



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

November 20, 2015

Office of the Select Board
Town of Dartmouth
400 Slocum Road
Dartmouth, MA 02747

RE: Dartmouth Select Board's Memorandum of Opposition to an Application for
A Corrective Action Design Permit for the Closure of the Cecil Smith Landfill

Dear Selectman:

As discussed at the October 19th meeting between the Town of Dartmouth and the Massachusetts Department of Environmental Protection (MassDEP), MassDEP has completed its review of the December 19, 2014 Memorandum submitted by the Town of Dartmouth through its Select Board. The Memorandum expresses opposition to an application submitted to MassDEP for a Corrective Action Design Permit for the closure of the Cecil Smith Landfill.

The Town Memorandum raises a number of concerns about the proposed project's risks to public health and the environment and argues that MassDEP's policy for the Re-use and Disposal of Contaminated Soil at Massachusetts Landfills, Policy No. COMM-97-001 dated August 15, 1997 ("COMM-97 Policy") and MassDEP's policy entitled "Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites" dated July 6, 2001 ("2001 Guidelines") is unlawful. MassDEP has carefully reviewed the information and arguments presented in the Town Memorandum and has fully considered the issues raised by the Board. MassDEP provides the attached Memorandum to address the issues raised and to describe the regulatory basis for MassDEP's approach toward the closure of unlined, uncapped landfills- including the Cecil Smith Landfill. In reviewing the Town Memorandum, MassDEP has identified arguments that MassDEP believes are based on incorrect assumptions and misinterpretation of the law and policies governing state approvals for closing and

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capping unlined landfills. The Town's Memorandum also includes inaccurate interpretations of MassDEP documents and statements from MassDEP officials. This Memorandum provides information to correct these errors.

MassDEP has approached the closure of the Cecil Smith Landfill in a manner that is consistent with its legal authorities, with its approach to the closures of other unlined landfills throughout the state, and with the terms of its COMM-97 Policy and 2001 Guidelines for such closures. MassDEP's paramount concern remains the protection of public health, safety and the environment, both in developing landfill closure policies and in applying them to decisions on the closure of the Cecil Smith Landfill.

At the October 19th, 2015 meeting between MassDEP Deputy Commissioner Gary Moran and staff and Town officials, including Town Manager David Cressman and Select Board members Shawn McDonald and Kelli Martin Taglietelli, MassDEP indicated that it intends to proceed with issuing a Provisional CAD Permit for public comment, but agreed that prior to issuing the Provisional CAD Permit, the MassDEP would look into the status of the Administrative Consent Orders governing the landfill. MassDEP will provide an update to the Town on these issues before issuing any provisional permit. Once the Provisional CAD Permit is issued, MassDEP will carefully review all comments on the Provisional CAD Permit prior to issuing a final decision on the pending application.

Sincerely,



Martin Suuberg
Commissioner

Cc: Gary Moran, Deputy Commissioner
Millie Garcia-Serrano, Acting Regional Director, SERO
Maria Pinaud, Deputy Regional Director, BAW/SERO
Mark Dakers, Section Chief, Solid Waste, BAW/SERO
Nancy Seidman, Assistant Commissioner, BAW/Boston
Benjamin J. Ericson, General Counsel

Enclosure

MEMORANDUM

To: Martin Suuberg, MassDEP Commissioner

Through: Benjamin Ericson, MassDEP General Counsel
Millie Garcia-Serrano, MassDEP Deputy Regional Director, SERO

From: Nancy Seidman, MassDEP BAW Assistant Commissioner
Paul Locke, MassDEP BWSC Assistant Commissioner

Re: Town of Dartmouth's December 19, 2014 Memorandum

Date: November 19, 2015

RESPONSE TO TOWN OF DARTMOUTH'S OPPOSITION REGARDING PROVISIONAL CAD PERMIT FOR CECIL SMITH LANDFILL

On December 19, 2014, the Town of Dartmouth, through its Board of Selectmen, submitted to the Department of Environmental Protection ("MassDEP" or "the Department") an extensive document styled as a Memorandum in Opposition ("Town Memorandum") to an application for a Corrective Action Design Permit for which MassDEP is issuing a draft approval ("Provisional CAD Permit"). The Provisional CAD Permit would authorize the closure and capping of the inactive unlined landfill known as the Cecil Smith Landfill at 452 Old Fall River Road in Dartmouth ("Cecil Smith Landfill"). The Town Memorandum raises a number of concerns about the proposed project's risks to public health and the environment that MassDEP believes are based on incorrect assumptions and inaccurate statements about the law governing state approvals for closing and capping unlined landfills. Throughout the Town Memorandum, there are inaccurate citations to MassDEP documents and statements from MassDEP officials taken out of context. As a result, the Town has misinterpreted MassDEP's approach to managing risks to public health and the environment during unlined landfill closures.

MassDEP has carefully reviewed the information and arguments presented in the Memorandum and has attempted to fully consider the issues raised by the Board. MassDEP issues this response to address the issues raised and to provide a full explanation of the regulatory bases for MassDEP's approach toward unlined, uncapped landfills – including the Cecil Smith Landfill. In writing this response, this Memorandum also

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provides information to correct misinterpretation of facts and policies with regard to MassDEP's approach to uncapped and unlined landfills raised in the Town Memorandum for all stakeholders.

The Town Memorandum raises five concerns:

- (1) MassDEP's policy for the Re-use and Disposal of Contaminated Soil at Massachusetts Landfills, Policy No. COMM-97-001 dated August 15, 1997 ("COMM-97 Policy") is an illegal Beneficial Use Determination that allows soil with contamination above permissible risk limits to be used in landfill closures as grading, shaping and cover material;
- (2) MassDEP's policy entitled "Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites" dated July 6, 2001 ("2001 Guidelines") contravenes MassDEP's Solid Waste regulations at 310 CMR 19.000 by allowing an illegal expansion of a landfill without a proper site assignment or proper permitting procedures, and by allowing the acceptance of COMM-97 Soils and wastes before a final closure assessment is completed;
- (3) The Town contends that the Cecil Smith Landfill does not pose any unacceptable risks and the proposed capping and closure of the landfill would make the site risks worse;
- (4) MassDEP will be allowing material far in excess of what its 2001 Guidelines allow if it approves the proposed volumes requested by the Project Proponents (the current owner of the landfill and Boston Environmental Corporation ("BEC")); and
- (5) Unlike the agency's prior decisions, MassDEP has failed to take Town objections to the project into account in moving forward with the project, which the Town attributes to political motivations to ensure sufficient disposal capacity for urban contaminated soils.

In answer to the Town's concerns, MassDEP states that:

- (1) The COMM-97 Policy is not a Beneficial Use Determination ("BUD");
- (2) The COMM-97 Policy explains how MassDEP interprets and applies its legal authorities to control the re-use of contaminated soils at landfills, including as part of the closure of inactive unlined landfills, in a way that is protective of public health, safety and the environment;
- (3) MassDEP engaged in a very conservative risk assessment and risk management process that confirmed the nature and concentration of acceptable contaminant concentrations in soils and other soil-like waste materials that could be re-used as cover and contour material in landfills;
- (4) The 2001 Guidelines are consistent with MassDEP's Solid Waste regulations. The Guidelines explain restrictions that MassDEP places upon the use of certain solid waste materials in the closure of inactive unlined landfills to protect public health, safety and the environment;
- (5) The Cecil Smith Landfill needs to be properly closed and capped to eliminate potential future health, safety and environmental risks posed by the contaminants in the landfill;
- (6) MassDEP has proposed approving an appropriate volume of material to facilitate closure of Cecil Smith Landfill, and the material will not pose any significant risk; and
- (7) MassDEP has listened to and considered the Town's concerns and those of other stakeholders in determining the terms and conditions of the Administrative Consent Order No. ACO-SE-14-4001,

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dated March 28, 2014 ("ACO") and the agency will continue to take those concerns into account in finalizing the Provisional CAD Permit for the landfill closure.

When MassDEP makes a determination about the CAD Permit application, it will issue any decision in a manner that will address the risks posed by the Cecil Smith Landfill without creating any significant risks to public health, safety or the environment.¹

This response is divided into three sections: (1) Background; (2) Response to Town's Five Concerns; and (3) Conclusion. The Background section explains the legal and policy context applicable to MassDEP's regulation of the Cecil Smith Landfill. The Second Section provides a response to the five concerns articulated in the Town Memorandum. The Conclusion summarizes MassDEP's position.

I. BACKGROUND

A. Project Background

The Old Fall River Road Landfill is an inactive, unlined, uncapped landfill located at 452 Old Fall River Road in North Dartmouth, Massachusetts, and owned by Mary Robinson ("Owner"). The property is comprised of approximately 97 acres as shown on Town of Dartmouth Assessors Map 72, as Lots 6, 8, and 9.

Approximately 25 acres of the current 97 acres have been used historically as a dumping ground for a variety of solid wastes. In 1975, the Dartmouth Board of Health "site assigned" 60 acres of land to be used for landfill operations. The Landfill has been historically referred to by various names, including the Cole (or Cold) Brook Pines Landfill, the Clean Communities Landfill, the Cecil Smith Landfill, and the Old Fall River Road Landfill. The Boston Environmental Company ("BEC") has proposed to close and cap the landfill under an administrative consent order.

The Cecil Smith Landfill has a long history. Sometime in the 1940s the property was purchased by Dr. Cecil B. Smith, Sr. ("Dr. Smith"). In 1954, sand and gravel operations began and portions of the property were used for disposal of solid waste, primarily demolition debris. It is likely the areas excavated to mine sand and

¹ Elimination of all risk is not possible when managing contaminated material, nor is elimination of all risk required in order to ensure sufficiently protective outcomes for people and the environment. Even so-called "virgin" soils from rural areas contain many chemicals. Many chemicals that occur naturally in soils pose some degree of health risks. MassDEP's mission is to create soil management regulations and policies that reduce risks to levels of no significant risk to prevent unacceptable rates of health issues.

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gravel were used as the primary waste disposal areas. Beginning in the early 1960s, Dr. Smith permitted his son, Mr. Cecil Smith, Jr., ("Mr. Smith") to manage the on-site disposal of demolition debris, which consisted of brick, wood, steel, pipes, and other Construction and Demolition ("C&D") debris. The total volume of C&D debris disposed of during the 1960s and 1970s is unknown, but it is known that disposal was sporadic and depended on the pace of urban renewal activity in nearby cities and towns. In addition, the property was also used for the storage of salvageable material, principally scrap metals, and, therefore, the property essentially also became a salvage yard as well. On February 2, 2001, Mary Robinson, the former wife of Mr. Smith, purchased the Cole Brook property from Mr. Smith.

Although the largest volume of wastes disposed of at the Cecil Smith Landfill was C&D debris, there is evidence in public records of disposal of significant amounts of other waste material, including waste oil into excavated pools and petroleum impacted soils, municipal solid waste, metal wastes, and suspect asbestos-containing material. In addition, testing data shows a variety of contaminants present at the site including metals, many different petroleum compounds, PCBs, volatile organic compounds ("VOCs") and semi-volatile organic compounds ("SVOCs"), some above applicable state clean-up standards. The limit of existing waste associated with the Landfill as determined through a test pit plan conducted in September 2012, consists of two separate areas. The larger of the two areas is located on the northerly side of an Algonquin Gas pipeline easement and is approximately 22.5 acres in area. The second area is an isolated, landfilled area on the southerly side of the Algonquin Gas pipeline easement and is approximately 2.5 acres in area. Both landfill areas are uncapped and portions of these areas are situated within the 100-foot buffer zone associated with adjacent Bordering Vegetated Wetland ("BVW").

In addition, the Cecil Smith Landfill has a long noncompliance history and a long history of enforcement by municipal, state and federal authorities. The Town of Dartmouth Boards of Health and Conservation Commission both took enforcement and court action over the years. MassDEP and MassDPH

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inspected the site and noted violations. MassDEP pursued multiple enforcement actions. The site was referred to the U.S. EPA for evaluation as a potential Superfund site, but the site was not listed as such.

After multiple unsuccessful administrative and court enforcement efforts, in July 2012, MassDEP met with BEC who, on behalf of the Owner, Mary Robinson, proposed to close and cap the Cecil Smith Landfill through the use of approved grading/shaping materials pursuant to MassDEP Policy #COMM-97-001 and 2001 Guidelines, along with a commitment to post-closure monitoring and maintenance during the thirty (30) year post closure period. In December 2012, BEC submitted a conceptual Landfill closure proposal. Public informational sessions regarding the proposal were held on March 28, 2013, June 27, 2013, and July 11, 2013. In March 2014, BEC submitted a response to public comments and a revised/final conceptual closure proposal. On March 28, 2014, MassDEP executed an Administrative Consent Order (ACO-SE-14-4001, the "ACO") with BEC and the Owner. The ACO established timeframes for completion of actions required to be performed regarding assessment and closure of the Landfill, including submittal of an application for a Corrective Action Design permit, the subject of this Response.

B. Summary of MassDEP Authority.

As detailed in Attachment A to this Response, MassDEP has authority under the solid waste, hazardous waste and State Superfund laws to ensure that appropriate options exist for the re-use and disposition of contaminated media, including COMM-97 Soils. MassDEP exercised these authorities in developing the COMM-97 Policy and 2001 Guidelines and in applying those policies to the closure of the Cecil Smith Landfill. In particular, MassDEP has broad authority to regulate all activities at landfills under M.G.L. c. 111, § 150A, including the authority to specify what materials can be beneficially re-used at landfills, which it implements through regulations at 310 CMR 19.000.² MassDEP also has the authority to regulate the closure of landfills and set conditions to protect public health, safety and the environment through its permits, orders and approvals. MassDEP has the authority to regulate the storage, treatment, transport and disposal of Hazardous Waste under

² See Attachment A for a detailed discussion of this authority.

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M.G.L. c. 21C and through its federally delegated authority to implement the federal Hazardous Waste program pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.* ("RCRA"). MassDEP implements this authority through its Hazardous Waste Regulations at 310 CMR 30.000 to ensure no Hazardous Wastes enter Solid Waste landfills or are otherwise improperly used or disposed of. Finally, MassDEP oversees the remediation of releases of oil and hazardous materials into the environment, including into soils, through a state Superfund program established by M.G.L. c. 21E. MassDEP implements the state Superfund program through the Massachusetts Contingency Plan regulations at 310 CMR 40.0000 ("MCP"). It is the responsibility of MassDEP to determine where appropriate disposal and re-use options are for contaminated soils that are removed from state Superfund sites. MassDEP has determined that for the limited number and concentrations of contaminants in soils listed in its COMM-97 Policy ("COMM-97 soils"), it is safe and appropriate to re-use these soils in the controlled conditions and locations of a landfill.

MassDEP also has authority to establish a Solid Waste Master Plan ("SWMP"), a policy framework for working with municipal partners to achieve Solid Waste management goals throughout the state. The first SMWP was issued in 1990, after years of discussions and comment from municipal and other stakeholders. Since the first SWMP in 1990, MassDEP has had concerns about the re-use or disposal options for many hard to manage materials, including contaminated soils. The 1990 SWMP states: "It is vital to the Commonwealth's environmental and economic well being to develop management capacity for these wastes." The current 2010-2020 SWMP identifies the management of contaminated soils and similar wastes with potential re-uses as an ongoing priority for MassDEP.³ The Plan states that any "loss of [active] landfill capacity will also create issues for a number of special wastes that are currently managed (in part) at landfills, ... including contaminated soil,

³ The 2010-2020 Solid Waste Master Plan, found at <http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf>, outlines a snapshot of the volumes of contaminated soil streams from 21E sites during a seven month period in 2009:

Contaminated Soil

Approximately 540,000 cubic yards of contaminated soils were generated at cleanups of approximately 550 oil or hazardous material disposal sites in Massachusetts from January 2009 through July 2009. Disposal site cleanup requirements are established under MGL chapter 21E and the Massachusetts Contingency Plan (310 CMR 40.0000). The management of contaminated soil under these requirements includes on-site and off-site re-use, recycling, treatment and/or landfill related uses, including landfill daily cover. 28 percent of the contaminated soils were re-used, recycled, or treated on site; 38 percent were re-used, recycled, or treated off site; 5 percent were sent to landfills for daily cover; and 29 percent were sent to regulated landfills for disposal.

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residuals from vehicle shredding operations, dredge spoils, and some sewage sludge.” See 2010-2020 SWMP, p

14. The Plan goes on to state that:

“[a]s there are fewer landfills in Massachusetts, in-state outlets for these materials are becoming scarcer. MassDEP will continue to track the status of how these materials are managed and identify and assess additional management alternatives.”

Id. One of the priorities in the 2010-2020 SWMP is to increase appropriate re-use of materials that have historically been sent for disposal in order to conserve the Commonwealth's scarce landfill disposal capacity, including contaminated soils.

C. Contaminated Soil Policy Context

During the late 1980s and into the 1990s, a number of events occurred which made clear to MassDEP that it needed to harmonize its management of contaminated soil across all of its programs and ensure that people and the environment were protected from oil and hazardous materials contained in such soils. These events led to the policy decisions that became the COMM-97 Policy and the 2001 Guidelines.

1. The Legislature Directed MassDEP to Close all Active Unlined Landfills

In 1992, after several years of policy debate, the Legislature enacted Chapter 153 of the Acts of 1992, which directed MassDEP to close all active unlined landfills still operating after 1990. Prior to 1992, primarily “virgin” soil had been used to grade and shape the landfills for final caps, and clay had been used for capping material. Virgin soil and clay were very expensive in a small, developed state like Massachusetts. In addition, many of the active unlined landfills that the Legislature deemed should be closed were owned by municipalities or private owners with limited funds. In order to facilitate active landfill closures, MassDEP determined that new sources of soil and other material suitable for use as contouring (grading and shaping) material would be needed. In addition, MassDEP realized that the closure of all active unlined landfills would significantly reduce the Commonwealth's disposal capacity for all types of Solid Waste. In order to conserve this capacity, MassDEP needed to prioritize materials that needed landfill disposal, and to identify new, safe and appropriate re-use, recycling and diversion options for other materials that could be repurposed.

2. The Excavation of Contaminated Soil from MCP Sites, including the Central Artery Project, Created A Need for Additional Options for Soil Management

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The pace of cleanups of sites contaminated with oil and/or hazardous materials picked up considerably after the MCP was substantially revised in 1993, to privatize oversight of the assessment and cleanup of state Superfund sites. Prior to 1993 MCP changes, many stockpiles of contaminated soil had built up on sites while the parties conducting the cleanups awaited MassDEP approval for appropriate re-use or disposal locations. The privatization of oversight allowed this work to proceed without time-consuming MassDEP reviews of specific plans. Therefore, MassDEP realized that there was a need to find appropriate and safe re-uses for contaminated soils awaiting removal from state Superfund cleanup sites.

Also in the early 1990s, MassDEP was charged with overseeing the removal, re-use and disposal of the soil, clay and till excavated as part of the Central Artery/Third Harbor Tunnel ("CA/THT") project, which was designated as an MCP site due to the need to dig up contaminated soil in the path of the planned roadways and tunnels. CA/THT planners provided MassDEP with estimates indicating that a large volume (in excess of 16 million cubic yards) of contaminated soils, dredged materials, till and clay material would be excavated for the project and would need to be routed to an appropriate re-use or disposal locations.

Therefore, by the early 1990s, MassDEP realized that it needed to resolve a number of policy, solid waste management and soils management problems to accomplish its mission to close all active unlined landfills and to ensure contaminated soils from MCP sites, including the CA/THT project, were disposed of in locations and in a manner that protected public health, safety and the environment. MassDEP's paramount concern was to ensure that people and the environment were protected and that contaminated soils were re-used or disposed in a safe and appropriate manner. MassDEP recognized that economic and development pressures would create powerful incentives for inappropriate disposal without guidance from the agency on what safe and appropriate re-use and disposal options existed. These priorities were the driving forces for the crafting of the COMM-97 Policy and the 2001 Guidelines that govern MassDEP's policy decisions today about the re-use of COMM-97 Soils and other waste materials in the closure of unlined landfills, such as the Cecil Smith Landfill.

II. SPECIFIC RESPONSES TO EACH OF TOWN'S CONCERNS

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A. Town Memorandum's Concern Regarding COMM-97 Policy: MassDEP's COMM-97 Policy is an illegal Beneficial Use Determination ("BUD") that allows soil with contamination above permissible risk limits to be used in landfill closures as grading, shaping and cover material

MassDEP Response: The COMM-97 Policy is not a BUD; it is a policy. A BUD is a MassDEP approval for re-use of waste material for beneficial uses.⁴ While the re-use of COMM-97 Soils at landfills is a beneficial use, the COMM-97 Policy was not issued as a BUD approval. As noted in Section I, MassDEP issued the COMM-97 Policy as an explanation to all regulated parties and stakeholders of how the agency would apply its legal authorities to place restrictions upon the re-use of contaminated soil at lined and unlined landfills in the Commonwealth. As a matter of law, MassDEP could approve any concentration of any contaminant in soils to go to any Solid Waste Landfill in the Commonwealth for re-use, so long as that material was not a Hazardous Waste. However, instead, MassDEP chose to apply restrictions on the type and concentrations of contaminants in soil or other materials that were proposed for re-use at landfills.⁵

1. COMM-97 Policy Purposes: Set Limits on Contaminants in Soil to Protect Health and the Environment.

The Town Memorandum alleges that the COMM-97 Policy (and the earlier 1994 Re-use and Disposal of Contaminated Soils at Landfills, Policy No. BWP-94-037 ("BWP-94-037 Policy")) is unsafe and allows contaminated soils to go to unlined landfills at concentrations much higher than should be allowed. In reaching such a conclusion, Town Memorandum misinterprets the **primary purpose** of the COMM-97 Policy, which **was to put limits upon the types and concentrations of contaminants in soil that would be allowed to go to either lined or unlined landfills for use as contour or cover material and still be protective of the health of landfill workers and residents in areas nearby landfills.**⁶

In addition, with the 2001 Guidelines, which are discussed in detail in Section II.B below, there is a secondary benefit to the re-use of COMM-97 Soils at unlined landfill, namely, revenue generation. Use of

⁴ See Section II.A.2 for a detailed explanation of BUDs and the BUD regulations.

⁵ In some cases, concentrations of contaminants in soil might be lower for materials that are Hazardous Wastes, but the toxicity, leachability, ignitibility or other characteristic of the waste might warrant treatment as a Hazardous Waste, or the chemical might be listed as a Hazardous Waste at lower concentrations than other chemicals. The COMM-97 Policy put in place additional requirements for testing to ensure leachable contamination would not be re-used under the policy.

⁶ Discussion here will be focused on the COMM-97 Policy rather than the BWP-94-037 Policy because the COMM-97 Policy is the policy governing decision-making at the Cecil Smith Landfill and has superseded the BWP-94-037 Policy. Contaminant concentrations are identical in the two policies.

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COMM-97 Soils ensures a revenue stream to pay for landfill closures, which would likely be unable to occur without this revenue.

2. COMM-97 Allows Contaminated Soils to be Re-used Only with Strict Conditions.

Under the terms of the COMM-97 Policy, MassDEP allows COMM-97 Soils to be re-used at landfills, because landfills are highly regulated and controlled disposal systems. In the COMM-97 policy:

The Department has determined that Contaminated Soil which **does not exceed** the contaminant levels in Table 1 may be re-used as daily cover, intermediate cover and pre-capping contour material at Massachusetts landfills provided it is managed consistent with all the provisions of this Policy, *the facility's permit* and 310 CMR 19.000.

See COMM-97 Policy, p. 4 (emphasis added in underline and italics; bold in original). MassDEP made that determination because it knew that the conditions of landfill permits and regulatory requirements would be sufficient to ensure that exposures to the COMM-97 Soils were sufficiently minimized.⁷ For example, best management practices and operational restrictions require use of techniques to suppress dust during placement of soils, so that this dust will not migrate off-site and expose nearby populations.

In addition to these protections for lined landfill re-uses, MassDEP approvals of unlined landfill closures include strict conditions for the transport, storage and handling of COMM-97 Soils. These approvals take the form of an administrative consent order with individually tailored conditions to address specific risk issues for the particular project. In addition, all of the conditions of the COMM-97 Policy must be followed.⁸ Finally, additional approvals with conditions, such as the CAD Permit, are issued for each phase of unlined landfill closures: assessments, design, capping, and long-term maintenance and monitoring.

Ultimately, all landfills must be capped with an engineered cap that meets state and federal standards and prevents direct contact with contamination, prevents wind-blown contaminated dust, and prevents

⁷ In other words, the exposure scenarios assumed by its Office of Research and Standards ("ORS") as a basis for its risk assessments ensured that the concentrations and durations of exposure would not create significant risks. See discussion in Section II.4 below, as to risk assessments.

⁸ In the 2001 Guidelines, MassDEP established an additional set of protections for inactive unlined landfill closures by setting forth minimum requirements for the terms and conditions of administrative consent orders governing unlined landfill closures. See 2001 Guidelines, p. 4, and discussion in Section II.B.1 below.

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contamination from leaching into groundwater.⁹ Closed and capped landfills are also required to be equipped with landfill gas and groundwater monitoring systems that must be monitored for at least 30 years. These systems document the long-term performance of the landfill capping system and identify whether remedial actions are needed to address any additional or future risks posed by the landfill. Once a landfill is closed, even post-closure uses of the landfill are subject to MassDEP approval.

MassDEP established limits in the COMM-97 Policy after internal studies and debates inside the agency and with multiple stakeholders about what contaminants and what concentrations should be allowed for re-use. The Town Memorandum mischaracterizes the record of MassDEP internal and external policy discussions, debates and decisions in the development of the COMM-97 Policy and the predecessor BWP-94-037 Policy.¹⁰

⁹ See 40 CFR part 258, Criteria for Municipal Solid Waste Landfills.

¹⁰ The Town Memorandum also mischaracterizes many of MassDEP's statements or takes quotations out of context in the Memorandum. For example, the Town Memorandum states that, in a January 28, 1994 email, Town's Exhibit 14, MassDEP Deputy Commissioner Ed Kunce in developing the lead limits for the 1994 policy, which would become the COMM-97 Policy lead limits, "recommended that the maximum lead concentrations be increased to 1000 mg/kg in order to remove urban soils, even though he acknowledged that it would create an inconsistency with the Big Dig [CA/THT] concentrations limits, and likely would cause concerns with neighbors of the lined landfills." See Town Memorandum, p. 7. However, Town omits to say that Deputy Commissioner Kunce specifically prefaces his recommendations to increase the lead concentration limits with the statement that the "different lead levels" for landfills and asphalt batchers were set "conservatively low," for the purpose of being further evaluated and for being consistent with the CA/THT numbers. Further, in his recommendation, Deputy Commissioner Kunce specifically states that "**I recommend we raise the allowable levels of lead that can go to landfills and asphalt batchers. The numbers for both options can be safely raised without pushing any health/risk issues.**" See Town Memorandum, Exhibit 14, p. 2. Town Memorandum's version of what is stated in Deputy Commissioner Kunce's recommendations is the opposite of what he stated – his true and complete statement reflects that he was very much taking into account what risks would be created by raising the lead concentration limit.

The Town Memorandum goes on to note that the final lead limit was increased to 2000 mg/kg [ppm] and this was only to provide a "reasonably priced removal alternative for urban soils," and "[a]pparently, the health and safety of neighbors of the lined landfills was not a pressing concern." See Town Memorandum, p. 7, citing a February 9, 1994 email from Joel Hartley, Town's Exhibit 15 and a February 10, 1994 email from Paul Locke, Town's Exhibit 16. However, those emails were misconstrued. In the February 9, 1994 email from Joel Hartley, Mr. Hartley makes clear that the decision to double the lead concentrations for contaminated soil going to landfills was to prevent higher levels of lead contaminated soils from going to asphalt batching plants where processing could create unacceptably high exposures through air emissions. Mr. Hartley notes that the decision was based upon concerns about higher risks to people near asphalt batching plants from contaminated air emissions, namely, "particulate emissions modeling at batch plants compared to the higher allowable concentrations at landfills as determined by an ORS analysis." See Town's Exhibit 15. Whereas Mr. Locke does state that the increase in lead concentrations for landfill contaminated soils re-use was to provide a "reasonably priced removal alternative for urban lead soils," see Town's Exhibit 16, the Town ignores the statements in Mr. Locke's October 15, 1993 Risk Assessment, see Town's Exhibit 10, p. 5 and footnote 3 on p. 5, that the assumptions were extremely conservative in setting lower lead concentrations in setting lead concentration levels for landfills. See discussion of risk in detail below in Section II.A.3 and II.A.4. MassDEP also halved the concentration levels for lead allowed at unlined landfills in the COMM-97 Policy.

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The Town Memorandum fails to recognize that the internal debate is evidence of a very important way in which MassDEP conducted its policy deliberations. MassDEP internal policy deliberations were open to individual staff input. These debates were structured this way to get input from multiple experts in multiple fields to ensure that every aspect of risk to public health, safety and the environment was fully considered in the final policy determination about how to best manage those risks. This is evidence of a very healthy and robust policy-making process. These policies were also reviewed and commented on by external stakeholders through discussions with the agency's Waste Site Cleanup and Solid Waste Advisory Committees, which are groups established for the purpose of providing MassDEP with input for policy development from a variety of viewpoints. All of the issues and points of view that were raised by internal MassDEP staff and those from external stakeholders were considered in depth, and the final policies reflect many of them.

MassDEP's paramount mission is to protect public health, safety and the environment. All of MassDEP's policy deliberations, including the Exhibits attached to the Town Memorandum, reflect that MassDEP had that paramount priority firmly in mind when it set the contaminant concentrations for soils re-use at lined and unlined landfills. This mission was further reflected in many of the specific conditions of re-use of soils in the COMM-97 Policy. For example, to ensure that no soils were used that contained contaminants that could easily leach out into groundwater, MassDEP required use of the federal test procedure known as the Toxicity Characteristic Leaching Procedure ("TCLP") to screen out soils containing contaminants that are likely to leach out of the soil at an unacceptable rate.¹¹ See risk discussion in Section II.A.4 below. MassDEP also made clear in the COMM-97 policy that the re-use of COMM-97 Soils in the closure of unlined landfills needed to have **additional** oversight through an enforceable consent order, consent decree, court judgment and/or MassDEP-approved closure plan. See COMM-97 Policy, Section 4.3, p. 5. All of this oversight – COMM-97 Policy, permits, consent orders, and other approvals – set specific conditions to ensure that unacceptable levels

¹¹ The Toxicity Characteristic Leaching Procedure is a federal test method that ensures that soils or other materials will not leach contamination at an unacceptable rate that would make the material Hazardous Waste. See, 310 CMR 30.155: "To determine whether a waste exhibits the characteristic of toxicity, the following procedure shall be used: Toxicity Characteristic Leaching Procedure, Method 1311, as specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 310 CMR 30.012.

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of risk to public health, safety or the environment would not occur through the re-use of COMM-97 Soils materials at any unlined landfill closure.

3. The Category and Concentrations of Acceptable Contaminants in Soil for Re-use at Landfills were Consistent with ORS's Conservative Assumptions and Protective of Public Health and the Environment.

The Town Memorandum has misinterpreted the purpose and results of the Office of Research and Standards' ("ORS") two risk analyses, and fails to realize that these risk analyses were grounded in very conservative assumptions. ORS's two risk analyses, one in 1992 and another in 1993, answered two sets of questions for MassDEP managers who needed to make risk management decisions about how to handle contaminated soil. The first study (1992), Town's Exhibit 7, used a screening-type of assessment to look at existing contaminant limits used by MassDEP's Solid Waste Program for use of contaminated materials for cover at landfills. ORS compared those numbers to values estimated in multiple scenarios using conservative exposure assumptions **chosen to intentionally overestimate exposure in order to be clearly health protective**. The assessments included:

- contaminant soil concentrations that were assumed to be continually at the maximum value allowed under the policy over the entire exposure period;
- fugitive dust levels that were assumed to be constantly at the highest values allowed (equal to the U.S. EPA particulate matter standard) over the entire exposure period;
- two different exposure durations (up to five years and up to 30 years);
- the presence of a receptor living at the fence-line of the facility breathing fugitive dust 24 hours per day/7 days per week during the entire exposure period; and
- multiple risk management criteria (two each for cancer- and non-cancer health effects).¹²

These exposure assumptions do not reflect what would actually be allowed to occur at a landfill and represent a worst-case screening evaluation.

¹² The two sets of risk management criteria represented typical risk levels used by environmental regulatory programs for evaluating and remediating disposal sites and the use of these ranges provided context for the exposures and risks that agencies consider to be acceptable.

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ORS found that even with the very conservative exposure assumptions, the Solid Waste program's then existing limits on contaminants fell within the range of acceptable risks (i.e., less than an Excess Lifetime Cancer Risk of one-in-one hundred thousand and less than non-cancer risk limit expressed as a Hazard Index of one). Moreover, all but three contaminants of concern met the lower end of the risk criteria for the 30-year exposure scenario, and all but one contaminant of concern (hexavalent chromium) met the lower end of the acceptable risk range for the 5-year scenario.

After discussions with program staff about the 1992 screening assessment, ORS conducted a second risk analysis, dated October 15, 1993 (Town's Exhibit 10). This assessment served two main purposes. First, the 1993 ORS Risk Analysis addressed another question: what are the highest possible concentrations of contamination in soil which could be used as landfill cover **without** causing a condition of significant risk under conservative assumed exposure scenarios? Second, ORS refined assumptions about exposure duration to represent more realistic (while still conservative) landfill operating conditions. In particular, it was not realistic to assume a long exposure scenario of 30 years of exposures through leaching of contamination into surface or groundwater. This is because landfills are filled up in phases (called landfill cells), and each cell would not reasonably be open and operating for more than five years. In addition, landfill cells are closed with engineered caps and other systems that cut off routes of migration for contamination into the surface, air or groundwater. Therefore, the 1993 ORS Risk Analysis assumed a more realistic, but still extremely conservative, inhalation exposure time frame of 7 years, which would be a worst case estimate for the operation of a particular landfill cell or the duration of a landfill closure project.¹³ All the other extremely conservative assumptions about dust levels, contaminant concentrations, and exposure of residents for 24 hours/7 days per week at the fence-line were retained.

The 1993 ORS Risk Analysis relied on a single set of risk management criteria (the lower, i.e., more conservative, end of the acceptable risk range, an Excess Lifetime Cancer Risk of one-in-one million and/or a

¹³ See ORS Risk Analysis dated October 15, 1993, p. 1 and p. 5, footnote 3, Town's Exhibit 10. In thinking about closures of inactive unlined landfills, the 7-year exposure scenarios is even more conservative, because MassDEP has stated that it will not ordinarily approve closures of inactive unlined landfills that would take more than 3 years under the 2001 Guidelines.

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non-cancer risk expressed as a Hazard Index of 0.2).¹⁴ ORS identified recommendations for new limits upon soil contaminant concentrations for further discussion by MassDEP management. Note that ORS expressly made these recommendations as a “point of departure for further discussion” and that ORS explicitly recognized in the 1993 document that even ORS’s numbers were not simply risk-based. Some of the numbers (noted with an asterisk on Table 1 on p.16, below) were **more conservative than strictly risk-based numbers** based upon the “collective wisdom of many DEP staff” and reference to BWSC’s new MCP state Superfund regulations “Method 1 soil standards” (even though those standards were not directly applicable to the exposure scenario at landfills).¹⁵ See ORS Risk Analysis dated October 15, 1993, p. 7, Town’s Exhibit 10. In addition, the 1993 ORS Risk Analysis recognized that many other factors had to be considered in establishing a final policy on re-use of contaminated soil, including “what percentage of this material DEP wants to divert to use as landfill cover compared to other forms of re-use or recycling; and how best to coordinate the soil management practice of numerous DEP programs.” *Id.*

ORS’s recommendations were then discussed among MassDEP technical staff and management to resolve the complex policy and technical issues regarding proper management and re-use of contaminated soils and soil-like materials at landfills and elsewhere. After much debate, MassDEP management finalized first the BWP-94-037 Policy and then the COMM-97 Policy (which both contain the same numerical contaminant concentration limits) to strike a balance between purely risk-based analyses of exposure “worst case scenarios,” the need to find re-use and other disposition options for contaminated soils, the need to find safe and appropriate outlets to remove contaminated soil from densely settled areas, and the need for materials to facilitate landfill

¹⁴ The Town also incorrectly focuses almost exclusively upon Excess Cancer risk, but for many of the chemicals in soil, non-cancer health risks are just as serious if not more serious. ORS correctly looked at health risks **BOTH** from cancer and non-cancer risks. See Town’s Exhibit 10.

¹⁵ MCP Method 1 Risk standards are for three different exposure scenarios to contaminated soil: (1) S-1: residential use with exposures through inhalation of dust, direct contact with or ingestion of soil and ingestion of vegetable products grown in soil plus leaching potential into groundwater; (2) S-2: commercial property exposure through inhalation and direct contact plus leaching potential into groundwater; and (3) S-3: soil at depth that could create inhalation and direct contact exposures if dug up in the future or leaching to groundwater because the contamination is uncapped. See 310 CMR 40.0933. All of these scenarios have more exposure pathways than the situation of a landfill usage of contaminated soils with only exposure from inhalation to workers or nearby residents to landfill dust.

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closures. The policy decisions reflected in the COMM-97 Policy are risk management decisions to achieve a contaminant management outcome that eliminates significant risk.

MassDEP's final decisions in the COMM-97 Policy established contaminant concentration numbers that compare very favorably to the risk-based numbers in both ORS Risk Analyses, as summarized in Table A:

TABLE A: COMPARISON OF COMM-97 POLICY CONTAMINATED SOIL CONCENTRATION LIMITS (PPM) AND ORS 1992 AND 1993 RECOMMENDATIONS FOR LANDFILLS

CONTAMINANT	COMM-97 POLICY Lined (Unlined)	1992 ORS ANALYSIS (5-year exposure)	1993 ORS ANALYSIS (7-year exposure)
TOTAL ARSENIC	40(40)	63	40*
TOTAL CADMIUM	80(30)	586	80*
TOTAL CHROMIUM	1,000(1,000)	436	500
TOTAL LEAD	2,000(1,000)	N/A	600*
TOTAL MERCURY	10(10)	N/A	60
TOTAL TPH	5,000(2,500)	N/A	5,000
TOTAL PCBs	< 2(<2)	102	2*
TOTAL SVOCs	100(100)	355†	N/A
TOTAL VOCs	10(4)	504†	10*

* Non-risk based recommendations that are more conservative based on Method 1 numbers or other criteria.

†Exact contaminant not studied. Polycyclic aromatic hydrocarbons (PAHs) were used as an analog for semi-volatile organic chemicals (SVOCs), and Vinyl Chloride as an analog for volatile organic chemicals (VOCs).

Note that for all but two contaminants, Total Chromium and Total Lead, MassDEP decided to set contaminant concentration limits at or below those recommended by ORS for the more realistic short-

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term (5-7 year) exposure scenarios.¹⁶ In the case of the two contaminants where MassDEP decided to set a higher concentration limits, MassDEP had valid reasons for doing so.

As for Total Lead, MassDEP knew that lead contamination in soils in residential areas was a serious public health concern due in large part to decades of use of lead paint on residences. Lead is usually found in surficial soil, and residents can easily be exposed to this highly toxic substance known to cause developmental delays, serious health problems and even death at high doses. U.S. EPA also recognized the need to find more disposal outlets for lead-based paint waste when it exempted residential lead-based paint waste from classification as Hazardous Waste to facilitate removal and disposal of lead contaminated soils at regular Solid Waste landfills. See 40 CFR Parts 257 - 258.¹⁷ MassDEP later adopted its own lead-based paint waste policy, following EPA's lead.¹⁸ MassDEP decided to enhance the options for disposition of lead-contaminated soils from residential areas by setting higher lead concentration levels in the COMM-97 Policy than those recommended in ORS's risk studies. However, in setting this number, MassDEP's goals, as reflected in all the policy discussion in the Town's Exhibits, kept paramount its mission to ensure that the public health, safety and the environment would be protected. MassDEP ensured that requirements would be imposed either by permit or administrative consent order to prevent contaminant exposures to the community.

MassDEP also authorized Total Chromium concentrations higher than those recommended by the ORS risk studies because of similar concerns about high chromium levels in accessible soils creating exposures in the community because of excessive disposal costs. The Town argues that the toxicity and leachability of

¹⁶ Note that although ORS analyzed more contaminants than those ultimately allowed to be present in soil for re-use at landfills under the COMM-97 Policy, Table 1 in this document summarizes the data for those contaminants that were allowed to be re-used under the COMM-97 Policy. Also, as noted, in a few instances, ORS did not analyze a contaminant in one of the two studies or analyzed only a comparable contaminant. These differences are noted in the chart.

¹⁷ RCRA household waste exclusion for lead-contaminated soils; see, in particular definition of residential lead-based paint waste at 40 CFR 257.2 and allowance of lead-based paint waste to go to landfills at 40 CMR 258.2. See also discussion of the extremely conservative risk assessment by U.S. EPA to support the lead-based paint waste rule, which assumed all of lead-based paint waste at highest possible concentrations would be disposed of at landfills in order to assess leaching risks to groundwater at <http://www.gpo.gov/fdsys/pkg/FR-2001-10-23/pdf/01-26094.pdf>. U.S. EPA found that even under these conservative assumptions, disposal of high concentrations of lead-based paint wastes (which contain concentrations in excess of those set in COMM-97 for lead in soils, would not create unacceptable health risks.

¹⁸ See MassDEP's lead-paint waste residential policy at <http://www.mass.gov/eea/docs/dep/recycle/laws/leadout2.pdf>.

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hexavalent chromium, which can cause more significant health risks at lower concentrations than trivalent chromium, should have caused MassDEP to be more conservative – as recommended by ORS – in setting the limits for Total Chromium. In making this argument, the Town seems to assume that the soil coming into the landfill for re-use would contain hexavalent chromium at 100% of Total Chromium and that all soils would have the maximum concentration allowed by the policy. This is a highly unlikely scenario. Even ORS' exposure scenario assumption that 20% of the Total Chromium in the soil would be in the hexavalent form of chromium is **extremely conservative**, because hexavalent chromium is inherently unstable in the natural environment. Hexavalent chromium degrades into the trivalent form of chromium over time.¹⁹ In addition, to qualify for re-use under the COMM-97 Policy, soils have to pass the TCLP test (which assesses whether the contamination in soil could leach out at unacceptable rates) to demonstrate that the contaminants are not Hazardous Wastes. The trivalent chromium compounds are not readily soluble in water and are more likely to remain adhered to soil. The hexavalent chromium compounds are readily soluble in water and would be very likely to leach out. Therefore, soils with significantly elevated concentrations of hexavalent chromium are unlikely to pass the TCLP test.²⁰ MassDEP's COMM-97 Total Chromium concentration of 1,000 ppm is set at a reasonable level based on the requirement to test the soil for soluble chromium (TCLP) (which would indicate the presence of any significant amounts of hexavalent chromium) and MassDEP's imposition of management requirements to prevent exposures to the COMM-97 Soils in transit, storage and re-use at landfills.

4. COMM-97 List of Contaminants and Concentrations Takes into Account Numerous Risk Management Measures in Landfill Operations.

In Table 1 of the COMM-97 Policy, MassDEP sets forth contaminant concentrations that the agency found could be safely and appropriately present in soil for re-use at lined and unlined landfills. The Town fails

¹⁹ "Any hexavalent chromium in soil is expected to be reduced to trivalent chromium by organic matter. The primary processes by which the converted trivalent chromium is lost from soil are aerial transport through aerosol formation and surface water transport through runoff (U.S. EPA, 1984). Very little chromium is leached from soil because it is present as insoluble Cr₂O₃·xH₂O" (Fishbein, 1981, as cited in US EPA, 1998, Toxicological Review of Hexavalent Chromium, <http://www.epa.gov/iris/toxreviews/0144tr.pdf>).

²⁰ See <http://www.epa.gov/ttnatw01/hlthef/chromium.html> which in turn cites Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological Profile for Chromium. U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.

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to recognize that, in finalizing Table 1, MassDEP took into consideration the protections and restrictions regarding the handling of COMM-97 Soils material that were already present in landfill operating permits for active landfills. This was further detailed in the COMM-97 policy in Section 7.0 as follows:

The re-use of Contaminated Soil, containing contaminants at concentrations which do not exceed the contaminant levels in Table 1, as daily cover, intermediate cover or pre-capping contour material at landfills, is based in part on the results of a risk assessment by the Department's Office of Research and Standards. **This risk assessment was predicated on adherence to the landfill operating procedures listed below. Therefore, these procedures shall be followed when managing Contaminated Soil at a Massachusetts landfill.**

See COMM-97 Policy, p. 11 (emphasis added). The COMM-97 policy goes on to detail 12 additional conditions for management of COMM-97 Soils at landfills. These include conditions upon the transport, handling, storage and management of COMM-97 Soils at landfills. *See* COMM-97 Policy, pp. 11-12. In addition, the COMM-97 Policy requires that an administrative consent order or other MassDEP approval be put in place to impose similar restrictions upon the re-use of COMM-97 Soils at unlined landfills. *See* COMM-97 Policy, p. 5. The 2001 Guidelines also require an administrative consent order for closure of inactive unlined landfills. *See* 2001 Guidelines, Section B, p. 4.

In summary, MassDEP exercised its discretion under its legal authorities to allow only a limited number of contaminants – 6 specific contaminants and 3 groups of similar contaminants (TPH, SVOCs and VOCs) -- to be present in COMM-97 Soils for re-use at landfills. Further, MassDEP allowed such re-use only after considering the results of a very conservative quantitative risk assessment and requiring qualitative risk management measures. MassDEP made policy decisions to maximize public health, safety and environmental benefits of from placing COMM-97 Soils in the highly regulated location of a landfill, managing the COMM-97 Soils safely while being re-used and covering these soils with an impermeable cap to prevent further exposures.

B. Town Concerns Regarding the 2001 Guidelines: The Town contends that the 2001 Guidelines contravene MassDEP's Solid Waste regulations at 310 CMR 19.000 by allowing an illegal expansion of a landfill without a proper site assignment, proper permitting procedures and the acceptance of COMM-97 Soils before a completed closure assessment.

1. The 2001 Guidelines Are an Appropriate Exercise of DEP's Discretionary Policy Authority

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MassDEP Response: In the 2001 Guidelines, MassDEP extended options for re-use of other wastes that provide successful grading and shaping material to be used in the closure of inactive unlined landfills, such as Cecil Smith Landfill. As expressly stated in the 2001 Guidelines, MassDEP gained experience in its closure of active unlined landfills with safely and appropriately using "certain hard-to-manage materials not suited for re-use in the general environment," but that were "successfully incorporated into the closure design" of these unlined landfills. *See* 2001 Guidelines, p. 1. There is language in the 2001 Guidelines (first issued in 2000) that is particularly clear about the purpose of MassDEP's policy decisions:

With the closure of active unlined landfills now nearly complete, there are no longer sites available that can use these materials for closure activities. At the same time, disposal of these materials in active landfills, the only other readily available management option, is not only more costly, but these landfills have limited capacity available. However, **using these materials to properly close inactive landfills can result in eliminating or reducing public health, safety and environmental concerns of the inactive landfill site**, make additional land available for productive uses, **provide a safe and appropriate location for a number of hard-to-manage materials**, and reduce the cost of closure for the owner of the site.

In recognition of the fact that inactive unlined landfill sites should be capped and closed and that some types of materials have proven to be appropriate for use during closure and to defray the cost of closure, thereby expediting such closures, the **Department believes it is appropriate and in the interest of environmental protection to issue guidelines to clarify closure issues at inactive unlined landfills.**

The purpose of this document is to clarify the closure provisions of 310 CMR 19.000 by providing guidance on the procedures and criteria the Department will use when reviewing requests to close inactive unlined landfills where use of alternative grading and shaping materials is proposed. Specifically, these guidelines address permitting requirements and evaluation procedures for determining the types and quantities of materials used during closure and the length of time for closure activities. [emphasis added]

See 2001 Guidelines, pp. 1-2. Thus, the 2001 Guidelines make very clear that MassDEP is exercising its discretion to make decisions about the types of materials that can be beneficially re-used in the closure of inactive unlined landfills without posing any significant risks.

In the 2001 Guidelines, MassDEP established minimum requirements for the terms and conditions of administrative consent orders governing unlined landfill closures. *See* 2001 Guidelines, p. 4. The administrative consent order must set forth the conditions and timing for the closure to ensure that sufficient protections for re-use of COMM-97 Soils and other suitable grading and shaping re-use materials, including

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Best Management Practices (*see* 2001 Guidelines, p. 3, §A.6), conditions upon the transportation, handling, storage and management (*see* 2001 Guidelines, pp. 3-4, §B.5-7, in particular) and ensuring public involvement so that community concerns about public health, safety and the environment are taken into account on a case-by-case basis (*see* 2001 Guidelines, p. 3, §A.6). MassDEP also ensures that these terms and conditions are protective by maintaining close coordination among its Boston headquarters and regional Solid Waste program management to ensure safe, appropriate and protective terms in unlined landfill closure orders. These are exactly the type of individualized terms and conditions that MassDEP will be proposing in the Provisional CAD Permit for Cecil Smith Landfill. MassDEP will seek comment from the public to ensure that those terms and conditions are sufficiently protective of public health, safety and the environment.

2. The 2001 Guidelines Are a Legally Issued Policy for Re-use of Solid Waste Material for Inactive Unlined Landfill Closures

The Town claims in its Memorandum that the 2001 Guidelines, which is a BUD, are illegal because they allow COMM-97 Soils and materials with contaminant concentrations above those outlined in MassDEP's Draft Interim Guidance Document for Beneficial Use Determination Regulations 310 CMR 19.060 dated March 18, 2004 ("Draft BUD Guidance"), for Method 1 Risk criteria for BUD determinations. This is a misunderstanding of the requirements of the BUD regulations at 310 CMR 19.060 and the Draft BUD Guidance. All re-uses of discarded materials do not have to meet the Method 1 BUD risk numbers. This Method applies only to completely unrestricted or commercial applications of waste materials where the public and the environment could make unrestricted contact with the contaminants in those materials. Even in issuing BUDS for unrestricted or commercial uses, MassDEP could consider specific risk analyses that do not meet the Method 1 criteria and instead could consider risk assessments performed on a case-specific basis under Method 2 or Method 3 criteria.²¹

For re-uses of COMM-97 Soils in landfill closures, it is important to take into account that the place for re-use of COMM-97 Soils and other waste material under the 2001 Guidelines would be in a "Regulated

²¹ See Section 4 of the Draft Interim Guidance Document for Beneficial Use Determination Regulations 310 CMR 19.060 dated March 18, 2004 at <http://www.mass.gov/eea/docs/dep/recycle/laws/budguid.pdf>.

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System.” BUDs for “Regulated Systems” are for re-use at facilities that are closely regulated by MassDEP, for which the Method 1 Risk Criteria are not appropriate and cannot be used. *See* 310 CMR 19.060(15).²² Under the BUD regulations, unlined landfills that accept soil and waste material under the 2001 Guidelines are “Regulated Systems,” because permits or orders govern re-use of contaminated materials. These permits or orders require the use of risk management requirements, such as dust suppression, covered and lined storage locations and the like, to prevent exposures to nearby residents and the environment. Therefore, re-use of material in Regulated Systems does not require application of the Method 1 BUD standards.

In fact, the Draft BUD Guidance specifically states in Section 4.4 that a BUD is not even required for re-use of secondary material in Regulated Systems:

4.4 CATEGORY 2- Beneficial Use of Secondary Material in Regulated Systems

If the use of a secondary material is subject to an existing facility permit, order, policy, regulation or other approval, the use is considered adequately regulated for purposes of the Solid Waste Facility Regulations, 310 CMR 19.000. However, if there are any aspects of the beneficial use not covered that have the potential to create significant risk or cause adverse impacts to the public health, safety, and the environment or result in nuisance conditions then these concerns will be regulated under a BUD. **When all solid waste concerns are overseen by an existing facility permit, order, policy, regulation or other approval, a BUD is not required.** In all cases, the **storage, transfer, processing, treatment, use and disposal of the secondary material shall be achieved using best management practices that prevent adverse impacts and significant risks to public health, safety and the environment**, including, but not limited to, nuisance conditions and public welfare impacts. [emphasis added]

See Draft BUD Guidance, Section 4.4. Despite the terms of this Draft BUD Guidance, MassDEP conducted two risk assessments to ensure that it applied very conservative risk management criteria in establishing conditions for the re-use of COMM-97 Soils and soil-like wastes at landfills in its policies and governing permits and orders. *See* Section II.A.3 and II.A.4 above.

²² 310 CMR 19.060(15) Category 2 BUD Regulation provides that “Regulated Systems” are those “facilities” that have a permit or approval from MassDEP or are regulated by MassDEP through an order. The full text of the regulation is as follows:

(15) Category 2 -- Use of Secondary Materials in Regulated Systems.

(a) Applicability. Beneficial use of secondary materials at facilities permitted, approved or ordered by the Department shall be deemed adequately regulated for purposes of 310 CMR 19.000, provided the person does so in compliance with the terms and conditions of any such permit, order or approval and the following:

1. Any aspect of the use of proposed secondary materials not covered by the permit, order, or approval shall be reviewed in accordance with M.G.L. c. 111, § 150A, 310 CMR 19.000, and 310 CMR 16.00;
2. The storage, transfer, processing, treatment, use and disposal of the proposed secondary material shall be achieved using best management practices that prevent adverse impacts and significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions.

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Finally, a landfill is ultimately capped and closed to prevent further exposures to any contaminants in the landfill. Any contaminants that are placed into the landfill will be prevented from causing exposures through direct contact, inhalation of dust or leaching into groundwater or surface water by the engineered cap system. Long-term monitoring is also mandated, and this monitoring will detect any change of contaminant concentrations in groundwater or landfill gas that may indicate a need for additional remedial action. Finally, a financial assurance mechanism is required to fund any subsequent needed action. *See* 310 CMR 19.051 Financial Assurance Requirements.

3. Bringing COMM-97 Soils and Waste Material to Cecil Smith Landfill under the 2001 Guidelines Does not Require a Modified Site Assignment or a MassDEP Permit for an Expansion Because the Project is a Landfill Closure, not a Landfill Expansion.

In the Memorandum, the Town alleges that the 2001 Guidelines allow “expansions of landfilling operations without the proper permitting or site assignment modification in contravention of 310 CMR 19.006 and 19.028 through 19.038.” The Town argues that, because the 2001 Guidelines allow for the re-use of more than the minimum amount of soils needed to physically prepare a landfill for closure, the policy allows the facility to expand without the required the site assignment and permit procedures.

The COMM-97 Soils and other materials, which are being re-used pursuant to the COMM-97 Policy and the 2001 Guidelines, are to be used as part of a closure of the Cecil Smith Landfill. The Cecil Smith Landfill is not being re-opened to take disposal of new Solid Waste. The importation of the soil and other approved materials is not an expansion of landfill operations under MassDEP's Solid Waste regulations but part of a MassDEP-approved plan to permanently close the landfill. Facilitation of closure through re-use of materials for grading and shaping is appropriate, and so is the re-use of materials to generate revenue. Landfill closure is complex. It can cost millions of dollars for all the necessary engineering assessments and designs, obtaining and safely managing closure and capping materials, designing and implementing monitoring systems, and providing for 30 years of maintenance and monitoring. Generators of COMM-97 Soils will pay for it to be

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re-used at landfills, and this makes materials available that then can generate sufficient revenue to pay for closure.²³

MassDEP has made clear in the Cecil Smith Landfill ACO and other approvals that the re-use of soils and other materials is part of a closure of the landfill pursuant to the Solid Waste Regulations, the COMM-97 Policy and the 2001 Guidelines. All of these approvals make clear that materials are being re-used – as provided for in the COMM-97 Policy and the 2001 Guidelines – as grading, shaping and other contour material and to generate of revenue to complete the closure of the landfill.²⁴ When MassDEP approves a landfill closure pursuant to an administrative consent order, with no re-opening of the landfill for disposal, no site assignment is required.²⁵ Therefore, the re-use of materials pursuant to the 2001 Guidelines do not constitute an expansion at Cecil Smith Landfill, and no modification to the site assignment is required.

The Town also contends that the application of the 2001 Guidelines contravenes MassDEP's regulations by allowing an 'expansion' without the proper permit procedures. As stated in the provisional CAD on page 3, MassDEP will reviewed BEC's Corrective Action Design (CAD) permit application in accordance with the

²³ The Town also repeatedly criticizes MassDEP for using a policy that was originally primarily intended to facilitate closures of municipally owned landfills to a privately owned landfill. The wife of the original owner and operator of Cecil Smith Landfill is the current owner of the landfill. This landfill was an open dump, which the Town subsequently site assigned as a landfill, and it is currently in non-compliance and uncapped. The current owner has cooperated and proposed a plan for properly closing and capping the landfill. When an owner does not have sufficient assets to complete closure and capping of such a landfill, MassDEP can approve re-use of soils pursuant to the COMM-97 Policy and the 2001 Guidelines to create revenue to complete closure at privately owned landfills, even those with culpable owners. This creates a pathway to compliance for unlined landfills and old dumping grounds.

²⁴ In addition, The Department's regulations exempt materials used pursuant to a BUD from any of the site assignment requirements in 310 CMR 16.000. 310 CMR 16.01(4) Applicability states in relevant part:

The site assignment requirements set forth at 310 CMR 16.00 shall apply to facilities that process, store, transfer, treat or dispose of solid waste. They shall not apply to:...

(d) Beneficial Reuse of a Solid Waste pursuant to 310 CMR 19.060: *Beneficial Reuse of a Solid Waste.* The beneficial use of a solid waste as a secondary material in compliance with the requirements set forth at 19.060: *Beneficial Use of a Solid Waste.*

Therefore, all materials used pursuant to the 2001 Guidelines are also exempt from site assignment because they are used pursuant to a generic BUD.

²⁵ MassDEP has broad authority to regulate landfills and other Solid Waste facilities pursuant to M.G.L. c. 111, § 150A and as federally delegated under RCRA and its implementing regulations. See 40 CFR part 258, Criteria for Municipal Solid Waste Landfills. In addition, M.G.L. c. 111, § 2C gives MassDEP broad authority to issue orders to direct parties to comply with the statutes and regulations that it implements. Pursuant to these broad authorities, MassDEP has regularly issued administrative orders to parties to direct them to cap and close inactive unlined landfills in accordance with 310 CMR 19.000 and federal RCRA cap and closure standards. The purpose of a site assignment is to open a landfill to waste disposal and set protective criteria to ensure the disposal of waste does not create significant risks or public nuisance conditions that might harm nearby residents or the environment. In the case of an inactive landfill, it would be absurd to require that landfill to obtain a site assignment to close the landfill and require construction of an engineered cap.

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requirements of 310 CMR 19.029(2) which outlines the permit procedures MassDEP shall follow in reviewing a closure plan.²⁶ The Provisional CAD Permit will discuss all aspects of the landfill's closure including the relocation of certain amounts of buried waste from the perimeter to the interior, the use of grading and shaping materials, how the closure will be phased, the landfill's final cover system, the storm water control system, and the landfill gas collection system. The issues raised by an application for the expansion of an active landfill would be different from those issues raised by a landfill closure. Using the procedures for a landfill expansion would not make sense for the Cecil Smith Landfill project, which is a closure.²⁷

The Town Memorandum is apparently arguing, based on the definition in 19.006 for "Expansion," that the use of soil will be a vertical expansion of the landfill, and the CAD permit must be reviewed pursuant to 310 CMR 19.032.²⁸ This is not a valid position because, as emphasized above:

- 1) The landfill is inactive and is closing, not expanding to take in more waste;
- 2) The re-use of soil and other materials has been subject to appropriate MassDEP approvals and permitting, including but not limited to the ACO, approval of the closure plan and the provisional CAD permit;
- 3) The CAD is a permit for a phase of a closure, so it is appropriate that MassDEP use the review criteria applicable to a landfill closure rather than an expansion; and

²⁶ 19.029(2) Use of Permit Procedure at 310 CMR 19.033 reads as follows [emphasis added]:

. . .the permit procedure set forth at 310 CMR 19.033 shall be used to review the following:

- (a) an application for a permit modification;
- (b) an application for corrective action (including but not limited to assessment);
- (c) a closure plan;
- (d) a post-closure plan;
- (e) an application for post-closure use on the final cover of a landfill or affecting an appurtenance of a facility;
- (f) an application for a Beneficial Use Determination; or
- (g) any other application the Department deems appropriate.

²⁷ If this application were a request to expand the landfill, the appropriate permit procedures would be those prescribed by 310 CMR 19.032.

²⁸ For purposes of determining whether a proposed activity is an "expansion" for Solid Waste Permitting (as opposed to Site Assignment) purposes, the definition of "expansion" in 310 CMR 19.006 is "[f]or a landfill, a horizontal or vertical increase in the size of the landfill beyond the horizontal or vertical limits specified or approved in the permit;..." None of the activities as proposed or as provisionally approved in the provisional CAD permit will result in any expansion of the footprint of the landfill horizontally, in fact, waste material will be recovered from wetlands and other areas outside the boundaries of the main landfill area and put back into the landfill footprint. See, Provisional CAD Permit, p. 14. In addition, the placement of contaminated soil and other material on top of the existing landfill footprint is solely for the purpose of closing the landfill – including raising revenue to complete closure and 30 years of monitoring and maintenance, which MassDEP has determined is necessary to complete closures for the vast majority of the inactive unlined landfills in the Commonwealth.

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- 4) MassDEP's regulations give the agency discretion to determine which review procedures are appropriate for any particular permit application.

MassDEP's discretion to determine which permit procedures are appropriate for review of any particular application has been recognized by the Supreme Judicial Court, which has held that it is within MassDEP's expertise and authority to determine how to review landfill-related applications in a way that MassDEP determines to be most productive. *See Goldberg v. Board of Health of Granby*, 444 Mass. at 635 (2005) ("It is also surely within the scope of MassDEP's expertise to determine how best to avoid duplicative or nonproductive reviews.")

C. Town Concerns That the Landfill Should Not be Closed: The Town Memorandum contends that the Cecil Smith Landfill does not pose any unacceptable risks and the proposed capping and closure of the landfill would make the site risks worse

MassDEP Response: The Cecil Smith Landfill needs to be properly capped and closed to eliminate potential present and future health, safety and environmental risk posed by the oil and hazardous materials contained in the landfill. MassDEP and EPA conducted numerous assessments that identified risks posed by the Cecil Smith Landfill in its uncapped condition. In addition, the Owner, working with BEC, conducted further assessments that confirmed risks of exposure to contaminants, which include:²⁹

- There are approximately 25 acres of uncapped solid waste at the Cecil Smith Landfill, which, as noted in the chronology in the Provisional CAD Permit, p. 4, was primarily construction and demolition waste. There has been sampling that has confirmed the presence of PCBs, VOCs and SVOCs, which are all hazardous materials. There is documented trespassing by adults and teenagers, who use the site as a shortcut. Contamination in surface soils can expose trespassers to contamination.
- MassDEP has estimated that approximately 19,500,000 gallons of contaminated leachate is discharged from the Cecil Smith Landfill into groundwater each year, from the percolation of rainwater through the uncapped waste material across the 25 acres of landfilled area. There are approximately 278 private wells within a 1 mile radius of the Cecil Smith Landfill because the Town does not provide municipal water in this area. The landfill is located in a "Current Drinking Water Source Area" due to the proximity of private wells. The landfill is also located in a "Potential Drinking Water Source Area," because, among other reasons, it is located within an area designated by the Town for protection of groundwater and in a medium yield potentially productive aquifer. There are approximately 50 private wells directly downgradient or cross-gradient from the landfill within 500 to 4200 feet. Sampling has documented contamination in groundwater downgradient from the landfill, including, VOCs, SVOCs, pesticides, petroleum

²⁹ See, Provisional CAD Permit Chronology, starting on p. 4-13.

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compounds, cyanide, beryllium, lead, iron, manganese, and sodium. Some of the groundwater contamination concentrations are currently above MCP cleanup standards.

- Approximately 2.5 acres of Solid Waste is outside the footprint of the landfill, including over 5,000 square feet dumped into wetlands resource areas. This Solid Waste leaches contamination into these wetlands areas, impacting wildlife habitat and native species, and contamination can be further transported into adjacent waterways.
- There is uncontrolled stormwater runoff from the landfill which picks up contamination in soil and carries it into nearby wetlands and surface waters. Sampling has documented contamination in the sediments of nearby rivers and streams.
- EPA sampling of surficial soil on the landfill property detected contamination that can pose risks to humans through off-site dust migration or direct contact. In 1990 soil sampling, 7 compounds were detected above MassDEP MCP Method 1 S-1 cleanup standards. Other sampling has shown the presence of SVOCs, pesticides, lead, mercury, zinc, chromium and cyanide in surface soils. There are residential areas nearby who can be exposed to contamination through wind-blown dust.
- There was exposure to residents in a house that the Town approved to be built on the landfill footprint, and serviced by a drinking water well, also approved by the Town.
- There are future potentially significant risks to nearby residents and downgradient wetlands and waterways. Landfills create very heterogeneous areas of contamination. High levels of localized contamination can be missed in sampling.

In addition to the above-referenced risks of exposure to Solid Waste and contamination, there is great uncertainty about what additional contamination could be produced by the Cecil Smith Landfill, or any old dumping ground that was active during the pre-1970 period of time when regulation of landfills was not as strict as it is today. The Town of Dartmouth Board of Health inspectors documented a large pool of oil that had been dumped into an excavation in the landfill. In addition, the documented presence of abandoned vehicles, empty fuel tanks, automobile parts, tires, empty drums, old boilers and areas of ash indicate that the operator of the Cecil Smith Landfill took many other wastes that were not construction and demolition debris. This documented illegal dumping raises serious concerns. MassDEP has decades of experience with inactive landfills, which often have levels of metals, PCBs, VOCs, SVOCs, and other contaminants that can pose health risks to humans and to the environment.

The closure proposed to be approved in the Provisional CAD Permit will eliminate the significant risks posed by the Cecil Smith Landfill. With the installation of a protective engineered cap that meets state and

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federal standards in place, rainwater will be prevented from infiltrating and percolating through the landfill and causing transport of released contaminants into the groundwater or soil. The cap also creates a barrier to direct contact with contaminated materials and prevents generation of wind-blown contaminated dust. The requirements for landfill gas and groundwater monitoring also ensure that additional remedial action can be taken in the future, if it is needed. The house and private well will be removed. The solid waste in the wetlands will be removed and placed into the landfill footprint and capped. The degraded and compromised wetlands will be restored.³⁰ Stormwater management systems, including detention basins and other controls, will be installed to protect nearby wetlands and waterways from stormwater runoff.³¹

D. Town Concerns about the Volume of Soil and Other Secondary Material: The Town Memorandum contends that MassDEP will be allowing material far in excess of what its 2001 Guidelines allow if it approves the proposed volumes requested by the Project Proponents.

MassDEP Response: MassDEP has proposed approval of an appropriate volume of material to facilitate closure of the Cecil Smith Landfill and that material will not pose any significant risks.

1. The 2001 Guidelines Allow for a Reasonable Profit Margin for Private Landfill Closures

The Town Memorandum contends that there is a “violation” of the 2001 Guideline provisions that state that MassDEP can consider only “closure costs,” which do not include a profit margin for proposals from private companies. The 2001 Guidelines are not written in a restrictive way as Town contends. The term “closure costs” is used in a very general way in a sentence that states that the decision on how to take this factor into account is a discretionary decision for MassDEP – something Town acknowledges in its submission (“Section III(g)(4) provides that the allowance of such cost-offsets is a discretionary determination by DEP.” See Town Submission, p. 33). The entire provision at Section III.G.4 states that:

Achieving proper grades needed to close the landfill, or for post-closure use, is the primary factor in determining the volume of material to be used. Revenue generation to offset closure costs is a secondary factor that may be considered.

³⁰ The terms of the current Superseding Order of Conditions require approximately 5900 square feet of bordering vegetated wetlands to be restored and 8662 square feet of wetlands to be replicated. 5900 square feet of waste within the wetlands and solid waste within 10 feet of the adjacent bordering vegetated wetlands and around the perimeter of the landfill will be relocated within the footprint of the landfill and covered by the engineered cap to protect the wetlands (2.5 acres in total of relocated Solid Waste).

³¹ See Provisional CAD Permit that accompanies this Response.

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See 2001 Guidelines, Section III.G.4, p. 7. This is a very broad statement. MassDEP has determined that its authorities include the discretion to allow larger volumes of materials to go to inactive unlined landfills to achieve final closure in order to fund the costs of such closure. Nowhere are the project proponents banned from including a reasonable profit margin amongst such costs.³²

In addition, this sentence needs to be read in conjunction with the overarching statement of purpose in the 2001 Guidelines and with the background of MassDEP's broad authority to provide the best policy for statewide management of Solid Wastes, other discarded and recyclable or reusable materials in accordance with the SWMP. *See* 2001 Guidelines, pp. 1-2, and the 1990, 2000 and 2010 SWMPs. This larger purpose would not be served unless MassDEP could ensure that proponents who are willing to undertake closures of inactive unlined landfills can recoup a reasonable profit. For public projects, municipalities often need to generate revenue to fund closures of publicly owned landfills as well, due to the limitations on tax increases allowed under the state law. *See* M.G.L. c. 59, § 21C.

Moreover, there is presently no state or federal funding available to close most inactive, unlined landfills, and the Cecil Smith Landfill is no exception. The U.S. EPA did not find the levels of contamination sufficiently significant to justify putting this site on the federal National Priorities List, since U.S EPA also has limited funds. This means that the Cecil Smith Landfill is not eligible for federal money to cap and close. There is no available state funding source for closing landfills. Therefore, in order to address the risks posed by inactive landfills and to meet its state and federally delegated duties to ensure capping and closure of all inactive landfills, MassDEP has determined that the agency can approve the re-use of COMM-97 Soils and other materials as a source of revenue generation to ensure appropriate closure of unlined landfills. As set forth at length above, this re-use is appropriate, within MassDEP's legal authorities, and does not pose significant risks to public health, safety and the environment as implemented by MassDEP.

2. MassDEP Approved an Appropriate Volume of Material for the Cecil Smith Landfill Closure

³² It should be noted that the costs approved by MassDEP did not include any fee or other remuneration to the current property owner.

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The Town Memorandum also criticizes the proposed closure by arguing that the volume of COMM-97 Soils and other material is far in excess of what is needed to cover the costs of the closure, capping and 30 years of maintenance and monitoring; however, this is not accurate. MassDEP conducted a line by line review of all proposed costs submitted by BEC for this project. MassDEP scrutinized engineering costs, equipment lists, labor hours and rates, tipping fees, cap material costs, post-closure monitoring and maintenance costs and contingency and profit estimates. MassDEP agreed to have a third party conduct a financial analysis of the cost to close the landfill.³³ This information (other than confidential business information that MassDEP is required to withhold under the public records laws) has been produced through public records responses to the Town, and the Town was given ample opportunity to comment upon BEC's proposals and to discuss concerns with MassDEP. Based on its review of BEC's submittals, MassDEP required a 16% decrease in the initial amounts that BEC proposed to fund the closure, capping and post-closure maintenance and monitoring.³⁴ MassDEP's position is that it has scrutinized the financial side of BEC's proposals carefully and minimized the amount of material needed for closure to the greatest extent feasible.

3. MassDEP Regulations Permit Placement of Secondary Materials Prior to Completion of a Final Assessment

The Town Memorandum argues that allowing placement of contour material at the Cecil Smith Landfill prior to completion of the Closure Assessment is in violation of MassDEP's Solid Waste regulations at 310 CMR 19.140 and 19.150. This is not accurate. The 2001 Guidelines allow grading and shaping material, in the form of COMM-97 Soils and other suitable material, to be accepted at unlined landfills prior to completion of the final and formal Closure Assessment. While 310 CMR 19.140(4) requires that a final closure plan be submitted prior to the initiation of any closure construction activities, MassDEP does not have to complete an approval of that plan prior to the start of closure construction. Closure construction includes transport, storage and placement of grading, shaping and other contour material onto the landfill.

³³ See attached MassDEP statement at webpage link: <http://www.mass.gov/eea/docs/dep/about/region/massdep-prsfnl.pdf>, and for MassDEP's cover letter that accompanied the Parson's October 7, 2013 analysis at webpage link: <http://www.mass.gov/eea/docs/dep/about/region/parsons-final.pdf>.

³⁴ MassDEP's financial analysis of the cost of the project reduced the cost estimate by \$3,249,261, which then reduced proposed volume from 1,100,000 cubic yards to 926,000 cubic yards (a reduction of 16%).

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There is no reason to finalize an approved closure plan before commencement of construction. The presumed remedy for any uncapped unlined landfill is an engineered cap that meets federal standards pursuant to MassDEP's federal delegation of RCRA, Subpart D, Solid Waste Landfill closure requirements.³⁵ The purpose of the final assessment and corrective actions alternative analyses in all unlined landfill closures is to explain why an engineered impermeable cap that meets federal standards is not the best remedial alternative, given that unlined landfills present greater risks of leaching of contaminants into groundwater than lined landfills and given the uncertainties about what wastes were disposed into such landfills. MassDEP has far more data and far higher quality assessments for the Cecil Smith Landfill than are usually available for old, unlined landfills. MassDEP has more than sufficient information available to conclude that a federal engineered cap is required, and, based on MassDEP's extensive experience with landfill closures that no other feasible remedial alternative is likely to be sufficiently protective. Therefore, MassDEP properly exercised its discretion to allow placement of contour material prior to final approval of the remedial alternative.

- E. **Town's Concerns about Not Being Heard: The Town Memorandum contends that MassDEP has failed to take Town objections to the project into account in moving forward with the project, which the Town attributes to political motivations to ensure sufficient disposal capacity for urban contaminated soils.**

MassDEP Response: MassDEP has listened to and considered the Town's concerns and those of other stakeholders in determining the terms and conditions of the ACO, and MassDEP will continue to take those concerns into account when it finalizes the Provisional CAD Permit for the landfill closure. MassDEP has held numerous meetings with stakeholders over many years about the proposed closure of the Cecil Smith Landfill. MassDEP held three formal public information meetings on March 28, 2013, June 27, 2013 and July 11, 2013. MassDEP has had numerous meetings with Town officials. MassDEP has posted 36 documents on a specially created website for the Cecil Smith Landfill project, including its responses to public and Town comments and

³⁵ See 40 CFR part 258, Criteria for Municipal Solid Waste Landfills.

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the responses of the project proponents.³⁶ MassDEP has listened carefully to all of the Town's concerns and those of the other stakeholders involved with this project.

There are numerous examples of MassDEP requiring changes to the originally proposed project or additional work to ensure the project would be sound. In consideration of Town objections to the total volumes of COMM-97 Soils and other materials needed, MassDEP, as noted above, required downward revision of the volume of material by 16%, as discussed above. In response to Town questions about feasibility of other options, MassDEP did an engineering and financial analysis of a 5% grade option and estimated costs for removal of all contamination. MassDEP demonstrated that these options did not generate sufficient revenue to cover the associated project costs. In response to Town concerns that the current owner could afford to cap and close the Landfill without taking in COMM-97 Soils, MassDEP conducted a financial analysis of the owner's personal and real property to document that she did not have the financial capacity to fund the closure. In response to concerns about the protectiveness of the proposed remedial options, MassDEP negotiated the requirement of an expanded Interim Comprehensive Site Assessment, which required the proponent to conduct expanded monitoring prior to issuance of the Provisional CAD Permit. In response to concerns about the visual impacts, MassDEP required the applicant conduct a balloon study to demonstrate the sight lines of the final cap. In response to concerns about long-term impacts of the project, MassDEP also modified the ACO to enable the Town to assume control of post closure monitoring and maintenance with appropriate FAM controls. MassDEP established a Supplemental Environmental Project in the ACO, valued at \$126,000, assessed as part of the owner's penalty, which the Town could use for project mitigation.

MassDEP disputes the Town's implication that it has handled this landfill closure in a way that is substantially different than other landfill closures in the Commonwealth. MassDEP has not singled out the Town of Dartmouth. MassDEP has entered into ACOs with numerous parties all over the Commonwealth to complete similar landfill closures under the guidelines outlined in the COMM-97 Policy and the 2001

³⁶ See MassDEP website for the Cecil Smith Landfill at <http://www.mass.gov/eea/agencies/massdep/about/contacts/old-fall-river-road-landfill.html>

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Guidelines.³⁷ To the contrary, MassDEP has provided more opportunities for input from the Town and citizens of the Town than is usually the case in unlined landfill closures, due to the high degree of public concern and concern among Town officials.

Moreover, MassDEP has not encountered any significant risk issues at other landfills as a result of the re-use of either COMM-97 Soils or the other waste materials, where such materials were re-used in accordance with the COMM-97 Policy and the 2001 Guidelines in the closure of unlined landfills in the Commonwealth.³⁸ No drinking water supplies have been contaminated from the re-use of COMM-97 Soils or waste materials at other unlined landfill closures. MassDEP has utilized these materials successfully at many locations as noted in footnote 37. There is one specific example of the successful re-use of COMM-97 soils and waste materials under the COMM-97 Policy and 2001 Guidelines that is near the Cecil Smith Landfill. The Town of Marion re-used approximately 160,000 cubic yards of COMM-97 Soils, construction and demolition (C&D) fines and residuals, and dredge spoils as contour material to support the final cover system on a 10-acre landfill located on Benson Brook Road (the Marion Landfill). Acceptance of contour materials began in July 2005, and the final cap was installed in 2008. The Town of Marion was able to successfully incorporate the COMM-97 Soils and other waste materials into the closure design to bring the site to the proper closure grades and provide an adequate foundation layer for the final cover materials. The re-used material generated funds to pay for the costs associated with the final cap and 30 year post-closure monitoring and maintenance of the Marion Landfill. MassDEP has received no complaints during the closure, and MassDEP has reviewed monitoring data and inspected the landfill to ensure that no unacceptable public health, safety or environmental impacts occur. In fact, the downgradient water quality has improved to such an extent that, on July 16, 2012,

³⁷ See list of MassDEP landfill closures using contaminated soil at <http://www.mass.gov/eea/docs/dep/about/region/comm97lfs.pdf>.

³⁸ The sole exception is that the percentages of C&D fines allowed to be used under the 2000 version of the 2001 Guidelines were too high, resulting in creation of hydrogen sulfide gases at unacceptably high levels that created nuisance odor conditions. MassDEP quickly recognized the problem, and reduced the allowed percentage of C&D fines, to prevent the gas formation. MassDEP revised the policy to prevent this problem from occurring in the future

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MassDEP was able to approve a revised post-closure environmental monitoring plan that allowed a reduction in the frequency of the monitoring.³⁹

III. CONCLUSION

The ACO executed by the owner and BEC establishes a timeline and requirements for completing the closure and capping of the Cecil Smith landfill. This legally binding document sets the site on course to implement a viable capping and closure plan to abate the risks to public health, safety and the environment and to bring the Cecil Smith Landfill into compliance with the requirements of the Solid Waste statutes and MassDEP regulations. MassDEP has appropriately exercised its authorities and properly applied its COMM-97 and 2001 Guidelines to this closure to date, and MassDEP intends to take into account all public comment on the Provisional CAD Permit when it is issued, to ensure that no significant risk to public health, safety and the environment will result from the project.

³⁹ See, Attachments B and C attached hereto.

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ATTACHMENT A

MASSDEP LEGAL AUTHORITY TO ALLOW CONTAMINATED SOILS AND SOLID WASTES TO
BE RE-USED AT LANDFILLS

Solid Waste Management. M.G.L. c. 111, §150A grants MassDEP broad authority to oversee all activities at landfills.⁴⁰ MassDEP has implemented this authority by promulgating its Solid Waste Facility Regulation at 310 CMR 19.000. The statute and regulations make clear that MassDEP regulates all activities at landfills through its permitting authority.⁴¹ Once material crosses into a landfill for disposal or re-use, MassDEP must approve the conditions under which the material is handled, stored, transported, disposed of or re-used through permit conditions for that landfill. Pursuant to M.G.L. c. 111, § 150A and M.G.L. c. 21A, § 2, MassDEP also has the legal authority to define what materials are Solid Waste, and what materials can be diverted from the waste stream and beneficially re-used or recycled.⁴²

MassDEP also has the authority to specify in regulations the requirements for closure of landfills and has been delegated the authority to ensure that landfills are closed under federal standards. *See* the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.* ("RCRA") and the regulations enacted pursuant thereto at 40 CFR part 239-282, M.G.L. c. 111, § 150A, and 310 CMR 19.045 and 19.140. In addition, MassDEP's

⁴⁰ See M.G.L. c. 111, § 150A, cl. 14: "No facility shall be established, constructed, expanded, maintained, operated or devoted to any past[sic] closure as defined by regulation unless detailed operating plans, specifications, any public health reports and necessary environmental reports have been submitted to the department, the department has granted a permit for the facility and notice of the permit is recorded in the registry of deeds, or if the land affected thereby is registered land in the registry section of the land court for the district wherein the land lies."

⁴¹ See 310 CMR 19.003(1): "310 CMR 19.000 shall apply to all solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste," and 310 CMR 19.015: "No person shall construct, modify, operate or maintain a facility except in compliance with a site assignment, permit or plan approved by the board of health or the Department, as applicable, and any authorizations issued by the Department and all conditions included in a permit, approval or authorization for said facility."

⁴² 310 CMR 19.006 defines Solid Waste or Waste to be "useless, unwanted or discarded solid, liquid or contained gaseous material resulting from industrial, commercial, mining, agricultural, municipal or household activities that is disposed or is stored, treated, processed or transferred pending such disposal..." MassDEP has exempted many materials from the definition of Solid Waste, for example, material that can be recycled, re-used, composted or converted in accordance with the agency's regulations governing recycling, re-use, composting and conversion of materials diverted from the Solid Waste stream. See 310 CMR 16.03: *Exemptions From Site Assignment*, 310 CMR 16.04: *General Permit for Recycling, Composting or Aerobic and Anaerobic Digestion Operations*; or 310 CMR 16.05: *Permit for Recycling, Composting or Conversion (RCC) Operations*.

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regulations also provide for long-term (minimum of 30 years) oversight of landfill conditions after each closure, including monitoring of groundwater and the landfill to protect health, safety and the environment. *See* 310 CMR 19.132, 19.140 and 19.142. MassDEP may require assessment and remedial action to correct any situation that does or may potentially violate the regulations. For example, when any exceedences of permitted levels are detected, MassDEP requires the landfill operators to take action to eliminate the source of contamination or to treat the effluent or emissions. *See* 310 CMR 19.150.⁴³

Hazardous Waste Management. MassDEP has authority under M.G.L. c. 21C and through its federally delegated authority to implement the federal Hazardous Waste program pursuant to the federal RCRA statute, which governs Solid Waste and Hazardous Wastes, to ensure that materials that are classified as Hazardous Wastes, or exhibit Hazardous Waste characteristics, are properly handled, stored, treated and disposed. MassDEP implements its authority through its Hazardous Waste Regulations at 310 CMR 30.000 that comprehensively regulate the handling, transport, storage, treatment and disposal of Hazardous Waste. Hazardous Wastes, including contaminated soil that meets the definition of Hazardous Waste, cannot be disposed of at Solid Waste Landfills, but must go to specially licensed to Hazardous Waste disposal facilities.

State Superfund and Management of Contaminated Materials. MassDEP was given authority to establish a state Superfund program by M.G.L. c. 21E, and MassDEP implemented this authority by promulgating the Massachusetts Contingency Plan regulations at 310 CMR 40.0000 ("MCP"). In developing these regulations, MassDEP had to determine what concentrations of soil contamination were safe to remain at a site and what concentrations would require the soil to be removed. M.G.L. c. 21E requires that cleanups achieve a "permanent solution," which is defined in the statute as leaving "no significant risk of harm to public health, safety, welfare or the environment for any foreseeable period of time." The MCP provides three options for determining whether "no significant risk" will remain at a site. Method 1 is one of these three methods, and for Method 1, MassDEP sets specific numeric criteria for the most common contaminants. Under Method 1, soil

⁴³ In addition, no landfill may operate without obtaining a site assignment from the municipality or municipalities in which it is located. *See* M.G.L. c. 111, §§ 150 A & 150A1/2 and 310 CMR 16.000.

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standards for contaminants are known as MassDEP's S-1, S-2 and S-3 soil cleanup standards. These standards establish limits below which soil can remain and not present any significant risks in three different types of property use scenarios.⁴⁴ In addition, MassDEP allows site specific risk assessments to be conducted, and it is also possible that contaminated soil would need to be removed from state Superfund sites based on the results of Method 2 or Method 3 risk assessments. Note that contaminated soil at these sites is often subject to unrestricted access by people and often has unrestricted routes of migration into the environment. It is the unrestricted nature of the contamination or its ability to migrate into the larger environment that requires its removal.

For those contaminated soils that needed to be removed, MassDEP had to grapple with the question of what other uses might be available for these contaminated soils that would present no significant risks to people or the environment. For example, MassDEP determined that oil-contaminated soils can be used in the manufacturing of asphalt (since petroleum is already used to manufacture asphalt and soil is an effective binder). Another question that MassDEP examined was whether re-use of contaminated soils as landfill contour and cover material (since "virgin" soils were already being used as landfill contour and cover material) would be able to be done without creating significant risk to people or the environment.⁴⁵

Solid Waste Master Plan. In M.G.L. c. 16, § 24, MassDEP was given authority to establish a Solid Waste Master Plan ("SWMP"), a policy framework for working with municipal partners to achieve Solid Waste management goals throughout the state. The first SWMP was issued in 1990, after years of discussions and comment from municipal and other stakeholders. The 1990 SWMP documented MassDEP's concerns about re-

⁴⁴ Essentially, S-1 soil standards are for the most sensitive receptors and uses, namely, residential, schools and the like, S-2 soil standards are for surficial soils at commercial and industrial properties, and S-3 soil standards are for soils located at depth that were relatively inaccessible. See MCP, 310 CMR 40.0933(5). These exposure scenarios are very different from re-use of contaminated soils at a landfill. Access to landfills is limited, and dust is suppressed with required procedures. Trucks transporting contaminated soil must be covered and monitored to prevent escape of contaminated soil. Contaminated soil must be stored at a landfill in a manner that prevents leaching of contaminants or wind-blown dust. All contaminated soil is covered with an impermeable cap that prevents contact with or migration of the contamination in the soil.

⁴⁵ Any soils that are Hazardous Wastes would have to be disposed of at licensed Hazardous Waste landfills, incinerators or other Hazardous Waste disposal locations, unless they can be treated to remove their hazardous characteristics so as to become solid wastes.

MEMORANDUM IN RESPONSE TO TOWN OF DARTMOUTH'S OPPOSITION REGARDING
PROVISIONAL CAD PERMIT FOR CECIL SMITH LANDFILL

use or disposal options for hard to manage materials, such as contaminated soil. Chapter 5 of the 1990 SWMP addresses a range of difficult to manage wastes that are similar to excavated soil in that they have similar properties and can contain a variety of oil and/or hazardous materials in their matrix (including street sweepings, automotive shredder residue, and sludge). The 1990 SWMP states: "It is vital to the Commonwealth's environmental and economic well being to develop management capacity for these wastes." The current 2010-2020 Solid Waste Master Plan identifies the management of contaminated soils and similar wastes with potential re-uses as an ongoing priority for MassDEP.⁴⁶ The Plan states that any "loss of [active] landfill capacity will also create issues for a number of special wastes that are currently managed (in part) at landfills, ... including contaminated soil, residuals from vehicle shredding operations, dredge spoils, and some sewage sludge." *See* 2010-2020 SWMP, p 14. The Plan goes on to state that:

"[a]s there are fewer landfills in Massachusetts, in-state outlets for these materials are becoming scarcer. MassDEP will continue to track the status of how these materials are managed and identify and assess additional management alternatives."

Id. One of the priorities in the 2010-2020 SWMP is to increase appropriate re-use of materials that have historically been disposed of in order to conserve the Commonwealth's scarce landfill disposal capacity.

⁴⁶ The 2010-2020 Solid Waste Master Plan, found at <http://www.mass.gov/eea/docs/dep/recycle/priorities/swmp13f.pdf>, outlines a snapshot of the volumes of contaminated soil streams from 21E sites during a six month period in 2009:

Contaminated Soil

Approximately 540,000 cubic yards of contaminated soils were generated at cleanups of approximately 550 oil or hazardous material disposal sites in Massachusetts from January 2009 through July 2009. Disposal site cleanup requirements are established under MGL chapter 21E and the Massachusetts Contingency Plan (310 CMR 40.0000). The management of contaminated soil under these requirements includes on-site and off-site re-use, recycling, treatment and/or landfill related uses, including landfill daily cover. 28 percent of the contaminated soils were re-used, recycled, or treated on site; 38 percent were re-used, recycled, or treated off site; 5 percent were sent to landfills for daily cover; and 29 percent were sent to regulated landfills for disposal.

ATTACHMENT B

Town of Marion Landfill

The Town of Marion accepted approximately 160,000 yd.³ of grading and shaping material (i.e. contaminated soils, construction and demolition (C&D) fines and residuals, dredge spoils) to support the final cover system on a 10 acre landfill located on Benson Brook Road (the Landfill). Acceptance of grading and shaping materials began in July 2005 and the final cover system was installed in 2008. The Town of Marion was able to successfully incorporate the grading and shaping materials into the closure design to bring the site to the proper closure grades, provide an adequate foundation layer for the final cover materials, and to generate funds to pay for the costs associated with the final cover system and 30 year post-closure monitoring and maintenance of the Marion Landfill. A Financial Assurance Mechanism was established to perform all closure/post-closure monitoring and maintenance activities throughout the closure process and during the 30 year post-closure period. The 10-acre soil closure was conducted without causing any public health, safety or environmental impacts. MassDEP received no complaints during the closure.

Background - Benson Brook Road Landfill Closure, Marion:

- A public informational meeting regarding the closure of the landfill was held on October 13, 2004.
- In April 2005, the MassDEP, Town of Marion and End-Cap Technologies entered into an Administrative Consent Order for the closure of the landfill.
- On July 11, 2005, MassDEP approved the final closure design plans. The 10 acre landfill was closed in accordance with MassDEP's regulations and MassDEP's guidance governing "Closure Activities at Inactive Unlined Landfill Sites" which provides guidance regarding the use of grading and shaping material during landfill closures.
- A Comprehensive Site Assessment (CSA) was submitted to MassDEP on October 16, 2007 and subsequently approved by MassDEP. Based upon the CSA evaluation it was determined that the landfill had limited impact on the environment in the vicinity of the landfill and a standard final cover system design (approved by MassDEP in July 2005) with post closure environmental monitoring was determined to be adequate to mitigate impacts to the environment.
- The Town is currently conducting post closure environmental monitoring (groundwater, surface water and landfill soil-gas monitoring) to evaluate the effectiveness of the final cover system in reducing contaminant levels in groundwater and surface water and controlling landfill gas emissions and subsurface landfill gas migration.
- On July 16, 2012 MassDEP approved a revised post closure environmental monitoring plan that included reducing the frequency of the monitoring based on improving downgradient water quality.

M June



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-948-2700

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

COPY

July 16, 2012

Paul Dawson, Board of Selectmen
Marion Town House
2 Spring Street
Marion, Massachusetts 02738

RE: PROVISIONAL APPROVAL WITH CONDITIONS
Application for: BWP SW 22 Landfill Minor Modification
Post Closure Environmental Monitoring Plan Modifications
Transmittal #: X251095

AT: Marion Landfill
Benson Brook Road
Marion, MA
Facility Identification # 39459
Regulated Object #172692

Dear Mr. Dawson:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (the "MassDEP"), has completed its review of the referenced Landfill-Minor Modification permit application (the "Application") to modify the Post Closure Environmental Monitoring Plan (the "Plan") for the Marion Sanitary Landfill (the "Landfill"). The permit application was prepared and submitted on behalf of the Town of Marion (the "Town") by East Coast Engineering, Inc. (the "Consultant") of Marion, Massachusetts. MassDEP has determined that the permit application is administratively and technically complete and hereby approves the revisions to the environmental monitoring plan, subject to the conditions specified herein.

This permit approval supersedes the Environmental Monitoring Plan approved by MassDEP on January 28, 2010.

I. SUBMITTALS

MassDEP has reviewed the Application pursuant to 310 CMR 19.000: *Solid Waste Regulations*, 310 CMR 19.150: *Landfill Assessment Requirements* and MassDEP's *Landfill Technical Guidance Manual, May 1997* (the "Manual"). The Application consists of the following:

- The permit transmittal, applications forms for Landfill-Minor Modification (BWP SW 22) and document entitled: *Application for Minor Permit Modification; Post-Closure Environmental Monitoring Program; Marion Sanitary Landfill, Benson Brook Road, Marion Massachusetts*; prepared by East Coast Engineering, Incorporated and received by MassDEP on May 1, 2012.

On June 5, 2012, MassDEP requested supplemental information from the Consultant to complete its technical review. Additional information was provided on July 9, 2012 by the Consultant.

II. SITE DESCRIPTION

The Marion Sanitary Landfill is situated on a 39-acre parcel of Town land located off Benson Brook Road in Marion, Massachusetts. The footprint of the Landfill is approximately 9.2 acres. The Landfill is surrounded by dense woodlands to the north, west and south, with Benson Brook and a wetland system located to the northeast. The only access to the Landfill is via Benson Brook Road (a dead-end road) located off of Route 6. The Landfill is located at the end of and along the north side of Benson Brook Road. There are no private residences within ½ mile of the unlined Landfill. Located across the street from the unlined Landfill to the south is the Town of Marion Waste Water Treatment Plant. Located between Benson Brook Road and the unlined Landfill is the Carver-Marion-Wareham ("CMW") Regional Refuse Disposal District residential solid waste recycling and convenience center ("Transfer Station"). Benson Brook lies northeast of the Landfill and flows in a northerly direction toward Bear Swamp.

The Town purchased the property in 1964 and shortly thereafter began operating the solid waste Landfill. The Landfill was used for disposal of municipal waste and construction & demolition debris (C&D) generated primarily within the Town. The Landfill ceased accepting waste in December 1974, and the Landfill was closed. In 1975, the Town constructed a solid waste transfer station at the southwest corner of the property. The transfer station continued at this location until 2005 when it was relocated to a 1.6 acre parcel within the site assigned property. In 2005, the Town of Marion contracted with End Cap Technologies, LLC (ECT) to cap and close the Landfill. ECT provided grading and shaping materials for use in bringing the Landfill surface to the proposed final grades. The grading and shaping materials consisted of contaminated soils, dredge sediment, and C&D fines from the New Bedford Waste Service facility.

The Corrective Action Design ("CAD") permit application was prepared by East Coast Engineering (May 12, 2005) to address the final closure of the Landfill. MassDEP approved the permit application for the CAD on July 11, 2005. The Landfill was capped in 2008. On March 26, 2010, a Landfill Closure Certification Report Application was submitted to the MassDEP. On July 26, 2010, a remedial plan was provided to address certain aspects of landfill closure including slope stabilization, drainage control systems and access roadway repair. Following

completion of repair work, on September 15, 2011 a Certification of Repair was provided as an addendum to the Landfill Closure Certification Report Application. On January 11, 2012, MassDEP issued a Final Approval with Conditions of Certification of Closure. The final cover system design consisted of the following:

- 6 inch minimum subgrade layer, overlain by
- 6 inch minimum gas venting layer, overlain by
- textured 40-mil high-density polyethylene flexible membrane liner, overlain by
- 12 inch minimum sand drainage layer, overlain by
- 12 inch minimum loam vegetative support layer

The landfill gas monitoring network consists of ten perimeter soil-gas monitoring wells (GP-1, GP-2, GP-3, GP-4, GP-5, GP-6R, GP-7, GP-8, GP-9, and GP-10), located on the north, west, and south sides of the Landfill. The gas monitoring network is sampled on a quarterly basis.

A Comprehensive Site Assessment (the "CSA") was submitted to MassDEP on October 16, 2007 and subsequently approved by MassDEP on January 28, 2010.

Conclusions of the CSA included, but were not limited to the following:

- The landfilling operations have had some limited impact of the down gradient groundwater quality. Down gradient of the Landfill, groundwater has higher concentrations of alkalinity, ammonia, sulfate and total dissolved solids (TDS) when compared to upgradient wells. Lead and Arsenic were the only compounds to exceed the Massachusetts Maximum Contaminant Level ("MMCL) standards in groundwater.
- A qualitative risk assessment of the Landfill was performed to identify contaminants, receptors, and exposure pathways of concern and to evaluate potential risks to human health, safety, public welfare and the environment. The CSA risk assessment conclusions were that current exposure conditions did not pose a significant or otherwise unacceptable risk of harm to human health. There are no private drinking water wells within 2000 feet in a down gradient direction and public water is supplied along Benson Brook Road.
- Surface water show little impact to Benson Brook from the Landfill. The surface water quality meets the Ambient Water Quality Criteria ("AWQC") with the exception of zinc. Zinc was detected above the AWQC both in the upstream and downstream samples at similar concentrations indicating a source upstream of the Landfill may be contributing zinc to the surface water.
- The qualitative risk assessment concluded that a quantitative risk assessment was not required given that the Landfill was being capped and closed and that the environmental conditions at the Landfill and down gradient will only continue to improve.

III. ENVIRONMENTAL MONITORING NETWORKS

Groundwater Network: The current groundwater monitoring network consists of four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4), installed at four locations. The groundwater monitoring network is currently sampled on a semi-annual basis. Monitoring

well MW-1 is the upgradient well located in the southwest corner of the Landfill. The down gradient groundwater in the southeast portion of the Landfill was measured by sampling well MW-2. The down gradient groundwater quality in the northeast portion of the Landfill is monitored by MW-2R and MW-3/3R. Monitoring of well MW-4 is used to evaluate the water quality down gradient and north of the Landfill. The groundwater flow direction is to the northeast toward Benson Brook. The Landfill is not located within a "Current Drinking Water Source Area" or within a "Potential Drinking Water Source Area". There are no private wells within 500 feet of the Landfill. The applicable Massachusetts Contingency Plan (the "MCP") groundwater category at the Site is GW-3.

Historical groundwater data show that the general chemistry parameters remain stable, with conductivity levels and concentrations of TDS, nitrate, chloride, sulfate and COD decreasing in the down-gradient wells. Cyanide, cadmium, mercury, selenium and silver have not been detected at the four groundwater monitoring wells. Low concentrations of barium, and lead have been detected in the groundwater at the four monitoring locations and low levels of arsenic, chromium, copper and zinc has been identified in the groundwater at down-gradient well MW-3R at concentrations below the MMCL and MCP Method 1 GW-3 groundwater standard. Over the past ten years, low concentrations of Volatile Organic Compounds ("VOCs") were identified in the groundwater at the down-gradient wells MW-3R and MW-4; in addition, chloroform was identified during one sample event (May, 2008) in the up-gradient groundwater sample MW-1. In all instances, the detected concentrations of VOCs were below the MCP GW-3 or the Massachusetts Drinking Water Guideline.

Surface Water Network: The current surface water monitoring network consists of three surface water sampling points, SW-1A, SW-2, and SW-3 located along Benson Brook, and one sampling point, SW-1-B located within an unnamed tributary leading into Benson Brook. In Benson Brook, the upstream sample point, SW-1A is located on the south side of Benson Brook Road, SW-2 is located approximately 150 feet down gradient of the toe of the northerly Landfill slope, SW-3 is located further downstream approximately 500 feet west of the Landfill's property line. Sample point SW-1B is located in the tributary upstream of the Landfill on the south side of Benson Brook Road. Historical surface water monitoring data indicates that the former landfill activities have not impacted the surface water quality.

IV. PROPOSED REVISIONS TO THE ENVIRONMENTAL MONITORING PLAN

The Town is proposing to reduce the frequency of post-closure groundwater/surface water monitoring and reporting from semi-annually to annually, as well as eliminate certain analytical parameters, while continuing to perform soil-gas monitoring on a quarterly basis.

V. PERMIT DECISION

In accordance with its authority granted pursuant to M.G.L. c.111, s. 150A, and 310 CMR 19.000 *Solid Waste Regulations*, the MassDEP hereby **APPROVES** the revised Environmental Monitoring Plan subject to the conditions identified herein.

MassDEP DOES NOT APPROVE the elimination of any analytical parameters or the reduction of the frequency of surface water monitoring. (refer to condition #4 and #5).

Table 1 Post Closure Monitoring Program, Marion Landfill

Type of Sampling	Frequency	Sampling Locations and Parameters
Groundwater monitoring	Annually	Condition #4
Surface Water monitoring	Semi-annually	Condition #5
Soil Gas monitoring	Quarterly	Condition #8

VI. GENERAL PERMIT CONDITIONS

1. Permit Limitations: This Permit Approval is limited to the Post Closure Environmental Monitoring Program for the Marion Landfill. This permit approval supersedes the Post-Closure Monitoring Plan approved by MassDEP on January 28, 2010. The Town shall conduct environmental monitoring of the Landfill in accordance with MassDEP regulations, permits, and as modified by MassDEP through review of monitoring data.
2. Reservation of Rights: MassDEP reserves the right to rescind, suspend, or modify or require additional assessment and/or action, as deemed necessary, to protect and maintain the environment free from objectionable nuisance conditions, dangers or threats to public health or the environment.
3. Regulatory Compliance: This Permit Approval does not relieve the Town from the responsibility to comply with all other regulatory permitting requirements. The Town shall fully comply with all applicable local, state and federal laws, regulations and policies, by-laws and ordinances. Applicable federal regulations include, but are not limited to, CFR part 1910 OSHA standards governing employee health and safety in the workplace.
4. Groundwater Monitoring Network: The Town shall conduct groundwater monitoring annually in accordance with the approved plan as modified herein:
 - a. The following groundwater monitoring wells: MW-1, MW-2 MW-3, and MW-4 shall be analyzed for the parameters specified at 310-CMR 19.132 including 1,4-dioxane.
 - b. Groundwater samples from all four monitoring wells shall be analyzed once during the next two sampling rounds for the compound 1,4-dioxane. The 1,4-dioxane method reporting limit for groundwater samples collected from the four groundwater monitoring wells shall not be greater than the Method 1 GW-1 value of 3 ppb. If 1,4-dioxane is not detected above the method reporting limit of 3 ppb in any of the monitoring wells 1,4-dioxane analysis may continue at the higher method reporting limit (i.e. 500 ppb). If 1,4-dioxane is detected in any groundwater sample above the method reporting limit of 3 ppb, the Town shall continue analysis for 1,4-dioxane at the lower method reporting limit (i.e. 3 ppb) and initiate analysis of surface water for 1,4-dioxane.

- d. If a gas well(s)/probe(s) with an exceedance is in close proximity to buildings, structures and/or utility conduits the owner/operator shall monitor the interior of the buildings, structures and/or utility conduits for landfill gas.
1. Additionally, the Town shall take all actions necessary to ensure public health and safety due to the off-site/on-site landfill gas migration.
 2. Wherever there are penetrations of the foundation, the area in the immediate vicinity should be screened for combustible gases.
 3. All confined spaces within all buildings should be screened for combustible gases.
 4. The buildings/utility conduits should be monitored for percent methane, volatile organic compounds, oxygen and hydrogen sulfide.
10. Post Closure Maintenance and Monitoring: The Town shall maintain, care for and monitor closed areas during the post closure period in accordance with *310 CMR 19.142 Landfill Post-Closure Requirements* and maintain the Environmental Control and Monitoring Systems in accordance with *310 CMR 19.133 Maintenance of the Environmental Control and Monitoring System*.
11. New Receptors: The Town shall monitor the properties adjacent to the Landfill for changes in use that create new receptors potentially affected by the Landfill. The Town shall notify MassDEP of any new or proposed uses on adjacent property including new groundwater wells, new structures, new utilities, new passive uses, etc. The Town shall modify the Landfill environmental monitoring network by the addition of new groundwater monitoring wells, and/or new subsurface gas migration monitoring probes, or enhanced sampling as deemed appropriate to protect public health and safety
12. Biennial Report: Biennial reports for Marion Landfill shall continue to be submitted to the MassDEP's Solid Waste Section every second year. The next biennial report shall be submitted to MassDEP by February 15, 2014. Pursuant to 310 CMR 19.142(6) Reporting Requirements, the report shall describe any activity (i.e. repairs, non-routine maintenance, etc.) at the Landfill; summarize the results of the environmental monitoring programs and inspections by third-party consulting Massachusetts Registered Professional Engineers, or other qualified solid waste professional.
13. Modification of Environmental Monitoring Plan: The Town shall continue to perform environmental monitoring of the Landfill and submit the results in accordance with the environmental monitoring plan specified in this letter unless MassDEP receives and approves an alternative plan. This Environmental Monitoring Plan may be revised in the future if rationale is provided explaining why specific monitoring locations or parameters are not necessary to identify the existence, source, nature and extent of pollution or threat of pollution, or extent of the adverse impact from any pollution. Any request for modification of the Environmental Monitoring Plan shall include a transmittal form, and minor modification permit BWP SW22.

RIGHT OF APPEAL

Right to Appeal – This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.037; Review Procedures for Permit Modifications, Permit Renewals and other Approvals, of the "Solid Waste Management Regulations". Pursuant to 310-CMR 19.037(5), any person aggrieved by the issuance of this determination may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A not later than thirty (30) days following receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such an appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the thirty (30) day period.

Notice of Appeal – Any aggrieved person intending to appeal a grant of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the Department transmittal number X251095 and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application at least five days prior to the filing of an appeal.

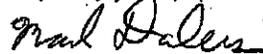
Office of General Counsel
Department of Environmental Protection
One Winter Street
Boston, MA 02108

Martin Suuberg, Acting Regional Director
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

Please direct any questions regarding this matter to me at (508) 946-2847 or to Maria June at (508) 946-2767, or write to the letterhead address. Refer to Transmittal Number X251095 in any correspondence to this office regarding this project.

Very truly yours,



Mark Dakers, Acting Chief
Solid Waste Management Section

D/MJ/rt
Marion\Marion Landfill - Minor Mod X251095.docx

cc: East Coast Engineering, Inc.
156A Front Street
P.O. Box 745
Marion, MA 02738-0745
ATTN: C. LeBlanc

ec: Marion Board of Health, Karen A. Walega, Health Director
kwalega@marionma.gov

DEP-SERO-Boston
ATTN: L. Black
P. Emond
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