



North Country Environmental Services, Inc.

April 15, 2015

Mr. Paul Gildersleeve, P.E  
NH Department of Environmental Services  
Waste Management Division, Solid Waste Bureau  
P.O. Box 95 – 29 Hazen Drive  
Concord, NH 03302-0095

220 Avenue B  
Williston, VT 05495  
(802) 651 – 5454

Re: North Country Environmental Services, Bethlehem, NH  
Type I-B & Type II Permit Modification - 2015 LFG Improvements  
Permit Number: DES-SW-SP-03-002 (Stages IV & V)

Dear Mr. Gildersleeve:

North Country Environmental Services, Inc. writes to submit a Type I-B and Type II Permit Modification Application for the 2015 Landfill Gas Improvements. Please find enclosed one copy of the applications and proposed construction drawings for your review. A digital copy will also be uploaded to the NHDES OneStop website.

The proposed improvements include the installation of 12 new vertical landfill gas extraction wells, associated lateral piping, and connections to the existing header pipes. The project also includes the construction of a new flare stack which will be connected to the existing blower station. The new flare would provide additional gas combustion capacity required by the anticipated Title V permit and for the Stage V landfill expansion. Per the NH Solid Waste Rules, there is a \$100 fee for the Type I-B Permit Modification and a check for that amount enclosed.

The landfill gas well driller is scheduled to be on site April 22, 2015, so if possible, an expedited review would be appreciated. If you have any questions, please do not hesitate to call.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

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

- c. Barbara Dorfschmidt, NHDES-ARD  
Kevin Roy, NCEs  
Bob Grillo, P.E., CMA Engineers  
Matt Estabrooks, P.E., SHA, Inc.  
Town of Bethlehem *{VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED}*

*North Country Environmental Services, Inc.*  
*Permit Number: DES-SW-SP-03-002 (Stage IV & Stage V)*

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**Type I-B & Type II Permit Modification to Solid Waste  
Management Facility Permit**

**2015 LFG Improvements**

April 2015

*Prepared and Submitted by:*  
North Country Environmental Services, Inc.  
Bethlehem, New Hampshire

**North Country Environmental Services, Inc.**  
**2015 LFG Improvements**  
**DES-SW-SP-03-002**

**Type I-B & Type II Permit Modification**

*Bethlehem, New Hampshire*

**April 2015**

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*SECTION I*

*TYPE I-B PERMIT MODIFICATION  
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INSTRUCTIONS  
for obtaining a

# Type I Modification To Solid Waste Management Facility Permit

pursuant to  
RSA 149-M and New Hampshire Administrative Solid Waste Rule Env-Sw 315

Read these instructions before completing the attached form. For additional assistance contact the NH Department of Environmental Services (DES), Permitting & Design Review Section (P&DRS) at (603) 271-2925 or the below noted mailing address or TDD Access: Relay NH 1-800-735-2964.

**Note:** All references on this form beginning with “Env-Sw” are citations from the New Hampshire Solid Waste Rules. To obtain a copy of the Rules, contact the DES Public Information & Permitting Office at (603) 271-2975 or above noted TDD Access. The Rules are also available on the Internet at <http://www.des.nh.gov/rules> .

Complete the attached form to obtain either a “type I-A” or “type I-B” permit modification pursuant to Env-Sw 315.02(b) or (c), respectively. **Before completing the form, be certain the proposed facility modification falls within the definition of either a type I-A or type I-B modification.** [If unfamiliar with how to make this determination, refer to the worksheet on the reverse side of this instruction sheet and/or contact the P&DRS for assistance.]

All requested information must be provided as specified. Do **NOT** skip any question, unless instructed to do so. Do **NOT** mark any question “not applicable.” If you need more room than provided on the form to answer a particular question and are using a paper copy of the 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.

Submit **THREE** copies of the completed form, **EACH bearing ORIGINAL signatures**. Applications may be submitted to the department electronically. If an applicant chooses to submit an application electronically, a single paper copy of the application shall also be submitted to the department to the following address:

NH 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

Include the required fee, as determined from the following table. Make checks or money orders payable to “TREASURER, State of New Hampshire”:

Type I-A Modification, without a capacity increase	\$1500
Type I-A Modification, with a capacity increase	See Env-Sw 310.07(a)(2) for formula to calculate or contact the P&DRS for assistance, at (603) 271-2925
Type I-B Modification	\$100

Your application will be processed by DES in accordance with Env-Sw 304 and Env-Sw 305. If your application is correctly filed (i.e., you submit the right number of copies, each with original signatures, and the required fee), your application will be accepted for processing. Within 60 days of receipt, and earlier whenever possible, you will be notified whether the application is complete (i.e., whether the application provides all information required to support a full technical review and determine whether the proposed modification meets all requirements of the Rules). If incomplete, you will be given instructions for correcting the deficiencies. If complete, you will be notified in writing and the agency will undertake a technical review of the application to determine whether the proposal meets all requirements of the Rules. In addition, for certain type I-A modifications, the agency must also hold a public hearing within the host municipality during the technical review process. Following the close of the technical review process and the hearing, if held, DES will make a final decision to issue or deny the requested modification. You will be notified in writing, as will the host municipality and host solid waste management district.

## WORKSHEET FOR DETERMINING MODIFICATION TYPE

**STEP 1:** In order to correctly use and complete the attached application form, you must first confirm that your proposed facility modification is a "type I" modification (as opposed to being either a "type II" through "type V" modification). If your response to each of the following questions is "FALSE," your proposed facility modification most likely falls within the scope of a "type I" modification:

True  False The proposed change is required by a condition of my permit which requires me to submit final plans for DES approval based on preliminary plans provided to DES on an earlier date. (Note: If this statement is "TRUE," your proposed modification is most likely a "type II" modification and you need to file your application by completing a "Type II Permit Modification Application Form.")

True  False The proposed change is one of the following **AND** I am able to certify compliance with each of the statements provided in Section X of this application form:

— A change in facility operating hours between the hours of 6 AM and 6 PM or within alternative limits specified in my permit, or for a private facility managing only on-site generated waste, within limits allowed by local ordinance.

— A change in a key above-ground site feature, for instance a facility structure or appurtenance, which will not alter the permitted function(s) of the facility, change the basis of the approved facility design or violate any applicable siting criteria specified in the Rules, and which is merely a change to improve facility operations within the limits specified in my permit.

— For a facility permitted to collect recyclable materials, a change in the type of select recyclable materials (paper, cardboard, glass, plastic, metal or textiles) to be collected which does not increase the facility's approved storage capacity or require a change in the approved financial assurance plan of record for the facility.

— For landfills, a change in the type of cover material to be used at the facility, pursuant to Env-Sw 806.03.

— A name change for the permittee or facility that does not constitute a change in ownership or operational control of the facility.

— A change in organizational structure, including a change in the individuals/entities holding 10% or more of the permittee's equity or debt and/or a change in officers, directors, partners or key employees, that does not constitute a change in ownership or operational control of the facility.

(Note: If you respond "TRUE" to the above statement, your proposed modification is most likely a "type III" modification and you need to file your application by completing a "Type III Permit Modification Application Form.")

True  False The proposed change is to transfer my permit or otherwise authorize a change in the ownership or operational control of the facility. (Note: If you respond "TRUE" to this statement, your proposed modification is most likely a "type IV" modification and you need to file your application by completing a "Type IV Permit Modification Application Form.")

True  False The proposed change is to authorize the destruction or relocation of facility records. (Note: If you respond "TRUE" to this statement, your proposed modification is most likely a "type V" modification and you need to file your application by completing a "Type V Permit Modification Application Form.")

**STEP 2:** If your response to each of the above is "FALSE," you may assume that the proposed modification is a type I modification. You must now determine whether the proposed change is a "type I-A" or "type I-B" modification, as defined by Env-Sw 315.02(b) or (c).

A "type I-A" modification is one that will change facility operations in a manner having the potential to adversely affect the state's ability to establish and maintain an integrated system of facilities which: (1) will assist in achieving the waste reduction/recycling goals in RSA 149-M:2; (2) is consistent with the hierarchy in RSA 149-M:3; and (3) will provide a substantial public benefit pursuant to RSA 149-M:11. Therefore, if any of the following statements are TRUE relative to the change you are proposing at your facility, the change falls within the definition of a "type I-A" modification.

True  False The proposed modification will increase the approved design capacity of the facility.

True  False The proposed modification will extend the expiration date of the permit.

True  False The proposed modification will reduce the operating life expectancy of a NH landfill without a comparable reduction in the permitted capacity of the landfill, as by directly or indirectly increasing the quantity of waste which will be received daily at a New Hampshire landfill.

True  False The proposed modification will expand the permitted service area of the subject facility.

True  False The proposed modification will change the subject facility service type from a "limited service" area facility (one which can accept waste from only certain sources specified in the permit) to an "unlimited service" area facility (one which can accept waste from any source).

True  False The proposed modification will change facility operations to include a waste management method less preferred in the RSA 149-M:3 hierarchy. The methods, in order of descending preference as specified in RSA 149-M:3 are: source reduction; recycling and reuse; composting; waste-to-energy technologies (including incineration); incineration without resource recovery; and landfilling.

If you answer "FALSE" to each of the above statements, your proposed modification is most likely a "type I-B" modification, i.e., a modification which is unlikely to have an adverse effect on the state's ability to establish and maintain an integrated system of facilities which (1) will assist in achieving the waste reduction/recycling goals in RSA 149-M:2; (2) is consistent with the hierarchy in RSA 149-M:3; and (3) provides a substantial public benefit pursuant to RSA 149-M:11.



<b>For Office Use Only:</b>	
WMD Log #:	_____
Date Rec'd.:	_____
No. of Copies:	_____
Fee: \$	_____ / Check # _____

## APPLICATION FORM FOR TYPE I MODIFICATION TO SOLID WASTE MANAGEMENT FACILITY PERMIT

pursuant to  
RSA 149-M and New Hampshire Administrative Solid Waste Rule Env-Sw 315

### SECTION I. FACILITY IDENTIFICATION

(1)	Facility name: North Country Environmental Services, Inc. - 2015 Landfill Gas Improvements
(2)	Functional classification: <input type="checkbox"/> collection/storage/transfer <input type="checkbox"/> processing/treatment <input checked="" type="checkbox"/> landfill
(3)	Mailing address: 581 Trudeau Road, Bethlehem, NH 03574
(4)	Permit number: DES-SW-SP-03-002
(5)	Location, by street address and municipality: 581 Trudeau Road, Bethlehem, NH 03574

### SECTION II. PERMITTEE IDENTIFICATION

(1)	Permittee/applicant name: North Country Environmental Services, Inc.		
(2)	Mailing address: 220 Avenue B, Williston, VT 05495		
(3)	Telephone number: (802) 651-5454		
(4)	If different than above, identify the individual associated with and designated by the permittee/applicant to be the contact individual for matters concerning this application:		
	(a) Name: John Gay	(b) Title: Engineering Manager	
	(c) Mailing address: 220 Avenue B, Williston, VT 05495		
	(d) Telephone number: (802) 651-5454	(e) E-Mail: John.Gay@casella.com	

### SECTION III. DESCRIPTION OF PROPOSED MODIFICATION

**Describe the proposed modification by answering each of the following questions. Use additional paper as necessary.**

(1)	Provide a <b>BRIEF</b> description of the proposed modification. [Check box if response is provided on separate paper <input type="checkbox"/> Installation of 12 vertical gas collection wells, associated gas laterals, and connection to gas header pipe. The construction of a new flare will provide additional landfill gas combustion capacity.		
(2)	Identify whether the proposed modification is a "type I-A" or "type I-B" modification. (If uncertain, use the worksheet provided with the instructions for this form): <input type="checkbox"/> Type I-A <input checked="" type="checkbox"/> Type I-B		
(3)	Identify, either below or on separate paper, each written permit condition that will require amendment to effect the proposed modification and provide draft language for the same. [Check box if response is provided on separate paper <input type="checkbox"/> _____		
(4)	Identify, below, each "last approved plan of record" identified in the permit which will be affected by the proposed modification and will therefore require amendment/revision:		
	<b>Check here if affected</b>	<b>TYPE OF PLAN</b>	<b>DES APPROVAL DATE</b>
	<input checked="" type="checkbox"/>	Facility design plans/specifications	August 27, 2010
	<input type="checkbox"/>	Facility operating plan	
	<input type="checkbox"/>	Facility closure plan	
	<input type="checkbox"/>	Facility financial assurance plan	
	<input type="checkbox"/>	Other plan (specify):	
			<b>WMD LOG #</b> (Find this number on your copy of the approval)
			2010568, 2010591, 2010601, 2010606, 2010616, 2010622

(5)	Submit, on separate paper, the proposed amendments/revisions for each document identified pursuant to (4) above, based on the below listed instructions. (Note: The revisions may be presented in the form of replacement pages ready for substitution into the last approved plan of record, each page being clearly marked to show the date of revision. In the event there is no last approved plan of record for any of the following, you must prepare and submit a full plan, including the proposed modification(s), in accordance with the applicable cited Rules.)	
	<input checked="" type="checkbox"/>	Facility design plans must be prepared in accordance with Env-Sw 1103.05.
	<input type="checkbox"/>	Facility operating plans must be prepared in accordance with Env-Sw 1105.11.
	<input type="checkbox"/>	Facility closure plans must be prepared in accordance with Env-Sw 1106.04.
	<input type="checkbox"/>	Financial assurance plans must be prepared as specified in Env-Sw 1400 and must include all related draft financial assurance documents required to effect the proposed modification.
(6)	In order for DES to approve the proposed modification, the agency must be able to conclude from the information provided in this application that the proposed modification meets all applicable requirements of the Rules. Therefore, for any aspect of the proposed modification where it may not be self-evident that the proposed change meets all applicable requirements of the Rules, you should explicitly provide such information. Provide your response below and/or use separate paper as necessary. (Check box if response is attached on separate paper <input type="checkbox"/> )	

<b>SECTION IV. SCHEDULE</b> Provide a proposed schedule for implementing the modification. Use separate paper if necessary. (Check box if response is attached on separate paper <input type="checkbox"/> )
Construction of the vertical wells is anticipated to start mid Spring 2015 and be completed during Summer 2015. The flare, pending the issuance of the facility's Title V permit, is anticipated to be constructed in late 2015.

<b>SECTION V. STATEMENT OF NEED</b> Provide a statement of need describing why the proposed change is necessary or desirable. Use separate paper if necessary. (Check box if response is attached on separate paper <input type="checkbox"/> )
The gas collection well construction is required to collect and manage LFG in areas which have recently received waste and to provide additional coverage in areas which the existing collection system is not providing adequate coverage. The flare construction will be required to achieve anticipated Title V requirements and manage landfill gas from the Stage V landfill expansion.

<b>SECTION VI. IMPACT EVALUATION</b> On separate paper, identify all impacts, both positive and adverse, which the proposed modification will have, including each of the below listed considerations.
<ol style="list-style-type: none"> <li>(1) The effect the modification will have on facility function, capacity, life expectancy, service type and service area.</li> <li>(2) The effect the modification will have on the environment, public health and safety.</li> <li>(3) The effect the modification will have on the state's ability to achieve the goals and objectives specified in RSA 149-M:2, namely achieving a 40% minimum weight reduction in the solid waste stream on a per capita basis by the year 2000 and avoiding the disposal of recyclable materials in a lined landfill with a leachate collection system.</li> <li>(4) The effect the modification will have on establishing and maintaining integrated waste management systems consistent with the hierarchy of waste management methods in RSA 149-M:3 [the methods, in descending order of preference as specified in RSA 149-M:3, are: source reduction; recycling and reusing; composting; waste-to-energy technologies (including incineration), incineration without resource recovery; and landfilling].</li> <li>(5) Consistency with the state solid waste management plan and the applicable district plan, pursuant to RSA 149-M:12,1(b). If necessary, contact the P&amp;DRS at (603) 271-2925 for plan information.</li> </ol>

<b>SECTION VII. PUBLIC BENEFIT DEMONSTRATION</b> Provide a "demonstration of public benefit" based on the below listed instructions. Check which one of the listed instructions applies to your particular application.
<input type="checkbox"/> For a type I-A modification of a standard permit, provide a "demonstration of public benefit" in accordance with RSA 149-M:11 and in conformance with the provisions of Env-Sw 1005.05. Prepare and submit the demonstration on separate paper.
<input type="checkbox"/> For a type I-A modification of an emergency permit or a research and development permit, or a permit-by-notification, there is a presumption of public benefit, provided that the proposed modification meets all requirements of the Rules. Therefore, you may skip this section and go to Section VIII.
<input checked="" type="checkbox"/> For a type I-B modification, there is a presumption of public benefit, provided that the proposed modification meets all requirements of the Rules. Therefore, you may skip this section and go to Section VIII.

## SECTION VIII. OTHER PERMITS

Complete the following table to identify and provide the status of all other permits or approvals necessary to effect the proposed modification.

Type of Permit/Approval Required	Date the Application was/will be Submitted	Status/Comments

## SECTION IX. LEGAL NOTICES

Submit proof of having provided certain legal notifications and filings, as follows:

- (1) You must send by certified mail, or deliver in hand, a complete copy of this application to the host municipality, host solid waste management district and other affected entities, with a "notice of filing," as specified by Env-Sw 303.
- (2) For a type I-A modification, you must send by certified mail, or deliver in hand, a "notice of filing" to each owner of property abutting the facility site, as specified by Env-Sw 303. If the applicant/permittee or the owner of the facility site owns any abutting parcel of land, the "notice of filing" must be sent to the owner(s) of the next parcel(s) not owned by the permittee/applicant or facility site owner.
- (3) You must also provide a "notice of filing" to the New Hampshire Department of Justice/Office of the Attorney General (NH DoJ/AGO) if, pursuant to Section X(2) of this form, you are required to submit business and personal disclosure information.
- (4) You must attach to this application "proof" that notification has been provided as required by (1) through (3) above. Therefore, attach a copy of the notice(s) of filing and the signature(s) of all required recipients, acknowledging receipt.

## SECTION X. CERTIFICATION OF COMPLIANCE/COMPLIANCE REPORT

All applications for permit modification must be submitted with either certification of compliance or a compliance report, as follows:

- (1) If you are ABLE to certify that each of the statements numbered (1) - (8) below are true, do so by your signature.
- (2) If you are UNABLE to certify that each of the statements numbered (1) - (8) below are true, you must:
  - Prepare and submit a separate Compliance Report as specified by Env-Sw 303.15; and
  - If the proposed modification involves a change in organizational structure, or a change in individuals/entities holding 10% or more of the permittee's debt or equity, or a change in officers, directors, partners or key employees, none of which constitutes a change in operational control of the facility or a change in ownership per Env-Sw 315.02(f), also submit completed "business and personal disclosure forms" for each non-compliant individual and entity involved in the change. Obtain the required forms from the P&DRS at (603) 271-2925. Submit the completed forms, with the notice of filing referenced by Section IX(3) of this form and a copy of the Compliance Report, direct to the New Hampshire Department of Justice/Office of Attorney General, Environmental Protection Bureau, 33 Capitol Street, Concord, NH 03301-6397. [Note: Copies of the completed disclosure forms should NOT be attached to this application when it is submitted to DES or to the host municipality, host solid waste management district and other effected entities, pursuant to Section IX(1) above. Only the NH DoJ/AGO should receive copies of the disclosure forms].

## 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 the 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)	Submit the proposed final plans for which approval is being sought. The plans must be prepared based on the preliminary plans identified in (3) above and according to the below listed instructions. When appropriate, final plans may be presented in the form of replacement pages ready for substitution into the related approved preliminary plans, with each page being clearly marked to show the date of revision. Mark the submitted/attached plans as "Attachment III(4)".
<input checked="" type="checkbox"/>	Facility design/construction plans must be prepared in accordance with Env-Sw 1103.05
<input type="checkbox"/>	Facility operating plans must be prepared in accordance with Env-Sw 1105.11
<input type="checkbox"/>	Facility closure plans must be prepared in accordance with Env-Sw 1106.04
<input type="checkbox"/>	Financial assurance plans must be prepared as specified in Env-Sw 1400 and must include all related financial assurance documents required to effect the plan

**SECTION IV. 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 and submit a separate Compliance Report as specified by Env-Sw 303.15.

**COMPLIANCE STATEMENT**

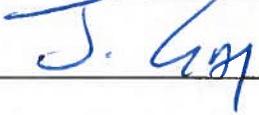
The applicant shall certify that each of the statements listed in (1)-(8) below are true for each of the following individuals and entities:

- 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; or (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 permittee/applicant certifying the above statements are true:

Permittee/Applicant Name (Print Clearly or Type) North Country Environmental Services, Inc.

Permittee/Applicant Signature 

Date 4/3/15

OR

Circle the untrue statement(s) and attach a Compliance Report, pursuant to Env-Sw 303.15

NCES 2015 Landfill Gas Improvements  
Type I-B Permit Modification Application  
Section VI – Impact Evaluation

**1. *The effect the modification will have on facility function, capacity, life expectancy, service type and service area.***

The construction of the landfill gas wells will provide gas collection in areas which have recently received waste and improve collection in areas which existing gas collection wells are not providing adequate coverage. The proposed flare will be connected to the existing blower station and provide additional capacity for future landfill gas combustion. This construction has no effect on capacity, life expectancy, service type, and service area.

**2. *The effect the modification will have on the environment, public health and safety.***

The construction of these landfill improvements will provide collection and management of methane gas which will protect the environment, public health, and safety.

**3. *The effect the modification will have on the state's ability to achieve the goals and objectives specified in RSA 149-M:2, namely achieving a 40% minimum weight reduction in the solid waste stream on a per capita basis by the year 200 and avoiding the disposal of recyclables in a lined landfill with a leachate collection system.***

The construction of these landfill gas improvements has no effect on the state's ability to achieve the goals and objectives specified in RSA 149-M:2.

**4. *The effect the modification will have on establishing and maintaining integrated waste management systems consistent with the hierarchy of waste management methods in RSA 149-M:3 [the methods, in descending order of preference as specified in RSA 149-M:3, are: source reduction; recycling and reusing; composting; waste-to-energy technologies (including incineration), incineration without resource recovery; and landfill].***

The construction of these landfill gas improvements has no effect on establishing and maintaining integrated waste management systems consistent with the hierarchy of waste management methods in RSA 149-M:3.

**5. *Consistency with the state solid waste management plan and the applicable district plan, pursuant to RSA 149-M:12,I(b).***

This permit modification is consistent with the state solid waste management plan.

*SECTION II*

*TYPE II PERMIT MODIFICATION  
APPLICATION FORM*

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INSTRUCTIONS  
for obtaining a

# Type II Modification To Solid Waste Management Facility Permit

pursuant to  
RSA 149-M and New Hampshire Administrative Solid Waste Rule Env-Sw 315

Read these instructions before completing the attached form. For additional assistance contact the NH Department of Environmental Services (DES), Permitting & Design Review Section (P&DRS) at (603) 271-2925 or the below noted mailing address or TDD Access: Relay NH 1-800-735-2964.

**Note:** All references on this form beginning with "Env-Sw" are citations from the New Hampshire Solid Waste Rules. To obtain a copy of the *Rules*, contact the DES Public Information & Permitting Office at (603) 271-2975 or above noted TDD Access. The Rules are also available on the Internet at <http://www.des.nh.gov>.

Use the attached form to obtain a "type II" permit modification. A "type II" permit modification is the regulatory mechanism by which final plans (for construction, operation, closure or financial assurance) are approved and attached to a solid waste facility permit as a condition of the permit.

All requested information must be provided as indicated on the attached form. Do **NOT** skip any question, unless instructed to do so. Do **NOT** mark any question "not applicable." If you need more space than provided on the form to answer a particular question and are using a paper copy of the 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.

Submit **THREE** copies of the completed form, **EACH bearing ORIGINAL signatures**. Applications may be submitted to the department electronically. If an applicant chooses to submit an application electronically, a single paper copy of the application shall also be submitted to the department to the following address:

NH 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

Include the required fee (see table below). Make checks or money orders payable to "TREASURER, State of New Hampshire."

Final Design/Construction Plans for a Non-Landfill Facility	NO FEE
Final Design/Construction Plans for a Landfill	Initial Phase: NO FEE Subsequent Phases: FEE is calculated based on capacity & life expectancy of phase; refer to Env-Sw 310.08(a) for formula or contact P&DRS for assistance
Final Operating Plans	NO FEE
Final Closure/Capping Plans for a Non-Landfill Facility or an Unlined Landfill	NO FEE
Final Closure/Capping Plans for a Lined Landfill	FEE is calculated based on capping area; refer to Env-Sw 310.08(b) for formula or contact P&DRS for assistance
Final Financial Assurance Plans	NO FEE

Your application will be processed by DES in accordance with Env-Sw 304 and Env-Sw 305.



Waste Management Division

<b>For Office Use Only:</b>	
WMD Log #:	_____
Date Rec'd.:	_____
No. of Copies: _____	<input type="checkbox"/> Fee: \$ _____
Check # _____	
<input type="checkbox"/> No Fee Required	

APPLICATION FORM FOR  
**Type II Modification  
 To Solid Waste Management  
 Facility Permit**

pursuant to  
 RSA 149-M and New Hampshire Administrative Solid Waste Rules Env-Sw 315

SECTION I. FACILITY IDENTIFICATION	
(1)	Facility name: North Country Environmental Services, Inc. - 2015 Landfill Gas Improvements
(2)	Functional Classification: <input type="checkbox"/> Collection/Storage/Transfer <input type="checkbox"/> Processing/Treatment <input checked="" type="checkbox"/> Landfill
(3)	Mailing address: 581 Trudeau Road, Bethlehem, NH 03574
(4)	Permit number: DES-SW-SP-03-002
(5)	Location, by street address and municipality: 581 Trudeau Road, Bethlehem, NH 03574

SECTION II. PERMITTEE IDENTIFICATION	
(1)	Permittee/applicant name: North Country Environmental Services, Inc.
(2)	Mailing address: 220 Avenue B, Williston, VT 05495
(3)	Telephone number: (802) 651-5454
(4)	If different than above, identify the individual associated with and designated by the permittee/applicant to be the contact individual for matters concerning this application:
(a)	Name: John Gay
(b)	Title: Engineering Manager
(c)	Mailing address: 220 Avenue B, Williston, VT 05495
(d)	Telephone number: (802) 651-5454
(e)	E-mail: John.Gay@casella.com

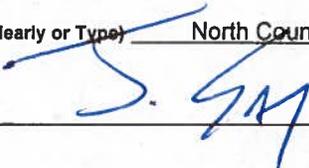
SECTION III. DESCRIPTION OF PROPOSED MODIFICATION			
Provide a complete description of the proposed modification by answering each of the following questions. Use additional paper as necessary.			
(1)	Identify the type of final plans being submitted for approval. (Check <u>one</u> that applies. If more than one applies, submit a separate application for each):		
<input checked="" type="checkbox"/>	Final design/construction plans for non-landfill facility		
<input type="checkbox"/>	Final design/construction plans for landfill:		
<input type="checkbox"/>	Initial Phase		
<input type="checkbox"/>	Subsequent Phase		
<input type="checkbox"/>	Final operating plan		
<input type="checkbox"/>	Final closure plan for non-landfill facility		
<input type="checkbox"/>	Final closure/capping plans for lined landfill		
<input type="checkbox"/>	Final closure/capping plans for unlined landfill		
<input type="checkbox"/>	Final financial assurance plan		
(2)	Provide a <b>BRIEF</b> description of the proposed modification/requested approval: Installation of 12 vertical gas collection wells, associated gas laterals, and connection to gas header pipe. The construction of a new flare will provide additional landfill gas combustion capacity.		
(3)	Identify, below, the preliminary plans approved in the permit which provide the basis for the final plans being submitted with this application:		
<b>Check one</b>	<b>TYPE OF PRELIMINARY PLAN</b>	<b>DES Approval Date</b>	<b>WMD Log #</b>
<input checked="" type="checkbox"/>	Facility design plans/specifications	August 27, 2010	2010568, 2010591, 2010601, 2010606, 2010616, 2010622
<input type="checkbox"/>	Facility operating plan		
<input type="checkbox"/>	Facility closure plan		
<input type="checkbox"/>	Facility financial assurance plan		
<input type="checkbox"/>	Other plan ( <i>specify</i> ):		

**SECTION V. PERMITTEE/ APPLICANT SIGNATURE REQUIREMENTS**

The permittee/applicant must sign the following statement prior to submitting this application. All copies of the application filed with DES must bear the permittee's/applicant's ORIGINAL signature. If the permittee/applicant is not an individual, an individual duly authorized by the permittee/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. I certify that this application is submitted on a complete and accurate form, as provided by DES, without alteration of the text.

Permittee/Applicant Name (Print Clearly or Type) North Country Environmental Services

Permittee/Applicant Signature 

Date 4/3/15

**SECTION VI. PROPERTY OWNER SIGNATURE**

If the permittee/applicant and property owner are not the same, the property owner must also sign this form as follows. All copies of the application filed with DES must bear an 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 permittee/applicant has 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, as amended.

Property Owner Name (Print Clearly or Type) \_\_\_\_\_

Property Owner Signature \_\_\_\_\_

Date \_\_\_\_\_

- (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; or
  - (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 permittee/applicant certifying the above statements are true:

Permittee/Applicant Name (Print Clearly or Type) North Country Environmental Services, Inc.

Permittee/Applicant Signature J. Gay

Date 4/3/15

**SECTION XI. PERMITTEE/APPLICANT SIGNATURE REQUIREMENTS**

The permittee/applicant must sign the following statement prior to submitting this application. All copies of the application filed with DES must bear the permittee's/applicant's ORIGINAL signature. If the permittee/applicant is not an individual, an individual duly authorized by the permittee/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. I certify that this application is submitted on a complete and accurate form, as provided by DES, without alteration of the text.

Permittee/Applicant Name (Print Clearly or Type) North Country Environmental Services, Inc.

Permittee/Applicant Signature J. Gay

Date 4/3/15

**SECTION XII. PROPERTY OWNER SIGNATURE**

If the permittee and property owner are not the same, 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 permittee/applicant has 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 III*

*PROPOSED GAS WELL PLAN, GAS WELL DETAIL,  
& FLARE DESIGN DRAWINGS*

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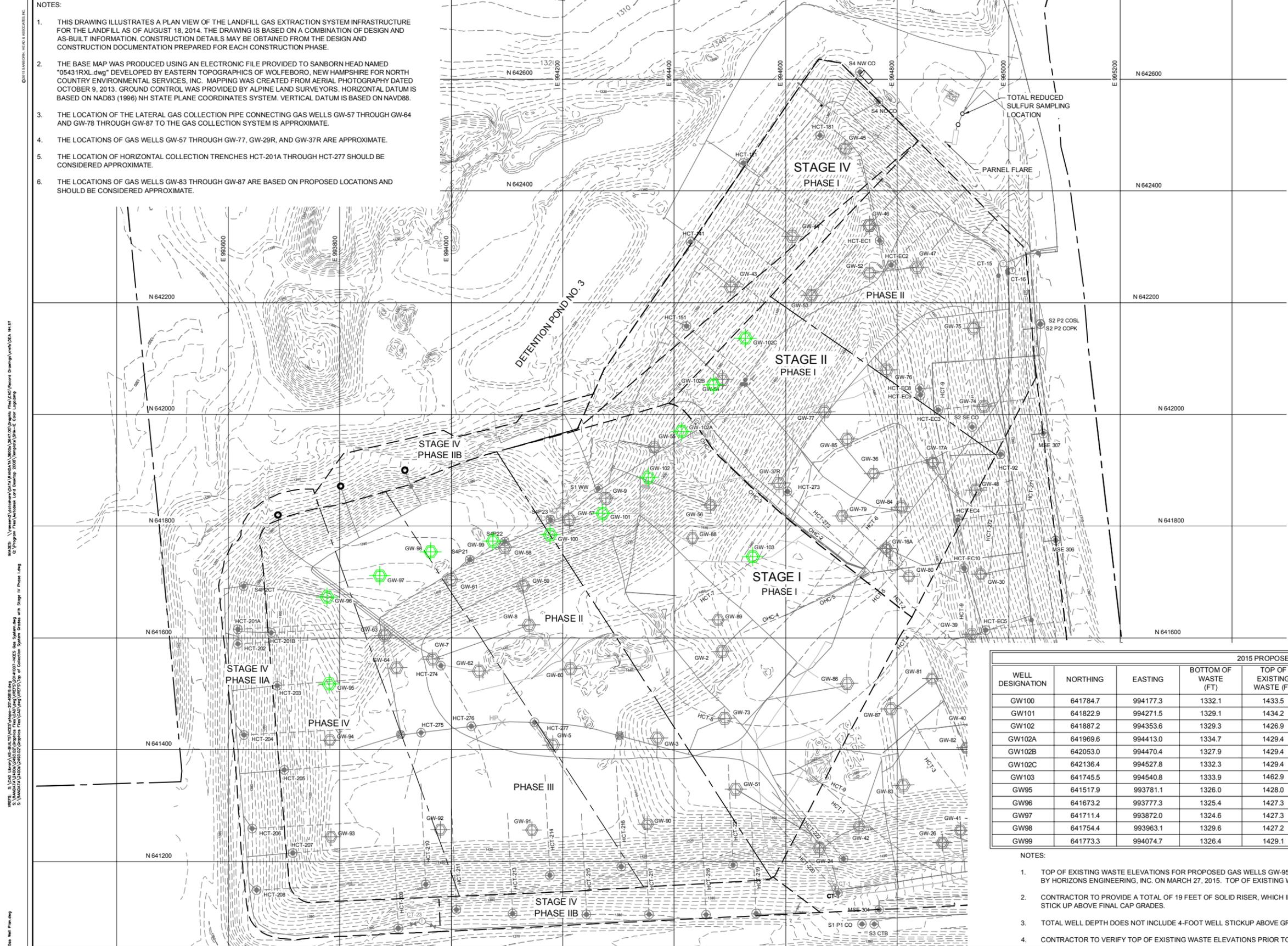
11"x17" Sheets Bound  
Full Size Sheets Bound Separately

NOTES:

1. THIS DRAWING ILLUSTRATES A PLAN VIEW OF THE LANDFILL GAS EXTRACTION SYSTEM INFRASTRUCTURE FOR THE LANDFILL AS OF AUGUST 18, 2014. THE DRAWING IS BASED ON A COMBINATION OF DESIGN AND AS-BUILT INFORMATION. CONSTRUCTION DETAILS MAY BE OBTAINED FROM THE DESIGN AND CONSTRUCTION DOCUMENTATION PREPARED FOR EACH CONSTRUCTION PHASE.
2. THE BASE MAP WAS PRODUCED USING AN ELECTRONIC FILE PROVIDED TO SANBORN HEAD NAMED "05431RXL.dwg" DEVELOPED BY EASTERN TOPOGRAPHICS OF WOLFEBORO, NEW HAMPSHIRE FOR NORTH COUNTRY ENVIRONMENTAL SERVICES, INC. MAPPING WAS CREATED FROM AERIAL PHOTOGRAPHY DATED OCTOBER 9, 2013. GROUND CONTROL WAS PROVIDED BY ALPINE LAND SURVEYORS. HORIZONTAL DATUM IS BASED ON NAD83 (1996) NH STATE PLANE COORDINATES SYSTEM. VERTICAL DATUM IS BASED ON NAVD88.
3. THE LOCATION OF THE LATERAL GAS COLLECTION PIPE CONNECTING GAS WELLS GW-57 THROUGH GW-64 AND GW-78 THROUGH GW-87 TO THE GAS COLLECTION SYSTEM IS APPROXIMATE.
4. THE LOCATIONS OF GAS WELLS GW-57 THROUGH GW-77, GW-29R, AND GW-37R ARE APPROXIMATE.
5. THE LOCATION OF HORIZONTAL COLLECTION TRENCHES HCT-201A THROUGH HCT-277 SHOULD BE CONSIDERED APPROXIMATE.
6. THE LOCATIONS OF GAS WELLS GW-83 THROUGH GW-87 ARE BASED ON PROPOSED LOCATIONS AND SHOULD BE CONSIDERED APPROXIMATE.

LEGEND

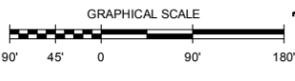
- 1390 — 10-FOOT CONTOUR EXISTING
- 2-FOOT CONTOUR
- - - - ANCHOR TRENCH
- - - - PHASE LIMIT
- GAS HEADER PIPE
- - - - HORIZONTAL COLLECTION PIPE
- - - - GAS HEADER PIPE (APPROXIMATE LOCATION)
- GAS HEADER PIPE (10 OR 12-INCH DIAMETER)
- - - - GAS HEADER PIPE (NOT ACTIVE)
- ⊕ GW-95 PROPOSED VERTICAL GAS WELL
- ⊕ HCT-91 WELLHEAD ON HORIZONTAL COLLECTION TRENCH
- ⊕ S2 SE CO WELLHEAD ON LEACHATE COLLECTION SYSTEM
- CV-4 GAS CONTROL VALVE
- ⊕ GW-1 VERTICAL GAS WELL
- X HP HIGH POINT
- REMOTE WELL HEAD
- X LP LOW POINT
- CONCRETE SUMP RISER



2015 PROPOSED GAS WELL SCHEDULE									
WELL DESIGNATION	NORTHING	EASTING	BOTTOM OF WASTE (FT)	TOP OF EXISTING WASTE (FT)	TOTAL WELL DEPTH (FT)	BOTTOM OF WELL SCREEN (FT)	TOP OF WELL SCREEN (FT)	SCREEN LENGTH (FT)	TOP OF CASING ELEV. (FT)
GW100	641784.7	994177.3	1332.1	1433.5	86.4	1347.1	1418.5	71.4	1437.5
GW101	641822.9	994271.5	1329.1	1434.2	90.1	1344.1	1419.2	75.1	1438.2
GW102	641887.2	994353.6	1329.3	1426.9	82.6	1344.3	1411.9	67.6	1430.9
GW102A	641969.6	994413.0	1334.7	1429.4	79.7	1349.7	1414.4	64.7	1433.4
GW102B	642053.0	994470.4	1327.9	1429.4	86.5	1342.9	1414.4	71.5	1433.4
GW102C	642136.4	994527.8	1332.3	1429.4	82.1	1347.3	1414.4	67.1	1433.4
GW103	641745.5	994540.8	1333.9	1462.9	114.0	1348.9	1447.9	99.0	1466.9
GW95	641517.9	993781.1	1326.0	1428.0	87.0	1341.0	1413.0	72.0	1432.0
GW96	641673.2	993777.3	1325.4	1427.3	86.9	1340.4	1412.3	71.9	1431.3
GW97	641711.4	993872.0	1324.6	1427.3	87.7	1339.6	1412.3	72.7	1431.3
GW98	641754.4	993963.1	1329.6	1427.2	82.6	1344.6	1412.2	67.6	1431.2
GW99	641773.3	994074.7	1326.4	1429.1	87.7	1341.4	1414.1	72.7	1433.1

NOTES:

1. TOP OF EXISTING WASTE ELEVATIONS FOR PROPOSED GAS WELLS GW-96, GW-97, GW-98, GW-99, GW-100, GW-101, GW-102, AND GW-103 WERE PROVIDED BY HORIZONS ENGINEERING, INC. ON MARCH 27, 2015. TOP OF EXISTING WASTE ELEVATIONS FOR GW-102A, GW-102B, AND GW-102C ARE PROPOSED.
2. CONTRACTOR TO PROVIDE A TOTAL OF 19 FEET OF SOLID RISER, WHICH INCLUDES 15 FEET OF SOLID RISER BELOW INTERMEDIATE GRADES, AND 4 FEET OF STICK UP ABOVE FINAL CAP GRADES.
3. TOTAL WELL DEPTH DOES NOT INCLUDE 4-FOOT WELL STICKUP ABOVE GRADE.
4. CONTRACTOR TO VERIFY TOP OF EXISTING WASTE ELEVATIONS PRIOR TO DRILLING WELLS.



NO.	DATE	DESCRIPTION	BY

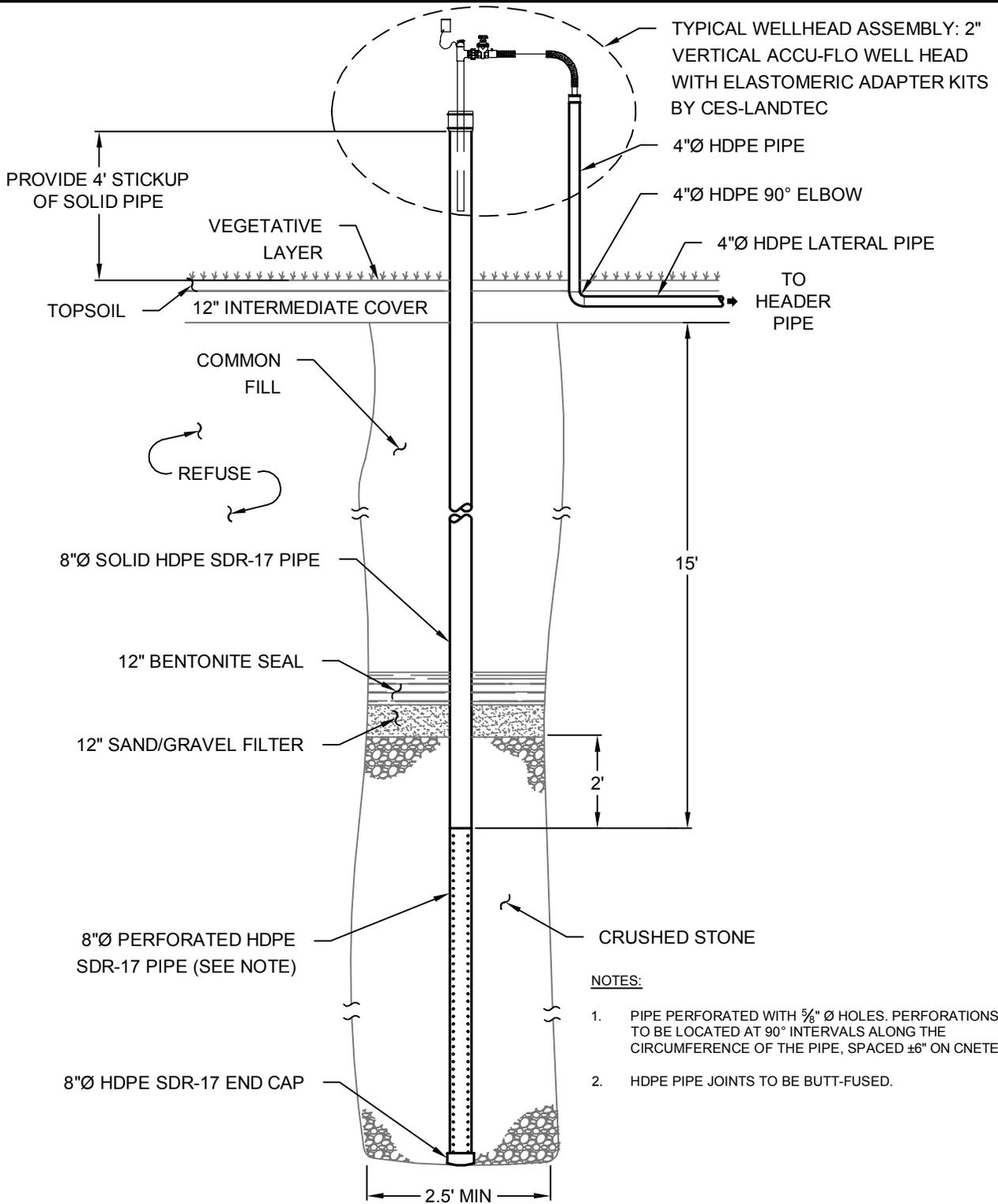
DRAWN BY: C. RIVET  
 DESIGNED BY: D. ADAMS/M. ESTABROOKS  
 REVIEWED BY: M. ESTABROOKS  
 PROJECT MGR: M. ESTABROOKS  
 PIC: D. ADAMS  
 DATE: APRIL 2015

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.  
 BETHLEHEM, NEW HAMPSHIRE

**PROPOSED GAS WELL PLAN**

PROJECT NUMBER:  
 2764.02

FIGURE NUMBER:  
 1



- NOTES:**
1. PIPE PERFORATED WITH  $\frac{5}{8}$ "  $\varnothing$  HOLES. PERFORATIONS TO BE LOCATED AT 90° INTERVALS ALONG THE CIRCUMFERENCE OF THE PIPE, SPACED  $\pm 6$ " ON CNETER.
  2. HDPE PIPE JOINTS TO BE BUTT-FUSED.

**GAS EXTRACTION WELL DETAIL**

NOT TO SCALE

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.  
 BETHLEHEM, NEW HAMPSHIRE

**GAS WELL DETAIL**



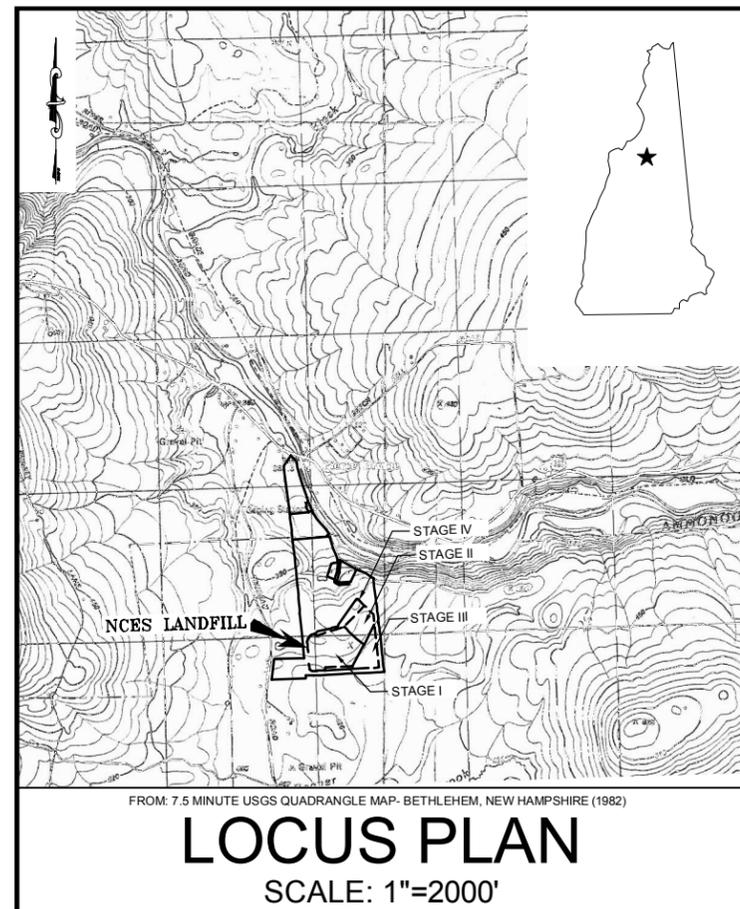
SCALE: NTS	DRAWN BY: DJD	FILE NO. 2764.02
DATE: APR 15	CHECKED BY: MEE	FIGURE NO. 1

# LANDFILL GAS FLARE AND BLOWER STATION NORTH COUNTRY ENVIRONMENTAL SERVICES, INC. LANDFILL

BETHLEHEM, NEW HAMPSHIRE  
APRIL 2015

## SHEET INDEX

- SHEET 1 PROPOSED FLARE SITE PLAN
- SHEET 2 OVERALL PIPING LAYOUT
- SHEET 3 FLARE FOUNDATION DETAILS



PREPARED FOR:

**NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.**  
581 TRUDEAU ROAD  
BETHLEHEM, NEW HAMPSHIRE 03574

PREPARED BY:

**SANBORN ||| HEAD**

20 FOUNDRY STREET, CONCORD, NEW HAMPSHIRE 03301  
(603) 229-1900 FAX (603) 229-1919

MADE BY: [Illegible] FOR: [Illegible] DATE: [Illegible]

DATE: [Illegible]

DATE: [Illegible]







*SECTION IV*

*LANDFILL GAS FLARE SYSTEM  
DESCRIPTION OF PROPOSED MODIFICATION*

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**Landfill Gas Flare System - Description of Proposed Modification**  
**North Country Environmental Services, Inc. Landfill**  
**Bethlehem, New Hampshire**

The proposed flare system modification involves the installation of a 60.1 million British thermal units per hour (MMBtu/hr) landfill gas (LFG) utility flare stack with flame arrestor and auto-block valve; associated process instrumentation and controls; and piping and fittings required to connect the flare to the existing LFG blower station.

The flare is a self-supported open (candlestick) type, designed to operate in accordance with U.S. Environmental Protection Agency (USEPA) 40 CFR 60.18, and provide greater than 98 percent destruction efficiency of non-methane organic compounds (NMOCs) over a 200 to 2,000 standard cubic feet per minute (scfm) LFG flow range.

The flare system is designed to operate automatically and is controlled via a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system monitors and controls flare and blower operations and is equipped with operator controls, status indicators, and alarm lights. In addition, the SCADA system monitors and records various analog and discrete inputs from the flare station equipment including condensate levels, header vacuum, landfill gas flow rate, landfill gas auto-block valve position, and flare thermocouple temperatures.

The flare system includes an automatic ignition system and fail-safe controls. If an alarm condition occurs, the SCADA system is designed to automatically stop LFG flow to the flare. In addition, the SCADA system is configured to notify the flare system operator of the nature of the alarm condition.

The flare system includes an automatic ignition system and fail-safe controls. During flare system start-up, the pilot gas solenoid valve opens and allows propane gas to flow to the flare pilot assembly where the igniter generates a spark and ignites the pilot tip. Once the pilot ignition is proved by the pilot thermocouple, the SCADA system opens the LFG auto-block valve and starts the LFG blower. After the main flame ignition is proved via the main flame thermocouple, the pilot gas solenoid valve closes to limit propane usage. If the main flame thermocouple indicates that the flame has extinguished, the auto-block valve is designed to automatically close and shut off LFG flow to the flare. The SCADA system is designed to automatically initiate the system startup sequence to resume flare operation. If the main flame does not prove within a specified period of time, after the third attempt, the flare is designed to shut down and send an automatic callout to notify the system operator of a shutdown.