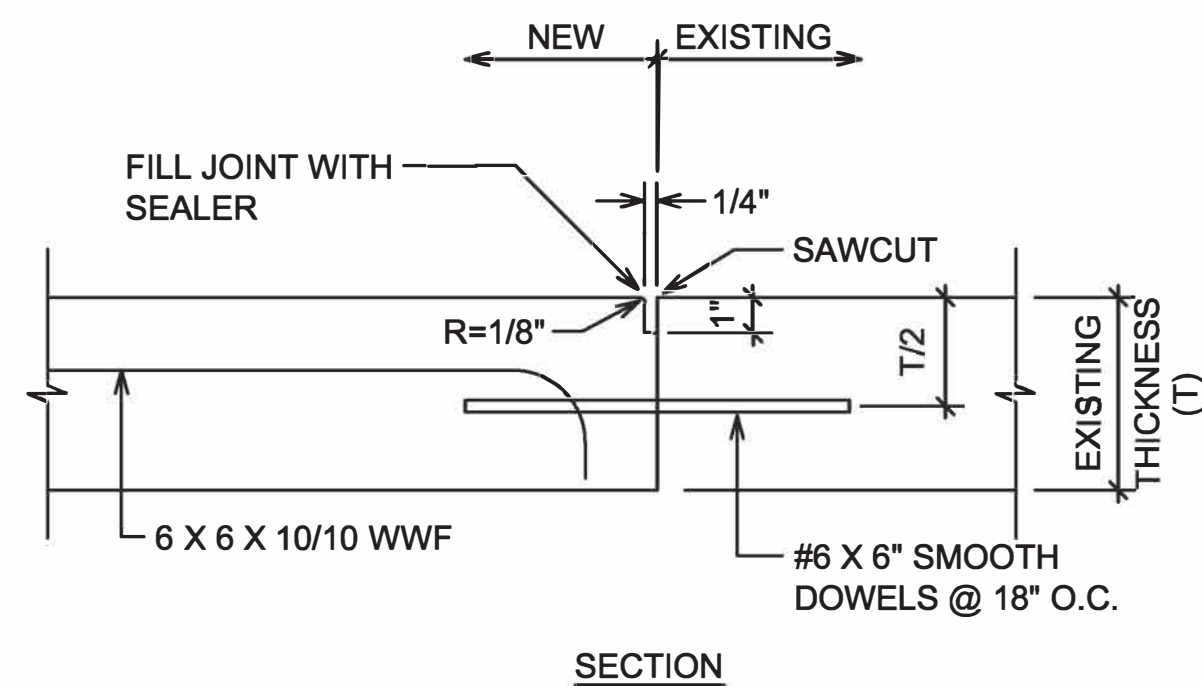


1 TYPICAL DUCT SECTION DETAIL  
SCALE: NOT TO SCALE



\* NOTE:  
OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER, INCLUDING A.C. AND/OR PORTLAND CONCRETE PAVEMENT, BASE COURSE AND SELECT BORROW.

2 TRENCH REPAVEMENT DETAIL  
SCALE: NOT TO SCALE



NOTE(S):  
1. SAWCUTTING SHALL BE MADE EITHER PARALLEL OR PERPENDICULAR TO THE WALKWAY.

3 WALKWAY RESTORATION DETAIL  
SCALE: NOT TO SCALE

**BACKFILL NOTES:**

- TYPE "A" BACKFILL - EARTH & GRAVEL. ROCK SIZE TO BE 1" MAX. & THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- TYPE "B" BACKFILL - EARTH & GRAVEL. MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- FLUIDIZED THERMAL BACKFILL (FTB) -MINIMUM COMPRESSIVE STRENGTH OF 100 PSI FOR USE ABOVE 46KV DUCTLINES.
- CONCRETE - 3" ENCASEMENT, 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS.

**NOTES:**

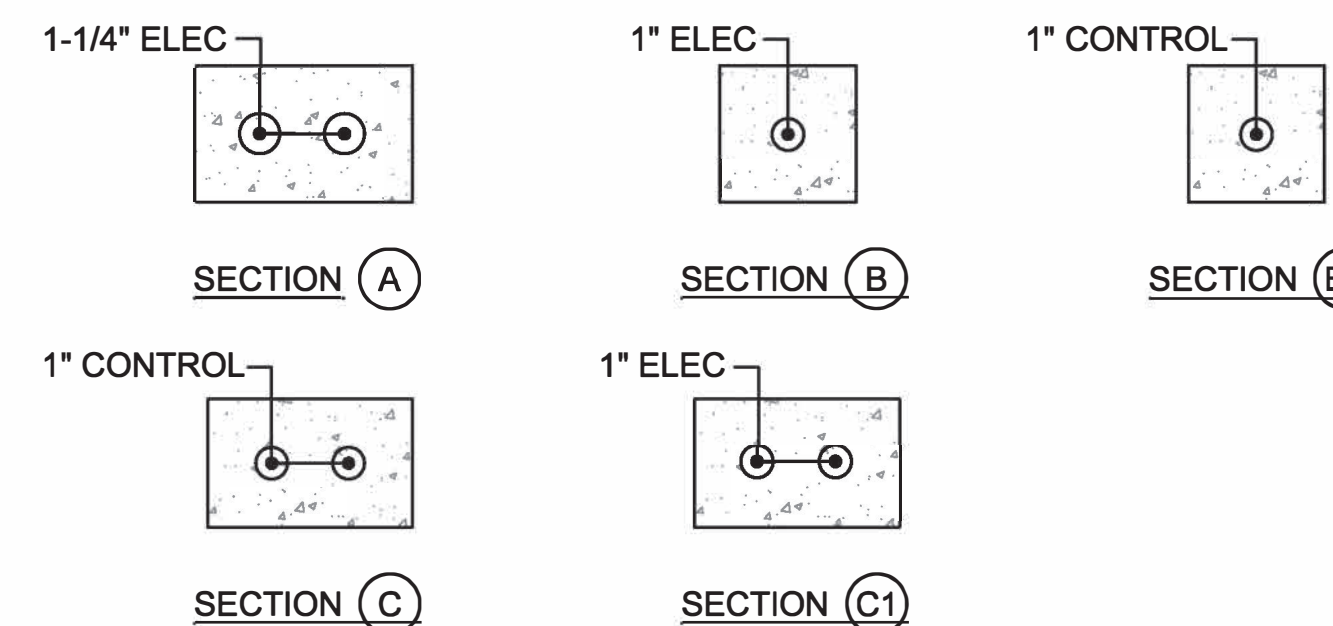
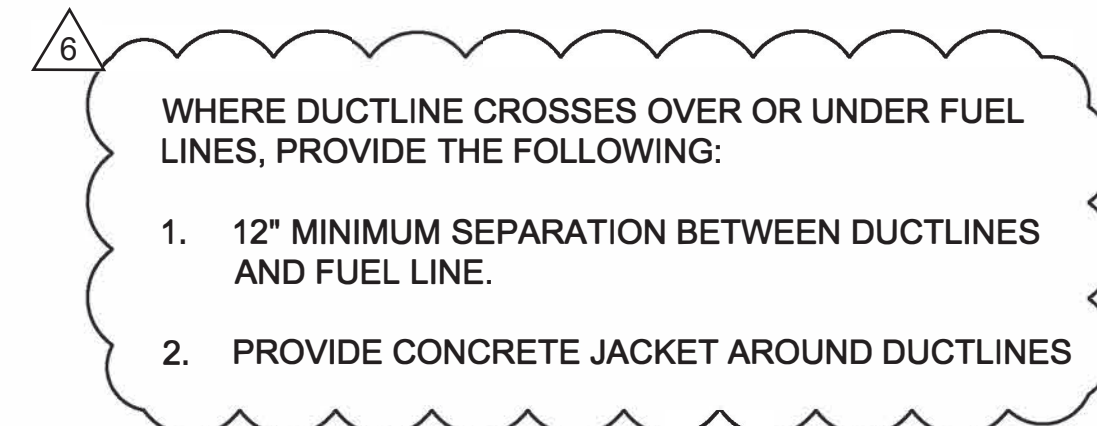
- CONTRACTOR SHALL PROVIDE MULETAPE (WP 1800P) IN EACH TELEPHONE DUCT THROUGHOUT ITS ENTIRE LENGTH WITH PROTRUSIONS OF 2 FEET IN MANHOLES AND HANDHOLES AT EACH END, AND 1 FOOT IN PULLBOXES. MULETAPE SHALL BE RATED FOR 1800 LB PULL AND SHALL HAVE FOOTAGE MARKINGS FOR MEASURING DUCT LENGTHS. SEE HTOC STANDARD DRAWING 34028.
- CONTRACTOR SHALL PLACE 8-MIL ORANGE COLORED PLASTIC WARNING TAPE, NOT LESS THAN 4" WIDE, ENTIRE LENGTH OF TRENCH FOR ALL UNDERGROUND INSTALLATIONS. TAPE SHALL READ "WARNING -STOP DIGGING-CABLE BURIED BELOW, FAILURE TO COMPLY COULD RESULT IN LEGAL ACTION". SEE HTOC STANDARD DRAWING 34028.
- DUCT BANKS SHALL BE SEPARATED BY MINIMUM OF 2" OR PER HECO REQUIREMENTS, WHICHEVER IS GREATER.

**DUCT SEPARATION REQUIREMENTS (DIMENSION "X" WITH EXCEPTIONS)**

- ELEC - ELEC = 3"
- ELEC - TEL = 6"
- ELEC - COMM / CONTROL = 6"
- TEL - COMM / CONTROL = 2"
- COMM / CONTROL - COMM / CONTROL = 2"

WHERE DUCTLINE CROSSES OVER OR UNDER WATER LINE, PROVIDE THE FOLLOWING:

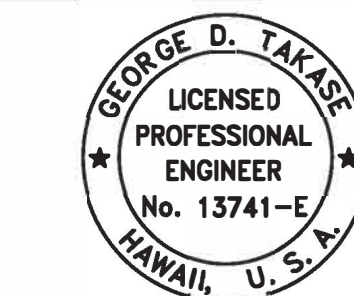
- 6" MINIMUM SEPARATION BETWEEN DUCTLINES AND WATER LINE.
- PROVIDE CONCRETE JACKET AROUND DUCTLINES
- PROVIDE ONLY TYPE "B" BACKFILL AROUND WATER LINE.



4 TYPICAL DUCT SECTIONS  
SCALE: NOT TO SCALE



STATE OF HAWAII  
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04/30/2026  
Licensed Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
SH	CAD	GDT	GDT

6	2/27/26	ADDENDUM #6
4	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

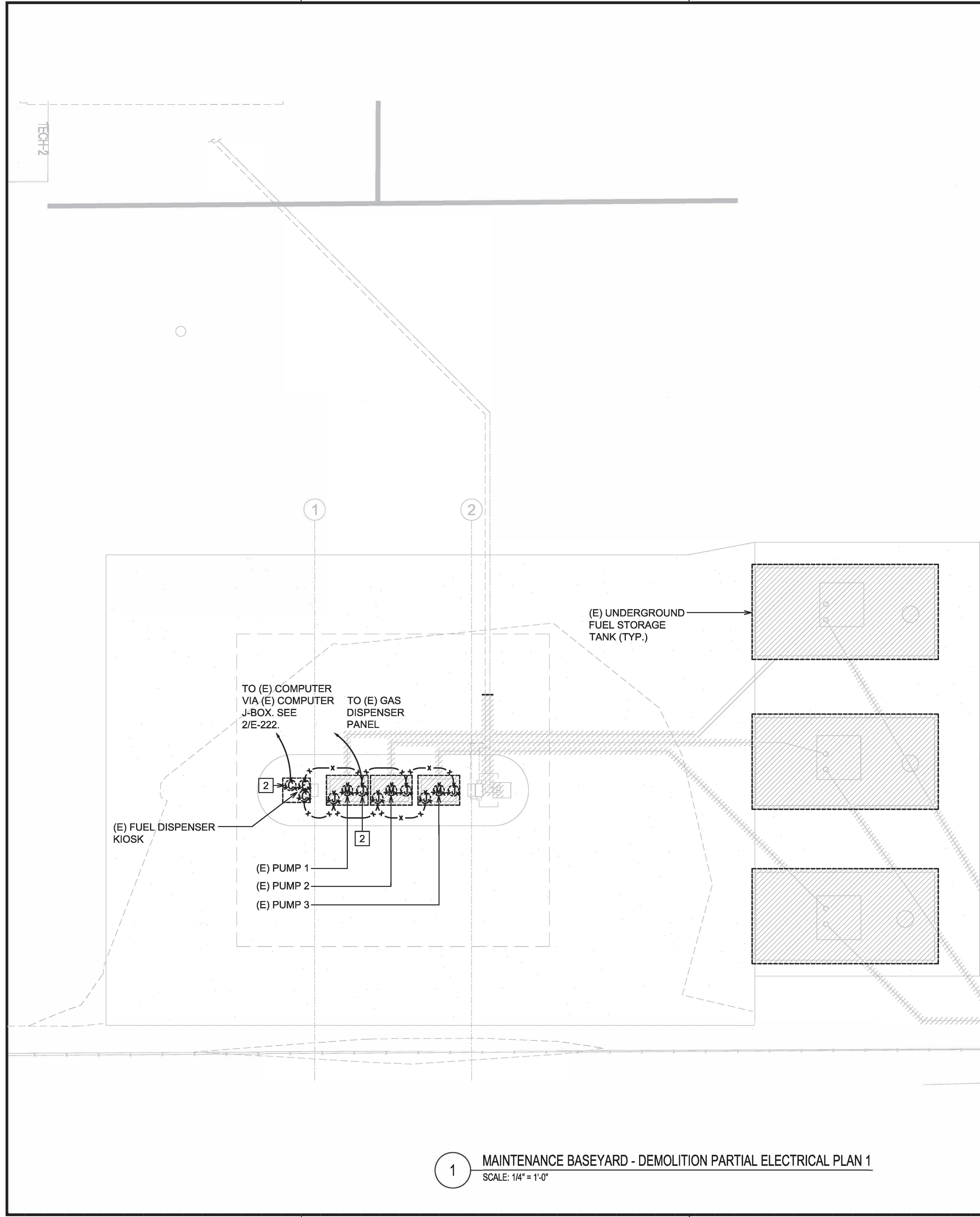
**AO1105-12**

SHEET TITLE:

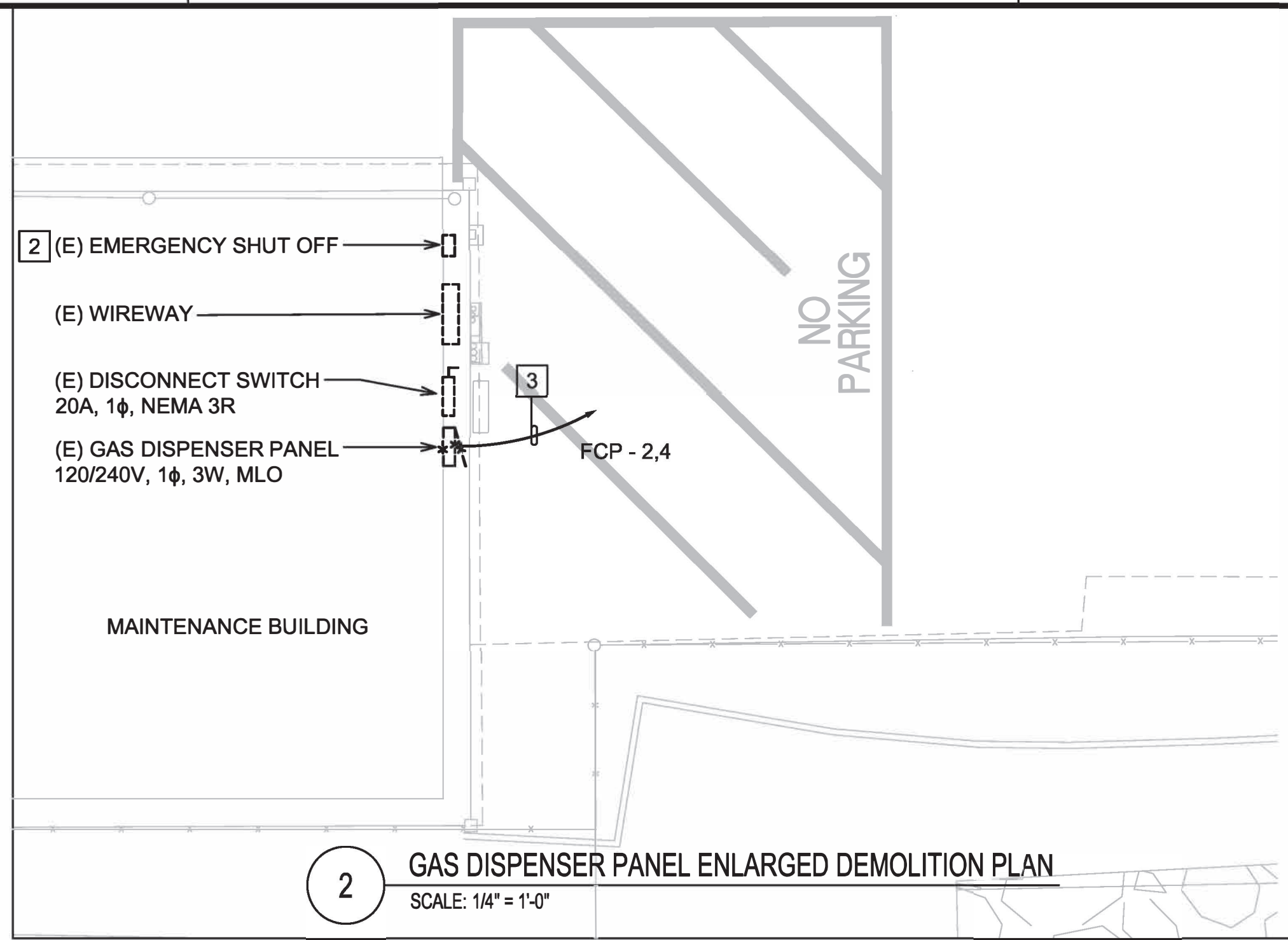
**ELEC SYMBOL LIST, GENERAL ELECTRICAL NOTES, TRENCH DETAIL**

DATE :	DWG. NO.
12/09/2024	E-001
SHEET :	
63 OF 79 SHEETS	

VALGARIBASHARES\CAD\PROJECTS\23140E-001\_23140\_SYMBOLS.DWG



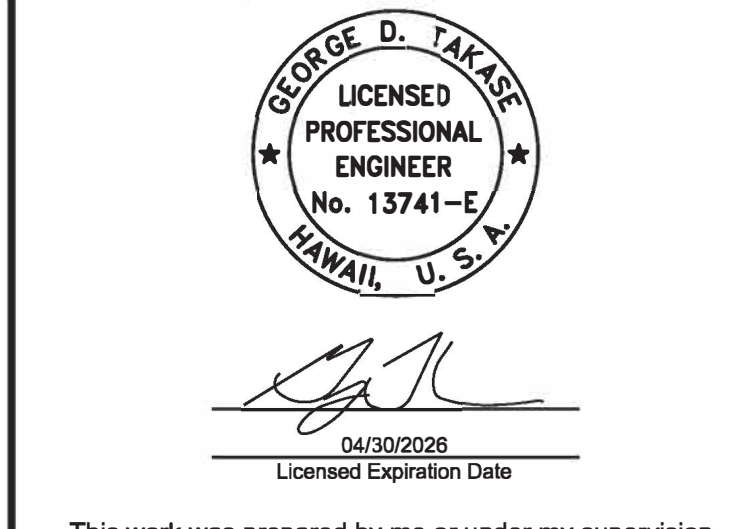
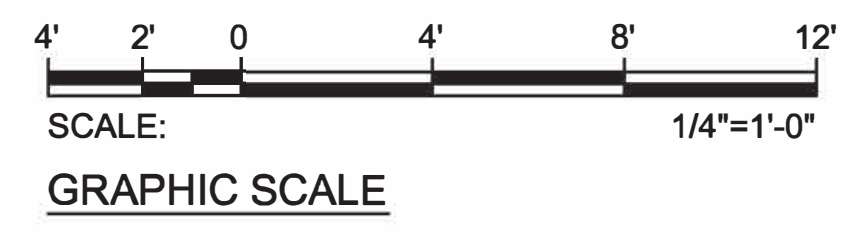
**1** MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 1  
SCALE: 1/4" = 1'-0"



**2** GAS DISPENSER PANEL ENLARGED DEMOLITION PLAN  
SCALE: 1/4" = 1'-0"

**NOTES:**

1. REMOVE ALL ELECTRICAL APPURTENANCES TO EQUIPMENT BEING REMOVED INCLUDING EXISTING CONDUCTORS AND CONTROL WIRING. SEE MECHANICAL SHEETS FOR EQUIPMENT.
2. PRESERVE AND PROTECT (E) STUB OUT CONDUIT. ENSURE CONDUIT IS READY FOR NEW ELECTRICAL AND/OR CONTROL WIRING.
3. EXISTING CONDUIT TO REMAIN. REMOVE EXISTING CONDUCTORS AND PREPARE CONDUIT FOR INSTALLATION OF NEW CONDUCTORS.



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SH	CAD	GDT	GDT

NO.	DATE	REVISIONS
6	2/27/26	ADDENDUM #6
4	11/19/25	ADDENDUM #1

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

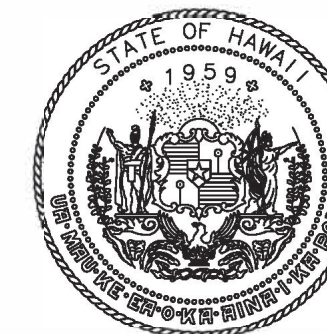
**PROJECT TITLE :**  
**UST/AST REMOVALS AND REPLACEMENTS**  
AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

**PROJECT NO.:**  
**AO1105-12**

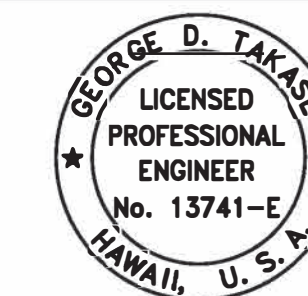
**SHEET TITLE:**  
**MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 1**

DATE :	DWG. NO.
12/09/2024	<b>E-211</b>
SHEET :	
67 OF 79 SHEETS	

VALGARIBASHARES\CAD\PROJECTS\23140E-211\_223140\_MAINT-BASEYARD\_DEMO PARTIAL ELEC PLAN 1.DWG



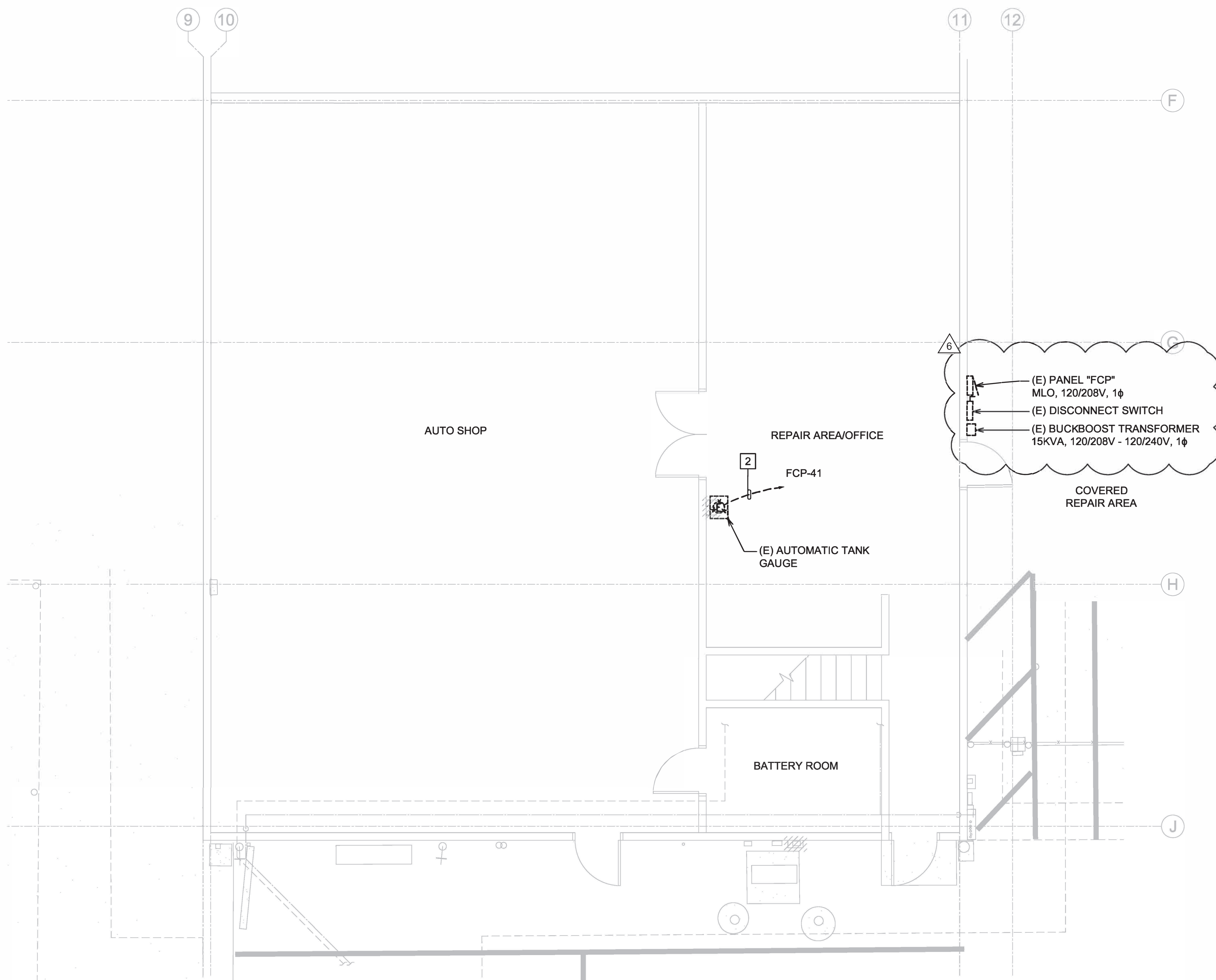
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DEPARTMENT OF TRANSPORTATION  
AIRPORTS



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04/30/2028  
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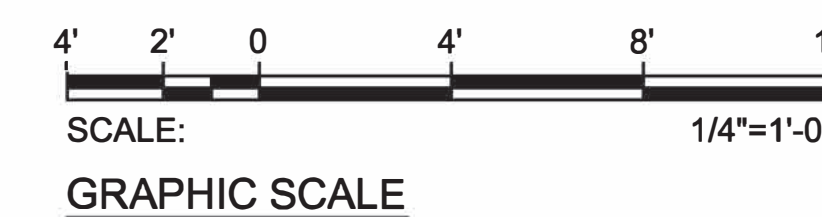
DSGN.	DRWN.	CHKD.	APPD.
SH	CAD	GDT	GDT



**NOTES:**

- REMOVE ALL ELECTRICAL APPURTENANCES TO EQUIPMENT BEING REMOVED INCLUDING EXISTING CONDUCTORS AND CONTROL WIRING. SEE MECHANICAL SHEETS FOR EQUIPMENT.
- PRESERVE AND PROTECT (E) STUB OUT CONDUIT. ENSURE CONDUIT IS READY FOR NEW ELECTRICAL AND/OR CONTROL WIRING.

1 MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 2  
SCALE: 1/4" = 1'-0"



6	2/27/26	ADDENDUM #6
4	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

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DECEMBER 09, 2024  
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AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

**AO1105-12**

SHEET TITLE:

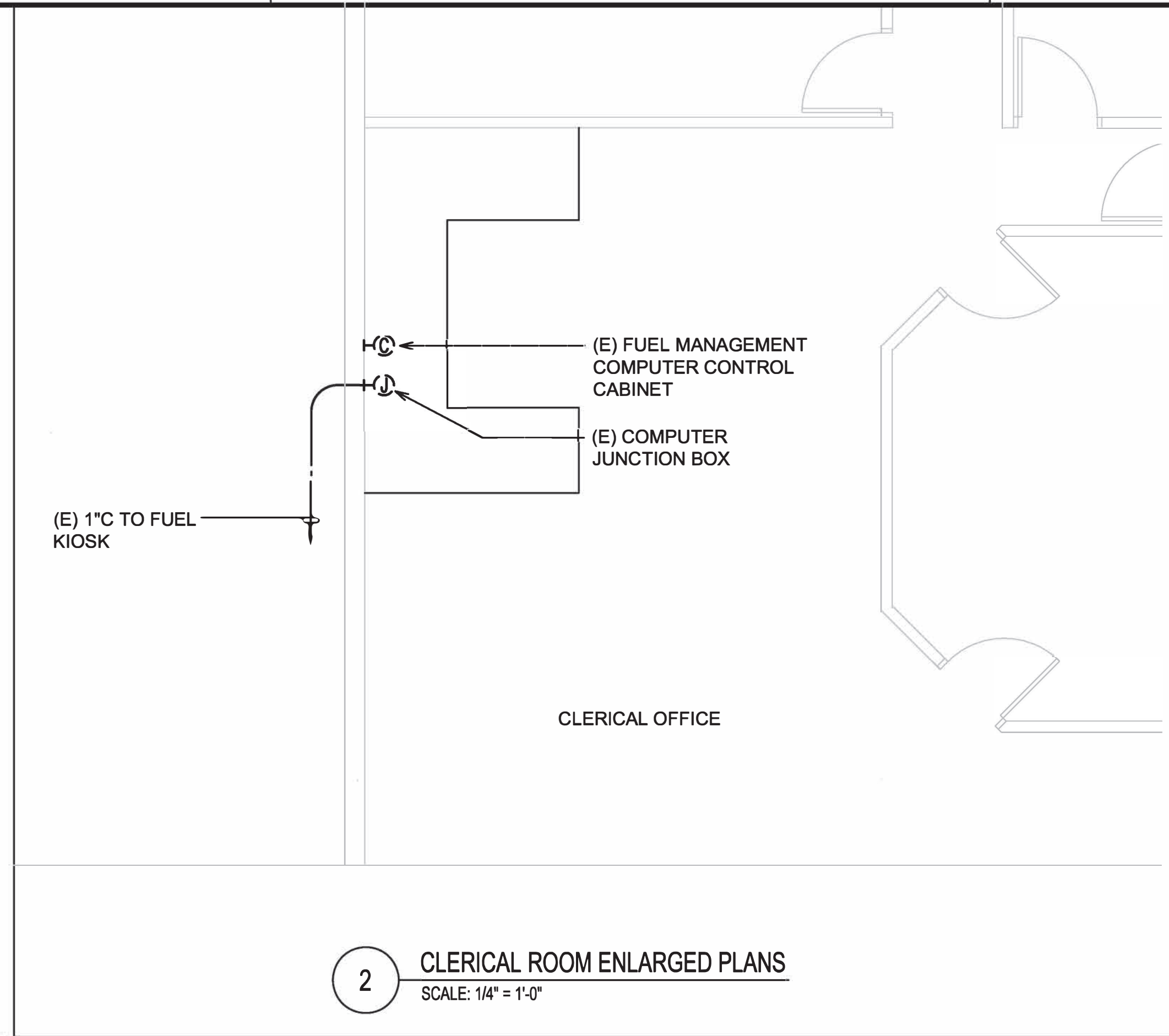
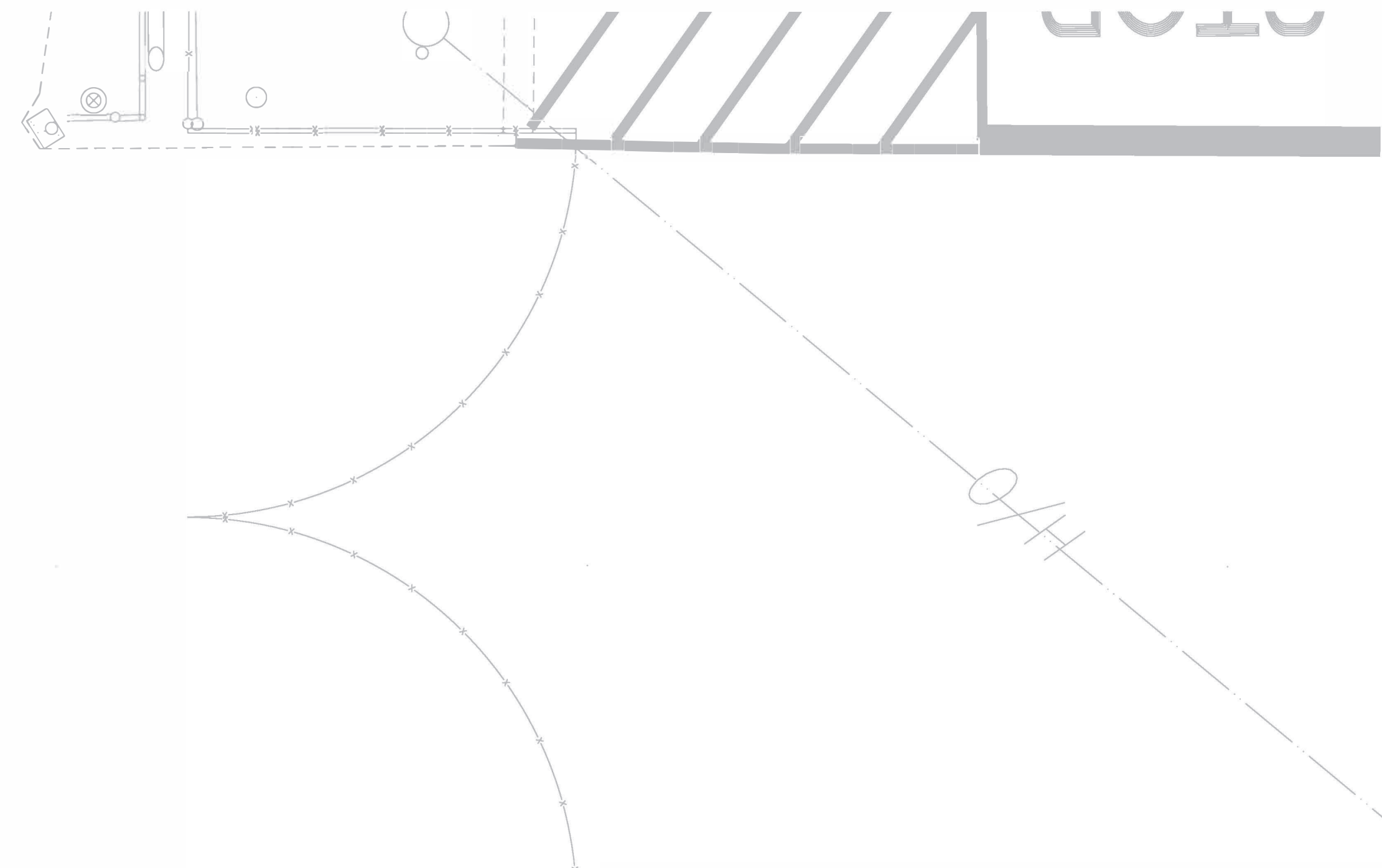
**MAINTENANCE BASEYARD - DEMOLITION PARTIAL ELECTRICAL PLAN 2**

DATE :  
12/09/2024  
SHEET :  
68 OF 79 SHEETS

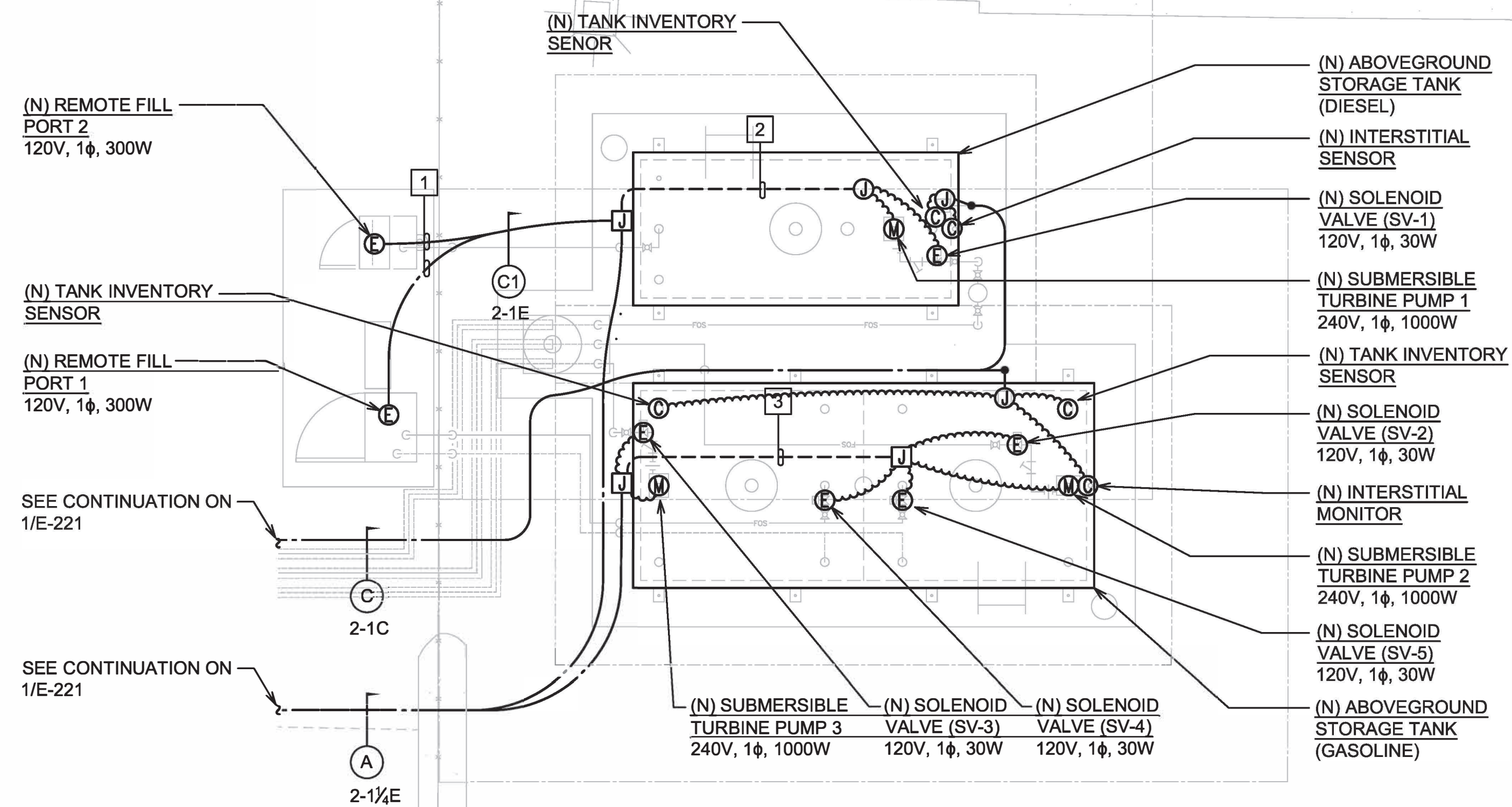
DWG. NO.

**E-212**

VALGARIBASHARES/CADD/PROJECTS/23140E-212\_223140\_MAINT-BASEYARD\_DEMO PARTIAL\_ELEC PLAN 2.DWG

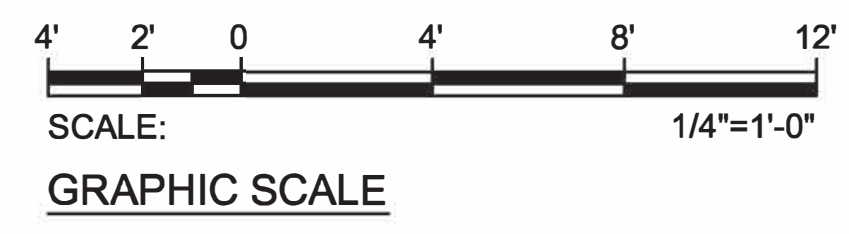


2 CLERICAL ROOM ENLARGED PLANS  
SCALE: 1/4" = 1'-0"



- NOTES:**
- 1 1" PVC, 4#10, #10 GND
  - 2 1" C EMT, 4#10, #10 GND
  - 3 1 1/2" C EMT, 8#10, #10 GND

1 MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 2  
SCALE: 1/4" = 1'-0"



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SH	CAD	GDT	GDT

6	2/27/26	ADDENDUM #6
4	11/19/25	ADDENDUM #1
NO.	DATE	REVISIONS

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DECEMBER 09, 2024  
DATE

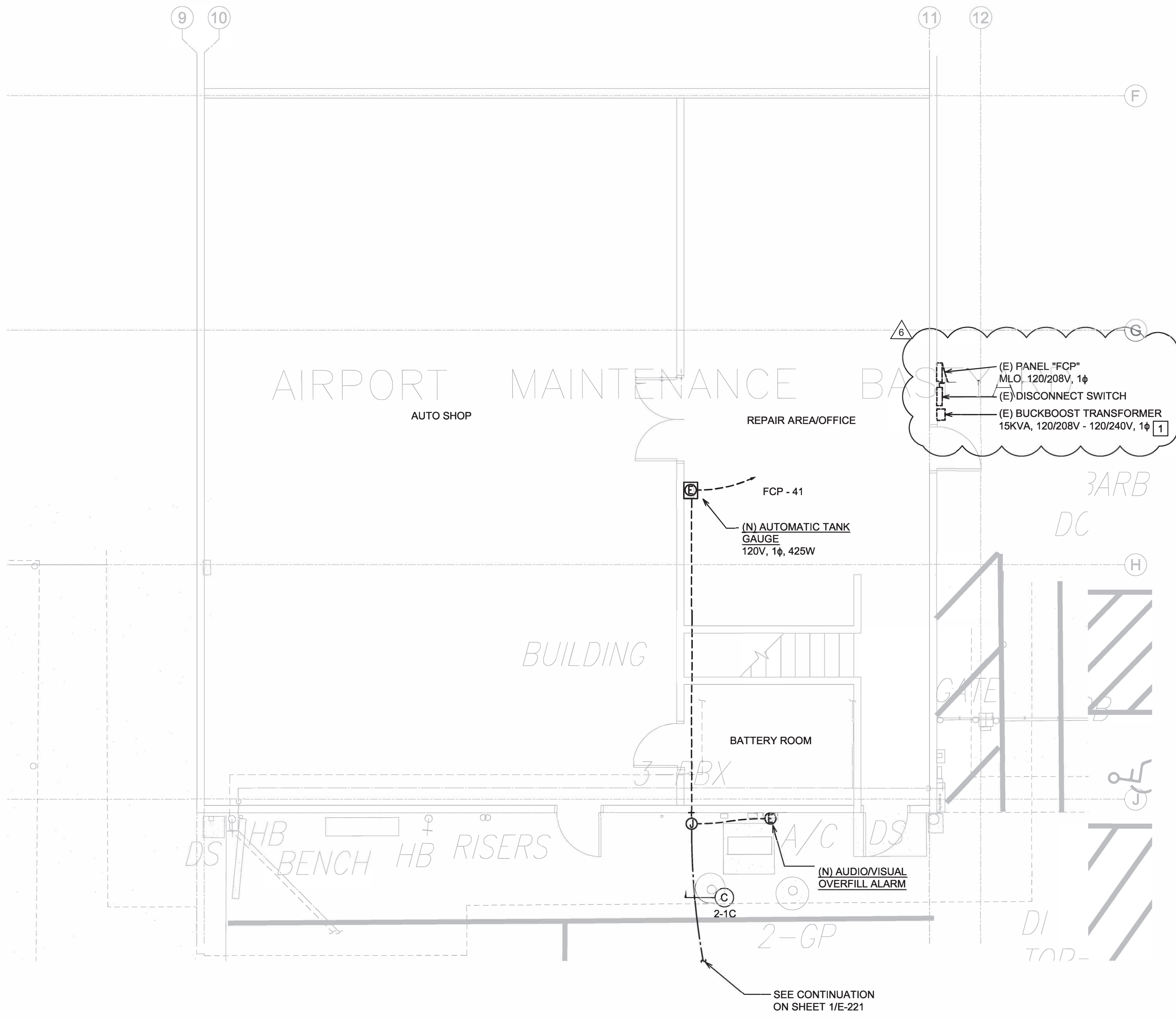
PROJECT TITLE :  
**UST/AST REMOVALS AND REPLACEMENTS**  
AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO. :  
**AO1105-12**

SHEET TITLE :  
**MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 2**

DATE :	DWG. NO.
12/09/2024	E-222
SHEET :	
70 OF 79 SHEETS	

VALGAROSHARES\CAD\PROJECTS\23140\1E-222\_223140\_MAINT-BASEYARD\_PARTIAL\_ELEC\_PLAN\_2.DWG



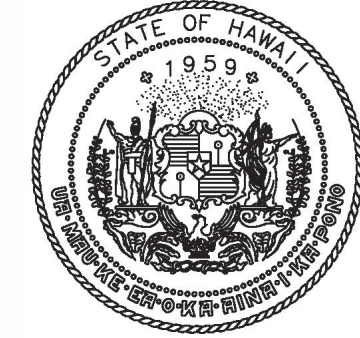
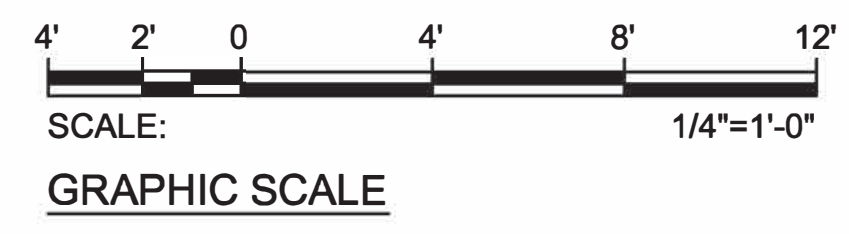
**NOTES:**

1 EXST. 15KVA BUCKBOOST TRANSFORMER. FIELD VERIFY TO CONFIRM TRANSFORMER FEEDS GAS DISPENSER PANEL. IF NOT, PROVIDE A NEW 10KVA, 120/208V - 120/240V BUCKBOOST TRANSFORMER.

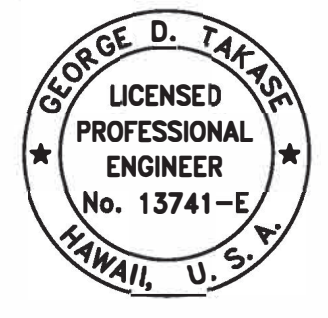
6

(E) PANEL "FCP"  
MLO, 120/208V, 1φ  
(E) DISCONNECT SWITCH  
(E) BUCKBOOST TRANSFORMER  
15KVA, 120/208V - 120/240V, 1φ 1

1 MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 3  
SCALE: 1/4" = 1'-0"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*George D. Takase*  
04/30/2028  
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SH	CAD	GDT	GDT

NO.	DATE	REVISIONS
6	2/27/26	ADDENDUM #6
1	11/19/25	ADDENDUM #1

**FINAL CONSTRUCTION DOCUMENTS**  
DECEMBER 09, 2024  
DATE

PROJECT TITLE :

**UST/AST REMOVALS AND REPLACEMENTS**

AT  
DANIEL K. INOUE INTERNATIONAL AIRPORT  
HONOLULU, OAHU, HAWAII

PROJECT NO.:

**AO1105-12**

SHEET TITLE:

**MAINTENANCE BASEYARD - PARTIAL ELECTRICAL PLAN 3**

DATE :	DWG. NO.
12/09/2024	<b>E-223</b>
SHEET :	
71 OF 79 SHEETS	

VALGAROBIA\SHARES\CAD\PROJECTS\23140\E-223\_223140\_MAINT-BASEYARD\_PARTIAL\_ELEC\_PLAN\_3.DWG

**Questions for solicitation: B26001056 UST/AST REMOVALS AND REPLACEMENTS**

**02/27/2026**

**1. plans only have a cover page. are there more plans?**

Yes, Addendum No. 1 drawings have been issued that show the full set of plans.

**2. Will AOA badges be required for working at any of the sites for this RFP?**

No, AOA badges are not required to work at any of the sites.

**3. Sheet M-001, Mech. Equipment Schedule, PST-1 is a 119-gallon "Pickup Truck Mounted, Forklifted Double Walled Tank" with "Standard Pump Kit". What voltage will be pump be using? 115VAC, or 12VDC? Also, what is the definition of "truck mounted"? Does this need to be bolted to the bed of the State's truck, or just on skids?**

12VDC; secured to vehicle chassis. refer to Addendum No. 6 Drawing M-001 and SECTION 15193, paragraph 2.08.A.

**4. Sheet S-222, Detail 1 states that the canopy design is by others and provided by the Contractor. This is not typical and will create situation where the State may not get the benefit of a quality canopy with the desired design by the State. Potentially, the lowest bidder may not have the best design, or value and the State will not find out about this until after the project is awarded. I suggest that the State hire a reputable canopy manufacturer/installer to provide the design. This creates a level "playing field" for the Bidders. The canopy cost and installation can be a cost that is provided directly to the State and added as an Allowance to the bid proposal document.**

The canopy is listed as "design by others" because it is intended to follow standard delegated design procedures for specifying proprietary products and maintaining open competition. The structural design team provided the general dimensions and performance requirements needed for bidders to understand the scope.

For this reason, the final canopy design will be provided by the Contractor's licensed engineer and submitted as stamped shop drawings and calculations for review to ensure compliance with the contract documents and applicable code requirements. The specifications and drawings define the minimum required performance and geometry; it is up to the Contractor to determine whether they wish to provide any enhancements beyond these minimum requirements.

The canopy cost and installation is now an allowance that will be included in the Proposal Schedule.

**5. Sheet M-502, Detail 1 illustrates a "Small Vehicle Identification Device". Are the State vehicle mechanics going to be installing these devices in their vehicles? The contractor should not be responsible for installing any devices in State vehicles.**

Installation of vehicle RFID devices shall be performed as part of fuel authorization system manufacturer's startup and training for a vehicle test group under this contract and, for other fleet vehicles, under a separate contract. Refer to Addendum No. 6 Drawing M-502 and Addendum No. 6 SECTION 15193, paragraph 2.14.C.4.

**6. Since all work sites are outside the AOA area. Are AOA badges and requirements still required for this project?**

See response to Question 2.

**7. The underground double-wall fuel piping shown on Sheet M-602 illustrates a 1" FRP primary pipe inside a 4.5" secondary containment pipe. FRP pipe manufacturers do not make 1" I.D. FRP pipe and fittings. The smallest I.D. available is 2". The secondary containment pipe size should be 3" I.D., which is the proper size for 2" primary piping. The 2" FRP pipe will terminate with a 2" threaded adapter. The pipe size can be reduced to 1" with steel pipe reducer couplings after this adapter. Can the FRP pipe sized be revised?**

Detail is based on a particular product; 2" primary / 3" secondary with reducers to 1" aboveground piping is also acceptable.

**8. clarify the "6 inch U shaped pipe bollard detail" the detail shows using 4" pipe. should this be 6" pipe?**

U-Shaped bollard shall be 6" in diameter. Refer to Addendum No. 6 Drawing C-601.

**9. per temp fence detail 1/C-602 clarify how the fence post are to be secured. it appears that they are welded to the metal plate but the section appears to show the post embedded in the concrete.**

Fence post not required to be embedded in concrete. Temporary facilities during construction shall be the responsibility of the Contractor. Refer to Addendum No. 6 Drawing C-602.

**10. The Lei Stand Generator building is requiring a 2,400-gallon temporary fuel storage tank during the removal of the UST and while the AST pad is being constructed. Can the size of this temporary tank be smaller? Maybe a 1,000-gallon tank that can be re-filled by the fuel supplier during a power outage? Since the new AST is being installed in a different area from**

the existing UST, another suggestion would be to phase the work to have the new AST installed prior to the UST being removed. This would involve the existing day tank to be temporarily relocated in the generator room and temporary fuel hoses installed to connect the AST to the existing day tank while the existing underground fuel piping is removed to make way for the new underground fuel piping. It would save space in the work area during construction and can make use of the existing UST and day tank until a quick changeover to the new day tank and AST can be done. Is this something that the State would consider? Yes, alternate phasing plans will be considered. Goal is to avoid disrupting standby power. Drawing No. G-002, GENERAL DEMOLITION/CONSTRUCTION PHASING NOTES #1 requires Contractor to submit phasing plan for approval.

**11. per temp fence detail 1/C-602 clarify the top and bottom of the fence. detail states both tension wire and a 1.66" pipe rail. if a pipe top and bottom rail is required will installation be done with standard fittings or will the rails have to be welded to the post? Also, there is no such thing as 6 ga ties. will standard 9 ga. ties be acceptable?**

Pipe rail only and 9 ga. ties are acceptable. Temporary facilities during construction shall be the responsibility of the Contractor. Refer to Addendum No. 6 Drawing C-602.

**12. 15193 2.14 C. Software to access and manage information shall be compatible with existing Microsoft Windows fuel management workstation. Please clarify what the existing is (brand, model#) workstation.**

Fuel management information shall be accessible via web browser without additional software, see Addendum No. 6 SECTION 15193, paragraph 2.14.C.

**13. 15193 2.10 F. Hydrostatic reservoir sensor shall be factory fabricated, with dual floats to detect high and low brine level conditions in the tank reservoir. The sensor shall trigger a high or low level alarm. The tank requested is not brine filled. Please remove from specs.**

Removed.

**14. 2.11 E. Tank Gauges: Provide each tank with a float-operated direct reading tank gauge. Gauge shall have dual tapes and floats to allow reading product level and water level independently. Provide means to wipe condensate (fogging) from viewing glass when reading gauge. Not available on direct read gauges. Please remove.**

Removed dual tape and means to wipe condensation.

**15. 15193 2.14 4. Wireless Automated Fueling System: Provide the following components to enable wireless fuel authorization and vehicle logging: a. Wireless automated fueling unit**

**(above controller enclosure). b. Wireless nozzle reader (on each fuel nozzle) c. Small vehicle identification device (on each fleet vehicle) d. Fuel inlet antenna (on each fleet vehicle) e. Fleet journal (on each fleet vehicle) f. Hardware FIA adapter (on each fleet vehicle) How many vehicles do we quote for?**

See response to Question 5 and updates to referenced paragraph.

**16. 15193 2.14 4. Wireless Automated Fueling System: Provide the following components to enable wireless fuel authorization and vehicle logging: a. Wireless automated fueling unit (above controller enclosure). b. Wireless nozzle reader (on each fuel nozzle) c. Small vehicle identification device (on each fleet vehicle) d. Fuel inlet antenna (on each fleet vehicle) e. Fleet journal (on each fleet vehicle) f. Hardware FIA adapter (on each fleet vehicle) Who will do the installation?**

See response to Question 5.

**17. Are any of these tanks that will be removed permitted with DOH or Fire Department? If so, can permits be provided?**

Tank permits are available upon request. Note: As of 12/2/2025, the base yard tank renewal was being sent out.

No fire permit was received by the State for the former Enterprise AST, and the tank has not been used by the State. It is unknown whether a permit is in place.

**18. For bidding purposes about how many gallons of residual fuel is expected to be pumped out and disposed of for the following - Maintenance Base Yard (2) 2,500 gasoline USTs and (1) 2,500 diesel UST? - Lei Stand – (1) 8,000-gallon diesel UST? - Former Enterprise – (1) 12,000-gallon AST? - HCC Airport Training Center – (3) 600-gallon jet-A fuel? - HCC Airport Training Center – How big is oil water separators? How much gallons are we expected to pump out of each tank? Can you provide manufacturer of the oil water separator? - HCC Airport Training Center - (1) 600 gallons of Used Oil UST?**

The size of the oil water separator is unknown. For bidding purposes, Contractor shall account for pumping and disposal of the entire existing tank volumes. Refer to attachments for tank information.

**19. Can DOTA provide the boring logs for any USTs that will be removed?**

There are no boring logs.

**20. Drawings M-321 show underground piping as 1" primary with 4 ½" secondary containment piping. FRP piping primary is 2" and can be contained in 3" containment piping. Will this be acceptable? Manufacturers do not produce 4 ½" FRP double-wall containment piping.**

See response to Question 7.

**21. Drawing M-221 and M-222 show underground piping as 2" primary and 4 ½" secondary containment piping. Can secondary piping be 3" FRP piping in lieu of 4 ½" piping? There is no 4 ½" FRP piping.**

See response to Question 7.

**22. Drawing M-001 AST 2. Can fuel tank just be (1) 5,000-gallon tank in lieu of a split tank 5,000-gallon tank (2) 2,500 compartments? If not, can you specify what type of fuel will be going in each tank?**

Design intent, based on user request, is to have two separate 2,500 gallon compartments for unleaded gasoline, each dedicated to a fuel dispenser.

**23. Drawings M301 and M-321. Regarding temporary tank fuel, new day tank, and downtime for the switch over from temporary tank to new day tank. With process of following the plans, the downtime will be too long. Please look at bullet points on our suggestion to lessen downtime during the switch over. - Due to the size of the existing day tank and the room between existing junction boxes and other equipment, we figured that there will not be enough room to remove the existing day tank as a whole unit. We will need to cut and demo tank to get the tank removed. Which means a long down time. After demo we would then, need to install the new day tank and make connections. We recommend relocating the new day tank somewhere on the opposite side of generator. We can run new fuel lines, while existing day tank and temporary tank are being used as the temporary fuel system. After new system is set we can make new connections to generator and then decommission the existing day tank and temporary fuel tank. - The temporary tank fuel lines look to be going through handhole. Can the temporary fuel lines run aboveground as new piping will need to go through that same handhole? Temporary fuel lines can run outside of building and penetrate to wall to existing day tank. That will be the temporary fuel system. New fuel lines can be installed without disconnecting temporary fuel lines which means less downtime.**

See response to Question 10. Temporary fuel lines may run aboveground but shall be protected in place and from vandalism. New day tank may be relocated provided required clearances are met.

**24. Drawing M-301 temporary tank. Can you provide requirements or a schedule for the 2,400 temporary tank? Will temporary tank need a tank pad?**

Temporary tank shall be UL 142 listed. Contractor shall install per tank manufacturer's recommendations. 2,400 gallon tank is largest available temporary tank found during design to maximize permanent fuel system outage tolerance. Contractor may use smaller tank if fueling frequency and/or response time will guarantee fuel is available to the generator.

**25. Drawing M-332, the day tank's emergency vents. Drawings show 2" primary vent for the day tank going through ceiling. Will the (2) emergency vents need to go through ceiling as well?**

Emergency vent will not need to be piped through ceiling.

**26. Drawing M-231 Island Control Wireless Automated Fueling Unit. Who will be responsible to for programing tags?**

Programming for most fleet vehicles will be performed under a separate contract. However, Contractor shall provide training per SECTION 15193, paragraph 3.17.A, which shall include training and demonstration for programming tags for a vehicle test group. Refer to Addendum No. 6 SECTION 15193, paragraph 3.17.A for clarifications.

**27. Section 15193-11, C Management Control System. Specification states that a management control system is required, however there are no basis of design manufacturer are identified. What manufacturer/system is basis of design?**

AssetWorks. Refer to Addendum No. 6 SECTION 15193, paragraph 2.14.C.6.

**28. Wireless Automated Fueling System Small Vehicle ID Tags. Spec 15193-11 C-Management Control System #4 Wireless Automated Fueling System. Please confirm the required quantity of small vehicle ID tags to include in bid?**

See response to Question 15.

**29. CARB Stage II Vapor Recovery Equipment. Spec 15193-11 2.14 dispenser system items B-6,7, and 8. Specification calls for CARB Stage II vapor recovery hoses, breakaways, and nozzles. Hawaii does not require Stage II vapor recovery and no EVR Phase 2 Processor (Hirt Nurner) is shown. Please confirm if a standard non-Stage II configuration is acceptable? Along with standard nozzles and breakaways?**

Removed Stage II, see Addendum No. 6 SECTION 15193, paragraph 2.14.

**30. Lei Stand sheet M-331 day tank pump system and section 15193-9, 2.13 day tank pump system. Specification does not clarify whether the day tank must be 304 SS or 316 SS. Please confirm required SS grade if required?**

Listed design basis Simplex STS tanks are constructed of hot rolled steel. Furnish and install design basis tank or submit substitution request for an alternate tank after contract execution. Bid shall not be based on assumption that an unspecified product will be accepted.

**31. Maintenance Base Yard – During site visit we drove over a bridge that crosses the canal. What is the rating of the that bridge? Will the truck, trailer, and tank be able to cross the bridge?**

Sign, located prior to the bridge and Maintenance Baseyard entrance, says:

Emergency Vehicle Weight Limits

Commercial 13T

Single Axle 12T

Tandem 13T

Gross 19T

**32. Maintenance Base Yard – Please confirm that we do not need to relocate the waste oil tank?**

Confirmed.

**33. Section 15193, part 2.07A. Tank shall be lined with epoxy, coated with urethane, and furnished with stainless steel. Does this mean the tank will need internal lining for each tank?**

Tank shall have epoxy internal lining per Addendum No. 6 SECTION 15193, paragraph 2.07.A.

**34. Section 15193, part 2.04 letters A thru F. Can Ameron Dualoy 3000 FRP piping be substituted for NOV Smith Red Thread II pipe and fittings?**

Please submit substitution request for review after contract execution. Bid shall not be based on assumption that an unspecified product will be accepted.

**35. Drawing M-321 rotary timer switch and solenoid valve 6. What is the rotary timer switch for? How will rotary timer work with solenoid valve 6? The new day tank has level switches that will call for fuel when the day tank is low. Fuel line is connected to a suction pump at the day tank so when fuel is low in the day tank, the suction pump will turn on and suck fuel to fill up the day tank and shut off when level reaches a certain point. Can both rotary timer switch and solenoid be removed? And for the solenoid can a standard mechanical anti-siphon valve be provided instead? We don't know or see how the solenoid will work with any switches.**

Rotary timer switch is intended to open solenoid valve SV-6 when day tank pumps and/or controls are offline so that manual pump can be used to transport fuel from the storage tank to the day tank (see note 6 under SEQUENCE OF OPERATIONS - DAY TANK (DT-1) on Drawing No. M-501). Solenoid-actuated antisiphon valve is specified over mechanical spring-type antisiphon valve to avoid added pressure drop from these spring-type valves.

A motorized ball valve with manual override and battery spring return (fail closed) may be installed in lieu of a solenoid valve and rotary timer switch.

**36. 15193 2.03 DOUBLE-WALL SECONDARY CONTAINMENT PIPING Can double wall flexible piping such as OPW or Omegaflex Double Trac be used? They are UL listed, has less connection points. Ex. A 100ft. run could be continuous but with fiberglass pipe you may have at least 5 connection points (five-20ft. lengths)**

Please submit substitution request for review after contract execution. Bid shall not be based on assumption that an unspecified product will be accepted.

**37. In reference to Maintenance Baseyard, electrical drawing E-221 shows a new Gas Dispenser Panel to be powered by Panel FCP circuits 2 and 4. Existing Panel FCP is a 120/208V 3PH panel and new Gas Dispenser Panel is a 120/240V 1PH panel per Drawing E-221 and E-501. Sheet E-222 shows that the three new submersible turbine pumps are 240V. Is a transformer needed to boost voltage from 120/208v to 120/240? Please provide details for the transformer to boost voltage from 120/208v to 120/240.**

It is believed that the existing 15kVA buckboost transformer located to the left of Panel FCP feeds the existing Gas Dispenser Panel. Please field verify. If confirmed, please reuse the existing buckboost transformer. If not, please provide a new 120/208V – 120/240V 10kVA buckboost transformer.

**38. In reference to Maintenance Baseyard, for the new Gas Dispenser Panel will need a shunt trip main breaker in order for Emergency Fuel Shutoff Switch to shut power off to new equipment based on site visit. Please advise.**

Please provide a shunt trip main breaker for Gas Dispenser Panel that is compatible with the existing Emergency Fuel Shutoff Switch.

**39. In reference to Lei Stand, drawings M-332 and M-601 Detail 2, there is a ground rod with inspection well shown in the building, can this be located outside of the building so is not to have to break existing concrete floor to install ground rod and inspection well?**

Intent is to connect the day tank to the existing grounding rod as indicated on Detail 1/M-321, "CONN. DAY TANK GROUNDING TO (E) GENERATOR GROUNDING ELECTRODE CONDUCTOR". Detail reference for new grounding rod, wire, and inspection well to be removed from 1/M-332. Refer to Addendum No. 6 Drawing M-332.

**40. [Baseyard, Lei Stand & HCC Airport Training Center] Per site's where electrical duct lines and fuel lines run in the same trench or cross over what is suggested so that the concrete jacket for electrical lines does not interfere with fuel duct lines?**

Please provide a minimum of 12-inches horizontal and vertical clearance between the electrical ducts and fuel lines. Distance to be measured from the outside of the electrical concrete jacket to fuel line.

**41. Please confirm if AOA badges not required for this project since the project locations are outside the terminal areas.**

See response to Question 2.

**42. For bidding purposes, how much liquid will need to be removed from each UST that will be abandoned? if there is any usable fuel, is there any requirement it will have to be transferred to another DOT fuel tank?**

See response to Question 18.

**43. Please provide specifications for the backfill material for the fill used for the backfilling of the tank removal excavations.**

Refer to Addendum No. 6 SECTION 02210 – Earth Moving and Structural backfill.

**44. Please provide specifications for the buried carrier pipe. The current specifications only provide specifications for the above ground carrier piping.**

See SECTION 15193, paragraph 2.03.

**45. Please confirm all new AST's must be filled by the contractor prior to acceptance.**

Confirmed (reference SECTION 15193, paragraph 3.01.D).

**46. Baseyard, gas station canopy structure: We have found out from several pre-engineered metal canopy manufacturers that their pre-engineered canopy structure will not match exactly the canopy details 1 & 3/S-222, and not match exactly the requirements of Section 13120, and will not come with the horizontal W6x15 steel beam (for fuel support). (We are finding out that pre-engineered metal building company/manufacturer is able to quote the**

pre-engineered gas station canopy as a PEMB with the horizontal W6x15 steel beam (for fuel support)). **a. Does the State require the horizontal W6x15 steel beam for fuel support? b. If the horizontal steel beam for fuel support is required and if a pre-engineered canopy manufacturer is desired (who cannot provide the horizontal W6x15 beam as part of their pre-engineered canopy), will the State’s design team provide a design for the horizontal W6x15 steel beam?**

A) No, the W6x15 steel beam is not required. The steel beam was provided for high hose retractors. Plans were revised to provide the fuel dispensers with high hose retrievers on support bar assemblies mounted to the fuel island. Refer to Addendum No. 6 Drawings S-222, M-001, and M-231.

B) No. The Contractor will submit shop drawings, calculations, and product data stamped and signed by a licensed structural engineer in the State of Hawaii. It is the Contractor’s stamping engineer’s responsibility to ensure the structure can support the fuel beam.

**47. Baseyard, gas station canopy structure: We have reached out to pre-engineered canopy company, SheltersDirect, and have found out their pre-engineered canopy will not have the horizontal W6x15 steel beam and the material specs would have to follow their own specs for a pre-engineered canopy. Link to SheltersDirect’s sample pre-engineered canopy designs and canopy specs: <https://drive.google.com/file/d/1YZK8b3IXeN-VJgf5efhsgfDFeidkHZ93/view?usp=sharing> a. Will the State consider a pre-engineered canopy structure without the horizontal W6x15 steel beam (for fuel support)? b. Will it be acceptable to follow the specific pre-engineered canopy manufacturer’s material specs?**

A) See response to Question 46.A.

B) Any deviations from the contract specifications should be noted and sent to the State and Design Team for review.

**48. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), paragraph 2.01.A.2 states “Structural steel shall be painted with a rust inhibitive (red oxide) primer (std). Structural Steel shall be hot-dip-galvanized.” Please confirm that the structural steel is to have either the red oxide primer applied, or the structural steel is to be hot-dip-galvanized. Hot-Dip Galvanized with field touch up done in the event of damage to the galvanizing.**

**49. Baseyard gas station canopy: Regarding Section 13120 (Pre-Engineered Structure), paragraph 2.01.A.2 states “Structural steel shall be painted with a rust inhibitive (red oxide) primer (std). Structural Steel shall be hot-dip-galvanized.” a. Please confirm it is acceptable if the pre-engineered metal building company/manufacturer provides their “standard hot dipped galvanized primary, galvanized secondary”.**

Hot-Dip Galvanized with field touch up done in the event of damage to the galvanizing.

**50. Baseyard gas station canopy: Detail 1/S-222 indicates that the canopy is to receive a roof metal deck. Detail 3/S-222 indicates the canopy is to receive a metal roof. Section 13120, paragraph 2.01.B.1 (Decking) states “Decking: 3 inch... by 16 inch... by 20 gauge smooth white or embossed ...”. a. Is the gas station canopy to receive 3” decking material for the roof panel? b. Or will the pre-engineered metal building company manufacturer’s standard PVDF Standing Seam Panel be acceptable for the roof panel?**

No exceptions taken to using standing seam panel. It is the Contractor’s responsibility to have stamped and signed calculations by a licensed structural engineer in the State of Hawaii as part of their canopy submittal.

**51. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), Paragraph 2.01.B.3 – Perimeter Gutter. The pre-engineered metal building company/manufacturer can provide their standard external perimeter PVDF gutters, in lieu of the spec’d Section 13120, paragraph 2.01.B.2 & 3 (which they won’t be able to provide). (Note that the spec’d Section 13120, paragraph 2.01.B.2 & 3 gutters is something that a pre-engineered canopy company could provide, but we received feedback that the pre-engineered canopy companies cannot provide the horizontal W6x15 steel beam (for fuel supports) with their pre-engineered canopy.) Is external perimeter PVDF gutters acceptable?**

No exceptions taken to using gutters so long as water will drain.

**52. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), Paragraph 2.01.H (Canopy Fascia). Section 13120, paragraph 2.02.H.2 states “Standing Seam Steel MPN120 panels in 24 ga standard colors 70% PVDF resin-based coatings...”, which appears to have a profile. a. If the intent is to install a gutter on the new canopy, Please confirm that the canopy fascia should be flat, and not have a profile.**

Gutters are not required.

**53. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), Paragraph 2.01.H (Canopy Fascia), #3 states “Fascia: Various custom fascia to meet design requirements such as architectural shingle, EIFS, standing seam panels.” a. Please confirm architectural shingle does not apply to the gas station canopy. b. Please confirm EIFS does not apply to the gas station canopy.**

Examples of fascia were provided and does not need to be architectural shingle or EIFS.

**54. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), paragraph 2.02.I.1 (Canopy Finishes) states “...Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved samples. ...” Please confirm if this refers to the color finish.**

Refers to color, color match from Manufacturer will be submitted.

**55. Baseyard gas station canopy: Section 13120 (Pre-Engineered Structure), paragraph 2.02.I.2 (Canopy Finishes) states “Fabrication: Fabricate pre-engineered canopies completely in factory.” Please confirm fabrication can be in segments to allow for shipping/transport.**

No exceptions taken to be in segments. Field welds and bolted connections will be identified on shop drawings with Structural engineer licensed in the state of Hawaii’s stamp and signature.

**56. Section 01010, paragraph 4.02.C states Allowance item is “... allowed to include overhead, profit, insurance and/or other markups, as stipulated in Section 9.5 of the 2016 General Provisions ...”. Section 01010, paragraph 4.02.D states “Additional charges by Contractor for overhead, coordination, profit, insurances, incidental expenses, and other markups shall not be allowed. These shall be included in the Contractor’s lump sum bid price.” a. Is the Contractor is allowed to charge insurance, bond, tax, markup, etc. to Allowance Item # 01010.2 (Safety Risk Management Activities)? b. Is the Contractor is allowed to charge insurance, bond, tax, markup, etc. to Allowance Item # 01010.3 (Unforeseen Conditions)?**

Yes. For Allowance Items 01010.2 (Safety Risk Management Activities) and 01010.3 (Unforeseen Conditions), the Contractor is permitted to include overhead, profit, insurance, bond, taxes, and other markups within the allowance amount, as stipulated in Section 9.5 of the 2016 General Provisions and confirmed in Section 01010, paragraph 4.02.C. However, additional charges beyond the allowance amount are not permitted.

**57. Former Enterprise Rent-A-Car location: Section 01010, paragraph 1.06 (Hours of Work) states “Noise, including demolition work, shall occur from 10:00pm to 6:30am, ...”. Since the former Enterprise Rent-A-Car is currently unoccupied, will the State allow noisy demolition work during normal business hours?**

Noisy demolition work during normal business hours is acceptable subject to compliance with all applicable noise, safety, environmental, and operational requirements and prior approval of the revised schedule by the Engineer.

**58. Lei Stand: Section 01010, paragraph 1.06 (Hours of Work) states “Noise, including demolition work, shall occur from 10:00pm to 6:30am, ...”. The Lei Stand is near a noisy**

**freeway. Considering the existing noisy environment, Will the State allow noisy demolition work during normal business hours?**

See response to Question 57.

**59. Baseyard: Section 01010, paragraph 1.06 (Hours of Work) states “Noise, including demolition work, shall occur from 10:00pm to 6:30am, ...”. Considering the existing noisy environment, Will the State allow noisy demolition work during normal business hours?**

See response to Question 57.

**60. HCC Airport Training Center: Section 01010, paragraph 1.06 (Hours of Work) states “Noise, including demolition work, shall occur from 10:00pm to 6:30am, ...”. Considering the existing noisy environment, Will the State allow noisy demolition work during normal business hours?**

See response to Question 57.

**61. Under Specs, Attachment B, there are 4 “Contaminated Soil and Groundwater Review” forms and the text under Section 2’s Comments and Attached-Documents fields are cut off and cannot be viewed. Please share the cut-off information from the 4 forms.**

Refer to attached “Contaminated Soil and Groundwater Reviews Comments and Attached Documents Extraction”.

**62. Lei Stand: Reference M-332 and detail 2/M-601 regarding grounding rod. What is the thickness of the existing concrete slab-on-grade?**

See response to Question 39.

**63. HCC Airport Training Center: Sheet E422 shows the location of the new oil/water separator control panel. Prebid site visit revealed that this wall area has a lot of objects in the way. Please confirm the State will be responsible to temporarily relocate the objects in front the where the new oil/water separator control panel is wall-mounted.**

OWS-1 control panel shall be mounted on the exterior wall of Workshop B-104 in a NEMA 4X enclosure. Refer to Addendum No. 6 Drawing M-422.

**64. Baseyard: Reference Sheet M-221 Note #3 regarding the warning sign for the dispensing area. For bidding purposes, what is the expected signage dimensions, thickness, materials, finish?**

For bidding purposes, the warning sign for the dispensing area shall meet the following requirements:

**1. Dimensions**

- Minimum size: **12 inches x 18 inches** (or larger if required for visibility).
  - Letter height: Minimum **1 inch** for legibility at close range.
2. **Material**
- **Aluminum sheet**, thickness **0.080 inch**, corrosion-resistant and suitable for exterior use.
3. **Finish**
- **Retroreflective sheeting** meeting ASTM Type I or higher for visibility in low-light conditions.
  - Background and text colors per MUTCD and NFPA standards (e.g., red/white for “NO SMOKING,” yellow/black for caution).
4. **Mounting**
- Installed at eye level near dispensing equipment, securely fastened to withstand wind loads and environmental exposure.
5. **Content**
- Wording shall comply with NFPA 30A and State Fire Code requirements.

**65. Former Enterprise Rent-A-Car location: At prebid site visit, access to the inside the main building was not accessible. Reference Sheet M-111. After the existing automatic tank gauge system is removed and salvaged, since the former Enterprise location is currently unoccupied, is the Contractor Not expected to patch and touch-up paint the wall where the existing automatic tank gauge system was removed?**

Yes, the Contractor is expected to patch and restore the wall surface where the automatic tank gauge system is removed. This requirement is consistent with the specifications and general restoration notes, which state:

*“Restore to their original condition all improvements damaged as a result of the construction, including walls, finishes, and structures. Demolition and restoration of existing items shall be considered incidental and included in the bid.”*

Accordingly:

- Patch all penetrations and surface irregularities resulting from removal of the gauge system.
- Touch-up paint to match adjacent surfaces for a uniform appearance.

Restoration work shall be performed at no additional cost to the State, as it is considered incidental to the demolition scope.

**66. HCC Airport Training Center: This training center is close to sea level. No water table information could be found in Specs. May the State please share information on the existing**

**water table at this project location? Or advise at what feet below finish grade that the Contractor can anticipate encountering water.**

No available ground water data. Please note that the ground water table elevation may be tidal influenced due to the site's proximity to the ocean.

**67. Lei Stand: No water table information could be found in Specs. May the State please share information on the existing water table at this project location? Or advise at what feet below finish grade that the Contractor can anticipate encountering water.**

No available ground water data. Please note that the ground water table elevation may be tidal influenced due to the site's proximity to the ocean.

**68. Former Enterprise Rent-A-Car: No water table information could be found in Specs. May the State please share information on the existing water table at this project location? Or advise at what feet below finish grade that the Contractor can anticipate encountering water.**

No available ground water data. Please note that the ground water table elevation may be tidal influenced due to the site's proximity to the ocean.

**69. Baseyard: No water table information could be found in Specs. May the State please share information on the existing water table at this project location? Or advise at what feet below finish grade that the Contractor can anticipate encountering water.**

Borings taken near the project site encountered groundwater at a depth of approximately 8.1 feet below the existing ground surface (ref. Kokua Geotech LLC. Project No. 020325-00 Geotechnical Engineering Exploration draft submittal, dated November 12, 2025). Please note that the ground water table elevation may be tidal influenced due to the site's proximity to the ocean.

**70. Are FAA permits required for use of cranes?**

Yes. The Contractor is required to coordinate with the State and submit FAA Form 7460-1 ("Notice of Proposed Construction or Alteration") prior to mobilizing any crane or equipment that exceeds the height threshold established by the FAA. The Notice of Proposed Construction or Alteration FAA review must be "completed". A minimum of 45 business days is required for the review, but typical reviews are longer. Contractor should prioritize the submittal in their schedule.

**71. If we use cranes on this project, will we have to request an aeronautical study via the obstruction evaluation/airport space analysis (OE/AAA) web portal?**

Yes. See response to Question 70.

**72. Section 05120 Structural Steel, paragraph 1.04.B requires the installer to have AISC CSE certification. There is a very limited number of companies in Hawaii with this certification. May the CSE certification be waived?**

CSE Certification may be waived. Contractor will be required to include special inspections for bolts and welds for structural steel. All Special Inspections shall be performed by the Contractor or hired by the contractor. The Special inspector shall operate in DOT-A's best interest.

**73. HCC Airport Training Center: Who will pump/remove the usable fuel from the existing UST(s)?**

The Contractor shall pump and remove all usable fuel from the existing UST(s).

**74. HCC Airport Training Center: If the Contractor is to pump/remove the usable fuel from the existing UST(s), for bidding purposes, what the anticipated total number of gallons from this site?**

See response to Question 18.

**75. HCC Airport Training Center: for bidding purposes, what is the anticipated total amount of remnant fuel and sludge to pump/remove from the existing UST(s)?**

See response to Question 18.

**76. Former Enterprise Rent-A-Car: Who will pump/remove the usable fuel from the existing UST(s)?**

See response to Question 73.

**77. Former Enterprise Rent-A-Car: If the Contractor is to pump/remove the usable fuel from the existing AST for bidding purposes, what the anticipated total number of gallons from this site?**

See response to Question 18.

**78. Former Enterprise Rent-A-Car: for bidding purposes, what is the anticipated total amount of remnant fuel and sludge to pump/remove from the existing AST**

See response to Question 18.

**79. Baseyard: Who will pump/remove the usable fuel from the existing UST(s)?**

See response to Question 73.

**80. Baseyard: If the Contractor is to pump/remove the usable fuel from the existing UST(s), for bidding purposes, what the anticipated total number of gallons from this site?**

See response to Question 18.

**81. Baseyard: for bidding purposes, what is the anticipated total amount of remnant fuel and sludge to pump/remove from the existing UST(s)?**

See response to Question 18.

**82. Lei Stand: Who will pump/remove the usable fuel from the existing UST?**

See response to Question 73.

**83. Lei Stand: If the Contractor is to pump/remove the usable fuel from the existing UST, for bidding purposes, what the anticipated total number of gallons from this site?**

See response to Question 18.

**84. Lei Stand: for bidding purposes, what is the anticipated total amount of remnant fuel and sludge to pump/remove from the existing UST?**

See response to Question 18.

**85. Section 15193 (FUEL SYSTEMS), Paragraph 3.07 (FLUSHING AND OPERATION TEST) mentions flushing each system with the same type of fuel. Who provides the fuel for this flushing and operation test?**

Contractor (reference SECTION 15193, paragraph 3.05.A).

**86. Section 15193 (FUEL SYSTEMS), Paragraph 3.07 (FLUSHING AND OPERATION TEST) mentions flushing each system with the same type of fuel. If the Contractor is to provide the fuel for this flushing and operation test, what is the expected amount/percent of fuel to be provided, based on the capacity of the tank?**

Contractor shall flush each system with same type of fuel intended for use in system until outflowing fuel is "clean" and "bright" (reference SECTION 15193, paragraph 3.07).

**87. Lei Stand: Who provides the fuel to test the temporary 2,400 gallon portable fuel storage tank?**

Contractor (reference SECTION 15193, paragraph 3.05.A).

**88. Lei Stand: If the Contractor is to provide the fuel to test the temporary portable fuel storage tank, considering the existing day tank is 150 gallons, how much initial fuel should be provided in the temporary 2,400 gallon portable fuel storage tank?**

Contractor shall provide enough fuel to confirm that temporary fuel system allows existing day tank to operate its pumps to maintain day tank fuel levels. Fuel provided for testing may be used as fuel for duration of temporary fuel system's use.

**89. Lei Stand: After the temporary portable fuel storage tank is tested, and if the existing diesel generator uses up the fuel in the temporary portable fuel storage tank, will the State be responsible to re-fill the portable fuel storage tank?**

Contractor shall be responsible for refilling temporary fuel system but may be eligible for compensation for fuel use not caused by Contractor's neglect or operations.

**90. Lei Stand: After the temporary portable fuel storage tank is tested, and if the existing diesel generator uses up the fuel in the temporary portable fuel storage tank, If the Contractor is to refill the portable fuel storage tank, for pricing purposes, approximately how many refills are anticipated?**

Contractor shall be reimbursed for fuel use not caused by his/her operations or neglect. Contractor shall submit proof of cost of refueling services to the State and compensation shall be via force account, per HIDOT 2016 General Provisions for Construction Projects, Section 9.6.

**91. Lei Stand: Who provides the initial fuel to test the new AST?**

Contractor (SECTION 15193, paragraph 3.05.A).

**92. Lei Stand: If the Contractor is to provide the initial fuel to test the new AST, what percentage of tank capacity should be provided?**

Contractor shall provide enough fuel to test systems as described in Part 3 of SECTION 15193, inclusive of tank, day tank, fuel polisher, remote fill port, automatic tank gauge and any other fuel equipment.

**93. Lei Stand: Please confirm if the State will top-off the new AST with fuel once tested and accepted.**

Contractor shall refill the tank prior to final acceptance (reference SECTION 15193, paragraph 3.01.D).

**94. Lei Stand: Please confirm if Contractor is not required to top-off the new AST with fuel once tested and accepted.**

See response to Question 93.

**95. Baseyard: Who provides the initial fuel to test the new ASTs?**

See response to Question 91.

**96. Baseyard: If the Contractor is to provide the initial fuel to test the new ASTs, what percentage of tank capacity should be provided?**

See response to Question 92.

**97. Baseyard: Please confirm if the Contractor is not required to top-off the new ASTs with fuel once tested and accepted.**

See response to Question 93.

**98. Will Contractor be allowed to take over all 4 sites/locations for construction the same time?**

Refer to Drawing No. G-002, GENERAL DEMOLITION/CONSTRUCTION PHASING NOTES #1.

**99. If the Contractor will not be allowed to take over all 4 site/locations for construction at the same time, how many locations at the same time will the State allow the Contractor to take over for construction at the same time?**

See response to Question 98.

**100. Management of Contaminated Media, and Soil Disposal and Soil Reuse is an allowance item # 01562.1 on the Proposal Schedule form. a. Is testing, for contaminated media, allowed to be charged to this allowance? b. If there is any air monitoring needed, is air monitoring allowed to be charged to this allowance? c. Is the Contractor's Qualified Environmental Professional's costs allowed to be charged to this allowance? d. Is handling, storage, disposal of contaminated media allowed to be charge to this allowance?**

Yes. The allowance for Item 01562.1 – Management of Contaminated Media, Soil Disposal and Soil Reuse is intended to cover costs associated with unforeseen contaminated media management as directed by the State Engineer.

**101. If the existing soil is determined to not be contaminated, then does then work to handle, store, dispose the soil go into base bid item # 01010.1?**

Yes. If testing confirms that the soil is not contaminated, then all work related to handling, storage, and disposal of that soil shall be considered incidental to the general construction

work.

**102. On Proposal Schedule form, Bid item no. 01010.1 is described as “The Entire Work, complete in accordance with the drawings and specifications...”. In Section 01010, paragraph 4.02.D states “Additional charges by the Contractor for overhead, coordination, profit, insurances, incidental expenses, and any other markups shall not be allowed. These shall be included in the Contractor’s lump sum bid price.” Please confirm Bid Item no. 01010.1 can include the Contractor’s overhead, coordination, profit, insurances, incidental expenses, mark-ups.**

Yes. Bid Item No. 01010.1 – The Entire Work is a lump sum item intended to cover all work required by the contract documents, except for work specifically identified under separate bid items and allowances. In accordance with Section 01010, Paragraph 4.02.D, additional charges for overhead, coordination, profit, insurances, incidental expenses, and other markups shall not be allowed separately. These costs must be included in the Contractor’s lump sum bid price for Item 01010.1.

**103. Section 01562 (MANAGEMENT OF CONTAMINATED MEDIA, SOIL DISPOSAL AND SOIL REUSE), paragraph 3.02.A.1 mentions Contractor revising the C-EHMP Addendum or Site-Specific C-EHMP completed in the design phase, creation of a C-EHMP addendum if deviating from the DOTA EHE-EHMP. a. If there is an initial copy of the Site-Specific C-EHMP completed in the design phase, may it be shared with the Contractors? b. If there is a copy of the DOTA EHE-EHMP relevant to this bid, may it be shared with the Contractors?**

a. There is **no Site-Specific C-EHMP for this project**, and no subsurface testing was completed during design. The majority of the scope involves removal of USTs, which requires a **UST Closure Report** with sampling in the tank excavation at the time of removal, as required by the Hawaii Department of Health (DOH) UST Section.

b. The **Programmatic DOTA EHE-EHMP** is applicable for general excavation activities (e.g., aboveground tank pad work, fuel island/pump replacement, canopy work, and utility trenching). This document is publicly available and may be accessed at the following link: <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/dota-programmatic-ehe-ehmp/>

Please note that **Specification Section 01562** also references this link and other environmental compliance documents on the HDOT Construction Site Runoff webpage.

**104. Section 01010, paragraph 1.06 (HOURS OF WORK) mentions that if Contractor elects to work overtime, Contractor is obligated to pay for the State’s inspection per Section 7.6 (Overtime and Night Payment for State Inspection Service) of the General Provisions.**

**General Provisions, Section 7.6-a mentions that if the “contract requires overtime or night work to be performed or directs the Contractor to work additional shifts or overtime for the State’s convenience” then the State pays the State’s inspection costs. Since Section 01010, paragraph states “Noise, including demolition work, shall occur from 10:00 pm to 6:30 am...”, please confirm if there is no cost to the Contractor for State Inspections for noisy, including demolition work done from 10:00pm to 6:30am.**

No, the Contractor is not responsible for State inspection costs for work performed during the hours of 10:00 p.m. to 6:30 a.m. when such work is required by the contract documents.

Per General Provisions, Section 7.6(a):

*“If the contract requires overtime or night work to be performed or directs the Contractor to work additional shifts or overtime for the State’s convenience, the State shall pay the cost of State inspection services.”*

Since Section 01010 mandates that noisy work, including demolition, occur during the specified nighttime hours, this is considered contract-required work, and the State will bear the cost of inspection services during those hours.

However, if the Contractor elects to perform additional overtime or night work beyond what is required by the contract for its own convenience or schedule acceleration, the Contractor shall be responsible for the cost of State inspection services for that additional work.

**105. Lei Stand: Section 16000, paragraph 1.01.H states “Pay for all fuel for generator tests.” Lei Stand location shows an existing 150-gallon day tank, which appears to fuel the generator. Sheet M-3013 shows Contractor is to provide a temporary 2,400 gallon storage tank, which appears to fuel the day tank. For bidding purposes, what is anticipated total amount of fuel to provide for the pre- and post- generator tests?**

Provide enough fuel to run existing generator from cold start for a minimum of 30 minutes at a minimum of 30% of the nameplate load.

**106. Lei Stand: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING NOTE #8 for the pre- and post-testing of the existing 1,110 kW standby generator. a. Who is the current DOTA maintenance provider for the existing 1,100 kW standby generator? b. Is only the current DOTA maintenance provider allowed to perform this test?**

American Electric, and yes, only they are allowed to perform the test.

**107. HCC Airport Training Center: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING NOTE #13 for pre- and post-testing the facility’s entire fire alarm system located within the project limits. a. No fire alarm work found in plans. Please confirm if the pre- and post-testing of entire fire alarm system within project limits**

**does not apply to this location. b. If no, please advise of current fire alarm maintenance provider at this location.**

a. Refer to as-built sheet M-6 and M-6a attached. Intent of fire alarm system pre and post testing is to establish a baseline to document that this project's construction did not affect the facility's existing fire alarm system. If no pre-test, Contractor may be liable for any fire alarm system deficiencies, pre-existing or not. Refer to Addendum No. 6 Drawing G-002.

b. Current fire alarm maintenance provider is Johnson Controls.

**108. Former Enterprise Rent-A-Car: Reference Sheet G-002 GENERAL**

**DEMOLITION/CONSTRUCTION PHASING NOTE #13 for pre- and post-testing the facility's entire fire alarm system located within the project limits. a. No fire alarm work found in plans. Please confirm if the pre- and post-testing of entire fire alarm system within project limits does not apply to this location. b. If no, please advise of current fire alarm maintenance provider at this location.**

a. See response to Question 107.

b. Current fire alarm maintenance provider is unknown.

**109. Baseyard: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING**

**NOTE #13 for pre- and post-testing the facility's entire fire alarm system located within the project limits. a. No fire alarm work found in plans. Please confirm if the pre- and post-testing of entire fire alarm system within project limits does not apply to this location. b. If no, please advise of current fire alarm maintenance provider at this location.**

a. See response to Question 107. Refer to attached as-built sheets for existing fire alarm system information.

b. Johnson Controls (JCI) maintains the Baseyard fire alarm system.

**110. Lei Stand: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING**

**NOTE #13 for pre- and post-testing the facility's entire fire alarm system located within the project limits. a. No fire alarm work found in plans. Please confirm if the pre- and post-testing of entire fire alarm system within project limits does not apply to this location. b. If no, please advise of current fire alarm maintenance provider at this location.**

a. See response to Question 107.

b. Johnson Controls (JCI) maintains the Lei Stand fire alarm system.

**111. HCC Airport Training Center: Reference Sheet G-002 GENERAL**

**DEMOLITION/CONSTRUCTION PHASING NOTE #15 for pre-testing the existing irrigation system and states that Contractor shall pay for all costs associated with the tests. a. At prebid**

site visit, it was not apparent if there is existing irrigation at the gravel/weeds area (that is north of the existing concrete slab with the existing oil-water separators). Please confirm if there is no existing irrigation system at the gravel/weeds area (that is north of the existing concrete slab with the existing oil-water separators). b. If no, then i. Is the pre-test with the DOTA's current maintenance staff for irrigation? ii. If so, what is their approximate cost?

a. Intent is to establish existing condition baseline and ensure, after all construction work is finished, that the contractor's work did not negatively affect the system. See similar response to Question 107. Refer to Addendum No. 6 Drawing G-002.

b. Refer to attached as-built sheets for existing irrigation system information.

**112. Former Enterprise Rent-A-Car: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING NOTE #15 for pre-testing the existing irrigation system and states that Contractor shall pay for all costs associated with the tests. Since the area is fully paved, please confirm if the pre-test of irrigation system does not apply to this location.**

See response a. to Question 111. No as-built information was found- if no irrigation system is found during field verification, the pre-test requirement does not apply. If irrigation exists, contractor shall perform and bear the cost of pre-testing.

**113. Baseyard: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING NOTE #15 for pre-testing the existing irrigation system and states that Contractor shall pay for all costs associated with the tests. Since the area is fully paved, please confirm if the pre-test of irrigation system does not apply to this location.**

See response a. to Question 111. No as-built information was found- if no irrigation system is found during field verification, the pre-test requirement does not apply. If irrigation exists, contractor shall perform and bear the cost of pre-testing.

**114. Lei Stand: HCC Airport Training Center: Reference Sheet G-002 GENERAL DEMOLITION/CONSTRUCTION PHASING NOTE #15 for pre-testing the existing irrigation system and states that Contractor shall pay for all costs associated with the tests. a. At prebid site visit, it wasn't apparent that there is an existing irrigation system. Is there an existing irrigation system around the Lei Stand building and within the grassy pathway shown on Sheet C312? b. If yes, then i. Is the pre-test with the DOTA's current maintenance staff for irrigation? ii. If so, what is their approximate cost?**

See response a. to Question 111. No as-built information was found- if no irrigation system is found during field verification, the pre-test requirement does not apply. If irrigation exists, contractor shall perform and bear the cost of pre-testing.

**115. Please confirm if the Section 01800, paragraph 1.06 AOA Communications Devices that is a two-way radio capable of communicating on Tower and Ground frequencies is not required for this project.**

Confirmed.

**116. Former Enterprise Rent-A-Car: On sheet M112, what is the existing concrete slab thickness to anticipate restoring for the existing concrete slab on grade (that has fuel piping to be removed under it)?**

Per Job 716 reference drawing, titled "Rental and Return Facility for Enterprise Rent-A-Car Company of Hawaii", dated November 2007, the slab is 6-inches on 4-inches of crushed rock base over compacted soil.

**117. HCC Airport Training Center: Sheet C-411 has callout to detail 3/C605 and detail 4/C605. On Sheet C605, there are only details 1 & 2. Please clarify.**

Callout should reference detail 1/C-605 for sewer trench and concrete pavement restoration and detail 2/C-605 for sewer pipe to manhole connection, respectively. Refer to Addendum No. 6 Drawing C-411.

**118. HCC Airport Training Center: Sheet C-411 shows trenching through the existing concrete slab on grade. Existing concrete slab thickness not found in S dwgs. what is the existing concrete slab thickness to anticipate restoring for the existing concrete slab on grade?**

Based on available reference plan information, the anticipated thickness of the existing concrete slab is 8". Contractor shall match existing thickness, if greater.

**119. Baseyard: Sheet C-221 shows restore concrete slab callout. M211 shows removing existing fuel piping from under the concrete slab areas. M221 shows new underground fuel piping under concrete slab areas. S dwgs not clear what existing concrete slab thickness to anticipate. what is the existing concrete slab thickness to anticipate restoring for the existing concrete slab on grade?**

Per project number AO1142-12 reference drawing, titled "Expansion and Alterations to Baseyard Facilities Phase II", dated March 1990, the concrete slab is 8-inches on top of 6-inches of base course.

**120. Will the State allow an alternate temporary construction barrier fence with dust screen that is not a K-rail concrete barrier, as long as it is a weighted barrier and the temporary chain link fence is at least 6'-0" tall above the barrier? Or please advise.**

Per **Section 01533 – Barricades**, barricades may include traffic cones, delineators, blinker barricades, caution tape, sawhorses, plywood barricades, or other barriers as approved by the Engineer. K-rail is not explicitly required unless shown on the plans for specific safety zones. An alternate weighted barrier with a 6'-0" chain link fence and dust screen may be acceptable **subject to Engineer approval** and compliance with airport safety/security requirements.

**121. HCC Training Center: Reference Sheet M-411. Will all three existing oil/water separators be allowed to be taken down at the same time? If no, please advise of phasing requirements.**

Specifications do not mandate sequential removal; however, **Section 01010 – Operation of Airport Facilities During Construction** requires minimizing disruption to operations and maintaining utility services. If removing all three separators simultaneously will interrupt critical drainage or oil-water separation functions, the State may require phasing. Contractor may submit a proposed phasing plan showing temporary bypass or containment measures for review and approval.

**122. HCC Training Center: Reference Sheet M-411. Since Sheet M-411 shows the underground demolition of the existing oil/water separators stops outside the building structure, please confirm if the State will isolate any existing upstream equipment that feeds the existing O/W separators.**

Per **Section 01010 – Utility Maintenance**, the Contractor shall coordinate outages and temporary services with the Engineer. The State will not perform isolation; the Contractor is responsible for isolating upstream equipment and ensuring no discharge occurs during demolition.

**123. HCC Training Center: Detail 3/S-412 has callout for existing concrete deadmen (for the existing oil/water separators) to be removed. Will the State allow the existing concrete deadmen (for the existing oil/water separators) to be abandoned in place?**

No, existing concrete deadmen shall be removed per Section 02050.