

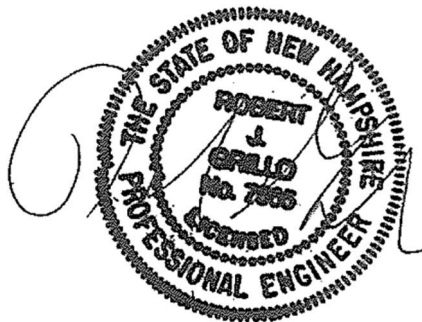
CLF Exhibit 1

**DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**

**Standard Permit for Solid Waste Landfill
Granite State Landfill – Phase I
Douglas Drive
Dalton, NH 03598**

**NHDES Site #: TBD
Project Type: SW-LNDFILL
Project Number: TBD**

Prepared For:
Granite State Landfill, LLC
1855 VT Route 100
Hyde Park, VT 05655
Phone Number (802) 651-5454
RP Contact Name: John Gay
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Prepared By:
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Date of Application: February 5, 2021

Granite State Landfill

Dalton, New Hampshire

Standard Permit for Solid Waste Landfill Phase I Landfill and Infrastructure Development

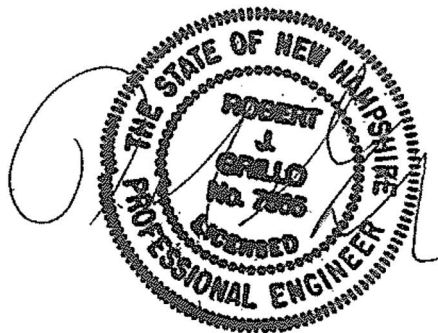
February 2021

Volume 2

Section VI (1)

Submitted by:

Granite State Landfill, LLC
1855 VT Route 100
Hyde Park, VT 05655



Submitted to:

New Hampshire Department of Environmental Services
Waste Management Division
Permitting and Design Review Section
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Prepared by:



Civil and Environmental Engineers
35 Bow Street
Portsmouth, New Hampshire 03801

Granite State Landfill, LLC
Phase I Landfill and Infrastructure Development
Standard Permit for Solid Waste Landfill

February 2021

Table of Contents

Check in the amount of \$35,000 made payable to “TREASURER, State of New Hampshire”
Standard Permit for Solid Waste Landfill Application Form

Volume 1

Section I – Identification

- Attachment I(2)(h) – USGS Plan
- Attachment I(5)(f)(iv) – Granite State Landfill, LLC Director Information

Section II – Facility Description

Section III – Status of Other Permits/Approvals

Section IV – Legal Notifications and Agreements

- Attachment IV(1) – Abutter Notices
- Attachment IV(2) – Abutter Plan and List

Section V – Site Report

- Attachment V(1) – Maps and Figures
- Attachment V(2) – Compliance with Solid Waste Rules
- Attachment V(3) – Sensitive Species Review
- Attachment V(4) – Hydrogeological Report
- Attachment V(5) – Traffic Study

Volume 2

Section VI – Preliminary Facility Design Plans and Specifications

- Attachment VI(1) – Draft Technical Specifications
- Attachment VI(2) – Reduced Size Plans (8.5x11)
- Attachment VI(3) – Geotechnical Report
- Attachment VI(4) – Stormwater Management Report
- Attachment VI(5) – Leachate Calculations

Section VII – Operating Plan

Section VIII – Closure Plan

Section IX – Financial Report

Section X – Performance History

Section XI – Public Benefit

Section XII – Signatures

Section XIII – Fee Calculation Form

Full Size Plans (22x34) for Design Drawings and Closure Plan bound separately

Section VI
Preliminary Facility Design Plans and Specifications

Section VI – Preliminary Design Plans and Specifications

This Section presents the Preliminary Design Plans and Specifications portion of the application and includes the technical specifications provided as Attachment VI(1) and permitting plans (full size [22x34] bound separately, reduced size [8.5x11] provided as Attachment VI(2)). This Section describes the significant design features of the landfill and associated infrastructure. Supplementary attachments to this Section include the Geotechnical Report (Attachment VI(3)), Stormwater Management Report (Attachment VI(4)), and Leachate Calculations (Attachment VI(5)).

The proposed Granite State Landfill location and design meets permitting requirements provided in Sections Env-Sw 800, Env-Sw 1000, and Env-Sw 1100. Compliance with each rule is demonstrated in Attachment V(2) - Compliance with Solid Waste Rules. The plans and specifications provided with this application have been prepared in compliance with these Rules.

Background

The full buildout of the Granite State Landfill is planned to be constructed in three phases totaling 137 acres of lined landfill footprint over 38 years of operation. This Standard Permit application covers Phase I development which will consist of 62.9 acres of lined landfill footprint, the site infrastructure area, perimeter access roads, stormwater ponds, and improvements to Douglas Drive and NH Route 116.

Phase I will be developed for an operating period of 2027 to 2041 and will provide 9,053,000 cubic yards of capacity. GSL intends to construct Phase I in two stages and seven cells over the term of this permit. GSL will need construction approval from NHDES-Waste Management Division (WMD) for each landfill capacity development in the form of a Type II Permit Modification to the Standard Permit. It is expected that the expansions will be developed as depicted and sequenced on the enclosed plans.

The Granite State Landfill will be constructed as a double-lined landfill conforming to WMD rules and requirements. GSL is proposing to enhance the performance of the conventional high-density polyethylene (HDPE) liners with the addition of a geosynthetic clay liner to form a composite primary liner with superior barrier properties.

Leachate will drain to a single sump at the western low point of the landfill. Leachate will be removed from the landfill by pumping via two 3-inch HDPE forcemains (dual-walled 3x6 forcemain outside of the lined landfill footprint) along the alignment of the landfill access road approximately 2,000 feet to the site infrastructure area, located south of the landfill.

The site infrastructure area, as depicted on the enclosed site plans, will consist of a leachate storage tank, truck scales, an equipment maintenance garage, operations office, and a gas blower station and flare. The infrastructure area is sized to accommodate a second leachate storage tank and possible future leachate treatment and landfill gas processing facilities. The infrastructure area is also proposed to include a truck odor station for truck traffic leaving the facility which will spray the trailers with odor neutralizing agents. Adjacent to the maintenance building, GSL is proposing a water fill station, which will allow for a dedicated location for the water truck to fill to aid in efficient dust control. Water from the station will be from a nearby high-volume supply well that will also provide potable water for the site. GSL will also be able to pump directly from the stormwater pond network. GSL will locate an area adjacent to the maintenance building to manage segregated recyclables that are pulled from incoming waste to be removed from the site as they accumulate. There will be no septic systems proposed at the site. Wastewater generated by

restroom facilities in the maintenance garage, operations office, and scale house will drain to an HDPE pump station manhole that will transfer wastewater to the leachate storage tank via HDPE forcemain. An emergency generator is located in the infrastructure area. The generator and site electric distribution system is designed to power the entire site in the event of a loss of power from the electric utility.

The proposed project will improve the existing access road (Douglas Drive) by widening to an overall width of 32 feet, installing new pavement along the length from NH Route 116 through the infrastructure area – approximately 1.25 miles, and replacing the existing culverts with larger, appropriately sized culverts. The improvements to Douglas Drive will also include a 230' x 175' truck pull-off area where trucks can do a final check of their loads if needed before entering the facility or temporarily drop-off empty or dual containers. One open-water crossing is proposed over an existing unnamed stream utilizing a 12-foot-wide box culvert. Grade will be raised approximately 20 feet over the culvert to create the crossing, which will utilize retaining walls to minimize wetland impacts.

The project will also require improvements to Route 116 by adding a deceleration lane from the Whitefield (east) side of Douglas Drive. A traffic study that considers impacts of the proposed project on public roads is provided with this application as Attachment V(5). The traffic study supports the driveway permit application which was submitted to the New Hampshire Department of Transportation (NHDOT) in November 2020.

Design drawings and technical specifications are included with this application, along with supporting design calculations. Final grades are depicted on the landfill final grading plan contained in the accompanying Closure Plan. The Closure Plan includes closure details, technical specifications for proposed cap materials, and closure construction and post closure care costs.

Capacity

Figure 3 in Attachment V(1) is a volume calculation for Phase I comparing proposed top of waste grades to proposed primary sand grades (top of lining system). The calculation results indicate that 9,053,000 cubic yards of disposal capacity is available in Phase I. Figure 3 depicts the Phase I capacity and depth of waste fill.

Construction

Construction of the initial cell of the landfill and associated infrastructure will begin in 2023 and continue through 2026. GSL submitted a Standard Dredge and Fill Wetlands permit application in early September 2020 to request filling approximately 17 acres of wetlands which are within the footprint of the landfill and associated infrastructure. GSL anticipates filling these wetlands upon receipt of this permit such that they can be monitored through the wetland permit term to ensure the filling design adequately removes the wetlands. Wetlands permits are issued by NHDES for a 5-year term, which can be extended another 5 years upon request. The wetland filling effort will require permitting through the NHDES Alteration of Terrain Bureau since greater than 100,000 sq of area will be impacted.

Upon approval from NHDES Waste Management Division (WMD) through one or more Type II permit modifications and concurrent with the wetlands filling, GSL expects to begin construction of the Douglas Drive improvements and components of the site infrastructure area. GSL would subsequently begin construction of the Phase I landfill with expectations that operations can begin around the time the NCES landfill is filled in late 2026 or early 2027.

The expected work and sequencing for Phase I construction would include:

- Wetland filling (2022)
- Construction of Route 116 deceleration lane (2023)
- Construction of Douglas Drive improvements and stormwater infrastructure (2023-2026)
- Construction of site infrastructure (2023-2026)
- Phase I landfill construction (2025-2026)

The Phase I landfill has been designed and sequenced such that waste excavation should not be required as each stage of the landfill is developed. GSL will extend primary and secondary leachate piping to the new stages as they are developed from west to east. As shown on the fill sequencing plans, a new internal access road will be built into the waste within each cell to access active waste disposal areas as cell development progresses. These internal access roads will be filled over when operating in the subsequent cell. External access to new cells will be from extensions to the perimeter road as the landfill is developed.

Geotechnical Evaluation

A geotechnical evaluation and report on landfill stability is provided in Attachment VI(3) of this section. The analyses completed as part of this work indicate that the proposed landfill configuration and construction materials provide adequate factors of safety against foundation failure and sliding among liner and cap system components under the expected static loading conditions. Under seismic loads, the landfill is stable and permanent deformation of the liner, cap or other systems are not expected. The report also preliminarily evaluates and confirms the feasibility of employing shallow spread footings to support proposed site buildings.

Leachate Management

Leachate generated by Phase I will drain by gravity to a single sump at the western low point of Phase I. The project is proposing perforated 12-inch SDR 17 HDPE header pipes and 8-inch SDR 17 HDPE lateral pipes for the primary leachate collection system and 8-inch SDR 17 HDPE header and lateral pipes for the secondary leachate collection system. Header pipes will be located along the interior toe of the 3H:1V side slopes of the landfill and follow the landfill's base grades down to the sump area. At each landfill cell division, lateral leachate pipes will be installed to transfer leachate to the header pipes. Header and lateral pipes will all be provided cleanout locations as shown on the enclosed design drawings. Calculations that demonstrate the adequacy of the leachate collection system are presented in Attachment VI(5).

Leak detection (secondary) flow rates are proposed to be monitored at the Phase I pump station for Stage 1 Cells 1 through 3. For Stage 2 cells 1 through 4 leak detection flow will be monitored at a separate secondary pump station located in Stage 2 Cell 1. Secondary leachate from each stage will be pumped out of the sump, measured and recorded, and discharged to a primary leachate riser pipe to be combined with the primary leachate flow. Construction of Phase I Stage 2 will include a blank secondary leachate pipe for the future Phase II to collect and separately measure secondary leachate from that phase at the secondary pump station in Stage 2 Cell 1. Future Phase III secondary leachate is planned to be monitored at a new pump station dedicated to Phase III for both primary and secondary leachate.

Combined primary and secondary leachate will be pumped from the sump at the Phase I pump station to

a leachate storage tank in the infrastructure area, approximately 2,000 feet away. The leachate storage tank is proposed to be a Statewide Aquastore, Inc. (SAI) Model 56 26 Aquastore® Primary Leachate storage tank with a Model 70 24 Aquastore® Secondary Containment tank. This tank has a usable capacity of 459,000 gallons.

Two forcemains are proposed, one for each pump in the primary sump. One pump and forcemain will be utilized during typical operations with the other providing a backup function. Pumping can be alternated between the two systems to exercise the pumps or to allow for maintenance as needed. Both pumps and forcemains would be utilized during extreme storm events such as a 100-year storm. The forcemains are proposed to be 3-inch SDR 17 HDPE pipe with a 6-inch dual containment pipe where the forcemain is located outside of the anchor trench. The forcemains will have a leak detection manhole at the low point and utilize an air-relief valves at the high point. The infrastructure area is designed to accommodate two leachate storage tanks. Phase I is designed to operate with a single leachate storage tank, with the second tank added as needed for Phase II and III.

All leachate pumps at the facility will be constant speed drive, meaning they start and run at full power continually until shutdown. Variable frequency and variable speed drive pumps will not be utilized at the landfill. The total head the pumps will be required to overcome is constant. Calculations showing the total head on liner and pump curves demonstrating the pumps can remove adequate volumes of leachate from Pump Station I are included in Attachment VI(5).

Leachate will be pumped from the storage tank into tanker trucks at the infrastructure area leachate loadout facility. It is expected that landfill leachate will be hauled to and disposed at the Concord NH Wastewater Treatment Facility or several other nearby facilities that can accept the leachate, as described in the Operating Plan.

Landfill Gas Management

Landfill gas will be collected from the landfill via perforated HDPE pipe in stone collection trenches and HDPE gas header pipes that will transfer landfill gas to the infrastructure area to be flared. Vertical gas wells will be installed as waste reaches final grades. A 24-inch HDPE perimeter gas header is proposed for the landfill, with smaller HDPE laterals extending into the landfill. The configuration of anticipated final gas header, lateral, and wellhead layout is provided on the Closure Plan (Section VIII). The perimeter header layout has been designed so that only one condensate trap will be needed inside of the landfill footprint, at the low end of the landfill (west side) near the leachate pump station. An HDPE knock-out pot and pump station are located at the low point of the header alignment to the infrastructure area to remove condensate from the pipe. This condensate will be pumped from the knock-out pot to the leachate tank in a dedicated dual-wall forcemain (3x6) in the same trench as the leachate forcemain pipes. It is noted that there will be four separate forcemain pipes that will outlet to the leachate tank, as previously described – the two leachate forcemains, knock-out pot condensate forcemain, and the wastewater forcemain.

GSL is completing air permitting through the NHDES Air Resources division separately from this application. Although not part of this initial application, GSL intends to permit a landfill gas processing facility at the site with the capability of treating and compressing the gas for commercial use, similarly to what is being permitted at the NCS site.

Stormwater Management

A stormwater management report detailing the stormwater design for the project is presented as Attachment VI(4). In general, the intent of the stormwater design for the site consists of the following performance criteria:

- Reduce off-site peak flows and volumes to below pre-development levels.
- Develop treatment practices to treat contaminants from runoff.
 - Employ commonly utilized practices including infiltration ponds and treatment swales.
- Recharge groundwater in stormwater ponds to mimic pre-development conditions to the extent practicable.

Each construction phase of the landfill will require approvals from the NHDES-Alteration of Terrain Bureau, necessitating a detailed design of stormwater improvements. Typically, the AoT application is submitted concurrently with the Type II Permit Modification for construction approval.

Stormwater ponds and infrastructure are sized to accommodate the worst case-condition for stormwater generation when the landfill is closed with final cap and shedding the largest amount of stormwater. During operations, filling areas on the landfill may be as large as 10 acres. These open areas will be graded internally such that stormwater that contacts waste is contained and infiltrates through the waste mass to the leachate collection system.

The stormwater modelling presented in this application does not consider the use of exposed geomembranes, which are often used to shed clean stormwater and reduce landfill gas emissions but have higher stormwater runoff coefficients. The use of exposed geomembranes will be evaluated and permitted on a case-by-case basis to confirm that the in-place stormwater infrastructure can accommodate the additional flow or if improvements are needed.

Stormwater ponds and treatment practices are proposed to be sited around the perimeter of the landfill, within the site infrastructure area, and along the improved Douglas Drive.

Stormwater calculations are based on the 25-year 24-hour storm event and provided in attachments. The calculations indicate that the peak storm water discharge from the site will be less than the predevelopment condition.

In addition, the facility will be required to obtain a USEPA, NPDES multi-sector General Permit for Stormwater Management, and an associated Stormwater Pollution Prevention Plan (SWPPP) including application of Best Management Practices (BMPs) for stormwater management.

CLF Exhibit 2



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



August 26, 2021

Joe Gay
Granite State Landfill, LLC
1855 Vermont Route 100
Hyde Park, VT 05655

SUBJECT: NHDES Water Division Permits for the Granite State Landfill

Dear Mr. Gay:

On September 3, 2020, Granite State Landfill, LLC submitted an application for a Wetlands Permit from the N.H. Department of Environmental Services (NHDES), Water Division (File # 2020-02239). This application is currently under review. The purpose of this letter is to request an amendment to the Wetlands application, pursuant to RSA 482-A:3, XIV(e), and that other Water Division-related permit applications be submitted at the same time to allow for a comprehensive and coordinated review of the impacts of the project on water resources.

The Wetlands application proposes to fill wetlands to facilitate the construction of a solid waste landfill on the property. The NHDES Waste Management Division is currently reviewing an application for a Solid Waste Permit, and the NHDES Air Resources Division is reviewing an application for a temporary permit for the proposed landfill. While the Wetlands application requests approval to impact wetlands for all three phases of the proposed landfill, the Solid Waste application covers only Phase 1 of the proposed landfill. In order to align the proposed areas of impact between the Solid Waste application and the Wetlands application, NHDES is requesting that Granite State Landfill, LLC submit an amendment to the pending Wetlands application to reflect only those wetland impacts associated with Phase 1 of the project. Please include the Amendment Request Form for a Wetlands Application or Permit available from the NHDES website¹. NHDES is also requesting that you respond, in writing, with a projected timeline for submitting the amended application and an extension request that would provide a reasonable timeframe for NHDES to conduct a comprehensive review of the amended application.

In addition, to allow a holistic assessment of impacts on water resources, NHDES requests that the amended Wetlands application be submitted in conjunction with other required applications under the NHDES Water Division's purview and related federal programs. Specifically, Granite State Landfill will need an Alteration of Terrain Permit to address land disturbance, stormwater management, flood storage, and wildlife & habitat impacts; an Individual 404 Federal Wetlands Permit from the U.S. Army Corps of Engineers; and a State-issued 401 Water Quality Certification of the Federal Wetlands Permit to ensure that proposed and potential discharges meet state water quality standards. These other applications have significant overlap with the Wetlands application and should be reviewed contemporaneously. Accordingly, NHDES recommends holding a meeting with all of the Water Division permitting programs and their federal partners prior to application submittal to coordinate the schedule for the various permit applications.

¹ <https://onlineforms.nh.gov/app/#/formversion/4262f89a-8b52-4ea3-990e-ffa8f015389a>

If you have any questions, please contact me at (603) 271-2951.

Sincerely,

A handwritten signature in black ink, appearing to read "Rene Pelletier". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Rene Pelletier, P.G.
Assistant Director, Water Division

cc: Robert Scott, Commissioner
Michael Wimsatt, Director, Waste Management Division
Craig Wright, Director, Air Resources Division
Philip Trowbridge, Manager, Land Resources Management Program
Bryan Gould, Cleveland, Waters and Bass, P.A.

CLF Exhibit 3



May 03, 2024

U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Attn: Frank J. DelGiudice, Chief, NH & VT Section, Regulatory Division

**SUBJECT: Hydrogeological Comments
Standard Solid Waste Permit Application – October 2023
Granite State Landfill, Dalton and Bethlehem, New Hampshire**

Dear Mr. DelGiudice:

Calex Environmental, LLC, (Calex), has reviewed the October 16, 2023 Standard Permit for Solid Waste Landfill (Phase I Landfill and Infrastructure Development) submitted by Granite State Landfill (GSL), (the Applicant) to the New Hampshire Department of Environmental Services (NHDES). The Standard Permit application is comprised of:

Standard Permit form – Volume 1 (dated Oct 16, 2023) Identification, Facility Description, Status, Legal Notifications

- Section V Site Report Volume 2 (Part 1) – Attachments V(1) – V(4)
- Section V Site Report Volume 2 (Part 2) - Attachments V(5) - V(6)
- Section VI Volume 3 - Design Plans and Specifications
- Volume 4 - Facility Operating Plan
- Volume 5 - Facility Closure Plan
- Volume 6 - Public Benefit, Signature and Fee Calculation
- Volume 7 – Full Size Plans

Comments provided by Calex on the application documents listed above are focused on the hydrogeological aspects of the proposed site and leachate impacts after construction due to the landfill design/operations. Our comments provided below begin with detailed comments on Section V Site Report Volume 2 Attachment V(4) *Hydrogeologic Report, (Hydrogeologic Report)*, followed by general comments on selected sections of the remainder of the Permit Application where interpreted hydrogeologic site conditions may impact the particular topic. Finally, we provide three summary points and our conclusion.

Executive Summary

The proposed Granite State Landfill would generate leachate contamination for the better part of 100 years, so it is critical that all potential contaminant pathways be identified in the permitting process and weighed as to potential risks to the water resource receptors in the region when releases occur. The Hydrogeologic Report, meant to serve as the underlying hydrogeological characterization of the site, identifies and quantifies only the shallow (overburden and 20' or less

(603) 237-9399 PO Box 236, Colebrook, NH 03576 (603) 237-9303 (fax)

in bedrock) pathways on site and fails to field locate through drilling and testing, the identified bedrock fracture systems that may provide potential hydrogeological pathways offsite towards Forest Lake or water supply wells. The limited hydrogeological study illustrates variable, and highly transmissive surficial bedrock conditions exhibiting primarily downward hydraulic gradient conditions. These hydraulic conditions are conducive for contamination to flow into deeper bedrock flow systems; systems that are currently unquantified at the site and vicinity. Relying on shallow groundwater studies for regional hydrogeological interpretations is subject to substantial error.

The Solid Waste Permit Application for the proposed Granite State Landfill relies upon the level of investigation and conclusions provided by the hydrogeological study, a study which is limited to the investigation and quantification of only shallow groundwater conditions at the site and vicinity. Therefore, the Solid Waste Permit Application relies upon inadequate data, and the application should accordingly be rejected by the Department. With knowingly creating a 100-year source of contamination at this site, DES should not have to assume anything about pathways or receptors. The hydrogeological study needs to be thorough and quantitative so that risks are known and can be weighed according to law.

Attachment V(4) – Hydrogeologic Report (Sanborn, Head & Associates (SHA))

A comprehensive study of the hydrogeological characteristics of the proposed landfill site and vicinity is crucial to identifying, evaluating, and understanding the hydraulic interconnections which may serve as potential contaminant pathways among the water resources in the vicinity. The potential contaminant pathways include permeable hydrostratigraphic units in both overburden and bedrock deposits located anywhere onsite where waste materials, leachate or contaminated gases are disposed, stored, or handled. The water resources include private and public water supply wells, rivers, lakes, streams, springs, and wetlands located hydraulically downgradient or connected to the potential contaminant pathways.

The potential impacts to water resources in the vicinity of the landfill operations include disruptions in recharge from changes in the flow systems due to terrain alteration from construction of the landfill and its infrastructure, and impaired water quality due to landfill operations and releases of leachate. While it is understood that the proposed landfill plans and operations are designed to reduce the potential for impacts to local water resources, no operator can guarantee 100% fail safe operations for the decades-long life of the landfill. Therefore, leachate impacts in the vicinity of the landfill are to be expected, as is so clearly demonstrated by operations at the nearby Bethlehem Landfill site operated by Casella.

Therefore, the comprehensive identification and quantification of contaminant pathways and water resources in the vicinity of a proposed landfill site is critical so that NHDES can weigh the impacts to the nearby water resources when leachate releases occur.

1. Identification of Water Resources

- A. Drinking water resources in the area are comprised of private and public water supply wells, as no surface water reservoirs are identified. The aquifer(s) from which the water supply wells derive their water are not comprehensively identified or quantitatively evaluated in the *Hydrogeologic Report* for potential recharge interconnections with the proposed landfill property and its flow systems. These deficiencies in the study mean that overly simplistic interpretations are made concerning whether local water supplies will potentially be impacted by landfill operations that release contaminants:

- The Site Report by CMA uses NHDES well inventory data reflected on Figure 12 to identify the locations of private and public water supply wells. The inventory shows more than 100 private wells, but no information is provided about the depth or yield of those wells. One cannot determine the source of drinking water for those wells without more information and hydrogeologic evaluation. There was no tabulation of the identified water supply wells in the *Report* indicating typical pertinent data, such as: type of aquifer (i.e., bedrock or overburden), yield, construction, ownership, age, or depth. In NH, most residential water supplies rely upon drilled wells into bedrock, and according to a 2020 NHDES Fact Sheet (DWGB-1-2, Bedrock (Artesian, Drilled) Well Design), these residential wells are on average 400 feet deep and yield 15 gallons per minute. There should be a field-verified spreadsheet of the associated database provided, which indicates the source of water (i.e., overburden or bedrock) for the well inventory.
- A figure of the proposed landfill property, Figure 13, instead identifies six water wells in the inventory as Chicks Sand & Gravel “test/exploration” wells and one well classified as Ingerson “other”. The Applicant does not provide depth data for any of the wells, or information as to their construction or yield.
- Answers provided to Env-Sw 804.02 (a) on page 92/1161 of Vol 1 of the Application notes that Mr. Ingerson has the closest drinking water well located “...2,000 feet from the site’s infrastructure area...” an area which is not located on Figure 13, with the report providing no information for this well.
- Page 3/1037 of Volume 3 Design Plans and Specifications notes a “...high-volume supply well...” located nearby the proposed maintenance building, but no information is provided to determine if this “high-volume supply well” derives its water from a deep bedrock fracture system or from a shallow sand and gravel aquifer.
- Page 95/1161 of the Site Report Volume 2 Env-Sw 804.03 Surface Water Protection Standards (f) states “groundwater flow from the landfill is in the opposite direction...” from the community drinking water supply along Forest Lake. This statement has been proven only for shallow groundwater in the overburden and surficial bedrock on site, because no wells have probed greater than 20 feet into the bedrock and no explorations were sited in fractured areas identified in the fracture trace analyses and geophysical surveys. With the information provided, one cannot determine if there are any fracture pathways connected to the proposed landfill site that may recharge the community well.
- SHA subcontracted the analysis of bedrock fracture systems to Hager-Richter whose report is included in Appendix F of the *Hydrogeologic Report*. The Hager Richter report identifies potential locations and likely depths of various fracture systems onsite utilizing the typical three-step bedrock fractures evaluation process of: 1) aerial photographic interpretation, 2) field mapping of bedrock structures, and 3) field reconnaissance with surficial geophysical instruments. What is missing is the KEY fourth step of quantification where test drilling in identified fracture systems is coupled with associated hydraulic testing. In the *Hydrogeologic Report* there appears to be no follow through on the Hager Richter work. There is no table in the Site Report that provides RATIONALE for drilling locations, drilling target depths, or hydraulic testing zones. Instead, the drilling/monitoring well/hydraulic testing program in the

overburden/shallow bedrock appears to be entirely independent of the regional bedrock fracture system geophysical interpretations located within the top 500 feet or so of bedrock. The field work is focused on only the overburden and shallow (top 20') bedrock, and thus interpretations are limited to that zone.

- At the site, 61 monitoring wells and 12 geotechnical borings were completed with boring logs contained in Appendix B of the *Hydrogeologic Report*. Of this large number of subsurface penetrations, only 9 (or 12%) penetrated more than 50' below ground surface [B-2 (79.5', 35' into bedrock), MW 21L/U (55', finished as overburden couplet), MW 28/R (51.5', finished as shallow overburden and bedrock couplet), MW 38/R (80', finished as shallow overburden and bedrock couplet), MW 39/R (60', finished as shallow overburden and bedrock couplet)]. As to evaluation of the bedrock aquifer, only 21 wells are completed in the top 15 feet of bedrock, with a maximum depth of 22 feet into bedrock. The hydrogeological study did not locate representative bedrock wells that were advanced deeply enough to penetrate any regional fracture systems that may be interconnected with area water supply wells. Thus, the investigation is not representative of hydrogeological conditions that support surrounding bedrock water supply wells that, in New Hampshire, are finished substantially deeper than 25 feet into bedrock.
- The hydrogeological study evaluated the relative vertical gradients between the overburden and shallow bedrock wells at multiple couplet locations. Fig 9 of the *Hydrogeologic Report* generally shows downward vertical gradients, with just three upward gradients, all located within the waste disposal footprint. This characteristic indicates that contaminants, when released into the surficial groundwater, will likely flow downward into the shallow fractured bedrock. The ultimate fate and transport of contaminants moving downward in bedrock has not been identified in the hydrogeologic study.
- Figures 8B-E of the *Hydrogeologic Report* show only overburden groundwater flow plots. The study is incomplete and cannot represent any interpretations regarding deep bedrock flow.
- Page 225/1161 notes that water supply wells on West Forest Lake Road and along Forest Lake are $\frac{1}{4}$ to $\frac{1}{2}$ mile from the landfill footprint and even closer to the infrastructure area where leachate would be collected, stored, and handled and portions of the landfill access road which will carry thousands of leachate tanker trucks. The recharge zone(s) to these wells and possible interconnections to the landfill site and associated infrastructure have not been determined or quantified. In fact, the infrastructure area shows very transmissive shallow hydrogeology. Figure G.1 illustrates high (>10 ft/day) adjacent to infrastructure area (MW-9). Hydraulic testing in the Infrastructure Area revealed exceedingly high seepage velocities (MW-9 at 31 feet/day) which is very concerning for an area that is the focus of collection, storage, and handling of leachate.
- It would be exceedingly helpful if Figures 10 A-E would show the infrastructure area of the landfill operations also (e.g., leachate collection and handling areas) instead of just the area of waste filling, since the leachate handling areas are so prone to releases. Figure B.1 in Appendix B is much more helpful.

In summary, the hydrogeologic study identifies and quantifies the shallow (overburden and 20' or less in bedrock) groundwater systems on site but fails to field locate and quantify any of the identified bedrock fracture systems that may provide potential hydrogeological pathways offsite to Forest Lake or water supply wells. The limited hydrogeological study illustrates variable, and highly transmissive surficial bedrock conditions exhibiting primarily downward hydraulic gradient conditions. These hydraulic conditions are conducive for contamination to flow into deeper bedrock flow systems; systems that are currently unquantified at the site and vicinity. Relying on shallow groundwater studies for regional hydrogeological interpretations is subject to substantial errors. The landfill will generate contamination for the better part of 100 years, so it is critical that all potential contaminant pathways be identified in the permitting process and weighed as to potential risks to the region.

B. Surface Water Resources Wetlands, streams, the Ammonoosuc River located to the west/southwest of the proposed waste fill zone, and infrastructure area are hydraulically downgradient of the shallow groundwater flow system identified and quantified in the *Hydrogeologic Report*. Contamination that escapes from landfill operations, such as from leachate generation, collection, transmission, storage, handling, or transportation activities, or from any equipment maintenance or fueling activities, or from any contaminated landfill gas residues would initially enter the shallow groundwater system within the Alder Brook watershed. Contaminant migration in the groundwater would be rapid, as determined by the hydraulic testing reported for shallow site monitoring wells in the *Hydrogeologic Report*, Appendix G, and Tables 3 - 5:

- Extensive hydraulic testing was performed in the onsite monitoring wells, (summarized in Table 3 of the *Hydrogeologic Report*). Some wells were located along the anchor trench footprint of the landfill, while many others were outside of the landfill footprint. Hydraulic conductivities in overburden ranged from a high of 60 ft/day to a low of 0.02 feet/day, with a geometric mean of 1.8 feet/day. Shallow fractured bedrock tested at a maximum hydraulic conductivity of 14 feet/day to a minimum of 0.007 feet/day, with a geometric mean of 0.1 feet/day.
- Table 5 of the *Hydrogeologic Report* presents calculated seepage velocities using a representative onsite gradient, ranges of measured hydraulic conductivities in overburden, and a literature value for effective porosity. Groundwater seepage velocities were calculated using high and low hydraulic conductivities. The overburden seepage velocities for the site ranged between 40 and 0.01 feet per day, with the geometric mean at 1.2 feet/day.
- With such high seepage rates in the shallow overburden groundwater, released contaminants will rapidly impact downgradient surface water and wetlands fed by groundwater. Distance to various receptors is dependent on where contaminants are released (all distances in the Application appear to measure from the edge of waste), though releases that occur associated with landfill infrastructure areas where leachate is managed are typically closer to receptors.
- The answer provided on Pg 94/1161 Env-Sw 804.03 Surface Water Protection Standards (c) (3) assumes that the double liner for the waste disposal area and other containment features will "...prevent the release of contaminants to surface water...". This is an overstatement as engineering design can reduce the likelihood of releases,

but it cannot *prevent* them. Thus, groundwater, wetlands, and surface water bodies located downgradient of the site will be threatened with degradation.

- The travel time to Alder Brook, located approximately 2,700 feet from the landfill or 1,200 feet from the infrastructure area (Figure 1 – Locus Plan *Hydrogeologic Report*) using the geometric mean of the seepage velocity is approximately 6 to 2.7 years, respectively. Using maximum seepage calculations, about a year travel time.
- The approximate time it would take for contamination in the overburden to reach the protected area abutting the Ammonoosuc River from either the landfill (approximately 5,000 feet) or the infrastructure area (approximately 3,200 feet) is 7 to 11 years, using the geometric mean of the seepage velocity. At a maximum calculated overburden seepage velocity of 14 feet/day, the travel time shortens to significantly less than 3 years.
- Contaminant pathways controlled by fractured bedrock may intersect Forest Lake or some number of water supply wells completed in the bedrock aquifer. Groundwater flow in the deeper fracture systems was not determined in the hydrogeological study as no wells were drilled to predicted fracture depths and/or into identified fractures, nor was field testing done. The *Hydrogeologic Report* does not present a shallow bedrock seepage velocity, though using the same approach as for the overburden and substituting in the shallow bedrock data yielded 10 ft/day seepage velocity (using the geometric mean of hydraulic conductivity (1.0E-1) and an effective porosity for crystalline bedrock of 0.1% (Freeze and Cherry, 1979)). This seepage rate of 10 ft/day is not unusual because groundwater flow in crystalline rock with low effective porosities is controlled by fracture systems with typically high groundwater velocities.
- If 10 ft/day is representative of seepage velocities in bedrock pathways offsite, landfill-derived contamination migrating downward and entering these pathways could reach Forest Lake (2,400 feet) or some number of water supply wells (1,500 feet to 3,000 feet) in 1 to 2 years. This travel time, or even half that time, provides no margin of error for this site.
- Section 3.4 in the *Hydrogeologic Report* briefly discusses the surrounding water supplies and dismisses all supplies located "...on the other side of the groundwater flow divide..." despite having no site-specific quantified data on what the actual groundwater flow is in bedrock below 20 feet depth.
- Design of Groundwater Monitoring Systems – the *Hydrogeological Report* is insufficient to design an adequate Groundwater Management and Release Detection Permit because the hydrogeological study literally barely "scratches the surface" (i.e., wells only penetrate the shallow overburden and top 20' of weathered bedrock). There must be sentinel wells located within deep bedrock fracture system(s) that feed nearby water supply wells.
- The Conceptual Site Model presented in Exhibit 5-1 of the *Hydrogeological Report* has a significant data gap related to "inter catchment" area flow. The preponderance of data presented in the *Hydrogeological Study* is representative only of shallow groundwater flow conditions. The structural bedrock work of Hager Richter was not field verified with drilling and hydraulic testing despite the data which point to potential bedrock pathways capable of transporting contaminants. The defined "side gradient"

area located between the landfill footprint and the infrastructure area is characterized by very few shallow wells (MW-29R, -30R, -31R, -34/R, -33R, -32R, MW-8, -9), shallow bedrock surfaces described as varying between “highly broken” to “fresh”, and very high seepage velocity in MW-9 of 31 ft/day. Identifying bedrock fracture zones means looking for outliers, drilling into them and quantifying the zone to determine its extensiveness.

Summary: The hydrogeological study has failed to demonstrate that Forest Lake or nearby bedrock water supply wells are not hydrogeologically interconnected with pathways which can carry potential future landfill contamination. With knowingly creating a 100-year source of contamination at this site, DES should not have to assume anything about pathways or receptors. The hydrogeological study needs to be thorough and quantitative so that risks are known and can be weighed according to law.

Comments on Landfill Design/Compliance with Solid Waste Rules

The following are comments on various design elements related to hydrogeological site conditions.

- Figure 4 of the Site Report by CMA shows separation between seasonal high groundwater and the lower/secondary liner is generally 7 feet as compared to the required 6 feet minimum (Env-Sw 804.02(d)). With acknowledgement of climate impacts in Section 3.5 of the *Hydrogeologic Report* where precipitation will be increasing by approximately 15% over the life of this landfill, it would seem prudent to require a higher elevation for the bottom liner to ensure that the separation distance is not violated over the life of the landfill.
- Pg 34/1161 depicts Figure 16, the Wetlands Setback Plan for the landfilled waste. The Application does not address the required wetlands setback from the Infrastructure Area which is not double lined.
- Page 211/1161 the stormwater management system is only accommodating the 25 year/24 hour storm, yet the proposed regulations Env Sw 805.09 (f) states the 50 year/24 hour storm. Since this landfill life will be the better part of 100 years, it would be prudent for DES to require all design and operations be compliant with updated Rules.
- Attachment V(2) – Compliance with Solid Waste Rules, Env-Sw 804.02 Groundwater Protection Standards (a) – the last sentence is only correct if the word SHALLOW is added in front of “groundwater flow...”.
- Attachment V(2) – Compliance with Solid Waste Rules, Env-Sw 804.02 Groundwater Protection Standards (b and c) – the current hydrogeological study is inadequate for siting and design of a groundwater monitoring network to identify potential leachate pathways and protect bedrock water supply wells surrounding the landfill.
- Attachment V(2) – Compliance with Solid Waste Rules, Env-Sw 804.03 Surface Water Protection Standards (c)(1) and (3) – the hydrogeological study described in Attachment V(4) does not meet the standard of a “...thorough hydrogeological investigation...” and should be supplemented.
- Attachment V(2) – Compliance with Solid Waste Rules, Env-Sw 804.03 Surface Water Protection Standards (d and f) – It is true that the landfill is in a separate watershed from Forest Lake but that surficial topography does not necessarily govern deep groundwater flow in the fractured bedrock which may be feeding public or private water supply wells

and potentially discharging to Forest Lake or other surface water bodies. These deeper, more regional hydrogeological conditions have not been field verified in the current hydrogeological study reported on in Attachment V(4) of this Solid Waste Permit Application.

- Attachment V(2) Env-Sw 805.02 General Landfill Design Requirements (a) (4) – the Groundwater Release Detection system cannot be adequately designed or installed until a more thorough understanding of the hydrogeological conditions is known, as the current site study is inadequate.
- Attachment V(2) Env-Sw 805.08 Groundwater and Surface Water Monitoring System Design Standards (a and b) – The existing hydrogeological study is superficially focused and inadequate for the location and design of a robust monitoring system for protection of area water resources and groundwater supplies. Site specific *data*, and not *theories*, are needed to identify and quantify the bedrock pathways to determine protections for surrounding water supplies and water resources that derive water from the deeper bedrock system.
- Attachment V(2) Env-Sw 806.04 Operating Standards for Groundwater and Surface Water Monitoring – same comment as for Env-Sw 805.08 above.
- Attachment V(2) Env-Sw 806.08 (f) – same comment as for Env-Sw 805.08 above.
- Attachment V(2) Env-Sw 807.03 (8) Constructing, operating, and maintaining the facility's groundwater and surface water monitoring system and implementing the facility's approved post-closure groundwater monitoring program in accordance with RSA 485-C – same comment as for Env-Sw 805.08 above.
- Attachment V(2) Env-Sw 1002.02 Discharge of Pollutants Prohibited (a) – the assurance provided in paragraph 2 is not currently supported by the data presented in the hydrogeological study.
- Attachment V(2) Env-Sw 1002.02 Discharge of Pollutants Prohibited (c and d) – same comment as for Env-Sw 805.08.

Summary

- 1) The hydrogeological study has an expanded analysis of the shallow bedrock/overburden system and its interactions with topographically downgradient wetlands/streams, but ignores the deeper, regional bedrock fracture system study it commissioned from Hager Richter. The study needs to be expanded to field verify the Hager Richter results so that bedrock fracture pathways are quantified as to their hydraulic conductivities and seepage velocities.
- 2) Many hydraulic tests in the overburden/shallow bedrock confirm very high groundwater seepage velocities adjacent to and downgradient of landfill operations, such that travel times for released contaminants to wetlands/surface water can be expected in less than 3 years.
- 3) A landfill provides a source of contamination to the site and vicinity for the better part of 100 years. Contaminants will be released, and the nearby resources need to be protected from offsite migration of these contaminants. The current study provides no quantitative field data regarding these potential offsite pathways. In fact, the onsite data point to a high

potential for these regional pathways to pick up contaminants due to the prevalence of downward vertical gradients in groundwater and generally weathered, fractured, and highly transmissive shallow bedrock surfaces.

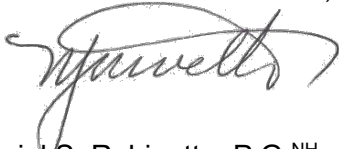
Conclusions

The Solid Waste Permit Application illustrates that in many areas it relies upon the level of investigation and conclusions provided by the hydrogeological study, a study which is limited to the investigation and quantification of only shallow groundwater conditions at the site and vicinity. The hydrogeological study needs to be expanded, similar to a typical bedrock water supply investigation study, to include field verification and hydraulic testing of the structural geology study performed by Hager Richter that identified and field evaluated bedrock fracture responses. Targeted drilling and hydraulic testing would determine the locations and the rate of ground water transport below the top 20-foot zone of the bedrock hydrogeological system. Until the regional bedrock fracture system(s) are located and quantified, the conceptual hydrogeological model for the site is incomplete. Therefore, the Solid Waste Permit Application relies upon inadequate data, and the application should accordingly be rejected by the Department.

Please do not hesitate to call me at 603-566-7316, if you have any questions. Thank you.

Sincerely,

CALEX ENVIRONMENTAL, LLC



Muriel S. Robinette, P.G.^{NH}

Senior Consultant

muriel@calexenvironmental.com

CLF Exhibit 4



Dalton Conservation Commission
756 Dalton Road
Dalton, NH 03574

Via Email, U.S. Mail, and Hand Delivery

February 20, 2024

Mr. Phil Trowbridge, LRM Manager
N.H. Department of Environmental Services
29 Hazen Drive
Concord, NH 03302-0095
philip.r.trowbridge@des.nh.gov

Re: Wetlands Permit Application (RSA 482-A) NHDES File Number: 2023-03259 Subject Property: Douglas Drive, Dalton, Tax Map #406/1, Lot #406/2 (“Application”)

Dear Mr. Trowbridge,

As the municipal conservation commission for the Town of Dalton, we submit *The Report of the Dalton Conservation Commission* to the department, in accordance with RSA 482-A:11, III(a), for the above-referenced Application. Included are reports from retained subject-matter experts.

It is the primary duty of the Dalton Conservation Commission, under RSA 36-A:2, to ensure “*the proper utilization and protection of the natural resources and for the protection of watershed resources*” in the Town of Dalton.

We also remind the department of its mandate, “*to help sustain a high quality of life for all citizens by protecting and restoring the environment and public health in New Hampshire. The protection and wise management of the state's environment are the main goals of the agency.*”

According to page 10 of **Section 2, Section 2.1 NHDES Form W-06-012 – Project Description (Env-Wt 311.04(i)) of the Wetlands Permit Application**: “*The Granite State Landfill, LLC (“GSL”) proposes the construction of a state-of-the-art commercial landfill in Dalton, New Hampshire, to be a successor to the North Country Environmental Services, Inc. (“NCES”) landfill in Bethlehem, New Hampshire*”.

We ask the department to strongly consider the current conditions at the applicant’s NCES Landfill in neighboring Bethlehem in making its determination on the Application(s). The

controversial, 30-year history of the applicant's existing landfill, long-opposed by the citizens of the Town of Bethlehem, as well as its inability to protect the surrounding watershed of the Ammonoosuc River from contamination and degradation, must be taken into consideration.

Therefore, we request that the department use hindsight, and help us to protect our environment and natural resources, as well as public health, and **DENY** this Application, as well as the other permit applications associated with this unwanted and unneeded landfill development project.

Thank you for your attention to this matter. Please ensure that this report becomes a part of your record in this matter.

Signed,

 Nancy Comau
 Carl Shetty
 Brad Amicone

Enclosures

cc: Commissioner Robert Scott, NHDES
Commissioner Sarah Stewart, NHDNCR
Commissioner William Cass, NHDOT
Commissioner Tom Brady, Coos County
Commissioner Martha McLeod, Grafton County
Town of Dalton Selectboard and Planning Board
Town of Bethlehem Conservation Commission and Selectboard
Town of Whitefield Conservation Commission and Selectboard
Town of Littleton Conservation Commission and Selectboard
Town of Carroll Conservation Commission and Selectboard
Ammonoosuc River LAC
NH State Representative James Tierney, Coos 1
NH State Representative Jared Sullivan, Grafton 2
NH State Representative Linda Massimilla, Grafton 1
NH State Representative Matt Simon, Grafton 1
NH State Representative David Rochefort, Grafton 1
NH State Representative Seth King, Coos 4
NH State Representative Eamon Kelley, Coos 7
NH State Senator Carrie Gendreau, District 1
NH Executive Councilor Joe Kenney, District 1
NH Executive Councilor Cinde Warmington, District 2
NH Governor Chris Sununu
U.S. Senator Jeanne Shaheen
U.S. Senator Maggie Hassan
U.S. Representative Anne Kuster
Kim Cartwright, Ammonoosuc Conservation Trust
Jack Savage, Society for the Protection of NH Forests
Michelle Moren-Grey, North Country Council
Barbara Richter, NHACC
NH House Environment and Agriculture Committee
NH Senate Energy and Natural Resources Committee
US EPA: Jean Brochi
USACOE: Lindsey Lefebvre



Dalton Conservation Commission
756 Dalton Road
Dalton, NH 03574

The Report of the Dalton Conservation Commission

Re: Wetlands Permit Application (RSA 482-A) NHDES File Number: 2023-03259 Subject Property: Douglas Drive, Dalton, Tax Map #406/1, Lot #406/2 (“Application”)

Dear Mr. Trowbridge,

As the municipal conservation commission for the Town of Dalton, we submit this report of our investigation and findings to the department to take into consideration in making its determination regarding the above-referenced Application. Due to the negative and far-reaching impacts associated with an industrial development of this size and nature, particularly at this greenfield location, and in consideration of the documented challenges the applicant has demonstrated over time in operating similar facilities, the Dalton Conservation respectfully requests that the department and other permitting agencies **DENY** the Application(s) for this proposed landfill development.

We provide the following for your consideration:

1. **According to the Town of Dalton Master Plan, updated in 2023: “Dalton should remain an outstanding and desirable place to live, where the old country values and rural character of the town are preserved and enhanced, while allowing for thoughtful influx of businesses to the area”.** (See Appendix A)

The Dalton Conservation Commission views the applicant’s landfill development as incompatible with the vision for the future as expressed within the Town of Dalton Master Plan.

2. **Forests are an essential, natural solution for climate change, sequestering atmospheric carbon while maintaining or enhancing soil stabilization and water quality.** According to page 8 of the **Alteration of Terrain Permit Application, part 1**, approximately **147 acres of “disturbance”** will take place, most of which will be forested habitat, forever lost. That is the equivalent of 112 football fields. The 70-acre lined landfill would be the size of 53 football fields, just 2700 feet from the water’s edge of Forest Lake and 190 feet from the state park forest.

The Dalton Conservation Commission updated the town NRI (Natural Resource Inventory) in 2023. (See Appendix B)

Dalton is rural and mostly forested, with 164.08 acres of ponds and open water. **Forest Lake is the largest lake at 196.22 acres and recent water quality testing has confirmed that the lake is pristine.** The town's geography is quite diverse, ranging from flat floodplain areas along the Connecticut and Johns Rivers to rugged mountainous areas, including steep slopes to the tops of the Dalton Mountain Range, which runs SW and NE across town. Out of 18,104 acres of land, approximately 2,065.04 acres are conserved lands. **Over 81% of Dalton is forested.** The Southwestern corner of Dalton, including Forest Lake and tributaries to Alder Brook, is classified as both "Highest Rank Habitat in NH" as well as "Highest Ranked Habitat in the Biological Region", and has been identified as a high priority area for conservation based on the updated NRI. The loss of so much high-valued forested land in this particular area is unacceptable.

3. The Town of Dalton contains 2,828.47 acres of wetlands, 5,030.17 acres of underlying aquifers, 74.1 miles of streams and rivers, and 164.1 acres of open water. Many of Dalton's residents obtain drinking water from personal drilled or dug wells. Maintaining good water quality is one of the highest priorities for the Dalton Conservation Commission.

Currently, the water quality in groundwater, streams, rivers, and lakes in Dalton is in very good to excellent condition. Water quality protection should continue to be addressed not only in Forest Lake, but also the smaller rivers, streams, and headwater brooks that feed other important, regional waterbodies like the Ammonoosuc and Connecticut Rivers. Based on locations of the underlying aquifers in Dalton, it is important to protect the quality of groundwater, brooks, streams, and aquifers in town. It is crucial that we conserve and maintain all types of wetlands throughout the Town of Dalton, the North Country, and throughout New Hampshire, with an emphasis on wetlands outside of conserved lands that are important linkages for wildlife. Wetlands play an important role in flood control, water quality maintenance and improvement, groundwater discharge and recharge, and shoreline stabilization.

On page 13 of Section **3.3 Project Summary and Work Sequence of the Wetlands Dredge and Fill Permit Application**, it is stated that "*approximately 11.5 acres of wetlands (10.2 acres of permanent, 0.5 acres of temporary, and 0.9 acres of after-the-fact wetlands) will be impacted within the footprint of the landfill and associated infrastructure*".

This includes 5 vernal pools within the landfill footprint identified by the applicant.

Wetlands are also important as they are an essential habitat type for most plant and animal species. The loss of such a large amount of wetlands may not only compromise the ecological integrity of the area, but also its flood storage value as it relates to Alder Brook and the Ammonoosuc River.

Vernal pools are particularly important, as they provide an essential breeding habitat for certain amphibians and invertebrates, particularly wood frogs and spotted salamanders, which have been identified at the project site, according to the Application. Vernal pools fill annually from precipitation, runoff, and rising groundwater in the fall and spring. By mid-summer, however, these wetlands are typically dry, making them a dynamic system inhabitable to many plant and wildlife species. The State of New Hampshire (Fish and Game Department and Wetlands Bureau) recognizes their value as important habitat and give them special attention.

This Application proposes major impacts to the environment of the site and the area. Not reviewing it as a whole means it is far more likely for even more wetlands to be negatively impacted by the project with future expansions. Once again, the conservation commission requests that the department and other permitting agencies consider the cumulative impacts of this project, direct and indirect, to wetlands and other aquatic resources, INCLUDING ground and surface water quality, not only from the landfill project and expansions (Concept 4 and Concept 1), but also all other proposed developments at this site, including the RNG project, sludge spreading operations, as well as Mr. Ingerson's proposed business park, campground, and drag strip.

4. The full impacts associated with this development at this site must be considered by the department and other permitting agencies. The department should not allow for project impact segmentation, and instead, consider all cumulative impacts of potential, future development proposed at this site.

On pages 47-48, **section-7-part-1-of-2-Alternatives Analysis of the Wetlands Permit Application**, the applicant shares that the current Application is a result of permitting time limits, particularly relative to the solid waste permit application. Under **Concept 5 – Wetland Permit Level Design: NHDES, and U.S. Army Corps of Engineers (USACE) regulatory feedback on Concept 4 required re-evaluation of the project scope and design from a three-phase project to a single development. The NHDES-WMD solid waste permit is by law limited to a 20-year period.** (See Appendix C)

The Dalton Conservation Commission requests that the department, USACOE, and EPA determinations be based, at a minimum, on the impacts associated with the previously-submitted 2020 Standard Dredge and Fill Wetlands Permit Application NHDES File Number: 2020-02239, aka **Concept 4** (see Appendix D).

Ideally, **Concept 1** should be included in considerations, as the applicant narrative on pages 45-46, section-7-part-1-of-2-Alternatives Analysis of the Wetlands Permit Application establishes the site parameters for **maximum potential expansion** of the proposed facility; 238-acre landfill footprint, 43 acres of wetlands disturbance, and 67 million cubic yards (MCY) of permitted capacity life. At 600,000 MCY (approximately 456,000 TONS) of annual permitted capacity, **Concept 1** represents a 111.67-year landfill facility at this location.

5. The department and other permitting agencies must take into consideration the reasons preventing the applicant from further expanding its current operations at the NCES Landfill in Bethlehem in determining whether the applicant meets the criteria for approval in accordance with RSA 149-M:12.

30 years of public opposition by the citizens of Bethlehem and their long-held concerns about contamination of the watershed of the Ammonoosuc River must be considered by the department and other permitting agencies in determining the fitness and abilities of the applicant to safely construct and operate a new, greenfield landfill at this location. On March 13, 2018, citing “serious impacts on our environment”, the citizens of Bethlehem voted against the expansion of the NCES Landfill for the second consecutive year at Town Meeting. (See Appendix E)

6. We request that the department and permitting agencies take into consideration the widespread PFAS contamination within the watershed of the Ammonoosuc River, which has occurred over the 30-year period of the applicant’s ownership, engineering, construction, and operation of the NCES Landfill in Bethlehem.

The NCES Landfill has had a long and very detailed history of site contamination, all within the watershed of the Ammonoosuc River. In the November 2023 Tri-Annual NCES Landfill Groundwater Monitoring Report, 18 groundwater monitoring wells were reported to have detections, along with AGQS exceedances, for PFAS contaminants. (See Appendix F)

7. The potential threat posed to air, soil, and groundwater by PFAS contaminants emitted atmospherically and/or released within the vicinity of the proposed landfill site is not addressed by the applicant. We ask the department and other permitting agencies to consider the impacts and costs associated with PFAS contamination found elsewhere in the state. This landfill would be a major depository of PFAS-laden waste, as well as a release source for PFAS contamination.

The proposed site and surrounding area has been tested, by both the applicant AND surrounding property owners, to be free of PFAS contamination in ground and surface waters. (See Appendix G)

The emerging threat to human health posed by the proliferation of PFAS contamination in drinking water, groundwater, soils, and air has become a major concern amongst the public. It is well documented that landfills are both a depository of societal waste containing PFAS compounds, as well as a source of release of PFAS contaminants, particularly in leachate generation. The proposed site is a greenfield, composed primarily of forested, wetlands habitat. On pages 779-800 of the **Solid Waste Application, Volume 2 Part 1 Attachments V1-V4 Site Report**, four monitoring wells (MW-1, MW-6, MW-18, and MW-21U) at the proposed GSL site were sampled in 2019 for PFAS compounds, with no detectable levels of contamination, further confirming that the site, and surrounding vicinity, of the proposed landfill site is free of PFAS contamination. (See Appendix H)

The NCES Landfill generates, on average, over 8 million gallons of PFAS-laden leachate, per year, according to the 2017-2022 annual facility reports. (See Appendix I)

8. On page 6 of the Application, under Section 3-6 Project Summary, the applicant states: “Development and operations of the GSL landfill will also provide economic benefits to the state and region in the form of jobs, wages, and significant local community benefits to the town of Dalton”. On page 9, under the Project Milestone timeline: “March 2, 2020 Town of Dalton Select Board meeting - February 26, 2020 draft Host Community Agreement from GSL is read by Board”

According to the NCES Landfill 2022 Annual Report, there are 19 people employed at that facility in the Town of Bethlehem. The applicant fails to provide evidence of any new jobs which will be created in the Town of Dalton. Furthermore, the Town of Dalton has not approved, nor signed on to, a Host Community Agreement with the applicant for hosting this

development project, nor has the applicant received any endorsement from the Town of Dalton in support of the proposed project. The applicant offers no evidence of support from the citizens of Dalton for this major industrial development. (See Appendix J)

9. On page 7 of the Application, under section 1, that applicant states: “Notification was made to the Dalton Conservation Commission. In accordance with Env-Wt 311.06(h), comments were not received from the Dalton Conservation Commission in regard to this application.” This is not a true statement, AND, proper notification was never provided to the Dalton Conservation Commission.

The conservation commission received an unsolicited offer for a site visit in a letter from attorney Brian Gould, dated June 8, 2023, at a time when there was no permit Application on file. The conservation commission did respond, notifying attorney Gould that with no Application, there was nothing to verify. Thus, such a site visit would be a waste of time and resources. (See Appendix K)

10. The Dalton Conservation Commission submitted a request for two site visits during the growing season, one in mid-May and one mid-June. (See Appendix L)

To date, the conservation commission has not received a response from the applicant for site access. The conservation commission has retained the services of a wetlands scientist, a hydrogeologist, and a bat biologist at great expense, to verify the information submitted in the Application. During a project presentation to the Town of Dalton Selectboard on January 15, 2024, a representative of the applicant informed Chair Dudley that a site visit would be a legal question. (See Appendix M)

11. Despite maintaining that “local approvals are not required” in several permit applications, the applicant is in receipt of two letters from the Town of Dalton, dated January 9, 2023 and January 14, 2024, informing the applicant that under RSA 674:41, the applicant “must obtain building approvals from the Dalton Select Board, after the Planning Board has had an opportunity to consider the applications”. (See Appendix N)

12. The Town of Dalton utilizes the AVRDD Mt. Carberry Landfill in Success, NH for its waste disposal needs. The department and other permitting agencies should take that into consideration.

The Town of Dalton made the switch from the applicant’s NCES Landfill in 2020. The Towns of Franconia, Easton, and Sugar Hill also made the switch from NCES to Mt. Carberry in 2023.

13. Geographically, the proposed GSL site would require that waste and leachate would need to be transported a significant distance. The negative climate change impacts associated from the increase in greenhouse gas emissions as a result will be significant to air quality and other environmental impacts.

On page 4 of the Application, under Section 3-6 Project Summary, the applicant makes the claim: “Because GSL is located less than ten miles away from the NCES landfill, GSL is well-positioned to provide the same quality service to these cities and towns after the NCES facility

closes.” The average hauling distance for waste to the NCES Landfill in Bethlehem for those facilities cited by the applicant is **96 miles, each way**, not counting the NCES transfer station itself, which serves primarily Bethlehem residents, local haulers, and Littleton.

On page 5, the applicant continues: *“If the GSL facility is permitted, the facility will add significant value to New Hampshire residents. The GSL facility will anchor an integrated waste and resource management system in the region in which a majority of the waste accepted will originate from New Hampshire residents and businesses. Casella Waste Systems, Inc. (“CWS”), the parent company of both GSL and NCES, owns or operates six transfer stations (Bethlehem, Newport, Lebanon, Belmont, Allenstown, and Raymond) where waste and recyclables are or have been consolidated from municipalities, businesses, residents, and numerous waste haulers and transported to the NCES landfill for disposal in Bethlehem, while recyclables are exported to facilities in Vermont and Massachusetts. NCES also has a business relationship with Monadnock Disposal Services (“MDS”) in Jaffrey, which is a private hauler and transfer station operator not affiliated with CWS. The MDS transfer station serves 58 communities in the south-central portion of the state.*

We note the distance to the NCES Landfill in Bethlehem, 1-way:

- Casella Waste Systems, 264 John Stark Hwy, **Newport**, NH 03773 **94 miles**
- Casella Waste Systems 40 N Labombard Rd, **Lebanon**, NH **85.9 miles**
- Casella Waste Systems, 43 Industrial Dr, **Belmont**, NH 03220 **64.8 miles**
- Casella Waste Systems, 104 River Rd, **Allenstown**, NH 03275 **89.1 miles**
- Casella Waste Systems, 104 Prescott Rd, **Raymond**, NH 03077 **114 miles**
- Monadnock Disposal Services (“MDS”), **Jaffrey**, NH **131 miles**

According to the applicant’s **NHDOT Driveway Permit Application**, and page 6 of the **Facility Operating Plan**, as documented in **Volume 4 of the Solid Waste Permit Application**, *“Haulers are required to access the facility via Douglas Drive from the east on Route 116 (from Whitefield) unless they are local traffic from Littleton”*. The proposed, enforced truck traffic routes to the GSL site would add an additional **25 to 29 miles**, each way, over and above the current distance to the NCES Landfill facility. Thus, it can be estimated that the average distance for hauling waste to the proposed GSL site would be approximately **123 miles, each way**. (See Appendix O)

Additionally, to dispose of landfill leachate generated by the proposed GSL facility, tanker trucks would need to travel approximately **108 miles** to the City of Concord WWTP facility, each way.

14. Heavy-duty garbage truck and tractor-trailer traffic of an estimated 102 trips per day, Monday-Saturday, along Routes 3, 116 and/or 302 would represent a significant threat to commuters, pedestrians, and tourists in Littleton, Bethlehem, Whitefield, and Carroll/Twin Mountain, passing approximately 375 residences, 3 Elementary Schools, and thru 4 town centers.

According to page 10, **Volume 2, Part 1 of the Solid Waste Permit Application**, the applicant states: *“The proposed project is expected to produce about 102 incoming vehicles per day and that the daily volume of truck traffic would include; 50 transfer trailers, 7 leachate tankers, 20*

roll off style trucks and 14 conventional waste hauling trucks such as packers, front load and side load trucks. There is another 10 -15 support type vehicle expected at the site each day such as truck part deliveries, mail services and visitors.”

15. The proposed GSL facility will represent both a stigma and a significant nuisance to property and business owners throughout the North Country, potentially impacting both property values and the North Country tourism and outdoor recreation industries, as a result.

According to page 9, **Volume 2, Part 1 of the Solid Waste Permit Application**, the applicant states: *‘Hours the facility accepts waste (gate hours) are 6:00 a.m. to 6:00 p.m. Monday through Friday, 7:00 a.m. to 4:00 p.m. on Saturday’*. There are approximately 136 residences within 1.5 miles of the proposed facility (there are approximately **84 residences** along Forest Lake Road, with the farthest being 1.49 miles on Forest Lake Rd, 1.13 miles on the water on Newell Lane, and **52 residences** along W. Forest Lake Road (1.21/1.44 miles to WFL/RT116, with the farthest waterfront home being .98 miles away), which will be most directly impacted by **the nuisances and health hazards** posed by this upwind landfill, including noise and odor, as the prevailing winds blow in the E/SE direction of Forest Lake. All of these properties rely on private wells, which could be threatened by PFAS contaminants and other migrating emissions, including asbestos dust, deposited atmospherically. Residences along Mann’s Hill Rd in Littleton will overlook the daily operations of the landfill development from only 1.5 miles away.

Some of the far-reaching impacts would include:

- **Air pollution** from harmful landfill gas emissions, PFAS contaminants, fugitive asbestos and road dust emissions, unpleasant odors, and heavy-equipment noise, all of which could carry for miles, impacting water quality, homeowners, and visitors to Forest Lake State Park (the public beach is approximately ¾ of a mile away), the prevailing wind pattern is E/SE towards Forest Lake. Marriage ceremonies are often held at the free, state park beach.
- A **negative impact on the property values** of nearby homes, as well as the approximately 375 residences along the extensive trash truck traffic route thru the Towns of Whitefield, Bethlehem, and Carroll.
- A **negative impact on the tourism industry** of the North Country, the Littleton River District, and the profitability of businesses that rely on tourism and outdoor recreation dollars.
- Up to 24 trucks could be staged in an **early-morning, and daily, on-site queuing area**, awaiting entrance, spewing harmful diesel greenhouse gas emissions, road dust, noise and runoff pollution.
- **Ground and surface water contamination**, as well as atmospheric deposition of toxic pollutants, including PFAS, road dust, and storm water runoff from landfill emissions, dirty tractor trailers, and increased heavy-duty truck and tractor-trailer traffic, all of which have the potential to negatively impact **Forest Lake, Burns Pond, the**

Alder/Hatch/Bog Brook watersheds, the Ammonoosuc River, and the Connecticut River, as well as the **private wells of residences** in the impact zones.

- Forest Lake is a mere 2700 feet from the proposed landfill site and lies E/SE, the direction of prevailing wind patterns. The border of the Forest Lake State Park forest is just 190 feet away. There is currently an effort to create public hiking trails within the state park forest by a volunteer group recognized by NH Parks.
- **Fecal contamination** from landfill scavenger birds could have a drastic impact on the water quality of at least 3 EPA-identified “impaired waters”; Forest Lake, Burns Pond, and the Ammonoosuc River. This introduction of additional amounts of nitrogen and phosphorous would likely lead to an extensive increase in algal blooms and cyanobacteria, which can be harmful to both humans and pets.
- Scavenger birds would pose a threat to the existing Loon population.
- An increase in litter, noise, rodents, flies, and bears both in the vicinity of the landfill site and along the free curbside trash pickup routes offered by the applicant to Dalton residents.

16. In its own narrative, the applicant makes the case that this environmentally-sensitive site is incompatible with a major industrial project of this nature, even going so far as delineating the parameters for future expansions as described under Concept 1, with southern, western, northwestern, and eastern limits identified. Once again, the conservation commission urges the department and other permitting agencies to consider the cumulative impacts of this project as the applicant clearly signals under Concept 1 the boundaries for future expansions. Project impact segmentation should not be allowed. (See Appendix C)

Beginning on page 27, **section-7-part-1-of-2-Alternatives Analysis of the Wetlands Permit Application**, the applicant states: “*revisions evolved over a five-year span with the goal to minimize wetland disturbance while maintaining project justification*”.

“Using the subsequently completed field-delineated wetland survey as a base plan layer, the landfill footprint of Concept 1 filled and permanently disturbed 40 acres of wetland, with required stormwater ponds resulting in an additional 3 acres of wetland filling or disturbance (not allowed by rules). Concept 1 has a landfill footprint of 238 acres and a capacity of 67 million cubic yards (MCY)”

67 million cubic yards of lifetime capacity divided by 600,000 cubic yards of annual permitted capacity is the equivalent of 111.67 years of permitted life capacity for this development.

17. There is no benefit to the State of New Hampshire to approve the applicant’s request for a fill rate 600,000 annual cubic yards. Doing so would be an invitation for more out-of-state trash to be brought into New Hampshire, trucked south to north over great distance. According to **page 4, Section 3-6 Project Summary of the Wetlands Permit Application, under SECTION 3.1 - Needs Assessment**, the applicant states: “*The estimated total of GSL capacity would provide about 18 years of capacity at the projected fill rate of 600,000 annual cubic yards.*”.

Converted to tons, that would be approximately 456,000 tons of annual permitted capacity. That figure has been a constant throughout Concept 1 thru Concept 5, giving credence to the belief that there will be future expansions. The department and other permitting agencies must consider the cumulative impacts of this project. It should be noted that the applicant's NCES Landfill in Bethlehem, which the proposed GSL project is to replace, has never accepted 456,000 tons of waste in a year. According to the NCES annual facility reports, 433,006 tons was the great volume of waste accepted at that facility, which was in 2016. According to the facility report, 42% of waste intake that year was from out of state. From 2015-2022, the average total annual waste intake was 312,741 tons, with NH-generated waste averaging 218,803.88 tons/year. (See Appendix P)

18. There is no need to replace the NCES Landfill in Bethlehem. NH waste could be absorbed by the other two unlimited service area facilities in NH, thus allowing for the displacement of out-of-state waste currently being shipped to those two facilities, resulting in less out-of-state waste landfilled in NH.

The NCES Landfill 2022 Annual Facility Report numbers reflect this, with out-of-state waste comprising just 2% of annual waste intake. In a February 10, 2024 news report, the applicant's Director of Communications, Jeff Weld, was quoted stating "*The permitted capacity in its Stage VI permit is required to last through December 2026 and due to our efforts in successfully managing and preserving that permitted capacity, the facility is expected to operate well into 2027*". By successfully managing and preserving the permitted capacity of the NCES Landfill, Mr. Weld confirms what the annual facility report confirms, that the applicant does not need permitted capacity beyond the range of 230,200 cubic yards, or 180,000 tons, as currently permitted annually under the NCES Stage VI operating permit. The applicant has consistently sought 600,000 cubic yard/year, or 456,000 tons/year, in annual capacity, from Concept 1 thru Concept 5, which is over 2.5 times greater than the 181,810 tons landfilled at NCES in 2022. (See Appendix Q and R)

On page 4, Part 1, of the **Wetlands Dredge and Fill Permit Application, Section 3-6 Project Summary**, the applicant states: "*With the other solid waste disposal facilities in the state already taking the maximum amount of waste they are allowed to take under their permits, it is unclear where the waste now going to the NCES facility would be disposed.*"

Should the other two unlimited service area landfills in NH utilize the same management and preservation of their permitted capacity as NCES accomplished in 2022, both of those unlimited service area landfills could easily absorb NH-generated waste previously destined for Bethlehem. Considering the average 123-mile travel distance to the proposed GSL site, travel distances for NH towns to either the Mt. Carberry or Turnkey Landfills, depending on geography, shouldn't be a burden. (See Appendix O)

19. The 2022 NH Solid Waste Management Plan outlines eight goals, one of which is to "maximize the diversion of residential, commercial and industrial solid waste from disposal".

The Executive Summary states: “The majority of goals and actions in this plan are intended to achieve the state’s overarching disposal reduction goal established in RSA 149-M:2 – which aims to reduce disposal of municipal solid waste (MSW) and construction and demolition debris (C&D) by 25% by 2030 and by 45% by 2050”.

The Dalton Conservation Commission believes that permitting 600,000 cubic yards of annual capacity for this facility in this Application would be contrary to the waste-reduction goals for the state, as established by the department and mandated by the General Court, under RSA 149-M:29. (See Appendix S)

The plan goes on to state that **“Achieving these goals will also require public and private partners to engage in more regional, cooperative efforts. Stakeholders should explore partnerships in their neighboring areas to find ways to share resources/information and collaborate on mutual objectives. Efforts that help improve public access to more waste reduction, reuse, and diversion opportunities will have both local and widespread benefits. Those benefits include conserving limited resources, protecting public health, fostering a “greener” economy, and mitigating climate change.**

The Dalton Conservation Commission believes that the transportation of waste an average of 123 miles, each way, would be contrary to the goal of mitigating climate change. We agree that partnerships in neighboring areas, engaging in cooperative, collaborative efforts, is what will be required to assist the state in meeting the goals outlined within the 2022 NH Solid Waste Management Plan. The GSL project, as outlined by this Application, fails to assist the state with meeting these goals. North Country communities can work in a more collaborative manner to share hauling services, collaborate on recycling and food waste diversion efforts, assisted by the department and the state, to meet the goals of the 2022 NH Solid Waste Management Plan.

20. By permitting 600,000 cubic yard of annual capacity, the department would be enabling the practice of “backfilling”. This is the process in which excess capacity realized by meeting any of the state waste reduction goals would be offset by an increase in out-of-state waste disposed at this facility.

The applicant’s proposal of free curbside pickup of waste within the Town of Dalton would remove incentives for household waste reductions, realized from the current “Pay As You Throw” (PAYT) system. The introduction of free curbside pickup would also be an invitation to nuisance scavengers like bears and rodents within the Town of Dalton. The introduction of heavy-duty local trash vehicles on Dalton’s steep, rural roads, which are already difficult to traverse, would pose a threat to public safety.

21. According to the 2020-2021 Biennial Solid Waste Report, the department projects a waste disposal capacity shortfall to occur in 2034.

- The AVRRODD Mt. Carberry Landfill has permitted life capacity to 2041, with Phase IIIB expansion plans to extend the permitted life of that landfill to 2049.
- The Waste Management Turnkey Landfill has permitted life capacity to 2034, which is the reason for the projected shortfall.
- The NCES Landfill is to close by the end of 2026, according to the report.

In the Turnkey Landfill 2022 annual report, 376,459 tons of out-of-state waste was landfilled, equaling 49% of what was disposed of at that facility. NH-generated waste landfilled at NCES, averaging 218,803.88 tons/year from 2015-2022, could easily be absorbed by the Turnkey facility, particularly since the operating permit requires that disposal capacity must be made available for NH-generated waste.

Furthermore, in the November 1, 2023 “Final Report of the Committee to Study Unlimited Service Area Permits for Landfills and Out of State Waste Coming Into New Hampshire”, the committee recommended that a state-owned landfill be established in order to limit the influx of out-of-state trash. The committee also recommended that a moratorium be considered against the construction of new landfills. Should such recommendations be enacted, and with legislation currently proposed for each, there would be no need, nor justification, for the applicant’s landfill development.

Were the department to require Waste Management to exercise the same management and preservation of permitted capacity at the Turnkey facility, as exhibited by the NCES facility in 2022, Turnkey could realize nearly 13 more years of capacity life under its current permit to operate if they reduced their out-of-state waste intake to 15%, thus extending permitted facility life to year 2050, approximately. As a result, there would be no capacity shortfall in New Hampshire for nearly 25 years..

The Dalton Conservation Commission endorses the recommendations of the Committee to Study Unlimited Service Area Permits for Landfills and Out of State Waste Coming Into New Hampshire. (See Appendix T)

22. In section-7-part-2-of-2-Massachusetts Landfill Siting Alternatives Assessment of the Wetlands Permit Application, the applicant failed to include the current effort to re-open its Hardwick Landfill in Hardwick, MA. In section-7-part-1-of-2-Alternatives Analysis of the Wetlands Permit Application, the applicant failed to include the McKean County Landfill it owns in McKean, Pennsylvania. (See Appendix U)

Both landfills should be considered by the department and the other permitting agencies as viable alternatives to the greenfield GSL project, particularly since both landfills exist, are admittedly underutilized, with significant potential to satisfy the applicant’s regional disposal needs once the NCES Landfill closes.

23. The applicant has demonstrated a blatant disregard for past legal agreements and local control. In the 2011 Legal Agreement with the Town of Bethlehem, in which the applicant received concessions of great value from the town, the applicant agreed to confine all future landfill infrastructure within District V (see Term 4). The GSL development site access at Douglas Drive and Route 116, comprised of Lots 406-1 and 406-2, are in the Town of Bethlehem, outside of District V, in District III. The applicant also agreed ***“not to purchase, lease, rent, develop or otherwise acquire or seek permits to use any other property in the Town of Bethlehem (other than the expanded District V) for the purpose of a landfill”***.

By entering into a legal agreement with the current owner for the landfill development project, and by submitting this and other permit Applications, the applicant is in violation of the 2011 Legal Agreement with the Town of Bethlehem. (See Appendix V)

On page 4 of the **Alteration of Terrain (AoT) Permit Application, Part 1**, the applicant highlights the critical, required improvements to Douglas Drive as a component of the landfill operations by stating: *“The project is redesigning the site entrance at Route 116 from the current configuration to meet required traffic safety criteria, which include connecting the entrance at 90 degrees as part of the NHDOT Driveway Permit for the project. This modification, depicted on the enclosed plans, is part of several improvements at the driveway entrance and includes an inbound deceleration lane and outbound acceleration lane on Route 116. These improvements are covered by this application. The site entrance, Route 116 improvements, and the southern portion of Douglas Drive are within the quarter-mile designated river corridor of the Ammonoosuc River, which is on the opposite side (south) of Route 116 from the site entrance, therefore the Ammonoosuc River Local Rivers Advisory Committee is being provided a copy of this application. Parts of the Route 116 improvements are also within the protected shoreland of the Ammonoosuc River, which will require an NHDES-Shoreland Permit. Douglas Drive will be paved throughout and widened to a width of 32-feet in most locations of the approximately 1.5-mile length of road to the landfill. Existing culverts along Douglas Drive will also be replaced during construction with new corrugated HDPE pipe (N-12 or approved equivalent) as depicted on the enclosed plans. Additionally, GSL will be providing two new replacement open bottom culverts at stream crossing locations. Wetland impacts associated with the installation of these culverts are covered by the Standard Dredge and Fill application for the project, which is being filed by GSL concurrently with this application.”*

On page 3, the applicant also states: *“Local approvals are not required for Dalton, or in Bethlehem where the site entrance is located.”*

The use of Douglas Drive for landfill operations constitutes a significant “change of use”, requiring site plan review by the Town of Bethlehem Planning Board. Furthermore, the Town of Bethlehem Zoning Ordinance restricts private landfill operations to District V. Douglas Drive, the facility entrance, is in District III, in the Town of Bethlehem.

24. The applicant’s background, including a well-documented history of non-compliance with environmental and solid waste regulations, operational and engineering shortcomings, a tendency to disregard past legal agreements which run counter to the company’s current interests, and a poor track record as a community and business partner should be taken into consideration by the department and other permitting agencies in its determinations about the Applications for this landfill development project. (See Appendix W)

This should include failure of the applicant to gain public support in the North Country for its continued operations of the NCES Landfill in the Town of Bethlehem, for this proposed landfill development in Dalton, and the applicant’s apparent unwillingness to engage with the Town of Whitefield, relative to the proposed landfill traffic pattern and the impacts that influx of heavy-duty truck traffic will have on that community.

25. According to the Application(s), ownership of Douglas Drive, the landfill site access road, is to be retained by the current owner, who is not a licensed, certified solid waste operator in New Hampshire. We ask the department and other permitting agencies to take into

consideration the consequences of this attempt by the applicant to circumvent the 2011 Legal Agreement and the Town of Bethlehem Zoning Ordinance. This co-owner of a significant portion of the landfill operation is not listed as a partner, nor is he subject to the required background investigation, as a result of his omission from the Application(s) as a partner in the operation. Potential, future conflicts and liability questions could arise as a result of this "arrangement". Considering the need for leachate disposal/treatment off-site, including post-closure, unforeseen consequences could arise should there be legal disputes between these two, separate and distinct entities. Should there be a traffic accident at the site entrance, which entity would be liable, particularly if there are fatalities, or environmental contamination, as a result of a leachate tanker breach?

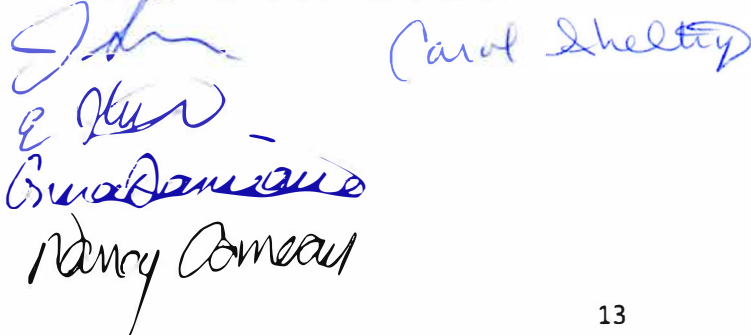
We would also note that on page 6 of the **Standard Permit Application Form for SW Landfill** it is noted at the bottom of the page: *"Note: a landfill shall not be constructed or operated on property not owned by the permittee"*.

26. The applicant's reliance upon a MRF (Materials Recovery Facility), which does not exist and would be sited elsewhere, should not be considered by the department and other permitting agencies in determining public benefit.

As mentioned on page 19 of the **Solid Waste Permit Application, Volume 6 Public Benefit, 4.2.2.1 Zero-Sort® Recycling at GSL and Proposed MRF in Southern New Hampshire**, the applicant attempts to claim GSL will assist the State of New Hampshire in meeting its waste reduction goals by linking the Application to a non-existing MRF sited at an unknown location in Southern New Hampshire. We request that the department strike all reference to any unsubstantiated claims made by the applicant relative to the MRF, which doesn't exist, and is not being proposed as a part of the GSL facility. The Application(s) for this facility must stand alone in determining public benefit. We also take issue with the applicant's proposal to introduce single-stream "Zero-Sort Recycling" within Dalton, which would most likely result in an increase in the contamination of recyclables, resulting in more recyclables being landfilled, thereby reducing the effectiveness of the current practice of source separation of recyclables at the Dalton Transfer Station.

In summary, due to the negative and far-reaching impacts associated with an industrial development of this size and nature, particularly at this greenfield location, and in consideration of the documented challenges the applicant has demonstrated over time in operating similar facilities, the Dalton Conservation Commission respectfully requests that the department and other permitting agencies **DENY** the Application(s) for this proposed landfill development.

The Dalton Conservation Commission


Carol Shelton
Nancy Comeau

CLF Exhibit 5



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

November 18, 2020

GRANITE STATE LANDFILL LLC
1855 VERMONT RTE 100
HYDE PARK, VT 05655

Re: Request for More Information – Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2020-02239
Subject Property: Douglas Drive, Dalton, Tax Map #M405, Lot #33

Dear Applicant:

The New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau reviewed the above-referenced Standard Dredge and Fill Wetlands Permit Application (Application). Pursuant to RSA 482-A:3, XIV(a)(2) and Rules Env-Wt 100 through 900, the NHDES Wetlands Bureau determined the following additional information is required to complete its evaluation of the Application:

1. As is the case with most landfill projects in the state, when they are close to reaching capacity, requests are made to expand the landfill footprint in the immediate vicinity. While 3 phases are currently proposed, please address how potential future expansions will impact surrounding wetlands and surface waters on the property, as this long-term planning is critical to determine if avoidance and minimization of wetland resources has been fully demonstrated per Rule Env-Wt 311.07 and Env-Wt 313.03.
2. As stated in a letter dated September 27, 2019, signed by Water Division Director Thomas O'Donovan, NHDES requested that alternative sites in neighboring states be considered that may have less overall wetland impacts. The analysis provided in the application considered Maine and Vermont, which both prohibit out-of-state solid waste, but did not consider Massachusetts as a potential siting area. Please address this in your response, as there may be other areas that are better suited for landfill siting with less overall wetland impacts per Rule Env-Wt 311.07.
3. If excavation and blasting is proposed to prepare the site for the landfill, as well as the continued use of the existing quarry and gravel operations on-site, it is not clear how these activities will impact surrounding wetlands, groundwater levels and flow directions, or nearby drinking water supplies. There is a public water supply well near Forest Lake, as well as numerous private wells in the area that could be impacted if groundwater flow directions are altered as part of the construction. Provide further detailed groundwater analysis with supporting documentation to ensure detrimental groundwater impacts are avoided and minimized as required by Env-Wt 313.03(8).
4. As stated and offered in the application, provide any updates in regards to meetings with local officials, Conservation Commissions or Local Advisory Committees that may have occurred since the application was submitted, and provide any available meeting minutes for NHDES review.
5. On October 1, 2020, NHDES received a letter of concern from the Ammonoosuc River Local Advisory Committee (LAC) (copy attached). Please address each of the LAC comments as part of your response to this request.
6. On October 11, 2020, NHDES received a letter of concern from the Bethlehem Conservation Commission (BCC) (copy attached). Please address each of the BCC comments as part of your response to this request.
7. On November 18, 2020, NHDES received a letter with comments from the Dalton Conservation Commission (DCC) (copy attached). Although the DCC did not raise specific concerns with the application, they did express their trouble finding a reputable consultant to assist with the review and were limited in time on their response. NHDES recommends that you continue to coordinate directly with the DCC and incorporate any future recommendations in your response to this request.

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095

NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588

TDD Access: Relay NH 1 (800) 735-2964

8. To help NHDES better understand the local zoning issues for the existing Bethlehem facility and the proposed Dalton project and how these decisions relate to avoidance and minimization of wetland impacts on the Dalton site, provide NHDES with the approved zoning ordinances from both towns and explain how the current proposal demonstrates that Env-Wt 311.07 has been met, particularly when the Bethlehem facility expansion will have significantly less overall wetland impact.
9. Section 8 and Section 9 of the application materials states that 17.49 acres of wetland will be impacted, however the application fee was based on 17.57 acres. In addition, the Siting, Evaluation and Minimization Report in Section 7 done by CMA Engineers lists 16.8 acres of total wetland impact. Please explain the discrepancies.
10. Review of the Phase 1-A historical assessment in Section 11 by Victoria Bunker, Inc. recommended that continued Phase 1-A on-site surveys are necessary to be conducted on the property. Please provide an update of the additional on-site surveys as well as any addition correspondence with NH Division of Historical Resources regarding the historical assessment pursuant to RSA 227-C:9.
11. Review of the existing conditions plan indicates that there are many existing roads on the property, some more recently constructed, that cross wetlands and streams; however, NHDES does not find records of permits in these areas. If there are unpermitted wetland impacts on the property, then a full wetland delineation for disturbed areas should be completed to fully assess any unpermitted wetland impacts per the federal delineation method as defined by Env-Wt 103.02 (see methods for atypical and difficult wetland situations). These areas should be labeled on the plans as such, and the application summary should be updated to reflect these additional impacts or restoration as necessary, as well as providing any additional application fees that may be required.
12. Areas of the property East of Douglas Drive do not appear to be fully assessed for a potential phase of the proposal, and a wetland delineation was not completed in this area. Please identify any wetland resources on this portion of the property to see if further avoidance and minimization can be achieved by relocating a phase of the project in this area per Env-Wt 311.07.
13. Similar to the above comment regarding demonstrating avoidance and minimization of wetland impacts as outlined in Env-Wt 311.07, it appears that the project could be located further upslope to the North reducing the overall wetland impact. Additional avoidance measures should be assessed for the entire 1,900-acre property to ensure this rule has been met.
14. It appears that finish grades of the landfill will be higher in elevation than the height of land (drainage divide) towards Forest Lake and Forest Lake State Park. Visual and aesthetic impacts must be further assessed in detail per RSA 482-A:1 as these impacts could “eliminate, depreciate or obstruct the commerce, recreation and aesthetic enjoyment of the public”.
15. As highlighted in the Archeological Report by Bunker dated July 2020, Forest Lake State Park is one of New Hampshire’s 10 original state parks, constituting 397 acres, which was built by the Civilian Conservation Corps (CCC) in 1935. The CCC cut ski trails between the top of Dalton Mountain and the shores of Forest Lake within Forest Lake State Park, and Dalton Mountain played a supporting role in the growth of regional recreation, as ski trail maps from 1934-1935 shows the location of Dalton Mountain and other ski slopes throughout the state. Further, the Ammonoosuc River LAC comment letter highlights the current day outdoor recreation and tourism that occurs in this region. Given the extensive recreational history and the current recreational use of Forest Lake State Park and the Ammonoosuc River, a response should be provided in greater detail whether impacts from this project could “eliminate, depreciate or obstruct the commerce, recreation and aesthetic enjoyment of the public” as outlined in RSA 482-A:1.
16. It is not clear how the downstream high-value Alder Brook wetland complex (which was previously considered for prime wetland designation by the Town of Dalton) and ultimately the Ammonoosuc River’s water quality will be protected if treatment of landfill runoff fails or if the landfill liners develop leaks over time. Downstream wetlands and surface waters should be monitored long term to protect from contaminants and pollution, and to ensure that these resources are protected pursuant to RSA 482-A:1. It should be noted that there are also downstream

communities that depend on the Ammonoosuc River as a drinking water source, so it is imperative that these issues are addressed as part of the project.

17. Review of Grading Sheet C401A, as required to be submitted under Env-Wt 311.05, found the following errors that should be addressed:
 - a) Wetland impacts for road grading near DMH-27 were not included on the Wetland Impact Plan (Sheet 6).
 - b) Wetland impacts for closed drainage between DMH-4 and DMH-26 were also not included on the Wetland Impact Plans. These areas should be included in the application along with any additional fees that may be necessary.
18. Review of Grading Sheet C401-B found the following issues:
 - a) A small area of wetland impacts (247 square feet) for slope grading could be avoided or eliminated by installing a knee wall in this location.
 - b) Wetland impacts near HW-13 do not match with the Wetland Impact Plan on Sheet 12. This impact area could be reduced in scope given the limited grading needed at this location.
 - c) Wetland impacts could be further reduced with the use of retaining walls North of HW-8 near grade line 1120 in 2 locations (before and after the pond entrance road).
 - d) NHDES recommends that roadway station numbers be added the grading plans to better help identify these areas.
19. Review of Grading Sheet C402 found that there are many side slope wetland fill areas that could be eliminated by installing retaining walls in several locations. Please address these areas in your response.
20. Review of Grading Sheet C403-B found that there are proposed wetland impacts for stormwater ponds in 2 locations which is not allowed per Env-Wt 524.04(b). Also, stormwater Pond 31 has a similar wetland impacts. Please revise the plans to eliminate these wetland impacts.
21. Review of Grading Sheet C404A found that wetland impacts are shown for a diversion swale for stormwater conveyance. Please relocate outside of wetlands per Env-Wt 524.04(b).
22. Review of Grading Sheet C404-B found that stormwater ponds dug below existing grade, which are adjacent to wetland areas, may drain the surrounding wetlands and cause impacts. Please address how the hydrology of these wetland areas will be maintained.
23. Review of the stream crossing proposal for an access road finds that the flood stage increases at the inlet by 3 feet over existing conditions during the 100-year storm, and flow velocities at the outlet increase by 9.74 feet per second (fps). A larger opening may be needed to ensure that upstream flooding and downstream scouring are avoided as part of this crossing, as this can be detrimental to aquatic organism passage. Please address this in your response.
24. The application states that the project does not impact habitats ranked as Tier 1 or Tier 2 as identified by the NH Wildlife Action Plan (WAP); however, review of the Wetland Permit Planning Tool (WPPT) finds that there are indeed Tier 2 habitats that fall within the project area which are described as the "Highest Ranked Habitat in the Biological Region". Please update the wetland application and forms accordingly, and overlay the project's limits of disturbance on the WAP maps to clearly show where the project impacts will occur, and how the project avoids these important areas as described in RSA 482-A:1 and Rule Env-Wt 313.03(b)(2).
25. Provide written permission from NH Department of Transportation (NHDOT) for those portions of the project that occur within the NHDOT right-of-way along NH Route 116 pursuant to RSA-A:11, II.
26. The review of on-site and off-site mitigation options was conducted and resulted in two parcels under consideration for preservation. The two parcels include upland buffer preservation of a 244-acre lot located west of the proposed landfill and 106 acres of land off of Trudeau Road in Bethlehem. NHDES has reviewed the parcels and note the following:
 - a) The 244-acre lot is located west of the proposed landfill and does not abut land that is subject to a conservation interest, a requirement to be met as noted in Env-Wt 803.06(a)(2). Due to the parcel's location on the

landscape, the long-term habitat value of the resources may not be sustainable overtime due to the uncertainty of adjacent activities. For this parcel to continue to be considered, it would be advised to determine abutting land uses and opportunities for future conservation efforts. This may include consulting with local conservation entities on their goals and determine if any future lands in the area will be protected so this parcel is not isolated.

- b) The 106-acre parcel consists of multiple lots added together which are located along the state designated, Ammonoosuc River. The parcel abuts White Mountain National Forest lands, consists of high value wildlife habitat, and may have the potential for habitat enhancement at the sand and gravel mining site. For this upland preservation effort to go forward, the following items would need to be provided:
- (1) Delineate wetlands within the proposed compensatory mitigation area and all contiguous wetlands and surface waters to be completed by a certified wetland scientist in accordance with Env-Wt 406.01.
 - (2) Include a functional assessment of the proposed mitigation site.
 - (3) Provide a date when a complete mitigation proposal will be submitted to the department.
 - (4) Document the current conditions which includes submittal of color photographs to illustrate important site features with location(s) noted on the property survey plan, including the location(s) of significant ecological features; existing impervious surfaces, including but not limited to buildings, structures, and trails; wells; power lines or pipelines; historic resources; and other improvements that will be in place at the time of the establishment of the compensatory mitigation area.
 - (5) Identify any existing encumbrances or restrictions on the property.
 - (6) Summarize the conservation goals in accordance with Env-Wt 804.
 - (7) Complete a baseline documentation report in accordance with Env-Wt 808.15.
 - (8) Describe how the property proposed for preservation will be legally protected in perpetuity. A letter noting the proposed grantee indicates that they will accept the easement or fee simple deed will be needed.
 - (9) A copy of the proposed conservation easement language or language noting conveyance of fee simple ownership or conservation easement which protects the conservation values in perpetuity, in accordance with Env-Wt 808.14.
 - (10) If protective measures already exist on the mitigation site(s), identify the existing protective measures and describe how the proposed additional measures would provide greater protection of the aquatic resources on the site(s).
 - (11) Submit a property survey plan in accordance with Env-Wt 808.11 that identifies the boundaries of the compensatory mitigation area.
 - (12) Submit a draft legal description of the compensatory mitigation area; and
 - (13) Submit a stewardship plan for the property that has been accepted by the conservation easement grantee.

27. Based on review of the impacts noted in the application materials, stream impacts have not been included in the Aquatic Resource Mitigation (ARM) Fund payment calculation. The permanent loss of 216 linear feet of perennial stream resources and 1,046 linear feet of intermittent streams needs to be included in the total calculation for mitigation payment. The square footage of these resources has been removed from the total so the impacts are not double counted. With these losses, the payment would result as follows:

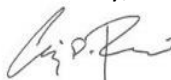
Wetland loss of 738,399 square feet of wetlands =	\$2,994,882.52
216 feet of perennial stream =	\$19,730.30
1,046 feet of intermittent stream =	\$286,637.47
TOTAL ARM Fund payment =	\$3,301,250.29

In addition, it should also be noted that NHDES received comments and questions from the North Country Alliance for Balanced Change, Save Forest Lake group, as well as numerous public comments from citizens in the region, which have all been reviewed and were considered as part of this request. For future public comments regarding this application, NHDES set up the following email address to receive this important public input at:
wetlandsapplicationpubliccomments@des.nh.gov

Please submit the required information as soon as practicable. Pursuant to RSA 482-A:3, XIV(a)(2), **the required information must be received by the NHDES Wetlands Bureau within 60 days of the date of this request, no later than January 17, 2021, or the Application will be denied.** Should additional time be necessary to submit the required information, an extension of the 60-day time period may be requested. In accordance with applicable statutes and regulations, the applicant is also expected to provide copies of the required information to the municipal clerk and all other interested parties.

Pursuant to RSA 482-A:3, XIV(a)(3), the NHDES Wetlands Bureau will approve or deny the Application within 30 days of receipt of all required information, or schedule a public hearing, as required by RSA 482-A or associated rules. If you have any questions, please contact me at craig.rennie@des.nh.gov or (603) 271-0676.

Sincerely,



Craig D. Rennie, CWS, CWB
Inland Wetland Supervisor
Land Resources Management

cc: Douglas Ingerson, Jr., JW Chipping
BH Keith Associates
Dalton Clerk/Conservation Commission
Bethlehem Clerk/Conservation Commission
Ammonoosuc River LAC
NHDES Rivers Program

ec: Lori Sommer, NHDES Mitigation Coordinator
Ridge Mauck, NHDES Alteration of Terrain
Tim Drew, NHDES Public Information Office
Rene Pelletier, NHDES Assistant Director, Water Division
Thomas O'Donovan, NHDES Director, Water Division
Michael Marchand, NHFG
Lindsey Lefebvre, ACOE
Beth Alafat, EPA
Amy Manzelli, North Country Alliance for Balanced Change
Jon Swan, Save Forest Lake
Tom Irwin, Conservation Law Foundation

CLF Exhibit 6



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

June 24, 2024

Granite State Landfill LLC
1855 Vermont Rte 100
Hyde Park VT 05655

**Re: Request for More Information – Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2023-03259
Subject Property: Douglas Drive, Dalton, Tax Map #406/1, Lot #406/2**

Dear Applicant:

The New Hampshire Department of Environmental Services (Department) Wetlands Bureau has reviewed the above-referenced Standard Dredge and Fill Wetlands Permit Application (Application) and determined the following additional information is required to complete its evaluation of the Application pursuant to RSA 482-A:3, XIV(a)(2) and Rules Env-Wt 100 through 900:

- 1- **Avoidance and minimization** - to demonstrate the least impacting alternative has been selected and to address concerns outlined by the Bethlehem Conservation Commission (BCC), Dalton Conservation Commission (DCC), and Ammonoosuc Local River Management Advisory Committee (LAC), please address the following: [Env-Wt 311.06(h), Env-Wt 311.06(i), Env-Wt 313.03, and Env-Wt 524.02(b)]
 - a. *Offsite alternatives analysis* – as commented in the DCC and LAC reports, several options appear to be potentially viable as offsite alternatives providing the same capacity. Please provide maps that depict specific site restraints and other unsuitable conditions referenced in Section 7, part 1 of 2 of the application to support the assertion that the proposed site is the least impacting alternative location for a landfill of the requested capacity. Specifically: [Env-Wt 524.02]
 - i. Massachusetts – the alternative analysis includes only a narrative of unsuitability for sites considered in Massachusetts. Please:
 1. Provide maps to demonstrate site restraints and unsuitable conditions with the project footprint overlay.
 2. Revise the siting criteria to be consistent with the parameters also used for New Hampshire sites, as the siting criteria not affiliated with Massachusetts law (i.e., National Wetlands Inventory map, poorly drained soils, etc.) appears to be more restrictive and were not disqualified when considering New Hampshire sites.
 - ii. Shelburne, New Hampshire – the alternative analysis narrative indicates this site design would result in 15 acres of wetland impacts. However, the National Wetland Inventory (NWI) did not map wetlands within the vicinity of the conceptual landfill footprint. Please provide:
 1. Supporting documentation for the basis of the delineation interpretation.
 2. Demonstrate that the delineation interpretation of this alternative site was consistently used for other alternative sites.
 3. More detailed map(s) depicting proposed roads and site restrictions that results in unsuitability for the project location.

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588
TDD Access: Relay NH 1 (800) 735-2964

- iii. Carroll East, New Hampshire – a review of Figure 6 appears to have sufficient developable upland space if the landfill was reconfigured. Please:
 1. Provide map(s) that show alternative landfill footprints.
 2. Depict site restrictions with the project footprint overlay to demonstrate this is an unsuitable alternative.
 - iv. Carroll West, New Hampshire – avoidance and minimization of the site design appears achievable if the project footprint was located in available upland space. Please:
 1. Revise the map to depict Bog Brook in relation to potential impacts, if any.
 2. Include parameters that may be considered unsuitable.
 - v. Were other Public Solid Waste Districts and Host Communities considered in the offsite alternative analysis (e.g., Lebanon, Nashua, Conway, Eaton, etc.)? Please explain.
- b. *Aggregation* – please provide an overview of the future project plans that includes all lots for the overall development scheme to inform the assessment of avoidance and minimization. After-the-fact (ATF) impacts to be retained for the pre-cast concrete company roadway are outside the landfill project footprint and are indicative of a larger overall development scheme. As commented in BCC and DCC reports, there is both a concern regarding piecemeal of the application and expansion of the landfill. The Department is unable to assess compliance with avoidance and minimization requirements without an overall scheme of development for the lots in question. Please note that under RSA 482-A:11, V, the Department is required to consider a series of projects composing an overall scheme of development in the aggregate even if completed by multiple developers.
- c. *Onsite Analysis* – to demonstrate that the project has avoided and minimized wetland impacts to the furthest extent practicable and still maintain capacity, please address the following:
- i. Delineation – to demonstrate the landfill siting is in the least impacting location, please:
 1. Field delineate all jurisdictional boundaries in accordance with Env-Wt 406.02 and revise the Permitting Plan Set per Env-Wt 306.05(a)(1), Env-Wt 313.03, and Env-Wt 524.03(a)(3). The field wetland delineation boundary verification must include all wetlands within the overall project scheme (e.g., the future business park, the onsite compensatory mitigation site, the pre-concrete operation and associated roadway, offsite compensatory mitigation site, etc.). As commented in the BCC report, the assessment of the project’s avoidance/minimization of wetland impacts cannot be adequately assessed otherwise. [Env-Wt 306.05(a)(1)]
 - ii. Wetland Classification – per Env-Wt 406.06, the wetland classification of each wetland shall be identified on the plans. Please:
 1. Discretely divide wetland classifications where hydrophytic vegetation and landscape topography transitions (e.g., wetland boulder fields) per the Cowardin Classification method per Env-Wt 406.06. For example, a total of 24,695 square feet of PFO1E/4E is located at Impact Number 20-6. Section 8 of the application submittal indicates that wetter portions of this PFO1E/4E had hydrophytic vegetation changes suggesting a different Cowardin Classification class.
 2. Update wetland classifications, as areas that were previously identified as PSS may be more appropriately identified as PFO, such as sections of Wetland Impact Area 21-11 and 22-25.
 - iii. Functional Assessment – impacts to wetlands functions and values is identified as a concern by the DCC report and LAC report. To demonstrate the location of the proposed project will have the least impact to wetland functions, please:
 1. Classify, evaluate, and provide functional assessment sheets for each jurisdictional area to be impacted and proposed for compensatory mitigation. [Env-Wt 311.10(c), Env-Wt 311.07(b)(4), Env-Wt 313.03, Env-Wt 406.06, and Env-Wt 803.01]

2. Clarify and depict the acreage and limits of construction to inform impacts to the functions and values and demonstrate avoidance and minimization. The stated acreage figures for impacts vary within the application submittal. [Env-Wt 313.03 and Env-Wt 903.04]
3. Revise the functional assessment sheets to include: [Env-Wt 311.07, 311.10, and Env-Wt 313.03]
 - a. Principal functions and values for all wetlands and vernal pools part of the common scheme of development referenced above, including but not limited to the business park, and on the provided functional sheets (e.g., wetland ID 10-80, 11-C-500 and Sheet 4-J/c, 13-16-1, 13-17.18, 19-20.21.27.34.35.82.83.84, 20-14.22, 20-99, 21-3.13, 22-NN.PP.QQ, 22-SS-VV-WW, 31-68, 32-48.49.50, 33-52.53.54.55.56, 34-57, 34-58.59.60.61, 35-62, 35-68, 35-70.71.72, 8-38, 8-39 8-40, 9-T-601).
 - b. Corresponding wetland identification number on the Permitting Plan Set with the functional assessment sheets per Env-Wt 311.05(a)(22).
 - c. Wetland areas identified on Wetland Impact sheets 21 and 22 appear to be higher function-value wetlands and should be reflected on separate functional assessment sheets. Please identify principal functions including nutrient retention, groundwater recharge/discharge, nutrient removal/retention, wildlife habitat, endangered species, and/or floodflow alteration.
 - d. Narrative descriptions (p. 11 of the High Methodology) including unusual or noteworthy conditions. The “attachments to each form are recommended and should include a sketch of the wetland in relation to the surrounding landscapes, an inventory of vegetation and potential wildlife species, and a photo of the wetland. This additional information facilitates understanding functions and the subjective analysis of values.”
 - e. Demonstration of how the results of all (updated and new) functional assessments were used to select the location of the proposed project having the least impact to wetland functions.
- iv. Alternative Design Layout – per Env-Wt 313.03, jurisdictional areas must be avoided to the maximum extent practicable and unavoidable impacts must be minimized. Please explain why the following was not considered when the application was prepared: [Env-Wt 313.03 and Env-Wt 524.04(d)]
 1. Alternative landfill cell shapes, alignment, or reduction in the landfill footprint.
 2. An alternative entrance from the north/west to minimize impact area, as suggested in the DCC and BCC reports.
 3. Plan revisions to include additional culverts to connect wetland systems along Douglas Drive and ensure hydrologic connectivity (e.g., ATF impact areas 33-12, 33-13, 34-10, 34-11, 33-12 on sheets 33-I of the Wetland Impact Plans).
 4. Realignment of Douglas Road to result in the least impacting alternative, as commented in both the DCC and BCC reports, per Env-Wt 311.12.
 5. Reduction in surface area of the proposed riprap apron at PHW-12 on the Permitting Plan Set on sheet G&D-3.
- d. *Hydrologic Connectivity* – approximately half of the watershed boundary provided in Section 1 of the application is proposed to be filled. As commented in the BCC, DCC, and LAC reports, the downstream wetlands may be hydrologically connected to the wetlands proposed to be impacted. Please: [Env-Wt 313.03 and Env-Wt 524.04(d)]

- i. Provide analysis to demonstrate the project meets the hydrologic connectivity standard and provide the groundwater mapping information to address concerns regarding impacts to the functions and values of downstream wetlands.
 - ii. Explain and demonstrate if alternative landfill cell shapes, alignment, or reduction in the landfill disturbance footprint were considered to preserve as much of the watershed as practicable, prevent elimination of jurisdictional areas downstream, and ensure connectivity between resources without compromising the landfill capacity. As noted by the Earthforensics, Inc. report addressed to DCC dated February 20, 2024, the intermittent stream ultimately discharges into Alder Brook and the Ammonoosuc River. Fill over the seep identified as 16-140 GW Seep of the Horizons Engineering Existing Wetland Plans may result in elimination of resources downstream. Other design elements of the landfill footprint also appear to potentially eliminate surface water sources for other wetlands, including the wetland east of pond 13, where the hydrologic connectivity is not preserved.
 - iii. Add culverts or other connectivity passage mechanisms to ensure hydrologic connectivity with the jurisdictional resources disconnected by Douglas Drive, including but not limited to wetland systems identified on the Permitting Plan Set (Douglas Drive sheets DD-2 through Sheet DD-4) as follows:
 1. Wetland #1
 2. Wetland #3
 3. Wetland #7
 4. Wetland #10
 - iv. Upsize existing perched culverts identified on the Wetlands Impact Plans (sheets 1-2):
 1. Existing 12-inch culvert at wetland impact area 2-1
 2. Existing 12-inch culvert at wetland impact area 1-1
 3. Existing 15-inch culvert at stream impact area 2-2
 4. Existing 15-inch culvert at stream impact area 2-4
 - v. Identify all existing and proposed culverts on the revised Permitting Plan Set in response to this letter and ensure all culverts are adequately sized and meets criteria specified in Env-Wt 313.03, Env-Wt 311.05(a)(22), Env-Wt 524.04, and Env-Wt 904.01.
- e. *Protected Species and Habitat* – the BCC, DCC, and LAC reports include concerns pertaining to protected species and wetland dependent habitat. Per Env-Wt 524.04(e) and (f), the project must maintain wetland-dependent wildlife habitat and its associated migratory pathways, reproductive sites, and maintain fishery habitat or populations. To demonstrate the project impacts are the least impacting alternative, please:
- i. Provide correspondence from New Hampshire Fish and Game (NHF&G) and the NH Natural Heritage Bureau (NHB) indicating that final recommendations and their review is complete and revise the project accordingly per Env-Wt 311.01(b)(1). The DataCheck results letter identified areas of concern relative to protected species or habitats and correspondence appears to be ongoing.
 - ii. Identify and classify all exemplary natural communities, including bogs and fens, within the project vicinity in the Permitting Plan Set in plan view. As indicated in the GSL photo log provided to NHB (photo 10), bog(s) exist within the project vicinity. Per Env-Wt 102.29, “bogs” means a wetland distinguished by stunted evergreen trees and shrubs, peat deposits, poor drainage, highly acidic soil conditions, highly acidic water conditions, or any combination thereof.
 - iii. Identify all rare seepage forest/forest seep natural community types per Env-Wt 311.01(b)(1). As indicated by the NHB DataCheck letter, community types such as the northern white cedar seepage forest, northern hardwood seepage forest, larch-mixed conifer swamp, etc. may occur within the project location.
 - iv. Revise the construction sequence to include any recommendations by NH Fish & Game and NHB and that timing restrictions to address Env-Wt 307.

- f. *Geomorphic compatibility* – the BCC and LAC reports identify concerns regarding erosion and stream bank destabilization at the site, as well as sedimentation downstream in intermittent and perennial streams. All stream crossings shall be designed in accordance with Env-Wt 904.01. Please:
- i. Revise the provided stream crossing sheets to match the culvert identification numbers provided in the plans to determine if the proposed structures are geomorphically compatible per Env-Wt 313.03, Env-Wt 311.05(a)(22), Env-Wt 524.04(d), and Env-Wt 904.01.
 - ii. Implement design features to improve aquatic organism passage and the expected distance, in linear feet, of downstream and upstream improvement for aquatic organism passage or fish passage. [Env-Wt 903.04(h)]

2- **Compensatory Mitigation** – before the Department can approve a compensatory mitigation proposal, the avoidance and minimization criteria must be met per Env-Wt 313.01(a)(1)c. The compensatory mitigation proposed includes a combination of both in-lieu fee payment (ILF) payment and permittee responsible mitigation (PRM) including restoration activities and aquatic resource and buffer preservation on multiple parcels; however, additional information is required to determine if the proposed mitigation package satisfies Env-Wt 800. Please provide:

- a. General information required for a PRM proposal including:
- i. A baseline documentation report that describes current property conditions and includes color photographs taken in the absence of snow cover of the buffer area. [Env-Wt 312.04]
 - ii. A copy of the proposed conservation easement language or language noting conveyance of fee simple ownership which protects the conservation values in perpetuity, in accordance with Env-Wt 808.14. [Env-Wt 312.04]
 - iii. Data on the surrounding area, including: [Env-Wt 803.02]
 1. Land use;
 2. Soils;
 3. Habitat information from the NHF&G WAP;
 4. Critical habitats and populations of the state’s species of conservation and management concern and whether there are any rare, special concern, or state or federally listed threatened or endangered species present, including any flora, fauna, or migratory species; and
 5. Exemplary natural communities and natural community systems identified by NHB.
 - iv. Location of the site to be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust). [Env-Wt 803.01(d)]
 - v. Functional assessment sheets of the proposed mitigation site(s) per Env-Wt 803.01(f) and Env-Wt 803.02. Given that one of the proposed mitigation sites is located directly downstream of the proposed landfill, please clarify how the functions and values of the wetlands will be maintained and how the downstream hydrology and ecological integrity will be impacted by the elimination of upgradient jurisdictional resources.
 - vi. Summary of the proposed measures specified in Env-Wt 803.02(b), Env-Wt 803.03, and Env-Wt 803.04. [Env-Wt 803.01(i)(2)]
 - vii. Explanation of why the mitigation project will result in a resource with overall functions and values equal to or greater than the jurisdictional areas impacted by the project. [Env-Wt 803.02(b)(7) and Env-Wt 805.01(a)]
 - viii. Demonstration that the compensatory mitigation plan meets or exceeds the ratios listed in Table 800-1, relative to the amount of impacted jurisdictional areas for permittee-responsible mitigation (other than for stream impacts). [Env-Wt 803.08]

- ix. Identification of any existing encumbrances or restrictions on the property(ies). [Env-Wt 803.01(h)(2) and Env-Wt 808.14(b)]
- x. Survey(ies) and legal descriptions of compensatory mitigation area(s). [Env-Wt 313.04]
- xi. A detailed account of the compensatory mitigation recommendations by BCC and DCC, such as a copy of the meeting minutes. [Env-Wt 803.01(k)]
- xii. A detailed account of the recommendations, if any, provided by the local river management advisory committee pursuant to RSA 483:8-a. [Env-Wt 803.01(l)]
- b. Compensatory mitigation in the form of Aquatic Resource Buffer Preservation that meets criteria established in Env-Wt 804 and includes: [Env-Wt 803, Env-Wt 804, Env-Wt 805, and Env-Wt 806]
 - i. Identify an entity to hold conservation interest(s). [Env-Wt 804.04(f)]
 - ii. A statement from the landowner or prospective seller that it is willing to transfer the property, and proposed grantee indicating that the proposed grantee will accept the easement or fee simple deed. [Env-Wt 312.04]
 - iii. A project timeline for conservation interest implementation and intent to meet criteria outlined in Env-Wt 804, Env-Wt 311.08, and Env-Wt 312.04.
 - iv. Delineations of aquatic resource areas and boundaries completed by a Certified Wetland Scientist per Env-Wt 804.04(d)(1).
 - v. A copy of the proposed conservation easement language or language noting conveyance of fee simple ownership which protects the conservation values in perpetuity, in accordance with Env-Wt 808.14. [Env-Wt 804.04(e)]
 - vi. Submit a draft legal description of the compensatory mitigation area(s) (Env-Wt 804.04
 - vii. Stewardship plan for how the property(ies) will be managed and monitored by the easement holder(s). [Env-Wt 808.16]
 - viii. Summary of the conservation goals in accordance with Env-Wt 804.
- c. Compensatory mitigation in the form of Wetland Restoration, Enhancement or Creation Mitigation proposals must meet criteria established in Env-Wt 803 and includes: [Env-Wt 803.02 and Env-Wt 803.03]
 - i. A report that identifies restoration and enhancement components in plan view and addresses:
 - 1. How the proposal creates hydrologic conditions or connections that will produce the desired wetland functions or values to be restored or created. [Env-Wt 803.02(b)(2)]
 - 2. How the site meets the selection criteria stated in Env-Wt 805.02. [Env-Wt 803.02(b)(6)]
 - 3. Predominant functions to be created, restored, or replaced. [Env-Wt 803.01(i)(1)]
 - ii. The source of wetland hydrology for the proposed mitigation area to confirm that the site has a suitable geomorphic setting for aquatic resource restoration, enhancement, or creation. [Env-Wt 805.02(c)]
 - iii. How the proposal creates vegetative, soil, and hydrologic conditions or land connections that will produce the desired wetland functions and values to be restored, enhanced, or created. [Env-Wt 805.02(d)]
 - iv. How the proposal restores/creates hydrologic conditions for desired functions and values. [Env-Wt 803.02(b)(2)]
 - v. Wetland micro and macro topography in the proposal to achieve hydrologic diversity. [Env-Wt 805.02(e)]
 - vi. How the proposed wetland restoration, enhancement, or creation site will not be affected by anticipated secondary and cumulative impacts from the construction site. [Env-Wt 805.02(g)]
 - vii. The history of the mitigation project area, including a discussion on current logging operations per Env-Wt 805.02(h).

- viii. Stream mitigation information, if proposed, that includes: [Env-Wt 806.03]
 - 1. The length of the stream channel to be restored or enhanced, in linear feet;
 - 2. Information on the location of the stream impact or mitigation plan in relation to critical habitats and populations identified in the wildlife action plan, and whether any lands are protected in the vicinity of the mitigation site(s);
 - 3. Information on the suitability of the mitigation site for cold water fisheries habitat, access to feeding, spawning, or natural dispersal for fisheries or wildlife;
 - 4. Proposed improvements for aquatic organism passage, geomorphic compatibility, or hydraulic capacity;
 - 5. Proposed improvements to restore or enhance riparian or associated aquatic resource function(s), including the percent of the area within 100 feet laterally in an outward direction from each stream bank along the length of the stream bank that will be restored or otherwise improved;
 - 6. A description of the hydrology necessary to support the desired stream type, including stream flow, location in the watershed, watershed size, water source, and salinity for tidal water; and
 - 7. A description of the existing versus proposed substrate type, source material, and material size.
 - ix. A monitoring program throughout the landfill's life, as requested by BCC and DCC reports, and specifies: [Env-Wt 803.04 and Env-Wt 803.01(m)]
 - 1. Performance standards for the mitigation project.
 - 2. A description of monitoring that will be conducted following construction of the mitigation project, by identifying how the monitoring will be accomplished, how long the monitoring program will span, and whether and how the monitoring will change as the project begins to achieve the established performance standards.
 - 3. The name, daytime telephone number, and email address, if any, of the certified wetland scientist or qualified professional, as applicable, who will be responsible for conducting the monitoring and assessing whether the mitigation project has met the specified performance standards.
 - 4. The measures that will be taken during construction and after completion of the project for which the permit is being sought to promote success of the mitigation project.
 - 5. How the Department will be informed of the condition of the mitigation project over time (e.g., written annual reports).
 - 6. The monitoring period in accordance with Env-Wt 807.05.
 - x. Consideration of vernal pool creation, as specified in Env-Wt 805.01, to offset vernal pool impacts.
 - xi. Connections to wetlands, surface waters, or associated upland wildlife and vegetated corridors to *enhance* the wetland or surface water use and colonization by native flora and fauna. As currently proposed, the landfill footprint appears to result in a disconnection to wetlands and surface waters downstream of the landfill footprint and does not meet the criteria for site selection. [Env-Wt 805.02(b)]
- d. For the in-lieu mitigation, please provide information required by Env-Wt 803.02 or Env-Wt 803.03 per Env-Wt 803.05. An in-lieu mitigation payment shall not substitute for the requirement to avoid or minimize impacts established in Env-Wt 313.03 per Env-Wt 803.10.
- Per Env-Wt 803.01(c), after consultation with the Department in accordance with Env-Wt 311.02 and the US Army Corps Engineers in accordance with Env-Wt 803.08(c), an applicant shall demonstrate that the in-lieu fee payment amount has been calculated as specified in accordance with Env-Wt 803.07 and/or the permittee-responsible mitigation, through evidence and documentation, have met the requirements of Env-Wt 803.*

- 3- **Application Package** – A review of the Section 11 of Form NHDES-W-06-012 (Section 11), Army Corps of Engineers application, and Water Quality Certification application revealed discrepancies between the square footage and linear footage of impacts. Please clarify and update Section 11, as needed, to calculate all surface water impacts in linear feet and square feet for all temporarily disturbed and permanently impacted areas and provide the revised permit processing fee, as applicable. [Env-Wt 311.03(b), Env-Wt 311.04, and Env-Wt 903.02]

- 4- **Wetland Impact Depiction and Tabulation** – please account for omitted jurisdictional impacts (temporary, permanent, ATF impacts in square feet and linear feet, as applicable) for the following areas and/or revise the project plans to further avoid and minimize impacts:
 - a. Missing wetland impact area flagged in the field located between Impact Area 22-26 and Impact Area 22-17 of the Wetland Impact Plans located approximately at 44.34765, -71.69185 degrees.
 - b. Potential vernal pool impacts not identified and located within Impact Area 22-25, 22-6, and 22-1 and potential expansion of vernal pool 7 on the Wetland Impact Plans. NHDES staff identified vernal pool indicators, such as salamander egg masses and caddisfly larvae. Please field verify the presence of vernal pools within the entirety of the project development scheme per Env-Wt 406.02(b)(4) and Env-Wt 406.02(d).
 - c. Culvert headwalls, such as:
 - i. PHW-46 on Sheet G&D-2 of the Stormwater Ponds Grading and Drainage Plan 1.
 - ii. PHW-37 on Sheet G&D-3 of the Stormwater Ponds Grading and Drainage Plan 2 and DD-10 of the Douglas Drive Plan and Profile Sheet 9.
 - iii. PHW-38 on sheet DD-9 of the Douglas Drive Plan and Profile Sheet 8 and DD-10 of the Douglas Drive Plan and Profile Sheet 9.
 - d. Stone outlet protection, such as:
 - i. Stone outlet protection southwest of Pond 6 on Sheet G&D-3 of the Stormwater Ponds Grading and Drainage Plan 2.
 - ii. Outlet protection associated with DDP2 on Sheet DD-4 of the Douglas Drive Plan and Profile Sheet.
 - e. Existing ATF concrete culverts identified on sheet DD-11 of the Douglas Drive Route 116 Plan Sheet 1.
 - f. Clearing and erosion control devices, such as:
 - i. The perimeter of Pond 5 on Sheet G&D-3 of the Stormwater Ponds Grading and Drainage Plan 2.
 - ii. Clearing limits identified west of Pond 7 and south of Douglass Drive and impacts proposed east of Pond 9 on Sheet G&D-3 of the Stormwater Ponds Grading and Drainage Plan 2.
 - iii. Clearing limits and erosion control devices east and west of Douglas Drive of the Douglas Drive Plan and Profile Sheet 3-4.
 - iv. Clearing limits and erosion control devices for the pond identified on Sheet DD-9 of the Douglas Drive Plan.
 - v. Erosion control devices north of Douglas Drive on Sheet DD-11 of the Douglas Drive Route 116 Plan Sheet 1.
 - g. Riprap located north of Douglas Drive on Sheet DD-12 of the Douglas Drive Route 116 Plan Sheet 2.
 - h. Temporary Impact Area 9-1 located within an area of fill should be considered as a permanent wetland impact on Sheet 9-I of the Wetland Impact Plan.
 - i. Adjust discrepancies between the AoT proposed wetland impacts and the wetland impacts proposed with this Application, as indicated in the BCC reports.

- j. Douglas Drive ATF impacts that resulted in dissection of hydrologically connected jurisdictional areas, including the following impact areas on the Wetland Impact Plans:
 - i. 31-3 and 31-1 (sheet 31)
 - ii. 8-6 and 8-7 (sheet 8)
 - iii. 8-4 and 8-3 (sheet 8)
 - iv. 23-7 and 23-6a (sheet 23)
 - v. 22-13 and PSS/PFO (sheet 22)
 - vi. Wetland flags C-81 through C-83 and wetland flags 16-13 through 16-18 (sheet 13-l)
 - vii. Impact 13-4, Wetland flags 16-294 through 16-5, and PEM1E wetland (sheet 13-l)
 - viii. PEM1Edx and wetland flag 16-307 (sheet 13-l)
 - ix. 2-1 fill located within marsh (sheet 2)
 - x. 2-3 and 2-4 (sheet 2)
- k. The woods road bisecting wetland impact areas 21-18, 22-11, and 22-27; 21-28 and 22-6; and 22-25 and 23-2. These areas appear to be hydrologically connected based on NHDES field review of the area, including hydrophytic vegetation, hydrologic indicators, and aerial imagery. These areas may be more appropriately delineated as connected, or if they no longer exhibit the three wetland parameters, may be considered as ATF impacts.
- l. The watercourse identified within Impact Area 20-7, located approximately at 44.35279, -71.691349 degrees.
Please update the Permitting Plan Set and label and shade the areas of proposed impact, impact type, impact area (square feet for all jurisdictional areas and linear feet for watercourses), revise Section 11, and provide the revised permit processing fee. [Env-Wt 311.03(b), Env-Wt 311.04, Env-Wt 311.05(a)(18), and Env-Wt 803.01(a)]

5- **Permitting Plan Set** – on a single master permitting plan set to clearly delineate, describe the project, and provide project specific information per Env-Wt 311.05(a)(22), please revise the Permitting Plan Set to include:

- a. **General plan details**
 - i. The name of each owner of the subject property as of the date the application is prepared. [Env-Wt 311.05(a)(2)]
 - ii. The tax map, block, unit, and lot number of each parcel in the subject property. [Env-Wt 311.05(a)(3)]
 - iii. The name and professional license number of the individual responsible for each portion of the plan, such as the wetland delineation and survey. [Env-Wt 311.05(a)(5), Env-Wt 311.05(a)(14), and Env-Wt 311.05(b)(2)]
 - iv. Stamp of the surveyor to subdivide the existing gravel pit from the proposed landfill. [Env-Wt 524.03(a)(2)]
 - v. The scale of the plan with a graphical scale bar on all plan sheets. [Env-Wt 311.05(c)(1)b.]
 - vi. All existing and proposed easement boundaries, including drainage and maintenance access easements, in relation to the property lines of the subject property. [Env-Wt 311.05(a)(7)]
 - vii. Overlay of the existing and proposed final contours at intervals no greater than 2 feet in all areas to be disturbed, including but not limited to the proposed stone outlet protection and outfalls of the sedimentation basins. [Env-Wt 311.05(a)(17), Env-Wt 311.05(a)(22), and Env-Wt 524.03(3)]
 - viii. All roadways in plan view and individual sheets that depicts the footprint, as it appears that the ATF impacts west of the landfill footprint proposed to be retained have not been included in the Douglas Drive Plan and Profile Sheet of the Permitting Plan Set per Env-Wt 311.05(a)(10). Please include existing and proposed culvert dimensions for these areas to ensure hydrologic connectivity. [Env-Wt 311.05(a)(10) and Env-Wt 524.04(d)]

- ix. Work sequence, relative timing, and proposed seed mix on the plans pertaining to temporary impacts and restoration per Env-Wt 307.12 and Env-Wt 311.06(d). Please update the construction sequence to per Env-Wt 311.03(b)(7) to provide the method, timing, and manner as to how your project will meet the standard conditions in Env-Wt 307.
 - x. Existing conditions, including but not limited logging operations; active sand and gravel mines; drag strip; rock quarry; commercial pre-cast concrete operation; all roadways including those through the proposed onsite compensatory mitigation site and pre-cast concrete operation; and location of the asphalt plant previously operated and since removed. [Env-Wt 311.05(a)(10)]
- b. Jurisdictional area plan details**
- i. An overview of the subject property and proposed impact areas in relation to property lines. [Env-Wt 311.05(a)(6)]
 - ii. All ground water seeps, as iron flocs identified during the June 6, 2024 NHDES inspection suggest a potential ground water seep at Wetland impact Area 22-6 (approximately 44.3496701, -71.691349 degrees). [Env-Wt 311.05(a)(22)]
 - iii. Consistent shading of jurisdictional impact areas in plan view on all sheets per Env-Wt 311.05(a)(18) and Env-Wt 311.05(a)(22). For example, Sheet LP-1 depicts the base grading plan and includes a legend for permanent and temporary impacts, but the plan view does not include the shading of those impacts in plan view.
 - iv. Location and number of the individual wetland boundary markings for all wetlands located within the project area in overlay. [Env-Wt 306.05(a), Env-Wt 311.05(13), Env-Wt 311.05(b)(1), Env-Wt 524.03(a)(3)]
 - v. Graphically depicted and labeled ordinary high water mark per Env-Wt 406.04.
 - vi. Graphically depicted and labeled limit of banks for perennial stream(s). [Env-Wt 406.04(a)]
 - vii. The Cowardian classification for each jurisdictional area, including all streams, and separate lumped existing classifications (e.g., PFO and PSS) based on differentiation physical structure of the wetlands or stream systems and breaks in vegetative communities in landform or variation in soil characterization as described by the federal method per Env-Wt 406.06.
 - viii. Notes that specify the date(s) on which the wetlands delineation was performed and delineation methodology. [Env-Wt 311.05(b)(5)]
 - ix. The wetland classifications overlay the grading and drainage plans. [Env-Wt 311.05(a)(22)]
 - x. The impact areas identified and labeled separately in square feet for each jurisdictional area, including streams, wetlands of different Cowardin classifications, and vernal pools per Env-Wt 311.05(a)(10), Env-Wt 311.05(a)(13), Env-Wt 311.05(a)(22), and Env-Wt 311.04(j). Please also include the linear feet of stream impacts per Env-Wt 311.04(g). The NHDES staff recommend providing a table on the plans to clarify this information. Please note impacts must be consistent with those impacts tabulated on Section 11.
 - xi. Label all wetland impacts with an identification that corresponds to the functional assessment sheets and match the Wetland Impact plans by Horizons Engineering. [Env-Wt 311.05(a)(22)]
- c. Stream and wetland crossings plan details**
- i. The size of the culvert crossing under the maintenance access drive to the pond (structure PHW-37) at Pond 11, as shown on Sheet LP-1 of the grading and drainage plans per Env-Wt 311.05(a)(10)
 - ii. The footprint, location, dimensions and inlet and outlet elevations of all existing, proposed, and ATF culverts to be retained, consistent with the Wetland Impact Plans provided with the proposed conditions for ATF impacts per Env-Wt 311.05(a)(10), Env-Wt 311.05(a)(22) and Env-Wt 903.04.
 - iii. Cross-sections showing the water surface elevation resulting from the 50-year storm event for all proposed stream crossings and stream crossings to be retained. [Env-Wt 903.04(b)(7)]

- iv. The dewatering system, and information specified in Env-Wt 903.04(d).

d. Mitigation plan details

- i. A surveyed plan showing the location of the proposed conservation area boundaries, wetland boundaries, and the separate acreage of wetlands, streams, and vernal pools located within the conservation area boundary. [Env-Wt 312.04, Env-Wt 311.04(g), Env-Wt 311.05(a)(22)]
- ii. The location and number of the individual wetland boundary markings. [Env-Wt 311.05(b)(1) and Env-Wt 312.04]
- iii. All existing easement boundaries and utility right-of-way boundaries footprint in square feet. [Env-Wt 311.05(a)(7) and Env-Wt 311.05(a)(10)]
- iv. Construction procedures and timing of the proposed work pertaining to the compensatory mitigation sites. [Env-Wt 803.02(b)(4) and Env-Wt 805.03(b)]
- v. Acreage and dimensions of the existing gravel road. [Env-Wt 311.05(a)(10) and Env-Wt 311.05(a)(22)]
- vi. Description of erosion controls to be installed and details to minimize or prevent sediment from entering adjacent, undisturbed wetlands or surface waters. [Env-Wt 803.02(b)(5) and Env-Wt 805.03(e)]
- vii. An invasive species control plan and location of invasive species in the vicinity. [Env-Wt 803.02(b)(5), Env-Wt 805.03(f), and Env-Wt 805.03(g)]
- viii. The location of the mitigation site relative to other protected lands. [Env-Wt 803.02(b)(6)]
- ix. Existing and proposed grades. [Env-Wt 803.02(b)(3) and Env-Wt 805.03(a)]
- x. Predicted water fluctuations. [Env-Wt 803.02(b)(3) and Env-Wt 805.03(a)(1)]
- xi. Proposed wetland cover types. [Env-Wt 803.02(b)(3)]
- xii. A planting proposal, with preference given to native wetland plants and natural communities as follows: [Env-Wt 803.02(b)(5) and Env-Wt 805.03]
 - 1. Plant species with scientific names and quantities provided;
 - 2. Source of planting materials or whether the plan relies on natural re-vegetation;
 - 3. Plant stock site and zones of predicted plant occurrence;
 - 4. Plant survival goals;
 - 5. The proposed locations of native plant stock and the rate and type of seeding;
 - 6. When and where seeding or planting will take place; and
 - 7. Notation of dead snags, tree stumps, or logs per acre, where appropriate, to provide structure and cover for wildlife and food chain support.
- xiii. Documentation of existing and proposed soils as follows: [Env-Wt 803.02(b)(5) and Env-Wt 805.03(d)]
 - 1. The existing soils on the proposed project site;
 - 2. The source of soils to be placed on the site;
 - 3. The likely seed bank composition of soils;
 - 4. The depth of proposed growing medium; and
 - 5. The soil properties such as texture and organic content.
- xiv. Plan notes that identify a list of activities that will be allowed and not allowed within the project area. [Env-Wt 805.03(h)]
- xv. Stream mitigation information, if proposed, that includes:
 - 1. The length of the stream channel to be restored or enhanced, in linear feet. [Env-Wt 806.03]
 - 2. Existing and proposed channel forms including both cross section and profile. [Env-Wt 806.04(a)]
 - 3. Channel width and length of reach. [Env-Wt 806.04(b)]

4. Sediment transport model and the reference reach. [Env-Wt 806.04(c)]
 5. Construction procedures, sequence, and timing. [Env-Wt 806.04(d)]
 6. A planting proposal, with preference given to native plants and natural communities as required in Env-Wt 805.03(c). [Env-Wt 806.04(e)]
 7. Information on the floodplain, including the level of connectivity between the stream and the floodplain, the permanence of coarse woody material in the floodplain, and the width of the floodplain. [Env-Wt 806.04(f)]
 8. Erosion control specifications to prevent sediment from entering adjacent, undisturbed wetlands or surface waters. [Env-Wt 806.04(g)]
 9. If any invasive plant species are within 100 feet of each stream bank, identification of the type and location of the species and an invasive species control plan. [Env-Wt 806.04(h)]
 10. Photographs of the channel, banks, and side slopes. [Env-Wt 806.04(i)]
 11. A list of activities that will be allowed and not allowed within the mitigation area. [Env-Wt 806.04(j)]
- 6- **After-the-fact (ATF) jurisdictional impacts** – the application requests to retain ATF jurisdictional impacts, specifically along Douglas Drive. During the June 4 through June 6, 2024 inspection, NHDES staff observed several woods roads that were not discussed in the application regarding the history or regulatory status (ATF), and identified areas proposed to be retained that could be further avoided and minimized after the fact. Please provide: [Env-Wt 311.12 and Env-Wt 313.03]
- a. A report of existing conditions and a discussion of the history or regulatory status of all impacted areas, including: [Env-Wt 311.05(a)(6)a.]
 - i. Douglas Drive identified on Sheet 1 and Sheet 2 of the Wetland Impact Plans.
 - ii. The entrance sign pathway.
 - iii. Logging history and wood roads located within the landfill footprint.
 - b. A restoration plan for ATF impacts that could be further avoided and minimized such as: [Env-Wt 313.03]
 - i. The entrance sign pathway, as the Douglas Drive is proposed to be adjusted and upland space will be available for sign relocation.
 - ii. Impact area 34-10 (Sheet 34-I of the Wetland Impact Plan) in which the ATF impacts extend past the required area for regrading work.
 - iii. Wetland flags 60-8 through 60-10 (Sheet 34-I), as the existing roadway will be vacated in this location and is an opportunity for restoration.
 - c. Description of the restoration work sequence, relative timing, and proposed seed mix on the Permitting Plan Set, as commented in the DCC and BCC reports. [Env-Wt 307.12, Env-Wt 311.06(d), and Env-Wt 311.12(a)(3)]
 - d. A monitoring plan designed to ensure that the restoration is successful. [Env-Wt 311.12(a)(4)]
 - e. Revise the Permitting Plan Set to depict upsized diameters of the existing ATF culverts to ensure hydraulic capacity, hydrologic connectivity, and aquatic organism passage: [Env-Wt 313.03 and Env-Wt 524.04]
 - i. Impact 2-5, existing 15" culvert (R4UB3)
 - ii. Impact 2-2A, existing 15" culvert (R3UBH)
 - iii. Impact 2-1A, existing 12" (R3UBH)
 - iv. Impact 13-4, existing 15" (PEM/PSS)
 - f. All documents and requirements specified in Env-Wt 311.12(a) 1-5.

- 7- **Wetland Impact Plans** – please clarify:
 - a. The temporary crossing noted on sheet 23-I dimensions, purpose, and construction sequence. Please update the Permitting Plan Set to ensure clarity and consistency across all plan sets under review. [Env-Wt 311.05(a)(10) and Env-Wt 311.05(a)(22)]
 - b. The date each plan was originally prepared and the date of each revision. [Env-Wt 311.05(a)(4)]
 - c. A labeled north-pointing arrow that points true or magnetic north to indicate orientation. [Env-Wt 311.05(a)(11)]

- 8- **Wetland delineation** – a review of data sheets; LiDAR based terrain; the poorly drained soils and very poorly drained soils map provided to AoT; and the field inspection conducted on June 4 through June 6 indicated discrepancies with the delineated wetland boundaries. Please: [Env-Wt 406.01, Env-Wt 406.02, Env-Wt 406.04, and Env-Wt 406.06]
 - a. Provide additional documentation to justify the basis of the delineation, including the isolated wetland identified on Sheet 13. It appears wetland 18 connects to wetland 16 and 17 based on the poorly drained soils and dominant facultative wetland plant species (e.g., *Fraxinus Pennsylvanica* or commonly known as green ash) are occurring.
 - b. Where revisions are made, please ensure wetland, stream, and vernal pool identification, classification, and assessments are done and updated documentation correlates and corresponds throughout the revised application submission.
 - c. Provide consistent delineated wetland boundaries revised as a result of the field inspection with the USACE and NHDES staff on June 4 through June 6 of 2024 in plan view on the permitting plan set.

- 9- **Ownership** – please provide documentation of the legal interest in the subject property for the applicant, Granite State Landfill, per Env-Wt 311.06(f). As discussed on June 4, 2024, the landfill design is intended to be purchased by Casella, however, discussion on June 4, 2024 regarding the future business park located within the project boundary will be subdivided and later operated by Mr. Ingerson, the current owner.

- 10- **BCC and DCC reports** – per Env-Wt 311.06(h), please address each comment raised by the Bethlehem Conservation Commission and Dalton Conservation Commission in response to this request.

- 11- **Local river management advisory committee (LAC)** - please address each comment raised by the LAC (letter dated June 7, 2024) in response to this request per Env-Wt 311.06(i).

Please submit the required information as soon as practicable. Pursuant to RSA 482-A:3, XIV(a)(2), **the required information must be received by NHDES Wetlands Bureau within 60 days of the date of this request (no later than August 23, 2024), or the Application will be denied.** Should additional time be necessary to submit the required information, an extension of the 60-day time period may be requested. Requests for additional time must be received prior to the deadline in order to be approved. In accordance with applicable statutes and regulations, the applicant is also expected to provide copies of the required information to the municipal clerk and all other interested parties.

Based on NHDES review your project has greater than 5,000 square feet of non-tidal wetland impacts, stream work greater than 200 linear feet, and dredge and fill activity within vernal pool depressions. To ensure that you obtain permitting under the Clean Water Act, please contact the U.S. Army Corps of Engineers (USACE) at 1-978-318-8832, 1-978-318-8295, or by email at to see if additional mitigation may be required from the USACE.

Pursuant to RSA 482-A:3, XIV(a)(3), NHDES Wetlands Bureau will approve or deny the Application within 30 days of receipt of all required information, or schedule a public hearing, if required by RSA 482-A or associated rules.

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If you have any questions, please contact Emma Berger, Inland Section Supervisor, via email at Emma.Berger@des.nh.gov or by phone at (603) 271-3376.

Sincerely,



Emma Berger
Inland Wetland Section Supervisor
Land Resources Management, Water Division

cc: Douglas Ingerson, Jr., J.W. Chipping
Barry Keith, B.H. Keith Associates
Bethlehem Municipal Clerk/Conservation Commission
Dalton Municipal Clerk/Conservation Commission
Ammonoosuc River Local Advisory Committee
Horizons Engineering, Inc.
Sanborn Head & Associates

ec: NHDES Rivers Program

CLF Exhibit 7

2021 - 2022 Biennial Solid Waste Report

Published December 2023

Prepared by the New Hampshire Department of
Environmental Services



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Table of Contents

I. Introduction	1
II. Generation of Solid Waste in New Hampshire.....	1
III. Disposal of Solid Waste in New Hampshire	2
Summary of Disposal Data	2
Table 1. Solid Waste Disposed in New Hampshire 2020 – 2022	2
Table 2. Disposal of NH-generated Waste, Normalized Per-Capita	2
Table 3. Breakdown of Total Tons Disposed by Waste Type.....	3
Disposal of MSW and C&D Compared to Disposal Reduction Goal	3
Table 4. Disposal of MSW and C&D Compared to 2018.....	3
IV. Diversion of Solid Waste in New Hampshire	4
V. Projected Solid Waste Disposal Need and Disposal Capacity.....	4
Table 5. Projected Waste Disposal Need & Capacity for New Hampshire (2023 - 2043)	5
Projected Waste Disposal Need	5
Projected Waste Disposal Capacity	6
Table 6. Active New Hampshire Disposal Facilities, Listed by Earliest Anticipated Closure Date	7
Assessment of Waste Disposal Need Relative to Waste Disposal Capacity.....	7
VI. State and Regional Trends in Solid Waste Management	8
Trends in New Hampshire	8
Regional Trends	11
VII. Congressional Actions and Court Rulings	12
Congressional Actions	12
Court Rulings	13
VIII. NHDES’ Solid Waste Programs and Ongoing Efforts.....	13
NHDES’ Solid Waste Programs	13
Recent Accomplishments and Ongoing Program Efforts	14
Other Organizations Involved in Solid Waste Management	15
IX. Solid Waste Management Plan.....	15
X. Solid Waste Management Fund.....	16
XI. Conclusions and Recommendations.....	16
Appendix A: Organizations Involved with Solid Waste Management	18
State/Local Organizations	18
Regional and National Organizations	20

I. Introduction

Pursuant to NH RSA 149-M:29, II, the New Hampshire Department of Environmental Services (NHDES) has prepared this document to report on New Hampshire's progress toward reaching the solid waste disposal reduction goal established in RSA 149-M:2 and provide additional information required by the statute, including a summary of recent activities undertaken by NHDES' Solid Waste Management Bureau.

This report covers data and information from the previous two calendar years, namely 2021-2022. Readers of prior Biennial Solid Waste Reports may note that this reporting period overlaps by one year with the last Biennial Report, which also included information for 2021. Going forward, these reports will follow a consistent two-year lookback to avoid further discrepancies in reporting periods.

II. Generation of Solid Waste in New Hampshire

NHDES does not specifically track solid waste from the point of generation. Instead, NHDES regulates the management of solid waste at permitted solid waste facilities within the state. This only provides NHDES with data on wastes managed at these facilities and does not capture all solid waste actually generated within the state. For example, some industrial, commercial or institutional generators may use waste hauling services that directly transport refuse and recycling to destinations outside of New Hampshire. Further, there is an indeterminable quantity of waste that is generated but never reaches a permitted solid waste facility because it is managed at the site of generation, such as through home composting, or is diverted directly to reuse (for instance, donation).

According to 2018 estimates from the United States Environmental Protection Agency (EPA), U.S. consumers generate an average 4.9 pounds of municipal solid waste (MSW) per person per day.¹ It should be noted that because this figure only considers generation of MSW, it does not account for generation of other types of solid waste such as construction and demolition debris (C&D), industrial wastes and contaminated soils.

NHDES estimates that in 2022, approximately 2.1 million tons of solid waste were generated in New Hampshire, equating to a generation rate of 8.3 pounds per person per day (1.5 tons per person per year). In contrast to the EPA estimate cited above, this figure is intended to provide a more comprehensive estimate of solid wastes generated in the state. It is based on data for New Hampshire-generated waste disposed in landfills and incinerators or used as "alternate daily cover,"² estimates of wastes exported out-of-state for disposal, as well as best-available data for wastes diverted from disposal via recycling, or other methods (including composting, C&D processing and treatment of contaminated soils).

¹ United States Environmental Protection Agency. [National Overview: Facts and Figures on Materials, Wastes and Recycling](#).

² Alternate daily cover describes certain waste-derived substances that landfills may use instead of virgin soils to cover exposed solid waste at the end of each working day. For the purposes of estimating New Hampshire's total waste generation, NHDES included materials used as alternate daily cover because in practical terms such materials are wastes that would need to be managed through the solid waste management system whether or not they were used as cover material.

III. Disposal of Solid Waste in New Hampshire

The term “disposal,” defined in RSA 149-M:4, VI, generally refers to the act of depositing waste in or on land or water. The term is most commonly used to refer to “final” management methods, including deposition in a landfill or combustion in an incinerator. Disposal methods such as incineration and landfilling are least-preferred on New Hampshire’s waste management hierarchy established by RSA 149-M:3, while source reduction (reducing the quantity of waste generated at the source) and diversion (such as recycling and composting) are at the top of the hierarchy. However, since the hierarchy was established, New Hampshire’s waste management infrastructure has not significantly shifted from a reliance on disposal. With three commercial landfills, three limited-service public landfills and one commercial waste-to-energy facility operating in New Hampshire, the state is somewhat unique among its neighboring states in terms of available disposal capacity.

Summary of Disposal Data

Table 1 below illustrates total quantities of solid waste disposed from 2020 to 2022, based on data reported by New Hampshire’s landfills and waste-to-energy facility.³ The data are broken down by waste received from in-state sources, as well as out-of-state sources. The vast majority of out-of-state waste disposed in New Hampshire is received by the three commercial landfills. Table 1 shows that total disposal has fluctuated slightly over the last couple years, with total tonnage disposed increasing about 2 percent from 2020 to 2021 and subsequently decreasing just under 4 percent from 2021 to 2022. Meanwhile, the percentage of waste disposed from in-state sources has increased slightly over the same time period, from 53 percent in 2020 to 57 percent in 2022.

Table 1. Solid Waste Disposed in New Hampshire 2020 – 2022

Year	Total Tons Disposed	Tons from In-State Sources	Tons from Out-of-State Sources	Percentage In-State Sources
2020	1,956,789	1,042,957	913,833	53%
2021	1,999,123	1,121,263	877,861	56%
2022	1,923,204	1,102,364	820,841	57%

Table 2. Disposal of NH-generated Waste, Normalized Per-Capita

Year	NH Population ⁴	Total Tons Disposed from In-State Sources ⁵	Tons Disposed per Capita
2020	1,377,529	1,042,957	0.76
2021	1,388,992	1,121,263	0.81
2022	1,395,231	1,102,364	0.79

Table 2 shows disposal of waste generated in New Hampshire relative to the state’s population. In 2020, the per capita rate of disposal was about 0.76 tons disposed per person (equating roughly 4.2 pounds disposed per person per day). For the years 2021 and 2022, this rate increased to about 0.8 tons per

³ Disposal figures presented in Table 1 do not include materials used for alternate daily cover.

⁴ 2020 population estimate from [2020 US Census data for New Hampshire](#). 2021 and 2022 estimates from [New Hampshire Office of Planning and Development](#).

⁵ Total tons of New Hampshire-generated solid waste disposed in New Hampshire landfills and incinerators. Does not include New Hampshire-generated solid waste exported to out-of-state disposal facilities.

person (roughly 4.4 pounds per person per day), which is in line with per capita disposal rates in 2018 and 2019, prior to the COVID-19 pandemic.⁶

Table 3. Breakdown of Total Tons Disposed by Waste Type

Year	MSW	C&D	Asbestos	Sludge	Contaminated Soil	Other ⁷
2020	1,181,749	264,777	102,050	65,917	216,480	125,815
2021	1,241,114	253,073	182,560	54,386	149,813	118,176
2022	1,128,570	266,333	128,641	53,564	246,300	99,796

Table 3 illustrates the major types of solid waste received by New Hampshire’s disposal facilities from both in-state and out-of-state sources.⁸ MSW and C&D together comprise the majority of all solid waste disposed in New Hampshire facilities. For the years shown, MSW made up about 60% of total waste disposed, and C&D about 13%. The remaining roughly 27% is comprised of asbestos-containing waste, sludge from wastewater treatment facilities, non-hazardous contaminated soils (primarily from construction and remediation projects) and other specialized wastes, including wastes from industrial processes.

Disposal of MSW and C&D Compared to Disposal Reduction Goal

RSA 149-M:2 sets a goal to reduce disposal of MSW and C&D 25% by 2030 and by 45% by 2050 compared to the quantity of such wastes disposed in 2018. This goal applies to MSW and C&D on a combined basis (rather than separately to each waste category). In 2018, a total of 1,500,668 tons of MSW and C&D were disposed in New Hampshire (this figure includes MSW and C&D generated out-of-state and disposed in New Hampshire). The table below illustrates recent MSW and C&D disposal data compared to the 2018 baseline.

Table 4. Disposal of MSW and C&D Compared to 2018

Year	Total Tons MSW and C&D Disposed	% Change vs. 2018
2020	1,446,526	-3.6%
2021	1,494,187	-0.4%
2022	1,394,903	-7.0%

⁶ See 2018/2019 per capita disposal rates published in the [2020-2021 Biennial Report](#). Note that per capita disposal rates presented do not account for waste exported for disposal outside of New Hampshire.

⁷ The “Other” category in Table 3 includes ash, treated infectious waste and other special wastes/industrial process wastes, including air pollution control waste, manufacturing process scraps, blasting sand, etc.

⁸ Note that solid waste incinerators/waste-to-energy facilities are commonly only authorized to receive MSW; Landfills, however, may be permitted to accept the other waste types listed in Table 3.

IV. Diversion of Solid Waste in New Hampshire

Unlike disposal, which is a metric that NHDES can definitively track, recycling and other forms of diversion have been harder to measure due to gaps and limitations in existing data. For the purposes of estimating a statewide recycling rate, NHDES used recycling data reported by municipal transfer stations as a general indicator of statewide recycling activities. NHDES estimated the average statewide municipal recycling rate at 25% in 2021 and 27% in 2022.⁹ These estimates are roughly in line with rates estimated between 2018 to 2020.¹⁰

NHDES acknowledges that recycling data reported by municipal facilities only represents a subset of all recycling activities across the state. However, in the absence of more refined data, NHDES presumed the municipal data to be a suitable proxy for statewide recycling because municipal facilities tend to manage a representative cross-section of the waste stream. Moreover, limiting the dataset to only consider municipal facilities enabled NHDES to avoid challenges related to “double-counting,” which can commonly occur when dealing with system-wide recycling data. This is because recyclables can be transferred between multiple facilities before arriving at a “final” destination, resulting in overlapping data being reported to NHDES by several facilities. NHDES hopes to be able to collect better data in the future to produce more comprehensive estimates for recycling and other diversion activities.

V. Projected Solid Waste Disposal Need and Disposal Capacity

Table 5 on the following page illustrates NHDES’ projections for the quantity of solid waste generated in New Hampshire needing disposal compared to available permitted disposal capacity at New Hampshire’s landfills and incinerators. It is important to note that the disposal capacity projections shown in the table assume that statewide disposal capacity will be depleted as quickly as feasible, and that landfills will cease operations after depleting their current permitted capacity. It is likely that many of these facilities will seek additional expansions, but NHDES does not rely on hypothetical future capacity when making projections. The information displayed in Table 5 essentially depicts how long New Hampshire’s existing disposal capacity might be expected to serve the state’s disposal needs without the addition of any new capacity. Further explanation of the table and how NHDES derived these projections is provided below.

⁹ This percentage represents an “MSW” recycling rate and does not include C&D tonnage. The statewide municipal recycling rate presented here is an average of the facility recycling rates calculated for municipal transfer stations in the state. Facility recycling rates are based on available data from annual facility reports submitted to NHDES and are calculated by dividing waste recycled by the sum of waste disposed plus waste recycled.

¹⁰ As published in the [2020-2021 Biennial Report](#).

Table 5. Projected Waste Disposal Need & Capacity for New Hampshire (2023 - 2043)

Projections Based on 2022 per capita disposal data and approved permitted landfill capacity as of December 2022

Year	Projected Disposal Need (tons per year) <i>Assuming No Change in Current Practices</i>	Disposal Need Per Disposal Goal (tons per year) <i>RSA 149-M:2</i>	Projected Disposal Capacity (tons per year) <i>Assuming No New Capacity Added</i>
2023	1,351,000	990,000	1,876,000
2025	1,364,000	949,000	1,876,000
2030	1,394,000	847,000	1,762,000
2035	1,425,000	802,000	454,000
2040	1,456,000	757,000	447,000
2045	1,487,000	712,000	226,000

Table 5 Notes:

(1) All projected waste quantities, including landfill capacities, should be considered approximate.

(2) Projected Solid Waste Disposal Need (about 5.3 lbs/person/day) is estimated using 2022 solid waste disposal data, 2022 population data (1,395,231 people), and the assumption that population will increase 9.2% over the next 20 years (doubling New Hampshire's historical 10-year growth rate of 4.6% as reported in 2020 US Census).

(3) Projected disposal capacity for each landfill is based on approved design capacity for each permitted disposal facility, and calculated using the assumptions that landfill operators accept the maximum amount of waste allowed by permit, and close on the date of minimum life expectancy or when capacity runs out, whichever is latest. The projections do not include limited private landfills or unlined landfills.

(4) Representation of Disposal Need per Disposal Goal (RSA 149-M:2) is based on reducing the 2018 quantity of MSW and C&D debris disposed by 25% by 2030 and 45% by 2050, and holding the per capita generation of all other waste type quantities the same.

Projected Waste Disposal Need

For this report, NHDES projected New Hampshire's solid waste disposal need in accordance with RSA 149-M:11, V, which requires that the department consider disposal need over a 20-year planning period. NHDES based its projections on the following:

- The statutory requirement in RSA 149-M:11, V(a) that disposal projections account for all waste generated in New Hampshire, including waste exported to out-of-state disposal facilities.
- Disposal tonnage data reported by New Hampshire's operating landfills and incinerators in their 2022 annual facility reports (AFRs).
- Export disposal data reported to NHDES from 2000 through 2022 plus one standard deviation to account for annual variability and unreported exports.
- Population data provided in the 2020 U.S. Census, which estimated that New Hampshire's population grew 4.6% between 2010 and 2020.¹¹ For the purposes of this analysis, NHDES assumes this same growth rate will continue, equating to a roughly 9.2% growth in population over the 20-year planning period.
- The assumption that New Hampshire's per capita rate of disposal will remain constant over the 20-year planning period.
- The assumption that diversion rates will remain constant over the 20-year planning period.

¹¹ 2020 [US Census data for New Hampshire](#)

NHDES estimates that in 2022 New Hampshire generators disposed of about 5.3 pounds per person per day (including exports). The “Projected Waste Disposal Need” column depicted in Table 5 represents this per person disposal rate multiplied by projected population at five-year increments over the course of the planning period. As previously indicated, the estimates of waste disposal need in this report assume no changes in current waste disposal and diversion practices. However, as a point of reference, Table 5 also includes a “Disposal Need per Disposal Goal” column estimating what New Hampshire’s disposal need would be if the disposal reduction goal in RSA 149-M:2 were achieved, that is, a 25% reduction in disposal of MSW and C&D by 2030, and a 45% reduction by 2050.¹² The depiction of this goal in the table illustrates that, if the goal is to be achieved, waste reduction and diversion efforts must be increased.

Projected Waste Disposal Capacity

Projected waste disposal capacity is based on a combination of factors, including specific requirements relative to operational lifespan contained in each disposal facility’s permit. NHDES estimated the statewide “Projected Waste Disposal Capacity” line shown in Figure 2 based on the following:

- Estimates of total permitted capacity for solid waste disposal facilities in New Hampshire, excluding:
 - Unlined landfills pursuant to RSA 149-M:11, V(a).
 - Limited private facilities, which are “closed-circuit” facilities that only serve the capacity needs of the generator who owns the facility and therefore do not provide disposal capacity for the general public.
- Estimates of permitted landfill capacity converted from volumetric capacities (measured in cubic yards) to weight-based capacities (measured in tons). Because landfill permits express capacity in terms of volume, conversion to tons is necessary to align capacity values with disposal need projections, which are estimated in tons. This conversion process may introduce minor discrepancies.
- The assumption that the Wheelabrator Concord Company waste-to-energy facility will provide steady-state capacity throughout the 20-year planning period.
- The assumption that landfill operators will fill at the maximum rate allowed by the facility’s permit, regardless of operational limitations.
- The assumption that a facility will close on the minimum operational date required by its permit, which NHDES considers the earliest anticipated closure date of a disposal facility. This assumption ignores whether a facility may actually be able to continue operations beyond its minimum required date, and also disregards the facility’s potential for future capacity expansions.

These assumptions result in a conservative projected lifespan of existing disposal capacity in New Hampshire. Table 6 below shows the earliest anticipated closure date of all eight operating disposal facilities in New Hampshire, excluding unlined landfills and limited private facilities.

¹² The disposal reduction goal in RSA 149-M:2 applies only to disposal of MSW and C&D, therefore the “Disposal Goal” column shown in Table 5 assumes that the disposal of other waste categories (for example – asbestos waste, contaminated soils, sludge) will increase in proportion with population growth over the course of the planning period.

Table 6. Active New Hampshire Disposal Facilities, Listed by Earliest Anticipated Closure Date

Facility Type	Facility Name	Location	Service Type / Service Area	Earliest Anticipated Closure Date
Waste-to-Energy Incinerator	Wheelabrator Concord Company L.P.	Concord, NH	Commercial / Unlimited	None
Incinerator (no resource recovery)	Hebron-Bridgewater Refuse District	Bridgewater, NH	Limited Public / Limited	None
Landfill	North Country Environmental Services, Inc.	Bethlehem, NH	Commercial / Unlimited	December 31, 2026 ¹³
	Lebanon Regional Solid Waste Facility	Lebanon, NH	Limited Public / Limited	est. 2030 ¹⁴
	TLR-III Refuse Disposal Facility	Rochester, NH	Commercial / Unlimited	June 30, 2034 ¹⁵
	Lower Mount Washington Valley Secure Solid Waste Landfill	Conway, NH	Limited Public / Limited	est. 2038 ¹⁶
	Mount Carberry Secure Landfill	Success, NH	Commercial / Unlimited	December 31, 2041 ¹⁷
	Four Hills Secure Landfill Expansion	Nashua, NH	Limited Public / Limited	December 31, 2060 ¹⁸

Assessment of Waste Disposal Need Relative to Waste Disposal Capacity

NHDES estimates that New Hampshire's disposal capacity may fall short of projected disposal need starting in 2034, assuming that the TLR-III (Turnkey) facility reaches the end of its currently permitted capacity and that no additional disposal capacity is permitted by that time. Under this scenario, New Hampshire would experience a capacity shortfall of roughly 267,000 tons in 2034, increasing to about 970,000 tons in 2035 (first full year without TLR-III). By 2041, the shortfall is expected to be about one million (1,044,000) tons. Depending on the date Mt. Carberry depletes its existing permitted capacity, the disposal capacity shortfall is expected to increase to roughly 1.2 million tons in 2042 or 2043. It is important to note that this is a theoretical analysis based solely on existing permitted capacity and is not intended to be a predictive forecast of future conditions. As indicated at the beginning of this section,

¹³ North Country Environmental Services, Inc.: Condition (27)(b) of the permit modification issued October 9, 2020 stipulates that the permittee shall operate the facility through at least December 31, 2026.

¹⁴ Lebanon Regional Solid Waste Facility: There is no minimum operating life expectancy in the facility permit. The anticipated closure date is estimated based on projected remaining capacity and life expectancy reported in the facility's 2022 Annual Facility Report.

¹⁵ TLR-III Refuse Disposal Facility (aka Turnkey Landfill): Condition (21)(b) of the permit modification effective June 11, 2018 stipulates that the permittee shall operate the facility through at least June 30, 2034.

¹⁶ Lower Mount Washington Valley Secure Solid Waste Landfill: There is no minimum operating life expectancy in the facility permit. The anticipated closure date is estimated based on projected remaining capacity reported in the facility's 2021 Annual Facility Report.

¹⁷ Mount Carberry Secure Landfill: Condition (24)(b) of the permit modification issued April 22, 2022, stipulates that the permittee shall operate the facility through at least December 31, 2041. NHDES notes that at the maximum permitted fill rate, the facility may have capacity into 2043.

¹⁸ Four Hills Secure Landfill Expansion: Condition (25)(b) of the permit modification issued December 23, 2022 stipulates that the permittee shall operate the facility through at least December 31, 2060.

the assumption that all of New Hampshire's commercial landfills will close after reaching their currently permitted capacity is unlikely. Even if these facilities have long-term plans to expand, such plans cannot be included in capacity projections until they are officially permitted by NHDES. Additionally, if New Hampshire achieves the disposal reduction goal in RSA 149-M:2 by reducing overall generation of solid waste and/or increasing diversion rates, it will reduce the state's overall disposal need and thereby decrease demand for disposal capacity. With such factors in mind, it is important to acknowledge that projections of disposal need and capacity are likely to change based on evolving circumstances and available data.

VI. State and Regional Trends in Solid Waste Management

Trends in New Hampshire

Landfill Expansions – Applications for landfill expansions constitute the vast majority of requests for new permitted solid waste management capacity received by NHDES. At the same time, there continues to be significant public opposition to expanding existing facilities or siting new disposal facilities.

Waste Imports – Out-of-state waste comprises roughly 45% of total waste disposed in New Hampshire facilities. Most of the out-of-state waste disposed in New Hampshire is received by the three commercial landfills (see Table 6 above). Commercial disposal facilities in New Hampshire are permitted to receive waste from both in-state and out-of-state sources. The Commerce Clause of the U.S. Constitution has commonly been interpreted to preempt a state from explicitly prohibiting or adopting policies that would restrict a commercial solid waste facility from accepting and disposing of out-of-state waste.¹⁹

Organic Waste Diversion – There has been sustained attention among legislators, municipalities, regional organizations, commercial/institutional entities and members of the public on the topic of composting and organic waste diversion. Diverting organics recovers resources, reduces disposal need, has the potential to reduce waste management costs and is consistent with the hierarchy.

Legislative Attention to Waste Issues – There has been continued interest in solid waste-related issues, with several bills introduced during the 2021 & 2022 legislative sessions:

2021 Legislative Session

- SB 146 – This omnibus bill encompassed several initiatives, including a proposal to establish a statewide disposal reduction goal (reviving 2020's SB 591). The section of the bill containing the disposal reduction goal was eventually removed from SB 146 and incorporated into HB 413.
- HB 177 – A successor to HB 1319 from the 2020 session, this bill sought to restrict NHDES from issuing permits to landfills located within 2 miles of a state park. The bill passed the House but was ultimately voted down by the Senate.
- HB 413 – Proposing to establish a solid waste working group and impose a deadline for adoption of new composting rules, this bill revived HB 1701 and HB 1704 from the 2020 session. The bill was subsequently amended to include a solid waste disposal reduction goal, which was formerly a provision of SB 146, and also incorporated an October 1, 2022 deadline for NHDES to publish an updated Solid Waste Management Plan. The amended bill passed the House and Senate and was signed into law by Governor Sununu.

¹⁹ The 1978 Supreme Court Case, Philadelphia v. New Jersey, struck down a New Jersey law that prohibited the importation of waste into the state.

- HB 500 – A successor to HB 1512 from the 2020 session, this bill sought to address child hunger and reduce food waste by authorizing schools to convert edible, unserved cafeteria leftovers into frozen to-go meals that could be provided to children who participate in the free or reduced-price meals program. The bill passed the House and Senate and was signed into law by Governor Sununu.
- HB 618 – Very similar to HB 1564 from the 2020 session, this bill sought to prohibit food service establishments from distributing single-use food or beverage containers made from polystyrene foam. The bill did not advance out of the House.

2022 Legislative Session

- SB 367 – Sought to remove “advanced recycling” facilities from NHDES’ solid waste regulatory purview when such facilities are processing source-separated plastic waste using chemical processes such as depolymerization, pyrolysis or solvolysis. The amended bill passed the Senate and House and was signed into law by Governor Sununu.
- SB 379 – Proposed the establishment of a Solid Waste Management Fund to provide matching grants to municipalities, private entities and businesses for projects that contribute to waste reduction and diversion in New Hampshire. The amended bill passed the Senate and the House and was signed into law by Governor Sununu.
- SB 380 – Originally introduced with several objectives, including creation of a legislative committee to study the formation of a site evaluation committee for landfills and another committee to study the establishment of a prohibition on disposal of solid waste in New Hampshire landfills by any municipality that does not have a solid waste plan. The bill was subsequently amended to task the Solid Waste Working Group to study these topics. The amended version was passed by the Senate and the House and signed into law by Governor Sununu.
- SB 396 – Sought to enable NHDES to retain the services of an independent professional engineer or hydrogeologist to assist the department with technical review of an application for a solid waste landfill permit. The bill passed the Senate and House, and was signed into law by Governor Sununu.
- HB 1049 – Proposed establishing a committee to study landfill siting criteria and evaluate solid waste policies implemented in other states and provinces as models for reducing the need for solid waste disposal in New Hampshire. The bill passed the House but was voted down in the Senate.
- HB 1111 – Proposed establishing a committee to study extended producer responsibility as a method to reduce the cost burden on New Hampshire municipalities for disposal of solid waste. The House Environment and Agriculture Committee referred the bill to interim study, where it was subsequently recommended for future legislation (to be reintroduced in the 2023 session).
- HB 1119 – Relative to the regulation of single-use bans. This bill sought to enable municipalities to regulate the distribution of single-use plastic and paper bags at the point of sale. The bill did not advance out of the House.
- HB 1121 – Sought to require applicants for a landfill permit to provide proof of insurance and obtain a surety bond against any damages caused to the surrounding community resulting from operation of the landfill. The House Environment and Agriculture Committee referred the bill to interim study. Following interim study, the bill was not recommended for future legislation.
- HB 1122 – Authorizing municipalities to collect and resell construction and demolition debris. The bill passed the House but was voted down in the Senate.

- HB 1172 – Requiring municipalities to provide composting and recycling services to residents of public housing. The House Municipal and County Government Committee referred the bill to interim study. The interim study report did not recommend the bill for future legislation.
- HB 1274 – Proposed establishing a committee to study the recycling and solid waste management practices of state agencies. The bill was voted down in the House.
- HB 1300 – Sought to make an appropriation of state funds to support the financial assurance obligations of a closed ash landfill owned by the Newport Economic Development Corporation. The bill was referred for interim study, but ultimately was not recommended for future legislation.
- HB 1406 – Sought to authorize municipalities to collect compostable materials at municipally-owned transfer stations or contract with owners of another facility that collects compostable materials. The bill passed the House but was voted down in the Senate.
- HB 1420 – Proposed a prohibition on the issuance of new landfill permits until the state’s solid waste plan is updated by the October 1, 2022 deadline (as established by HB 413 in 2021). The amended bill passed the House and Senate and was signed by Governor Sununu.
- HB 1454 – Sought to establish a setback distance between landfills and water bodies determined by the rate at which groundwater travels from the landfill property to surrounding water bodies. The bill proposed a formula that would require landfills to be located a sufficient distance so that groundwater from the landfill would not reach nearby water bodies within 5 years. The bill passed the House and Senate, but was vetoed by Governor Sununu.
- HB 1459 – Relative to the recycling of solar panels. This bill proposed an extended producer responsibility program for takeback and recycling of solar photovoltaic modules. The bill passed the House but was voted down by the Senate.
- HB 1544 – This bill sought to prohibit the landfilling of construction and demolition debris in New Hampshire. The bill was voted down in the House.
- HB 1652 – Relative to the recycling of beverage containers. This bill proposed a deposit return system to encourage the recycling of beverage containers sold in the state (a “bottle bill”). The House Environment and Agriculture Committee referred the bill to interim study and ultimately did not recommend it for future legislation.

Formation of the NH Solid Waste Working Group (SWWG) – The SWWG, established by HB 413 during the 2021 legislative session, is comprised of members representing various public and private entities involved with solid waste management. The group has a 5-year lifespan (until November 1, 2026) and is tasked with assisting NHDES with planning and policy initiatives related to solid waste management. The SWWG held its first organizational meeting on October 29, 2021, and focused early efforts in assisting NHDES with development of the updated Solid Waste Management Plan. More information on the membership and activities of the SWWG can be found on the group’s webpage.²⁰

Establishment of the Solid Waste Management Fund – The Solid Waste Management Fund was established in 2022 under a new statute, RSA 149-R. The purpose of the fund is to provide matching grants to New Hampshire municipalities, organizations and businesses for projects that improve diversion of solid waste from disposal. Unfortunately, no monies were appropriated to the fund during the timeframe covered by this report, and NHDES was unable to implement a grant program. However, the fund establishes a place where future monies may be deposited as they become available through appropriations by the Legislature, federal grants or other sources.

²⁰ [New Hampshire Solid Waste Working Group webpage](#)

Regional Trends

Waste-to-Energy Challenges – Across the region, waste-to-energy facilities continue to face challenges related to aging infrastructure and economic pressures as they compete in a marketplace with electricity producers using relatively inexpensive fuels, such as natural gas. In July 2022, the Materials Innovation and Recycling Authority (MIRA) waste-to-energy facility in Hartford, Connecticut ceased operations due in large part to facility age, declining revenues from power generation and inability to secure agreements for facility upgrades. The facility had accepted more than 500,000 tons of waste per year from dozens of Connecticut municipalities, and its closure represented a major disruption in Connecticut’s overall disposal capacity.

Waste Disposal Bans/Mandatory Recycling Laws – Over time, several Northeast states have phased in waste bans to eliminate the landfilling and incineration of easy-to-recycle and toxic materials. The waste bans encourage the development of new systems and infrastructure to collect banned items and other discarded materials, and to divert them from disposal to reuse and recycling. Based on the Northeast Recycling Council’s report about *Disposal Bans & Mandatory Recycling in the United States*,²¹ many states have enacted mandatory recycling laws in conjunction with disposal bans. Glass, metal, paper, cardboard, large appliances, cathode ray tubes, vehicle batteries and certain construction and demolition debris are some of the materials subject to active waste bans and mandatory recycling laws in various Northeast states. While RSA 149-M does not establish recycling as mandatory in New Hampshire, there are disposal bans in place for wet-cell batteries, leaf and yard waste, electronic video display devices, computers and electronic media recorders/players (RSA 149-M:27, II-IV). Examples of more recent waste bans enacted by other states include:

- Effective November 1, 2022, mattresses and textiles were added to the current list of materials banned from disposal in Massachusetts.
- Massachusetts has set Minimum Performance Standards (MPS) for C&D Handling Facilities to facilitate diversion of C&D and ensure compliance with state waste disposal bans. The MPS establish criteria for the separation of banned and recoverable materials, requiring C&D Handling Facilities to achieve a Process Separation Rate (PSR) of at least 15% and demonstrate that all waste ban materials are being separated to the greatest extent possible.

Organic Waste Disposal Bans – As of July 1, 2020, the food waste disposal ban enacted as part of Vermont’s Universal Recycling Law (Act 148)²², applies to all generators, including households, regardless of quantity of food scraps generated or distance to available diversion facilities. This ban was initially put in place in 2014, applying to entities generating at least 2 tons of food scraps per week that were located within 20 miles to an authorized organics management facility. In subsequent years, the ban has been progressively phased-in by decreasing the generator threshold. Vermont’s approach has gained attention as the most aggressive statewide organics diversion policy. Connecticut, Massachusetts, Rhode Island and New York have taken a different approach by enacting food waste disposal bans that solely target large-scale generators. In most cases, these bans apply to commercial or institutional generators that produce 1 ton or more of food waste per week. Some states make exceptions for specific types of generators (hospitals, nursing homes, elementary schools) and/or generators that fall outside a certain distance to an authorized composting facility. States across the Northeast have adopted these statutory requirements to reduce disposal need and spur development of food recovery efforts, as well infrastructure for composting and anaerobic digestion. In 2022, the following changes took effect:

²¹ Northeast Recycling Council. [Disposal Bans & Mandatory Recycling in the United States \(Revised Oct. 2020\)](#).

²² [Vermont Universal Recycling Law \(Act 148\)](#)

- Connecticut and Massachusetts initiated the next phase of their food waste bans, by reducing their compliance threshold. Now businesses and institutions generating at least ½ ton of food waste per week are required to divert that material to an authorized organics management facility (for example, a composting or anaerobic digestion facility). In Connecticut, exceptions apply if the generator is located more than 20 miles from an authorized facility.
- New York requires all businesses and institutions that generate an annual average of 2 tons of food waste per week to donate surplus edible food for human consumption to the extent possible.

Extended Producer Responsibility (EPR) – EPR is a type of Product Stewardship policy used to encourage resource recovery and minimize the impacts to public health, safety and the environment from the use and disposal of consumer products. Many Northeastern states have adopted EPR laws that require manufacturers to share responsibility for end-of-life management of the product(s) they produce. A long-standing example of one such policy in New Hampshire is the mercury thermostat take-back program established in 2008 (RSA 149-M:58-a). More recent examples of EPR programs in other states include:

- Paint take-back programs in Connecticut, Maine, Rhode Island and Vermont.
- Electronic waste recycling programs in Connecticut, Maine, New York, Rhode Island and Vermont.
- A battery recycling program in Vermont that targets single-use and rechargeable batteries.
- Mattress recycling programs in Connecticut and Rhode Island require manufacturers to establish a program to manage discarded mattresses generated in each state. The stewardship law establishes a fee at the point of sale to finance the program, which pays for transportation and recycling of unwanted mattresses.
- Maine passed a law establishing an EPR program for packaging. Producers pay into a fund based on the amount and the recyclability of packaging associated with their products. The funds will be used to reimburse municipalities to cover eligible waste management costs, infrastructure investments and public education activities.

VII. Congressional Actions and Court Rulings

Congressional Actions

In 2021, the United States Congress passed the Infrastructure Investment and Jobs Act (also known as the Bipartisan Infrastructure Law). The law allocates federal funding for a variety of infrastructure improvement initiatives, including \$350 million to support waste management infrastructure and recycling programs. This unprecedented federal investment in solid waste management is intended to improve people's health and safety and help establish and increase recycling programs nationwide. The funding will be administered by the US EPA to develop best practices for collection and labeling of used batteries and to establish grant programs to support development of recycling infrastructure as well as recycling education and outreach. Additional information, including an overview of these grant programs, is available on the EPA's website.²³

²³ More information about recycling funding available through the Bipartisan Infrastructure Law can be found on the [US EPA website](#)

Court Rulings

In *Appeal of Conservation Law Foundation, Inc.* (2021), the New Hampshire Supreme Court upheld a decision of the Waste Management Council, which affirmed the Department's issuance of a solid waste facility expansion permit. At issue was a condition included within the permit that required the facility to annually demonstrate a 30% diversion rate among its customers, to prepare a diversion report if 30% was not achieved, and to assist generators to increase their diversion rates. The Supreme Court found support for the Department's determination that this condition would assist the goals of RSA 149-M:2 and RSA 149-M:3 because of the information that would be generated through the condition, which would allow the Department to learn more about the composition of the waste stream and diversion rates and would inform development and implementation of future diversion strategies. The Court's decision affirms that conditions such as the one at issue are a means available to the Department to gather much needed diversion data and one of the ways a facility's permit may assist a facility in complying with the RSA 149-M:11 public benefit criteria.

VIII. NHDES' Solid Waste Programs and Ongoing Efforts

RSA 149-M, the Solid Waste Management Act, grants NHDES authority to administer and enforce the provisions of the Act, and its implementing administrative rules, Env-Sw 100, et seq. This work is carried out by the Solid Waste Management Bureau (Bureau) within NHDES' Waste Management Division. The Bureau ensures that management of solid waste in New Hampshire is protective of human health and the environment by regulating the facilities and practices associated with the collection, processing, treatment, recycling, re-use and disposal of solid waste in New Hampshire. Examples of the types of facilities regulated by the Bureau include transfer stations, recycling centers, scrap metal yards, composting facilities, incinerators and landfills. The Bureau oversees and assures compliance for approximately 260 active permitted solid waste facilities, 120 motor vehicle salvage yards and 600+ closed, inactive solid waste disposal sites (consisting of inactive landfills and asbestos disposal sites).

NHDES' Solid Waste Programs

Below are brief descriptions of the Bureau's four essential program areas:

1. *Engineering and Permitting:*

In accordance with RSA 149-M:6, III, the Bureau regulates solid waste facilities through the administration of a permit system. The Bureau's Engineering & Permitting Section (EPS) is responsible for processing applications for solid waste facility permits, permit modifications and other requests requiring approval by NHDES. EPS also provides permitting technical assistance, inspects and monitors the construction, operation and closure of New Hampshire's active landfills and processing/treatment facilities and reviews environmental monitoring data and proposed plans for corrective actions when problems are identified.

2. *Compliance Assurance:*

The Bureau's Compliance Assurance Section (CAS) is responsible for assuring that solid waste facilities are operated and closed in compliance with permit requirements, the Solid Waste Rules (Env-Sw 100 et seq.) and RSA 149-M. CAS oversees five regulatory program areas: the Active Facility Inspection Program, Motor Vehicle Salvage Yard Program, Closed Unlined Landfill Program, Inactive Asbestos Disposal Site Program and Limited Reuse of Contaminated Soil Program, along with an enforcement arm that serves each regulatory program area. Each program area provides

compliance technical assistance, reviews reports, conducts inspections, investigates complaints and pursues enforcement when necessary.

3. *Materials Management, Education & Planning:*

In 2021, the Materials Management, Education & Planning Section (MMEPS) was established to provide a range of planning, education and technical assistance services. MMEPS staff are responsible for coordinating statewide solid waste management planning efforts and addressing technical assistance needs of communities, particularly with respect to promoting waste reduction and diversion. As required by RSA 149-M:6, XIII, MMEPS also administers a training and certification program for solid waste facility operators, known as the Solid Waste Operator Training (SWOT) Program. Each year the SWOT Program hosts multiple 'Basic Training' workshops for new operators and provides numerous continuing education opportunities administered by NHDES staff and/or third parties. The SWOT Program equips facility operators with an awareness of regulatory requirements, fosters a direct relationship between the Bureau and the regulated community, and promotes voluntary compliance. There are over 1,200 solid waste operators currently certified under this program.

4. *Reporting, Information & Financial Management:*

The Reporting, Information & Financial Management Section (RIFMS) is responsible for the Bureau's reporting, information and financial management functions and leads the Bureau's information technology and file management initiatives. RIFMS administers a financial assurance program to assure that facility owners maintain adequate funds to guarantee proper closure and post-closure care of facilities. RIFMS also distributes grant money to reimburse municipalities for eligible costs for closure of old landfills and incinerators as allowed by RSA 149-M:41.

Recent Accomplishments and Ongoing Program Efforts

In CY 2021 and 2022, the Bureau's work included the following:

- The Engineering & Permitting Section processed a total of 84 applications, including applications for solid waste facility permits (both new permits and modifications of existing permits for facility improvements, capacity expansions, etc.) as well as applications to certify waste-derived products. EPS has been working to streamline application processing procedures and complete application reviews within prescribed time limits to avoid automatic, default approvals (pursuant to RSA 541-A:29-a). Further, EPS is working to improve regulatory consistency in administration of rules and permit terms and conditions, specifically including those related to solid waste facility construction. EPS staff have also participated in hearings related to appeals of permitting decisions.
- The Compliance Assurance Section implemented a new structure in June of 2022 for inspecting collection, storage and transfer facilities and processing and treatment facilities every three years. Additionally, CAS began conducting unannounced daily cover inspections of active landfills and intends to do the focused inspections at least once a year. CAS is in the early stages of developing an inspection structure for conducting full compliance inspections of active landfills. CAS continues to assure compliance with filing incident reports and annual facility reports for both active and closed/inactive landfills. At the same time, CAS is working to ensure that closed/inactive landfills are monitored and maintained in accordance with the applicable requirements. Staff in CAS have been working to coordinate the readoption of the entire set of Solid Waste Management administrative rules that are due to expire on July 1, 2024.

- The Materials Management, Education and Planning Section focused efforts on updating the state's composting facility regulations, development of the solid waste management plan and interfacing with the newly-formed New Hampshire Solid Waste Working Group. Proposed revisions to the composting rules were released for public comment in December 2021 and a final version was adopted in March 2022. The revised rules were developed to provide greater clarity and to streamline permitting options for facilities that compost food waste. MMEPS also worked through most of 2022 to update the State's Solid Waste Management Plan, which was published on September 30, 2022. In developing the plan, NHDES staff relied on input from the Solid Waste Working Group, New Hampshire Waste Management Council and comments from the general public. In addition, the SWOT program certified 597 new solid waste operators, and provided 21 live continuing education workshops in addition to maintaining 22 recorded webinars for operators needing to renew their certification. The SWOT Program has continued to provide the majority of workshops with options for virtual attendance to increase accessibility for those that want to attend.
- The Reporting, Information & Financial Management Section continued to review financial assurance plans for solid waste facilities that are required to comply with financial assurance requirements. RIFMS also continued to enhance the functionality of the Bureau's database to improve data retrieval by making electronic copies of all solid waste facility permits available to the public. Working in coordination with CAS, RIFMS also began the process to readopt Chapter Env-Sw 1300 (Public Grants for Landfill and Incinerator Closure) and Chapter Env-Sw 1400 (Financial Assurance), both of which are due to expire July 1, 2024. RIFMS disbursed about \$376,000 to eight New Hampshire municipalities for unlined municipal landfill closure grants that were approved by the Governor and Executive Council in previous fiscal years. The Section also started to take steps to make available to the public all Annual Facility Reports that have been received by the Bureau (1992-present) for active permitted solid waste facilities.

Other Organizations Involved in Solid Waste Management

For a list of other organizations who provide technical assistance and/or useful resources related to solid waste management, see Appendix A. The list includes a brief description of each organization. Further details for each organization can be obtained by going to its website or contacting the organization directly.

IX. Solid Waste Management Plan

NHDES issued [New Hampshire's 2022 Solid Waste Management Plan](#) (SWMP) in 2022 in accordance with RSA 149-M:29, I. Solid Management Bureau staff reviewed plans from neighboring states to develop an initial framework and then gathered input from colleagues, legislators, stakeholders and members of the public. During the public comment period, NHDES received comments from 74 individuals. Bureau staff read all the submitted comments and made adjustments as appropriate.

The 2022 SWMP has 8 goals and 76 actions that are categorized into 5 strategies for accomplishing those actions. The strategies are:

- 1) Public Education and Outreach.
- 2) Incentives.
- 3) Data Collection and Research.
- 4) Regulations and Permitting.
- 5) Legislation.

While NHDES has a major role in implementing the SWMP, its success depends on efforts from everyone in the state. Residents, municipalities, businesses in the public and private sectors, non-profits, quasi-governmental organizations and other stakeholders all play a role in accomplishing the SWMP goals. To measure the success in reaching the SWMP's goals, NHDES must account for efforts happening outside of the agency. Staff will need to determine how to effectively track projects led by external partners.

The first implementation year started October 1, 2022 and ended September 30, 2023. Specific to the timeframe covered by this report, Bureau staff worked on the following SWMP actions during the last three months of 2022 (10/1/2022 – 12/31/2022):

- Action 1.5 – Drafted an initial directory of organizations that facilitate reuse of surplus items generated by businesses and institutions.
- Actions 2.11; 3.17 – Bureau staff provided appropriate legislative input on proposed bills related to solid waste management.
- Action 3.1 – Joined the Project Steering Committee for the Composting Association of Vermont's (CAV) On-Farm Composting project. The project aims to increase food waste diversion in New Hampshire.
- Action 3.4 – Presented at the 2022 New Hampshire Municipal Association conference, to municipal officials, facility operators and residents, about the benefits of using Full Cost Accounting to improve recycling programs.
- Actions 7.1; 7.2 – The [NHDES Civil Rights and Nondiscrimination Implementation Plan](#) was published on October 25, 2022. It is a resource for staff to use to align their program efforts with the state's environmental justice goals.
- Action 8.2 – NHDES wrote letters of support for municipalities and non-profits seeking funding opportunities that will help meet the SWMP goals.
- Action 8.4 – NHDES opted to participate in the non-competitive EPA Solid Waste Infrastructure for Recycling grant program for States/Territories, which is funded by the Bipartisan Infrastructure Law and intended to support state level research and planning for solid waste management.

X. Solid Waste Management Fund

As required by RSA 149-R:6, Biennial Solid Waste Reports shall include information relative to the activities and finances of the Solid Waste Management Fund. This fund was established in 2022 by the Legislature without an appropriation. As such, there is no information to provide for this reporting period.

XI. Conclusions and Recommendations

As stated in RSA 149-M:29, II, an overarching purpose of this report is to assess progress toward achieving New Hampshire's disposal reduction goal established in RSA 149-M:2. Data from 2020 to 2022 indicate that disposal of MSW and C&D fluctuated somewhat, but was overall lower than disposal of such wastes in 2018 by an average of 3.6% across the three year period.

Continuing progress toward the disposal reduction goal will require substantive shifts in current waste management practices toward more robust waste reduction and diversion efforts. Because the goal is not mandatory, voluntary waste reduction and diversion efforts by public and private solid waste management entities, haulers and waste generators across all sectors will be important to New

Hampshire's successful pursuit of the goal. Such efforts include financial investments to develop diversion infrastructure consistent with New Hampshire's Waste Management Hierarchy (RSA 149-M:3). NHDES' Solid Waste Management Plan incorporates goals, strategies and actions that will guide NHDES' efforts to encourage waste reduction and diversion in support the disposal reduction goal.

Appendix A: Organizations Involved with Solid Waste Management

State/Local Organizations

Auto and Truck Recyclers Association of NH (ATRA)

Address: PO Box 331 Weare, NH 03281

Telephone: (603) 529-7211

Website: <https://web.a-r-a.org/Other/Auto-Truck-Recyclers-of-New-Hampshire-2596>

Contact: David Wilusz, President, allied10@aol.com

The Auto and Truck Recyclers Association of New Hampshire (ATRA) promotes environmentally friendly business practices for facilities engaged in automobile and truck recycling, dismantling and salvage within the state of New Hampshire. ATRA encourages uniform commercial practices among its members and provides leadership in ensuring familiarity with local, state and federal laws and regulations governing the conduct of such businesses. It represents the interests of its members before governing bodies, seeking to ensure recognition of the contributions of the vehicle recycling industry. ATRA seeks to work closely with regulatory bodies such as the Department of Environmental Services, the Department of Safety and the Department of Transportation, as well as organizations with similar goals, such as the New Hampshire Municipal Association, New Hampshire Auto Dealers Association, the New Hampshire Towing Association and many others.

Collaborative Solid Waste Strategies (CSWS)

Address: PO Box 6163, Penacook, NH 03303

Telephone: (603) 568-3790

Website: <https://www.cswnh.org/>

Contact: Carol Foss, Executive Director, info@cswnh.org

Collaborative Solid Waste Strategies (CSWS) is a nonprofit 501(c)(3) organization committed to improving the way New Hampshire and other states manage solid waste. The Board of Directors includes individuals with long histories of involvement in the policy, science and management of solid waste. CSWS strives to be a catalyst for pragmatic and comprehensive approaches to sustainable solid waste management in New Hampshire by sharing information, evaluating proposed policies and legislation, engaging in the planning process for solid waste management, collaborating with other groups and advocating for feasible solid waste management practices.

Lakes Region Planning Commission (LRPC)

Address: Humiston Building, 103 Main Street, Suite 3, Meredith, NH 03253

Telephone: (603) 279-5341

Website: <https://www.lakesrpc.org/>

Contact: Dave Jeffers, Regional Planner, djeffers@lakesrpc.org

The Lakes Region Planning Commission (LRPC) is a unique association of local governments that provides comprehensive planning services to meet the diverse needs of New Hampshire's Lakes Region. Their mission is to provide effective planning, in order to achieve and sustain a quality environment, a dynamic economy and local cultural values by supporting community efforts through leadership, education, technical assistance, information, advocacy, coordination and responsive representation. During the tenure of this report, the LRPC has developed a series of Solid Waste Roundtable events where they invite attendees to learn about solid waste issues in the region and offer solutions. Topics range from closed landfill maintenance, to disposal and use of glass, to food waste composting. In addition, they coordinate the household hazardous waste collection events for the Lakes Region.

New Hampshire the Beautiful

Address: 2101 Dover Road, Epsom, NH 03234
Telephone: 1-888-784-4442 Toll-Free in NH, (603) 736-4401
Website: <http://www.nhthebeautiful.org/>
Email: nhtb@nrra.net

New Hampshire the Beautiful, Inc. (NHtB) is a private, non-profit Charitable Trust established in 1983 and voluntarily funded by the soft drink distributors and bottlers, retail grocers and the malt beverage industry. The Board of Directors of NHtB has awarded the Northeast Resource Recovery Association (NRRRA) a contract to administer the grants and solid waste facility sign programs in addition to overseeing the distribution of litter bags for roadside cleanups across New Hampshire.

New Hampshire Network – Plastics Working Group

Website: <http://www.newhampshirenetwork.org/working-groups/plastics-working-group>
<http://www.10towns.org/home> (Ten Towns – Ten Actions Toolkit)
Email: nhplasticwaste@gmail.com

The New Hampshire Network is an assortment of organizations working to facilitate communication among groups concerned about New Hampshire's environment, energy future and climate. Specifically, the **Plastics Working Group** is focused on addressing the intersectionality of climate change, human health, environmental justice, waste management and pollution aspects of plastics and the petrochemical industry. The Plastics Working Group supports local, state and federal initiatives to reduce the production of single-use plastics, develop partnerships with the business, education and municipal sectors, develop local policy actions to enhance recycling and safe disposal of plastics and engage in public education. The group published **The Ten Towns – Ten Actions Toolkit** for communities to use to develop a framework and identify potential partners for actions related to policy, engagement and infrastructure.

North Country Council (NCC)

Address: 161 Main Street, Littleton, NH 03561
Telephone: (603) 444-6303
Website: <http://www.nccouncil.org/>
Contact: James Steele, Finance Manager & Special Projects Planner, jsteele@nccouncil.org

The North Country Council (NCC) is one of nine regional planning commissions in New Hampshire, serving in an advisory role to local governments to promote coordinated planning, orderly growth, efficient land use, transportation access and environmental protection. The Commission's region consists of serving 50 communities and 25 unincorporated places in the northern third of New Hampshire. NCC provides solid waste technical assistance to communities in their service area by developing educational materials, workshops, panel discussions and webinars about the diversion and disposal of food scraps, paint, electronics, medical waste and Pay-As-You-Throw. They also coordinate several HHW collection events in their region.

Post-Landfill Action Network (PLAN)

Address: 1 Washington Street Mills – Suite 3123, Dover, NH 03820
Telephone: (601) 600-7526
Website: <https://www.postlandfill.org/>

Founded by a group of college students at the University of New Hampshire, the Post-Landfill Action Network (PLAN) equips students with the resources and tools necessary to holistically understand the waste crisis and lead solutions on their campuses. PLAN strives to create a future free from waste by supporting student leadership at universities and colleges.

UNH Cooperative Extension

Address: Taylor Hall, 59 College Road, Durham, NH 03823
Telephone: 1-800-735-2964 Toll-Free in NH, (603) 862-1520
Website: <https://extension.unh.edu/>

The Cooperative Extension Network provides information and outreach on a multitude of topics to the citizens of New Hampshire. For example, through their Master Gardeners Program, they provide information on backyard composting and community gardens. They also continue to provide information on the use of wood ash as an agricultural soil amendment and promote the reduction of marine debris through a project that recycles derelict fishing gear.

Upper Valley Lake Sunapee Regional Planning Commission (UVLSRPC)

Address: 10 Water Street, Suite 225, Lebanon, NH 03766
Telephone: (603) 448-1680
Website: <https://www.uvlsrc.org/>
Contact: Vickie Davis, Senior Planner, vdavis@uvlsrc.org

The Upper Valley Lakes Sunapee Regional Planning Commission (UVLSRPC) has been providing professional planning assistance to municipal boards since 1963. UVLSRPC coordinates all aspects of planning, act as a liaison between local and state/federal governments and provide advisory technical assistance to the 27 communities and committees in its region who affect the future land use of the region. UVLSRPC has provided training to solid waste operators on implementing organics recycling at rural transfer stations, reduction of HHW in the waste stream and improper disposal of medicines. The group also worked with business owners who are small quantity generators of hazardous waste for better solutions for managing their waste.

Regional and National Organizations

Association of State and Territorial Solid Waste Management Officials (ASTSWMO)

Address: 1015 18th Street NW, Suite 803, Washington, DC 20036
Telephone: (202) 640-1060
Website: <http://astswmo.org>
Contact: Gabrielle Frigon, ASTSWMO Board Member for Region 1, gabrielle.frigon@ct.gov

The Association of State and Territorial Solid Waste Management Officials (ASTSWMO) supports the environmental agencies of the States and trust territories. ASTSWMO focusses on the needs of State hazardous waste programs; non-hazardous municipal solid waste and industrial waste programs; recycling, waste minimization and reduction programs; Superfund and State cleanup programs; waste management and cleanup activities at federal facilities, and underground storage tank and leaking underground storage tank programs. The association's mission is: "To Enhance and Promote Effective State and Territorial Waste Management Programs, and Affect National Waste Management Policies." The organization is structured to accomplish this two-part mission through both member committees and Association staff efforts.

Center for EcoTechnology (CET)

Address: 320 Riverside Drive, Florence, MA 01062
Telephone: (413) 586-7350
Website: <https://www.centerforecotechnology.org/>

The Center for EcoTechnology (CET) works with partners throughout the country to research, develop, demonstrate and promote the technologies which have the least disruptive impact on the natural ecology of the Earth. CET provides technical expertise to help local, state and federal policy makers, municipalities and businesses and institutions of all sizes develop and implement waste diversion solutions for many materials, including waste food, cardboard, paper, mercury, C&D, glass, metals, textiles and more. CET also helps to administer the *RecyclingWorks* program funded by MassDEP – which is a recycling assistance program designed to help businesses and institutions maximize recycling, reuse and composting opportunities.

Composting Association of Vermont (CAV)

Address: P.O Box 643 Hinesburg, VT 05461
Telephone: (802) 373-6499
Website: www.compostingvermont.org
Contact: Natasha Duarte, Director, natasha@compostingvermont.org

The Composting Association of Vermont (CAV) is a 501(c)(3) non-profit with a mission to advance the production and use of compost to support soil health through practices that contribute to water quality, plant vigor and environmental resilience. They demonstrate the value of compost through education, policy, outreach and partnerships to reduce waste, capture energy and create jobs. While CAV primarily works with Vermont stakeholders, they have leveraged state and federal grants to increase community- and on-farm composting efforts in New Hampshire. CAV is continuing to expand upon their grants to work with more farms as a way of building community networks to manage animal manure, divert food waste from landfills and reduce pollution impacts.

Institute for Local Self-Reliance (ILSR)

Address: 44 Exchange St., Suite 304, Portland, ME 04101 (*Portland, ME Office*)
Telephone: (207) 520-2960
Website: <https://ilsr.org/>
Contact: info@ilsr.org

The Institute for Local Self-Reliance is a national research and advocacy organization that partners with allies across the country to drive more sustainable systems that balance environmental, social and economic practices. ILSR focuses on supporting community composting, renewable energy, local businesses and moving toward a zero-waste economy.

Northeast Recycling Council (NERC)

Address: 139 Main Street, Suite 401, Brattleboro, VT 05301
Telephone: (802) 254-3636
Website: <https://nerc.org>
Contact: Megan Fontes, Executive Director, megan@nerc.org

The Northeast Recycling Council provides technical assistance, information access, research and networking opportunities on recycling market development for state and regional programs in the six New England states as well as New York, New Jersey, Pennsylvania and Delaware. In addition to providing a forum for the exchange of information between states and state agencies, NERC undertakes

research and education projects that address regional recycling, market development and waste management issues.

Northeast Resource Recovery Association (NRRA)

Address: 2101 Dover Road, Epsom, NH 03234
Telephone: (603) 736-4401 or (800) 223-0150
Website: <https://nrra.net>
Contact: Reagan Bissonnette, Executive Director, rbissonnette@nrra.net

Founded in 1981 as a private, non-profit organization, NRRA provides technical, educational and marketing support to New Hampshire municipal recycling programs. NRRA provides marketing and brokerage services for municipalities in New Hampshire, Massachusetts, Maine and Vermont. This cooperative approach combines materials from many communities to gain economies of scale in transportation and offers access to markets which would typically be denied to individual small communities. NRRA also provides extensive outreach and technical assistance to its member communities designed to strengthen and expand recycling and waste diversion activities.

Northeast Waste Management Officials' Association (NEWMOA)

Address: 89 South Street, Suite 600, Boston, MA 02111
Telephone: (617) 367-8558
Website: <http://www.newmoa.org/>
Contact: Jennifer Griffith, Project Manager, jgriffith@newmoa.org

The Northeast Waste Management Officials' Association (NEWMOA) is a non-profit, non-partisan, interstate association established in 1986 by the governors of the New England states as an official interstate regional organization. The membership is composed of state environmental agency directors of the hazardous waste, solid waste, waste site cleanup, pollution prevention and underground storage tank programs in Connecticut, Maine, Massachusetts, New Hampshire, New York, New Jersey, Rhode Island and Vermont. NEWMOA's mission is to help states articulate, promote and implement economically sound regional programs for the enhancement of environmental protection. The group fulfills this mission by providing a variety of support services that facilitate communication and cooperation among member states and between the states and EPA and promoting the efficient sharing of state and federal program resources.

ReFED, Inc.

Address: 4602 21st Street, #1531, Long Island City, NY 11101
Website: <https://refed.org/>
<https://insights.refed.org/> (Insights Engine)

ReFED is a national nonprofit dedicated to ending food loss and waste across the U.S food system by advancing data-driven solutions. New Hampshire municipalities can leverage ReFED's data to make informed decisions that improve economic, social and environmental systems. ReFED's insights can be used to highlight supply chain inefficiencies, identify grants and economic opportunities, spur innovation, scale high-impact initiatives and engage with multiple stakeholders to develop local programs.

Solid Waste Association of North America (SWANA)

Address: 1100 Wayne Avenue, Suite 650, Silver Spring, MD 20910
Telephone: 1-800-GO-SWANA (1-800-467-9262)
Website: <https://swana.org/>
Contact: Meri Beth Wojtaszek, Deputy Executive Director

The Solid Waste Association of North America (SWANA) is the largest member-based solid waste association in the world with 45 Chapters, in the U.S., Canada and the Caribbean and over 10,000 members. SWANA is the U.S. and Canadian National Member of the International Solid Waste Association (ISWA) and participates and supports ISWA events and programs. SWANA's conferences and training programs cover all aspects of integrated municipal solid waste management, and the Association is a policy and technical representative of solid waste management practitioners, executives, companies and government organizations.

The Composting Collaborative

Email: Info@compostingcollaborative.org

Website: www.compostingcollaborative.org

The Composting Collaborative is a project of the GreenBlue, BioCycle Magazine and the U.S. Composting Council. Their mission is to accelerate composting access and infrastructure to improve soil health and divert compostable materials from landfills. As a collaborative, they are able to provide educational support to groups looking to implement composting in their community or business. Since 2017 The Composting Collaborative has focused on projects to gather better data on organics processing capacity, provide information about pretreatment and preprocessing technologies, and establish optimized soil sampling methodologies. They are presenting at three national conferences in 2019 and 2020 and have provided numerous webinars for anyone looking for information regarding composting.

The Recycling Partnership

Address: 125 Rowell Court, Falls Church, VA 22046

Website: <https://recyclingpartnership.org/>

The Recycling Partnership is a national nonprofit organization that is transforming recycling in towns, cities and states all across America. Their mission is to encourage recycling by offering a different perspective on the role of recycling in our society. They have created tools to enhance recycling that can be customized to specific needs of a town, city, or organization or even a business. In the last five years, they have partnered with various stakeholders on recycling enhancement projects. The Recycling Partnership tracks each of these projects to create baseline data and case studies to train others on how to implement the tools they have created.

Toxics in Packaging Clearinghouse (TPCH)

Address: c/o NEWMOA, 89 South Street, Suite 600, Boston, MA 02111

Telephone: (617) 367-8558 ext. 309

Email: info@toxicsinpackaging.org

Website: <https://toxicsinpackaging.org/>

Contact: Melissa Lavoie, Project Manager, mlavoi@newmoa.org

In 1990, New Hampshire was the second state in the nation to adopt the toxics-in-packaging model legislation developed by the Coalition of Northeastern Governors (CONEG). Nineteen states have adopted a toxics-in-packaging law based on the CONEG model and the model has been used internationally. To ensure consistent and effective implementation of the laws, the Toxics in Packaging Clearinghouse (TPCH) was created in 1992 to simplify the law's administrative procedures, promote cooperation and information sharing between participating states, minimize procedural burdens on affected industries and promote understanding and greater awareness of the law's objectives. TPCH is assisted in its mission by technical advisers from representatives of industry and public interest organizations.

The US Composting Council (USCC)

Address: 1053 E Whitaker Mill Rd., Suite 115, Raleigh, NC 27604
Telephone: (301) 897-2715
Email: uscc@compostingcouncil.org
Website: <https://www.compostingcouncil.org>

The US Composting Council (USCC) was established in 1990 and is a national member-based organization dedicated to the development and promotion of the composting industry, including the manufacturing, marketing and utilization of compost. USCC members include compost manufacturers, compost marketers, equipment manufacturers, product suppliers, academic institutions, public agencies, nonprofit groups and consulting/engineering firms.

United States Department of Agriculture (USDA) – Rural Development

Grants Contact: Water & Environmental Programs National Office
Telephone: (202) 720-9583
Website: <https://www.rd.usda.gov/programs-services/solid-waste-management-grants>

NH Contact: Sarah Waring, State Director
Address: 87 State Street, Suite 324, PO Box 249, Montpelier, VT 05601
Telephone: (802) 828-6080
Website: <https://www.rd.usda.gov/nh>

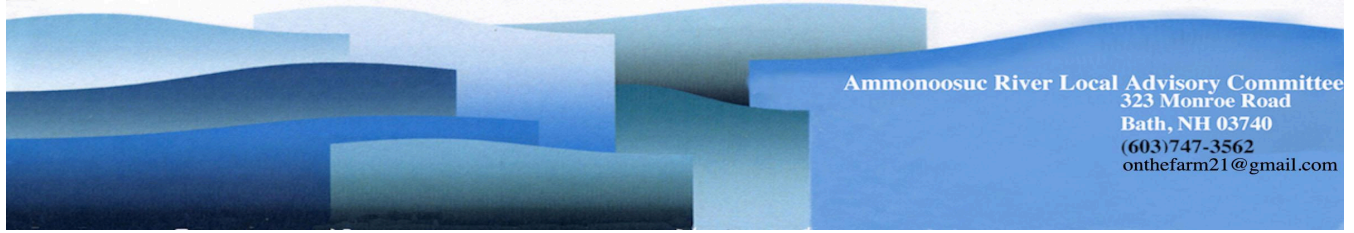
The United States Department of Agriculture Rural Development provides annual solid waste management grants. The goal is to reduce or eliminate pollution of water resources by providing funding for organizations that provide technical assistance or training to improve the planning and management of solid waste sites. This grant program has helped organizations in New Hampshire provide technical assistance where NHDES has been unable to.

United States Environmental Protection Agency (U.S. EPA) – Sustainable Materials Management

Address: Office of Resource Conservation and Recovery, 1200 Pennsylvania Avenue, NW (5305P), Washington, DC 20460
Website: <https://www.epa.gov/smm>

The United States Environmental Protection Agency – Sustainable Materials Management Program (SMM) provides information to the regulated community as well as the public on managing materials from cradle-to-grave. It is a systematic approach to using and reusing materials over the entire life cycle by highlighting changes in how society thinks about natural resources and environmental protection. EPA's SMM program provides webinars and training free of charge on all things solid waste including food waste reduction, electronics recycling, C&D recovery and partnership opportunities for communities. The SMM program has also gathered data from the states regarding solid waste management, created a Waste Reduction Model (WARM) and other sustainable materials management tools for users.

CLF Exhibit 8



Ammonoosuc River Local Advisory Committee
323 Monroe Road
Bath, NH 03740
(603)747-3562
onthefarm21@gmail.com

To: Emma Berger
Inland Wetland Permitting Section Supervisor
Emma.Berger@des.nh.gov
NH Dept. of Environmental Services
PO Box 95, 29 Hazen Drive
Concord, NH 03302

Date: June 7, 2024

RE: Wetlands Standard Dredge and Fill, NHDES File Number: 2023-03259
Project Name: GRANITE STATE LANDFILL
Subject Property: Tax Map# 406, Lot# 2.1 & 3

Dear Ms. Berger:

The New Hampshire General court passed the Rivers Management and Protection Act (RSA 483) in 1988. The 44.8-mile segment of Ammonoosuc River, from the White Mountain National Forest boundary near Lower Falls in Carroll, to the confluence with the Connecticut River in Haverhill was enrolled in the NH Rivers Management and Protection Program in 2007. The upper reach of the river to its source at the Lake of the Clouds was designated in 2009.

Ammonoosuc River Local Advisory Committee (LAC) has provided eight letters of comment to the New Hampshire Department of Environmental Services (NHDES) and other agencies relevant to the proposed Granite State Landfill, including the current iteration of the proposed project and the abandoned attempt at securing DES approval for the proposed project. In comments provide LAC members have noted their concerns about environmental impact to the site selected for the landfill, being uphill of the Ammonoosuc River and that the headwater on the hillside are highly interconnected with groundwater, feeding into the Hatch Brook-Alder Brook tributary, a perennial stream complex that flows into the Ammonoosuc River just a short distance upstream of Town of Littleton.

In reviewing this application and others submitted to NHDES regarding the Granite State Landfill Project, the Committee has noted serious concerns about environmental and community impacts to the site selected for this landfill, as well as to hydrologically connected neighboring sites and downstream communities. These concerns are shared widely by residents and representatives of communities downstream of this proposed project.

The current wetlands application describes several alternative impacts to the proposed project area but the “preferred alternative 5.3” is relied upon for quantifying all the proposed impacts. The proposed project will impact approximately 11.5 acres of wetlands. This includes permanent impacts to 10.2 acres for landfill and infrastructure improvements (largely consisting of forested wetland, including an additional approximately 0.9 acres of after-the-fact impacts), approximately 956 linear feet of intermittent stream, and approximately 910 linear feet of perennial stream. Five vernal pools of medium and high function were documented within the landfill footprint. The permit application is strictly for alternative 5.3.

The groundwater within the proposed footprint generally flows to the southwest, towards Alder Brook and its associated wetlands, in the same general direction as surface water flow. The potential for a disastrous leachate spill would certainly impact the Ammonoosuc River cannot be ignored. Two recent accidental discharges of toxic landfill leachate from two of the applicant's landfill sites (Bethlehem, NH and Coventry, VT). Local emergency services, who would be the first responders, do not have the equipment to deal with such a disaster. Any spill of leach or overflow of stormwater runoff will almost certainly impact the perennial streams and higher functioning wetlands downslope of the proposed project area. The poisons, including PFAS and other toxins, would flow down gradient into the Ammonoosuc River and then downstream to Littleton and other communities along the river.

Stormwater treatment plans presented in this application rely on historical data and use a 50-year event as the maximum considered in calculations. It seems obvious that, while apparently conforming to application requirements, reliance on historic data and limiting calculations to a maximum of a 50-year event are not considering the current trends in storm activity and amounts of precipitation produced. In addition, snow is excluded from calculation, but recent events show that there is rapid snow melt accompanied by liquid rain due to influxes of warm temperatures.

Selection of the landfill location should be based on factors of topography, natural resources, socioeconomics, and safety. It is recommended that the Dalton site does not appear to be a suitable location for multiple reasons. In addition, the Ammonoosuc River having been selected for two upstream landfill sites (existing landfill in Bethlehem and proposed site in Dalton) makes it seem like the responsibility has unduly been put on one river to carry the landfill burden of several states, which is unfair to the River, downstream communities, and the region.

Specific concerns and negative impacts that will result from the granting of this SD&F permit include:

- Disturbance to the well-functioning wetland complex
- Disturbance to Alder Brook fishery managed to protect wild brook trout (catch & release)
- Disturbance to rainbow trout and brown trout fishing in the Ammonoosuc River
- Alder Brook has Highest Ranked Wildlife Habitat in NH in 2020 Wildlife Action Plan
- 5 Vernal Pools on the property are a priority resource that need to be protected
- Ammonoosuc River is source of drinking water downstream in Woodville and in Lisbon with river's proximity to the Lisbon town wells
- Fluvial Geomorphology indicates a very high fluvial erosion zone in this reach of the river (Ammonoosuc River Geomorphic Assessment, Floodplain Conservation, and River Corridor Planning by Dr. John Field, October 2011)
- Slope of land in topography directs drainage flow from the site down to the river
- Runoff drainage from impervious gravel area on the site would also flow downhill
- Screening landfill from the public view of tourists, a challenge for the proposed hillside
- Truck traffic blowing dust from gravel driveway down to highway Route 116 below
- Highway sharp turn access to site poses an impediment to traffic flow along highway
- There are numerous differences and discrepancies in the information supplied in the AoT permit application and this SD&F.

Three years ago, the withdrawn NHDES File #2021-52265 Application/Standard Solid Waste Landfill in Dalton Volume 1, Section V – Site Report, Attachment 2(V) – Compliance with Solid Waste Rules, page 7, addressing ENV-SW 804.03 Surface Water Protection Standards, the applicant stated: “Phase I of the landfill has been designed such that the limit of the landfill is greater than 200 feet upgradient and 100 feet downgradient from wetlands...A Standard Dredge and Fill Wetlands Application has been filed for this project for filling of 17 acres of wetlands. The new wetland limits after filling will provide the

required separation...” While not stated as blatantly in the current application, the strategy has not changed.

While the redesign of the proposed project reduces the wetland impacts from those proposed in the earlier iteration of the wetland permit application the fact remains that in order to meet the requirement of the State of New Hampshire Solid Waste rules wetlands will need to be destroyed.

As detailed in **Env-Sw 804.03 Surface Water Protection Standards**.

(e) The footprint of a landfill shall not be located within 200 feet upgradient and 100 feet downgradient of a wetland within the jurisdiction of RSA 482-A, excluding any drainage appurtenances related to the site, that is not allowed to be filled under the authority of RSA 482-A.

The Ammonoosuc River Local Advisory Committee (LAC) is particularly concerned about the attempt to absolve the distance requirement of a proposed new solid waste landfill from portions of an important functioning wetland complex by attempting to use other permits to allow impacts to 11.5 acres of wetlands (including five vernal pools), approximately 956 linear feet of intermittent stream, and approximately 910 linear feet of perennial stream.

The current wetlands application describes several alternative impacts to the proposed project area but the “preferred alternative 5.3” is relied upon for quantifying all the proposed impacts as well as justification for the Compensatory Mitigation Plan.

As stated in the permit, state-wide site search results identified 169 potential landfill sites in New Hampshire was based on a criterion of least 300 acres of level or moderately sloped land. The size of the proposed project has been considerably reduced. Were a new solid waste landfill needed in New Hampshire, studies indicate that this is not the case, a new search for a possible site should be conducted.

It is the opinion of the committee that Wetlands Standard Dredge and Fill, NHDES File Number: 2023-03259 should not be issued.

Respectfully,



Courtney Bowler, Chair
Ammonoosuc River LAC