GRANITE STATE
ANALYTICAL SERVICES, LLC.

22 Manchester Road, Unit 2, Derry, NH 03038
Phone: (800) 699-9920 | (603) 432-3044 website: www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED:	05/29/2020
CLIENT NAME:	Eliot Wessler
CLIENT ADDRESS:	66 Newell Lane Whitefield, NH 03598
SAMPLE ID#:	2005-02181-002
SAMPLED BY:	Finkel, Adam
SAMPLE ADDRESS:	Forest Lake Well 2 West Lake Whitefield NH 03598
MORE LOC INFO:	

Legend
- Passes ✓
- Fails EPA Primary ⊗
- Fails EPA Secondary ▼
- Fails State Guideline ✕
- Attention ⚠

DATE AND TIME COLLECTED:	05/19/2020	11:15AM
DATE AND TIME RECEIVED:	05/20/2020	10:56AM
ANALYSIS PACKAGE:	Methylene Chloride-524.3-	
RECEIPT TEMPERATURE:	ON ICE 6.6° CELSIUS	
CLIENT JOB #		

Test Description	Results	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date-Time Analyzed
Methylene chloride*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	KV-NH	05/20/20 5:56PM
1,2-Dichlorobenzene-d4	107	%	✓		0.5	70-130%	EPA 524.3 - SS	KV-NH	05/20/20 5:56PM
4-Bromofluorobenzene	102	%	✓		0.5	70-130%	EPA 524.3 - SS	KV-NH	05/20/20 5:56PM
Methyl tert-Butyl Ether-d3	104	%	✓		0.5	70-130%	EPA 524.3 - SS	KV-NH	05/20/20 5:56PM

The results presented in this report relate to the samples listed above in the condition in which they were received.
RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.

Data Qualifier (DQ) Flags: None

Note: Air present in VOC vials. Analyst 2062 = Alpha Analytical (Mansfield).

* NELAP Accredited Analysis

Donald A. D'Anjou, Ph. D.
Laboratory Director

This analysis meets NELAP requirements except as noted.
State Certifications: | NH 1015 | MA M-NH003 | ME NH00003 | RI 101513 | VT VT-101507 |

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CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED:	05/29/2020
CLIENT NAME:	Eliot Wessler
CLIENT ADDRESS:	66 Newell Lane Whitefield, NH 03598
SAMPLE ID#:	2005-02181-003
SAMPLED BY:	Finkel, Adam
SAMPLE ADDRESS:	Forest Lake Deep Lake Whitefield NH 03598
MORE LOC INFO:	

Legend
- Passes ✓
- Fails EPA Primary ⊗
- Fails EPA Secondary ▼
- Fails State Guideline ✕
- Attention ⚠

DATE AND TIME COLLECTED:	05/19/2020	11:15AM
DATE AND TIME RECEIVED:	05/20/2020	10:56AM
ANALYSIS PACKAGE:	PFC-6-alpha-NH	
RECEIPT TEMPERATURE:	ON ICE 6.6° CELSIUS	
CLIENT JOB #		

Test Description	Results	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date-Time Analyzed
Date Extracted	-					No Limit	EPA 537.1	2062	05/26/20 7:00AM
Perfluorobutanesulfonic Acid (PFBS)	<2.00	ng/L			Sub Report	No Limit	EPA 537.1	2062	05/27/20 9:37PM
Perfluoroheptanoic Acid (PFHpA)	<2.00	ng/L			Sub Report	No Limit	EPA 537.1	2062	05/27/20 9:37PM
Perfluorohexanesulfonic Acid (PFHxS)	<2.00	ng/L	✓		Sub Report	18 ng/L	EPA 537.1	2062	05/27/20 9:37PM
Perfluorononanoic Acid (PFNA)	<2.00	ng/L	✓		Sub Report	11 ng/L	EPA 537.1	2062	05/27/20 9:37PM
Perfluorooctanesulfonic Acid (PFOS)	<2.00	ng/L	✓		Sub Report	15 ng/L	EPA 537.1	2062	05/27/20 9:37PM
Perfluorooctanoic Acid (PFOA)	<2.00	ng/L	✓		Sub Report	12 ng/L	EPA 537.1	2062	05/27/20 9:37PM

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RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.

Data Qualifier (DQ) Flags: None

Note: Air present in VOC vials. Analyst 2062 = Alpha Analytical (Mansfield).

* NELAP Accredited Analysis

Donald A. D'Anjou, Ph. D.
Laboratory Director

This analysis meets NELAP requirements except as noted.
State Certifications: | NH 1015 | MA M-NH003 | ME NH00003 | RI 101513 | VT VT-101507 |

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Dalton, NH
Natural Resource Inventory
Permanent Openings and Dense Softwood Stands
June 2023

N

Legend

- Roads
- Rivers and Streams
- Lakes and Ponds
- Town Boundary
- Dense Softwood
- Permanent Opening

8,000 4,000 0 8,000 Feet

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
West Burke, VT 05871
watershedtowildlife.net

Dalton, NH
Natural Resource Inventory
Conservation Land / Conservation Priority Areas
September 2023

Johns River / Connecticut River Region

Cushman Brook and undeveloped areas around including its confluence with CT River

Chase Bog Brook Wetlands and undeveloped areas

Southwestern Dalton Streams, wetlands and undeveloped area

N

Text

Legend

- Roads
- Town Boundary
- Rivers and Streams
- Lakes and Ponds
- Conserved Land
- Wildlife Action Plan Tier 1
- Wildlife Action Plan Tier 2

8,000 4,000 0 8,000 Feet

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
West Burke, VT 05871
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Dalton, NH
Natural Resource Inventory
Wetlands, Water Resources, and Vernal Pools
September 2023

N

Legend

- Vernal Pools
- Vernal Pools identified for a Wetland Permit Application
- Roads
- Town Boundary
- Rivers and Streams
- Lakes and Ponds
- National Wetland Inventory
- Poorly Drained Soils
- Very Poorly Drained Soils

Aquifers

- Less than 2000 feet sq./day
- 2000 - 4000 feet sq./day
- Greater than 4000 feet sq./day

Map Produced by:
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507 West Darling Hill Rd
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8,000 4,000 0 8,000 Feet

Dalton, NH
Natural Resource Inventory
Subwatersheds - HUC 12 with
Wetlands and Vernal Pools
September 2023

Lancaster Tributaries
413.5 acres

N

Johns River
6,926.5 acres

Dalton Tributaries
8,424.0 acres

Moore Resevoir
6.4 acres

Forest Lake / Bog Brook
911.9 acres

Lower Ammonoosuc River
1,422.1 acres

Legend

- Vernal Pools Identified for a Wetland Permit Application
- Vernal Pools
- Roads
- Rivers and Streams
- Town Boundary
- Connecticut River
- Lakes and Ponds
- additional wetlands
- Dalton NWI

Subwatersheds

HU_12_NAME

- Dalton Tributaries
- Forest Lake-Bog Brook
- Johns River
- Lancaster Tributaries
- Lower Ammonoosuc River
- Moore Reservoir

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
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8,000 4,000 0 8,000 Feet

Dalton, NH
Natural Resource Inventory
Bedrock Geology
June 2023

N

Legend

- Roads
- Town Boundary
- Rivers and Streams
- Connecticut River
- Lakes and Ponds

FORMATION1

- Ammonoosuc Volcanics
- Biotite granodiorite
- Dead River Formation, undivided
- Littleton Formation
- Littleton Formation, undivided
- Madrid Formation
- Perry Mountain Formation
- Pink equigranular biotite granite
- Smalls Falls Formation, undivided
- Tonalite, diorite, granodiorite, and granite

8,000 4,000 0 8,000 Feet

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
West Burke, VT 05871
watershedtowildlife.net

Dalton, NH
Natural Resource Inventory
Farmland and Steep Slopes
June 2023

Legend

- Roads
- Town Boundary
- Rivers and Streams
- Lakes and Ponds

Farmland Class

- All areas are prime farmland
- Farmland of local importance
- Farmland of statewide importance

Slope

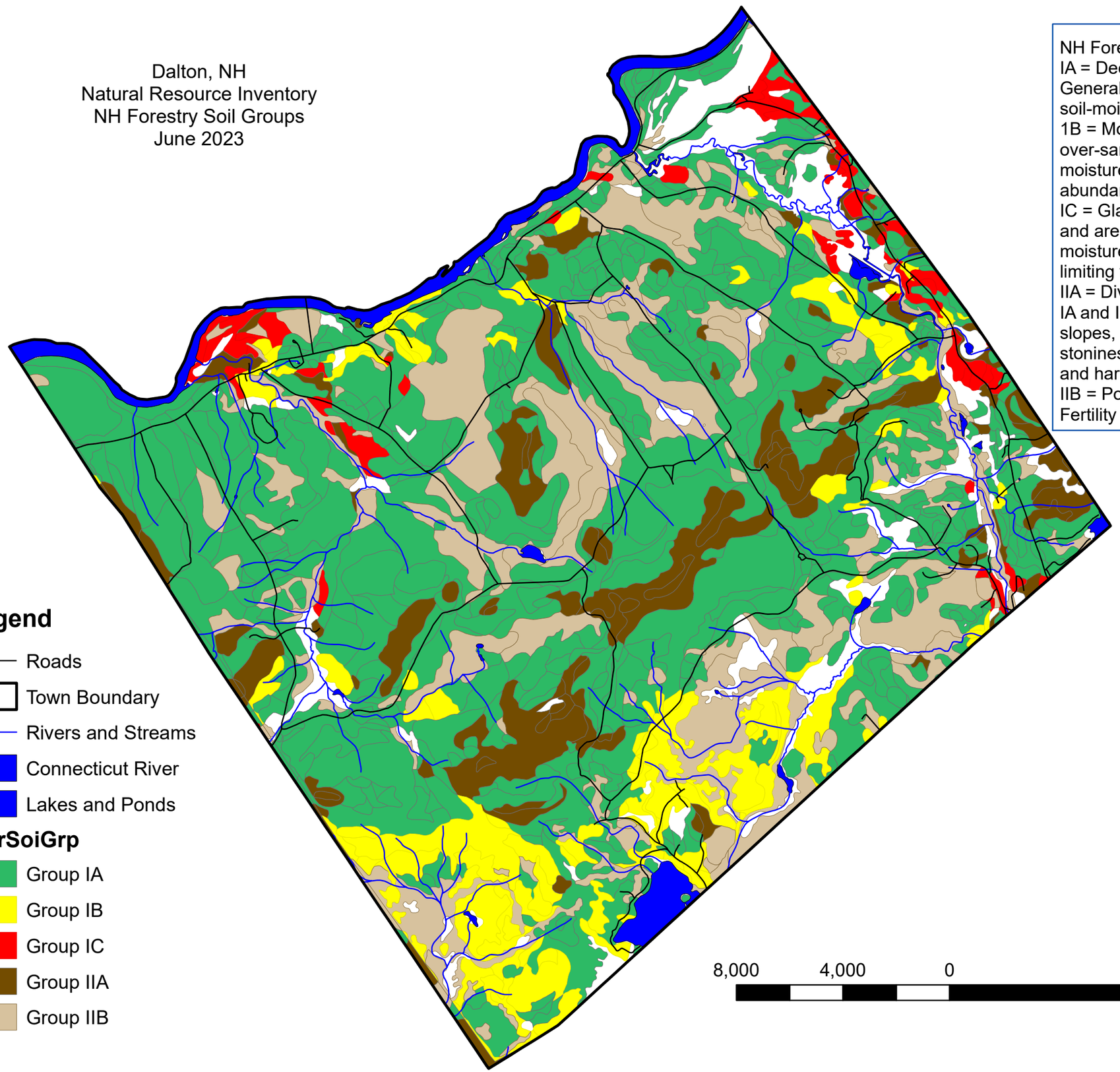
- 20-25%
- 30-38%
- 38-43%

N

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
West Burke, VT 05871
watershedtowildlife.net

8,000 4,000 0 8,000 Feet

Dalton, NH
Natural Resource Inventory
NH Forestry Soil Groups
June 2023



NH Forestry Soil Groups
IA = Deeper, loamy, moderately well-drained and well-drained soils. Generally, these soils are more fertile and have the most favorable soil-moisture conditions.
1B = Moderately well-drained and well-drained, sandy or loamy-over-sandy, and slightly less fertile than those in group 1A. Soil moisture is adequate for good tree growth but may not be quite as abundant as in group 1A.
IC = Glacial outwash sand and gravel. The soils are coarse textured and are excessively drained and moderately well-drained. Soil moisture and fertility are adequate for good softwood growth but are limiting for hardwoods.
IIA = Diverse soils and includes many of the soils that are in groups IA and IB. The soils in IIA, however, have limitations such as steep slopes, bedrock outcrops, erodibility, surface boulders, and extreme stoniness. Management activities such as tree planting, thinning, and harvesting are more difficult and more costly.
IIB = Poorly drained soils. Productivity is lower than in IA, IB, or IC. Fertility is adequate for softwoods but is a limitation for hardwoods.

Legend

- Roads
- Town Boundary
- Rivers and Streams
- Connecticut River
- Lakes and Ponds

IForSoiGrp

- Group IA
- Group IB
- Group IC
- Group IIA
- Group IIB

N

8,000 4,000 0 8,000 Feet

Map Produced by:
Watershed to Wildlife / Elise Lawson
507 West Darling Hill Rd
West Burke, VT 05871
watershedtowildlife.net

The Dalton site has one owner willing to allow development of the property. The Carroll West site had one owner willing to allow development of the site as of several years ago. An additional parcel or easement is needed to establish access to Route 3. The Carroll East site has two owners, one of whom had been known to be willing to consider development of the property, and the second owner has not been approached. The two separately owned parcels are needed to create a viable landfill footprint. The existing access road to the Shelburne site crosses through three parcels not owned by the landfill site owner who has recently listed the property for sale. The three parcels are owned by three separate entities. It is not known as to whether all three owners would be willing to sell or provide access easements, although a more environmentally intrusive road alignment avoiding these three parcels is possible.

Table 2 Part 2 results indicate the Dalton site ranks first overall with the best access to a state highway, no downgradient sensitive receptors, most compatibility with surrounding land use, and a supporting landowner.

4.4.3 Overall Scoring

The Dalton site was first among the four candidate sites in the Part 1 and Part 2 scoring system by a wide margin and is the clear choice among the four candidate sites.

5.0 ON-SITE MINIMIZATION OF SELECTED ALTERNATIVE

The Granite State Landfill (GSL) footprint revisions evolved over a five-year span with the goal to minimize wetland disturbance while maintaining project justification. The project was a collaboration of permit team guidance and regulatory input and is detailed by a five-step process as described below. The seven concepts and sub-concepts are shown on Figures 19 through 30. Detailed design drawings of the landfill and required infrastructure area along with stormwater features are depicted on the 50-sheet design drawing plan set to be submitted with the full application.

Overall minimization of the selected final footprint also included detailed design consideration of the infrastructure area and upgrading the access road and entrance on Route 116. The upgrades to the access road include substantial improvement to environmental considerations including wildlife habitat protection and functionality along with long term drainage considerations from a highway design perspective. These improvements to the site access road (Douglas Drive) and the entrance on Route 116 are shown on Sheets 22 through 36. Minimization of indirect impacts involved balancing pre- and post-development watershed conditions downslope of the landfill, infrastructure area, and access road as presented in the separate Alteration of Terrain permit application submitted near concurrently with this Wetland application.

5.1 Landfill Expansion Footprint

Concept 1 – Desk Study

The siting criteria were first applied to the GSL site during the desk study phase of work. The initial potentially viable landfill footprint is shown on Figure 19 as Concept 1. The footprint boundary shows the limits of excavation and filling associated with the lined landfill area and the perimeter berm and

access road. Stormwater ponds needed to manage stormwater runoff, replenish groundwater, and treat runoff water quality are shown separately outside of the footprint limits. It was assumed during this preliminary period that the infrastructure area could be constructed, and the access road upgraded without substantial additional wetland filling or disturbance. The Concept 1 footprint would not result in filling or permanent disturbance of NWI wetlands or perennial streams and surface water. The footprint complies with all NHDES siting criteria other than separation to field-delineated wetlands.

The southern limits of Concept 1 were established to provide a 200-foot setback to an NWI designated perennial stream. A similar setback to NWI surface water established the western limits of Concept 1. The northwestern corner of Concept 1 was set back 200 feet from an intermittent stream and a nearby commercial sand and gravel mining operation located beyond the stream. Steep slopes limited the landfill footprint to the north, as well as a 100-foot setback to the property line shared with the managed forest area of Forest Lake State Park. The eastern limits of the Concept 1 footprint were set back 100 feet from a ridgeline to situate the landfill within the Alder Brook watershed and outside of the Forest Lake watershed.

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).

Concept 2 – Initial Site Visit

During initial site reconnaissance it became apparent that the extent of perennial surface water and significant wetlands extended into the east-central portion of the Concept 1 footprint. As shown on Figure 20, the footprint limits were adjusted to avoid those areas resulting in a decline in footprint area to 219 acres. Landfill capacity declined to 44 MCY and footprint wetland filling and disturbance declined to 32 acres applying the subsequently completed field delineated wetland limits. The stormwater pond wetland filling and disturbance declined to about 0.2 acres or less.

Concept 3 – Screening Level Design

Subsequent site reconnaissance confirmed the likelihood that the perennial stream and associated wetland complex in the east-central portion of the footprint extended east to the existing site road used to access the sand and gravel mining operation in the northern portion of the site. The landfill footprint was reduced to avoid filling or disturbance in this area. Observations also indicated the existence of bogs/beaver ponds along the eastern portion of the southern landfill footprint limits. The landfill footprint limits were moved to the north in this area to provide the required NHDES setbacks to surface water. As shown on Figure 21, the landfill footprint area declined to 181 acres, wetland filling and disturbance declined to 19 acres applying the subsequently completed field delineated wetland limits, the stormwater pond wetland filling and disturbance was unchanged at about 0.2 acres or less. Landfill capacity declined to 32 MCY.

Concept 4 – Preliminary Wetland Permit Level Design

The landfill footprint was developed to a Wetland Permit Level Design including grading of earthwork, and design of perimeter berms, swales, roadways and stormwater ponds and pond access roads as described above. The field delineated wetland survey was incorporated into existing conditions during these design efforts. The landfill footprint was reduced from Concept 3 to limit wetland filling and disturbance and to incorporate other features favorable to direct and indirect impacts:

- The landfill footprint was moved about 100 feet downslope and west from the ridgeline parallel to the eastern landfill limits relative to Concept 3. This change had the following results:
  - Filling wetlands near the northeast corner of the landfill is avoided.
  - The limit of waste is now 350 to 375 feet from the ridgeline, an additional 100 feet of separation from Concept 3, and about 190 feet from the Forest Lake Park boundary to the north.
  - The landfill is situated farther from the Forest Lake watershed.
  - The landfill is less visible, particularly from the eastern shore of Forest Lake.
- The southeast boundary of the landfill footprint was moved to the north to avoid a large wetland complex. This modification also reduces the landfill visibility from the southeast shore of Forest Lake.
- Stormwater ponds were added to the lowest southwest corner of the landfill to reduce indirect impacts to downslope wetlands and surface water. This change reduced the lined landfill area and extended the distance from the limit of waste to surface water and wetlands beyond what is required by NHDES regulation in this key location where leachate drains and be collected within the double-lined landfill.
- The limit of waste, or lined area of the landfill was set back at least 200 feet upgradient and 100 feet downgradient from field-delineated wetlands to conform with NHDES siting criteria. This change reduced the landfill footprint from 181 acres to 173 acres and provided a larger buffer between the waste and the wetlands. The lined footprint within the overall landfill footprint was 137 acres.
- The wetland setback criteria were modified to be based on topography rather than the groundwater phreatic surface. This change reduced the lined landfill area from 137 acres to 135 acres and provided a larger buffer between the waste and the wetlands.
- A round of minimization took place during the regulatory feedback process. Low retaining walls were added at the toe of slope of perimeter berms in places, a few stormwater ponds were moved out of wetlands, and low retaining walls were added to pond access roads to reduce wetland filling.

As shown on Figure 22, the overall landfill footprint was reduced to 173 acres, wetland taking declined to 18 acres, wetland filling associated with stormwater ponds and pond access roads remained at about 0.2 acres or less and landfill capacity declined to 23 MCY.

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. In this instance that period would include 2 years

of construction and 18 years of operation at an annual disposal rate of 600,000 CY per year for a total capacity of 10.8 MCY. The previous Concept 4 plan included a three-phase landfill development to be constructed and built over a 38-year period. The USACE and the USEPA communicated in permit meetings that the master plan buildout of three phases would need to be understood at the time of application. However, the NHDES Wetlands Bureau needed to limit the permitting scope to a single development. Therefore, the project team could not reconcile the project schedules and scopes of the various permitting processes.

With the new development, indirect impact to Alder Brook would be decreased, as detailed below. Alder Brook contains cold water brook trout habitat which would require that the project limit temperature increases among other runoff and groundwater discharge related impacts. Increased setback distances to the brook and abutting high value wetlands would mitigate warmer runoff temperature impacts and provide for additional treatment of overland flow from the landfill area.

Concepts 5.1 through 5.3 are alternatives for an 18-year duration project that better aligns the required permit applications and durations and incorporates the following design changes to reduce potential impacts to Alder Brook.

- The lined landfill footprint is reduced to 70 acres from 135 acres.
- The distance from the lined landfill footprint to Alder Brook increases substantially for 2 of the 3 alternatives.
- The total project area of disturbance, including landfill, infrastructure, stormwater, and roadway improvements is reduced to about 150 acres from 270 acres.
- The landfill operating duration is reduced to 18 years from 38 years.
- Wetland filling is reduced to 10 acres from 18 acres for two of the alternatives.
- Vernal pool filling is reduced to varying degrees for the alternatives evaluated.
- Stormwater pond surface area is reduced from 11 acres to 5 acres.
- Filling of intermittent streams is reduced for 2 of the 3 alternatives.
- A lined stormwater pond is added to the leachate handling portion of the infrastructure area to collect and contain any spills or breaches.

In addition:

- The maximum landfill height is lowered by 20 feet to reduce visibility.
- White liner and tarp geomembranes will be employed during construction and operations rather than conventional black materials to cool surface water runoff.
- Trees will be planted around and in ponds and adjacent to swales to shade and cool surface water.
- To the extent allowed by the rules, the ponds are designed to infiltrate runoff into the ground to aid in cooling the water.

5.2 Minimization of Selected On-Site Landfill Location

The objective of Concept 5 was to develop a single-phase project within the 3-phase Concept 4 footprint that minimizes environmental impacts. Our goal was to avoid wetland filling to the extent practicable, and limit filling of streams and vernal pools. Our evaluation considered wetland cover types and principal and

suitable wetland functions and values. We chose to avoid disturbing the high value wetlands associated with Alder Brook and its tributaries located west and south of the borrow pit access road, and to provide more separation between the landfill and Alder Brook. Three sub-concept alternatives developed for project consideration are shown as attached Concepts 5.1, 5.2, and 5.3 on Figures 23 through 25, respectively. Each concept would provide at least 10 MCY of capacity.

On-site alternative selection matrices are provided in Tables 3 and 4. The matrices cover the seven concepts and sub-concepts developed. Table 3 contains selection criteria for filling of four wetland cover types, two stream types, and vernal pools. Table 4 contains selection criteria in acreage filled for 12 principal and suitable functions and values.

Regarding Table 3, Concepts 5.2 and 5.3 have less total wetland filling than Concept 5.1. Concepts 5.2 and 5.3 fill about the same acreage of wetlands but differ in that Concept 5.2 fills more length of intermittent stream and fewer vernal pools than Concept 5.3. Regarding Table 4, again Concepts 5.2 and 5.3 fill significantly fewer total wetlands than Concept 5.1. Concept 5.2 fills a little less than Concept 5.3 of principal function/value wetland acreage, whereas Concept 5.3 fills a little less than Concept 5.2 in suitable function/value wetland acreage.

Overall, Concepts 5.2 and 5.3 have similar scoring considering the summaries provided in Tables 3 and 4. Concept 5.3 was selected as the preferred alternative when considering regulatory requirements other than wetlands. Concept 5.3 is set back 700 feet farther than Concept 5.2 from the main branch of Alder Brook. The brook has been identified as a cold water habitat trout among other species. This additional buffer provides benefits to water quality in the stream by naturally filtering landfill area runoff through overland flow and allowing runoff from the landfill to cool over an increased distance through forested areas and via a longer path of groundwater flow. Additionally, the increased buffer provided by Concept 5.3 provides longer groundwater travel times to Alder Brook and thus more time to study and remediate any releases detected in the monitoring wells located near the perimeter of the landfill.

5.3 Infrastructure Area

The infrastructure area and access road area of disturbance are shown on Figure 27. The infrastructure area includes truck scales, queueing, and staging areas; office and maintenance buildings; leachate storage, treatment and unloading facilities; a landfill gas to pipeline quality "natural gas" processing facility, and stormwater ponds. These infrastructure facilities are sited in upland areas and minimal wetlands are directly filled or disturbed by this portion of the project. Stormwater ponds are incorporated into the infrastructure site layout to control and treat runoff and to infiltrate groundwater to limit indirect impacts. In the recent design revisions, the infrastructure area has been consolidated into a smaller footprint and the distance from Alder Brook to the disturbed infrastructure area footprint increases to 1,600 feet from 650 feet.

5.4 Site Access Road (Douglas Drive)

The existing 7,000-foot-long site access road is appropriate for truck traffic associated with the current soil and rock mining operations at the site. Modifications to the grade and alignment of the road are required

https://www.caledonianrecord.com/news/local/group-pushes-state-to-re-include-full-wetlands-impact-of-landfill/article_575a6cbf-f96a-5fbd-876c-8e433b54605c.html

Group Pushes State To Re-Include Full Wetlands Impact Of Landfill

DES Public Info Session For Sept. 29 Moved To Online Only

rblechl@caledonian-record.com Staff Writer
Sep 24, 2021

The Conservation Law Foundation, whose attorney, Tom Irwin, is pictured here in Littleton in 2018, was determined last week to have standing in its appeal against the state's decision to allow Stage VI expansion for Casella Waste Systems' landfill in Bethlehem. (File photo by Robert Blechl)

An environmental group that has been active in recent years in litigation against the Casella Waste Systems landfill in Bethlehem and the company's proposed landfill in Dalton is pushing the state to re-include the full wetlands impact for the Dalton project.

As a public informational session hosted by the New Hampshire Department of Environmental Services nears next week on the full scope of the Casella permitting processes, the Conservation Law Foundation is asking the department to clarify why it is suspending its review of Casella's wetlands permit submitted in August 2020 for an "attempt to limit the scope of review to only one portion of the larger landfill development" and is arguing that DES is required under federal and state law to study the cumulative wetlands impacts of a project.

On July 14, a public hearing on Casella's wetlands permit application was hosted by DES in Whitefield, with the public comment period scheduled to end on Sept. 13.

Under state law, DES is required to issue an approval or denial within 45 days following the end of the public comment period.

On Aug. 26, however, the department contacted Casella to request that the company amend its application to include only the first phase and not all three phases of the proposed landfill that would permanently impact a total of 17 acres of wetlands.

On Sept. 1, Rene Pelletier, assistant director of DES's Wetlands Division, told The Caledonian-Record that it is not uncommon for DES to request that applicants amend their applications as allowed under law and an amended Casella application makes it easier to coordinate multiple permit applications for a comprehensive review, requires the company to include more information in its application, and slows the permitting process, and DES doesn't know if Casella will submit future applications to build phases two and three.

He also said Casella engineer, Joe Gay was made aware before DES's Aug. 26 letter that the department was not going to approve what the company deemed to be all three phases.

Opponents of a landfill at the proposed site in Dalton, however, say the amendment shows that DES is working behind the scenes with Casella to avoid a permit denial, the department had already committed to a decision by the end of October 2021 (instead of an amended decision date in December 2022), and by excluding the full wetlands impact it will make it easier for DES to issue an approval.

Casella's amended wetlands permit application is now expected to be submitted to DES by Dec. 15, 2021.

In its Sept. 10 letter to DES, CLF attorney Peter Blair said in addition to the 17 acres of impacted wetlands, a new landfill near Forest Lake State Park would involve the destruction of five vernal pools and the clear-cutting of more than 160 acres of forested land.

Although CLF intended to submit substantive comments opposing the 2020 wetlands application detailing its concerns, CLF will not be submitting comments on the original application since it appears that DES will not be considering it, said Blair, who requested that DES clarify the procedural process and provide it and other members of the public a reasonable extension of time for submitting public comments.

Objecting to DES's position that it's unknown if Casella will return for phases two and three, Blair said Casella has "articulated a clear intention to develop the project beyond Phase One" and "the 2020 wetland application repeatedly outlines a well-developed plan for the construction and operation of a large landfill developed in three phases."

"The department's approach of dividing up and segmenting the full project review into smaller individual parts will ignore the true scope, scale, and severity of the proposed action," said Blair. "Therefore, the department must consider the full scope of impacts from the entire project. This will ensure that the department (1) is not illegally segmenting the project in a manner that renders the review process inconsistent from that of federal agencies, and (2) is considering all cumulative impacts as required by [DES rule] Env-Wt. 302(a)(16)."

Only focusing on the first phase is prohibited under the National Environmental Policy Act and will create a divide between the federal and state permitting process that would be in direct contrast to one of the department's primary reasons for requesting a new application in the first place, and would not advance DES's other stated objective of ensuring a holistic review of the impacts on water resources, he said.

Studying the full impact of the Casella proposal "will also protect the department's credibility in its regulation and permitting of activities affecting wetlands," said Blair.

"Simply put, a segmented approach that fails to consider the true, foreseeable impacts of the project would create the very real impression that the department is more interested in 'getting to a yes' with the applicant than providing important regulatory protections for the state's wetlands resources," he

said.

It is currently undetermined if CLF will file litigation against DES if the department proceeds with the amended application and new timeline.

In February at Merrimack Superior Court, CLF filed a lawsuit against DES in an effort to stop the state from approving any new or expanded landfill until the state updates its solid waste management plan, which was last updated in 2003, and abides by a law mandating a 40-percent reduction in waste land-filled by the year 2000, a goal that has not been met.

The superior court litigation was triggered by DES's approval in October 2020 of another phase of expansion at Casella's landfill in Bethlehem and the company's application submitted in February for a new commercial landfill in Dalton.

In May, a judge dismissed the lawsuit.

A lawsuit filed in federal court in 2018 by CLF against Casella for alleged violations of the Clean Water Act at the company's Bethlehem landfill remains pending.

On Sept. 13, Amy Manzelli, attorney for the North Country Alliance for Balanced Change, which opposes the site in Dalton for a landfill, issued a letter to DES's Wetlands Bureau regarding Casella's wetlands application.

"This application has run its course with DES and is still not approvable," she said. "The requested amendment in an effort to make it approvable clearly violates the point that the review of environmental impacts should have a logical ending point. It appears as if DES has requested this amendment because the application is not approvable as-is. If this is the case, then DES should simply deny the application rather than coaching the applicant into creating an approvable application. That is not the role DES should be playing, nor is it appropriate."

Manzelli said NCABC spent the last year working diligently to bring the issues of Casella's original application to the attention of DES, and now that year is wasted because of the amendment.

"DES should require the applicant to provide information about the entire project, all three phases for all permits (air, solid waste, and wetland state permitting, as well as all federal permits)," she said. "This would be the most accurate way to evaluate all of the impacts to natural resources so that all of the agencies with permitting jurisdiction can understand if the project does or does not meet the permitting requirements."

Public Informational Session

On Wednesday, DES announced that the in-person informational session that had been scheduled for 6 p.m. Wednesday at White Mountains Regional High School in Whitefield (with a virtual option online) has been moved to online only, because of what department representatives said was unforeseen difficulties with the venue, to eliminate COVID-19 exposure risk, and to allow more time for questions and answers.

The agenda that includes an overview of the different state permits Casella will need under DES's jurisdiction remains the same.

Robert Blechl

PRE-APPLICATION MITIGATION MEETING
GRANITE STATE LANDFILL, LLC
DALTON, NEW HAMPSHIRE

PROJECT DESCRIPTION:

Overall Goal of the Project.

The development of the Granite State Landfill, LLC (GSL) will provide the State of New Hampshire with critical long-term waste disposal planning and management need, consistent with the New Hampshire Department of Environmental Services (DES) "2022 Solid Waste Management Plan." Long-term secure disposal capacity is critical infrastructure to meet the health and safety of New Hampshire's natural environment and the people who live there. The new facility would replace North Country Environmental Services (NCES) landfill upon its closure.

The facilities and work that could impact jurisdictional areas.

Project Location: The proposed project (see locus plan) is located within Tax Map 406 Lot 2.1 and Tax Map 406 Lot 3 in Dalton, New Hampshire. This approximately 713 acre property is accessible via Douglas Drive from New Hampshire Route 116 in Bethlehem, New Hampshire and is located in an industrial area of Dalton. The Town of Dalton has no zoning ordinance.

Project Description: The original DES Wetlands Permit application was applied for in August 2020. This application (NHWB # 2020-02239) was for a 3 phased landfill (see Overall Conceptual Plan) encompassing approximately 135 acres with approximately 270 acres of land disturbance. As designed, the project would have affected approximately 16.6 acres of wetland, 150 linear feet of perennial stream, and 1,350 linear feet of intermittent stream. The facility had an estimated life of approximately 38 years. The total property consisted of 4 parcels encompassing approximately 1,280 acres.

Design Plans: During the application review process, comments from state and federal regulators served to shift the emphasis from a 3 phase project to a single phase project with a reduced overall footprint. The revised project (see Revised Overall Conceptual Plan) property consists of 2 parcels totaling approximately 713 acres. The revised design reduces the project impacts as follows:

	Original 3 – Phase Project	New Project	Net Reduction
Project Property	1,280 acres	713 acres	567 acres
Lined Footprint	135 acres	70 acres	65 acres
Area of Disturbance	270 acres	147 acres	123 acres
Project Life	38 years	18 years	20 years
Wetland Impacts	+/-17 acres	+/-10 acres	+/-7 acres

Appendix D
2020 Standard Dredge and Fill Wetlands Permit Application
NHDES File Number: 2020-02239 "Concept 4"

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: Granite State Landfill, LLC **TOWN NAME:** Dalton/Bethlehem

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.: Check No.: Amount: Initials:

A person may request a waiver to the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III (b). For more information, please consult the request form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2)) Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☐ Yes ☒ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04).	☐ Yes ☒ No
• Protected species or habitat? ○ If yes, species or habitat name(s): ○ NHB Project ID #: 20-1834	☐ Yes ☒ No
• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☐ Yes ☒ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☐ Yes ☒ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): Ammonoosuc River LAC • A copy of the application was sent to the LAC on Month: 8 Day: 31 Year: 2020	☒ Yes ☐ No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	☐ Yes ☒ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (se Wetland Permit Planning Tool or Stream Stats): 128 Acres	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a **brief** description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.

Granite State Landfill, LLC (GSL), a subsidiary of New England Waste Services, Inc. (NEWS) proposes to develop a modern lined landfill facility off of Route 116 in the Town of Dalton. Access from Route 116 will be via Douglas Drive, a privately-owned gravel road.

NEWS currently operates a landfill facility in the Town of Bethlehem known as North Country Environmental Services, Inc. (NCES). The NCES facility will be at capacity in the near future. The landfill is situated within a specific land use zone within the town. In 2017 and 2018, NCES proposed expansion at the site. Bethlehem voters did not approve the NCES site zoning request.

In order to continue to serve New Hampshire communities and provide necessary long-term solid waste infrastructure for the state, GSL has invested development resources for this new regional site. Landfill capacity is designed for 23 million cubic yards with a site life estimated to be approximately 38 years.

As planned, the facility would permanently impact approximately 16.3 acres of largely forested wetland, approximately 1350 linear feet of intermittent stream and approximately 150 linear feet of perennial stream.These impacts are required to upgrade the Route 116/entrance, upgrade Douglas Drive to the landfill infrastructure area, and establish the landfill footprint, perimeter road, perimeter berm and stormwater management features. Temporary impacts are limited to small areas (see plans) which will be disturbed during construction.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: Douglas Drive	
TOWN/CITY: Dalton/Bethlehem	
TAX MAP/BLOCK/LOT/UNIT: 406-1(M405-33, 406-1, 406-2.1, 406-2.3,2.4,2.5, 406-3) Bethlehem (406-1, 406-2)	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ☒ N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	44 20' ° North 71 41' 38" ° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))
If the applicant is a trust or a company, then complete with the trust or company information.

NAME: Granite State Landfill, LLC

MAILING ADDRESS: 1855 Vermont Route 100

TOWN/CITY: Hyde Park | STATE: VT | ZIP CODE: 05655

EMAIL ADDRESS: John.Gay@casella.com

FAX: | PHONE: 802-651-5454

ELECTRONIC COMMUNICATION: By initialing here: JG, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))
☐ N/A

LAST NAME, FIRST NAME, M.I.: Keith, Barry H.

COMPANY NAME: B.H. Keith Associates

MAILING ADDRESS: PO Box 326

TOWN/CITY: Freedom | STATE: NH | ZIP CODE: 03836

EMAIL ADDRESS: bhkeith1@netzero.net

FAX: | PHONE: 603-539-8343

ELECTRONIC COMMUNICATION: By initialing here BHK, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))
If the owner is a trust or a company, then complete with the trust or company information.
☐ Same as applicant

NAME: Douglas Ingerson, Jr. d.b.a J.W. Chipping

MAILING ADDRESS: 104 Douglas Drive

TOWN/CITY: Bethlehem | STATE: NH | ZIP CODE: 03574

EMAIL ADDRESS:

FAX: | PHONE: 603-444-0676

ELECTRONIC COMMUNICATION: By initialing here , I hereby authorize NHDES to communicate all matters relative to this application electronically.

Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

406.04. The limits of bank and the ordinary high water mark for perennial streams and the ordinary high water mark for

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a))*. Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10))*.

Please refer to the application checklist to ensure that you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). You can use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

Mitigation Pre-Application Meeting Date: Month: Day: Year:

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☒ I confirm submittal.

(☐ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland	318,684		☐	4,419		☐
	Scrub-shrub Wetland	342,464		☐	12,615		☐
	Emergent Wetland			☐			☐
	Wet Meadow	75,944		☐	1,386		☐
	Vernal Pool	6,612		☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL							

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	765,180 SF	× $0.40 =	$ 306,072
Seasonal docking structure:	SF	× $2.00 =	$
Permanent docking structure:	SF	× $4.00 =	$
Projects proposing shoreline structures (including docks) add $400 =			$
		Total =	$ 306,072

The application fee for minor or major impact is the above calculated total or $400, whichever is greater =	$ 306,072

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project	☐ Minor Project	☒ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: DI JG BHK	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: DI JG BHK	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: DI JG BHK	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials: DI JG BHK	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY: Douglas Ingerson, Jr.	DATE: 6-28-20
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY: John Gay	DATE: 8/28/20
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Barry H. Keith	DATE: 8/28/20

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a),(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: Jessie R. Wentworth Mary Jackson	PRINT NAME LEGIBLY: Jessie R. Wentworth Mary Jackson

TOWN/CITY: Dalton Bethlehem	DATE: 08-31-2020 / 8-31-2026

DIRECTIONS FOR TOWN/CITY CLERK:
Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".

https://www.caledonianrecord.com/news/local/bethlehem-voters-say-no-to-landfill-expansion/article_d126f260-05b9-5b41-9f50-08d656582bfc.html

FEATURED

Bethlehem Voters Say No To Landfill Expansion

Moritz Reelected To Selectboard;Voters Also Approve Sale Or Lease Option For Golf Course

Robert Blechl
Mar 14, 2018

Nearly 40 counters - at town hall until after 3 a.m. Wednesday - tallied up town vote in Bethlehem, which saw voters reject another proposal for landfill expansion. (Photo by Robert Blechl)

BETHLEHEM — Casella Waste Systems had the money, the organization and the campaign, but in the end it wasn't enough to overcome the majority of voters who for the second consecutive year said no to landfill expansion.

Article 4, asking the town to add 100 acres to the current 61-acre landfill district, failed in a 515-605 vote.

Article 22, asking the town to direct selectmen to negotiate a new host community agreement (HCA) with North Country Environmental Services, the Bethlehem subsidiary of Casella, for a 20-year landfill expansion, failed in a 494-601 vote.

A total of 39 counters tallied up approximately 1,125 ballots Tuesday and into early Wednesday morning.

The count ended about 1:45 a.m. and the vote result was announced about 3:30 a.m.

The number of voters turning out - and during a snowstorm - was unusually large for a town of about 2,500.

“Casella’s defeat shows us that citizens can stand up to big, out-of-state corporations that attempt to use our town for multi-million dollar profits without regard for serious impacts on our environment and long-term economic success,” Teresa Tupaj Wood, founder of Build a Better Bethlehem, formed to fight expansion, said in a statement Wednesday.

Casella’s campaign for expansion in Bethlehem began in earnest in November, when it backed and funded a citizens group called Believe in Bethlehem.

What followed were several months of mass mailings to residents and signs across town as well newspaper and radio advertisements and a letter-writing campaign, all encouraging them to vote for expansion.

Casella spokesman Joe Fusco, NCES landfill manager Kevin Roy, and BiB spokesman James Payette have declined to say how much Casella spent on the campaign or provide receipts of donations.

Casella waged a similar and unsuccessful campaign in Southbridge, Mass., whose voters in 2017 rejected an expansion of the landfill the company operates in that town.

According to a story in the Telegram and Gazette, Casella spent up to $100,000 through its “Put Southbridge First” campaign.

The main argument for expansion in Bethlehem has been it would reduce or stabilize the tax rate, but the town's tax rate has continued to increase as the landfill has expanded under 25 years of Casella ownership.

On Feb. 26, Casella filed a tax abatement in Bethlehem that if successful will cut the property taxes it pays to the town in half, to about $200,000, according to that filing for tax year 2017.

Another group opposed to expansion, Growing Without Garbage, believes the abatement in Bethlehem is a strategy by Casella to artificially drive up the town's tax rate so residents vote for expansion to reduce the rate.

In 2012, Bethlehem residents voted to end years of litigation between the town and Casella in exchange for the company adding 10 acres to expand the landfill, which is nearing capacity and is projected to close in about 2022.

At that time, company representatives said they had no more land to expand onto and the landfill would close once capacity is reached.

Residents were not informed, however, that Casella had been negotiating with former landfill opponent Dan Tucker for 123 landfill-adjacent acres, which the company purchased in 2015.

According to the equalized valuation summary filed with the town, the landfill generated more than $28 million for Casella for tax year 2017, which, based on that figure, means 20 years of expansion could result in more than $500 million in revenue for the company.

Roy last year said the tipping fee per ton and annual revenue figures are not that high, but declined to provide the company's numbers.

Another push for landfill expansion in Bethlehem is likely.

"We plan to continue to work with the citizens of Bethlehem on the next steps for the NCES landfill, including alternative expansion strategies past the current permitted capacity," Fusco said Wednesday. "The landfill is an important environmental and economic contributor to the community and the state of New Hampshire."

Fusco and Casella CEO John Casella did not respond to a question asking if the company will pursue litigation against the town if a future expansion proposal is again rejected by voters.

They also declined an opportunity to say why they believe the 2018 vote for expansion did not succeed.

Elections

In the race for selectman, incumbent Selectman Mary Moritz, elected to a one-year term last year, defeated challengers Catherine MacDevitt and dann (no last name) for the board's open three-year seat.

Moritz garnered 604 votes, versus 441 for MacDevitt and 20 for dann.

Elected to the two three-year planning board seats were former planner Chris McGrath, with 495 votes, and current planner Marie Stevenson, with 439. They defeated Neil Brody, who received 406 votes, Jim Martin, with 173, and dann, with 60.

Elected to the two three-year seats on the zoning board of adjustment were Amy Delventhal, with 510 votes, and Andrea Bryant, with 505. They defeated Alan Jackson, who received 416 votes, Butch Lucas, with 387, and dann, with 39.

Incumbent Town Moderator Mary Lou Krambeer defeated former Selectman Gerald Blanchard 551-459 in the race for town moderator.

Bethlehem Country Club

Flying to victory was Article 10, which asked the town to direct selectmen to explore options for the sale or long-term lease of the town-owned Bethlehem Country Club and golf course.

Also passing, 718-306, was Article 11, which asked voters, in the event the BCC is sold or leased, if they want that sale or lease to be contingent on it remaining a golf course.

Citizens of Bethlehem

Under agreement with your Board of Selectmen and the State of New Hampshire, we have started work to completely remove, all of the solid waste from the old unlined landfill and the single lined parts of the Sanco landfill located on Trudeau Road. Material, previously placed in the old unlined landfill will be relocated into the new state of the art double lined landfill. Completion of this project, which will take approximately 40 days, will remediate over 15 years of previous practices appropriate for those days but clearly not acceptable under today's standards. In performing this work, it is not possible to avoid some stirring of the waste and the creation of some odors which may be offensive. We deeply apologize to our impacted citizens for this inconvenience and will do everything possible to expedite the project. We welcome any inquiries and will be pleased to assist the pubic as we proceed with this important contribution to the preservation of our environment.

We are proud to be making a difference.

Thank You

CASELLA WASTE MANAGEMENT

902-775-0325

8/25/93

Appendix F

Francon
B

Franconia To
Tuesday,

There will be a pub
application for a site
Garnet Hill office b
The project involves

N

The Mountain Club on
Painting F
Exterio

Specs and informatio
Burrows.

Deadline for Bids is

Pam S.
PA+DRS

THE COURIER, LITTLETON, N.H., NOVEMBER 17, 1993

Landfill tests come up clean

By Mike Dickerman

BETHLEHEM—An engineering study completed earlier this month shows that soil beneath the two oldest sections of the Consumat Sanco landfill contains virtually no contaminants.

The report, authored by the Concord engineering firm, Sanborn, Head and Associates (SHA), concludes that soils underneath the landfill area recently excavated of buried waste are free of contamination, and that no further excavation is necessary at the landfill site.

The SHA contamination assessment was undertaken last month after the landfill's trash relocation project was completed in mid-October. The project involved moving buried waste and soil from the original unlined 3.82 acre landfill and a 1.3 acre single lined extension area, into a new four-acre double-lined cell.

At the conclusion of the relocation project, SHA observed and logged 38 test pits in and around the excavation area, and had took samples from each for testing.

The SHA report says no volatile organic compounds were detected in the sub-surface samples taken from the test pits, while one sampling taken from a stockpile of above ground soil near the center of the actual excavation area contained one contaminant.

Consumat Sanco's Leo Larochelle, the facility's on-site engineer, explained last week that during the excavation operation, buried waste and any soil in contact with the waste was removed and placed in or over the landfill's double-lined area.

He said the follow-up soil samplings were undertaken to determine if the soil below the buried trash had also been contaminated.

"If the latest tests had shown any contamination, we would have removed that soil as well and placed it in the double-lined area," said Larochelle. "We weren't sure what we were going to find. Obviously, we're pleased with the results."

Larochelle added that the actual excavation encompassed a larger area of the landfill than originally planned as buried trash was discovered outside what officials believed was the original boundary of the unlined section.

"Once we discovered what we had, we decided to keep going until we dug up everything that was there," said Larochelle. "We wanted to get it all taken care of now."

In its report, SHA recommends that Sanco stabilize the relocation site by grading over the area to contain runoff, and seed the area to limit erosion problems. SHA also recommends that the landfill continue its ongoing groundwater monitoring program.

The next series of water tests should prove interesting, admitted Larochelle, as they should show what effect (if any) the removal of waste removal project has had on groundwater sources beneath the landfill.

"We anticipate a gradual improvement in water quality conditions," speculated SHA officials in their report.

Larochelle said the next round of groundwater samplings are slated to be taken later this month.

North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

May 25, 2001

Mr. Michael McCluskey
Waste Management Division
New Hampshire Department of Environmental Services
6 Hazen Drive
Concord, NH 03301-0509

RE: North Country Environmental Services, Inc. Landfill
Landfill Facility - Bethlehem, N.H
Incident Report and Resolution
{Via facsimile; (603) 271-2456, 2 pages – originals to follow conventional mail}

Dear Mr. McCluskey:

North Country Environmental Services, Inc. is writing to provide a complete Incident Report and Resolution to a leachate spill that occurred at the above referenced facility. More specifically, on April 30, 2001 leachate overflowed from the existing 1000-gallon leachate storage tank located to the north of the facility and adjacent to the leachate evaporator. This spill was a result of an unintentional manual override of the leachate consolidation system controls.

Incident History: In the afternoon of April 30, 2001, a leachate tanker arrived at NCES to collect and transport leachate to a wastewater treatment plant. The tanker was situated adjacent to the leachate consolidation building to proceed with normal loading of leachate from the consolidation tank. As you are aware, the leachate from the consolidation tank can be directed to one of two destinations either the evaporation system or direct to a leachate tanker. The limit switch valve arrangement in the consolidation building is configured such that if leachate is to be loaded into a tanker than the corresponding valve is manually opened and the evaporator valve is manually closed thus automatically enabling the overfill protection on the load out arm via the limit switch. Conversely, if the leachate evaporator is to receive the leachate than that corresponding valve is manually opened and the load out valve is manually closed thus automatically enabling the high tank level sensor in the evaporator tank.

As facility staff prepared to manually open and close the appropriate valves to direct leachate to the load-out arm, they noticed that leachate was being pumped to the leachate evaporation tank. Rather than interrupting the flow to the evaporator tank, facility staff allowed the pump to continue directing flow to the evaporator tank until the cycle was complete. Unbeknownst to facility staff, the pump continued to pump leachate to the evaporator tank despite the controller receiving a high alarm and a high-high alarm signal from the evaporation tank. Other facility staff noticed leachate overflowing from the evaporator tank shortly after the tanker arrived at the consolidation building. At that time the pump was manually shut-off and leachate flow discontinued.

The exact cause of the controller override is not entirely clear, but after evaluating the incident and speaking with Ron Gehl of EOS Research, Inc. (The manufacturer of the controls system), we believe that the keyed switch and/or the load-out arm switch may have been turned "ON" while leachate was being pumped to the evaporation tank. It is believed that the act of turning on either or both switches an override of the high level tank sensor was initiated.

Incident Resolution: An unknown volume of leachate overflowed from the evaporation tank. Facility staff excavated to a depth of 18" over the obvious soil stained area adjacent to the evaporation tank immediately following the incident. Approximately three-bucket loads were excavated from a Cat 966F Loader and disposed in the landfill. Soil samples will be collected in the vicinity of the leachate evaporator tank to confirm that all of the contaminated soil was removed. The results of the soil analysis will be forwarded to you as soon as they are available.

EOS personnel are in the process of evaluating and re-configuring the control logic to ensure that the controller cannot be overridden. In the interim, EOS and facility staff has prepared a procedure to manually ensure that a similar condition will not occur before the controls are further automated. Should you have any questions please do not hesitate to contact me at (802) 223-7221.

Sincerely,
NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Joe Gay, E.I.
Permits, Compliance and Engineering

C: Larry Lackey, North Country Environmental Services, Inc. (via e-mail)
Ted Reeves, North Country Environmental Services, Inc. (via e-mail)
Lenny Wing, North Country Environmental Services, Inc. (via e-mail)
Don Monahan, North Country Environmental Services, Inc. (via e-mail)
Al Sabino, North Country Environmental Services, Inc. (via e-mail)
Robert Banfield North Country Environmental Services, Inc. (via e-mail)

North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

February 15, 2003

Mr. Michael Guilfoy
Waste Management Division
New Hampshire Department of Environmental Services
6 Hazen Drive
Concord, NH 03301-0509

RE: North Country Environmental Services, Inc. Landfill
Landfill Facility - Bethlehem, N.H
Incident Report and Resolution

{Via facsimile; (603) 271-2456, 3 pages – originals to follow conventional mail}

Dear Mr. Guilfoy:

NCES (North Country Environmental Services, Inc.) is writing to provide a complete Incident Report and Proposed Resolution to a leachate forcemain break at the above referenced site.

On Wednesday, February 12, 2003 a pipe cleaning contractor was at the site performing "pipe jetting" and "pipe swabbing" services on leachate conveyance piping. Pipe jetting is terminology used in the industry for high water pressure cleaning of interior pipe walls and "pipe swabbing" involves forcing a small device through piping with water pressure to dislodge any residual solids that pipe jetting can not loosen.

While pipe swabbing a section of forcemain from the consolidation building to the first leak detection manhole (see attached sketch) the pipe swab became bound in the pipe and attempts to force it through with water pressure split the forcemain. This forcemain originates at the consolidation building, travels through a series of leak detection manholes and is connected direct to the landfill gas condensate holding tank.

This forcemain is not in operation at this time because of the break in the line and valves are closed bracketing the damaged section. Repairs to this Forcemain will not commence until after the frost in the soils above the forcemain have receded. This section of forcemain does not serve to remove leachate from the sumps, rather, a conveyance of consolidated leachate to the landfill gas condensate holding tank that serves the leachate evaporation unit.

All leachate was contained within the containment system, pumped from the leak detection manhole into a tanker and deposited in the Stage III holding tanks. Any consolidated leachate that is to be evaporated will be transferred from the load out system at the consolidation building to the Stage III holding tanks via leachate tankers.

NCES will notify you when repairs are scheduled to be made and will have our Consulting Engineers on-site to inspect the work and provide construction quality assurance. A report will be forwarded to you and will include all necessary pipe pressure testing data once the work is complete. Should you have any questions please do not hesitate to contact me at (802) 223-7221.

Sincerely,
NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

John Gay

John Gay, E.I.
Permits, Compliance and Engineering

Enclosure

c: Larry Lackey, North Country Environmental Services, Inc. (via e-mail)
Ted Reeves, North Country Environmental Services, Inc. (via e-mail)
Lenny Wing, North Country Environmental Services, Inc. (via e-mail)
Don Monahan, North Country Environmental Services, Inc.
Al Sabino, North Country Environmental Services, Inc. (via e-mail)
Robert Banfield North Country Environmental Services, Inc. (via e-mail)
Jim Chabot, SHA-Concord

CASELLA WASTE SYSTEMS, INC.

Permits, Compliance & Engineering

3 Pitkin Court
Montpelier, Vermont 05602

Phone: (802) 223-7221
Fax: (802) 223-7128

LETTER OF TRANSMITTAL

To: Mr. Wayne Wheeler
NHDES
PO Box 95
Concord, NH 03302-0095

Date: March 27, 2006

INFORMATION TRANSMITTED: March 3, 2006 Leachate Release

TRANSMITTED AS CHECKED BELOW:

- [x] For your approval
- [ ] For your use/as required
- [ ] For review and comment
- [ ] As requested

REMARKS:

Wayne,

Attached please find the report prepared by Sanborn Head & Associates regarding the leachate release we discussed on March 3, 2006. Please contact me with any questions, thanks.

Gene

SIGNED:

CC:

Joe Gay, NCES
Kevin Roy, NCES

Sanborn, Head & Associates
Consulting Engineers & Scientists

March 8, 2006
File No. 1003.04

Mr. Eugene Martin
North Country Environmental Services, Inc.
3 Pitkin Court
Montpelier, VT 05602

Re: March 3, 2006 Leachate Release
North Country Environmental Services, Inc. (NCES) Landfill
581 Trudeau Road
Bethlehem, New Hampshire

Dear Gene:

This letter was prepared to document our observations of the leachate release that occurred at the NCES site on Friday March 3, 2006.

At approximately 1200 hours Donald Monahan of NCES informed Sanborn, Head & Associates, Inc.'s (SHA's) on-site representative, Spencer Beane, that a leachate spill had occurred near the Stage I area of the landfill. At NCES' request, Spencer documented the release and the efforts to clean up the affected area.

Spencer observed that the release occurred from the modified loadout arm of the Leachate Consolidation Building between the landfill perimeter road and the toe of the northern Stage I slope. Refer to the attached Figure No. 1 for the location of the release. When Spencer arrived there was a vacuum truck on the opposite side of the perimeter road from the Leachate Consolidation Building vacuuming leachate from the storm water swale located north of the CCI temporary construction field trailer.

Sean Moran of NCES was overseeing the clean up. Sean explained that an NCES employee had attempted to fill a leachate transport truck from the Consolidation Building, but was unable to pump leachate due to an ice blockage in the pipe that extended from the building to the truck. Sean indicated that the NCES employee had the truck move to a different leachate pump station to be filled, and had accidentally forgotten to turn off the key switch that prevents the leachate pump from operating. Sean speculated that while the truck was being filled at the other location, the ice blockage released and the system pumped 5,036 gallons of leachate onto the ground in front of the leachate consolidation building. The leachate volume was obtained from the flow meter for the truck loadout pump.

Charles L. Head ▪ R. Scott Shillaber ▪ Charles A. Crocetti ▪ James A. Chabot
Mathew A. DiPilato ▪ Daniel B. Carr ▪ Duncan W. Wood ▪ Joseph G. Engels ▪ Vernon R. Kokosa

Sanborn, Head & Associates, Inc.
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Phone (603) 229-1900 ▪ Fax (603) 229-1919

The leachate flowed across the perimeter road and collected in a storm water swale north of the CCI temporary construction field trailer. The swale normally conveys the discharge from Detention Pond No. 3. Spencer observed that CCI had dammed the swale with soil near the low end of the swale to confine the leachate while the truck vacuumed it out. CCI had also spread soil on the perimeter road to help absorb leachate. Sean indicated that approximately 30 gallons of leachate flowed to the portion of the swale downstream from where the soil dam was constructed. Spencer photographed the containment and collection efforts. Refer to the attached photos of the release area.

The vacuum truck was filled before all the leachate that had pooled in the swale was collected. The additional leachate in the swale was soaked up with sand, excavated, and transported to the active portion of the landfill for disposal. CCI excavated the banks and bottom of the swale where the leachate collected, as well as the layer of the soil where the leachate flowed across the road. It appeared that CCI removed the soil that was impacted by the leachate release.

If you have any questions, or require further information, please contact the undersigned.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Spencer L. Beane, EIT
Environmental Engineer

James A. Chabot, PE
Principal

SLB/JAC:slb

Encl. Figure No. 1
Photographs

cc: Kevin Roy, NCES Bethlehem

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North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

JUN 3 0 2006

June 26, 2006

Wayne Wheeler, P.E.
New Hampshire Department of Environmental Services
Solid Waste Compliance Section
6 Hazen Drive
Concord, NH 03301-0509

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Leachate Release

Dear Wayne:

Attached to this correspondence please find a letter report dated June 15, 2006 prepared by Sanborn Head and Associates of Concord, NH, documenting observations of a leachate release and clean up activities for the NCES (North Country Environmental Services, Inc.) Landfill located in Bethlehem, NH.

If you have any questions please do not hesitate to call me at (802) 223-7221. My email address is gene.martin@casella.com.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Eugene J. Martin, Senior Project Manager
Permits Compliance & Engineering

Enclosures

John Gay, North Country Environmental Services, Inc. (via email, w/o encl.)
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Wallgren, North Country Environmental Services, Inc. (via email, w/o encl.)
John Schwalbe, North Country Environmental Services, Inc. (via email, w/o encl.)
Kevin Roy, North Country Environmental Services, Inc. (via email, w/o encl.)
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl.)
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Monahan, North Country Environmental Services, Inc. (via email, w/o encl.)
Sean Moran, North Country Environmental Services, Inc. (via email, w/o encl.)
Bryan Gould, BOG
Jim Chabott, SHA

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SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

June 15, 2006
File No. 1003.05

Mr. Eugene Martin
North Country Environmental Services, Inc.
3 Pitkin Court
Montpelier, VT 05602

Re: May 12, 2006 Leachate Release
North Country Environmental Services, Inc. (NCES) Landfill
581 Trudeau Road
Bethlehem, New Hampshire

Dear Gene:

This letter was prepared at your request to document Sanborn, Head & Associates, Inc.'s (SHA's) observations of a leachate release that occurred at the NCES site on Friday May 12, 2006.

At approximately 0730 hours Donald Monahan of NCES informed SHA's on-site representative, Dennis Porter, that a leachate spill had occurred near the Leachate Consolidation Building on the north side of Stage I of the landfill. At NCES' request, Dennis documented the release and the efforts to clean up the affected area.

Dennis observed that the release occurred from the loadout arm of the Leachate Consolidation Building between the landfill perimeter road and the toe of the northern Stage I slope. The leachate spilled onto the concrete loadout pad and flowed off the east end on the pad, across the perimeter road to the north, and into the storm water swale north of the perimeter road. Refer to the attached Figure No. 1 for the approximate location of the release.

The storm water swale conveys the storm water flow from Detention Pond No. 3 to the long treatment swale from Detention Pond No. 2. Dennis observed that CCI had constructed a soil dam in the swale near the down stream junction with the long treatment swale to confine the leachate while the truck vacuumed it out. CCI also spread sand on the perimeter road to help absorb leachate. Dennis photographed the containment and collection efforts. Refer to the attached photos of the release area.

When Dennis arrived there was a vacuum truck on the opposite side of the perimeter road from the Leachate Consolidation Building vacuuming leachate from the storm water swale located north of the temporary construction field trailer.

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

Sanborn, Head & Associates, Inc.
20 Foundry Street ■ Concord, NH 03301
concord@sanbornhead.com ■ www.sanbornhead.com
Phone (603) 229-1900 ■ Fax (603) 229-1919

The totalizing flow meter at the load out pump control panel indicated that 1,049-gallons had been pumped through the leachate consolidation building. The vacuum truck driver estimated that 550-gallons of leachate was collected in the vacuum truck from the swale. An on-site contractor excavated the banks and bottom of the swale where the leachate collected, as well as the layer of the soil where the leachate flowed across the road. The soils were transported to the active portion of the landfill for disposal. It appeared that the on-site contractor removed the soil that was impacted by the leachate release.

Sean Moran of NCES observed the clean up. Sean explained that the Leachate Loadout pump had unexpectedly turned on sometime around 0715 hours. The pump was not manually turned on. It was determined that an electric relay switch failed, which unexpectedly energized the pump. Sean indicated that he would be in contact with personnel from EOS Research, Ltd., the provider of the pump control system, to try to determine the cause of the problem and would turn the electric circuit breaker for the pump to the "off" position in the meantime.

NCES has instituted a standard operating procedure that mandates all that valves on the Leachate Loadout discharge pipes be manually closed when the loadout is not in use.

If you have any questions, or require further information, please contact the undersigned.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Kelly L. Marshall
Senior Project Engineer

James A. Chabot, PE
Principal

KELM/JAC:kelm

Encl. Figure No. 1
Photographs

cc: Kevin Roy, NCES Bethlehem
Sean Moran, NCES Bethlehem

Sanborn, Head & Associates
Consulting Engineers & Scientists

August 9, 2006
File No. 2470.01

Wayne A. Wheeler, P.E.
Waste Management Division
New Hampshire Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095

Re: Construction Status Report for Period Ending August 4, 2006
Stage IV Phase I Construction
North Country Environmental Services, Inc. Landfill
581 Trudeau Road
Bethlehem, New Hampshire
NHDES Permit #DES-SW-SP-03-002

Dear Wayne:

This letter was prepared in accordance with Env-Wm 2804.07 to provide a biweekly status report of construction activities at the North Country Environmental Services, Inc. (NCES) facility in Bethlehem, New Hampshire for the period ending August 04, 2006. A summary of the work performed by Casella Construction, Inc. (CCI) for the two-week period is provided below.

I. Description of Work Completed To Date

Work performed included placing primary sump riser pipes, spreading Select Sand as the primary drainage layer, welding a flange on a Stage III Tank A UST manway, installing culverts C-1 and C-3, and beginning work on drainage swales and perimeter road around the Stage IV Phase I cell. CCI also demolished sections of the abandoned Stage III forcemain and leachate load out manhole.

II. Construction Schedule

The construction schedule was last revised on May 30, 2006 and no changes have been made to the schedule since that time.

Based on the last construction meeting held on Tuesday, August 1, 2006, CCI planned to spend the next two weeks completing the side riser building, the perimeter road and the perimeter swale around the Stage IV Phase I cell. Casella also planned to begin the Stage II Phase I sump excavation during the week of Monday, August 7, 2006.

III. Design Changes

No design changes have been made since the last report on July 26, 2006

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

Sanborn, Head & Associates, Inc.
20 Foundry Street ■ Concord, NH 03301
concord@sanbornhead.com ■ www.sanbornhead.com
Phone (603) 229-1900 ■ Fax (603) 229-1919

IV. Damage and Repair Information

On July 21, 2006 CCI encountered three electric conduits and pulled the wires from the side riser building electrical panel, while excavating a trench for installation of Culvert C-3. Gate's Electric was in the process of repairing the electrical system at the end of the last reporting period. Gate's completed the repairs on July 24, 2006.

On July 24, 2006, CCI damaged the 6-inch diameter containment pipe of the forcemain located between Valve Box 401 and the Stage III Leachate Tanks during the installation of Culvert C-3. Rehabilitation Consulting and Construction Inc. removed and replaced the damaged section of forcemain on July 25, 2006.

On July 26, 2006, CCI dented and scraped the west manway on the Stage III leachate Tank A. No repairs to the manway were made.

On July 27, 2006, an overnight rain event washed primary drainage layer Select Sand down the Stage IV Stage I south sideslope. Silt from the north slope of the existing landfill was also carried down the slope onto the Select Sand. CCI stockpiled the silty Select Sand outside of the cell and repaired the drainage layer.

On August 1, 2006 the side of the excavation around the Stage III Tank A manway collapsed. The level sensor riser pipe was severed in the collapse. CCI excavated and removed the riser pipe, and installed a temporary plug fitting at the connection to the tank, until the riser pipe could be replaced the following day.

On August 2, 2006, an overnight rain event caused the Stage II Phase II secondary sump to overflow into the Stage IV Phase I cell. Stormwater contaminated with leachate was pumped out of both the Stage II Phase II and Stage IV Phase I sumps over the following days. The water was hauled off-site for disposal at a wastewater treatment plant.

On August 3, 2006, CCI filled Stage III Tank A above the elevation of the newly installed flange adaptor. Leachate escaped through the flange adaptor into the excavation around the manway. The leachate was removed by NCES with a vacuum truck, and CCI excavated the contaminated soils and brought the excavated soil to the active face of the landfill for disposal.

On August 4, 2006 CCI damaged a 10-inch diameter landfill gas header located in Stage II Phase I during excavation for a drainage swale. CCI repaired the damaged header pipe.

If you have any questions, or require further information, please feel free to call.

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

Kelly L. Marshall
Senior Project Engineer

James A. Chabot, P.E.
Principal

ESS/JAC:ess

cc: Eugene J. Martin, NCES (Electronic Copy Only)
Kevin Roy, NCES (Electronic Copy Only)
Sean Moran, NCES (Electronic Copy Only)

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NCBJ 8/8/06 Cont. Mtg

1. Temp excavation - need to finish swale excavation - start 8/9
2. all gas wells hooked up and active
3. leachate mangement
   a. overtop of leachate into new cell - sample level spread for metals/VOC's
   b. temp C.m. cut accidentally - small leachate spill - soils cleaned up and placed in landfill (50 gal. or less)
4. CQA report in to DES by end of next week
5. 1st half of Sept. - planned opening of Phase 4A
6. leak detection testing ongoing today

North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

September 12, 2006

Wayne Wheeler, P.E.
New Hampshire Department of Environmental Services
Solid Waste Compliance Section
6 Hazen Drive
Concord, NH 03301-0509

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Leachate Release

Dear Wayne:

Attached to this correspondence please find a letter report dated August 30, 2006 prepared by Sanborn Head and Associates of Concord, NH, documenting observations of a leachate release and clean up activities for the NCES (North Country Environmental Services, Inc.) Landfill located in Bethlehem, NH.

If you have any questions please do not hesitate to call me at (802) 223-7221. My email address is gene.martin@casella.com.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Eugene J. Martin, Senior Project Manager
Permits, Compliance & Engineering

Enclosures

John Gay, North Country Environmental Services, Inc. (via email, w/o encl.)
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Wallgren, North Country Environmental Services, Inc. (via email, w/o encl.)
John Schwalbe, North Country Environmental Services, Inc. (via email, w/o encl.)
Kevin Roy, North Country Environmental Services, Inc. (via email, w/o encl.)
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl.)
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Monahan, North Country Environmental Services, Inc. (via email, w/o encl.)
Sean Moran, North Country Environmental Services, Inc. (via email, w/o encl.)
Bryan Gould, BOG
Jim Chabott, SHA

SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

August 30, 2006
File No. 1003.05

Mr. Eugene Martin
North Country Environmental Services, Inc.
3 Pitkin Court
Montpelier, VT 05602

Re: August 7, 2006 Leachate Release
North Country Environmental Services, Inc. (NCES) Landfill
581 Trudeau Road
Bethlehem, New Hampshire

Dear Gene:

This letter was prepared at your request to document Sanborn, Head & Associates, Inc.'s (SHA's) observations of a leachate release that occurred at the NCES site on Monday August 7, 2006.

At approximately 1100 hours Sam Wigget of Casella Construction Inc., (CCI) informed SHA's on-site representative, Eric Baron, that a leachate spill had occurred during construction actives along the temporary Stage II leachate forcemain near the Stage IV connection to Stage I outside the limit of waste. At NCES' request, Eric documented the release and the efforts to clean up the affected area.

Sam indicated to Eric that the release occurred while removing excess Screened Till from the Stage IV anchor trench with a front end loader. Apparently the loader bucket cut into the Stage II forcemain. When the damage occurred, leachate was being pumped through the forcemain. The equipment operator placed the front end loader bucket under the damaged section of forcemain to collect leachate. Approximately 600 gallons of leachate was collected in the bucket and it appeared that less than 50 gallons of leachate spilled onto the ground. The contained leachate was pumped into one of the Stage II leachate tanks.

Eric observed CCI excavate the area surrounding the damaged forcemain where the leachate was released. Approximately 10 cubic yards of soil was removed and transported to the active portion of the landfill for disposal. It appeared that the contractor removed the soil that was impacted by the leachate release.

Refer to the attached Figure No. 1 for the approximate location of the release and soil excavation.

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

Sanborn, Head & Associates, Inc.
20 Foundry Street ■ Concord, NH 03301
concord@sanbornhead.com ■ www.sanbornhead.com
Phone (603) 229-1900 ■ Fax (603) 229-1919

If you have any questions, or require further information, please contact the undersigned.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Kelly L. Marshall
Senior Project Engineer

James A. Chabot, PE
Principal

KELM/JAC:kelm

Encl. Figure No. 1

cc: Kevin Roy, NCES Bethlehem
Sean Moran, NCES Bethlehem

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North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

OCT 13 2006

October 6, 2006

Wayne Wheeler, P.E.
New Hampshire Department of Environmental Services
Solid Waste Compliance Section
6 Hazen Drive
Concord, NH 03301-0509

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Leachate Release

Dear Wayne:

Attached to this correspondence please find a letter report dated September 28, 2006 prepared by Sanborn Head and Associates of Concord, NH, documenting observations of a leachate release and clean up activities for the NCES (North Country Environmental Services, Inc.) Landfill located in Bethlehem, NH.

If you have any questions please do not hesitate to call me at (802) 223-7221. My email address is gene.martin@casella.com.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Eugene J. Martin, Senior Project Manager
Permits, Compliance & Engineering

Enclosures

John Gay, North Country Environmental Services, Inc. (via email, w/o encl.)
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Wallgren, North Country Environmental Services, Inc. (via email, w/o encl.)
John Schwalbe, North Country Environmental Services, Inc. (via email, w/o encl.)
Kevin Roy, North Country Environmental Services, Inc. (via email, w/o encl.)
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl.)
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Monahan, North Country Environmental Services, Inc. (via email, w/o encl.)
Sean Moran, North Country Environmental Services, Inc. (via email, w/o encl.)
Bryan Gould, BOG
Jim Chabott, SHA

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SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

September 28, 2006
File No. 1003.05

Mr. Eugene Martin
North Country Environmental Services, Inc.
3 Pitkin Court
Montpelier, VT 05602

OCT 13 2006

Re: August 2 and 3, 2006 Leachate Releases
North Country Environmental Services, Inc. (NCES) Landfill
581 Trudeau Road
Bethlehem, New Hampshire

Dear Gene:

This letter was prepared at your request to document Sanborn, Head & Associates, Inc.'s (SHA's) observations of leachate releases that occurred at the NCES site on Wednesday, August 2 and Thursday, August 3, 2006.

On August 2, 2006 at approximately 0730 hours, Eric Baron, SHA's on-site representative, observed leachate contaminated storm water from the excavation exposing the Stage II Phase II sump overflowing the temporary leachate dam, and collecting on the liner in the Stage IV Phase I cell. At NCES' request, Eric documented the release and the efforts to clean up the affected area. Refer to the attached Figure No. 1 for the approximate location of the release.

Prior to this event, as part of the Stage IV Phase I construction project, the liner installation contractor completed a temporary connection of the new secondary liner to the existing Stage II Phase II secondary liner. The temporary connection contained the contaminated water on the primary and secondary liner systems.

Eric indicated a heavy rain event occurred during the night of August 1, 2006. CCI employees were reportedly on-site operating the storm water pumps and the Stage II Phase II leachate pumps at 0500 hours. At approximately 0530 hours the Stage II Phase II secondary leachate pump circuit breaker tripped, causing the Stage II Phase II secondary sump to overtop into the Stage IV cell. Leachate contaminated storm water entered both the primary and secondary liner systems of Stage IV. CCI pumped leachate contaminated storm water into Detention Pond 4 until approximately 0730 hours when Eric Baron arrived on-site and informed CCI that the storm water was likely contaminated with leachate. Once notified of the potential contamination, CCI began pumping the contaminated storm water from Stage IV and the Stage II Phase II sump into the Stage III leachate tanks. CCI did not record the volume of water pumped into Detention Pond 4.

On August 5, 2006 CCI excavated and stockpiled approximately 270 cubic yards of sediment from the base of Detention Pond 4. The stockpiled sediment was removed from the pond on

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

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20 Foundry Street ■ Concord, NH 03301
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Phone (603) 229-1900 ■ Fax (603) 229-1919

August 8, 2006 and transported to the active portion of the landfill for disposal. It appeared that the contractor removed the soil that was affected by the leachate release.

Sean Moran compared the Stage III leachate volumes recorded by the flow meters to the volumes in the tanks to determine the volume of leachate contaminated storm water pumped from the Stage II Phase II sump excavation and the Stage IV Phase I cell to the Stage III tanks. Based on Sean's measurements, approximately 124,000 gallons of contaminated storm water was pumped into the Stage III leachate storage tanks and hauled off-site for disposal between August 4 and 7, 2006.

Eric photographed the containment and collection efforts. Refer to the attached photos of the release area.

On August 7, 2006, SHA field personnel collected analytical samples of the liquid in the Stage IV Phase I primary and secondary sumps using the leachate collection system pumps. The secondary liquid sample indicated there was 50 parts per million (ppm) of tetrahydrofuran present (likely from the newly solvent-welded PVC pipe in the side riser building), and both samples contained low levels of chloride and select heavy metals. The analytical laboratory results are attached for reference.

Since the spill occurred liquid pumped from the Stage IV Phase I cell has been pumped into the Stage III leachate storage tanks and handled as leachate for disposal. On August 15, 2006, skrim-reinforced geomembrane was installed over the Stage IV Phase I primary sand layer to isolate storm water from infiltrating into the sumps. Storm water collected from above the skrim-reinforced geomembrane has been pumped to Detention Pond 4.

On August 29, 2006 CCI began introducing potable water to the Stage IV Phase I secondary liner system at the liner termination near the Stage II Phase II sump. Potable water was introduced to the secondary liner system to attempt to flush contaminates from the secondary liner system. The potable water was obtained from the hydrant located near the northeast corner of the site. SHA personnel collected analytical samples from the water truck. The analytical sample results detected no VOC's or metals in the potable water. Laboratory results for the August 29, 2006 water truck sample are attached for reference.

CCI introduced about 10,000 gallons of potable water into the secondary liner system between August 29th and September 1, 2006. On September 1, 2006, CCI pumped the liquid from the secondary sump to provide storage capacity in anticipation of rain over the Labor Day holiday weekend. The liquid level pressure transducer in the sump indicated the liquid level was 38 inches above the transducer before the liquid was pumped out of the sump. SHA personnel collected an analytical sample from the secondary sump pump discharge pipe sample port when the liquid level was about 12 inches above the pressure transducer. Laboratory results for the secondary liquid samples collected on September 1, 2006 are attached. The results indicate low levels of toluene and select heavy metals.

CCI introduced about 15,000 gallons of potable water into the secondary liner system between September 5th and 7th. The water level rose to an elevation where it was visible in the new liner termination for the Stage II Phase II sump. The secondary sump pressure transducer indicated the liquid level was about 46 inches above the transducer. On September 7, 2006, CCI pumped

the liquid from the secondary sump. SHA personnel collected a water sample from the secondary sump pump discharge pipe sample port. Laboratory results for the secondary liquid samples collected on September 7, 2006 are attached.

Based on the analytical results and the observations of SHA personnel, the leachate overtopping into the Stage IV Phase I cell appeared to have little, if any, impact to the environment as it was largely contained in the lined cell. The exception was the limited quantity of water pumped to Detention Pond No. 4. Detention Pond No. 4 has historically been dry between rain events. Based on historic observations, water in Pond No. 4 infiltrates into the base of the pond. The water discharged to the pond by CCI likely infiltrated into the sediment in the base of the pond, which was subsequently removed by CCI and disposed in the landfill.

In a separate, but related event, on August 3, 2006, while CCI was pumping contaminated storm water from Stage IV Phase I into Stage III Tank A, the tank was filled above the invert of the newly installed flange adaptor on the western-most manway, and the liquid pushed the sewer plug out of the flange adaptor resulting in a leachate release in an excavation surrounding the manway.

Sean Moran observed the leachate spill and informed Eric. Sean indicated that approximately 1,500 gallons of liquid was vacuumed from the excavation and disposed in one of the Stage II leachate tanks to be treated as leachate. Eric observed CCI excavate approximately 20 cubic yards of soil from the excavation surrounding the manway and dispose of the soil in the landfill. It appeared that CCI removed the soil that was affected by the leachate release. Refer to the attached Figure No. 1 for the approximate location of the release.

If you have any questions, or require further information, please contact the undersigned.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

Kelly L. Marshall
Senior Project Engineer

James A. Chabot, PE
Principal

KELM/JAC:kelm

Encl. Photographs
Figure No. 1
Analytical Test Results

cc: Kevin Roy, NCES Bethlehem
Sean Moran, NCES Bethlehem

Sanborn, Head & Associates
Consulting Engineers & Scientists

October 16, 2006
File No. 2470.01

Wayne A. Wheeler, P.E.
Waste Management Division
New Hampshire Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095

Re: Construction Status Report for Period Ending October 13, 2006
Stage IV Phase I Construction
North Country Environmental Services, Inc. Landfill
581 Trudeau Road
Bethlehem, New Hampshire
NHDES Permit #DES-SW-SP-03-002

Dear Wayne:

This letter was prepared in accordance with Env-Wm 2804.07 to provide a biweekly status report of construction activities at the North Country Environmental Services, Inc. (NCES) facility in Bethlehem, New Hampshire for the period ending October 13, 2006. A summary of the work performed by Casella Construction, Inc. (CCI) for the two-week period is provided below.

I. Description of Work Completed To Date

Work performed included the installation of the 12-inch Select Sand layer as additional protection over the sideslope riser pipes.

CCI's liner installation subcontractor, Terrafix Environmental USA, Inc., completed geosynthetic deployment and liner connections in the Stage II Phase II sump as well as geocomposite and skrim-reinforced geomembrane deployment on the slopes of the Stage II Phase I sump.

II. Construction Schedule

Based on the last construction meeting held on Tuesday, October 10, 2006, CCI planned to complete the preparation of the Stage II Phase I notch for the liner system, install and seal the concrete risers and aluminum hatch covers on the two valve boxes, and complete the leachate collection pipe connections in the Stage II sumps.

Terrafix Environmental USA, Inc., will likely be on site during the next two weeks to complete the Stage II Phase I Sump geosynthetics connections.

Charles L. Head ■ R. Scott Shillaber ■ Charles A. Crocetti ■ James A. Chabot
Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood ■ Joseph G. Engels ■ Vernon R. Kokosa

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III. Design Changes

No design changes have been made since the last report on October 5, 2006.

IV. Damage and Repair Information

On October 12, 2006, an early morning rain event caused the Stage II Phase I and Phase II sumps and the Stage IV Phase I Cell to accumulate large volumes of storm water. Kevin Roy stated that water infiltrated the secondary liner Select Sand in the exposed Stage II Phase I notch area. Mr. Roy also stated that the accumulated storm water in the Stage II Phase I sump came close to overtopping the temporary berm, but that he did not believe it had been overtopped. CCI employees also stated that although the stormwater nearly overtopped the Stage II Phase I sump berm, the storm water was pumped to leachate storage tanks before any liquid could overtop the berm.

If you have any questions, or require further information, please contact us.

Sincerely,
SANBORN, HEAD & ASSOCIATES, INC.

Kelly L. Marshall
Senior Project Engineer

James A. Chabot, P.E.
Principal

KELM/JAC:kelm

Encl:

cc: Eugene J. Martin, NCES (Electronic Copy Only)
Kevin Roy, NCES (Electronic Copy Only)
Sean Moran, NCES (Electronic Copy Only)

North Country Environmental Services, Inc.

3 Pitkin Court
Montpelier, Vermont 05602

(802) 223-7221
(802) 223-7128 Fax

January 8, 2008

Wayne Wheeler, P.E.
New Hampshire Department of Environmental Services
Solid Waste Compliance Section
29 Hazen Drive PO Box 95
Concord, NH 03302-0095

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Incident Report

Dear Wayne:

(NCES) North Country Environmental Services, Inc. is writing to provide an Incident Report and Resolution to a leachate release that occurred at the above referenced facility. The incident report was reported to you via telephone on June 11, 2007.

On Monday June 11, 2007 leachate overflowed the Stage II Tank A leachate storage tank located north of the Stage I area of the landfill. The following describes the incident to the best of our knowledge:

Incident History: At approximately 9:20 AM on 6-11-07 as an NCES personnel was passing the Stage 2 tanks located on the north side of the Landfill adjacent to Stage I, leachate was observed dripping from the top of the manway on the underground 20,000 gallon Stage II Tank "A". The leachate flowed northward from the tank manway across the access road. NCES personnel immediately drove to the Stage 3 tank control panel and shut down the load out pump.

Remedial Activities: After disabling the Stage III load out pump, a loader and bulldozer built an earthen berm out of till to contain the leachate. NCES was able to contain the majority of leachate from entering the drainage swale north of the load out area. The leachate that spilled was discernible from stormwater in the area of the release. It is estimated that a total of 200 gallons drained from the tank and approximately 20 gallons entered a drainage swale. Sand was placed as an absorbent behind the berm where approximately 200 gallons of a leachate and sand mixture was vacuumed up with the site vacuum truck and disposed of at the landfill. A second load of approximately 1,200 gallons was vacuumed up from the end of the swale where the leachate entered. Much of the liquid removed from the swale was stormwater and was removed as a precautionary measure. Sand was placed on top of the remaining saturated soil in the bermed area and then removed, hauled and disposed at the landfill. An additional six to eight inches of soil under the bermed area was removed and also hauled to the landfill. A total of approximately 20 cubic yards of soil was removed from the area where the leachate was released.

Potential Cause: The cause of the leachate release was investigated and it was determined that leachate which was being pumped from the Stage III tanks to the Stage II tanks continued to pump after the Stage II Tank A and Stage II Tank B were filled (the Stage II tanks are interconnected). In normal operating mode when the Stage II Tank A and Tank B become full a high level alarm would inhibit the pump in the Stage III tank. In the event that the high level alarm does not deactivate the pumps a second high-high alarm would perform that function.

Corrective Action: NCES contracted with EOS Research (EOS) of Rochester, NH to perform an investigation and provide remedial measures and leachate control system modifications at the facility. All tanks, alarms, floats, controls and pumps were evaluated and checked to confirm proper operation. Several corrective and preventative measures were implemented to provide a greater margin of safety to prevent a tank overfill which are documented in the attached memo from EOS. NCES personnel are conducting more frequent inspections of the tanks, pumps and control panels.

If you have any questions please do not hesitate to call me at (802) 223-7221. My email address is gene.martin@casella.com.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Eugene J. Martin, Senior Project Manager
Permits, Compliance & Engineering

Enclosures

John Gay, North Country Environmental Services, Inc. (via email, w/o encl.)
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl.)
John Schwalbe, North Country Environmental Services, Inc. (via email, w/o encl.)
Karen Flanders, North Country Environmental Services, Inc. (via email, w/o encl.)
Kevin Roy, North Country Environmental Services, Inc. (via email, w/o encl.)
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl.)
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Monahan, North Country Environmental Services, Inc. (via email, w/o encl.)
Sean Moran, North Country Environmental Services, Inc. (via email, w/o encl.)
Bryan Gould, BOG

Possible Leakage Found At Landfill

Cal-Rec 9/16/08

BY ROBERT BLECHL
Staff Writer

BETHLEHEM, N.H. — The N.H. Department of Environmental Services has found elevated levels of bromide and volatile organic compounds inside several of the landfill's monitoring wells.

The findings come on the eve of a public hearing scheduled for 6 p.m. today at Bethlehem Elementary School. The hearing will focus on a proposal by the landfill's owner – North Country Environmental Services – to construct two 39-foot-high berms to hold an additional million tons of waste that would go on top of the 2.5 million tons already there.

Bryan Gould, attorney for NCES's parent company, Casella Waste Systems Inc., said NCES has been aware of the problem for several years and has actively been working to rectify it. Gould said it is uncertain if the letter will affect the course of the meeting.

In March 2004, the state Supreme Court denied expansion beyond the landfill's current 51 acres. In February 2007, Casella applied for a modification permit to construct the berms, which would entail an upward expansion.

After tonight's hearing, a 30-day public comment period will follow, after which DES will either approve or deny Casella's application. A decision is expected in October. If approved, the landfill would stay open until 2019.

"There are several instances in which ground water monitoring … has detected VOCs and bromide above established background concentrations, thus indicating that contaminants have been released," Mike Wimsatt, director of DES's Waste Management Division, wrote to NCES's John Gay. "Although NCES has suggested that releases are the result of leachate spills involving past leachate handling systems and practices, and are not due to an ongoing release(s) from the landfill, there is insufficient information to fully support such a conclusion …"

The findings, taken from an April 2008 ground water sampling, indicate that the VOC concentration is "increasing," Wimsatt wrote.

"This is actually an issue that DES has been watching and NCES and its consultants have been working on for several years now," Gould said. "There was a plan approved in May to address the cause of the bromide and VOCs in some of the monitoring wells. This is really not news to us in terms of what the findings were. Our consultants believe this resulted from a couple of events as opposed to any compromise of the landfill liner system."

State officials also expressed concern

See **Bethlehen Landfill**, Page 7

Bethlehen Landfill

Continued from Page 1

about NCES's future liner construction plans.

"The proposed design of the eastern berm, and a portion of the western berm, places the liner under the berm, which potentially allows gas to migrate through the berm and leachate to seep under the berm," Wimsatt wrote.

Additionally, Wimsatt wrote, "The locations and elevations of the two northerly asbestos sites … do not appear to correspond with the burial location plans."

B. Groundwater Contamination

Beginning in 1996, DES required that NCES apply a tracer compound, sodium bromide, to the NCES Landfill, Stage II and Stage III. The NCES Landfill has been constructed, in part, on top of the footprint of the former unlined landfill (waste removal and relocation into Stage I of the lined landfill began in December 1991 and was completed in October 1993). The bromide tracer was required to be added to the landfill operations for the Stage II and Stage III lined portion of the landfill to aid in differentiation of groundwater quality impacts associated with the previous releases from the former unlined landfill from a failure of the existing double HDPE geomembrane leachate liner collection system. Because sodium bromide was not added to the unlined landfill, detection of bromide concentrations above background values in any monitoring wells downgradient of the landfill would indicate that there were liner leak issues.

Volatile organic compounds or elevated concentrations of bromide have been detected in groundwater monitoring wells located downgradient from the landfill, including wells MW-402U, MW-403L, B-913M, B-919U, B-921M, B-921U and B-304UR. The detection of the VOC contaminants and elevated concentrations of bromide indicate that the operation of the existing landfill has resulted in releases of regulated contaminants in violation of condition #9 of Groundwater Management and Release Detection Permit #GWP-198704033-B-005 (Groundwater Permit), which was issued to the applicant in November 2007.

The key issues of concern relative to these detections of VOCs and elevated concentrations of bromide were outlined in Section D of DES's September 10, 2008 technical review letter. In that letter, DES requested that additional information be provided to further evaluate the source of the VOCs and the elevated concentrations of bromide detected in downgradient monitoring wells. In response to this request for additional information, the applicant provided the documents listed as application information items 8. and 9. above.

These documents provide a detailed hydrogeological and engineering analysis of the situation to support NCES's contention that the landfill liner system is not leaking and is not the source of the elevated concentrations of bromide and VOCs detected in several monitoring wells. In these documents, NCES concludes that the releases are not due to a leaking liner system and are most likely due to known leachate spills and an accidental discharge of leachate to stormwater systems during 2006 construction events.

Because NCES's hydrogeological and engineering analysis relies on a number of assumptions regarding aquifer properties, construction history, and the current condition of the existing landfill liner system that are not verified by independent field or environmental data, the analysis is not conclusive. DES does not agree that the analysis demonstrates that the liner system is not leaking. Until NCES completes the on-going corrective action plan and produces data to demonstrate that the work has resulted in achieving DES-approved performance standards for groundwater remediation, DES concludes that the landfill liner system is or may be a contributing factor to the contamination in the monitoring wells.

There is uncertainty as to whether the VOCs and elevated concentrations of bromide detected in the downgradient wells are the result of NCES's own mismanagement of the leachate collection system. By virtue of the past spills and releases from the leachate collection system (the occurrence of which NCES has acknowledged), NCES has raised doubt as to the source of the VOCs and elevated concentrations of bromide. The bromide tracer's function is to detect the presence of leaks in the liner system. To the extent NCES is now unable to satisfy DES that the landfill liner is not the source of the groundwater contamination, it is due in large measure to NCES's own operational failure at the facility.

Env-Sw 1002.02(d) provides in pertinent part that "[f]acilities and practices shall not contaminate surface or groundwater in violation of…the conditions of any permit issued by DES…" Based upon the groundwater quality conditions, the analysis and data presented, and the status of the corrective action plan implementation, DES concludes that there have been releases that have in fact contaminated groundwater in violation of the conditions of the facility's Groundwater Management and Release Detection Permit. Because the contamination detected at the site is consistent with what would be expected with a release from the liner system and because NCES has not demonstrated to the satisfaction of DES that there is no ongoing release from the facility, DES can not conclude at this time that the proposed facility can comply with Env-Sw 1002.02(d). Therefore, in accordance with Env-Sw 305.03(b)(2), DES can not approve the application.

Until the remedial actions are fully implemented and soil and groundwater performance data are collected, DES will not have sufficient information to determine the source of the contaminated groundwater and to conclude that it has been remediated.

In summary, and for the reasons outlined in this letter, DES hereby denies the requested applications for permit modification.

III. Continuing Groundwater Management Obligations

Irrespective of this permit decision, DES notes that the applicant remains responsible to continue and complete the ongoing remedial work as required by Groundwater Management and Release Detection Permit #GWP-198704033-B-005. Correspondence regarding the proposed groundwater performance standards, as contained in NCES's October 13, 2008 response to the September 10, 2008 DES Comment Letter, will be issued by DES under separate cover.

IV. Appeal

In accordance with RSA 149-M:8 and Env-Sw 305.03(a)(3), this decision issued by DES may be appealed to the Waste Management Council as provided under RSA 21-O:9, V and Env-WMC 200.

If you have any questions regarding this decision, please contact me at the letterhead address, via telephone at (603) 271-1997, or via e-mail at michael.wimsatt@des.nh.gov.

Sincerely yours,

Department of Enviromental Services

Digitally signed by Department of Enviromental Services
DN: cn=Department of Enviromental Services, c=US, o=Directors office, ou=Waste Managment Division, email=pamela.werner@des.nh.gov
Date: 2008.12.12 14:50:00 -05'00'

Michael J. Wimsatt, P.G., Director
Waste Management Division

Appendix A: Response to Public Comments

CC: Bryan Gould, Esq., Brown, Olson & Gould
Town of Bethlehem
Brenda Keith, Esq., Boutin & Altieri
Robert Grillo, P.E., CMA Engineers
Paul Rydel, P.G., SHA Associates
Thomas Burack, Commissioner, DES
Richard Head, Esq., NHDOJ
Harry Stewart, P.E., DES
Robert Scott, DES

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

December 23, 2008

Mr. John Gay, E.I.
North Country Environmental Services, Inc.
3 Pitkin Court
Montpelier, VT 05602

SUBJECT: Bethlehem – North Country Environmental Services Landfill, 581 Trudeau Road
DES Site # 198704033, Project RSN # 1737

Response to September 10, 2008 NHDES Comment Letter, prepared by North Country Environmental Services, Inc., dated October 13, 2008 (DES Electronic Document ID # 4143113)

Dear Mr. Gay:

This letter has been prepared to provide the Department of Environmental Services' (Department) comments to North Country Environmental Services, Inc.'s (NCES) proposed groundwater performance standards as contained in the subject submittal. In our correspondence of September 10, 2008, the Department noted that while soil sampling plan and performance standards were included in NCES' September 2007, Corrective Action Plan, groundwater performance standards were absent.

Section Env-Or 703.15 (a) of the New Hampshire Code of Administrative Rules Env-Or 700, *Groundwater Release Detection Permits* lists the requirements for the corrective action plan:

1. Inspection and audit of activities and procedures at the facility to determine possible sources;
2. Remediation of the source of the exceedance;
3. Further groundwater investigation;
4. Modification of the facility operation as needed to eliminate the cause of the exceedance;
5. Treatment of the waste stream as needed to eliminate the cause of the exceedance;
6. Groundwater restoration;
7. If the facility cannot be modified to eliminate the cause of the exceedance, or if the groundwater cannot be restored or remediated, a schedule of activities that will be implemented for facility closure.

In accordance with Env-Or 703.15 (c) the Department shall approve the corrective action plan if the Department determines that the plan is reasonably designed to:

1. Achieve compliance with background concentrations;
2. Eliminate any future discharges of regulated contaminants to groundwater; and
3. Protect human health and the environment.

Groundwater and soil sampling plans and performance standards are needed as part of the Corrective Action Plan to identify the source(s) of VOCs and bromide that are present above background concentrations, confirm that the source(s) have been successfully remediated and determine that groundwater quality is restored to background conditions.

In response to the information submitted by NCES, the Department has the following comments:

Proposed Groundwater Performance Standards Near Well Couplets MW-402 and MW-403:

The Department agrees in concept with monthly monitoring until sampling confirms that a downward temporal trend is established. However, due to the variability of the water quality data, more than two consecutive rounds will be required to determine that there is a downward trend in VOCs and bromide concentrations. As indicated above, groundwater quality must be restored to background concentrations. During implementation of the corrective action plan, the Department may be able to conclude that the source has been identified and effectively remediated, but continued groundwater monitoring under the Corrective Action Plan would still be required until groundwater quality is restored to background concentrations for VOCs and bromide. Depending upon the information collected during the remediation of the area in the vicinity of the leachate collection system and whether a source area (e.g. contaminated soil) is discovered and removed, NCES may need to install one or more additional monitoring wells in that area to monitor groundwater quality. The Department expects that such additional monitoring well(s) would provide valuable information on the effectiveness of the remedial action.

The Department does not concur that 0.4 mg/L of bromide is the appropriate target concentration to demonstrate that background has been achieved. NCES will need to look at individual well histories to see what the actual background concentrations were in the affected wells. In previous discussions between NCES and the Department, we agreed that background bromide concentrations at the site ranged between 0.1 and 0.4 mg/L, not that 0.4 mg/L should be identified as the background concentration to be applied to all wells. Future monitoring results will be reviewed closely to assess trends.

Proposed Groundwater Performance Standards Well B-913M:

As with the proposal for well couplets MW-402 and MW-403, the Department agrees in concept to monthly monitoring until sampling confirms that a downward temporal trend is established. However, because of water quality variability, more than two consecutive rounds will be required to demonstrate this.

The Department does not concur that 0.4 mg/L of bromide is the appropriate target concentration to demonstrate that background has been achieved. NCES will need to look at the individual well history to see what the actual background concentration range was in this affected well and that should be the target goal to establish that concentrations have returned to background conditions that are specific to each well. Future monitoring results will be reviewed closely to assess trends in water quality over time.

Proposed Groundwater Performance Standards for Wells B-919U, B-921M, and B-921U:

We do not have sufficient information to agree with your conclusion that the dichlorodifluoromethane detections in B-919U and B-921M are related to the historical occurrence of this compound in the former unlined landfill area located upgradient of these wells. As such, a decreasing trend of dichlorodifluoromethane (DCDFM) in wells B-919U and B-921M needs to be confirmed. If a decreasing trend does not continue, further evaluation of the presence of this compound will be required.

With regard to bromide in B-921U, future data will need to be closely evaluated to demonstrate that the cause of the bromide in this well is consistent with the construction-related release scenario presented by NCES. If a downward trend toward the background concentration range previously shown for this well is not demonstrated by future sampling results (2 years of data), then further evaluation of the presence of bromide in this well/area will need to be provided.

Proposed Groundwater Performance Standards for Well B-304UR:

With regard to bromide in B-304UR, no additional information has been provided that explains the occurrence of elevated bromide in this well. Rather, NCES proposes to increase the sampling frequency to monthly for bromide until two consecutive rounds of sampling confirm that the bromide levels have dropped below 0.4 mg/L.

Due to the variability of the water quality data, more than two consecutive rounds will be required before the Department can conclude that there is a downward trend in bromide concentrations. Further, the Department notes that the July 2006 and November 2006 sampling data for this well indicate bromide at concentrations of .269 mg/L and .251 mg/L, respectively. As such, the target background concentration for this well should be less than the proposed 0.4 mg/L value.

The elevated bromide can indicate a potential release. Therefore in order to characterize the groundwater in this well and determine the source of the bromide release, the Department requests that analysis for VOCs be added to the monthly sampling. Future data will need to be closely evaluated to demonstrate that the cause of the bromide in this well is not the result of a landfill liner leak/failure.

Conclusion

Consistent with the requirements of a corrective action plan under the groundwater release detection permit rules (Env-Or 700) and in accordance with the site's Groundwater Management and Release Detection Permit GWP-198704033-B-005, the final groundwater performance

standards for the release detection wells must be defined as background concentrations. In addition, both soil and groundwater data are needed to identify the source of each exceedance of the background concentrations for VOCs and bromide, and to confirm that the source(s) of the exceedances have been effectively remediated. If proposed activities in the Corrective Action Plan do not achieve the performance standards, then further work will be required in accordance with Env-Or 703.15 (a).

Revised groundwater performance standards that address the comments above shall be submitted to the Department within 60 days. The revised groundwater performance standards shall be incorporated into a comprehensive work plan that specifies both soil and groundwater sampling plan performance standards.

If you have any questions regarding this letter, please contact either of us directly at the Department's Site Remediation Programs.

Sincerely,

Karlee Kenison, P.G.
Waste Management Division
Tel: (603) 271-6542
Fax: (603) 271-2181
E-mail: karlee.kenison@des.nh.gov

John Regan, P.G.
Waste Management Division
Tel: (603) 271-3744
Fax: (603) 271-2181
E-mail: john.regan@des.nh.gov

cc: Bryan Gould, Esq., Brown, Olson & Gould
Michael Wimsatt, P.G., Director, WMD/NHDES
Town of Bethlehem
Robert Grillo, P.E., CMA Engineers
Paul Rydel, P.G., SHA Associates

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

March 25, 2009

John Gay, E.I.
North Country, Environmental Services, Inc.
3 Pitkin Court
Montpelier, Vermont 05602

Subject: North Country Environmental Services (NCES) application to modify Permit # DES-SW-SP-03-002 for Stage IV Phase II of the NCES Landfill, Trudeau Road, Bethlehem, New Hampshire / Document Log # 200900018

Dear Mr. Gay:

In accordance with the provisions of Env-Sw 304.03, the New Hampshire Department of Environmental Services (DES) has reviewed the above-referenced application and determined it is administratively complete.

In addition, DES completed a limited technical review of the application, resulting in the following determinations:

1. The application provides no information to determine the source of the continuing groundwater contamination at the site, and does not provide additional information responsive to the reasons for denial stated in Section II-B of DES's denial letter dated December 12, 2008. Therefore, DES has determined that the reasons for denial of NCES's previous application, as stated in Section II-B of DES's December 12, 2008 denial letter, still exist. See enclosed letter, which is incorporated herewith as part of this record of decision. In accordance with the provisions of Env-Sw 305.03, the current application is hereby denied for those same stated reasons.

2. The revised berm and liner design is conceptually approvable, to the extent that it eliminates those design features that provided a basis for having denied NCES's previous application, as stated in Section II-A of the December 12, 2008 letter referenced above. Because DES performed a limited technical review of the application, and because the application was denied for the reasons stated in Paragraph 1 of this letter, DES reserves the right to perform a detailed technical review of the design, in accordance with Env-Sw 304.07, as part of any new permit application review, should NCES be able to demonstrate to DES's satisfaction that the issues for denial have been addressed.

In accordance with RSA 149-M:8 and Env-Sw 305.03(a)(3), this decision issued by DES may be appealed to the Waste Management Council as provided under RSA 21-O:9 and Env-WMC 200.

If you have questions regarding this decision, please contact me at the letterhead address, by telephone at (603) 271-1997, or via e-mail at michael.wimsatt@des.nh.gov.

Sincerely yours,

Michael J. Wimsatt, P.G., Director
Waste Management Division

Enc: DES denial letter dated December 12, 2008

CC: Bryan Gould, Esq, Brown, Olson & Gould
Town of Bethlehem
Brenda Keith, Esq., Boutin & Altieri
Robert Grillo, P.E., CMA Engineers
Paul Rydel, P.G., SHA Associates
Thomas Burack, Commissioner, DES
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Article published on October 25, 2009

Bethlehem

Landfill finds contaminant leaks

Company denied breach for months

By CHELSEA CONABOY Monitor staff□□□□□□October 25, 2009

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Operators of a large commercial landfill in Bethlehem have found leaks in the containment systems meant to prevent contaminants from escaping into groundwater. That acknowledgement comes after months of denials that such leaks were possible.

North Country Environmental Services, a subsidiary of Casella Waste Systems, has stayed a lawsuit against the state that said the Department of Environmental Services could not deny its application to expand the landfill based on a "hypothetical liner leak."

The landfill is the subject of a long-running battle by a group of Bethlehem residents who have encouraged the state to close it. They say the landfill operators have been deceiving them about the cause of contamination. They want the state to take a more skeptical look at what the company does in the future.

Monitoring wells around the landfill have shown elevated levels of volatile organic compounds and a compound that is added to the landfill to trace leaks. Company representatives repeatedly said the containment system was intact. They said the elevated contaminant levels were due to spills of leachate - the liquid that drains from the landfill - as it was loaded onto trucks to be taken to waste treatment facilities.

The landfill has a capacity of 4.5 million cubic yards of waste, and the company

wants to add capacity for more than 1 million more cubic yards. The state denied two expansion applications, one in December and one in February, saying there was no evidence the liner wasn't leaking.

Because of the rejections, General Manager Kevin Roy said that he has cut the staff to seven from 13 and that the landfill is taking in about half of the waste this year as it handled last year.
At that rate - about 80,000 tons per year - the landfill will be full within three years, he said.
In early September, the company reported to DES monitors that it had found leaks in the containment systems where the plastic cap over closed portions of the landfill meets the plastic liner beneath it.
Roy said equipment had hit the cap, causing damage. Storm water running down the landfill over that area picked up the leachate. Mike Wimsatt, director of the state Waste Management Division, said the cap had not been heat-sealed to the landfill liner in another area. In addition to leachate escaping, landfill gas was migrating to those areas where the cap was compromised and escaping into the ground.
Roy said the leaks were in an older portion of the landfill and are being fixed. He said there is still no evidence that the landfill's double liner system beneath the landfill is malfunctioning.
He said the company monitors the flows of leachate in the system and has not seen any increase.
"We understood the concerns of the state," Roy said. "We definitely understand the concerns of the citizens of Bethlehem. We are addressing these concerns as they appear to us."
The company is preparing a report on the leaks and a remediation plan for the state. Wimsatt said he also wants the company to come up with performance standards, or a set of conditions under which the state can determine whether all leaks have been identified and monitored properly.
"We theorized that there might be a leak, and sure enough, there was," Wimsatt said. "Whether or not it means they've identified everything that might be a problem, I think it's too early to know that."
Jeanne Robillard, chairwoman of the board of selectmen, said the town's engineer will review the data and make recommendations to the state. She said it is unnerving that North Country Environmental Services repeatedly denied a leak when one existed.
"I think it really comes down to credibility," she said.
Seth Goldstein, a Bethlehem resident and landfill opponent, said he would like to see the state hold the company responsible for what he sees as deceit.
"There's a pattern of misinformation and generalizations that are purposely being made to mislead the general public and DES," Goldstein said.
Less than 1 percent of the waste handled at the landfill comes from the town. The rest comes from other areas of New Hampshire and out of state.
Should the issue be resolved, Wimsatt said, the company would have to submit a new application for expansion. That would trigger a new public review process, he said.

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

EMAIL ONLY

October 23, 2020

John Gay
Casella Waste Management, Inc.
1855 VT Route 100
Hyde Park, VT 05655

Subject: **Bethlehem** – North Country Environmental Services (NCES) Landfill, 581 Trudeau Road, DES Site #**198704033**, Project #1737

July 2020 Tri-Annual/2020 Annual Water Quality Monitoring Results, prepared by Sanborn, Head & Associates, Inc. (SHA), dated August 31, 2020

Dear Mr. Gay:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced document for the NCES Landfill, as submitted on your behalf by Sanborn, Head & Associates, Inc. (SHA). The Annual Summary Report was prepared to comply with the ongoing monitoring and reporting requirements of the site Groundwater Management and Release Detection Permit **GWP-198704033-B-007** (the Permit). Based on our review of the most-recent water quality data provided, we note that the monitoring results generally remain consistent with recent prior findings, with the exception of the results discussed below.

Based on our review of the above Report, we developed the comments that follow below. Comments requiring a response from Casella and/or SHA are summarized in ***bold/italicized font***.

1. As discussed within the Report, 1,4-dioxane was detected at elevated concentrations at monitoring wells B-304UR and B-304DR, which are located within the Groundwater Management Zone for the former unlined landfill, during 2020. Resampling of monitoring wells B-304UR and B-304DR during the month of September was recommended by SHA in the Summary Report. In a September 21, 2020 email[1] NHDES concurred with the proposed resampling, with results due to NHDES no later than 45 days after the sampling event, consistent with Permit requirements. As indicted within the email, the data transmittal shall include an evaluation of the results and recommendations for future monitoring and/or investigation.

2. We note within the Report SHA proposed to sample bedrock monitoring wells B-916D during the November 2020 Permit round for total (unfiltered) iron and manganese, as the July 2020 sample from the well was inadvertently analyzed for dissolved (filtered) iron and manganese. NHDES concurs with the recommendation to sample B-916D during the November 2020 round, but recommends sampling for both total and dissolved iron and manganese, to allow for a direct comparison of the results, as well as turbidity to further inform the data analysis. ***Release detection monitoring well B-916D shall be sampled during the November 2020 Permit monitoring round as outlined above. Results shall be submitted to NHDES as part of the next Data Transmittal, due in January 2021, and should include an evaluation of the results and recommendations for future monitoring or other actions.***

[1] NHDES email, dated September 21, 2020: https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4875122

3. NHDES notes, as discussed within the Report, that ongoing elevated chloride concentrations have been detected at several monitoring wells at the Site. Prior instances of increased concentrations of chloride at individual monitoring wells at the Site, have been observed to be transient in nature and have been attributed to short-term, construction-related excavation activities (increasing suspended solids in groundwater) and facility road de-icing and truck traffic. Although not being associated with a current leachate release from the liner system, the elevated concentrations of chloride must continue be monitored closely as required by the Permit and ongoing evaluation of the results and recommendations for future monitoring or other actions be provided as part of Permit submittals.

4. The Report transmits the fourth round of Assessment Monitoring for release detection monitoring wells MW-701 and B-918M, as required under NHDES' Groundwater Release Detection Permits rules (NH Code of Administrative Rules Chapter Env-Or 700). We note the total PFAS concentrations detected at MW-701 and B-918M have continued to decrease in comparison to the November 2019 Permit monitoring round results. We also note PFAS assemblages at each well remain generally similar to previous rounds. Assessment Monitoring should continue as outlined in NHDES' October 21, 2019 letter[2] at this time. The next round of Assessment Monitoring is scheduled for November 2020.

If you have any questions with regard to our comments, please contact me directly at NHDES' Waste Management Division.

Sincerely,

James W. O'Rourke, P.G.
Waste Management Division
Tel: (603) 271-2909
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ec: Jaime Colby, P.E., SWMB/NHDES
Paul Rydel, P.G., HWRB/NHDES
Timothy White, P.G., Sanborn, Head & Associates, Inc.
Board of Selectmen, Town of Bethlehem
Attention Health Officer, Town of Bethlehem

[2] NHDES letter, dated October 21, 2019: https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4813101

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

EMAIL ONLY

February 17, 2021

John Gay
Casella Waste Management, Inc.
1855 VT Route 100
Hyde Park, VT 05655

Subject: **Bethlehem** – North Country Environmental Services (NCES) Landfill, 581 Trudeau Road, DES Site #**198704033**, Project #1737

November 2020 Tri-Annual Water Quality Monitoring Results, prepared by Sanborn, Head & Associates, Inc. (SHA), dated December 21, 2020

December 2020 Supplemental Water Quality Monitoring Results, prepared by SHA, dated January 25, 2021

Dear Mr. Gay:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced documents for the NCES Landfill, as submitted on your behalf by SHA. The November Data Transmittal was prepared to comply with the ongoing monitoring and reporting requirements of the site Groundwater Management and Release Detection Permit **GWP-198704033-B-007** (the Permit). Based on our review of the most-recent water quality data provided, we note that the monitoring results generally remain consistent with recent prior findings, with the exception of the results discussed below.

Based on our review of the above submittals, we developed the comments that follow below. Comments requiring a response from Casella and/or SHA are summarized in ***bold/italicized font***.

1. As discussed within the November 2020 Data Transmittal[1], dated December 21, 2020, NHDES notes that concentrations of 1,4-dioxane at monitoring wells B-304UR and B-304DR continue to be detected above Ambient Groundwater Quality Standard (AGQS). As recommended within the November Data Transmittal and discussed as part of NHDES' December 15, 2020 phone call with NCES and SHA, monthly supplemental sampling of B-304UR and B-304DR and surface water sampling locations S-1 (Main Seep), SF-1, S-108, and S-109 is being conducted to more closely track 1,4-dioxane concentrations over time. NHDES concurred with the recommendation and directed NCES to proceed with the monthly sampling. The December 2020 Supplemental Data Transmittal[2], dated January 25, 2021, is the first round of said sampling which was proposed to run through April 2021. ***Monthly sampling of the above listed-locations shall continue through April 2021, at which time the need for continued monthly sampling should be re-evaluated.***

[1] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4893156
[2] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4898695

2. As most recently discussed within the November Data Transmittal, Permit monitoring results for sampled locations upgradient of the B-304 monitoring wells point to the excavation work completed to modify Storm Water Pond No. 4 as the likely cause of residual 1,4-dioxane impacts to groundwater, and not a new impact from landfill operations. This excavation work has resulted in a downgradient extension of the 1,4-dioxane groundwater plume, as monitored by the B-304 wells. The increase in 1,4-dioxane concentrations at the B-304 wells, along with the lowering of the 1,4-dioxane AGQS, has caused the B-304 wells to no longer be entirely adequate to monitor the downgradient extent of the 1,4-dioxane impact. We note that 1,4-dioxane has not been detected at the further-downgradient seep locations since the pond work was completed; as such it appears that the observed 1,4-dioxane impact is constrained to within the site Groundwater Management Zone (GMZ). However, as originally discussed in our March 23, 2020 letter[3] (inadvertently dated 2019) and during our December 15, 2020 phone call, the existing network of monitoring locations is not adequate to characterize the full extent of the 1,4-dioxane plume downgradient of the B-304 wells, and one or more similarly-constructed additional monitoring wells installed downgradient of this area is warranted. ***A Supplemental Site Investigation is required to delineate the downgradient extent of groundwater impacts in the area of the B-304 wells. A Work Plan to outline the investigation shall be submitted to NHDES within 30 days of the date of this letter.***

3. The November Data Transmittal also transmits Assessment Monitoring results for release detection monitoring wells MW-701 and B-918M, as required by NHDES' October 21, 2019 letter[4]. We note the total per- and polyfluoroalkyl substances (PFAS) concentrations detected at MW-701 have continued to decrease in comparison to the November 2019 Permit monitoring round results. We note only three PFAS were detected above method detection limits at MW-701 during the November 2020 round. The November 2020 results at B-918M indicate increased PFAS concentrations as well as an increased number of PFAS detected versus the two previous rounds. We note perfluorooctanoic acid (PFOA) was detected at a concentration of 25.1 nanograms per liter (ng/L) at B-918M, above the AGQS of 12 ng/L, during the November 2020 round. ***Assessment Monitoring shall continue as outlined in NHDES' October 21, 2019 letter at this time.***

If you have any questions with regard to our comments, please contact me directly at NHDES' Waste Management Division.

Sincerely,

James W. O'Rourke, P.G.
Waste Management Division
Tel: (603) 271-2909
Fax: (603) 271-2181
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ec: Jaime Colby, P.E., SWMB/NHDES
Paul Rydel, P.G., HWRB/NHDES
Timothy White, P.G., Sanborn, Head & Associates, Inc.
Board of Selectmen, Town of Bethlehem
Attention Health Officer, Town of Bethlehem

[3] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4832728
[4] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4813101

north country ENVIRONMENTAL SERVICES
A Casella Company
1855 Route 100 • Hyde Park, VT 05655 p. 802.223.7045

June 24, 2021

Ms. Jamie M. Colby, PE
NH Department of Environmental Services
Solid Waste Management Bureau
P.O. Box 95, 29 Hazen Drive
Concord, New Hampshire 03301

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Incident Report
Permit # DES-SW-SP-03-002

Dear Ms. Colby,

North Country Environmental Services, Inc writes to provide a follow up to the Leachate Management System Audit that was performed by Sanborn, Head & Associates, Inc. (SHA) and summarized in a Memorandum dated June 9, 2021. We have reiterated the findings and recommendations from SHA below in normal print with the current status of improvement in **bold print**.

1. Finding – The Flare Condensate Knockout Pot transfer pump does not have an UST A high level float or level transducer high-high level alarm interlock to prevent condensate flow to UST A (like the three pumps stations).

   Recommendation – Install an interlock circuit for the Flare Condensate Knockout pump to prevent the Flare Condensate Knockout Pump from pumping when an UST A high-level float or high-level transducer alarm is initiated.

   Reprogramming of the master control panel to provide an interlock signal will be completed during the week of June 28, 2021.

2. Finding – The North Condensate Knockout Structure transfer pump is connected to an independent controller and not the master control panel. An interlock for the pump should be connected to the master panel to prevent flow when the high-level alarm conditions are activated at UST B.

   Recommendation – Install an interlock circuit for a condensate pump at the master panel. This will prevent the North Condensate Knockout Pot Pump from pumping when a UST B high-level float or high-level transducer alarm is activated.

   A switching relay is required and will be installed during the week of June 28, 2021.

3. Finding - AST Leak Alarm located in the secondary tank of the AST does not prevent UST B from pumping to the AST.

   Recommendation – Add an interlock control at the master panel for the AST secondary level alarm to prevent UST B from transferring leachate to the AST when a leak is detected in the secondary containment space of the AST.

Reprogramming of the master control panel to add the interlock signal will be completed during the week of June 28, 2021.

4. Finding – The UST A pump does not appear to be sized appropriately or is fouled. This is based on the observation of the pump that conveys leachate from UST A to UST B operating continuously while not keeping up with flow rates from the three landfill stages supplying leachate to UST A.

   Recommendation – Inspect the existing pump and possibly increase the pump size so transfer of leachate to UST B matches or exceeds the flow rate from the three upstream pump stations.

   NCES will have a new pump installed by July 23, 2021.

5. Finding – The Stage III leachate manhole was buried. It was unearthed by NCES personnel and opened by Gates Electric for inspection.

   Recommendation – The manhole cover should be raised to grade so that the manhole is easily accessible for testing.

   NCES will install a manhole riser on the Stage III manhole during the week of June 28, 2021.

6. Finding – The Leachate Loadout volume batch controller does not have a reset when a partial load is transferred to the tanker truck. If the tanker driver does not activate the emergency stop switch upon a partial load removal the loadout pump could activate when a truck is not present.

   Recommendation – Install a stop timer in the control logic or a stand-alone reset switch so that loadout pump does not activate without a tanker truck present.

   NCES intends to have our electrician install a rundown timer as well as a proximity switch as an added level of protection for overfill by July 23, 2021.

7. Finding – The Former Evaporator Leak Detection Manhole float switch was not connected to the master panel.

   Recommendation – Evaluate if this manhole is still needed and remove the manhole if it is not. If the manhole is needed it should be equipped with a leak detection switch.

   NCES will have the manhole removed during the week of June 28, 2021.

8. Finding – The Stage III Leak Detection Manhole switch was not connected to the master panel.

   Recommendation – Connect the Stage III Leak Detection Manhole to the master control panel.

   The switch was connected to the control system; however, the programming required a minor adjustment to recognize the signal. The reprogramming will be completed during the week of June 28, 2021.

9. Finding – Stage IV Phase II radio signal loss.

Recommendation – Disable the pump run enable interlock switch from the master control panel upon loss of radio signal and/or hard wire the locations together via the RS-485 network.

The radio signal was repaired on May 26, 2021 and was confirmed to be operating correctly. NCES will have the Stage IV Phase II control panel hard wired to the master panel by August 6, 2021.

10. Finding – The existing Hand/Off/Auto switches from leachate source pumps do not have a HAND switch position safety interlock.

    Recommendation – Apply a HAND switch power timer via control logic and add a hand power interlock relay to disable potential long term inadvertent HAND switch pump run operation from any leachate pump station.

    Reprogramming of the control panels to add an interlock signal when pumps are in the "hand" position on switching will be completed during the week of June 28, 2021.

11. Finding – Valve Box 403 gravity drains to UST A. The leak detection float in Valve Box 403 only activates a light on the control panel and does not interlock the UST B or AST Loadout pumps.

    Recommendation – Update control interlock to prevent pumping from UST B and AST to Valve Box 403.

    The switch was connected to the control system; however, the programming requires a minor adjustment to recognize the signal. The reprogramming will be completed during the week of June 28, 2021.

Should you have any questions please do not hesitate to contact me at 802-236-5973.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

John Gay, E.I.
Permits, Compliance & Engineering

c. Kevin Roy, NCES
Russell Anderson, NCES
Samuel Nicolai, NCES
Brian Oliver, NCES

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

EMAIL ONLY

July 19, 2021

John Gay
Casella Waste Management, Inc.
1855 VT Route 100
Hyde Park, VT 05655

Subject: **Bethlehem** – North Country Environmental Services (NCES) Landfill, 581 Trudeau Road, DES Site #**198704033**, Project #1737

April 2021 Water Quality Monitoring Results, prepared by Sanborn, Head & Associates, Inc. (SHA), dated June 2, 2021

Work Plan for Supplemental Site Investigation Response to February 17, 2021 Letter, prepared by SHA, dated March 19, 2021

Dear Mr. Gay:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced documents for the NCES Landfill, as submitted on your behalf by SHA. The April Data Transmittal was prepared to comply with the ongoing monitoring and reporting requirements of the site Groundwater Management and Release Detection Permit **GWP-198704033-B-007** (the Permit). The Work Plan was prepared to comply with those requirements outlined in NHDES' February 17, 2021 letter.

Based on our review of the above submittals, we developed the comments that follow below. Comments requiring a response from Casella and/or SHA are summarized in ***bold/italicized font***.

1. As recommended within the December 21, 2020 November 2020 Data Transmittal[1], and discussed as part of NHDES' December 15, 2020 phone call with NCES and SHA, monthly supplemental sampling of monitoring wells B-304UR and B-304DR and surface water sampling locations S-1 (Main Seep), SF-1, S-108, and S-109 was conducted to more closely track 1,4-dioxane concentrations over time. The April 2021 Data Transmittal[2] evaluated the results of the monitoring which indicated generally decreasing concentrations of 1,4-dioxane and did not indicate 1,4-dioxane impacts to surface water sampling locations. As discussed previously, most recently in NHDES' February 17, 2021 letter[3], the increase in 1,4-dioxane concentrations at the B-304 wells, along with the lowering of the 1,4-dioxane AGQS, has caused the B-304 wells to no longer be entirely adequate to monitor the downgradient extent of the 1,4-dioxane impact.

[1] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4893156
[2] http://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4925698
[3] http://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4902820

2. In response to detections of 1,4-dioxane above AGQS at monitoring wells B-304UR and B-304DR NHDES required, in our February 17, 2021 letter, a Work Plan for a Supplemental Site Investigation to delineate the downgradient extent of groundwater impacts in the area of the B-304 wells. The March 19, 2021 Work Plan for Supplemental Site Investigation[4], prepared by SHA, outlines the proposed installation of a downgradient monitoring well couplet and the redevelopment of B-304DR monitoring well. As a result of the ongoing detections of 1,4-dioxane above AGQS the tasks outlined in the Work Plan are required to be completed at this time. Installation of the well couplet and rehabilitation of B-304DR should be completed by mid-September with an initial sampling round to follow in late September (analytical requirements are discussed below). NHDES understands the drilling contractor's schedule may be a limiting factor in meeting this installation date, as such if an extension is necessary please notify NHDES. Subsurface exploration and monitoring well construction logs shall be submitted to NHDES along with an updated site plan with the monitoring wells' surveyed location. ***Please proceed with those steps outlined within the March 19, 2021 Work Plan. Documentation of the well installations and updated site plan should be submitted in conjunction with the groundwater data transmittal noted below.***

3. As discussed above, an initial sampling round from the new well couplet and the rehabilitated B-304DR are required. Based on its proximity to B-304DR, and the reoccurring 1,4-dioxane detections, B-304UR is also required to be sampled in conjunction with this sampling event. The monitoring wells shall be sampled and analyzed for specific conductance @25ºC, pH, chemical oxygen demand (COD), bromide, chloride, nitrate, total Kjeldahl-nitrogen (TKN), antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, sodium, thallium, zinc, NHDES Waste Management Division Full List of Analytes for Volatile Organics (Full List VOCs) including 1,4-dioxane (using a 0.25 ug/l reporting limit), per- and polyfluoroalkyl substances (PFAS), and static water level elevation. Consistent with previous monitoring well installations at the site the new well couplet, and the work related to the redevelopment of B-304DR, should be completed a minimum of two weeks prior to their initial sampling to allow the wells to equilibrate. For planning purposes, a second sampling round shall be completed in conjunction with the November 2021 Permit monitoring event. Future monitoring of the new well couplet and the rehabilitated B-304DR will be reevaluated following review of the results of this second round. ***Sampling of the new well couplet and the B-304 couplet should be completed as outlined above. The results of the initial sampling round shall be submitted to NHDES within 45 days of sampling, and include an evaluation of the results and any associated recommendations.***

4. The April 2021 Data Transmittal also included Assessment Monitoring results for release detection monitoring wells MW-701 and B-918M, as required by NHDES' October 21, 2019 letter[5]. The April 2021 results at B-918M indicate increased PFAS concentrations as well as an increased number of PFAS detected versus the January 2021 round. We note detected concentrations of PFAS at MW-701 and the number of PFAS detected both increased, in comparison to recent Assessment Monitoring rounds. As discussed in the Data Transmittal perfluorohexanesulfonic acid (PFHxS) and 1H,1H,2H,2H-perfluorooctanesulfonic acid, aka

[4] http://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4910540
[5] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4813101

6:2 fluorotelomer sulfonic acid, (6:2 FTSA) were detected above laboratory reporting limits during the April 2021 round for the first time at MW-701. PFHxS was detected at 7.22 nanograms per liter (ng/L) and 6:2FTSA was detected at a concentration of 8.6 ng/L. ***Assessment Monitoring shall continue as outlined in NHDES' October 21, 2019 letter at this time.***

5. Please note that NHDES is currently evaluating the June 18, 2021 Initial Response Action Report[6] related to the May 2021 leachate spill and a response will be provided under separate cover.

If you have any questions with regard to our comments, please contact me directly at NHDES' Waste Management Division.

Sincerely,

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ec: Karlee Kenison, P.G., HWRB Administrator, WMD/NHDES
Matthew Taylor, P.G., HWRB/NHDES
Jaime Colby, P.E., SWMB/NHDES
Timothy White, P.G., Sanborn, Head & Associates, Inc.
Board of Selectmen, Town of Bethlehem
Attention Health Officer, Town of Bethlehem

[6] http://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4929489