

SECTION 13288 – ASBESTOS TESTING AND AIR MONITORING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section describes Contractor's responsibility for compliance while conducting work which disturbs asbestos-containing materials (ACM) for the 1st, 2nd, and 3rd Level Roadway Rehabilitation, Daniel K. Inouye International Airport. Related sections are:
 - 1. Section 01715 – EXISTING CONDITIONS – ASBESTOS/LEAD/HAZARDOUS MATERIAL SURVEY for general requirements and the hazardous material survey
 - 2. Section 13281 - REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS for requirements of work which disturbs ACM.
- B. Implement appropriate engineering controls and safety measures to prevent site workers, occupants, other trades, the public, and the environment from exposure to hazardous materials.
- C. Costs incurred due to Contractor inability to control hazards shall be borne by Contractor, including but not limited to, investigations, medical, legal, regulatory and public relations, clean-up, monitoring, and reporting.
- D. An independent industrial hygiene (IH) firm, retained by the contractor, will conduct the monitoring during the Contractor's work which disturbs ACM.

1.03 GENERAL REQUIREMENTS

Testing and workers' breathing zone monitoring shall be conducted by the Contractor for the purpose of:

- A. Verifying compliance with the applicable codes, regulations and laws regarding ACM abatement.
- B. Ensuring that the legally-required documentation is collected in a timely manner.

C. Providing engineering controls during project.

1.04 TESTING/ AIR MONITORING/ INDUSTRIAL HYGIENE SUPERVISION
AND AIR MONITORING

- A. Industrial hygiene supervision and boundary air monitoring shall be performed by an independent IH firm retained by the Contractor. The laboratory used for sample analysis shall be proficient in:
1. The National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing (PAT) program.
 2. The National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos or the Environmental Protection Agency (EPA) Research Triangle Institute (RTI) program for bulk asbestos analysis.
- B. Air monitoring and project supervision will be conducted under the direction of an Industrial Hygienist (IH) who has minimum 5 years of experience in hazard abatement project management. On-site monitoring may be conducted by a competent and qualified IH Technician with experience in asbestos abatement and/or the relevant hazardous material abatement, provided activities are conducted under the supervision of the IH.
- C. Aforementioned air monitoring and project supervision shall not remove the Contractor's responsibility for his/her worker protection and required documentations.

1.05 COORDINATION WITH OTHER SECTIONS

- A. Testing and monitoring requirements included in the scope of work for any testing/air monitoring consultants or inspectors shall be coordinated with:
Section 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-
CONTAINING MATERIALS

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 COMPETENT PERSON RESPONSIBILITIES

- A. Contractor's Competent Person shall prepare an Asbestos Hazard Prevention Plan per Section 13281 paragraph 1.07A, 1 through 6. State and training certifications shall be valid and reflect the anticipated workers on site.

- B. If required by the landfill, Competent Person shall provide proof of waste characterization and disposal documents. In the event that the waste is determined to be hazardous, inform DOT-A, obtain EPA ID number, and request equitable adjustment to the contract.
- C. Refer to Sections 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS and paragraph 3.03, below, for additional responsibilities.

3.02 CONTRACTOR RESPONSIBILITIES

- A. Submit complete work plans for review and concurrence by DOT-A. Refer to Section 13281 – REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS for requirements of the work plan.
- B. Maintain worker monitoring and necessary records for the Contractor's employees as required by OSHA (29 CFR 1926.58), Hawaii Administrative Rules, and other applicable laws.
- C. Obtain legally required documentation for air monitoring and submit a written respiratory protection program as part of the contract.
- D. Costs involving investigations, air monitoring, legal, medical, regulatory and public relations, testing, and reporting due to Contractor inability to control hazards shall be borne by Contractor, and shall be deducted from the final contract payment.
- E. Accommodate additional testing performed by the IH; however, this shall not remove Contractor's responsibility of monitoring required by law and contract specifications.
- F. For final cleanup and decontamination following gross removal, remove the final polyethylene sheeting, or drop cloth, but leave the coverings for critical barriers, such as doors, windows, air ducts, etc., until successful clearance is obtained.
- G. Asbestos Clearance by Phase Contrast Microscopy (PCM)
 - 1. IH retained by the State and Contractor's Competent Person shall jointly conduct visual inspection, and the IH shall conduct air clearance prior to releasing the space to other trades.
 - 2. PCM clearance result shall be 0.01 fiber per cubic centimeter of air (f/cc) or lower.

3.03 MONITORING AND INSPECTION BY COMPETENT PERSON

A. Duties of the Competent Person

1. Photographic Record of Project: Record work with representative photos. Photos shall become the property of the State and are to be accompanied by a detailed log.
2. Project Log: Competent Person shall be on site at all times and maintain daily field logs detailing key activities during ACM-related work and submit a summary of project activities to DOT-A within 10 days of completion for each area. Incorporate daily field reports with other project data into a final closeout report.
3. Visual Inspection of Controlled Areas: Conduct inspections of controlled areas, during the actual work performance, to document the work practices employed. Verify that scheduled abatement or mitigation work is completed, and the area was properly and promptly cleaned and ready for other trades involved in the project.

B. Site Monitoring by Competent Person

1. Onsite personnel air monitoring as required by OSHA, and the project specifications
2. Monitoring of decontamination procedures at control area entry/exit and of cleanup after each shift
3. Monitoring of controlled area maintenance and waste handling
4. Interface with IH, Designer of Records, representatives of regulatory agencies, and DOT-A
5. Ensure workers are trained, engineering controls in place, and proper respiratory protection is utilized by personnel within control areas
6. Relay to DOT-A any discrepancies in Contractor's action with provisions of project specifications

3.04 TESTING/AIR MONITORING

- A. IH retained by the State shall have authority to stop work or to exercise engineering controls during the project.
- B. IH may conduct additional testing and air monitoring at his/her discretion.
- C. Monitoring activities will be documented and submitted to DOT-A with test results, interpretations, follow-up actions, and final resolutions.

3.05 SAMPLE DESIGN

The following is a typical sampling design per control area during the construction. Number of sample quantities and volume may vary.

- A. Background Samples: Background baseline samples shall be taken prior to ACM work to establish pre-removal airborne concentration levels. High volume continuous flow samples shall be taken for anticipated control area. Work area samples shall be analyzed by the NIOSH 7400 method for asbestos.
- B. Work Area Samples: Low volume samples of a maximum of 480 liters each shall be taken in the work area. Ambient air samples shall be taken outside of work area to assess and ensure that engineering controls are effective and that the persons entering the work area are properly protected from airborne hazards. If monitoring results inside and outside the controlled area indicate airborne concentrations is greater than 0.01 f/cc for asbestos, Contractor shall correct the condition(s) causing the increase and ensure that Contractor maintains the ambient conditions to below the action levels.
- C. Barrier Samples: As applicable, two samples may be taken per barrier.
- D. Environmental Samples: Each removal area shall be controlled so that airborne dust cannot escape into trade, airport personnel, and public access areas. Per the IH's discretion, high volume or low volume samples per controlled area will be taken.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work involving worker monitoring, waste characterization, and OSHA and EPA compliance shall not be measured or paid for separately but shall be considered incidental to the lump sum price bid for the item of which it is a part in the Bid Schedule.

END OF SECTION