

SECTION 01562 – MANAGEMENT OF CONTAMINATED MEDIAS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

The General Provisions, Special Provisions, and General Requirements of the Specifications apply to the work specified in this section.

1.2 DESCRIPTION AND SCOPE OF WORK

- A. This Section describes procedures for the management of contaminated media (soil, groundwater, and soil vapor) that may be disturbed during excavation activities associated with this project.
- B. The Contractor shall supply all labor, materials, and equipment necessary for the removal, temporary storage, testing, handling, soil backfilling and management of contaminated media to carry out the work in accordance with these specifications, and all applicable Federal, State, and local regulations and latest amendments.
- C. The Contractor shall examine the State of Hawaii, Department of Transportation, Airports Division (DOTA) Programmatic Environmental Hazard Evaluation and Environmental Hazard Management Plan (DOTA EHE-EHMP) and, if included as part of these specifications, the Environmental Site Assessment (ESA) Phase II, to understand the conditions that may affect work and performance. Should the Contractor deviate from the DOTA EHE-EHMP or ESA, the Contractor shall be responsible to prepare a DOH required Construction EHMP (C-EHMP) utilizing the C-EHMP Addendum Template or most recent version provided by DOH, also known as a Site-Specific EHMP. Any deviation will require approval by the State of Hawaii, Department of Health (HDOH) and DOTA Environmental Section (DOTA AIR-EE) prior to implementation, using the forms provided in Appendix B of the DOTA EHE-EHMP. The forms should detail deviations from standard practices in the text and explain how those deviations will be protective of human health and the environment. The forms should be submitted to HDOH and DOTA AIR-EE for review and approval if deviations are requested or if notifying of a release.
- D. It should be noted that the DOTA EHE-EHMP is for Contaminants of Potential Concern (COPCs) which include, but not limited to, the following:
 - Petroleum Substances, e.g., TPH, TPH-g, TPH-d, TPH-o, BTEX, and PAHs.
 - Chlorinated Solvents, e.g., VOCs
 - Polychlorinated Biphenyls (PCBs)
 - Pesticides, e.g., chlordane
 - Heavy Metals, e.g., Arsenic, Barium, Cadmium, Total Chromium, Lead, Mercury, Selenium, and Silver.

In addition, free product (e.g., gasoline, diesel fuel, fuel oils, lubricating oils, benzene, toluene, xylenes) may be encountered in areas of previous petroleum releases.

Should the ESA Phase II identify contaminants other than those listed above or there is a risk to human health and/or the environment (such as indoor air quality in an occupied building), the Contractor shall be responsible to revise, update, and finalize the C-EHMP Addendum. The Contractor shall coordinate with, as well as have their C-EHMP approved by HDOH prior to the start of any ground disturbing activities.

1.3 REFERENCES

- A. Programmatic Environmental Hazard Evaluation and Environmental Hazard Management Plan dated July 2019, or its latest edition.
- B. DOTA's Storm Water Management Program Plan (SWMPP) for the Daniel K. Inouye International Airport (HNL) and Kahului Airport (OGG), including DOTA's Construction Activities BMP Field Manual dated August 2019, or its latest edition.
- C. All work under this contract shall be performed in strict accordance with all applicable Federal, State, and local regulations, standards, and codes governing contaminated media.
- D. The most recent editions of any relevant regulations, standards, documents, or codes shall be in effect, including, but not limited to, the following. Where conflicts among the requirements or with these specifications exists, the most stringent requirements shall apply.
 - 1. 29 CFR 1910, "Occupational Safety and Health Standards".
 - 2. 29 CFR 1926, "Safety and Health Regulations for Construction".
 - 3. 40 CFR 50, "National Primary and Secondary Ambient Air Quality Standards A".
 - 4. 40 CFR 122, "EPA Administered Permit Program: The National Pollutant Discharge Elimination System".
 - 5. 40 CFR 261, "Identification and Listing of Hazardous Waste".
 - 6. 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste".
 - 7. 40 CFR 302, "Designation, Reportable Quantities, and Notification".
 - 8. 49 CFR 172, Subpart E, "Labeling".
 - 9. 49 CFR 172, Subpart F, "Placarding".
 - 10. 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).
 - 11. The Hazard Evaluation and Emergency Response Office Technical Guidance Manual (TGM) for Implementation of the State Contingency Plan (Interim Final, June 21, 2009).

12. Hawaii Hazardous Waste Laws and Regulations (HRS Chapter 342J, HAR Title 11, Chapters 260.1–279.1).
13. Hawaii Solid Waste Laws and Regulations (HRS Chapters 342H and I, HAR Title 11, Chapter 58.1).
14. Hawaii Underground Storage Tank Laws and Regulations (HRS Chapter 342L; HAR Title 11, Chapter 280.1).
15. Hawaii Water Quality Standards (HAR Title 11, Chapter 54).
16. Hawaii Ambient Air Quality Standards (HAR Title 11, Chapter 59).
17. Hawaii Occupational Safety and Health Standards (HAR Title 12, Subtitle 8).
18. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Screening for Environmental Hazards at Sites with Contaminated Soil and Groundwater. Website URL: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/EALs>. Fall 2011 (and updates).
19. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material. Website URL: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/technical-guidance-and-fact-sheets>. October 8, 2017 (and updates).
20. Hawaii Department of Health, Office of Hazard Evaluation and Emergency Response. Construction EHMP Addendum Template, available from AIR-EE.
21. U.S. Environmental Protection Agency (EPA): Comprehensive Environmental Restoration, Compensation, and Liability Act, Section 107(1), 1980, exemption for cleanup of legally applied pesticide products.

PART 2 – PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT & SIGNAGE

- A. Provide workers with Personal Protective Equipment (PPE) according to the Contractor's PPE Assessment.
- B. Provide warning signs and labels to protect the workers and the public.

2.2 POLYETHYLENE SHEETING

Sheet plastic shall be new, and clear or black with at least 20-mil thickness. A 6-mil plastic sheet can be used to cover the stockpiles.

PART 3 – EXECUTION

3.1 GENERAL WORK PROCEDURES

- A. Prior to beginning work, the Contractor, the Contractor's Qualified Environmental Professional, and DOTA Engineer or its representative shall discuss the approved Work Plan, as described in Paragraph 3.2 below, including work procedures and safety precautions.
- B. Communicate any existing, potential, or new hazards to workers before a job begins or as necessary. The workers shall be aware of the need for proper safety procedures and be familiar with the Contractor's Work Plan.
- C. Boundaries shall be established at each area where soil excavation is to be performed. The area shall be clearly identified to prevent unauthorized entry. Establish a control area by completely enclosing/roping-off the area where contaminated soil excavation, removal, stockpiling and disposal operations will be performed.
- D. Provide physical boundaries around the control area by roping-off the area to ensure that airborne concentrations of COPC will not exceed permissible exposure limits outside the control area.
- E. Where applicable, caution signs shall be placed at the entrances to each work area, located such that approaching personnel may read the signs and take necessary precautions before entering the work area. No one will be permitted in the work area unless the person is provided with appropriate training and protective equipment.
- F. It should be noted that, in some cases, the contamination may not be identifiable through visual and/or olfactory observation (e.g., soil contaminated with metals, PCBs, pesticides, etc.) and contaminant-specific field screening techniques may need to be implemented.
- G. Measure, monitor, and record worker exposure to toxic materials or harmful agents as necessary.
- H. Follow Decontamination regulations and procedures as necessary.
- I. Soil excavation activities, grading, and any disturbance of impacted soil may cause a potential exposure to Contractor's employees and the general public due to fugitive dust. The routes of exposure of dusts are by inhalation, ingestion, and dermal contact. The Contractor shall use engineering controls such as water spraying and wind barriers to control fugitive dust.
- J. The Contractor shall test residual soils not used as backfill for COPC. Soils with concentrations above regulatory and/or unrestricted use environmental action levels shall be disposed of in accordance with regulatory requirements.
- K. Report construction activities in areas with contaminated soil or groundwater by completing the appropriate forms in the DOTA EHE-EHMP, Appendix B.3 Construction Activities Release Response Plan. Submit the forms to the HDOH Office of Hazard Evaluation and Emergency Response (HEER Office) and provide a

copy of the forms to the DOTA Engineer and DOTA AIR-EE.

3.2 PRECONSTRUCTION REQUIREMENTS

A. Submit the following a minimum of 30 calendar days prior to beginning any ground disturbing activities, for approval by DOTA AIR-EE.

1. Contractor's Work Plan for Known or Suspected Areas of Contaminated Media:

- a. The Contractor shall submit their work plan which shall include, but not limited to, a Site-Specific Health and Safety Plan (HASP) or if needed, a C-EHMP. The work plan shall describe the procedures, engineering controls, and methods the Contractor will use during the excavation, temporary storage, handling, treatment, backfilling, and disposal of soil and/or water at the project site. The plan shall also include soil stockpiling and segregation, testing, contaminated soil and water quality testing, contaminated soil and water disposal procedures, backfilling procedures, personal protection requirements, work area isolation, construction barriers, wetting methods, decontamination procedures, and emergency procedures. The work plan shall be in accordance to all applicable Federal, State, and local regulations and latest amendments.

For locations within the airport which DOTA has already established a Site-Specific EHMP from previous projects, the DOTA's Site-Specific EHMP, shall govern, where applicable.

- b. The plan shall include the names of the Contractor's and their subcontractor's qualified personnel who will be supervising or managing the management of contaminated materials at the site. Include the personnel's phone number and qualifications.
- c. The plan shall include the name(s) of the Contractor's Qualified Environmental Professional, including their qualifications.
- d. Proposed schedule of work.
- e. A sketch identifying the location of temporary soil stockpiling and water storage devices, including pipes and appurtenances, if applicable.
- f. A map showing the location of the work and nearest medical facilities and hospitals.
- g. A copy of this Work Plan must be on the construction site and available at all times.
- h. The Work Plan shall be amended to reflect changes to the site or work conditions, as needed.

B. QUALIFIED ENVIRONMENTAL PROFESSIONAL

The Contractor shall employ a Qualified Environmental Professional who possesses five (5) years, minimum, experience providing environmental oversight for the management of contaminated media during construction activities. The Environmental Professional shall assist in the preparation of the Contractor's Work Plan by reviewing the work procedures, including the determination of the need for PPE, and to provide environmental oversight during construction. The Environmental Professional shall be identified in the Work Plan, including a list of their environmental qualifications, for approval by DOTA AIR-EE.

C. CONTRACTOR TRAINING

The Contractor and its subcontractors shall implement safe work places and practices by eliminating, mitigating, or protecting against existing or potential hazards to the workers who may be exposed to harmful, hazardous, and toxic materials and substances, including contaminated water and soil.

3.3 CONSTRUCTION REQUIREMENTS

A. SOIL EXCAVATION AND STOCKPILING

1. Notify the HDOH Clean Water Branch (CWB) at least 90 calendar days prior to disturbing contaminated soil from known areas of contamination. Notify the HDOH HEER Office at least seven (7) calendar days prior to construction activities that could disturb known contaminated soil.
2. The HDOH HEER Office shall be immediately notified if contaminated soils are encountered. The disturbance of contaminated soil shall be performed in accordance with the Contractor's approved Work Plan, the DOTA EHE-EHMP, or a C- EHMP Addendum where applicable. HDOH HEER Office will determine whether additional sampling is required. Provide a location map with Global Positioning System (GPS) coordinates and approximate depth (bgs) at which the contaminated soils were encountered to the DOTA Engineer and DOTA AIR-EE.
3. During excavation and disturbance of impacted soil, all workers, supervisory personnel, subcontractors, and consultants must take precautionary measures as necessary to prevent exposure of the workers and the general public to chemicals of concern (COCs) by contaminated soil dust and inhalation of associated vapors.
4. The Contractor's Qualified Environmental Professional shall direct the segregation of the soil into three (3) separate soil piles: Pile No. 1 will consist of clean soil; Pile No. 2 will consist of soil excavated from areas found to be contaminated or suspected to be contaminated; and Pile No. 3 will consist of soil that is grossly contaminated. Contaminated soil stockpiles, suspected contaminated soil stockpiles, and grossly contaminated soil stockpiles shall be placed onto 20-mil plastic sheeting. Underlay edges of the plastic sheeting with bermed soil. Ensure that the height of the bermed soil will be sufficient to prevent stormwater runoff from breaching it. Place the excavated soil inside the bermed area on top of the plastic sheeting. Cover the stockpiles with 6-mil plastic

sheeting in the bermed area to mitigate dust concerns caused by wind and prevent contact with rainwater and stormwater runoff. Secure the plastic cover with sufficient ballast and place sediment control devices along the entire toe of each stockpile.

5. Each stockpile shall not exceed 100 cubic yards and shall be located away from drainage features, surface waters, and stormwater drainage paths. Or, the soils can be placed in watertight containers, such as 20-yard steel roll-off bins, drums, etc. These containers shall be covered.
6. The Contractor shall have representative soil samples taken from each stockpile (Pile No. 1, 2, and 3) and tested in accordance with HDOH guidelines, standards, and regulations, such that the soil sample report, prepared by the Contractor's Qualified Environmental Professional, can specifically state one of the following:
 - a. "The soil is not a regulated hazardous waste and is acceptable for disposal at a HDOH permitted facility."; or
 - b. "The soil is acceptable for unrestricted reuse."

Sampling and testing of the stockpiles shall be, at a minimum, in accordance to the latest edition of the HDOH's *Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material*. The Contractor's Qualified Environmental Professional shall direct the soil sampling collection and testing methods in accordance with the most current guidelines. Stockpiles shall be tested using multi-increment (MI) sampling approaches. Appropriate decision unit (DU) volumes for larger stockpiles of soil should be discussed with the HDOH HEER Office on a case-by-case basis.

The Contractor shall also confirm, with the HDOH permitted facility, the facility's sampling requirements, as well as their standards for disposal.

7. Any liquid-phase oil or free product associated with the contaminated soil shall be drained prior to stockpiling. If feasible, the free product should be separated from the soil, properly stored, profiled, and disposed of at an approved recycling/disposal facility.
8. For any soils hauled off Airport property, the Contractor shall be responsible for the legal disposal of any soil. The Contractor shall implement and maintain the following:
 - a. A form, signed by the Contractor and haul truck driver. The form shall contain the following information:
 - i. The date the material is being taken off Airport property.
 - ii. The name of the haul trucking company.
 - iii. The haul truck number and license plate number.
 - iv. The quantity of material being loaded into the haul truck.
 - v. The disposal facility or location of where the material is to be taken.
 - vi. The time the truck left the project site.

- b. The form and waste manifest from the HDOH permitted facility shall be provided to the Engineer or its representative by the close of the next working day. The Contractor shall verify that the quantity of material loaded into the truck, as indicated on the form, exactly matches the quantity of material disposed at the HDOH permitted facility, as indicated on the waste manifest.
 - c. The Contractor shall maintain a log that summarizes each form and waste manifest for ease of tracking and monitoring.
 - d. **All forms, waste manifest, and summary log shall be a condition of payment being made to the Contractor and shall be submitted with each progress payment. Failure to submit the above and/or should any quantity of material loaded into the truck, as indicated on the form, not exactly match the quantity of material disposed at the HDOH permitted facility, as indicated on the waste manifest, shall be reason for the State to withhold payment to the Contractor.**
9. Excavated soils can be reused onsite (within the construction site boundaries) with the prior approval of the DOTA AIR-EE, HDOH HEER Office, and subject to the following conditions:
- a. Representative soil samples have been taken and tested in accordance with HDOH standards and regulations.
 - b. The contaminated soil can only be reused within proximity of its original excavation.
 - c. The contaminated soil is placed within areas more than 150 meters from surface water and drainage features.
 - d. The contaminated soil cannot be placed beneath or within the footprint of a planned building structure.
 - e. The contaminated soil can only be placed at an elevation above the tidally influenced high water table and at least 1-foot below the finish surface grade. The more highly impacted soil should be placed at the bottom of the excavation and the cleanest soil at the top of the excavation. At least 1-foot of clean soil must be placed as the final backfill layer at the top. The excavation shall then be capped with an impervious layer, such as concrete and asphalt.
 - f. The contaminated soil cannot contain any free oil, oil sheens, oil stains, or total petroleum hydrocarbon (TPH) concentrations exceeding 5,000 parts per million (ppm).
 - g. The contaminated soil is not considered a hazardous waste pursuant to Federal and State laws.

- h. Contaminated soil shall not be reused in areas that are uncontaminated.
10. Excavated soils can be reused offsite (off Airports property) with the prior approval of the DOTA AIR-EE, HDOH HEER Office, and subject to the following conditions:
- a. Representative soil samples have been taken and tested in accordance with HDOH standards and regulations.
 - b. The work shall be performed in accordance to the latest edition of the HDOH's *Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material*.
 - c. A signed agreement with the receiving facility acknowledging the test results of the soil samples and acceptance of the soil is required to be submitted to the DOTA Engineer and DOTA AIR-EE ten (10) calendar days prior to hauling of the soil to the receiving facility.
 - d. The contaminated soil shall not contain any free oil, oil sheens, oil stains, or total petroleum hydrocarbon (TPH) concentrations exceeding 5,000 parts per million (ppm).
 - e. The contaminated soil is not considered a hazardous waste pursuant to Federal and State laws.
11. All soil that is reused onsite or offsite shall be included in the Closeout Report. The report shall include, at a minimum, a copy of the signed agreement from the receiving facility accepting the soil, a copy of the soil test results, the quantity of soil received by the facility, a location map of the reused soil including GPS coordinates of its limits, the depth and thickness of the soil's placement, a brief description of the purpose of the soil's re-use, and photos of the site conditions after placement has been completed.

B. GROUNDWATER MANAGEMENT

Soil and groundwater may be impacted by petroleum hydrocarbons, dissolved metals, and/or pesticides, and may be encountered during soil excavation.

- 1. The disturbance of contaminated groundwater shall be performed in accordance with the approved Work Plan, DOTA EHE-EHMP, or Site-Specific EHMP, where applicable. HDOH HEER Office will determine whether additional sampling is required.
- 2. If contaminated groundwater is uncovered at a previously unknown source or site on the project, the Contractor shall immediately notify the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office of its discovery. Provide a location map with GPS coordinates and approximate depth of the groundwater (bgs) at which the discovery was encountered.

3. During excavation and disturbance of impacted groundwater, all workers, supervisory personnel, subcontractors and consultants must take precautionary measures as necessary to prevent exposure of the workers and the general public to COCs and inhalation of associated vapors. Free product, sheen, and impacted groundwater must be managed properly.
4. Groundwater that exhibits evidence of possible contamination, i.e., odor, visual sheen, free product, coloration, and PID measurement, shall be properly stored when removed from the ground. Storage devices shall be watertight and leak-free to prevent discharge of the water into the surrounding ground, drainage system, and surface waters.

When disconnecting pipes and hoses from storage devices and equipment, residual waters contained in the pipes and hoses shall also be prevented from discharging into the surrounding ground, drainage system, and surface waters.

5. Representative water samples shall be taken and tested in accordance with Federal and State guidelines, standards, and regulations.
6. If free product is present in the extracted groundwater, it must be separated from the groundwater, profiled, and disposed of at an HDOH 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. Under no circumstances shall water contaminated with free product be discharged from a dewatering pit.
7. At least once daily, remove oil observed floating on the groundwater during excavation activities using a vacuum truck, absorbent pad, or other methods approved by HDOH HEER Office. Excavations shall not be backfilled until the floating oil is removed to the maximum extent practicable, which is when further use of vacuum trucks, absorbent pads, or other approved methods do not result in further floating oil removal. Backfilling of any excavation shall not occur without concurrence from DOTA AIR-EE and HDOH HEER Office.
8. Avoid any releases of contaminated groundwater to surface water bodies or areas beyond the work area.
9. Groundwater shall only be re-infiltrated in the ground with the prior approval of DOTA AIR-EE and HDOH HEER Office, and subject to the following conditions:
 - a. Within 200-feet of its original location or source and returned to the same aquifer which is not a current or potential drinking water source. Re-infiltration shall not contaminate uncontaminated areas.
 - b. More than 150 meters from surface waters, drainage features, and drainage structures.
 - c. Groundwater does not contain any gross contaminants.
 - d. If petroleum free product is present in the groundwater, the free product

shall be removed prior to transfer of the groundwater to the re-infiltration site. Free product shall be removed at least once daily until no free product is observed after 24 hours. The free product shall be disposed at an HDOH-approved facility.

- e. Groundwater is not considered a hazardous waste pursuant to Federal and State law.
 - f. Re-infiltration shall be conducted at a slow enough rate so that it does not flow past the designated infiltration area, enter storm drains, or impact surface water in the area.
 - g. If discharging to a re-infiltration trench, the trench must not be an underground injection control (UIC) well by HDOH's Safe Drinking Water Branch (SDWB) definitions. If some part of the trench system is deemed to be a UIC well, then the whole system shall be considered an injection well.
 - h. Advance clearance from HDOH SDWB is required if a re-infiltration trench is deeper than 10 feet.
 - i. If a UIC well is used for re-infiltration, the Contractor is responsible to obtain the necessary permits, including, but not limited to, HDOH's UIC Permit. The Contractor shall meet and comply with all permit requirements, including, but not limited to, well construction, placement, use, and closure.
10. Under circumstances where contaminated groundwater cannot be re-infiltrated, proper disposal must be conducted with the prior approval of the DOTA AIR-EE, HDOH SDWB, HDOH Solid and Hazardous Waste Branch (SHWB), and HDOH HEER Office. This is also subject to the following conditions:
- a. Discharge to the local or municipal sanitary sewer system after acquiring appropriate permit(s) from City and County (if applicable and if allowable by the receiving governmental agency) prior to discharge. If discharge water was generated within contaminated areas, additional coordination with HDOH HEER Office is required, and Aquatic Habitat Criteria (Chronic Toxicity) shall apply to discharge within these areas, in addition to any criteria applicable to the National Pollutant Discharge Elimination System (NPDES) permit or pretreatment facility. Water discharged to a sanitary sewer may be required to meet Water Quality Standards.
 - b. Notification to the appropriate agencies and other pertinent information related to the discharge must be provided upon request.
 - c. The Contractor is responsible for the legal disposal or discharge of any groundwater that is not re-infiltrated, and shall provide the DOTA AIR-EE with copies of waste manifests.
 - d. For any groundwater hauled off Airport property, the Contractor shall have representative samples taken and tested in accordance with HDOH guidelines, standards, and regulations. A copy of the groundwater test

result shall be submitted to DOTA AIR-EE. The groundwater shall not be disposed offsite without the approval of DOTA AIR-EE and the HDOH permitted facility that is receiving the groundwater. Furnish documentation from the receiving facility indicating that they acknowledge the groundwater test results, including their approval to dispose the groundwater at their facility.

C. RELEASE REPORTING

Encountering previously unknown, suspected, or confirmed contaminated soil or groundwater during subsurface construction activities is considered a release and shall be reported to HDOH HEER Office (phone: 808-586-4249, or after hours at 808-236-8200). Copies of the HDOH Release Report, HDOH issued Release Number, and email correspondence (if applicable), shall be furnished to the DOTA Engineer and DOTA AIR-EE.

1. Upon the discovery of contaminated soil and/or groundwater, the Contractor shall immediately notify the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office.
2. A reportable release of hazardous substances or contaminated soil or groundwater may be indicated by, but not limited to, any of the following:
 - A petroleum sheen on the groundwater in an excavation.
 - Any free product that appears on groundwater.
 - Visual or olfactory evidence of contamination (e.g., unusual discoloration, buried containers, fumes, unknown liquids).
3. Comply with DOTA and HDOH HEER Office requirements. A written report shall be provided to the HDOH HEER Office. The *Hawaii Hazardous Substance Written Follow-up Notification Form* is provided in the DOTA EHE-EHMP, Appendix B.1. Photos shall be included to document the incident. The Contractor shall keep a copy of the completed Form B.1 and provide copies of the written report to the DOTA Engineer and DOTA AIR-EE.
4. If free product is encountered, report the release in accordance with HAR § 11-451.

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

1. Report all spills to immediately to AIR-EE, State Engineer, and appropriate airport personnel and regulatory agencies (if applicable) following the DOTA Spill Reporting Fact Sheets for each airport. Spill Reporting Fact Sheets can be found on DOTA's Environmental Webpage for Construction site Runoff at <https://hidot.hawaii.gov/airports/doing-business/engineering/environmental/construction-site-runoff-control-program/>.
2. In the event of a release of a hazardous substance that causes an imminent threat to human health or the environment, the first call shall be to 911.

3. Small spills of petroleum or hazardous substances (less than 25 gallons) which are capable of being cleaned up within 72 hours and do not threaten ground or surface waters shall be cleaned up immediately.
4. Report spills of a certain size (e.g., volume of greater than 25 gallons or not contained within 72 hours), per HAR § 11-451, to HDOH HEER Office and the National Response Center immediately. Comply with the HDOH HEER Office requirements. A written report shall be provided to the HDOH HEER Office within 30 calendar days of a Reportable Quantity spill cleanup. The *Hawaii Hazardous Substance Written Follow-up Notification Form* is provided in the DOTA EHE-EHMP, Appendix B.1. Photos shall be included to document the incident. The Contractor shall keep a copy of the completed Form B.1, and provide copies of the written report, the HDOH issued Release Number, and email correspondence (if applicable) to the DOTA Engineer and DOTA AIR-EE.
5. Any spill that enters a body of water, onto an adjoining shoreline, or discharges into the storm drain system, HDOH CWB must also be immediately notified and the National Response Center notified within 24 hours. Report significant spills to the U.S. Coast Guard.

D. FINAL CLEANUP

1. When work which disturbs contaminated soil has been completed, the State will visually inspect the work area for evidence of contaminated materials and direct the Contractor to clean and remove remaining contaminated materials. The Contractor shall not dismantle the work area boundaries prior to authorization by the State.
2. Any equipment which contacts contaminated materials shall be cleaned with a water spray immediately upon completion of work. The wash location shall be located immediately adjacent to the contaminated area. All wash water and solid waste shall be disposed of in accordance with the Work Plan. The wash water shall not be allowed to discharge into the drainage system and surface waters.

E. AIR MONITORING

1. Air monitoring shall be conducted when petroleum-contaminated soil (PCS), contaminated groundwater, free product, or chlorinated solvents (e.g., PCE, TCE, etc.) is present in an excavated area. The monitoring shall include both work area and perimeter measurements of volatile organic compound (VOC) vapors. Appropriate response actions shall be taken in conformance to Federal and State regulatory requirements and guidelines. The response actions shall include ensuring that on-site workers have the appropriate level of PPE and the general public is not affected adversely.
2. Air monitoring shall be conducted with a conventional photoionization detector (PID) to measure total VOC vapor concentrations. If high levels of benzene are anticipated, an Ultra-Rae PID, which is benzene-specific, shall also be used.
3. If toxic gases are a potential concern, air monitoring of the lower explosive limit

(LEL) shall be conducted using a multi-gas meter to determine if a hazardous atmosphere exists.

4. Air monitoring shall be conducted for at least three (3) full 8-hour shifts to establish a negative exposure assessment for worker's exposure to airborne contaminants. After the establishment of the negative worker's exposure, periodic monitoring shall be conducted once every seven (7) calendar days to document worker exposure for the duration of the contaminated soil work.
5. Work area and perimeter air monitoring shall be conducted throughout the entire duration of the contaminated soil work to ensure unprotected personnel are not exposed above permissible exposure limits at all times. If the outside boundary levels are at or exceed permissible exposure limits, work shall be stopped, and the Contractor's Qualified Environmental Professional and DOTA Engineer shall be immediately contacted to address the situation causing the increased levels.
6. Submit air sampling results to the DOTA Engineer within five (5) calendar days after the samples are collected, signed by the testing laboratory employee performing the air monitoring.

F. UNDERGROUND STORAGE TANKS (UST) AND UTILITY PIPES

1. For any UST or pipeline discovered or planned removal, the nature of the UST or pipeline, and whether they are inactive, shall be determined prior to removal. Immediately notify the DOTA Engineer and DOTA AIR-EE of the discovery.

If unanticipated petroleum pipelines are discovered, contact HDOH HEER Office within 24 hours after encountering them.

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 must include a North arrow and a scale.
 - b. Depth, diameter, length, and type of pipe, if applicable. Describe the condition of the pipe.
 - c. Type of fuel or product, including analytical laboratory reports for the product that is recovered.
 - d. Beginning and ending fluid levels, if applicable.
 - e. Volume of each type of product removed.
 - f. Flow rates, if applicable.
 - g. Direction of flow.

- h. Detailed photographs.
- i. Detailed description of actions taken following the discovery, such as, cutting, product removal, and disposal.

Provide records of the field observations to the DOTA Engineer, DOTA AIR-EE, and HDOH HEER Office.

- 3. Prior to removal of a UST, the Contractor shall prepare and submit to the DOTA Engineer, for review by DOTA AIR-EE, a Site-Specific plan. All work associated with USTs shall be in compliance with HAR § 11-280.1 requirements, and HDOH HEER Office and HDOH SHWB requirements.

The contractor shall also complete the HDOH *Notice of Intent to Close Underground Storage Tanks* form and submit it to the DOTA Engineer for submission to HDOH SHWB (UST Section) by DOTA AIR-EE.

Prior to the removal of the UST, the Contractor shall receive approval from DOTA AIR-EE and HDOH HEER Office.

- 4. The UST or pipeline segment must be drained of its content or determined that it is empty of liquids or flammable vapors prior to the removal. Any petroleum fluids recovered must be representatively sampled and tested to determine how they can be recycled or disposed in full accordance with HAR § 11-58.1 and § 11-260–279, and any other Federal and State regulations.
- 5. Only personnel knowledgeable and trained in pipeline and UST removal shall cut, drain, and remove USTs and pipelines. Prior to cutting, plastic sheeting and absorbent material shall be placed below and adjacent to the cutting location. Any residual fluid in the UST or pipeline must be properly contained on the sheeting and prevented from discharging into the surrounding soil or entering any drainage system and surface waters.
- 6. The cut-off ends of the pipeline segments, that remain in-place, must be filled with concrete and appropriately sealed to prevent any potential leakage and contact with groundwater.
- 7. If the waste pipe or UST are to be stored onsite prior to disposal, the area shall be lined with polyethylene plastic sheeting, 10 mil or thicker, and bermed to contain any free product. Some viscous products may appear to be immobile, however, after exposed to atmosphere heating, can liquefy. The waste pipe segment shall be 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.
- 8. All removed pipelines and USTs shall be properly disposed or recycled.
- 9. For USTs, a UST Removal Report including all sampling activities required under HAR § 11-280.1 shall be prepared and submitted to the DOTA Engineer, DOTA AIR-EE, and HDOH SHWB (UST Section).

3.4 POST-CONSTRUCTION REQUIREMENTS

A. Submit the following within 30 calendar days after work is completed.

1. Close-out Report

- a. A signed certificate stating that the removal and disposal of all contaminated materials were completed in accordance with the Contractor's approved Work Plan or C-EHMP Addendum, and all applicable Federal, State, and local rules and regulations.
- b. All approved DOTA EHE-EHMP deviation request forms. (Reference Appendix B of the DOTA EHE-EHMP.)
- c. All Site-Specific EHMP, if applicable.
- d. All testing, laboratory results, and reports for any soil, groundwater, soil vapor, UST, pipeline, and other samplings taken.
- e. All disposal forms, waste manifests, and summary logs.
- f. Any results from project air monitoring.
- g. 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 HDOH and all other associated documents.
- h. If any contaminated soil was removed offsite (off of Airport Property), at a minimum, include the following:
 - A copy of the signed agreement from the receiving facility acknowledging the test result of the soil samples and indicating acceptance of the soil for reuse.
 - Copies of the test results of the soil sampling.
- i. If any contaminated soil was re-used onsite (within the construction site boundaries), at a minimum, include the following:
 - Copies of the test results of the soil sampling.
 - The quantity of soil that is re-used on-site.
 - Location map of the re-used soil. Include GPS coordinates of its limits, if the area is accessible.
 - A brief description of the purpose of the re-used soil (e.g., general fill, utility trench backfill material, etc.). Include the depth and thickness of its placement.
 - Photos of the site after placement of the re-use soil has been completed.

- j. Record of Field Observation of any unanticipated UST or pipeline discovered during construction activities, including a copy of the completed HDOH *Notice of Intent to Close Underground Storage Tanks* form and all other associated documents.

The Close-out Report shall be by each individual contaminated media and shall include all appropriate documentations. The Close-out Reports for each contaminated media can be submitted separately or combined in a 3-ring binder with divider tabs.

PART 4 – MEASUREMENT AND PAYMENT

4.1 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will be paid for under the various contract items as shown below.

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.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01562.1	Management of Contaminated Medias	Allowance

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 Damage amount of \$5,000 per truck per day, until the illegal dumped material has been cleaned up or the incident has been remedied to the HDOH'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 also be responsible for all citations, fines, and penalties levied by HDOH or EPA 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 C-EHMP Addendum. The Contractor shall reimburse the State within 30 calendar days for the full amount of outstanding cost that the State has incurred, or the State shall deduct all incurred costs from the Contractor's monthly progress payments.

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