Georgetown Municipal Landfill

POST-CLOSURE MONITORING AND MAINTENANCE PLAN

Prepared for:

Board of Selectmen
Town of Georgetown
1 Library Street
Georgetown, MA 01833

Prepared by:

Rust Environment & Infrastructure
25 Corporate Drive, Suite 230
Burlington, Massachusetts 01803

July 1997

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

SECTION 1 - INTRODUCTION

Rust Environment & Infrastructure (Rust E&I) prepared this Post-Closure Monitoring and Maintenance Plan for the Town of Georgetown Municipal Landfill pursuant to Massachusetts Solid Waste Regulations at 310 CMR 19.140(4)(d) and the Massachusetts Department of Environmental Protection's *Landfill Technical Guidance Manual*. The purpose of this Plan is to describe the post-closure monitoring and maintenance programs to be carried out by the Town of Georgetown during the post-closure period. Consistent with the above regulation and guidance, the activities presented in this Plan are intended to provide, at a minimum, protection of public health, safety and the environment.

SECTION 2 - SITE DESCRIPTION AND BACKGROUND

The Georgetown Municipal Landfill occupies approximately 13 acres of a 30 acre parcel on East Main Street (Route 133), of which approximately 8.4 acres are landfilled (7.6 acres of solid waste and 0.8 acres of boulders). The Site is surrounded by bordering vegetated wetlands. The area is drained by Penn Brook, located approximately 100 feet to the west of the landfill. Access to the Site is off of Route 133, approximately one mile west from Interstate Highway 95 (see Figure 2.1 - Site Locus Map).

The Georgetown Municipal Landfill operated as a burn dump from 1952 to 1971 and as trench and fill landfill from 1971 to July 1981. The majority of waste deposited at the Site was municipal solid waste. The Site is currently used as the Town's Department of Public Works (DPW) yard, as a telephone pole storage area for the Municipal Light Department, and as a solid waste transfer station operated by the G. Mello Disposal Corp.

The Town of Georgetown is presently undertaking a Corrective Action Design for landfill final closure in conformance with the Solid Waste Regulations and an administrative consent order. A brief description of this design is presented below for the purpose of summarizing the landfill features to be monitored and maintained in the post-closure period. The closure design consists of a composite final cover system composed of topsoil and vegetative support layers, geotextile layer, sand drainage layer, a high-density polyethylene membrane liner, and a base sand bedding layer to promote landfill gas venting. The continuing operation of the municipal solid waste transfer station at the landfill site requires an alternative cap system in an area located northwest of the transfer station. This area is approximately 0.6 acres and will be paved at a minimum two percent slope to accommodate vehicular traffic associated with operation of the transfer station. The cap in this area includes pavement base material and bituminous asphalt paving overlying a composite cap similar in design to the majority of the landfill site.

The perimeter toe-of-slope will consist of rip rap to allow water collected in the sand drainage layer to escape while maintaining the structural integrity of the cap system. The closure design provides two new detention basins along the eastern and southern property lines which will handle approximately fifty percent of the drainage area. Diversion berms, swales, and channels are positioned on side slopes and edges of pavement to control surface water runoff and to protect the vegetative support layer from rutting.

The Site Plan (see Attachment A) presents the existing limit of waste, building locations and monitoring wells and the proposed final closure grades, limits of pavement, location of landfill gas vents, and the proposed limit of waste. The physical structures and features pertinent to post-closure monitoring and maintenance at the Georgetown Municipal Landfill include:

- the landfill cap composed of HDPE liner, sand drainage soil and vegetative cover;
- permanent landfill gas migration monitoring wells, groundwater monitoring wells, and site survey benchmarks;
- passive landfill gas venting system;
- detention basins and drainage control structures; and
- 6' high chain link fence and gates for vehicular access and site security.

SITE LOCUS MAP
TOWN OF GEORGETOWN, MA
MUNICIPAL LANDFILL
(Not to Scale)

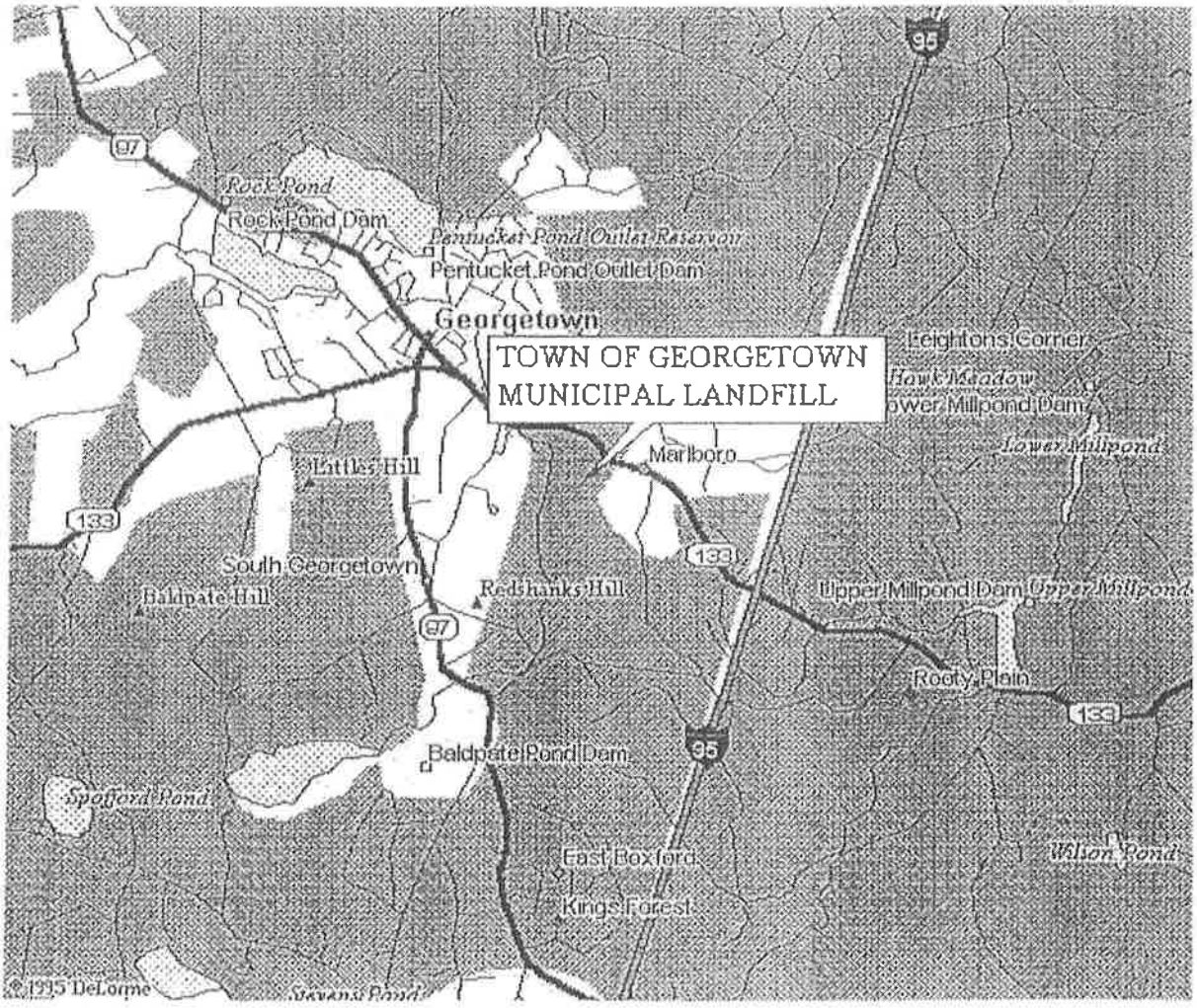

Figure 2.1

SECTION 3 - GENERAL INSPECTION PROGRAM

The Massachusetts Solid Waste Management Facility Regulations in 310 CMR 19.142(5) require the operator to perform the following activities on any closed portion of the facility, as expressed in italics. The description of the Town's post-closure monitoring and maintenance activities follows each heading.

Maintenance of Final Cover Integrity

(a) take corrective actions to remediate and/or mitigate conditions that would compromise the integrity and purpose for the final cover;

The Town will perform site inspections of the final cover integrity during the post-closure period at a minimum annual frequency. In addition, the Town may inspect the landfill cover after severe weather events to ensure any required maintenance is initiated promptly. During each site inspection, the Town will evaluate the condition of the final cover system to determine the extent, if any, of adverse settlement, erosion, loss of vegetative cover, or other disturbances affecting the integrity of final cover.

The discovery of significant ponding of stormwater on the landfill will indicate that adverse settlement has occurred, potentially requiring regrading of landfill slopes or maintenance of the drainage system. Significant erosion rills and gullies, where the depth of the soil layer and vegetative cover have been impaired, will be noted and repaired. The condition of vegetative cover will be evaluated to identify areas of sparse vegetative cover that require restoration.

The Town will conduct final cover maintenance, as necessary, throughout the post-closure maintenance period. The final cover maintenance activities may include placement of additional soil, regrading, revegetation, and repair of underlying geosynthetic materials. Any repairs to geosynthetic materials will be conducted in accordance with applicable manufacturer's specifications and quality assurance procedures. The Town will notify MADEP of any significant cover maintenance activities that may arise.

Restoration of vegetative cover will be required in all areas where final cover maintenance has been completed. Reseeding and fertilizing, or application of hydroseed mulch mixtures, will be conducted as necessary during the post-closure period to ensure that a uniform vegetative growth is sustained on the landfill. Maintenance activities will include mowing the grass as needed to support a vigorous vegetative cover. Mowing of the grass will occur a minimum of once per year.

Maintenance of Liner System Integrity

(b) maintain the integrity of the liner system and the final cover system;

The Georgetown Municipal Landfill was constructed without a bottom liner system; therefore, post-closure monitoring and maintenance activities do not apply. The Town will maintain the final cover system as described in (a) above.

Leachate Collection System Maintenance

(c) collect leachate from and monitor and maintain leachate collection system(s);

There are no leachate collection systems in place at the Georgetown Municipal Landfill. The facility was not designed with a bottom liner or leachate collection system because the operation of the facility preceded these design standards in the Massachusetts Solid Waste Regulations. The current Corrective Action Design does not include a leachate collection system. Consequently, no active leachate management practices apply to the facility. Such incidental leachate management issues as seeps and outbreaks are addressed under final cover system maintenance in the General Inspection and Maintenance Program. The MADEP-approved final cover system for the site is designed to mitigate leachate generation.

Environmental Monitoring Systems Maintenance

(d) monitor and maintain the environmental monitoring systems for surface water, ground water, and air quality;

The Town or the contracted sampling consultant will inspect the landfill's groundwater monitoring wells and gas migration monitoring wells during each sampling event. All monitoring points will be inspected for conditions that may impair integrity or security. The Town will promptly repair any damaged or unsatisfactory monitoring point, before the succeeding scheduled monitoring event, if possible. Any necessary replacement of a monitoring point will be discussed with the MADEP prior to executing the work. See Section 4 for sampling schedule.

Access Road Maintenance

(e) maintain access roads;

The access road and paved lot at the operating solid waste transfer station provide the only vehicular access to the landfill. The Town will conduct inspections at a minimum annual frequency that include an evaluation of the access road condition. The access road to the landfill will be repaired by the Town if damage, or other conditions, should significantly impair the use of the road for facility access.

Landfill Gas Control Systems Maintenance

(f) maintain landfill gas control systems;

The Town will conduct inspections at a minimum annual frequency that will include evaluations of the landfill gas control system, including performance of the passive vent system and condition of the PVC vent structures. The gas vent system design includes nine vertical gas venting wells. Any damage to the above-ground portions of the gas vents will be repaired. In addition to the physical condition of the vents, the inspections will note whether landfill gas is venting through the vent structures. The Town will evaluate the performance of the gas venting system relative to the results of combustible gas monitoring at the permanent gas monitoring wells. Gas detection alarms will be installed in the on-site buildings as a safety precaution. The alarms will sound when ten percent (10%) of the lower explosive limit for methane is reached.

Surveyed Benchmark Protection and Maintenance

(g) protect and maintain surveyed benchmarks;

The Georgetown Municipal Landfill site survey control is tied to a site specific coordinate system and a temporary benchmark (PK nail in a telephone pole). The landfill closure design requires the Contractor to tie the site into the Massachusetts State Grid System and to provide two permanent benchmarks for future use on site. The Town plans on completing closure of the landfill by October 1998. Record drawings will be submitted as an amendment to this plan within 60 days of construction completion. The Town will note the

condition of the survey monuments during routine facility inspections. The monuments will be maintained and/or replaced to ensure continued survey control.

The *Landfill Technical Guidance Manual* enumerates the regulatory requirements addressed above, and includes references to monitoring and maintenance of the following features:

Settlement of the Landfill and Settlement Monitoring

- *[Post-closure Plans should address] settlement of the landfill and settlement monitoring;*

Based on information from workers on the site, and the relatively long period since waste was last deposited in the landfill (1981), the settlement of the landfill is expected to continue at a slow rate, especially on the highly-compacted area of the landfill adjacent to the transfer station operations. In addition, no significant differential settlement is expected on areas of the landfill. The MADEP *Landfill Technical Guidance Manual* recommends that settlement monitoring be conducted on a minimum quarterly schedule. Due to the site conditions, an annual schedule is appropriate for a visual inspection for depressions and surface water ponding on the landfill cap. In addition, the Town will annually verify elevations of two settlement platforms located at high points of the final cover system.

A portion of the landfill top slope where pavement is located is to be graded to a minimum 2% grade in accordance with a variance approval from the MADEP. Areas outside of the variance area are designed at a minimum 5% slope will require maintenance if the slope decreases to less than 3% due to settling. When maintenance is required to restore settlement areas, fill will be placed to reestablish a 5% slope, or as near to 5% slope as practical.

Drainage Control Structures Maintenance

- *[Post-closure Plans should address] inspection and repair of drainage and run-on, run-off control structures;*

The Town will conduct, at minimum, annual inspections to evaluate the condition of channels, culverts, inlets, and the detention basins. In addition, the Town may inspect drainage control structures after severe weather events to ensure they are functioning properly. Drainage structures will be repaired as needed to convey stormwater and retain sediment in accordance with the design parameters.

The Town will monitor and maintain the detention basin during the post-closure period, noting the condition of vegetative cover and stabilization of soils, and accumulation of sediment in the basin. Maintenance of the detention basin may require the removal of sediment after final closure activities. Sediment removed from the basin will be used on site for erosion repair and regrading.

Maintenance of Site Security

- *[Post-Closure Plans should address] site security;*

The Town will inspect the condition of perimeter security fencing, gates, and locks at minimum annually. Any incidents of vandalism and evidence of unauthorized site access will be noted during the inspection. If damage to the fencing and gates is found, prompt repairs will be performed to restrict unauthorized access to the site.

SECTION 4 - ENVIRONMENTAL MONITORING PROGRAMS

Groundwater Sampling Program

The post-closure groundwater monitoring program will continue on a semi-annual sampling schedule, and include the existing 11 groundwater monitoring wells identified as RST-1S, RST-1D, RST-1R, RST-2S, RST-2D, RST-3S, RST-3D, RST-4S, RST-4D, and RST-5S, RST-5D. The sampling frequency and analytical parameters in the groundwater monitoring program are consistent with the August 13, 1996 MADEP Comment Letter on the Comprehensive Site Assessment, and the Solid Waste Regulations at 310 CMR 19.132. Table 1 below presents the analytical parameters.

Table 1
Ground Water and Surface Water Monitoring Parameters

Field Parameters	pH, specific conductance, temperature, dissolved oxygen, depth to water (gw)
Inorganic Parameters	arsenic, barium cadmium, total chromium, copper, cyanide, iron, lead, manganese, mercury, selenium, silver, sodium, and zinc
Indicator Parameters	alkalinity, chloride, chemical oxygen demand, sulfate, nitrate (as nitrogen), total dissolved solids
Purgeable VOCs	all compounds included in EPA's Method 8260; as amended, and acetone, methyl ethyl ketone, methyl isobutyl ketone and xylenes

Note: All parameters tested for totals only

Groundwater samples are collected using dedicated disposable high density polyethylene (HDPE) bailers to minimize the risk of cross-contamination. In accordance with the MADEP *Standard Reference for Monitoring Wells*, all monitoring wells are purged of five well volumes of water prior to sampling. Groundwater samples are to be collected as soon as enough groundwater recharges into the well to provide adequate sample volume. Groundwater samples are stored and transported in a cooler, on ice, with chain-of-custody documentation until delivery to the certified laboratory.

The field parameters, including pH, specific conductance, temperature, and dissolved oxygen are measured on all groundwater samples at the time of sample collection and recorded in the Project Field Book.

The Town reserves the right to modify, with the MADEP's approval, the groundwater sampling program, including the network, frequency and/or monitoring parameters, based on future sampling results.

Surface Water Sampling Program

The semi-annual surface water sampling program will be conducted at the two established sampling points at Penn Brook, upstream (SW-1) and downstream (SW-2) of the landfill. Surface water samples are analyzed for the same parameters as groundwater samples. After sample collection, the samples are stored and transported in a cooler, on ice, with chain-of-custody documentation until delivery to the certified laboratory. The field parameters: pH, specific conductance, temperature, and dissolved oxygen are measured on all surface water samples at the time of sample collection and recorded in the Project Field Book.

Landfill Gas Monitoring Program

Rust E&I installed two permanent gas monitoring wells. A limited number of gas sampling points are appropriate due to insignificant gas levels detected to date, the unlikely possibility of off-site combustible gas migration because the landfill is surrounded by wetlands, and the lack of basements (confined spaces) in on-site structures. However, on-site buildings will be provided with methane detection alarms which will sound when ten percent (10%) of the lower explosive limit for methane is reached. The other on-site structures are open to the atmosphere and do not require methane gas detectors. The location of the gas monitoring wells, indicated on the Site Plan, are positioned to monitor gas migration from the landfill to the existing DPW Garage and potential gas migration in upland soils along the access road.

The Town will periodically evaluate the effectiveness of the landfill gas monitoring program with respect to protection of public health and safety at the site. An expanded monitoring effort, and consideration of further gas control and mitigation measures, will be conducted in accordance with 310 CMR 19.132(g)-(i) if results indicate levels of combustible gas above 25% of the LEL at the

property boundary, or levels of combustible gas are measured above 10% of the LEL in any on-site building or structure (excluding gas vent structures).

The landfill gas monitoring wells are sampled quarterly for the following parameters: percent oxygen, hydrogen sulfide, carbon monoxide, methane as percent Lower Explosive Limit (% LEL), methane as percent by volume (if the LEL is exceeded), and total ionizable compounds (reported as volatile organic compounds). Landfill gas monitoring must remain on a quarterly schedule as per 310 CMR 19.132 (4)(b)(3).

The field analytical instruments to be used for the landfill gas monitoring program currently include a photoionization detector to quantify the total concentration of ionizable volatile organic vapors, a multi-gas meter was used to quantify the concentrations of oxygen (O_2), percent lower explosive limit of methane (% LEL), carbon monoxide (CO), and hydrogen sulfide (H_2S), and a combustible gas meter used to measure methane as % LEL and as percent combustible gas by volume if the % LEL is exceeded. The type of equipment used may vary, provided that the above parameters and appropriate detection ranges are addressed. The field instruments are calibrated using standard gas mixtures prior to commencement of field work. All calibration information and readings are recorded in the Project Field Book.

SECTION 5 - MISCELLANEOUS POST-CLOSURE RESPONSIBILITIES

Post-Closure Reporting

In accordance with 310 CMR 19.142(6), the Town will prepare and submit a report every two (2) years, except as otherwise required by the MADEP during the post-closure period, which describes any activity at the site and summarizes the results of environmental monitoring programs and landfill inspection and maintenance activities.

Post-Closure Period

The post-closure period will be initiated upon the MADEP's approval of record documentation of the Corrective Action Design activities. According to Section 19.142(2), the post-closure period shall extend for a minimum of a 30-year period. However, as provided in Section 19.142(3) of the regulations, the Town may petition for a reduction in the post-closure period for less than the 30 years if it finds and can demonstrate to the MADEP that a shorter period will be sufficient to protect public health, safety, and the environment.

Post-Closure Use of the Landfill Site

The existing solid waste transfer station and DPW depot will continue operating on a portion of the landfill site. No other alternative uses of the landfill site are presently contemplated by the Town. In accordance with 310 CMR 19.143, any person proposing to use the landfill for any purpose following closure of a facility shall submit plans for the post-closure use to the MADEP. The Landfill Design Report documents prepared for the Town by Rust E&I describe in detail the incorporation of these post-closure uses in the closure design for the Georgetown Municipal Landfill. An alternative landfill cap design and security fencing were incorporated in the closure design to ensure that the integrity of the final cover system will not be impaired by the existing uses of the site.

Information Certification

This is to certify that all of the information, provided in this Record Notice of Landfill Operation, is true and factual

Earth Tech, Inc.

By: Duane C. Weiss

Title: Senior Program Director

Sworn to, before me this 24th day of February, 2000

Laura K. Robblee

June 18, 2004

My Notary Expires:

ATTACHMENT NO. 4

3rd Party Review

Wetlands and Stormwater Management System

BSC GROUP
Transportation ■ Energy ■ Land Development

33 Waldo Street
Worcester, MA 01608

Tel: 508-792-4500
800-288-8123

www.bscgroup.com

September 20, 2018

Georgetown Conservation Commission
c/o Mr. Steven Przyjemski, Conservation Agent
Georgetown Conservation Commission
1 Library Street
Georgetown, MA 01833

RE: Peer Review - Wetland Resources, Groundwater Quality, Stormwater Management
203 E. Main Street Abbreviated Notice or Resource Area Delineation & Notice of Intent
Georgetown, Massachusetts

Dear Mr. Przyjemski and Members of the Commission:

BSC Group, Inc. (BSC) is pleased to submit this peer review report pertaining to the 203 E. Main Street Abbreviated Notice of Resource Area Delineation (ANRAD) which is undated and associated plan titled, "Proposed Transfer Expansion, 203 East Main Street, Georgetown, Massachusetts, Existing Conditions Plan" (ANRAD Plan), the 203 E. Main Street Notice of Intent (NOI) dated 5/30/2018 and associated plans titled "Proposed Residential Dropoff, Town of Georgetown Sanitary Landfill, 203 East Main Street, Georgetown, Massachusetts 01833, May 29, 2018, Issued For Notice of Intent" (dated 5/29/2018) (Site Plans), and associated documents. This peer review pertains to wetland resources, groundwater quality, and stormwater management.

Jason Mello of the G. Mello Disposal Corp. (Mello) is the Applicant and is represented by Richard Barthelmes of Cornerstone Construction Services (Cornerstone) and Mary Rimmer of Rimmer Environmental Consulting, LLC (REC).

Wetland Resources

The purpose of this wetland resources assessment is to review the wetland boundary at the 203 E. Main Street site, and the associated ANRAD and NOI, for compliance with the Town of Georgetown Wetlands Protection Bylaw (Ch. 161) and associated regulations (Bylaw) and the MA Wetlands Protection Act (WPA)(M.G.L. c. 131, s. 40) and associated regulations (310 CMR 10.00 et al.). The delineation of Bordering Vegetated Wetlands (BVW) was evaluated according to the MA Department of Environmental Protection "Handbook for Delineating Bordering Vegetated Wetlands Under the MA Wetlands Protection Act". BSC's senior wetland scientist provides the following comments with regard to wetland resources.

The project site includes Bordering Vegetated Wetlands (BVW) and Buffer Zone/Adjacent Upland Resource Areas (BZ/AURAs) for BVW. At the local level, the 100' Buffer Zone is identified in the Bylaw regulations as the "Adjacent Upland Resource Area". Additionally, a portion of the site is located within Riverfront Area (RA) for a perennial stream, Penn Brook, which is located offsite to the west of the property. BSC conducted a site visit on 8/6/2018, during which BVW boundary flag locations were reviewed, as was the location of the RA. Mary Rimmer of REC attended the 8/6/2018 site visit.

With regard to wetland resources, BSC comments on the project ANRAD, NOI and Site Plans as follows:

1. BSC has field-reviewed the A-1 through A-29, B1 through B5 and C1 through C31 BVW flags. No flag changes are required, although BSC notes that REC had replaced a number of flags that had fallen during the winter. REC stated that surveyors would re-survey the approved flags following the 8/6/2018 site visit and update the ANRAD and NOI Site Plans accordingly. BSC recommends that the revised Site Plans be reviewed prior to approval.

2. BSC reviewed a color aerial photograph showing the location of Riverfront Area flagging with REC. BSC recommends that the Riverfront Area flags be indicated on the ANRAD and NOI Site Plans, as well as the edge of the perennial stream channel, as shown on the aerial photograph. BSC also notes that the full extent of Riverfront Area on the project site has not been identified. Section 5.2 of the Bylaw regulations stipulates that, "...all plans submitted to the Conservation Commission for a permit or determination under Section 4 of the Bylaw shall show all resource areas on the property and within two hundred (200) horizontal linear feet outside of the property, regardless whether the proposed work is expected to occur within any areas subject to the protection of the Bylaw." The Applicant should either meet this requirement or provide a written request for a waiver from this requirement, including a rationale for the waiver.

   Should the Conservation Commission wish to grant a waiver to this provision, BSC recommends that the ANRAD Plan, Site Plans and Order of Conditions should note that with regard to Riverfront Area, only RA Flags 1 – 3 are approved under the ANRAD and NOI, and any additional site work proposed in the future may require additional flagging of the RA, particularly if work south of Flag #1 is proposed. BSC recommends that any anticipated future work on the site be disclosed to the Conservation Commission prior their decision regarding potential waiver of Section 5.2.

3. BSC notes that proposed work is located outside of the RA, and therefore is not anticipated to impact the RA.

4. BSC notes that no impacts to BVW are proposed, and proposed work complies with the MA WPA and associated regulations in this regard.

5. Bylaw regulation Section 8.9 requires an alternatives analysis for work proposed in resource areas, including the Adjacent Upland Resource Area. The Applicant should provide a discussion of alternatives that could result in reduced impacts to the Adjacent Upland Resource Area, and steps taken to minimize and/or mitigate proposed impacts.

6. The Applicant proposes to expand the bottom of an existing infiltration basin within the 50' No-Cut – No-Disturb Area. Given that this is already within the footprint of an existing maintained stormwater feature, BSC finds that no naturally vegetated portion of the 50' No-Cut – No-Disturb Area would be impacted. BSC recommends that the Conservation Commission provide construction period performance

standards to ensure that the adjacent wetland is not impacted by construction activities, should this plan be approved.

Groundwater and Surface Water Quality, Site Emissions

BSC's engineer and Licensed Site Professional provides the following comments with regard to groundwater quality. On August 14, 2018, BSC visited the MassDEP Northeast Regional Office to perform a file review of records on the Georgetown Landfill and Mello Transfer Station. MassDEP provided post-closure monitoring reports from May 2009 through May 2018. To evaluate trends in groundwater quality over time, we tabulated the data in the post-closure monitoring reports for the most recent four-year period between 2015 and 2018. Groundwater samples are analyzed for various constituents categorized as either Indicator Parameters, Inorganic Parameters, and Volatile Organic Compounds (VOCs). Constituent concentrations present in the samples are compared to the MassDEP's Maximum Contaminant Level, Secondary Maximum Contaminant Level, or Office of Research and Standards Guideline for Drinking Water. Summary tables of the groundwater quality as reported in the post-closure monitoring reports are included as Attachment A. A total of ten groundwater monitoring wells are routinely sampled for analysis as part of the on-going landfill post-closure care program. The locations of the groundwater monitoring wells are highlighted on the attached figure, which was provided by the Georgetown Board of Health.

Groundwater Quality

In general, groundwater quality in the vicinity of the landfill has been stable over the last four years. We do not discern any significant trends in groundwater quality that would suggest the landfill is an on-going source of contamination to groundwater.
Generally, one or more Indicator Parameters exceed the Drinking Water standards/guidelines in each of the monitoring wells. Arsenic was the only Inorganic Parameter to exceed the Drinking Water standards/guidelines in two of the ten wells. 1,4-Dioxane was the only VOC to exceed the Drinking Water standards/guidelines in six of the ten wells. The following summarizes the constituents detected above Drinking Water standards/guidelines in each of the groundwater monitoring wells.

RST-1R

In monitoring well RST-1R, the following constituents were detected at concentrations exceeding their respective Drinking Water standards/guidelines:

- Total Dissolved Solids
- Chloride
- Sodium
- Iron
- Manganese
- Arsenic
- 1,4-Dioxane.

RST-1S

In monitoring well RST-1S, the following constituents were detected at concentrations exceeding their respective Drinking Water standards/guidelines:

- Total Dissolved Solids
- Chloride

RST-5S
In monitoring well RST-5S, the following constituents were detected at concentrations exceeding their respective Drinking Water standards/guidelines:

- Sodium
- Iron
- Manganese
- 1,4-Dioxane.

RST-5D
In monitoring well RST-5D, the following constituents were detected at concentrations exceeding their respective Drinking Water standards/guidelines:

- Sodium
- Iron
- Manganese
- Arsenic.

Surface Water Quality
In review of the surface water quality data over the same period of time, Sodium was the only constituent detected at concentrations exceeding its Drinking Water standard.

Landfill Gas
In review of the landfill gas data over the same period of time, Methane gas was either not detected or present only at trace levels (less than 1 percent). Carbon Dioxide was generally at or less than 3%. Hydrogen Sulfide was at or less than 7%. VOCs were generally less than 25 parts per million (ppm), with the exception of the October 2016 sampling round, where VOCs were detected in landfill gas well LGW3 at 1,500 ppm.

Stormwater Management

At the time of the MassDEP file review, no application had been filed for expansion of the transfer station operation. We reviewed the drawings issued for the Notice of Intent dated May 29, 2018. These drawings include a Cover, Existing Conditions Plan, Erosion and Sedimentation Control Plan, Site Layout Plan, Site Grading and Utility Plan, Detail Sheet, and Cross Sections. Proposed site improvements include a new paved access road leading to two proposed compactors, three proposed containers, a future transfer station building, two replacement 12-inch diameter drainage pipes, and rip rap to mitigate erosion in the drainage swale leading to an expanded infiltration basin.

A stormwater analysis and supporting calculations is included as an Appendix to the Notice of Intent. The stormwater analysis discusses the proposed site improvements, and models stormwater runoff under both existing conditions and proposed conditions. The stormwater analysis concludes that post-development peak discharge rates are less than existing discharge rates under each of the 24-hour (Type III) 2-year, 10-year, and 100-year storm events. We find the stormwater analysis to be credible and concur with the findings. The stormwater analysis also documents how the proposed site improvements comply with the ten (10) MassDEP Stormwater Management Standards.

Other Considerations

Beginning January 1, 2015, inspections of Solid Waste Management Facilities must be conducted by a Third-Party Inspector registered with MassDEP, pursuant to 310 CMR 19.018. Since that time, a TPI is required to perform the post-closure inspection and monitoring services. MassDEP also developed a 13-page Third Party Inspection Form to document the post-closure inspections. We did not find any Third Party Inspection Forms during our file review at MassDEP. We recommend that the Town of Georgetown review the post-closure inspection program for compliance with 310 CMR 19.018. Further, it is our opinion that the record of post-closure monitoring at the Georgetown landfill is sufficient to petition MassDEP for a reduction in the overall monitoring program. We would be happy to discuss this if the Town sees merit in reducing the cost of the long-term monitoring program.

Additionally, the Site Plans dated 5/29/2018 and issued for the Notice of Intent are labelled "Not for Construction". BSC recommends that the Applicant provide standard final signed and stamped engineering construction plans for review and approval by the Conservation Commission, and that no Order of Conditions be issued without Conservation Commission review and approval of such final plans. The final plans should include re-surveyed wetland flag locations, as noted in item #1 above.

The Commission should feel free to contact me at (617) 896-4524 (office) or (978) 621-8783 (cell) with any questions regarding wetland resources and Mike Clark at (781) 267-3390 with any questions pertaining to water quality, site emissions, or stormwater management associated with this project. BSC appreciates the opportunity to be of assistance.

Sincerely,
BSC Group, Inc.

Gillian T. Davies

Gillian T. Davies, PWS, SSSSNE
Senior Ecological Scientist