



A Casella Company

1855 Route 100 • Hyde Park, VT 05655 p. 802.223.7045

October 18, 2019

Ms. Jaime Colby
Solid Waste Engineering Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095



**RE: North Country Environmental Services
Lined Landfill – Bethlehem, New Hampshire
Type 1-A Permit Modification – Stage VI
Application for Waiver, DES-SW-SP-03-002**

Dear Ms. Colby:

North Country Environmental Services, Inc. (NCES) writes to provide New Hampshire Department of Environmental Services (NHDES) an Application for Waiver for our proposed Stage VI development. An Application for a Type 1-A modification to the site landfill permit was submitted by NCES to NHDES in January 2019 and is currently under NHDES review. Please find enclosed three copies of the application documents (including three original application forms). A copy of the application was also sent to the distribution list below via certified mail. In addition, a copy was uploaded to the NHDES OneStop Database.

Certified mail verification receipts will be provided to NHDES once they are all returned. Should you have any questions, please do not hesitate to contact me at (802) 651-5454.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.


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

Enclosures: (3) Complete Applications for Waiver
(copy of complete application uploaded to NHDES OneStop)

- c. Gabe Boisseau, Chair, Board of Selectmen, Bethlehem, NH
Town Clerk, Town of Bethlehem, NH
Michael Marchand, Supervisor VI, NH Fish & Game, Endangered Species Program
Sabrina Stanwood, Administrator, NH Department of Natural and Cultural Resources, Natural Heritage Inventory
Laura Maynard, NH Department of Justice, Bureau of Environmental Protection
Kevin Roy, Site Manager, North Country Environmental Services

WAIVER APPLICATION FORM



Waste Management Division

For Office Use Only:

WMD Log #: 2019-44445-01

Date Rec'd.: 10/21/19

No. of Copies: 3 paper



APPLICATION FOR WAIVER

pursuant to
the provisions of Part Env-Sw 202 of the New Hampshire Solid Waste Rules

APPLICATION FILING AND PROCESSING INSTRUCTIONS

- (1) Complete this form by providing all of the information requested. If you need more space than provided on the form to answer a particular question and you are using a paper copy of this form, attach additional pages as necessary; mark each page clearly to show both the applicant name and the question being answered; and indicate on the form that the additional pages are attached
- (2) Submit **THREE** copies of the completed waiver application, **EACH bearing ORIGINAL signatures**. Applications may be submitted to the department electronically. If the applicant chooses to submit an application electronically, a single paper copy shall also be submitted to the department to the following address:

New Hampshire Department of Environmental Services (DES)
Waste Management Division (WMD)
Permitting & Design Review Section (P&DRS)
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

- (3) All references on this form that begin with "Env-Sw" are citations from the New Hampshire Solid Waste Rules. You may obtain a copy of the Rules from the DES Public Information and Permitting Office at (603) 271-2975. The Rules are also available on the Internet at <http://www.des.nh.gov>.
- (4) DES will process your application in conformance with Env-Sw 202, Env-Sw 304 and Env-Sw 305.
- (5) For further assistance with completing this form, contact the DES Permitting & Design Review Section (P&DRS) at (603) 271-2925 or at the above noted mailing address.
- (6) You may also contact DES at TDD Access: Relay NH 1 (800) 735-2964.

SECTION I. APPLICANT IDENTIFICATION

(1)	Name: North Country Environmental Services, Inc.	
(2)	Mailing address: 1855 VT Route 100, Hyde Park, VT 05655	
(3)	Telephone number: (802) 651-5454	
(4)	If different than above, identify the individual associated with and designated by the applicant to be the contact individual for matters concerning this application:	
	(a) Name: John Gay	(b) Title: Engineering Manager
	(c) Mailing address: 1855 VT Route 100, Hyde Park, VT 05655	
	(d) Telephone number: (802) 651-5454	(e) E-mail: John.Gay@casella.com
(5)	If the applicant is an individual, provide date of birth and go to Section II:	
(6)	If the applicant is a corporation, partnership or other association, provide the following information as specified:	
	(a) The facility is owned by a: <input checked="" type="checkbox"/> corporation <input type="checkbox"/> partnership <input type="checkbox"/> other association	
	(b) State of incorporation/formation: Virginia	
	(c) Principal business address: 25 Green Hill Lane, Rutland, VT 05701	
	(d) Provide on separate paper and attach/mark as "Attachment I(6)(c)," the names and addresses of all directors, officers and shareholders (*), if for a corporation; all partners (whether general or limited), if for a partnership; or all principals, members or participants, if for another type of association.	
	(*) For a privately held corporation, identify all shareholders. For a publicly traded corporation, identify all shareholders owning 10% or more of the corporation's equity or debt.	

SECTION II. FACILITY OR ACTIVITY TO WHICH THIS REQUEST RELATES

Identify the particular facility or activity to which this application for waiver relates.

(1)	Related activity [check that which applies]:		
<input type="checkbox"/>	Application for a Standard Permit	<input type="checkbox"/>	Application for a Permit-by-Notification
<input type="checkbox"/>	Application for an Emergency Permit	<input type="checkbox"/>	Application for Research & Development Permit
<input type="checkbox"/>	Application to certify a waste-derived product for distribution and use	<input type="checkbox"/>	Application for Operator Certification
<input checked="" type="checkbox"/>	Application to modify a permit (specify the permit number): DES-SW-SP-03-002		
<input type="checkbox"/>	Other (specify):		
(2)	If the requested waiver relates to a particular application, provide the date the application was/will be submitted to DES: Type I-A Modification to Solid Waste Landfill for Stage VI Expansion, submitted January 2019		
(3)	If the requested waiver relates to a particular facility, provide the facility name and location in the space below. (Note: For a waiver relating to a particular facility, you must also notice the host municipality, host solid waste district and, in some instances, the abutters, as specified by Section IV of this form).		
(a)	Facility name: North Country Environmental Services Landfill		
(b)	Street address: 581 Trudeau Road		
(c)	Town/City: Bethlehem, New Hampshire 03574		

SECTION III. SPECIFIC RULE(S) FOR WHICH A WAIVER IS SOUGHT

Below, identify the specific solid waste rule(s) that you wish to have waived. Give the complete "Env-Sw" citation(s).

Env-Sw Env-Sw 805.07(a)(1) and (b)(1). See attached.

SECTION IV. NOTICE OF FILING REQUIREMENTS

- (1) If this application for waiver relates to a particular facility, you must send by certified mail, or deliver in hand, a complete copy of this application and a "notice of filing" to the host municipality, host solid waste management district and other affected entities, as specified by Env-Sw 303. To identify the host solid waste management district, contact the host town/city office or the P&DRS at (603) 271-2925.
- (2) In addition, if this application for waiver is to reduce the required setback distance to any residence or property line, a notice of filing must be provided to the affected property owner(s) as specified in Env-Sw 303.
- (3) A copy of the required notice(s) of filing and proof of receipt [i.e., signature(s) of the recipient(s) acknowledging receipt] must be attached to and submitted with this application for waiver, unless you are combining the notice of filing with the notice requirements for a related permit application as indicated by item (4) below.
- (4) If this application for waiver is being submitted as part of an application for a facility permit or permit modification, the required notice(s) of filing may be combined with the notice(s) of filing prepared for the permit application/permit modification application itself. If so, check here: ☐
- (5) For assistance with preparing the required notice of filing, please refer to either Env-Sw 303 or "A Guide for Preparing Notices of Filing." If the guide is not included with this application form, you may obtain a copy from the P&DRS at (603) 271-2925.

SECTION V. REASON FOR REQUESTING WAIVER

Explain why a waiver is being requested, including an explanation of the hardship that would be caused by having to comply with the rule. Use extra paper as necessary.

See attached

SECTION VI. PROPOSED ALTERNATE PROCEDURE, METHOD OR ACTIVITY

Provide a full explanation of any alternate procedure, method, or other activity that you propose to substitute for the procedure, method or activity you wish to have waived. Include written documentation and/or data to support the proposed alternative. Use extra paper as necessary.

See attached

SECTION VII. DURATION OF WAIVER

Specify the proposed duration for the requested waiver. If you are seeking a "permanent" waiver, including one that would expire when the facility to which it relates may close, so state and provide the desired starting date.

Proposed effective/starting date: January 1, 2020

Proposed expiration date: ☐ OR ☒ I am seeking a "permanent" waiver

SECTION VIII. DEMONSTRATION OF CRITERIA

Provide a full explanation of why you believe that having the waiver granted will meet the below listed criteria. [Note: Economic, technological, practical application and safety issues shall be considered in evaluating a demonstration of the criteria; however, the merits of the application shall not be weighed solely on the basis of cost].

Criteria for Waiver, pursuant to Env-Sw 202.04:

- (a) Exemption from complying with the rule shall:
 - 1. Not result in an adverse effect to the environment or natural resources of the state, public health or to public safety.
 - 2. Not result in an impact on abutting properties that is more significant than that which would result from complying with the rule.
 - 3. Be in keeping with the intent and purpose of the rule being waived.
- (b) One or more of the following conditions shall be satisfied:
 - 1. Strict compliance with the rule will result in an adverse effect on the environment, public health or safety; AND/OR
 - 2. Strict compliance with the rule will result in a circumvention of the goals and objectives of the state's solid waste management program, as specified in RSA 149-M:1 through 3 and the state solid waste management plan; AND/OR
 - 3. Strict compliance with the standard will provide no benefit to the public and will cause an operational or economic hardship to the applicant.

Use the space below to provide your demonstration. Use extra paper as necessary.

See attached

SECTION IX. CERTIFICATION OF COMPLIANCE/COMPLIANCE REPORT

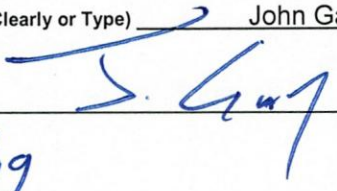
If you are able to certify that each of the following statements is true, do so by your signature. If you are unable to certify that each of the following statements is true, you must prepare a separate Compliance Report as specified by Env-Sw 303.15.

COMPLIANCE STATEMENT

The applicant shall certify that each of the statements listed in (1)-(8) below are true for each of the following individuals and entities:

- ☒ the applicant, and
- ☒ the facility owner, and
- ☒ the facility operator, and
- ☒ all individuals and entities holding 10% or more of the applicant's debt or equity, and
- ☒ all of the applicant's officers, directors, and partners, and
- ☒ all individuals and entities having managerial, supervisory or substantial decision making authority and responsibility for the management of facility operations or the activity(s) for which approval is being sought

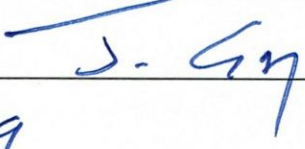
- (1) No individual or entity listed above has been convicted of or plead guilty or no contest to a felony in any state or federal court during the 5 years before the date of the application.
- (2) No individual or entity listed above has been convicted of or plead guilty or no contest to a misdemeanor for a violation of environmental statutes or rules in any state or federal court during the 5 years before the date of the application.
- (3) No individual or entity listed above has owned or operated any hazardous or solid waste facility which has been the subject of an administrative or judicial enforcement action for a violation of environmental statutes or rules during the 5 years before the date of the application.
- (4) No individual or entity listed above has been the subject of any administrative or judicial enforcement action for a violation of environmental statutes and rules during the 5 years before the date of the application.
- (5) All hazardous and solid waste facilities owned or operated in New Hampshire by any individual or entity listed above are in compliance with either.
 - (a) All applicable environmental statutes, rules, and DES permit requirements.
 - (b) A DES approved schedule for achieving compliance therewith.
- (6) All individuals and entities listed above are in compliance with all civil and criminal penalty provisions of any outstanding consent agreement, settlement, or court order to which DES is a party.
- (7) All individuals and entities listed above have paid, or are in compliance with the payment schedule for any administrative fine

	assessed by DES.
(8)	All individuals and entities listed above are in compliance with all terms and conditions under every administrative order, court order or settlement agreement relating to programs implemented by DES.
Signature of the applicant certifying the above statements are true:	
Applicant Name (Print Clearly or Type) <u>John Gay</u>	
Applicant Signature <u></u>	
Date <u>10/15/19</u>	
OR	
Circle the untrue statement(s) and attach a Compliance Report, pursuant to Env-Sw 303.15	

SECTION X. APPLICANT SIGNATURE REQUIREMENTS

The applicant must sign the following statement prior to submitting this application. All copies of the application filed with DES must bear the applicant's original signature. If the applicant is not an individual, an individual duly authorized by the applicant shall sign the application.

To the best of my knowledge and belief, the information and material submitted herewith is correct and complete. I understand that any approval granted by DES based on false and/or incomplete information shall be subject to revocation or suspension, and that administrative, civil or criminal penalties may also apply.

Applicant Name (Print Clearly or Type) <u>John Gay</u>	
Applicant Signature <u></u>	
Date <u>10/15/19</u>	

SECTION XI. PROPERTY OWNER SIGNATURE

For applications relating a specific facility or activity, sited or to be sited on property not owned by the applicant, the property owner must also sign this form as follows. All copies of the application filed with DES must bear the property owner's ORIGINAL signature. If the property owner is not an individual, an individual duly authorized by the property owner shall sign the application.

(1)	I hereby affirm that the applicant has, or shall be granted, the legal right to occupy and use the property on which the subject facility is or will be located for the purposes specified in this application.
(2)	I hereby affirm that I shall grant access to the property for closure and post-closure monitoring of the subject facility and site as required by RSA 149-M and the New Hampshire Solid Waste Rules (Env-Sw 100-300 and Env-Sw 400-2000), as amended.
Property Owner Name (Print Clearly or Type) _____	
Property Owner Signature _____	
Date _____	

SECTION I
APPLICANT IDENTIFICATION

Attachment I(6)(c)

Entity Name: North Country Environmental Services, Inc.

Address: 25 Greens Hill Lane

Rutland, VT 05701

Name	Title	Title Role
John W. Casella	Chief Executive	Officer
Edwin D. Johnson	President & Chief Operating Officer	Officer
Ned R. Coletta	Sr. Vice President, Chief Financial Officer & Treasurer	Officer
Christopher B. Heald	Vice President, Finance & Chief Accounting Officer	Officer
John W. Casella	Chairman, Chief Executive Officer	Director
Douglas R. Casella	Vice Chairman, President	Director

North Country Environmental Services, Inc., is wholly owned by New England Waste Services, Inc., which is itself a subsidiary of Casella Waste Systems, Inc.

SECTION IV
NOTICE OF FILING REQUIREMENTS

In accordance with Env-Sw 303, notice of filing of the Application for Waiver has been transmitted to the Town of Bethlehem Board of Selectmen and Town Clerk and the abutters. A complete copy of this Type I-A Permit Modification and Waiver Application document has also been transmitted to the Town Board of Selectmen and Town Clerk. Copies of each notice are enclosed for reference. The certified mail receipts will be transmitted to the Department under separate cover upon receipt.

NOTIFICATIONS



CMA ENGINEERS, INC.
CIVIL | ENVIRONMENTAL | STRUCTURAL

35 Bow Street
Portsmouth, New Hampshire
03801-3819

P: 603 | 431 | 6196
www.cmaengineers.com

October 17, 2019

Shurtleff
11 Vinton Dr
Penacook, NH 03303
Map 419 Lot 7

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Shurtleff,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

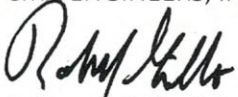
On January 11, 2019, NCES applied for a Type I-A Permit Modification to the Standard Facility Permit for its landfill located at 581 Trudeau Road in Bethlehem, NH. That application is under review and if approved, would allow the construction of the Stage VI Landfill expansion. You were notified of this application in a certified letter issued on or about January 11, 2019.

The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

The New Hampshire Solid Waste Rules have specific procedures for the review and issuance of the Waiver Application. The procedures involve a series of steps, which are similar to those depicted on the enclosed flow chart for a standard permit application.

If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.


Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$
Sent To	
Street and Apt. No., or P.O. Box No.	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

Postmark Here
OCT 17 2019

Shurtleff
11 Vinton Drive
Penacook, NH 03303



October 17, 2019

John & Patricia Anderson
52 Muchmore Road
Bethlehem, NH 03574
Map 209 Lot 28 & 29

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear John & Patricia Anderson,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

On January 11, 2019, NCES applied for a Type I-A Permit Modification to the Standard Facility Permit for its landfill located at 581 Trudeau Road in Bethlehem, NH. That application is under review and if approved, would allow the construction of the Stage VI Landfill expansion. You were notified of this application in a certified letter issued on or about January 11, 2019.

The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

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If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
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Certified Mail Fee \$	Postmark Here OCT 17 2019
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy) \$	
<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$	
Total Postage and Fees \$	
Sent To John & Patricia Anderson 52 Muchmore Road Bethlehem, NH 03574	
Street and Apt. No., or PO Box	
City, State, ZIP+4®	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

7019 0700 0001 9458 8476



CMA ENGINEERS, INC.
CIVIL | ENVIRONMENTAL | STRUCTURAL

35 Bow Street
Portsmouth, New Hampshire
03801-3819

P: 603|431|6196
www.cmaengineers.com

October 17, 2019

Brian Cook
Kathryn Cook
3768 Main Street
Bethlehem, NH 03574
Map 209 Lot 36.1

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Brian Cook,

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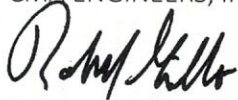
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Very truly yours,

CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee \$	 Postmark Here
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy) \$	
<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$	
Total Postage and Fees \$	
Sent To Brian Cook Kathryn Cook	
Street and Apt. No., or 3768 Main Street	
City, State, ZIP+4 Bethlehem, NH 03574	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

7019 0700 0001 9458 8483



October 17, 2019

Levy Real Estate LLC
3738 Main Street
Bethlehem, NH 03574
Map 209 Lot 36.2

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
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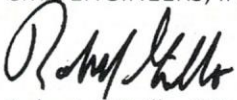
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The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

The New Hampshire Solid Waste Rules have specific procedures for the review and issuance of the Waiver Application. The procedures involve a series of steps, which are similar to those depicted on the enclosed flow chart for a standard permit application.

If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.


Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

Nicholas D'Angelo
387 Prospect St.
Revere, MA 02151
Map 419 Lot 3 & 4

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Nicholas D'Angelo,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

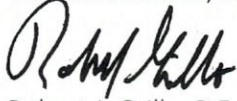
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The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

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If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

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October 17, 2019

Jack Tyrrell
580 Trudeau Road
Bethlehem, NH 03574
Map 419 Lot 8

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Jack Tyrrell,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

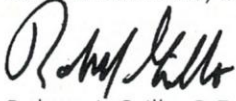
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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

OCT 17 Here



October 17, 2019

Natalie Niles
36 Coburn Hill Road
Concord, MA 01742
Map 209 Lot 31, 33

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Natalie Niles,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
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October 17, 2019

Wendall & Nancy Young
51 Muchmore Road
Bethlehem, NH 03574
Map 209 Lot 64

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Wendall & Nancy Young,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

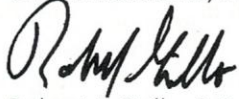
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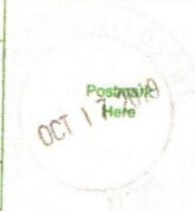
Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

Marie C. Bell
Philip W. Bell
51 Trudeau Rd.
Bethlehem, NH 03574
Map 419 Lot 40.1

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063

Dear Marie C. Bell,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

Sveda Family Revocable Trust
22 Bishop Ln.
Epsom, NH 03234
Map 419 Lot 29

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Sveda Family Revocable Trust,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

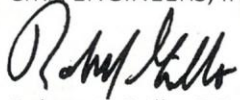
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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

U.S. Forest Service
C/O Ammonoosuc Ranger Dist.
PO Box 239
Bethlehem, NH 03574
Map 422 Lot 5

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear U.S. Forest Service,

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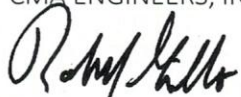
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Very truly yours,

CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

State of New Hampshire
Dept. of Safety
33 Hazen Drive
Concord, NH 03305
Map 422 Lot 5.1

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear State of New Hampshire,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

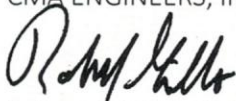
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The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

The New Hampshire Solid Waste Rules have specific procedures for the review and issuance of the Waiver Application. The procedures involve a series of steps, which are similar to those depicted on the enclosed flow chart for a standard permit application.

If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

John Connelly
Brown Robert Etal
225 High Street
Canton, MA 02021
Map 419 Lot 10

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear John Connelly,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

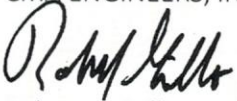
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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

Daniel M Bois
Mary J Bois
528 Trudeau Rd
Bethlehem, NH 03574
Map 419 Lot 11

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Daniel M Bois,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

New Hampshire State of
Dept. of Natural and Cultural Resources
172 Pembroke Road
Concord, NH 03302
Map 419 Lot 15

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear New Hampshire State of,

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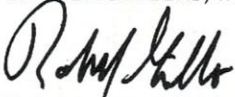
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Very truly yours,

CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
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October 17, 2019

Bethlehem Earth Materials LLC
PO Box 367
Carroll, NH 03595
Map 419 Lot 14

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063

Dear Bethlehem Earth Materials LLC,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.

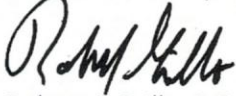
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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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Bethlehem Earth Materials LLC	
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October 17, 2019

Strawberry Hill Reservation
172 Pembroke Road
Concord, NH 03301
Map 209 Lot 65, 66, 67

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063

Dear Strawberry Hill Reservation ,

Pursuant to RSA 149-M and the New Hampshire Solid Waste Rules, you are hereby notified that North Country Environmental Services, Inc., (NCES) will be filing an application for waiver with the New Hampshire Department of Environmental Services (NHDES) on or about October 18, 2019. A The waiver application will seek a waiver of NH Solid Waste Rules Env-Sw 805.07(a)(1) and (b)(1), of the New Hampshire Code of Administrative Rules. These rules relate to leak detection and location system design standards. NHDES issued similar waivers to these rules as part of Stage IV Phase II permitting in 2013, and Stage V permitting in 2014.


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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

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October 17, 2019

Venessa Palmer
266 Maple St
Bethlehem, NH 03574
Map 419 Lot 32

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

**RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063**

Dear Venessa Palmer,

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Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
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October 17, 2019

Susan Nagle
47 Katja Ln
Bethlehem, NH 03574
Map 419 Lot 35

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

RE: North Country Environmental Services, Inc. Stage VI Landfill (DES-SW-SP-03-002)
New Hampshire Department of Environmental Services
Waste Management Division, Permitting & Design Review Section
Type I-A Permit Modification
Application for Waiver
CMA #1063

Dear Susan Nagle,

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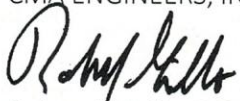
On January 11, 2019, NCES applied for a Type I-A Permit Modification to the Standard Facility Permit for its landfill located at 581 Trudeau Road in Bethlehem, NH. That application is under review and if approved, would allow the construction of the Stage VI Landfill expansion. You were notified of this application in a certified letter issued on or about January 11, 2019.

The waiver application can be reviewed at NCES's offices at 581 Trudeau Road, Bethlehem, NH 03574 during normal business hours, the offices of the Town of Bethlehem at 2511 Main Street, and at NHDES located at 29 Hazen Drive, Concord, NH. The permit applicant, facility owner, facility operator and property owner is NCES. NCES's mailing address is P.O. Box 9, Bethlehem, NH 03574. You may direct inquiries about the application to Mr. John Gay, Engineering Manager, 1855 VT Route 100, Hyde Park, VT 05655. You can also contact Mr. Gay at 802-651-5454 or John.Gay@casella.com.

The New Hampshire Solid Waste Rules have specific procedures for the review and issuance of the Waiver Application. The procedures involve a series of steps, which are similar to those depicted on the enclosed flow chart for a standard permit application.

If you have any questions regarding the permit application review process, or wish to comment on the subject application, please contact Ms. Jaime Colby, P.E. at NHDES-Waste Management Division, 29 Hazen Drive, P.O. Box 95, Concord, NH, 03302-0095, (603) 271-5185.

Very truly yours,
CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Project Manager

Enclosure

Cc w/o enc: Jaime Colby, P.E., NHDES
John Gay, NCES
Kevin Roy, NCES
Bryan Gould, Esquire, Cleveland, Waters and Bass, P.A.

7019 0700 0001 9458 8544

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only	
For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE	
Certified Mail Fee \$	<div>Postmark Here OCT 17 2019</div>
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy) \$	
<input type="checkbox"/> Return Receipt (electronic) \$	
<input type="checkbox"/> Certified Mail Restricted Delivery \$	
<input type="checkbox"/> Adult Signature Required \$	
<input type="checkbox"/> Adult Signature Restricted Delivery \$	
Postage \$	
Total Postage and Fees \$	
Sent To	Susan Nagle
Street and Apt. No., &	47 Katja Lane
City, State, ZIP+4®	Bethlehem, NH 03574
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

SECTION V

REASON FOR REQUESTING WAIVER

Introduction

Leak detection and location system design standards set forth in Env-Sw 805.07 require a geonet to limit head on the secondary liner and to rapidly convey liquids to an observation point for detection. NCES is applying for a waiver from this regulation. Approximately 7 acres of the secondary liner in Stage I, Phases I-III (35 percent of that liner area) contains a sand drainage layer rather than the now required geonet, as shown on Figure 1. Stage I, Phases I-III were designed in full accordance with the design standards in place at that time. It has been the New Hampshire Department of Environmental Services (NHDES) policy to require installation of a double-lined waste overlay liner that complies with Env-Sw 805.07 before beginning disposal operations in a landfill expansion that would otherwise rely on a non-complying liner for leak detection.

NHDES issued waivers from Env-Sw 805.07 to NCES for each of the Stage IV and Stage V landfill expansions. Those waivers, combined, allowed waste disposal over the entire 7 acres of non-conforming liner without requiring construction of an overlay liner. If issued, this waiver would allow approximately 7 percent of the Stage VI waste to be placed over 1.8 acres of non-complying liner, in areas already included in the two waivers issued by NHDES for this rule. The remaining Stage VI waste would overlies complying liner systems.

Discussion

The proposed Stage VI Landfill includes a new 5.71 acre, 100-foot lateral expansion of the southern and eastern limits of the landfill. Waste would be disposed on the newly lined area and over the adjacent slopes of Stages II, III, IV and V. Stage VI does not include a vertical expansion. The new lining systems will be connected to the Stage II through IV lining systems to form a single, contiguous lined landfill. The Type I-A Permit Modification application for the Stage VI landfill expansion, currently under NHDES review, describes the nature and extent of the proposed modifications. The preliminary design for Stage IV, Phase II, as approved in 2010, included an overlay liner system over Stage I, Phases I-III. NHDES originally required construction of the overlay liner as a condition of the Stage IV permit because lifts of Stage IV waste were proposed over portions of Stage I, Phases I-III that do not comply with after-enacted regulations for leachate collection system design. In August 2012 NCES applied for a waiver of the subject regulations. On March 1, 2013, NHDES issued the waiver, and Stage IV was constructed without the overlay liner. The Stage V development also included placing lifts of waste over Stage I, Phases I-III, and a similar waiver was issued to NCES in August 2014. Although to a lesser degree, the Stage VI development also would include placing lifts of waste over Stage I, Phases I-III. NCES is therefore applying for a

waiver of the same rules as the department waived with respect to Stage IV, Phase II and Stage V.

Stage I, Phases I-III, were constructed in accordance with the NH Solid Waste Rules (Rules) in effect at the time of construction (prior to 1991). These cells were constructed as a double lined system with leachate collection and leak detection. Since 1991, the Rules have provided that geonet or composite geonet may be utilized in new secondary liner systems as an alternative to a leak detection system for the secondary liner and that the response time for leakage from the primary liner shall be no more than 24 hours. The express purpose of the incorporation of geonet on the secondary liner is "to rapidly convey leachate off the liner and thereby limit the potential for hydraulic head to develop on the liner." Env-Sw 805.07(a)(1). The express purpose of the 24-hour response time is to "isolate the location of leaks through a liner." Env-Sw 805.07 (a); *see also* Env-Sw 805.07(b)(2).

Portions of the Stage I, Phases I-III secondary liners include geonet. Over the remaining areas, flow is transmitted through free draining select sand, without geonet. The location and extent of the geonet and select sand secondary drainage layers subject to this waiver application is shown on Figure 1. Under Env-Sw 805.07(a) the use of geonet in the construction of new secondary liner systems is explicitly a precaution designed to reduce "the potential for leakage through the secondary liner" by limiting head buildup on the liner.

Conditions that can increase the risk of leakage through the secondary liner include hydraulic head on the liner which acts as a driving force for flow through a possible defect; a ready supply of free leachate available to flow through a defect; and a permeable subgrade.

Hydraulic Head is Well Within Performance Standards

The attached calculations yield a maximum 0.6" hydraulic head on the liner in sand-covered areas, conservatively using flow values equal to the action leakage rate (ALR) of 25 gallons per acre per day (gpad). (The ALR is the flow value established for the site below which liner performance is considered acceptable. Flows above the ALR can require location and repair of any defect or damage that caused the high flows.) Maximum head in these areas range from 0" to 0.6" and average 0.3". Actual average historical secondary flows since the Stage I sump re-construction in 2013 have been consistently well below the ALR.

Env-Sw 805.06(a) requires a leachate collection and removal system for each liner. Env-Sw 805.06 requires leachate collection and removal systems to be designed to limit hydraulic head on all portions of the liner to one foot or less except in sumps. With the maximum computed average hydraulic heads in the range of 0.6 inches in the sand covered drainage areas, the performance of the Stage I, Phases I-III secondary liners exceeds performance criteria for head on the liner by at least a factor of twenty.

Hydraulic head on the secondary liner is greater in other areas of Stage I, Phases I-III, but there is geonet on the secondary liner in these areas, which include locations where flow on the liner

converges and collects in leachate collection header pipe trenches. The header pipes are installed on top of the geonet. The pipes are necessary because geonet does not have sufficient flow capacity under higher flow conditions to transmit the leachate to the sumps without excessive head build-up. When flow in the geonet reaches its capacity, head rises and leachate enters the collection pipes which have much higher flow capacities. In collection pipe trenches maximum head on the liner equals the thickness of the geonet (0.2") plus the pipe wall thickness (0.6" for 6 inch SDR-11 pipe), plus the depth of leachate in the piping, for a total head of about one inch – a value that exceeds the 0.0 to 0.6 inches of head in the sand-covered drainage areas.

Hydraulic head is higher still in the sumps where leachate is intentionally ponded to depths of 6 inches to more than a foot as necessary to operate the pumping and leachate removal systems. The Stage I sumps had geonet coverage in the secondary system in full compliance with the current regulations. These sumps were rebuilt in 2011 and 2013¹ to include full geonet coverage as well as extra layers of geomembrane and a geosynthetic clay liner not required by the regulations.

There is No Ongoing Supply of Leachate to the Sand-Covered Portions of the Secondary Liners

As indicated above, another factor affecting the potential for leakage is an ongoing supply of leachate to the location in question. This factor comes into play in the sumps and in the leachate collection piping trenches. Leachate flowing through the collection piping system provides a constant supply of leachate to these areas which, hypothetically, could act as a continuing source for flow through a hole, and of course leachate is purposely accumulated in the sumps. The Stage I secondary leachate collection pipe trenches have full geonet coverage, and the Stage I sumps have been completely replaced and upgraded as described above.

The berm slopes and the flat floor portion of the landfill cells present a negligible risk of leachate build-up because there is no substantial leachate supply to these areas. The berm slopes have high flow gradients due to their relatively steep slopes and full secondary geonet coverage, thereby having little potential for hydraulic head build-up and leakage. The flatter floor areas have very low secondary hydraulic head build-up potential as described above, and dispersed leachate flow (sheet flow) that limit the availability of leachate to flow through any hole there might be in the secondary liner.

Finally, the entire Stage I landfill is underlain by a low to moderately permeable screened till subgrade layer that limits leakage through the secondary liner and promotes lateral flow and containment of the leachate within the secondary collection and containment systems.

¹ The Stage I, Phases I-III liner, geonet, and filter fabric were uncovered during the Stage IV, Phase II construction of the sump and lining system extensions. The liner, geonet and fabric were observed to be in excellent "as new" condition. Construction engineers observed no evidence of aging or chemical degradation. There was no clogging due to chemical or biological precipitate or fines accumulation, nor was there creep or compression due to overburden loads. Welds connecting the older Stage I liner to the new Stage IV liner all met current technical specifications for liner welding quality and strength.

In summary, Stage I, Phases I-III are in full compliance with secondary geonet regulatory requirements in all critical areas of the landfill. In areas where a sand layer is relied upon for secondary leachate drainage, the hydraulic heads on the liner are very low, and as a practical matter the potential for leakage of any consequence does not exist and there is no ongoing supply of leachate to these areas. Given the conditions at the NCES facility, the purpose of Env-Sw 805.07(a) is being satisfied by the secondary liners of Stage I, Phases I-III.

The 24-Hour Response Time Has No Application to the Stage I, Phases I-III Secondary Liners

The purpose of the 24-hour response time requirement is no longer implicated with respect to the Stage I, Phases I-III secondary liners. Operations in Stage VI cannot damage the Stage I primary liner because of the substantial layer of waste overlying the liner. Further, construction of Stage VI does not require exposure of the Stage I primary liner. Thus, it is not possible for any punctures or defects to be caused by construction activities or operations in these areas. While there is a very remote possibility of catastrophic (e.g., earthquake) damage or spontaneous development of a new leak in the remainder of the primary liner, the purpose of detection of a leak under these circumstances would not be to "isolate the location" of the leak and repair it. Rather, if a new leak were to develop in that part of the primary liner and remedial action were required under the rules, the only feasible response would be to cap the pertinent section of the landfill.

If required as a condition for Stage VI, a new double liner for the Stage VI lift would overlie lifts for Stage III and Stage IV, Phase 2, as well as Stage I, Phases I-III. The sole purpose of this overlay liner system would be to create a secondary liner with full geonet coverage beneath the Stage VI lift. Even if Env-Sw 805.07 could be read to require this overlay liner system over Stage I, Phases I-III, strict compliance in this specific instance would not further the purposes of the rule. Because the actual performance and design of the existing Stage I, Phases I-III liner systems demonstrates that the purpose of the requirements of full geonet coverage and a 24-hour response time would not be subserved by the overlay liner system (third and fourth liners), NCES requests that DES waive Env-Sw 805.07 to the extent that the rule requires such a system in connection with the construction of Stage VI.

The Solid Waste Rules Express a Preference for the Least Complex Alternative

Finally, Env-Sw 1103.01(b)(1) and (2) specify that where options exist relative to design concepts, preference shall be given to the option providing the least complex alternative for facility construction, operation and maintenance, and exhibiting the required performance standards. An overlay liner would unnecessarily complicate landfill gas management of the underlying Stage I, IV and V waste as it restricts future access to that waste to replace or repair landfill gas collection systems. To a higher degree, gas collection from the waste above the overlay liner system would be susceptible to air infiltration and could be problematic in terms of safely collecting this gas without causing fugitive emissions. To account for this constraint, an overlay liner would need several new redundant systems, such as horizontal collectors beneath the overlay liner, and additional vertical wells along the perimeter of the overlay liner. In addition, the control of the vacuum to existing Stage I, IV and V gas wells and collectors would need to be extended laterally

to access points outside of the overlay liner limits. Landfill gas management will therefore be simpler and more effective without the overlay liner. Existing gas collection wells could continue to be operated and simply extended, modified, replaced, or supplemented as new waste materials are placed and conditions warrant. Furthermore, with the overlay liner in place, gas management for the relatively thin layer of Stage VI waste would be less efficient as a large portion of the waste could be subjected to the potential for air intrusion from the operation of the shallow gas collection system.

Based on the foregoing, NCES requests a waiver of Env-Sw 805.07(a) and (b)(2) to the extent they can be read to require an overlay liner over the Stage I footprint.

SECTION V
FIGURE 1

Base plan was developed from aerial photogrammetry performed
October 2013



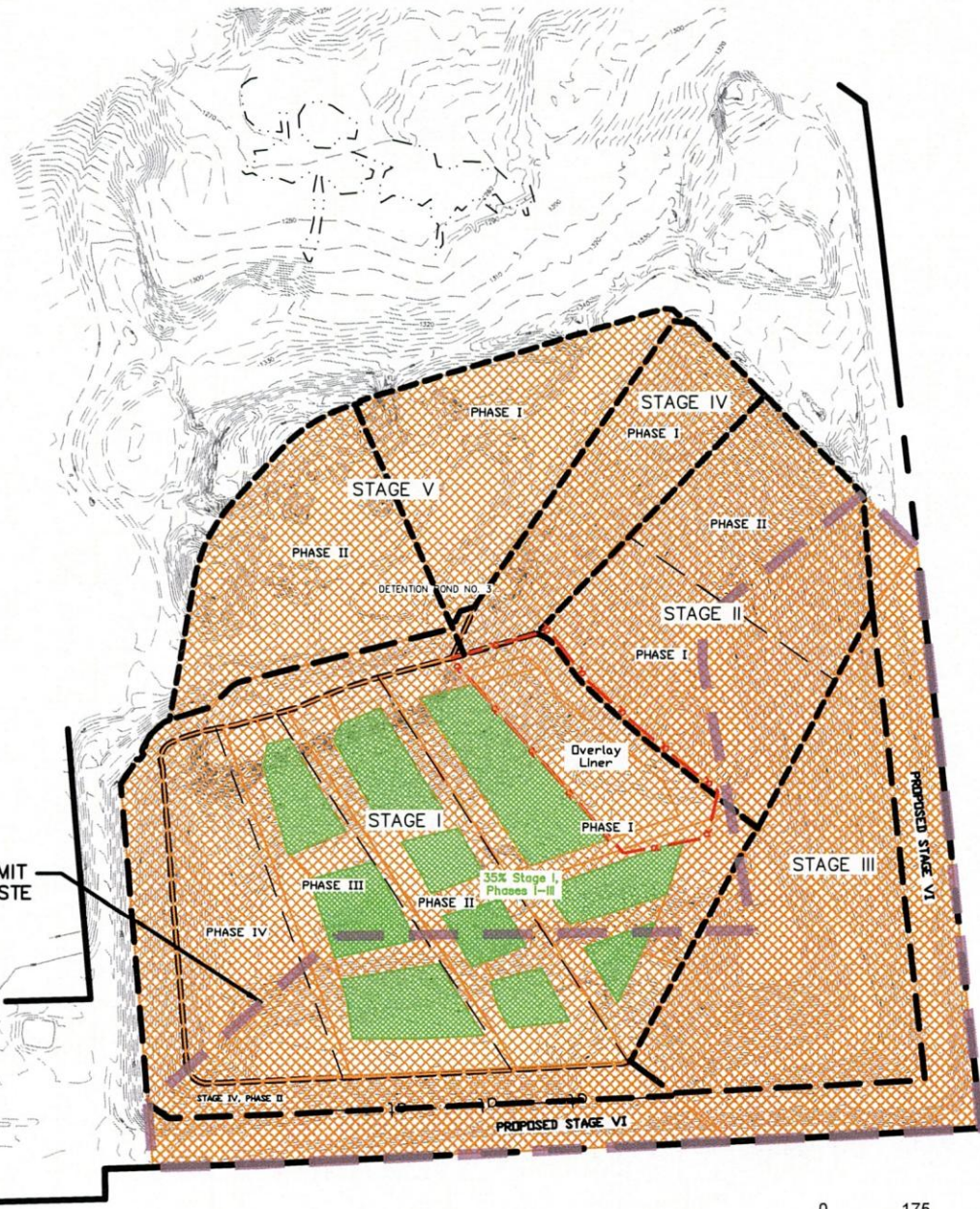
Drainage Net



Sand



APPROXIMATE LIMIT
OF STAGE VI WASTE



0 175 350

CMA
ENGINEERS

cmaengineers.com

Portsmouth NH
Manchester NH
Portland ME

*North Country Environmental Services
Bethlehem, NH*

NCES Landfill Leak Detection System

SECTION V
CALCULATIONS

CMA ENGINEERS, Inc.

Civil/Environmental Engineers
 35 Bow Street
 Portsmouth, NH 03801

NCES Stage v
 CMA #833
 February 5, 2014
 By: BWS

Check: RJG

Flow Capacity through Select Drainage Sand

$Q=K/A$ (Darcy Equation)

Notes

K	5.00E-03	cm/s	Drainage sand permeability estimated based on specified grain size and limited fines
	14.17	ft/day	
i	0.02		Slope of cell floor
A	1	ft ²	12" Drainage sand per foot width
Q	0.283	ft ³ /day	Flow capacity per foot width

Head on Secondary Liner

Action Levels

Notes

Secondary Leachate Flow Rates	25	100	gal/acre/day	
Area	200	200	ft ²	Contributory area of longest drainage path per foot width
Flow Rate x Area	0.015	0.061	ft ³ /day	
	0.11	0.46	gal/day	Max flow to possible hole in liner
Max Head on Liner	0.650	2.599	inches of head	Flow capacity

Notes:

1. Calculated max head on secondary liner for the 100 gal/acre/day scenario is less than 2.6" of head.

Flow Through Till Subgrade (Potential Leak Through 12"x12" Hole)

$Q=K/A$ (Darcy Equation)

Action Levels

Notes

Secondary Leachate Flow Rates	25	100	gal/acre/day	
K	1.00E-04		cm/s	Screened till liner subbase
	0.283		ft/day	
i	0.0541	0.2165		Head on liner/12" thick till
A	1	1	ft ²	
Q	0.015345	0.061382	ft ³ /day	
	0.11478	0.4591	gal/day	

Notes:

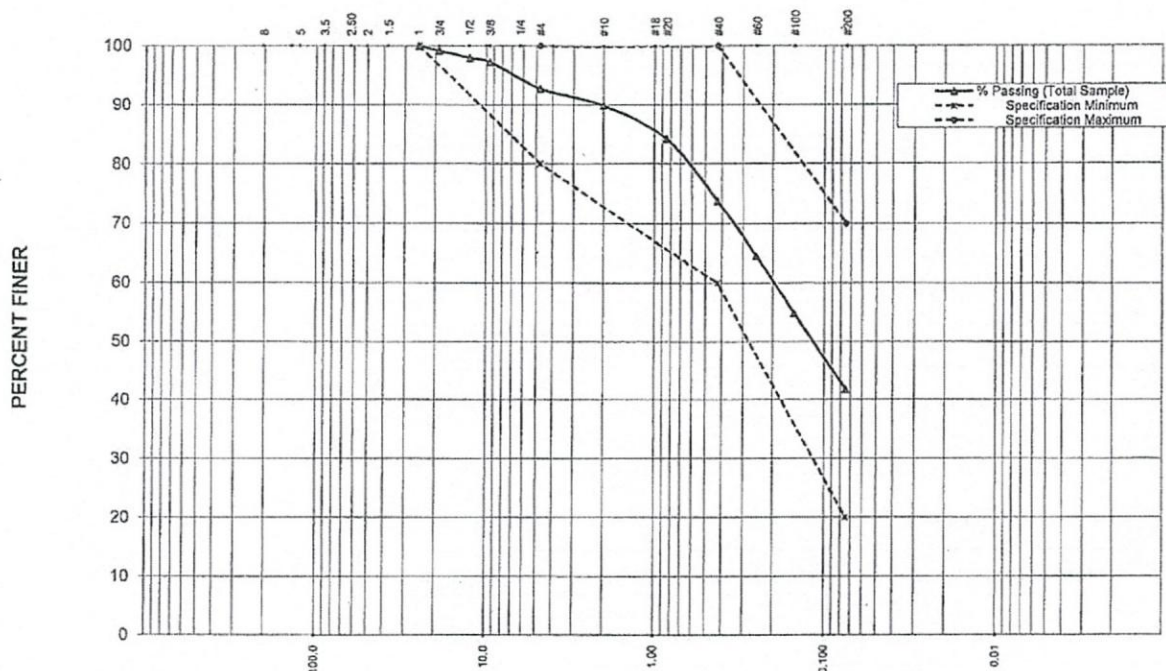
1. Onsite screened till permeability is for default values for USCS SM soil as determined by Terracon from sieve analysis performed on 9/27/11, as presented in the Stage IV, Phase II-A Construction Quality Assurance report.

GRAIN SIZE DISTRIBUTION TEST REPORT

ASTM TEST METHODS:

Soil: D422, D1140

Concrete Aggregate: C136, C117



% Cobbles

% Gravel

Coarse

Medium

Fine

% Fines

0

7

% Sand

51

Silt (>0.002mm)

Clay (<0.002mm)

42

Classification: SILTY SAND, trace gravel, Olive Brown (SM)

Sieve Size (mm)	U.S. Sieve Size (in.)	Cumulative Retained (g)	% Passing (Total Sample)	Specification Minimum Maximum	
200.0	8"				
152.4	6"				
90.0	3.5"				
76.2	3"				
63.0	2.5"				
50.0	2"				
37.5	1.5"				
25.0	1"	0	100	100	
19.0	3/4"	109	99		
12.5	1/2"	268	98		
9.5	3/8"	358	97		
4.75	#4	934	93	80	100
2.00	#10	17.32	90		
0.85	#20	51.57	84		
0.425	#40	113.75	74	60	100
0.250	#60	168.92	65		
0.150	#100	227.51	55		
0.075	#200	305.85	42	20	70

Total Dry Wt. 12921 g

Split Wt. 556.44 g

Project: NCES Leachate Phase II-A

Project No.: J1111111

Report #: J1111111.0066

Location: Bethlehem, NH

Specification: Screened Till

Date: 09/27/11

Source: On-site excavation

Sampled from: South slope

Terracon

77 Sundial Avenue
Manchester, NH 03103

(603) 647-9700 fax: (603) 647-4432

www.terracon.com

Remarks: Wn=8.7%

Gradation meets specification

Tested By: Dan Savage

Date: 09/27/11

Reviewed By: *SMC*

Date: 10/4/11

LABORATORY COMPACTION CHARACTERISTICS OF SOIL REPORT

Report Number: J1111111.0066

Service Date: 09/27/11

Report Date: 10/03/11

Terracon

77 Sundial Ave. Suite 401W

Manchester, NH 03103

603-647-9700

Client

CMA Engineers, Inc.
Attn: Jeffrey Murray, P. E.
Langer Place
55 South Commercial Street
Manchester, NH 03101

Project

NCES Leachate Phase II-A Bethlehem, NH
581 Trudeau Road
Bethlehem, NH

Project Number J1111111

Material Information

Source of Material: On-site excavation
Proposed Use: Screened Till

Sample Information

Sample Date: 09/27/11
Sampled By: Lawrence C. Provost
Sample Location: South Slope

Sample Description: SILTY SAND, trace gravel, Olive Brown (SM)

Laboratory Test Data

Test Procedure: ASTM D1557
Test Method: Method C
Sample Preparation: Wet
Rammer Type: Mechanical

Oversized Particles (%): 0.8
Moisture (%): 1.5
Sieve for Oversize Fraction: 3/4

Assumed Bulk Specific Gravity
of Oversized Particles: 2.65

Corrected for Oversized Particles (ASTM D4718)

Maximum Dry Unit Weight (pcf): 124.0
Optimum Water Content (%): 8.7

Uncorrected Values

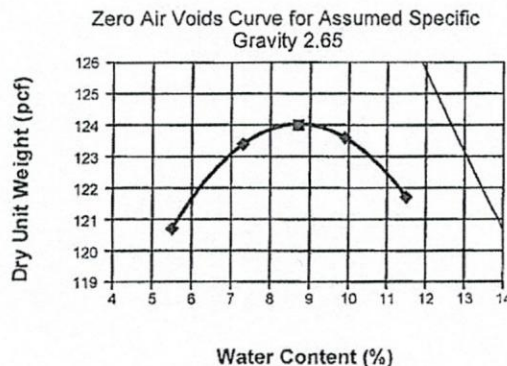
Maximum Dry Unit Weight (pcf): 123.8
Optimum Water Content (%): 8.8

Liquid Limit:
Plastic Limit:
Plasticity Index:
In-Place Moisture (%):
Passing #4 (%):
Passing #200 (%):
USCS:

Result

Specifications

93.0 80.0 - 100.0
42.0 20.0 - 70.0



Comments:

Services: Obtain a sample of soil from source. Return sample to laboratory for laboratory testing as requested.

Terracon Rep.: Daniel P. Savage

Reported To:

Contractor:

Report Distribution:

(1) CMA Engineers, Inc., Emailed

Reviewed By:

SAC 10/4/11

Scott M. Carter

Project Manager II-Professional

Test Methods: ASTM D1140, ASTM D1557

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CROING, 8-27-11, Rev 5

SECTION VI

PROPOSED ALTERNATE PROCEDURE, METHOD OR ACTIVITY

The alternative to construction of the overlay liner is to rely on the existing Stage I liner systems to continue to perform as they have historically.

NCES enhanced this alternative by accelerating the reconstruction of the sumps within Stage I, Phases I-III, to the 2013 construction season, rather than the 2016 season as originally proposed. Upgrading the sumps was the most important measure NCES could take to enhance the integrity of the liner systems because liquids are intentionally concentrated at these locations so that they can be removed from the landfill by pumping. The potential for leakage is therefore theoretically greatest in the sump areas.

The four original Stage I sumps were entirely reconstructed to exceed regulatory requirements for containment and leak detection as part of Stage IV Phase II during the 2011 and 2013 construction seasons. All of the original Stage I leachate storage and transfer infrastructure located outside of the lined landfill were replaced by new facilities that exceed regulatory requirements. Before completion of this project, primary leachate and secondary collection flows from Phases I-III had been managed and measured at the temporary flow metering building and discharged to the leachate storage area via the pump station constructed in 2008.

SECTION VIII

DEMONSTRATION OF CRITERIA

A. Criteria for Waiver Under the Solid Waste Rules

Env-Sw 202.04(a) provides:

- (a) Subject to (b), below, a request for a waiver shall be granted if:
 - (1) Exemption from complying with the rule will:
 - a. Not result in an adverse effect to the environment or natural resources of the state, public health or to public safety;
 - b. Not result in an impact on abutting properties that is more significant than that which would result from complying with the rule; and
 - c. Be in keeping with the intent and purpose of the rule being waived;

Env-Sw 202.04(a)(2) contains three criteria as well, only one of which needs to be satisfied to entitle the applicant to a waiver. The criterion that is relevant to NCES's application is found in subsection (a)(2)c which states: "[s]trict compliance with the rule will provide no benefit to the public and will cause an operational or economic hardship to the applicant."

In evaluating whether the applicant has satisfied the criteria in subsection (a), DES must consider "[e]conomic, technological, practical application and safety issues," but cost alone is not to be determinative. Env-Sw 202.04(b).

B. NCES has Satisfied the Criteria for a Waiver

1. The Criteria Set Forth in Env-Sw 202.04(a)(1) Are Met

Subsection (a)(1) of Env-Sw 202.04 is satisfied if the waiver will have no adverse effect on the environment, health, or safety and no increased impact on abutting properties and if the design is "in keeping" with the intent and purpose of the rule being waived. Since the purpose and intent of DES's rules is generally to protect the environment, human health, and safety and to minimize impacts of regulated activities on neighboring properties, it follows that if a proposed design is consistent with the purpose and intent of the rule being waived, the waiver would not adversely affect the environment, health, safety, or abutting properties.

It is therefore logical to begin with an analysis of whether “[e]xemption from complying with the rule will . . . [b]e in keeping with the intent and purpose of the rule being waived.” Env-Sw 202.04(a)(1)c. That analysis is made easier by the fact that Env-Sw 805.07 expressly states what its intent and purpose is.

At most, there are two requirements found in Env-Sw 805.07 with which the Stage I, Phases I-III, secondary liners do not comply. The first is that geonet “must be incorporated throughout . . . the bottom most liner.” Env-Sw 805.07(a)(1). The second, arguably, is that the design of a leak detection and location system must result in the conveyance of “liquids to an observation point for detection” within twenty-four hours “under saturated hydraulic conditions.” Env-Sw 805.07(b)(1). The latter provision only arguably applies because subsection (a)(1) explicitly makes the incorporation of geonet throughout the secondary liner an alternative to a leak detection and location system “beneath each liner.”

The express purpose of incorporating geonet throughout the secondary liner is “to rapidly convey leachate off the liner and thereby limit the potential for hydraulic head to develop on the liner.” Env-Sw 805.07(a)(1). Assuming that the twenty-four hour travel time would be required for the Stage I, Phases I-III, secondary liners if those liners incorporated geonet throughout their full extent, the express purpose of that requirement is to “isolate the location of leaks through” the primary liner. Env-Sw 805.07(a) and (b)(2).

A waiver of Env-Sw 805.07 under the circumstances presented here would be consistent with the intent and purpose of the rule.

As set forth in detail in Section V of this application, the existing liner systems of Stage I, Phases I-III perform in a manner that satisfies the purposes of Env-Sw 805.07(a)(1) and Env-Sw 805.07(b)(1). In summary, the reasons the liner systems meet the purposes of the rules include the following:

(a) Limiting Hydraulic Head (Env-Sw 805.01(a)(1))

1. For those portions of the secondary liners covered by select sand – and not geonet – the maximum head on the liners range from 0” to 0.6” conservatively assuming the action leakage rate (ALR) of 25 gallons per acre per day (gpac).

2. Env-Sw 805.06(b) requires that liner systems be designed so as to limit hydraulic head to 12” or less except in the sumps. The Stage I, Phases I-III secondary liners exceed this performance criterion by a factor of twenty, if one calculates hydraulic head using the conservative ALR value of 25 gpac.

3. On the sand-covered portion of the liners, leachate flows in sheets and there is no opportunity for leachate to pond or for flow to converge, and thereby increase hydraulic head. All areas of the liners in which leachate can pond or converge are covered with geonet.

4. Unlike in the sumps and trenches for the leachate collection header pipes, there is no consistent source of leachate directed to the sand-covered portions of the liner. This further diminishes the opportunity for the accumulation of hydraulic head.

(b) 24-Hour Leak Detection (Env-Sw 805.07(b)(1))

1. The purpose of the 24-hour response time is the rapid detection of leaks through defects in the primary liner so that the permittee can return to the area of the primary liner where it may have been damaged in the previous 24 hours and repair the defect.

2. Once there is a substantial layer of waste over the primary liner, there is no opportunity to damage the liner through day-to-day operations. Only if the liner is exposed for construction purposes does the 24-hour response time requirement become pertinent again.

3. In the highly unlikely event of a catastrophic or spontaneous formation of a defect in a primary liner covered by a substantial layer of waste, the purpose of leak detection is not to find and repair the leak. Rather, its purpose is to cap that section of the landfill to prevent further infiltration of liquid into the waste mass.

4. The primary liners for Stage I, Phases I-III are overlain by 100 feet or more of waste. Construction of Stage VI will not require exposure of the Stage I primary liners. Accordingly, the 24-hour response time has no applicability to the Stage I, Phases I-III liner system.

Because the Stage I, Phases I-III secondary liners are meeting the purpose and intent of Env-Sw 805.07, there is no basis to conclude that a waiver of the rule would adversely affect the environment, health, or safety or increase any impact on abutters. Accordingly, NCES has satisfied all three criteria set forth in Env-Sw 202.04(a)(1).

2. The Criterion Set Forth in Env-Sw 202.04(a)(2)c Is Met

Once the applicant meets all of the criteria found in Env-Sw 202.04(a)(1), the applicant must meet at least one of the criteria contained in Env-Sw 202.04(a)(2) to be entitled to a waiver. Of the three alternative criteria set forth in Env-Sw 202.04(a)(2), only one is pertinent to NCES's waiver application.

Env-Sw 202.04(a)(2)c provides that a waiver is proper where "[s]trict compliance with the rule will provide no benefit to the public and will cause an operational or economic hardship to the applicant." In this instance, "strict compliance" from DES's standpoint would require construction of the overlay liner. NCES has established, however, that there is no deficiency in the performance of the Stage I, Phases I-III liners. As a result, there is no rational basis – beyond mere redundancy – to conclude that the overlay liner would provide any greater protection to the public than the existing liners do. Absent some demonstration that the state-approved design of the Stage I, Phases I-III, secondary liners is inherently dangerous to the public or that the actual performance of the liners poses a risk to the public, there is no ground for the conclusion that the overlay liner will provide a benefit to the public.

The purpose of a double-liner system is to provide redundancy. The performance of the Stage I, Phases I-III, liners establish that they are meeting that purpose. Requiring NCES to spend \$1.5 million or more on an overlay liner merely to add two more layers of redundancy imposes an economic hardship on NCES for no demonstrable improvement in environmental protection.

The overlay liner would also create operational challenges for NCES. Env-Sw 1103.01(b)(1) and (2) specify that where options exist relative to design concepts, preference shall be given to the option providing the least complex alternative for facility construction, operation and maintenance, and exhibiting the required performance standards. The overlay liner unnecessarily complicates landfill gas management of the underlying Stage I waste as it restricts future access to that waste to replace or repair landfill gas collection systems. To account for this constraint, any overlay liner would have to include several new redundant systems, such as horizontal collectors beneath the overlay liner and additional vertical wells along the perimeter of the overlay liner. In addition, the control of the vacuum to existing Stage I gas wells and collectors would have to be extended laterally to access points outside of the overlay liner limits.

In addition, any overlay liner design would have to include a secondary leachate collection system separate from the base liner secondary system. This separate leak detection system would require additional and unnecessary transfer piping, flow pumping, volume measurement, laboratory testing and reporting.

Again, these operational complexities would not be offset by any discernible enhancement in environmental protection.

Because requiring the overlay liner will provide no benefit to the public and will engender both operational and economic hardships, NCES has satisfied the criterion set forth in Env-Sw 202.04(a)(2)c.

3. The Factors Set Forth in Env-Sw 202.04(b) Favor a Waiver

In deciding whether an applicant is entitled to a waiver, DES must consider “[e]conomic, technological, practical application and safety issues.” Env-Sw 202.04(b). NCES has addressed the economic, technological, and practical issues in the prior section, and they all favor a waiver. To the extent that safety issues come into play, they also support a waiver.

With the overlay liner in place, the relatively thin layer of Stage VI waste (60 feet thick) would create greater opportunity for both ambient air intrusion into, and fugitive emissions from, the operation of the shallow gas collection system. In contrast, there is a greater margin of efficiency and environmental safety when extracting LFG from a large waste mass than there is when extracting LFG from an isolated, shallower waste mass.

Because NCES has met the three criteria of Env-Sw 202.04(a)(1) and the criterion found in Env-Sw 202.04(a)(2)c, and because the factors set forth in Env-Sw 202.04(b) support its application, NCES is entitled to a waiver of Env-Sw 805.07.