Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

May 16, 2022

Peter Buttkus
Public Works Director
Town of Duxbury
878 Tremont Street
Duxbury, MA 02332

RE: FINAL PERMIT APPROVAL WITH CONDITIONS
Application for: BWP SW 22 Landfill Minor Modification
Assessment of Per and Polyfluoroalkyl Substances & Other Site Investigative Activities
Application No. 22-SW22-0002-APP
Authorization No. SW22-0000027

AT:			
	Duxbury Landfill, Inc. Mayflower Street Duxbury, MA 02332 Facility Identification No.: 39223	&	Duxbury Municipal Landfill Mayflower Street Duxbury, MA 02332 Facility Identification: 39225

Dear Mr. Buttkus:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (the "MassDEP" or "Department") has completed its technical review of the Landfill Minor Modification Permit Application ("Minor Modification" or "Application") submitted by the Town of Duxbury ("Town") to assess Per and Polyfluoroalkyl Substances ("PFAS") at the Duxbury Landfill, Inc., and Duxbury Municipal Landfill ("Landfills"). MassDEP has determined the Application is technically complete and hereby approves the Minor Modification subject to the conditions specified herein.

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 was submitted on behalf of the Town of Duxbury (the "Applicant" or "Owner") by Weston & Sampson Engineers, Inc. (the "Consultant") of Reading, Massachusetts to assess PFAS in groundwater at the Landfills due to previous sampling conducted at a down-gradient (i.e., from the Landfills) Public Water Supply Well which revealed detections of PFAS at concentrations exceeding Massachusetts Drinking Water Standards. Also included in the Application are additional assessment activities proposed by the Applicant to complete a preliminary assessment of potential landfill soil-gas impacts and delineate the extent of solid waste ("waste") at the Duxbury Landfill, Inc.

The Application consists of a Memorandum and supporting documents entitled:

Former Duxbury Landfill Inc./McNeil Dump – Proposed Site Investigations.

The Application also consists of the following supplemental information

A. A second Memorandum describing proposed monitoring activities at the Duxbury Municipal Landfill to assess PFAS in groundwater submitted by the Consultant on April 7, 2022 in response to MassDEP comments.
B. Information submitted by the Consultant on April 25, 2022, in response to technical comments provided by the MassDEP on April 20, 2022.

The Application was submitted electronically via the Massachusetts Executive Office of Energy and Environmental Affairs ePlace Portal at https://permitting.state.ma.us/CitizenAcess/ on January 19, 2022. The Application and Permit may be reviewed online at: https://eeaonline.eea.state.ma.us/EEA/PublicApp/ using the "Site Name" Duxbury Landfill, Inc. and the "Search" tab. Under "Record Type", select the "Application" file with the 1/19/2022 "Application Date" and the "Authorization" file with the 5/13/2022 "Authorization Date".

II. SITE DESCRIPTION & BACKGROUND

Duxbury Municipal Landfill

The Duxbury Sanitary Landfill ("Sanitary Landfill") is an unlined landfill located off Mayflower Street on a Town-owned parcel of land encompassing approximately 19 acres ("Site"). The landfill cover system encompasses approximately 12 acres. The Site also contains the Town's solid waste transfer station constructed in 1976 and a composting operation. The landfill was operated as a burn dump from approximately 1904 until 1968 and as a sanitary landfill until 1976, for the disposal of residential, commercial and demolition waste. Between 1986 and 1987, the Town disposed of wood waste in the adjacent area located south of the western end of the municipal solid waste disposal area.

Areas to the north of the Sanitary Landfill are predominantly forested lands and cranberry bogs, except for two residential properties situated just to the north and on the north side of Mayflower Street. The Duxbury Police Station abuts the Sanitary Landfill to the northeast. Wetlands abut the Sanitary Landfill to the south and southeast and other residential properties exist along Heritage Lane south of the Site.

The Solid Waste Management Section often uses the terms and definitions of the Bureau of Waste Site Cleanup ("BWSC") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP") regulations when evaluating the impact a landfill has on public health, safety, and the environment. As described in the MCP, the regulations classify groundwater into three categories which are defined as GW-1, GW-2 and GW-3. These groundwater categories were established to identify groundwater associated with three distinct types of exposures. Groundwater which is located within a Current or Potential Drinking Water Source Area as defined at 310 CMR 40.0006, is designated as GW-1.

The Sanitary Landfill is located in a Current Drinking Water Source Area as defined in the MCP since it is located in a Zone II (i.e., wellhead protection area) of several public water supplies in the Town of Duxbury. As such, the MCP Category GW-1 standard applies to groundwater at the Sanitary Landfill. The MCP Category GW-3 standard applies to all groundwater in the commonwealth. The GW-3 standards are intended to address the adverse ecological effects that could result from discharge of oil or hazardous material to surface water. Thus, the applicable MCP groundwater categories at the Sanitary Landfill include GW-1 and GW-3.

Existing Final Cover System Design
The Sanitary Landfill was closed in two phases which included the following:

The Sanitary Landfill closure was originally performed in 1977 and consisted of capping the area of municipal waste disposal. The final cover system in the area consisted of:

- 18 inches of low permeability soil; overlain by
- 6 inches of vegetative support material.

The additional landfill area that received wood waste for disposal in 1987 was capped in 1998 with a final cover system consisting of:

- 6 inches of daily cover; overlain by
- 12 inches of low permeability soil; overlain by
- 6 inches of vegetative support material

The closure plans for the one-acre area were approved by the Department on October 11, 1995, as amended on March 24, 1998. A closure construction certification report for the one-acre wood waste area was submitted in September 1999.

Assessment and Post-Closure Environmental Monitoring
A summary of past assessment and post-closure monitoring at the Sanitary Landfill is summarized below:

- June 12, 2001- MassDEP issuance of a combined BWP SW-23 Comprehensive Site Assessment ("CSA") and Post-Closure Environmental Monitoring Plan ("PCEMP") approval. The CSA concluded that groundwater at the Sanitary Landfill flows to the southeast. No private drinking water supply wells were identified down-gradient of the Landfill. A PCEMP was approved for the Landfill which consisted of: quarterly monitoring of network landfill soil-gas monitoring wells (15 locations); semi-annual groundwater monitoring (11 locations); and semi-annual surface water monitoring (1 location).

- December 15, 2005 – MassDEP issuance of a BWP SW-22 Landfill Minor Modification Permit Approval for modifications to the PCEMP. In this revision, surface water monitoring was eliminated from the monitoring program.

- April 6, 2011 ("2011 Approval") - MassDEP issuance of a BWP SW-45 Permit approval for modifications to the PCEMP which included a reduction in the number of network groundwater monitoring wells to be sampled from eleven (11) to ten wells (MW 91-1, AS, AD, B, LS, LD, NS, ND, WH-A, and E). Wells WH-A and E are situated up-gradient of the Landfill while the remaining wells are located down-gradient. Landfill soil-gas monitoring consists of quarterly monitoring of fifteen (15) landfill soil-gas monitoring wells (SG-1, 2, 3, 4, 5, 5A, 6, 7, 8, 9, 10, 11, 12, 13, and 14) as well as the Transfer Station and associated subsurface utilities.

No changes have been made to the PCEMP since the 2011 approval. Results from groundwater elevation surveys provided as part of subsequent annual report submittals continue to show groundwater flow direction to the southeast from the Sanitary Landfill.

1,4-Dioxane
As reported in the Town's most recent Environmental Monitoring Report (i.e., Fall 2021), the parameter 1,4-dioxane was detected in down-gradient Well B at concentrations (.50 ug/L) exceeding the GW-1 and ORSG standard of 0.3 ug/L. These results are consistent with previous sampling results (2017 – 2021). (**Refer to Permit Condition V:13).** As part of an EPA Unregulated Contaminant Monitoring Rule to assess future potentially regulated contaminants, all Duxbury public drinking water supplies ("PWS") (i.e., groundwater wells) were tested for 1,4-dioxane in 2014 and 2015. Except for the two (2) Millbrook Pond wells, 1,4-dioxane was not detected (i.e., 0.07 ug/L Method Reporting Limit) in groundwater at any PWS. 1,4-dioxane was detected in groundwater samples collected from Millbrook Pond wells at concentrations (i.e., 0.073 ug/L) below corresponding GW-1 and ORSG standards (0.30 ug/L). The Millbrook Pond wellfield is located over 7,000 feet to the north of the Landfill.

Duxbury Landfill, Inc.
According to MassDEP records, the McNeil Dump has not been closed and capped pursuant to Massachusetts Solid Waste Regulations (310 CMR 19.000: *Solid Waste Management).*

The Duxbury Landfill, Inc. (a.k.a., McNeil Dump "McNeil Dump") is an approximately seven (7) acre parcel of land located adjacent and to the southeast from the Sanitary Landfill and Town Transfer Station. The McNeil Dump property was acquired by the Town of Duxbury under tax title in 1997.

Historically, the McNeil Dump was operated as a sand and gravel pit which was subsequently used as an open dump from 1946 to 1979. According to MassDEP records, previous test pitting revealed that "debris deposited at the landfill consists of concrete, sheet metal, pipes, foam insulation, lumber, bricks, cobbles, utility poles, stumps and other demolition debris." Furthermore, it was reported that based on "debris located at the southwestern side of the property and the tree line beyond the southwest side of the property, there is a strong chance that debris was deposited beyond the property line in this area." MassDEP records indicate that during landfill operations,

numerous fires broke out for which the Duxbury Fire Department used "wet water", a fire-retardant foam potentially containing PFAS, as a firefighting measure.

Residential properties exist along Heritage Lane to the south and Tremont Street (i.e., Route 3A) to the south and southeast from the McNeil Dump. Wetlands exist to the south, southeast, and west from the McNeil Dump. To the north lies the Sanitary Landfill and Town Transfer Station. The Town Fire Department and Senior Center are located to the southeast of the McNeil Dump along Mayflower Street.

The McNeil Dump is located in a Current Drinking Water Source Area as defined in the Massachusetts Contingency Plan, 310 CMR 40.000 ("MCP") since it is also located in a Zone II of several PWS in the Town of Duxbury. As such, in addition to MCP Category GW-3, the MCP Category GW-1 standard applies to groundwater at the Site.

According to MassDEP records, a hydrogeologic study was conducted in 1987 in support of an initial site assessment. The hydrogeologic study reported that the direction of groundwater flow at the McNeil Dump was to the east. The Consultant reported on another study that was conducted during the same period to evaluate potential groundwater quality impacts from the McNeil Dump. This study noted the McNeil Dump was directly upgradient of the Depot Street Wellfield and within its zone of contribution implying groundwater flow is to the northeast from the McNeil Dump. The Depot Street Well is located over 2,000 feet to the northeast, and since 2015, the well has not been in operation.

The Consultant has reviewed the Duxbury Board of Health's database of private drinking water wells within the Town of Duxbury. No private drinking water wells are located within a 500-foot radius of the McNeil Dump. The closest private drinking water wells are located over 500 feet away and up-gradient from the McNeil Dump and Duxbury Municipal Landfill at 296 Mayflower Street (approximately 1,600 feet) and 1 Cranberry Hill (approximately 700 feet).

Per & Polyfluoroalkyl Substances

Per- and polyfluoroalkyl substances ("PFAS") are a family of chemicals used since the 1950s to manufacture stain resistant, water resistant, and non-stick products. PFAS are widely used in common consumer products as coatings, on food packaging, outdoor clothing, carpets, leather goods, ski and snowboard waxes, and more. Certain types of firefighting foam historically used by the U.S. military, local fire departments, and airports to fight oil and gasoline fires may contain PFAS.

Landfills can be sources of PFAS because they are the ultimate repositories for PFAS-contaminated industrial waste, sewage sludge from wastewater treatment facilities, and waste from site mitigation, as well as for PFAS-bearing consumer wastes.

Because PFAS are water soluble and highly resistant and, PFAS from firefighting foams, manufacturing sites, landfills, spills, air deposition from factories and other releases can seep into surface soils. From there PFAS can leach into groundwater and surface water and result in contamination of drinking water as well impacts to fish and wildlife.

PFAS Regulations

On December 13, 2019, the MassDEP revised the MCP to include Reportable Concentrations and cleanup standards for soil and groundwater to address sites contaminated with PFAS. On October 2, 2020, the MassDEP published its PFAS drinking water standard or Massachusetts Maximum Contaminant Level ("MMCL") of 20 nanograms per liter ("ng/L"), or parts per trillion ("ppt") applicable to community ("COM") and non-transient non-community ("NTNC") systems for the sum of the concentrations of six (6) specific PFAS ("PFAS6"). The Massachusetts Drinking Water Regulations, 310 CMR 22.00 ("Drinking Water Regulations") were revised to reflect these requirements. This drinking water standard is set to be protective against adverse health effects for all people consuming water containing PFAS6. The six (6) PFAS are:

- Perfluorodecanoic Acid ("PFDA")
- Perfluoroheptanoic Acid ("PFH_pA")
- Perfluorohexanesulfonic Acid ("PFH_xS")
- Perfluorononanoic Acid ("PFNA")
- Perfluorooctanesulfonic Acid ("PFOS")
- Perfluorooctanoic Acid ("PFOA")

PFAS Monitoring at Duxbury PWS

In 2021, the Town performed sampling at its eight (8) groundwater PWS (i.e., Millbrook Pond Well, Partridge Street Well, Depot Street Well, Lake Shore Drive Well, Tremont Street Wells 1 & 2, Evergreen Wells 1 & 2, Mayflower Wells 1 & 2, and Damon Wells 1 & 2) for PFAS6 to evaluate PFAS at these wells and assess compliance with the Drinking Water Regulations. Except for the Partridge Street Well, PFAS was not detected above drinking water standards at any PWS. Samples collected at the Partridge Street well in April 2021 revealed detections of PFAS6 at concentrations (75.93 ng/L) exceeding the drinking water standard. The Town of Duxbury subsequently took the Partridge Street well offline and is currently evaluating other treatment options for this well. Since the 2021 sampling event, the Town has continued to monitor the Partridge Street Well for PFAS and to date, PFAS continues to be detected at concentrations above the drinking water standard.

PFAS Assessment

The Partridge Street well is located over 4,000 feet to the southeast/east from the Sanitary Landfill and McNeil Dump, respectively. Based on assessment and monitoring activities conducted to date at both Landfills which have determined groundwater flow direction to be towards the southeast/east, the Department has determined that the Landfills may be a source of PFAS detected in groundwater at the Partridge Street Well.

Due to these findings, the MassDEP has informed the Town of Duxbury that further assessment is required at the Sanitary Landfill and McNeil Dump pursuant to 310 CMR 19.150: *Landfill Assessment Requirements* to determine whether the Landfills are a source of PFAS at the Partridge Street Well. The Town has developed a Scope of Work to evaluate PFAS at both Landfills which is summarized below under Section III.

III. PROPOSED PFAS ASSESSMENT AND SITE INVESTIGATIVE ACTIVITIES

A. Scope of Work – PFAS Assessment

The Consultant proposes to conduct one round of groundwater monitoring at select groundwater monitoring wells at the McNeil Dump and Sanitary Landfill. The details of the Scope of Work ("SOW") are as follows:

1. McNeil Dump – The Consultant evaluated existing monitoring wells (9 in total) and proposes to sample two (2) of these (Shallow wells, GHR-MW-7 and 91-2) and install and monitor two additional shallow wells to a depth of up to 50 feet below ground surface to intercept the water table.
2. Duxbury Municipal Landfill (Sanitary Landfill) – The Consultant proposes to test all current network groundwater monitoring wells for PFAS. This sampling will occur in conjunction with the next annual monitoring event schedule to take place in May 2022.
3. A groundwater elevation survey will be conducted as part of the SOW to establish current groundwater flow direction at the McNeil Dump. **(Refer to Permit Condition V:13)**
4. The Consultant proposes to sample McNeil Dump groundwater wells for the following constituents:
    - Volatile Organic Compounds ("VOCs") by EPA Method 8260;
    - Dissolved Metals (Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Selenium, Silver, and Zinc); and
    - 1,4-Dioxane via EPA Method 522
5. The Consultant proposes to test groundwater wells at the McNeil Dump and Sanitary Landfill for Polyfluoroalkyl Substances using EPA Method 537.1 Modified – 134, LCMS-ID – Per fluorinated Alkyl Acids by Isotope Dilution by Alpha Analytical of Westborough, Massachusetts.

B. Scope of Work – Other McNeil Dump Site Investigations

In conjunction with the proposed PFAS assessment, the Consultant proposes to conduct additional preliminary site investigations at the McNeil Dump to support site assessment, waste delineation, and closure planning. These activities include, in particular; soil gas monitoring to assess potential landfill soil-gas migration, and test pitting to further delineate the extent of waste.

1. **Soil Gas Monitoring**

    The Consultant proposes to monitor a total of six (6) landfill soil gas monitoring wells to obtain a preliminary assessment of soil-gas migration at the McNeil Dump. These include three (3) existing soil-gas monitoring wells that are part of the current soil-gas monitoring network at the Sanitary Landfill and three (3) new soil-gas wells proposed to be installed.

2. **Test Pitting**

    The Consultant proposes to perform sixteen (16) test pits at the McNeil Dump to better characterize and delineate the extent of waste. This includes eight (8) within and eight (8) outside the limits of waste. No sampling for chemical analysis of materials from the test pits is proposed at this time.

MassDEP Comment: *The Department acknowledges that based on discussions with the Consultant the proposed test pitting activities is intended to obtain a preliminary and general assessment on the extent of waste at the McNeil Dump and that additional test pitting may be necessary to fully delineate the extent of waste (i.e., vertical and lateral). Of note are areas at the western margins of the Site that abut Wetlands and the Sanitary Landfill where test pits have not been proposed. Similarly, the proposed soil-gas monitoring at the McNeil Dump is intended to obtain a preliminary assessment of potential soil-gas impacts (i.e., migration) and that additional monitoring/well installation may be necessary to evaluate all sensitive receptors surrounding the site. Of note are residential and Town properties to the south and southeast of the McNeil Dump where additional well installation/monitoring may be necessary to assess potential soil-gas migration. (***Refer to Permit Condition V:10).***

IV. APPLICATION REVIEW AND DECISION PROCESS:

The Application was submitted and reviewed pursuant to the provision of 310 CMR 19.029(2): Applicable Permit Procedures and 310 CMR 19.033 *Permit Procedure for an Application for a Permit Modification or Other Approval.* According to these review procedures, MassDEP's decision regarding the proposed activities shall be either: a "Provisional Decision" pursuant to 310 CMR 19.033(4)(a); or a non-provisional decision pursuant to 310 CMR 19.033(4)(b). MassDEP has determined that a non-provisional decision is appropriate for this Application.

V. PERMIT DECISION:

MassDEP has determined that the Application is satisfactory and in accordance with its authority granted pursuant to Massachusetts General Law, Chapter 111, Section 150A, and 310 CMR 19.000, hereby APPROVES the Landfill Minor Modification permit application subject to the following conditions.

1. Standard Conditions: The Permittee shall comply with this permit and the requirements of 310 CMR 19.000, including, but not limited to, the requirements established at 310 CMR 19.043(5) Standard Conditions.

2. Permit Limitations: This Permit Approval is limited to the Landfill Minor Modification permit application for the Duxbury Municipal Landfill and Duxbury Landfill, Inc. and does not relieve the Applicant from the responsibility to comply with all other regulatory or permitting requirements. The Applicant shall conduct environmental monitoring for the Landfill in accordance with MassDEP regulations, permits, and as modified by MassDEP through review of monitoring data. MassDEP reserves the right to require additional assessment or action, as deemed necessary to protect and maintain environment free from objectionable nuisance conditions, dangers or threats to public health or the environment.

3. Compliance with Other Regulations: This Permit Approval does not relieve the Applicant from the obligation or requirement to comply with all other applicable laws and regulations (whether local, state, or federal). Applicable federal requirements include but are not limited to 29 CFR part 1910 OSHA standards governing employee health and safety in the workplace. This permit does not supersede, nor otherwise diminish, the Applicant's requirements to comply with other permit(s) as previously issued by the Town of Duxbury, if any.

4. Groundwater Monitoring: The Applicant shall conduct groundwater monitoring pursuant to the 310 CMR 19.000, the *Landfill Technical Guidance Manual,* and the following provisions:
    a. Pursuant to 310 CMR 19.132(2)(i.), the Applicant shall ensure that practical quantitation limits (or laboratory reporting limits) meet or are below the Maximum Contaminant Level (MCL) or applicable standard for each analyte tested.
    b. The MCP Method GW-1 and ORSG value for 1,4-dioxane is currently 0.3 ppb. The 1,4-dioxane method reporting limit for groundwater samples collected from monitoring wells shall not be greater than MCP Method 1 GW-1 standard and Massachusetts Drinking Water Guideline (ORSG) value, as amended.
    c. The groundwater analytical results shall be compared to the applicable MCP groundwater category – GW-1 and GW-3 values [refer to 310 CMR 40.0974(2)], Massachusetts MCL ("MMCL"), and the Office of Research and Standard Guidelines ("ORSG").

5. Reporting Groundwater Exceedances: Exceedances of MCP Method 1 GW-1 and MCP Method 1 GW-3 standards must be reported to MassDEP within fourteen (14) days of the finding (e.g., receipt of the analytical results from the laboratory), and the well(s) with exceedances must be re-sampled for the contaminants of concern within sixty (60) days of the prior date of sample collection or as specified by MassDEP in accordance with 310 CMR 19.132(2)(j). If the Applicant does not propose to resample for the contaminant of concern, rationale shall be provided within fourteen (14) days of the finding.

6. MCP Notification Requirements
The Applicant shall comply with the Adequately Regulated Provisions of the MCP, 310 CMR 40.0110 *Adequately Regulated Sites* and 310 CMR 40.0114 *Solid Waste Management Facilities*, releases and threats of release which require notification within two hours (310 CMR 40.0311, 40.0312) and 72 hours (40.0313) are applicable to solid waste facilities. For example, releases to the environment indicated by the measurement of 1,4-dioxane at a concentration equal to or greater than its current Category MCP RCGW-1 Reportable Concentration of 0.3 ppb: within a private drinking water well requires notification of MassDEP Bureau of Waste Site Clean-Up within two hours; within 500 feet of a private well, and within the Zone I of a public water supply require notification of MassDEP Bureau of Waste Site Clean-Up within 72 hours. For additional questions regarding adequately regulated provisions of the MCP and how they apply to Solid Waste Facilities refer to Massachusetts Contingency Plan 310 CMR 40.0000 and MassDEP's Adequately Regulated Fact Sheet (webpage link http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/site-cleanup-policies-guidance.html#3).

7. Maintenance of the Environmental Control and Monitoring System: The Applicant shall maintain the Environmental Control and Monitoring Systems in accordance with 310 CMR 19.133 *Maintenance of the Environmental Control and Monitoring System*.

8. Landfill Soil-Gas Monitoring: The Applicant shall conduct landfill soil-gas monitoring in accordance with the regulations [310 CMR 19.132(5)] and Department's *Landfill Technical Guidance Manual* (Chapter 4: Environmental Monitoring Program).

a. Landfill Soil-Gas Sampling Procedures: The Applicant shall follow the soil-gas sampling procedures specified within MassDEP's Landfill Technical Guidance Manual (revised May 1997) and the notification requirements specified at *310 CMR 19.132 Environmental Monitoring Requirements* including the requirement to record initial and after purge readings.
b. Landfill Soil-Gas Sampling Parameters: The soil-gas monitoring wells shall be analyzed for percent methane, hydrogen sulfide, volatile organic compounds, and percent oxygen at a minimum.

9. Landfill Gas Notification Requirements:
   a. As specified in solid waste management regulations at 310 CMR 19.132(5)(g),

   *(g) When, at any time, the concentration of explosive gases exceeds **10%** of the lower explosive limit (LEL) in any building, structure, or underground utility conduits, excluding gas control, gas recovery and leachate collection system components, the owner or operator shall:*

   1. *take immediate action to protect human health and safety;*
   2. *notify the Department's Regional Office that covers the municipality in which the facility is located within two hours of the findings; and*
   3. *undertake the actions specified under 310 CMR 19.150, Landfill Assessment Requirements and 19.151: Corrective Action Requirements, as required by the Department.*

   b) As specified in the Solid Waste Management regulations at 310 CMR 19.132(5)(h),

   (h) Except in buildings, structures, and underground utility conduits for which 310 CMR 19.132(5)(g) applies, when, at any time the concentration of the explosive gasses exceeds 25% of the lower explosive limit (LEL) at the property boundary or beyond, excluding gas control, gas recovery or leachate collection system components, the owner/operator shall:

   1. *take immediate action to protect human health and safety;*
   2. *notify the Department's Regional Office that covers the municipality in which the facility is located within twenty-four (24) hours of the findings; and*
   3. *undertake the actions specified under 310 CMR 19.150, Landfill Assessment Requirements and 19.151: Corrective Action Requirements as required by the Department.*

   c) If a soil-gas well(s)/probe(s) with an exceedance is in close proximity to buildings, structures and/or utility conduits *(excluding gas control, gas recovery and leachate collection system components)*, then the Owner shall monitor the interior of the buildings, structures and or utility conduits for landfill gas.

      1. Additionally, the Owner 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.

d) If at any time monitoring detects the presence of any combustible gases at or in excess of 10% of the lower explosive limit at any location within a building or with any utility conduits on site or off-site *(excluding gas control, gas recovery and leachate collection system components)* the Owner shall notify MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2850 within two (2) hours of the exceedance pursuant to 310 CMR 40.0321(1)(a) of the regulations.

10. Future Assessment: This Permit Approval does not constitute MassDEP approval associated with any future groundwater and landfill soil-gas assessment (i.e., Initial Site Assessment & Comprehensive Site Assessment) to be conducted at the McNeil Dump. Modifications to the McNeil Dump's groundwater and landfill soil-gas monitoring programs may be required to meet the objectives of such assessment pursuant to 310 CMR 19.000 and the *Landfill Technical Guidance Manual.*

11. Notification of Test Pitting: MassDEP and the Duxbury Board of Health shall be notified a minimum of seven (7) days prior to initiating any excavations at the McNeil Dump. MassDEP may be notified by email at mark.dakers@mass.gov and douglas.coppi@mass.gov.

12. Test Pitting Results: Test pit photos and test pit logs shall be submitted to the Department within sixty (60) days of test pitting completion.

13. Landfill Assessment Report: By October 1, 2022, the Applicant shall submit an assessment report that shall be consistent with the environmental monitoring requirements specified at 310 CMR 19.132, and shall at a minimum, include the following information for both Landfills, unless otherwise specified:
    a. site plans or maps depicting the locations of all monitoring devices and sampling locations, groundwater flow direction, property lines, and horizontal limit of the extent of waste for the Duxbury Landfill Inc landfill;
    b. groundwater and soil gas field data sheets, all laboratory data sheets, all quality assurance/quality control information, chain of custody forms;
    c. groundwater, surface water and landfill soil gas summary tables with comparison to applicable standards;
    d. summary of the new groundwater monitoring well and landfill soil-gas well installation including as-builts and boring logs;
    e. test pit logs with photos; and
    f. Summary of findings and recommendations for additional work, including but not limited:
        - PFAS nature and extent, if necessary,
        - a plan to assess 1,4-dioxane exceedances reported for the Duxbury Municipal Landfill at Groundwater Well B in the Fall 2021 Environmental Monitoring Report pursuant to 310 CMR 19.150.

    The MassDEP will be available to discuss the findings and additional assessment options with the Town.

14. Reporting: The Department requests that all monitoring reports, third-party inspection reports, etc., be submitted electronically (no hard copies required) to the Solid Waste Section Chief of MassDEP Bureau of Air and Waste via email at mark.dakers@mass.gov and project lead, Douglas Coppi at douglas.coppi@mass.gov.

15. 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.

REVIEW OF DECISION:

Pursuant to 310 CMR 19.033(4)(b), if the Applicant is aggrieved by the Department's permit decision, within 21 days of the issuance of the Department's permit decision to the Applicant, may file a written request, with the appropriate regional office of the Department, that the permit decision be deemed a provisional decision, and a written statement of the basis on which the Applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the permit decision shall be deemed a provisional decision. Such a request shall reopen the administrative record, and the Department shall issue a final permit decision after the end of the comment period. Failure by an Applicant to exercise the right provided in 310 CMR 19.033(4)(b) shall constitute a waiver of the Applicant's right to appeal.

RIGHT OF APPEAL

Right to Appeal – This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.033: *Permit Procedure for an Application for a Permit Modification or Other Approval* - of the "Solid Waste Management Regulations". Pursuant to 310 CMR 19.033(5)(a), any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said permit decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A no later than 30 days following the date of issuance of the final permit decision to the Applicant. 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 final permit decision by a court of competent jurisdiction, the final permit decision shall be effective in accordance with 310 CMR 19.033(3).

Notice of Appeal - Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department Authorization No. SW22-0000027 shall identify with particularity the issues and reason why it is believed the final 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, if applicable, 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

Millie Garcia-Serrano, Regional Director
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a final 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 Doug Coppi at (508) 946-2833 or write to the letterhead address. Refer to Authorization No. SW22-0000027 in any correspondence to this office regarding this approval.

Very truly yours,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Mark Dakers, Chief
Solid Waste Management Section

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