

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

SPECIAL PROVISIONS, SPECIFICATIONS,
AND PROPOSAL FOR
UNICOM TOWER INSTALLATION
KAWAIHAPAI AIRFIELD
MOKULEIA, OAHU, HAWAII

STATE PROJECT NO. CO2541-33

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

The receiving of bids for **UNICOM TOWER INSTALLATION, KAWAIHAPAI AIRFIELD, MOKULEIA, OAHU, HAWAII, PROJECT NO. CO2541-33**, 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 is October 22, 2026, at 2:00 p.m., Hawaii Standard Time (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.**

The scope of work consists of the demolition of the existing Unicom tower and installation of a pre-fabricated Unicom tower at Kawaihapai Airfield. The estimated cost of construction is between \$800,000.00 and \$900,000.00.

To be eligible for award, bidders shall possess a valid State of Hawaii General Engineering "A" or General Building "B" license **at the time of bidding.**

The Hawaii Department of Transportation, Air and Water Transportation Facilities Division, 2016 GENERAL PROVISIONS FOR CONSTRUCTION PROJECTS, applicable to this project are available on the internet at: <http://hidot.hawaii.gov/administration/con/>.

A pre-bid conference is scheduled for September 29, 2026, at 10:30 a.m., HST, at the Kawaihapai Airfield parking lot, 69-415 Farrington Highway, Waialua, Hawaii 96791. This will be immediately followed by a site visit. Persons needing special accommodations at the pre-bid conference due to a disability may contact Jonathan Yoshida, Project Manager, by phone at (808) 838-8875 or by email no later than two working days prior to the scheduled pre-bid conference. All prospective bidders and/or their respective representatives are encouraged to attend, however, attendance is not mandatory. All information presented at the pre-bid conference shall be provided for clarification and information only. Any amendments to the solicitation shall be made by formal addendum and posted in HiePRO.

All Request for Information (RFI) questions and Substitution Requests shall be submitted in HiePRO **no later than October 8, 2026, at 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.

If there is a conflict between the solicitation and information stated in the pre-bid conference, the meeting minutes, site visit, and/or the responses to RFI questions, the solicitation shall govern and control, unless as amended by formal addendum.

Apprenticeship Preference. A five percent bid adjustment for bidders that are party to apprenticeship agreements pursuant to HRS § 103-55.6 is applicable to this project.

Employment of State Residents on Construction Procurement Contracts. Compliance with HRS § 103B-3 is a requirement for this project whereby a minimum of 80 percent of the bidder's work force on this project shall consist of Hawaii residents.

Campaign contributions by State and County Contractors. Contractors are hereby notified of the applicability of HRS § 11-355 which states that campaign contributions are prohibited from specified State or County government contractors during the term of the contract if the contractors are paid with funds appropriated by a legislative body. For more information, contact the Campaign Spending Commission at (808) 586-0285.

Protests. Any protest of this solicitation shall be submitted in writing to the Director of Transportation, in accordance with HRS § 103D-701 and Hawaii Administrative Rules § 3-126.

The Equal Employment Opportunity Regulations of the Secretary of Labor implementing Executive Order 11246, as amended, shall be complied with on this project.

The U.S. Department of Transportation Regulation entitled "Nondiscrimination in Federally Assisted Programs of the U.S. Department of Transportation," Title 49, Code of Federal Regulations (CFR), Part 21, is applicable to this project. Bidders are hereby notified that the Department of Transportation shall affirmatively ensure that the contract entered into pursuant to this advertisement shall be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, national origin, or sex (as directed by 23 CFR Part 200).

For additional information, contact Jonathan Yoshida, Project Manager, by phone at (808) 838-8875 or email at jonathan.r.yoshida@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.



CURT T. OTAGURO
Deputy Director of Transportation for Airports

HIePRO RELEASE DATE: September 14, 2026

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"A" general engineering contractors and "B" general building contractors are reminded that due to the Hawaii Supreme Court's January 28, 2002 decision in Okada Trucking Co., Ltd. v. Board of Water Supply et al., 97 Haw. 450 (2002), they are prohibited from undertaking any work, solely or as part of a larger project, which would require the general contractor to act as a specialty contractor in any area where the general contractor has no license. Although the "A" or "B" contractor may still bid on and act as the "prime" contractor on an "A" or "B" project (See *HRS § 444-7 for the definitions of an "A" and "B" project.*), respectively, the "A" and "B" contractor may only perform work in the areas in which they have the appropriate contractor's license (*An "A" or "B" contractor obtains "C" specialty contractor's licenses either on its own, or automatically under HAR § 16-77-32.*). The remaining work must be performed by appropriately licensed entities. It is the sole responsibility of the contractor to review the requirements of this project and determine the appropriate licenses that are required to complete the project.

STATE OF HAWAII
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AIRPORTS

SPECIAL PROVISIONS

SPECIAL PROVISIONS

The following additional amendments to the General Provisions are applicable to this project:

1.3 DEFINITIONS is amended as follows:

1. The following definition shall be deleted in its entirety and replaced with the following:

“Subcontractor – An individual, partnership, firm, corporation, or joint venture, or other legal entity, as licensed or required to be licensed under Chapter 444, Hawaii Revised Statutes, as amended, which enters into an agreement with the Contractor to perform a portion of the work.”

2. Add the following to 1.3 DEFINITIONS:

“HAWAII ePROCUREMENT SYSTEM (HlePRO) - The State of Hawaii eProcurement System for issuing solicitations, receiving proposals and responses, and issuing notices of award.”

3. The definition for “Bid” is amended by deleting it and replacing in with the following:

“Bid – The offer of a Bidder, on the prescribed HDOT form, to perform the work required by the proposed contract documents, for the price quoted, and within the time allotted.”

2.7 REQUEST FOR SUBSTITUTION OF SPECIFIED MATERIALS AND EQUIPMENT BEFORE BID OPENING is amended as follows:

1. The last sentence in the first paragraph (line 147 to 152) shall be replaced with the following:

“Where a bidder intends to use a material or equipment of an unspecified brand, make, or model, the bidder must submit a request to the Department for review and approval at the earliest date possible. As specified in the Notice to Bidders, all requests shall be posted as a question in HlePRO under the “Question and Answer” tab. Supporting documents for specific request shall be emailed to the Project Manager specified in the Notice to Bidders. Request must be posted in HlePRO and supporting documents received by the Project Manager no later than thirteen (13) calendar days before the bid opening date.”

2. The first sentence in the second paragraph (line 154 to 156) shall be replaced with the following:

“It shall be the responsibility of the bidder to submit sufficient evidence based upon which a determination can be made by the Department that the alternate brand is a qualified equivalent.”

2.8 PREPARATION AND DELIVERY OF BID is amended as follows:

Last Paragraph (line 189 to 192) shall be replaced with the following:

“Bidders shall submit and upload the complete proposal to HlePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. 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 HlePRO. Any additional support documents explicitly designated as confidential and/or proprietary shall be uploaded as a separate file to HlePRO. Do not include confidential and/or proprietary documents with the proposal. The record of each bidder and respective bid shall be open to public inspection.

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

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

2.11 BID SECURITY is amended by deleting (a) and replacing it with:

“(a) Unless directed otherwise in the invitation for bids, each bid shall be accompanied by bid security which is intended to protect the Department against the failure or refusal of a bidder to execute the contract for the work bid or to supply the required performance and payment bonds. Bid security shall be in an amount equal to at least five percent of the base bid and additive alternates. Bid security shall be in one of the following forms:

- (1) A deposit of legal tender;
- (2) A valid surety bid bond, underwritten by a company licensed to issue bonds in the State of Hawaii, in the form and composed, substantially, with the same language as provided herewith and signed by both parties;
- (3) A certificate of deposit; credit union share certificate; or cashier’s, treasurer’s, teller’s, or official check drawn by or a certified check accepted by a bank, savings institution, or credit union insured by the Federal Deposit Insurance Corporation (FDIC) or the National Credit Union Administration (NCUA) and payable at sight or unconditionally assigned to the Department. These instruments may be utilized only to a maximum of one hundred thousand dollars (\$100,000.00). If the required amount totals over one hundred thousand dollars (\$100,000.00), more than one instrument not exceeding one hundred thousand dollars (\$100,000.00) each and issued by different financial institutions shall be accepted.

If bidder elects options (1) or (3) above for its bid security, said bid security shall be in its original form and shall be submitted before the bid deadline to the Contract Office, Department of Transportation, Aliiaimoku Hale, 869 Punchbowl Street, Room 105, Honolulu, Hawaii 96813. Original surety bid bonds do not need to be submitted to the Contracts Office. Bidders are reminded that a copy of its

surety bid bond shall be included with its bid submitted and uploaded to HlePRO.”

2.12 PRE-OPENING MODIFICATION OR WITHDRAWAL OF BIDS is amended by deleting 2.12 PRE-OPENING MODIFICATION OR WITHDRAWAL OF BIDS in its entirety and replacing with the following:

“2.12 PRE-OPENING MODIFICATION OF WITHDRAWAL OF BIDS. Bids may be modified or withdrawn prior to the bid opening date and time. Withdrawal or revision of proposal shall be completed, and submitted and uploaded to HlePRO prior to the bid opening date and time.”

2.14 PUBLIC OPENING OF BIDS is amended by deleting 2.14 PUBLIC OPENING OF BIDS in its entirety.

4.12 UTILITIES AND SERVICES is amended as follows:

Add the following after the last paragraph:

“(e) Repairs and Outages.

- (1) The Contractor shall have available on 24-hour call sufficient specialty contractors, such as electrical and plumbing contractors, to repair any damage to existing facilities that might occur as a result of construction operations regardless of when the damage might occur.
- (2) Outage: Written requests for power outage, communication changes, and water and sewer connection outages shall be submitted to the Engineer at least seven (7) days in advance or as specified in other sections of these specifications. Outages will be restricted to non-peak operational hours between midnight and 6:00 a.m.”

5.16 SUBCONTRACTING is amended as follows:

Add the following after the last paragraph:

“(e) The Specialty Items of work for this project are as follows:

Asphalt Paving and Surfacing
Siding Application
Carpentry Framing
Electrical
Building Moving and Wrecking
Cement Concrete
Painting and Decorating
Structural Steel
Painting and Decorating
Roofing”

7.1 INSURANCE REQUIREMENTS is amended as follows:

Add the following after the last paragraph of (b):

“(5) Marine General Liability. The Contractor shall obtain Marine General Liability Insurance with a combined single limit of not less than one million dollars (\$1,000,000) per occurrence/aggregate for bodily injury and property damage with the State of Hawaii named as additional insured. Refer to SPECIAL CONDITIONS for any additional requirements.”

7.21 PUBLIC CONVENIENCE AND SAFETY is hereby added to Article VII – LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC of the General Provisions:

“It shall be especially noted by the Contractor that the area directly adjacent to the existing in use runways and taxiways, is an extremely hazardous area and that very strict controls will apply throughout the entire period required to complete all work within 500 feet from the edge of an in use runway and 180 feet from the edge of an in use taxiway.

The Contractor shall familiarize himself with the Airport Certification Manual available for review at the Airport Manager's Office and shall comply with its requirements.

The Contractor is responsible for the security of access points to the Airport Operational Area that are located within the limits of construction and will be fined one thousand dollars (\$1,000) per incident for any breach of security at these locations. All gates leading into the AOA shall be kept locked and if required to be open, the Contractor shall provide professional security guards to attend gates. The guards must be approved by the Director and shall be required to attend a training session conducted by the Airport Manager prior to gate assignment.”

8.20 LIMITATION OF OPERATIONS is hereby added to ARTICLE VIII – PROSECUTION AND PROGRESS of the General Provisions:

“The following limitations shall be observed by the Contractor when operating within 75 feet from the edge of any taxiway.

General - The Contractor shall schedule his operations to minimize interference with the movement of aircraft or passengers as may be required by the Engineer. The Contractor shall be responsible to alert all of his personnel to the location of power and signal cables installed for the operation of the airport. The Contractor shall control his operations in a manner to preclude any possible damage to those cables. Utility companies shall be notified by the Contractor one week before commencement of work. The Contractor shall give notice to the Engineer in writing, at least 168 hours before operating within 75 feet from the edge of any taxiway and the Engineer will assure himself that the Airport Management personnel are notified in sufficient time to publish the warning (NOTAM). The Contractor shall immediately repair any damages to the existing perimeter fence to prevent inadvertent entry to the Airport Operation Area (AOA).

Work in Vicinity of Runways and Taxiways in Use - Under the terms of this contract, it is intended that work shall be completed without disturbing the paved surface of existing runways and taxiways, unless shown otherwise on the plans. Aircraft traffic shall not be interrupted. The Contractor shall schedule to work within 75 feet of the taxiway as directed by the Airport Management. No ruts, holes, or open trenches of 3

inches or more in depth and no objects or material 3 inches or more in height shall be permitted within the safety area when the airfield is in operation in conformance to Federal Aviation Regulation Part 139. The Contractor is also informed that Airport Zoning Regulations dictate that a 'clear zone' be maintained 500 feet on each side of an active runway, to be known as a hazardous area. The Contractor shall comply with all regulations governing ground operations within hazardous areas. The following FAA Advisory Circulars or later versions and FAA Regulations specify these requirements:

AC 150/5210-5C	Painting, Marking, and Lighting Vehicles Used on an Airport, dated August 2007
AC 150/5340-1J	Standards for Airport Markings
AC 150/5370-2E	Operational Safety on Airports During Construction, dated 1/17/03
FAA Regulations	Objects Affecting Navigable Airspace Part 77

The Contractor shall keep all personnel and equipment off the areas not specifically designated for work under this Contract. At all times when the Contractor's equipment is not in use, the equipment shall be moved outside the hazardous areas to an area designated by the Engineer. Under no condition shall equipment be parked or material stored within the hazardous areas.

Failure on the part of the Contractor to abide by the above will result in suspension of work.

Authority of Control Tower Personnel - With the exception of actual construction methods, the airport control tower personnel will have full authority to control the Contractor's movements within the existing taxiway. When required, the Contractor shall maintain a constant radio vigil within all work areas and in addition shall keep at least one flagman on duty with the radio man. When notified by the control tower to temporarily halt operations, it shall be the duty of the flagman, through the use of appropriate methods (lighted flares shall not be used under any circumstances), to notify all operators of equipment and other personnel to cease work and move men and equipment off of hazardous areas.

Contractor shall provide, at his own expense, the necessary radio and equipment including a radio equipped mobile vehicle to maintain contact with control tower personnel at all times during job performance. A transceiver operating at a frequency designated by the Engineer to communicate with the Control Tower.

Marking of Hazardous Areas - The Engineer will designate areas that are hazardous for aircraft. The Contractor shall provide red blinker lights spaced not more than 50 feet apart around all hazardous areas and areas of work within 75 feet of any taxiway. Such systems shall be subject to approval by the Engineer. The Contractor shall have personnel on call 24 hours per day for the emergency maintenance of hazard markings.

The Contractor shall provide red flags not less than 20 inches square in addition to the red blinker lights. When danger flags are made of fabric, a wire stiffener

shall be used to hold the flags in an extended position. Flags shall be so mounted that they do not produce a hazard. The red danger flags shall be spaced not more than 50 feet apart around all areas of work within 75 feet of any taxiway.

All systems proposed by the Contractor for lighting and barricading shall be submitted to the Engineer for review prior to installation. The Contractor shall install all flags, lighting and barricades as required by the Engineer. Such systems shall be subject to approval by the Engineer.

Storage of Equipment and Materials - At the end of each working shift, all of the Contractor's equipment shall be withdrawn to an area designated by the Engineer. The Contractor shall park all equipment in an orderly fashion and place a sufficient number of red flasher lights to identify these areas. Materials stored within the airport shall be so placed and the work shall, at all times, be so conducted as to cause no greater obstruction to the air and ground traffic than is considered necessary by the Engineer. No runways, taxiways or roadways shall be closed or opened, except by permission of the Engineer.

Blasting Operations - The Contractor shall notify the Engineer at least three (3) days before performing blasting operations as to the extent and timing of such operations, so that the Control Tower and other concerned parties can be informed.

Utilities - The Contractor shall provide for the protection of all utilities from damages in areas to be traversed by his vehicles and equipment. If required, buried cables and utility lines shall be protected by mounding earth over the cables or by any other method approved by the Engineer.

The Contractor shall notify representatives of the owner, agencies, and other affected organizations at least 48 hours prior to working in any area containing the facilities of these organizations.

Failure to notify the owning organization will prevent authorization to work in a specific area.

Archaeological Features - Any archaeological features such as petroglyphs, burial sites, and artifacts discovered or unearthed during the performance of the work shall immediately be brought to the attention of the Engineer and all work that would damage or destroy these features shall be discontinued. The Engineer will decide, after proper investigation, to salvage or abandon such artifacts."

8.21 OPERATION OF CONTRACTOR'S MOTOR VEHICLE AND PERSONNEL IN RESTRICTED AIR OPERATIONS AND MOVEMENT AREAS is hereby added to ARTICLE VIII – PROSECUTION AND PROGRESS of the General Provisions:

"The Contractor shall conform with all the sections of the "State of Hawaii, Department of Transportation, Airports, Contractor's Training Guide" pertaining to access and operation in the Airport Operation Area (AOA) hereinafter described as follows:

A. Motor Vehicles in Airport Operation Area

For safety reasons, the operation of motor vehicles in the AOA must conform with all applicable State Airport rules and regulations.

B. Motor Vehicle Access Permit

Each motor vehicle operated in the AOA is required to:

1. Meet all State licensing registration and safety requirements and be specifically licensed for operation in the AOA.
2. Meet all insurance requirements.
3. Be restricted to operation by those persons qualified to drive the vehicle and in possession of a current Ramp Driver's License and applicable Motor Vehicle Operator's License.

C. The operators of motor vehicles in the AOA shall be responsible for meeting the following insurance requirements.

1. Licensed Vehicles

As a condition for authorization to enter the AOA, the Contractor shall provide evidence of vehicle liability insurance in the form of a Certificate of Insurance issued by an authorized insurance carrier. Automobile Liability and general Liability (combined single limit, Bodily Injury and Property Damage, per occurrence) shall be required in the applicable minimum limits specified below:

a. Daniel K. Inouye International Airport

(1) Standard AOA clearance.... \$5,000,000

(2) Limited AOA clearance..... \$1,000,000

Limited AOA clearance is defined as operations restricted to Diamond head and Ewa Concourses second level roadways and connecting third level main terminal roadway only, with entry and exit via Security Access Point "C" (Primary) and Access Point "A" (Secondary)

b. Other Airports

Standard AOA clearance.....\$1,000,000

Standard AOA clearance is defined as any portion of a public Airport from which the public is restricted by fences or appropriate signs and not leased or demised to anyone for exclusive use and shall include runways, taxiways, all ramp and apron areas, aircraft parking and storage areas, fuel storage areas, maintenance areas, and any other area of a public Airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft or used for embarkation or debarkation of passengers.

2. Unlicensed Vehicles

Airport Liability (or General Liability) shall be required in the applicable minimum limits specified below:

a. Daniel K. Inouye International Airport, Kahului Airport and Kona International Airport at Keahole

AOA clearance..... \$5,000,000

b. All other Airports

AOA clearance..... \$1,000,000

3. Specifically name the State of Hawaii as additionally insured.
4. Indicate that the Airport Engineer will be provided with a 30-day written prior notice of policy cancellation or material change in coverage or conditions.

D. Operator's Permit

1. No person shall operate a motor vehicle on the AOA unless he holds and carries on his person a current Airport Motor Vehicle operator's permit issued by the State of Hawaii, Department of Transportation, Airports .
2. Operator's permits will only be issued to persons who apply through the Airport District Security Office and pass a written exam covering those portions of the Airport Rules and Regulation relating to the operation of vehicles in Airport Operations Areas.

E. Authorized Vehicles

1. Only vehicles considered operationally safe and necessary for the performance of this contract may be allowed to operate in the AOA.
2. All motor vehicles must be painted in such a manner so as to be easily identifiable and must carry the Contractor's name on each side. These signs may be of a temporary nature applied to the side windows or doors.

The lettering shall be in bold characters of a minimum of four (4) inches in height and one and one-half (1-1/2) inches in widths, the height of logos should be a minimum of six (6) inches.

3. The Contractor's operations on, over, across, and/or immediately adjacent to any runway and/or taxiway at a towered airport shall require the use of two-way radio communication. The Contractor shall obtain the necessary equipment at his own expense.
4. No person shall operate a motor vehicle on the AOA unless he holds

and carries on his person a current Motor Vehicle Operator's Permit issued by the Airport Manager.

- a. The Motor Vehicle Operator's Permit will be issued only to persons who apply through the Airport Security Section and pass a written exam covering those portions of the Airport Rules and Regulations relating to the operation of vehicles in the AOA.
- b. Permits issued may be suspended or revoked for cause at any time by the Airports.

F. Airport Operation Area Construction Pass

1. Issuance of Airport Operation Area (AOA) Construction Passes shall be limited to contractors, subcontractors, companies, organizations, individuals engaged in authorized and approved construction activity which requires a continuing need for entry into the AOA or Airfield Movement Areas. Request letters for such passes must be made to the Airport District Manager's Office in accordance with the Contractors Training Guide or applicable District requirements.
2. As a condition for security area clearance, applicants must comply with Transportation Security Regulation 1542 which requires a ten-year background Criminal History Records Check for those individuals employed under this contract.

G. Access to Movement Areas

1. Movement areas shall mean all of the runways and taxiways of the Airport which are utilized for taxiing, takeoff, and landing of aircraft.
 - a. Any vehicle which requires access to the movement area shall be equipped with operational radio equipment capable of positive two-way contact with Tower/Ground Control.
 - b. Operators of vehicles in movement areas must possess knowledge and familiarity with restricted and airfield movement areas, operational rules, regulations, and procedures, or be under direct escort by individuals meeting all of the above requirements.
2. Vehicle Operations on Movement Areas
 - a. No vehicle shall proceed across any runway unless specifically cleared by Tower/Ground Control.
 - b. The operator of a vehicle in the movement area shall not leave his vehicle unless continuous radio contact is maintained with the Tower/ Ground Control while he is away from his vehicle.
 - c. Any vehicle proceeding onto the movement area between the hours of sunset and sunrise shall be equipped with an overhead

flashing light which is visible for one (1) mile, unless such vehicle is being escorted by another vehicle so equipped.

- d. All vehicles operated on the movement area between sunrise and sunset except those being escorted, shall operate an overhead amber or red flashing beacon visible for at least one (1) mile; or display a flag at least three (3) feet square with orange and white checkered squares of not less than one (1) foot on each side.

H. Runway and Taxiway Closure

1. Requests for runway or taxiway closures, or for any work which affect operational conditions at the airport must be made in writing through the Airport Engineering Branch.
2. Temporarily closed runways require placement of yellow "X" markings (constructed of material such as fabric or plywood or other acceptable material) on top of the runway identification numerals at both ends of the closed runway.
3. Taxiway closures require placement of barricades with alternate orange and white markings at each end of the closed taxiway segment. Barricades must be supplemented with flashing red lights. The intensity of the lights and spacing for barricades, and lights must adequately define and delineate the hazardous area.

I. Gate Guards Furnished by Contractors

1. If a contractor is permitted by the airport to maintain operational control of an AOA Access Gate, entry through such gate shall be controlled by the posting of a gate guard.
 - a. Written instruction will be provided, outlining the guard's duties to enforce those requirements and provisions prescribed by the airport's security program to include all personnel and vehicle entry and access requirements.
 - b. Procedures will be established to identify the actions which will be undertaken by the guard in calling for assistance.
 - c. An approved emergency communications procedure will be established.

J. Compliance

1. The contractor shall comply with all regulations and rules governing the Air Operations Areas during construction, as specified in the following or later versions:
 - a. Hawaii Revised Statutes, Title 19, Administrative Rules for Public Airports.
 - b. Federal Aviation Administration Advisory Circular AC 150/5340

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- c. Marking of Paved Areas on Airport; AC 150/5370-2E, Operational Safety on Airports During Constructions.

K. Enforcement Authorization

Act 21, Section 1, Section 261-17(a), HRS; Federal Aviation Administration Regulations, Part 139, Part 107.

L. Right of Rejection or Revocation

The State of Hawaii, Airports, reserves the right to withhold, deny or revoke any airport security clearance, licenses or permits to any individual or organization who fails to meet the prescribed or required access area clearance criteria to include background investigation information, or fails to observe or comply with established rules, regulations, and directives.

It should be clearly understood that such denial or revocation is based solely on airport security or safety considerations and does not in any way constitute a determination by the State with regard to private employment by any individual or organization."

END OF SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

SPECIFICATIONS

PART I

GENERAL PROVISIONS

The Hawaii Department of Transportation AIR and WATER Transportation Facilities Division General Provisions for Construction Projects dated 2016 is not physically included in these specifications. The General Provisions are available at

<http://hidot.hawaii.gov/administration/con/>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

SPECIFICATIONS

PART II

TECHNICAL PROVISIONS

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010 – DESCRIPTION OF WORK

PART I – GENERAL

1.01 RELATED DOCUMENTS

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:

1. Location of the work
2. Hours of work
3. Safety
4. Operation of airfield facilities during construction
5. Construction stakes, lines and grades.
6. Special project requirements

1.03 VEHICLE PARKING

Parking allotment is subject to approval by the Airport Manager and availability of parking spaces.

1.04 PROVISIONS FOR FIELD OFFICE/STORAGE SPACE

Pending the availability of space on airfield property, the State will issue Revocable Permit(s) to the Contractor for the use of the space, assessed at a monthly fee of \$25 for each Revocable Permit issued. The Contractor shall be responsible for paying for any associated County fees, inclusive of property taxes, and must notify the State Property Management Office at least 30 days in advance before vacating the premises. The space(s) may be used for a field office, staging of materials and equipment, vehicle parking or other uses subject to the approval of the State. All spaces shall be subject to the requirements of SECTION 01561 - CONSTRUCTION SITE POLLUTION CONTROLS.

Since space on airfield property is limited, the State does not guarantee that space(s) provided to the Contractor will be in close proximity to the project site. The State will make every effort to provide the Contractor with space on airfield property, however, should the State determine that no space is available for such use(s), the responsibility shall then be on the Contractor to find space outside of airfield property.

1.05 LOCATION OF THE WORK

- A. The work to be performed under this contract is located at Kawaihapai Airfield, Mokuleia, Oahu, Hawaii.
- B. Conditions:
 - 1. The airfield shall remain operational at all times. Any damages to existing areas caused by the Contractor shall be repaired by the Contractor at no cost to the State.
 - 2. Upon execution of the contract, the Contractor, at their cost, shall obtain all permits required for this project.

1.06 HOURS OF WORK

- A. Work can be performed at the construction site at any time over a 24-hour period without considerable disruption to airfield operations or other adjacent tenants. Normal work hours are between 7:00 a.m. and 5:30 p.m. Submit a proposed construction schedule to Engineer for review and approval within 14 calendar days prior to start of work. The Contractor shall coordinate their schedule with the Engineer if rescheduling of work or intermittent work is required, such work shall be performed at no extra cost to the State. If the Contractor elects to work overtime, compensation for State employees and for construction management consultant as authorized by the State shall be the Contractor's obligation to pay in accordance with Section 7.6 – “Overtime and Night Payment for State Inspection Services” of the General Provisions of Construction Projects (2016).
- B. Contractor shall clean work areas at the end of each working shift. Rubbish, loose materials, etc. shall be disposed of daily. **Tools and equipment shall not be left unattended during work hours.** This includes tools left in unlocked vehicles, in the bed of pickup trucks, or in unlocked job sites. Materials shall be safely secured and stored in an area designated by the Airport Manager.

1.07 SAFETY

- A. The Contractor shall take the necessary precautions to protect his workers and other personnel from injuries. The rules and regulations promulgated by the Occupational Safety and Health Acts are applicable and made a part of these specifications.
- B. Barricades and warning signs shall be erected by the Contractor in the work area to properly protect all personnel in the area.
- C. During the progress of the work debris, empty crates, waste, material drippings, etc., shall be removed by the Contractor at the end of each workday, and the work area shall be left clean and orderly.

1.08 OPERATION OF AIRFIELD FACILITIES DURING CONSTRUCTION

- A. The Contractor shall coordinate the phases of work under this contract with the Engineer to permit the continuing operation of existing Airfield facilities and to minimize disruption to pedestrian and vehicular traffic.
- B. Utility Maintenance: During the construction of this contract, existing utility services serving occupied or used facilities shall not be disrupted except where authorized in writing by authorities having jurisdiction. Contractor shall provide temporary services during interruptions to existing utilities, as acceptable to the Engineer. Damages to the existing utility facilities by the Contractor will be repaired at the Contractors expense.
- C. Outages for water, power, communications, air conditioning or any other utility, if necessary, shall be kept to a minimum. The Contractor shall submit written requests to the Engineer for such outages no later than fourteen (14) calendar days in advance. The request shall include a description of work and the duration of the outage. The Contractor shall not proceed with such outages until written approval is received from the State.

1.09 CONSTRUCTION STAKES, LINES AND GRADES

- A. The Contractor shall perform all construction layout and reference staking necessary for the proper control and satisfactory completion of all structures, grading, paving, drainage, sewer, water, and all other appurtenances required for the completion of the work.
- B. Existing horizontal and vertical survey control points for the project are shown on the plans. The Contractor shall verify the location of all control points prior to the start of construction.
- C. The Department will not be responsible for delays in setting stakes and marks.
- D. All control points and stakes or marks which the Engineer may set shall be preserved by the Contractor. If such control points, stakes or marks are destroyed or disturbed by the Contractor, the cost of replacing such stakes or marks will be charged against the Contractor and deducted from payments due the Contractor.
- E. The Contractor shall be responsible for the placement and preservation of adequate ties to all control points whether established by the Contractor or by the Engineer.
- F. All original, additional or replacement stakes, marks, references and batter-boards which may be required for the construction operations, shall be furnished, set and properly referenced by the Contractor. The Contractor shall be solely and completely responsible for the accuracy of the line and grade of all features of the work. Any errors or apparent discrepancies found in previous surveys, the plans and specifications shall be called to the Engineer's attention by the Contractor for correction or interpretation prior to proceeding with the work.
- G. Before construction is started on any structure which is referenced to an existing structure or topographical feature, the Contractor shall check the pertinent locations

and grades of the existing structures or topographical features to determine whether the locations and grades shown on the plans are correct.

- H. All construction staking shall be performed by qualified personnel under the direct supervision of a person with an engineering background who is experienced in the direction of such work and is acceptable to the Engineer.
- I. All stakes and markers used for control staking shall be of the same quality as used by the Department for this purpose. For slope limits, pavement edges, gutter lines, et cetera, where so called "working" stakes are commonly used, stakes of different quality may be acceptable.
- J. The Department may check the Contractor's control of the work at any times as the work progresses. The Contractor will be informed of the results of these checks, but the Department by doing so will in no way relieve the Contractor of his responsibility for the accuracy of the layout work. The Contractor shall at his expense correct or replace any deficient or inaccurate layout and construction work. If, as a result of these deficiencies or inaccuracies, the Department is required to make further studies, redesign, or both, all expenses incurred by the Department due to such deficiencies or inaccuracies, will be deducted from any payments due the Contractor.
- K. The Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, and transportation incidental to the accurate and satisfactory completion of this work.

Unless otherwise provided, all requirements imposed by this section and performed by the Contractor shall be considered incidental to the various contract items and not separate or additional payment will be made thereof.

1.10 SPECIAL PROJECT REQUIREMENTS

- A. Upon receipt of the Contract, the Contractor shall process and return the Contract to the State' Contract Office within ten (10) calendar days.
- B. Downed seabirds. Downed seabirds found within the project site shall be reported to a local wildlife center according to protocols established by the Department of Land and Natural Resources, Division of Forestry and Wildlife: <https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/>

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

All work specified in the construction plans and specifications shall be paid for at the contract LUMP SUM prices for bid Item No. 01010.1 except for work specified as part of other LUMP SUM pay items. The contract price shall be full compensation for all materials, labor, tools, equipment, and all other incidentals necessary to complete the work.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01010.1	Unicom Tower Installation	Lump Sum

END OF SECTION

SECTION 01210 – ALLOWANCES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.

1.03 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise the Contracting Officer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. Purchase products and systems selected by the Contracting Officer from the designated supplier.

1.04 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.05 LUMP SUM ALLOWANCES

- A. Use the lump sum allowance only as directed by the Contracting Officer for purpose scheduled in Part 3 below, and only by Change Orders that indicate amounts to be charged to the allowance.

1. Lump sum allowances to cover lump sum payments to another party shall not include contractor's overhead, profit, and related costs. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs. These shall be included in the Contract Sum.
2. Contractor's overhead, profit, and related costs for products and equipment ordered by State under the lump sum allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
3. At Project closeout, credit unused amounts remaining in the lump sum allowance to State by Change Order.

1.06 UNUSED MATERIALS

- A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to the State, after installation has been completed and accepted.
 1. If requested by the Contracting Officer, prepare unused material for storage by State when it is not economically practical to return the material for credit. If directed by the Contracting Officer, deliver unused material to State's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 EXAMINATION

Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.02 PREPARATION

Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. The allowances itemized below are estimates and the amount shall not exceed the maximum amount shown in the proposal schedule.

B. Payment will be made under:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01210.1	Unforeseen Conditions	Allowance

END SECTION

SECTION 01300 – SUBMITTALS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 PROJECT DOCUMENTATION

The contract will not be considered complete until required submittals have been received and accepted by the State.

At the discretion of the Project Manager, the number of copies to be submitted may differ from that specified in this Section.

1.03 DETAILED CONSTRUCTION SCHEDULE

- A. The Contractor shall submit a detailed construction schedule to the Engineer for review, no later than 30 calendar days after execution of the contract. The detailed construction schedule shall be based on a detailed critical path analysis of construction activities and sequence of operations needed for the orderly performance and completion of any separable parts of any work and all work in accordance with the contract. The schedule shall be Critical Path Method (CPM) type in the form of an arrow diagram and activity listing or comprehensive bar graph. The network diagram shall show in detail and in orderly sequence all activities on a time scale, their descriptions, durations and dependencies, necessary and required to complete all work and any separable parts thereof. The schedule shall show in detail the following information for each activity:
1. Identification by code numbers and description;
 2. Duration;
 3. Craft and Equipment;
 4. Earliest start and finish dates;
 5. Latest start and finish dates;
 6. Total and free float time; and
 7. Highlighted Critical Path
- B. The construction schedule shall be complete in all respects, covering in addition to activities at the site of work, off-site activities such as design, fabrication, and procurement of equipment; the scheduled delivery dates of such equipment; submittal and approval of shop drawings and samples; ordering and delivery of materials; inspections; and testing. The schedule shall also include a manpower forecast by

crafts. The detailed construction schedule shall be supplemented by a three-week schedule prepared by the Contractor and submitted to the Engineer on a weekly basis. The Contractor shall promptly inform the Engineer of any proposed change in the schedule and shall furnish the Engineer with a revised schedule and cash flow diagram within 15 calendar days after approval of such change.

The schedule shall be kept up to date, taking into account the actual progress of work and shall be updated, if necessary, every 30 calendar days. The updated schedule shall, as determined by the Engineer, be sufficient to meet the requirements for the completion of the separable parts of work and the entire projects as set forth in the contract.

Upon commencing work, the Contractor shall submit at the start of each week to the Engineer for review, a detailed three (3) week construction schedule.

- C. If at any time during the progress of the Work, the Contractor's actual progress appears to the Engineer to be inadequate to meet the requirements of the contract, the Engineer will notify the Contractor of such imminent or actual noncompliance with the contract. The Contractor shall thereupon take such steps as may be necessary to improve his progress and the Engineer may require an increase in the labor force, the number of shifts, and/or overtime operations, days of work and/or the amount of construction plants all without additional cost to the State. Neither such notice by the Engineer nor the Engineer's failure to issue such notice shall relieve the Contractor from his obligation to achieve the quality of work and rate of progress required by the contract. Failure of the Contractor to comply with instructions of the Engineer under these provisions may be grounds for determination by the State that the Contractor is not prosecuting work with such diligence as will assure completion within the times specified. Upon such determination, the State may employ labor and equipment and charge the Contractor for the cost thereof, including depreciation for plant and equipment or may terminate the Contractor's right to proceed with the performance of the contract, or any separable part thereof, in accordance with the applicable provisions of the contract.
- D. The Contractor shall submit to the Engineer one (1) reproducible and three (3) prints of the detailed construction schedule and of each revised schedule submitted thereafter.

1.04 SCHEDULE OF VALUES

- A. The Contractor shall submit the Schedule of Values to the Engineer for review, no later than 30 calendar days after execution of the Contract.
- B. Format and Content: Use Proposal Schedule and/or the Project Specifications table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section. Provide a breakdown of the contract sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principle work or subcontract amounts down into several smaller identifiable items of work.
- C. Identification: Include the following Project identification on the schedule of values:

1. Project name and location
 2. Project number
 3. Contractor's name and address
 4. Contract No.
 5. Date of submittal
- D. Arrange the Schedule of Values in tabular form with separate columns to indicate the following items listed:
1. Related Specification Section or Division
 2. Description of work
 3. Dollar value and percent complete
- E. Correlate line items in the Schedule of Values with other required administrative schedules and forms including;
1. Construction Schedule
 2. Application for Payment forms including continuation sheets
 3. List of Subcontractors
 4. List of principle suppliers and fabricators
 5. Schedule of submittals
- F. Round amount to nearest whole dollar; the total shall equal the contract sum.
- G. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment, purchased, fabricated or stored, but not yet installed.
- H. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment or when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 OTHER SUBMITTALS REQUIRED BEFORE CONSTRUCTION

The Contractor shall submit the following items prior to or at the pre-construction meeting or unless otherwise noted:

- A. Name, residence phone number, addresses and scope of authority for the following persons:

1. Superintendent
 2. Contractor's authorized representative to sign documents
 3. Two (2) additional persons who can be contacted during non-working hours for emergencies.
 4. Field Office location and phone numbers (cellular, pager, fax, etc.)
- B. Name of Safety Officer
- C. Notice of Materials to be furnished
- D. Three (3) copies each of Certificates of Insurance. The State of Hawaii, Department of Transportation, Airports Division shall be named as additionally insured. The project number and project title shall be referenced in the Description of Operations/Locations/Vehicles. If canceled, 30 days written notice to the State of Hawaii must be given. If certificates are not correct, work cannot proceed.
- E. Three (3) copies each Insurance and Tax Rates.
- F. List of apprentices who will be working on the project supported with the Statement of Apprenticeship or copy of the Apprenticeship Agreements registered with the State Board, for each apprentice.
- G. List of equipment to be used on the job. Designate maximum working height and capacity of equipment involved and their respective rental rates.
- H. Three (3) copies of an expenditure (cash flow) plan consisting of an anticipated work completion graph plotting contract time and gross payment anticipated.

1.06 SHOP DRAWINGS, SAMPLES, CATALOG CUTS, AND CERTIFICATES

- A. Submittal Schedule: Prior to the submission of any shop drawings or submittals, the Contractor shall submit to the Engineer for review, a submittal schedule. The schedule shall identify the subject matter of each submittal, the corresponding specification section number and the proposed date of submission. During the progress of work, the Contractor shall revise and resubmit the submittal schedule as directed by the Engineer.
- B. The Contractor shall submit for review to the Engineer, or to a representative designated by the Engineer, six (6) copies of all shop drawings, samples, catalog cuts and certificates. Three (3) copies will be returned to the Contractor with information of review action. The Contractor shall submit additional quantities for their subcontractor's or supplier's use. Each shop drawing, certificate of compliance, sample, and equipment list shall be checked and certified correct by the Contractor and shall be identified with the applicable information specified hereinafter under "Submittal Identification."

Items are to be reviewed prior to commencing fabrication or delivery of material to the job site.

- C. Each copy of the drawings, certificates, catalog cuts, and lists reviewed by the Engineer will be stamped "REVIEW ACTION" with the appropriate action noted therein. The review of the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Acceptance of such drawings will not relieve the Contractor the responsibility of conforming to the contract drawings and specifications or for any error or omission which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. Each shop drawing submitted for review shall have, in the lower right-hand corner just above title, a white space 4" x 4" in which the Engineer can place the stamp and indicate action taken. The Contractor shall also inform their subcontractors to provide this space in their preparation of shop drawings.

1.07 MAINTENANCE DATA AND OPERATING INSTRUCTIONS

Six (6) copies of maintenance data and operating instructions shall be submitted by the Contractor at the conclusion of the equipment installation. The manuals shall be assembled in one or more binders, each with a title page, typed table of contents, and heavy section dividers with numbered plastic index tabs. The binders shall be a minimum of 2 inches (50.8 mm) thick, three ring, "D slant" with hard covers. All data shall be punched for binding and composition and printing shall be arranged so that punching does not obliterate any data. The project number, project title, and Airport shall be inserted in the front and backbone binder cover.

The Contractor shall submit a draft to the Engineer for review prior to the submission of the final copies.

The manual shall include separate sections describing each equipment. Provide a general description of the equipment, instructions for operation, maintenance, recommended inspection points and periods for inspection, testing, adjustments, calibration procedures with illustrations, wiring diagrams, trouble shooting situations and solutions, and repair methods in a practical, complete, and comprehensive manner.

For each equipment, include information on detailed parts listings (part numbers and costs) with the manufacturer's name, address, contact person, e-mail address and phone/fax numbers. Provide the contact name, address, e-mail address and phone/fax numbers of the distributor in the State of Hawaii for each equipment.

Include a separate section on warranty information on all products and equipment. Provide this information in a tabular format with a listing on all products and equipments with warranty start and completion dates for each item.

Include separate sections on all approved submittals, test reports, certifications, etc.

All information shall be arranged in a logical, orderly sequence. Manuals submitted by the manufacturer will not be accepted.

1.08 TEST REPORTS

Six copies of test reports for any material used in this Contract shall be submitted when specified or required by the Engineer.

1.09 SUBMITTAL IDENTIFICATION

A. To avoid rejection and to clarify each submittal, the General Contractor shall have a rubber stamp made up in the following format:

B.

General Contractor's Name

PROJECT TITLE: _____
AIRPORT: _____
STATE PROJECT NO.: _____
AIP PROJECT NO.: _____
THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR
AND IS CERTIFIED CORRECT AND IN COMPLIANCE WITH THE CONTRACT
DRAWINGS AND SPECIFICATIONS.
ITEM NO.: _____
SUBMITTAL NUMBER: _____
DATE RECEIVED: _____
SPECIFICATION SECTION NO.: _____
SPECIFICATION PARAGRAPH NO.: _____
DRAWING NUMBER: _____
SUBCONTRACTOR NAME: _____
SUPPLIER NAME: _____
MANUFACTURER NAME: _____

CERTIFIED BY

(Contractor's Signature, Date)

(Contractor's Name and Title)

- C. This stamp "filled in" should appear on each reproducible shop drawing, on the cover sheet of copies of test and mill reports, certificates of compliance, catalog cuts, brochures, etc. The stamp should be placed on a heavy stock paper merchandise (approximately 3" x 6") and one tag tied to each sample submitted for approval. The tag on the samples should state what the sample is, so that if the tag is accidentally separated from the sample, they can be matched up again. The back of this tag will be used by the Engineer for receipt, approval, and log stamp for any comments that relates to the sample.
- D. Submission Number: Each submission is to be sequentially numbered in the space provided in the Contractor's stamp. Correspondence and transmittal will refer to this number.
- E. The Contractor shall ensure that all submittals, including shop drawings, are complete and in conformance to the requirements of the Contract specifications prior to submission to the State for review and acceptance. Incomplete submittals will not be

processed by the State and returned to the Contractor for correction. Any cost impacts and delays in the Project schedule as a result of incomplete submittals shall be the responsibility of the Contractor.

1.10 AS-BUILT DRAWINGS

As-built drawings shall conform to the requirements of Section 5.8 - "Coordination Between the Contractor and the State" of the General Provisions for Construction Projects (2016), and the following requirements:

The Contractor shall maintain on the job site a set of full-size contract drawings, marking them in red to show all variations between the construction actually provided and that indicated or specified in the contract documents, including buried or concealed construction. (Section 5.8 (a) Drawings and Special Provisions of the General Provisions for Construction Projects.)

Where a choice of material or method is permitted herein or where variations in scope of character of work from that of the original contract or authorized, the drawings shall be marked to define the construction actually provided. Where equipment installation is involved, the size, manufacturer's name, model number, power input or output characteristics as applicable shall be shown on the as-built drawings.

The representation of such changes shall conform to standard drafting practice and shall include such supplementary notes, legends, and details as necessary to clearly portray the as-built construction.

The drawings shall be maintained and updated on a daily basis. The Contractor shall stamp, sign, and date each sheet with the following stamp:

AS-BUILT DRAWINGS/SPECIFICATIONS

This certifies that the dimensions and details shown on this sheet reflect the dimensions and details, and specifications as constructed in the field.

CONTRACTOR'S NAME

Signature

Date

Monthly and final payments to the Contractor shall be subject to prior approval of the drawings. On completion of the work, both sets of marked-up drawings shall be delivered to the Engineer and shall be subject to approval before acceptance.

1.11 GUARANTEES

Guarantee periods shall start at time of acceptance in writing by the State.

All guarantees and warranties shall be made out to the "State of Hawaii." Supplier and subcontractor guarantees shall be co-signed by the Contractor.

The Contractor is solely responsible for coincidence or non-coincidence of factory warranties or equipment guarantees, and the Contractor's own warranties and guarantees as required by the contract. The Contractor is solely responsible for scheduling and coordinating the installation of equipment and materials so as to take maximum advantage of factory warranties.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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 01310 – PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

Section Includes:

- A. Coordination and project conditions.
- B. Pre-demolition meetings.
- C. Pre-testing meetings.
- D. Pre-installation meetings.
- E. Cutting and patching.

1.03 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, electrical equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs. In finished areas, conceal pipes, ducts, and wiring within construction.
- D. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- E. After State occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize the disruption of State's activities.

1.04 PRE-DEMOLITION MEETINGS

- A. When required in individual specification sections, convene pre- demolition meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Engineer seven (7) consecutive calendar days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review existing conditions.
 - 2. Determine extent and nature of work and means, methods, techniques, sequences and procedures to be used.
 - 3. Record existing conditions by taking photos of important project elements.
 - 4. Review coordination with related work.
- E. Record minutes and distribute copies within two (2) days after meeting to participants, with two (2) copies to Engineer, and those affected by decisions made.

1.05 PRE-TESTING MEETINGS

- A. When required in individual specification sections, convene pre- testing meetings at Project site prior to commencing work of specific section for field testing.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Engineer seven (7) consecutive calendar days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review existing conditions of items to be tested.
 - 2. Determine extent and nature of work and means, methods, techniques, sequences and procedures to be used.
 - 3. Record existing conditions by taking photos of important project elements.
- E. Record minutes and distribute copies within two (2) days after meeting to participants, with two (2) copies to Engineer, and those affected by decisions made.

1.06 PRE-INSTALLATION MEETINGS

- A. When required in individual specification sections, convene pre- installation meetings at Project site prior to commencing work of specific section for field testing.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify Engineer seven (7) consecutive calendar days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two (2) days after meeting to participants, with two (2) copies to Engineer, and those affected by decisions made.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
- C. Execute cutting, fittings, and patching to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.

- 4. Remove samples of uninstalled Work for testing.
- 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- I. Identify hazardous substances or conditions exposed during the Work to Engineer to decision or remedy.

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 01400 – CONTRACTOR QUALITY CONTROL PROGRAM

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 CONTRACTOR QUALITY CONTROL PROGRAM

A. GENERAL

The Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The intent of this section is to enable the Contractor to establish a necessary level of control that will:

1. Adequately provide for the production of acceptable quality materials.
2. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
3. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

The Contractor shall be prepared to discuss and present, at the pre-construction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed and approved by the Engineer and State Project Manager. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed and approved.

B. DESCRIPTION OF PROGRAM

1. General Description. The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include

surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

2. Quality Control Program. The Contractor shall describe the Quality Control Program in a written document which shall be reviewed and approved by the Engineer and State Project Manager prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review no later than thirty (30) calendar days after execution of the Contract.
3. The Quality Control Program shall be organized to address, as a minimum, the following items:
 - a. Quality control organization;
 - b. Submittals schedule;
 - c. Inspection requirements;
 - d. Quality control testing plan;
 - e. Documentation of quality control activities; and
 - f. Requirements for corrective action when quality control and/or acceptance criteria are not met.
 - g. A listing of the definable features of work for the project.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

C. QUALITY CONTROL ORGANIZATION

The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization that is not a part of the production organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel. The organizational chart shall identify all quality control staff by name and function and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. At the top of the chart, an overall Contractor Quality Control System Manager, CQCSM, shall be named and his/her subordinates shall follow thereafter.

The quality control organization shall consist of the following minimum personnel:

1. Contractor Quality Control System Manager. The CQCSM shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCSM shall have a minimum of 5 years of experience in airport and/or paving and building construction and shall have had prior quality control experience on a project of comparable size and scope as the contract. The CQCSM shall be on the project full time and shall have no production duties. The CQCSM shall NOT be the point of contact for the production organization.

The CQCSM shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications including authority to independently stop any work not in compliance with the contract. The CQCSM shall report directly to a responsible officer of the construction firm, such officer not being the project superintendent or foreman. The CQCSM may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem and a Quality Control Technician is present on the job site full time.

2. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate fields and shall have a minimum of 2 years of experience in their area of expertise.

The quality control technicians shall report directly to the CQCSM and shall perform the following functions:

- a. Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by Section 1.02E.
 - b. Performance of all quality control tests as required by the technical specifications and Section 1.02F.
3. Staffing. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.
 4. All personnel shown on the organizational chart shall have, in resume form, all information regarding their education, any licenses, their present position, previous work experience, etc. included in the Quality Control Program written documentation. These resumes shall be verified by the CQCSM.

D. SUBMITTALS SCHEDULE

The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications, color samples) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

1. Specification item number;
2. Item description;
3. Description of submittal;
4. Specification paragraph requiring submittal; and

5. Scheduled date of submittal.

E. INSPECTION REQUIREMENTS

Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work.

Before any definable feature of work is started, the CQCSM shall notify the Engineer and State Project Manager of such work at least 48 hours in advance. Upon notification, the Engineer or State Project Manager shall determine if a meeting shall be held to discuss the condition of the work area, material and equipment status, what is to be expected and any questions or possible problems. No definable feature work shall commence without the consent of the Engineer and State Project Manager.

F. QUALITY CONTROL TESTING PLAN

As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, a minimum, include the following:

1. Specification item number;
2. Item description (e.g., concrete cylinder test);
3. Test type (e.g., concrete compressive strength);
4. Test standard (e.g., ASTM or AASHTO test number, as applicable);
5. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);
6. Responsibility (e.g., plant technician, independent lab); and
7. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The Engineer and State Project Manager shall be provided the opportunity to witness quality control sampling and testing. The CQCSM shall make every effort to inform the Engineer and State Project Manager at least 24 hours, or more if stated in the specifications, before such testing occurs.

All quality control test results shall be documented by the Contractor as required by Section 1.02G.

G. DOCUMENTATION

The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer and State Project Manager daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCSM.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

1. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and Subcontractor operations on a form acceptable to the Engineer and State Project Manager. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:
 - a. Technical specification item number and description and location of work performed;
 - b. A comprehensive breakdown of the work force including the number of workers and total hours for each trade.
 - c. Compliance with approved submittals;
 - d. Proper storage of materials and equipment;
 - e. Proper operation of all equipment;
 - f. Adherence to plans and technical specifications;
 - g. Review of quality control tests; and
 - h. Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the CQCSM. The Engineer and State Project Manager shall be provided at least one copy of each daily inspection report on the workday following the day of record.

2. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control test results. Daily test reports shall document the following information:

- a. Technical specification item number and description;
- b. Test designation;
- c. Location;
- d. Date of test;
- e. Control requirements;
- f. Test results;
- g. Causes for rejection;
- h. Recommended remedial actions; and
- i. Retests.

Test results from each day's work period shall be submitted to the Engineer and State Project Manager prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the CQCSM.

H. CORRECTIVE ACTION REQUIREMENTS

The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

I. SURVEILLANCE BY THE ENGINEER AND STATE PROJECT MANAGER

All items of material and equipment shall be subject to surveillance by the Engineer or State Project Manager at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer or State Project Manager at the site for the same purpose.

Surveillance by the Engineer or State Project Manager does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

J. NONCOMPLIANCE

1. The Engineer or State Project Manager will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or State Project Manager or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.
2. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the Contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer or State Project Manager, the Engineer or State Project Manager may:
 - a. Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors in accordance with Section 8.4 – “Character and Proficiency of Workers” of the General Provisions for Construction Projects (2016).
 - b. Order the Contractor to stop operations in accordance with Section 8.10 – “Suspension of Work” of the General Provisions for Construction Projects (2016).
 - c. Determine work performed by the Contractor during periods of noncompliance to be unacceptable and subject to inspection, removal or non-payment in accordance with Section 5.12 – “Removal of Non-Conforming and Unauthorized Work: Performance of Corrective or Remedial Work” of the General Provisions for Construction Projects (2016).

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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 prices bid for the various items of work in this project.

END OF SECTION

SECTION 01524 – CONSTRUCTION WASTE MANAGEMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION OF WORK

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections:
 - 1. SECTION 01010 – DESCRIPTION OF WORK
 - 2. SECTION 01300 – SUBMITTALS
 - 3. SECTION 01560 – GENERAL ENVIRONMENTAL, HEALTH, AND SAFETY CONTROLS

1.03 DEFINITIONS

- A. Construction Waste: Site improvement materials and other solid waste resulting from construction or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.04 PERFORMANCE REQUIREMENTS

- A. General: Achieve End-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following but not limited to:

1. Demolition Waste:

- a. Asphaltic concrete paving
- b. Concrete
- c. Concrete reinforcing steel
- d. Brick
- e. Concrete masonry units
- f. Structural and miscellaneous steel

2. Construction Waste:

- a. Site-clearing waste
- b. Masonry and CMU
- c. Packaging, including uncontaminated materials as follows:
 - 1) Paper
 - 2) Cardboard
 - 3) Boxes
 - 4) Plastic sheet and film
 - 5) Polystyrene packaging
 - 6) Wood crates
 - 7) Plastic pails

1.05 ACTION SUBMITTALS

- A. Submit in accordance with SECTION 01300 - SUBMITTALS.
- B. Waste Management Plan: Submit plan within 30 days of date established for the Notice of Award.

1.06 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use **Form CWM-7** for construction waste and **Form CWM-8** for demolition waste. Include the following information:
- 1. Material category
 - 2. Generation point of waste.
 - 3. Diversion/Recycler Hauler or Location
 - 4. Total quantity of waste in tons.

5. Quantity of waste salvaged, both estimated and actual in tons.
 6. Quantity of waste recycled, both estimated and actual in tons.
 7. Total quantity of waste recovered (salvaged plus recycled) in tons.
 8. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Qualification Data for waste management coordinator.

1.07 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: General Contractor shall hire a third party independent experienced firm, with a record of successful waste management coordination of Projects with similar requirements, as waste management coordinator.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in the General Provisions of the contract. Review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan including responsibilities of waste management coordinator.
 2. Review requirements for documenting quantities of each type of waste and its disposition.
 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.

4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.08 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Use **Form CWM-1** for construction waste and **Form CWM-2** for demolition waste. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use **Form CWM-3** for construction waste and **Form CWM-4** for demolition waste. Include points of waste generation, potential recycling hauler or locations, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use **Form CWM-5** for construction waste and **Form CWM-6** for demolition waste. Include the following:
 1. Total quantity of waste.

2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 1. Comply with SECTION 01010 - DESCRIPTION OF WORK for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Waste management coordinator shall be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

2. Comply with SECTION 01560 – GENERAL ENVIRONMENTAL, HEALTH, AND SAFETY CONTROLS for controlling dust and dirt, environmental protection, and noise control.

3.02 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from the weather.
 5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.03 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving: Grind asphalt to maximum 1-1/2-inch size.
- B. Asphaltic Concrete Paving: Break up and transport paving to asphalt- recycling facility.
- C. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 1-1/2-inch size.

- D. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 - 1. Pulverize masonry to maximum 3/4-inch size.
 - 2. Clean and stack undamaged, whole masonry units on wood pallets.
- E. Metals: Separate metals by type.
 - 1. Structural Steel: Stack members according to size, type of member, and length.
 - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

3.04 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Site-Clearing Wastes: Chip brush, branches, and trees

3.05 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

3.06 ATTACHMENTS

The following forms are appended to the end of this Section.

- A. Form CWM-1 for construction waste identification.
- B. Form CWM-2 for demolition waste identification.
- C. Form CWM-3 for construction waste reduction work plan.
- D. Form CWM-4 for demolition waste reduction work plan.
- E. Form CWM-5 cost/revenue analysis of construction waste reduction work plan.
- F. Form CWM-6 cost/revenue analysis of demolition waste reduction work plan.
- G. Form CWM-7 for construction waste reduction progress report.
- H. Form CWM-8 for demolition waste reduction progress report.

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 prices bid for the various items of work in this project.

END OF SECTION

SECTION 01533 – BARRICADES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 BARRICADES

- A. The Contractor shall take precaution to protect people and property from injury and damage. He shall erect barricades to delineate his work areas and provide the appropriate signing, hazard lights, and temporary paint striping per the safety plan as approved by the Engineer, to aid public and airport pedestrian and vehicular traffic around his work areas. Barricades shall be traffic cones, delineators, blinker barricades, caution tape, sawhorses, plywood barricades or other barriers as approved by the Engineer to effectively provide proper protection.
- B. The Contractor shall be responsible for his own security and protection of his property, including mobilization yard barricades.
- C. Barricades, in general, shall be neat and in good condition, as required for protection. In areas frequented by the general public, the barricades shall be visually presentable and plywood partitions shall be painted. Where dust is a problem, the Contractor shall erect floor to ceiling dust proof partitions.
- D. The Contractor shall coordinate and sequence this work with the Engineer to permit the continuing operation of the existing Airport facility. Barricades shall be removed upon the completion and acceptance of work and the premises left clean and operational.
- E. The Contractor shall be responsible for securing access into and out of the barricaded areas.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

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 price for the various items of work in this project.

END OF SECTION

SECTION 01560 - GENERAL ENVIRONMENTAL, HEALTH, AND SAFETY CONTROLS

PART I – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION

This section addresses the prevention of environmental pollution as the result of construction operations under this contract. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life, adversely affect other species of importance, or degrade the utilization of the environment for aesthetic and recreational purposes.

1.03 REFERENCES

All work shall conform to the most recent edition of the following Federal, State, and Local regulations, unless otherwise noted or specified on the drawings or in these specifications. Where conflicts among the requirements or with these specifications exists, the most stringent requirements shall apply.

- A. DOTA Construction Site Runoff Control Program
<http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program>
 - 1. DOTA Construction Activities Best Management Practices (BMP) Field Manual.
- B. Department of Health (DOH) Hazard Evaluation & Emergency Response (DOH HEER)
<https://health.hawaii.gov/heer/>
- C. State of Hawaii Administrative Rules, Title 11, Department of Health (DOH)
 - 1. Chapter 46, Community Noise Control.
 - 2. Chapter 59, Ambient Air Quality.
 - 3. Chapter 60.1, Air Pollution Control.
 - 4. Chapters 260.1, 261.1, 262.1, 263.1, 264.1, 265.1, 266.1, 268.1, 270.1, 271.1, 273.1, and 279.1, Hazardous Waste Management.
 - 5. Chapter 451, State Contingency Plan.
 - 6. Chapter 501, Asbestos Requirements.

- D. CFR Title 40, Protection of the Environment, Chapter I, Environmental Protection Agency.
- E. CFR Title 42, Public Health, Chapter I, Public Health Service, Department of Health and Human Services.

1.04 SUBMITTALS

- A. The Contractor shall submit the following items as required:
 - 1. Individual Wastewater System (IWS) Final Report: For projects involving the construction of an individual wastewater system, an IWS Final Report is required to be submitted to the DOTA Engineering Branch, Environmental Section (AIR-EE) for approval, prior to submitting to DOH Wastewater Branch and prior to project closeout.
 - 2. Underground Injection Control (UIC) Well Final Report: For new drainage well construction and existing drainage well modification, a UIC Well Final Report is required to be submitted to AIR-EE for review and approval, prior to submitting to DOH Safe Drinking Water Branch (SDWB), and prior to project closeout. The Final Report shall also be submitted within the deadline specified on the UIC Approval to Construct. If a project involves abandoning an existing drainage well, written instructions shall be obtained from DOH SDWB and a copy provided to AIR-EE prior to backfilling the demolished well. All supporting documentation requested by DOH post demolition work shall be completed and provided to AIR-EE for review prior to submitting to DOH SDWB.
 - 3. AST (Flammable/Combustible Liquid) Tank Installation: Provide signed record of Final Inspection issued by County Fire Department.
 - 4. Waste Manifests: If a project will generate hazardous waste, the Contractor shall prepare waste manifests in accordance with HAR 11-262 and provide records to AIR-EE.
- B. The Contractor shall comply with all applicable regulations and maintain records of permits, licenses, certificates, and other environmental regulatory requirement correspondence. Submit copies of permits, licenses, certifications, inspection reports, releases, notices, receipts for fee payments, correspondence, records, and similar documents, established for compliance with environmental regulations bearing on performance of the work.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 AIR POLLUTION CONTROL

- A. Emission: The Contractor shall not be allowed to operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments are made, as determined by the Engineer.

- B. Dust: The Contractor, for the duration of the contract, shall maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, graded areas, staging and storage areas, and all other work areas within or outside the project limits free from dust that would cause a hazard or nuisance to the work or operations of other Contractors, or to persons or property. Industry-accepted methods, that meet requirements of DOTA Construction BMP Field Manual as noted in Specification 01 57 19 and that meet stabilization suitable for the area or materials involved.
- C. Burning on Airport property shall not be permitted.

3.02 SPILL CONTROL

The Contractor shall follow the DOTA Construction Site Runoff Program and relevant documents, such as the Construction BMP Field Manual to implement BMPs to prevent spills and leaks and report and cleanup spills and leaks immediately, as required.

3.03 DISPOSAL

- A. All unusable debris and waste material shall be hauled away to an appropriate local landfill. Contractor shall control dust during loading operations.
- B. Contractor shall consult with the landfill and conduct any required waste characterization to ensure that waste meets the landfill's requirements for size, type, etc.
- C. No burying of debris or waste materials, except for materials that are specifically indicated elsewhere in these specifications as suitable for backfill, shall be permitted on the project site.
- D. Contractor shall manage all construction materials, debris, and waste in a manner that prevents Foreign Object Debris (FOD) from reaching the airfield, where it could be an aircraft safety hazard.

3.04 HAZARDOUS MATERIALS CONTROL

Hazardous materials shall be properly stored and handled. The use of prohibited hazardous materials, e.g., asbestos, lead paint, and polychlorinated biphenyls (PCBs), in the construction of this project shall be strictly prohibited. Any corrective action to remove and replace hazardous material and contaminated work areas shall be at the sole expense of the Contractor.

3.05 OCCUPATIONAL HEALTH AND SAFETY

The Contractor shall at all times comply with all State of Hawaii and Federal rules and regulations related to occupational health and safety and develop and follow a Health and Safety Plan describing measures the Contractor will employ to protect the health and safety of their employees. Include measures required to protect the public from dangers associated with their work.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

All work specified in this Section shall not be measured nor paid for separately but shall be considered incidental to item 01561.1, Construction Site Pollution Controls.

END OF SECTION

SECTION 01561 - CONSTRUCTION SITE POLLUTION CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION

- A. This Section describes procedures for the proper application of management and engineering controls at State of Hawaii, Department of Transportation, Airports (DOTA) construction sites so that pollutants do not impact any storm drainage system, State water, soil, or groundwater.
- B. The Contractor shall supply all labor, materials, and equipment necessary for the management of stormwater during construction and to carry out the work in accordance with these specifications, and all applicable Federal, State, and local regulations and latest amendments.
- C. This Section also applies to construction support activities including concrete or asphalt batch plants, rock crushing plants, equipment staging yards/areas, material storage areas, excavated material disposal areas, borrow areas, waste management facilities, sanitary facilities, material storage areas, and temporary equipment fueling locations, regardless of their proximity to the Airport Property and State Right-of-Way. For areas serving multiple construction projects or operating beyond the completion of the construction project in which it supports, the Contractor shall be responsible for securing the necessary permits, clearances, and documents, and following the conditions of the permits and clearances, at no cost to the State.
- D. The Contractor shall be responsible for all subcontractors, suppliers, and vendors, and shall ensure that the means and methods of construction activities of subcontractors, suppliers, and vendors are in full compliance with this Section.
- E. The Contractor shall examine and be familiar with documents related to stormwater management at the airports and shall comply with related requirements for construction stormwater control. Should a requirement not be clearly described within the construction plans, specifications, permits and other applicable bid documents, notify the Engineer immediately for interpretation.

1.03 REFERENCES

All work shall conform to the most recent edition of the following, unless otherwise noted or specified on the drawings or in these specifications. Where conflicts among the requirements or with these specifications exists, the most stringent requirements shall apply.

- A. DOTA Construction Site Runoff Control Program <http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program>

1. DOTA Construction Activities Best Management Practices (BMP) Field Manual.
 2. DOTA Environmental Requirements for Construction Projects Standard Operating Procedures.
 3. DOTA Stormwater Management Plans (SWMPs) for the Daniel K. Inouye International Airport (HNL) and Kahului Airport (OGG), as applicable.
 4. DOTA Industrial Stormwater Pollution Prevention Plans (SWPPPs) for the HNL, OGG, and Lihue Airport (LIH), as applicable.
- B. State of Hawaii Administrative Rules, Title 11, Department of Health (DOH)
<https://health.hawaii.gov/opppd/departments-of-health-administrative-rules-title-11/>
1. Chapter 54, Water Quality Standards
 2. Chapter 55, Water Pollution Control
 3. Chapter 451, State Contingency Plan
- C. United States (U.S.) Code of Federal Regulations (CFR), Title 40, Chapter I: Environmental Protection Agency.
- D. Hawaii Revised Statutes (HRS), Part I, Chapter 128D, "Environmental Response Law".

PART 2 – PRODUCTS

2.01 MATERIALS

Comply with applicable materials described in the current DOTA Construction Activities BMP Field Manual. Refer to FAA Advisory Circulars and DOTA District Office, including Wildlife Hazard Management Plan, for additional guidance and conditions. In addition, materials shall comply with the following:

- A. Grass: The FAA and USDA recommend the following grass species when requiring grass: "No-Mow" bermudagrass ("Green Velvet") (*Cynodon dactylon*) or Seashore paspalum (*Paspalum vaginatum*). These species possess higher than average drought resistance, saline soil tolerances, and most importantly, do not produce seed heads attractive to the majority of hazardous avian species. Use stolons, sprigs, or plugs to avoid providing hazardous species with a readily available food source. The use of seeds is generally not allowed.

Alternative grass species shall only be applied with the approval by the Engineer after consultation with United States Department of Agriculture (USDA) airport representative. This includes, but is not limited to, sodding, cuttings, and planting. Grass shall be a quick-growing species. Grass shall be suitable to the area and provide a temporary cover that will not compete later with permanent cover.

- B. Irrigation: Any required irrigation shall be done after dark to reduce instances of water becoming a hazardous wildlife attractant.

PART 3 – EXECUTION

3.01 PRE-CONSTRUCTION REQUIREMENTS

Do not begin construction activities until all submittals detailed in this Subsection are completed, submitted to the Engineer, and accepted in writing by AIR-EE.

- A. **Water Pollution, Dust, Sediment, and Erosion Control Meeting:** Schedule a water pollution, dust, sediment, and erosion control meeting with the Engineer after all documents required by AIR-EE are submitted to the Engineer and accepted in writing by AIR-EE. The meeting shall be scheduled a minimum of 14 calendar days prior to the Start Work Date. At a minimum, the meeting shall be attended by the Contractor, subcontractors whose work may provide an impact to stormwater or site environmental conditions, Engineer, AIR-EE, and any authorized representatives of the designated attendees. The meeting will discuss the sequence of work and plans and proposals for water pollution, dust, sediment, and erosion controls.
- B. **Land Disturbance Calculations:** The Contractor is responsible for calculating the total land disturbance for the life of the project and complying with all environmental requirements associated with the total land disturbance calculated. Disturbance of land is defined by Hawaii Department of Health as “the penetration, turning, or moving of soil or resurfacing of pavement with exposure of the base course or the exposure of bare soil or ground surface, including the land surface exposed by construction roads, baseyards, staging areas, demolition, headquarters, and parking areas. It does not include grass or weed cutting, bush or tree trimming or felling that leaves soil or ground intact. It includes ‘grubbing’ in its normal meaning of the use of equipment to knock down and push vegetation out of the way, typically uprooting vegetation and disturbing the ground surface.”

Land disturbing activities that shall be included in the disturbance area calculation shall follow the guidance provided in the Environmental Requirements for Construction Projects Standard Operating Procedures.

- C. **Site-Specific BMP (SSBMP) Plan or SWPPP:** The Contractor shall submit a SSBMP Plan (for projects disturbing less than one acre) or SWPPP (for projects disturbing one acre or more) using the latest DOTA template for acceptance by AIR-EE. If a SSBMP Plan or SWPPP was prepared by the Designer, the Contractor shall revise the plan using the latest template to include additional information required of the Contractor and any changes the Contractor proposes. The SSBMP Plan or SWPPP shall include site-specific temporary BMPs following requirements and practices outlined in DOTA’s “Construction Activities BMP Field Manual.” All AIR-EE comments shall be resolved and the SSBMP Plan or SWPPP approved prior to the start of land-disturbing activities, including those activities that are needed for the implementation of the BMPs. Submission of the complete and acceptable SSBMP Plan or SWPPP is the sole responsibility of the Contractor, and additional contract time will not be issued for delays due to incompleteness.
- D. **SSBMP Plan/SWPPP Modifications:** Modify, as necessary, and resubmit amended SSBMP Plan or SWPPP and construction schedules to the Engineer for acceptance by

AIR-EE. Amendments to the SSBMP Plan or SWPPP shall be made under the following circumstances at a minimum:

1. Conditions that develop during construction that were unforeseen during the design and pre-construction stages that could impact stormwater, soil, or groundwater.
2. Changes to the Contractor's Means and Methods of Construction that could impact stormwater, soil, or groundwater.
3. Omitted conditions that should have been allowed for in the accepted documents.
4. A SSBMP Plan measure that replaces an accepted SSBMP Plan measure that was not satisfactorily performing.
5. Revised dates of installation and/or removal of SSBMP Plan measures.

SSBMP Plan/SWPPP modifications shall be submitted to the Engineer and accepted in writing by AIR-EE before implementing the revised site-specific BMPs in the field. Amendments to the SSBMP Plan or SWPPP shall be included with the original SSBMP Plan or SWPPP and documented in the Amendment Log.

- E. Documentation: A copy of the accepted original or amended SSBMP Plan or SWPPP, with the signed certification by the authorized representative filed with DOH for SWPPPs, shall be kept on site or at an accessible location so that it can be made available at the time of an on-site inspection, or upon request by the Engineer, AIR-EE, DOTA's designated authorized representative, and/or DOH/EPA Representative.
- F. NPDES Construction Permit: If the total land disturbance for the life of the project, including all construction support activity areas, is one acre or more, coverage under an NPDES Permit Authorizing Discharges of Storm Water Associated with Construction Activity (NPDES Construction Permit) authorizing stormwater discharges associated with construction activity is required from the Department of Health, Clean Water Branch (CWB).
 1. Do not begin land-disturbing activities until the CWB has issued an Individual NPDES Permit or NGPC. Conduct land-disturbing activities in accordance with the conditions of the NPDES Permit and/or NGPC.
 2. The Contractor shall submit a Notification of Start to CWB a minimum of seven calendar days before the start of construction and provide AIR-EE with a record of submittal.
 3. Before construction begins, the Contractor shall assign one of their personnel as the Duly Authorized Representative, in accordance with Section 15 of Appendix A, Chapter 1155. The Duly Authorized Representative is responsible for compliance with the NPDES Construction Permit (i.e., operations of the construction project) and shall certify, sign, and date various documents, including the SWPPP and SWPPP inspection documents.

- G. Solid Waste Disclosure: Submit the Solid Waste Disclosure Form for Construction Sites, if applicable, to the DOH Solid Waste Branch as specified on the form within 7 calendar days before the start of construction activities and provide a copy to the Engineer. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer. This shall also include documentation from any intermediary facility where solid waste is stored, handled or processed.
- H. NPDES Hydrotesting Permit: If hydrotesting activities require effluent discharge into State waters or drainage systems, coverage under an NPDES Hydrotesting Waters Permit authorizing discharges associated with hydrotesting is required from the CWB. Do not begin hydrotesting activities until the CWB has issued an Individual NPDES Permit or NGPC for hydrotesting. Conduct Hydrotesting operations in accordance with the conditions of the NPDES Permit and/or NGPC.
- I. NPDES Dewatering Permit: If dewatering activities require effluent discharge into State waters or drainage systems, coverage under an NPDES Dewatering Permit authorizing discharges associated with dewatering is required from the CWB. Do not begin dewatering activities until the CWB has issued an Individual NPDES Permit or NGPC for dewatering. Conduct dewatering operations in accordance with the conditions of the permit or NGPC.
- J. Construction BMP Training: All Contractor's and subcontractor's employees on the project shall complete the DOTA Construction BMP Training prior to entering the construction site and every calendar year thereafter. All Contractor and subcontractor personnel involved with construction project responsibilities shall also be trained on the site-specific BMPs that are utilized during construction and spill response. Records of completion and/or training roster sign-in sheet shall be up to date and included in the SWPPP or SSBMP Plan. Additional training required by AIR-EE shall be at no additional time or cost to the project. There are two training options:
1. All Contractor and subcontractor employees involved with construction project responsibilities watch the DOTA Construction BMP Training Video located on the DOTA Construction Site Runoff Control Program webpage and complete the [DOTA Construction BMP Training Survey](#) with a passing score, or
 2. The Contractor and subcontractor supervisors/managers watch the DOTA Construction BMP Training Video located on the DOTA Construction Site Runoff Control Program webpage, complete the [DOTA Construction BMP Training Survey](#) with a passing score, then train all employees involved with construction project responsibilities and submit a sign-in roster documenting all employees trained at the bottom of the [DOTA Construction BMP Training Survey](#).
- DOTA Construction BMP Training Survey: <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-bmp-training-survey/>
- K. Construction Connection, Discharge, and Surface Runoff Permit: The Contractor shall complete the Contractor's section of the Construction Connection, Discharge, and Surface Runoff Permit and submit to AIR-EE for review. All AIR-EE comments shall be resolved prior to the start of land-disturbing activities.

3.02 CONSTRUCTION REQUIREMENTS

- A. Construction Start: Do not expose or disturb surface area of earth material or initiate any land-disturbing activities until submittals detailed in Subsection 01561.3.01 – Pre-construction Requirements are completed, submitted to the Engineer and accepted in writing by AIR-EE. Once installation of BMPs is allowed, a Pre-construction BMP Inspection is conducted, and all deficiencies that are noted during the inspection shall be corrected prior to any other ground disturbance.
- B. BMP Installation and Maintenance: Provide, install, maintain, monitor, repair and replace BMPs as needed to maintain efficacy. Address all inspection comments received from the Engineer, AIR-EE, and/or DOTA's designated authorized representative.
- C. Protect temporarily or permanently disturbed soil surface from rainfall impact, runoff, and wind before the end of each work day. Coordinate and schedule the work to the maximum extent possible to minimize the amount of exposed or disturbed surface area of earth material.
- D. Install and maintain stabilized construction entrances/exits, including any wheel washes, to minimize tracking of dirt and mud onto roadways, sidewalks, and other paved areas. Restrict traffic to stabilized construction entrance areas only. Clean dirt, mud, or other material tracked onto the road, sidewalk, or other paved area by the end of the same day in which the track-out occurs. If tracking is excessive or sediment is being transported farther along the pavement or sidewalk by other vehicles traveling outside of the construction site, conduct cleaning and sweeping immediately. Modify stabilized construction entrances/exits, as needed, to prevent mud from being tracked onto road. Stabilize entire access roads if necessary.
- E. Maintain all excavations, embankments, haul roads, permanent access roads, plant sites, waste disposal areas, borrow areas, and all other work areas within the project limits free from dust that would cause a hazard to the work, airport operations, operations of other contractors, or to persons or property. If chemicals are used as soil stabilizers for erosion and dust control, submit the manufacturer's product data sheets of the chemicals to the Project Manager for acceptance by AIR-EE. Oil treating shall not be used. Dust screens and fabrics are not allowed to be mounted on, or to inhibit the view of, the TSA and AOA Security Fences.
- F. Cover exposed surfaces of materials completely with tarpaulin or a similar device when transporting aggregate, soil, excavated material, or other materials that may be a source of fugitive dust.
- G. Protect ditches, channels, and other drainageways leading away from cuts and fills at all times by:
 - 1. Hydromulching cuts and fills that may erode.
 - 2. Installing check dams or other silt control devices.
 - 3. Other methods acceptable to AIR-EE.

- H. Clean up and remove any pollutant that is attributed to the Contractor. Care shall be taken to ensure that no petroleum/chemical products, bituminous materials, or other deleterious substances, including debris, are allowed to fall, flow, leach, or otherwise enter the sewage systems or storm drains. Deposition of solid waste or the discharge of liquid waste, such as fuels, lubricants, bituminous waste, untreated sewage and other pollutants that may contaminate stormwater, surface waters, soil, or groundwater shall not be permitted.
- I. Disturbed Area Stabilization: Immediately initiate stabilization of exposed soil areas upon completion of land-disturbing activities for areas where disturbance has permanently or temporarily ceased on any portion of the site. Land-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Land-disturbing activities have temporarily ceased when clearing, grading, or excavation within any area of the site will not resume for a period of 14 or more calendar days, but such activities will resume in the future. The term "immediately" is used in this Section to define the deadline for initiating stabilization measures. "Immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the land-disturbing activities have temporarily or permanently ceased.
1. After the initiation of stabilization, stabilization activities shall be completed according to the following timeline:
 - a. For projects with an NPDES Construction Permit:
 - For construction areas discharging into waters not impaired for nutrients or sediments, complete installation of stabilization measures within 14 calendar days after the temporary or permanent cessation of land-disturbing activities.
 - For construction areas discharging into nutrient or sediment impaired waters, complete installation of stabilization measures within 7 calendar days after the temporary or permanent cessation of land-disturbing activities.
 - b. For projects without an NPDES Construction Permit, complete stabilization within 14 calendar days after the temporary or permanent cessation of land-disturbing activities.
- J. Notice of Cessation: For projects with an NPDES Construction Permit, the Contractor shall submit a Notice of Cessation to CWB within seven calendar days after the end of the month that the project was completed and provide AIR-EE with a record of submittal.
- K. Changes to Land-disturbing Activities: The Contractor shall be responsible to prepare a new SWPPP or SSBMP Plans or amend existing SWPPP or SSBMP Plans if changes to the project or to the Contractor's activities result in land-disturbing activities additional to those previously approved:

1. Land-disturbing activity outside of the approved limits is NOT allowed until approval and proper permits are received. Revised documents, including an updated SWPPP or SSBMP Plan, shall be submitted to and approved by AIR-EE prior to conducting additional land-disturbing activities.
2. If coverage under an NPDES Construction Permit is needed, no activity in the additional area may occur until the additional permit coverage is granted:
 - a. If the project was already granted coverage under an NPDES Construction Permit, additional coverage shall be obtained from CWB for the additional area, either by adding the area to existing project documents, and applying for NPDES Construction Permit coverage for the entire project OR by creating new documents and obtaining separate NPDES Construction Permit coverage for the additional area.
 - b. If the new disturbed area will result in the total disturbed area equaling one (1.0) acre or more for a project without existing NPDES Construction Permit coverage, NPDES Construction Permit coverage shall be obtained from CWB that will cover all land-disturbing activities anticipated for the life of the project.

3.03 INSPECTIONS

Refer to the DOTA Construction Site Runoff Program for information pertaining to AIR-EE BMP inspections (pre-construction, routine, and final). Contractor self-inspections shall occur based on the frequency outlined in the SSBMP Plan and, if applicable, NPDES Permit (HAR 11-55) and SWPPP requirements.

- A. Corrective Actions: The Contractor shall be responsible for the correction of all deficiencies identified during any of the above inspections.
 1. If the Contractor fails to satisfactorily address inspection deficiencies, the DOTA reserves the right to employ outside assistance or use the State's own labor forces to provide necessary corrective measures. The Contractor will be fully responsible for all related cost and time. The State will charge the Contractor such incurred costs plus any associated project engineering costs and will make appropriate deductions from the Contractor's progress payment. Additionally, DOTA can issue liquidated damages for deficiencies not resolved to DOTA's satisfaction and for illicit discharges or contaminant discharges to soil, groundwater, surface water, or State waters (see Appendix A).
 2. Failure to install or maintain site-specific BMP measures may result in the assessment of liquidated damages (Appendix A). Depending on the severity of the deficiencies, additional enforcement actions, such as suspension of work and/or termination of the contract (with the Contractor's Surety being fully responsible for all additional costs incurred by the State), can be conducted and assessed against the Contractor.
 3. For all citations or fines received by the DOTA for non-compliance, including non-compliance with NPDES Permit conditions, the Contractor shall reimburse the State within 30 calendar days for the full amount of outstanding cost that the State has incurred. The State may deduct incurred costs from the Contractor's

progress payments; however, the Contractor shall be responsible for reimbursing the State if the costs exceed remaining payments owed to the Contractor.

4. The Contractor shall be responsible for all citations, fines and penalties levied by DOH or EPA against the State due to the Contractor's failure to satisfactorily address site-specific BMP deficiencies and/or any Contractor's illicit discharges. The State may make the appropriate deductions from the Contractor's progress payment; however, the Contractor shall be responsible for reimbursing the State if the costs of correction exceed remaining payments owed to the Contractor.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

The work specified in this Section will be paid for at the contract lump sum price. Payment shall be full compensation for work prescribed in this Section and contract documents, including but not limited to, all labor, materials, tools, equipment, and all incidentals necessary to install, maintain, monitor, repair, replace, modify, and remove site-specific BMP measures.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01561.1	Construction Site Pollution Controls	Lump Sum

Partial payments shall be paid in the Monthly Progress Payment as follows:

- A. 20% of the line item price shall be paid upon the satisfactory completion of the Pre-construction BMP Inspection and associated corrective actions accepted by AIR-EE or their designated authorized representative, as described in Section 01561.3.03(A), above.
- B. 70% of the line item price shall be paid in equal monthly payments over the duration of the contract. Failure to satisfactorily apply, maintain, or modify BMP measures and devices, and/or submittals shall result in the withholding of monthly progress payments for this line item.

For projects that will disturb one acre or more of land, or will be part of a larger common plan of development that will disturb one acre or more of land, payments shall be made only after Routine BMP Inspections described in Section 01561.3.03 above have been satisfactorily completed, and associated corrective actions accepted by AIR-EE or their designated authorized representative.

- C. The remaining 10% of the line item price shall be paid after all temporary BMP measures have been satisfactorily removed.

Payment will be made only after the satisfactory completion of the Final BMP Inspection and associated corrective actions accepted by AIR-EE or their designated

authorized representative, and acceptance of the Post-construction BMPs by AIR-EE or their designated authorized representative.

Liquidated Damages, up to \$25,000 per day (Appendix A), shall be assessed for each non-compliance of the BMP requirements described in this Section. The Contractor shall not be entitled to recover any Liquidated Damages assessed, even after the deficiencies have been corrected.

The Liquidated Damages cited in Appendix A are in excess of reimbursement for any citations, fines, or penalties levied by any regulatory agency against the State due to the Contractor's violations of clean water regulations or standards.

Appendix A. Liquidated Damages Schedule for Non-Compliances

Non-Compliance	Amount
Failure to obtain coverage under an NPDES Construction Permit for construction activities associated with a project that will disturb one acre or more of land, or will be part of a larger common plan of development that will disturb one acre or more of land, as defined by DOH.	\$1,000 per calendar day per violation.
Failure to obtain coverage under an NPDES Hydrotesting Permit for hydrotesting activities that will require effluent discharge into State waters or drainage systems.	\$1,000 per calendar day per violation.
Failure to obtain coverage under an NPDES Dewatering Permit for dewatering activities that will require effluent discharge into State waters or drainage systems.	\$1,000 per calendar day per violation.
Failure to comply with the conditions specified in an NPDES Permit, or any other applicable permit.	\$1,000 per calendar day per violation.
Failure to schedule a Pre-construction BMP Inspection and receive acceptance of all associated corrective actions prior to conducting land-disturbing activities.	\$1,000 per calendar day per violation.
Failure to provide corrective actions accepted by AIR-EE or their designated authorized representative by the deadlines identified in the BMP inspection report.	\$1,000 per calendar day per violation.
Failure to have the accepted SSBMP Plan and amendments or the accepted SWPPP and amendments available at a project construction site.	\$1,000 per calendar day per violation.

Non-Compliance	Amount
Failure to properly install or maintain a BMP specified by the SSBMP Plan, SWPPP, contract drawings and documents, or permit.	\$2,000 per calendar day per violation.
Failure to have an accepted amendment to the SSBMP Plan or an accepted amendment to the SWPPP prior to implementing changes to previously accepted BMPs. Note: Advance review and acceptance can be provided to satisfy this non-compliance. However, for projects with an NGPC or NPDES permit, the written amendment shall still be formally submitted for certification and signature by the authorized representative identified in the NGPC or NPDES Permit.	\$2,000 per calendar day per violation.
Failure to conduct required inspections.	\$1,000 for each of the first ten violations, \$2,500 for each of the next ten violations, \$5,000 for each subsequent violation.
Failure to maintain required records such as BMP inspection reports, rain gauge data logs, etc.	\$500 per calendar day for the first ten days of each violation, \$1,000 per calendar day for the next ten days of each violation, \$2,500 per calendar day for each subsequent day of violation.
Any violation resulting in a polluted discharge.	Up to \$25,000 per calendar day per violation.
Note: Liquidated Damages shown in the Table shall be assessed at the discretion of the DOTA.	

Assessment of Liquidated Damages for Non-Compliance:

The Contractor may be assessed liquidated damages by issuance of an Enforcement Letter. The Enforcement Letter shall indicate the amount of liquidated damages that are assessed for the non-compliances which shall be deducted from the Contractor's next progress payment. The Enforcement Letter will be sent electronically via e-mail and a hard copy to the Contractor's designated representative(s), identified in Section 01561.3.01(2)(d), responsible for the Contractor's Construction Site Runoff Control Program. An Enforcement Letter may be issued with or without previous verbal notifications, written warnings, or official enforcement letters (i.e. Warning Letter or Notice of Violation (NOV)).

Liquidated Damages may be assessed for the following:

- Non-compliances listed in the Table, herein, included in Appendix A.
- Non-compliances have not been corrected in the timeframes noted.
- Corrective actions are not completed after a verbal notification, written warning (email or formal letter), or NOV is issued.
- Contractors are non-responsive to DOTA's directives.
- Repeated non-compliance.
- A polluted discharge has occurred.

The number of days used for the liquidated damages calculations shall start on the day that the non-compliance was required to be corrected and shall end on the day that the non-compliance is corrected and accepted. If DOTA's personnel are not able to go out in the field to verify that the BMP deficiencies are corrected in the timeframe specified, the Contractor can send photographs showing the corrected deficiency via e-mail to the DOTA Engineer and AIR-EE along with documentation on how the deficiency was corrected. The DOTA Engineer and AIR-EE may visit the site to verify the corrective actions are acceptable. If the corrective actions are acceptable, then the clock stops on the day that the documentation was received.

The Contractor shall not be entitled for compensation for any liquidated damages or penalty, fine, or citations assessed and deducted from the Contractor's progress payments, even after corrective actions have been taken.

END OF SECTION

SECTION 01562 – MANAGEMENT OF CONTAMINATED MEDIA, SOIL DISPOSAL, AND SOIL REUSE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION

- A. This Section describes procedures for the management of known and/or unknown contaminated media (e.g., soil, sediment, groundwater, soil vapor, and building materials) and disposal and on-site reuse of either contaminated or uncontaminated soil/sediment (referred to herein as “soil”), that may be disturbed or generated during excavation or demolition activities, or other construction activities associated with this project.
- B. All soil shall be treated as potentially contaminated until it is determined otherwise.
- C. The Contractor shall supply all labor, materials, and equipment necessary for the removal, temporary storage, testing, handling, backfilling and management of soil and contaminated media to carry out the work in accordance with these specifications, and all applicable Federal, State, and local regulations and latest amendments.
- D. The Contractor shall follow the State of Hawaii, Department of Transportation, Airports (DOTA) Programmatic Environmental Hazard Evaluation and Environmental Hazard Management Plan (DOTA EHE-EHMP). References to the Site-specific Construction-Environmental Hazard Management Plan (C-EHMP) do not apply unless contamination is identified during construction that warrants additional plans, if directed by DOH.]
- E. Qualified Environmental Professional: The Contractor shall employ a Qualified Environmental Professional (QEP) who possesses a minimum of five (5) years of experience providing environmental oversight for the management of contaminated media during construction activities, who shall assist with sampling, testing, and creating plans including the preparation and/or finalization of the Contractor’s C-EHMP. The QEP shall be identified in the applicable C-EHMP document.
- F. The Contractor and their QEP shall review any available site-specific investigation reports (e.g., Phase II Environmental Site Assessment ESA or construction management plans, etc.) to understand the conditions that may affect work performance.
- G. Should the Contractor deviate from the DOTA EHE-EHMP or Site-Specific EHMP, the Contractor shall be responsible to prepare or modify any existing Hawaii Department of Health (DOH) required C-EHMP. Any planned deviation from construction EHMPs will require written notification to and approval by DOH and the DOTA Engineering Branch, Environmental Section (AIR-EE) prior to implementation. The Contractor shall detail

deviations from standard practices and explain how those deviations will be protective of human health and the environment.

H. The primary contaminant-related hazards addressed by the DOTA EHE-EHMP or a C-EHMP include, but are not limited to, the following Contaminants of Potential Concern (COPCs):

1. Petroleum-related Hydrocarbons, e.g., TPH-g, TPH-d, TPH-o, BTEX, and PAHs
2. Constituents of light distillate fuels and/or Chlorinated Solvents (together considered volatile organic compounds or VOCs)
3. Polychlorinated Biphenyls (PCBs)
4. Pesticides, e.g., Chlordane, Dieldrin
5. Metals, e.g., Arsenic, Barium, Cadmium, Total Chromium, Lead, Mercury, Selenium, and Silver
6. Per- and Polyfluoroalkyl Substances (PFAS)

In addition, free petroleum products (e.g., gasoline, aviation gasoline, diesel fuel, jet fuel, motor oils, lubricating oils) may be encountered in soil or groundwater in areas of previous petroleum releases.

Soil vapor may be present from volatile COPCs present in subsurface soil or groundwater.

Should changes in site conditions or additional site information identify contaminants or risks to human health and/or the environment not addressed by the DOTA EHE-EHMP or C-EHMP, the Contractor shall be responsible to revise, update, and finalize a C-EHMP to be reviewed and approved by AIR-EE and the DOH Hazard Evaluation and Emergency Response (HEER) Office.

The Contractor shall coordinate with AIR-EE, as well as have any C-EHMP approved by the HEER Office, prior to the start or continuation of any related ground disturbing activities.

1.03 REFERENCES

All work shall conform to the latest edition of the following, unless otherwise noted or specified on the drawings or in these specifications. Where conflicts among the requirements or with these specifications exists, the most stringent requirements shall apply.

A. DOTA Construction Site Runoff Control Program

<https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>

1. DOTA EHE-EHMP
 2. DOTA Construction Best Management Practices (BMP) Manual
- B. Department of Health (DOH) Hazard Evaluation & Emergency Response (DOH HEER)
<https://health.hawaii.gov/heer/>
1. Technical Guidance Manual (TGM) for Implementation of the State Contingency Plan (including updates).
 2. Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material.
 3. HEER Office Screening for Environmental Hazards at Sites with Contaminated Soil and Groundwater.
 4. HEER Office Construction EHMP Template.
- C. State of Hawaii Administrative Rules, Title 11, DOH
<https://health.hawaii.gov/opppd/departments-of-health-administrative-rules-title-11/>
1. Chapter 54 Water Quality Standards
 2. Chapter 58.1 Solid Waste Management Control
 3. Chapter 59 Ambient Air Quality Standards
 4. Chapter 11-260.1-279.1 Hazardous Waste Management: General Provisions
 5. Chapter 280.1 Underground Storage Tanks
 6. Chapter 451 State Contingency Plan
- D. The Hawaii Environmental Response Law (Hawaii Revised Statutes HRS Chapter 128D) and the State Contingency Plan (Hawaii Administrative Rules HAR Title 11, Chapters 451-1–451-24).
- E. American Petroleum Institute (API) RP 2219
- F. United States Code of Federal Regulations (CFR), Title 29: Labor
<https://www.ecfr.gov/current/title-29>
- G. CFR, Title 40: Protection of the Environment
<https://www.ecfr.gov/current/title-40>
1. Part 50, “National Primary and Secondary Ambient Air Quality Standards A”.
 2. Part 122, “EPA Administered Permit Program: The National Pollutant Discharge Elimination System”.

3. Part 261, "Identification and Listing of Hazardous Waste".
 4. Part 263, "Standards Applicable to Transporters of Hazardous Waste".
 5. Part 302, "Designation, Reportable Quantities, and Notification".
- H. CFR, Title 49: Transportation
<https://www.ecfr.gov/current/title-49>
1. Part 171, "General Information, Regulations, and Definitions".
 2. Part 172, "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans".
- I. U.S. EPA Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA), Section 107(1), exemption for cleanup of legally applied pesticide products.
<https://www.epa.gov/enforcement/superfund-enforcement-authorities>

1.04 SUBMITTALS

A. The Contractor shall submit the following items as required:

1. Preconstruction Submittals:

Final Contractor C-EHMP reviewed and approved by AIR-EE and the HEER Office as needed per 01 57 13.3.02.A.1

Notification to DOH HEER Office at least 90 calendar days prior to disturbing contaminated soil at "HEER Sites" as needed per 01 57 13.3.03.A.1

Written request to deviate from the DOTA EHE-EHMP or Site-Specific EHMP for review and approval by DOH and AIR-EE as needed per 01 57 13.1.02.G

2. Construction Submittals:

Revised C-EHMP reviewed and approved by AIR-EE and the HEER Office as needed per 01 57 13.1.02.H

Written request to deviate from the DOTA EHE-EHMP or Site-Specific EHMP for review and approval by DOH and AIR-EE as needed per 01 57 13.1.02.G

Release Notification to DOTA and HEER Office as warranted per 01 57 13.3.03.E.1

Spills/Leaks reporting as warranted per 01 57 13.3.03.E.2

UST Removal Report as warranted per 01 57 13.3.03.D.6

3. Post-construction Submittals:

Project Close-out Report submitted within 30 calendar days after work is completed as needed per 01 57 13.3.04.A

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 GENERAL WORK PROCEDURES

- A. Prior to beginning work, the Contractor, the Contractor's QEP, and the Engineer or their representative shall review and discuss all available information pertaining to contamination or potential contamination at the work site.
- B. It should be noted that, in some cases, the contamination (e.g., soil or groundwater contaminated with metals, PCBs, pesticides, PFAS, etc.) may not be identifiable through visual and/or olfactory observation, and contaminant-specific field screening techniques may need to be implemented.
- C. Potential or suspected contaminated media from separate locations or sources shall not be mixed or placed together without the approval of the QEP and AIR-EE.
- D. The removal, transfer, or handling of explosive or flammable media shall be conducted using explosion-proof pumps and equipment. If a vacuum truck is used for removal of liquids or residues, the area of operation for the vacuum truck shall be vapor free. Discharge the vacuum pump exhaust gases through a hose of adequate size and length downwind of the truck and tank area. Vacuum truck operating and safety practices shall conform to API RP 2219. Collect tank residues in drums, tanks, or tank trucks labeled according to 49 CFR 171 and 49 CFR 172 and dispose of as required by regulation.
- E. Contractor shall follow decontamination regulations and procedures as necessary.
- F. Soil excavation, grading, and any disturbance of contaminated soil may cause a potential exposure to Contractor's employees and the public from the release of vapors or fugitive dust. The routes of exposure to dust are by inhalation, ingestion, and dermal contact. The Contractor shall use engineering controls such as a cover, water spraying, tenting, and/or wind barriers along with any necessary worker personal protective equipment (PPE) to control fugitive dust to mitigate the release of and exposure to soil vapors.
- G. The Contractor's QEP shall test excavated soil for the presence of COPCs and oversee excavated soil management in accordance with this Section and relevant guidance and regulations.
- H. Contractor shall report construction activities in areas with contaminated soil or groundwater in accordance with an applicable C-EHMP or the DOTA EHE-EHMP. Contractor shall coordinate with the DOH HEER Office, the Engineer, and AIR-EE.

- I. All Contractor correspondence with DOH and other regulatory agencies shall include the Engineer and AIR-EE.

3.02 PRECONSTRUCTION REQUIREMENTS

- A. Submit the following a minimum of 30 calendar days prior to beginning any ground disturbing activities, for approval by AIR-EE.
 1. The Contractor's revisions to the draft Site-Specific C-EHMP if prepared in the design phase, or creation of a C-EHMP if deviating from the DOTA EHE-EHMP during the course of the project, that includes, but is not limited to:
 - a. Procedures, engineering controls, and methods the Contractor will use during the excavation, soil stockpiling and segregation, temporary storage, testing, handling, treatment, backfilling, and disposal of contaminated media, work area isolation, construction barriers, dust control, decontamination, and emergency management.
 - b. Names of the Contractor's and their subcontractor's qualified personnel who will be supervising or managing contaminated materials at the site. Include the personnel's phone number and qualifications.
 - c. Name(s) of the Contractor's QEP , including their qualifications.
 - d. Proposed schedule of work.
 - e. Location map of temporary contaminated stockpiles and other contaminated media storage, including infrastructure such as pipes and appurtenances, if applicable.
 - f. All documents required as part of the appendices to the DOTA EHE-EHMP (e.g., health and safety plan and completing the management plans in the appendices) or C-EHMP applicable appendices (e.g., health and safety plan, construction material documents, etc.).

3.03 CONSTRUCTION REQUIREMENTS

- A. Soil Excavation and Stockpiling:
 1. Notify the DOH HEER Office at least 90 calendar days prior to disturbing contaminated soil at "HEER Sites" utilizing the HI DOH e-Permitting System - Notification of Construction Activities (HEER Office). Version 1.7 (hawaii.gov) or most recent version available. Obtain AIR-EE's review and concurrence prior to submittal to DOH.
 2. The disturbance of contaminated media shall be performed in accordance with the DOTA EHE-EHMP or the Contractor's approved C-EHMP, where applicable. The HEER Office and AIR-EE shall be immediately notified if contaminated media not previously known or anticipated is encountered. The HEER Office will determine whether additional sampling is required. The

Contractor shall provide a location map with Global Positioning System (GPS) coordinates and approximate depth below ground surface at which contaminated media were encountered to the Engineer and AIR-EE.

3. Soil stockpiles shall be created and managed in accordance with project plans, the approved project-specific C-EHMP (if applicable), and the DOH Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material. If deviating from a DOH-approved C-EHMP, approval from DOTA and DOH is required. Contractor shall secure approval of new or revised stockpile characterization plans from DOTA prior to implementation. Soils placed in watertight containers shall be covered with plastic sheeting or positioned under a roof when not in active use. Soil stockpiles and containers shall be located at least 50 feet (1524 cm) from drainage features, surface waters, and stormwater drainage paths.
4. Any liquid-phase oil or free product associated with the contaminated soil shall be drained prior to stockpiling. If feasible, the free product shall be separated from the soil, properly stored, profiled, and disposed of at an approved recycling or disposal facility.

B. Soil Testing and Disposal:

The Contractor shall test all soil generated during excavation, demolition, or other construction activities. Sampling and testing of stockpiles shall be, at a minimum, in accordance with the latest edition of the DOH's Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material. The Contractor's QEP shall direct the soil sample collection and testing methods in accordance with the most current guidelines. All soil intended for disposal or reuse shall be tested for the presence of applicable COPCs as established by the QEP and as approved by AIR-EE.

Stockpiles shall be tested using multi-increment (MI) sampling methodology in accordance with the TGM. Alternative sampling approaches, and appropriate decision unit (DU) volumes for large volume soil stockpiles, should be discussed with AIR-EE and may be utilized on a case-by-case basis when approved by the HEER Office.

No soil from airport property shall be reused at private-owner off-site properties, even if the soil appears acceptable for unrestricted use based on testing conducted. Exceptions to this policy may only occur with the written approval of the Engineer and AIR-EE. Disposal or reuse of soil at a residential property or where there are sensitive receptors (i.e. schools, recreational areas, etc.) will not be allowed under any circumstance.

For the purposes of this Section "off-site" is defined as any location outside of the established project construction boundary from which excavated soil was generated. There are two off-site soil disposal/reuse categories applicable to this Section: (1) Off-site within the Airport Boundary, and (2) Off-site and outside of the DOTA Airport Property. "On-site" refers to within the construction project boundary from which excavated soil was generated.

1. For off-site soil reuse within the airport boundary:
 - a. The Contractor shall secure approval from the Engineer and AIR-EE for transport to the reuse location(s) prior to moving the soil.
 - b. Soil shall not be categorized as or contain a regulated hazardous waste.
 - c. Soil shall not exceed the DOH Tier 1 Environmental Action Levels (EALs) for unrestricted use.
2. For off-site soil disposal/reuse outside the airport property boundary:
 - a. The Contractor shall confirm and comply with the disposal/receiving facility's testing requirements, as well as their standards for disposal/reuse.
 - b. Soil that is a regulated hazardous waste shall be disposed at an approved United States Environmental Protection Agency (EPA) regulated facility.
 - c. Soil that is above the DOH Tier 1 EALs for commercial/industrial use but not a regulated hazardous waste shall be disposed of at a DOH or EPA permitted disposal facility (i.e., landfill).
 - d. Soil that is below the Hawaii Department of Health (DOH) Tier 1 Environmental Action Levels (EAL) for unrestricted use may be reused at an appropriate location as approved by the Engineer and AIR-EE.
 - e. For any contaminated media removed from Airport property to an approved facility, the Contractor shall be responsible for its legal transport and disposal. Contractor shall provide to the Engineer copies of any soil disposal receipts.
3. For on-site soil reuse:
 - a. The Contractor shall representatively test all soils designated for on-site reuse. Testing can occur either in situ prior to excavation or after excavation. Soil that does not exceed applicable DOH Tier 1 Environmental Action Levels (EAL) for unrestricted use may be reused on-site (within construction site boundaries) with AIR-EE approval.
 - b. Soil with contaminants that exceed DOH Tier 1 EALs may be approved for on-site (within construction site boundaries) reuse with written approval from AIR-EE and when the following conditions are met:
 - i. Contaminated soil is reused within other contaminated areas in the proximity of its original location and for which a long term EHE-EHMP has been established and (if necessary) can be readily modified to accommodate that change in site conditions.

- ii. Contaminated soil is reused no less than 164.04 yards (150 meters) from the nearest surface water or surface water inlet.
 - iii. Contaminated soil is reused at an elevation above the tidally influenced high water table, and at least one foot below the finish surface grade, with the most contaminated soil placed at the bottom of the excavation and cleanest soil toward the ground surface. A minimum of one foot of clean soil shall comprise the final, top backfill layer and, unless waived by DOTA and DOH, an impervious layer shall cap this top layer.
 - iv. Contaminated soil is not reused within or beneath the footprint of a permanent building structure.
 - v. Contaminated soil to be reused cannot contain free oil, oil sheens, oil stains, or total petroleum hydrocarbons (TPH) concentrations exceeding 5,000 milligrams per kilogram (mg/kg).
- C. Groundwater Management: Groundwater may be contaminated by petroleum hydrocarbons, dissolved metals, PFAS, VOCs, and/or pesticides, and may be encountered during soil excavation or dewatering activities.
- 1. If contaminated groundwater is discovered at a previously unknown source or site on the project, the Contractor shall immediately notify the Engineer, AIR-EE, and HEER Office. Provide a location map with GPS coordinates and approximate mean sea level depth of the groundwater at which the contamination was encountered.
 - 2. The disturbance of contaminated groundwater shall be performed in accordance with the DOTA EHE-EHMP, or C-EHMP, where applicable. The HEER Office will determine whether additional sampling is required.
 - 3. If free product is present in the extracted groundwater, it shall be separated from the groundwater, profiled, and disposed of at an DOH-approved recycling/disposal facility. Free product shall not be moved from one excavation to another. Engineering measures shall be taken to prevent the transfer of the free product during dewatering. Water contaminated with free product shall not be discharged from a dewatering pit.
 - 4. Releases of contaminated groundwater to surface water bodies or areas beyond the work area is prohibited.
 - 5. Groundwater shall only be re-infiltrated in the ground with the prior approval of AIR-EE and the HEER Office. Under circumstances where contaminated groundwater cannot be re-infiltrated, proper disposal at a licensed facility shall be conducted. Notification to the appropriate agencies and other pertinent information related to the discharge shall be conducted by copying the Engineer and AIR-EE on all correspondence and copies of correspondence provided upon request.

6. The Contractor is responsible for the legal disposal or discharge of groundwater that is not re-infiltrated and shall provide AIR-EE with copies of waste manifests.
7. For groundwater containerized and removed from Airport property, the Contractor shall have representative samples taken and tested in accordance with DOH guidelines, standards, and regulations. A copy of the groundwater test results shall be submitted to AIR-EE. The groundwater shall not be disposed off-site without the approval of the Engineer and a written approval from the DOH-permitted facility receiving the groundwater indicating that they acknowledge the groundwater test results and providing their approval to dispose the groundwater at their facility. Transport off-site shall occur in DOT-approved containers or mobile tanks. Documentation for the removal of containerized groundwater is required in the Close-Out Report detailed in Section 3.04.
8. With approval from AIR-EE and oversight from the QEP, small volumes of groundwater may be disposed via evaporation from a constructed (lined) pond or basin, with solid residuals properly tested and disposed in accordance with this specification.

D. Underground Storage Tanks (USTs) and Utility Pipes:

1. For any UST or pipeline, whether unexpectedly discovered or a planned removal, the nature of the UST or pipeline and whether they are inactive shall be determined prior to removal. Immediately notify the Engineer, AIR-EE and HEER Office of any unexpected encounter with a UST or buried piping.
2. The Contractor shall record field observations of the UST and pipelines. These observations shall include, but are not limited to, the following:
 - a. Location relative to fixed landmarks, including GPS coordinates. Provide a location map that shows the UST and pipelines that were encountered. The map shall include a North arrow and a scale.
 - b. Depth, diameter, length, and type of piping. Describe the condition of the pipe.
 - c. Volume and type of fuel or product, including analytical laboratory reports for the product recovered.
 - d. Beginning and ending fluid levels, if applicable.
 - e. Flow rates, if applicable.
 - f. Direction of flow.
 - g. Detailed photographs.
 - h. Detailed description of actions taken following the discovery, such as cutting, product removal, and disposal.

3. Provide records of the field observations to the Engineer, AIR-EE, and HEER Office.
4. The removal of all USTs must comply with HAR § 11-280.1, and all correspondence related to identification, removal, and documentation shall be provided to the Engineer and AIR-EE. Only personnel knowledgeable and trained in pipeline and UST removal shall cut, drain, and remove USTs and pipelines. Hazardous conditions, particularly those created by explosive vapors and releases of product to the environment, shall be mitigated prior to removal activities. If any waste pipe or UST components are to be stored on-site prior to disposal, the area shall be lined with polyethylene plastic sheeting, 20 mil (0.508 mm) or thicker, and bermed to contain any free product. Provisions shall be in place to contain viscous products that may liquify after exposure to atmospheric heating. The waste pipe segments shall be drained of any residual product and stored on appropriate dunnage with the ends of the pipe sealed or covered to protect the interior of the pipe from contact with rainwater and wind.
5. All removed pipelines and USTs shall be properly disposed or recycled.
6. The Contractor shall prepare and submit a UST Removal Report, including the results of all sampling activities required under HAR § 11-280.1, to the Engineer, AIR-EE, and the DOH SHWB (UST Program).

E. Reporting requirements:

1. Release Reporting: Encountering previously unknown contaminated soil or groundwater during subsurface construction activities is considered a release and shall be reported to the HEER Office. Copies of the DOH Release Report, DOH-issued Release Number, and email correspondence (if applicable), shall be furnished to the Engineer and AIR-EE. The Contractor shall be responsible for release reporting and AIR-EE shall be included on all correspondence with the HEER office.
2. Report all leaks and spills immediately to AIR-EE, DOTA personnel, and regulatory agencies in accordance with the airport-specific DOTA Spill Reporting Fact Sheet available via the DOTA Construction Site Runoff Control Program Webpage at <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>.

Releases that occur during construction activities or releases due to unforeseen events (spills) shall be reported immediately.

3.04 POST-CONSTRUCTION REQUIREMENTS

- A. Submit a Project Close-out Report within 30 calendar days after work is completed. The Close-out Report shall contain the following applicable contents:
 1. A signed letter certifying that the removal and disposal of all contaminated materials were completed in accordance with the DOTA EHE-EHMP or

Contractor's approved C-EHMP, and all applicable Federal, State, and local rules and regulations.

2. All approved DOTA EHE-EHMP deviation request forms. (Reference DOTA EHE-EHMP.)
3. Any Site-Specific EHMP(s) or Long-term EHMP(s). For locations at an airport for which DOTA has already established a Site-Specific EHMP from previous projects, the DOTA's Site-Specific EHMP shall remain applicable. Contractor shall assist DOTA by providing requested project data and records necessary to draft any required amendments resulting from a change in site conditions due to construction.
4. All testing and laboratory results, including chain of custody, for any soil/sediment, groundwater, soil vapor, or other media sampling and analysis.
5. Any results from air monitoring.
6. Record of Field Observations, including location map with GPS coordinates, limits, and depths of any contaminated media (soil, groundwater, etc.) that were encountered at previously unknown source or sites on the project. Include a copy of the completed Hawaii Hazardous Substance Written Follow-up Notification form that was submitted to DOH and all other associated documents.
7. If contaminated soil was disposed off-site (off Airport Property), include the following:
 - a. A copy of the signed agreement from the receiving facility acknowledging the sample test results and indicating acceptance of the soil.
 - b. Documentation of the quantity of soil received by the facility.
 - c. Copies of the test results of the soil sampling.
 - d. All certifications, disposal forms, waste manifests, and summary logs.
8. If any soil was approved for reuse on-site (within the construction site boundaries) or off-site within Airport Property, at a minimum, include the following:
 - a. Copies of the test results of the soil sampling.
 - b. The quantity of soil that was re-used.
 - c. Location map of the re-used soil. Include GPS coordinates of its emplaced limits.
 - d. A brief description of the purpose of the reused soil (e.g., general fill, utility trench backfill material, etc.). Include the depth and thickness of its placement.

- e. Photos of the site after placement of the re-used soil has been completed.
- 9. Record of Field Observation of any unanticipated UST or pipeline discovered during construction activities, including a copy of the completed DOH Notice of Intent to Close Underground Storage Tanks form, UST Closure Report, and all other associated documents.
- 10. The Close-out Report may be distinct to each contaminated media type/source. For sites with multiple contaminated media types/sources, Close-out Reports for each contaminated media type can be submitted separately or combined into a project-wide compilation of reports.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work specified in this Section will be paid at the unit price measurement noted below.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01562.1	Management of Contaminated Media, Soil Disposal, and Soil Reuse	Lump Sum
01562.2	Additional Management of Contaminated Media, Soil Disposal, and Soil Reuse	Allowance

Payment shall be full compensation for work prescribed in this Section and contract documents and stipulated below.

Lump Sum items will be paid in accordance with the bid price upon approval of completed work under that line item by the Engineer. Should any unforeseen conditions arise, payment shall be made by an allowance, as directed by the Engineer.

For ALLOWANCE items in the Proposal Schedule, the allowance is an estimate and the amount shall not exceed the maximum amount shown in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the DOTA Engineer. The Contractor shall be allowed to include overhead, profit, insurance and/or other mark-ups, as stipulated in Section 9.5 of the 2016 General Provisions for Construction Projects, Air and Water Transportation Facilities Divisions.

Should the DOTA receive reports of any illegal dumping of material, and if illegal dumping is confirmed to have occurred, the DOTA will assess a Liquidated Damages amount of \$5,000 per truck per day, until the illegally dumped material has been cleaned up or the incident has been remedied to the satisfaction of the Engineer with the DOH's concurrence. The Contractor shall not be entitled to recover any Liquidated Damages assessed, even after the non-compliance has been corrected.

The Contractor shall be responsible for reimbursing DOTA for all citations, fines, and penalties levied by DOH, EPA, Department of Labor and Industrial Relations, or

any other regulatory agency against the State due to the Contractor's failure to properly manage contaminated medias, including non-compliance with the DOTA EHE-EHMP, DOTA Site-Specific EHMP, or Site-specific C-EHMP. The Contractor shall reimburse the State within 30 calendar days for the full amount of any outstanding cost that the State has incurred. The State may deduct all incurred costs from the Contractor's monthly progress payments; however, the Contractor shall be responsible for reimbursing the State if the costs of correction exceed remaining payments owed to the Contractor.

If the Contractor fails to satisfactorily address the non-compliance item, DOTA reserves the right to employ outside assistance or use the State's own labor forces to provide necessary corrective measures. The Contractor shall be fully responsible for all cost and time. The State shall charge the Contractor such incurred costs plus any associated project engineering costs and shall make appropriate deductions from the Contractor's monthly progress payment.

END OF SECTION

SECTION 01580 – TEMPORARY FACILITIES AND UTILITIES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION

This item shall consist of arranging and maintaining all utilities including, but not limited to, water, electricity, sewage disposal and telephone communications in the work area which the Contractor and Engineer deems necessary to meet the requirements of the work under the contract.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 TEMPORARY UTILITIES DURING CONSTRUCTION

- A. Water and Sanitation: The Contractor shall provide temporary drinking water and sanitary facilities for the field personnel. The facilities shall be in accordance with the applicable health regulations and shall be maintained clean and operable until the conclusion of the construction work.
- B. Telephone: The Contractor shall have a telephone available for the State's use for communications with field personnel. Cellular telephones are acceptable. The Contractor shall install the telephone immediately upon starting work and maintain service until the project is completed. All costs associated with obtaining and maintaining telephone service shall be borne by the Contractor.
- C. Electricity: Contractor shall obtain or provide temporary electric power and shall pay for all connections and energy charges incurred during construction.
- D. Metering: Water and electrical services shall be metered and payment for meters and services shall be borne by the Contractor. Temporary connections for water shall include installation of a meter and backflow preventer at the point of connection according to State standards at the Contractor's cost. The Contractor shall submit requests for temporary connections in writing to the Engineer 14 calendar days prior to the connection and shall include a description of work and a sketch of the proposed installation.

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 01715 – EXISTING CONDITIONS - HAZARDOUS MATERIALS SURVEY

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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. This Section includes the results for hazardous materials and is provided for the Contractor's information.
- B. Related Work Specified Elsewhere:
 - 1. SECTION 13282 – LEAD PAINT CONTROL MEASURES; for requirements of all work that disturbs Lead-Based Paint and/or Lead-Containing Paint.
 - 2. SECTION 13288 – TESTING AND AIR MONITORING; for requirements of all testing and air monitoring requirements.

1.03 ASBESTOS-CONTAINING MATERIAL

- A. The structures to be renovated under this contract have been surveyed for the presence of asbestos-containing materials (ACM). A copy of the survey report is attached to this Section. If there is ACM outside of the areas in which work will be performed, this ACM shall not be disturbed in any way.
 - 1. The report is included, even when no ACM was found, for the Contractor's information. Review the attached reports for the basis on which the negative ACM finding was made. Contractor may perform further surveys at its own expense if ACM not shown in the reports is suspected in the areas in which work will be performed. If ACM is found, notify the Authorized Representative of the General Contractor immediately.
- B. If applicable, the Contractor shall notify his employees, subcontractors and all other persons engaged in the renovation work of the presence of asbestos in accordance with the requirements of Chapter 110, Article 12-110-2 (f) (1) (B) of the Occupational Safety and Health Standards, State of Hawaii.
- C. In the event that work is required in any area on the site other than those designated in the project scope, the Contractor shall request copies of the asbestos survey reports for each such area from the Authorized Representative of the General Contractor. Based on the information contained in the additional survey(s), notify all persons on the project as indicated in paragraph 1.03 B above.

1.04 LEAD-BASED PAINT AND LEAD-CONTAINING PAINT

- A. The Contractor shall notify his employees, subcontractors and all other persons engaged in the project that lead-containing paint (LCP) is present in the existing building and at the job site. Conduct work in accordance with the requirements of Title 12 (Department of Labor and Industrial Relations), Subtitle 8 (Division of Occupational Safety and Health), Chapter 148.1 (Lead Exposure in Construction), Hawaii Administrative Rules.
- B. The Contractor shall understand that while no lead-based paint (LBP) was detected, LCP was detected in one painted substrate, and any untested painted substrates encountered are assumed to be LBP and LCP until adequate testing shows otherwise. The Contractor shall also understand that the assumptions are for design purposes only and do not satisfy the requirements of HIOSH Chapter 12-148.1.
- C. The Contractor may perform lead content testing of existing painted surfaces at the Contractor's expense.
- D. Review the project's scope of work and ensure that all workers that need to be involved understand that all untested paint within the project site is assumed to be LBP and LCP. Contractor must understand that the assumption that lead paint is present on all untested painted surfaces within the project site are for design purposes only, and may not satisfy any of the requirements of the State of Hawaii: Occupational Safety and Health Administration Standard OSHA 29 CFR 1926.62, "Lead".

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 SURVEYS (ATTACHED)

- A. Hazardous Materials Survey Report, *Hazardous Materials Survey Report in Support of the State of Hawaii Department of Transportation-Airports Division Project No.: CO2541-33: HDH Unicom Tower Demolition and Replacement*, dated January 2026, 28 pages, prepared by Kaimana Environmental Solutions LLC.

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

**Hazardous Materials Survey Report in Support of the State of
Hawaii Department of Transportation-Airports Division
Project No.: CO2541-33: HDH Unicom Tower Demolition and
Replacement**

*Kawaihapai Dillingham Airfield
69-415 Farrington Highway
Waialua, HI 96791*

Prepared for:

**Oceanit Laboratories
828 Fort Street Mall, Suite 600
Honolulu, HI 96813**

Prepared by:



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January 2026

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List of Acronyms

%	percent
ACM	asbestos-containing materials
DOH	State of Hawaii Department of Health
EPA	United States Environmental Protection Agency
HIOSH	Hawaii Occupational Safety and Health
KES	Kaimana Environmental Solutions LLC
LBP	lead-based paint
LCP	lead-containing paint
NESHAP	National Emission Standard for Hazardous Pollutants
NIST	National Institute of Standards and Technologies
NVLAP	National Voluntary Laboratory Accreditation Program
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mg/cm ²	milligram per square centimeter
OSHA	United States Occupational Safety and Health Administration
US	United States

Introduction/Background

Kaimana Environmental Solutions LLC (KES) was retained by Oceanit Laboratories to collect samples of suspect hazardous materials from suspect building components at the Unicom Air Traffic Control Tower located at the Kawaihapai Dillingham Airfield in Waialua, Oahu, Hawaii (Figure 1).

Hazardous materials sampling was completed in support of planned repairs for the State of Hawaii Department of Transportation, Airports Division CO2541-33: HDH Unicom Tower Demolition and Replacement, Kawaihapai Dillingham Airfield, 69-415 Farrington Highway Waialua, HI 96791.

Suspect building components planned for disturbance were tested for the presence of asbestos fibers and total lead in paint. The following sections outline the investigation methodology, results and recommendations based on the data collected.

Asbestos Survey

Regulatory Framework

The United States Environmental Protection Agency (EPA), under its National Emission Standard for Hazardous Pollutants (NESHAP) regulations (40 Code of Federal Regulations [CFR] 61 Subpart M), defines asbestos-containing materials (ACM) as those which contain greater than 1 percent (%) asbestos. NESHAP also categorizes ACM as either being a friable material, a Category I non-friable material, or a Category II non-friable material. Friable materials are defined as those that can be reduced to powder by hand pressure. Category I non-friable materials can include asphalt roofing materials, resilient floor covering excluding linoleum (e.g., floor tiles), packings, and gaskets. Category II nonfriable materials are cementitious materials, such as stucco and asbestos cement board.

NESHAP has also established requirements and recommendations for controlling emissions of asbestos fibers during the demolition of buildings containing asbestos. When a building containing asbestos is to be demolished, NESHAP requires that the friable ACM and some types of nonfriable ACM be removed before demolition of the structure. Non-friable ACM must be assessed on a case-by-case basis to determine whether the materials will become friable during the demolition activities. In addition, the State of Hawai'i Department of Health (DOH) institutes minimum requirements pertaining to the processing, handling, and disposal of ACM. These requirements also minimize the release of asbestos fibers from facilities being demolished or renovated (Hawaii Administrative Rules [HAR] 11-501).

FIGURE 1: PROJECT LOCATION MAP



Asbestos Sample Collection Methodology

KES provided a state certified asbestos Inspector (State of Hawaii Certification Number HIASB-3280) to conduct a survey of the suspect ACM building components at the project site planned for disturbance in accordance with DOH and EPA rules. The asbestos survey was conducted on 1/16/2026.

Sample collection followed the EPA publication, *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*. The sampling locations were selected to characterize suspected ACM scheduled to be disturbed during planned repair activities at the Site. A representative building component section was carefully cut and placed in a labeled, resealable plastic bag for each sample. The condition of the suspect ACM was noted. The samples were logged and recorded following strict chain-of-custody procedures and submitted to Hawaii Analytical Laboratory (Hawaii Analytical) for analysis by polarized-light microscopy using the method outlined in 40 CFR 763, Attachment A to subpart F, Interim Method for the Determination of Asbestos in Bulk Insulation Samples. Hawaii Analytical is accredited for bulk asbestos analysis through successful participation in the United States Department of Commerce, National Institute of Standards and Technologies (NIST), National Voluntary Laboratory Accreditation Program (NVLAP).

Asbestos Survey Results

None of the suspect ACM samples collected at the project site contained asbestos fibers at, or above the regulatory level of 1% asbestos. Therefore, no special handling or disposal provisions are required for disturbance of the tested materials. Attachment 1 includes photos of the sampled building components. Attachment 2 includes a summary table that details the components sampled and the asbestos laboratory analytical results, and Attachment 3 includes the laboratory analytical results reports.

Asbestos Conclusions and Recommendations

Based on the survey conducted, asbestos fibers were not detected in any of the samples collected at the project site. Therefore, no special handling, worker protections or disposal provisions are required for disturbance of the tested materials.

Lead Paint Survey

Regulatory Framework

The EPA and the Department of Housing and Urban Development (HUD) define LBP as paint or other surface coatings containing lead levels equal to or greater than 1.0 milligram per square centimeter (mg/cm²) or 0.5% by weight (other equivalent units are: 5,000 micrograms per gram [µg/g], 5,000 milligrams per kilogram [mg/kg], 5,000 parts per million [ppm] by weight). Lead-containing paint (LCP) is paint containing lead at any level less than (<) 5,000 mg/kg. The EPA RCRA regulations set the limit of leachable lead in lead-containing waste at 5.0 milligrams per liter (mg/L). This level is established by an analytical method called Toxicity Characteristic Leaching Procedure (TCLP). Waste that contains leachable lead at concentrations ≥5.0 mg/L is defined as hazardous waste and must be transported to a hazardous waste treatment, storage, or disposal (TSD) facility. Lead-containing waste or potential waste shown to have a total lead content ≥100 mg/kg may exceed the RCRA TCLP standard for leachable lead, and must be analyzed by TCLP prior to disposal. Thus, while the EPA does not regard work performed on paint containing <5,000 mg/kg to be a LBP activity, the waste from such activities may still be regarded as hazardous under RCRA.

Lead Paint Sample Collection Methodology

KES provided a State certified Lead-Based Paint Inspector (State of Hawaii Certification Number PB-0480) to collect paint chip samples from painted surfaces at the Site planned for disturbance in accordance with EPA guidelines and recommendations on 1/16/2026. A paint scraper was used to collect paint chip samples from the painted surfaces planned for disturbance during construction. Each sample was placed in a clean resealable plastic bag, labelled, catalogued and delivered to Hawaii Analytical for analysis of total lead under EPA Method 7082m.

Lead Paint Survey Results

No lead-based paint was detected in any of the samples, and lead-containing paint was detected in one of the samples collected from a painted surface at the project site.

Lead Paint Conclusions and Recommendations

Based on the laboratory results, air monitoring for lead by a qualified consultant is required for disturbance to the affected substrate, unless adequate air monitoring data shows that disturbance of the affected substrate does not result in levels of lead in dust at or above the OSHA Action Level. Personal Protective Equipment to include half-face respirators with P-100 filters must be used by all workers in the area while cutting the affected substrate, unless air monitoring data shows that an OSHA Negative Declaration for lead can be achieved. All workers must also have adequate training, be fit tested and undergo the required medical monitoring in order to use respirators.

Significant Assumptions

There is a possibility that even with the proper application of proper methodologies that there may be conditions that exist at the project site that could not be identified within the scope of the assessment or which were not reasonably identifiable from the available information. KES believes that the information obtained from the investigation concerning the project site is reliable. However, KES cannot and does not warrant or guarantee that the information provided by these sources is accurate or complete. The methodologies of this assessment are not intended to produce all-inclusive or comprehensive results, but rather to provide the Client with reliable information relating to project site conditions within the context of the scope of work included in this investigation.

References

Hawaii Revised Statutes, Chapter 342P: Asbestos and Lead

Hawaii Administrative Rules 11-501: Asbestos Rules

Hawaii Administrative Rules 11-261: Hazardous Waste Management Identification and Listing of Hazardous Waste

Attachment 1: Photo Log

Photo Log



Dillingham Airfield Control Tower Planned for Demolition



No lead paint detected in support Beam, siding or deck



Lead-containing paint detected on exterior 2X6 Vertical Decorative Supports



No asbestos detected in brown floor tile

Photo Log



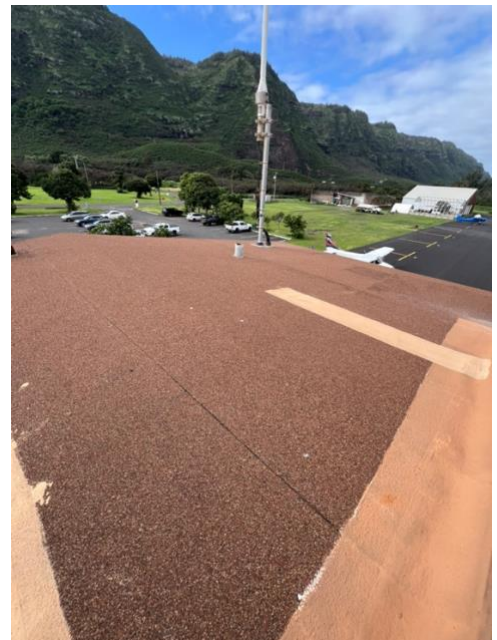
No asbestos detected in beige floor tile



No asbestos detected in ceiling tile



No asbestos detected in covebase or sheetrock/joint compound



No asbestos detected in roofing material

Attachment 2: Laboratory Analytical Results Summary Table

Asbestos Results Summary Table

Sample ID	Material	Color	Condition	Location	Asbestos Content	Estimated Material Amount
DA-1	12X12 vinyl floor tile & Brown Mastic	Brown	Poor	Interior Control Room Flooring	ND	100 sqft
DA-2	12X12 vinyl floor tile & Brown Mastic	Brown	Poor	Interior Control Room Flooring	ND	
DA-3	12X12 vinyl floor tile & Brown Mastic	Brown	Poor	Interior Control Room Closet Flooring	ND	
DA-4	12X12 vinyl floor tile & Brown Mastic	Beige	Poor	Interior Control Room Closet Flooring	ND	12 sqft
DA-5	12X12 vinyl floor tile & Brown Mastic	Beige	Poor	Interior Control Room Closet Flooring	ND	
DA-6	12X12 vinyl floor tile & Brown Mastic	Beige	Poor	Interior Control Room Flooring	ND	
DA-7	Sheetrock Walls & Ceiling	White	Fair to Poor	Interior Control Room Walls & Ceiling	ND	200 sqft
DA-8	Sheetrock Walls & Ceiling	White	Fair to Poor	Interior Control Room Walls & Ceiling	ND	

Sample ID	Material	Color	Condition	Location	Asbestos Content	Estimated Material Amount
DA-9	Sheetrock Walls & Ceiling	White	Fair to Poor	Interior Control Room Walls & Ceiling	ND	
DA-10	Covebase & Brown Mastic	Brown	Fair	Interior Control Room	ND	50 LF
DA-11	Covebase & Brown Mastic	Brown	Fair	Interior Control Room	ND	
DA-12	Covebase & Brown Mastic	Brown	Fair	Interior Control Room	ND	
DA-13	Wall Insulation	Yellow	Poor	Interior Control Room	ND	200 sqft
DA-14	Wall Insulation	Yellow	Poor	Interior Control Room	ND	
DA-15	Wall Insulation	Yellow	Poor	Interior Control Room	ND	
DA-16	Acoustic Ceiling tile	White	Poor to Fair	Interior Control Room	ND	100 sqft
DA-17	Acoustic Ceiling tile	White	Poor to Fair	Interior Control Room	ND	

Sample ID	Material	Color	Condition	Location	Asbestos Content	Estimated Material Amount
DA-18	Acoustic Ceiling tile	White	Poor to Fair	Interior Control Room	ND	
DA-19	Asphalt Roofing	Tan	Good	Control Tower Roof	ND	220 sqft
DA-20	Asphalt Roofing	Tan	Good	Control Tower Roof	ND	
DA-21	Asphalt Roofing	Tan	Good	Control Tower Roof	ND	
DA-22	Concrete Foundation	Beige	Fair to Poor	Control Tower Building Foundation	ND	110 sqft
DA-23	Concrete Foundation	Beige	Fair to Poor	Control Tower Building Foundation	ND	
DA-24	Concrete Foundation	Beige	Fair to Poor	Control Tower Building Foundation	ND	

sqft = square feet

LF = linear feet

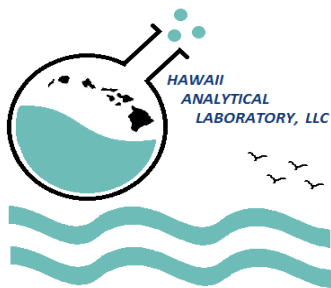
Lead Paint Chip Results Summary Table

<i>Sample ID</i>	<i>Substrate</i>	<i>Location</i>	<i>Color</i>	<i>Condition</i>	<i>Lead Content (mg/kg)</i>	<i>Estimated Material Amount (Square Feet)</i>
<i>DL-1</i>	<i>Wood</i>	<i>Exterior Siding</i>	<i>Beige</i>	<i>Fair to Poor</i>	<i>ND</i>	<i>1,600</i>
<i>DL-2</i>	<i>Wood</i>	<i>Exterior Structural Beams</i>	<i>Brown</i>	<i>Fair</i>	<i>ND</i>	<i>180</i>
<i>DL-3</i>	<i>Wood</i>	<i>Exterior 2X6 Vertical Decorative Supports</i>	<i>Brown</i>	<i>Fair</i>	<i>130</i>	<i>80</i>
<i>DL-4</i>	<i>Sheetrock</i>	<i>Interior Walls and Ceiling Paint</i>	<i>White</i>	<i>Fair to Poor</i>	<i>ND</i>	<i>200</i>
<i>DL-5</i>	<i>Wood</i>	<i>Exterior Deck</i>	<i>Beige</i>	<i>Fair to Poor</i>	<i>ND</i>	<i>120</i>

ND = Lead Not Detected At or Above the Laboratory Detection Limit

Bold = lead-containing paint detected

Attachment 3: Laboratory Analytical Data Reports



Hawaii Analytical Laboratory ANALYTICAL REPORT

Friday, January 23, 2026

Mr. Max Solmssen
Kaimana Environmental Solutions
PO Box 11890
Honolulu HI 96828

Phone Number: (808)341-3546
Email: max@kaimanaenv.com

Lab Job No: 202600443
Total Analyzed: 5
Date Collected: 1/16/2026
Date Submitted: 1/16/2026
Project Name: Dillingham AF

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Lab Sple No.	Sample ID / Description	Results	Units	Date Analyzed
202604133	DL-1	< 40	mg/kg	1/20/2026
202604134	DL-2	< 40	mg/kg	1/20/2026
202604135	DL-3	130	mg/kg	1/20/2026
202604136	DL-4	< 40	mg/kg	1/20/2026
202604137	DL-5	< 40	mg/kg	1/20/2026

All Quality Control data are acceptable unless otherwise noted.

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2017. AIHA LAP, LLC is a NLLAP recognized accrediting body. Controlled doc.: Analytical Report, rev. 6 - 20250123

3615 Harding Avenue, Ste. 308, Honolulu, HI 96816 - Telephone: (808) 735-0422 - Fax: (808) 735-0047

Page 1 of 2

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Kaimana Environmental Solutions
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Honolulu HI 96828

Phone Number: (808)341-3546
Email: max@kaimanaenv.com

Lab Job No: 202600443
Total Analyzed: 5
Date Collected: 1/16/2026
Date Submitted: 1/16/2026
Project Name: Dillingham AF

General Comments

The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document proficiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data (e.g. air volume or surface area) is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable. Measurement of uncertainty for lead in paint, dust, airborne particulates, and soil taken from and around buildings and related structures is available upon request. MRL for lead air is 5ug; MRL for lead wipe is 5ug; MRL for lead paint or soil is 40 mg/kg for a 0.25g

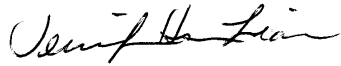
Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

< This testing result is less than the numerical value listed.

= Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.

MRL = Method Reporting Limit

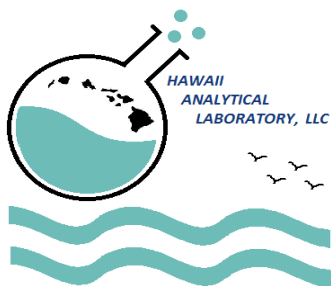


Jennifer Hsu Liao
Laboratory Manager

Hawaii Analytical Laboratory (101812) is accredited by the AIHA LAP, LLC in the EMLAP, IHLAP, and ELLAP programs for the scope of work listed on www.aihaaccreditedlabs.org, in accordance with the recognized ISO/ IEC 17025:2017. AIHA LAP, LLC is a NLLAP recognized accrediting body. Controlled doc.: Analytical Report, rev. 6 - 20250123

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Hawaii Analytical Laboratory ANALYTICAL REPORT

Monday, January 26, 2026

Mr. Max Solmssen
Kaimana Environmental Solutions
PO Box 11890
Honolulu HI 96828

Phone Number: (808)341-3546
Facsimile:
Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

Bulk Asbestos Determination

Lab Sple No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202604109	DA-1		NONE DETECTED		None detected	Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202604109	DA-1		NONE DETECTED		None detected	Vinyl	1/23/2026
	<u>Layer</u> <u>Brownish vinyl floor tile</u>						
	Comments						
202604110	DA-2		NONE DETECTED		None detected	Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202604110	DA-2		NONE DETECTED		None detected	Vinyl	1/23/2026
	<u>Layer</u> <u>Brownish vinyl floor tile</u>						
	Comments						
202604111	DA-3		NONE DETECTED		None detected	Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>						
	Comments						
202604111	DA-3		NONE DETECTED		None detected	Vinyl	1/23/2026
	<u>Layer</u> <u>Brownish vinyl floor tile</u>						
	Comments						

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 6 - 20251119

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Phone Number: (808)341-3546
Facsimile:
Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

Bulk Asbestos Determination

Lab Sple No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202604112	DA-4		NONE DETECTED		None detected		Vinyl	1/23/2026
	<u>Layer</u> <u>Beige vinyl floor tile</u>							
	Comments							
202604112	DA-4		NONE DETECTED		None detected		Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>							
	Comments							
202604113	DA-5		NONE DETECTED		None detected		Vinyl	1/23/2026
	<u>Layer</u> <u>Beige vinyl floor tile</u>							
	Comments							
202604113	DA-5		NONE DETECTED		Wood fiber (undulose)	5	Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>							
	Comments							
202604114	DA-6		NONE DETECTED		None detected		Vinyl	1/23/2026
	<u>Layer</u> <u>Beige vinyl floor tile</u>							
	Comments							
202604114	DA-6		NONE DETECTED		Cellulose / wood fiber (undulose)	5	Binder	1/23/2026
	<u>Layer</u> <u>Brown mastic</u>							
	Comments							
202604115	DA-7		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15	Gypsum + paint	1/23/2026
	<u>Layer</u> <u>White drywall / paint</u>							
	Comments							
202604116	DA-8		NONE DETECTED		None detected		Calcite + binder + paint	1/23/2026
	<u>Layer</u> <u>White joint compound / paint</u>							
	Comments							

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Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

Bulk Asbestos Determination

Lab Sple No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202604117	DA-9		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	15 Gypsum	1/23/2026
<u>Layer</u>	<u>White drywall</u>						
Comments							
202604117	DA-9		NONE DETECTED		None detected	Calcite + binder + paint	1/23/2026
<u>Layer</u>	<u>White joint compound / paint</u>						
Comments							
202604118	DA-10		NONE DETECTED		None detected	Vinyl + paint	1/23/2026
<u>Layer</u>	<u>Brown covebase / black paint</u>						
Comments							
202604118	DA-10		NONE DETECTED		None detected	Binder	1/23/2026
<u>Layer</u>	<u>Brown mastic</u>						
Comments							
202604119	DA-11		NONE DETECTED		None detected	Vinyl + paint	1/23/2026
<u>Layer</u>	<u>Brown covebase / black paint</u>						
Comments							
202604119	DA-11		NONE DETECTED		None detected	Binder	1/23/2026
<u>Layer</u>	<u>Brown mastic</u>						
Comments							
202604120	DA-12		NONE DETECTED		None detected	Vinyl + paint	1/23/2026
<u>Layer</u>	<u>Brown covebase / black paint</u>						
Comments							
202604120	DA-12		NONE DETECTED		None detected	Binder	1/23/2026
<u>Layer</u>	<u>Brown mastic</u>						
Comments							

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Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

Bulk Asbestos Determination

Lab Sple No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202604121	DA-13		NONE DETECTED		Fibrous glass (amorphous)	95	Other	1/23/2026
	<u>Layer</u> <u>Yellow insulation</u>							
	Comments							
202604122	DA-14		NONE DETECTED		Fibrous glass (amorphous)	95	Other	1/23/2026
	<u>Layer</u> <u>Yellow insulation</u>							
	Comments							
202604123	DA-15		NONE DETECTED		Fibrous glass (amorphous)	95	Other	1/23/2026
	<u>Layer</u> <u>Yellow insulation</u>							
	Comments							
202604124	DA-16		NONE DETECTED		Fibrous glass (amorphous) + cellulose (undulose)	65	Perlite + other	1/23/2026
	<u>Layer</u> <u>White acoustic ceiling tile</u>							
	Comments							
202604125	DA-17		NONE DETECTED		Fibrous glass (amorphous) + cellulose (undulose)	65	Perlite + other	1/23/2026
	<u>Layer</u> <u>White acoustic ceiling tile</u>							
	Comments							
202604126	DA-18		NONE DETECTED		Fibrous glass (amorphous) + cellulose (undulose)	65	Perlite + other	1/23/2026
	<u>Layer</u> <u>White acoustic ceiling tile</u>							
	Comments							
202604127	DA-19		NONE DETECTED		Synthetic fiber (undulose)	15	Tar + aggregate	1/23/2026
	<u>Layer</u> <u>Black roofing</u>							
	Comments							
202604127	DA-19		NONE DETECTED		None detected		Binder	1/23/2026
	<u>Layer</u> <u>Tan coat</u>							
	Comments							

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Phone Number: (808)341-3546
Facsimile:
Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

Bulk Asbestos Determination

Lab Sple No.	Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v Matrix	Date Analyzed
202604128	DA-20		NONE DETECTED		Synthetic fiber (undulose)	15 Tar + aggregate	1/23/2026
	<u>Layer</u> <u>Black roofing</u>						
	Comments						
202604128	DA-20		NONE DETECTED		None detected	Binder	1/23/2026
	<u>Layer</u> <u>Tan coat</u>						
	Comments						
202604129	DA-21		NONE DETECTED		Synthetic fiber (undulose)	15 Tar + aggregate	1/23/2026
	<u>Layer</u> <u>Black roofing</u>						
	Comments						
202604129	DA-21		NONE DETECTED		Fibrous glass (amorphous)	10 Tar	1/23/2026
	<u>Layer</u> <u>Black tar material</u>						
	Comments						
202604130	DA-22		NONE DETECTED		None detected	Cementitious + paint	1/23/2026
	<u>Layer</u> <u>Gray concrete / beige paint</u>						
	Comments						
202604131	DA-23		NONE DETECTED		None detected	Cementitious + paint	1/23/2026
	<u>Layer</u> <u>Gray concrete / beige paint</u>						
	Comments						
202604132	DA-24		NONE DETECTED		None detected	Cementitious + paint	1/23/2026
	<u>Layer</u> <u>Gray concrete / beige paint</u>						
	Comments						

Hawaii Analytical Laboratory is a NIST NVLAP accredited laboratory (NVLAP Lab Code 200655-0) and is accredited in accordance with the recognized ISO/ IEC 17025:2017. Controlled doc.: Asbestos Report, rev. 6 - 20251119

Mr. Max Solmssen
Kaimana Environmental Solutions
PO Box 11890
Honolulu HI 96828

Phone Number: (808)341-3546
Facsimile:
Email: max@kaimanaenv.com

Lab Job No: 202600443
Date Submitted: 1/16/2026
Your Project: Dillingham AF, 1/16/26

General Comments

The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Gravimetric treatment, which HAL does not offer, may also be appropriate for certain NOB (non-friable organically bound) materials. Unless specifically requested by clients, NOB samples can be subcontracted to a NVLAP accredited lab, or else, they will be analyzed by HAL using regular PLM technique. In addition, alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. Non-building material like tape, soil or dust samples are not covered by NVLAP, results are only qualitative (positive/negative). We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (<1 to 10%), 65% relative (11 to 19%), 50% relative (20 to 34%); 40% relative (35 to 50%), 35% relative (51 to 60%) and 25% relative (>60% v/v). We will not separate layers which in our opinion are not readily discernable.

This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions

> This testing result is greater than the numerical value listed.

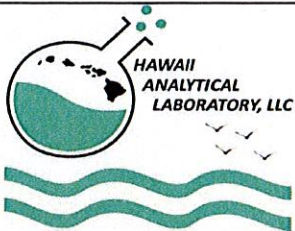
< This testing result is less than the numerical value listed.

None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.



Eva Skogsberg
Laboratory Manager

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3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : Max S.
Company : Kaunana Environmental Solutions
Address* : _____
City, State, Zipcode : _____
Phone / Cell No.* : _____
Report results to : Max S.
Email / Fax : Max@Kaunanaenv.com

Invoice To* : Stefan Mrozewski
Company : Oceanit
Address* : _____
Phone / Cell No.* : _____
Purchase Order No. : _____
Email Invoice To : Smrozewski@oceanit.com

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Client Project No.:

Site/Project Name:

Dillingham AF

Sampled By & Certif. # :

Special Instructions:

PLM POSITIVE STOP?

☐ + stop / SAMPLE

☐ + stop / LAYER

Verbal results?

☐

Lab Report No.:

202600443

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1	DA-1	1/14/26	bulk	N/A	Asbestos		202604109
2	DA-2						202604110
3	DA-3						202604111
4	DA-4						202604112
5	DA-5						202604113
6	DA-6						202604114
7	DA-7						202604115
8	DA-8						202604116
9	DA-9						202604117
10	DA-10						202604118
11	DA-11						202604119
12	DA-12						202604120

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Max Solmsen Max K SL

1/16/26 1:50pm

Savannah Newman
Savannah Newman

01-16-26 P01:49 RCVD

*Sample description can be paint chips, concrete, specific sample collection location, etc...

If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.

All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.

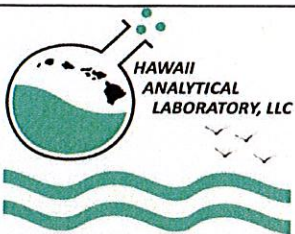
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

Lab Notes:

☐ via HAC ☐ via USPS ☐ via drop box ☐ via FedEx ☐ via pick up

awb#: 173-

Page: 1 of 3



3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
<https://analyzehawaii.com>

☐ New Client?

Report To* : _____
Company : _____
Address* : _____
City, State, Zipcode : _____
Phone / Cell No.* : _____
Report results to : _____
Email / Fax : _____

Invoice To* : _____
Company : _____
Address* : _____
Phone / Cell No.* : _____
Purchase Order No. : _____
Email Invoice To : _____

Need Results By*:

- ☐ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Client Project No.:

Site/Project Name:

Sampled By & Certif. # :

Special Instructions:

PLM POSITIVE STOP?

- ☐ + stop / SAMPLE
☐ + stop / LAYER

Verbal results?

☐

Lab Report No.:

202600443

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1	DA-13	1/16/26	bulk	N/A	Asbestos		202604121
2	DA-14						202604122
3	DA-15						202604123
4	DA-16						202604124
5	DA-17						202604125
6	DA-18						202604126
7	DA-19						202604127
8	DA-20						202604128
9	DA-21						202604129
10	DA-22						202604130
11	DA-23						202604131
12	DA-24						202604132

Relinquished By (Print and Sign)

Date/Time

Received By (Print and Sign)

Date/Time

Savannah Newman
Savannah Newman

01-16-26P01:50 RCVD

*Sample description can be paint chips, concrete, specific sample collection location, etc...
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
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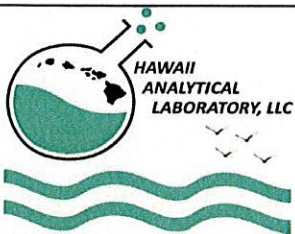
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

Lab Notes:

☐ via HAC ☐ via USPS ☐ via drop box ☐ via FedEx ☐ via pick up

awb#: 173-

Page: 2 of 3



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☐ New Client?

Report To* : _____
Company : _____
Address* : _____
City, State, Zipcode : _____
Phone / Cell No.* : _____
Report results to : _____
Email / Fax : _____

Invoice To* : _____
Company : _____
Address* : _____
Phone / Cell No.* : _____
Purchase Order No. : _____
Email Invoice To : _____

Need Results By*:

- ☒ 5 Working Days (WD)
☐ 4 WD
☐ 3 WD
☐ 2 WD
☐ 24 hours
☐ 6 hours or less
☐ 4 hours or less
☐ 1-2 hours

Client Project No.:

Site/Project Name:

Sampled By & Certif. # :

Special Instructions:

PLM POSITIVE STOP?

☐ + stop / SAMPLE

☐ + stop / LAYER

Verbal results?

☐

Lab Report No.:

202600443

Sample ID	Sample Description*	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1	DL-1	1/16/26	Paint Chip	N/A	Total Lead		202604133
2	DL-2	↓	↓	↓	↓		202604134
3	DL-3	↓	↓	↓	↓		202604135
4	DL-4	↓	↓	↓	↓		202604136
5	DL-5	↓	↓	↓	↓		202604137
6							
7							
8							
9							
10							
11							
12							
Relinquished By (Print and Sign)		Date/Time		Received By (Print and Sign)		Date/Time	
				Savannah Newman <i>Savannah Newman</i>		01-16-26P01:50 RCVD	

*Sample description can be paint chips, concrete, specific sample collection location, etc...
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
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Lab Notes:

☐ via HAC ☐ via USPS ☐ via drop box ☐ via FedEx ☐ via pick up

awb#: 173-

Page: 3 of 3

SECTION 01800 – SPECIAL REQUIREMENTS FOR CONTRACTORS ON THE AOA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION OF WORK

- A. Provide all materials, labor, equipment, and tools necessary to complete the Special Requirements for Contractors on the Air Operations Area (AOA).
- B. The requirements of the Section are essential for ensuring public and worker safety on this project; hence, the Contractor shall comply with all requirements of this section when performing work on the AOA. Should the Contractor fail to comply with any requirement of this section; work may be delayed or temporarily suspended without contract time extensions. Liquidated damages or fines may result. All liquidated damages or fines resulting from violations due to improper activity, inattention, or failure to comply with required airport procedures; shall be borne by the Contractor.

1.03 PROJECT LIMITATIONS

The project normal working hours shall refer to SECTION 01010 – DESCRIPTION OF WORK. The Contractor shall work continuously during the project duration. No work shall be performed during State Holidays or when weather conditions restrict construction from occurring.

1.04 AOA SECURITY REQUIREMENTS

- A. AOA Access Points: The Contractor will be assigned only one access point for each work phase, and shall ensure that all of their personnel, vehicles, and equipment enter and exit the AOA only through the assigned access point.

All vehicles entering the AOA through any of the Airport Access Check Points may be subject to search. The Contractor shall allow extra time for these inspections and be able to provide personnel, as required, to assist Airport security personnel during the inspection.

If the State deems an emergency situation has rendered the assigned access point unusable the Contractor will be assigned a temporary access point for the remaining workday. Should the original assigned access point remain unusable for a prolonged period, the Contractor will be assigned a new access point the following day and shall be responsible for all requirements at the new assigned access point.

- B. The Contractor shall comply with all existing and proposed airport security initiative requirements. Contractor may be subject to civil penalties up to \$35,000.00 for each security violation.

- C. The Contractor shall protect work areas from theft, vandalism and unauthorized entry. Ensure that proper methods are undertaken to secure tools, materials and equipment from the public.

1.05 AOA OPERATIONAL SAFETY REQUIREMENTS

- A. It is the explicit intent of this contract that the safety of aircraft, and all of the personnel and equipment under the Contractor's jurisdiction, be the highest priority; hence, the Contractor shall carefully plan the operations of all personnel and equipment under their jurisdiction to provide for the free and unobstructed movement of all aircraft on the AOA, and to provide for the uninterrupted operation of visual and electronic signals used to guide aircraft while all personnel and equipment under their jurisdiction traverses the AOA.
- B. The Contractor is responsible for all of their movements on the AOA. Should the State deem that an escort, flagman, or driver fails to perform their duties, that escort, flagman, or driver may be terminated, or suspended and required to undergo additional training.

1.06 AOA COMMUNICATION DEVICES:

- A. The Contractor shall have at least two (2) people on the AOA possessing and continuously monitoring the following fully charged communication devices:
 - 1. A two-way radio capable of communicating on frequency 118.90 (Unicom); with a spare charged battery and
 - 2. A cellular telephone, with a listing of all required emergency contact numbers.

1.07 AOA TRAVEL ROUTE:

- A. The Contractor will be assigned only one (1) travel route per work phase, and shall ensure that all of their personnel, vehicles, and equipment traverses the AOA only along the assigned travel route.
- B. Should the State deem that an emergency situation has caused the assigned travel route to become unusable the Contractor will be assigned a temporary travel route for the duration needed and shall be responsible for all requirements associated with the new assigned travel route.

1.08 AOA AUTHORIZED VEHICLES:

- A. Only vehicles considered safe, and required to complete the contracted work will be allowed to operate on the AOA. Each vehicle operating on the AOA shall be authorized, possessing:
 - 1. Insurance coverage as required by Article 7.1 of the General Provisions, and further amended by the Special Provisions.

1.09 VEHICLE AND EQUIPMENT REQUIREMENTS ON THE AOA:

- A. Each vehicle and driven piece of equipment shall possess the following when operating or staging on the AOA:
 - 1. Operations occurring at night, or during periods of poor visibility, shall require a Flashing Amber Beacon mounted atop each vehicle /equipment's highest point.
 - 2. Two placards shall be on both sides of each vehicle or equipment at all times to identify the vehicle or equipment owner. Placards shall contain the company name in letters at least four-inches (4") tall, or six-inch (6") minimum-sized company logo.
 - 3. All additional equipment marking, lighting and positioning that may be required by the FAA.

1.10 AOA DRIVERS:

- A. All people operating a vehicle or any driven piece of equipment on the AOA shall possess the following license, permit and expertise:
 - 1. Current and valid Hawaii State Driver's License.
 - 2. Complete Airfield Familiarization.

1.11 AOA TRAFFIC CONTROL:

- A. The Contractor shall furnish and provide the following traffic control devices to block off entrances of working area:
 - 1. Runway Lighted X's: Wherever working within an RSA.
 - 2. Low-Profile Barricades: Low-profile barricades shall be any one of the following: however, if option a or b is selected, the Contractor shall be responsible for water filling and emptying these types of barricades as part of their contracted work.
 - a. Neubert Aero Corporation's reusable Airport Low-Profile Barricade Model No. NAC-PC 2410 with at least one battery-powered red barricade light, or
 - b. Multi-Barrier Safety Barricade Model No. AR-10x96 with at least one Multi-Barrier 360 degree solar-powered light, or
 - c. Constructed barricades as indicated on plans.
 - d. All Low-profile barricades shall be spaced fifteen (15) feet on center, and used as follows:
 - 1) Restrict aircraft from taxiing into work areas: Barricades shall extend across the full TWY/RWY width, with one (1) barricade places on the TWY/RWY centerline.
 - 2) Channel aircraft around work areas: Barricades shall be placed ten (10) feet away from active RSAs/TWSAs.

3. Reflective Cones: Reflective cones shall be used to demarcate AOA travel routes and locations where vehicles shall yield to aircraft.

1.12 AOA FOD CONTROL:

The Contractor shall keep all work areas, AOA Travel Routes, and all adjacent areas clean at all times. Unless otherwise stated in this contract, or otherwise directed by the Airport Manager, the Contractor shall properly haul and dispose all removed pavement materials and collected debris to a site off the Airfield. The State will require remedial cleaning from the Contractor whenever their FOD Control Operations are unsatisfactory. Upon receipt of notification, the Contractor shall be ready to start remedial cleaning at the jobsite within one-hour. Notification by telephone will be deemed as official.

1.13 AOA FLAG PERSONS:

- A. Should the plans require flag persons along the AOA Travel Route, each flag-person shall possess:
 1. Both AOA Communication Devices previously specified in Section 105.A.
 2. A traffic directing LED (Light-Emitting Diode) Light Baton.
 3. A broom and dustpan to assist in AOA FOD Control.

1.14 AIRFIELD STAGING AREAS:

- A. The Contractor shall only stage its vehicles and equipment at State approved areas. No vehicle or equipment shall park within four (4) feet of a security fence. Demarcation of the staging area shall be as follows:
 1. Weighted Lighted Barricades shall be placed around the staging area perimeter at a maximum of twenty feet (20') on center.
 2. Yellow Barrier Tape with the words "CAUTION DO NOT ENTER" continuously printed on the tape shall be used with barricades to demarcate the staging area perimeter.

1.15 COORDINATION OF CONSTRUCTION ON THE AOA

- A. Work on the AOA requires RWY and TWY closures that demand proper notification to numerous agencies responsible for public safety; thus, the Engineer shall receive the following sufficiently accurate information from the Contractor.
- B. Maximum height equipment: Equipment height shall be submitted to the State at least thirty-five (35) consecutive calendar days prior to construction. Construction shall not commence until the State receives confirmation from the FAA. All reported heights shall be the maximum heights among all vehicles or equipment used to complete the contracted work, and includes proper notification to the State whenever the reported maximum heights are to be exceeded.

C. Detailed work schedule: See SECTION 01300 – SUBMITTALS.

1.16 CONSTRUCTION LIGHTING REQUIREMENTS

Should any part of the work area lack sufficient sunlight; the Contractor shall provide sufficient artificial lighting to permit the work and inspection to be carried out efficiently, thoroughly, safely, and satisfactorily. Work and inspections shall not be performed with only flashlight and/or vehicle/equipment headlights. All lights shall be positioned so they do not blind aircraft pilots, or Unicom controllers. All wiring for electrical lights and power shall be properly installed, maintained, securely fastened and kept as far as possible from telephone and signal wires. The Contractor shall submit a lighting plan to the Engineer for all work phases that shall be subject to approval.

1.17 ENVIRONMENTAL AND HEALTH REQUIREMENTS

- A. The Contractor shall perform the following in accordance with all applicable federal, state, local, and airport rules and regulations related to environmental pollution control, abatement, and fire code.
- B. Airfield water: Airfield water shall not be drawn from a tap lacking a reverse pressure principal backflow prevention device. Water valves shall be opened and closed so that water hammers are not produced.
- C. Waste Disposal: Waste disposal shall be performed properly. Materials shall not be burned, and construction wastes shall not be disposed into Airfield storm water or sewer systems.
- D. Restoration: Completely restore to an acceptable condition; staging area, work area, AOA travel routes, and areas adjacent to the aforementioned.
- E. When the Contractor damages and existing Airfield perimeter fence, the Contractor shall perform immediate repairs on the fence to prevent inadvertent entry and maintain Airfield Security.
- F. Vehicle/equipment leaks and material spills: Shall be handled by the following five-step process, and pertains to all fluids other than potable water:
 - 1. All leaked or spilled fluids shall immediately be kept from entering the Airfield storm water and sewer systems.
 - 2. All fluid leaks or spills shall be respectively fixed or stopped, immediately after ensuring that the fluids are kept out of the Airfield storm water and sewer systems.
 - 3. All areas containing the leaks or spills shall be properly cleaned and restored.
 - 4. Dispose all wastes per Section 1.08.B.
 - 5. Submit proper documentation to the State showing that all leaks or spills were properly cleaned and disposed.

- G. Erosion control: The Contractor shall provide any essential temporary drainage, dikes, and similar facilities to prevent erosion damage to the site. Run-off shall be controlled to prevent damage to the surrounding areas.
- H. Dust control: The Contractor shall take positive measures to ensure that dust is properly controlled without chemicals and/or oil treatments.
- I. Noise control: Noise control shall be within the levels that comply with all applicable regulations.

1.18 OTHER REQUIREMENTS

- A. The Contractor shall also comply with the following requirements should they arise:
- B. Any additional operational safety requirement generated by the FAA.
- C. Provide additional lights along AOA travel routes should the Engineer deem additional safety enhancements are needed.
- D. Any new environmental and health requirements generated by the EPA (Environmental Protection Agency) or DOH (Department of Health).

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

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

DIVISION 2 – SITE CONSTRUCTION

SECTION 02410 – SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION OF WORK

- A. This section includes, but is not limited to, furnishing all labor, materials, equipment, and services necessary for selective demolition work, including removal and subsequent disposal of all materials as shown in the plans and specified herein.
- B. It shall be the responsibility of the Contractor to examine the project site and determine the existing conditions.
- C. Execute all work in an orderly and careful manner with due consideration for all items of work to remain.
- D. Obvious conditions which exist at the site shall be accepted as part of the work, even though they may not be clearly indicated on the drawings and/or described herein, or may vary therefrom.
- E. Demolish and remove materials as indicated on the drawings and as required to perform work under this project. All debris of any kind accumulated from the work of this section shall be disposed of offsite. Burning of any debris on-site will not be permitted.
- F. Protect items to remain in place, including but not limited to electrical conduits and accessories.
- G. Protect all existing conditions surrounding the work area, including, but not limited to, walkways, parking, landscaping, etc. at all times from damage.
- H. Any damage as a result of demolition work and any neglect to provide protection shall be fixed new at Contractor's own expense.
- I. Permits, Notice, Etc.: The Contractor shall procure and pay for all necessary permits, certificates, or approvals that may be required in connection with this work. The Contractor shall serve proper notice and consult with the State regarding any temporary barricades and disconnections of electrical or other utility lines in the area which may interfere with the removal work, and all such lines where necessary shall be properly disconnected or relocated before commencing with the work.
- J. Carefully remove and store materials indicated for relocation or reinstallation. Record all deficiencies prior to removal and record with the State. All damage caused by the

Contractor's operations shall be repaired as accepted by the State at no additional cost to the State.

1.03 SUBMITTALS

- A. Submit in accordance with SECTION 01300 - SUBMITTALS.
- B. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work for review prior to commencement of work. Include coordination of temporary shut off and continuation of utility services as required, together with details for weather protection, dust and noise control protection.

1.04 JOB CONDITIONS

- A. The State assumes no responsibility for actual conditions of items or portions of structure to be demolished.
- B. Conditions existing at the time of commencement of contract will be maintained by the State insofar as practicable.
- C. Do not interfere with use of adjacent occupied spaces or buildings. Maintain free and safe passage to and from occupied spaces or other occupied buildings.
- D. Protections: Provide temporary barricades and other forms of protection as required to protect the general public, staff, and residents from injury due to selective demolition.
 - 1. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of elements to be demolished, and adjacent facilities or work to remain.
 - 2. Protect from damage existing finish work that is to remain in place and become exposed during demolition operations.
 - 3. Protect from damage existing parking and landscape to remain.
 - 4. Life safety procedures and provisions shall be in conformance with all applicable Federal, State, and City and County regulations, including HIOSH.
 - 5. Provide accessibility around temporary structures conforming to ADAAG Section 201.
 - 6. Remove protection, obstructions, and barricades at completion of work.
- E. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to the State.
- F. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walkways, and other adjacent occupied or used facilities. Do not close, block, or otherwise obstruct streets, walkways, and other occupied or used facilities without written permission from the

State. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations, as directed by the State.

- G. Explosives: Use of explosives will not be permitted.
- H. Utility Services: The existence of utility lines other than those shown on the drawings is not definitely known and is based on available data. No guarantee is made as to the accuracy of existing information nor are there implied guarantees that other obstacles will not be encountered during the course of the work. Should any other utility lines that affect work be encountered, the Contractor shall immediately notify the State and follow the State's direction as to procedures. Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations. Do not interrupt existing utilities serving occupied buildings or facilities, except when authorized in writing by the State. Submit written notice of outages and interruptions at least fourteen (14) days in advance of intended outage. Report damage, however slight, immediately. Do not repair or reconstruct any pipe, conduit, or installation without authorization, except while performing immediate emergency repairs.
- I. Dust Control:
1. Keep dust within acceptable levels at all times, including non-working hours, weekends, and holidays, as specified in SECTION 01560 – GENERAL ENVIRONMENTAL, HEALTH, & SAFETY CONTROLS in conformance with State Department of Health, Title 11, Administration Rules, Chapter 60.1 - Air Pollution Control, latest edition.
 2. Only wet grinding or cutting of concrete will be allowed on exterior surfaces.
 3. Mechanical dry sweeping not permitted. Vacuuming, wet mopping, approved limited dry hand, wet or damp sweeping is acceptable.
 4. During loading operations, water down debris and waste materials to allay dust.
 5. The method of dust control and all costs incurred thereof shall be the responsibility of the Contractor.
 6. Enclosed chutes shall be used for removing debris from above the ground floor levels.
- J. Noise Control: Noise control shall be within the level that comply with all applicable regulations, and as specified in SECTION 01560 – GENERAL ENVIRONMENTAL, HEALTH, & SAFETY CONTROLS.
- K. Fire Safety: Fire safety during demolition shall comply with NFPA 241, "Standard for Safeguarding Construction, Alteration, and Demolition Operations," and NFPA 1, "Fire Code," as amended.
- L. Demolition Work: Conform to State of Hawaii, Occupational Safety and Health Standards; Subtitle 8, Division of Occupational Safety and Health; Part 3, Construction Standards; Chapter 131.1, Demolition.

M. Other Controls:

1. Whenever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being spilled onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with Department of Health pollution regulations.
2. Trucks hauling materials shall be covered as required by PUC regulation. Trucks hauling fine materials shall be covered.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 INSPECTION

Prior to commencement of selective demolition work, inspect areas in which work will be performed. Inventory existing conditions of structure surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from selective demolition work; photograph, video or otherwise document and file with the State prior to starting work.

3.02 PREPARATION

- A. All water pollution, dust, and erosion control best management practices shall be in place and operation prior to any earthwork.
- B. Protect existing structures and other elements to remain in place and not removed.

3.03 SELECTIVE DEMOLITION

Perform selective demolition work indicated on drawings in a systematic manner. Use such methods as required to complete work indicated on drawings in accordance with demolition schedule and governing regulations.

1. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction. All dust shall be suppressed by a fog spray or other approved method.
2. Extent of demolition and removal as shown are minimal requirements. Contractor shall be responsible for the extent of work required to properly accommodate the methods of construction required for the new work. Additional work required to accommodate construction shall be considered incidental to the new work and shall be done at no additional cost to the State.

3.04 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish, and other materials resulting from demolition operations from building site daily. Transport and legally dispose of materials off site.
- B. Debris shall be removed from the site and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.
- C. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.
- D. Burning of removed materials is not permitted on project site.

3.05 REPAIR WORK

Where exposed existing work to remain is damaged or left unfinished by the removal work, the resultant exposed unfinished surfaces shall be repaired, patched, filled or finished to match the adjoining existing surfaces. Existing work at the completion of operations shall be left in a condition as good as existed before the new work started. Where the method of repair work is not indicated or specified, the Contractor shall perform the repair work in accordance with the best recognized workmanlike procedure for the surrounding construction involved.

3.06 CLEANUP AND RESTORATION

- A. Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave area broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.
- C. All existing grass areas disturbed or damaged due to construction or ingress or egress to the site shall be repaired to original conditions. Grass areas shall be recultivated, top soiled, and then grassed with the same kind and type of materials as existing, in manner accepted by and to the satisfaction of the State.

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 prices bid for the various items of work in this project.

END OF SECTION

SECTION 02741 – HOT-MIX ASPHALT PAVING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION OF WORK

This section includes, but is not limited to, furnishing all labor, material, equipment, tools, and services required for preparing the existing pavement surfaces for overlay, surface treatments, removal and processing of existing pavements, placing and compacting of pavement and other miscellaneous items as shown on the plans and as specified herein.

1.03 GENERAL REQUIREMENTS

Unless otherwise noted or specified on the drawings or in these specifications, all work under this section shall conform to the latest edition of the "Hawaii Standard Specifications for Road and Bridge Construction" of the State Department of Transportation, Highways Division.

1.04 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Material Certifications: Provide affidavits from the manufacturers or suppliers of all materials proposed to be furnished and installed under this Section, certifying that such material delivered to the project conforms to the requirements of these specifications.
- C. Product Data: Provide material product data and material safety data for the materials proposed for use under this Section. Include test data and manufacturer/supplier certifications.
- D. Design Mixes: Provide design data for asphalt pavement mixes.

PART 2 – PRODUCTS

2.01 AGGREGATES

- A. Aggregate for Untreated Base
 - 1. Aggregate for untreated base shall consist of crushed stone free of vegetable matter and other deleterious substances.
 - 2. Crushing shall be regulated so that at least 80 percent, by weight, of

material retained on No. 4 sieve is crushed and has at least one mechanically fractured face.

3. Aggregate for untreated base shall conform to Table 1a - Untreated Base Test Requirements and Table 1b - Untreated Base Grading Requirements.

Table 1a – Untreated Base Test Requirement		
Test	Method	Requirements
Los Angeles Abrasion	AASHTO T 96	40 Percent Maximum
Sand Equivalent	AASHTO T 176	30 Percent Minimum
Plasticity Index	AASHTO T 90	6 Maximum
Grading	AASHTO T 27	Refer to Table 1b

Table 1b – Untreated Base Grading Requirements			
Sieve Size	Percent Passing by Weight		
	2-1/2 Inch Maximum Nominal	2-1/2 Inch Maximum Nominal	2-1/2 Inch Maximum Nominal
3 Inch	100	-	-
2-1/2 Inch	90-100	-	-
2 Inch	-	100	-
1-1/2 Inch	65-90	90-100	-
1 Inch	-	-	100
3/4 Inch	45-70	50-90	90-100
No. 4	25-45	25-50	35-55
No. 200	3-9	3-9	3-9

B. Aggregate for Hot Mix Asphalt (HMA) Pavement

1. Aggregate for HMA pavement shall be crushed and screened basalt free of soft or disintegrated pieces, clay, dirt, and other deleterious substances.
2. At least 90 percent, by weight, of material retained on No. 4 sieve shall consist of crushed particles. At least 70 percent of material passing No. 4 sieve and retained on No. 8 sieve shall consist of crushed particles. A crushed particle is defined as particle having at least one mechanically fractured face.
3. The combined aggregate for HMA pavement shall conform to Table 2a - HMA Test Requirements and Table 2b – HMA Grading Requirements.

Table 2a – HMA Test Requirements		
Test	Method	Requirements
Sand Equivalent	AASHTO T 176	45 Percent Minimum
Los Angeles Abrasion	AASHTO T 96	30 Percent Maximum
Stripping	AASHTO T 182	Above 95 Percent
K-factor	ASTM D 5148	Kc-2.0 Maximum Km-1.7 Maximum
Flat and elongated pieces (Length to thickness ratio of 3)	ASTM D 4791 (By Weight)	25 Percent Maximum
Grading	AASHTO T 11 AASHTO T 27	Job-mix formula based on Table 2b
Soundness	AASHTO T 104 (5 cycles using sodium sulfate)	9 Percent Maximum
Absorption	AASHTO T 84 AASHTO T 85	5 Percent Maximum

Table 2b – HMA Grading Requirements				
MIX NO.	II	III	IV	V
Sieve Sizes	Combined Aggregate Percent Passing by Weight			
1-1/4 Inch	100	-	-	-
1 Inch	85-100	100	-	-
3/4 Inch	-	90-100	100	-
1/2 Inch	60-85	70-90	90-100	100
3/8 Inch	-	-	72-90	80-100
No. 4	36-55	40-57	48-66	55-75
No. 8	26-41	30-47	32-48	35-52
No. 16	17-32	20-36	21-37	22-38
No. 30	12-25	16-28	15-27	14-26
No. 50	8-18	10-22	9-21	8-20
No. 100	5-14	8-17	6-16	6-15
No. 200	1-8	4-8	4-8	4-8

2.02 ASPHALT CEMENT (PG 64-16)

Performance-graded asphalt binder shall conform to AASHTO M 320.

2.03 EMULSIFIED ASPHALT

- A. Anionic emulsified asphalt shall conform to AASHTO M 140, except penetration on residue for Type SS-1 and Type RS-1 shall be 50-120. Cationic emulsified asphalt shall conform to AASHTO M 208, except penetration on residue for Type CSS-1 and Type CRS-1 shall be 50-150.
- B. Dilute emulsified asphalt with water at rate of one part emulsified asphalt to one part water by volume.

2.04 HYDRATED LIME

Hydrated lime shall conform to ASTM C 207, Type N.

PART 3 – EXECUTION

3.01 CONSTRUCTION

- A. Aggregate Untreated Base Course
 - 1. Add water uniformly to aggregate base, as necessary, to obtain moisture content within 2 percent above or below optimum moisture content for compaction.
 - 2. Immediately after spreading aggregate base, shape and compact each lift across full width using power roller. Roll in direction parallel to centerline of road. Compact each lift to produce uniform surface texture and to attain at least 95 percent of maximum density.
- B. Hot Mix Asphalt (HMA) Pavement
 - 1. Hot Mix Asphalt Pavement shall be in accordance with Section 401 – Hot Mix Asphalt Pavement of the “Hawaii Standard Specifications for Road and Bridge Construction” of the State Department of Transportation, Highways Division. All references to measurement and payment shall be deleted.
 - 2. State Mix No. 4 shall be used for all general HMA paving and resurfacing work.
- C. Tack Coat
 - 1. Tack Coat shall be in accordance with Section 407 – Tack Coat of the “Hawaii Standard Specifications for Road and Bridge Construction” of the State Department of Transportation, Highways Division. All references to measurement and payment shall be deleted.

3.02 RESTORATION

- A. Any existing asphalt pavement that has been damaged by construction activities or heavy equipment shall be repaired to the original condition and to the satisfaction of the Engineer.
- B. All striping and pavement markings that have faded or deteriorated due to the construction work or caused by the abrasion of materials on the pavement surface, including dirt, mud and gravel shall be repainted as directed by the Engineer.

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

DIVISION 3 – CONCRETE

SECTION 03100 – CONCRETE FORMS AND ACCESSORIES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

The General Provision 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:

1. Form-facing material for cast-in-place concrete.
2. Shoring, bracing, and anchoring.

1.03 DEFINITIONS

- A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.
- B. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.

1.04 SUBMITTALS

A. Product Data: For each of the following:

1. Exposed surface form-facing material.
2. Concealed surface form-facing material.
3. Form ties.
4. Form-release agent.

B. Field quality-control reports.

PART 2 – PRODUCTS

2.01 FORM-FACING MATERIALS

A. As-Cast Surface Form-Facing Material:

1. Provide continuous, true, and smooth concrete surfaces.
2. Furnish in largest practicable sizes to minimize number of joints.

3. Acceptable Materials: As required to comply with Surface Finish designations specified in SECTION 03300 CAST-IN-PLACE CONCRETE, and plywood, metal, or other approved panel materials.
- B. Concealed Surface Form-Facing Material: Lumber, plywood, metal, plastic, or another approved material.
 1. Provide lumber dressed on at least two edges and one side for tight fit.
 2. Provide forms with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

2.02 RELATED MATERIALS

- A. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- B. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- C. Form Ties: Factory-fabricated, removable or snap-off, glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 1. Furnish units that leave no corrodible metal closer than one inch to the plane of exposed concrete surface.
 2. Furnish ties that, when removed, leave holes no larger than one inch in diameter in concrete surface.

PART 3 – EXECUTION

3.01 INSTALLATION OF FORMWORK

- A. Comply with ACI 301.
- B. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and to comply with the Surface Finish designations specified in SECTION 03300 CAST-IN-PLACE CONCRETE for as-cast finishes.
- C. Limit concrete surface irregularities as follows:
 1. Surface Finish-1.0: ACI 117 Class D, 1 inch.
 2. Surface Finish-2.0: ACI 117 Class B, 1/4 inch.
 3. Surface Finish-3.0: ACI 117 Class A, 1/8 inch.
- D. Construct forms tight enough to prevent loss of concrete mortar.

1. Minimize joints.
 2. Exposed Concrete: Symmetrically align joints in forms.
- E. Construct removable forms for easy removal without hammering or prying against concrete surfaces.
1. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces.
 2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to one vertical.
 3. Install keyways, reglets, recesses, and other accessories, for easy removal.
- F. Do not use rust-stained, steel, form-facing material.
- G. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces.
1. Provide and secure units to support screed strips
 2. Use strike-off templates or compacting-type screeds.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. At construction joints, overlap forms onto previously placed concrete not less than 12 inches.
- J. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.
1. Determine sizes and locations from trades providing such items.
 2. Obtain written approval of Engineer prior to forming openings not indicated on Drawings.
- K. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- L. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- M. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.02 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
3. Clean embedded items immediately prior to concrete placement.

3.03 REMOVING AND REUSING FORMS

- A. Formwork for sides of slabs, pedestals, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50-degree Fahrenheit for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
- B. Clean and repair surfaces of forms to be reused in the Work.
 1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.
 1. Align and secure joints to avoid offsets.
 2. Do not use patched forms for exposed concrete surfaces unless approved by Engineer.

3.04 FIELD QUALITY CONTROL

Inspections: Inspect formwork for shape, location, and dimensions of the concrete member being formed.

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 03200 – CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

Section includes steel reinforcement bars.

1.03 SUBMITTALS

A. Product Data:

1. Each type of steel reinforcement.
2. Bar supports.
3. Mechanical splice couplers.

B. Shop Drawings: Comply with ACI SP-066.

1. Include placing drawings that detail fabrication, bending, and placement.
2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, details of welding splices, tie spacing, hoop spacing, and supports for concrete reinforcement.
3. Location of construction joints is subject to approval of the Engineer.

C. Construction Joint Layout: Indicate proposed construction joints required to build the structure.

D. Welding Certificates: Reinforcement To Be Welded: Welding procedure specification in accordance with AWS D1.4/D1.4M

E. Material test reports for steel reinforcement from a qualified testing agency. For reinforcement to be welded, mill test analysis for chemical composition and carbon equivalent of the steel in accordance with ASTM A706/A706M.

F. Minutes of preinstallation conference.

1.04 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

B. Review the following:

1. Special inspection and testing and inspecting agency procedures for field quality control.
2. Steel-reinforcement installation.

1.05 QUALITY ASSURANCE

Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.4/D 1.4M.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Store reinforcement to avoid contact with earth.

PART 2 – PRODUCTS

2.01 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615/A615M, Grade 60, deformed.
- B. Low-Alloy Steel Reinforcing Bars: ASTM A706/A706M, deformed.

2.02 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A615/A615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.
 1. Manufacture bar supports from steel wire, plastic, or precast concrete in accordance with CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - a. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire, all-plastic bar supports, or CRSI Class 2 stainless steel bar supports.
- C. Steel Tie Wire: ASTM A1064/A1064M, annealed steel, not less than 0.0508 inch in diameter.
 1. Finish: Plain.
- D. Stainless Steel Tie Wire: ASTM A1022/A1022M, not less than 0.0508 inch in diameter.

2.03 FABRICATING REINFORCEMENT

Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 – EXECUTION

3.01 PREPARATION

Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.02 INSTALLATION OF STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.
- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.
- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Splices: Lap splices as indicated on Drawings.
 - 1. Bars indicated to be continuous, and all vertical bars shall be lapped not less than 36 bar diameters at splices, or 24 inches, whichever is greater.
 - 2. Stagger splices in accordance with ACI 318.
 - 3. Weld reinforcing bars in accordance with AWS D1.4/D 1.4M, where indicated on Drawings.

3.03 JOINTS

Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length, to prevent concrete bonding to one side of joint.

3.04 INSTALLATION TOLERANCES

Comply with ACI 117.

3.05 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
 - 1. Steel-reinforcement placement.
 - 2. Steel-reinforcement welding.

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 03300 – CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

Section includes cast-in-place concrete, including concrete materials, mixture design, placement procedures and finishes.

1.03 SUBMITTALS

- A. Submit in accordance with SECTION 01300 – SUBMITTALS.
- B. Product Data: For each of the following.
 - 1. Portland cement.
 - 2. Fly ash.
 - 3. Aggregates.
 - 4. Admixtures: Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.
 - 5. Vapor retarders.
 - 6. Curing materials.
 - 7. Joint fillers.
 - 8. Repair materials.
- C. Design Mixtures: For each concrete mixture, include the following:
 - 1. Mixture identification.
 - 2. Minimum 28-day compressive strength.
 - 3. Durability exposure class.
 - 4. Maximum w/cm.
 - 5. Slump limit.

- 6. Air content.
- 7. Nominal maximum aggregate size.
- D. Qualification Data for the following:
 - 1. Installer: Include copies of applicable ACI certificates.
 - 2. Ready-mixed concrete manufacturer.
 - 3. Testing agency: Qualification certificates.
- E. Research Reports: For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
- F. Field quality-control reports.
- G. Minutes of preinstallation conference.

1.04 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.05 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Concrete Subcontractor.
 - d. Officer-in-charge.
 - 2. Review the following:
 - a. Special inspection and testing and inspecting agency procedures for field quality control.
 - b. Construction joints, control joints, isolation joints, and joint-filler strips.
 - c. Anchor rod and anchorage device installation tolerances.
 - d. Hot weather concreting procedures.
 - e. Concrete finishes and finishing.
 - f. Curing procedures.
 - g. Forms and form-removal limitations.
 - h. Concrete repair procedures.

- i. Concrete protection.
- j. Initial curing and field curing of field test cylinders (((ASTM C31/C31M)).)
- k. Protection of field cured field test cylinders.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician.

- 1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.

1.07 DELIVERY, STORAGE, AND HANDLING

Comply with ASTM C94/C94M and ACI 301.

1.08 FIELD CONDITIONS

A. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:

- 1. Maintain concrete temperature at time of discharge to not exceed 95-degree Fahrenheit.
- 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 – PRODUCTS

2.01 CONCRETE, GENERAL

ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.02 CONCRETE MATERIALS

A. Source Limitations:

- 1. Obtain all concrete mixtures from a single ready-mixed concrete manufacturer for entire Project.
- 2. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.
- 3. Obtain aggregate from single source.

4. Obtain each type of admixture from single source from single manufacturer.
- B. Cementitious Materials:
1. Portland Cement: ASTM C150/C150M, Type V.
 2. Fly Ash: ASTM C618, Class C or F.
- C. Normal-Weight Aggregates: ASTM C33/C33M, coarse aggregate or better, graded. Provide aggregates from a single source.
1. Alkali-Silica Reaction: Comply with one of the following:
 - a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.
 - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
 - c. Alkali Content in Concrete: Not more than 4 pound per cubic yard for moderately reactive aggregate or 3 pound per cubic yard for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301.
 2. Maximum Coarse-Aggregate Size: 3/4-inch nominal.
 3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Air-Entraining Admixture: ASTM C260/C260M.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.
1. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
- F. Water and Water Used to Make Ice: ASTM C94/C94M, potable

2.03 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
1. Color:

- a. Ambient Temperature Below 50-degree Fahrenheit: Black.
 - b. Ambient Temperature between 50-degree Fahrenheit and 85-degree Fahrenheit: Any color.
 - c. Ambient Temperature Above 85-degree Fahrenheit: White.
- D. Curing Paper: Eight-feet-wide paper, consisting of 2 layers of fibered kraft paper laminated with double coating of asphalt.
- E. Water: Potable or complying with ASTM C1602/C1602M.
- F. Clear, Waterborne, Membrane-Forming, Curing Compound: ASTM C309, Type 1, Class B, 18 to 25 percent solids, non-dissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

2.04 RELATED MATERIALS

Bonding Agent: ASTM C1059/C1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

2.05 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.
 - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Other Pozzolans: 25 percent by mass.
 - 2. Total of Fly Ash or Other Pozzolans: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass.
- C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.
 - 1. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 2. Use water-reducing admixture in concrete with a w/cm below 0.50.

2.06 CONCRETE MIXTURES

- A. Normal-weight concrete
 - 1. Exposure Class: ACI 318 C2.
 - 2. Minimum Compressive Strength at 28 Days: 4000 psi (27579.04 kPa) for footings and pedestals and 4500 psi (31026.42 kPa) for slabs-on-grade.

3. Max aggregate size shall be $\frac{3}{4}$ ".
4. Slump Limit: 4 inches (101.6 mm), plus or minus one inch.
5. Limit water-soluble, chloride-ion content in hardened concrete to 1.00 percent by weight of cement.
6. Air Content: Do not use an air-entraining admixture or allow total air content to exceed 3 percent for concrete used in trowel-finished floors.
7. Limit water-soluble, chloride-ion content in hardened concrete to 1.00 percent by weight of cement.

B. Site-Mixed Concrete

1. Minimum Compressive Strength at 7 Days: 2,500 psi, 28 Days: 4,000 psi.
2. Slump Limit: 3 inches max.

2.07 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and furnish batch ticket information.
- B. Site-Mixed Concrete: Measure, batch, and mix in accordance with manufacturer's instructions and ASTM C685. Contract shall use a rotary drum mixer for all site-mixed concrete.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:
 1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
 2. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
 1. Daily access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.03 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.

3.04 JOINTS

Construct joints true to line, with faces perpendicular to surface plane of concrete.

3.05 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
 1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.
- B. Notify Engineer and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer in writing, but not to exceed the amount indicated on the concrete delivery ticket.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
 1. If a section cannot be placed continuously, provide construction joints as indicated.
 2. Deposit concrete to avoid segregation.

3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (152.4 mm) into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for pedestals in a continuous operation, within limits of construction joints, until placement of a complete pedestal section is complete.
 1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Level concrete, cut high areas, and fill low areas.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
 6. Do not further disturb slab surfaces before starting finishing operations.

3.06 FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

1. ACI 301 Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
 - a. Patch voids larger than 1-1/2 inches (38 mm) wide or 1/2 inch (12.7 mm) deep.
 - b. Remove projections larger than one inch.
 - c. Tie holes do not require patching.
 - d. Surface Tolerance: ACI 117 Class D.
 - e. Apply to concrete surfaces not exposed to public view.
2. ACI 301 Surface Finish SF-2.0: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams.

- a. Patch voids larger than 3/4 inch (19.05 mm) wide or 1/2 inch (12.7 mm) deep.
- b. Remove projections larger than 1/4 inch (6.35 mm).
- c. Patch tie holes.
- d. Surface Tolerance: ACI 117 Class B.
- e. Locations: Apply to concrete surfaces exposed to public view.

3.07 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - 1. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
 - 2. Maintain moisture loss no more than 0.2 lb/sq. ft. x h before and during finishing operations.
- B. Curing Formed Surfaces: Comply with ACI 308.1 as follows:
 - 1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
 - 2. If forms remain during curing period, moist cure after loosening forms.
 - 3. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
 - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
 - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
 - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
 - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
 - e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
 - 1) Recoat areas subject to heavy rainfall within three hours after initial application.
 - 2) Maintain continuity of coating and repair damage during curing period.
- C. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:
 - 1. Begin curing immediately after finishing concrete.

3.08 TOLERANCES

Conform to ACI 117.

3.09 FIELD QUALITY CONTROL

- A. Special Inspections: Contractor will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Contractor will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
 - 1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.
 - 2. Testing agency shall immediately report to Engineer, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
 - 3. Testing agency shall report results of tests and inspections, in writing, to Owner, Engineer, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
 - a. Test reports shall include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.
 - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.
 - 9) Truck and batch ticket numbers.
 - 10) Design compressive strength at 28 days.
 - 11) Concrete mixture designation, proportions, and materials.
 - 12) Field test results.
 - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
 - 14) Type of fracture and compressive break strengths at seven days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:
 - 1. Verification of use of required design mixture.

2. Concrete placement, including conveying and depositing.
 3. Curing procedures and maintenance of curing temperature.
 4. Verification of concrete strength before removal of shores and forms from beams and slabs.
 5. Batch Plant Inspections: On a random basis, as determined by Engineer.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C172/C172M shall be performed in accordance with the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C143/C143M:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C1064/C1064M:
 - a. One test hourly when air temperature is 40-degree Fahrenheit and below or 80-degree Fahrenheit and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C31/C31M:
 - a. Cast and laboratory cure two sets of three 6-inch by 12-inch or 4-inch by 8-inch cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C39/C39M.
 - a. Test one set of 2 laboratory-cured specimens at 7 days and one set of 2 specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3447.38 kPa) if specified compressive strength is 4000 psi (27579.04 kPa), or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 4000 psi.
8. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
9. Additional Tests:
 - a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.
 - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Engineer.
 - 1) Acceptance criteria for concrete strength shall be in accordance with ACI 301 section 1.6.6.3.
10. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
11. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

3.10 PROTECTION

A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit use of pipe-cutting machinery over concrete surfaces.
4. Prohibit placement of steel items on concrete surfaces.
5. Prohibit use of acids or acidic detergents over concrete surfaces.
6. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

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

DIVISION 6 – WOOD AND PLASTICS

SECTION 06100 – ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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 DESCRIPTION OF WORK

Provide all rough carpentry as indicated on the drawings and specified herein.

1.03 REFERENCES

- A. The latest publications listed below form a part of this Section to the extent referenced. The publications are referred to in the text by designation only.
 - 1. American Society of Testing and Materials (ASTM):
 - a. ASTM F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs
 - b. ASTM F 1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
 - c. ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - d. ASTM A 276 - Standard Specification for Stainless Steel Bars and Shapes
 - 2. American Wood Protection Association (AWPA):
 - a. AWPA M4 - Standard for the Handling, Storage, Field Fabrication and Field Treatment of Preservative-Treated Wood Products
 - b. AWPA U1 - User Category System: User Specification for Treated Wood
 - 3. National Institute of Standards and Technology (NIST):
 - a. (VPS) PS 1-22 - Structural Plywood

1.04 SUBMITTALS

- A. Submit in accordance with SECTION 01300 - SUBMITTALS.
- B. Product Data:
 - 1. Provide technical data on wood products to be used.
 - 2. Fire retardant treatment.

3. Preservative treatment.

1.05 DELIVERY, STORAGE AND HANDLING

Deliver materials to the site in an undamaged condition. Store materials off the ground to provide proper ventilation, with drainage to avoid standing water, and protection against ground moisture and dampness. Store materials with a moisture barrier at both the ground level and as a cover forming a well-ventilated enclosure. Adhere to the requirements for stacking.

PART 2 - PRODUCTS

2.01 PLYWOOD

- A. Plywood: 3/4" thick APA EXT AC fire retardant treated.
- B. Preservative Treatment:
 - 1. Wood in contact with masonry, concrete: Preservative treated. Provide marked or stamped as required for UC3A and SBX preservative.
 - 2. Comply with requirements of AWWA U1 determined by use categories, expected service conditions and specific applications.
- C. Kiln-dry wood after treatment with waterborne preservative to maximum moisture content of 15 percent for plywood.

2.02 ROUGH HARDWARE

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153 for high-humidity and preservative-treated wood locations, or bolts conforming to ASTM F593.
 - 2. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete. Long enough to extend at least 2-1/2 inches (64 mm) into masonry or concrete. Use 1/2 inch (12.7 mm) bolt.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General Guideline Requirements
 - 1. Site-applied wood treatment: Apply preservative treatment to field-cut surfaces in accordance with manufacturer's instructions wherever cuts, holes, sawing, or other fabrication of wood members is required after pressure-preservative treatment.

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

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 07310 – SHINGLES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM D41/D41M	(2011; R 2023) Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
ASTM D1970/D1970M	(2021) Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
ASTM D3018/D3018M	(2022) Standard Specification for Class A Asphalt Shingles Surfaced With Mineral Granules
ASTM D3161/D3161M	(2020) Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method)
ASTM D3462/D3462M	(2023) Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
ASTM D4586/D4586M	(2025) Standard Specification for Asphalt Roof Cement
ASTM D6380/D6380M	(2003; R 2022) Standard Specification for Asphalt Roll Roofing (Organic Felt)
ASTM D7158/D7158M	(2024a) Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)
ASTM D8257/D8257M	(2022) Standard Specification for Mechanically Attached Polymeric Roof Underlayment Used in Steep Slope Roofing
ASTM E1980	(2024) Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces

NRCA 5005	(2021) The NRCA Roofing Manual: Steep-slope Roof Systems
UL 790	(2022) UL Standard for Safety Test Methods for Fire Tests of Roof Coverings
UL 2218	(2010; Reprint May 2024) UL Standard for Safety Impact Resistance of Prepared Roof Covering Materials

1.03 SUBMITTALS

- A. Submit under provisions of SECTION 01300 – SUBMITTALS.
- B. Product Data: Provide manufacturer's printed product information indicating material characteristics, performance criteria, and product limitations.
- C. Manufacturer's Installation Instructions: Provide published instructions that indicate preparation required and installation procedures.

1.04 QUALITY ASSURANCE

- A. Maintain one copy of manufacturer's application instructions on project site.
- B. Verify that manufacturer's label contains reference to specified ASTM standards.
- C. Asphalt shingles, flashing, and other accessories must be standard products of the same manufacturer; must be the latest design by the manufacturer; and must have been designed by the manufacturer to operate as a complete system for the intended use.

1.05 DELIVERY AND STORAGE

Deliver materials in the manufacturer's unopened bundles and containers bearing the manufacturer's brand name. Keep materials dry, completely covered, and protected from the weather. Store according to manufacturer's written instructions. Store roll goods on end in an upright position or in accordance with manufacturer's recommendations.

1.06 WARRANTIES

A. Manufacturer's Warranty

Provide the asphalt shingle manufacturer's 25 year extended warranty for the asphalt shingle materials and installation workmanship, including flashing and accessories necessary for a watertight roof system construction.

B. Contractor's Warranty

Provide warranty for 5 years that the asphalt shingle roofing system, as installed, is free from defects in workmanship. When repairs due to defective workmanship are

required during the Contractor's warranty period, the Contractor must make such repairs within 72 hours of notification. When repairs are not performed within the specified time, emergency repairs performed by others will not void the warranty.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Shingles

Mineral granule-surfaced asphalt shingles, self-sealing, square tab, strip, algae-resistant, three-tab, strip-type weighing not less than 190 pounds per 100 sq feet, polymer modified asphalt. Shingles must meet the fire resistance requirements of UL 790 for Class A. Avoid high light reflectance colors; submit color samples to the Engineer.

B. Underlayment

1. Synthetic Underlayment

Synthetic underlayment complying with ASTM D8257/D8257M, without perforations or other material specified by the shingle manufacturer for use as underlayment.

2. Self-Adhering Underlayment

Self-adhering underlayment must comply with ASTM D1970/D1970M for sealability around nails.

3. Self-Adhering Membrane

Self-adhering rubberized asphaltic membrane, a minimum of 40 mils thick, and recommended by the shingle manufacturer.

4. Nails for Applying Shingles and Synthetic Underlayment

Aluminum or hot-dipped galvanized steel or equivalent corrosion resistant with sharp points and flat heads 3/8 to 7/16 inch in diameter. Shank diameter of nails must be a minimum of 0.105 inch and a maximum of 0.135 inch with garb or otherwise deformed for added pull-out resistance. Nails must be long enough to penetrate completely through or extend a minimum of 3/4 inch into roof deck, whichever is less, when driven through materials to be fastened.

5. Asphalt Roof Cement ASTM D4586/D4586M, Type II.

6. Asphalt Primer ASTM D41/D41M.

PART 3 - EXECUTION

3.01 VERIFICATION OF CONDITIONS

Do not install building construction materials that show visual evidence of biological growth.

Ensure that roof deck is smooth, clean, dry, and without loose knots. Roof surfaces must be firm and free from loose boards, large cracks, and projecting ends that might damage the roofing. Projecting nails must be driven flush with the deck.

3.02 SURFACE PREPARATION

Cover knotholes and cracks with sheet metal nailed securely to sheathing. Flash and secure vents and other roof projections, and drive projecting nails firmly home.

3.03 APPLICATION

Apply roofing materials as specified herein unless specified or recommended otherwise by shingle manufacturer's written instructions or by NRCA 5005.

A. Underlayment

Apply two layers of synthetic underlayment to roof deck. Provide starter sheet width and headlaps as required by the underlayment manufacturer's application instructions for the two layer coverage based on the width of the synthetic underlayment material. Lay parallel to eaves, starting at eaves. Provide minimum 19 inch head laps, 6 inch laps from both sides over hips and ridges, and 12 inch end laps in the field of the roof. Cap nail synthetic underlayment as required by IBC for wind resistance and in accordance with the manufacturer's instructions. Turn up vertical surfaces a minimum of 4 inches.

B. Drip Edges

Provide metal drip edges applied directly on the wood deck at eaves and over the underlayment at rakes. Extend back from edge of deck a minimum of 3 inches and secure with nails spaced a maximum of 10 inches o.c. along inner edge.

C. Starter Strip

Apply starter strip along eaves and rakes, overhanging the metal drip edge at eaves and rake edges 1/4 inch to 3/8 inch; fasten in a line parallel to and 3 to 4 inches above eave or rake edge. Place nails so top of nail is not exposed in cutouts of first course of shingles.

D. Shingle Courses

Apply shingles with the correct recommended exposure in accordance with the manufacturer's printed instructions as they appear on the bundle wrapping. Start first course with full shingle, and apply succeeding courses with joints staggered at thirds or

halves. Butt-end joints of shingles must not align vertically more often than every fourth course. Apply shingle courses as follows:

1. Fastening: Do not drive fasteners into or above the factory-applied adhesive unless adhesive is located 5/8 inch or closer to top of cutouts. Place fasteners so they are concealed by shingle top lap and penetrate the head lap.
2. Shingles applied with nails: Nominal 5 inch exposure. Apply each shingle with minimum of four nails. Place one nail 1 inch from each end, and evenly space nails on a horizontal line.

E. Valleys

Provide either closed cut, woven, or open sheet metal valleys.

F. Flashing

Provide either of the following types of eave flashing:

1. From the eaves to a point 24 inches inside interior wall line, apply solid coating of asphalt roof cement between overlapping layers of underlayment. Spread cement to a uniform thickness at rate of 2 gallons per 100 sq feet of cemented roof area.
2. From the eaves to a point 24 inches inside interior wall line, apply one layer of self-adhering membrane. Follow membrane manufacturer's printed installation instructions.

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 prices bid for the various items of work in this project.

END OF SECTION

SECTION 07460 – SIDING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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:

1. Engineered wood siding.
 - a. Panel and lap siding.
 - b. Shake siding.
 - c. Vertical siding.
 - d. Trim and fascia.
 - e. Soffit.

2. Accessories.

B. Related Requirements:

1. SECTION 06100 ROUGH CARPENTRY for wood stud substrate support framing.

1.03 DEFINITIONS

Treated Engineered Wood: Engineered wood products manufactured for exterior use treated with manufacturer's proprietary process to resist fungal decay and termite damage.

1.04 COORDINATION

Coordinate engineered wood siding installation with flashings, trim, and construction of other adjoining work to ensure proper sequencing, construction progress, and to provide a leak resistant, secure, and noncorrosive installation.

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product and component included in engineered wood siding system. Include the following:

1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of product and accessory included in siding system.
2. Installation methods, including nailing patterns.
3. Siding manufacturer's requirements for products to be installed by others.

4. Maintenance and periodic inspection recommendations.
- B. Shop Drawings: For engineered wood siding.
1. Include plans, elevations, sections, and attachment details.
 2. Detail expansion joints, material joints, angle changes, flashings, and abutment to adjacent Work.
- C. Samples for Initial Selection: For engineered wood siding, including related accessories.
- D. Samples for Verification: For each type, color, texture, and pattern required, provide 6-inch-long sample of engineered wood siding and trim.

1.06 INFORMATIONAL SUBMITTALS

- A. Qualifications: For Installer.
- B. Product Test Reports: For each product, APA tests performed by a qualified testing agency.
- C. Evaluation Reports: For engineered wood siding system, from ICC-ES in compliance with AC321.
- D. Sample warranties.

1.07 CLOSEOUT SUBMITTALS

Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

1.08 MOCKUPS

- A. Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
1. Build mockup of typical wall area as indicated on Drawings, including corner, trim, fascia, supports, attachments, and accessories.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Engineer specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components and other manufactured items so as not to be damaged or deformed. Package components for protection during transportation and handling with manufacturer's name and identification of products.
- B. Unload, store, and erect components in a manner to prevent bending, warping, twisting, and surface damage. Maintain slip sheet until piece is being prepared for installation.
- C. Store components on flat surfaces clear of the ground. Store under roof or covered with suitable weathertight and ventilated covering, and in accordance with manufacturers' written instructions.

1.10 WARRANTY

- A. Manufacturer's Trim and Siding Limited Warranty: Manufacturer agrees to compensate the owner for the material cost of the affected product to repair or replace components of engineered wood siding against substrate damage within specified warranty period.
 - 1. Substrate damage is defined as buckling, overlay issues and ZB resistance issue caused by manufacturing defect.
 - 2. Limited Warranty Period: 25 years from date of installation and transferred to Owner on date of Substantial Completion.
- B. Manufacturer's Trim and Siding Prefinish Limited Warranty: Manufacturer agrees to compensate the owner for the material cost of the affected product to repair or replace components of prefinished engineered wood siding against finish and substrate damage within specified warranty period.
 - 1. Substrate damage is defined as buckling, overlay issues and ZB resistance issue caused by manufacturing defect.
 - 2. Finish damage is defined as, under normal conditions and use, discoloring due to chalking, peeling, blisters, cracks; erosion to the extent of exposing the substrate; or yellowing or color fade change from light exposure not to exceed 5 Delta E CMC (2:1).
 - 3. Limited Warranty Period for Substrate: 25 years from date of installation and transferred to Owner on date of Substantial Completion.
 - 4. Limited Warranty Period for Finish: 15 years from date of installation and transferred to Owner on date of Substantial Completion.
- C. Manufacturer's Accessories and Non-Standard Applications Limited Warranty: Manufacturer agrees to compensate the owner for the material cost of the affected product to repair or replace components of manufacturer's accessories and when used in approved non-standard applications against substrate and finish damage within specified warranty period.

1. Substrate damage is defined as buckling, overlay issues and ZB resistance issue caused by manufacturing defect.
2. Finish damage is defined as, under normal conditions and use, discoloring due to chalking, peeling, blisters, cracks; erosion to the extent of exposing the substrate; or yellowing or color fade change from light exposure not to exceed 5 Delta E CMC (2:1).
3. Limited Warranty Period for Substrate and Finish: 10 years from date of installation and transferred to Owner on date of Substantial Completion.

PART 2 – PRODUCTS

2.01 SOURCE LIMITATIONS

Provide components and materials specified in this Section from single manufacturer for a complete and compatible assembly.

2.02 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide engineered wood siding system tested to APA PS 2 and PRP 108, in compliance with IBC Section 2308.9.3, Table 2308.9.3(5), and certified to be without permanent deformation or failure of structural members in accordance with design wind velocities for Project geographic location and probability of occurrence based on data from wind velocity maps provided in ASCE 7 and as approved by authorities having jurisdiction (AHJ).
 1. Design Loads: As indicated on Drawings.
- B. Structural: Test in accordance with FL TAS 202 as follows:
 1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
 2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
 3. Minimum test duration in accordance with FL TAS 202 is 10 seconds, which is historically U.S. practice.
 4. Test Durations: As required by design wind velocity, but not less than 10seconds.
- C. Fire-Resistance Performance: Comply with ASTM E119 for testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency acceptable to AHJ.

1. Surface-Burning Characteristics: Provide engineered wood siding system with a Class C flame-spread index of 76 to 200 or less and a smoke-developed index of 0 to 450 or less when tested in accordance with ASTM E84 and UL 723.
- D. Thermal Movement Performance: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.
- E. Composite Wood Products: Products to be made using ultra-low-emitting formaldehyde resins or made with no added formaldehyde.

2.03 ENGINEERED WOOD SIDING

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Louisiana-Pacific Corporation; LP® SmartSide® Trim & Siding and ExpertFinish® Trim & Siding or approved comparable product.
- B. Treated Engineered Wood Trim and Fascia: Provide manufacturer's standard trim, fascia board, angles, and similar components at corners, transitions, and rough openings meeting the performance requirements.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Louisiana-Pacific Corporation; LP SmartSide Trim and LP SmartSide ExpertFinish Trim, 190 Series or comparable product.
 2. Thickness: 0.578 inch total thickness.
 3. Width: 1.50 inches or 4.5 inches.
 4. Length: 16 feet.
 5. Edges: Square.
 6. Color: Beige, as selected by Engineer from manufacturer's range to match existing building.
 7. Texture: Cedar texture.
- C. Treated Engineered Wood Vertical Siding: Exterior-grade, resin-saturated, paper overlay laminated to EPA-registered zinc-borate-treated engineered wood siding. Exposed edges sealed for moisture resistance. Manufacturer's acrylic primer finish.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Louisiana-Pacific Corporation; LP SmartSide Vertical Siding, 38 Series or comparable product.
 2. Thickness: 0.354 inch.
 3. Width: 15.94 inches.

4. Length: 16 feet.
 5. Edges: Square.
 6. Color: Beige, as selected by Engineer from manufacturer's range to match existing building.
 7. Texture: Cedar texture.
- D. Treated Engineered Wood Outside Corners: Exterior-grade, resin-saturated, paper overlay laminated to EPA-registered zinc-borate-treated engineered wood siding. Exposed edges sealed for moisture resistance. Manufacturer's acrylic primer finish.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Louisiana-Pacific Corporation; LP® SmartSide® Outside Corners and LP SmartSide ExpertFinish® Outside Corners 540 Series or comparable product.
 2. Thickness: 0.970 inch total thickness.
 3. Width: 3.50 inches.
 4. Length: 10 feet.
 5. Edges: Square.
 6. Color: Beige, as selected by Engineer from manufacturer's range to match existing building.
 7. Texture: Cedar texture.

2.04 ACCESSORIES

- A. Fasteners: Hot-dipped galvanized nails, with 0.092-inch diameter shank, in length required to penetrate wood structural panels and structural framing a minimum of 1-1/2 inches, as recommended in writing by composite siding system manufacturer suitable for and compatible with system materials. Larger diameter fasteners may be required depending on wind pressure, wind speed, and wind exposure category limitations for structures in product approvals PR-N124 or ESR-1301.
- B. Sealant: ASTM C920, minimum Class 25 sealant.
- C. Water-Resistive Barrier: ASTM D226 or other approved water-resistive barrier.
- D. Air Barrier: ASTM E1677.
1. Seam Tape: Air barrier manufacturer's standard product.
- E. Non-Compressible Drainable Housewrap:

1. Non-compressible type with a minimum 40-mil (1-mm) drainage gap not reduced by force of fastening during siding installation.
2. Drainable housewrap type that removes bulk water by creating a minimum 40-mil drainage gap (air gap) at individual measurement points between housewrap and back of siding.

F. Flashing:

1. Provide flashing at door heads.
2. Material: Aluminum.
 - a. Finish: Siliconized polyester coating.
 - b. Finish: High-performance organic finish.
 - c. Finish: Factory-prime coating.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, engineered wood siding system supports, and other conditions affecting performance of the Work.
 1. Examine wall framing to verify that support members and anchorage have been installed within alignment tolerances required by engineered wood siding manufacturer.
 2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by engineered wood siding manufacturer.
 - a. Verify that air and moisture barrier has been installed over sheathing substrate to prevent air infiltration and water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. General: Install engineered wood siding in accordance with manufacturer's written instructions in orientation, sizes, and locations indicated. Anchor engineered wood siding and other components of the Work securely in place.
 1. Shim or otherwise plumb substrates receiving engineered wood siding system.
 2. Flash engineered wood siding at perimeter of all openings.
 3. Locate and space fastenings in uniform vertical and horizontal alignment.

4. Seal engineered wood substrates exposed to weather to prevent moisture intrusion and water buildup.
 - a. Seal around penetrations.
 - b. Seal each exposed cut of siding and trim. It is not recommended to field spray-applied coatings on cuts.
 - c. Seal each butt joint from weather by covering with joint moldings, sealant, or factory prefinished ends.
 5. Install flashing and trim as engineered wood siding work proceeds.
 6. Align bottoms of engineered wood siding.
 7. Provide weathertight escutcheons for pipe- and conduit-penetrating engineered wood siding system.
- B. Metal Protection: Where dissimilar metal flashings contact each other or corrosive substrates, protect against galvanic action as recommended in writing by siding manufacturer.
- C. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
- D. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that are permanently watertight.
1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to achieve water resistant performance.
- E. Replace engineered wood siding components that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

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 prices bid for the various items of work in this project.

END OF SECTION

DIVISION 8 – DOORS AND WINDOWS

SECTION 08111 – HOLLOW METAL DOORS AND FRAMES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 RELATED REQUIREMENTS

SECTION 08710 - DOOR HARDWARE.

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2025.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025.
- F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2024.
- G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.
- H. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.
- I. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- J. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

1.04 SUBMITTALS

- A. See SECTION 01300 – SUBMITTALS for administrative requirements for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Requirements for Hollow Metal Doors and Frames:
 - 1. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
 - 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 - 3. Zinc Coating for Typical Interior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
- B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.02 HOLLOW METAL DOORS

- A. Door Finish: Factory primed and field finished.
- B. Exterior Doors: Thermally insulated.

1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 3 - Extra Heavy-duty.
 - b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 16 gauge, 0.053 inch, minimum.
 - e. Zinc Coating: A60/ZF180 galvanized coating; ASTM A653/A653M.
 2. Door Thermal Resistance: R-Value of 6.0 minimum, for installed thickness of polystyrene.
 3. Door Thickness: 1-3/4 inches, nominal.
- C. Interior Doors, Non-Fire-Rated:
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 3 - Extra Heavy-duty.
 - b. Physical Performance Level A, 1,000,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 16 gauge, 0.053 inch (1.3 mm), minimum.
 - e. Zinc Coating: A60/ZF180 galvanized coating; ASTM A653/A653M.
 2. Door Thickness: 1-3/4 inches (44.5 mm), nominal.
 3. Door Face Sheets: Flush.

2.03 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. Frame Finish: Factory primed and field finished.
- C. Exterior Door Frames: Knock-down type.
 1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvanized) in accordance with ASTM A653/A653M, with A60/ZF180 coating.
 2. Frame Metal Thickness: 14 gauge, 0.067 inch, minimum.
 3. Frame Finish: Factory primed and field finished.

2.04 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Coordinate frame anchor placement with wall construction.
- C. Install door hardware as specified in Section 08710.

3.03 TOLERANCES

Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.

3.04 ADJUSTING

- A. Adjust for smooth and balanced door movement.
- B. Adjust sound control doors so that seals are fully engaged when door is closed.
- C. Test sound control doors for force to close, latch, and unlatch; adjust as necessary in compliance with requirements.

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 prices bid for the various items of work in this project.

END OF SECTION

SECTION 08710 – DOOR HARDWARE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. BHMA A156.1 - Standard for Butts and Hinges; 2025.
- C. BHMA A156.3 - Exit Devices; 2025.
- D. BHMA A156.4 - Door Closers and Pivots; 2024.
- E. BHMA A156.6 - Standard for Architectural Door Trim; 2021.
- F. BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.
- G. BHMA A156.16 - Standard for Auxiliary Hardware; 2023.
- H. BHMA A156.18 - Standard for Materials and Finishes; 2020.
- I. BHMA A156.21 - Thresholds; 2025.
- J. BHMA A156.22 - Standard for Gasketing; 2021.
- K. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.
- L. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- M. UL (DIR) - Online Certifications Directory; Current Edition.
- N. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; 2004.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- C. Keying Requirements Meeting:

1. Schedule meeting at project site prior to Contractor occupancy.
2. Attendance Required:
 - a. Contractor.
 - b. Owner.
3. Agenda:
 - a. Establish keying requirements.
 - b. Verify locksets and locking hardware are functionally correct for project requirements.
 - c. Verify that keying and programming complies with project requirements.
 - d. Establish keying submittal schedule and update requirements.
4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
 - a. Key control system requirements.
5. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.
6. Deliver established keying requirements to manufacturers.

1.04 SUBMITTALS

- A. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- B. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 2. Provide complete description for each door listed.
- C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- D. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- E. Keying Schedule:
 1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.

1.05 WARRANTY

- A. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with manufacturer.
 - 1. Closers: Five years, minimum.
 - 2. Exit Devices: Three years, minimum.
 - 3. Locksets and Cylinders: Three years, minimum.
 - 4. Other Hardware: Two years, minimum.

PART 2 – PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
- D. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.

2.02 HINGES

- A. Hinges: Comply with BHMA A156.1, Grade 1.
 - 1. Provide hinges on every swinging door.
 - 2. Provide ball-bearing hinges at each door with closer.
 - 3. Provide non-removable pins on exterior outswinging doors.

4. Provide following quantity of butt hinges for each door:
 - a. Doors From 60 inches (1524 mm) High up to 90 inches (2286 mm) High:
Three hinges.

2.03 EXIT DEVICES

- A. Exit Devices: Comply with BHMA A156.3, Grade 1.
 1. Lever design to match lockset trim.
 2. Provide cylinder with cylinder dogging or locking trim.
 3. Provide exit devices properly sized for door width and height.
 4. Provide strike as recommended by manufacturer for application indicated.
 5. Provide UL (DIR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.

2.04 LOCK CYLINDERS

- A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
 1. Provide cylinders from same manufacturer as locking device.
 2. Provide cams and/or tailpieces as required for locking devices.

2.05 CLOSERS

- A. Manufacturers; Surface Mounted:
 1. Assa Abloy Group; Corbin Russwin DC3000 Series, Norton Rixson 7500 Series, Sargent 1431 Series, or approved equivalent: www.assaabloydss.com/#sle.
 2. DORMA USA, Inc; 7400 Series, 8600 Series, 8900 Series, TS93, or approved equivalent: www.dorma.com/#sle.
 3. LCN, an Allegion brand; 1250 Series or approved equivalent: www.allegion.com/us/#sle.
- B. Closers: Comply with BHMA A156.4, Grade 1.
 1. Type: Surface mounted to door.
 2. Provide door closer on each exterior door.
 3. At outswinging exterior doors, mount closer on interior side of door.

2.06 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.

1. Provide stop for every swinging door, unless otherwise indicated.

2.07 PROTECTION PLATES

A. Protection Plates: Comply with BHMA A156.6.

B. Metal Properties: Stainless steel material.

1. Metal, Heavy Duty: Thickness 0.062 inch (1.57 mm), minimum.

C. Edges: Beveled, on four sides unless otherwise indicated.

D. Fasteners: Countersunk screw fasteners.

2.08 WALL STOPS

A. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.

1. Type: Bumper, concave, wall stop.
2. Material: Aluminum housing with rubber insert.

2.09 THRESHOLDS

A. Thresholds: Comply with BHMA A156.21.

1. Provide threshold at each exterior door, unless otherwise indicated.
2. Type: Rabbeted with door stop; accessible.
3. Material: Aluminum.
4. Threshold Surface: Fluted horizontal grooves across full width.
5. Field cut threshold to profile of frame and width of door sill for tight fit.
6. Provide non-corroding fasteners at exterior locations.

2.10 WEATHERSTRIPPING AND GASKETING

A. Weatherstripping and Gasketing: Comply with BHMA A156.22.

1. Head and Jamb Type: Adjustable.
2. Door Sweep Type: Encased in retainer.

3. Material: Aluminum, with brush weatherstripping.
4. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
5. Provide door bottom sweep on each exterior door, unless otherwise indicated.

2.11 FINISHES

- A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
 1. Primary Finish: 630; satin stainless steel, with stainless steel 300 series base material (former US equivalent US32D); BHMA A156.18.
 2. Secondary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.
 - a. Use primary finish unless hardware element is not available, then use secondary finish.

PART 3 – EXECUTION

3.01 EXAMINATION

Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
 1. For Steel Doors and Frames: Install in compliance with DHI (LOCS) recommendations.
 2. Mounting heights in compliance with ADA Standards:
 - a. Locksets: 40-5/16 inch (1024 mm).
 - b. Exit Devices: 40-5/16 inch (1024 mm).
- D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 ADJUSTING

- A. Adjust hardware for smooth operation.
- B. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.04 PROTECTION

Do not permit adjacent work to damage hardware or finish.

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 prices bid for the various items of work in this project.

END OF SECTION

DIVISION 9 – FINISHES

SECTION 09911 – EXTERIOR PAINTING

PART 1 – GENERAL

1.01 RELATED REQUIREMENTS

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 REFERENCE STANDARDS

- A. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.
- B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.
- C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).
- D. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.03 SUBMITTALS

- A. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
 - 2. Label each container with color in addition to the manufacturer's label.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

Provide paints and finishes from the same manufacturer to the greatest extent possible.

2.02 PAINTS AND FINISHES – GENERAL

- A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each paint material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.
- B. Colors: As indicated on drawings.

2.03 PAINT SYSTEMS – EXTERIOR

- A. Paint E-OP - Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete masonry units, primed wood, and primed metal.
 - 1. Two top coats and one coat primer.
 - 2. Top Coat(s): Exterior Latex; MPI #10, 11, 15, 119, or 214.
 - 3. Primer: As recommended by top coat manufacturer for specific substrate.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
 - 2. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Masonry:
 - 1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
- G. Ferrous Metal:
 - 1. Solvent clean according to SSPC-SP 1.

2. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast

cleaning according to SSPC-SP 6 Commercial Blast Cleaning. Protect from corrosion until coated.

- H. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

3.03 APPLICATION

- A. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.
- B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

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

DIVISION 13 – SPECIAL CONSTRUCTION

SECTION 13129 – PREFABRICATED ENGINEERED BUILDINGS AND STRUCTURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

- A. Prefabricated metal buildings.
- B. Towers.

1.03 RELATED SECTIONS

- A. SECTION 03300 – CAST-IN-PLACE CONCRETE: Concrete foundations and anchor bolts.
- B. DIVISION 16 – ELECTRICAL: Electrical power service and wiring connections.

1.04 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. Manual of Steel Construction-Allowable Stress Design.
- B. American National Standards Institute (ANSI).
- C. American Society of Civil Engineers:
 - 1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- D. ASTM International (ASTM):
 - 1. ASTM A36 - Standard Specification for Carbon Structural Steel.
 - 2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 3. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - 4. ASTM A513 - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.

5. ASTM A529 - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality.
 6. ASTM A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
 7. ASTM A653/A - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 8. ASTM A1008/A - Standard Specification for Steel Bars, Carbon and Alloy, Cold-Finished.
 9. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 10. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 11. ASTM B632/B632M - Standard Specification for Aluminum-Alloy Rolled Tread Plate.
 12. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 13. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass - Kind Hs, Kind Ft Coated and Uncoated Glass.
 14. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
- E. Building Officials Code Administrators International (BOCA).
- F. International Building Code (IBC).
- G. International Code Council (ICC):
1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- H. National Fire Protection Association (NFPA):
1. NFPA 70 - National Electric Code.
- I. Occupational Safety & Health Administration (OSHA):
1. Regulations shall be met or exceeded in the design.
- J. Steel Joist Institute (SJI):
1. Standard Specification for Open Web Steel Joists, K-Series.

1.05 SUBMITTALS

- A. Submit under provisions of SECTION 01300 – SUBMITTALS.
- B. Product Data:
 - 1. Manufacturer's data sheets on each product to be used.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Typical installation methods.
- C. Verification Samples: Two representative units of each type, size, pattern and color.
- D. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
- E. Certificates: Product certificates signed by the manufacturer certifying material compliance with specified performance characteristics and criteria, and physical requirements.
- F. Warranty documents specified herein.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

1.07 PRE-INSTALLATION CONFERENCE

Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Designer, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- B. Protect from damage due to weather, excessive temperature, and construction operations.

1.09 PROJECT CONDITIONS

Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.10 WARRANTY

Manufacturer's standard limited warranty unless indicated otherwise.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: Panel Built Incorporated, which is located at: 302 Beasley Street, P. O. Box 2658; Blairsville, GA 30514; ASD Toll Free: 800-636-3873; Phone: 706-745-6540; Fax: 800-594-3245; Email: hlickey@panelbuilt.com; Web: www.PanelBuilt.com
- B. Requests for essentially equivalent substitutions will be considered.

2.02 PREFABRICATED METAL BUILDINGS

- A. Basis of Design: Custom Designed Prefabricated Factory Built Metal Buildings supplied by Panel Built Inc.
- B. Design Requirements:
 - 1. Capable of withstanding effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
 - 2. Design Loads: Determine loads based on following minimum design wind, loads, and pressures:
 - a. Uniform Pressure: 50 lbs per sq ft acting inward or outward.
 - b. Wind Load on Buildings: 120 mph; 2000 IBC Exp. C.
 - 3. Seismic Performance: Capable of withstanding effects of seismic events according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads".
 - 4. Thermal Movements: Resulting from following maximum range of change range ambient and surface temperatures. Prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - a. Temperature Range of Change:
 - 1) Ambient: 120 degrees Fahrenheit.
 - 2) Material Surfaces: 180 degrees Fahrenheit.

5. Electrical Devices: UL listed with wiring bearing UL classification and conforming to current NEC.

C. Performance Requirements:

1. Shop drawings are to be stamped and certified by a Professional Engineer licensed in the State of Hawaii.

D. Materials:

1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish specified.
 - a. Sheet: ASTM B209.
 - b. Extruded Shapes: ASTM B221.
 - c. Rolled Tread Plate: ASTM B632/B632M, Alloy 6061-T4 or 6061-T6.
2. Cold-Rolled Steel Sheet: ASTM A1008/A, Commercial Steel (CS), Type B.
3. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A, commercial quality, G90 (Z275) coating designation; mill phosphatized.
4. Aluminum Tread Plate: 1/8 inch aluminum plate per ASTM B209.
5. Steel Mechanical Tubing: ASTM A513, welded steel mechanical tubing.
6. Expanded Polystyrene (EPS) Core: Minimum of .95 pcf complying with ASTM C578 Type 1.
7. Oriented Strand Board (OSB): Standard Grade; minimum physical properties conforming to APA PRP-108.
8. Clear Tempered Float Glass: ASTM C1048, Kind FT, Condition A, Type I, Class 1, and Quality q3.

E. Size:

1. Dimensions: 10 x 10 feet.
2. Outside Height: 96 inches. Interior Floor to Ceiling Height: 90 inches.

F. Prefabricated Welded Framing System: 14 gauge 0.07 inch mechanical tube. Exterior smooth and flat with no exposed fasteners on building exterior.

1. Lifting Lugs: Provided.
2. Forklift Pockets: Provided.

G. Door:

1. 1 (one) 20-gauge insulated steel door with 1/2 glass.
2. The door shall be 36w x 84h x 1-3/4 inch thick and shall be constructed of painted 20-gauge hot dipped galvanized steel, mill treated for proper paint adherence. Hinge preparation is to be cut through the doors and provided with reversible filler plates to allow building site handling. The door frame shall be 16-gauge commercial quality steel. The frame shall be pre-mortised for application of matching hinges and striker set of the door. The door shall be supplied with all necessary hardware to meet local and state code requirements. The door shall be fabricated as to include 1/8 inch tempered glass in the upper half. The window shall measure approximately 23w x 29h inch. The door includes a closer, sweep, threshold, satin chrome lever set, Door Rain Drip Guard, and weather-stripping.

H. Windows:

1. 11 (eleven) single-hung windows.
2. Single-hung windows shall be a nominal 3 ft 8 inch wide x 3 ft high. They shall be installed 42 inch off the floor, glazed with 1/2 insulated tempered glass, and shall be a composite part of the wall panel. The top half shall be stationary, the bottom half shall slide up, and they shall include an integral locking mechanism with a cam latch and keeper. The entire window frame shall be painted by AAMA Specification 603.8.

I. Roof:

1. 3 inch 3-ply polystyrene panelized roof with 4 inch overhang, 1/2-12 pitch.
2. The roof shall be 3 inch thick composite sandwich panels. Both sides shall be stucco-embossed aluminum pre-painted white. The core shall be of 1 lb. density polystyrene foam. The panels shall have formed edge connectors that are capable of being friction locked without mechanical fasteners using a full-length joint without through metal connectors. The joint shall allow lateral expansion and contraction. Fascia shall be 5 inch high with gutter and downspouts.

J. Finish: Manufacturer's standard epoxy primer with a urethane finish as follows:

1. Color: Tan.
2. Exterior and the interior to be the same color.

K. Base and Floor: Floor to be mounted to 2 to 4 inch minimum steel tube or channel steel base frame.

1. Finished Floor: Rubber anti-fatigue tile (small coin texture) and cove base molding.
2. The floor shall have all required cutouts for electrical and communication conduits.

L. Wall Panel: Panels to be MIG welded into place.

1. Exterior Face: 16 gauge galvanized steel.
2. Interior Face: 16 gauge galvanized steel or HDPE.
3. All wall panels shall be insulated with Enviroseal Spray foam or equal to create a Class II vapor retarder that controls airflow and creates a tight building envelope.
*R-Value of approximately 7.2 per inch to a minimum R-value of R-18 for 3 inch cavity.
4. Overall Thickness: 3 inches R-12.

M. Ceiling:

1. Interior Ceiling: Suspended ceiling 100 sq feet mounted at 90 inches above finished floor.
2. The ceiling system shall consist of a complete Class "A" suspension system and acoustical material. The ceiling suspension system shall consist of a concealed assembly of structural members and such hardware and wall moldings as required to support the ceiling system with a maximum deflection of L/360 of the span. The ceiling shall be capable of incorporating lighting, heating, ventilation, and air conditioning, electronic and electrical system components, as necessary. The system shall be completely integrated with the structural and mechanical elements and shall be coordinated with the interior partitions. The ceiling system shall consist of a white "T" grid system with a 2 ft x 4 ft pattern. The ceiling tile shall be Armstrong "Minatex" Model #775 24 x 48 x 5/8 inch Lay-in or equal.

N. Electrical Power Service: In accordance with NEC Standards.

1. Service: 125 amp, 120/240 VAC, single-phase, main lug only 3-wire service with 8 circuit breaker panel.
2. Wiring Method: Copper wiring No. 12 min MC cable concealed in panel and attached to surface mounted 2 x 4 boxes at receptacle and switch locations.
3. Wiring Devices:
 - a. Four 120-V 20 A duplex receptacles.
 - b. One 220-V 20 A duplex receptable.
 - c. One telephone/computer prep 3/4 inch conduit to junction box.
 - d. Single-pole switch mounted adjacent to door to control lighting fixtures.
 - e. Two ceiling-mounted LED light fixtures, 48 inch long, acrylic lens.

O. HVAC:

1. Thru-wall Heating/Air Conditioning: 11,600/11,200 AC with 10,700/ 8,500 Electric Heat.

2. Unit shall be 230/208 V, 60 Hz, 20 A.

P. Countertop:

1. Powder-coated steel, 10 linear feet.
2. The countertop shall be 21 inch deep and shall include support brackets and an access hole with grommet. The standard counter height is 30 inch above finished floor to meet ADA compliance

Q. Fabrication:

1. Fabricate structures and shelters completely in factory.
2. Pre-glaze windows and doors at factory.
3. Prewire structures and shelters at factory; ready for connection to service at Project site.
4. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
5. Fabricate for forklift unloading under base of booth with forklift pockets in base of booth or welded in place or lifting lugs at roof that are suitable for placement of the structure on prepared foundations.

2.03 TOWERS

A. Basis of Design: Custom Designed Prefabricated Free-Standing Factory Towers supplied by Panel Built Inc.

1. Free-standing. Will not use existing walls or building columns for vertical support.
2. Installation: Capable of being erected, dismantled, and relocated with hand tools.

B. Construction:

1. Structural Steel: Meet or exceed requirements of American Institute of Steel Construction (AISC), Manual of Steel Construction-Allowable Stress Design.
2. Bar Joist Design: Meet or exceed requirements of Steel Joist Institute (SJI) "Standard Specification for Open Web Steel Joists, K-Series."
3. OSHA (Occupational Safety & Health Administration) Regulations: Met or Exceed.

C. Loads and Deflections:

1. Structure shall be designed to withstand horizontal forces as required for the seismic zone at the site of installation.

2. Deck, stairs and landings shall be designed for a live load of 100 psf.
3. Deflection of all components under full live load shall not exceed 1/240 of span.

D. Structure:

1. OSHA 2-rail handrail:
 - a. 42 inch tall.
 - b. 1-1/2 inch tubular uprights and cross members.
 - c. Kick Plate: 4 inch high x 12 gauge steel.
2. Columns:
 - a. Size: 5 x 5 x 3/16 inch tubular steel.
 - b. Base Plates: 12 x 12 x 5/8 inch.
 - c. Anchor Bolts: four, 1/2 inch diameter.
3. Structural Steel, Support Members and Bar Joists:
 - a. All field connections must be bolted.
4. Stairs: Bolted construction.
 - a. OSHA standard.
 - b. Treads shall be 36 inch wide with bar grating. Railing shall be two rail 1 1/2 inch tube. Landings shall be 48 x 48 inch with a bar grating floor. The landing rail shall be a 42 inch high rail with a 4 inch toe plate. The stair system shall be total self-supporting and shall be fastened to the floor.

E. Materials:

1. Structural Steel Beams: Hot rolled wide flange meeting ASTM A36.
 - a. Minimum yield strength of 36,000 psi.
 - b. Galvanized.
2. Bar Joists: Meet requirements of Steel Joist Institute.
 - a. Galvanized.
3. Columns: Square tube meeting ASTM Specification A500B.
 - a. Minimum yield strength of 46,000 psi.
 - b. Galvanized.
4. Decks:

- a. Bar Grating: Minimum of welded steel with openings 4 x 1-3/16 inch and 1 x 1/8 inch bearing bars, attached to structure with saddle anchors set over bearing bars with tek screws and galvanized.
- 5. Structural Bolts: J429 Grade 5.
- F. Painting:
 - 1. Structural beams, columns, bar joists, landings, handrail are primed with an epoxy primer and painted with a urethane finish.
 - a. Color: Gray.
 - b. Handrail color: Safety yellow

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly constructed and prepared.
- B. Check installed anchor bolts for accuracy. Verify that bearing surfaces are ready to receive the work.
- C. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

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. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
- B. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- C. Place on prepared concrete foundations and slabs provided as specified under SECTION 03300 – CAST-IN-PLACE CONCRETE.
- D. Anchor securely in place, allowing for required movement, including expansion and contraction.
- E. Connect electrical services as specified in DIVISION 16 – ELECTRICAL.

SECTION 13282 – LEAD PAINT CONTROL MEASURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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. The Contractor shall ensure all work is in compliance with all applicable Federal, State and local laws and regulations concerning lead, including all incidental and pertinent operations during the renovation of structures located at the Site.
- B. The paint on the surfaces scheduled for disturbance were tested for lead. The testing results indicated that paints at the Site contained detectable concentrations of lead above the laboratory detection limit as specified in the hazardous materials survey report, Hazardous Materials Survey Report in Support of the State of Hawaii Department of Transportation-Airports Division Project No.: CO2541-33: HDH Unicom Tower Demolition and Replacement, dated January 2026, 28 pages, prepared by Kaimana Environmental Solutions LLC.
- C. The Contractor shall furnish all labor, materials and equipment necessary to complete the safe removal, transportation and disposal of lead-containing paint (LCP) in areas that may be affected by the renovation activities. These areas include any lead-containing paint that is loose and flaking or areas where lead-containing paint has the potential to become airborne or otherwise create dust (i.e. from sanding, drilling, friction, etc.) during the renovation activities.
- D. The work specified herein shall include the preparation of work areas and removal, transportation and disposal procedures. All work shall be performed as required of lead-containing and lead-contaminated materials by persons trained, knowledgeable and qualified in the techniques of handling and disposing of LCP and lead-contaminated materials and in the subsequent cleaning of lead-contaminated areas.
- E. This Specification covers the requirements and procedures for limiting occupational and environmental exposure to lead during renovation of LCP painted structures at the Site.
- F. In performing the renovation and disposal of components with lead-containing paint, all possible safeguards, precautions and protective measures should be utilized to prevent exposure of any individual to lead particulates.

The Contractor shall review the hazardous materials survey report, Hazardous Materials Survey Report in Support of the State of Hawaii Department of Transportation-Airports Division Project No.: CO2541-33: HDH Unicom Tower Demolition and Replacement, dated January 2026, 28 pages, prepared by Kaimana Environmental Solutions LLC, and ensure that he/she fully understands where LCP

has been identified and assumed, that the testing was for design purposes only, and that the results do not satisfy any of the requirements of Title 12, (Department of Labor and Industrial Relations), Subtitle 8 (Division of Occupational Safety and Health), Chapter 148.1 (Lead Exposure in Construction), Hawaii Administrative Rules.

- G. Debris and waste resulting from renovation work, except as otherwise specified, shall become the property of the Contractor. The Contractor shall be required to separate renovation debris, steel components and miscellaneous metal elements and recycle them as scrap metal.
- H. The Contractor shall conduct TCLP tests for lead of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether the waste is hazardous or non-hazardous.
- I. Related Work Specified Elsewhere:
 - 1. SECTION 13288 – AIR MONITORING AND TESTING; for requirements of all air monitoring and testing requirements.

1.03 SUBMITTALS

- A. Manufacturer's Catalog Data: Submit copies of manufacturer's specifications, installation instructions and field test materials for all chemicals and equipment related to lead-containing and lead-contaminated materials, including any other data that may be required to demonstrate compliance with these Specifications and proposed uses. This includes, but is not limited to, data for vacuum filters and respirators.
- B. Safety Data Sheets: Submit copies of the Safety Data Sheets for all chemicals used.
- C. Notifications: When required, provide the Hawaii State Department of Health written notice of any on-site project activity involving the disturbance of lead-containing paint as early as possible but at least 10 working days prior to commencement of work. Submit a copy of the written notification to the Authorized Representative of the General Contractor.
- D. Respiratory Protection Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Respiratory Protection Program prepared in accordance with all applicable laws. The Contractor shall also submit fit test records on all employees to be used on this project who may be required to wear a respirator.
- E. Hazard Communication Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Hazard Communication Program prepared in accordance with all applicable laws.
- F. Safety Program: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Health and Safety Plan prepared in accordance with all applicable laws.

- G. Lead Paint Disturbance/Removal Plan: Submit no later than 10 consecutive days from notice of award, a copy of the Contractor's Lead Paint Disturbance/Removal Plan, including a written Compliance Program which meets the specifications of 29 CFR 1926.62.
- H. Work Procedure Plan: Submit no later than 10 consecutive working days from notice of award, a copy of the Contractor's Work Procedure Plan. The following are required components of a Work Procedure Plan:
1. A sketch showing the location, size, and details of lead control areas, signage, security, decontamination and support areas including eating, drinking, smoking, and restroom areas;
 2. Procedures, interface of trades, sequencing of lead-related work, respirators, protective equipment;
 3. A detailed description of the methods of control of the work to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded;
 4. Work plan and schedule for waste containment and disposal including daily cleanup and disposal of stray paint chips and paint dust;
 5. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment;
 6. Names and qualifications (experience and training) of personnel who will be working on site with hazardous wastes;
 7. Estimated quantities of wastes to be generated and disposed of as well as a description of the methods used to identify hazardous wastes encountered with the work;
 8. Spill prevention, containment, and cleanup contingency measures to be implemented;
 9. Description of procedures to stop work in the event that area monitoring and laboratory analysis indicate air concentrations of lead in excess of the action level; and
 10. Methods to eliminate runoff of the water used to minimize dust created by demolition work, and collection and disposal plan for wastewater and paint debris.
- I. Rental Equipment: When rental equipment is to be used during lead-containing paint handling and disposal, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Authorized Representative of the General Contractor.
- J. HEPA Vacuums: Submit no later than 10 consecutive working days from notice of award, manufacturer's certification that vacuums conform to ANSI Z9.2-79,

Fundamentals Governing the Design and Operation of Local Exhaust Systems as applicable to this project.

- K. Contractor's Competent Person's Qualifications: The Contractor shall submit no later than 10 consecutive working days from notice of award the Contractor's Competent Person's name, contact information and valid qualifications.
- L. Certification of Medical Examinations: The Contractor shall submit documentation from a physician that all employees or agents who may be exposed to airborne lead-containing dust or fumes have been medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, the Contractor shall document that his personnel have received medical monitoring as required in the HIOSH lead standard (12-148.1).
- M. Employee Training Certifications: Submit documentation within 10 consecutive calendar days of award, satisfactory to the Authorized Representative of the General Contractor, that the Contractor's employees, including foreman, supervisors and any other company personnel or agents who may be exposed to airborne lead dust or who may be responsible for any aspects of lead-containing paint removal activities, have received training in accordance with OSHA 29 CFR 1926.62 and the HIOSH lead standard (12-148.1). Training shall include, but not be limited to, the dangers of lead exposure, respirator use and decontamination procedures.
- N. Laboratory Qualifications:
1. Personal Air Monitoring Laboratory: Submit name, address and telephone number of testing laboratory responsible for analysis of personal air monitoring samples and reporting concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.
 2. TCLP Testing Laboratory: Submit name, address and telephone number of testing laboratory responsible for TCLP analysis.

The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.
- O. Personal Air Monitoring Results: Submit test results to the Authorized Representative of the General Contractor and the affected Contractor's employees within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person. Test results for the first two full days

of initial personal air monitoring shall be submitted to the Authorized Representative of the General Contractor within 48 hours after completion of sampling.

- P. TCLP Results: Submit test results to the Authorized Representative of the General Contractor within three (3) working days of collection, signed by the testing laboratory employee performing the analysis and the Contractor's Competent Person.
- Q. Log of Lead Disturbance Work: Complete and submit a daily log of all lead disturbance work performed.

1.04 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only, and include but are not limited to, the following.

1. Code of Federal Regulations (CFR):

29 CFR 1926.21	Safety Training and Education
29 CFR 1926.33	Access to Employee Exposure and Medical Record
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead Exposure in Construction
29 CFR 1926.65	Hazard Waste Operations and Emergency Response
29 CFR 1926.103	Respiratory Protection
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste
	Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standard for Owners and Operators of
	Hazardous Waste Treatment, Storage, and Disposal
	Facilities
40 CFR 268	Land Disposal Restriction
40 CFR 745	Lead; Requirement for Lead-Based Paint Activities
49 CFR 172	Hazardous Materials, Tables, and Hazardous
	Materials Communications Regulations
49 CFR 178	Shipping Container Specification

2. Hawaii Occupational Safety and Health (HIOSH):

12-114.2	Personal Protective Equipment
12-121.2	Fall Protection
12-122.2	Materials Handling, Storage, Use, and Disposal
12-148.1	Lead
12-151	Hazardous Waste Operations and Emergency
	Response
12-202-33.1	Lead

3. American National Standards Institute (ANSI):

ANSI Z9.2 (1979; R 1991) Fundamentals Governing the Design
and Operation of Local Exhaust Systems
ANSI Z88.2 (1992) Respiratory Protection

4. Department of Housing and Urban Development (HUD):

HUD Guidelines for the Evaluation and Control of Lead Based Paint Hazards in
Housing

5. Underwriters Laboratories Inc. (UL):

UL 586 (1990) High-Efficiency, Particulate, Air Filter Units

1.05 DEFINITIONS

- A. Action Level: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period.
- B. Area Sampling: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations but is not collected in the breathing zone of personnel (approximately 1.5 to 1.97 yards (1.8 meters) above the floor).
- C. Authorized Visitor: The Authorized Representative of the General Contractor, Inspector, air monitoring personnel, Owner, Owner's representative or a representative of any regulatory or other agency having jurisdiction over the project.
- D. Authorized Representative of the General Contractor: A qualified environmental consultant, hired by the General Contractor, who performs air monitoring and inspection activities during lead abatement and/or disturbance work and shall have the authority of initiating engineering controls. The Authorized Representative of the General Contractor shall not be employed by or related to the Contractor.
- E. Competent Person: As used in this Section, refers to a person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current Federal, State, and local regulations, has the authority to take prompt corrective actions to control the lead hazards.
- F. Contaminated Area: An area where unwanted toxic or harmful substance exists.
- G. Contractor: For this project, the Contractor is that individual, or entity under contract to the General Contractor to perform the herein listed work.
- H. EPA: United States Environmental Protection Agency.

- I. High Efficiency Particulate Air (HEPA) Filter: HEPA filtered vacuuming equipment with a filter system capable of collecting and retaining lead-contaminated particulate. A high efficiency particulate filter demonstrates at least 99.97 percent efficiency against 0.3 micron or larger size particles.
- J. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excludes other forms of organic lead compounds.
- K. Lead-Based Paint (LBP): Protective or decorative coating which contains at least 1.0 mg/cm² of lead by area or at least 0.5 percent (5,000 mg/kg) of lead by weight.
- L. Lead-Containing Paint (LCP): Protective or decorative coating which contains any detectable quantity of lead; includes Lead-Based Paint.
- M. Lead Control Area: A temporary area or structure or containment, sometimes equipped with HEPA filtered local exhaust, that prevents the spread of lead dust or debris. Usually critical barriers and physical boundaries are employed to isolate the lead control area and to prevent migration of lead contamination and unauthorized entry of personnel.
- N. OSHA: United States Department of Labor, Occupational Safety and Health Administration.
- O. Owner: State of Hawaii.
- P. Permissible Exposure Limit (PEL): 50 micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more or less than 8 hours in a work day, the PEL shall be determined by the following formula:

$$\text{PEL (micrograms per cubic meter of air)} = 400 / \text{number of hours worked per day}$$
- Q. Personal Sampling: Sampling of airborne lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employees work tasks. The breathing zone shall be considered an area within 12 inches (304.8 mm) of the nose or mouth of an employee.
- R. Physical Boundary: Area physically roped or partitioned off around lead control area to limit unauthorized entry of personnel.
- S. Qualified Environmental Consultant (QEC): A Hawaii Department of Health certified Lead Inspector and Risk Assessor who is an Industrial Hygienist or similar safety professional with experience in enforcing lead safety regulations and performing airborne lead sampling.
- T. Qualified Testing Laboratory:
 - 1. Environmental and Work Area Monitoring Laboratory: The testing laboratory employed by the Authorized Representative of the General Contractor to perform

analysis of environmental and work area air monitoring samples and report concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in the applicable parameter by successful participation within the last year in AIHA's ELPAT.

2. Personal Air Monitoring Laboratory: The testing laboratory utilized by the Contractor to perform analysis of personal air monitoring samples and report airborne concentrations of lead. Collection of the Contractor's OSHA personal air samples will be performed by the Contractor's Competent Person.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air. Laboratory personnel performing the work shall have been judged proficient in the analysis of lead in air by successful participation within the last year in AIHA's ELPAT.

3. Toxicity Characteristic Leaching Procedure (TCLP) Testing Laboratory: The testing laboratory employed Contractor to perform TCLP tests of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether or not the waste is hazardous or non-hazardous. The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

U. Site: Structure located at 69-415 Farrington Highway in Mokuleia, Hawaii.

1.06 QUALITY ASSURANCE

A. Authorized Representative of the General Contractor Responsibilities:

1. Review and approve Contractor personnel training;
2. Review and approve Contractor's Work Procedure Plan for conformance to the applicable reference standards;
3. Inspect work for conformance to the Contractor's approved Work Procedure Plan;
4. Schedule and conduct required air monitoring, inspection and reporting;

5. Monitor work to verify that work is performed at all times in accordance with the requirements of this Specification;
6. Monitor work to verify that adequate control is being maintained at all times of hazardous exposure to employees and to the environment;
7. Perform area air monitoring during lead abatement activities;
8. Be on site during all worksite preparation and cleaning, be available by telephone, pager or answering service at all other times during the work and able to be present at the work site in no more than 2 hours; and
9. After final cleanup, verify that the lead control area is free of any visible lead paint chip debris, waste or dust and that final area air clearance samples have lead concentrations at or below the background level.

B. Safety and Health Compliance:

1. In addition to the detailed requirements of this Specification, the Contractor shall comply with laws, ordinances, rules, and regulations of Federal, State, and local authorities regarding removing, handling, storing, transporting, and disposing of lead waste materials.
2. Comply with the applicable requirements of the current issue of 29 CFR 1926.62, HIOSH 12-148.1, and HIOSH 12-202-33.
3. Where requirements of this Specification and the referenced documents vary, the most stringent requirement shall apply.

C. Pre-Construction Conference:

1. The Authorized Representative of the General Contractor may meet with the Contractor and General Contractor to discuss in detail the work procedures, precautions and area and personal air monitoring to be employed.
2. If rental equipment is to be used during lead-containing paint handling and disposal, notify the rental agency in writing concerning the intended use of the equipment. Submit a copy of the written notification to the Authorized Representative of the General Contractor.

1.07 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor acknowledges that he alone is responsible for the instruction of personnel in and enforcement of personal protection requirements. The Contractor shall comply with all requirements of 29 CFR 1926.62 and HIOSH 12-148.1. The Contractor shall also be responsible for complying with all applicable EPA regulations in regards to lead-containing materials.
1. Respirators: Use appropriate respirators and filters which meet all requirements of OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

2. **Protective Clothing:** Use appropriate personal protective clothing (disposable suits, eye protection, gloves, etc.) as required by OSHA 29 CFR 1926.62 and HIOSH 12-148.1.

1.08 REQUIREMENTS

- A. Notification: The Contractor shall notify the Authorized Representative of the General Contractor 15 days prior to the start of any abatement involving LCP painted materials. When required, notify the Department of Health a minimum of 10 working days prior to disturbance of any LCP.
- B. Training: The Contractor shall be solely responsible for complying with all OSHA 29 CFR 1926.62 and HIOSH 12-148.1 requirements to train each employee. Training shall include, but not be limited to, the hazards of lead; safety and health precautions; and the use and requirements for protective clothing, equipment, and respirators.
- C. Medical Examinations: Before exposure to lead-contaminated dust, the Contractor shall provide his employees with a comprehensive medical examination as required by 29 CFR 1926.62 and HIOSH 12-202-33. The examinations will not be required if records show that Contractor's employees have been examined as required by 29 CFR 1926.62 within the last year.
- D. Respiratory Protection Program: The Contractor shall establish and implement a Respiratory Protection Program as required by ANSI A88.2, 29 CFR 1910.134, 29 CFR 1926.62, and HIOSH 12-148.1.
- E. Hazard Communication Program: The Contractor shall establish and implement a Hazard Communication Program as required by 29 CFR 1926.59.
- F. Safety Program: Contractor shall establish and implement a Health and Safety Plan which meets the specifications of 29 CFR 1926 Subparts C and D.
- G. Lead Paint Disturbance and Removal Plan: The Contractor shall establish and implement a Lead Paint Disturbance and Removal Plan. This shall include a written Compliance Program which meets the specifications of 29 CFR 1926.62.
- H. Applicable Standards and Guidelines: All work under this Contract, and any other trade work conducted with the project, shall be done in strict accordance with all applicable Federal, State and local regulations, standards, documents and codes governing the preparation, removal, renovation, treatment, transportation and disposal of lead-containing and lead-contaminated materials. The most recent edition of any relevant regulation, standard, document or code shall be applicable.
- I. The Contractor shall examine and have at all times at his office (one copy) and in view at each job site (one copy) the following materials:
 1. State of Hawaii Department of Labor and Industrial Relations; Occupational Safety and Health Standards; Part 8, Section 12-148.1;

2. Department of Housing and Urban Development; Office of Public and Indian Housing; Lead Paint Guidelines;
3. Title 29 Code of Federal Regulations Part 1926.62; Safety and Health Standards;
4. Title 29 Code of Federal Regulations Part 1910.134; Respiratory Protection;
5. Title 40 Code of Federal Regulations Part 261; Identification and Listing of Hazardous Waste;
6. Title 40 Code of Federal Regulations Part 262; Standards Applicable to Generators of Hazardous Waste;
7. Title 40 Code of Federal Regulations Part 263; Hazardous Waste Transporters;
8. Title 40 Code of Federal Regulations Part 745; Lead; Requirement for Lead-Based Paint Activities;
9. Copies of any other applicable Federal, State and local regulations, standards, documents and codes;
10. Copies of the procedures to be followed during medical emergencies, including phone numbers of the nearest hospital or other emergency medical facility, which shall be posted by the nearest telephone;
11. Copies of the Contractor's Respiratory Protection Program, Hazardous Communication Program, Safety Program, and Work Procedure Plan;
12. Copies of Material Safety Data Sheets for all chemicals used;
13. Copies of the Contractor's Competent Person's qualifications; and
14. Copies of Personal Air Monitoring results.

1.09 CONTRACTOR USE OF PREMISES

- A. General: The Contractor shall cooperate fully with the Authorized Representative of the General Contractor during project execution to minimize conflicts.
- B. Pollution Control: The Contractor shall not contaminate the air, water, soil or other items with hazardous materials such as cleaning solutions, lead-containing paint or lead-contaminated debris and wastes, etc. The Contractor shall immediately clean the contaminated area and dispose of the waste in compliance with all Federal, State and local laws, ordinances, rules and regulations at his or her own expense.
- C. Use of Site:
 1. Confine operation at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be

disturbed. Conform to site rules and regulations affecting work while at the project site.

2. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage to the areas authorized by the Authorized Representative of the General Contractor.

1.10 COMMENCEMENT OF WORK

- A. Each time work that calls for the disturbance of lead-containing paint is to begin in a new work area the Contractor shall not commence work unless the following requirements have been met.
 1. Submittals: All submittals, notifications, posting and permits must be provided and be satisfactory to the Authorized Representative of the General Contractor.
 2. Equipment: All equipment required for the work such as removal, cleanup and disposal must be on hand.

PART 2 – PRODUCTS

2.01 EQUIPMENT AND MATERIALS

- A. Respirators: Select respirators approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. Respirators shall comply with the requirements of 29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the renovation or as deemed necessary by the Contractor's Competent Person.
- B. Protective Clothing: Furnish personnel exposed to lead dust with appropriate personal protective equipment as required by 29 CFR 1926.62 and HIOSH 12-148.1. For this project, respirators shall be worn at all times throughout the renovation or as deemed necessary by the Contractor's Competent Person.
- C. Chemicals: Submit applicable Material Safety Data Sheet for all chemicals used on this project. Use the least toxic product approved by the Authorized Representative of the General Contractor.

PART 3 – EXECUTION

3.01 POTENTIAL LEAD HAZARDS

- A. The disturbance or dislocation of lead-containing paint painted materials may cause lead-containing dust to be released into the atmosphere, thereby creating a potential health hazard to the workers and the general public. Apprise all workers, supervisory personnel, subcontractors, consultants and authorized visitors who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.

- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified lead-containing materials, take appropriate continuous measures as necessary to protect all workers and the general public from the potential hazard of exposure to respirable airborne lead dust. Such measures shall include the procedures and methods described in the regulations of applicable Federal, State and local agencies.

3.02 LEAD-CONTAINING PAINT AND LEAD-BASED PAINT

- A. Various LCP and LBP painted components exist at the Site as specified in the hazardous materials survey report.
- B. Spot remove LCP and LBP only as necessary for the safe renovation of LCP and LBP painted structures. Use wet methods or HEPA vacuum attached mechanical equipment to remove LCP and LBP.
- C. Spot remove loose and flaky LCP and LBP as necessary for the safe renovation and/or demolition of LCP and LBP painted structures. Use wet methods or HEPA vacuum attached mechanical equipment to remove LCP and LBP.

3.03 LEAD CONTROL AREA REQUIREMENTS

A. Boundary Requirements:

- 1. Establish a lead control area to contain renovation operations by demarcating a boundary around the structure to be demolished or renovated in accordance with the Contractor's approved Work Procedure Plan. The lead control area shall be isolated by physical boundaries, such as temporary fencing, boundary tape and rope, to prevent unauthorized entry of personnel. If the work practice relating to lead-containing paint will create airborne dust, create a full containment with critical barriers, HEPA filtered exhaust, negative pressure enclosure and decontamination facilities.
- 2. Post Warning and Danger signs in accordance with 29 CFR 1926.62 and HIOSH 12-148.1. Signs shall be placed at all approaches to lead control area and at the boundary of the lead control area. Signs shall be posted at all locations where airborne lead concentrations may exceed ambient background levels. Locate signs at such a distance that personnel may read the sign and take necessary protective measures to avoid exposure. In addition, post signs with "Authorized Entry Only, Lead Control Area" and "PPE Required" at every entry point.

B. Personal Protection Requirements:

- 1. No one will be permitted in the lead control area unless they have been given appropriate training, Personal Protective Equipment (PPE) and medical examinations. PPE is required for all employees and persons within the lead control area.

2. Eating, drinking, smoking and application of cosmetics shall be permitted only in areas designated by the Contractor, approved by the Authorized Representative of the General Contractor, and which are free of dust generated by the renovation. Eating, drinking, smoking and application of cosmetics are not permitted in the lead control area.
3. Where eyes may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes shall be provided within the work area.

C. Environmental Protection Requirements:

1. Ensure airborne lead levels outside the lead control area are below the Action Level.
2. Perform work without damage to or contamination of the areas adjacent to locations where lead-containing or lead-contaminated material will be disturbed as a result of renovation activities. If any part of the work area is damaged or contaminated during the disturbance of lead paint, restore the damaged or contaminated area to its original condition or better, as determined by the Authorized Representative of the General Contractor.
3. Drainage inlets, downspouts, and all entrances to underground utilities which lie within, or provide drainage for, a lead control area shall be sealed until that lead control area has been cleaned, visually inspected and cleared.
4. Within a lead control area, any windows, doors or vents shall be sealed and air-conditioning units with intake or exhaust in a lead control area shall be shut down and sealed until that lead control area has been cleared with a level of airborne lead below the background level.

D. Exit Procedures: Whenever personnel exit the lead control area, they shall perform the following procedures and shall not leave the work place wearing any clothing or other equipment worn in the lead control area.

1. Vacuum themselves off with HEPA-filtered vacuum equipment, using UL 586 labeled HEPA filters;
2. Remove protective clothing in the designated changing area within the lead control area and place them in an approved impermeable disposal bag;
3. Wash their hands and faces in the designated changing area before exiting to the designated clean area outside of lead control area; and
4. Prevent migration of mud, dust and/or debris carried on work boots, clothing or equipment from the renovation site into areas beyond the lead control area.

3.04 RENOVATION INVOLVING LEAD-CONTAINING PAINT

- A. Perform lead work as specified herein. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation is performed in accordance with 29 CFR 1926.62 and as specified herein.
- B. Disturbance of LCP as a result of renovation activities shall be kept to a minimum. Water spray, vacuuming and other engineering controls shall be used to minimize airborne lead dust. Care shall be taken to avoid pulverizing, scraping, or crumbling lead painted debris.
- C. Dispose of all LCP and associated waste in compliance with all Federal, State and local requirements.
- D. Clean, as needed, all floor surfaces adjacent to the lead control area using a HEPA filtered vacuum.
- E. Use 6-mil polyethylene sheeting to cover ground underneath the work area.
- F. Use 6-mil polyethylene sheeting to cover any surfaces and equipment that will not be painted, disturbed or utilized during disturbance of lead-containing paint. After completion of work, the Contractor shall repair all damage from fastening and sealing and remove all adhesive residues from surfaces at no additional cost to the General Contractor.
- G. Manual or power sanding, grinding, abrasive or sand blasting of interior and exterior painted surfaces is not permitted, unless approved by the Authorized Representative of the General Contractor. Select paint removal processes (describe in the Work Procedure Plan) to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste.
- H. Open flame burning or torching of lead-containing paint is prohibited.
- I. The use of heat guns or hot knives which reach temperatures above 650 degrees Fahrenheit, on surfaces containing lead-containing paint, is prohibited.
- J. Use of vacuum equipment without HEPA filters in areas containing lead-containing paint is prohibited.
- K. The use of chemical paint strippers containing methylene chloride is prohibited.
- L. Control of Airborne Lead Level: The Contractor shall control the lead level outside of the work boundary to less than the action level at all times.
- M. Control of Visible Emissions: The Contractor shall control lead dust emissions from the project site so that no visible lead dust emissions leave the project work areas during renovation work. Wet methods or other engineering controls shall be used to control the emission of dust and/or debris from the renovation site in accordance with all applicable Federal, State, and local regulations. Emissions in excess of the above

shall be cause for immediate shut down of the project until corrective measures are implemented.

- N. Control of Water Runoff: Water used to control emissions of dust from the renovation activities shall not be allowed to flow uncontrolled from a lead control area, to any adjacent area or to enter the sanitary or storm water sewer system. All water runoff from lead control areas shall pass through a filter berm to remove particulate matter prior to discharge to water sewer system. The Contractor shall use only sufficient water to adequately control dust. Under no conditions shall wastewater be disposed of in storm drains or dumped on the ground.
- O. Perform renovation involving lead containing paint as indicated in Federal, State, and local regulations. The worksite preparation (barriers or containments) shall be job dependent.

3.05 WORK PROCEDURE

Perform renovation work in accordance with approved Work Procedure Plan. Use procedures and equipment required to limit occupational exposure and environmental contamination with lead when renovation work is performed in accordance with 29 CFR 1926.62 and as specified herein. Dispose of all material containing lead and associated waste in compliance with Federal, State, and local requirements.

3.06 CLEANUP

- A. Clean surfaces and surrounding ground within the lead control area daily. Do not allow paint chips, dust and debris to accumulate.
- B. Restrict and minimize the spread of dust and debris. Keep waste from being distributed over the general area. Do not dry sweep or use compressed air to clean the area.
- C. When the operation has been completed, the area will be cleaned of all visible lead paint contamination. The Authorized Representative of the General Contractor will visually inspect the affected areas for residual lead paint chips and the Contractor shall re-clean areas showing residual paint chips and debris at no cost to the Owner or General Contractor.
- D. If re-cleaning is required, the Authorized Representative of the General Contractor will visually inspect for lead debris after the re-cleaning. This process will be repeated until the Authorized Representative of the General Contractor deems the area free of visible paint chips and debris.
- E. Do not remove the lead control area barriers or roped-off perimeter and warning signs prior to the Authorized Representative of the General Contractor lead clearance certification.

3.07 DISPOSAL

A. Disposal of Non-Hazardous Painted Construction Debris (TCLP for Lead Not Exceeding EPA Limit of 5.0 Milligrams per Liter):

1. Remove non-hazardous lead waste including debris, scraps, waste materials, rubbish, and trash from the site and dispose of such waste at a landfill approved for such purposes.
2. The Contractor shall submit to the Authorized Representative of the General Contractor documentation that the lead-containing waste material removed from the work area has been accepted by the landfill owner.

B. Disposal of Hazardous Painted Construction Debris (TCLP for Lead Exceeding EPA Limit of 5.0 Milligrams per Liter):

1. Collect lead-contaminated wastes, scraps, debris and any other lead-contaminated materials and place into U.S. Department of Transportation approved and appropriately labeled containers.
2. Store lead wastes and debris in U.S. Department of Transportation approved containers in an interim storage area assigned by the Authorized Representative of the General Contractor at the site. Any and all hazardous wastes shall be removed from the site to an EPA approved disposal facility within 90 days of the removal work (as applicable).
3. Handle, store, transport, and dispose of lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.
4. The Contractor shall contact the Owner, to obtain the Owner's EPA ID Number and to sign the hazardous waste manifest. Hazardous waste will not be removed from site without proper manifest documentation and verification of waste destination by the Authorized Representative of the General Contractor.
5. The Contractor shall submit to the Authorized Representative of the General Contractor, documentation that the lead-containing waste material removed from the work area has been accepted by the landfill owner.

3.08 CERTIFICATION

- A. The Contractor or his authorized representative shall certify in writing that the regions both inside and outside of the lead control area have airborne lead concentrations below the background level, that the respiratory protection for the employees was adequate, and that the work procedures were performed in accordance with 29 CFR 1926.62 and this Specification.

- B. Upon inspection and approval of the area by the Authorized Representative of the General Contractor, the Contractor shall certify that there were no visible accumulations of lead-contaminated paint, dust and debris remaining on the work-site.
- C. The Contractor shall not remove the lead control area boundary and warning signs prior to the submittal and approval by the Authorized Representative of the General Contractor of the Contractor's certification that there were no visible accumulations of lead contaminated paint, dust and debris remaining on the work-site.
- D. The Contractor shall re-clean areas showing residual paint chips, debris or wastes. Chips, debris and wastes shall be disposed of properly, in accordance with this Specification and all applicable Federal, State and local regulations.

PART 4 – MEASUREMENT OF PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work specified in 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 13288 – AIR MONITORING AND TESTING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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. This Section specifies the Contractor's Responsibilities for personnel monitoring and record keeping.
- B. This Section specifies project air monitoring and inspectional services for the purposes of:
 - 1. Verifying compliance with the following sections:
 - a. SECTION 13282 – LEAD PAINT CONTROL MEASURES; for requirements of all work that disturbs Lead-Based Paint and/or Lead-Containing Paint.
 - 2. Ensuring that the General Contractor's and Owner's legally required documentation is collected.
 - 3. Providing engineering control during the project.
- C. Related Work Specified Elsewhere:
 - 1. SECTION 01715 – EXISTING CONDITIONS - HAZARDOUS MATERIALS SURVEY.
 - 2. SECTION 13282 – LEAD PAINT CONTROL MEASURES; for requirements of all work that disturbs Lead-Based Paint and/or Lead-Containing Paint.

1.03 SUBMITTALS

- A. Submit in accordance with SECTION 01300 – SUBMITTALS.
- B. As specified in the following sections:
 - 1. SECTION 01715 – EXISTING CONDITIONS - HAZARDOUS MATERIALS ASSESSMENT.
 - 2. SECTION 13282– LEAD PAINT CONTROL MEASURES; for requirements of all work that disturbs Lead-Based Paint and/or Lead-Containing Paint.

1.04 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only, and include but are not limited to, the following:

1. Code of Federal Regulations (CFR):

29 CFR 1910.134	Respiratory Protection
29 CFR 1926.21	Safety Training and Education
29 CFR 1926.33	Access to Employee Exposure and Medical Record
29 CFR 1926.51	Sanitation
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead Exposure in Construction
29 CFR 1926.65	Hazard Waste Operations and Emergency Response
29 CFR 1926.103	Respiratory Protection
29 CFR 1926.200	Accident Prevention Signs and Tags
29 CFR 1910.1000	Toxic and Hazardous Substances, Air Contaminants
40 CFR 61-SUBPART A	General Provisions
40 CFR 260	Hazardous Waste Management Systems: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste
	Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standard for Owners and Operators of
	Hazardous Waste Treatment, Storage, and Disposal
	Facilities
40 CFR 268	Land Disposal Restriction
40 CFR 745	Lead; Requirement for Lead-Based Paint Activities
49 CFR 172	Hazardous Materials, Tables, and Hazardous Materials
	Communications Regulations
49 CFR 178	Shipping Container Specification

2. Hawaii Occupational Safety and Health (HIOSH):

12-114.2	Personal Protective Equipment
12-121.2	Fall Protection
12-122.2	Materials Handling, Storage, Use, and Disposal
12-148.1	Lead
12-151	Hazardous Waste Operations and Emergency
Response	

3. Department Of Housing and Urban Development (HUD):

HUD Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing

4. American National Standards Institute (ANSI):

ANSI Z9.2	(1979; R 1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z88.2	(1992) Respiratory Protection

5. American Society for Testing and Materials (ASTM):

ASTM C 732	(1995) Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 532	(1993; Rev. A) Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331	(1989; R 1995) Surface and Interfacial Tension of Solutions of Surface-Active Agents
ASTM D2794	(1993) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM E84	(1995; Rev. B) Surface Burning Characteristics of Building Materials
ASTM E 96	(1995) Water Vapor Transmission of Materials
ASTM E119	(1995; Rev. A) Fire Tests of Building Construction and Materials
ASTM E 736	(1992) Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members

6. Underwriters Laboratories Inc. (UL):

UL 586	(1990) High-Efficiency, Particulate, Air Filter Units
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1.05 DEFINITIONS

- A. Action Level - Lead: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period.
- B. Area Sampling: Sampling of concentrations which is representative of the airborne concentrations but is not collected in the breathing zone of personnel (approximately 1.5 to 1.97 yards (1.8 meters) above the floor).
- C. Authorized Representative of the General Contractor: The person or persons designated by the General Contractor to act on its behalf and who is a Qualified Environmental Consultant (QEC), hired by the General Contractor, who performs air monitoring and inspection activities during abatement and renovation work and shall have the authority to initiate engineering controls.
- D. Background: The ambient airborne asbestos and/or lead concentrations in an uncontaminated area as measured prior to any asbestos disturbance and/or lead paint disturbance efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free and/or lead free locations.

- E. Competent Person - Asbestos: As used in relation to asbestos, refers to a person employed by the Contractor who is trained in the recognition and control of asbestos hazards in accordance with current Federal, State, and local regulations, has the authority to take prompt corrective actions to control the asbestos hazards and is a Hawaii DOH certified lead supervisor.
- F. Competent Person - Lead: As used in relation to lead, refers to a person employed by the Contractor who is trained in the recognition and control of lead hazards in accordance with current Federal, State, and local regulations and has the authority to take prompt corrective actions to control the lead hazards. The Competent Person - Lead shall enter the work area to set up personal air monitoring devices and then send the samples to the laboratory for analysis.
- G. Contractor: For this project, the Contractor is that individual, or entity under contract to the General Contractor to perform the herein listed work.
- H. Permissible Exposure Limit (PEL) - Asbestos: 0.1 fibers per cubic centimeter of air as an 8-hour time weighted average. If an employee is exposed for more or less than 8 hours in a work day, the PEL shall be determined by the following formula:
- $$\text{PEL (micrograms per cubic meter of air)} = 400 / \text{number of hours worked per day}$$
- I. Permissible Exposure Limit (PEL) - Lead: 50 micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more or less than 8 hours in a work day, the PEL shall be determined by the following formula:
- $$\text{PEL (micrograms per cubic meter of air)} = 400 / \text{number of hours worked per day}$$
- J. Personal Sampling: Air sampling which is performed to determine concentrations within the breathing zone of a specific employee. Samples shall be representative of the employees work tasks. The breathing zone shall be considered an area within 12 inches (304.8 mm) of the nose or mouth of an employee.
- K. Qualified Environmental Consultant (QEC) - Asbestos: A Hawaii DOH certified Asbestos Project Monitor with experience in enforcing asbestos safety regulations and performing airborne asbestos sampling.
- L. Qualified Environmental Consultant (QEC) - Lead: A Hawaii DOH certified Lead Inspector or Risk Assessor who is an Industrial Hygienist or similar safety professional with experience in enforcing lead safety regulations and performing airborne lead sampling.
- M. Qualified Testing Laboratory - Asbestos:
1. Environmental and Work Area Monitoring Laboratory: The testing laboratory employed by the Authorized Representative of the General Contractor to perform analysis of environmental and work area air monitoring samples and report concentrations of airborne asbestos.

The laboratory shall be accredited by the American Industrial Hygiene Association (AIHA) for each type of asbestos analysis performed by the laboratory.

2. Personal Air Monitoring Laboratory: The testing laboratory utilized by the Abatement Contractor's Competent Person to perform analysis of personal air monitoring samples and report airborne concentrations of asbestos.

The laboratory shall be a successful participant in the American Industrial Hygiene Association's (AIHA) Proficiency Analytical Testing (PAT) program for phase contrast microscopy (PCM).

N. Qualified Testing Laboratory - Lead:

1. Environmental and Work Area Monitoring Laboratory: The testing laboratory employed by the Authorized Representative of the General Contractor to perform analysis of environmental and work area air monitoring samples and report concentrations of airborne lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air.

2. Personal Air Monitoring Laboratory: The testing laboratory utilized by the Contractor's Competent Person to perform analysis of personal air monitoring samples and report airborne concentrations of lead.

The laboratory shall be accredited under the EPA's National Lead Laboratory Accreditation Program (NLLAP) by the American Industrial Hygiene Association's (AIHA's) Environmental Lead Laboratory Accreditation Program (ELLAP) and successfully participating in the Environmental Lead Proficiency Analytical Testing (ELPAT) program for each lead matrix analyzed by the laboratory. The laboratory shall fulfill all requirements of accreditation for analyzing lead in air.

3. Toxicity Characteristic Leaching Procedure (TCLP) Testing Laboratory: The testing laboratory employed by Contractor to perform TCLP tests of a representative sample of the debris waste stream of each structure and of any lead-contaminated chips or debris generated through abatement to determine whether or not the waste is hazardous or non-hazardous. The laboratory shall be experienced in and analyze TCLP samples using the EPA Method 1311/6010.

- O. In addition, definitions as outlined in SECTION 13282– LEAD PAINT CONTROL MEASURES.

1.06 ABBREVIATIONS

- A. ANSI: American National Standards Institute, Inc.

- B. CFR: Code of Federal Regulations.
- C. HIOSH: Division of Occupational Safety and Health, Department of Labor and Industrial Relations, State of Hawaii.
- D. EPA: United States Environmental Protection Agency.
- E. NESHAP: National Emission Standards for Hazardous Air Pollutants.
- F. NIOSH: National Institute for Occupational Safety and Health.
- G. OSHA: Occupational Safety and Health Administration.
- H. State: The State of Hawaii.

1.07 COORDINATION

The Contractor shall coordinate with the Authorized Representative of the General Contractor for the testing/air monitoring requirements included in these Specifications for testing/air monitoring consultants or inspectors and all applicable Federal, State and local regulations.

1.08 PRE-CONSTRUCTION CONFERENCE

- A. A conference may be held prior to construction and shall be conducted by the General Contractor's Project Manager assisted by the Authorized Representative of the General Contractor.
 - 1. Attendance: The Contractor, Project Designer, the General Contractor's representative, industrial hygienist, and air monitoring personnel shall also attend.
 - 2. Agenda:
 - a. Review final schedule for project.
 - b. Verify legal requirements and special conditions.
 - c. Verify compliance with pre-construction requirement.
 - d. Obtain copies of all mandatory notifications.
 - e. Inspect sample respiratory equipment and other abatement equipment.
 - f. Review procedures and responsibilities.
 - g. Clarify the scope of work and its best impact on the users of the building.

1.09 DESCRIPTION OF WORK

- A. Furnish all labor, materials, and equipment necessary to carry out the personnel monitoring, record keeping, air monitoring and inspectional services in compliance with all applicable Federal, State and local laws and regulations during the performance of the project.

- B. Contractor shall comply with all Federal, State and local regulations pertaining to lead paint disturbance. If there is a conflict with the Specifications, the more stringent requirement shall apply.

1.10 REQUIREMENTS

- A. The Contractor shall comply with the above requirements and any applicable Federal, State and local regulations. Where there is any conflict or inconsistency among requirements, the more stringent requirement shall apply. Ignorance of the above requirements and any applicable State and County regulation resulting in additional cost to the Contractor shall not be reimbursable or billable to the General Contractor.
- B. All regulations shall govern over these Specifications, except when the Specification is providing greater protection against hazardous materials exposure, injury, loss or liability. Any question regarding conflict or inconsistency between Specification and/or regulations should be directed to the Authorized Representative of the General Contractor.
- C. Whenever approval of the Authorized Representative of the General Contractor is required prior to proceeding with other work, the Contractor shall comply with the following:
 - 1. The Contractor shall give, at a minimum, five (5) days notification to the Authorized Representative of the General Contractor prior to the start of any work.
 - 2. The Contractor shall not begin any work without the Authorized Representative of the General Contractor present on site.
 - 3. The Contractor shall allow the Authorized Representative of the General Contractor 24 hours from notification to respond to the request for site inspection(s).
 - 4. The Contractor shall designate one person (either a foreman or superintendent) who will be authorized to request inspections. The name of the designated person shall be submitted in writing to the Authorized Representative of the General Contractor prior to commencing work. Requests from any other person will not be considered official requests.
 - 5. The designated person requesting an inspection shall provide the following information:
 - a. Name of caller.
 - b. Building and rooms to be inspected.
 - c. Work phase of inspection, as specified.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 AIR SAMPLING - ASBESTOS

- A. Sampling for airborne concentrations of asbestos fibers shall be performed by the Authorized Representative of the General Contractor. Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101 and as specified herein. Unless otherwise specified, NIOSH Method 7400 will be followed for all sampling and analysis.
1. Sampling Prior to Asbestos Work: Baseline air sampling may be conducted by the Authorized Representative of the General Contractor one-day prior to the masking and sealing operations for each removal site.
 2. Sampling During Asbestos Work: The performance and execution of the Abatement Contractor's work shall be closely and continuously monitored by the Authorized Representative of the General Contractor. Air monitoring and inspection by the Authorized Representative of the General Contractor shall include at a minimum, one air sample collected from inside each work area, at the entrance to each work area, upwind and downwind of the work area and at the air filtration exhaust to each work area (if used). All sample results will be available within 36 hours of the sampling pump time off.
- B. Air Monitoring with Respect to Abatement Contractor's Employees:
1. The Contractor shall be responsible for all personal air monitoring as required by OSHA regulations. All personal air monitoring will be conducted by the Abatement Contractor's Competent Person.
 2. The Contractor shall provide personal sampling of 25% of his/her workers or minimum of two workers, whichever is greater as indicated in 29 CFR 1926.1101 and governing environmental regulations.
 3. Laboratory performing analysis shall be an independent party, not financially or managerially connected with the Abatement Contractor. Laboratory shall also be approved by the Authorized Representative of the General Contractor and AIHA accredited in the type of analysis being performed.
 4. At the conclusion of each day's sampling, copies of all air monitoring records shall be provided to the Authorized Representative of the General Contractor.
 5. Results of sample analysis shall be provided to the Authorized Representative of the General Contractor within forty-eight (48) hours of collection.
- C. All other air sampling for compliance with the Specification shall be performed by the Authorized Representative of the General Contractor.
- D. Stop Action Levels:

1. Inside Work Area: Maintain airborne levels in the work areas of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts levels rise above this figure for any sample taken, revise work procedures to lower fiber counts. If fiber count levels for any work shift or 8-hour period exceeds the Stop Action Level, stop work except corrective action and leave air circulation system in operation. After correcting cause(s) of high fiber levels, do not recommence work for 24 hours unless otherwise authorized by the Authorized Representative of the General Contractor.

ASBESTOS		
STOP ACTION LEVEL (f/cc)	RESPIRATOR REQUIRED	PROTECTION FACTOR
1	Half Face APR	10
5	Full Face APR	50
10	PAPR or Type C, Continuous Flow	100
100	Type C, Pressure Demand	1,000

2. Outside Work Area: If any air sample taken outside the Work Area exceeds the baseline established prior to the start of work, immediately and automatically stop work except corrective action. Contractor shall determine the source of the high reading and take appropriate corrective actions.

3.02 AIR SAMPLING - LEAD

- A. Environmental and work area air monitoring of airborne lead concentrations shall be performed by the Authorized Representative of the General Contractor in accordance with 29 CFR 1926.62 and as specified herein.
 1. Sampling Prior to Lead Work: The Authorized Representative of the General Contractor may collect area air samples outside the work area prior to the start of work in order to establish the background level of lead in the air. The samples shall be analyzed by the Environmental and Work Area Monitoring Laboratory for the airborne concentration of lead. This concentration shall be the background level.
 2. Sampling During Lead Work: The Authorized Representative of the General Contractor shall perform area air monitoring during the entire renovation operation. The Contractor shall allow access to the work area and assist the Authorized Representative of the General Contractor as needed.
 - a. Sufficient area air monitoring shall be conducted at the border of the lead control area to ensure unprotected personnel are not exposed to lead

concentrations above 30 micrograms per cubic meter of air at all times. As a minimum, conduct area monitoring in areas immediately adjacent to the lead control area daily during each shift in which renovation operations are performed. At least one sample on each shift shall be taken on the downwind side of the lead control area.

- b. If the outside boundary of the lead control area is determined to have air lead levels above the background levels the Contractor shall be required to adequately correct the conditions causing the increased lead levels. Any work necessary to correct the condition will be completed by the Contractor at no additional cost to the General Contractor.
- c. If the outside boundary of the lead control area is determined to have air lead levels at or above 30 micrograms per cubic meter of air, the Contractor shall immediately stop work and correct the conditions causing the increased level.
- d. Work shall resume only when approval is given by the Authorized Representative of the General Contractor.

B. Air Monitoring with Respect to Contractor's Employees:

- 1. The Contractor's Competent Person shall perform initial personal air monitoring to determine employee exposure during renovation work. During initial personal monitoring, the first two full days of work (two 8-hour work shifts), all workers shall be provided with a minimum of air-purifying half-mask respirators and disposable protective clothing.
- 2. Personal monitoring samples shall be taken on at least 25% of the employees or a minimum of 2 employees, whichever is greater, or a representative sample of employees with the greatest potential for exposure as determined by the Authorized Representative of the General Contractor during each work shift.
- 3. At the end of the period of initial determination all results shall be submitted to a laboratory for analysis by NIOSH Method 7082.
- 4. Results from the first two full days (two 8-hour work shifts) of initial air monitoring, signed by the testing lab employee performing the analysis and the Competent Person, shall be provided to the Authorized Representative of the General Contractor within 48 hours after completion of sampling. Results of initial air monitoring shall be used by the Contractor's Competent Person to determine appropriate worker protection requirements for similar work activities. Determination shall be submitted to the Authorized Representative of the General Contractor within 48 hours.
- 5. Regardless of initial air monitoring results, continue personal air monitoring during the entire renovation operations.
- 6. If the personal air monitoring tests covering a period of two full work days (two 8-hour work shifts) show airborne lead concentrations below the action level, the Contractor's Competent Person may determine that the use of HEPA-filtered air purifying respirators is not required. Other elements of protective clothing shall continue to be worn throughout the renovation operation.

7. If exposure to lead at or in excess of 30 micrograms per cubic meter of air as an 8-hour time weighted average is indicated, the Contractor's Competent Person will immediately notify the Contractor and Authorized Representative of the General Contractor. The Contractor will provide and require all persons exposed to this concentration of airborne lead dust to wear, at a minimum, half mask air purifying respirators with HEPA filters. In addition, the Contractor's work procedures will be immediately reviewed by the Authorized Representative of the General Contractor and the Contractor and modifications in the Contractor's work performance shall be implemented to lower the concentration of airborne lead.
8. Results of air monitoring shall be submitted to the Authorized Representative of the General Contractor within three (3) working days of collection, signed by the testing lab employee who performed the analysis and the Competent Person.

3.03 LEAD WASTE CHARACTERIZATION

- A. TCLP testing of the gross solid lead renovation debris shall be performed by the Contractor to characterize the debris as either non-hazardous or hazardous waste. Metal items to be demolished and removed shall be recycled.
- B. The Contractor shall not concentrate, treat, or intermix wastes from outside this project with the debris and wastes generated by this project.
- C. For lead-containing paint wastes generated by renovation operations, including used disposal PPE, lead paint chips and waste from paint stripping operations, TCLP testing of the waste shall be provided and paid for by the Contractor as specified herein.
- D. All TCLP test samples shall be collected by the Competent Person in accordance with SW 846, "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods."
- E. All TCLP test samples shall be analyzed for lead concentration using EPA Method 1311/6010 by the TCLP Testing Laboratory.
- F. Submit results of TCLP tests to the Authorized Representative of the General Contractor within 3 working days of collection, signed by the testing lab employee performing the analysis and the Contractor's Competent Person.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work specified in 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

DIVISION 16 – ELECTRICAL

SECTION 16050 – BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. The Contractor shall furnish all labor, materials, tools, equipment, electricity, fuel, shipping and delivery, and appliances required to provide all Electrical Work, complete, as indicated on the drawings and/or as specified herein. The drawings note various sizes of equipment as determined for basis of design; the electrical work, however, shall be installed to comply with the equipment furnished by the successful supplier and shall be based on the approved shop drawing submittals. The work shall include but not necessarily be limited to, the following:
 - 1. Complete power system for the Unicom Tower structure.
 - 2. Complete telecom system for the Unicom Tower structure.
 - 3. Connection and testing of appliances and equipment furnished by others requiring electrical connections.
- B. Before bidding on this work, carefully examine each of the drawings and the site. By submitting a proposal of the work included in the contract, the Contractor shall be deemed to have made such examination and to be familiar with and accepted all conditions of the job site.

1.03 SUBMITTALS

- A. Submit in accordance with SECTION 01300 – SUBMITTALS.
- B. Shop drawings and catalogue cuts for substitute materials shall clearly specify compliance with and/or deviation from specified material. Certification shall not contain statements to imply that the item does not meet specified requirements, such as "as good as"; and "achieve the same end use and results as materials formulated in accordance with the referenced publications". Certifications shall simply state that the item conforms to the specified requirements. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance. Review of shop drawings and catalogue cuts shall not release Contractor from complying with intent of specification and drawings. Partial or incomplete submittals will be returned without review.
- C. Shop Drawings: Submit complete shop drawings and manufacturer's literature for the State's review before any work is ordered or fabricated. All submittals shall bare the

approval of the general contractor and the electrical contractor. Partial or incomplete submittals or submittals lacking the general contractor's and electrical contractor's approval will be returned without review. Submit in accordance with SECTION 01300 – SUBMITTALS. Submit manufacturer's literature for the following:

1. Raceways
2. Conductors
3. Devices (Receptacles, switches, etc.)
4. Junction Boxes
5. Nameplates

- D. As-Built Drawings: Submit as-built drawings as specified under SECTION 01300 – SUBMITTALS.

1.04 QUALITY ASSURANCE

- A. For actual fabrication, installation and testing of the work of this section, use only thoroughly trained and experienced workmen completely familiar with items required and with manufacturers' recommended methods of installation. In acceptance or rejection of installed work, no allowance will be made for lack of skill on part of workmen.
- B. Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the installed work and materials of all other trades.

1.05 WARRANTY

Any item of material, apparatus, equipment furnished and installed, or constructed by the Contractor showing defects in design, construction, quality or workmanship within one year from the date of final acceptance by the State shall be replaced by such new material, apparatus or parts as may be found necessary to make such defective portion of the installation conform to the true intent and meaning of the specification and/or the drawings. Exceptions shall be fluorescent and incandescent lamps which shall be guaranteed for one half the manufacturer's listed lifetime. Such repairs or replacement shall be made by the Contractor, free of all expense to the State.

1.06 COORDINATION WITH UTILITY COMPANIES AND OTHER TRADES

During bidding and construction, Contractor shall coordinate his work with utilities and other trades to avoid omissions and overlapping of responsibilities.

1.07 CODES, REGULATIONS AND STANDARD SPECIFICATIONS

- A. Work shall conform to the latest edition of the National Electrical Code.

- B. Applicable rules, standards and specifications of following associations shall apply to materials and workmanship:

American National Standards Institute (ANSI)

Illuminating Engineering Society of North America (IESNA)

National Board of Fire Underwriters (NBFU)

National Electrical Manufacturer's Association (NEMA)

National Fire Protection Association (NFPA)

Underwriters' Laboratories, Inc. (UL)

PART 2 – PRODUCTS

2.01 MATERIALS

- A. General: All materials shall be new, except as specifically noted, and shall bear the label of Underwriters' Laboratories whenever standards have been established and label service is normally and regularly furnished by the agency.
- B. Raceways:
1. Conduits: EMT and galvanized rigid steel, 3/4" minimum diameter with compression or threaded fittings, respectively. Aluminum conduits shall not be used.
 2. Flexible Conduit: 3/4" minimum, zinc-coated inside and outside; for damp, wet, moist, or corrosive areas -- liquid-tight with factory fittings and UV stabilized PVC jacket.
- C. Conductors: Conductors shall be copper, No. 12 AWG minimum; No. 10 AWG and smaller, solid and round; No. 8 AWG and larger, 7 or 19 strands concentric. All conductors No. 6 and smaller shall be types THW for interior use or RHW for exterior use. All conductors No. 4 AWG and larger shall be type THWN-2 for interior use; or RHW-2 or USE-2 for exterior use.
- D. Outlet and Small Junction Boxes: Pressed, zinc-coated steel, minimum nominal size 4", minimum depth 1-1/2", with raised cover- ring for devices in concrete masonry units. Exposed boxes and weather exposed boxes shall be ferrous alloy, prime painted and enamel finished, with threaded hubs for conduit connection. Surface mounted boxes shall be smooth walled with clean 90-degree corners.
- E. Large Junction Boxes: For dry interior locations, the box shall be fabricated from NEC gauge galvanized steel with matching screw-on type cover, field punched knockouts. Flush mounted junction boxes shall have flange type covers. For exterior, damp, wet, or corrosive locations, boxes shall be NEMA 4X stainless steel (316), pad lockable. All screws and hardware shall be stainless steel (316).
- F. Device and Cover Plates:

1. Plates for interior flush construction shall be smooth reinforced plastic, with suitable hole(s) and color to match device.
 2. Device covers outlets in damp, wet, or corrosive locations shall be weatherproof with lockable stainless steel (316) covers. Covers shall permit plugs to be connected without compromising the integrity of the protective nature of the cover while in use.
 3. Plates for receptacles shall be labeled with the name of the panelboard and circuit number serving the receptacle.
- G. Nameplates: Laminated nameplates shall be provided for each switchboard (section, compartment, and device), panelboard, enclosed circuit breaker, safety disconnect switch, junction box, and cabinet for identification purposes.
1. Within electrical, inverter, telecommunication, and signal rooms: Laminated plastic shall be 1/8-inch thick Melamine plastic, black with white center core. Letters, numbers, symbols, or pictographs shall be incised a minimum of 1/32-inch into the plastic to expose the white core. Size of nameplate shall be 1-inch by minimum. Lettering shall be minimum 1/4-inch high normal block lettering. Equipment designations shall be as indicated on the Drawings.
 2. Fire alarm, telecom, and signal junction boxes: Laminated plastic shall be 1/8-inch thick Melamine plastic, black with white center core. Letters, numbers, symbols, or pictographs shall be incised a minimum of 1/32-inch into the plastic to expose the white core. Size of nameplate shall be 1-inch by 2-1/2 inches (64 mm) minimum. Lettering shall be minimum 1/4-inch high normal block lettering. Nameplate shall identify system type and include designations as indicated on the Drawings.
- H. Hardware, Supports, Backing, Etc.: All hardware, fasteners, supports, backing and other accessories necessary to install electrical equipment shall be provided. Wood materials shall be "wolmanized" treated against termites, iron or steel materials shall be galvanized for corrosion protection, and non-ferrous materials shall be brass or bronze. Installations in damp, wet, or corrosive locations shall be stainless steel, 316.

PART 3 – EXECUTION

3.01 GENERAL

- A. Rules and Permit: The entire installation shall be made in strict accordance with the latest rules and regulations of the National Board of Fire Underwriters, the currently adopted edition of the National Electrical Code and the Electrical Branch of the local Building Department. The Contractor shall obtain and pay for the electrical permit as required by local laws and rules. All work shall be inspected by the proper local authorities as it progresses. The Contractor shall pay all inspection fees and shall deliver certificates of completion and inspection to the State before final payment will be made. Costs of permits and inspection fees shall be included in the Contractor's bid price.

- B. Construction Methods: Construction shall conform to construction practices as recommended by the American Electricians Handbook by Croft (latest edition), Edison Electric Institute, National Electrical Code, National fire Protection Association, National Electrical Safety Code and applicable instructions of manufacturers of equipment and material supplied for this project.
- C. Materials and Workmanship: All labor and materials of every kind shall be subject to the approval of the State, who shall be afforded every facility for ascertaining the competence of such labor and examining such materials as they may deem necessary. Concealed work, handholes, and enclosures shall be reopened / opened at random as directed during inspections by the State. Materials shall be new and shall bear the listed label of the Underwriters' Laboratories, Inc. Brand names and catalog numbers used in this specification indicate the standards of design and quality required. Substitution of other brands or catalog numbers shall conform to the requirements in the Bidding Documents. All high voltage work shall be performed by qualified electricians certified to work on high voltage systems.
- D. Record Drawings: The Contractor shall maintain an accurate and adequate record of each change as it occurs, regardless of how ordered.
- E. Drawings and Specification: This specification is intended to cover all labor, materials and standards of workmanship to be employed in the work indicated on the Drawings and called for in the specification or reasonably implied therein. The Drawings and specification supplement one another. Any part of the work mentioned in one and not represented in the other shall be done the same as if it has been mentioned in both. The Contractor shall not make alterations in the Drawings and specifications.
- F. Discrepancies and Interpretations:
1. Should the Contractor find any discrepancies in or omissions from any of the documents or be in doubt as to their meaning, he shall advise the State who will issue any necessary clarification within a time period which does not disrupt the progress of the work.
 2. All interpretation and supplemental instructions will be in the form of a written addenda to the Contract Documents.
 3. Should any discrepancy arise from the failure of the Contractor to notify the State, the higher quality or larger quantity of item shall prevail. The State shall make the final interpretation and judgment.
 4. In the event of a discrepancy between small scale drawings and large scale details, or between the Drawings and specification, on which is in violation of any regulations, ordinances, laws or codes, the discrepancy, if known by the Contractor, shall be immediately brought to the attention of the State for a decision before proceeding with the particular work involved. Work carried out disregarding these instructions will be subject to removal and replacement at the Contractor's expense.

- G. Symbols: The standard electrical symbols together with the special symbols, notes and instructions shown on the drawings indicate the work and outlets required and are all to be included as a part of this specification.
- H. Coordination: This specification is accompanied by Drawings which contain floor plans of the buildings, sections and elevations, and site plans indicating locations of all outlets, switch controls, service runs, and other electrical apparatus. These locations are approximate and, before installing, the Contractor shall study the adjacent architectural details and actually make the installation in the most logical manner. Any outlet, equipment, feeder, and circuit may be relocated within ten feet before installation at the direction of the State. The circuit routing is typical only and may be varied in any logical manner.

3.02 INSTALLATION

A. Grounding:

1. All services, metallic enclosures, raceways, and electrical equipment shall be grounded according to requirements of NEC Article 250. At building, 3/4" x 10' copper ground rods, Copperweld Steel Company, shall be driven with top 12" below finished grade and shall be connected together with bare copper wire buried 12" below finished grade to obtain a ground of 25 ohms or less as measured by three point pot method with an electric ground megger. Connect ground to nearest cold-water pipe (located within 10' of entering the building), structural steel, and to building entrance equipment with bare copper. Ground and bond per the NEC and local authority having jurisdiction. Final connection to equipment, raceways, grounding type receptacles and other metallic parts directly exposed to ungrounded electric conductors shall be No. 8 AWG minimum, copper, NEC type TW, green insulation. Use approved bonding terminal at panels.
2. All grounding wire runs within building shall be routed together with circuit conductors.
3. Bond and ground all feeder conduits to panelboard enclosures.

B. Wiring System:

1. Above finished ground floor where exposed below 7'- 0" above finished floor use rigid steel conduit; in non-air conditioned locations use rigid steel conduit; exposed on the exterior of the building or beneath the building use rigid steel conduit. Where exposed to damage use rigid steel conduits.
2. Above finished ground floor where concealed in walls or ceilings, and not exposed to damage, use EMT with compression fittings.
3. All wiring shall be installed in conduits except as noted.
4. Conduit system shall be continuous from outlet to outlet and fitting to fitting so that electrical continuity is obtained between all conduits of the system.

5. Conduits cut square and inner edges reamed. Butt together evenly within couplings.
6. Make bends and offsets with hickey or conduit-bending machine. Do not use vise or pipe tee. Flattened or crushed conduit not acceptable.
7. Use of running threads not permitted. Where conduits cannot be joined by standard threaded couplings, approved water-tight conduit unions shall be used.
8. Cap conduits during construction with plastic or metal-capped bushings to prevent entrance of dirt and moisture. Swab all conduits and dry before installing wires. Provide removable watertight conduit seals on all conduits entering the building, or pad mounted equipment, where the conduit is connected to manholes, handholes, light poles, or other pad mounted equipment.
9. Pullstrings shall be placed in all empty / spare conduits ten feet in length or longer.
10. Install insulating bushings and two locknuts on each end of every conduit run at enclosures and boxes. Provide grounding bushings as required.
11. Conduits shall not be installed in slabs. Route circuits feeding floor boxes in the ceiling space of the floor below.
12. Conduits passing through floor slabs and fire rated walls and ceilings shall be fireproofed.

C. Conductors:

1. Mechanical means for pulling shall be torque-limiting type and not used for #2 AWG and smaller wires.
2. Pulling tension shall not exceed wire manufacturer's recommendations.
3. Where necessary, powdered soapstone may be used as a lubricant for drawing wires through conduit. No other means of lubricating will be allowed.
4. Form neatly in enclosures for minimum of crossovers. Tag all feeders and label all branch circuits in all enclosures and devices. Identify panel name and branch circuit number.
5. Color code feeder, branch circuit, and grounding conductors. Color for grounding conductors shall be green. Color for neutral conductors shall be white except for where neutrals of more than one branch circuit grouping are installed in the same raceway or enclosure, the other neutral shall be white with a colored stripe (other than green). The color coding for three-phase and single-phase circuits shall be as follows:

208Y/120V, 3-phase, 4-wire:

Black (Phase-A)
Red (Phase-B)
Blue (Phase-C)

480Y/277V, 3-phase, 4-wire:

Brown (Phase-A)
Orange (Phase-B)
Yellow (Phase-C)

D. Splicing of Wire and Cable:

1. Wires shall be formed neatly in enclosures and boxes.
2. Splices made according to NEC Article 110.
3. Splices shall be reinsulated. Remove all sharp points that can pierce tape. Use Minnesota Mining and Manufacturing Co. "Scotch" #33 tape, or pre-approved equal. Splices in pull boxes shall be water-tight.

E. Boxes and Enclosures:

1. Not all boxes are shown on the Drawings. The number of conduit bends between pull points shall not be greater than four quarter bends (360 degrees total) per NEC. For telecommunication conduits the number of conduit bends between pull points shall not be greater than two quarter bends (180 degrees total). Provide additional boxes as necessary.
2. Provide outlet boxes in hollow tiles or concealed in other spaces with extensions or raised rings of such depth that metal will be flush with surrounding surfaces or openings.
3. Offset boxes, on opposite side of walls, by 6" to minimize noise transmission through walls.
4. Boxes installed in 2- and 3-hour fire rated walls shall be fireproofed to maintain the integrity of the fire rated walls.
5. Boxes to be plumb and exactly flush.

F. Finishing:

1. All cutting that may be required for complete installation of the electrical work shall be carefully performed, and all patching shall be finished in first-class condition by the Contractor.
2. Close unused knockouts in boxes or enclosures with metal cap that will maintain the rating of the box or enclosure.

3. Wipe clean all exposed raceways and enclosures with rag and solvent. Unfinished raceways and enclosures shall be primed and painted and finished to blend in with the surface it is mounted on. (Do not cover nameplates.) Factory finished enclosures shall not be painted, touch up where required.

G. Miscellaneous Details:

1. Cut, drill and patch as required to install electrical system. Repair any surface damaged or marred by notching, drilling or any other process necessary for installation of electrical work. Cutting, repairs and refinishing subject to the approval of the State. Need for remedial work determined by State as attributable to poor coordination and workmanship shall be cause for reconstruction to the satisfaction of the State and at no additional cost to the State.
2. Attachment of electrical equipment to wood by non-ferrous wood screws. Attachment to concrete by expansion anchors. Powder-charge-driven studs and anchors permitted only with prior approval.
3. Complete all panel circuit directories, using typewriter. Verify "room" and "use" designations before typing.
4. Prime and paint all exposed conduits, hangers, and fasteners.
5. All grounding wire within building run in rigid steel conduit.
6. Furnish necessary test equipment and make all tests necessary to check for unspecified grounding, shorts and wrong connections. Correct faulty conditions, if any.
7. Tag all empty conduits in switchboard, panelboards, cabinets, at backboards, etc. and identify destination.
8. Provide arc flash warning labels on all electrical equipment as required by 2017 NEC Article 110.16 and 2015 NFPA 70E 130.5. The contractor shall obtain all information required for the calculations, perform the calculations, and provide the labels at no additional cost.
9. Provide plastic safety end caps on all c-channel ends. End caps shall be U.V. stabilized where installed exposed to the weather and sunlight.
10. Provide permanent labels on all switchboards, switchgear, motor control centers, and panelboards indicating where the power originates from.

3.03 TESTING AND INSPECTION

- A. If the State (or its representative) discovers any errors, the Contractor, at his own expense, shall go over all similar portions of the entire job, taking the necessary or directed remedial action.

- B. Interior installations, 600 volts and less shall be tested for insulation resistance after all wiring is completed and ready for connection to fixtures and equipment. Using a 500V megger, measure and record the insulation resistance from phase to phase and phase to neutral. The records shall be submitted to the State for review and approval.
- C. The Contractor shall re-tape splices which have been bared for inspection. The Contractor shall test all portions of the electrical system furnished by him for proper operation and freedom from accidental grounds. All tests shall be subject to the approval of the State.
- D. Wherever test or inspection reveals faulty equipment or installation, the Contractor shall take corrective action, at his own expense, repairing or replacing equipment or installation as directed.

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

Requirements of Chapter 104, HRS

Wages and Hours of Employees on Public Works Law

Chapter 104, HRS, applies to every public works construction project over \$2,000, regardless of the method of procurement or financing (purchase order, voucher, bid, contract, lease arrangement, warranty, SPRB).

Rate of Wages for Laborers and Mechanics

- Minimum prevailing wages (basic hourly rate plus fringe benefits), as determined by the Director of Labor and Industrial Relations and published in wage rate schedules, shall be paid to the various classes of laborers and mechanics working on the job site. [§104-2(a), (b), Hawaii Revised Statutes (HRS)]
- If the Director of Labor determines that prevailing wages have increased during the performance of a public works contract, the rate of pay of laborers and mechanics shall be raised accordingly. [§104-2(a) and (b), HRS; §12-22-3(d) Hawaii Administrative Rules (HAR)]

Overtime

- Laborers and mechanics working on a Saturday, Sunday, or a legal holiday of the State or more than eight hours a day on any other day shall be paid overtime compensation at not less than one and one-half times the basic hourly rate plus the cost of fringe benefits for all hours worked. If the Director of Labor determines that a prevailing wage is defined by a collective bargaining agreement, the overtime compensation shall be at the rates set by the applicable collective bargaining agreement [§§104-1, 104-2(c), HRS; §12-22-4.1, HAR]

Weekly Pay

- Laborers and mechanics employed on the job site shall be paid their full wages at least once a week, without deduction or rebate, except for legal deductions, within five working days after the cutoff date. [§104-2(d), HRS]

Posting of Wage Rate Schedules

- Wage rate schedules with the notes for prevailing wages and special overtime rates, shall be posted by the contractor in a prominent and easily accessible place at the job site. A copy of the entire wage rate schedule shall be given to each laborer and mechanic employed under the contract, except when the employee is covered by a collective bargaining agreement. [§104-2(d), HRS]

Withholding of Accrued Payments

- If necessary, the contracting agency may withhold accrued payments to the contractor to pay to laborers and mechanics employed by the contractor or subcontractor on the job site any difference between the wages required by the public works contract or specifications and the wages received. [§104-2(e), HRS]

Certified Weekly Payrolls and Payroll Records

- A certified copy of all payrolls shall be submitted weekly to the contracting agency. [§104-3(a), HRS; §12-22-10, HAR]
- The contractor is responsible for the submission of certified copies of the payrolls of all subcontractors. The certification shall affirm that the payrolls are correct and complete, that the wage rates listed are not less than the applicable rates contained in the applicable wage rate schedule, and that the classifications for each laborer or mechanic conform with the work the laborer or mechanic performed. [§104-3(a), HRS; §12-22-10, HAR]
- Payroll records shall be maintained by the contractor and subcontractors for three years after completion of construction. The records shall contain: [§104-3(b), HRS; §12-22-10, HAR]
 - the name and home address of each employee
 - the last four digits of social security number
 - a copy of the apprentice's registration with DLIR
 - the employee's correct classification
 - rate of pay (basic hourly rate + fringe benefits)
 - itemized list of fringe benefits paid
 - daily and weekly hours worked
 - weekly straight time and overtime earnings
 - amount and type of deductions
 - total net wages paid
 - date of payment
- Records shall be made available for examination by the contracting agency, the Department of Labor and Industrial Relations (DLIR), or any of its authorized representatives, who may also interview employees during working hours on the job. [§§104-3(c), 104-22(a), HRS; §12-22-10, HAR]

Termination of Work on Failure to Pay Wages

- If the contracting agency finds that any laborer or mechanic employed on the job site by the contractor or any subcontractor has not been paid prevailing wages or overtime, the contracting agency may, by written notice to the contractor, terminate the contractor's or subcontractor's right to proceed with the work or with the part of the work in which the required wages or overtime compensation have not been paid. The contracting agency may complete this work by contract or otherwise, and the contractor or contractor's sureties shall be liable to the contracting agency for any excess costs incurred. [§104-4, HRS]

Apprentices

- Apprentice wage rates apply to contractors who are a party to a bona fide apprenticeship program which has been registered with the DLIR. In order to be paid apprentice rates, apprentices must be parties to an agreement either registered with or recognized as a USDOL nationally approved apprenticeship program by the DLIR, Workforce Development Division, (808) 586-8877, and the apprentice must be individually registered by name with the DLIR. [§12-22-6(1) and (2), HAR]
- The number of apprentices on any public work in relation to the number of journeyworkers in the same craft classification as the apprentices employed by the same employer on the same public work may not exceed the ratio allowed under the apprenticeship standards registered with or recognized by the DLIR. A registered or recognized apprentice receiving the journeyworker rate will not be considered a journeyworker for the purpose of meeting the ratio requirement. [§12-22-6(3), HAR]

Enforcement

- To ensure compliance with the law, DLIR and the contracting agency will conduct investigations of contractors and subcontractors. If a contractor or subcontractor violates the law, the penalties are: [§104-24, HRS]
 - First Violation Equal to 25% of back wages found due or \$250 per offense up to \$2,500, whichever is greater.
 - Second Violation Equal to amount of back wages found due or \$500 for each offense up to \$5,000, whichever is greater.
 - Third Violation Equal to two times the amount of back wages found due or \$1,000 for each offense up to \$10,000, whichever is greater; and
Suspension from doing any new work on any public work of a governmental contracting agency for three years.
- A violation would be deemed a second violation if it occurs within two years of the **first notification of violation**, and a third violation if it occurs within three years of **the second notification of violation**. [§104-24, HRS; §12-22-25(b), HAR]
- **Suspension:** For a first or second violation, the department shall immediately suspend a contractor who fails to pay wages or penalties until all wages and penalties are paid in full. For a third violation, the department shall penalize and suspend the contractor as described above, **except that if the contractor continues to violate the law, then the department shall immediately suspend the contractor for a mandatory three years. The contractor shall remain suspended until all wages and penalties are paid in full.** [§§104-24, 104-25, HRS]
- **Suspension:** Any contractor who fails to make payroll records accessible or provide requested information within 10 days, or fails to keep or falsifies any required record, shall be assessed a penalty including suspension as provided in Section 104-22(b) and 104-25(a)(3), HRS. [§104-3(c), HRS; §12-22-26, HAR]
- If any contractor interferes with or delays any investigation, the contracting agency shall withhold further payments until the delay has ceased. Interference or delay includes failure to provide requested records or information within ten days, failure to allow employees to be interviewed during working hours on the job, and falsification of payroll records. The department shall assess a penalty of \$10,000 per project, and \$1,000 per day thereafter, for interference or delay. [§104-22(b), HRS; §12-22-26, HAR]
- Failure by the contracting agency to include in the provisions of the contract or specifications the requirements of Chapter 104, HRS, relating to coverage and the payment of prevailing wages and overtime, is not a defense of the contractor or subcontractor for noncompliance with the requirements of this chapter. [§104-2(f), HRS]



For additional information, visit the department's website at <http://labor.hawaii.gov/wsd> or contact any of the following DLIR offices:

Oahu (Wage Standards Division)(808) 586-8777
Hawaii Island.....(808) 974-6464
Maui and Kauai(808) 243-5322

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

PROPOSAL

PROPOSAL TO THE
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

PROJECT: Unicom Tower Installation
Kawaihapai Airfield
Mokuleia, Oahu, Hawaii

PROJECT NO.: CO2541-33

COMPLETION TIME: ONE HUNDRED EIGHTY (180) calendar days from the date indicated in the Notice to Proceed from the Department.

LIQUIDATED DAMAGES: FIVE HUNDRED DOLLARS (\$500.00) for each and every calendar day which the Contractor has delayed the completion of this project.

PROJECT MANAGER: Mr. Jonathan Yoshida
Department of Transportation Airports
Daniel K. Inouye International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880
Phone: (808) 838-8875
Email: jonathan.r.yoshida@hawaii.gov

ELECTRONIC SUBMITTAL: **Bidders shall submit and upload the complete proposal to HlePRO 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 HlePRO. See SPECIAL PROVISIONS 2.8 PREPARATION AND DELIVERY OF BID for complete details. FAILURE TO UPLOAD THE COMPLETE PROPOSAL TO HlePRO SHALL BE GROUNDS FOR REJECTION OF THE BID.**

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.
7. The undersigned Bidder further agrees to the following: Pursuant to HRS §103D-405(d), any contractor (including consultants) paid for services to develop or prepare specifications or work statements shall be precluded from submitting an offer or receiving a contract for that particular solicitation. This includes the preparation of reports relied upon by HDOT in the development of the project scope.

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 _____

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. _____	_____

NOTES:

"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 acknowledge that while preferences are considered in the evaluation of bids, the award of the contract will be in the amount of the bid offered exclusive of any preferences.

A. HAWAII BIDDER PREFERENCE

In accordance with HRS §103D-302, the Hawaii bidder preference is applicable to this solicitation for evaluation purposes only. Bidders desiring to qualify for the five per cent (5%) preference shall submit with their bid a completed *Hawaii Bidder/Offeror Preference Certification Form* (Form SPO-081) at or before the time set for receipt of bids. Certifications submitted for previous or other solicitations will not be accepted.

☐ **Yes, the Bidder elects to receive the Hawaii Bidder Preference and has included the Form SPO-081 with the bid.**

B. APPRENTICESHIP AGREEMENT PREFERENCE

In accordance with HRS §103-55.6, the estimated value of this public works contract is \$250,000 or more and the apprenticeship agreement preference is applicable to this solicitation for evaluation purposes only. Bidders desiring to qualify for the five per cent (5%) preference shall submit with their bid a complete, valid CERTIFICATION OF BIDDER'S PARTICIPATION IN APPROVED APPRENTICESHIP PROGRAM UNDER ACT 17 (Certification Form 1) *for each apprenticeable trade* the Bidder will employ on the project.

☐ **Yes, the Bidder elects to receive the Apprenticeship Agreement Preference and has attached Certification Form(s) 1 for each apprenticeable trade the Bidder will employ for this project (excluding subcontractors).**

By submission of this offer, the Bidder certifies that it has indicated **all apprenticeable trades that Bidder will employ** for this project (excluding subcontractors) by listing the applicable trades below:

(Attach additional sheet if necessary.)

Form 1 Required. Failure to submit a valid Form 1 with the bid for every apprenticeable trade that Bidder will employ on the project will result in the preference being denied, regardless of whether the trade is listed above. If a Form 1 is submitted for a trade that is not listed above, the Form 1 will take

precedence over the listing and may be used to qualify Bidder for the preference.

Form 2 Required. If awarded the contract with the Apprenticeship Agreement Preference applied, then for the duration of the contract, the Bidder **shall** certify each month that work is being conducted on the project that the Contractor continues to be a participant in the relevant apprenticeship program for each trade it employs. Monthly certification shall be made on the Certification Form 2 and submitted to the HDOT.

Failure to comply with the requirements of the Apprenticeship Agreement Preference program will subject the Contractor to sanctions pursuant to HRS §103-55.6.

C. HAWAII PRODUCTS PREFERENCE

Hawaii Products Preference shall not apply to this solicitation.

D. RECYCLED PRODUCT PREFERENCE

Recycled Product Preference shall not apply to this solicitation.



STATE OF HAWAII
Hawaii Bidder/Offeror
Preference Certification Form
(As Defined in HRS103D-1001)

I, _____, _____ of
(Authorized Officer's Name) (Office or Position Held)

_____, certify the following:
(Name of Bidder/Offeror)

- (1) That the Bidder/Offeror holds a valid commercial place of business located in the State of Hawaii at the following address:

and that the above-named office was opened on the following date: _____,

and has been staffed by the Bidder/Offeror or an employee of the Bidder/Offeror for not less than two (2) consecutive years immediately preceding the time and date set for the opening of bids or receipt of proposals;

- (2) That the bid or proposal in response to IFB/RFP No. _____, is submitted under the name under which the Bidder/Offeror is authorized to do business in the State;
- (3) That not less than fifty-one percent (51%) of the total direct labor hours required for performance of the contract will be performed within the State; and
- (4) If the Bidder/Offeror is a joint venture, the Bidder/Offeror is composed entirely of parties meeting the requirements of paragraphs (1), (2), and (3).

I certify under penalty of perjury that the above statements are true. I agree to maintain the above qualifications throughout contract performance; any changes in eligibility shall be reported to the Contract Administrator or purchasing agency's contact person identified in the RFP/IFB. I acknowledge that failure to maintain the above qualifications triggers a price adjustment equal to the value of the preference applied and may constitute cause for debarment under HRS §103D-702.

Signature of Authorized Officer

Print Name and Title

Date

Unicom Tower Installation
Kawaihapai Airfield
Mokuleia, Oahu, Hawaii
Project No. CO2541-33

PROPOSAL SCHEDULE

Item No.	Description	Approx. Qty	Unit	Unit Price	Total
DIVISION 1 – GENERAL REQUIREMENTS					
01010.1	Unicom Tower Installation	Lump Sum	Lump Sum	Lump Sum	\$
01210.1	Unforeseen Conditions	Allowance	Allowance	Allowance	\$ 50,000
01561.1	Construction Site Pollution Controls	Lump Sum	Lump Sum	Lump Sum	\$
01562.1	Management of Contaminated Media, Soil Disposal, and Soil Reuse	Lump Sum	Lump Sum	Lump Sum	\$
01562.2	Additional Management of Contaminated Media, Soil Disposal, and Soil Reuse	Allowance	Allowance	Allowance	\$ 25,000
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: Bids 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: The 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: Bidder shall be paid for actual work performed as directed by the Engineer for allowance items. Bidder shall 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 HlePRO 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 HlePRO. 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 HlePRO.**

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

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

SURETY BID BOND

Bond No. _____

KNOW TO ALL BY THESE PRESENTS:

That we, _____

(full name or legal title of offeror)

as Offeror, hereinafter called the Principal, and

(name of bonding company)

as Surety, hereinafter called Surety, a corporation authorized to transact business as a Surety in the State of Hawaii, are held and firmly bound unto

(State/county entity)

as Owner, hereinafter called Owner, in the penal sum of

(required amount of bid security)

Dollars(\$ _____), lawful money of the United States of America, for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS:

The Principal has submitted an offer for

(project by number and brief description)

NOW, THEREFORE:

The condition of this obligation is such that if the Owner shall reject said offer, or in the alternate, accept the offer of the Principal and the Principal shall enter into a contract with the Owner in accordance with the terms of such offer, and give such bond or bonds as may be specified in the solicitation or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof as specified in the solicitation then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed this _____ day of _____, _____

Name of Principal (Offeror) (Seal)

Signature

Print Name and Title

Name of Surety (Seal)

Signature

Print Name and Title

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

FORMS

Sample Contract
Performance Bond (Surety)
Performance Bond
Labor and Material Payment Bond (Surety)
Labor and Material Payment Bond
Chapter 104, HRS Compliance Certificate
Certification of Compliance for Employment of State Residents
Provisions to be Included in Construction Procurement Solicitations

CONTRACT

THIS AGREEMENT, made this day of _____, by and between the STATE OF HAWAII, by its Director of Transportation, hereinafter referred to as "STATE", and «CONTRACTOR», «STATE_OF_INCORPORATION», whose business/post office address is «ADDRESS», hereinafter referred to as CONTRACTOR";

WITNESSETH: That for and in consideration of the payments hereinafter mentioned, the CONTRACTOR hereby covenants and agrees with the STATE to complete in place, furnish and pay for all labor and materials necessary for "«PROJECT_NAME_AND_NO»", or such a part thereof as shall be required by the STATE, the total amount of which labor, material and construction shall be computed at the unit and/or lump sum prices set forth in the attached proposal schedule and shall be the sum of «BASIC»----DOLLARS (\$«BASIC_NUMERIC») as follows:

TOTAL AMOUNT FOR COMPARISON OF BIDS.....\$«BASIC_NUMERIC»

which sum shall be provided from State funds, all in accordance with the specifications, the special provisions, if any, the notice to bidders, the instructions to bidders, the proposal and plans for «PROJECT_NO_ONLY», and any supplements thereto, on file in the office of the Director of Transportation. These documents, together with all alterations, amendments, and additions thereto and deductions therefrom, are attached hereto or incorporated herein by reference and made a part of this contract.

The CONTRACTOR hereby covenants and agrees to complete such construction within «WORKING_DAYS» from the date indicated in the Notice to Proceed from the State subject, however, to such extensions as may be provided for in writing under the specifications.

For and in consideration of the covenants, undertakings and agreements of the CONTRACTOR herein set forth and upon the full and faithful performance thereof by the CONTRACTOR, the STATE hereby agrees to pay the CONTRACTOR the sum of «BASIC»---DOLLARS (\$«BASIC_NUMERIC») in lawful money, but not more than such part of the same as is actually earned according to the STATE's determination of the actual quantities of work performed and materials furnished by the CONTRACTOR at the unit or lump sum prices set forth in the attached proposal schedule. Such payment, including any extras, shall be made, subject to such additions or deductions hereto or hereafter made in the manner and at the time prescribed in the specifications and this contract.

An additional sum of «EXTRAS»-----DOLLARS (\$«EXTRA_NUMERIC») is hereby provided for extra work.

All words used herein in the singular shall extend to and include the plural. All words used in the plural shall extend to and include the singular. The use of any gender shall extend to and include all genders.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

STATE OF HAWAII

Director of Transportation

«CONTRACTOR»

(Seal)

Signature

Print name

Print Title

Date

PERFORMANCE BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____
(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a
surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Oblige, in the amount of _____

DOLLARS (\$_____), to which payment Principal and Surety bind themselves,
their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, the above-bound Principal has signed a Contract with Oblige on
_____, for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part
hereof.

NOW THEREFORE, the condition of this obligation is such that:

If the Principal shall promptly and faithfully perform, and fully complete the Contract in
strict accordance with the terms of the Contract as said Contract may be modified or amended
from time to time; then this obligation shall be void; otherwise to remain in full force and effect.

Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

In the event of Default by the Principal, of the obligations under the Contract, then after written Notice of Default from the Obligee to the Surety and the Principal and subject to the limitation of the penal sum of this bond, Surety shall remedy the Default, or take over the work to be performed under the Contract and complete such work, or pay moneys to the Obligee in satisfaction of the surety's performance obligation on this bond.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

PERFORMANCE BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto the

(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

(Dollar amount of Contract) DOLLARS \$ _____),

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ **Legal Tender;**
- ☐ **Share Certificate** unconditionally assigned to or made payable at sight to
Description: _____;
- ☐ **Certificate of Deposit**, No. _____, dated _____ issued
by _____ drawn on _____ a bank, savings
institution or credit union insured by the Federal Deposit Insurance Corporation or the
National Credit Union Administration, payable at sight or unconditionally assigned to
_____;
- ☐ **Cashier's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- ☐ **Teller's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- ☐ **Treasurer's Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- ☐ **Official Check** No. _____, dated _____
drawn on _____ a
bank, savings institution or credit union insured by the Federal Deposit Insurance
Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;
- ☐ **Certified Check** No. _____, dated _____
accepted by a bank, savings institution or credit union insured by the Federal Deposit
Insurance Corporation or the National Credit Union Administration, payable at sight or
unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The Condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, and shall deliver the Project to the Obligee, or to its successors or assigns, fully completed as in the Contract specified and free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder.

Signed and sealed this _____ day of _____, _____.

(Seal) _____

Name of Contractor

Signature*

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND (SURETY)
(6/21/07)

KNOW TO ALL BY THESE PRESENTS:

That _____,
(Full Legal Name and Street Address of Contractor)

as Contractor, hereinafter called Principal, and _____

_____,
(Name and Street Address of Bonding Company)

as Surety, hereinafter called Surety, a corporation(s) authorized to transact business as a surety in the State of Hawaii, are held and firmly bound unto the _____,
(State/County Entity)

its successors and assigns, hereinafter called Obligee, in the amount of _____

_____ Dollars (\$_____), to which payment Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above-bound Principal has signed Contract with the Obligee on _____
_____ for the following project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to any Claimant, as hereinafter defined, for all labor and materials supplied to the Principal for use in the performance of the Contract, then this obligation shall be void; otherwise to remain in full force and effect.

1. Surety to this Bond hereby stipulates and agrees that no changes, extensions of time, alterations, or additions to the terms of the Contract, including the work to be performed thereunder, and the specifications or drawings accompanying same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions, and agrees that they shall become part of the Contract.

2. A "Claimant" shall be defined herein as any person who has furnished labor or materials to the Principal for the work provided in the Contract.

Every Claimant who has not been paid amounts due for labor and materials furnished for work provided in the Contract may institute an action against the Principal and its Surety on this bond at the time and in the manner prescribed in Section 103D-324, Hawaii Revised Statutes, and have the rights and claims adjudicated in the action, and judgment rendered thereon; subject to the Obligee's priority on this bond. If the full amount of the liability of the Surety on this bond is insufficient to pay the full amount of the claims, then after paying the full amount due the Obligee, the remainder shall be distributed pro rata among the claimants.

Signed this _____ day of _____, _____.

(Seal)

Name of Principal (Contractor)

*

Signature

Title

(Seal)

Name of Surety

*

Signature

Title

*ALL SIGNATURES MUST BE ACKNOWLEDGED
BY A NOTARY PUBLIC

LABOR AND MATERIAL PAYMENT BOND

KNOW TO ALL BY THESE PRESENTS:

That we, _____
(full legal name and street address of Contractor)

as Contractor, hereinafter called Contractor, is held and firmly bound unto _____
(State/County entity)

its successors and assigns, as Obligee, hereinafter called Obligee, in the amount

_____ DOLLARS (\$ _____)
(Dollar amount of Contract)

lawful money of the United States of America, for the payment of which to the said Obligee, well and truly to be made, Contractor binds itself, its heir, executors, administrators, successors and assigns, firmly by these presents. Said amount is evidenced by:

- ☐ Legal Tender;
- ☐ Share Certificate unconditionally assigned to or made payable at sight to _____
Description: _____
- ☐ Certificate of Deposit, No. _____, dated _____ issued by _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Cashier's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Teller's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Treasurer's Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Official Check No. _____, dated _____ drawn on _____ a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;
- ☐ Certified Check No. _____, dated _____ accepted by a bank, savings institution or credit union insured by the Federal Deposit Insurance Corporation or the National Credit Union Administration, payable at sight or unconditionally assigned to _____;

WHEREAS:

The Contractor has by written agreement dated _____ entered into a contract with Obligee for the following Project: _____

hereinafter called Contract, which Contract is incorporated herein by reference and made a part hereof.

NOW THEREFORE,

The condition of this obligation is such that, if Contractor shall promptly and faithfully perform the Contract in accordance with, in all respects, the stipulations, agreements, covenants and conditions of the Contract as it now exists or may be modified according to its terms, free from all liens and claims and without further cost, expense or charge to the Obligee, its officers, agents, successors or assigns, free and harmless from all suits or actions of every nature and kind which may be brought for or on account of any injury or damage, direct or indirect, arising or growing out of the doing of said work or the repair or maintenance thereof or the manner of doing the same or the neglect of the Contractor or its agents or servants or the improper performance of the Contract by the Contractor or its agents or servants or from any other cause, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

AND IT IS HEREBY STIPULATED AND AGREED that suit on this bond may be brought before a court of competent jurisdiction without a jury, and that the sum or sums specified in the said Contract as liquidated damages, if any, shall be forfeited to the Obligee, its successors or assigns, in the event of a breach of any, or all, or any part of, covenants, agreements, conditions, or stipulations contained in the Contract or in this bond in accordance with the terms thereof.

AND IT IS HEREBY STIPULATED AND AGREED that this bond shall inure to the benefit of any and all persons entitled to file claims for labor performed or materials furnished in said work so as to give any and all such persons a right of action as contemplated by Sections 103D-324(d) and 103D-324(e), Hawaii Revised Statutes.

The amount of this bond may be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payments of mechanics' liens which may be filed of record against the Project, whether or not claim for the amount of such lien be presented under and against this bond..

Signed this _____ day of _____, _____.

(Seal) _____

Name of Contractor

Signature*

Title

ALL SIGNATURES MUST BE ACKNOWLEDGED BY A
NOTARY PUBLIC

CHAPTER 104, HRS COMPLIANCE CERTIFICATE

The undersigned bidder does hereby certify to the following:

1. Individuals engaged in the performance of the contract on the job site shall be paid:
 - A. Not less than the wages that the director of labor and industrial relations shall have determined to be prevailing for corresponding classes of laborers and mechanics employed on public works projects; and
 - B. Overtime compensation at one and one-half times the basic hourly rate plus fringe benefits for hours worked on Saturday, Sunday, or a legal holiday of the State or in excess of eight hours on any other day.
2. All applicable laws of the federal and state governments relating to workers' compensation, unemployment compensation, payment of wages, and safety shall be fully complied with.

DATED at Honolulu, Hawaii, this _____ day of _____, 20____.

«CONTRACTOR»

Name of Corporation, Partnership, or Individual

Signature and Title of Signer

Notary Seal
NOTARY ACKNOWLEDGEMENT

Subscribed and sworn before me this _____ day of _____
Notary signature _____
Notary public, State of _____
My Commission Expires: _____

Notary Seal
NOTARY CERTIFICATION

Doc. Date: _____ #Pages: _____
Notary Name: _____ Circuit _____
Doc. Description: _____
Notary signature _____
Date _____

**CERTIFICATION OF COMPLIANCE
FOR
EMPLOYMENT OF STATE RESIDENTS
HRS CHAPTER 103B, AS AMENDED BY ACT 192, SLH 2011**

Project Title: _____

Agency Project No: _____

Contract No.: _____

As required by Hawaii Revised Statutes Chapter 103B, as amended by Act 192, Session Laws of Hawaii 2011—Employment of State Residents on. Construction Procurement Contracts, I hereby certify under oath, that I am an officer of _____ and
(Name of Contractor or Subcontractor Company)
for the Project Contract indicated above, _____ was in
(Name of Contractor or Subcontractor Company)
compliance with HRS Chapter 103B, as amended by Act 192, SLH 2011, by employing a workforce of which not less than eighty percent are Hawaii residents, as calculated according to the formula in the solicitation, to perform this Contract.

☐ I am an officer of the Contractor for this contract.

☐ I am an officer of a Subcontractor for this contract.

CORPORATE SEAL

(Name of Company)

(Signature)

(Print Name)

(Print Title)

Subscribed and sworn to me before this
_____ day of _____, 2025.

Doc. Date: _____ # of Pages _____ 1ST Circuit

Notary Name: _____

Doc. Description: _____

Notary Public, 1st Circuit, State of Hawai'i
My commission expires: _____

Notary Signature Date
NOTARY CERTIFICATION

PROVISIONS TO BE INCLUDED IN CONSTRUCTION PROCUREMENT SOLICITATIONS

1. Definitions for terms used in HRS Chapter 103B as amended by Act 192, SLH 2011:

- a. "Contract" means contracts for construction under 103D, HRS.
- b. "Contractor" has the same meaning as in Section 103D-104, HRS, provided that "contractor" includes a subcontractor where applicable.
- c. "Construction" has the same meaning as in Section 103D-104, HRS.
- d. "General Contractor" means any person having a construction contract with a governmental body.
- e. "Procurement Officer" has the same meaning as in Section 103D-104, HRS.
- f. "Resident" means a person who is physically present in the State of Hawaii at the time the person claims to have established the person's domicile in the State of Hawaii and shows the person's intent is to make Hawaii the person's primary residence.
- g. "Shortage trade" means a construction trade in which there is a shortage of Hawai'i residents qualified to work in the trade as determined by the Department of Labor and Industrial Relations.

2. HRS Chapter 103B as amended by Act 192, SLH 2011—Employment of State Residents Requirements:

- a. A Contractor awarded a contract shall ensure that Hawaii residents comprise not less than 80% of the workforce employed to perform the contract work on the project. The 80% requirement shall be determined by dividing the total number of hours worked on the contract by Hawaii residents, by the total number of hours worked on the contract by all employees of the Contractor in the performance of the contract. The hours worked by any Subcontractor of the Contractor shall count towards the calculation for this section. The hours worked by employees within shortage trades, as determined by the Department of Labor and Industrial Relations (DLIR), shall not be included in the calculation for this section.

- b. Prior to award of a contract, an Offeror/Bidder may withdraw an offer/bid without penalty if the Offeror/Bidder finds that it is unable to comply with HRS Chapter 103B as amended by Act 192, SLH 2011.
- c. Prior to starting any construction work, the Contractor shall submit the subcontract dollar amount for each of its Subcontractors.
- d. The requirements of this section shall apply to any subcontract of \$50,000 or more in connection with the Contractor; that is, such Subcontractors must also ensure that Hawaii residents comprise not less than 80% of the Subcontractor's workforce used to perform the subcontract.
- e. The Contractor and any Subcontractor whose subcontract is \$50,000 or more shall comply with the requirements of HRS Chapter 103B as amended by Act 192, SLH 2011.
 - 1) Certification of compliance shall be made in writing under oath by an officer of the General Contractor and applicable Subcontractors and submitted with the final payment request.
 - 2) The certification of compliance shall be made under oath by an officer of the company by completing a "Certification of Compliance for Employment of State Residents" form and executing the Certificate before a licensed notary public.
 - 3) In addition to the certification of compliance as indicated above, the Contractor and Subcontractors shall maintain records such as certified payrolls for laborers and mechanics who performed work at the site and time sheets for all other employees who performed work on the project. These records shall include the names, addresses and number of hours worked on the project by all employees of the Contractor and Subcontractor who performed work on the project to validate compliance with HRS Chapter 103B as amended by Act 192, SLH 2011. The Contractor and Subcontractors shall retain these records and provide access to the State for a minimum period of four (4) years after the final payment, except that if any litigation, claim, negotiation, investigation, audit or other action involving the records has been started before the expiration of the four-year period, the Contractor and Subcontractors shall retain the records until completion of the action and resolution of all issues that arise from it, or until the end of the four-year period, whichever occurs later. Furthermore, it shall be the Contractor's responsibility to enforce compliance with this provision by any Subcontractor.

- f. A General Contractor or applicable Subcontractor who fails to comply with this section shall be subject to any of the following sanctions:
 - 1) With respect to the General Contractor, withholding of payment on the contract until the Contractor or its Subcontractor complies with HRS Chapter 103B as amended by Act 192, SLH 2011.
 - 2) Proceedings for debarment or suspension of the Contractor or Subcontractor under Hawaii. Revised Statutes §103D-702.
- 3. Conflict with Federal Law: This section shall not apply if the application of this section is in conflict with any federal law, or if the application of this section will disqualify the State from receiving Federal funds or aid.