



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Thomas S. Burack, Commissioner**

**VIA EMAIL**

May 22, 2014

John Gay, Engineering Manager  
North Country Environmental Services, Inc.  
220 Avenue B  
Williston, VT 05495  
Email: [john.gay@casella.com](mailto:john.gay@casella.com)

**SUBJECT: BETHLEHEM- North Country Environmental Services Lined Landfill, 581 Trudeau Rd.;  
Type IA Permit Modification Application for Stage V, Permit # DES-SW-SP-03-002, prepared by CMA Engineers, Inc.; Ref.: WMD Doc Log #s 13337, 13390, 13419, 13423, and 13477**

Dear Mr. Gay:

The New Hampshire Department of Environmental Services, Waste Management Division (Department) has completed a review of the above-cited Type IA permit modification application. In accordance with the requirements of the New Hampshire Solid Waste Rules (Rules), the following information must be provided to satisfy the provisions of Env-Sw 315 for a technical review of the completed application:

**Waiver- Leachate Collection and Removal System Design Standards**

1. In Section VIII of the Application, please address individually and separately the requirements of Env-Sw 202.04(a-b)(1-3), which address the criteria for waiver, as they relate to the waivers sought for Env-Sw 805.07(a)(1) and Env-Sw 805.07(b)(1).

**Public Benefit**

2. In Section 5.2.1, on page 20, a Figure 5 is referenced; however, no Figure 5 can be found. We believe it's actually Figure 4. Please confirm.

**Operating Plan**

3. In the Operating Plan, Section 2.1, Env-Wm 502 is referenced. Please update this rule reference using the newest Rules nomenclature.
4. In Appendix I, the asbestos locations shown on the Asbestos Disposal Location Site Plan, Stage V, do not match the locations in the existing Operating Plan for Stage IV Phase II. Please explain.
5. In Section 2.1, "NHDES-approved certified waste derived products" are listed as authorized wastes. These certified waste derived products (CWDPs) need to be approved for the facility by DES before they can be considered authorized. Please explain. Also, please list

DES Web Site: [www.des.nh.gov](http://www.des.nh.gov)

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

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individually the CWDPs that are authorized to use at the NCES LF.

6. Gas monitoring sections located in Section 3.11, "Controls," of the current Operation and Maintenance Manual, Appendix C, are missing. Please explain. Please state in this proposed section that if the flare is not operating, DES will be notified.
7. In Section 7.0, please update the Solid Waste Operator Training requirements to incorporate the rules in <http://des.nh.gov/organization/commissioner/legal/rulemaking/documents/env-sw1600-fp-annot.pdf>.
8. In Appendix C, Operation and Maintenance Manual, Gas Management System, Section 3.8, the frequency of the open flare inspections is not included. Please explain.
9. In the Operation and Maintenance Manual, Gas Management System, Appendix A, Section 1.0, please revise rule Env-Wm 2506.07 (c) to the current Rule nomenclature.
10. In the Operation and Maintenance Manual, Gas Management System, Appendix B, the Gas Probe Monitoring Data Sheet does not include the probe IDs like the existing Gas Probes data sheet. Please explain.
11. In the existing Operation and Maintenance Manual, Gas Management System, Appendix D, the "March 24 and April 30, 2010 Memoranda" is missing from the proposed Operation and Maintenance Manual, Gas Management System. Please include it and add it to the Appendix.
12. In Appendix I, Asbestos Disposal Location Site Plan, the location of the northern most asbestos burial spots are different than on the existing Asbestos Disposal Location Site Plan. Please explain.
13. The primary pumps mentioned in Part VI, Design Report, page 3, last paragraph, weren't included in Part III, Technical Specifications, Section 11312. Please explain.

## **Design Report**

14. In Section 8, HELP model page 1, layer 2 contains a thickness of 72 inches. Please explain. Please provide a profile of the different layers for this model.
15. In the Design Report, page 15, under Env-Sw 1003.07, the 500-year floodplain is not provided. To meet the intent of RSA 483:9-a VII(c), which states

*"Expansion of existing solid waste landfills shall not occur within the 500 year floodplain of a designated rural river or segment, and any expansion of such a landfill shall be set back a minimum of 100 feet from the landward extent of the 500 year floodplain and shall be screened from the river with a vegetative or other natural barrier to minimize visual*

*impact;*"

a delineation of the 500 year flood plain shall be conducted along that stretch of the river that is located nearest the landfill. DES notes that there is a gauging station adjacent to the landfill, as shown on the attached aerial photograph. Data from the station may be used in the analysis.

16. In Section 8, Figure 6-3, data from Technical Paper Number 40 was included. Please explain if the Cornell Northeast Regional Climate Center model was used.
17. In Appendix A.2, Landfill Stability Analysis, in the 10% probability of exceedance in 250 years section, the calculations for the seismic safety factors 1.008, 1.742, and 1.732 could not be found. Please explain.
18. In Appendix A.3, Pre Development Conditions Site Plan, neither the existing surveyed landfill contours nor the detention ponds are shown. Please explain.
19. In Appendix A.3, on the Post Development Conditions Site Plan, pond 3 described in the "Project Description" cannot be found. Please explain.
20. In Appendix E, the design of the site swales is not provided. Please explain.

#### **Closure Plan**

21. In the post-closure cost estimate, please include calculations showing how the "Leachate Collection/Monitoring" amount in Task IV is determined.
22. In Section 6.0, April and November were removed from the existing Operating Plan as inspection months. While it states that formal inspections will be done twice a year, please explain how those date will be determined.
23. Please show how the closure and post-closure acreages of 40.66 and 46.46 acres, respectively, were calculated.
31. In the supporting documentation for the post-closure cost estimate, under Item IV-C, the amounts decreased from \$6300 to \$6000 in years 11-20, and from \$5000 to \$4800 in years 21-30. Please explain.

#### **Hydrogeologic Report**

32. In Section 2.2.4, MW-402 Area Monitoring, there is a typo in the second paragraph regarding the data of installation of monitoring wells B-922U/L. The date of installation should read January 2012 versus January 2013. Please revise.

33. In Section 5.0, Proposed Stage V Area Groundwater Monitoring Results, the preoperational sampling did not include analysis for the semi-volatile organic compounds (SVOCs). Please explain. Two “pre-operational” SVOCs sampling rounds will need to be performed for the 12 monitoring wells in the vicinity of the proposed Stage V expansion. The wells to be sampled shall include B-909/B-917U/D, B-916U/M/D, B-915U/M/D, and B-918U/M/D. In a recent phone conversation with Sanborn, Head & Associates, they indicated that the first round of this sampling will be incorporated into the regular April 2014 Groundwater Management and Release Detection sampling event. It is anticipated that the second round can be completed at the time of the regular July 2014 Groundwater Management and Release Detection sampling event. Please concur and revise this section.
34. Appendix A.3 - Field Sampling Forms – The gallons purged information was not listed on the Groundwater Quality Field Sampling Summary forms. While this information is not a required reporting element per the Groundwater Management and Release Detection Permit and Env-Or 600 and Env-Or 700, for consistency of data collection at this site, SHA has agreed to include this on all Field Sampling Forms. SHA indicated that this was an inadvertent omission and this data will be supplied in a subsequent submission. Please concur.
35. In Section 6.0, Proposed Modifications to Groundwater Management and Release Detection Permit Monitoring, should Stage V be permitted and constructed, we concur with the plan to decommission Groundwater Management and Release Detection Permit (Permit) wells MW-403U/L, B-913U/M/L, B-920U/M/D and B-922U/L. Additionally, as recommended, any other wells not included in the Permit monitoring program, but within the footprint of the proposed Stage V area, should be properly decommissioned prior to any approved construction. Additionally, should Stage V be permitted and constructed, we also concur that the following proposed wells be incorporated in the Permit monitoring program: B-909/B-917U/D; B-916U/M/D; B-915U/M/D; and B-918U/M/D. Note that no decommissioning should occur until, and if, Stage V is permitted and construction approved. Please concur.

In regards to the request to decommission wells B-922U/L, we note that a more detailed rationale for the decommissioning has been provided in the Corrective Action Plan Amendment report by Sanborn, Head & Associates, Inc., dated February 27, 2014, submitted on behalf of NCES per the request of the Department at our December 19, 2013 meeting. This additional information has been evaluated and forms the basis for our approval to decommission wells B-922U/L should Stage V be permitted. A response responding directly to any recommendations contained within the Corrective Action Plan Amendment report will be issued by the Hazardous Waste Remediation Bureau under separate cover.

## Design Drawings

36. Sheet 5 requires the Contractor to connect new force main and underground electric to existing Stage V, Phase II pump station, but no detail is provided. Please explain.
37. Sheet 6 shows an air relief valve without a detail reference. Please explain.
38. Sheet 7 contains a detail for pond 4 that is not referenced on the plan views. Please explain.
39. On Sheet 9, Section A-A, please include proposed pond 6. Also, please include detention pond 4 in a cross section.
40. Details 4, 6, 7, 8, and 9 on Sheet 10 lists "18" of 1½" crushed stone or 4" diameter washed bank run stone" in the leachate collection layer. This specification is different than that approved on Detail 20, Sheet C-11 of the Stage IV Phase II Application dated March 2010. Please explain.
41. Detail 6 on Sheet 10; Detail 6 on Sheet 13; Detail 1 on Sheet 14; and Details 1, 2, 4, 6, and 8 on Sheet 15 cannot be found in plan view. Please explain.
42. Detail 4 on Sheet 12 is called out on Sheet 6 with a leader to the Proposed Secondary Pump. However, Detail 4 shows alterations to the Stage IV Side Riser Building, not the Secondary Pipe. Please explain.
43. Detail 3 on Sheet 12 is leadering to the proposed secondary sump on Sheet 6. However, shouldn't it be referenced on Detail 1, Sheet 11?
44. Detail 2 on Sheet 13 includes a reference to Section Detail 2 on Sheet 5 in its title. Please explain.
45. A callout stating "Tie Proposed 3x6 Dual Containment Forcemain into Existing Forcemain" is shown on Sheet 6; however, it does not reference a detail for this tie in. Please explain.
46. Detail 8 on Sheet 13 is titled "Masonry Rubble Headwall;" however, the callout for this detail located on Sheet 6 is MRM Headwall. Please explain the meaning of the second "m." Please also include this material in the Technical Specifications.
47. On Sheet 4, the callout for Detail 9 on Sheet 15 is for a temporary gas collection tarp. The construction for the Stage I Sump excavation also used a temporary gas collection tarp; however, odors were still noticed periodically at the landfill and by Bethlehem residents. Please explain how this tarp will control these fugitive odors.
48. A callout on Sheet 4 states "Protect and Extend to Provide 3' Stickup" for GMW B-402.

Please provide a detail concerning how monitoring wells will be protected.

49. A callout on Sheet 5 states "Proposed 3"x6" Forcemain Reducer Dual Containment Pipe Outside Anchor Trench to Drain into Anchor Trench." Please provide a detail of the reducer and dual containment pipe. Please explain how the dual containment pipe will drain into the anchor trench.
50. Sheet 5 states the Stage V sump liners are to be connected to the Stage IV Phase I sump liners. Please provide a detail showing this connection. Please also show the connection point of the existing and proposed liners on Detail 9 Sheet 10.
51. A callout on Sheet 5 states "Top of Leachate Collection Trench." Please provide a detail showing this callout description.
52. Detail 1 on Sheet 7 mentions a 4" CPP Perforated Underdrain Pipe. This pipe could not be found in Part III of the Technical Specifications. Please explain.
53. Detail 1 on Sheet 10 shows 12" select secondary subgrade fill; however, this material cannot be found in Section 02223 of the Technical Specifications. Please explain.
54. On Sheets 5 and 6 the outgoing forcemain from the existing Stage IV Phase I pump building is not shown. Please explain.
55. On Sheet 6, an elevation of 1340' on the gravel road is adjacent to an existing elevation of 1330' north and adjacent to the gravel road; however, no wall or wall grading is shown. Please explain.
56. On Sheet 8 and 9, the Baseline A Stations 6+00 and 12+00 Details and Section A-A Detail, show a zig zag line with a note "Existing Vertical Expansion" leadered to it. Please explain why this line is zig zagged.
57. Sheet 4 of the Stage V Drawings shows the existing flare being decommissioned. However, the Type II Flare Applications dated September 16, 2013, Section III(1.0), 3<sup>rd</sup> paragraph states the existing flare station will remain in place as a backup facility and be decommissioned at a later time. Please explain when this flare will be decommissioned.

#### **Filling and Interim Closure Plan**

58. On the Design Drawings, Filling and Interim Closure Plan, and the Closure Plan drawing sets, please show slope designations along contour lines.
59. Please provide a profile detail of the "previously deployed HDPE cover," the "proposed temporary HDPE cover," and the "Proposed Final Capping System" shown on Sheet 1 of 5. Please better differentiate the hatching of these areas from the roadway and pavement

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hatching.

60. The proposed contours are confusing, with disconnecting contour lines and lines crossing contours in the Stage IV Phase I sump area. Please clarify these proposed contours.

### **Closure Plan Drawings**

61. Detail 12 on Sheet C5 is titled "Pipe Trench Within Landfill;" however, the callout for this detail on Sheet C2 calls the detail "Proposed Gas Header." Please explain.

62. Please state the highest elevation of the landfill in the notes section.

63. Sheet C3 shows a 6" layer of screened till while Section 02223-2 of the Technical Specifications requires a 12" layer. Please explain.

Please address the above comments by submitting one copy of the required information. Be certain to note the revision date on each replacement page. Continued review of your application will commence upon receipt of this information.

Until the Department has completed its technical review, there may be additional comments. In the meantime, if you have any questions, please contact me.

Sincerely,



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Solid Waste Management Bureau  
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Att.: Exhibit of Gaging Station #01137500

cc: Sandy Laleme, Bethlehem Selectboard Chairwoman, Email: [selectman3@bethlehemnh.org](mailto:selectman3@bethlehemnh.org)  
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**Legend**

-  Gaging Station #01137500
-  FEMA 100yr Floodplain Boundary (Zone A)

