



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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NSY PORTSMOUTH
5090.3a

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GOVERNOR

EDWARD O. SULLIVAN
COMMISSIONER

January 22, 1998

Mr. Fred Evans
Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

re: State of Maine Requirements for Solid Waste Landfill Closure

Dear Fred:

The Maine Department of Environmental Protection is requiring the US Navy to cover the Jamaica Island Landfill with a cover meeting the design criteria as stated in the State's Solid Waste Management Regulations. Section 7 of the Code of Maine Regulations (CMR), Chapter 401 states, "All solid waste landfill facilities shall be subject to the requirement established under this section. In general, closure shall be accomplished in a manner which minimizes both the need for further maintenance and the post-closure formation and release of contaminants to the environment to the extent necessary to protect the public health and environment." The statutory authority for adoption of these rules is 38 MRSA §1304(1). 38 MRSA §1310 may also apply.

I have attached the relevant portions of the cited Rules and Statutes. These are also available on the World Wide Web from the Maine DEP's Home Page (<http://www.state.me.us/dep/mdephome.htm>).

Please feel free to contact me at (207) 287-8010 if you have any questions.

Sincerely,

Iver McLeod
Project Manager
Bureau of Remediation and Waste Management

attachment

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06-096 CMR 401.7

7. **Solid Waste Landfill Facility Closure.** All solid waste landfill facilities shall be subject to the requirements established under this section. In general, closure shall be accomplished in a manner which minimizes both the need for further maintenance and the post-closure formation and release of contaminants to the environment to the extent necessary to protect the public health and environment.

A. **Closure Plan.** A complete closure plan shall be submitted for review and approval at least 1 year before the start of any closing operations, or at the time an application is filed by the facility owner or operator for another landfill or alternative method of disposal, whichever is first. This plan shall be approved before the start of any closing operations. This plan shall include, but is not limited to, the following items:

- (1) Information derived from the subsurface investigation, such as ground water movement into, within and from the site. The presentation of this information may include phreatic surface maps, vertical and horizontal flow nets, geologic cross-sections, and an assessment of the magnitude and extent of any leachate plume around the facility;
- (2) A schedule for public notification of the closure;
- (3) A schedule for rat extermination, if applicable, by a qualified person;
- (4) A schedule for fire control, if applicable;
- (5) A schedule for grading slopes, placing final cover and vegetation;
- (6) Information regarding the cover source operation which includes, but is not limited to, the following:
 - (a) A mining and reclamation plan, with appropriate timetables;
 - (b) A copy of the written notice to abutting property owners informing them of the intention to mine the cover material;
 - (c) A letter of authorization from the property owner, if other than the municipality itself;
 - (d) Proposed measures to prevent soil erosion and to protect ground and surface waters;
 - (e) The location of any on-site or nearby roads, rivers, streams, brooks, great ponds or freshwater wetlands;

- (f) The exact location and limits of the extraction activity, as indicated on a copy of a United States Geological Survey Map; and
 - (g) A plan for the establishment and maintenance of buffer strips, as required in Chapter 375, Section 9.B.1. of the Site Location of Development Regulations.
- (7) Drainage control procedures;
- (8) Leachate and gas monitoring and detection plan;
- (9) Leachate and gas control procedures;
- (10) A closure design, which is based on the following factors:
- (a) The geology and geologic setting of the site, as determined by a site specific investigation to include, at a minimum, test pits and borings, observation wells and piezometers, sampling and testing of surficial materials, in situ hydraulic conductivity testing and, where appropriate, bedrock information. This investigation shall, in turn, determine the location and installation of monitoring wells at those sites which have no, or an insufficient number of, well locations;
 - (b) The degree of known or suspected contamination of the environment at the site. The presence and degree of contamination shall be verified by an environmental monitoring, sampling and analysis program;
 - (c) The past operating practices at the site;
 - (d) The geographic location of the site; and
 - (e) Any other factors which are necessary for an informed determination of an appropriate design.
- (11) A design report documenting how the site specific environmental conditions and landfill factors are used as the basis for the proposed design. Reference shall be made to Chapter 401.1(G)(1)(a)(b) and (f) of these rules for specific details, which shall be fully incorporated in this report;
- (12) Design plans showing proposed final elevations, slopes, drainage control structures, leachate and gas management structures, landfill and site topography, monitoring wells and surface water monitoring stations, the permanent benchmark, and other applicable information related to closure of the site. Reference shall be made to Chapter 401.1(G)(b) and (c) and 401.4(F)(1) and (2) of these rules for specific details, which shall be fully incorporated in these plans;

- (13) A quality control/quality assurance program to assure compliance with design standards. This program shall include test items, test limits, test schedules, and procedures for resolution of substandard test results;
- (14) A detailed cost estimate, if the landfill may be eligible for closure funding;
- (15) A proposed final use which is compatible with the final cover system. The following activities are deemed incompatible and are prohibited at any closed solid waste landfill, unless specifically approved by the department in writing:
 - (a) Use of the covered site for agricultural purposes;
 - (b) Establishment or construction of any structures or buildings, including transfer stations within 100 feet of the solid waste boundary; and
 - (c) Excavation of the final cover or any waste materials.
- (16) A proposed post-closure monitoring and maintenance program, as specified in Section 8 of this Chapter.

B. Closure Deadline. A solid waste landfill facility, or a portion thereof, shall be closed in accordance with an approved closure plan no later than one year from the last date solid waste was received, unless the board or department orders that a different deadline shall apply.

C. Minimum Standards and Specifications for Final Cover

- (1) Extent. Final cover shall be placed over all areas where solid waste has been disposed, including any areas which were not properly closed in the past.
- (2) Permeability
 - (a) Secure landfills. Final cover for secure landfill disposal facilities shall have a permeability less than or equal to the permeability of the primary liner system. At a minimum, the average permeability shall be less than or equal to 1×10^{-7} cm/sec and a maximum permeability less than or equal to 5×10^{-7} cm/sec.
 - (b) Attenuation landfills. Final cover for attenuation landfill disposal facilities shall have a maximum permeability less than or equal to 5×10^{-7} cm/sec, unless otherwise approved by the Department.
- (3) Allowable Slopes. The minimum allowable post-consolidation slope for final cover is 5 percent. The maximum allowable slope for final cover is 33 percent. Slopes shall be designed to promote runoff in a manner that will prevent erosion of the final cover.

(4) Cover System

- (a) Final cover for secure landfills shall be a composite cover consisting of a flexible membrane liner underlain by 2 feet of recompacted well graded soil containing a minimum of 35 percent fines or native marine clay. Both shall meet the permeability requirements of this section. The flexible membrane liner shall be covered with:
 - (i) A minimum of 12 inches of sand covered by a minimum of 12 inches of a medium suitable for growing grass; or
 - (ii) A layer of geonet covered by a layer of a medium suitable for growing grass, with a thickness approved by the Department on a case by case basis.
- (b) Final cover for attenuation landfills shall consist of a minimum of 18 inches of either a compacted well graded soil containing a minimum of 35 percent fines, or native marine clay. This layer shall be overlain by a 6-inch layer of a medium suitable for growing grass, unless a different cover system has been specifically approved by the department.
- (5) Vegetation. Final cover shall be limed, fertilized and seeded as soon as possible after the cover is installed to promote evapo-transpiration and to stabilize against erosion. Other areas at the disposal site that present a high potential for erosion shall also be revegetated. The lime, fertilizer and seed specifications shall meet standards as established by the U.S. Soil Conservation Service.

D. Public Notification

- (1) The public shall be notified of a solid waste landfill facility closure according to the schedule included in the closure plan. Proper notification shall consist of a legible, written announcement, which is posted at the entrance to the solid waste landfill, is published at least once in a local newspaper and contains the following information:
 - (a) The last date that waste will be accepted;
 - (b) The location of the new waste facility;
 - (c) The hours of operation of the new waste facility; and
 - (d) The rat extermination schedule, if applicable.

E. Inspection for Compliance

- (1) The owner or operator shall request in writing a Department inspection for compliance before removal of equipment from the facility site so that deficiencies, if present, may be corrected.
- (2) The facility site and record of results from monitoring wells shall be subject to Department inspection after official closing. Any deficiencies which are discovered and present a potential hazard to public health and safety and the environment shall be corrected.

F. Permanent Record. In order to provide notice to prospective purchasers and a public record of the location of waste facilities whenever any facility site subject to this chapter is closed, the following information shall be prepared and recorded in the Registry of Deeds:

- (1) The type of facility located on the lot and the dates of its operation and closure;
- (2) A description of the location, composition, extent and depth of the waste deposited;

If asbestos-containing waste materials or asbestos-contaminated waste has been disposed at a landfill, the location coordinates must be identified.

- (3) Within 6 months of closure, and before transfer of the land, the property deed shall be amended so as to, in perpetuity, notify any potential purchaser of the property:
 - (a) Where to find the above-mentioned plan;
 - (b) That the land has been used as a solid waste landfill; and
 - (c) That post-closure use of the property must never be allowed to disturb the integrity of the final cover, liner system, or other components of the containment system, or the functioning of the monitoring systems, without prior written approval of the Department or other appropriate agency of the State of Maine.

38 MRSA § 1304. Department; powers and duties

1. Rules. Subject to the Maine Administrative Procedure Act, Title 5, chapter 375, the board may adopt, amend and enforce rules as it deems necessary to govern waste management, including the location, establishment, construction and alteration of waste facilities as the facility affects the public health and welfare or the natural resources of the State. The rules shall be designed to minimize pollution of the State's air, land and surface and ground water resources, prevent the spread of disease or other health hazards, prevent contamination of drinking water supplies and protect public health and safety. In adopting these rules, the board shall also consider economic impact, technical feasibility and such differences as are created by population, hazardous or solid waste, sludge or septage volume and geographic location.

b! 1989, c. 585, Pt. E, @5 (amd). ?b

38 MRSA § 1310. Emergency

If the commissioner finds, after investigation, that any waste, whether or not hazardous waste, is being handled, transported or otherwise dealt with in a manner which may create a danger to public health or safety, he may order any person handling, transporting or otherwise dealing with the waste to immediately cease or prevent that activity and to take such action as may be necessary to terminate or mitigate the danger or likelihood of danger. He may also order any person contributing to the danger or likelihood of danger to cease or prevent that contribution. b! 1981, c. 430, § 19 (rpr). ?b

Any order issued under this section shall contain findings of fact describing, insofar as possible, the waste, the site of the activity and the danger to the public health or safety. b! 1979, c. 699, § 16 (rpr). ?b

Service of the commissioner's findings and an order shall be made pursuant to the Maine Rules of Civil Procedure. b! 1979, c. 699, § 16 (rpr). ?b

The person to whom the order is directed shall comply immediately. An order may not be appealed to the Superior Court, but a person to whom it is directed may apply to the board for a hearing on the order if the application is made within 48 hours after receipt of the order by the person to whom the order was directed. Within 5 working days after receipt of the application, the board shall hold a hearing, make findings of fact and continue, revoke or modify the order. The decision of the board may be appealed to the Superior Court in accordance with Title 5, chapter 375, subchapter VII. b! 1987, c. 192, § 27 (amd). ?b