

SECTION 10291 – DRYWOOD TERMITE FUMIGATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. All fumigation work shall be in strict accordance with the following:
 - 1. Chapter 460J, Pest Control Operators, Hawaii Revised Statutes.
 - 2. Chapter 94, Pest Control Operators, Rules and Regulation of the Pest Control Board, State of Hawaii.
 - 3. Chapter 149A, as amended and Administrative Rule, Title 4, Chapter 66, Pesticide.
 - 4. FIFRA, as amended.
- B. Fumigant shall be used in strict accordance with the manufacturer's directions on the label.
- C. All fumigation work shall be performed by a pest control operator licensed by the Hawaii State Pest Control Board in Branch.
- D. The Contractor at all times shall observe and comply with all Federal, State and local laws or ordinance, rules and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, and the conduct of the work.
- E. The Contractor shall keep the project area and surrounding areas free from dust and noise nuisance.
- F. The Contractor shall schedule and coordinate work with the designated representative for this facility in order to minimize any disruptions to school operations. **Arnold Sugiyama (808) 776-7710**

1.02 SUBMITTALS

- A. Guaranty: The Contractor shall furnish three (3) copies of a written guaranty to the Engineer.
- B. Sampling Plan: The Contractor shall submit to the Engineer for approval a plan showing sampling locations, sampling times and initial dosage reading.

1.03 GUARANTY

- A. The written guaranty shall include the following:
 - 1. The effectiveness of the treatment for a period of not less than one (1) year from the date of treatment; and
 - 2. The refumigation of the structure at no additional cost to the State in the event that live drywood termite infestations are found within the one-year period. Ineffective extermination shall be presumed if there is a massive expulsion of pellets by a colony or if live termites including alates are found upon examination.

1.04 SAFETY MEASURES

- A. The Contractor shall take all precautions necessary to protect and safeguard persons who may be exposed to the operation.
- B. Chloropicrin shall be used in conjunction with the fumigant at the rate of 1 ounce per 10,000 – 15,000 cubic feet of space to be fumigated.
- C. Security guards shall be posted at the job site at all times while the structure is filled with fumigant. The guards shall be posted so that the combined visual coverage of the guards includes the total perimeter of the structure being fumigated. Posted guards shall have on their persons a written list showing names and telephone numbers of responsible representatives of the Contractor to be contacted in the event of gas leakage, tent rupture or other emergencies.
- D. The Contractor shall check to see that all pilot lights and other heat sources have been extinguished.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Asbestos Prohibition: No asbestos containing materials and equipment shall be used under this Section. The Contractor shall ensure that all materials incorporated in the project are asbestos-free.
- B. Fumigant: Fumigant shall be sulfuryl fluoride (Vikane).
- C. Tent: The tenting material shall be an impervious tarpaulin of vinyl coated nylon, or polyethylene sheeting of at least 4 mil thickness.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Prior to fumigation the Contractor shall make a thorough inspection of the structure with a school representative and shall advise the school representative of any item(s) that must be removed prior to fumigation. Such items include, but are not limited to, the following:
1. Desirable growing plants.
 2. Domestic animals and fish.
 3. Food and feed not sealed in highly resistant containers such as glass, metal or plastic (such as polyethylene bags at least 4 mil thick or equivalent such as 2 – 2 mil bags).
 4. Unsealed medicinals.
- B. The State (school) will remove the necessary items from the structure. The Contractor shall make a final check of the structure to assure compliance with the applicable provisions of the Hawaii Pesticide Law. The Contractor shall not proceed with the fumigation until all provisions have been complied with.
- C. The Contractor shall notify the school at least two (2) weeks prior to tenting of the need to remove or trim any plants growing adjacent to buildings. The Contractor shall make every effort to keep ornamental plants alive, however, when existing plants which because of location will be inside the tent then the school shall be notified of the situation before gassing.
- D. The Contractor shall erect and maintain all necessary barricades, covers, warning signs and other protective means around the job site as may be required or directed by the Engineer to adequately protect the public from injuries and shall be held entirely responsible for their safety.
- E. The structure shall be completely enveloped with an impervious tarpaulin materials. Material shall be vinyl coated nylon, or polyethylene sheeting of at least 4 mil thickness. The soil shall be wetted to a depth of 6 inches from the foundation to the cover if not sufficiently moist to act as a barrier to the gas. All seams and edges shall be sealed securely.

3.02 DOSAGE

- A. The Dow Chemical Fumiguide B and Y calculators shall be used for the coordination of fumigant rates with soil or slab temperature, exposed period, and fumigant loss rate measured as half-loss-time HLT.

1. Fumiguide B: Used for coordination of fumigant rates with temperatures, a 20 to 24 hour exposure period, and an estimated HLT.
2. Fumiguide Y: Used when fumigant concentrations are monitored and/or there are measured variations in exposure time.

3.03 APPLICATION

- A. Fans shall be placed to provide for forced air circulation of the fumigant during the application period.
- B. The fumigant shall be released at locations to ensure rapid, even distribution of the gas (equilibrium within 1 hour).
- C. The release of the fumigant shall be in strict accordance with the directions on the label of the fumigant.

3.04 SAMPLING

- A. Adequate tubing shall be provided to the interior for use in sampling gas for fumiscope readings during the fumigation. The tubes shall extend to all parts of the structure, near the ceiling, in the middle and near the floor. The tubes shall extend equally into both the windward and leeward sides of the structure.
- B. The Contractor shall take the fumiscope readings and shall provide the necessary electrical extension cords for the fumiscope. Fumiscope readings shall be recorded when taken and dosage adjustments noted.
- C. The fumiscope reading of the fumigant concentration shall be taken after initial equilibrium. The second reading shall be taken two – four hours after the initial reading. Upon obtaining the second reading, the actual HLT shall be determined. If required, an adjustment to the dosage shall be done.

3.05 AERATION

- A. At the end of the exposure period, all seals shall be removed and all doors and windows shall be opened.
- B. Ventilation fans shall be used to remove fumigant from dead air spaces.
- C. A suitable fumigant monitoring instrument shall be used to check for the completeness of the aeration.
- D. The Contractor shall make the final determination of reoccupancy and shall record all fumigant monitored readings and locations prior to turning the structure over to the Engineer.

3.06 CLEANUP

- A. Upon completion, the Contractor shall clean the work site of all rubbish, excess materials, temporary structures, and all parts of the work shall be left in a neat condition.
- B Damages by the Contractor to the structure and/or its contents and surroundings shall be repaired to the satisfaction of the Engineer and at no cost to the State.

END OF SECTION